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April 24, 2020

Mr. Joseph M. Smindak
Senior Site Coordinator
Division of Environmental Response and Revitalization
Ohio Environmental Protection Agency (Ohio EPA)
Southwest District Office
401 East Fifth Street
Dayton, Ohio 45402

Subject: Phase II Environmental Site Assessment/Property-Specific Risk Assessment
Tech Town Project, 711 and 719 East Monument Ave., Dayton, Ohio
Project ID#557-002093-006

Dear Mr. Smindak:

Weston Solutions, Inc. (WESTON®) has prepared this letter to accompany our submittal of documents prepared for the Tech Town redevelopment project in Dayton, Ohio. These documents were prepared under authorization from the City of Dayton (City), the volunteer for the project under the Voluntary Action Program (VAP). Ohio EPA's Acknowledgement of Entry into the VAP Memorandum of Agreement (MOA) track for this project was received on 17 September 2014.

The attached documents (Attachments I and II) include the *Phase II Property Assessment Report, Tech Town, 711 and 719 East Monument Avenue, Dayton, Montgomery County, Ohio* (Phase II) and the *Property-Specific Risk Assessment Report, Tech Town, 711 and 719 East Monument Avenue, Dayton, Montgomery County, Ohio* (PSRA). Both documents pertain to the portion of the former General Motors plant commonly referred to as "East Phase" (the Property).

Data presented in the reports extend through May 2015. Since that time, minor edits have been made to the reports to address comments received on the Dayton Technology Campus project (ID#557-002093-007, commonly referred to as "West Phase"). Although additional data have been collected on and adjacent to the Property, the attached reports have not been amended to include the additional data. A comprehensive summary of the additional data, which includes sub-slab soil gas samples, indoor air samples, soil samples, surface water samples, and groundwater samples, will be included in a future addendum. Key analytical results are described below and also attached.

The City is currently pursuing an expanded Urban Setting Designation (USD) that will impact the Site-specific standards derived in the PSRA (based on compliance with the Unrestricted Potable Use Standard [UPUS] at a distance of ½ mile from the Property). Because the expanded USD will extend beyond a distance of ½ mile from the Property, the new point of compliance will become the expanded USD boundary. The PSRA-derived values will be re-evaluated after the expanded USD boundary is approved.

As described in the attached documents, a "hot spot" for chlorinated volatile organic compounds (CVOCs) in groundwater was identified at monitoring well MW-23. Data gaps were identified at this location with respect to soil and groundwater delineation, and surface water characterization. Delineation

was also required for a polychlorinated biphenyl (PCB) hotspot identified at the termination of Meigs Street. Additionally, indoor air data was not available for comparison to the applicable standards released in 2015. These data gaps were addressed between 2016 and 2019, as described below.

Although the Environmental Covenant for the Property will require mitigation systems for future buildings, analytical data has confirmed that a mitigation system is not required for the CTA building. Indoor air sampling was completed in 2016 at the Creative Technology Accelerator (CTA) building. This is the only building currently constructed on the Property. Two subsequent rounds of sub-slab sampling were completed in 2017 and 2018. The sub-slab and indoor air analytical results are included in Attachment III and demonstrate that indoor air meets applicable standards, and sub-slab concentrations are below vapor intrusion screening levels (VISLs). The CTA building is located in an area of the Property historically used as a parking lot.

Two monitoring wells (MW-81 and MW-82) were installed downgradient of monitoring well MW-23 in 2018. Analytical results from these new monitoring wells are provided in Attachment IV and define the extent of groundwater contamination associated with the monitoring well MW-23 location.

A limited soil investigation was conducted in the monitoring well MW-23 area in 2018 to assist with remedial action planning. Analytical results from the investigation are included in Attachment V. A separate soil investigation was completed in 2017 at the termination of Meigs Street to delineate the PCB hot spot previously excavated during redevelopment activities. The analytical results from the Meigs Street investigation are also included in Attachment V.

Surface water sampling was conducted in 2019 at six locations along the south bank of the Mad River. These locations spanned from east (upstream) of the Property to west (downstream) of the Property. The sampling was conducted to determine whether CVOCs were discharging to the river above the Outside the Mixing Zone Average (OMZA) surface water criteria. Only one location (the furthest downstream) had detectable CVOC concentrations; significantly below the OMZA. The surface water analytical results are provided in Attachment VI.

The PSRA relied on leach-based soil values (LBSVs) from the Bureau of Underground Storage Tank Regulations (BUSTR) for an initial screening to determine which chemicals would require further evaluation. The BUSTR LBSVs were updated in September 2017. Although the PSRA tables were not updated to reflect the more recent LBSVs, a comparison was conducted to ensure that additional chemicals would not require site-specific evaluation. Naphthalene was the only new chemical that exceeded the more-conservative BUSTR soil to drinking water LBSVs. Although results for 5 sample locations exceed the new drinking water protection value of 0.511 milligrams per kilogram (mg/kg), none of the sample results exceed the BUSTR Soil to Non-Drinking Water LBSV of 613 mg/kg, or the Ohio EPA non-drinking water LBSV of 4.05 mg/kg, therefore based on the plans to expand the USD boundary, the revised BUSTR criteria would not impact our initial assessment.

A Remedial Action Plan (RAP) is in progress and will be submitted for Ohio EPA review in 2020. The RAP will be based on the attached Phase II and PSRA documents, as well as the additional data collected through 2019 and summarized in this letter.

Additionally, an Interim Remedial Action Plan (IRAP) will be submitted in advance of the full RAP to prioritize Ohio EPA review of plans associated with proposed levee modifications. As discussed at our meeting on 31 January 2020, the IRAP will allow Ohio EPA to focus their review on the portion of the Property that will be impacted by the levee modifications.

Please feel free to contact me at (906) 523-2311 or via email at michelle.bakkila@westonsolutions.com if you would like to schedule a follow up meeting to discuss these documents.

Very truly yours,
WESTON SOLUTIONS, INC.

Michelle Bakkila
Project Manager

Attachments
cc: Mr. Christopher Lipson, City of Dayton
Mr. Steve Nutt, CityWide Development Corporation
Ms. Laura Funk, Certified Professional, Wood

ATTACHMENT I

PHASE II PROPERTY ASSESSMENT REPORT

PHASE II PROPERTY ASSESSMENT REPORT
FORMER GM DELPHI HARRISON THERMAL SYSTEMS PLANT SITE
TECH TOWN
719 AND 711 EAST MONUMENT AVENUE
DAYTON, MONTGOMERY COUNTY, OHIO

Prepared for:

CITY OF DAYTON
101 West Third Street
Dayton, Ohio 45402

Prepared by:

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Final
April 2020

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LIST OF ACRONYMS AND TERMS

<	Less than
≤	Less than or equal to
95UCL	95 per cent upper confidence limit
ACM	Asbestos-containing materials
AOIs	Areas of Interest
AST	above ground storage tank
bgs	below ground surface
BUSTR	Bureau of Underground Storage Tank Regulations
CADD	Computer-Aided Design and Drafting
CIDARS	Chemical Information Database and Applicable Regulatory Standards
CityWide	CityWide Development Corporation
CFR	Code of Federal Regulations
cm/s	centimeter per second
COC	chemicals of concern
CRA	Conestoga-Rovers & Associates
CTA	Creative Technology Accelerator
CVOC	chlorinated volatile organic compound
DAF	Dilution Attenuation Factor
DCE	dichloroethene
DRO	diesel range organics
Dore	Dore and Associates, Inc.
ERC	Environmental Restrictive Covenant
ESA	Environmental Site Assessment
EU	Exposure Unit
EWWH	Exceptional Warm Water Habitat
ft	feet or foot
ft/ft	feet per foot
ft/day	feet per day
GDCSS	Generic direct contact soil standards
GM	General Motors
gpm	gallons per minute
GRO	gasoline range organics
GUPUS	Generic unrestricted potable use standards
Hull	Hull & Associates, Inc.
HVAC	heating, ventilating, and air conditioning

LIST OF ACRONYMS AND TERMS (CONT'D)

IA	Identified Area
IMZM	Inside the Mixing Zone Maximum
LBSV	Leach-based soil value
LNAPL	Light non-aqueous phase liquid
mg/kg	milligrams per kilogram
mg/L	milligrams per liter
MOA	Memorandum of Agreement
msl	mean sea level
NFA	No Further Action
NPDES	National Pollutant Discharge Elimination System
OAC	Ohio Administrative Code
OEPA	Ohio Environmental Protection Agency
OMZA	Outside the Mixing Zone Average
OMZM	Outside the Mixing Zone Maximum
ODNR	Ohio Department of Natural Resources
PAH	polynuclear aromatic hydrocarbon
PBCA	Performance Based Corrective Action
PCB	polychlorinated biphenyl
PCE	tetrachloroethylene
POTW	Publicly owned treatment works
ppm	part per million
PSRA	Property-Specific Risk Assessment
QA	Quality Assurance
QAPP	Quality Assurance Project Plan
QC	Quality Control
Rauch	Steve R. Rauch, Inc.
RCRA	Resource Conservation and Recovery Act
RFI	RCRA Facility Investigation
SSL	soil screening levels
SRW	SRW Environmental Services, Inc.
SVOC	semi-volatile organic compound
SW	Solid Waste

LIST OF ACRONYMS AND TERMS (CONT'D)

TAL	Target Analyte List
TCE	trichloroethene
TCLP	Toxicity characteristic leaching procedure
TPH	total petroleum hydrocarbon
TSCA	Toxic Substance Control Act
USD	Urban Setting Designation
U.S. EPA	United States Environmental Protection Agency
USGS	United States Geological Survey
UST	underground storage tank
VAP	Voluntary Action Program
VC	vinyl chloride
VI	vapor intrusion
VISL	VI Screening Levels
VOC	volatile organic compound
WESTON	Weston Solutions, Inc.
WWH	Warm Water Habitat

1. INTRODUCTION

Weston Solutions, Inc. (WESTON®) prepared this Phase II Property Assessment Report under authorization of the City of Dayton for a portion of the Tech Town redevelopment property, which was formerly the central portion of the General Motors (GM) Delphi Harrison Thermal Systems Plant property (the Property). The address of the former GM Delphi Harrison Thermal Systems Plant (the Site) was 300 Taylor Street, Dayton, Montgomery County, Ohio, but the addresses assigned to the portion of the former GM plant site subject to this Phase II Property Assessment Report are 719 and 711 East Monument Avenue, Dayton, Montgomery County, Ohio. The Property occupies approximately 11.5 acres and is bound by Taylor Street to the west, Monument Avenue and the former Pitt Street to the South, the Mad River levee to the north, and the former building 10 and Meigs Street to the east (**Figure 1.1**). As noted on the figure, this portion of the property is also referred to as East Phase.

A legal description of the Property is provided in **Appendix A**, along with a property ownership map. The Property is composed of the following:

- Lots 84335 and 84336 owned by Dayton Tech Town, Inc.
- Lot 84334 owned by Tech Town Holdings, LLC
- A portion of Lot 84414 owned by Tech Town Holdings, LLC.
- A portion of Lot 84415 owned by Tech Town Holdings, LLC

GM manufactured automotive air conditioning compressors and associated parts, electric refrigerators, household appliances, and machine guns (during World War II) on the Site. GM operations included metal machining, grinding, and heat treatment; electroplating, coating, and painting; assembly and packaging; and product and materials testing. GM was a large-quantity generator of hazardous waste and had operated under an Interim Status Part A Resource Conservation and Recovery Act (RCRA) permit as a treatment, storage, and disposal facility. In 2001, GM entered into a RCRA Performance Based Corrective Action (PBCA) Agreement with the United States Environmental Protection Agency (U.S. EPA) to independently and voluntarily investigate, and as necessary, stabilize and remediate releases of hazardous wastes or hazardous constituents at the facility property. GM conducted RCRA Facility Investigation (RFI) activities

and interim remedial measures from approximately 2001 through 2009. Motors Liquidation Company (formerly GM Corporation) withdrew from the RCRA PBCA Agreement in 2009.

The City of Dayton received a Clean Ohio Revitalization Fund grant for the Property in 2006. As a condition of the grant, the City of Dayton has undertaken a voluntary action on the Property to achieve applicable standards protective of human health and the environment in accordance with the Ohio Voluntary Action Program (VAP). A Phase II Environmental Site Assessment (ESA) is a component of the voluntary action.

The purpose of this report is to document Phase II Property Assessment activities completed to characterize the Property. This report presents the following:

- Summary of the Phase I Property Assessment;
- Summary of Phase II Assessment Activities;
- Environmental Setting and Groundwater Classification;
- Summary of the Risk Assessment;
- Discussion of Interim Remediation Completed; and,
- Conclusions regarding the Determination of Compliance with Applicable Standards.

The following current and former WESTON personnel were primary participants in the Phase II Assessment:

- Ms. Laura Funk (Certified Professional, former Project Manager);
- Ms. Michelle Bakkila (Project Manager);
- Mr. Joseph Ferentz (Scientist);
- Mr. Dave Sena (Scientist);
- Mr. Tim Smith (Senior Technician, Asbestos Hazard Evaluation Specialist);
- Mr. Dave Robinson (Senior Scientist, Industrial Hygiene Specialist);
- Mr. Greg Roussos (Scientist);
- Mr. Randy Kirkland (Scientist);
- Mr. Patrick Bond (Geographic Information System Specialist);
- Mr. Dave Hernandez (Computer-Aided Design and Drafting [CADD] Technician); and,
- Mr. Sahadev Sharma (CADD Technician).

A list of personnel from Conestoga-Rovers & Associates (CRA), Haley and Aldrich, and their subcontractors that participated in the Phase II Assessment was not available.

2. PHASE I PROPERTY ASSESSMENT SUMMARY

WESTON prepared an Ohio VAP-compliant Phase I Property Assessment Report for the Property in May 2005 for the City of Dayton (WESTON. 2005). An amendment to the Phase I Report was issued in January 2014 (WESTON. 2014). The purpose of the Phase I Property Assessment was to identify the potential for environmental impacts associated with historical and current Property uses or from activities on properties adjacent to and surrounding the Property. The Phase I Report concluded that potential releases of hazardous substances or petroleum have or may have occurred on the Property.

2.1 OWNERSHIP AND LAND USE

Prior to 1915, the Property was occupied by the Barney & Smith Lumber and Manufacturing Company, a manufacturer of wooden railcars. Lumberyards covered much of the Property in the 1880s and 1890s.

GM, Delphi, and divisions thereof, operated the plant from 1919 until 1996 for the production of automotive air conditioning compressors and associated parts, electric refrigerators, household appliances, and machine guns (during World War II). After ceasing operations, GM transferred the Property to the Peerless Realty Group, Ltd. which used the Property for cold warehousing. The City of Dayton entered into a purchase option for the Property, which it executed in phases from 2004 to 2009. The title transferred to Tech Town Holdings, LLC and Dayton Tech Town, Inc. in July 2010. A legal description of the Property is provided in **Appendix A**, along with a property ownership map.

CityWide Development Corporation (CityWide) is the parent company to Tech Town Holdings, LLC and Dayton Tech Town, Inc. These entities collectively own the property covered by this Report.

The Creative Technology Accelerator (CTA) building and corresponding landscaping, storm water controls, and parking lots were constructed on Lots 84334, 84335, and 84336 of the Property from 2008 to 2009. The CTA building bears the address 711 East Monument Avenue, Dayton, Ohio. Several companies lease space within the CTA. Past and current tenants include ID Cast, RFID,

WESTON, Persistent Surveillance Systems, Intelligent Decisions, Oerlikon (f/k/a Sulzer), and Deloitte. As of March 2020, no buildings are present on the Property except for the CTA. Future planned Property use is commercial and industrial with a greenspace amenity to the Tech Town business campus along the northern portion of the Property. A future bike path may be constructed along the north property boundary to connect the lower bike pathway along the Mad River (north of the levee) to Webster Street. Additionally, an easement is currently proposed to modify the slope of the existing levee. This modification would result in the top portion of the levee moving south onto the Property.

The former GM plant buildings on the Property, including buildings 2, 3, 4, 5, 7, and 9 were demolished in 2009. The basement flooring of building 5 and partial basements in buildings 2 and 7 were cracked to allow infiltration of rain water and the cavities were backfilled. As depicted on **Figure 1.1**, the slabs of buildings 2, 3, 4, 7, and 9 were retained in-place. Crushed concrete was placed over the slabs of buildings 3 and 4 to level the topography. A soil berm was constructed along the northern Property boundary to form a gradual slope between the elevation of the levee and the Property elevation. The berm was primarily constructed with excess soil removed during construction of the Tech Town infrastructure projects.

2.2 ELIGIBILITY

2.2.1 RCRA

The Property is not subject to any Findings and Orders. In 2001, GM entered into a Voluntary RCRA PBCA Agreement with U.S. EPA to assess and remediate, as warranted, hazardous substances from the Property which present an unacceptable risk to human health or the environment. From 2001 through 2009, GM conducted RFI activities and interim remedial measures on the Property under this Agreement. In 2009, Motors Liquidation Company sent U.S. EPA notice of its withdrawal from the PBCA Agreement.

In February 2010, the U.S. EPA provided a letter to the City of Dayton indicating that the Ohio Environmental Protection Agency (OEPA) had agreed to take lead regulatory responsibility for the Property consistent with the Voluntary Action RCRA Memorandum of Agreement (MOA)

Approach, and U.S. EPA does not plan or anticipate imposing any RCRA corrective action measures on the City of Dayton. A copy of this communication is presented in **Appendix B**.

2.2.2 Bureau of Underground Storage Tank Regulations

GM's decommissioning and RFI activities included removing a majority of the underground storage tanks (USTs) from the Property (**Subsection 6.6**). As part of the "one cleanup approach" U.S. EPA notified GM in November 2003 that it was no longer required to submit tank reports to the State Fire Marshal-Bureau of Underground Storage Tank Regulations (BUSTR). U.S. EPA further indicated that at the conclusion of the RCRA corrective action process, U.S. EPA would seek concurrence from the State Fire Marshal-BUSTR that UST corrective action requirements were met. This correspondence is documented in the letter provided in **Appendix B**. According to the letter, the State Fire Marshal-BUSTR had agreed to this approach.

Following GM's bankruptcy, WESTON contacted BUSTR on behalf of the City of Dayton to request assistance achieving No Further Action (NFA) for the BUSTR release areas. WESTON was instructed to follow the BUSTR Tiered Investigative Process. In June 2011, Ohio House Bill 153 was passed which allowed BUSTR Class C release areas to be investigated and remediated per the VAP. In May 2012, WESTON submitted Class C Determination Request Forms to BUSTR for release areas on the Property that had not achieved NFA. In June 2012, Ohio Senate Bill 294 was passed which allows any class of BUSTR release area to undergo corrective action consistent with the Ohio VAP rules provided that the volunteer is not the responsible party and there are other chemicals of concern (COC) on the Property. On 5 September 2012, the State Fire Marshal granted Class C designation of the open release areas on the Property (**Appendix B**). Therefore, BUSTR release areas on the Property that have not achieved NFA from the State Fire Marshal can be addressed as part of the voluntary action. The open BUSTR release incidents located on the Property are discussed in **Section 6**.

2.2.3 Toxic Substance Control Act

Polychlorinated biphenyls (PCBs) have been detected in environmental media on the Property at concentrations exceeding 50 milligrams per kilogram (mg/kg). Although GM provided information to U.S. EPA regarding potential sources of the PCB contamination and dates of usage,

U.S. EPA responded in June 2005 indicating that GM had not proven that the PCB contamination in the buildings located between Webster and Taylor Streets, or at any other location within the facility, occurred solely from releases prior to April 4, 1978. The letter further indicated that there were too many uncertainties regarding the actual or potential sources of PCBs at the Property and the dates of release of the contamination. The letter is provided in **Appendix B**.

Five approvals have been granted by U.S. EPA for the Site pursuant to the Toxic Substance Control Act (TSCA) regulations (**Appendix C**). They include:

- Approval to City of Dayton under 40 Code of Federal Regulations (CFR) 761.61(c) for characterization of process piping residual liquid and approval to crush and reuse concrete (2005).
- Approval to GM under 40 CFR 761.61(c) for cleaning and abandoning storm sewers in place (2006).
- Approval to City of Dayton under 40 CFR 761.61(a) for removal of wood block flooring from the sixth floor of Building 2 and concrete in penthouse electric vault #33 (2009).
- Approval to City of Dayton under 40 CFR 761.61(c) for remediation of Areas of Interest (AOIs) 36, 44, 47, 48 (2010). This approval also included approval for soil management during redevelopment, specifically allowing media containing PCBs at concentrations less than 25 mg/kg to be retained on-Site as feasible and media containing PCBs at concentrations exceeding 25 mg/kg to be disposed in accordance with 40 CFR 761.61(a)(5)(i)(v)(2). An amended Work Plan for AOI 36 (west of the Property) was approved in 2015.
- Approval to CityWide under 40 CFR 761.61(c) of the Work Plan for Site-Wide Risk-Based Management of PCB-Contaminated Material (2017).

On 26 November 2013, U.S. EPA provided a letter to OEPA stating that sites contaminated with PCBs subject to assessment or cleanup per 40 CFR 761 are eligible to participate in the VAP-MOA, but do not qualify for the federal comfort benefits of the MOA until the requirements of 40 CFR 761 have been fulfilled (**Appendix B**).

2.3 PHASE I AMENDMENTS

An amendment to the Phase I Property Assessment report was issued in January 2014. The purpose of the Phase I Property Assessment amendment was to identify any changes in the environmental

condition of the Property, or areas surrounding the Property, that occurred since the last Phase I site reconnaissance. The amendment included:

- Identifying changes in ownership or property uses;
- Inspecting the property to determine whether any new releases of hazardous substances or petroleum have or may have occurred on, underlying, or are emanating from the Property or whether conditions have changed since the Phase I inspection;
- Determining whether on-property or off-property operations may have caused a new release or have changed in a way that has altered the regulatory compliance of the facility; and,
- Records searches as required for due diligence and VAP compliance.

A Phase I Property Assessment will be conducted prior to issuing a NFA determination for the Property. An amendment to the Phase I Property Assessment will be prepared and submitted at that time and will identify any changes in the environmental condition of the Property, or areas surrounding the Property, that occurred since the last Phase I site reconnaissance.

2.4 IDENTIFIED AREAS

Ohio Administrative Code (OAC) 3745-300-01 defines an Identified Area (IA) as a location at a property where a release of hazardous substances or petroleum has or may have occurred. The 2005 Phase I Property Assessment Report divided the Property into three IAs and described the 19 AOIs on the Property that were identified by GM in the RFI Report (CRA. 2006a). The 2014 Phase I Amendment refined the IAs. **Table 2.1** presents the refined list, including a description of AOIs, corresponding IAs, as applicable, and COCs. **Figure 2.1** presents the locations of the IAs within the Property and **Figure 2.2** presents the location of the IAs with respect to the individual parcels within the Property.

3. PHASE II PROPERTY ASSESSMENT

The Phase II Property Assessment was conducted from January 2002 through May 2015 with samples collected by SRW Environmental Services, Inc. (SRW) (off-Property only), CRA, Haley and Aldrich, WESTON, and subcontractors thereof. Samples collected prior to 2001 and pre-dating the RFI were not included in the Phase II Property Assessment data evaluation. The pre-RFI sampling results are tabulated in the Current Conditions Report (CRA. 2001), an excerpt of which is provided in **Appendix D**.

Samples were collected to assess the AOIs and IAs, to characterize wastes, to monitor groundwater, and for determination or demonstration of compliance. Environmental media that has been sampled includes soil, groundwater, soil gas (off-Property), and sediment (off-Property). Other Property media that has been sampled includes concrete, building materials, residual wastes, and sewer sediment. This report summarizes the Phase II property assessment activities and results as they pertain to the Property and the voluntary action. **Table 3.1** lists the primary reports which document the Phase II of the Property and describes the objectives of each investigation as presented in the reports. Excerpts from the RFI Report and Addenda are provided in **Appendix E**.

No limitations or qualifications were identified as part of the Phase II Property Assessment.

3.1 DATA QUALITY OBJECTIVES

WESTON has assembled the Phase II data from the various investigations described above, and reduced the data to that which pertains to the Property (a majority of the reports include data for the entire Site). The data was reviewed to determine if it meets the following data quality objectives, which are formatted in the stepwise approach as outlined in the Data Quality Objectives Process for Hazardous Waste Site Investigations (U.S. EPA. 2000):

- Goal and Objectives – To have sufficient information to determine if the representative concentrations of COCs within each IA meets applicable VAP standards.
- Type and Quantity of Data Needed and Performance Criteria – To have a sufficient number of samples from each potentially affected environmental media type and within each IA to determine the representative concentrations of COCs. The quantity of data needed was determined based upon the likelihood for environmental impact to the area, the area size,

visual and olfactory indications, and prior investigative findings. Quality assurance (QA)/quality control (QC) procedures were used to minimize sources of error and maximize the representativeness of the data collected.

- Stakeholders, Schedule, Resources, Regulatory Program – Reconcile differences between the RCRA and VAP programs so that, to the extent feasible, the work performed by GM is used to support investigation and remediation under the VAP.

3.2 SAMPLING PROCEDURES

3.2.1 Contractors to GM

Soil, groundwater, concrete, and sewer sediment sampling conducted by GM's contractors as part of the RFI adhered to sampling methodology prescribed in the RFI Work Plan and associated appendices including the Quality Assurance Project Plan (QAPP) and Data Management Plan (**Appendix F**). The Work Plan for off-Property soil gas sampling conducted west of Webster Street is also provided in **Appendix F**.

3.2.2 SRW

Soil, sediment, and groundwater sampling conducted by SRW were funded through a U.S. EPA Brownfield Assessment grant and complied with a QAPP and Work Plan/Sampling Analysis Plan (**Appendix G**), which were approved by U.S. EPA as part of the grant administration process.

3.2.3 WESTON

3.2.3.1 Soil Sampling

WESTON collected soil samples from the Property during excavation and drilling activities. In certain instances, soil samples were collected with the assistance of a backhoe bucket or equivalent. The sampling intervals are as reported in **Tables 3.2** through **3.38**. Sampling depths have not been adjusted for grade changes (**Section 7**). WESTON also provided air monitoring, sampling, and consulting support during demolition activities.

Soil samples were also collected using a macro-core or dual-tube sampler using direct-push technology or from a core barrel drilled using a rotasonic drilling rig. The sampler lengths were four or five feet (ft) depending on the drill rig, but generally the cores were segmented into two ft

sampling intervals with the exception of sampling conducted in 2006 for IA COD-5. Soil was collected from the samplers using a stainless steel scoop or disposable plastic scoop. Boring logs are provided in **Appendix H**.

Regardless of the sampling method, volatile organic compounds (VOCs) and total petroleum hydrocarbon (TPH)-gasoline range organics (GRO) were generally collected as grab samples and placed immediately into the laboratory sampling jar or Encore/Terra-core sampler. Soil collected for other analyses was generally homogenized in a stainless steel bowl prior to transfer into the laboratory jar. Soil samples collected from the surface or with the use of an excavator were often homogenized in place or within a stainless steel bowl, but on some occasions the soil samples were collected as a direct grab sample.

3.2.3.2 Groundwater Sampling

A majority of the groundwater monitoring wells on the Property were installed by GM's contractors. The monitoring well construction logs are provided in **Appendix H**. The monitoring wells were developed prior to sampling to promote a hydraulic connection between the monitoring well and the monitored strata.

WESTON used the U.S. EPA recommended low-flow sampling technique for the collection of groundwater samples from the monitoring well network. Low-flow sampling is designed to minimize aquifer disturbance, contaminant volatilization, and wastewater generation.

The technique for low-flow sampling that was used is as follows: measure the static water level in the well to the nearest 0.01 ft using an electronic water level indicator, lower a bladder pump with dedicated tubing to the screened interval, purge the monitoring well using an adjustable rate, monitor the water level, and adjust the pumping rate so that drawdown is no greater than 0.3 ft. During purging, groundwater was monitored for pH, temperature, and conductivity until the parameters stabilized. Once the parameters stabilized, groundwater samples were collected directly from the pump/tubing discharge into the sample containers provided by the laboratory.

3.2.3.3 Concrete

Concrete samples were collected using a rotary hammer drill. The drill bit was marked with depth indicators prior to drilling. The concrete was cored to the desired depth and concrete dust was extracted from the hole and collected into laboratory weigh boats then transferred into the sampling jars. In many cases, concrete samples were consolidated for area representation.

3.2.3.4 Wastes

Samples of sludge, oils, liquids, and other materials contained within vaults, tanks, sumps, etc. were collected and analyzed for waste characterization purposes. Liquids were collected using drum thieves, COLIWASAs, bailers, or through dipping procedures depending upon the conditions of the structure through which the materials were beings sampled.

3.2.3.5 Decontamination

All reusable sampling and downhole equipment coming into contact with potentially contaminated media was decontaminated between uses. Decontamination methods for sampling equipment consisted of an Alconox detergent wash followed by a potable water rinse. Decontamination of core barrels and large heavy equipment (e.g. excavator bucket) included steam cleaning.

3.2.3.6 Sample Management

All analytical samples were collected in appropriate, laboratory-supplied sample containers. Sample containers were tightly sealed, labeled, and immediately packed on ice in coolers in an upright position. Upon collection of all samples, the appropriate laboratory chain-of-custody forms were completed. The coolers were typically hand-delivered to the laboratories.

3.2.3.7 Field Documentation

Either a field logbook or task specific forms (e.g., groundwater sampling forms) were maintained to document the field activities. Each logbook entry included the date, description of work performed, time applicable to the entry, and signature of the person documenting the activities (at day's end).

3.3 QUALITY ASSURANCE/QUALITY CONTROL

The QA/QC program implemented by GM and SRW are described in their respective QAPPs. Analytical reports for samples collected by contractors to GM underwent independent data validation consistent with the QAPP and Data Management Plan.

In addition to the laboratory QA and QC samples being analyzed in accordance with the laboratory QA/QC Plan, several types of field QC samples were submitted for analysis during the course of the field investigation activities to assess the quality of the data resulting from the field sampling program, including:

- Trip Blanks: These samples were prepared by the laboratory from deionized water, and accompanied the project samples collected during WESTON-led drilling and groundwater sampling events through all custody changes. Trip blank results provide information regarding possible contamination obtained during the sample handling process and, thereby, provide a measure of analytical accuracy.
- Field Duplicates: Duplicate samples were collected in the field and submitted to the laboratory and provide a measure of laboratory precision and matrix variability. Duplicate samples were collected at a rate of approximately one per every 20 samples during WESTON-led drilling and groundwater sampling events.
- Field Rinsate Blanks: These samples were collected to evaluate the effectiveness of the field decontamination of reusable sampling equipment. Field rinsate blanks were prepared by pouring deionized water over the sampling equipment (or pumped through the pump apparatus) after the decontamination procedure had been completed. This rinse water was then collected and submitted for analysis to provide an indication of the effectiveness of decontamination procedures (carry-over from sample to sample). Field rinsate blank samples were prepared at a rate of approximately one per 20 samples during WESTON-led drilling and groundwater sampling events.

Evaluation of the RFI QA/QC results is provided in the data validation reports.

3.4 ANALYTICAL METHODOLOGY

VAP-certified laboratories are required to adhere to strict QA/QC procedures that have been predetermined and approved by OEPA. The laboratories reported QC check samples including surrogates, matrix spikes, laboratory control samples, and method blanks with the sample results.

Although GM was not required to use a VAP-certified laboratory under the RCRA PBCA, GM utilized STL-North Canton (n/k/a Test America – North Canton [CL0024]) for a majority of the RFI analyses and requested Ohio VAP certification of the RFI data within the laboratory's capabilities. The VAP certification analysis and affidavits are provided in **Appendix I**.

Test America-Dayton (CL0018) and Belmont Laboratory (CL0032) performed VAP-certified analyses on the samples collected by WESTON. All data packages are provided in **Appendix J**.

Samples were analyzed using one or more of the following analytical methods by the laboratories indicated:

Laboratory	**U.S. EPA Method**	**Media Analyzed**
Belmont Laboratory CL0032	VOCs Solid Waste (SW)846-8260	Soil, Groundwater
	Semi-volatile organic compounds (SVOCs) SW846-8270	Soil, Groundwater
	PCBs SW846-8081 and 8082	Soil, Groundwater
	RCRA Metals SW846-6010 and 7470	Soil, Groundwater
	TPH 8015M	Soil, Groundwater
Test America- Dayton CL0018	VOCs SW846-8260	Soil
	SVOCs SW846-8270	Soil
	PCBs SW846-8081 and 8082	Soil
	RCRA Metals SW846-6010 and 7470	Soil
	TPH 8015M	Soil
DataChem, Cincinnati CL0022	VOCs SW846-8260	Soil, Sediment, Groundwater
	SVOCs SW846-8270	Soil, Groundwater
	PCBs SW846-8081 and 8082	Soil, Sediment, Groundwater
	RCRA Metals SW846-6010 and 7470	Soil, Sediment, Groundwater
	TPH 418.1	Soil, Groundwater
	TPH 8015M	Free product in groundwater

STL- North Canton CL0024	VOCs SW846-8260B	Soil, Sediment, Groundwater, Water
	SVOCs SW846-8270C	Soil, Sediment, Groundwater, Water
	PCBs SW846- 8082	Soil, Sediment, Groundwater, Water, Concrete
	Target Analyte List (TAL) Metals SW846-6010B, 7470A, and 7471A	Soil, Sediment, Groundwater, Water
	TPH 418.1 and 8015M	Soil, Groundwater
	Total Cyanide SW846-9012A	Soil, Sediment, Groundwater, Water
	Dissolved Organic Carbon 415.1	Groundwater
	Nitrite/Nitrate, Chloride, Sulfate 300.0	Groundwater
	Dissolved Gases RSK-175	Groundwater
	Sulfide 376.1	Groundwater
	Total Alkalinity 310.1	Groundwater

Waste characterization analyses (i.e. toxicity characteristic leaching procedure [TCLP] analysis) were not completed using VAP certified methodology.

3.5 PHASE II SAMPLING RESULTS

3.5.1 Soil Sampling Results

Soil samples were collected from soil borings, trenches, excavations, test pits, etc. to characterize IAs and AOIs on the Property. **Figure 3.1** presents the soil sampling locations and IAs. The analytical results were tabulated by depth to assess the following points of compliance:

- Surface soil (minimum of zero to two ft below ground surface [bgs]) for protecting commercial/ industrial users from direct contact to COCs in soil.
- Surface and subsurface soil (minimum of zero to 10 ft bgs) for protecting construction workers from direct contact to COCs in soil.

- Vadose zone for protecting groundwater from potential leaching of COCs in soil.

A determination of compliance for direct contact with surface soil by commercial/industrial workers was completed using soil sampling results from zero to two ft bgs. A determination of compliance for direct contact with subsurface soil was completed using sampling results from zero to 12 ft bgs.

Soil sampling results have been tabulated by IA and depths (**Tables 3.2** through **3.38**). The soil analytical results for the primary COCs[1] are presented on **Figures 3.2** through **3.9**. **Tables 3.2** through **3.14** present analytical results for surface soil samples (zero to two ft bgs interval) that were collected from the Property within each IA. Ohio VAP generic direct contact soil standards (GDCSS) for commercial/industrial land use and for protection of construction workers are presented in the tables as comparison criteria.

COCs were detected in surface soil at concentrations exceeding GDCSS for commercial/ industrial land use in the following IAs:

- IA 3E/5W/21/33 - Lead (6,470 mg/kg at MW-23-04 [0 to 2 ft]);
- IA 15/25/6S – Total PCBs (Aroclor 1254) (23 mg/kg at SB-43-02 [1 to 3 ft])
- IA 18/19 - Trichloroethene (TCE) (66 mg/kg at MW-26-04 [0 to 2 ft]);
- IA 5C - Mercury (7.5 mg/kg at SB-156-04 [0 to 2 ft])
- IA 7 - TCE (91 mg/kg at SB-145-04 [0 to 2 ft])

COCs were detected in surface soil at concentrations exceeding GDCSS for construction workers in the following IAs:

- IA 3E/5W/21/33 - Lead (6,470 mg/kg at MW23-04 [0 to 2 ft]), TCE (25 mg/kg at MW-14B-04 [0 to 2 ft]; 30 mg/kg at MW-23-04 [0 to 2 ft]; 44 mg/kg at MW-24-04 [0 to 2 ft])
- IA 18/19 - TCE (66 mg/kg at MW-26-04 [0 to 2 ft], 27 mg/kg at SB-150-04 [0 to 2 ft], 32 mg/kg at SB-150-04 [duplicate, 0 to 2 ft]), Lead (451 mg/kg at BH-183 [0 to 2 ft])

[1] The primary COCs were identified by GM as a result of the finding of the RFI and includes the following constituents: 1,1-dichloroethene, benzene, cis-1,2-dichloroethene, methylene chloride, tetrachloroethene, trichloroethene, vinyl chloride, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, bis(2-ethylhexyl)phthalate, dibenz(a,h)anthracene, total PCBs, arsenic, cadmium, chromium, lead, manganese, mercury.

- IA 5C - Mercury (7.5 mg/kg at SB-156-04 [0 to 2 ft]), TCE (17 mg/kg at SB-154-04 [0 to 2 ft], 49 mg/kg at SB-156-04 [0 to 2 ft], 22 mg/kg at BH-181 [0 to 2 ft])
- IA 27 - TCE (32 mg/kg at SB-131-04 [0 to 2 ft])
- IA 7 - TCE (91 mg/kg at SB-145-04 [0 to 2 ft])
- IA 11 - TCE (23 mg/kg at SB-18-02 [1 to 3 ft]); Lead (528 mg/kg at SB-148-04 [0 to 2 ft])
- IA 35 - TCE (48 mg/kg at SB-144-04 [0 to 2 ft])

Tables 3.15 through **3.28** present analytical results for subsurface soil samples that were collected from two to 12 ft bgs within each IA. COCs were detected in subsurface soil (2 to 12 ft bgs interval) at concentrations exceeding GDCSS for commercial/industrial land use in the following IAs:

- IA 3E/5W/21/33 - Cadmium (3,340 mg/kg at SB-14-02 [10 to 12 ft]), Total PCBs (Aroclor 1254) (110 mg/kg at MW-37-05 [3.5 to 4.5 ft], 42.3 mg/kg at SB250 [2 to 4 ft, later removed; see **Subsection 6.7**])
- IA 15/25/6S - Total PCBs (Aroclor 1254) (27 mg/kg at MW3-02 [8 to 10 ft]; 48 mg/kg at SB-56-02 [6 to 8 ft]; 33 mg/kg at SB-56-02 [9.5 to 11.5 ft]; 30 mg/kg at SB-43-02 [9 to 11 ft])
- IA 27 - Benzo(a)pyrene (8.4 mg/kg at SB-74-03 [8 to 10 ft] – note that the GDCSS increased to 62 mg/kg in May 2017); TCE (81 mg/kg at SB-74-03 [2 to 4 ft], 53 mg/kg at SB-74-03 [8 to 10 ft])
- IA 34 - TCE (60 mg/kg at SB-73-03 [2 to 4 ft.]; 100 mg/kg at SB-73-03 [8 to 10 ft])
- IA 7 – Total PCBs (Aroclor 1254) (29.3 mg/kg at SB264 [2 to 4 ft])

The CIDARs table (May 2, 2017) presents an updated property specific commercial/industrial worker direct contact standard of 62 mg/kg. The updated standards may be used in a Phase II ESA because they were generated using the most up-to-date exposure parameters and toxicity values in accordance with OAC3745-300-09. Based upon these results, measures should be taken to avoid causing subsurface soil to be exposed or introduced to the commercial/industrial worker point of compliance in IAs 3E/5W/21/33, 15/25/6S, 27, 34, and 7 unless further evaluation is performed that determines the soil meets applicable GDCSS or remedial measures are undertaken.

COCs were detected in subsurface soil at concentrations exceeding GDCSS for construction workers in the following IAs:

- IA 3E/5W/21/33 - Cadmium (3,340 mg/kg at SB-14-02 [10 to 12 ft]; 2,110 mg/kg at SB-14-02 [4 to 6 ft]), TCE (20 mg/kg at SB-14-02 [4 to 6 ft]; 26 mg/kg at MW-23-04 [8-10 ft])

- IA 27 - TCE (81 mg/kg at SB-74-03 [2 to 4 ft], 53 mg/kg at SB-74-03 [8 to 10 ft])

- IA 34 – TCE (60 mg/kg at SB-73-03 [2 to 4 ft.]; 100 mg/kg at SB-73-03 [8 to 10 ft])

TPH was detected at concentrations exceeding the BUSTR Class 1 Soil Action Levels at the following IAs:

- IA 7 - TPH-GRO (C6 to C12) (1,850 mg/kg at 091216-5 [8 ft]; TPH-Diesel Range Organics (DRO) (C20 to C34) (9,000 mg/kg at 091216-5 [8 ft])

Tables 3.29 through **3.38** present analytical results for subsurface soil samples that were collected at depths greater than 12 ft bgs within each IA. The only IAs where a COC was detected in soil at concentrations exceeding a GDCSS is IA 15/25/6S and IA 5C. Total PCBs (Aroclor 1254) were detected in IA 15/25/6S at MW-3-02 (12 to 14 ft) at a concentration of 61 mg/kg, which exceeded the GDCSS for commercial/ industrial land use and TCE and mercury were detected in IA 5C at SB-156-04 (13 to 15 ft) at concentrations of 60 mg/kg and 4.1 mg/kg, respectively, both of which exceed their respective GDCSS for commercial/ industrial land use and construction workers.

The following COCs, which are lacking GDCSS, were detected in soil samples:

- Chromium, Total
- 2-Chlorotoluene
- 2-Hexanone
- 4-Chlorotoluene
- Benzaldehyde
- Manganese
- Methyl acetate
- Methyl cyclohexane
- Potassium

The sampling depths presented in **Tables 3.2** through **3.38** are as reported during sample collection and have not been adjusted for backfill or surface improvements made during development. With few exceptions described in **Section 7**, grade changes on the Property raised the elevation and were conducted through placement of import fill material, re-engineered fill, or relocation of Site soil

that had been assessed and determined to meet VAP standards for the respective depth of placement.

Table 3.39 presents the results of soil samples that were collected in support of the waterline relocation project and analyzed for TCLP. Soil within the utility corridor of the waterline was removed from the Property in two discrete areas in advance of the water line installation, as described in **Subsection 6.7**. Soil disposal was based on the results of the waste characterization sampling.

3.5.2 Groundwater Sampling Results

As discussed in **Section 4**, three groundwater zones have been investigated on and in the vicinity of the Property. The groundwater monitoring well locations are shown on **Figure 3.10**.

Figure 3.11 and **Figure 3.12** present the groundwater sampling results for the primary COCs in the upper aquifer on and upgradient of the Property. Monitoring wells with detections exceeding Ohio VAP Generic Unrestricted Potable Use Standards (GUPUS) upgradient of the Property include Day-14, Day-18, Day-19, Day-23, and HD-15.

Figures 3.13 and **3.14** present groundwater sampling results for the primary COCs in the till-rich zone and lower aquifer, respectively. No upgradient monitoring wells for the till rich zone are available in the existing well network, but the two upgradient lower aquifer monitoring wells (MW-35-05 and Day-22) are shown on **Figure 3.14** and did not have detections of primary COCs.

Table 3.40 presents the on-Property analytical results for the upper aquifer. 1,1-dichloroethene (DCE), cis-1,2-DCE, methylene chloride, TCE, tetrachloroethylene (PCE), vinyl chloride (VC), arsenic, and PCBs were detected at concentrations exceeding GUPUS in the upper aquifer.

Table 3.41 presents the on-Property analytical results for the till-rich zone. Cis-1,2-DCE, PCE, and TCE were detected at concentrations exceeding GUPUS in the till-rich zone.

Table 3.42 presents the on-Property analytical results for the lower aquifer. VC was detected at concentrations exceeding GUPUS in the lower aquifer.

Light non-aqueous phase liquid (LNAPL) was identified in two monitoring wells on the Property, monitoring well MW-24-04 with a thickness of 0.29 ft (December 17, 2014) and monitoring well MW-12A-03 with a thickness of approximately 0.5 ft (December 17, 2014). Monitoring well MW-24-04 is located within IA 3E/5W/21/33, which is the former hydromation pit (AOI 21), significant LNAPL investigation was conducted in this area by GM as part of the RCRA PBCA. Samples of the LNAPL from the MW-24-04/B-SA27 area contained PCBs at concentrations ranging from 0.59 to 2.3 mg/kg. Monitoring well MW-12A-03 is located further east and at the fringe of the area impacted by the LNAPL plume originating from east of the former Chip Handling areas (AOI 11). LNAPL in the MW-12A-03 area originates in an area off-Property to the east. PCBs have been detected in samples from the Chip Handling LNAPL plume at concentrations up to 1,120 mg/kg.

3.5.3 Concrete Sampling Results

GM conducted wipe and bulk concrete sampling as part of its investigation of AOI 20 (PCB releases from electrical equipment) and AOI 26 (PCB releases from process equipment). Interim measures were conducted to remove the flooring associated with these AOIs (**Subsection 6.4**). **Table 3.43** presents the concrete data pertinent to slabs remaining on the Property. **Figure 3.15** presents the concrete sampling results.

3.5.4 Sediment Sampling Results

The Mad River is located to the north of the levee that abuts the Property. SRW collected five samples of sediment from the Mad River and analyzed the samples for VOCs, metals, and PCBs (SRW. 2001). An excerpt from the SRW report, including a table of the sediment sampling results and a figure depicting the sampling locations, is provided in **Appendix K**. Of the five samples collected, three were located upstream of the Property (SED-3, -4, and -5), and two of the sampling locations, SED-1 and SED-2, were located northwest of the Property. COCs were not detected in two sediment samples (SED-1 and SED-2) at concentrations exceeding sediment benchmarks per the hierarchy presented in OAC 3745-300-08(H)(2). PCBs were detected in the samples upstream of the Property (SED-3, -4, and -5) at concentrations exceeding the ecotoxicologically-based benchmarks.

The City of Dayton provided the results of a sediment sample collected on November 11, 2004 from the Mad River, east of the former Career Academy site (i.e. northwest of the Property) (**Appendix K**). The sample was analyzed for metals, VOCs, SVOCs, and PCBs. Several metals and SVOCs were detected. VOCs or PCBs were not detected in the sample. SVOCs are not a primary COC in groundwater beneath the Property. Detected metals included arsenic (3.9 mg/kg), barium (128 mg/kg), chromium (13 mg/kg), lead (63.8 mg/kg), and mercury (0.0344 mg/kg). Lead is the only COC that exceeded the Sediment Reference Values. The lead sediment reference value is 47 mg/kg.

According to a 1992 OEPA published study, the lower reaches of the Mad River (RM 11.5 to RM 1.6) has attained the Warm Water Habitat (WWH) criteria for aquatic life. Fish community performance is fair to exceptional in this region, with the reach from RM 3.8 to RM 1.6 meeting the Exceptional Warm Water Habitat (EWWH) criteria. Streams meeting the EWWH criteria support a high diversity of species and species that are highly intolerant.

The major contaminant detected in the sediment of the Mad River during the 1992 study was mercury at 0.1 part per million (ppm) at one sample point - RM 7.41. Elevated levels of mercury and lead were detected in an impounded portion of Hebble Creek, a major tributary to the Mad River in this region that drains from Wright Patterson Air Force Base.

3.5.5 Background Determination

OAC Rule 3745-300-07(H)(1)(a) indicates in part: "*Native fill may be used for determining background levels when the native fill was not moved from or is not currently in an area described in paragraph (H)(1)(b) of this rule."* Paragraph (H)(1)(b) states in part: *"The following areas are inappropriate to sample when determining background levels: (i)(a) Engineered fill, (b) Structural fill, or (c) Industrial fill.*"

OAC Rule 3745-300-07 (H)(2) specifies how the volunteer may determine background levels using off-property investigations when it is not possible to find sampling locations that are unaffected by site activities. Off-property investigations must also be conducted using the same sample collection and statistical evaluation methods as those conducted according to OAC Rule 3745-300-07(H)(1). These investigations may use data that are demonstrated to be reliable and

representative of background levels for the property and may include peer-reviewed information, research reports generated or sponsored by local, state, or federal agencies, or college or university research reports including theses and dissertations.

Due to a long history of industrial activities in urban areas, the background levels of various COCs are often higher than those encountered in pristine locations having little anthropogenic influence. Soils in urban settings often contain elevated levels of metals related to fallout associated with the burning of fossil fuels and refuse for the generation of heat and power, or from other industrial sources (Cox-Colvin. 1996). Industrial sites are often wide-spread in one area, also leading to difficulties in identifying suitable background soil sampling locations.

As part of the RFI, CRA collected seven off-Property background samples to characterize naturally occurring levels of metals in soils in the region of Dayton, Ohio. An additional background sample was collected per request of U.S. EPA as part of Stage 4 RFI sampling (Environ. 2005). **Appendix L** presents an excerpt from the RFI that describes the background soil sampling results and statistical calculation of background concentrations of metals.

4. ENVIRONMENTAL SETTING

4.1 LOCATION AND PHYSIOGRAPHY

The Dayton area and Great Miami River Valley are located within the Central Glaciated Plains Physiographic Province of southwestern Ohio. The Great Miami River Valley is approximately two and a half miles wide in the Dayton area. It is bounded by bedrock highs and contains various glacial features. The upland regions have gently rolling topography developed on ground moraine, and the valley floor is relatively flat.

The Dayton North, Ohio 7.5-minute quadrangle United States Geological Survey (USGS) Topographic Map indicates that the Property has an elevation of approximately 740 to 750 ft above mean sea level (msl), as shown on **Figure 4.1**. The Mad River is located north of the Property boundary. The confluence of the Great Miami River and the Mad River is located northwest of the Property.

4.2 REGIONAL GEOLOGY AND HYDROGEOLOGY

Much of Montgomery County lies on the crest of a broad anticline, called the Cincinnati Arch, which crosses the county in a northeasterly direction. The county is underlain by Ordovician and Silurian limestone, dolomite, and shale. The Richmond Group bedrock is of Ordovician Age and consists predominantly of shale and interbedded limestone that yields little to no water. Capping the Richmond Group is the Brassfield limestone of Silurian Age (Walton and Scudder. 1960). Openings along bedding planes, joints, and other fractures make the dense Brassfield permeable; however, bedrock does not crop out at the Property, and is not a regional groundwater resource.

Glacial drift of Wisconsin Age overlies the bedrock and consists mostly of till in the upland areas and thick and extensive sand and gravel in the valleys (Miami Valley Regional Planning Commission. 1990). The buried valleys have maximum depths to bedrock ranging from 150 to 225 ft. Glacial till occurs as lenses and layers interbedded with the sand and gravel deposits of the buried valleys in what is known as the Miami Valley Aquifer System. A generally pervasive till under the valley of the Great Miami River and its tributaries in the Dayton area separates the upper and lower sand and gravel aquifers.

The Mad River Aquifer has sustainable yields of 500 to 3,000 gallons per minute (gpm). The shallow aquifer is unconfined and has a saturated thickness that is 80 to 90 ft (Huffman Dam area) at its maximum, and pinches or thins out along the walls of the bedrock valley. The lower aquifer has an irregular geometry created by the bedrock valley. It has a maximum saturated thickness of at least 60 ft (Huffman Dam area) and pinches out as the till thickens west of Rohrer's Island. The depth to bedrock is found at its maximum in the center of the Mad River Valley at approximately 230 ft and decreases to zero as the shale bedrock crops out along the flanks of the Mad River Valley.

4.3 SITE GEOLOGY AND HYDROGEOLOGY

According to the GM RFI Report (CRA. 2006a), three hydrostratigraphic units have been identified beneath the Property.

- The upper sand and gravel aquifer consists of an extensive deposit of coarse-grained sand and gravel with localized zones of medium-grained sand to boulders. The saturated thickness of the shallow water table is approximately 25 to 50 ft. Horizontal flow dominates in this aquifer. In the vicinity of the Property, groundwater flow is predominantly from the east to west-northwest, discharging to the Mad River with periodic flow parallel to the Mad River. Local gradients range from 0.0009 to 0.0012 feet per foot (ft/ft) and hydraulic conductivity is estimated to range from approximately 100 to 400 ft per day (ft/day) or 3.5 x 10^{-2} to 1.4 x 10^{-1} centimeter per second (cm/s) (CRA. 2006a).
- A till-rich unit separates the upper and lower sand and gravel aquifers. This unit generally consists of low-permeability till, including clays and silts with isolated water bearing sand seams. The thickness of the till is variable but has been observed to range from 10 to 45 ft (CRA. 2006a). The till-rich zone is hydraulically isolated from the upper aquifer, but shows some hydraulic connection to the lower aquifer. The till-rich zone impedes the vertical movement of groundwater between the upper and lower aquifers (CRA. 2008).
- The lower sand and gravel aquifer is a confined unit similar in lithology to the upper sand and gravel aquifer with a dominant horizontal flow. According to USGS and the Ohio Department of Natural Resources (ODNR) well records, the top of the bedrock in the region of the Property is approximately 205 ft bgs. The RFI report indicates that regionally, groundwater flow in the lower aquifer is to the south-southwest, but extraction of lower aquifer water by nearby wells (including the former John H. Patterson Career Center High School [Career Academy] Geothermal Well [abandoned in 2012]), create capture zones that change the flow conditions to be in a westerly direction (CRA. 2006a). Potentiometric surface mapping of the lower aquifer conducted in 2013 indicated continued flow in a westerly direction. Hydraulic conductivity in the lower aquifer is estimated to range from approximately 170 to 430 ft/day or 6.0 x 10^{-2} to 1.5 x 10^{-1} cm/s. (CRA. 2006a).

Bedrock beneath the unconsolidated deposits consists of interbedded shales and limestones of the Richmond and Maysville Groups of the Ordovician Period (Ohio Water Resources Board. 1947). The shales are fine-grained, soft, and fissile with layers up to 20 ft thick. The interbedded limestones are fossiliferous, hard and dense with thicknesses ranging from a few inches to two ft thick (USGS. 1993). The Ordovician bedrock is located at approximately 500 to 550 ft above sea level (i.e., 200 or more ft bgs) and extends an average thickness of 980 ft. The Ordovician bedrock is considered to be fairly impermeable. The Richmond and Maysville Group bedrock has an average thickness of 980 ft. It is underlain by limestone or dolomite of the Eden Group. This formation has been documented to have yields of brine or salt water at its base. The depth to bedrock as measured in monitoring well MW-53B located west of the Property is 257 ft bgs.

A fence diagram of the subsurface geology was prepared by Haley and Aldrich as part of the RFI and is provided in **Appendix M**.

4.4 REGIONAL HYDROLOGY

The Mad River is located north of the Property. The Mad River flows southwest through the region, emptying into the Great Miami River at the confluence approximately 0.4 miles northwest of the Property. The Great Miami River flows generally south through the City of Dayton towards the Ohio River. The Great Miami River and Mad River are bordered by levees for flood control.

4.5 GROUNDWATER CLASSIFICATION

The Property is underlain by deposits of the Miami Valley buried valley aquifer system, specifically of the Mad River buried valley aquifer. The Miami Valley buried valley aquifer system is a designated sole source aquifer in Ohio. Groundwater from the upper and lower aquifers is classified as a critical resource. These unconsolidated saturated zones are capable of yielding 500 to 1,000 or more gpm, which meets the VAP definition of a critical resource.

Groundwater contained in interbedded lenses of sands and silts within the till-rich zone was also sampled as part of the Phase II Property Assessment. According to the *Groundwater Pollution Potential of Montgomery County, Ohio* (ODNR. 1995), these lenses may yield up to 20 gpm. To characterize the hydrologic interactions between the hydrostratigraphic units and groundwater

flow, GM conducted two data logging events (i.e., continuously collected groundwater elevations from a subset of the monitoring well network in September 2005 and for one week in 2007). The data from these logging events indicated the primary direction of groundwater flow in the till-rich zone is vertically downward. This was attributed to the low permeability of the till-rich strata and influence of lower aquifer pumping in the vicinity of the Property (CRA. 2008). The study concluded that the till-rich zone was hydraulically connected to the lower aquifer. As indicated above, the till-rich zone is situated between two critical resource aquifers. Therefore, remedial activities required for a critical resource groundwater zone will be implemented. Per OAC Rule 3745-300-10, if remedial activities required for a critical resource are implemented, then it is not necessary to classify the groundwater zone.

According to the *Groundwater Pollution Potential of Montgomery County, Ohio* (ODNR. 1995), the Ordovician bedrock formations are very poor aquifers, with typical yields of three gpm or less. The publication further indicates that drilling deep into the Ordovician bedrock may yield brine water. Bedrock beneath the unconsolidated deposits consists of interbedded shales and limestones of the Richmond and Maysville Groups of the Ordovician Period (Ohio Water Resources Board, 1947). The Richmond and Maysville Group bedrock has an average thickness of 980 ft. It is underlain by limestone or dolomite of the Eden Group. This formation has been documented to have yields of brine or salt water at its base. Based upon the separation distance from the lower aquifer, deep bedrock groundwater is anticipated to meet GUPUS and, as such, does not need to be classified. POGWMUPUS is presumed to be met by way of the intervening low permeability rock.

4.6 GROUNDWATER USE

Based upon the research conducted by Hull & Associates, Inc. (Hull) to support the urban setting designation (USD) demonstration, potable wells were not identified within the USD or a half-mile radius (Hull. 2008).

The City of Dayton operates two upper-aquifer dewatering pumps at the State Route 4 and Keowee Street underpass located northeast of the Property. The Improved Solutions for Urban Systems

building operates one upper aquifer dewatering well at the southeast corner of Monument and Keowee Streets.

Lower-aquifer wells used for non-potable purposes on and in the vicinity of the Property include geothermal wells, the RiverScape Metropark's Five Rivers Fountain of Lights fountain wells, and the irrigation well for the Dayton Dragons baseball field.

- A geothermal well is located on the Property at the CTA, 711 East Monument Avenue. The well is part of the heating, ventilating, and air conditioning (HVAC) system. The well is triple-cased and was drilled using cable tool drilling technology. A pilot hole was drilled using rotosonic technology to accommodate continuous soil logging. The purpose of the pilot hole was to identify the depth to competent till segregating the upper aquifer from the lower to ensure the isolation casing was placed at an appropriate depth.

  The well has a variable rate pump that operates on a demand-driven system. The average discharge from the geothermal system is approximately 30 gpm. Yearly monitoring of the discharge for VOCs had been conducted pursuant to National Pollutant Discharge Elimination System (NPDES) OEPA Facility Permit No. 1IN00292*AD; however, OEPA notified CityWide in January 2015 that the NPDES permit is no longer required since the discharge is covered under General Permit 1GN00042*AG. In July 2016, OEPA granted approval of a NPDES Notice of Intent application for a Non-Contact Cooling Water GP OHN000005 General Permit under OEPA Facility Permit No. 1GN00042*BG.

  Annual monitoring of the discharge for VOCs was conducted pursuant to the requirements of the NPDES permit from March 2010 through 2014. VOCs were not detected in the discharge. Results are illustrated on **Figure 3.14;** the analytical data packages are provided in **Appendix J** and affidavits are included in **Appendix I.**
- The former Career Academy, which was located northwest of the Property, also contained a geothermal well used in the HVAC system. The Career Academy geothermal well was pumped at approximately 340 to 410 gpm (CRA. 2006a). The Career Academy was demolished in 2012 and the geothermal well was abandoned.
- Seven production wells are periodically operated as part of RiverScape Metropark's Five Rivers Fountain of Lights. The wells pump groundwater at up to 3,000 gpm, and run for approximately two minutes at 15-minute intervals during the summer.
- The irrigation well for the Dayton Dragons baseball field is located southwest of the Property and has a pump capacity of 150 gpm. The irrigation well is used during the spring and summer when the field has not received 1.5 to 1.75 inches of rainfall in a week.

- A geothermal well is located at the Water Street Development, 312 N. Paterson Blvd. The well is part of the HVAC system. The well is triple-cased and was drilled using cable tool drilling technology. The well is 150 ft deep with 20 ft. of casing set at 130 to 150 ft bgs in a sand and gravel aquifer. A well test conducted on 23 July 2014 showed the well has a

sustainable yield of 800 gpm and a drawdown of 10 ft. The well is equipped with a submersible pump with a capacity of 600 gpm set at 100 ft.

4.7 URBAN SETTING DESIGNATION

The Property is located within an USD. The property meets the following threshold criteria for an USD:

- The property is entirely within the corporation boundaries of the City of Dayton; and,
- The City of Dayton has a community water system. The water supply source is two well fields: the Miami well field and the Mad River well field. Ninety percent of the parcels within the city are connected or capable of being connected to the community water system.

The USD was issued based upon the following demonstrations:

- The area lies within the corporation boundaries of the City of Dayton [OAC Rule 3745-300-10(C)(1)(a)].
- Based on extensive information gathered from various government agencies, more than 90 percent of the parcels are connected or capable of being connected to the community water system within one mile of the USD. There is extensive area-wide coverage of the public water distribution system within one mile of the USD for the City of Dayton [OAC Rule 3745-300-10(C)(1)(b)].
- The City of Dayton has a community water system that is capable of meeting its future water supply needs. Considering the complete area-wide coverage of the City of Dayton water system, the community water supply system will continue to be the primary source of potable water in the future [OAC Rule 3745-300-10(C)(1)(d)].
- The proposed USD area is not located within an endorsed OEPA drinking water source protection area nor is it in an area that is under review by OEPA [OAC Rule 3745-300-10(C)(1)(e))].
- There are no wells used for potable water supply purposes located within one-half mile of the properties for which the USD was established [OAC Rule 3745-300-10(C)(I)(f)].
- The proposed area is located over a sole source aquifer (i.e., Greater Miami Sole Source Aquifer) in an unconsolidated saturated zone capable of sustaining a yield greater than 100 gpm [OAC Rule 3745-300-10(C)(1)(g)]. The USD area is located over permeable sand and gravel deposits capable of yielding 500 to 1,000 or more gpm, which meets the VAP definition of a critical resource. As such, the USD demonstration included evaluation of current land use surrounding the property located over the critical resource, the physical extent of the critical resource, connectivity to community water system within one-half mile of proposed USD, and an evaluation of enforceable restrictions on the use of groundwater associated with the critical resource.

Approval of the USD Request was provided in August 2009. A copy of the approval letter including a map of the USD area are included in **Appendix N**.

4.8 PROTECTION OF GROUNDWATER MEETING UNRESTRICTED POTABLE USE STANDARDS

Groundwater beneath the Property is classified as critical resource groundwater. An USD has been established for the purpose of eliminating the potable use pathway for areas surrounding the Property. An USD does not impact groundwater response requirements on the Property or groundwater response requirements addressing off-Property pathways not related to the potable use of groundwater.

The groundwater response requirements must ensure protection of humans on and off the Property from exposures to COCs in groundwater not related to potable use of the groundwater. Exposures to COCs in groundwater not related to potable use of the groundwater include exposures resulting from non-consumptive uses, exposures resulting from inadvertent contact with contaminated groundwater, and exposure from vapor intrusion (VI) into indoor air. Non-consumptive exposures for the Property include shallow groundwater contaminated with VOCs that may volatilize into the breathing space of an inhabited structure and shallow groundwater that is contacted during construction activities/utility repairs/environmental monitoring. Protection of important ecological resources on and off the Property that may be impacted by COCs is also required. OAC Rule 3745-300-01 defines an important ecological resource as any specific ecological community, population or individual organism protected by federal, state, or local laws and regulations, or ecological resources that provide important natural or economic resource functions and values. Examples provided in the rule include surface waters of the state, wetlands regulated under federal and state laws, threatened or endangered species and its associated habitat, and state or national parks, etc. There are no important ecological resources on the Property. The Mad River located north of the Property is an important ecological resource. Therefore, groundwater discharging to the Mad River must be considered in the groundwater response. These non-consumptive exposure pathways are evaluated in the Property Specific Risk Assessment (PSRA).

5. RISK ASSESSMENT

This section summarizes the PSRA as prepared for the Property and documented in the PSRA Report, Tech Town (WESTON. 2020). The PSRA utilized the same data set as the Phase II Assessment report, with the exception that excavated soil removed from the property was not included (See **Subsection 6.7** for a description of soil removed from the property).

The PSRA evaluated cumulative risk for multiple chemicals including those chemicals not listed in the generic default standards tables, as well as exposure pathways, exposure routes, and receptor populations that are not considered in the generic standards. The PSRA conclusions for each exposure pathway (soil, groundwater, surface soil, and indoor air) are described in the following subsections. A Conceptual Site Model (**Figure 5.1**) that shows the primary sources, release mechanisms, and routes of exposure for the Property. Potential direct contact exposure routes include ingestion, inhalation, and dermal contact with COCs in soil, groundwater, and surface water (associated with groundwater discharge).

Based on the physical characteristics, the Property was subdivided into five exposure units (EUs) for risk evaluation purposes. An EU is a geographic area within which an exposed receptor may reasonably be assumed to move at random and where contact with environmental media is equally likely at all sub-areas (OAC 3745-300-01(E)). The EUs are listed below and are shown on **Figure 5.2** along with the associated IAs:

- C Area EU,
- N Area EU,
- P Area EU,
- CTA Area EU, and
- Greenspace Area EU

5.1 EXPOSURE PATHWAY AND RECEPTOR POPULATION SURVEY

An exposure pathway and receptor population evaluation was prepared in accordance with OAC Rule 3745-300-07(D). For a receptor to be potentially affected by a COC, there must be an exposure point and a route of exposure. WESTON has evaluated a comprehensive list of potential exposure pathways and determined which pathways are potentially complete. This evaluation is

contained in the PSRA. No further evaluation with respect to applicable standards is given to pathways that are not complete.

Reasonably anticipated current and future receptors include:

- Adult commercial workers employed at current and future businesses;
- Construction workers responsible for development of the Property and ongoing maintenance;
- Visitors and patrons to the current and future establishments on the Property or accessing the Property via the Greenspace Area (levee and the bike path). Exposure of these receptors would be considerably less than on-site workers and measures to protect on-site workers would be protective of visitors/patrons/recreational receptors;
- Workers and occupants of adjacent properties having the potential to be exposed to COCs from the Property that may be released through the non-potable use of groundwater, or through migration of vapors from groundwater into indoor air; and
- Recreational users of the adjacent river that have the potential to come into contact with COCs that may be emanating from the Property via the groundwater to surface water (via fish consumption).
- Important ecological resources of the adjacent Mad River.

The analysis of receptor populations and exposure pathways indicate that there are potentially complete exposure pathways for the following:

- Direct contact with soil by site workers and visitors/recreational receptors under commercial circumstances, and construction workers.
- Inhalation of soil vapor by subsurface construction workers in areas of elevated groundwater concentrations.
- VI to indoor air from soil and/or groundwater affecting site workers under commercial circumstances.
- Leaching of COCs from soil to groundwater and impacting the upper aquifer;
- Non-potable uses of groundwater;
- Protection of surface water quality from groundwater discharges to the Mad River;
- Direct contact with COCs in surface water (potentially discharged from groundwater) of the Mad River by recreational users (via fish consumption); and,
- Protection of important ecological resources.

The allowable land use as commercial land use will not allow use with a high degree of exposure to children, such as a day care or school. Recreational receptors are possible because this commercial property features a greenspace and a multi-purpose trail along the levee. Potential exposures along the bike trail by an adult or child recreational receptor is reasonably anticipated to be transient and at a low frequency, and non-intrusive, which is consistent with the definition of commercial land use. While the adjacent Mad River supports sport fish and transient recreational use (e.g. kayaking, canoeing), long-term, frequent direct contact with surface water and sediments is not reasonably anticipated.

5.2 APPLICABLE STANDARDS FOR COMPLETE PATHWAYS

Applicable standards were established for each medium contributing to or affected by a potentially complete exposure pathway for the Property.

- Direct contact standards have been developed by OEPA for exposure scenarios consistent with the current and future land use of the Property. GDCSS are available in OAC Rule 3745-300-08 for commercial/industrial land use and protection of construction workers; supplemental criteria are available in the Chemical Information Database and Applicable Regulatory Standards (CIDARS). Commercial land use standards are considered protective of low frequency exposures of children per OAC 3745-300-01(C)(12), as cited in the Technical Guidance Compendium document "Applicability of Commercial/Industrial Generic Numerical Standards to Child Receptors" (VA30008.19.005). Schools or child day care facilities would not be permitted on the Property, so high frequency exposure to children would not occur on the Property. The OEPA VAP applies the generic petroleum standards developed by the State Fire Marshal, BUSTR, as presented in the Technical Decision Compendium document "Applying Generic Petroleum Standards under the Voluntary Action Program" (VA30008.13.001). BUSTR, 2014, has applicable standards for petroleum products (i.e., TPH for light (C6 to C12), middle (C10 to C20), and heavy (C20 to C34) distillate petroleum fractions).
- GUPUS for groundwater are available in OAC Rule 3745-300-08 for most COCs. These standards were determined assuming that the groundwater on, underlying and emanating from the Property will be used as a source of water for drinking, cooking, showering, and bathing. These standards either correspond with regulatory drinking water criteria (i.e., maximum contaminant levels or equivalent) or are risk-derived based on a $1x10^{-5}$ carcinogenic risk or hazard index of one for non-carcinogenic effects.
- Leach-based soil values (LBSVs) represent the concentrations of hazardous substances or petroleum that may be present in the soils while still ensuring protection of potable groundwater use. The PSRA derived LBSVs were developed from generic OEPA LBSVs (2008) and U.S. EPA (2015) soil screening levels (SSL) for migration to groundwater.

BUSTR generic petroleum standards for soil to drinking water leaching values were also used. The derived LBSVs for organics correspond to a Dilution Attenuation Factor (DAF) of 15. This DAF is the OEPA default value of soil category 1 (clean sand and gravel), hydraulic conductivity of greater than $1x10^{-1}$ cm/s and a source area size of less than or equal to (≤) 0.5 acres. A DAF of 20, based on the OEPA default attenuation factor for source areas less than two acres, was used for inorganics. Although Protection of Groundwater Meeting GUPUS is not applicable, response requirements for critical resource groundwater in an USD include addressing source areas that could cause GUPUS to be exceeded at ½ mile from the Property boundary or the USD boundary, whichever is further. The derived LBSVs were used to identify primary COCs for fate and transport modeling.

- Ohio River drainage basin water quality criteria for the protection of human health, fish consumption [OAC Rule 3745-1-34] were used to evaluate the human health effects from exposure to surface water from non-drinking water (e.g., fish consumption and incidental contact with surface water). Statewide water quality criteria for the protection of aquatic life are also available in OAC Rule 3745-1-35. The Mad River is designated as a WWH. The Mad River is also part of the Ohio River drainage basin. Ohio River Aquatic Life Tier I and Tier II Values have been developed by the OEPA Division of Surface Water (August 21, 2008) pursuant to OAC Rules 3745-1 and 3745-2. Water quality criteria provided include inside the mixing zone maximum (IMZM), outside the mixing zone maximum (OMZM), and outside the mixing zone average (OMZA).

A PSRA was performed to evaluate exposure pathways, exposure routes, and receptor populations that are not considered in the generic standards. Chemicals lacking generic standards were also evaluated in the PSRA. In addition, the PSRA evaluates non-default exposure pathways including:

- Soil and groundwater risk estimates for commercial/industrial exposure to chemicals lacking GDCSS,
- Direct contact with non-potable groundwater (e.g., geothermal heating and cooling), and
- Inhalation risk due to VI from groundwater to indoor air.
- Inhalation risk to construction/excavation workers from groundwater vapors.

5.3 SOIL EXPOSURE PATHWAY

The point of compliance for commercial/industrial workers is a minimum of 0 to 2 ft bgs, and the point of compliance for protection of construction workers is a minimum of 0 to 10 ft bgs. To accommodate minor grade changes (less than [<] 1 ft) that have occurred or may occur, buffer zones have been included in the data evaluation (e.g., 0 to 3 ft bgs for commercial/industrial workers and 0 to 12 ft for construction workers). As a conservative measure, the PSRA included

a one ft buffer in the direct contact evaluation. Additionally, several samples were collected in the two to four ft bgs interval. These samples were considered in calculations for both the zero to three and three to 12 ft bgs intervals. It should also be noted that total chromium results were compared to hexavalent chromium criteria in the PSRA.

Individual constituents detected in surface soil (zero to three ft bgs) above GDCSS for commercial/industrial workers included: chromium, mercury, TCE, PCBs, and lead. Commercial/industrial GDCSS were exceeded in samples collected from three to 12 ft for: TCE, PCBs, and cadmium. Constituents detected in soil from zero to 12 ft bgs at concentrations above GDCSS for construction workers included: lead, chromium, mercury, TCE, and cadmium. Samples collected from the three to 12 ft zone are outside of the commercial/industrial point of compliance. A brief discussion on the need for multi-chemical adjustment of standards is provided for subsurface soil.

For the C Area EU, the cumulative cancer and non-cancer risk ratios for a commercial/industrial worker exceeded one for maximum surface soil concentrations. TCE and chromium in surface soil have individual non-cancer risk ratios at or greater than 0.1; however, at the 95 per cent upper confidence limit (95UCL) concentrations of TCE and chromium, the cumulative non-cancer risk ratio (1) does not exceed one. Benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenzo(a,h)anthracene, TCE, arsenic, and chromium have individual cancer risk ratios greater than 0.1 and at the 95UCL concentrations of benzo(a)pyrene, TCE, arsenic, and chromium have individual cancer risk ratios greater than 0.1 and a cumulative cancer risk ratio greater than one. In January 2017, the toxicity values for benzo(a)pyrene were updated in IRIS. The CIDARs table (May 2, 2017) presents an updated site-specific commercial/industrial worker direct contact standard of 62 mg/kg. The updated standards may be used in a PSRA because they were generated using the most up-to-date exposure parameters and toxicity values in accordance with OAC 3745-300-09. The 95UCL concentration of benzo(a)pyrene (2.498 mg/kg) does not exceed the updated standard. While the maximum arsenic concentration (15.6 mg/kg) exceeds the site-specific background (11.58 mg/kg), the 95UCL concentration of arsenic (9.489 mg/kg) does not exceed the site-specific background. Multi-chemical adjustment of standards for chromium and TCE is required and remedial measures are warranted to ensure protection of commercial/industrial

workers to surface soil. Multi-chemical adjustment of standards is not required for the commercial/industrial worker exposure to subsurface soil.

The cumulative cancer and non-cancer risk ratios exceeded one for a construction worker exposed to maximum concentrations in the 0 to 12 ft soil zone. Copper, mercury, PCE, and TCE in soil from 0 to 12 ft bgs have individual non-cancer risk ratios at or greater than 0.1 and chromium has an individual cancer risk ratio greater than 0.1. At the 95UCL concentrations of these chemicals, the cumulative non-cancer risk ratio and the cumulative cancer risk ratio do not exceed one based on one significant figure. Multi-chemical adjustment of standards is not required for the construction worker in the C Area EU. The maximum lead concentration in the C Area EU does not exceed the commercial/industrial GDCSS and the 95UCL on the mean lead concentration does not exceed the construction worker GDCSS.

For the N Area EU, the cumulative cancer and non-cancer risk ratios for a commercial/industrial worker exceeded one for maximum surface soil concentrations. PCB Aroclor 1254 and TCE in surface soil have individual non-cancer risk ratios at or greater than 0.1; however, at the 95UCL concentrations of TCE and PCB Aroclor 1254, the cumulative non-cancer risk ratio does not exceed one. Maximum concentrations of PCB Aroclor 1254, arsenic, benzo(a)pyrene, chromium, and TCE have individual cancer risk ratios at or greater than 0.1. At the 95UCL concentrations of these chemicals, arsenic, benzo(a)pyrene, chromium, and TCE also have individual cancer risk ratios at or greater than 0.1 but the cumulative cancer risk ratio is less than one. The 95UCL concentration of benzo(a)pyrene (0.558 mg/kg) does not exceed the updated standard of 62 mg/kg. While the maximum arsenic concentration (15.2 mg/kg) exceeds the site-specific background (11.58 mg/kg), the 95UCL concentration of arsenic (9.472 mg/kg) does not exceed the site-specific background. Multi-chemical adjustment of standards is not required to ensure protection of commercial/industrial workers to surface soil. Multi-chemical adjustment of standards is not required to ensure protection of commercial/industrial workers to subsurface soil.

The cumulative non-cancer risk ratio and cancer risk ratio exceeded one for a construction worker exposed to maximum concentrations in the 0 to 12 ft soil zone. PCB Aroclor 1254, PCE, and TCE in the 0 to 12 ft soil zone have individual non-cancer risk ratios greater than 0.1 and at their 95UCL concentrations, the cumulative non-cancer risk ratio exceeded one. PCB Aroclor 1254 in the 0 to

12 ft soil zone has an individual cancer risk ratio greater than 0.1; however, the cumulative cancer risk ratio does not exceed one at the 95UCL concentration. Multi-chemical adjustment of standards is required and remedial or risk mitigation measures are warranted to ensure protection of construction workers. The maximum lead concentration in the N Area EU does not exceed the commercial /industrial GDCSS or the construction worker GDCSS.

For the P Area EU, the cumulative cancer and non-cancer risk ratios for a commercial/industrial worker exceed one for maximum surface soil concentrations. PCB Aroclor 1254 and TCE have individual non-cancer risk ratios at or greater than 0.1 and PCB Aroclor 1254, arsenic, benzo(a)pyrene, and TCE have individual cancer risk ratios at or greater than 0.1. At the 95UCL concentrations of these chemicals, the cumulative non-cancer risk ratio and the cumulative cancer risk ratio equal one based on one significant figure. Multi-chemical adjustment of standards is not required for the commercial/industrial worker exposure to surface soil. Multi-chemical adjustment of standards is not required for the commercial/industrial worker exposure to subsurface soil.

The cumulative cancer risk ratio did not exceed one for a construction worker exposed to maximum concentrations in the 0 to 12 ft soil zone; however, the cumulative non-cancer risk ratio exceeded one for a construction worker exposed to maximum concentrations in the 0 to 12 ft soil zone. Copper, PCE, and TCE have individual non-cancer risk ratios at or greater than 0.1 and at the 95UCL concentrations of these chemicals, the cumulative non-cancer risk ratio also exceeded one with a risk ratio of greater than one for TCE. Multi-chemical adjustment of standards is required and remedial or risk mitigation measures are warranted to ensure protection of construction workers. The maximum lead concentration in the P Area EU does not exceed the commercial/industrial GDCSS and the 95UCL on the mean lead concentration does not exceed the construction worker GDCSS.

For the CTA Area EU, the cumulative cancer and non-cancer risk ratios for a commercial/industrial worker did not exceed one (based on one significant figure) for maximum surface soil concentrations. Benzo(a)pyrene and benzo(b)flouranthene had individual risk ratios >0.1. The CIDARs table (May 2, 2017) presents an updated commercial/industrial worker direct contact standard of 62 mg/kg for benzo(a)pyrene and 620 mg/kg for benzo(b)fluoranthene. The updated standards may be used in a PSRA because they were generated using the most up-to-date

exposure parameters and toxicity values in accordance with OAC3745-300-09. The maximum concentrations of benzo(a)pyrene (4.93 mg/kg) and benzo(b)fluoranthene (8.85 mg/kg) does not exceed the updated standards. The cumulative cancer and non-cancer risk ratios for a commercial/industrial worker also did not exceed one for maximum subsurface soil concentrations. Multi-chemical adjustment of standards is not required for the commercial/ industrial worker.

The cumulative cancer and non-cancer risk ratios do not exceed one for a construction worker exposed to maximum concentrations in the 0 to 12 ft soil zone. Multi-chemical adjustment of standards is not required for the construction worker. The maximum lead concentration in the CTA Area EU does not exceed the commercial /industrial GDCSS or the construction worker GDCSS.

For the Greenspace Area EU, the cumulative cancer risk ratio did not exceed one for a commercial/industrial worker for maximum surface soil concentrations. The cumulative non-cancer risk ratio for a commercial/industrial worker exceeded one for maximum surface soil concentrations. PCB Aroclor 1254 and TCE had individual non-cancer risk ratios at or greater than 0.1 and PCB Aroclor 1254, arsenic, benzo(a)pyrene, chromium, dibenz(a,h)anthracene, and TCE have individual cancer risk ratios at or greater than 0.1. At the 95UCL concentration of these chemicals, the cumulative cancer and non-cancer risk ratios do not exceed one. Multi-chemical adjustment of standards is not required for commercial/industrial worker exposure to surface soil. Multi-chemical adjustment of standards is not required for commercial/industrial workers to subsurface soil.

The cumulative non-cancer risk ratio exceeded one, but the cumulative cancer risk ratio did not exceed one for construction worker exposed to maximum concentrations in the 0 to 12 ft soil zone. PCB Aroclor 1254, cadmium, cyanide, and TCE have individual non-cancer risk ratios at or greater than 0.1 and at the 95UCL concentrations of these chemicals, the cumulative non-cancer risk ratio also exceeded one. Multi-chemical adjustment of standards is required and remedial or risk mitigation measures are warranted to ensure protection of construction workers. The maximum lead concentration in surface soil the Greenspace EU exceeds the GDCSS for commercial/industrial use and the GDCSS for construction activities but the maximum concentration in subsurface soil does not exceed the GDCSS. Though there is a lead surface soil

hotspot, the average lead concentration in surface soil does not exceed the GDCSS and a worker would not be exposed to this concentration on a regular basis.

5.3.1 TPH and Mercury

TPH is present above BUSTR Class 1 generic petroleum standards (1,000 mg/kg for C6-C12 and 5,000 mg/kg for C20-C34) that are based on saturation concentrations in one location in the C Area EU:

- 091216-5, 8 ft bgs - TPH (C6 to C12) at 1,850 mg/kg, and TPH (C20 to C34) at 9,000 mg/kg,

The BUSTR TPH generic petroleum standards based on soil saturation only need to be applied within the VAP's direct contact point of compliance (i.e. 0 to 10 ft bgs or as applicable for protection of construction workers). The BUSTR TPH-GRO and TPH-DRO soil saturation standard exceedances are within the point of compliance.

Mercury is present above the CIDARS soil saturation concentration (3.1 mg/kg) in one location in Area C EU:

- B-156-04 (7.5 mg/kg), 0 to 2 ft bgs).
- B-156-04 (4.1 mg/kg), 13 to 15 ft bgs).

No other chemicals were detected above soil saturation concentrations. Remedial measures are needed to address elevated TPH and mercury concentrations.

5.4 LEACHING FROM SOIL TO GROUNDWATER

LBSVs represent the concentrations of hazardous substances or petroleum that may be present in the soils on a property that ensure protection of public health and safety for the reasonable exposure associated with potable groundwater use on and off the property. Derived LBSVs were developed from generic OEPA LBSVs (OEPA, 2008) and U.S. EPA (2015b) SSLs for migration to groundwater. BUSTR generic petroleum standards for soil to drinking water leaching values were also used. The derived LBSVs for organics correspond to a DAF of 15. This DAF is the OEPA

default value of soil category 1 (clean sand and gravel), hydraulic conductivity of greater than $1x10^{-1}$ cm/s and a source area size $\leq$ to 0.5 acres. A DAF of 20 was used for inorganics, based on the OEPA default attenuation factor for source areas less than 2 acres. A default organic carbon content of 0.003 was applied. Several VOCs, SVOCs, and inorganics were detected in the soil borings in excess of the derived LBSVs in at least one EU, as follows:

- VOCs – benzene, bromomethane, 2-hexanone, 1,1,-dichloroethane, cis-1,2-DCE, methylene chloride, PCE, TCE, VC;
- SVOCs – PCBs (Aroclor 1248, Aroclor 1254, Aroclor 1260), biphenyl, bis(2-ethyhexyl)phthalate, GRO, and TPH (C_{20}-C_{34}); and
- Inorganics – antimony, arsenic, cadmium, cobalt, chromium, copper, cyanide, lead, manganese, and nickel

While maximum concentrations of benzene, biphenyl, bromomethane, 2-hexanone, antimony, cadmium, cobalt, total chromium, copper, cyanide, lead, manganese, and nickel exceeded LBSVs, these constituents were either not detected or detected below the GUPUS in all groundwater samples, demonstrating that migration to groundwater at concentrations of concern is not occurring for these constituents. Bis(2-ethylhexyl)phthalate is a common laboratory contaminant that was detected above GUPUS in one of 17 samples. Therefore, COCs for the soil migration to groundwater pathway that require further evaluation are: arsenic, PCBs, GRO, TPH (C_{20} to C_{34}), 1,1-dichloroethane, cis-1,2-DCE, methylene chloride, TCE, PCE, and VC.

These COCs were measured above LBSVs in each EU as summarized below:

- Greenspace EU – arsenic, PCBs, 1,1-dichloroethane, cis-1,2-DCE, methylene chloride, TCE, PCE, and VC.
- C Area EU – arsenic, GRO, TPH (C_{20} to C_{34}), cis-1,2-DCE, methylene chloride, TCE, and PCE. (Note that PCBs were excluded because it is below the TSCA standard of 1 ppm for unrestricted land use).
- N Area EU - arsenic, PCBs, 1,1-dichloroethane, cis-1,2-DCE, methylene chloride, TCE, PCE, and VC
- CTA Area EU – arsenic
- P Area EU - arsenic, PCBs, cis-1,2-DCE , methylene chloride, TCE, and PCE

Additional modeling for these COCs was conducted to determine site-specific LBSVs that would be protective of groundwater ½ mile from the Property. This modeling is detailed in **Subsection 5.5.2**.

5.5 GROUNDWATER EXPOSURE PATHWAY

Groundwater beneath the Property is classified as a Critical Resource within an USD. An USD eliminates the potable use pathway for areas surrounding the property. Thus, comparison to GUPUS is performed to determine the COCs that need to be further evaluated for geothermal heating and cooling use and COCs that need to be evaluated for off-Property direct contact pathways not related to the potable use of groundwater. An institutional control restricting potable groundwater use will be recorded with the deed for the property rendering this pathway incomplete. Non-potable direct contact use (e.g., geothermal heating and cooling) is evaluated in the PSRA.

COCs identified in groundwater for direct contact exposures (i.e. COCs with detections greater than GUPUS and CIDARS supplemental criteria) include:

- Upper Aquifer: 1,1-DCE, cis-1,2-DCE, chloroform, ethylbenzene, methylene chloride, PCE, trans-1,2-DCE, TCE, VC, PCBs (Aroclor 1254), and arsenic.
- Till-rich Zone: PCE, TCE, and cis-1,2- DCE (VC was detected above GUPUS off-Property)
- Lower Aquifer: VC.

PCE, TCE, and chlorinated VOC (CVOC) degradation products have been detected in groundwater above GUPUS. VC in the lower unit monitoring well MW-39-05 exceeded GUPUS. In the till-rich zone, cis-1,2-DCE, TCE, and PCE in monitoring wells MW-36-05 and MW-54-06 exceed GUPUS; PCE and TCE in monitoring well MW-40-05 exceeded GUPUS; and VC in monitoring well MW-54-06 exceeded GUPUS. In upper unit monitoring wells, CVOCs exceed GUPUS in a number of wells, with the highest concentrations measured in monitoring wells MW-23-04 and MW-37-05. PCB Aroclor 1254, 1,1-DCE, methylene chloride, and arsenic were detected in one on-Property upper aquifer monitoring well at concentrations exceeding GUPUS.

The cumulative risk ratio for the till-rich zone is 0.9 and the cumulative risk ratio for the lower aquifer is 0.4. These risk ratios do not exceed the threshold of one; multiple chemical adjustment or remedial measures for chemicals lacking MCLs is not required.

5.5.1 Off-site Migration of COCs in Groundwater

The BIOCHLOR model, developed by Groundwater Services, Inc. for the Air Force Center for Environmental Excellence (Groundwater Services, Inc., 2002), was used to predict contaminant concentrations along the centerline of a groundwater plume. BIOCHLOR is available for download at http://www.epa.gov/water-research/biochlor-natural-attenuation-decision-support-system. BIOCHLOR, programmed in the Microsoft Excel spreadsheet environment, is based on the Domenico analytical solute transport model and has the ability to simulate one-dimensional (1-D) advection, three-dimensional (3-D) dispersion, linear adsorption, and biotransformation via reductive dechlorination (the dominant biotransformation process at most chlorinated solvent sites). Dissolved solvent degradation is assumed to follow a sequential first order decay process (Aziz et al., 2000; 2002). The input values/assumptions used in the BIOCHLOR model are listed in Appendix C of the PSRA.

Modeling was completed for CVOCs (i.e., TCE, PCE, VC, and cis-1,2-DCE in the upper aquifer, PCE and TCE in the till-rich zone and VC in the lower aquifer) to determine if these groundwater CVOCs could cause GUPUS to be exceeded at ½-mile from the Property boundary.

Using the maximum chlorinated COC concentrations in groundwater (of all groundwater data) and assuming a continuous source, BIOCHLOR modeling predicts that GUPUS would not be exceeded at ½ mile (2,640 ft) from the Property boundary in the lower aquifer and till-rich zone. In the upper aquifer, maximum detected concentrations of cis-1,2-DCE, PCE, TCE, and VC (of all groundwater data; measured in monitoring well MW-23-04) were predicted to exceed GUPUS at ½ mile (2,640 ft) from the Property boundary if a continuous source was assumed. Using the May 2015 sampling data for monitoring well MW-23-04 and assuming a decaying source (more representative of site conditions based on the presence of breakdown products), COCs met GUPUS at ½ mile from the Property boundary in the upper aquifer. Other upper aquifer monitoring wells in close proximity to monitoring well MW-23-04 that contain CVOCs above GUPUS (but at lower concentrations than monitoring well MW-23-04) include monitoring wells MW-37-05 and MW-9-03.

The BIOCHLOR model cannot account for the hydraulic boundary created by the Mad River. It is possible that the majority of the plume is intercepted by the Mad River less than ½ mile from the Property. This Phase II report evaluates data through May 2015. An additional monitoring well was installed in 2017 downgradient of monitoring well MW-23-04 and upgradient of the Mad River to evaluate the direction of groundwater flow and COC concentrations in this area. A complete RAP will be submitted at a later date with the objective of achieving No Further Action (NFA) under the Ohio VAP for the entire Property. This data will be evaluated in the RAP. Decisions on remedial measures for this area will be made following evaluation of additional potentiometric and water quality data obtained from this new monitoring well.

5.5.2 Leach-Based Soil Concentrations to Meet GUPUS at ½ Mile from Property Boundary

The BIOCHLOR model was also used to predict the contaminant concentration in groundwater at the source area that will result in GUPUS being met at ½ mile from the Property boundary in the upper aquifer. Modeling was completed for TCE, PCE, VC, cis-1,2-DCE, 1,1-dichloroethane, methylene chloride, and arsenic to identify potential source areas on the Property that could cause GUPUS to be exceeded at ½-mile from the Property boundary. This predicted concentration was then incorporated as the allowable groundwater concentration in the LBSV calculation to determine the concentration in soil that would leach to groundwater at this concentration. This evaluation did not take into account the existing concrete slabs that cover the majority of the Property and reduce the potential for leaching.

The maximum detected arsenic concentration (32.4 mg/kg in N Area EU) does not exceed the migration-adjusted LBSV of 38 mg/kg. The maximum concentration of methylene chloride (2,600 micrograms per kilogram [µg/kg] in C Area EU) does not exceed the migration-adjusted LBSV (3.95E+08 µg/kg). The maximum concentration of 1,1-dichloroethane (3,600 µg/kg in N Area EU) does not exceed the migration-adjusted LBSV (4.52E+05 µg/kg).

Assuming a decaying source (i.e., CVOC groundwater concentrations near the source decrease over time) the TCE migration-adjusted Site-specific LBSV based on groundwater migration to the ½ mile point of compliance is to 60,000 µg/kg. The following locations exceed this Site-specific LBSV:

- P Area EU (MW26-04; SB73-03)
- C Area EU (SB74-03)
- N Area EU (SB145-04)

One PCE concentration exceeded the Site-specific LBSV of 80,000 µg/kg (assuming a decaying source i.e., groundwater concentrations near the source decrease over time):

- C Area EU (SB154-04)

No cis-1,2-DCE concentrations exceeded the site-specific LBSV of 24,000 µg/kg and no VC concentrations exceeded the site-specific LBSV of 15,000 µg/kg (assuming a decaying source, i.e., groundwater concentrations near the source decrease over time).

Remedial measures would be needed to prevent TCE and/or PCE in soil from leaching to groundwater in isolated areas of the P Area, C Area, and N Area EUs.

Though PCBs are present in the Greenspace EU, N Area EU, P Area EU at concentrations exceeding the LBSV of 30 µg/kg a migration-adjusted LBSV was not calculated. Due to the lack of PCBs detected in downgradient wells and the hydrophobic nature of PCBs, potential for transport of PCBs in groundwater beyond the source area is limited; therefore, PCBs are not expected to exceed GUPUS at ½-mile from the property boundary.

5.6 SURFACE WATER EXPOSURE PATHWAY

Ohio River drainage basin water quality criteria for the protection of human health [OAC Rule 3745-1-34] were used to evaluate the human health effects from exposure to surface water. As the Mad River is not used as a potable water supply either adjacent to or downstream of the Property, non-drinking water standards are applicable.

Per Technical Guidance Compendium VA30008.09.003, ***"****compliance with generic surface water standards can be demonstrated when ground water or surface water on or emanating from the property meet the chemical-specific OMZA value listed in OAC 3745-1." "The OMZA criteria for human health, aquatic life, and wildlife should be compared against ambient samples averaged over a 30-day period. Single ambient samples are <u>not</u> to exceed the OMZM. If all chemical constituents are below their corresponding chemical criteria, then the surface water may be*

eliminated as an exposure medium. If chemical constituents exceed their corresponding chemical criteria, then the surface water shall be further assessed within a PSRA".

No documentation of surface water discharge from the till-rich zone or lower aquifer to the Mad River has been identified. Although the upper aquifer is known to discharge to the Mad River, not all of the upper aquifer wells are representative of groundwater concentrations that would be discharging to the river. Applicable upper aquifer well locations are discussed further below.

Criteria that were exceeded in on Property wells in the upper aquifer included:

- PCE – human health and aquatic life (IMZM, OMZM, OMZA)
- TCE– human health and aquatic life (OMZA)
- Cis-1,2-DCE – aquatic life (IMZM, OMZM, OMZA)
- 1,1-DCE – human health
- o-Xylene and VC – aquatic life (OMZA)
- PCBs (Aroclors 1254 and 1248) – human health
- Barium, copper and cyanide – aquatic life (OMZA)

The 1,1-DCE concentration in monitoring well MW-23-04 (39.4 micrograms per liter [µg/L]) slightly exceeded the human health criteria (32 µg/L) in September 2012 but did not exceed in the most recent sample (9.41 µg/L) collected in May 2015. The o-xylene concentration in one monitoring well (MW-23-04 [50.4 µg/L]) exceeded the OMZA criteria for total xylenes (27 µg/L) in September 2012 but did not exceed in the most recent sample (7.41 µg/L) collected in May 2015. The VC concentration in one monitoring well (MW-23-04 [3,480 µg/l]) exceeded the OMZA criteria (930 µg/L) in September 2012 and December 2014 (2,980 µg/L) but did not exceed in the most recent sample collected in May 2015 (456 µg/L).

The total PCB concentrations were elevated above the Ohio River basin non-drinking water quality criteria and the GUPUS in monitoring wells MW-12A-03 and MW-3-02. Only PCB-Aroclor 1254 was detected in samples collected from these wells. Due to the distance to the river, the lack of PCB-Aroclor 1254 in monitoring wells downgradient of monitoring wells MW-12A-03 and MW-3-02 and the tendency for PCBs to sorb to sediments, discharge of PCB-Aroclor 1254 to the river is not expected.

Maximum total concentrations of barium, copper and cyanide exceed OMZA aquatic life criteria but do not exceed OMZM aquatic life criteria. While, elevated concentrations of barium were observed in MW12A-03, MW14-03, MW14A-03, MW24-04, MW25-04, and MW26-04, dissolved concentrations of barium do not exceed OMZA aquatic life criteria. Dissolved concentrations of copper do not exceed OMZA aquatic life criteria. Elevated cyanide was observed in MW14-03; this well is not directly adjacent to the river and cyanide was not detected in downgradient wells. Therefore, discharge of these metals to the river at elevated concentrations is not expected.

The upper aquifer monitoring wells MW-23-04 and MW-37-05 are on the northwest side of the Property, approximately 100 ft south of the river. Based on potentiometric data from May 2015 indicating a northwesterly groundwater flow direction (**Figure 5.3**), these wells are located approximately 300 ft upgradient of the Mad River. Discharge to the river above criteria may occur, although biodegradation of VOCs through anaerobic reductive dechlorination is expected (based on the detection of breakdown products), which would reduce chemical concentrations prior to discharge. Using the BIOCHLOR model (assuming a decaying source) and the May 2015 concentrations of TCE, PCE, VC, and cis-1,2-DCE in monitoring well MW-23-04, the model indicates groundwater from the site would not discharge to surface water at concentrations exceeding OMZA.

This Phase II report evaluates data through May 2015. An additional monitoring well was installed downgradient of monitoring wells MW-23-04 and MW-37-05, and upgradient of the Mad River in 2017. A complete RAP will be submitted at a later date with the objective of achieving No Further Action (NFA) under the Ohio VAP for the entire Property. This data will be evaluated in the RAP. Decisions on remedial measures for this area will be made following evaluation of additional potentiometric and water quality data obtained from this new monitoring well.

5.7 VAPOR INTRUSION PATHWAY

The maximum on-site groundwater concentrations in the upper aquifer were compared to revised vapor intrusion screening levels (VISL) for groundwater based on a cancer risk level of $1x10^{-6}$ and a target hazard quotient of 0.1 for the initial screening. Since the maximum detected concentrations

of chloroform, TCE, PCE, and VC exceeded these conservative screening levels, CVOCs in groundwater were further evaluated for potential VI risk.

Based on the most recent data for each monitoring well, the total risk ratio exceeded one at monitoring wells MW-23-04, MW-37-05, and MW-9-03. These wells are located in the northwest corner of the Property, within Greenspace Area EU. Thus, TCE, PCE, and VC in groundwater would pose a potential risk through subsurface VI into a future on-site workplace built within the Greenspace Area EU. Currently, there are no plans for future buildings in this EU.

Risk calculations were completed for the CTA Area EU which is the only EU with an existing structure on the Property. DAY-20 is the only upper aquifer monitoring well in the CTA Area. The most recent concentrations from this well (2006) were used for this area. The cumulative risk ratios do not exceed the threshold of 1, indicating CVOCs in DAY-20 groundwater do not pose a potential risk through subsurface vapor intrusion.

The potential for vapor producing chemicals in on-site groundwater to impact off-site indoor air was also evaluated. Based on the most recent data for each monitoring well, the total risk ratio for groundwater VI to indoor air exceeded one at monitoring wells MW-23-04, MW-37-05, and MW9-03. These wells contain TCE, PCE, and VC at concentrations that exceed risk-based concentrations for protection of indoor air. These wells are located in the northwest corner of the Property, within Greenspace Area EU. Future off-site buildings within 100 ft of these wells also have potential for indoor air impacts. Although the Master Plan currently indicates two potential buildings in this area, there are no current plans to proceed with these buildings. Additionally, the adjacent property is undergoing a voluntary action that will include an institutional control to ensure VI risk is addressed, as warranted, prior to occupancy of the buildings.

Inhalation of vapors from groundwater was also evaluated as a potentially complete exposure pathway for construction/excavation workers in a trench given the potential depth of groundwater in the upper aquifer and the chemicals of concern in groundwater. Non-cancer risk estimates exceeded one based on groundwater concentrations at monitoring well MW-23-04. Prior to occupancy of any building constructed within the Greenspace EU in the future, remediation or risk mitigation is required to address this exposure pathway in the vicinity of this well.

6. REMEDIATION, CLOSURE, AND OTHER SOIL REMOVAL ACTIVITIES

GM conducted remediation and RCRA closure-related activities as part of decommissioning, closure of hazardous waste storage units, and the RCRA PBCA. The City of Dayton conducted remediation activities in the course of demolition to address contaminated media that was identified. These activities are summarized below.

6.1 RCRA UNIT CLOSURES

Two RCRA hazardous waste storage units were present on the Property. These units were closed through implementation of OEPA approved closure plans, as described below.

6.1.1 Building 5 Container Storage Area

The southeast corner of Building 5, first floor, contained a concrete-bermed and gated area used to store containers of hazardous wastes. The storage area was washed with tri-sodium phosphate detergent and triple rinsed with water. The rinse water was collected and a sample of the water was collected during the final rinse for analysis. Closure requirements and performance standards were met for the RCRA unit. The closure certification was submitted to OEPA on July 31, 1997, and OEPA accepted the closure certification on October 30, 1997. The RCRA Certification Closure Report and OEPA's closure acceptance are provided in **Appendix O**.

6.1.2 Tank Storage Units Outside of Building 4

Two RCRA units were present north of Building 4. One RCRA unit consisted of an above ground storage tank (AST) and a sump. The AST and sump were located beneath a canopy affixed to the north side of Building 4. The AST had a capacity of 2,000 gallons and was mounted on a concrete pad. From approximately the mid-1970s to 1983, the AST stored still bottoms from distillation of chlorinated solvents and Stoddard solvent. The AST stored used oil thereafter. The sump had a 200-gallon capacity and was constructed of concrete pipe beneath a grated steel cover within a sloped concrete pad bordered by trench drains. The sump collected and transferred used oil from drums into the AST. The other RCRA unit was a 10,000 gallon concrete spill interceptor tank used

to collect liquids lost in transfer from the RCRA AST and to provide secondary containment for the motor fuels unloading area. The AST, sump, and spill interceptor tank (including trench drains) were decontaminated through a wash and rinse procedure. The AST was removed from the Property. The sump, trench drains, and interceptor tank were filled with lean concrete and capped at the surface with ready-mix concrete. The closure certification was submitted to OEPA on June 25, 2001, and OEPA accepted the closure certification on January 24, 2002. The RCRA Certification Closure Report and OEPA's closure acceptance are provided in **Appendix O**.

6.2 ASBESTOS AND UNIVERSAL WASTES

Asbestos-containing materials (ACM) and universal wastes were abated from the former GM plant buildings on the Property prior to demolition. The abatement was conducted by Dore and Associates, Inc. (Dore). WESTON provided performance monitoring during the abatement, visual inspections for clearance, and conducted perimeter monitoring. The abatement began in April 2008 and was substantially complete by September 2008. Additional ACM identified during the Dore abatement project work was abated from Building 5 by LVI Services in 2008 and 2009.

Asbestos-containing roofing materials, which were damaged during a fire in Building 10 (off-Property) in August 2008, were abated in March 2009 by C2 Environmental. While at the Property, C2 Environmental also abated a small section of roofing on Building 7 that had been inaccessible until a portion of the building had been demolished.

ACM that were abated from the building included thermal system insulation on pipes and joints, tank insulation, plaster, duct insulation, transite panels and plates, magblock pipe insulation, floor tile, mastic, sheet good flooring, cementitious cove base, HVAC system insulation, roof drains, roofing material, fire doors, exterior paint, and window glazing. Regulated ACM were disposed of at Stony Hollow Landfill, a Waste Management facility in Dayton, Ohio. The asbestos abatement was documented in the *Asbestos Abatement Report*, prepared by WESTON dated April 2011.

6.3 RESIDUAL WASTES

Although GM conducted facility decommissioning, there were some residual wastes identified within and exterior to the Property buildings. The residual wastes ranged from small containers such as paint cans to sub-grade structures containing water, oil, and/or sludge. An inventory of the wastes was prepared by Hull and documented in a *Building Residual Inventory* report dated March 2008 (**Appendix P**). The demolition contract included a Residual Waste Disposal task requiring waste characterization, profiling, removal, and disposal of the residual wastes. A number of additional residual wastes identified in the course of demolition were added to the Residual Waste Disposal task. The Residual Waste Disposal task was completed by the demolition company (Steve R. Rauch, Inc. [Rauch]) and its subcontractors (e.g. Veolia). The waste characterization results and disposition of the materials is documented in the *Original/Extra Residual Report* provided by Rauch (**Appendix P**).

6.4 CONCRETE AND WOOD BLOCK FLOORING

As shown on **Figure 2.1**, there were six buildings (buildings 2, 3, 4, 5, 7, and 9) situated on the Property prior to demolition. The buildings were demolished in 2009. The basement flooring of building 5 was cracked to allow infiltration of rain water, and the cavity was backfilled with crushed concrete. The slabs of buildings 2, 3, 4, 7, and 9 were retained. Crushed concrete was placed over the slabs of building 3 and 4 to level the topography.

WESTON reviewed GM's *Current Conditions Report* and RFI documentation and determined that sampling of the building 7 rooftop electrical penthouse (Vault 33) and of the concrete and the flooring material on the 6th floor of building 2 was warranted for disposal characterization with respect to possible PCB contamination. These areas correspond to locations identified in GM's AOI 20 and AOI 26, respectively. Background information on these areas, the results of waste characterization sampling that was conducted, and a summary of the removal actions performed is presented in the following subsections.

6.4.1 Electrical Vaults (AOI 20)

The Property was served by a number of electrical vaults which housed or formerly housed electrical equipment that contained PCB-containing dielectric fluids. Three of these vaults were located on the Property. One of the vaults was in the basement of building 5 (Vault 1); one vault was in a subterranean extension off the south side of the building 5 basement (Switch Vault), and one vault was in a penthouse on the roof of building 7 (Vault 33). Concrete in Vault 1 was sampled during the RFI. The Switch Vault was under water (flooded) during WESTON's work on the Property, which is consistent with the RFI which also reported that the Switch Vault was flooded. Samples of the water (TT-GW-092408-01 and TT-GW-092408-2) were collected and analyzed for PCB, metals, and pH. PCBs were not detected. Barium (0.0954 milligrams per liter [mg/L]) and zinc (0.0656 mg/L) were the only metals detected. The water contained in the Switch Vault was evacuated and discharged under permit to the sanitary sewer system, but water continued to intrude into the subterranean vault. The floor of the Switch Vault was cracked and backfilled with crushed concrete.

GM issued a memorandum on 17 January 2005 that provided information of a transformer room remediation program that was conducted in 1996 (BOW Environmental Solutions. 2005). The report indicated that Vault 33 remedial activities included removing and replacing concrete, scarification, cleaning, and encapsulation. The report concluded that "it is likely that some residual PCB concentrations remain in the rooftop transformer rooms; however, it is believed that the most significant PCB concentrations have been removed." The Vault 33 concrete floor was sampled by WESTON. The concrete floor was conceptually divided into three sampling areas. Composite samples of the concrete were collected by using a rotary impact hammer drill to collect concrete dust samples from the surface to a depth of 3 inches in multiple locations within each sampling area. PCBs were not detected in two of the sampling areas. PCBs (Aroclor 1242) were detected in one of the sampling areas at a concentration of 1.8 mg/kg. Concrete from this area was isolated during demolition and disposed in a licensed municipal solid waste landfill, in accordance with approval granted by U.S. EPA pursuant to 40 CFR 761.61(a). Because the entire vertical thickness of the affected concrete was removed, verification sampling was not performed. This was

consistent with the Remedial Action Plan approved by U.S. EPA. WESTON prepared a *PCB Remedial Completion Summary Report*, dated 4 August 2009 to document the remedial action.

6.4.2 Release from PCB-Containing Equipment (AOI 26)

The majority of the sixth floor of building 2 was covered with tongue-and-groove wood flooring. WESTON collected samples of this tongue-and-groove wood flooring from eight locations, four of which were within the approximate location of the former gear boxes. The remaining four locations were adequately spaced to cover the remaining wood flooring area. Each sample submitted to the laboratory was a composite of two adjoining sampling locations. The sampling method included using a crow bar to pry up the wood flooring within a small area and manually reducing the removed wood flooring into small fragments representing the entire thickness of the wood flooring (ranging from 1/8-inch to 3/8-inch). PCBs (Aroclor 1254) were detected at a concentrations ranging from 3.9 mg/kg to 15 mg/kg.

Upon receiving the results of the wood flooring, WESTON returned to the Property and collected samples of the concrete floor beneath the wood flooring. The floor was divided into four sampling areas (Areas 1 through 4), the wood flooring immediately above each coring location was removed and set aside and a rotary impact hammer drill was used to collect concrete dust samples from the surface to a depth of 3 inches. Three aerially spaced locations were cored within each sampling area and composited for a total of four composite samples. PCBs were not detected in any of the samples.

The PCB-contaminated wood flooring was removed prior to the demolition of building 2 and disposed in a municipal-licensed solid waste landfill in accordance with approval granted by U.S. EPA pursuant to 40 CFR 761.61(a). The PCB-contaminated tongue-and-groove wood flooring was removed during the period of 29 June 2009 through 6 July 2009. A bobcat and pry bars were used to remove the flooring and load it into lined roll-off boxes. Each empty roll-off was hoisted up to the sixth floor with a crane, loaded, covered, and lowered when full.

The PCB remediation waste, totaling 41.79 tons, was transported off-site by Rauch and disposed of at Waste Management's Stony Hollow municipal solid waste landfill, in accordance with 40 CFR 761.61(a)(5)(v)(A) of the regulation. Because the wood flooring was removed in its entirety

and the underlying surface had already been sampled and PCBs were not detected, verification sampling was not performed. This is consistent with the Remedial Action Plan approved by U.S. EPA. WESTON prepared a *PCB Remedial Completion Summary Report*, dated 4 August 2009 to document the remedial action.

6.4.3 Building 5 Compressor Pits

Metal-lined compressor pits were identified in the basement of building 5 and observed to contain an oily sludge. The sludge was sampled (B5B-SL-081009) and analyzed for TCLP (VOCs, SVOCs, and metals) and PCBs. Only barium (1.34 mg/L), cadmium (0.183 mg/L), and lead (0.354 mg/L) were detected in the TCLP analyses. PCBs (Aroclor 1254) were detected at 13.3 mg/kg. The sludge and metal lining was removed and disposed off-Site. The underlying concrete was cored and sampled (B5-Cpmpit-112309) for PCB analysis. PCBs were detected at 1.3 mg/kg in the concrete sample. The concrete pits were left in place. The building 5 basement floor was cracked and the basement was backfilled.

6.5 UTILITIES

6.5.1 Storm Sewers (AOI 18)

Storm sewers located on the Property were investigated through a combination of techniques including site reconnaissance, dye testing, and water/sediment sampling from the manholes. The results of sediment and water collected from storm sewers are discussed in Sections 2.2.3.2 and 4.1.3 of the RFI (**Appendix E**).

Two storm sewer interceptors (INT-8 and INT-9) are present on the Property. The interceptors were installed by GM in the 1970s to provide a mechanism to stop flow to the City of Dayton storm sewer should a spill incident occur. All the storm sewer interceptors were cleaned in May 1993. Sediment and storm water samples were collected in 2004 from INT-8 as part of the RFI. Several VOCs, SVOCs, metals, and PCBs were detected in the samples. INT-8 was cleaned during the 2006 storm sewer remedial measures, as documented in the *Interim Measures Construction Completion Report for Storm Sewer Abandonment Work Between Webster and Taylor Streets* (CRA. 2006b) (**Appendix Q**).

In July 2009, the City of Dayton collected samples from the storm sewer manholes on the Property. All of the media sampled was identified as solids except for one sample (TTSS-6), which was described as oil. The PCB analytical results for the solid media samples ranged from 0.35 to 2.1 mg/kg. The PCB analytical result for the oil sample was 9.5 mg/kg. The oil was removed in July 2009 as an emergency action by the City of Dayton's Environmental Management Department.

6.5.2 Process Sewers (AOI 19)

Historically sanitary and process sewers on the Property were combined and discharged to the City of Dayton publicly owned treatment works (POTW). In 1981, GM began use of a wastewater treatment plant for pretreatment of general oily waste and plating water. The wastewater treatment plant was located at the northwest corner of Monument Avenue and Webster Street, off the Property. At that time, process wastewater and sanitary wastewater were separated with sanitary waste conveyed to the POTW via overhead sanitary sewers.

Process sewers on the Property were cleaned during decommissioning in 1996 using a wash truck fitted with a jet nozzle or a sewer jet truck. Water generated was decanted from the vacuum trucks to the wastewater treatment plant, and sludge was disposed off-Property. All process manholes, sewer pits and sumps were filled with concrete at or near grade.

6.6 UNDERGROUND STORAGE TANKS

Six USTs and a spill interceptor that stored regulated materials were formerly located on the Property. **Figure 6.1** presents the former location of the USTs. **Table 6.1** presents a summary of the USTs, BUSTR Release Area designation, removal, and closure status. BUSTR Release Areas 3 and 7 have not achieved NFA by the Ohio State Fire Marshal, but were granted Class C designation in September 2012 (**Appendix R**). BUSTR Release Area 3 is included within IA 3W/6N/16. BUSTR Release Area 7 is included in IA7.

The following subsections present information regarding UST removal and remediation activities conducted on the Property. Many of the USTs' closure sample results predate the RFI, and are not included in the Phase II Property Assessment data set (**Tables 3.2 through 3.38**). All former UST

areas were investigated as part of the Phase II Property Assessment, and the results of that investigation are included in **Subsection 3.5**.

6.6.1 IA 15/25/6S UST

One UST was formerly located within IA 15/25/6S, south of building 9. Tank 4 (Release Area 4) contained hydraulic oil and was removed in 1989. The UST associated with BUSTR Release Area 4 was issued NFA by the Ohio State Fire Marshal in 2003. The NFA letter is provided in **Appendix R**.

6.6.2 IA 3W/6N/16 USTs

Three USTs and a spill interceptor were formerly located within IA 3W/6N/16, in the vicinity of building 4. Tanks 12 and 13 (Release Area 3) were removed in 1992. Tank 14 (Release Area 8) was removed in 1989 and received NFA from the State Fire Marshal in 1993. A 10,000 gallon spill interceptor tank designed to receive any waste or product spilled in the building 4 tank area was cleaned during decommissioning activities and RCRA closure was approved by OEPA in 2002. The BUSTR Closure Assessment Reports are provided in **Appendix R**.

6.6.3 IA 3E/5W/21/33 USTs

A 1,000 gallon capacity waste oil and solvent UST (No Release Area Designation) was removed in 1978, which predates BUSTR regulations. This tank was located east of building 4.

6.6.4 IA 7 UST

One 10,000 gallon capacity UST used to store dirty Stoddard solvent was previously located in IA 7 (Release Area 7, BUSTR Tank ID 12). The UST was located beneath the building 7 loading dock and was closed-in-place in 2001. According to documents provided by GM, the tank had been pumped empty and steam cleaned. Holes were drilled through the bottom of both ends of the tank and soil samples were collected for laboratory analysis. The tank was then filled with lean concrete and left in place The UST was removed in 2009 during demolition activities. Soil samples were collected from the cavity (091216-3 and 091216-5) and analyzed. The analytical results are presented in **Table 3.19**. Soil samples (091216-7 and 091216-8) were also collected from the

stockpile, analyzed, and the results are summarized in **Table 6.2**. The stockpile soil contained PCBs at a maximum concentration of 31.5 mg/kg. The stockpile soil was disposed off-Property. The BUSTR Closure Assessment Report is provided in **Appendix R**.

6.7 SOIL REMOVAL

6.7.1 IA COD-5

During the Phase II Property Assessment investigation conducted in May 2006, benzo(a)pyrene in soil exceeded the Ohio VAP direct contact standard for commercial/industrial land use at one sampling location (SS-16) on IA COD-5. Benzo(a)pyrene was detected at a concentration of 13.2 mg/kg, which exceeded the VAP GDCSS.

On May 22, 2007, a backhoe was used to excavate the area of sample location SS-16 to a depth of three ft and to a lateral radius of ten ft. Approximately 30 to 40 tons of fill/soil was loaded into dump trucks and transported directly to a municipal solid waste landfill. The excavation was inspected visually to confirm that all noticeably-impacted material was removed. Three confirmation samples were collected from the floor and sidewalls of the excavation and submitted to Test America Laboratory to be analyzed for polynuclear aromatic hydrocarbon (PAHs). The final confirmation results met the applicable VAP standards and the excavation was backfilled to construction grade with crushed concrete from Moraine Materials. The confirmation results are included in **Table 3.14**. The SS-16 soil sample analytical results are presented in **Table 6.2**. A Phase I Property Assessment Amendment - Parcel COD-5 documenting excavation of the area of SS-16 and regulatory correspondence indicating concurrence with the planned remedy and no need for further remediation is provided in **Appendix S**.

6.7.2 IA 7 - Solvent Storage Tank and PCB Area

As detailed in **Subsection 6.6.4**, soil was removed from IA 7 during an UST removal in 2009. Stockpiled soil was sampled prior to removal and analytical results are included in **Table 6.2** (091216-7 and 091216-8).

Additionally, stained soil was observed around a sewer line during the 2008 Meigs Street improvement project. **Figure 6.2** depicts the location of the observed soil contamination. The soil was removed to the extent needed to complete the infrastructure project and the stockpile was sampled. The stockpile sample result (TT-091108-TS) is presented in **Table 6.2**. PCBs were detected at 200 mg/kg in the stockpiled soil. Elevated TPH concentrations were also reported. The soil was disposed off-Property by GM.

6.7.3 IA 28 - Former Miami Canal Extension

Stained soil was identified during the 2008 Meigs Street improvement project beneath the intersection of Meigs Street and Pitt Street, in the vicinity of the former canal. The excavated soil was sampled by the City of Dayton's contractor (Kelchner, Inc.) on 26 August 2008 for waste characterization purposes. The analytical report is included in **Appendix T** and includes results for total and TCLP metals, total and TCLP VOCs, DRO/GRO, TCLP pesticides, and TCLP SVOCs. Approximately 1,344 tons of soil was transported off-Property in October 2008 to Michigan Disposal Waste Treatment in Belleville Michigan for disposal.

6.7.4 Water Main Relocation

WESTON conducted soil investigations in April 2013 and May 2014 in support of the River Corridor Water Improvement Project which involved the installation of a 16-inch water main along the northern boundary of the Property. The sampling was performed along the proposed water main route which extended along the base of a berm that had been constructed adjacent to the levee over former building slabs. The purpose of the soil investigations was to determine the material handling and waste disposal requirements for soil that would be moved and/or removed during the water main installation activities.

During the 2013 investigation, WESTON installed a boring every 100 ft along the route of the proposed water main and collected and analyzed soil samples from 2-ft intervals starting at the berm surface to a depth of 10 ft bgs (as measured from the berm surface). The investigated depth was slightly beyond the actual trench depth. The results of the sampling are documented in the 22 May 2013 *Soil Investigation Report – River Corridor Water Improvement Project* and are presented in **Tables 3.2, 3.3, 3.15,** and **3.16** and **Figures 3.2** and **3.3.**

Analytical results from the April 2013 soil investigation indicated additional investigation and/or special handling was warranted in the vicinity of two of the borings, SB-250 and SB-254B. WESTON prepared a Waste Management Plan that identified risk mitigation procedures and material handling and waste disposal requirements to be implemented during the River Corridor Water Improvement Project. The Waste Management Plan included a requirement for additional sampling during excavation in the vicinity of soil borings SB-250 and SB-254B. Results of the additional sampling are documented in the *Water Main Installation Sampling Report* included in **Appendix U**.

The water main installation took place in 2014 and included temporary removal of the soil berm from the work area and open cut trenching through the concrete slabs to a depth of approximately 7 ft bgs (as measured from the berm surface). After pipe installation, the trench was backfilled and the soil berm was replaced. PCB- and VOC-contaminated soils generated during trenching activities within the specified waste management areas were transported to Wayne Disposal Inc. Site #2 Landfill in Belleville, Michigan for disposal.

7. GRADE CHANGES

As described in **Section 3**, sampling results are presented with the collection depth or interval as reported during sample collection. Significant grade changes have not occurred on the Property since the dates of sampling, with the following exceptions:

- Crushed concrete was placed over the top of the concrete slabs of buildings 3 and 4 to form a more gradual grade change. The crushed concrete thickness is estimated to be 2 ft or less.
- A soil berm was placed along the levee to form a gradual slope down to the Property elevation.
- Voids, including basements, sumps, and pits were backfilled with import soil, re-engineered fill (crushed concrete from the Property), or relocated soil.
- Earth work was completed in conjunction with the Lot 84335 development. A removal action was conducted in the sampling location SS-16 area prior to development as described in **Subsection 6.7.1**. An archeological study of the western half of Lot 84335 was conducted, which entailed excavation to 4 to 6 ft bgs. Soil deemed structurally acceptable for reuse was returned to the surface.

Grade increases were made through placement of import media, re-engineered fill (crushed concrete from the Property), or relocated soil. These media sources are described in the subsections that follow. A 2006 topographic map of the Property (pre-building demolition) and 2010 post-demolition Property elevation surveys for the area north of Pitt Street is provided in **Appendix V**. The 2010 surveys were done pre-backfill and post-backfill to quantify grade changes in this area.

7.1 EVALUATION OF IMPORT MEDIA

Import soil was obtained from the following sources:

- Fill imported to backfill the sampling location SS-16 excavation in IA COD-5 was composed of crushed new concrete from the Moraine Materials Quarry.
- Topsoil used on Lot 84335 was provided by Scarffs Nursery and originated from 1930 Prime Court in Troy, Ohio 45373.
- Approximately 925 cubic yards of soil originating from a utility installation project at St. Clair Street in Dayton, Ohio was imported to Lot 84335 and used to meet grade requirements beneath the CTA building and courtyard.
- Rauch imported soil to the Property from a farm located at 6390 Dayton Farmersville Road in Dayton, Ohio.

A borrow source evaluation was conducted for each significant off-Property import source including collection of samples for analyses when warranted. The completed borrow source evaluations are presented in **Appendix W**.

7.2 RELOCATED SOIL

Excess soil generated during the Taylor Street Improvement project was stockpiled and sampled. The stockpiles were divided into seven segments and sampled on March 18, 2011 for VOCs, SVOCs, metals, and PCBs (TT-TSSP-01 through -07). The analytical results are provided in **Appendix X**, and summarized in **Table 7.1**. The soil was relocated onto the Property and used to extend the berm along the levee north of buildings 4 and 7.

Soil removed during the South Parking Lot project was placed into three stockpiles. Soil removed from the northeast corner of the lot (vicinity of soil boring SB45) was placed into Pile P2. Soil from the northwest corner of the lot (vicinity of soil boring SB-100) was placed into Pile P3. The balance of the remaining soil was placed into Pile P1. The stockpiles were sampled (P1-, P2-, P3) on September 24, 2009 and submitted for VOCs, SVOCs, metals, and PCB analyses to determine disposition or reuse alternatives. Analytical results are presented in **Table 7.1** and the laboratory analytical report is provided in **Appendix X**. Pile 2 soils (approximately 200 cubic yards) were used to backfill the building 7 subgrade vault (mini-basement) at depths below 2.5 ft bgs. The remaining soil was reused off the Property, but within the former GM facility boundary. Pile 1 (5,240 cubic yards) and Pile 3 (approximately 200 cubic yards) were placed in the area of buildings 10 and 13.

8. SUMMARY AND CONCLUSIONS

Based upon the results of the Phase II Property Assessment and PSRA and as of the date of this report, the Property does not comply with applicable standards. Remedial measures are required.

8.1 INSTITUTIONAL CONTROLS

An environmental restrictive covenant (ERC) will be required to complete the voluntary action on the Property. The ERC will limit Property use to commercial or industrial and restrict use of groundwater. The ERC will include an allowance for limited recreational use associated with a proposed bike path planned for future construction along the north property boundary. The groundwater use restriction will prevent potable use of groundwater from beneath the property. With the exception of the existing geothermal well at the CTA building, extraction of groundwater for non-potable uses will also be restricted by the ERC to the following purposes:

- Investigation and monitoring of the groundwater condition;
- Remediation;
- Dewatering of trenches or foundations; and,

In addition to the above restrictions, a building occupancy limitation will be included for future buildings. No human occupancy of future buildings will be permitted prior to receiving written approval from OEPA. A Certified Professional may seek OEPA approval by issuing a demonstration of applicable standards compliance. Where a mitigation system is required, the demonstration must verify that a remedy, operated and maintained as an engineering control and documented under an OEPA-approved plan, has achieved compliance with the applicable indoor air standard.

8.2 DIRECT CONTACT WITH SOIL

The soil conclusions are based upon an assumption that the Property will be restricted to Commercial/Industrial Land Use. Grade changes and relocation of soil during development were not assessed to have had a significant impact on the determination of compliance with the exception that risk may be overestimated in areas for which clean cover was added to raise the

grade. Samples representing soil later removed from the Property as part of an interim measure or other redevelopment activity are not included in the summary below.

Individual constituents were not detected in surface soil (zero to two ft) above GDCSS for commercial/industrial workers in the EUs with the exception of:

- C Area EU - Chromium at SB-33-02, mercury at SB-156-04, and TCE at SB-74-03.
- N Area EU - TCE at SB-145-04 and PCBs at SB-43-02.
- P Area EU - TCE at MW-26-04.
- CTA Area EU - None
- Greenspace Area EU - Lead at MW-23-04.

Commercial/industrial GDCSS were exceeded in samples collected from three to 12 ft in the following EUs:

- C Area EU - TCE at SB-74-03.
- N Area EU - PCBs (Aroclor 1254) at MW-3-02, SB-56-02, TT-SB-264, SB-43-02.
- P Area EU - TCE at SB-73-03.
- CTA Area EU - None
- Greenspace Area EU - PCB (Aroclor 1254) at MW-37-05, and cadmium at SB14-02.

Constituents detected in soil from zero to 12 ft bgs at concentrations above GDCSS for construction workers included the following:

- C Area EU – Lead at BH-183, chromium at SB-33-02, mercury at SB-156-04, and TCE at SB-131-04, SB-154-04, SB-156-04, and SB-74-03.
- N Area EU - TCE at SB-144-04, SB-145-04, and SB-150-04.
- P Area EU - Lead at SB-148-04, TCE at MW-26-04, SB-18-02, and SB-73-03.
- CTA Area EU – None
- Greenspace Area EU - Lead at MW-23-04, TCE at BH-181, MW-14B-04, MW-23-04, MW-24-04, and SB-14-02, and cadmium at SB14-02, and PCB (Aroclor 1254) at MW-37-05 (3.5 to 4.5 ft).

If the cumulative non-cancer or cumulative cancer risk ratio exceeded a value of one, then risks must be mitigated or one or more of the COCs must be remediated to a concentration such that the sum would be equal to or less than one.

For the C Area EU, multi-chemical adjustment of standards is required and remedial measures are warranted to ensure protection of commercial/industrial workers to surface soil within the point of compliance. Multi-chemical adjustment of standards is not required for the construction worker in the C Area EU. TPH is present above BUSTR Class 1 generic petroleum standards that are based on saturation concentrations in one location (091216-5) in C Area EU. The soil at location 091216-5 meet criteria for classification as Class 1. Mercury is present above the soil saturation concentration in one location in Area C EU (SB-156-04). Remedial measures are required to address COCs exceeding soil saturation concentrations.

For the N Area EU, multi-chemical adjustment of standards is not required to ensure protection of commercial/industrial workers to surface soil within the point of compliance. However, protection of the point of compliance (i.e. 0 to 3 ft bgs, including buffer) is required based on cumulative surface plus subsurface soil results in the event that subsurface soil is excavated and placed within the commercial/industrial point of compliance. Multi-chemical adjustment of standards is required and risk mitigation measures are warranted to ensure protection of construction workers in the N Area EU.

For the P Area EU, multi-chemical adjustment of standards is not required to ensure protection of commercial/industrial workers to surface soil within the point of compliance. However, protection of the point of compliance (i.e. 0 to 3 ft bgs) is required based on cumulative surface plus subsurface soil results in the event that subsurface soil is excavated and placed within the commercial/industrial point of compliance. Multi-chemical adjustment of standards is required and risk mitigation measures are warranted to ensure protection of construction workers in the P Area EU.

For the CTA Area EU, multi-chemical adjustment of standards is not required for the commercial/ industrial worker or the construction worker.

For the Greenspace Area EU, multi-chemical adjustment of standards is not required to ensure protection of the commercial/industrial worker exposure to surface soil within the point of compliance. However, protection of the point of compliance (i.e. 0 to 3 ft bgs) is required based on cumulative surface plus subsurface soil results in the event that subsurface soil is excavated and

placed within the commercial/industrial point of compliance. Multi-chemical adjustment of standards is required and risk mitigation measures are warranted to ensure protection of construction workers in the Greenspace EU.

8.3 LEACHING FROM SOIL TO GROUNDWATER

LBSVs represent the concentrations of hazardous substances or petroleum that may be present in the soils that ensure protection of potable groundwater use. Site-specific, migration-adjusted LBSVs were calculated based on the BIOCHLOR model to determine an allowable soil concentration that would be protective of GUPUS at ½ mile downgradient of the Property and are included in Appendix D of the PSRA. These calculations do not consider the likely discharge of groundwater in the shallow aquifer to surface water. Groundwater discharge to surface water requires further evaluation, but will likely prevent migration of shallow groundwater beyond the Mad River.

COCs measured above the site-specific, migration-adjusted LBSVs in each EU are summarized below:

- Greenspace EU – none.
- C Area EU – TCE (SB74-03) and PCE (SB154-04).
- N Area EU – TCE (SB145-04).
- CTA Area EU – none
- P Area EU – TCE (MW26-04; SB73-03).

Leaching of residual soil impact at these five locations, would impact shallow groundwater, which would likely discharge to surface water (particularly for the locations within the Greenspace EU and P Area EU which are in closer proximity to the river) prior to migrating ½ mile downgradient of the Property.

Although PCBs are present in the C Area EU at concentrations exceeding their respective LBSVs; due to the hydrophobic nature of PCBs and high retardation factor, potential for transport of PCBs in groundwater beyond the source area is limited.

8.4 VAPOR INTRUSION PATHWAY: SOIL AND GROUNDWATER TO INDOOR AIR

Chlorinated VOCs in soil and groundwater pose a potential risk through subsurface VI into an on-site building under the future commercial/industrial land use scenario. Although risk estimates from soil were not quantified, groundwater results were evaluated against screening levels and those results were used to quantify potential risk from groundwater volatilization.

Groundwater results in the vicinity of the CTA building (the only building currently on the Property) were below VISLs and no elevated chlorinated VOC results were identified in the CTA Area EU soil samples. Although these results suggest the potential risk from VI is low, sub-sab soil gas sampling will be used to quantify VI risk in this EU.

Maximum detected concentrations of chloroform, TCE, PCE, and VC exceeded screening levels in the Greenspace EU. Based on the most recent data for each upper aquifer water table monitoring well, the total risk ratio exceeded one at monitoring wells MW-23-04 and MW-9-03. Thus, TCE, PCE, and VC in groundwater would pose a potential risk through subsurface VI into a future on-site workplace built within the Greenspace EU. Currently, there are no plans for future buildings in this EU.

The potential for vapor producing chemicals in on-site groundwater to impact off-site indoor air was also evaluated. Based on the most recent data for each upper aquifer water table monitoring well, the total risk ratio for groundwater VI to indoor air exceeded one at monitoring wells MW-23-04 and MW-9-03. These monitoring wells contain TCE, PCE, and VC at concentrations that exceed risk-based concentrations for protection of indoor air. Future off-site buildings within 100 ft of these wells also have potential for indoor air impacts. Although the Master Plan currently indicates two potential buildings in this area, there are no current plans to proceed with these buildings. Additionally, the adjacent property is undergoing a voluntary action that will include an institutional control to ensure VI risk is addressed, as warranted, prior to occupancy of the buildings.

8.5 GROUNDWATER

The Property is underlain by deposits of the Miami Valley buried valley aquifer system, specifically of the Mad River buried valley aquifer. The Miami Valley buried valley aquifer system is a designated sole source aquifer in Ohio. Groundwater from the upper and lower aquifers is classified as a critical resource. The Property is located within an USD.

Groundwater in the upper aquifer that is migrating onto the Property contains COCs in excess of GUPUS. Further contamination of the groundwater has occurred on the Property and from the adjacent property (also part of the former GM facility). As such, groundwater contamination is considered to be partially attributed to source areas from the Property and the response requirements of OAC 3745-300-10(E)(2) apply, which include:

- Reliably prevent human exposure on the Property to groundwater in excess of unrestricted potable use standards and ensure humans on the Property are protected from exposures to COCs in groundwater associated with non-consumptive uses and from inadvertent contact or vapor intrusion.
- Remediate source areas of contamination on the Property to prevent leaching of COCs which would be reasonably anticipated to result in GUPUS being exceeded in groundwater at the USD boundary or half-mile from the Property boundary, whichever is greater.
- Restore groundwater to GUPUS or provide a reliable alternate potable water supply to off-Property users of well water for potable purposes beyond the USD boundary or a distance of half-mile from the Property boundary, whichever is greater.
- Remediate the groundwater, as necessary, to ensure protection of important ecological resources on and off the Property.
- Remediate the groundwater, as necessary, to protect humans off the Property from exposures to COCs in groundwater associated with non-consumptive uses and from inadvertent contact or vapor intrusion.
- When contamination from the Property has caused or is reasonably anticipated to cause the concentrations of COCs to exceed GUPUS in groundwater at a distance of half-mile from the Property boundary, or at the USD boundary, whichever is greater, a list of other requirements related to reconnaissance of well water use, notifications, and preventing unacceptable exposures apply as specified in OAC Rule 3745-300-10(E)(2)(d).

Three groundwater zones have been sampled. COCs above their respective GUPUS are summarized as follows:

- Upper Aquifer: 1,1-DCE, cis-1,2-DCE, chloroform, ethylbenzene, methylene chloride, PCE, trans-1,2-DCE, TCE, VC, PCBs (Aroclor 1254), and arsenic
- Till-rich Zone: PCE, TCE, cis-1,2- DCE and VC
- Lower Aquifer: VC

Institutional controls will be used to restrict groundwater use. Potable use of groundwater from the Property will be prohibited. Non-potable direct contact use (e.g. geothermal heating and cooling) for the lower aquifer groundwater was evaluated. The PSRA concluded that COCs in the lower aquifer do not pose a potential unacceptable risk though dermal exposure and inhalation while maintaining a geothermal heating/cooling system.

Groundwater in all zones does not meet GUPUS and thus Protection of Groundwater Meeting Unrestricted Potable Use Standards does not apply. The groundwater is classified as Critical Resource within an USD. Chlorinated VOCs are present above GUPUS in groundwater monitoring wells upgradient of the Property and thus contamination to the aquifer is deemed to be partially attributed to the Property; therefore, response requirements include addressing sources or source areas on Property that could cause GUPUS to be exceeded at ½-mile from the Property boundary, or at the USD boundary, whichever is greater.

BIOCHLOR modeling predicts that GUPUS would not be exceeded at ½ mile (2,640 ft) from the Property boundary in the lower aquifer and till zone. In the upper aquifer, the maximum detected concentration of VC (of all groundwater data; measured in monitoring well MW-23-04) was predicted to exceed GUPUS at ½ mile from the Property boundary; however, the BIOCHLOR model does not account for shallow groundwater discharge to surface water prior to migrating ½ mile from the Property. Additionally, using the May 2015 sampling data for monitoring well MW-23-04, COCs were not predicted to exceed GUPUS at ½ mile from the Property boundary in the upper aquifer.

Inhalation of vapors from groundwater released in a trench was evaluated as a potentially complete exposure pathway for construction/excavation workers given the potential depth of groundwater in the upper aquifer and the COCs in groundwater. Risk estimates were calculated for individual concentrations of VOCs from the most recent sampling data. Concentrations from monitoring well

MW23-04 exceeded the OEPA non-cancer risk threshold. This pathway will be included in the Risk Mitigation Plan for protection of construction workers.

8.6 SURFACE WATER

Using the BIOCHLOR model with a decaying source assumption, the most recent (May 2015) concentrations of TCE, PCE, VC, and cis-1,2-DCE in monitoring well MW-23-04 were predicted to degrade to concentrations below the OMZA surface water criteria prior to discharging to surface water. An additional downgradient monitoring well is planned in this area to confirm the model results.

Total PCB concentrations were elevated above the Ohio River basin non-drinking water quality criteria and the GUPUS in monitoring wells MW-12A-03 and MW-3-02; however, due to the distance to the river, the lack of PCB Aroclor 1254 in wells downgradient of monitoring wells MW-12A-03 and MW-3-02 and the tendency for PCBs to sorb to sediments, discharge of PCB Aroclor 1254 to the river is not expected.

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FIGURES

MAD RIVER

RRIDOR DRIVE

WEBSTER STREET

BLDG. 24

BLDG. 8

BLDG. 20

BLDG. 22

BLDG. 16

BLDG. 15

BLDG. 12

BLDG. 1

BUILDING G

BLDG. 1A

BLDG. 27

BLDG. 4

BLDG. 3

BLDG. 2

BLDG. 7

BLDG. 9

BLDG. 10

BLDG. 13

BLDG. 5

AMELIA STREET

PITT STREET

TAYLOR STREET

MEIGS STREET

CTA BUILDING

GEOTHERMAL-WELL

E MONUMENT AVENUE

CSX TRANSPORTATION

BLDG. G-5

BLDG. G-3

BLDG. G-4

BLDG. G-2

BLDG. G-1

KEOWEE STREET

N

0 120'

SCALE

LEGEND

- MAD RIVER SHORELINE
- EAST PHASE PROPERTY BOUNDARY
- FORMER BUILDING FOOTPRINT
- BUILDING SLAB
- R.O.W. RIGHT-OF-WAY

FIGURE 1.1

WESTON SOLUTIONS

714 E. Monument Ave.
Suite 215
Dayton, Ohio
45402

PROPERTY MAP
FORMER GM DELPHI HARRISON
THERMAL SYSTEMS FACILITY
Dayton, Ohio

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LEGEND

- FORMER BUILDING FOOTPRINT
- MAD RIVER SHORELINE
- EAST PHASE PROPERTY BOUNDARY
- BUILDING SLAB
- PR — FORMER PROCESS SEWER LINE
- STM — STORM SEWER LINE
- IDENTIFIED AREA

PROPERTY-WIDE IA's:
IA 18/19 (PROCESS AND STORM SEWERS)
IA GW (UPGRADIENT SOURCES)

AOI 3 - WASTE TANKS
AOI 4 - HAZARDOUS WASTE STAGING AREA
AOI 5 - ELECTROPLATING
AOI 6 - SPILL INTERCEPTORS
AOI 7 - SOLVENT STORAGE TANKS
AOI 8 - DEGREASING UNITS:
- ● STODDARD SOLVENT
- ■ TCE/PCE/TCA SOLVENT
- ▲ FREON SOLVENT
- ** ON UPPER FLOOR

AOI 10 - PAINT WASTE ACCUMULATION AREAS
AOI 11 - CHIP HANDLING AREAS
AOI 15 - HYDRAULIC OIL UST
AOI 16 - FUEL USTs
AOI 18 - STORM SEWERS
AOI 19 - PROCESS SEWERS
AOI 20 - PCB RELEASES FROM ELECTRICAL EQUIPMENT
AOI 21 - HYDROMATION PIT
AOI 25 - HYDROCHLORIC ACID SPILLS
AOI 26 - PCB RELEASES FROM PROCESS EQUIPMENT:
- * PROCESS DUCT
- ○ NO.2 VAILL MACHINE
- □ TOOL GRIND ROOM
- △ GEAR BOX

AOI 27 - BATTERY CHARGING STATION
AOI 28 - FORMER MIAMI CANAL EXTENSION
AOI 32 - BUILDING 3 TRANSFORMER
AOI 33 - PAINT AND ENAMEL STORAGE
AOI 34 - PARTS GRINDING
AOI 35 - STORAGE TANKS

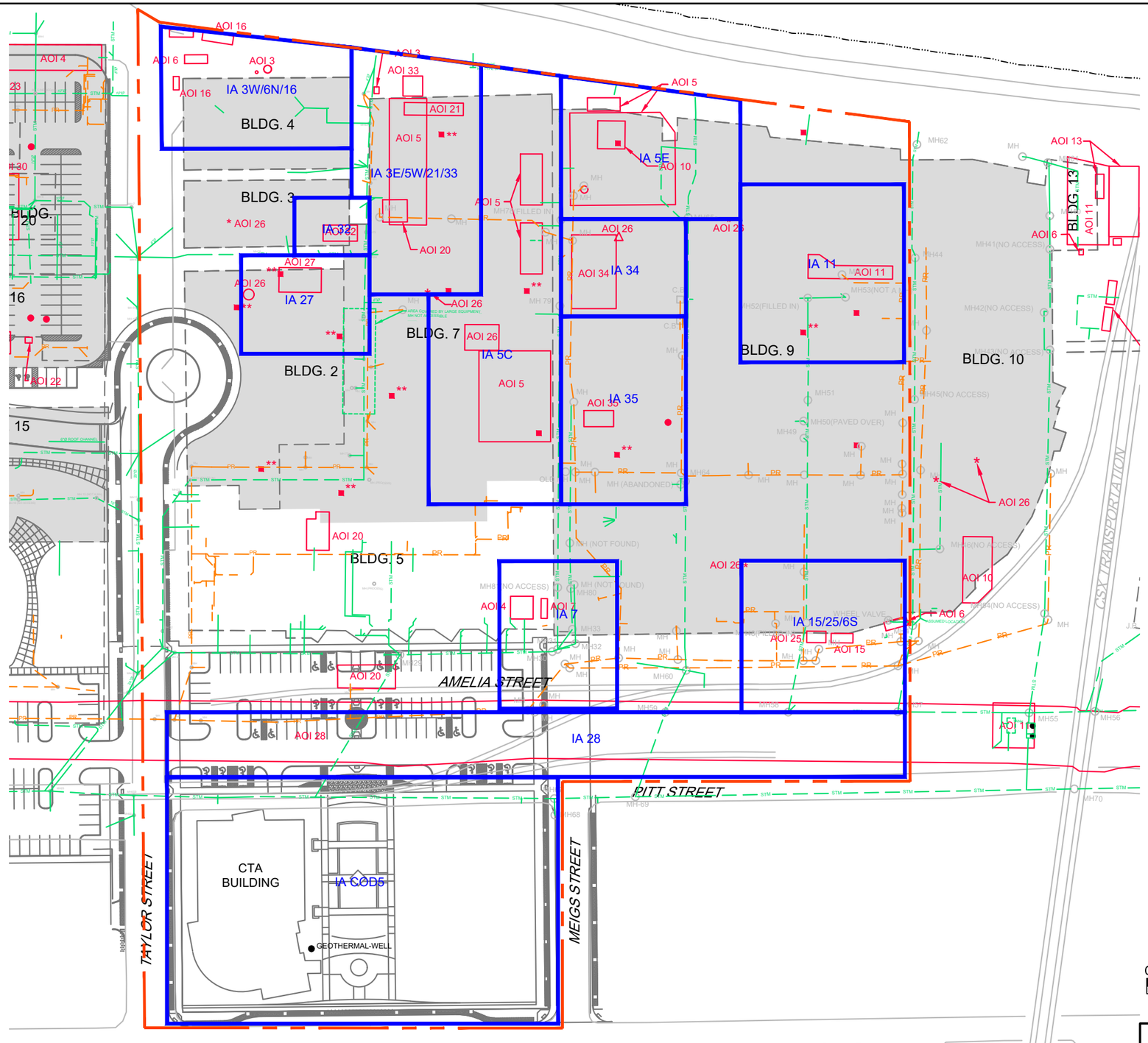

FIGURE 2.1

WESTON SOLUTIONS
714 E. Monument Ave.
Suite 215
Dayton, Ohio
45402

IDENTIFIED AREAS
FORMER GM DELPHI HARRISON
THERMAL SYSTEMS FACILITY
Dayton, Ohio

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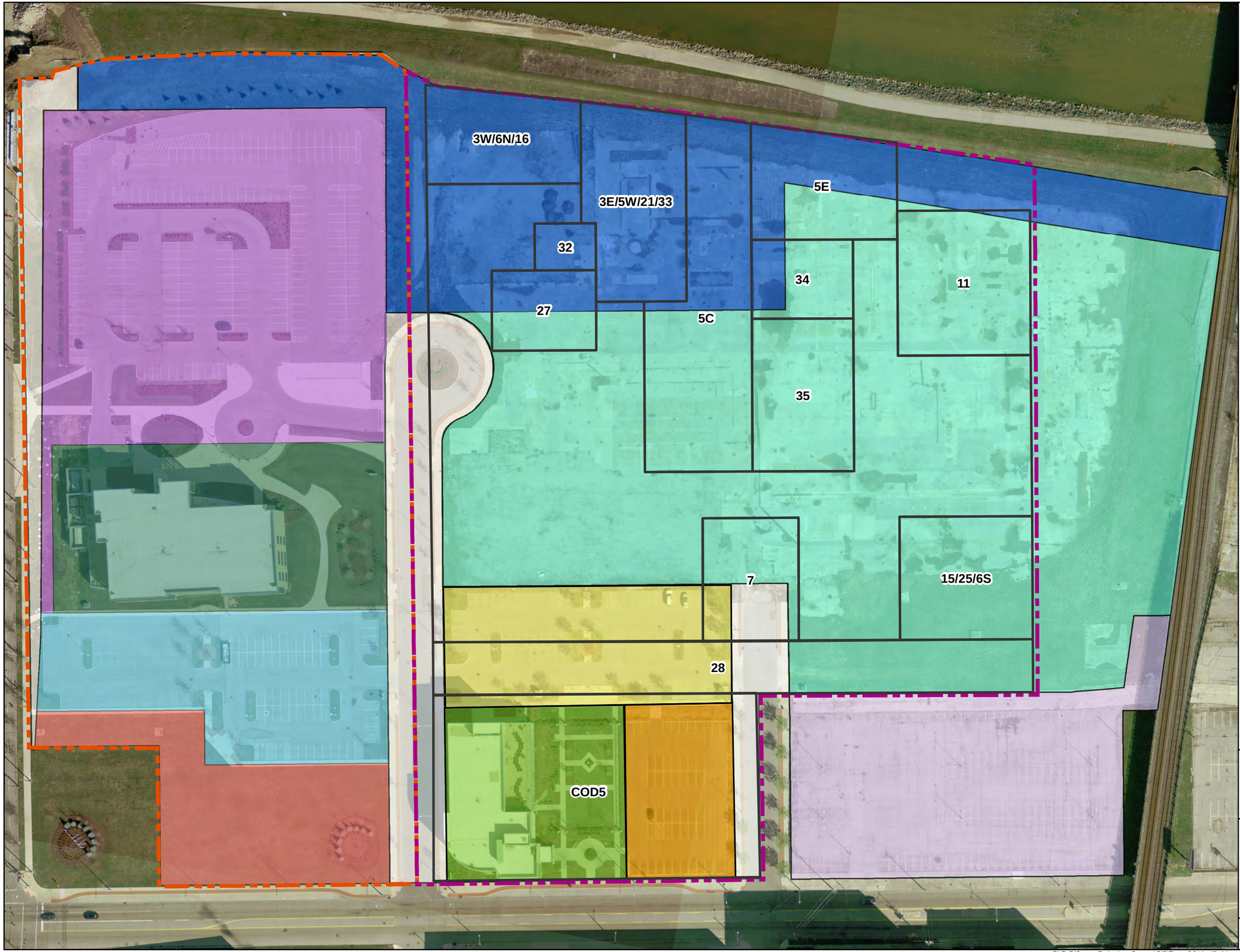

LEGEND

- Identified Areas
- East Phase Boundary
- West Phase Boundary

Property Parcel Number and Owner

- 84334 TECH TOWN HOLDINGS
- 84335 DAYTON TECH TOWN, INC.
- 84336 DAYTON TECH TOWN, INC.
- 84413 TECH TOWN HOLDINGS
- 84414 TECH TOWN HOLDINGS
- 84415 TECH TOWN HOLDINGS
- 84418 CITY OF DAYTON
- 84419 TECH TOWN HOLDINGS
- 84421 TECH TOWN HOLDINGS
- 84422 TECH TOWN NEW MARKET, INC.
- CITY OF DAYTON ROW

0 50 100
Feet

N

SOURCE: ESRI World Imagery Service

WESTON SOLUTIONS

FIGURE 2.2
IDENTIFIED AREAS AND
PARCEL BOUNDARIES
FORMER GM DELPHI HARRISON
THERMAL SYSTEMS FACILITY
DAYTON, OHIO

MAR 2019	PROJECT NO 12473.005.008.0450	SCALE AS SHOWN

FILE: E:\Dayton Technology Campus\GIS\Figure 2.2 Identified Areas and Parcel Boundaries_20190307.mxd 11:39:44 AM 3/7/2019 MYERSJT

LEGEND

- FORMER BUILDING FOOTPRINT
- MAD RIVER SHORELINE
- EAST PHASE PROPERTY BOUNDARY
- BUILDING SLAB
- FORMER PROCESS SEWER LINE
- STORM SEWER LINE
- IDENTIFIED AREA
- SOIL BORING LOCATION
- MONITORING WELL LOCATION

PROPERTY-WIDE IA's:
IA 18/19 (PROCESS AND STORM SEWERS)
IA GW (UPGRADIENT SOURCES)

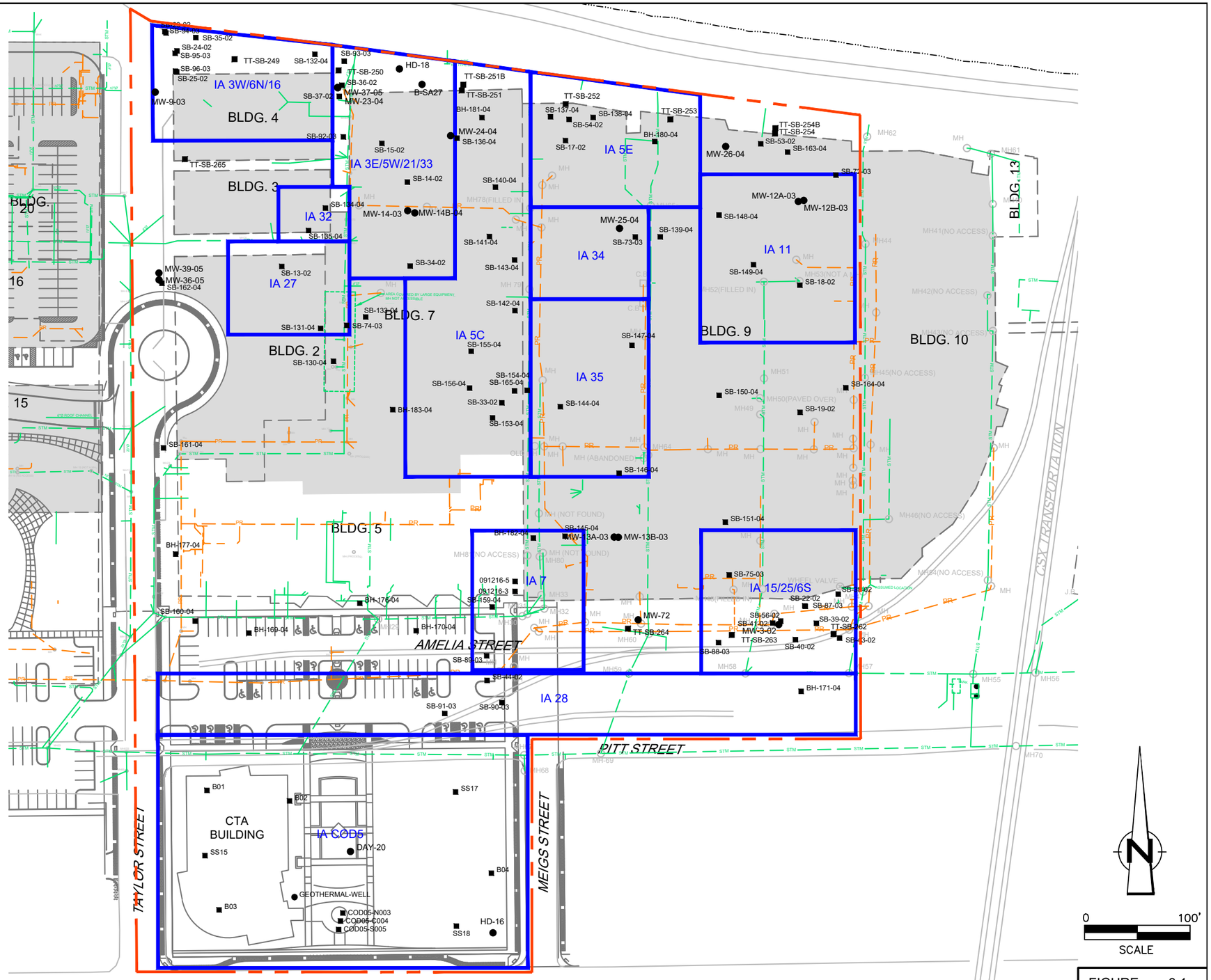

FIGURE 3.1

WESTON SOLUTIONS

714 E. Monument Ave.
Suite 215
Dayton, Ohio
45402

SOIL SAMPLING LOCATIONS AND MONITORING WELL LOCATION MAP
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
Dayton, Ohio

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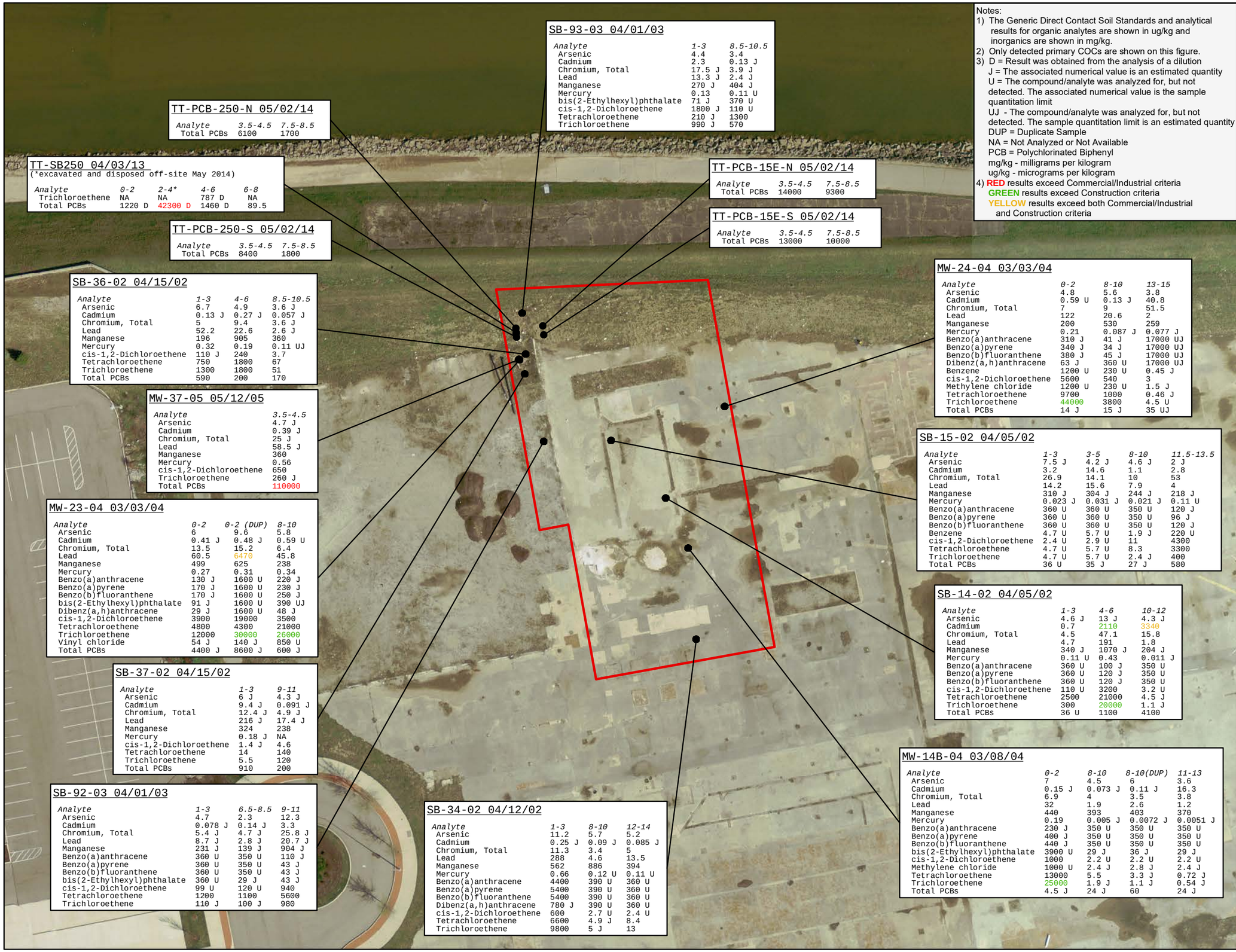


SB-93-03 04/01/03

Analyte	1-3	8.5-10.5
Arsenic	4.4	3.4
Cadmium	2.3	0.13 J
Chromium, Total	17.5 J	3.9 J
Lead	13.3 J	2.4 J
Manganese	270 J	404 J
Mercury	0.13	0.11 U
bis(2-Ethylhexyl)phthalate	71 J	370 U
cis-1,2-Dichloroethene	1800 J	110 U
Tetrachloroethene	210 J	1300
Trichloroethene	990 J	570

TT-PCB-250-N 05/02/14

Analyte	3.5-4.5	7.5-8.5
Total PCBs	6100	1700

TT-SB250 04/03/13

(*excavated and disposed off-site May 2014)

Analyte	0-2	2-4*	4-6	6-8
Trichloroethene	NA	NA	787 D	NA
Total PCBs	1220 D	42300 D	1460 D	89.5

TT-PCB-15E-N 05/02/14

Analyte	3.5-4.5	7.5-8.5
Total PCBs	14000	9300

TT-PCB-250-S 05/02/14

Analyte	3.5-4.5	7.5-8.5
Total PCBs	8400	1800

TT-PCB-15E-S 05/02/14

Analyte	3.5-4.5	7.5-8.5
Total PCBs	13000	10000

SB-36-02 04/15/02

Analyte	1-3	4-6	8.5-10.5
Arsenic	6.7	4.9	3.6 J
Cadmium	0.13 J	0.27 J	0.057 J
Chromium, Total	5	9.4	3.6 J
Lead	52.2	22.6	2.6 J
Manganese	196	905	360
Mercury	0.32	0.19	0.11 UJ
cis-1,2-Dichloroethene	110 J	240	3.7
Tetrachloroethene	750	1800	67
Trichloroethene	1300	1800	51
Total PCBs	590	200	170

MW-24-04 03/03/04

Analyte	0-2	8-10	13-15
Arsenic	4.8	5.6	3.8
Cadmium	0.59 U	0.13 J	40.8
Chromium, Total	7	9	51.5
Lead	122	20.6	2
Manganese	200	530	259
Mercury	0.21	0.087 J	0.077 J
Benzo(a)anthracene	310 J	41 J	17000 UJ
Benzo(a)pyrene	340 J	34 J	17000 UJ
Benzo(b)fluoranthene	380 J	45 J	17000 UJ
Dibenz(a,h)anthracene	63 J	360 U	17000 UJ
Benzene	1200 U	230 U	0.45 J
cis-1,2-Dichloroethene	5600	540	3
Methylene chloride	1200 U	230 U	1.5 J
Tetrachloroethene	9700	1000	0.46 J
Trichloroethene	44000	3800	4.5 U
Total PCBs	14 J	15 J	35 UJ

MW-37-05 05/12/05

Analyte	3.5-4.5
Arsenic	4.7 J
Cadmium	0.39 J
Chromium, Total	25 J
Lead	58.5 J
Manganese	360
Mercury	0.56
cis-1,2-Dichloroethene	650
Trichloroethene	260 J
Total PCBs	110000

SB-15-02 04/05/02

Analyte	1-3	3-5	8-10	11.5-13.5
Arsenic	7.5 J	4.2 J	4.6 J	2 J
Cadmium	3.2	14.6	1.1	2.8
Chromium, Total	26.9	14.1	10	53
Lead	14.2	15.6	7.9	4
Manganese	310 J	304 J	244 J	218 J
Mercury	0.023 J	0.031 J	0.021 J	0.11 U
Benzo(a)anthracene	360 U	360 U	350 U	120 J
Benzo(a)pyrene	360 U	360 U	350 U	96 J
Benzo(b)fluoranthene	360 U	360 U	350 U	120 J
Benzene	4.7 U	5.7 U	1.9 J	220 U
cis-1,2-Dichloroethene	2.4 U	2.9 U	11	4300
Tetrachloroethene	4.7 U	5.7 U	8.3	3300
Trichloroethene	4.7 U	5.7 U	2.4 J	400
Total PCBs	36 U	35 J	27 J	580

MW-23-04 03/03/04

Analyte	0-2	0-2 (DUP)	8-10
Arsenic	6	9.6	5.8
Cadmium	0.41 J	0.48 J	0.59 U
Chromium, Total	13.5	15.2	6.4
Lead	60.5	6470	45.8
Manganese	499	625	238
Mercury	0.27	0.31	0.34
Benzo(a)anthracene	130 J	1600 U	220 J
Benzo(a)pyrene	170 J	1600 U	230 J
Benzo(b)fluoranthene	170 J	1600 U	250 J
bis(2-Ethylhexyl)phthalate	91 J	1600 U	390 UJ
Dibenz(a,h)anthracene	29 J	1600 U	48 J
cis-1,2-Dichloroethene	3900	19000	3500
Tetrachloroethene	4800	4300	21000
Trichloroethene	12000	30000	26000
Vinyl chloride	54 J	140 J	850 U
Total PCBs	4400 J	8600 J	600 J

SB-14-02 04/05/02

Analyte	1-3	4-6	10-12
Arsenic	4.6 J	13 J	4.3 J
Cadmium	0.7	2110	3340
Chromium, Total	4.5	47.1	15.8
Lead	4.7	191	1.8
Manganese	340 J	1070 J	204 J
Mercury	0.11 U	0.43	0.011 J
Benzo(a)anthracene	360 U	100 J	350 U
Benzo(a)pyrene	360 U	120 J	350 U
Benzo(b)fluoranthene	360 U	120 J	350 U
cis-1,2-Dichloroethene	110 U	3200	3.2 U
Tetrachloroethene	2500	21000	4.5 J
Trichloroethene	300	20000	1.1 J
Total PCBs	36 U	1100	4100

SB-37-02 04/15/02

Analyte	1-3	9-11
Arsenic	6 J	4.3 J
Cadmium	9.4 J	0.091 J
Chromium, Total	12.4 J	4.9 J
Lead	216 J	17.4 J
Manganese	324	238
Mercury	0.18 J	NA
cis-1,2-Dichloroethene	1.4 J	4.6
Tetrachloroethene	14	140
Trichloroethene	5.5	120
Total PCBs	910	200

MW-14B-04 03/08/04

Analyte	0-2	8-10	8-10(DUP)	11-13
Arsenic	7	4.5	6	3.6
Cadmium	0.15 J	0.073 J	0.11 J	16.3
Chromium, Total	6.9	4	3.5	3.8
Lead	32	1.9	2.6	1.2
Manganese	440	393	403	370
Mercury	0.19	0.005 J	0.0072 J	0.0051 J
Benzo(a)anthracene	230 J	350 U	350 U	350 U
Benzo(a)pyrene	400 J	350 U	350 U	350 U
Benzo(b)fluoranthene	440 J	350 U	350 U	350 U
bis(2-Ethylhexyl)phthalate	3900 U	29 J	36 J	29 J
cis-1,2-Dichloroethene	1000	2.2 U	2.2 U	2.2 U
Methylene chloride	1000 U	2.4 J	2.8 J	2.4 J
Tetrachloroethene	13000	5.5	3.3 J	0.72 J
Trichloroethene	25000	1.9 J	1.1 J	0.54 J
Total PCBs	4.5 J	24 J	60	24 J

SB-92-03 04/01/03

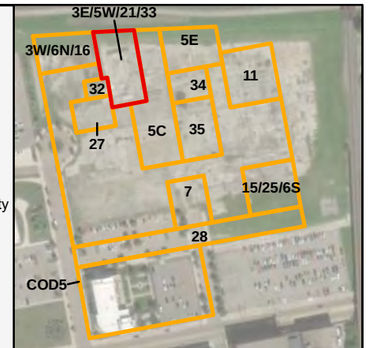
Analyte	1-3	6.5-8.5	9-11
Arsenic	4.7	2.3	12.3
Cadmium	0.078 J	0.14 J	3.3
Chromium, Total	5.4 J	4.7 J	25.8 J
Lead	8.7 J	2.8 J	20.7 J
Manganese	231 J	139 J	904 J
Benzo(a)anthracene	360 U	350 U	110 J
Benzo(a)pyrene	360 U	350 U	43 J
Benzo(b)fluoranthene	360 U	350 U	43 J
bis(2-Ethylhexyl)phthalate	360 U	29 J	43 J
cis-1,2-Dichloroethene	99 U	120 U	940
Tetrachloroethene	1200	1100	5600
Trichloroethene	110 J	100 J	980

SB-34-02 04/12/02

Analyte	1-3	8-10	12-14
Arsenic	11.2	5.7	5.2
Cadmium	0.25 J	0.09 J	0.085 J
Chromium, Total	11.3	3.4	5
Lead	288	4.6	13.5
Manganese	562	886	394
Mercury	0.66	0.12 U	0.11 U
Benzo(a)anthracene	4400	390 U	360 U
Benzo(a)pyrene	5400	390 U	360 U
Benzo(b)fluoranthene	5400	390 U	360 U
Dibenz(a,h)anthracene	780 J	390 U	360 U
cis-1,2-Dichloroethene	600	2.7 U	2.4 U
Tetrachloroethene	6600	4.9 J	8.4
Trichloroethene	9800	5 J	13

Notes:

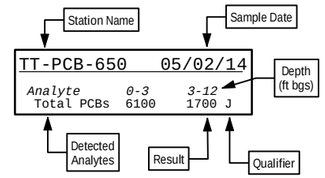
1) The Generic Direct Contact Soil Standards and analytical results for organic analytes are shown in ug/kg and inorganics are shown in mg/kg.
2) Only detected primary COCs are shown on this figure.
3) D = Result was obtained from the analysis of a dilution
   J = The associated numerical value is an estimated quantity
   U = The compound/analyte was analyzed for, but not detected. The associated numerical value is the sample quantitation limit
   UJ - The compound/analyte was analyzed for, but not detected. The sample quantitation limit is an estimated quantity
   DUP = Duplicate Sample
   NA = Not Analyzed or Not Available
   PCB = Polychlorinated Biphenyl
   mg/kg - milligrams per kilogram
   ug/kg - micrograms per kilogram
4) **RED** results exceed Commercial/Industrial criteria
   GREEN results exceed Construction criteria
   YELLOW results exceed both Commercial/Industrial and Construction criteria



IA 18/19 is a site-wide IA that includes storm and process sewers.

LEGEND

- Soil Sample Locations With Detected Contaminants of Concern
- Soil Sample Locations With No Detected Contaminants of Concern
- Identified Areas



Analyte	Generic Direct Contact Soil Standards for Single Chemical: Commercial/ Industrial	Construction
Arsenic	77	690
Cadmium	2,600	1,000
Chromium, Total	NA	NA
Lead	800	400
Manganese	NA	NA
Mercury	3.1	3.1
Benzo(a)anthracene	58,000	1,200,000
Benzo(a)pyrene	5,800	120,000
Benzo(b)fluoranthene	58,000	1,200,000
bis(2-Ethylhexyl)phthalate	3,500,000	71,000,000
Dibenz(a,h)anthracene	5,800	120,000
1,1-Dichloroethene	1,200,000	360,000
Benzene	140,000	1,200,000
cis-1,2-Dichloroethene	2,400,000	2,400,000
Methylene chloride	3,300,000	3,300,000
Tetrachloroethene	170,000	170,000
Trichloroethene	51,000	17,000
Vinyl chloride	50,000	280,000
Total PCBs	20,000	440,000

0 25 50
Feet

SOURCE: ESRI World Imagery Service

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WESTON SOLUTIONS

FIGURE 3.2
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 3E/5W/21/33
FORMER GM DELPHI HARRISON
THERMAL SYSTEMS FACILITY
DAYTON, OHIO

MAR 2019	PROJECT NO 12473.005.008.0450	SCALE AS SHOWN

FILE: E:\Dayton Technology Campus\GIS\Figure 3.2 Soil Data IA 3E5W2133_20190307.mxd 11:48:43 AM 3/7/2019 MYERSJT

SB-35-02 04/15/02

Analyte	1-3	9-11
Arsenic	1.6	3.4
Cadmium	0.097 J	0.097 J
Chromium, Total	1.7	4.9
Lead	2.7	5.8
Manganese	163	186
Mercury	0.04 J	0.11 U
Tetrachloroethene	7.3 U	41
Total PCBs	34 U	8.9

TT-SB249 04/03/13

Analyte	0-2	2-4	4-6	6-7
Benzene	NA	NA	13.3	NA
cis-1,2-Dichloroethene	NA	NA	28.8	NA
Tetrachloroethene	NA	NA	6480 D	NA
Trichloroethene	NA	NA	356	NA
Total PCBs	989 D	21.4 U	88.2	25.9 U

SB-94-03 04/01/03

Analyte	1-3	9-11	9-11 (DUP)
bis(2-Ethylhexyl)phthalate	2300	14 J	16 J

SB-132-04 01/21/04

Analyte	0-2	8-10
cis-1,2-Dichloroethene	2200	1.9 J
Tetrachloroethene	380	6 J
Trichloroethene	6400	140
Total PCBs	810 J	23 J

SB-23-02 04/10/02

Analyte	1-3	9-11
Arsenic	1.2	3.7
Cadmium	0.52 U	0.23 J
Chromium, Total	2.1	5.9
Lead	1.1	4.7
Manganese	114	173
Mercury	0.1 U	0.073 J
Tetrachloroethene	3.1 J	450

TT-PCB-15W-N 05/02/14

Analyte	3.5-4.5	7.5-8.5
Total PCBs	440	4400

TT-PCB-15W-S 05/02/14

Analyte	3.5-4.5	7.5-8.5
Total PCBs	1400	270 U

SB-24-02 04/10/02

Analyte	1-3	9-11
Arsenic	1.6	4.1
Cadmium	0.047 J	0.19 J
Chromium, Total	1.7	5.3
Lead	0.86	8.1
Manganese	97.5	305
Mercury	0.1 U	0.087 J
Tetrachloroethene	10 U	5.6

SB-134-04 02/06/04

Analyte	0-2	0-2(DUP)	8-10
Tetrachloroethene	3.8 J	2.6 J	3.3 J
Trichloroethene	1.7 J	1.2 J	7 U

SB-95-03 04/01/03

Analyte	1-3	9-11
Benzo(a)anthracene	100 J	1800 U
Benzo(a)pyrene	41 J	1800 U
Benzo(b)fluoranthene	44 J	1800 U
bis(2-Ethylhexyl)phthalate	15 J	1800 U

SB-135-04 01/22/04

Analyte	0-2	8-10	10-12
Tetrachloroethene	520	60	7.4
Trichloroethene	490	7.9	1.7 J
Total PCBs	44 U	43 U	14 J

SB-96-03 04/01/03

Analyte	1-3	9-11
Benzo(a)anthracene	610	350 U
Benzo(a)pyrene	520	350 U
Benzo(b)fluoranthene	400 J	350 U
bis(2-Ethylhexyl)phthalate	150 J	350 U
Dibenz(a,h)anthracene	84 J	350 U

MW-9-03 01/17/03

Analyte	0-2	0-2(DUP)	9-11
Arsenic	4.9	4.9	4.5
Cadmium	0.05 J	0.07 J	0.11 J
Chromium, Total	4.1 J	3.9 J	3.9 J
Lead	4.8	5	6.6
Manganese	199 J	198 J	251 J
Mercury	0.11 U	0.11 U	0.042 J
cis-1,2-Dichloroethene	2.1 U	2.2 U	0.35 J
Tetrachloroethene	4.6	6.5	20
Trichloroethene	4.2 U	4.4 U	2.4 J
Total PCBs	35 U	35 U	55

SB-13-02 04/05/02

Analyte	1-3	8-10	10-12
Arsenic	8.7 J	2.5 J	5.6 J
Cadmium	0.6 U	0.58 U	18.3
Chromium, Total	12.5	14.7	114
Lead	14.4	4.1	41.3
Manganese	577 J	211 J	264 J
Mercury	0.023 J	0.27	0.48
Tetrachloroethene	4.8 J	4.5 J	1.2 J
Trichloroethene	1.4 J	1 J	4.9 U
Total PCBs	39 U	38 U	1100

SB-25-02 04/10/02

Analyte	1-3	9-11
Arsenic	5.9	4
Cadmium	0.28 J	0.12 J
Chromium, Total	7.6	4
Lead	46.5	2.4
Manganese	342	251
Mercury	0.23	0.11 U
Tetrachloroethene	250	4.5 J
Total PCBs	53	37 U

SB-74-03 02/20/03

Analyte	2-4	8-10	13-15
Arsenic	11 J	6.7 J	3.8 J
Cadmium	1.3 J	1.5 J	0.079 J
Chromium, Total	7.4 J	9.3 J	4.9 J
Lead	121 J	53.1 J	5.6 J
Manganese	47.1 J	261 J	273 J
Mercury	0.2	0.16	0.11 U
Benzo(a)anthracene	250 J	10000	150 J
Benzo(a)pyrene	190 J	8400 J	130 J
Benzo(b)fluoranthene	240 J	10000 J	170 J
bis(2-Ethylhexyl)phthalate	810 U	3000 J	32 J
Dibenz(a,h)anthracene	810 U	1000 J	350 U
cis-1,2-Dichloroethene	6400	3900	2.2 U
Tetrachloroethene	21000	10000	26
Trichloroethene	81000	53000 J	9.2

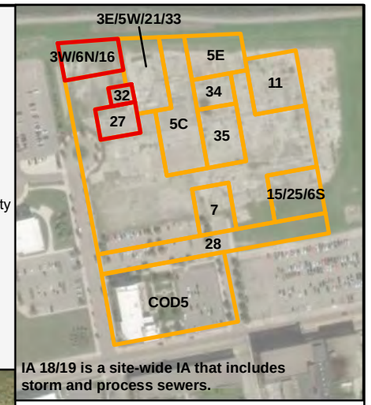
TT-SB265 04/04/13

Analyte	0-2	2-4	4-6	6-8	6-8(DUP)
Total PCBs	463 D	23.7 U	321 D	21.3 U	21.4 U

SB-131-04 01/21/04

Analyte	0-2	8-10	8-10(DUP)
Benzo(a)anthracene	310 J	7100 U	7200 U
Benzo(a)pyrene	250 J	7100 U	7200 U
Benzo(b)fluoranthene	450 J	580 J	590 J
bis(2-Ethylhexyl)phthalate	3600 U	730 J	570 J
Benzene	93 J	420 U	73 J
cis-1,2-Dichloroethene	920	920	590
Tetrachloroethene	7800	2100	3900
Trichloroethene	32000	13000	17000

Notes:
1) The Generic Direct Contact Soil Standards and analytical results for organic analytes are shown in ug/kg and inorganics are shown in mg/kg.
2) Only detected primary COCs are shown on this figure.
3) D = Result was obtained from the analysis of a dilution
J = The associated numerical value is an estimated quantity
U = The compound/analyte was analyzed for, but not detected. The associated numerical value is the sample quantitation limit
UJ - The compound/analyte was analyzed for, but not detected. The sample quantitation limit is an estimated quantity
DUP = Duplicate Sample
NA = Not Analyzed or Not Available
PCB = Polychlorinated Biphenyl
mg/kg - milligrams per kilogram
ug/kg - micrograms per kilogram
4) **RED** results exceed Commercial/Industrial criteria
GREEN results exceed Construction criteria
YELLOW results exceed both Commercial/Industrial and Construction criteria



IA 18/19 is a site-wide IA that includes storm and process sewers.

LEGEND

- Soil Sample Locations With Detected Contaminants of Concern
- Soil Sample Locations With No Detected Contaminants of Concern
- Identified Areas

Station Name | Sample Date

TT-PCB-650 05/02/14

Analyte	0-3	3-12
Total PCBs	6100	1700 J

Depth (ft bgs) | Detected Analytes | Result | Qualifier

Analyte	Generic Direct Contact Soil Standards for Single Chemical: Commercial/ Industrial	Construction
Arsenic	77	690
Cadmium	2,600	1,000
Chromium, Total	NA	NA
Lead	800	400
Manganese	NA	NA
Mercury	3.1	3.1
Benzo(a)anthracene	58,000	1,200,000
Benzo(a)pyrene	5,800	120,000
Benzo(b)fluoranthene	58,000	1,200,000
bis(2-Ethylhexyl)phthalate	3,500,000	71,000,000
Dibenz(a,h)anthracene	5,800	120,000
1,1-Dichloroethene	1,200,000	360,000
Benzene	140,000	1,200,000
cis-1,2-Dichloroethene	2,400,000	2,400,000
Methylene chloride	3,300,000	3,300,000
Tetrachloroethene	170,000	170,000
Trichloroethene	51,000	17,000
Vinyl chloride	50,000	280,000
Total PCBs	20,000	440,000

0 25 50
Feet

SOURCE: ESRI World Imagery Service

N

WESTON SOLUTIONS

FIGURE 3.3
SOIL ANALYTICAL DATA
IDENTIFIED AREAS: 3W/6N/16, 27, and 32
FORMER GM DELPHI HARRISON
THERMAL SYSTEMS FACILITY
DAYTON, OHIO

MAR 2019	PROJECT NO 12473.005.008.0450	SCALE AS SHOWN

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TT-SB251B 04/04/13

Analyte	6-8	6-8(DUP)	8-10
Total PCBs	20 U	19.9 U	208

TT-SB251 04/03/13

Analyte	0-2	0-2(DUP)	2-3
Total PCBs	184	148	252

BH-181 11/11/04

Analyte	0-2	8-10	11.5-13.5
Benzene	720 U	11	4.6 J
cis-1,2-Dichloroethene	2100	2.5 J	5.1 U
Tetrachloroethene	9800	60	1.8 J
Trichloroethene	22000	60	2 J

SB-136-04 02/05/04

Analyte	0-2	8-10	11.5-13.5
Arsenic	2.7	5.2	2.3
Cadmium	0.22 J	91.7	69.3
Chromium, Total	4.1 J	123 J	9 J
Lead	28.2 J	116 J	26.1 J
Manganese	169	253	216
Mercury	0.045 J	0.28	0.11 U
Benzo(b)fluoranthene	7900 U	230 J	18000 U
cis-1,2-Dichloroethene	430	40 J	11
Methylene chloride	180 J	160 J	4 J
Tetrachloroethene	2100	88 J	71
Trichloroethene	5400	120 J	92
Total PCBs	39 U	17 J	35 UJ

SB-140-04 01/27/04

Analyte	0-2	8-10	12-14
Arsenic	3.4	2.5	4.5
Cadmium	0.28 J	2.4	0.41 J
Chromium, Total	7.1 J	3.5 J	4.9 J
Lead	327	2.9	13.3
Manganese	160	244	508
Mercury	2.2	0.082 J	0.18
Benzo(a)anthracene	420	350 U	350 U
Benzo(a)pyrene	320 J	350 U	350 U
Benzo(b)fluoranthene	500	350 U	22 J
bis(2-Ethylhexyl)phthalate	41 J	350 U	350 U
Dibenz(a,h)anthracene	26 J	350 U	350 U
Tetrachloroethene	510	340	33
Trichloroethene	1800	76 J	14

SB-142-04 01/27/04

Analyte	0-2	8-10	11-13
Arsenic	9	6.3	3.1
Cadmium	0.98	0.39 J	0.17 J
Chromium, Total	6.4 J	9.5 J	12.5 J
Lead	39	7.5	10.3
Manganese	799	648	323
Mercury	0.15	0.044 J	0.057 J
Benzo(a)anthracene	84 J	470 U	1300 J
Benzo(b)fluoranthene	380 U	470 U	1800 J
bis(2-Ethylhexyl)phthalate	29 J	90 J	17000 U
Tetrachloroethene	2600 J	77	1.3 J
Trichloroethene	9800 J	26	1.5 J
Total PCBs	76 U	47 U	890 J

SB-155-04 02/03/04

Analyte	0-2	8-10	8-10(DUP)	12-14
Arsenic	11.2	4.7	5.7	5.6
Cadmium	6.5	0.1 J	0.12 J	0.41 J
Chromium, Total	28.4	3	5.2	5.9
Lead	262	2.3	2.9	5.6
Manganese	517	482	653	536
Mercury	0.92	0.11 U	0.11 U	0.02 J
Benzene	280 U	4.8 U	5.5 U	0.81 J
Tetrachloroethene	450	4.5 J	10	20
Trichloroethene	400	1.5 J	7.1	14

SB-156-04 02/03/04

Analyte	0-2	8-10	13-15
Arsenic	12.1	2.4	5.2
Cadmium	0.52 J	0.11 J	0.47 J
Chromium, Total	152	5.2	44.5
Lead	120	3	18.8
Manganese	457	151	456
Mercury	7.5	0.12 U	4.1
cis-1,2-Dichloroethene	2500	2.7	3000
Methylene chloride	660 J	5.1 U	1000 J
Tetrachloroethene	29000	98	35000
Trichloroethene	49000	100	60000

SB-141-04 01/27/04

Analyte	8-10	8-10(DUP)	12-14
Arsenic	6.5	5.2	4.3
Cadmium	0.42 J	0.37 J	0.13 J
Chromium, Total	9.6 J	9 J	4.1 J
Lead	7.7	10.9	2
Manganese	778	504	374
Mercury	0.045 J	0.066 J	0.1 U
Tetrachloroethene	840	700 J	74
Trichloroethene	190 J	110 J	27

SB-143-04 01/27/04

Analyte	8-10	12-14
Arsenic	1.9	2.8
Cadmium	0.21 J	0.16 J
Chromium, Total	7.3 J	10.8 J
Lead	4.5	6.1
Manganese	175	248
Mercury	0.029 J	0.075 J
Benzo(b)fluoranthene	440 U	28 J
Tetrachloroethene	15	7.4
Trichloroethene	9.5	5.3 J
Total PCBs	44 U	2400

SB-154-04 02/05/04

Analyte	0-2	8-10	11.5-13.5
Arsenic	4.6	1.9	3.9
Cadmium	0.26 J	0.2 J	0.59
Chromium, Total	6.2 J	5 J	8.7 J
Lead	84.6 J	3.3 J	15.7 J
Manganese	427	204	238
Mercury	0.16	0.12 U	0.11 U
cis-1,2-Dichloroethene	240 J	370 J	2300 U
Methylene chloride	560 J	1600 J	2600 J
Tetrachloroethene	30000	66000	130000
Trichloroethene	17000	820 J	1900 J

SB-165-04 02/06/04

Analyte	0-2
Arsenic	2.9
Cadmium	0.15 J
Chromium, Total	8.9 J
Lead	9.3 J
Manganese	44.4
Mercury	0.76
Tetrachloroethene	4.6 J
Trichloroethene	3.5 J

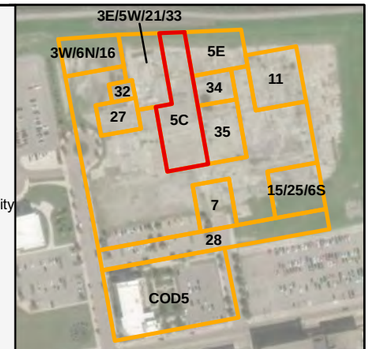
SB-33-02 04/12/02

Analyte	1-3	9-11
Arsenic	6.4	3.2
Cadmium	81.8	1.2
Chromium, Total	1790	78.1
Lead	29.2	5.6
Manganese	436	325
Mercury	2.3	0.44
Tetrachloroethene	2200	2000
Trichloroethene	2600	210 J

SB-153-04 02/03/04

Analyte	0-2	8-10	11-13
Arsenic	6.6	12	7.7
Cadmium	9.9	6.2	6.2
Chromium, Total	54.1	46	27.1
Lead	57.8	26.3	15.9
Manganese	436	1130	383
Mercury	0.31	0.6	0.14
cis-1,2-Dichloroethene	520	3.1 U	130 U
Methylene chloride	300 J	6.2 U	250 U
Tetrachloroethene	25000	150	1200
Trichloroethene	9500	12	77 J

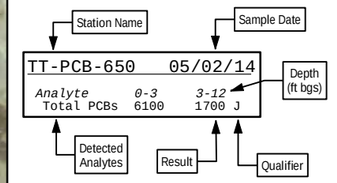
Notes:
1) The Generic Direct Contact Soil Standards and analytical results for organic analytes are shown in ug/kg and inorganics are shown in mg/kg.
2) Only detected primary COCs are shown on this figure.
3) D = Result was obtained from the analysis of a dilution
J = The associated numerical value is an estimated quantity
U = The compound/analyte was analyzed for, but not detected. The associated numerical value is the sample quantitation limit
UJ - The compound/analyte was analyzed for, but not detected. The sample quantitation limit is an estimated quantity
DUP = Duplicate Sample
NA = Not Analyzed or Not Available
PCB = Polychlorinated Biphenyl
mg/kg - milligrams per kilogram
ug/kg - micrograms per kilogram
4) **RED** results exceed Commercial/Industrial criteria
GREEN results exceed Construction criteria
YELLOW results exceed both Commercial/Industrial and Construction criteria



IA 18/19 is a site-wide IA that includes storm and process sewers.

LEGEND

- Soil Sample Locations With Detected Contaminants of Concern
- Soil Sample Locations With No Detected Contaminants of Concern
- Identified Areas



Analyte	Generic Direct Contact Soil Standards for Single Chemical: Commercial/ Industrial	Construction
Arsenic	77	690
Cadmium	2,600	1,000
Chromium, Total	NA	NA
Lead	800	400
Manganese	NA	NA
Mercury	3.1	3.1
Benzo(a)anthracene	58,000	1,200,000
Benzo(a)pyrene	5,800	120,000
Benzo(b)fluoranthene	58,000	1,200,000
bis(2-Ethylhexyl)phthalate	3,500,000	71,000,000
Dibenz(a,h)anthracene	5,800	120,000
1,1-Dichloroethene	1,200,000	360,000
Benzene	140,000	1,200,000
cis-1,2-Dichloroethene	2,400,000	2,400,000
Methylene chloride	3,300,000	3,300,000
Tetrachloroethene	170,000	170,000
Trichloroethene	51,000	17,000
Vinyl chloride	50,000	280,000
Total PCBs	20,000	440,000

0 25 50
Feet
N

SOURCE: ESRI World Imagery Service

WESTON SOLUTIONS

FIGURE 3.4
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 5C
FORMER GM DELPHI HARRISON
THERMAL SYSTEMS FACILITY
DAYTON, OHIO

MAR 2019	PROJECT NO 12473.005.008.0450	SCALE AS SHOWN

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SB-138-04 01/26/04

Analyte	0-2	8-10	8-10(DUP)	11-13
Manganese	452	261	290	275
Benzene	180 J	6.2 U	6.4 U	84 J
Methylene chloride	720 U	2.2 J	4 J	290 UJ
Tetrachloroethene	17000	3.8 J	3.1 J	4000 J
Trichloroethene	14000	57	59	3400 J

TT-SB252 04/03/13

Analyte	0-2	4-6	6-8	6-8(DUP)
Total PCBs	269	108	25.7 U	24.1 U

SB-137-04 01/26/04

Analyte	0-2	8-10	11-13
Manganese	727	230	194
Benzene	370 U	210 U	0.39 J
cis-1,2-Dichloroethene	34 J	110 U	2.4 U
Tetrachloroethene	2700	230	24
Trichloroethene	5200 J	240	56

SB-54-02 04/17/02

Analyte	1-3	9-11
Arsenic	15.4	8.4
Cadmium	4	2.3
Chromium, Total	13.2	21.7
Lead	286	181
Manganese	578	1360
Mercury	0.28	0.18
cis-1,2-Dichloroethene	110 J	200
Tetrachloroethene	6300	2900
Trichloroethene	8400	6800

SB-17-02 04/08/02

Analyte	1-3	8-10	10-12
Arsenic	3.2	7.5	3.3
Chromium, Total	4	11.5	3.1
Lead	3.5	10.2	1.9
Manganese	283	844	271
Mercury	0.025 J	0.053 J	0.015 J
Tetrachloroethene	950	260	4.2 J
Trichloroethene	280	130	1.6 J

MW-25-04 03/04/04

Analyte	8-10	13-15	13-15(DUP)
Benzene	6.3 U	0.7 J	4.2 U
cis-1,2-Dichloroethene	1.7 J	2.1 U	2.1 U
Tetrachloroethene	96	8.7	2.6 J
Trichloroethene	100 J	5.1	1.9 J

SB-73-03 02/20/03

Analyte	2-4	8-10	12-14
Arsenic	6.8 J	14 J	4.4 J
Cadmium	0.062 J	0.12 J	0.23 J
Chromium, Total	14.5 J	12.2 J	6.5 J
Lead	84.6 J	302 J	65.8 J
Manganese	592 J	525 J	273 J
Mercury	0.087 J	0.22	0.53
Benzo(a)anthracene	130 J	340 J	180 J
Benzo(a)pyrene	370 UJ	300 J	170 J
Benzo(b)fluoranthene	370 UJ	330 J	220 J
bis(2-Ethylhexyl)phthalate	370 U	130 J	150 J
Dibenz(a,h)anthracene	21 J	43 J	29 J
Benzene	2100 U	5700 U	0.29 J
cis-1,2-Dichloroethene	11000	22000	6.3
Tetrachloroethene	26000	26000	17
Trichloroethene	60000	100000	41

SB-144-04 01/27/04

Analyte	0-2	8-10	12.5-14.5
Arsenic	3.3	4.4	8.2
Cadmium	0.51 J	0.4 J	0.71
Chromium, Total	36.3 J	9.8 J	13.8 J
Lead	172	9.6	15.2
Manganese	266	751	1090
Mercury	0.072 J	0.054 J	0.065 J
Benzo(a)anthracene	31 J	470 U	7400 U
bis(2-Ethylhexyl)phthalate	400 U	69 J	7400 U
cis-1,2-Dichloroethene	4000	4.7 U	77 J
Tetrachloroethene	53000	7.1 J	300 U
Trichloroethene	48000	1.9 J	300 U
Total PCBs	40 U	13 J	12000

SB-147-04 01/28/04

Analyte	8-10	12.5-14.5	12.5-14.5(DUP)
Benzene	5.3 U	0.45 J	5.4 U
cis-1,2-Dichloroethene	1.1 J	2.4 U	2.7 U
Tetrachloroethene	8.5	30	32
Trichloroethene	5.4	6.2	4.3 J

BH-180 11/11/04

Analyte	0-2	0-2 (DUP)	8-10	12.5-14.5
Arsenic	NA	NA	NA	7.4 J
Cadmium	NA	NA	NA	0.19 J
Chromium, Total	NA	NA	NA	4.3 J
Lead	NA	NA	NA	3.5 J
Manganese	NA	NA	NA	637
Mercury	NA	NA	NA	0.015 J
Benzene	110 J	270 U	15	4.2 J
cis-1,2-Dichloroethene	110 J	26 J	8.3 U	4.7 U
Tetrachloroethene	740 J	750	8.3 U	4.7 U
Trichloroethene	12000	5300	7.2 J	3.6 J

TT-SB253 04/03/13

Analyte	0-2	2-4	4-6	6-8
Total PCBs	300	246	38.5	26.7 U

TT-SB254B 04/04/13

Analyte	8-10
Total PCBs	3920 D

TT-SB254 04/03/13

Analyte	0-2	2-4
Total PCBs	507	375

SB-148-04 01/28/04

Analyte	0-2	8-10	11-13
Arsenic	16.5	3.1	6
Cadmium	0.91	0.53 U	0.52 U
Chromium, Total	12.9	4.1	4
Lead	528	1.4	2.5
Manganese	642	330	248
Mercury	0.17	0.11 U	0.1 U
Benzo(b)fluoranthene	320 J	350 U	340 U
cis-1,2-Dichloroethene	140 J	2.3 U	2.6 U
Tetrachloroethene	1100	4.7	3.1 J
Trichloroethene	17000	24	12
Total PCBs	300	81	17 J

SB-146-04 01/28/04

Analyte	0-2	8-10	12-14
Arsenic	6.5	2	4.7
Cadmium	3	1.6	0.55 U
Chromium, Total	43.5	25.6	5.6
Lead	240	40.8	2.2
Manganese	217	297	163
Mercury	0.081 J	0.12	0.11 U
cis-1,2-Dichloroethene	6200	130 U	150 U
Tetrachloroethene	12000	270 U	300 U
Trichloroethene	10000	270 U	300 U
Total PCBs	13000	250	190

SB-72-03 02/20/03

Analyte	1-3	9-11	9-11(DUP)	12.5-14.5
Arsenic	7.7 J	5.9 J	5.3 J	5.8 J
Cadmium	0.57 UJ	0.081 J	0.043 J	0.14 J
Chromium, Total	11.7 J	3.6 J	6.2 J	8.2 J
Lead	134 J	1.9 J	2.5 J	86.6 J
Manganese	1190 J	317 J	366 J	435 J
Mercury	0.1 J	0.11 U	0.11 U	0.54
Benzo(a)anthracene	240 J	360 U	350 U	250 J
Benzo(a)pyrene	230 J	360 U	350 U	230 J
Benzo(b)fluoranthene	220 J	360 U	350 U	250 J
bis(2-Ethylhexyl)phthalate	24 J	360 U	350 U	93 J
Dibenz(a,h)anthracene	44 J	360 U	350 U	32 J
Benzene	270 U	4.9 U	0.3 J	940 U
cis-1,2-Dichloroethene	20 J	2.5 U	2.2 U	470 U
Methylene chloride	270 U	4.9 U	4.3 U	200 J
Tetrachloroethene	810	4.9 U	4.3 U	940 U
Trichloroethene	9900	0.91 J	1.2 J	940 U

MW-12-03 03/05/03

Analyte	1-3	9-11
Arsenic	9.1	7.1
Cadmium	0.65 U	0.14 J
Chromium, Total	10.7	7.4
Lead	392	339
Manganese	880 J	429 J
Mercury	0.18 J	0.16 J
Benzo(a)anthracene	3800 J	340 J
Benzo(a)pyrene	3500 J	380
Benzo(b)fluoranthene	4000 J	400
Dibenz(a,h)anthracene	4300 U	55 J
cis-1,2-Dichloroethene	340	860
Tetrachloroethene	7300	8700
Trichloroethene	9400	14000
Total PCBs	43 U	2100

SB-18-02 04/08/02

Analyte	1-3	9-11
Arsenic	6.4	5.5
Cadmium	0.67	0.54 U
Chromium, Total	8.7	3.3
Lead	137	3.7
Manganese	373	353
Mercury	0.28	0.11 U
Benzo(a)anthracene	360 J	360 U
Benzo(a)pyrene	330 J	360 U
Benzo(b)fluoranthene	430 J	360 U
cis-1,2-Dichloroethene	590	1.3 J
Methylene chloride	210 J	8 U
Tetrachloroethene	6100	25
Trichloroethene	23000	28

SB-149-04 01/28/04

Analyte	0-2	8-10	11-13
Arsenic	5.3	6.1	2.8
Cadmium	0.33 J	0.28 J	0.55 U
Chromium, Total	4.7	10.5	3.7
Lead	11	11	3.5
Manganese	227	464	215
Mercury	0.025 J	0.09 J	0.11 U
Benzo(a)anthracene	1100	22000 U	18000 U
Benzo(a)pyrene	1100	22000 U	18000 U
Benzo(b)fluoranthene	1300	22000 U	18000 U
bis(2-Ethylhexyl)phthalate	51 J	22000 U	18000 U
Dibenz(a,h)anthracene	210 J	22000 U	18000 U
Tetrachloroethene	2.8 J	390 U	23 J
Trichloroethene	2 J	390 U	28 J
Total PCBs	3700	65 J	320

Notes:
1) The Generic Direct Contact Soil Standards and analytical results for organic analytes are shown in ug/kg and inorganics are shown in mg/kg.
2) Only detected primary COCs are shown on this figure.
3) D = Result was obtained from the analysis of a dilution
J = The associated numerical value is an estimated quantity
U = The compound/analyte was analyzed for, but not detected. The associated numerical value is the sample quantitation limit
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4) **RED** results exceed Commercial/Industrial criteria
GREEN results exceed Construction criteria
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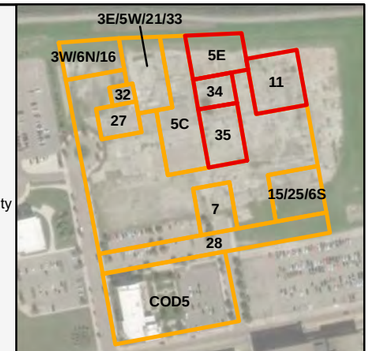
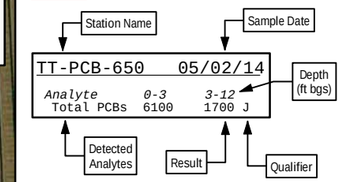


IA 18/19 is a site-wide IA that includes storm and process sewers.

LEGEND

- Soil Sample Locations With Detected Contaminants of Concern
- Soil Sample Locations With No Detected Contaminants of Concern
- Identified Areas



Analyte	Generic Direct Contact Soil Standards for Single Chemical: Commercial/ Industrial	Construction
Arsenic	77	690
Cadmium	2,600	1,000
Chromium, Total	NA	NA
Lead	800	400
Manganese	NA	NA
Mercury	3.1	3.1
Benzo(a)anthracene	58,000	1,200,000
Benzo(a)pyrene	5,800	120,000
Benzo(b)fluoranthene	58,000	1,200,000
bis(2-Ethylhexyl)phthalate	3,500,000	71,000,000
Dibenz(a,h)anthracene	5,800	120,000
1,1-Dichloroethene	1,200,000	360,000
Benzene	140,000	1,200,000
cis-1,2-Dichloroethene	2,400,000	2,400,000
Methylene chloride	3,300,000	3,300,000
Tetrachloroethene	170,000	170,000
Trichloroethene	51,000	17,000
Vinyl chloride	50,000	280,000
Total PCBs	20,000	440,000

0 25 50
Feet

SOURCE: ESRI World Imagery Service

N

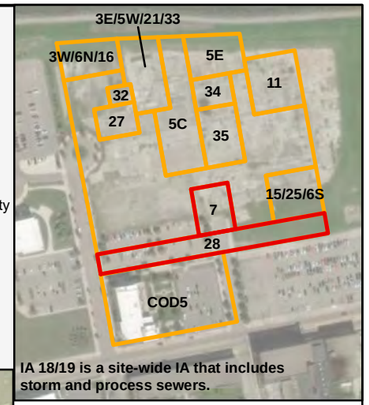
WESTON SOLUTIONS

FIGURE 3.5
SOIL ANALYTICAL DATA
IDENTIFIED AREAS: 5E, 11, 34, and 35
FORMER GM DELPHI HARRISON
THERMAL SYSTEMS FACILITY
DAYTON, OHIO

MAR 2019	PROJECT NO 12473.005.008.0450	SCALE AS SHOWN

FILE: E:\Dayton Technology Campus\GIS\Figure 3.5 Soil Data IA 5E_11_34_35_20190307.mxd 11:52:59 AM 3/7/2019 MYERSJT

Notes:
1) The Generic Direct Contact Soil Standards and analytical results for organic analytes are shown in ug/kg and inorganics are shown in mg/kg.
2) Only detected primary COCs are shown on this figure.
3) D = Result was obtained from the analysis of a dilution
J = The associated numerical value is an estimated quantity
U = The compound/analyte was analyzed for, but not detected. The associated numerical value is the sample quantitation limit
UJ - The compound/analyte was analyzed for, but not detected. The sample quantitation limit is an estimated quantity
DUP = Duplicate Sample
NA = Not Analyzed or Not Available
PCB = Polychlorinated Biphenyl
mg/kg - milligrams per kilogram
ug/kg - micrograms per kilogram
4) **RED** results exceed Commercial/Industrial criteria
GREEN results exceed Construction criteria
YELLOW results exceed both Commercial/Industrial and Construction criteria



IA 18/19 is a site-wide IA that includes storm and process sewers.

BH-182 11/11/04

Analyte	0-2	8-10	12-14
Arsenic	15.6 J	1.4 J	2.5 J
Cadmium	0.3 J	0.69 J	0.14 J
Chromium, Total	15.8 J	8.3 J	3.8 J
Lead	242 J	8.5 J	2.4 J
Manganese	1230	316	291
Mercury	0.33	0.022 J	0.014 J
Benzo(a)anthracene	34 J	460 U	350 U
Benzo(a)pyrene	30 J	460 U	350 U
Benzo(b)fluoranthene	38 J	460 U	350 U

SB-145-04 01/28/04

Analyte	0-2	8-10	11-13
Arsenic	8.5	5.3	2.8
Cadmium	0.24 J	0.24 J	0.19 J
Chromium, Total	10.4	3.3	2.5
Lead	130	2.1	2.3
Manganese	578	523	358
Mercury	0.11 J	0.25	0.11 U
Benzo(a)anthracene	38 J	340 U	350 U
Benzo(a)pyrene	55 J	340 U	350 U
Benzo(b)fluoranthene	85 J	340 U	350 U
Tetrachloroethene	840 J	2 J	14
Trichloroethene	91000	2.1 J	170
Total PCBs	14 J	34 U	35

TT-SB264 04/04/13

Analyte	0-2	2-4	4-6	6-8	6-8(DUP)	8-10
Total PCBs	5610 D	29300 D	18100 D	6270 D	4060 D	299

091216-5

091216-3

SB-159-04 02/04/04

Analyte	0-2	7-9
Methylene chloride	5.5	5 J

BH-171 11/01/04

Analyte	0-2	7.5-9.5
Manganese	182	401

SB-89-03 04/01/03

Analyte	1-3
Benzo(a)anthracene	1300 J
Benzo(a)pyrene	1400 J
Benzo(b)fluoranthene	1600
Dibenz(a,h)anthracene	230 J

SB-90-03 04/01/03

Analyte	1-3
Benzo(a)anthracene	300 J
Benzo(a)pyrene	280 J
Benzo(b)fluoranthene	280 J
Dibenz(a,h)anthracene	38 J

SB-91-03 04/01/03

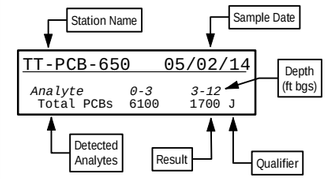
Analyte	1-3
Benzo(a)anthracene	1500
Benzo(a)pyrene	1700
Benzo(b)fluoranthene	1700
Dibenz(a,h)anthracene	270 J

SB-44-02 04/15/02

Analyte	1-3	9-11
Arsenic	1.6 J	10.7 J
Cadmium	0.068 J	0.29 J
Chromium, Total	2.4 J	17.2 J
Lead	4.1 J	147 J
Manganese	132	422
Mercury	NA	0.54 J
Benzo(a)anthracene	6800	490 U
Benzo(a)pyrene	5700	490 U
Benzo(b)fluoranthene	9500	490 U
Dibenz(a,h)anthracene	710 J	490 U
Tetrachloroethene	1.6 J	2.5 J

LEGEND

- Soil Sample Locations With Detected Contaminants of Concern
- Soil Sample Locations With No Detected Contaminants of Concern
- Identified Areas



Analyte	Generic Direct Contact Soil Standards for Single Chemical: Commercial/ Industrial	Construction
Arsenic	77	690
Cadmium	2,600	1,000
Chromium, Total	NA	NA
Lead	800	400
Manganese	NA	NA
Mercury	3.1	3.1
Benzo(a)anthracene	58,000	1,200,000
Benzo(a)pyrene	5,800	120,000
Benzo(b)fluoranthene	58,000	1,200,000
bis(2-Ethylhexyl)phthalate	3,500,000	71,000,000
Dibenz(a,h)anthracene	5,800	120,000
1,1-Dichloroethene	1,200,000	360,000
Benzene	140,000	1,200,000
cis-1,2-Dichloroethene	2,400,000	2,400,000
Methylene chloride	3,300,000	3,300,000
Tetrachloroethene	170,000	170,000
Trichloroethene	51,000	17,000
Vinyl chloride	50,000	280,000
Total PCBs	20,000	440,000

0 25 50
Feet

SOURCE: ESRI World Imagery Service

N

WESTON SOLUTIONS

FIGURE 3.6
SOIL ANALYTICAL DATA
IDENTIFIED AREAS: 7 and 28
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

MAR 2019	PROJECT NO 12473.005.008.0450	SCALE AS SHOWN

FILE: E:\Dayton Technology Campus\GIS\Figure 3.6 Soil Data IA 7 and 28_20190307.mxd 11:53:33 AM 3/7/2019 MYERSJT

SB-75-03 02/20/03

Analyte	1-3	9.5-11.5	9.5-11.5(DUP)
Arsenic	15.2 J	3.1 J	3.9 J
Cadmium	0.57 UJ	0.032 J	0.02 J
Chromium, Total	10.4 J	4.1 J	5.3 J
Lead	63.1 J	1.8 J	2.1 J
Manganese	560 J	160 J	180 J
Mercury	0.09 J	0.11 U	0.11 U
Benzo(a)anthracene	290 J	350 U	350 U
bis(2-Ethylhexyl)phthalate	3800 U	350 U	40 J
cis-1,2-Dichloroethene	360	2.5 U	2.5 U
Methylene chloride	230 U	1.8 J	5.1 U
Tetrachloroethene	2400	9.9	25
Trichloroethene	630	4.9 U	1.4 J

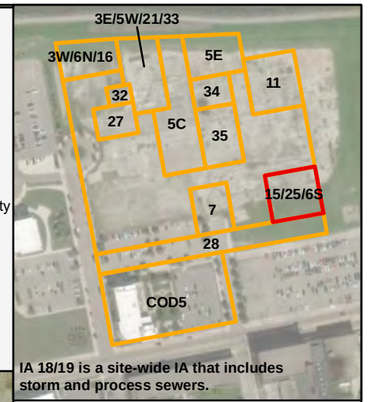
SB-22-02 04/10/02

Analyte	1-3	9-11
Arsenic	8.7	8.9
Cadmium	0.38 J	0.36 J
Chromium, Total	9.3	8.8
Lead	8	8.3
Manganese	299	273
Tetrachloroethene	1900	4100
Trichloroethene	140 J	270

SB-87-03 04/01/03

Analyte	1-3	9-11
Benzo(a)anthracene	380 U	160 J
Benzo(a)pyrene	380 U	130 J
Benzo(b)fluoranthene	380 U	170 J
bis(2-Ethylhexyl)phthalate	380 U	16 J
Dibenz(a,h)anthracene	380 U	23 J

Notes:
1) The Generic Direct Contact Soil Standards and analytical results for organic analytes are shown in ug/kg and inorganics are shown in mg/kg.
2) Only detected primary COCs are shown on this figure.
3) D = Result was obtained from the analysis of a dilution
J = The associated numerical value is an estimated quantity
U = The compound/analyte was analyzed for, but not detected. The associated numerical value is the sample quantitation limit
UJ - The compound/analyte was analyzed for, but not detected. The sample quantitation limit is an estimated quantity
DUP = Duplicate Sample
NA = Not Analyzed or Not Available
PCB = Polychlorinated Biphenyl
mg/kg - milligrams per kilogram
ug/kg - micrograms per kilogram
4) **RED** results exceed Commercial/Industrial criteria
GREEN results exceed Construction criteria
YELLOW results exceed both Commercial/Industrial and Construction criteria



IA 18/19 is a site-wide IA that includes storm and process sewers.

SB-56-02 04/17/02

Analyte	1-3	6-8	9.5-11.5
Arsenic	8	4.7	3.4
Cadmium	0.83	0.37 J	0.31 J
Chromium, Total	12.5	8	7.2
Lead	94.7	7.4	18.5
Manganese	462	427	214
Mercury	0.23	0.026 J	0.06 J
Benzo(a)anthracene	1300	3100 U	350 U
Benzo(a)pyrene	2100	3100 U	79 J
Benzo(b)fluoranthene	3000	3100 U	110 J
Dibenz(a,h)anthracene	340 J	3100 U	350 U
cis-1,2-Dichloroethene	2200 J	180	2.3 U
Tetrachloroethene	39000 J	29	92
Trichloroethene	12000 J	13	3.8 J
Vinyl chloride	1300 UJ	16	4.6 U
Total PCBs	9300	48000	33000

SB-38-02 04/15/02

Analyte	1-3	9-11
Arsenic	5.2 J	2.7 J
Chromium, Total	11.9 J	3.8 J
Lead	15.7 J	5.7 J
Manganese	362	262
bis(2-Ethylhexyl)phthalate	110 J	340 U
Tetrachloroethene	840	2 J
Trichloroethene	410	5.6 U
Total PCBs	1100	46

TT-SB262 04/04/13

Analyte	0-2	2-4	4-6	6-8
Total PCBs	579	2120 D	3660 D	7620 D

SB-43-02 04/15/02

Analyte	1-3	4-6	9-11
Arsenic	2.8 J	32.4 J	15.3 J
Cadmium	0.59 UJ	2.7 UJ	0.26 J
Chromium, Total	4.3 J	8.5 J	17 J
Lead	15 J	65.1 J	71.2 J
Manganese	139	457	436
Mercury	--	0.19 J	2.8 J
Benzo(a)anthracene	980 U	350 U	4200
Benzo(a)pyrene	980 U	350 U	3200
Benzo(b)fluoranthene	980 U	70 J	3800
Dibenz(a,h)anthracene	980 U	350 U	380 J
cis-1,2-Dichloroethene	100 J	740	160 U
Tetrachloroethene	15000	1300	180 J
Trichloroethene	1300	700	45 J
Vinyl chloride	420 U	220 J	330 U
Total PCBs	23000	1400	30000

SB-41-02 04/15/02

Analyte	1-3	6-8	9-11
Arsenic	13 J	3.1 J	3.8 J
Cadmium	0.064 J	0.29 J	0.62 J
Chromium, Total	16.8 J	7.2 J	18.4 J
Lead	80.6 J	6.8 J	8.8 J
Manganese	1810	420	333
Benzo(a)anthracene	160 J	460 U	7100 U
Benzo(a)pyrene	230 J	460 U	7100 U
Benzo(b)fluoranthene	420	460 U	7100 U
bis(2-Ethylhexyl)phthalate	380 U	84 J	7100 U
cis-1,2-Dichloroethene	1900 J	180 J	330 U
Tetrachloroethene	23000 J	880 UJ	660 U
Trichloroethene	15000 J	880 UJ	660 U
Total PCBs	67	20000	13000

SB-39-02 04/15/02

Analyte	1-3	1-3(DUP)	8.5-10.5
Arsenic	9.4 J	12 J	5.2 J
Chromium, Total	9.5 J	12.4 J	23.3 J
Lead	140 J	137 J	47.5 J
Manganese	616	802	2700
Mercury	0.097 J	0.16 J	0.13 UJ
Benzo(a)anthracene	72 J	340 U	440 U
Benzo(a)pyrene	80 J	70 J	440 U
Benzo(b)fluoranthene	91 J	110 J	440 U
Benzene	270 U	240 U	52 J
cis-1,2-Dichloroethene	33 J	19 J	42 J
Tetrachloroethene	1200	2800	5100 J
Trichloroethene	420	780	840 J

TT-SB263 04/04/13

Analyte	0-2	2-4	4-6
Total PCBs	246	54.8	78.2

SB-40-02 04/15/02

Analyte	1-3	9.5-11.5
Arsenic	5.4 J	2.8 J
Chromium, Total	30.3 J	8.9 J
Lead	11.9 J	4.5 J
Manganese	5760	1230
1,1-Dichloroethene	120 J	300 U
cis-1,2-Dichloroethene	19000	230
Tetrachloroethene	7300	4800
Trichloroethene	7600 J	510
Total PCBs	41 J	440

SB-88-03 04/01/03

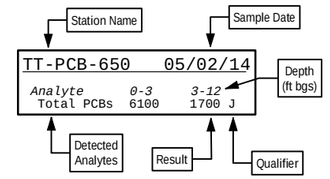
Analyte	1-3	3-5	3-5 (DUP)
Benzo(a)anthracene	550	140 J	130 J
Benzo(a)pyrene	860	99 J	96 J
Benzo(b)fluoranthene	1600	180 J	150 J
bis(2-Ethylhexyl)phthalate	55 J	22 J	21 J
Dibenz(a,h)anthracene	180 J	350 U	350 U
Methylene chloride	240 U	200 U	400 J
Tetrachloroethene	1800	4400	17000
Trichloroethene	34 J	89 J	180 J
Total PCBs	210	30 J	34 J

MW-3-02 06/26/02

Analyte	0-2	8-10	12-14
Arsenic	11.7	3.6	3.1
Cadmium	0.6 U	0.56 J	0.58
Chromium, Total	15	8	12.4
Lead	228	7.1	2.4
Manganese	1090	292	235
Mercury	0.11 J	0.14 U	0.11 U
Total PCBs	190	27000	61000

LEGEND

- Soil Sample Locations With Detected Contaminants of Concern
- Soil Sample Locations With No Detected Contaminants of Concern
- Identified Areas



Analyte	Generic Direct Contact Soil Standards for Single Chemical: Commercial/ Industrial	Construction
Arsenic	77	690
Cadmium	2,600	1,000
Chromium, Total	NA	NA
Lead	800	400
Manganese	NA	NA
Mercury	3.1	3.1
Benzo(a)anthracene	58,000	1,200,000
Benzo(a)pyrene	5,800	120,000
Benzo(b)fluoranthene	58,000	1,200,000
bis(2-Ethylhexyl)phthalate	3,500,000	71,000,000
Dibenz(a,h)anthracene	5,800	120,000
1,1-Dichloroethene	1,200,000	360,000
Benzene	140,000	1,200,000
cis-1,2-Dichloroethene	2,400,000	2,400,000
Methylene chloride	3,300,000	3,300,000
Tetrachloroethene	170,000	170,000
Trichloroethene	51,000	17,000
Vinyl chloride	50,000	280,000
Total PCBs	20,000	440,000

0 25 50
Feet

SOURCE: ESRI World Imagery Service

N

WESTON SOLUTIONS

FIGURE 3.7
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 15/25/6S
FORMER GM DELPHI HARRISON
THERMAL SYSTEMS FACILITY
DAYTON, OHIO

MAR 2019	PROJECT NO 12473.005.008.0450	SCALE AS SHOWN

FILE: E:\Dayton Technology Campus\GIS\Figure 3.7 Soil Data IA 15256S_20190307.mxd 12:00:20 PM 3/7/2019 MYERSJT

SB-133-04 01/22/04

Analyte	0-2	8-10	11-13	11-13(DUP)
Benzo(a)anthracene	100 J	340 U	120 J	350 U
Benzo(a)pyrene	110 J	340 U	110 J	350 U
Benzo(b)fluoranthene	150 J	340 U	150 J	350 U
bis(2-Ethylhexyl)phthalate	420 U	32 J	340 U	350 U
Dibenz(a,h)anthracene	63 J	340 U	49 J	350 U
cis-1,2-Dichloroethene	200 J	0.72 J	8 J	160 UJ
Tetrachloroethene	2400 J	36 J	160 J	490 J
Trichloroethene	3000 J	29 J	59 J	320 UJ

BH-183 11/29/04

Analyte	0-2	8-10	12-14
Arsenic	12.4	6.4	1.8
Cadmium	0.035 J	0.14 J	0.07 J
Chromium, Total	11.9 J	9.7 J	2.2 J
Lead	451	6.9	2.8
Manganese	382 J	265 J	275 J
Mercury	0.38	0.021 J	0.011 J
Benzo(a)pyrene	21 J	440 U	370 U
Benzo(b)fluoranthene	27 J	440 U	370 U
Benzene	84 J	28	6.2
cis-1,2-Dichloroethene	58 J	7.5 U	5.3 U
Methylene chloride	330 U	31 J	17 J
Tetrachloroethene	8200	130	85
Trichloroethene	4300 J	35	8.8

SB-130-04 01/21/04

Analyte	0-2	8-10	10-12
Benzo(a)anthracene	1300 J	390 U	7300 U
Benzo(a)pyrene	1200 J	390 U	7300 U
Benzo(b)fluoranthene	1300 J	25 J	7300 U
bis(2-Ethylhexyl)phthalate	4300 U	390 U	540 J
cis-1,2-Dichloroethene	230	2.3 J	120 J
Tetrachloroethene	1000	18	590
Trichloroethene	6900	210	3800

SB-162-04 02/04/04

Analyte	0-2	0-2(DUP)	7.5-9.5
Methylene chloride	330 U	290 U	8
Tetrachloroethene	1200	800	2.6 J
Trichloroethene	56 J	36 J	5.3 U

SB-161-04 02/04/04

Analyte	0-2	7.5-9.5
Methylene chloride	7.7	8.7
Tetrachloroethene	4.7 U	1 J

BH-177 11/02/04

Analyte	0-2	7.5-9.5	7.5-9.5 (DUP)
Arsenic	9.2	2.8	6.4
Cadmium	0.56 J	0.063 J	0.11 J
Chromium, Total	22.7 J	4.1 J	5.7 J
Lead	160 J	2.3 J	3 J
Manganese	660	299	393
Mercury	0.67	0.11 U	0.012 J
Benzo(a)anthracene	830 J	350 U	360 U
Benzo(a)pyrene	1000	350 U	360 U
Benzo(b)fluoranthene	1300	350 U	360 U
Dibenz(a,h)anthracene	190 J	350 U	360 U
Benzene	32 J	4 J	4.5 J
Tetrachloroethene	6.2 U	8.9 U	3.2 J

BH-176 11/02/04

Analyte	0-2	8-10
Arsenic	5.2	3.8
Cadmium	1.3	1.2
Chromium, Total	9.6 J	4 J
Lead	48.8 J	5.2 J
Manganese	384	359
Mercury	0.076 J	0.022 J
Benzo(a)anthracene	63 J	370 U
Benzo(a)pyrene	80 J	370 U
Benzo(b)fluoranthene	120 J	370 U
Benzene	5.7	12

SB-160-04 02/04/04

Analyte	0-2	6-8
Methylene chloride	8.2	8.9 J
Tetrachloroethene	5.5 U	5.2 J

BH-169 11/01/04

Analyte	0-2	7.5-9.5
Arsenic	3.4	3
Chromium, Total	3.4	3.4
Lead	20.4	6.3
Manganese	252	269
Mercury	0.15	0.019 J

BH-170 11/01/04

Analyte	0-2	8-10
Arsenic	1.1	6.1
Chromium, Total	2	7.7
Lead	1.5	3.2
Manganese	122	422
Mercury	0.0077 J	0.04 J

MW-26-04 03/04/04

Analyte	0-2	8-10	10-12
Arsenic	10.7	5.5	7.2
Chromium, Total	6.4	5.1	4.7
Lead	153 J	2.5 J	2.8 J
Manganese	299	247	623
Mercury	0.1 J	0.0057 J	0.014 J
Benzo(a)anthracene	140 J	350 U	350 U
Benzo(a)pyrene	130 J	350 U	350 U
Benzo(b)fluoranthene	200 J	350 U	350 U
Dibenz(a,h)anthracene	90 J	350 U	350 U
Benzene	1900 U	4.2 U	0.51 J
cis-1,2-Dichloroethene	3400	2.1 U	0.71 J
Tetrachloroethene	49000	1.7 J	29
Trichloroethene	66000	5.1	150
Total PCBs	38 U	3.9 J	42

SB-139-04 01/27/04

Analyte	0-2	8-10	11.5-13.5
Benzene	450 U	6 U	0.47 J
cis-1,2-Dichloroethene	120 J	3 U	2.5 U
Tetrachloroethene	3400	3.1 J	3.7 J
Trichloroethene	10000	5.3 J	9.9

MW-13-03 03/05/03

Analyte	2-4	9-11
Arsenic	7.8	2.4
Cadmium	0.065 J	0.52 U
Chromium, Total	10.1	3.4
Lead	23.9	2.2
Manganese	627 J	164 J
Benzene	370 U	0.33 J
cis-1,2-Dichloroethene	160 J	2.3 U
Tetrachloroethene	1600	6.4
Trichloroethene	1600	1.2 J
Total PCBs	45 U	550

SB-53-02 04/17/02

Analyte	1-3
Arsenic	8.8
Cadmium	0.8
Chromium, Total	12.6
Lead	213
Manganese	479
Mercury	0.51
Benzo(a)anthracene	920
Benzo(a)pyrene	1100
Benzo(b)fluoranthene	1100
Dibenz(a,h)anthracene	200 J
cis-1,2-Dichloroethene	720
Tetrachloroethene	16000
Trichloroethene	5000

SB-163-04 02/05/04

Analyte	0-2	8-10	11.5-13.5
Arsenic	8.4	4.5	4.8
Cadmium	0.3 J	0.17 J	0.14 J
Chromium, Total	7.8 J	3.3 J	2.4 J
Lead	209 J	2 J	1.9 J
Manganese	322	279	477
Mercury	0.087 J	0.11 U	0.11 U
Benzo(a)anthracene	50 J	360 U	7300 U
Benzo(a)pyrene	51 J	360 U	7300 U
Benzo(b)fluoranthene	65 J	360 U	7300 U
cis-1,2-Dichloroethene	380 J	1.4 J	140 U
Methylene chloride	560 J	5.7 U	130 J
Tetrachloroethene	27000	93	940
Trichloroethene	12000	8.8	40 J
Total PCBs	39 UJ	36 UJ	30 J

SB-164-04 02/06/04

Analyte	0-2	8-10	11-13
Arsenic	8.6	7	8.4
Cadmium	1.1	0.25 J	0.27 J
Chromium, Total	26.2 J	4.6 J	3.4 J
Lead	98.2 J	2.4 J	2.7 J
Manganese	3940	308	773
Mercury	0.077 J	0.11 U	0.045 J
Benzo(a)anthracene	29 J	350 U	710 U
Benzo(a)pyrene	22 J	350 U	710 U
Benzo(b)fluoranthene	48 J	350 U	710 U
1,1-Dichloroethene	110 J	6.7 U	6.4 U
Benzene	30 J	6.7 U	6.4 U
cis-1,2-Dichloroethene	630 J	3.4 U	3.2 U
Tetrachloroethene	5000 J	17	0.96 J
Trichloroethene	7800 J	1.2 J	6.4 U
Total PCBs	38 U	35 U	68 J

SB-19-02 04/09/02

Analyte	1-3	9.5-11.5
Arsenic	4.7	3.9
Chromium, Total	11.6	5.5
Lead	276 J	28.3 J
Manganese	710	391
Mercury	0.045 J	0.018 J
Benzo(a)anthracene	99 J	360 U
Benzo(a)pyrene	86 J	360 U
Benzo(b)fluoranthene	130 J	360 U
cis-1,2-Dichloroethene	2100	2.5 U
Tetrachloroethene	1300	1.7 J
Trichloroethene	5100 J	1.6 J
Total PCBs	27 J	250

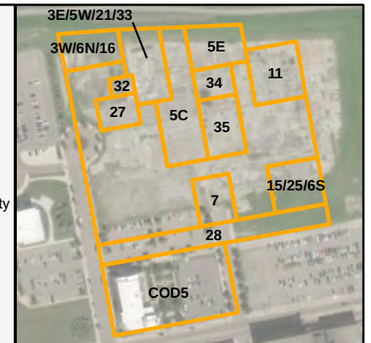
SB-150-04 01/28/04

Analyte	0-2	0-2(DUP)	8-10	12-14
Arsenic	7	10.2	1.1 U	2.8
Chromium, Total	7	9.1	2.5	3.3
Lead	109	105	1.1	2.1
Manganese	306	537	90.1	180
Mercury	0.07 J	0.15	0.11 U	0.02 J
1,1-Dichloroethene	290 J	340 J	4.4 U	6.2 U
cis-1,2-Dichloroethene	10000	13000	1.1 J	3.1 U
Tetrachloroethene	500 J	630 J	1.5 J	1.2 J
Trichloroethene	27000	32000	6	6.2 U
Vinyl chloride	1900	1700	4.4 U	6.2 U
Total PCBs	8.1 J	14 J	35 U	290

SB-151-04 02/05/04

Analyte	0-2	8-10	8-10(DUP)	11-13
Arsenic	3.2	3	2.9	5.1
Cadmium	0.15 J	0.17 J	0.16 J	0.2 J
Chromium, Total	10.4 J	3.5 J	3.8 J	3.7 J
Lead	4.8 J	2.1 J	2.8 J	2 J
Manganese	609	240	520	339
bis(2-Ethylhexyl)phthalate	71 J	350 U	410 U	360 U
cis-1,2-Dichloroethene	0.77 J	2.5 U	3.5 U	2.6 U
Methylene chloride	4.6 J	4.4 J	6.1 J	4.5 J
Tetrachloroethene	150	1.9 J	11	3.7 J
Trichloroethene	40	0.46 J	2.9 J	0.9 J
Total PCBs	490 J	35 UJ	41 UJ	100 J

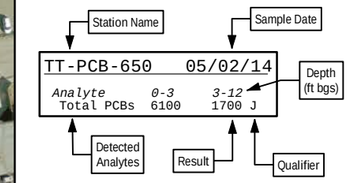
Notes:
1) The Generic Direct Contact Soil Standards and analytical results for organic analytes are shown in ug/kg and inorganics are shown in mg/kg.
2) Only detected primary COCs are shown on this figure.
3) D = Result was obtained from the analysis of a dilution
J = The associated numerical value is an estimated quantity
U = The compound/analyte was analyzed for, but not detected. The associated numerical value is the sample quantitation limit
UJ - The compound/analyte was analyzed for, but not detected. The sample quantitation limit is an estimated quantity
DUP = Duplicate Sample
NA = Not Analyzed or Not Available
PCB = Polychlorinated Biphenyl
mg/kg - milligrams per kilogram
ug/kg - micrograms per kilogram
4) **RED** results exceed Commercial/Industrial criteria
GREEN results exceed Construction criteria
YELLOW results exceed both Commercial/Industrial and Construction criteria



IA 18/19 is a site-wide IA that includes storm and process sewers.

LEGEND

- Soil Sample Locations With Detected Contaminants of Concern
- Soil Sample Locations With No Detected Contaminants of Concern
- Identified Areas



Analyte	Generic Direct Contact Soil Standards for Single Chemical: Commercial/ Industrial	Construction
Arsenic	77	690
Cadmium	2,600	1,000
Chromium, Total	NA	NA
Lead	800	400
Manganese	NA	NA
Mercury	3.1	3.1
Benzo(a)anthracene	58,000	1,200,000
Benzo(a)pyrene	5,800	120,000
Benzo(b)fluoranthene	58,000	1,200,000
bis(2-Ethylhexyl)phthalate	3,500,000	71,000,000
Dibenz(a,h)anthracene	5,800	120,000
1,1-Dichloroethene	1,200,000	360,000
Benzene	140,000	1,200,000
cis-1,2-Dichloroethene	2,400,000	2,400,000
Methylene chloride	3,300,000	3,300,000
Tetrachloroethene	170,000	170,000
Trichloroethene	51,000	17,000
Vinyl chloride	50,000	280,000
Total PCBs	20,000	440,000

0 75 150
Feet
N

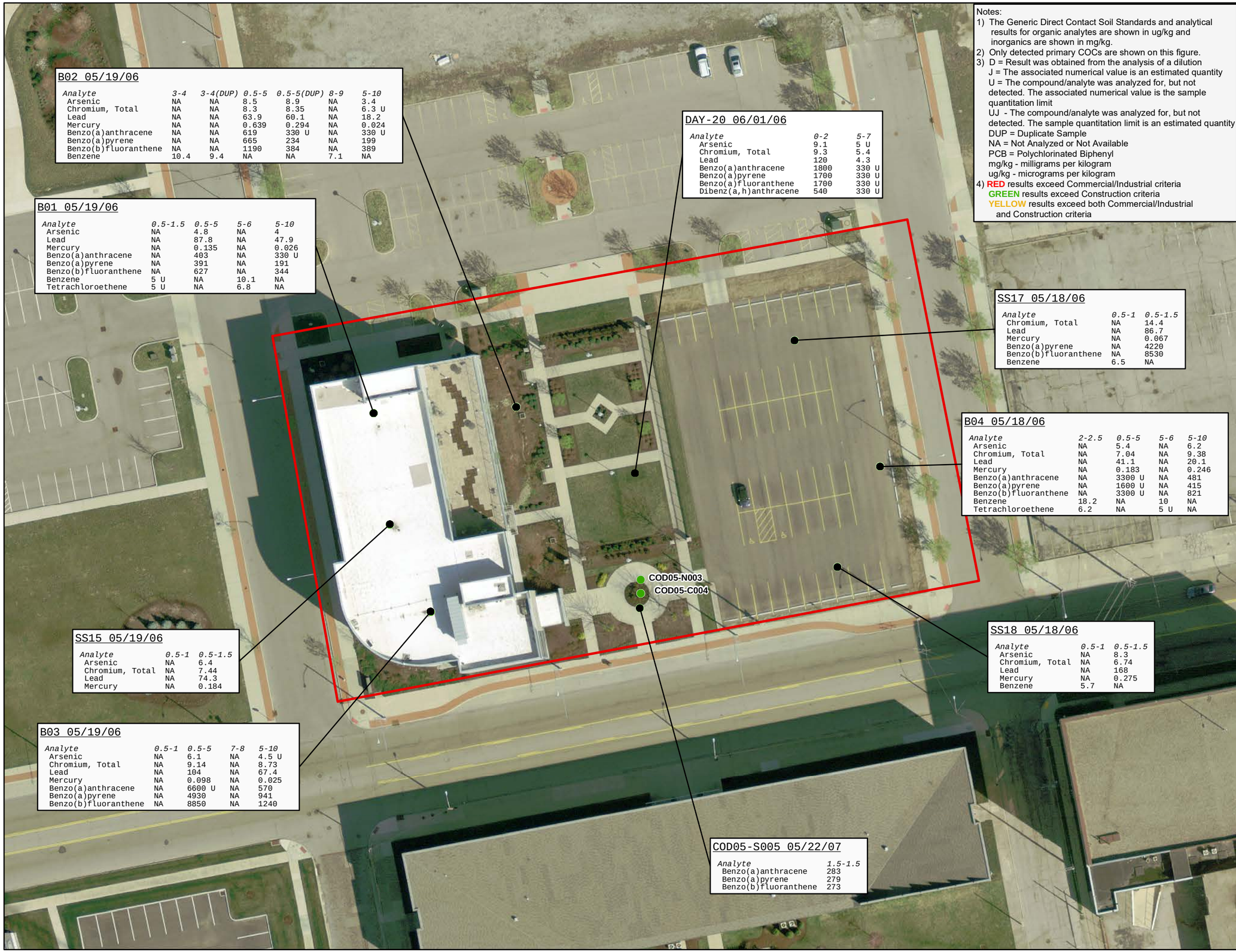
SOURCE: ESRI World Imagery Service

WESTON SOLUTIONS

FIGURE 3.8
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 18/19
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

MAR 2019	PROJECT NO 12473.005.008.0450	SCALE AS SHOWN

FILE: E:\Dayton Technology Campus\GIS\Figure 3.8 Soil Data IA 1819_20190307.mxd 11:58:19 AM 3/7/2019 MYERSJT



B02 05/19/06

Analyte	3-4	3-4(DUP)	0.5-5	0.5-5(DUP)	8-9	5-10
Arsenic	NA	NA	8.5	8.9	NA	3.4
Chromium, Total	NA	NA	8.3	8.35	NA	6.3 U
Lead	NA	NA	63.9	60.1	NA	18.2
Mercury	NA	NA	0.639	0.294	NA	0.024
Benzo(a)anthracene	NA	NA	619	330 U	NA	330 U
Benzo(a)pyrene	NA	NA	665	234	NA	199
Benzo(b)fluoranthene	NA	NA	1190	384	NA	389
Benzene	10.4	9.4	NA	NA	7.1	NA

DAY-20 06/01/06

Analyte	0-2	5-7
Arsenic	9.1	5 U
Chromium, Total	9.3	5.4
Lead	120	4.3
Benzo(a)anthracene	1800	330 U
Benzo(a)pyrene	1700	330 U
Benzo(a)fluoranthene	1700	330 U
Dibenz(a,h)anthracene	540	330 U

B01 05/19/06

Analyte	0.5-1.5	0.5-5	5-6	5-10
Arsenic	NA	4.8	NA	4
Lead	NA	87.8	NA	47.9
Mercury	NA	0.135	NA	0.026
Benzo(a)anthracene	NA	403	NA	330 U
Benzo(a)pyrene	NA	391	NA	191
Benzo(b)fluoranthene	NA	627	NA	344
Benzene	5 U	NA	10.1	NA
Tetrachloroethene	5 U	NA	6.8	NA

SS17 05/18/06

Analyte	0.5-1	0.5-1.5
Chromium, Total	NA	14.4
Lead	NA	86.7
Mercury	NA	0.067
Benzo(a)pyrene	NA	4220
Benzo(b)fluoranthene	NA	8530
Benzene	6.5	NA

B04 05/18/06

Analyte	2-2.5	0.5-5	5-6	5-10
Arsenic	NA	5.4	NA	6.2
Chromium, Total	NA	7.04	NA	9.38
Lead	NA	41.1	NA	20.1
Mercury	NA	0.183	NA	0.246
Benzo(a)anthracene	NA	3300 U	NA	481
Benzo(a)pyrene	NA	1600 U	NA	415
Benzo(b)fluoranthene	NA	3300 U	NA	821
Benzene	18.2	NA	10	NA
Tetrachloroethene	6.2	NA	5 U	NA

SS15 05/19/06

Analyte	0.5-1	0.5-1.5
Arsenic	NA	6.4
Chromium, Total	NA	7.44
Lead	NA	74.3
Mercury	NA	0.184

SS18 05/18/06

Analyte	0.5-1	0.5-1.5
Arsenic	NA	8.3
Chromium, Total	NA	6.74
Lead	NA	168
Mercury	NA	0.275
Benzene	5.7	NA

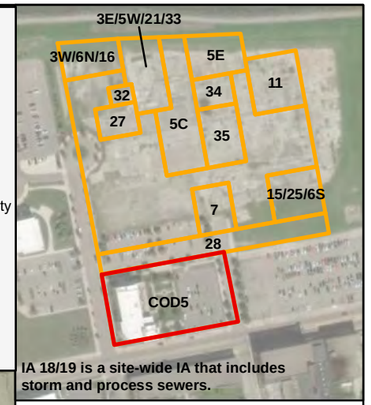
B03 05/19/06

Analyte	0.5-1	0.5-5	7-8	5-10
Arsenic	NA	6.1	NA	4.5 U
Chromium, Total	NA	9.14	NA	8.73
Lead	NA	104	NA	67.4
Mercury	NA	0.098	NA	0.025
Benzo(a)anthracene	NA	6600 U	NA	570
Benzo(a)pyrene	NA	4930	NA	941
Benzo(b)fluoranthene	NA	8850	NA	1240

COD05-S005 05/22/07

Analyte	1.5-1.5
Benzo(a)anthracene	283
Benzo(a)pyrene	279
Benzo(b)fluoranthene	273

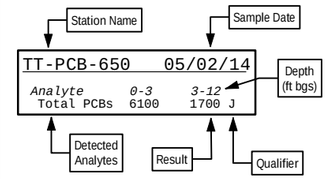
Notes:
1) The Generic Direct Contact Soil Standards and analytical results for organic analytes are shown in ug/kg and inorganics are shown in mg/kg.
2) Only detected primary COCs are shown on this figure.
3) D = Result was obtained from the analysis of a dilution
J = The associated numerical value is an estimated quantity
U = The compound/analyte was analyzed for, but not detected. The associated numerical value is the sample quantitation limit
UJ - The compound/analyte was analyzed for, but not detected. The sample quantitation limit is an estimated quantity
DUP = Duplicate Sample
NA = Not Analyzed or Not Available
PCB = Polychlorinated Biphenyl
mg/kg - milligrams per kilogram
ug/kg - micrograms per kilogram
4) **RED** results exceed Commercial/Industrial criteria
GREEN results exceed Construction criteria
YELLOW results exceed both Commercial/Industrial and Construction criteria



IA 18/19 is a site-wide IA that includes storm and process sewers.

LEGEND

- Soil Sample Locations With Detected Contaminants of Concern
- Soil Sample Locations With No Detected Contaminants of Concern
- Identified Areas



Analyte	Generic Direct Contact Soil Standards for Single Chemical: Commercial/ Industrial	Construction
Arsenic	77	690
Cadmium	2,600	1,000
Chromium, Total	NA	NA
Lead	800	400
Manganese	NA	NA
Mercury	3.1	3.1
Benzo(a)anthracene	58,000	1,200,000
Benzo(a)pyrene	5,800	120,000
Benzo(b)fluoranthene	58,000	1,200,000
bis(2-Ethylhexyl)phthalate	3,500,000	71,000,000
Dibenz(a,h)anthracene	5,800	120,000
1,1-Dichloroethene	1,200,000	360,000
Benzene	140,000	1,200,000
cis-1,2-Dichloroethene	2,400,000	2,400,000
Methylene chloride	3,300,000	3,300,000
Tetrachloroethene	170,000	170,000
Trichloroethene	51,000	17,000
Vinyl chloride	50,000	280,000
Total PCBs	20,000	440,000

0 25 50
Feet

SOURCE: ESRI World Imagery Service

N

WESTON SOLUTIONS

FIGURE 3.9
SOIL ANALYTICAL DATA
IDENTIFIED AREA: COD5
FORMER GM DELPHI HARRISON
THERMAL SYSTEMS FACILITY
DAYTON, OHIO

MAR 2019	PROJECT NO 12473.005.008.0450	SCALE AS SHOWN

FILE: E:\Dayton Technology Campus\GIS\Figure 3.9 Soil Data IA COD5_20190307.mxd 11:57:34 AM 3/7/2019 MYERSJT

WESTON SOLUTIONS

FIGURE 3.10
GROUNDWATER MONITORING
WELL LOCATIONS
FORMER GM DELPHI HARRISON
THERMAL SYSTEMS FACILITY
DAYTON, OHIO

AUG 2017	PROJECT NO 12473.005.008.0450	SCALE AS SHOWN

FILE: J:\GIS_Projects\12473_CITY_OF_DAYTON_OHIO\12473_CITY_OF_DAYTON_OHIO\Dayton Technology Campus\GIS\Figure 310 Groundwater Monitoring Well Locations.mxd 8:52:15 AM 8/1/2017 Thummaj

DAY-01	7/1/2002		4/8/2003		11/10/2004		9/14/2006		8/22/2007		9/21/2012		12/18/2014		5/19/2015	
Parameter Name	Result	Qual.	Result	Qual.	Result	Qual.	Result	Qual.	Result	Qual.	Result	Qual.	Result	Qual.	Result	Qual.
VOCs																
1,1-Dichloroethene	1	U	1	U	1	U	1	U	1	U	5	U	--		--	
Benzene	1	U	1	U	1	U	1	U	1	U	5	U	--		--	
cis-1,2-Dichloroethene	1.3		3.6		16		1.2		1	U	5	U	--		--	
Methylene chloride	1	U	1	U	1	U	5	U	5	U	5	U	--		--	
Tetrachloroethene	1	U	1	U	2.3		0.27	J	1	U	5	U	--		--	
Trichloroethene	1.7		1.4		7.8		1.3		1	U	5	U	--		--	
Vinyl chloride	1	U	4.8		1.1		1	U	1	U	1	U	--		--	
PCBs																
Total PCBs	0.4	U	0.4	U	0.4	U	--		--		--		0.5	U	0.5	U

DAY-03	7/1/2002		4/8/2003		11/22/2004		9/14/2006		9/14/2006		8/23/2007	
Parameter Name	Result	Qual.	Result	Qual.	Result	Qual.	Result	Qual.	Result	Qual.	Result	Qual.
VOCs												
1,1-Dichloroethene	1	U	1	U	1	U	1	U	1	U	1	U
Benzene	1	U	1	U	1	U	1	U	1	U	1	U
cis-1,2-Dichloroethene	0.5	U	3.1		0.31	J	2.8		2.6		2.6	J
Methylene chloride	1	U	1	U	1	U	5	U	5	U	5	U
Tetrachloroethene	1	U	1	U	1	U	1	UJ	1	U	1	U
Trichloroethene	1	U	1	U	1	U	1	U	1	U	3.3	
Vinyl chloride	1	U	1	U	1	U	0.24	J	0.24	J	1	U
PCBs												
Total PCBs	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U

MW-37-04	3/29/2004		11/17/2004	
Parameter Name	Result	Qual.	Result	Qual.
VOCs				
1,1-Dichloroethene	1	U	1	U
Benzene	1	U	1	U
cis-1,2-Dichloroethene	0.66	J	0.66	J
Methylene chloride	1	U	1	U
Tetrachloroethene	1	U	1	U
Trichloroethene	1	U	1	U
Vinyl chloride	0.26	J	1	U
PCBs				
Total PCBs	0.4	U	0.4	U

B-304	7/16/2002		3/31/2003		11/16/2004	
Parameter Name	Result	Qual.	Result	Qual.	Result	Qual.
VOCs						
1,1-Dichloroethene	1	U	1	U	1	U
Benzene	1	U	1	U	1	U
cis-1,2-Dichloroethene	6.7		0.5	U	0.3	J
Methylene chloride	1	U	1	U	1	U
Tetrachloroethene	1	U	1	U	1	U
Trichloroethene	1	U	1	U	1	U
Vinyl chloride	2		1	U	0.24	J
PCBs						
Total PCBs	0.4	U	0.3		0.4	U

B-306	7/16/2002	
Parameter Name	Result	Qual.
VOCs		
1,1-Dichloroethene	1	U
Benzene	1	U
cis-1,2-Dichloroethene	7.3	
Methylene chloride	1	U
Tetrachloroethene	1	U
Trichloroethene	0.69	J
Vinyl chloride	0.77	J
PCBs		
Total PCBs	0.79	

MW-23-04	3/30/2004		11/17/2004		4/1/2005		4/1/2005		11/2/2005		9/21/2012		12/18/2014		5/19/2015	
Parameter Name	Result	Qual.	Result	Qual.	Result	Qual.	Result	Qual.	Result	Qual.	Result	Qual.	Result	Qual.	Result	Qual.
VOCs																
1,1-Dichloroethene	33	U	1000	U	1200	U	1200	U	330	U	39	J	500	UD	9.4	J
Benzene	33	U	1000	U	1200	U	1200	U	330	U	5	U	500	UD	5	U
cis-1,2-Dichloroethene	1900		28000		35000		34000		21000		28700	D	40300	D	7430	
Methylene chloride	33	U	1000	U	1200	U	6200	U	700	J	5	U	500	UD	5	U
Tetrachloroethene	1200		4600		1300		1300		170	J	2200	D	525	D	516	
Trichloroethene	200		1300		620	J	580	J	330	U	1300	D	500	UD	302	
Vinyl chloride	120		2900		790	J	830	J	2800		3480	D	2580	D	456	
PCBs																
Total PCBs	0.4	U	0.4	U	--		--		--		0.5	U	0.5	U	0.75	

HD-18	7/16/2002		3/19/2003		11/16/2004		9/15/2006		8/27/2007		8/27/2007	
Parameter Name	Result	Qual.	Result	Qual.	Result	Qual.	Result	Qual.	Result	Qual.	Result	Qual.
VOCs												
1,1-Dichloroethene	1	U	1.3	U	2	U	1	U	1.4	U	2	U
Benzene	1	U	1.3	U	2	U	1	U	1.4	U	2	U
cis-1,2-Dichloroethene	5.8		3		0.97	J	0.99	J	1.4	U	2	U
Methylene chloride	1	U	1.3	U	2.3	U	5	U	7.2	U	10	U
Tetrachloroethene	39		36		44		37	J	40		38	
Trichloroethene	15		17		10		10		6.1		6.2	
Vinyl chloride	1	U	1.3	U	2	U	1	U	1.4	U	2	U
PCBs												
Total PCBs	0.4	U	0.4	U	0.4	U	--		--		--	

MW-42B-03	4/15/2003		11/17/2004	
Parameter Name	Result	Qual.	Result	Qual.
VOCs				
1,1-Dichloroethene	1	U	1	U
Benzene	1	U	1	U
cis-1,2-Dichloroethene	6.7		6.5	
Methylene chloride	1	U	1	U
Tetrachloroethene	2.1		1.5	
Trichloroethene	15		10	
Vinyl chloride	1	U	1	U
PCBs				
Total PCBs	0.4	U	--	

MW-25-04	3/26/2004		11/19/2004	
Parameter Name	Result	Qual.	Result	Qual.
VOCs				
1,1-Dichloroethene	1.7	U	1	U
Benzene	1.7	U	1	U
cis-1,2-Dichloroethene	22		18	
Methylene chloride	1.7	U	1	U
Tetrachloroethene	15		14	
Trichloroethene	4.7		25	
Vinyl chloride	1.7	U	1.2	
PCBs				
Total PCBs	0.4	U	0.4	U

MW-31-04	3/31/2004		11/22/2004	
Parameter Name	Result	Qual.	Result	Qual.
VOCs				
1,1-Dichloroethene	1	U	1	U
Benzene	1	U	1	U
cis-1,2-Dichloroethene	14		0.97	J
Methylene chloride	1	U	1	U
Tetrachloroethene	1	U	1	U
Trichloroethene	0.38	J	0.42	J
Vinyl chloride	3.3		1	U
PCBs				
Total PCBs	0.4	U	0.4	U

MW-37-05	9/3/2005		11/2/2005		9/21/2012	
Parameter Name	Result	Qual.	Result	Qual.	Result	Qual.
VOCs						
1,1-Dichloroethene	170	U	17	U	5	U
Benzene	170	U	17	U	5	U
cis-1,2-Dichloroethene	4000		230		44.6	
Methylene chloride	830	U	83	U	5	U
Tetrachloroethene	790		690		230	D
Trichloroethene	180		290		94.3	
Vinyl chloride	170	U	17	U	1	U
PCBs						
Total PCBs	--		--		--	

MW-13A-03	4/15/2003		11/17/2004		5/19/2015	
Parameter Name	Result	Qual.	Result	Qual.	Result	Qual.
VOCs						
1,1-Dichloroethene	1	U	1	U	--	
Benzene	1	U	1	U	--	
cis-1,2-Dichloroethene	4.7		1	U	--	
Methylene chloride	1	U	1	U	--	
Tetrachloroethene	1	U	1	U	--	
Trichloroethene	8.5		6		--	
Vinyl chloride	0.78	J	1	U	--	
PCBs						
Total PCBs	1.2		0.56		--	

MW-9-03	4/10/2003		11/15/2004		9/24/2012	
Parameter Name	Result	Qual.	Result	Qual.	Result	Qual.
VOCs						
1,1-Dichloroethene	1	U	1	U	5	U
Benzene	1	U	0.42	J	5	U
cis-1,2-Dichloroethene	0.61		2.5		56.1	
Methylene chloride	1	U	1	U	5	U
Tetrachloroethene	8.4		0.53	J	5	U
Trichloroethene	0.58	J	1.3		5	U
Vinyl chloride	1	U	1.2		69.2	
PCBs						
Total PCBs	0.4	U	0.4	U	--	

MW-24-04	3/25/2004		9/21/2012		9/21/2012	
Parameter Name	Result	Qual.	Result	Qual.	Result	Qual.
VOCs						
1,1-Dichloroethene	10	U	5	U	5	U
Benzene	10	U	5	U	5	U
cis-1,2-Dichloroethene	350		153		156	
Methylene chloride	10	U	5	U	5	U
Tetrachloroethene	10	U	5	U	5	U
Trichloroethene	10	U	5	U	5	U
Vinyl chloride	18		14.4		14.2	
PCBs						
Total PCBs	0.4	U	0.5	U	0.5	U

MW-14A-03	4/18/2003		11/18/2004		9/21/2012		9/25/2012	
Parameter Name	Result	Qual.	Result	Qual.	Result	Qual.	Result	Qual.
VOCs								
1,1-Dichloroethene	10	U	20	U	5	U	--	
Benzene	10	U	20	U	5	U	--	
cis-1,2-Dichloroethene	280		560		176		--	
Methylene chloride	3.5	U	20	U	5	U	--	
Tetrachloroethene	4.6	J	20	U	5	U	--	
Trichloroethene	7.9	J	20	U	5	U	--	
Vinyl chloride	26		43		12.4		--	
PCBs								
Total PCBs	0.11	J	--		--		0.5	U

MW-14B-04	3/30/2004		11/18/2004		1/23/2006	
Parameter Name	Result	Qual.	Result	Qual.	Result	Qual.
VOCs						
1,1-Dichloroethene	1.7	U	2	U	2.9	U
Benzene	1.7	U	2	U	2.9	U
cis-1,2-Dichloroethene	1.1		1.2	J	0.99	J
Methylene chloride	1.7	U	2.6	U	14	U
Tetrachloroethene	49		65		83	
Trichloroethene	6.7		9.2		8.3	
Vinyl chloride	1.7	U	2	U	2.9	U
PCBs						
Total PCBs	0.4	U	--		0.048	J

MW-26-04	3/26/2004		11/17/2004		9/21/2005		9/20/2012		12/17/2014		5/18/2015	
Parameter Name	Result	Qual.	Result	Qual.	Result	Qual.	Result	Qual.	Result	Qual.	Result	Qual.
VOCs												
1,1-Dichloroethene	4	U	3.3	U	5	U	5	U	--		--	
Benzene	4	U	3.3	U	5	U	5	U	--		--	
cis-1,2-Dichloroethene	140		72		110		11.1		--		--	
Methylene chloride	4	U	3.3	U	2.6	J	5	U	--		--	
Tetrachloroethene	1.8	J	0.74	J	3.8	J	5	U	--		--	
Trichloroethene	8.7		11		93		22.4		--		--	
Vinyl chloride	6.2		5.2		2.2	J	1	U	--		--	
PCBs												
Total PCBs	0.4	U	0.4	U	--		0.5	U	0.5	U	0.5	U

MW-28-04	9/26/2004		11/18/2004	
Parameter Name	Result	Qual.	Result	Qual.
VOCs				
1,1-Dichloroethene	1.7	U	1	U
Benzene	1.7	U	1	U
cis-1,2-Dichloroethene	22		18	
Methylene chloride	1.7	U	1	U
Tetrachloroethene	15		14	
Trichloroethene	4.7		25	
Vinyl chloride	1.7	U	1.2	
PCBs				
Total PCBs	0.4	U	0.4	U

MW-13B-03	4/15/2003		11/17/2004		9/20/2012		4/8/2013		12/18/2014	
Parameter Name	Result	Qual.	Result	Qual.	Result	Qual.			Result	Qual.
VOCs										
1,1-Dichloroethene	1	U	1	U	5	U	--		5	U
Benzene	1	U	0.23	J	13.4		--		5	U
cis-1,2-Dichloroethene	1.7		1	U	5	U	--		5	U
Methylene chloride	1	U	1	U	5	U	--		5	U
Tetrachloroethene	12		4.8		13		--		12.9	
Trichloroethene	2.8		1.3		7.4	J	--		5	U
Vinyl chloride	1	U	1	U	1	U	--		1	U
PCBs										
Total PCBs	0.4	U	0.4	U	--		0.5	U	0.5	U

MW-13B-03	4/17/2003		11/17/2004	
Parameter Name	Result	Qual.	Result	Qual.
VOCs				
1,1-Dichloroethene	1	U	1	U
Benzene	1	U	1	U
cis-1,2-Dichloroethene	0.62		0.28	J
Methylene chloride	1	U	1	U
Tetrachloroethene	17		10	
Trichloroethene	2		1.7	
Vinyl chloride	1	U	1	U
PCBs				
Total PCBs	0.4	U	0.4	U

DAY-20	7/9/2002		4/7/2003		11/8/2004		11/10/2004		5/1/2006	
Parameter Name	Result	Qual.	Result	Qual.	Result	Qual.	Result	Qual.	Result	Qual.
VOCs										
1,1-Dichloroethene	1	U	1	U	1.4	U	1	U	1	U
Benzene	1	U	1	U	1.4	U	1	U	1	U
cis-1,2-Dichloroethene	1.1		0.69		3.1		1	U	1	U
Methylene chloride	1	U	1	U	1.4	U	1	U	5	U
Tetrachloroethene	1		1.1	U	48		0.87	J	1	U
Trichloroethene	17		17		20		8.2		9.3	
Vinyl chloride	1	U	1	U	1.4	U	1	U	1	U
PCBs										
Total PCBs	0.4	U	0.13	J	0.4	U	0.4	U	0.2	U

DAY-19	7/10/2002		4/3/2003		5/31/2006	
Parameter Name	Result	Qual.	Result	Qual.	Result	Qual.
VOCs						
1,1-Dichloroethene	2	U	2	U	1	U
Benzene	2	U	0.74	U	1	U
cis-1,2-Dichloroethene	2.7		3		1.8	
Methylene chloride	0.88	J	1.1	U	5	U
Tetrachloroethene	2	U	2	U	1	U
Trichloroethene	53		56		44.6	
Vinyl chloride	2	U	2	U	1	U
PCBs						
Total PCBs	0.4	U	0.4	U	0.2	U

DAY-18	7/10/2002		4/3/2003		5/31/2006		5/31/2006	
Parameter Name	Result	Qual.	Result	Qual.	Result	Qual.	Result	Qual.
VOCs								
1,1-Dichloroethene	2	U	2	U	1	U	1	U
Benzene	2	U	2	U	1	U	1	U
cis-1,2-Dichloroethene	3		3.6		2.8		2.7	
Methylene chloride	0.84	J	1.1	U	5	U	5	U
Tetrachloroethene	2	U	2	U	1	U	1	U
Trichloroethene	51		49		52.5		50.7	
Vinyl chloride	2	U	2	U	1	U	1	U
PCBs								
Total PCBs	0.4	U	0.4	U	0.2	U	0.2	U

MW-72	3/26/2004		5/19/2015	
Parameter Name	Result	Qual.	Result	Qual.
VOCs				
1,1-Dichloroethene	5	U	--	
Benzene	5	U	--	
cis-1,2-Dichloroethene	5	U	--	
Methylene chloride	5	U	--	
Tetrachloroethene	5	U	--	
Trichloroethene	5	U	--	
Vinyl chloride	10	U	--	
PCBs				
Total PCBs	1.62		1.87	

HD-16	7/9/2002		3/28/2003	
Parameter Name	Result	Qual.	Result	Qual.
VOCs				
1,1-Dichloroethene	10	U	1	U
Benzene	10	U	1	U
cis-1,2-Dichloroethene	1.2		0.68	
Methylene chloride	10	U	1	U
Tetrachloroethene	0.78	J	0.68	J
Trichloroethene	2.1		1.6	
Vinyl chloride	10	U	1	U
PCBs				
Total PCBs	0.4	U	0.4	U

DAY-04	7/2/2002		4/1/2003		11/9/2004		6/1/2006	
Parameter Name	Result	Qual.	Result	Qual.	Result	Qual.	Result	Qual.
VOCs								
1,1-Dichloroethene	1	U	1	U	1	U	1	U
Benzene	1	U	1	U	1	U	1	U
cis-1,2-Dichloroethene	0.36	J	1	U	1	U	1	U
Methylene chloride	1	U	1	U	1	U	5	U
Tetrachloroethene	0.57	J	0.91	J	2		2.1	
Trichloroethene	4.6		0.88	J	0.59	J	1.3	
Vinyl chloride	1	U	1	U	1	U	1	U
PCBs								
Total PCBs	0.4	U	0.4	U	0.4	U	0.2	U

MW-30-04	3/29/2004		11/16/2004	
Parameter Name	Result	Qual.	Result	Qual.
VOCs				
1,1-Dichloroethene	1	U	1	U
Benzene	1	U	1	U
cis-1,2-Dichloroethene	0.5	U	1	U
Methylene chloride	1	U	1	U
Tetrachloroethene	1	U	1	U
Trichloroethene	1	U	1	U
Vinyl chloride	1	U	1	U
PCBs				
Total PCBs	0.4	U	0.4	U

MW-3-02	4/18/2003		11/12/2004		4/10/2013		4/10/2013		12/18/2014		5/19/2015	
Parameter Name	Result	Qual.	Result	Qual.	Result	Qual.	Result	Qual.	Result	Qual.	Result	Qual.
VOCs												
1,1-Dichloroethene	1.4	U	1	U	5	U	5	U	--		--	
Benzene	1.4	U	1	U	5	U	5	U	--		--	
cis-1,2-Dichloroethene	35		1.9		7.91		7.79		--		--	
Methylene chloride	1	U	1	U	5	U	5	U	--		--	
Tetrachloroethene	40		9.1		5	U	5	U	--		--	
Trichloroethene	6.2		3		5	U	5	U	--		--	
Vinyl chloride	0.59	J	1	U		U		U	--		--	
PCBs												
Total PCBs	5.7		1.2		2.17		1.73		2.3		1.77	

DAY-23	12/28/2004		6/1/2006		9/18/2006		9/20/2012	
Parameter Name	Result	Qual.	Result	Qual.	Result	Qual.	Result	Qual.
VOCs								
1,1-Dichloroethene	1	U	1	U	2	U	15.5	
Benzene	1	U	1	U	2	U	5	U
cis-1,2-Dichloroethene	1.2		1		0.79	J	6.34	
Methylene chloride	5	U	5	U	10	U	5	U
Tetrachloroethene	1	U	1	U	2	U	82	
Trichloroethene	107		118		96		353	
Vinyl chloride	1	U	1	U	2	U	1	U
PCBs								
Total PCBs	0.22	U	0.2	U	--		--	

B-305	7/16/2002		4/1/2003	
Parameter Name	Result	Qual.	Result	Qual.
VOCs				
1,1-Dichloroethene	1	U	1	U
Benzene	1	U	1	U
cis-1,2-Dichloroethene	0.5	U	0.5	U
Methylene chloride	1	U	1	U
Tetrachloroethene	1	U	1	U
Trichloroethene	1	U	1	U
Vinyl chloride	1	U	1	U
PCBs				
Total PCBs	0.36		0.27	

HD-14	7/16/2002		7/16/2002		3/26/2003		11/10/2004	
Parameter Name	Result	Qual.	Result	Qual.	Result	Qual.	Result	Qual.
VOCs								
1,1-Dichloroethene	1	U	1	U	1	U	1	U
Benzene	1	U	1	U	1	U	1	U
cis-1,2-Dichloroethene	0.5	U	0.5	U	0.5	U	0.26	J
Methylene chloride	1	U	1	U	1	U	1	U
Tetrachloroethene	1	U	1	U	1	U	0.57	J
Trichloroethene	0.73	J	0.82	J	0.58	J	10	
Vinyl chloride	1	U	1	U	1	U	1	U
PCBs								
Total PCBs	0.4	U	0.4	U	0.4	U	0.4	U

DAY-15	7/10/2002		4/2/2003	
Parameter Name	Result	Qual.	Result	Qual.
VOCs				
1,1-Dichloroethene	1	U	1	U
Benzene	1	U	1	U
cis-1,2-Dichloroethene	0.5	U	0.5	U
Methylene chloride	1	U	1	U
Tetrachloroethene	1	U	1	U
Trichloroethene	1	U	1	U
Vinyl chloride	1	U	1	U
PCBs				
Total PCBs	0.4	U	0.4	U

MW-29-04	3/29/2004		3/29/2004		11/19/2004		11/19/2004	
Parameter Name	Result	Qual.	Result	Qual.	Result	Qual.	Result	Qual.
VOCs								
1,1-Dichloroethene	1	U	1	U	1	U	1	U
Benzene	1	U	1	U	1	U	1	U
cis-1,2-Dichloroethene	0.5	U	0.5	U	1	U	1	U
Methylene chloride	1	U	1	U	1	U	1	U
Tetrachloroethene	0.7	J	0.67	J	0.7	J	0.7	J
Trichloroethene	3.6		3.7		3.4		3.6	
Vinyl chloride	1	U	1	U	1	U	1	U
PCBs								
Total PCBs	0.4	U	0.4	U	0.4	U	0.4	U

DAY-16	7/10/2002		4/2/2003		11/29/2007	
Parameter Name	Result	Qual.	Result	Qual.	Result	Qual.
VOCs						
1,1-Dichloroethene	1	U	1	U	1	U
Benzene	1	U	1	U	1	U
cis-1,2-Dichloroethene	0.5	U	0.5	U	1	U
Methylene chloride	1	U	1	U	1	U
Tetrachloroethene	1	U	1	U	1	U
Trichloroethene	1	U	1	U	1	U
Vinyl chloride	1	U	1	U	1	U
PCBs						
Total PCBs	0.4	U	0.4	U	--	

HD-17	7/11/2002		3/19/2003		11/12/2004	
Parameter Name	Result	Qual.	Result	Qual.	Result	Qual.
VOCs						
1,1-Dichloroethene	2.5	U	2	U	2	U
Benzene	2.5	U	2	U	2	U
cis-1,2-Dichloroethene	1.4		0.9	J	1.7	J
Methylene chloride	2.5	U	2	U	2	U
Tetrachloroethene	2.5	U	2	U	2	U
Trichloroethene	61		65		67	
Vinyl chloride	2.5	U	2	U	2	U
PCBs						
Total PCBs	0.4	U	0.4	U	--	

DAY-14	7/8/2002		4/7/2003		5/31/2006	
Parameter Name	Result	Qual.	Result	Qual.	Result	Qual.
VOCs						
1,1-Dichloroethene	1	U	1.3	U	1	U
Benzene	1	U	1.3	U	1	U
cis-1,2-Dichloroethene	1.8		2.1		1	U
Methylene chloride	1	U	1.3	U	5	U
Tetrachloroethene	1.3		1.2	J	1	U
Trichloroethene	40		44		37.5	
Vinyl chloride	1	U	1.3	U	1	U
PCBs						
Total PCBs	0.4	U	0.4	U	0.2	U

HD-15	7/8/2002		3/27/2003	
Parameter Name	Result	Qual.	Result	Qual.
VOCs				
1,1-Dichloroethene	1.4	U	1	U
Benzene	1.4	U	1	U
cis-1,2-Dichloroethene	1.4		1.3	
Methylene chloride	1.4	U	1	U
Tetrachloroethene	1.4		0.43	J
Trichloroethene	29		38	
Vinyl chloride	1.4	U	1	U
PCBs				
Total PCBs	0.4	U	0.4	U

CRITERIA	
Chemical Name	**GUPUS**
VOCs	
1,1-Dichloroethene	7
Benzene	5
cis-1,2-Dichloroethene	70
Methylene chloride	5
Tetrachloroethene	5
Trichloroethene	5
Vinyl chloride	2
PCBs	
Total PCBs	0.5

J	Estimated concentration
PCB	Polychlorinated Biphenyl
U	Not Detected
VOC	Volatile Organic Compound
GUPUS	Generic unrestricted potable use standards

Notes:
1. All results are reported in micrograms per liter.

2. "--" indicates that sample results for the analyte are not available; the sample was not analyzed for that analyte.

3. Detections are show in bold text. Yellow-shaded cells indicate exceedance of GUPUS.

4. This figure only includes analytical results for the primary COCs. Refer to the data tables for a complete summary of analytical data associated with each sample.

Groundwater flow direction is from the east to the west-northwest (CRA, 2006).

LEGEND
- MAD RIVER SHORELINE
- MONITORING WELL
- SAMPLE LOCATION
- SAMPLE DATE
- RESULT (ug/L)
- PARAMETER

0 50 100ft

RIVER CORRIDOR DRIVE
AMELIA STREET
PITT STREET
TAYLOR STREET
MEIGS STREET
E MONUMENT AVENUE
CTA BUILDING
GEOTHERMAL-WELL
KEOWEE
DAY-01
DAY-03
DAY-04
DAY-14
DAY-15
DAY-16
DAY-18
DAY-19
DAY-20
DAY-23
HD-14
HD-15
HD-16
HD-17
HD-18
MW-4-02
MW-72
MW-3-02
B304
B305
B306
MW-9-03
MW-37-05
MW-23-04
MW-24-04
MW-26-04
MW-12A-03
MW-12B-03
MW-27-04
MW-14-03
MW-14B-04
MW-25-04
MW-31-04
MW-29-04
MW-30-04
MW-13A-03
MW-13B-03
BLDG. 1
BLDG. 2
BLDG. 3
BLDG. 4
BLDG. 5
BLDG. 7
BLDG. 9
BLDG. 10
BLDG. 13
BLDG. 15
BLDG. 16
BLDG. 20
BLDG. G-1
BLDG. G-2
BLDG. G-3
BLDG. G-5

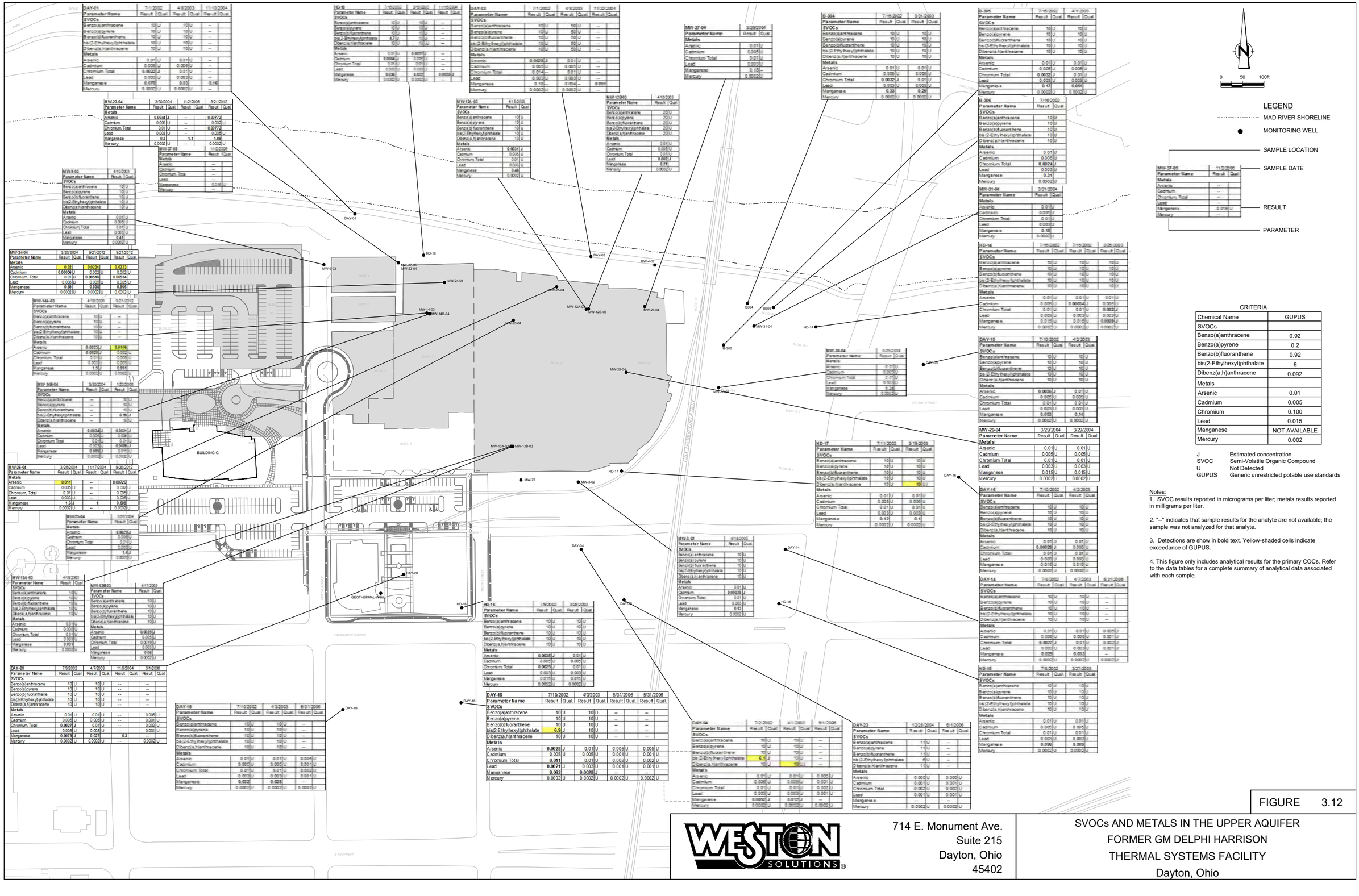
FIGURE 3.11

WESTON SOLUTIONS®

714 E. Monument Ave.
Suite 215
Dayton, Ohio
45402

VOCs AND PCBs IN THE UPPER AQUIFER
FORMER GM DELPHI HARRISON
THERMAL SYSTEMS FACILITY
Dayton, Ohio

J:\12638-03(021)GN-WA017.dwg, 8/1/2017 11:01:50 AM



DAY-01	7/1/2002		4/8/2003		11/10/2004	
Parameter Name	Result	Qual	Result	Qual	Result	Qual
SVOCs						
Benzo(a)anthracene	10	U	10	U	--	
Benzo(a)pyrene	10	U	10	U	--	
Benzo(b)fluoranthene	10	U	10	U	--	
bis(2-Ethylhexyl)phthalate	10	U	10	U	--	
Dibenz(a,h)anthracene	10	U	10	U	--	
Metals						
Arsenic	0.01	U	0.01	U	--	
Cadmium	0.005	U	0.005	U	--	
Chromium Total	0.0022	J	0.01	U	--	
Lead	0.003	U	0.003	U	--	
Manganese	0.678		0.83		0.16	
Mercury	0.0002	U	0.0002	U	--	

HD-18	7/16/2002		3/26/2003		11/10/2004	
Parameter Name	Result	Qual	Result	Qual	Result	Qual
SVOCs						
Benzo(a)anthracene	10	U	10	U	--	
Benzo(a)pyrene	10	U	10	U	--	
Benzo(b)fluoranthene	10	U	10	U	--	
bis(2-Ethylhexyl)phthalate	4.7	J	10	U	--	
Dibenz(a,h)anthracene	10	U	10	U	--	
Metals						
Arsenic	0.01	U	0.0077	J	--	
Cadmium	0.0058	J	0.005	U	--	
Chromium Total	0.01	U	0.01	U	--	
Lead	0.003	U	0.003	U	--	
Manganese	0.03		0.022		0.0035	J
Mercury	0.0002	U	0.0002	U	--	

DAY-03	7/1/2002		4/8/2003		11/22/2004	
Parameter Name	Result	Qual	Result	Qual	Result	Qual
SVOCs						
Benzo(a)anthracene	10	U	50	U	--	
Benzo(a)pyrene	10	U	50	U	--	
Benzo(b)fluoranthene	10	U	50	U	--	
bis(2-Ethylhexyl)phthalate	10	U	50	U	--	
Dibenz(a,h)anthracene	10	U	50	U	--	
Metals						
Arsenic	0.0082	J	0.01	U	--	
Cadmium	0.005	U	0.005	U	--	
Chromium Total	0.01	U	0.01	U	--	
Lead	0.003	U	0.003	U	--	
Manganese	0.15		0.094		0.091	
Mercury	0.0002	U	0.0002	U	--	

MW-27-04	3/29/2004	
Parameter Name	Result	Qual
Metals		
Arsenic	0.01	U
Cadmium	0.005	U
Chromium Total	0.01	U
Lead	0.003	U
Manganese	0.15	
Mercury	0.0002	U

B-304	7/16/2002		3/21/2003	
Parameter Name	Result	Qual	Result	Qual
SVOCs				
Benzo(a)anthracene	10	U	10	U
Benzo(a)pyrene	10	U	10	U
Benzo(b)fluoranthene	10	U	10	U
bis(2-Ethylhexyl)phthalate	10	U	10	U
Dibenz(a,h)anthracene	10	U	10	U
Metals				
Arsenic	0.01	U	0.01	U
Cadmium	0.005	U	0.005	U
Chromium Total	0.0032	J	0.01	U
Lead	0.003	U	0.003	U
Manganese	0.17		0.051	
Mercury	0.0002	U	0.0002	U

B-305	7/16/2002		4/1/2003	
Parameter Name	Result	Qual	Result	Qual
SVOCs				
Benzo(a)anthracene	10	U	10	U
Benzo(a)pyrene	10	U	10	U
Benzo(b)fluoranthene	10	U	10	U
bis(2-Ethylhexyl)phthalate	10	U	10	U
Dibenz(a,h)anthracene	10	U	10	U
Metals				
Arsenic	0.01	U	0.01	U
Cadmium	0.005	U	0.005	U
Chromium Total	0.0032	J	0.01	U
Lead	0.003	U	0.003	U
Manganese	0.17		0.051	
Mercury	0.0002	U	0.0002	U

B-306	7/16/2002	
Parameter Name	Result	Qual
SVOCs		
Benzo(a)anthracene	10	U
Benzo(a)pyrene	10	U
Benzo(b)fluoranthene	10	U
bis(2-Ethylhexyl)phthalate	10	U
Dibenz(a,h)anthracene	10	U
Metals		
Arsenic	0.01	U
Cadmium	0.005	U
Chromium Total	0.0024	J
Lead	0.003	U
Manganese	0.31	
Mercury	0.0002	U

MW-9-03	4/10/2003	
Parameter Name	Result	Qual
SVOCs		
Benzo(a)anthracene	10	U
Benzo(a)pyrene	10	U
Benzo(b)fluoranthene	10	U
bis(2-Ethylhexyl)phthalate	10	U
Dibenz(a,h)anthracene	10	U
Metals		
Arsenic	0.01	U
Cadmium	0.005	U
Chromium Total	0.01	U
Lead	0.003	U
Manganese	0.031	
Mercury	0.0002	U

MW-37-06	11/2/2006	
Parameter Name	Result	Qual
Metals		
Arsenic	--	
Cadmium	--	
Chromium, Total	--	
Lead	--	
Manganese	0.315	U
Mercury	--	

MW-31-06	3/31/2004	
Parameter Name	Result	Qual
Metals		
Arsenic	0.01	U
Cadmium	0.005	U
Chromium Total	0.01	U
Lead	0.003	U
Manganese	0.16	
Mercury	0.0002	U

MW-24-04	3/25/2004		9/21/2012		9/21/2012	
Parameter Name	Result	Qual	Result	Qual	Result	Qual
Metals						
Arsenic	0.02		0.0234		0.0233	
Cadmium	0.00036	J	0.0002	U	0.0002	U
Chromium, Total	0.01	U	0.00116		0.00034	
Lead	0.003	U	0.0005	U	0.0005	U
Manganese	0.59		0.538		0.566	
Mercury	0.0002	U	0.0002	U	0.0002	U

MW-14A-03	4/10/2003		9/21/2012	
Parameter Name	Result	Qual	Result	Qual
SVOCs				
Benzo(a)anthracene	10	U	--	
Benzo(a)pyrene	10	U	--	
Benzo(b)fluoranthene	10	U	--	
bis(2-Ethylhexyl)phthalate	10	U	--	
Dibenz(a,h)anthracene	10	U	--	
Metals				
Arsenic	0.0055	U	0.0104	
Cadmium	0.0028	U	0.0002	U
Chromium, Total	0.01	U	0.0005	U
Lead	0.003	U	0.0005	U
Manganese	1.5	U	0.956	
Mercury	0.0002	U	0.0002	U

MW-14B-04	3/30/2004		1/23/2006	
Parameter Name	Result	Qual	Result	Qual
SVOCs				
Benzo(a)anthracene	--		10	U
Benzo(a)pyrene	--		10	U
Benzo(b)fluoranthene	--		10	U
bis(2-Ethylhexyl)phthalate	--		0.89	U
Dibenz(a,h)anthracene	--		10	U
Metals				
Arsenic	0.0034	J	0.0021	U
Cadmium	0.005	U	0.005	U
Chromium Total	0.01	U	0.01	U
Lead	0.003	U	0.003	U
Manganese	0.089	J	0.0089	U
Mercury	0.0002	U	0.0002	U

MW-26-04	3/26/2004		11/17/2004		9/20/2012	
Parameter Name	Result	Qual	Result	Qual	Result	Qual
Metals						
Arsenic	0.011		--		0.00726	
Cadmium	0.005	U	--		0.002	U
Chromium, Total	0.01	U	--		0.005	U
Lead	0.003	U	--		0.005	U
Manganese	1.32		1		0.665	
Mercury	0.0002	U	--		0.0002	U

MW-25-04	3/29/2004	
Parameter Name	Result	Qual
Metals		
Arsenic	0.0029	J
Cadmium	0.005	U
Chromium, Total	0.01	U
Lead	0.003	U
Manganese	1.42	
Mercury	0.0002	U

MW-13A-03	4/10/2003	
Parameter Name	Result	Qual
SVOCs		
Benzo(a)anthracene	10	U
Benzo(a)pyrene	10	U
Benzo(b)fluoranthene	10	U
bis(2-Ethylhexyl)phthalate	10	U
Dibenz(a,h)anthracene	10	U
Metals		
Arsenic	0.01	U
Cadmium	0.005	U
Chromium, Total	0.01	U
Lead	0.003	U
Manganese	0.031	
Mercury	0.0002	U

MW-13B03	4/17/2003	
Parameter Name	Result	Qual
SVOCs		
Benzo(a)anthracene	10	U
Benzo(a)pyrene	10	U
Benzo(b)fluoranthene	10	U
bis(2-Ethylhexyl)phthalate	10	U
Dibenz(a,h)anthracene	10	U
Metals		
Arsenic	0.0029	U
Cadmium	0.005	U
Chromium, Total	0.0019	U
Lead	0.003	U
Manganese	0.09	
Mercury	0.0002	U

DAY-20	7/9/2002		4/7/2003		11/8/2004		5/1/2006	
Parameter Name	Result	Qual	Result	Qual	Result	Qual	Result	Qual
SVOCs								
Benzo(a)anthracene	10	U	10	U	--		--	
Benzo(a)pyrene	10	U	10	U	--		--	
Benzo(b)fluoranthene	10	U	10	U	--		--	
bis(2-Ethylhexyl)phthalate	10	U	10	U	--		--	
Dibenz(a,h)anthracene	10	U	10	U	--		--	
Metals								
Arsenic	0.01	U	0.01	U	--		0.005	U
Cadmium	0.005	U	0.005	U	--		0.001	U
Chromium, Total	0.0077	J	0.01	U	--		0.002	U
Lead	0.003	U	0.003	U	--		0.001	U
Manganese	0.0079	J	6.027		9.3		--	
Mercury	0.0002	U	0.0002	U	--		0.0002	U

DAY-19	7/10/2002		4/3/2003		5/31/2006	
Parameter Name	Result	Qual	Result	Qual	Result	Qual
SVOCs						
Benzo(a)anthracene	10	U	10	U	--	
Benzo(a)pyrene	10	U	10	U	--	
Benzo(b)fluoranthene	10	U	10	U	--	
bis(2-Ethylhexyl)phthalate	10	U	10	U	--	
Dibenz(a,h)anthracene	10	U	10	U	--	
Metals						
Arsenic	0.01	U	0.01	U	0.005	U
Cadmium	0.005	U	0.005	U	0.001	U
Chromium Total	0.01	U	0.01	U	0.002	U
Lead	0.003	U	0.003	U	0.001	U
Manganese	0.052		0.026		--	
Mercury	0.0002	U	0.0002	U	0.0002	U

DAY-18	7/10/2002		4/3/2003		5/31/2006		5/31/2006	
Parameter Name	Result	Qual	Result	Qual	Result	Qual	Result	Qual
SVOCs								
Benzo(a)anthracene	10	U	10	U	--		--	
Benzo(a)pyrene	10	U	10	U	--		--	
Benzo(b)fluoranthene	10	U	10	U	--		--	
bis(2-Ethylhexyl)phthalate	6.9	J	10	U	--		--	
Dibenz(a,h)anthracene	10	U	10	U	--		--	
Metals								
Arsenic	0.0028	J	0.01	U	0.005	U	0.005	U
Cadmium	0.005	U	0.005	U	0.001	U	0.001	U
Chromium Total	0.011		0.01	U	0.002	U	0.002	U
Lead	0.0021	J	0.003	U	0.001	U	0.001	U
Manganese	0.062		0.0028	J	--		--	
Mercury	0.0002	U	0.0002	U	0.0002	U	0.0002	U

MW-3-02	4/18/2003	
Parameter Name	Result	Qual
SVOCs		
Benzo(a)anthracene	10	U
Benzo(a)pyrene	10	U
Benzo(b)fluoranthene	10	U
bis(2-Ethylhexyl)phthalate	10	U
Dibenz(a,h)anthracene	10	U
Metals		
Arsenic	0.01	U
Cadmium	0.0029	J
Chromium Total	0.01	U
Lead	0.003	U
Manganese	0.13	
Mercury	0.0002	U

HD-16	7/9/2002		3/26/2003	
Parameter Name	Result	Qual	Result	Qual
SVOCs				
Benzo(a)anthracene	10	U	10	U
Benzo(a)pyrene	10	U	10	U
Benzo(b)fluoranthene	10	U	10	U
bis(2-Ethylhexyl)phthalate	10	U	10	U
Dibenz(a,h)anthracene	10	U	10	U
Metals				
Arsenic	0.0038	J	0.01	U
Cadmium	0.005	U	0.005	U
Chromium Total	0.0025	J	0.01	U
Lead	0.003	U	0.003	U
Manganese	0.015	U	0.015	U
Mercury	0.0002	U	0.0002	U

DAY-04	7/2/2002		4/7/2003		5/1/2006	
Parameter Name	Result	Qual	Result	Qual	Result	Qual
SVOCs						
Benzo(a)anthracene	10	U	10	U	--	
Benzo(a)pyrene	10	U	10	U	--	
Benzo(b)fluoranthene	10	U	10	U	--	
bis(2-Ethylhexyl)phthalate	6.1	J	10	U	--	
Dibenz(a,h)anthracene	10	U	10	U	--	
Metals						
Arsenic	0.01	U	0.01	U	0.005	U
Cadmium	0.005	U	0.005	U	0.001	U
Chromium Total	0.01	U	0.01	U	0.002	U
Lead	0.003	U	0.003	U	0.001	U
Manganese	0.0952	J	0.0412	J	--	
Mercury	0.0002	U	0.0002	U	0.0002	U

DAY-23	12/28/2004		5/1/2006	
Parameter Name	Result	Qual	Result	Qual
SVOCs				
Benzo(a)anthracene	11	U	--	
Benzo(a)pyrene	11	U	--	
Benzo(b)fluoranthene	11	U	--	
bis(2-Ethylhexyl)phthalate	6	U	--	
Dibenz(a,h)anthracene	11	U	--	
Metals				
Arsenic	0.005	U	0.005	U
Cadmium	0.001	U	0.001	U
Chromium Total	0.003	U	0.002	U
Lead	0.001	U	0.001	U
Manganese	--		--	
Mercury	0.0002	U	0.0002	U

MW-39-04	3/29/2004	
Parameter Name	Result	Qual
Metals		
Arsenic	0.01	U
Cadmium	0.005	U
Chromium Total	0.01	U
Lead	0.003	U
Manganese	0.24	
Mercury	0.0002	U

DAY-15	7/10/2002		4/2/2003	
Parameter Name	Result	Qual	Result	Qual
SVOCs				
Benzo(a)anthracene	10	U	10	U
Benzo(a)pyrene	10	U	10	U
Benzo(b)fluoranthene	10	U	10	U
bis(2-Ethylhexyl)phthalate	10	U	10	U
Dibenz(a,h)anthracene	10	U	10	U
Metals				
Arsenic	0.0036	J	0.01	U
Cadmium	0.005	U	0.005	U
Chromium Total	0.01	U	0.01	U
Lead	0.003	U	0.003	U
Manganese	0.563		0.14	
Mercury	0.0002	U	0.0002	U

MW-29-04	3/29/2004		3/29/2004	
Parameter Name	Result	Qual	Result	Qual
Metals				
Arsenic	0.01	U	0.01	U
Cadmium	0.005	U	0.005	U
Chromium Total	0.01	U	0.01	U
Lead	0.003	U	0.003	U
Manganese	0.015	U	0.015	U
Mercury	0.0002	U	0.0002	U

HD-17	7/11/2002		3/19/2003	
Parameter Name	Result	Qual	Result	Qual
SVOCs				
Benzo(a)anthracene	10	U	10	U
Benzo(a)pyrene	10	U	10	U
Benzo(b)fluoranthene	10	U	10	U
bis(2-Ethylhexyl)phthalate	10	U	10	U
Dibenz(a,h)anthracene	10	U	10	U
Metals				
Arsenic	0.01	U	0.01	U
Cadmium	0.005	U	0.005	U
Chromium Total	0.01	U	0.01	U
Lead	0.003	U	0.003	U
Manganese	0.15		0.29	
Mercury	0.0002	U	0.0002	U

DAY-16	7/10/2002		4/2/2003	
Parameter Name	Result	Qual	Result	Qual
SVOCs				
Benzo(a)anthracene	10	U	10	U
Benzo(a)pyrene	10	U	10	U
Benzo(b)fluoranthene	10	U	10	U
bis(2-Ethylhexyl)phthalate	10	U	10	U
Dibenz(a,h)anthracene	10	U	10	U
Metals				
Arsenic	0.01	U	0.01	U
Cadmium	0.00028	J	0.005	U
Chromium Total	0.01	U	0.01	U
Lead	0.003	U	0.003	U
Manganese	0.015	U	0.015	U
Mercury	0.0002	U	0.0002	U

DAY-14	7/9/2002		4/7/2003		5/31/2006	
Parameter Name	Result	Qual	Result	Qual	Result	Qual
SVOCs						
Benzo(a)anthracene	10	U	10	U	--	
Benzo(a)pyrene	10	U	10	U	--	
Benzo(b)fluoranthene	10	U	10	U	--	
bis(2-Ethylhexyl)phthalate	10	U	10	U	--	
Dibenz(a,h)anthracene	10	U	10	U	--	
Metals						
Arsenic	0.01	U	0.01	U	0.005	U
Cadmium	0.005	U	0.005	U	0.001	U
Chromium Total	0.0027	J	0.01	U	0.002	U
Lead	0.003	U	0.003	U	0.001	U
Manganese	0.025		0.023		--	
Mercury	0.0002	U	0.0002	U	0.0002	U

HD-15	7/16/2002		3/27/2003	
Parameter Name	Result	Qual	Result	Qual
SVOCs				
Benzo(a)anthracene	10	U	10	U
Benzo(a)pyrene	10	U	10	U
Benzo(b)fluoranthene	10	U	10	U
bis(2-Ethylhexyl)phthalate	10	U	10	U
Dibenz(a,h)anthracene	10	U	10	U
Metals				
Arsenic	0.01	U	0.01	U
Cadmium	0.005	U	0.005	U
Chromium Total	0.01	U	0.01	U
Lead	0.003	U	0.003	U
Manganese	0.036		0.089	
Mercury	0.0002	U	0.0002	U

CRITERIA

Chemical Name	GUPUS
SVOCs	
Benzo(a)anthracene	0.92
Benzo(a)pyrene	0.2
Benzo(b)fluoranthene	0.92
bis(2-Ethylhexyl)phthalate	6
Dibenz(a,h)anthracene	0.092
Metals	
Arsenic	0.01
Cadmium	0.005
Chromium	0.100
Lead	0.015
Manganese	NOT AVAILABLE
Mercury	0.002

J Estimated concentration
SVOC Semi-Volatile Organic Compound
U Not Detected
GUPUS Generic unrestricted potable use standards

Notes:
1. SVOC results reported in micrograms per liter; metals results reported in milligrams per liter.

2. "--" indicates that sample results for the analyte are not available; the sample was not analyzed for that analyte.

3. Detections are show in bold text. Yellow-shaded cells indicate exceedance of GUPUS.

4. This figure only includes analytical results for the primary COCs. Refer to the data tables for a complete summary of analytical data associated with each sample.

FIGURE 3.12

WESTON SOLUTIONS

714 E. Monument Ave.
Suite 215
Dayton, Ohio
45402

SVOCs AND METALS IN THE UPPER AQUIFER
FORMER GM DELPHI HARRISON
THERMAL SYSTEMS FACILITY
Dayton, Ohio

J:\12638-03(021)GN-WA023.dwg, 8/15/2017 2:07:38 PM

MW-54-06	11/29/2006		9/19/2012		9/19/2012		9/11/2014		9/11/2014	
Parameter Name	**Result**	**Qual.**	**Result**	**Qual.**	**Result**	**Qual.**	**Result**	**Qual.**	**Result**	**Qual.**
VOCs										
1,1-Dichloroethene	13	U	5	U	--		5	U	--	
Benzene	13	U	5	U	--		5	U	--	
cis-1,2-Dichloroethene	**170**		**215**		--		--		**190**	**D**
Methylene chloride	67	U	5	U	--		5	U	--	
Tetrachloroethene	13	U	**5.66**		--		5	U	--	
Trichloroethene	**360**		--		**370**	**D**	--		**271**	**D**
Vinyl chloride	**4.1**	**J**	**3.77**		--		**7.65**		--	
Metals										
Manganese	0.029		--		--		--		--	

MW-36-05	6/2/2005		6/2/2005		11/7/2006	
Parameter Name	**Result**	**Qual.**	**Result**	**Qual.**	**Result**	**Qual.**
VOCs						
1,1-Dichloroethene	5	U	5	U	5	U
Benzene	5	U	5	U	5	U
cis-1,2-Dichloroethene	**11**		**12**		**72**	
Methylene chloride	25	U	25	U	25	U
Tetrachloroethene	**12**		**11**		**13**	
Trichloroethene	**190**		**190**		**110**	
Vinyl chloride	5	U	5	U	5	U
Metals						
Manganese	--		--		0.051	

MW-40-05	7/18/2005		11/16/2006	
Parameter Name	**Result**	**Qual.**	**Result**	**Qual.**
VOCs				
1,1-Dichloroethene	2.9	U	1	U
Benzene	2.9	U	1	U
cis-1,2-Dichloroethene	**6**		**5**	
Methylene chloride	14	U	5	U
Tetrachloroethene	**27**		**11**	**J**
Trichloroethene	**72**		**64**	
Vinyl chloride	2.9	U	1	U
Metals				
Manganese	--		--	

MAD RIVER

MW-36-05

MW-54-06

MW-40-05

WEBSTER STREET

TAYLOR STREET

AMELIA STREET

PITT STREET

CSX TRANSPORTATION

BUILDING G

CTA BUILDING

GEOTHERMAL-WELL

BLDG. 24, BLDG. 6, BLDG. 20, BLDG. 22, BLDG. 16, BLDG. 15, BLDG. 12, BLDG. 1, BLDG. 1A, BLDG. 27, BLDG. 4, BLDG. 3, BLDG. 7, BLDG. 2, BLDG. 5, BLDG. 9, BLDG. 10, BLDG. 13, BLDG. G-4

N

0 30 60ft

LEGEND

- MAD RIVER SHORELINE
- MONITORING WELL
- SAMPLE LOCATION
- SAMPLE DATE
- RESULT
- PARAMETER

MW-40-05	7/18/2005	
Parameter Name	**Result**	**Qual.**
VOCs		
1,1-Dichloroethene	2.9	U
Benzene	2.9	U
cis-1,2-Dichloroethene	**6**	
Methylene chloride	14	U
Tetrachloroethene	**27**	
Trichloroethene	**72**	
Vinyl chloride	2.9	U
Metals		
Manganese	--	

CRITERIA

Chemical Name	GUPUS
VOCs	
1,1-Dichloroethene	7
Benzene	5
cis-1,2-Dichloroethene	70
Methylene chloride	5
Tetrachloroethene	5
Trichloroethene	5
Vinyl chloride	2
Metals	
Manganese	Not Available

J Estimated concentration
U Not Detected
VOC Volatile Organic Compound
GUPUS Generic unrestricted potable use standards

Notes:
1. All VOCs results reported in micrograms per liter; metals results are reported in milligrams per liter.

2. "--" indicates that sample results for the analyte are not available; the sample was not analyzed for that analyte.

3. Detections are show in bold text. Yellow-shaded cells indicate exceedance of GUPUS.

4. This figure only includes analytical results for the primary COCs. Refer to the data tables for a complete summary of analytical data associated with each sample.

The primary direction of groundwater flow in the till-rich zone is vertically downward (CRA, 2006).

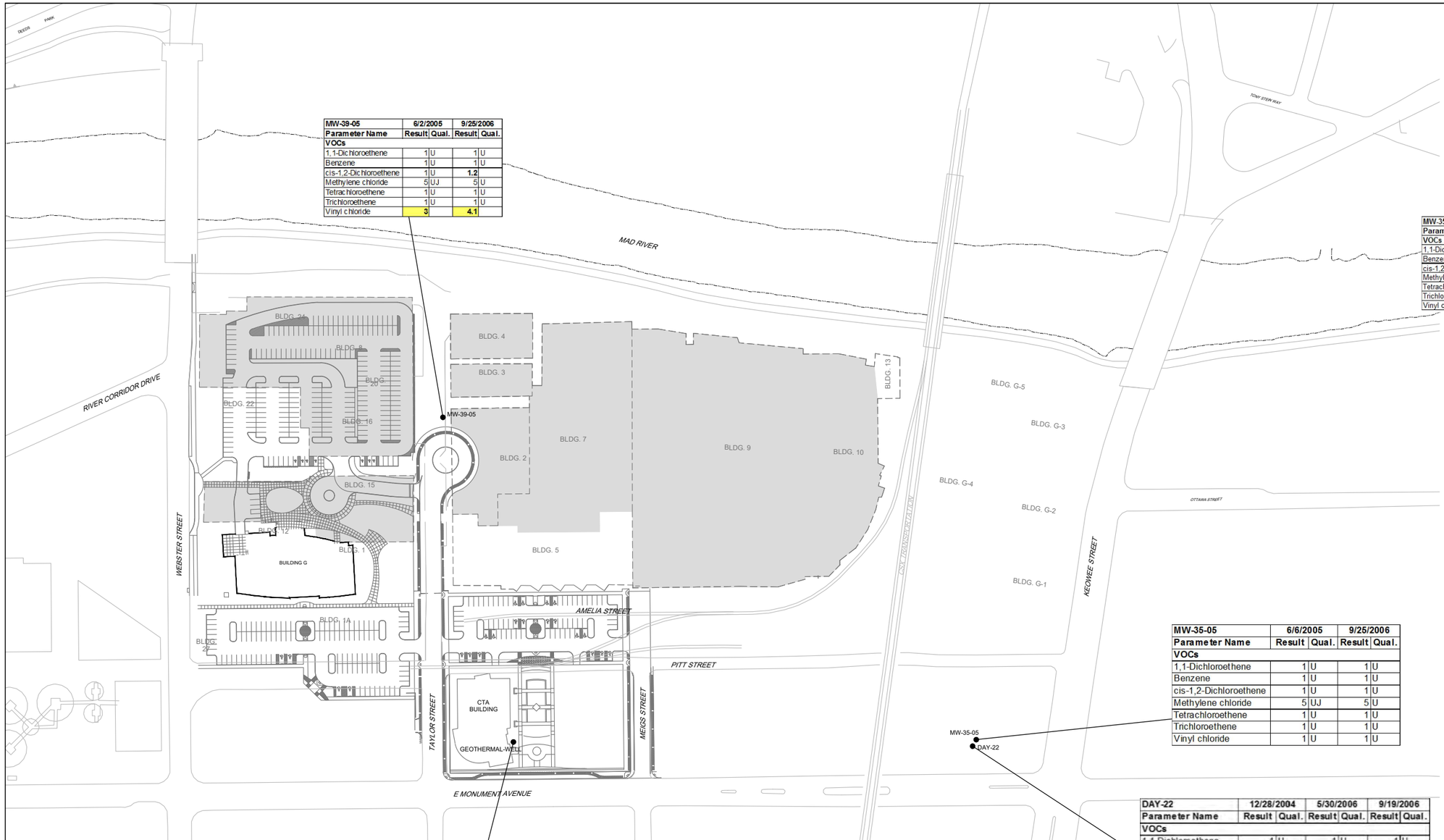
FIGURE 3.13

WESTON SOLUTIONS®

714 E. Monument Ave.
Suite 215
Dayton, Ohio
45402

PRIMARY COCs IN THE TILL RICH ZONE
FORMER GM DELPHI HARRISON
THERMAL SYSTEMS FACILITY
Dayton, Ohio

J:\12638-03(021)GN-WA017.dwg, 8/1/2017 10:30:59 AM



MW-39-05	6/2/2005		9/25/2006	
Parameter Name	**Result**	**Qual.**	**Result**	**Qual.**
VOCs				
1,1-Dichloroethene	1	U	1	U
Benzene	1	U	1	U
cis-1,2-Dichloroethene	1	U	**1.2**	
Methylene chloride	5	UJ	5	U
Tetrachloroethene	1	U	1	U
Trichloroethene	1	U	1	U
Vinyl chloride	**3**		**4.1**	

LEGEND

- MAD RIVER SHORELINE
- MONITORING WELL
- SAMPLE LOCATION
- SAMPLE DATE
- RESULT
- PARAMETER

MW-35-05	6/6/2005		9/25/2006	
Parameter Name	**Result**	**Qual.**	**Result**	**Qual.**
VOCs				
1,1-Dichloroethene	1	U	1	U
Benzene	1	U	1	U
cis-1,2-Dichloroethene	1	U	1	U
Methylene chloride	5	UJ	5	U
Tetrachloroethene	1	U	1	U
Trichloroethene	1	U	1	U
Vinyl chloride	1	U	1	U

CRITERIA

Chemical Name	GUPUS
VOCs	
1,1-Dichloroethene	7
Benzene	5
cis-1,2-Dichloroethene	70
Methylene chloride	5
Tetrachloroethene	5
Trichloroethene	5
Vinyl chloride	2
PCBs	
Total PCBs	0.5
Metals	
Arsenic	0.001
Cadmium	0.005
Chromium, Total	0.1
Lead	0.0015
Manganese	NOT AVAILABLE
Mercury	0.002

J	Estimated concentration
PCB	Polychlorinated Biphenyl
U	Not Detected
UJ	Estimated reporting limit
VOC	Volatile Organic Compound
GUPUS	Generic unrestricted potable use standards

MW-35-05	6/6/2005		9/25/2006	
Parameter Name	**Result**	**Qual.**	**Result**	**Qual.**
VOCs				
1,1-Dichloroethene	1	U	1	U
Benzene	1	U	1	U
cis-1,2-Dichloroethene	1	U	1	U
Methylene chloride	5	UJ	5	U
Tetrachloroethene	1	U	1	U
Trichloroethene	1	U	1	U
Vinyl chloride	1	U	1	U

DAY-22	12/28/2004		5/30/2006		9/19/2006	
Parameter Name	**Result**	**Qual.**	**Result**	**Qual.**	**Result**	**Qual.**
VOCs						
1,1-Dichloroethene	1	U	1	U	1	U
Benzene	1	U	1	U	1	U
cis-1,2-Dichloroethene	1	U	1	U	1	U
Methylene chloride	5	U	5	U	5	U
Tetrachloroethene	1	U	1	U	1	U
Trichloroethene	1	U	1	U	1	U
Vinyl chloride	1	U	1	U	1	U
PCBs						
Total PCBs	–		0.2	U	–	
Metals						
Arsenic	0.005	U	0.005	U	–	
Cadmium	0.001	U	0.001	U	–	
Chromium, Total	0.002	U	0.002	U	–	
Lead	0.001	U	0.001	U	–	
Manganese	–		–		–	
Mercury	0.0002	U	0.0002	U	–	

TT-Geothermal	5/8/2009		3/25/2010		4/13/2010		6/29/2010		9/13/2010		12/30/2010		3/23/2011		9/8/2011		12/14/2011		3/16/2012		6/14/2012		8/17/2012		9/27/2013		9/4/2014		10/3/2014	
Parameter Name	**Result**	**Qual.**	**Result**	**Qual.**	**Result**	**Qual.**	**Result**	**Qual.**	**Result**	**Qual.**	**Result**	**Qual.**	**Result**	**Qual.**	**Result**	**Qual.**	**Result**	**Qual.**	**Result**	**Qual.**	**Result**	**Qual.**	**Result**	**Qual.**	**Result**	**Qual.**	**Result**	**Qual.**	**Result**	**Qual.**
VOCs																														
1,1-Dichloroethene	5	U	–		–		–		--		–		–		–		--		--		–		--		--		–		–	
Benzene	5	U	–		–		–		--		–		–		–		--		--		–		--		--		–		–	
cis-1,2-Dichloroethene	--		1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	–	
Methylene chloride	5	U	–		–		–		--		–		–		–		--		--		–		--		--		–		–	
Tetrachloroethene	5	U	–		–		–		--		–		–		–		--		--		–		--		--		–		–	
Trichloroethene	5	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	–	
Vinyl chloride	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	–	
Metals																														
Arsenic	**0.00583**		–		–		–		--		–		–		–		--		--		–		--		--		–		0.01	U
Cadmium	0.0002	U	–		–		–		--		–		–		–		--		--		–		--		--		–		0.001	U
Chromium, Total	0.005	U	–		–		–		--		–		–		–		--		--		–		--		--		–		0.005	U
Lead	0.002	U	–		–		–		--		–		–		–		--		--		–		--		--		–		0.005	U
Manganese	**0.239**		–		–		–		--		–		–		–		--		--		–		--		--		–		–	
Mercury	0.0002	U	–		–		–		--		–		–		–		--		--		–		--		--		–		0.0002	U

Notes:
1. VOC and PCB results reported in micrograms per liter; metals results reported in milligrams per liter.

2. "--" indicates that sample results for the analyte are not available; the sample was not analyzed for that analyte.

3. Detections are show in bold text. Yellow-shaded cells indicate exceedance of GUPUS.

4. This figure only includes analytical results for the primary COCs. Refer to the data tables for a complete summary of analytical data associated with each sample.

Regionally, flow in the lower aquifer trends to the southwest; however, the lower aquifer is widely tapped by regional water production wells which create a localized capture zones that change flow conditions. For example, a Geothermal Well located approximately 650 feet west of the Site, continuously extracts lower aquifer groundwater and creates a capture zone in the lower aquifer that encompasses the Site (CRA, 2006).

FIGURE 3.14

WESTON SOLUTIONS®

714 E. Monument Ave.
Suite 215
Dayton, Ohio
45402

PRIMARY COCs IN THE LOWER AQUIFER
FORMER GM DELPHI HARRISON
THERMAL SYSTEMS FACILITY
Dayton, Ohio

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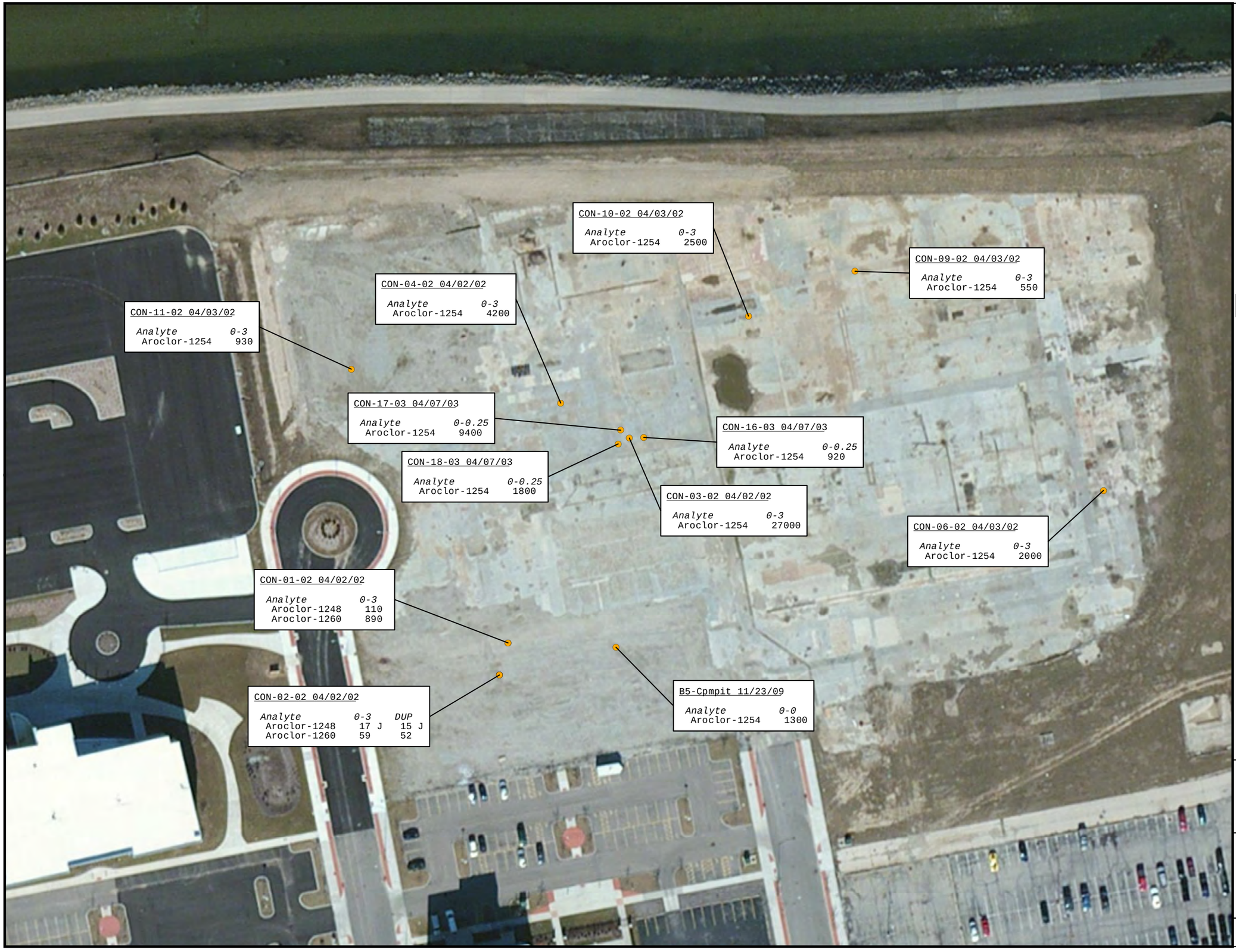
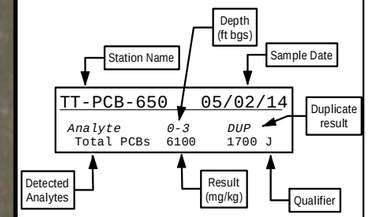


LEGEND

Concrete Sampling Locations

Notes:
- All results in ug/kg



N

0 80 160

Feet

Imagery Source: City of Dayton

WESTON SOLUTIONS

FIGURE 3.15
DETECTED PCBS IN CONCRETE
FORMER GM DELPHI HARRISON
THERMAL SYSTEMS FACILITY
DAYTON, OHIO

JUN 2017	PROJECT NO 12473.005.008.0450	SCALE AS SHOWN

FILE: J:\GIS_Projects\12473_CITY_OF_DAYTON_OHIO\12473_CITY_OF_DAYTON_OHIO\Dayton Technology Campus\GIS\Figure 3.15 PCBs in Concrete_20170608.mxd 3:59:19 PM 6/8/2017 Thummaj

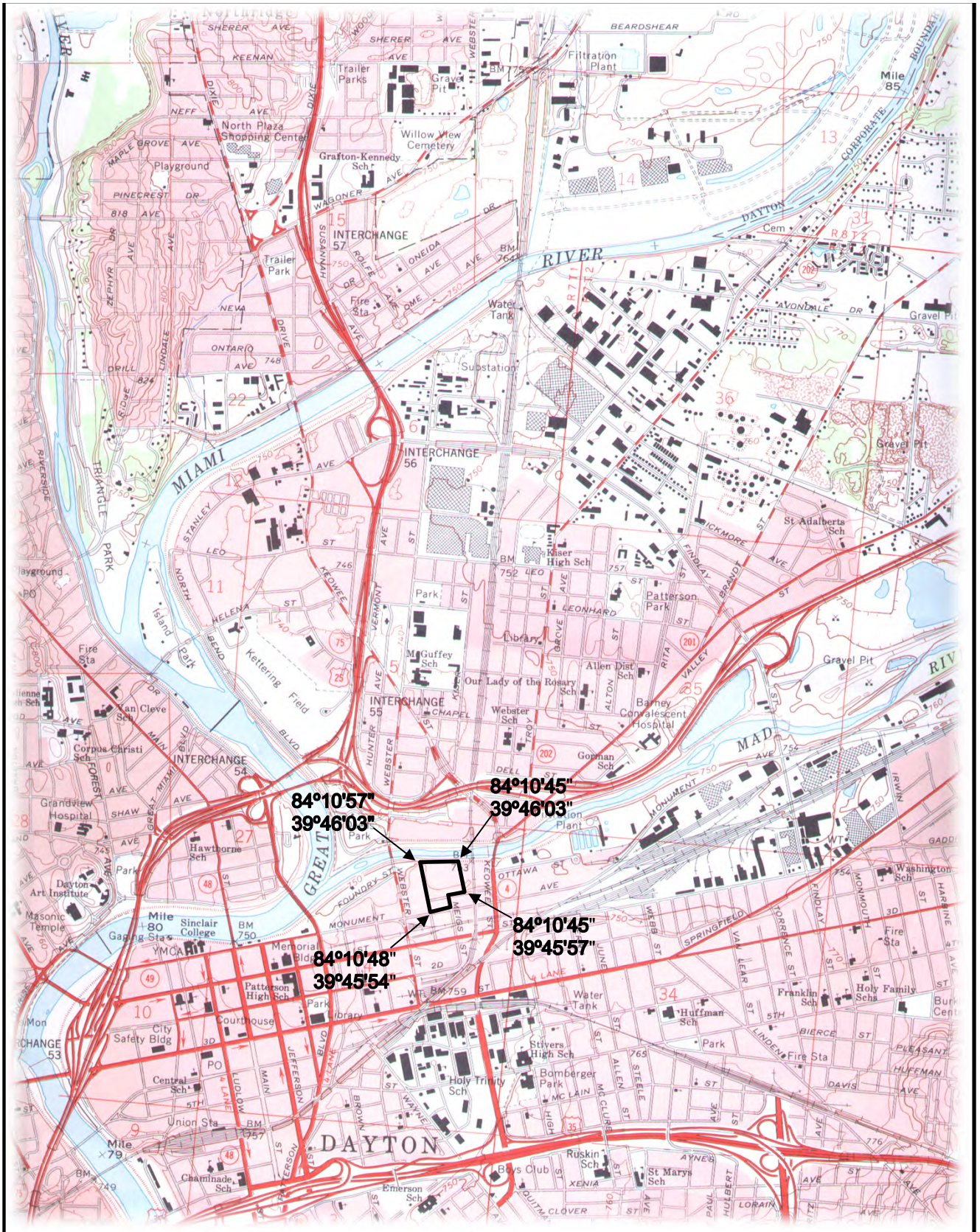
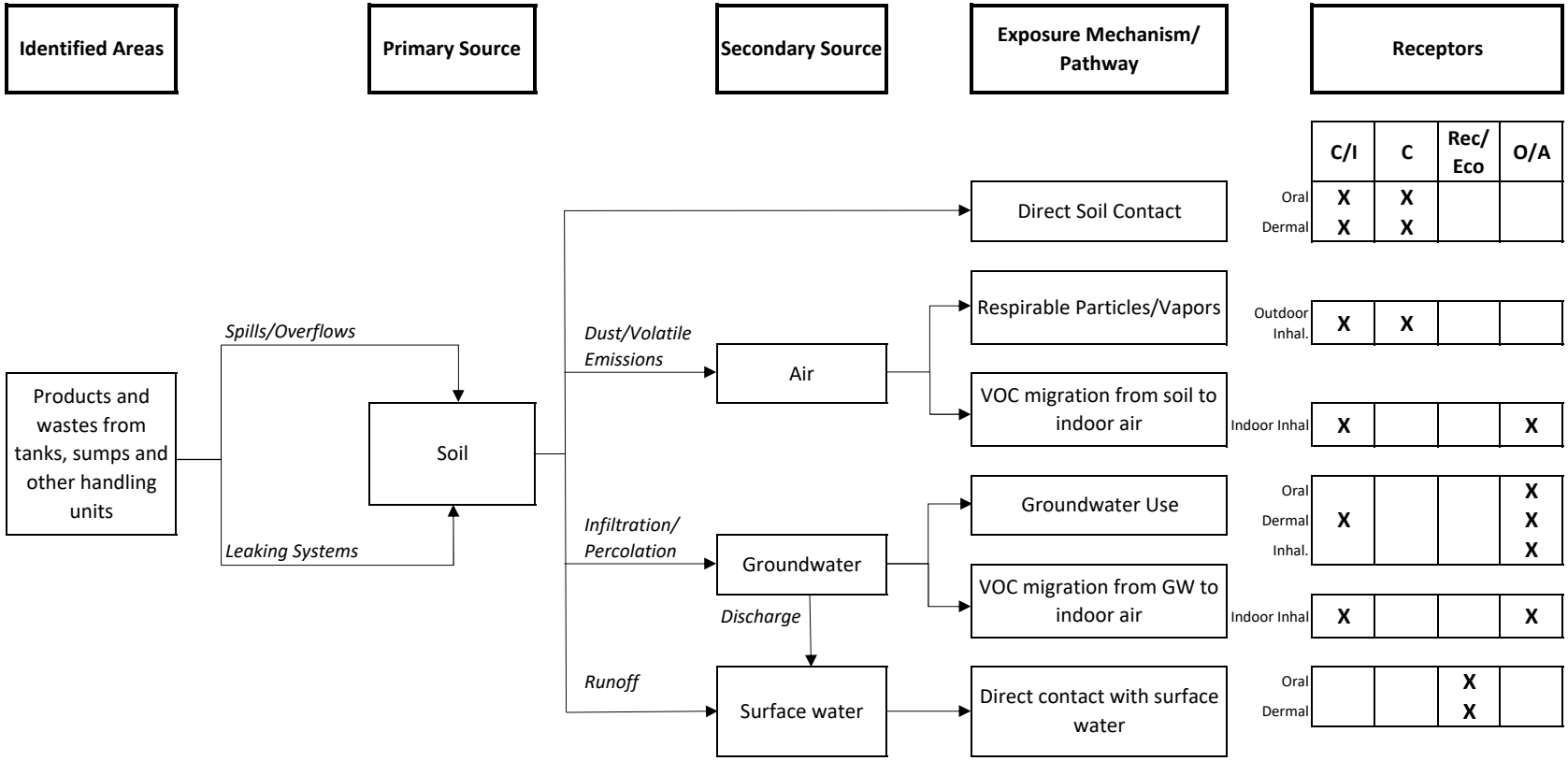


Figure 4.1 - Topographic Map

Modified from the 1965 and the 1992 Revised, Dayton North, Ohio 7.5-minute Quadrangle USGS Topographic Map

Figure 5.1
Conceptual Site Model
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio



C/I - Commercial/Industrial Worker and Visitor/Patron
C - Construction/Redevelopment Worker
Rec/Eco - Recreational/Ecological Use of Mad River
O/A - Occupants of Adjacent Properties

LEGEND

- FORMER BUILDING FOOTPRINT
- MAD RIVER SHORELINE
- BUILDING SLAB
- PR — FORMER PROCESS SEWER LINE
- STM — STORM SEWER LINE
- IDENTIFIED AREA (IA)
- EXPOSURE UNIT (EU)

PROPERTY-WIDE IA's:
IA 18/19 (SEWERS)
IA GW (UPGRADIENT SOURCES)

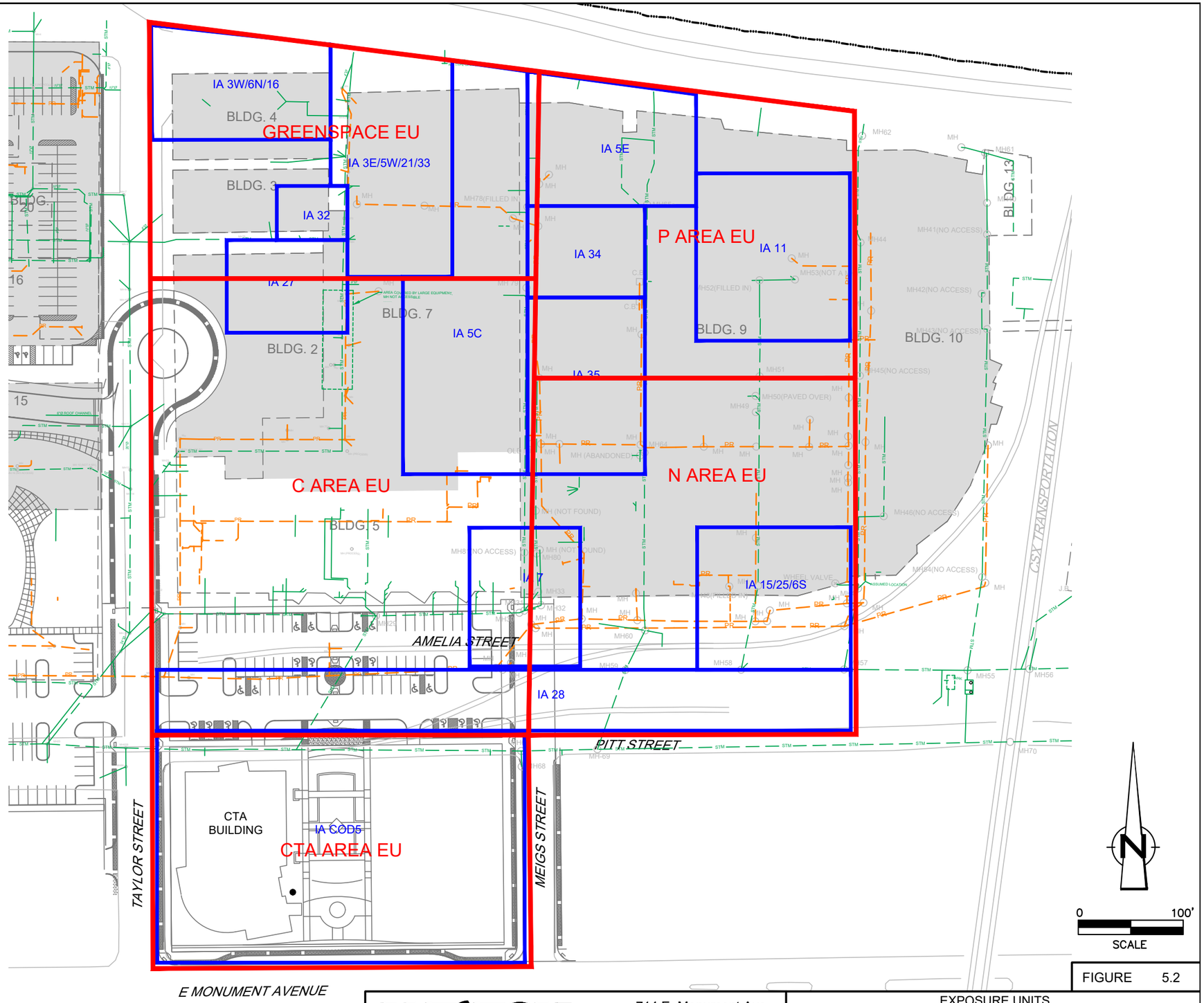


FIGURE 5.2

WESTON SOLUTIONS
714 E. Monument Ave.
Suite 215
Dayton, Ohio
45402

EXPOSURE UNITS
FORMER GM DELPHI HARRISON
THERMAL SYSTEMS FACILITY
Dayton, Ohio

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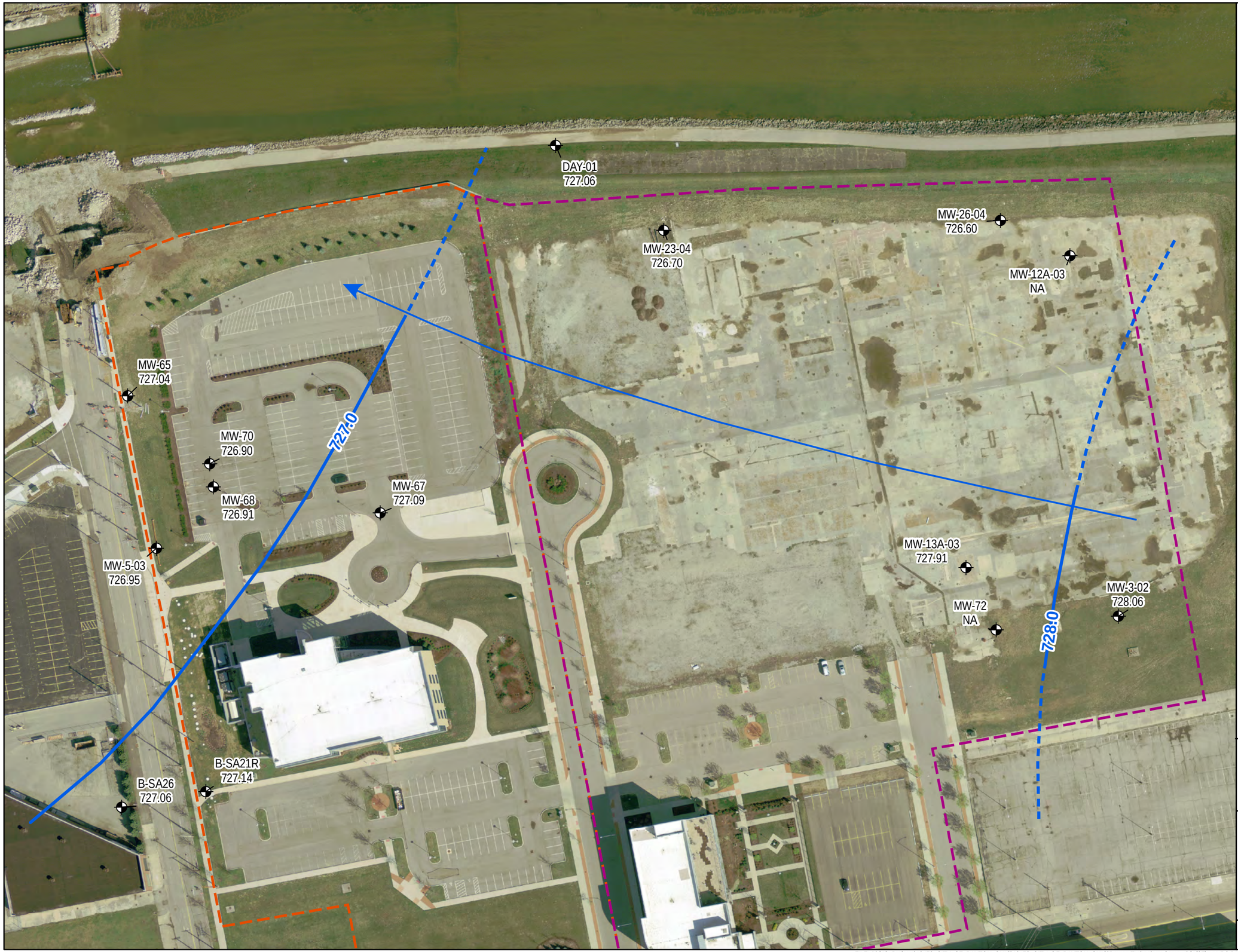

LEGEND

- Monitoring Well with Groundwater Elevation Shown in Feet Above Mean Sea Level (AMSL)
- Potentiometric Surface May 2015
- East Phase Boundary
- West Phase Boundary

Notes:
- Generalized potentiometric surface contours are depicted; some localized flow vector variations occur
- All wells screened in the Upper Aquifer : Water Table
- NA - The well was not used to determine potentiometric surface

N

0 100 200
Feet

AERIAL SOURCE: City of Dayton

WESTON SOLUTIONS

FIGURE 5.3
POTENTIOMETRIC SURFACE MAP
MAY 2015
FORMER GM/DELPHI HARRISON
THERMAL SYSTEMS FACILITY
DAYTON, MONTGOMERY COUNTY, OHIO

APR 2018	PROJECT NO 12473.005.008.0590	SCALE AS SHOWN

FILE: J:\GIS_Projects\12473_CITY_OF_DAYTON_OHIO\12473_CITY_OF_DAYTON_OHIO\Dayton Technology Campus\GIS\Figure 5.3 Potentiometric Surface Map May 2015.mxd 4:07:48 PM 4/16/2018 MYERSJT

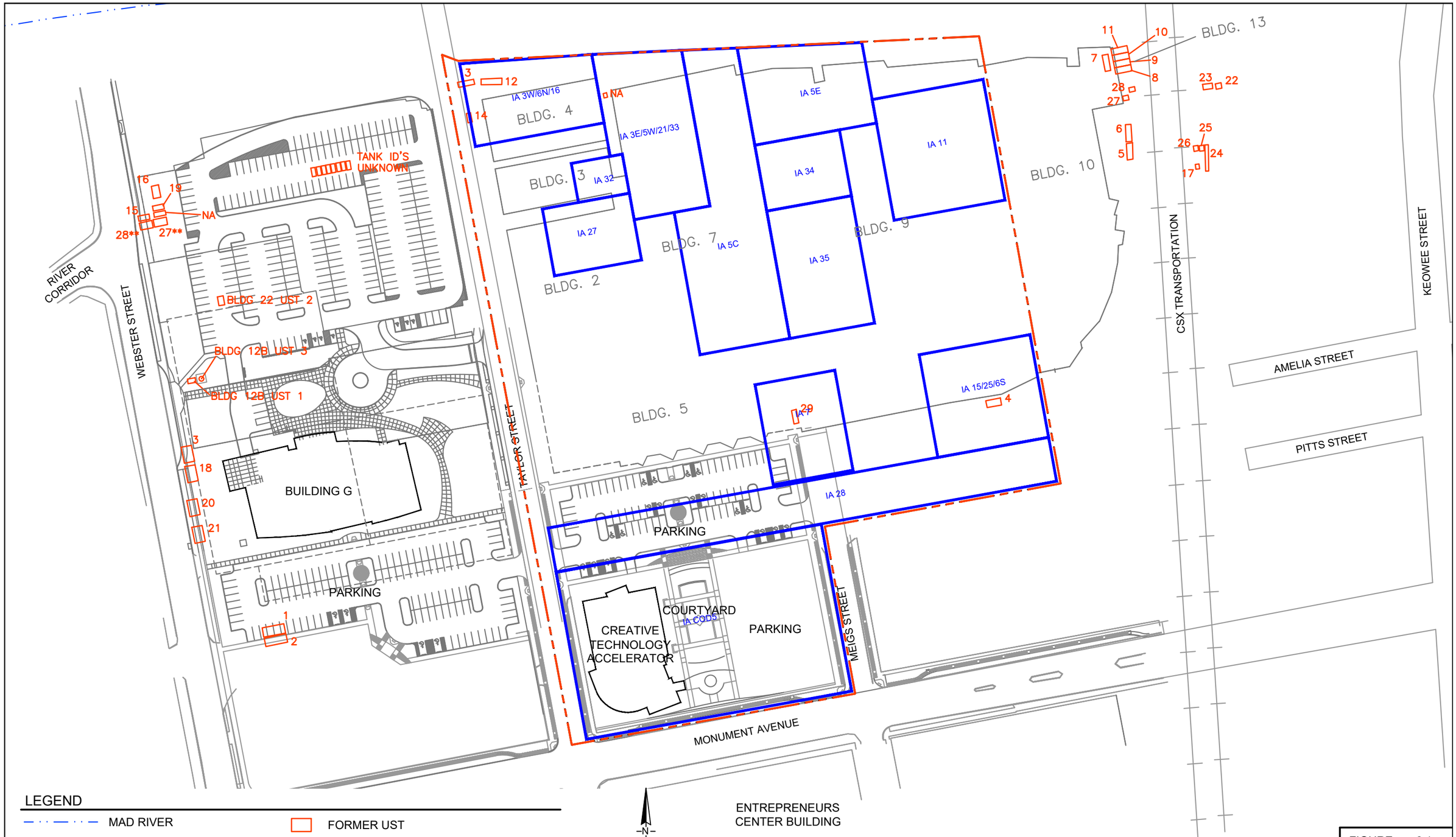

FIGURE 6.1

WESTON SOLUTIONS

714 E. Monument Ave.
Suite 215
Dayton, Ohio
45402

UNDERGROUND STORAGE TANK AREAS
FORMER GM DELPHI HARRISON
THERMAL SYSTEMS FACILITY
Dayton, Ohio

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MAD RIVER

RRIDOR DRIVE

WEBSTER STREET

BLDG. 24

BLDG. 8

BLDG. 20

BLDG. 22

BLDG. 16

BLDG. 15

BLDG. 12

BUILDING G

BLDG. 1

BLDG. 1A

BLDG. 27

IA 3W/6N/16

BLDG. 4

IA 3E/5W/21/33

BLDG. 3

IA 32

IA 27

BLDG. 2

BLDG. 7

IA 5C

IA 5E

IA 34

IA 11

BLDG. 9

BLDG. 10

BLDG. 13

IA 35

BLDG. 5

IA 7

IA 15/25/6S

PTT-091108-TS

AMELIA STREET

IA 28

PITT STREET

LEAD CONTAMINATED SOIL

CTA BUILDING

IA GOD5

GEOTHERMAL-WELL

GS16

TAYLOR STREET

MEIGS STREET

E MONUMENT AVENUE

CSX TRANSPORTATION

BLDG. G-5

BLDG. G-3

BLDG. G-4

BLDG. G-2

BLDG. G-1

KEOWEE STREET

N

0 120'

SCALE

LEGEND

- MAD RIVER SHORELINE
- EAST PHASE PROPERTY BOUNDARY
- FORMER BUILDING FOOTPRINT
- IDENTIFIED AREA
- BUILDING SLAB
- R.O.W. RIGHT-OF-WAY
- SOIL REMOVAL AREA

FIGURE 6.2

WESTON SOLUTIONS

714 E. Monument Ave.
Suite 215
Dayton, Ohio
45402

SOIL REMOVAL AREAS
FORMER GM DELPHI HARRISON
THERMAL SYSTEMS FACILITY
Dayton, Ohio

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TABLES

TABLE 2.1
SUMMARY OF IDENTIFIED AREAS AND AREAS OF INTEREST
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

GM AOI	Corresponding Identified Area	Location	Description	COCs
AOI 3: Waste Tank (N. Bldg. 4)	IA 3W/6N/16: Building 4 Tank Area: Location of USTs, ASTs, a spill interceptor, and waste tank sump located north, east, and west of Building 4	North/Northwest of Former Building 4	This AOI was the former location of a 2,000 gallon waste tank (AST) and sump used to store waste oil and solvents. RCRA closure of this AST was approved by OEPA in 2002.	Petroleum products and solvents.
AOI 6: Spill Interceptor tank (N. Bldg. 4)		North of former Building 4	This AOI is the location of a 10,000 gallon (UST) spill interceptor tank that was cleaned and inspected in 1998. The interceptor was designed to receive any waste or product spilled in the Building 4 Tank Area. RCRA closure of the tank was approved by OEPA in 2002.	Petroleum products and solvents.
AOI 16: Fuel USTs		Northwest of Former Building 4	This AOI is the former location of three USTs that were used to store fuel and were installed in approximately 1974. The AOI included a 10,000 gallon unleaded gasoline UST that was removed in 1992, a 5,500 gallon regular gasoline/diesel fuel UST that was removed in 1992, and a 2,000 gallon diesel fuel UST that was removed in 1989. A release was reported for the 2,000 gallon UST in 1989, but an NFA letter was received from BUSTR in 1993. A release was also reported for the 10,000 gallon UST and the 5,500 gallon UST. Several ASTs storing gasoline and diesel fuel were also used in this area.	Petroleum Products
AOI 3: Waste Tank (E. Bldg. 4)	IA 3E/5W/21/33: hydromation pit, tanks, electroplating, and product storage area	East of Former Building 4	This AOI was the former location of a 1,000 gallon waste tank (UST) used to store scrap oil, solvents, and scrap kerosene. A release occurred from this UST in 1971 which entered a storm sewer. Oil and solvents were also removed from the ground surface. This tank was removed in approximately 1978.	Petroleum products and chlorinated solvents.
AOI 33: Paint and Enamel Storage		North end of Former Building 7	This AOI is the former location of a paint and enamel storage area that was reportedly located outside at the north end of building 7. This area was identified on the 1943 insurance map.	Metals, petroleum products, VOCs
AOI 5: Electroplating (Bldg. 7)		Former Building 7	This AOI is the location of former plating operations located in the northwestern portion of Former Building 7. The plating operations consisted of multiple electroplating lines that used tanks and trenches. Wastes initially were discharged to the POTW and later in 1980 discharged to the WWTP.	Metals (including Zn, Cd, Cu, Sn, Cr), cyanide, VOCs

TABLE 2.1
SUMMARY OF IDENTIFIED AREAS AND AREAS OF INTEREST
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

GM AOI	Corresponding Identified Area	Location	Description	COCs
AOI 21: Hydromation Pit		Beneath former Building 7	This AOI is the location of a concrete pit used to re-circulate non-hazardous oil. The pit is located within an integral basement area to Building 7. The depth of the pit is reported to be between 10 to 14 feet deep and was backfilled with miscellaneous fill materials. LNAPL was discovered in this area and was investigated and delineated. Sanborn maps also identify three 800-gallon storage tanks in pit in this area. The opening to the basement was backfilled to slab level with reengineered fill during demolition.	Petroleum Products, PCBs
AOI 4: Hazardous waste staging area	NA: Areas within a former building with no documented release to environment	Building 5	A cage in the southeast corner of Building 5 was used as a storage area for miscellaneous drummed liquid and solid hazardous waste from 1980 to 1989. The area was a RCRA unit and was cleaned and closed. OEPA acknowledged the unit closure by letter dated December 29, 1998.	Not identified as IA
AOI 5: Electroplating (Bldg. 7)	IA5C: Electroplating area	Former Building 7	This AOI is the location of former plating operations located in the central-eastern portion of Former Building 7.	Metals (including Zn, Cd, Cu, Sn, Cr), cyanide, VOCs
AOI 5: Electroplating (Bldg. 9)	IA5E: Electroplating area	Former Building 9	This AOI is the location of former plating operations located in the northwestern portion of Former Building 9. The plating operations consisted of multiple electroplating lines that used tanks and trenches. Wastes initially were discharged to the POTW and later in 1980 discharged to the WWTP.	Metals (including Zn, Cd, Cu, Sn, Cr), cyanide, VOCs
AOI 7: Solvent storage tank	IA 7: UST and PCB area	South of Building 7 and north end of Meigs Street	A 10,000 gallon UST was present beneath the building 7 loading dock. The UST was used to store dirty Stoddard solvent. The UST was closed-in-place by GM in 2001 and was removed by the City in 2010. The UST area is closely located to an area in which stained soil was observed around a sewer line during the Meigs Street improvement project. The soil was removed to the extent needed to complete the infrastructure project and the stockpile assessed. PCBs were detected at 200 mg/kg in the stockpiled soil. The soil was disposed off-site by GM.	Petroleum hydrocarbons, VOCs, SVOCs, PCBs

TABLE 2.1
SUMMARY OF IDENTIFIED AREAS AND AREAS OF INTEREST
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

GM AOI	Corresponding Identified Area	Location	Description	COCs
AOI 10: Paint Waste Accumulation Areas	NA: Areas within a former building with no documented release to environment	Former Building 9	This AOI is the former location of a paint waste accumulation area located in the northwestern portion of Building 9. The paint waste accumulation areas have been used since the early 1970s. All waste paint accumulation areas were cleaned and/or removed from the site.	Not identified as IA
AOI 11: Chip handling areas	IA 11: Chip handling area	Former Building 9	Oil reclamation was conducted in Building 9 beginning in 1986 and metal chips (aluminum, cast iron and steel) were loaded into trucks in the northeast corner of Building 10 for transportation off Site.	VOCs, SVOCs, Petroleum Products, PCBs, Metals
AOI 15: Hydraulic Oil UST	IA 15/25/6S: Hydraulic oil UST, ASTs, and spill interceptor	South of Former Building 9	This AOI is the former location of a 10,000 gallon UST used to store hydraulic oil from approximately 1971 to 1982. The UST was removed in 1989. Soil samples indicated that low levels of TPH were present; however no evidence of a release was noted.	Petroleum Products, PCBs
AOI 25: Hydrochloric Acid Spills		South of Former Building 9	Hydrochloric acid was stored in ASTs south of Building 9. Spills from the tanks were documented during the operational history of the facility.	Metals
AOI 6: Spill Interceptor		South of Former Building 9	The area south of Building 9 was used for truck unloading. According to the RFI, hydraulic oil and Quaker 568 coolant were unloaded in this area and routed to a 10,000-gallon AST south of Building 9, and a 10,000-gallon AST northeast of Building 10, respectively. The concrete truck unloading area was sloped towards two trench drains that could be drained by valves to the storm sewer or the 10,000-gallon spill interceptor tank, which was installed in 1977.	Petroleum products, PCBs

TABLE 2.1
SUMMARY OF IDENTIFIED AREAS AND AREAS OF INTEREST
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

GM AOI	Corresponding Identified Area	Location	Description	COCs
AOI 18: Storm Sewers	IA 18/19: Underground Sewers	Property - wide	In 1971, Delphi identified various connections allowing discharges of process wastewater to the storm sewers. These connections were eliminated in 1971. Non-contact cooling water, water from the basement dewatering sumps, and stormwater runoff were discharged by outfalls to the Mad River. Four of these outfalls were located on the Property. Storm sewer interceptors were installed upstream of the outfalls in 1977. Wooden sewers were identified along Amelia Street near Buildings 5 and 7. Various releases to storm sewers on the Property have been reported, including releases of PCE (1975), refrigerant oil (1975), rotofinish product (1990), process wastewater (1990), and oil (1993). GM conducted sewer cleaning and abandonment activities for the Property as an interim remedial measure in 2006.	Metals, VOCs, Petroleum products, cyanide, PCBs
AOI 19: Process Sewers		Property - wide	Historically, sanitary and process sewers were combined and discharged to the City of Dayton POTW. In 1981, the GM WWTP began operation. Sanitary sewer lines were installed overhead, and sanitary and process wastes were segregated. Process sewer lines were divided into plating wastes (from adjacent Building 9) and general oily waste and routed to the WWTP for treatment prior to discharge to the POTW. Process sewers were cleaned as part of decommissioning activities. All process manholes, sewer pits, and sumps were filled with concrete. Stained soil was observed around a sewer line during the Meigs Street improvement project in the area of Amelia Street. The stained soil was stockpiled, sampled, and removed from the site. The sample contained 200 mg/kg of PCBs.	Metals, VOCs, Petroleum products, cyanide, PCBs
AOI 20: PCB Releases from Electrical Equipment	NA: Areas within a former building with no documented release to environment	Former Buildings 5 and 7	Electrical vaults that formerly contained transformers or capacitors with PCB-containing dielectric fluids were located in the basement of former Building 5 (vault #1), the roof of former Building 7 (vault #33), and south of former Building 5 (switch room). GM conducted remedial activities between 1995 and 1997 to address releases from the electrical equipment in several vaults and complete decommissioning activities. WESTON conducted Remedial measures for Vault 33 were conducted during demolition pursuant to a TSCA self-implementing cleanup. The switch room and Building 5 basement were backfilled during demolition.	Not identified as IA

TABLE 2.1
SUMMARY OF IDENTIFIED AREAS AND AREAS OF INTEREST
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

GM AOI	Corresponding Identified Area	Location	Description	COCs
AOI 26: Potential PCB Releases from Process Equipment	NA: Areas within a former building with no documented release to environment	Former Buildings 2,3,7, and 9	PCBs were identified in process equipment located in former Buildings 2, 3, 7, and 9 during decommissioning activities. Oil containing PCBs was removed from equipment and sent off site for incineration. Oily residues containing PCBs were also identified in ductwork and exhaust fans throughout the buildings and were removed during decommissioning. Remedial measures for wood flooring were conducted during demolition pursuant to a TSCA self-implementing cleanup.	PCBs (building materials)
AOI 27: Battery Charging Stations	IA 27: Battery charging station	Former Building 2	This AOI was located inside former building 2. Deteriorated concrete flooring was observed in the former location of the battery charging station in building 2 in 1994. RFI sampling was conducted by GM in this area.	Metals
AOI 28: Former Miami Canal Extension	IA 28: Former Miami Canal extension	Between former Pitts Street and Amelia Street	This AOI is the location of the former Miami Canal extension, which was backfilled in the 1950s.	VOCs, metals, petroleum products, PCBs
AOI 32: Former Transformer (Bldg. 3)	IA 32: Transformer location south of Building 3.	South side of Former Building 3	This AOI is the location of a former transformer located adjacent to Building 3. According to records this transformer was located at ground level and is shown on the 1943 insurance map.	PCBs
AOI 34: Parts Grinding	IA 34: Parts grinding	Former Building 9	This AOI was located inside former building 9 near the northwest portion of the building. It consisted of a parts grinding area and was identified on the 1943 insurance map.	VOCs, Petroleum products, PCBs
AOI 35: Storage Tanks	IA 35: Storage Tanks	Former Building 9	This AOI was located inside former building 9 along the west central portion of the building. It consisted of storage tanks and was identified on the 1943 insurance map	VOCs, Petroleum products, PCBs, Metals
NA	IA GW: Groundwater with potential for impact to Property from off-Property sources	Property-wide	Several sites located upgradient of the Property had regulatory listings deemed to indicate the potential to impact the Property through groundwater migration. Multiple AOIs located on the former GM site but off the Property indicate the potential to have impacted the Property. Light non-aqueous phase liquid (LNAPL) has been identified in a monitoring well near the eastern boundary of the Property. The LNAPL originates in the former Chip Handling area (AOI 11), which is off the Site to the east. PCBs have been detected in samples from the Chip Handling LNAPL plume at concentrations up to 1,120 mg/kg.	Petroleum products, metals, VOCs, PCBs,

TABLE 2.1
SUMMARY OF IDENTIFIED AREAS AND AREAS OF INTEREST
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

GM AOI	Corresponding Identified Area	Location	Description	COCs
NA	IA COD-5: Historic uses of parking lot	Parking lot south of Pitt Street	Used as a parking lot since the 1950s. Identified as a AOC due to historical use as a millwright shop, machine shop, cooper shop, and coal pile storage.	Petroleum products, VOCs, SVOCs, Metals, PCBs

Notes:

AOI = Area of interest
AST = Aboveground storage tank
BUSTR = Bureau of Underground Storage Tank Regulations
COCs = Chemicals of concern
EU = Exposure Unit
IA = Identified Area
GM = General Motors
mg/kg = Milligram per kilogram
NFA = No further action
PCB = Polychlorinated biphenyl
PCE = Tetrachloroethene
POTW = Publicly owned treatment works
RCRA = Resource Conservation and Recovery Act
SVOCs = Semivolatile organic compounds
UST = Underground storage tank
VOCs = Volatile organic compounds
WESTON = Weston Solutions, Inc.
WWTP = Wastewater treatment plant
NA = Not applicable

TABLE 3.1
PHASE II ASSESSMENT REPORTS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS PLANT SITE
DAYTON, OHIO

Assessment Report	Issued By	Date Issued	Objectives
Report of Phase II Property Assessment Summary	SRW	6-5-2003	Summarize Phase II activities documented in reports by SRW, CRA, and H&A for use as part of the Clean Ohio Application.
Phase II Property Assessment Report Addendum	SRW	2-25-2002	Collect additional soil and groundwater data to supplement the 2001 Phase II report. *Note no samples were collected on the Property during this investigation due to denied access.*
Report of Phase II Property Assessment, Proposed Tool Town Development	SRW	4-26-2001	Evaluate soil and groundwater quality in the area of the proposed development. *Note no samples were collected on the Property during this investigation due to denied access.*
RFI Report	CRA	3-30-2006	Determine whether areas of interest (AOIs) have released hazardous waste or hazardous constituents that pose a significant risk to human health or the environment. Determine whether current human exposures are under control, whether the migration of contaminated groundwater is under control, and Support decisions regarding whether any interim or final corrective measures are warranted.
RFI Report Addendum 1	CRA	12-14-2006	As a supplement to the RFI Report to describe additional areas of interest discovered during demolition activities and document the associated sampling and removal activities.
RFI Report Addendum 2	CRA	1-12-2007	Further characterize the groundwater to confirm the environmental indicator determinations and support corrective measure decisions. Evaluate potential exposure scenarios associated with soil movement during redevelopment activities. Further evaluate risk associated with soil and groundwater characterization data in the vicinity of Building 5.
RFI Report Addendum 3	CRA	9-17-2008	As a supplement to the RFI report to describe and document additional data collected including soil, groundwater, borehole water, soil gas, and geophysical characterization
Concrete PCB Screening Report	WESTON	5-2005	Document the results of samples of the concrete floors that were collected and analyzed for PCBs as a screening technique to aid in making decisions for managing concrete during demolition and redevelopment.

TABLE 3.2
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 3E/5W/21/33, 0-2 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	MW-14B-04		MW-23-04		MW-23-04		MW-24-04		SB-14-02		SB-15-02		SB-34-02		SB-36-02		SB-37-02		SB-92-03		SB-93-03		TT-SB250		Maximum Detected Concentration	
			Field Sample ID:	MW-14B-04		MW-23-04 DUP		MW-23-04		MW-24-04		SB-14-02		SB-15-02		SB-34-02		SB-36-02		SB-37-02		SB-92-03		SB-93-03		TT-SB250-G-02			
			Date:	3/8/2004		3/3/2004		3/3/2004		3/3/2004		4/5/2002		4/5/2002		4/12/2002		4/15/2002		4/15/2002		4/1/2003		4/1/2003		4/3/2013			
	C/I	Construction	Depth:	0 - 2		0 - 2		0 - 2		0 - 2		1 - 3		1 - 3		1 - 3		1 - 3		1 - 3		1 - 3		1 - 3		0 - 2			
VOCs																													
1,1,1-Trichloroethane	640,000	640,000	ug/kg	1000	U	880	U	330	U	1200	U	220	U	4.7	U	300	U	420	U	4.4	U	200	U	230	UJ	-		-	
1,1,2,2-Tetrachloroethane	75,000	670,000	ug/kg	1000	U	880	U	330	U	1200	U	220	U	4.7	U	300	U	420	U	4.4	U	200	U	230	UJ	-		-	
1,1,2-Trichloroethane	140,000	1,200,000	ug/kg	1000	U	880	U	330	U	1200	U	220	U	4.7	U	300	U	420	U	4.4	U	200	U	230	UJ	-		-	
1,1-Dichloroethane	420,000	1,700,000	ug/kg	1000	U	880	U	330	U	1200	U	220	U	4.7	U	300	U	420	U	4.4	U	200	U	**89**	**J**	-		**89**	**J**
1,1-Dichloroethene	1,200,000	360,000	ug/kg	1000	U	880	U	330	U	1200	U	220	U	4.7	U	300	U	420	U	4.4	U	200	U	230	UJ	-		-	
1,2,4-Trichlorobenzene, VOC	400,000	400,000	ug/kg	1000	U	880	U	330	U	1200	U	220	U	4.7	U	300	UJ	420	U	4.4	U	200	U	230	UJ	-		-	
1,2-Dibromo-3-chloropropane	1,700	15,000	ug/kg	2000	U	1800	U	650	U	2400	U	450	U	9.5	U	610	U	840	U	8.8	U	400	U	450	UJ	-		-	
1,2-Dibromoethane	4,400	38,000	ug/kg	1000	U	880	U	330	U	1200	U	220	U	4.7	U	300	U	420	U	4.4	U	200	U	230	UJ	-		-	
1,2-Dichlorobenzene, VOC	380,000	380,000	ug/kg	1000	U	880	U	330	U	1200	U	220	U	4.7	U	300	U	420	U	4.4	U	200	U	230	UJ	-		-	
1,2-Dichloroethane	56,000	480,000	ug/kg	1000	U	880	U	330	U	1200	U	220	U	4.7	U	300	U	420	U	4.4	U	200	U	230	UJ	-		-	
1,2-Dichloropropane	120,000	180,000	ug/kg	1000	U	880	U	330	U	1200	U	220	U	4.7	U	300	U	420	U	4.4	U	200	U	230	UJ	-		-	
1,3-Dichlorobenzene, VOC	NA	NA	ug/kg	1000	U	880	U	330	U	1200	U	220	U	4.7	U	300	U	420	U	4.4	U	200	U	230	UJ	-		-	
1,4-Dichlorobenzene, VOC	310,000	2,600,000	ug/kg	1000	U	880	U	330	U	1200	U	220	U	4.7	U	300	U	**31**	**J**	4.4	U	200	U	230	UJ	-		**31**	**J**
2-Butanone	28,000,000	28,000,000	ug/kg	4100	U	3500	U	1300	U	4700	U	900	U	**36**		1200	U	**170**	**J**	18	U	790	U	910	UJ	-		**170**	**J**
2-Hexanone	NA	NA	ug/kg	4100	U	3500	U	1300	U	4700	U	900	U	**6.1**	**J**	1200	U	1700	U	18	U	790	U	910	UJ	-		**6.1**	**J**
4-Methyl-2-Pentanone	3,400,000	3,400,000	ug/kg	4100	U	3500	U	1300	U	4700	U	900	U	**5.4**	**J**	1200	U	1700	U	18	U	790	U	910	UJ	-		**5.4**	**J**
Acetone	110,000,000	110,000,000	ug/kg	4100	UJ	3500	UJ	1300	UJ	4700	UJ	900	U	170	UJ	1200	U	1700	UJ	18	UJ	790	UJ	910	UJ	-		-	
Benzene	140,000	1,200,000	ug/kg	1000	U	880	U	330	U	1200	U	220	U	4.7	U	300	U	420	U	4.4	U	200	U	230	UJ	-		-	
Bromodichloromethane	35,000	300,000	ug/kg	1000	U	880	U	330	U	1200	U	220	U	4.7	U	300	U	420	U	4.4	U	200	U	230	UJ	-		-	
Bromoform	6,200,000	130,000,000	ug/kg	1000	U	880	U	330	U	1200	U	220	U	4.7	UJ	300	U	420	UJ	4.4	UJ	200	U	230	UJ	-		-	
Bromomethane	82,000	550,000	ug/kg	1000	U	880	U	330	U	1200	U	220	U	4.7	UJ	300	U	420	U	4.4	U	200	U	230	UJ	-		-	
Carbon disulfide	740,000	740,000	ug/kg	1000	U	880	U	330	U	1200	U	220	U	4.7	U	300	U	420	U	4.4	U	200	U	230	UJ	-		-	
Carbon tetrachloride	79,000	460,000	ug/kg	1000	U	880	U	330	U	1200	U	220	U	4.7	UJ	300	U	420	UJ	4.4	UJ	200	U	230	UJ	-		-	
Chlorobenzene	760,000	760,000	ug/kg	1000	U	880	U	330	U	1200	U	220	U	4.7	U	300	U	420	U	4.4	U	200	U	230	UJ	-		-	
Chloroethane	2,100,000	2,100,000	ug/kg	1000	U	880	U	330	U	1200	U	220	U	4.7	U	300	U	420	U	4.4	U	200	U	230	UJ	-		-	
Chloroform	38,000	320,000	ug/kg	1000	U	880	U	330	U	1200	U	220	U	4.7	U	300	U	420	U	4.4	U	200	U	230	UJ	-		-	
Chloromethane	1,300,000	1,300,000	ug/kg	1000	U	880	U	330	U	1200	U	220	U	4.7	U	300	U	420	U	4.4	U	200	U	230	UJ	-		-	
cis-1,2-Dichloroethene	2,400,000	2,400,000	ug/kg	**1000**		**19000**		**3900**		**5600**		110	U	2.4	U	**600**		**110**	**J**	**1.4**	**J**	99	U	**1800**	**J**	-		**19000**	
cis-1,3-Dichloropropene	NA	NA	ug/kg	1000	U	880	U	330	U	1200	U	220	U	4.7	U	300	U	420	U	4.4	U	200	U	230	UJ	-		-	
Cyclohexane	120,000	120,000	ug/kg	**570**	**J**	1800	U	650	U	**250**	**J**	450	U	9.5	U	**46**	**J**	840	U	8.8	U	400	U	450	UJ	-		**570**	**J**
Dibromochloromethane	84,000	770,000	ug/kg	1000	U	880	U	330	U	1200	U	220	U	4.7	U	300	U	420	U	4.4	U	200	U	230	UJ	-		-	
Dichlorodifluoromethane	850,000	850,000	ug/kg	1000	U	880	UJ	330	UJ	1200	UJ	220	UJ	4.7	U	300	U	420	U	4.4	U	200	U	230	UJ	-		-	
Ethylbenzene	480,000	480,000	ug/kg	1000	U	880	U	330	U	1200	U	220	U	**0.96**	**J**	300	U	**140**	**J**	4.4	U	200	U	230	UJ	-		**140**	**J**
Isopropylbenzene, VOC	270,000	270,000	ug/kg	1000	U	880	U	330	U	1200	U	220	U	4.7	U	300	U	**95**	**J**	4.4	U	200	U	230	UJ	-		**95**	**J**
Methyl acetate	NA	NA	ug/kg	2000	U	**1300**	**J**	**260**	**J**	**370**	**J**	450	U	9.5	U	610	U	840	U	8.8	U	400	U	450	UJ	-		**1300**	**J**
Methyl cyclohexane	NA	NA	ug/kg	**590**	**J**	1800	U	650	U	**540**	**J**	450	U	9.5	U	**150**	**J**	**29**	**J**	8.8	U	400	U	450	UJ	-		**590**	**J**
Methyl tert butyl ether	5,700,000	8,900,000	ug/kg	4100	U	3500	U	1300	U	4700	U	900	U	19	U	1200	U	1700	U	18	U	790	U	910	UJ	-		-	
Methylene chloride	3,300,000	3,300,000	ug/kg	1000	U	880	U	330	U	1200	U	220	U	4.7	U	300	U	420	U	4.4	U	200	U	230	UJ	-		-	
Styrene	870,000	870,000	ug/kg	1000	U	880	U	330	U	1200	U	**93**	**J**	4.7	U	300	U	420	U	4.4	U	200	U	230	UJ	-		**93**	**J**
Tetrachloroethene	170,000	170,000	ug/kg	**13000**		**4300**		**4800**		**9700**		**2500**		4.7	U	**6600**		**750**		**14**		**1200**		**210**	**J**	-		**13000**	
Toluene	820,000	820,000	ug/kg	1000	U	880	U	**28**	**J**	**86**	**J**	220	U	**1.5**	**J**	300	U	**59**	**J**	**0.49**	**J**	200	U	230	UJ	-		**86**	**J**
trans-1,2-Dichloroethene	1,700,000	1,700,000	ug/kg	510	UJ	**180**	**J**	**68**	**J**	590	U	110	U	2.4	U	150	U	210	U	2.2	U	99	U	110	UJ	-		**180**	**J**
trans-1,3-Dichloropropene	NA	NA	ug/kg	1000	U	880	U	330	U	1200	U	220	U	4.7	U	300	U	420	U	4.4	U	200	U	230	UJ	-		-	
Trichloroethene	51,000	17,000	ug/kg	**25000**		**30000**		**12000**		**44000**		**300**		4.7	U	**9800**		**1300**		**5.5**		**110**	**J**	**990**	**J**	-		**44000**	
Trichlorofluoromethane	1,200,000	1,200,000	ug/kg	1000	U	880	U	330	U	1200	U	220	U	4.7	U	300	U	420	U	4.4	U	200	U	230	UJ	-		-	
Trifluorotrichloroethane	NA	NA	ug/kg	1000	U	880	U	330	U	1200	U	220	U	4.7	U	300	U	420	U	4.4	U	200	U	230	UJ	-		-	
Vinyl chloride	50,000	280,000	ug/kg	1000	U	**140**	**J**	**54**	**J**	1200	U	220	U	4.7	U	300	U	420	U	4.4	U	200	U	230	UJ	-		**140**	**J**
Xylene (Total)	260,000	260,000	ug/kg	**240**	**J**	1800	U	**97**	**J**	**280**	**J**	450	U	**4.9**	**J**	**130**	**J**	**930**		8.8	U	400	U	450	UJ	-		**930**	

TABLE 3.2
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 3E/5W/21/33, 0-2 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	MW-14B-04		MW-23-04		MW-23-04		MW-24-04		SB-14-02		SB-15-02		SB-34-02		SB-36-02		SB-37-02		SB-92-03		SB-93-03		TT-SB250		Maximum Detected Concentration	
			Field Sample ID:	MW-14B-04		MW-23-04 DUP		MW-23-04		MW-24-04		SB-14-02		SB-15-02		SB-34-02		SB-36-02		SB-37-02		SB-92-03		SB-93-03		TT-SB250-G-02			
			Date:	3/8/2004		3/3/2004		3/3/2004		3/3/2004		4/5/2002		4/5/2002		4/12/2002		4/15/2002		4/15/2002		4/1/2003		4/1/2003		4/3/2013			
	C/I	Construction	Depth:	0 - 2		0 - 2		0 - 2		0 - 2		1 - 3		1 - 3		1 - 3		1 - 3		1 - 3		1 - 3		1 - 3		0 - 2			
SVOCs																													
2,2-oxybis(2-Chloropropane)	NA	NA	ug/kg	3900	U	1600	U	380	U	390	UJ	360	U	360	U	1100	U	410	U	370	U	360	U	1400	U	-		-	
2,4,5-Trichlorophenol	180,000,000	1,000,000,000	ug/kg	3900	U	1600	U	380	U	390	UJ	360	U	360	U	1100	U	410	U	370	U	360	U	1400	R	-		-	
2,4,6-Trichlorophenol	1,800,000	1,400,000	ug/kg	3900	U	1600	U	380	U	390	UJ	360	U	360	U	1100	U	410	U	370	U	360	U	1400	R	-		-	
2,4-Dichlorophenol	NA	NA	ug/kg	3900	U	1600	U	380	U	390	UJ	360	U	360	U	1100	U	410	U	370	U	360	U	1400	R	-		-	
2,4-Dimethylphenol	35,000,000	85,000,000	ug/kg	3900	U	1600	U	380	U	390	UJ	360	U	360	U	1100	U	410	U	370	U	360	U	1400	R	-		-	
2,4-Dinitrophenol	3,500,000	28,000,000	ug/kg	19000	U	7700	R	1800	R	1900	UJ	1700	UJ	1700	UJ	5300	U	2000	U	1800	UJ	1700	U	7000	R	-		-	
2,4-Dinitrotoluene	160,000	2,800,000	ug/kg	3900	U	1600	U	380	U	390	UJ	360	U	360	U	1100	U	410	U	370	U	360	U	1400	U	-		-	
2,6-Dinitrotoluene	NA	NA	ug/kg	3900	U	1600	U	380	U	390	UJ	360	U	360	U	1100	U	410	U	370	U	360	U	1400	U	-		-	
2-Chloronaphthalene	330,000,000	1,000,000,000	ug/kg	3900	U	1600	U	380	U	390	UJ	360	U	360	U	1100	U	410	U	370	U	360	U	1400	U	-		-	
2-Chlorophenol	20,000,000	22,000,000	ug/kg	3900	U	1600	U	380	U	390	UJ	360	U	360	U	1100	U	410	U	370	U	360	U	1400	R	-		-	
2-Methylnaphthalene	6,000,000	5,200,000	ug/kg	**860**	**J**	1600	U	**140**	**J**	**49**	**J**	360	U	360	U	1100	U	**600**		370	U	360	U	1400	U	-		**860**	**J**
2-Methylphenol	88,000,000	710,000,000	ug/kg	3900	U	1600	U	380	U	390	UJ	360	U	360	U	1100	U	410	U	370	U	360	U	1400	R	-		-	
2-Nitroaniline	NA	NA	ug/kg	19000	U	7700	U	1800	U	1900	UJ	1700	U	1700	U	5300	U	2000	U	1800	U	1700	U	7000	U	-		-	
2-Nitrophenol	NA	NA	ug/kg	3900	U	1600	U	380	U	390	UJ	360	U	360	U	1100	U	410	U	370	U	360	U	1400	R	-		-	
3,3-Dichlorobenzidine	NA	NA	ug/kg	19000	U	7700	U	1800	U	1900	UJ	1700	U	1700	U	5300	U	2000	U	1800	U	1700	U	7000	U	-		-	
3-Nitroaniline	NA	NA	ug/kg	19000	U	7700	U	1800	U	1900	UJ	1700	U	1700	U	5300	U	2000	U	1800	U	1700	U	7000	U	-		-	
4,6-Dinitro-2-methylphenol	140,000	110,000	ug/kg	19000	U	7700	R	1800	R	1900	UJ	1700	U	1700	U	5300	U	2000	U	1800	UJ	1700	U	7000	R	-		-	
4-Bromophenyl phenyl ether	NA	NA	ug/kg	3900	U	1600	U	380	U	390	UJ	360	U	360	U	1100	U	410	U	370	U	360	U	1400	U	-		-	
4-Chloro-3-methylphenol	180,000,000	140,000,000	ug/kg	3900	U	1600	U	380	U	390	UJ	360	U	360	U	1100	U	410	U	370	U	360	U	1400	R	-		-	
4-Chloroaniline	250,000	710,000	ug/kg	3900	U	1600	U	380	U	390	UJ	360	U	360	U	1100	U	410	U	370	U	360	U	1400	U	-		-	
4-Chlorophenyl phenyl ether	NA	NA	ug/kg	3900	U	1600	U	380	U	390	UJ	360	U	360	U	1100	U	410	U	370	U	360	U	1400	U	-		-	
4-Methylphenol	180,000,000	28,000,000	ug/kg	3900	U	1600	U	380	U	390	UJ	360	U	360	U	1100	U	410	U	370	U	360	U	1400	R	-		-	
4-Nitroaniline	2,500,000	14,000,000	ug/kg	19000	U	7700	U	1800	U	1900	UJ	1700	U	1700	U	5300	U	2000	U	1800	U	1700	U	7000	U	-		-	
4-Nitrophenol	NA	NA	ug/kg	19000	U	7700	U	1800	U	1900	UJ	1700	UJ	1700	U	5300	U	2000	U	1800	U	1700	U	7000	R	-		-	
Acenaphthene	90,000,000	780,000,000	ug/kg	3900	U	1600	U	380	U	390	UJ	360	U	360	U	1100	U	410	U	370	U	360	U	1400	U	-		-	
Acenaphthylene	90,000,000	780,000,000	ug/kg	3900	U	1600	U	380	U	390	UJ	360	U	360	U	**380**	**J**	410	U	370	U	360	U	1400	U	-		**380**	**J**
Acetophenone	2,500,000	2,500,000	ug/kg	3900	U	1600	U	380	U	390	UJ	360	U	360	U	1100	U	410	U	370	U	360	U	1400	U	-		-	
Anthracene	450,000,000	1,000,000,000	ug/kg	3900	U	1600	U	**23**	**J**	**49**	**J**	360	U	360	U	**1900**		410	U	370	U	360	U	1400	U	-		**1900**	
Atrazine	NA	NA	ug/kg	3900	U	1600	U	380	U	390	UJ	360	U	360	U	1100	U	410	U	370	U	360	U	1400	U	-		-	
Benzaldehyde	NA	NA	ug/kg	3900	U	1600	U	380	U	390	UJ	360	U	360	U	1100	U	410	U	370	U	360	U	1400	U	-		-	
Benzo(a)anthracene	58,000	1,200,000	ug/kg	**230**	**J**	1600	U	**130**	**J**	**310**	**J**	360	U	360	U	**4400**		410	U	370	U	360	U	1400	U	-		**4400**	
Benzo(a)pyrene	5,800	120,000	ug/kg	**400**	**J**	1600	U	**170**	**J**	**340**	**J**	360	U	360	U	**5400**		410	U	370	U	360	U	1400	U	-		**5400**	
Benzo(b)fluoranthene	58,000	1,200,000	ug/kg	**440**	**J**	1600	U	**170**	**J**	**380**	**J**	360	U	360	U	**5400**		410	U	370	U	360	U	1400	U	-		**5400**	
Benzo(g,h,i)perylene	45,000,000	390,000,000	ug/kg	3900	U	1600	U	**110**	**J**	**270**	**J**	360	U	360	U	**2900**		410	U	370	U	360	U	1400	U	-		**2900**	
Benzo(k)fluoranthene	580,000	12,000,000	ug/kg	**250**	**J**	1600	U	**100**	**J**	**160**	**J**	360	U	360	U	**3600**		410	U	370	U	360	U	1400	U	-		**3600**	
Biphenyl	14,000,000	190,000,000	ug/kg	3900	U	1600	U	380	U	390	UJ	360	U	360	U	1100	U	410	U	370	U	360	U	1400	U	-		-	
bis(2-Chloroethoxy)methane	5,300,000	43,000,000	ug/kg	3900	U	1600	U	380	U	390	UJ	360	U	360	U	1100	U	410	U	370	U	360	U	1400	U	-		-	
bis(2-Chloroethyl)ether	30,000	290,000	ug/kg	3900	U	1600	U	380	U	390	UJ	360	U	360	U	1100	U	410	U	370	U	360	U	1400	U	-		-	
bis(2-Ethylhexyl)phthalate	3,500,000	71,000,000	ug/kg	3900	U	1600	U	**91**	**J**	390	UJ	360	U	360	U	1100	U	410	U	370	U	360	U	**71**	**J**	-		**91**	**J**
Butyl benzylphthalate	26,000,000	520,000,000	ug/kg	3900	U	1600	U	380	U	390	UJ	360	U	360	U	1100	U	410	U	370	U	360	U	1400	U	-		-	
Caprolactam	NA	NA	ug/kg	3900	U	1600	U	380	U	390	UJ	360	U	360	U	1100	U	410	U	370	U	360	U	1400	U	-		-	
Carbazole	2,500,000	50,000,000	ug/kg	3900	U	1600	U	380	U	390	UJ	360	U	360	U	1100	U	410	U	370	U	360	U	1400	U	-		-	
Chrysene	5,800,000	120,000,000	ug/kg	**620**	**J**	1600	U	**130**	**J**	**290**	**J**	360	U	360	U	**4600**		410	U	370	U	360	U	1400	U	-		**4600**	
Dibenz(a,h)anthracene	5,800	120,000	ug/kg	3900	U	1600	U	**29**	**J**	**63**	**J**	360	U	360	U	**780**	**J**	410	U	370	U	360	U	1400	U	-		**780**	**J**
Dibenzofuran	4,100,000	2,100,000	ug/kg	**310**	**J**	1600	U	380	U	**23**	**J**	360	U	360	U	1100	U	**81**	**J**	370	U	360	U	1400	U	-		**310**	**J**
Diethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	3900	U	1600	U	380	U	390	UJ	360	U	360	U	1100	U	410	U	370	U	360	U	1400	U	-		-	
Dimethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	3900	U	1600	U	380	U	390	UJ	360	U	360	U	1100	U	410	U	370	U	360	U	1400	U	-		-	
Di-n-butylphthalate	180,000,000	430,000,000	ug/kg	3900	U	1600	U	380	U	390	UJ	**2900**		360	U	1100	U	410	U	370	U	360	U	1400	U	-		**2900**	
Di-N-Octyl phthalate	18,000,000	140,000,000	ug/kg	3900	U	1600	U	380	U	390	UJ	360	U	360	U	1100	U	410	U	370	U	360	U	1400	U	-		-	
Fluoranthene	60,000,000	160,000,000	ug/kg	**1200**	**J**	1600	U	**180**	**J**	**570**	**J**	**75**	**J**	360	U	**11000**		410	U	370	U	360	U	1400	U	-		**11000**	
Fluorene	60,000,000	520,000,000	ug/kg	3900	U	1600	U	380	U	390	UJ	360	U	360	U	1100	U	**77**	**J**	370	U	360	U	1400	U	-		**77**	**J**
Hexachlorobenzene	31,000	14,000	ug/kg	3900	U	1600	U	380	U	390	UJ	360	U	360	U	1100	U	410	U	370	U	360	U	1400	U	-		-	
Hexachlorobutadiene, SVOC	630,000	1,400,000	ug/kg	3900	U	1600	U	380	U	390	UJ	360	U	360	U	1100	U	410	U	370	U	360	U	1400	U	-		-	
Hexachlorocyclopentadiene	11,000,000	26,000,000	ug/kg	19000	U	7700	U	1800	U	1900	UJ	1700	U	1700	U	5300	U	2000	U	1800	U	1700	U	7000	U	-		-	
Hexachloroethane	1,200,000	3,000,000	ug/kg	3900	U	1600	U	380	U	390	UJ	360	U	360	U	1100	U	410	U	370	U	360	U	1400	U	-		-	
Indeno(1,2,3-cd)pyrene	58,000	1,200,000	ug/kg	3900	U	1600	U	**100**	**J**	**220**	**J**	360	U	360	U	**2900**		410	U	370	U	360	U	1400	U	-		**2900**	
Isophorone	52,000,000	1,000,000,000	ug/kg	3900	U	1600	U	380	U	390	UJ	360	U	360	U	1100	U	410	U	370	U	360	U	1400	U	-		-	
Naphthalene, SVOC	450,000	560,000	ug/kg	**500**	**J**	1600	U	**89**	**J**	**35**	**J**	360	U	360	U	**260**	**J**	**220**	**J**	370	U	360	U	1400	U	-		**500**	**J**
Nitrobenzene	610,000	3,000,000	ug/kg	3900	U	1600	U	380	U	390	UJ	360	U	360	U	1100	U	410	U	370	U	360	U	1400	U	-		-	
N-Nitrosodi-n-propylamine	7,000	140,000	ug/kg	3900	U	1600	U	380	U	390	UJ	360	U	360	U	1100	U	410	U	370	U	360	U	1400	U	-		-	
N-Nitrosodiphenylamine	10,000,000	200,000,000	ug/kg	3900	U	1600	U	380	U	390	UJ	360	U	360	U	1100	U	410	U	370	U	360	U	1400	U	-		-	
Pentachlorophenol	67,000	950,000	ug/kg	3900	U	1600	U	380	U	390	UJ	360	UJ	360	U	1100	U	410	U	370	U	360	U	1400	R	-		-	
Phenanthrene	450,000,000	1,000,000,000	ug/kg	**1000**	**J**	1600	U	**74**	**J**	**260**	**J**	360	U	360	U	**3900**		**88**	**J**	370	U	360	U	1400	U	-		**3900**	
Phenol	530,000,000	840,000,000	ug/kg	3900	U	1600	U	380	U	390	UJ	360	U	360	U	1100	U	410	U	370	U	360	U	1400	R	-		-	
Pyrene, SVOC	45,000,000	390,000,000	ug/kg	**930**	**J**	1600	U	**190**	**J**	**510**	**J**	360	U	360	UJ	**8200**		410	U	370	U	360	U	1400	U	-		**8200**	

TABLE 3.2
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 3E/5W/21/33, 0-2 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	MW-14B-04		MW-23-04		MW-23-04		MW-24-04		SB-14-02		SB-15-02		SB-34-02		SB-36-02		SB-37-02		SB-92-03		SB-93-03		TT-SB250		Maximum Detected Concentration	
			Field Sample ID:	MW-14B-04		MW-23-04 DUP		MW-23-04		MW-24-04		SB-14-02		SB-15-02		SB-34-02		SB-36-02		SB-37-02		SB-92-03		SB-93-03		TT-SB250-G-02			
			Date:	3/8/2004		3/3/2004		3/3/2004		3/3/2004		4/5/2002		4/5/2002		4/12/2002		4/15/2002		4/15/2002		4/1/2003		4/1/2003		4/3/2013			
	C/I	Construction	Depth:	0 - 2		0 - 2		0 - 2		0 - 2		1 - 3		1 - 3		1 - 3		1 - 3		1 - 3		1 - 3		1 - 3		0 - 2			
PCBs																													
Aroclor-1016	100,000	260,000	ug/kg	39	U	790	U	380	U	39	U	36	U	36	U	44	U	83	U	180	U	-		-		102	UD	-	
Aroclor-1221	14,000	210,000	ug/kg	39	U	790	U	380	U	39	U	36	U	36	U	44	U	83	U	180	U	-		-		102	UD	-	
Aroclor-1232	14,000	73,000	ug/kg	39	U	790	U	380	U	39	U	36	U	36	U	44	U	83	U	180	U	-		-		102	UD	-	
Aroclor-1242	20,000	440,000	ug/kg	39	U	790	U	380	U	39	U	36	U	36	U	44	U	83	U	180	U	-		-		102	UD	-	
Aroclor-1248	20,000	440,000	ug/kg	39	U	790	U	380	U	39	U	36	U	36	U	44	U	83	U	180	U	-		-		102	UD	-	
Aroclor-1254	20,000	75,000	ug/kg	**4.5**	**J**	**8600**	**J**	**4400**	**J**	**14**	**J**	36	U	36	U	44	U	**590**		**910**		-		-		1220	D	**8600**	**D**
Aroclor-1260	20,000	440,000	ug/kg	39	U	790	UJ	380	UJ	39	UJ	36	U	36	U	44	U	83	U	180	U	-		-		102	UD	-	
Total PCBs	20,000	440,000	ug/kg	**4.5**	**J**	**8600**	**J**	**4400**	**J**	**14**	**J**	36	U	36	U	44	U	**590**		**910**		-		-		1220	D	**8600**	**D**
Metals																													
Antimony	1,600	850	mg/kg	7.2	U	**0.85**	**J**	**0.38**	**J**	**0.9**	**J**	6.5	UJ	6.5	UJ	8	U	7.5	U	6.7	UJ	6.5	UJ	6.5	UJ	-		**0.9**	**J**
Arsenic	77	690	mg/kg	**7**		**9.6**		**6**		**4.8**		**4.6**	**J**	**7.5**	**J**	**11.2**		**6.7**		**6**	**J**	**4.7**		**4.4**		-		**11.2**	
Barium	680,000	320,000	mg/kg	**171**		**160**		**91.9**		**76.4**		**26**		**42.9**		**184**		**43.5**		**122**	**J**	**28.2**	**J**	**46.2**	**J**	-		**184**	
Beryllium	7,800	3,400	mg/kg	**0.98**		**0.47**	**J**	**0.17**	**J**	**0.27**	**J**	0.54	U	0.54	U	0.86	U	**0.52**	**J**	**0.062**	**J**	0.54	U	0.55	U	-		**0.98**	
Cadmium	2,600	1,000	mg/kg	**0.15**	**J**	**0.48**	**J**	**0.41**	**J**	0.59	U	**0.7**		**3.2**		**0.25**	**J**	**0.13**	**J**	**9.4**	**J**	**0.078**	**J**	**2.3**		-		**9.4**	**J**
Chromium, Total	NA	NA	mg/kg	**6.9**		**15.2**		**13.5**		**7**		**4.5**		**26.9**		**11.3**		**5**		**12.4**	**J**	**5.4**	**J**	**17.5**	**J**	-		**26.9**	
Cobalt	1,200	2,800	mg/kg	**4**	**J**	**5.9**	**J**	**3.6**	**J**	**3.7**	**J**	**2.8**	**J**	**4.4**	**J**	**5.5**	**J**	**2.4**	**J**	**1.9**	**J**	**3**	**J**	**2.7**	**J**	-		**5.9**	**J**
Copper	160,000	21,000	mg/kg	**52.4**		**58.9**		**61.9**		**55**		**7**		**17.1**		**98.1**		**23.5**		**104**	**J**	**13.7**	**J**	**31.5**	**J**	-		**104**	**J**
Cyanide (total)	370	150	mg/kg	0.6	U	0.6	U	0.57	U	0.59	U	0.54	U	**0.21**	**J**	0.67	U	0.63	U	**0.22**	**J**	**0.18**	**J**	**1.3**		-		**1.3**	
Lead	800	400	mg/kg	**32**		**6470**		**60.5**		**122**		**4.7**		**14.2**		**288**		**52.2**		**216**	**J**	**8.7**	**J**	**13.3**	**J**	-		**6470**	
Manganese	NA	NA	mg/kg	**440**		**625**		**499**		**200**		**340**	**J**	**310**	**J**	**562**		**196**		**324**		**231**	**J**	**270**	**J**	-		**625**	
Mercury	3.1	3.1	mg/kg	**0.19**		**0.31**		**0.27**		**0.21**		0.11	U	**0.023**	**J**	**0.66**		**0.32**		**0.18**	**J**	0.11	U	**0.13**		-		**0.66**	
Nickel	74,000	23,000	mg/kg	**9.9**		**17.1**		**10.5**	**J**	**9.3**		**7**	**J**	**13**	**J**	**21.5**		**6**		**21.7**	**J**	**7.7**		**9.6**		-		**21.7**	**J**
Selenium	20,000	11,000	mg/kg	0.6	U	0.6	U	0.57	U	0.59	U	0.54	U	0.54	U	0.67	U	**0.48**	**J**	0.56	UJ	0.54	U	0.55	U	-		**0.48**	**J**
Silver	20,000	11,000	mg/kg	**0.33**	**J**	**0.65**	**J**	1.1	U	1.2	U	1.1	U	1.1	U	1.3	U	1.3	U	1.1	U	1.1	U	**0.35**	**J**	-		**0.65**	**J**
Thallium	41	21	mg/kg	**0.72**	**J**	**2.1**		**1.4**		**0.79**	**J**	2	U	1.7	U	1.3	U	**1.6**		**1.4**	**J**	1.1	U	1.1	U	-		**2.1**	
Vanadium	20,000	11,000	mg/kg	**13.9**		**19.3**		**13.7**		**12.8**		**7.8**		**10.1**		**18.3**		**10.9**		**6.2**	**J**	**8.4**		**8**		-		**19.3**	
Zinc	1,000,000	640,000	mg/kg	**55**		**157**		**131**		**47.2**		**26.6**	**J**	**42.9**	**J**	**174**		**41.8**		**204**	**J**	**29.7**	**J**	**141**	**J**	-		**204**	**J**

NOTES:

Shaded values indicate concentration exceeds C/I Single Chemical Generic Direct Contact Soil Standard
Shaded values indicate concentration exceeds Construction Single Chemical Generic Direct Contact Soil Standard
Shaded values indicate concentration exceeds both Single Chemical Generic Direct Contact Soil Standards
bold text indicates detection above reporting limit
Total PCBs value is the sum of all positively deteted PCB aroclors
D: The reported value is from a dilution
C/I: Commercial/ Industrial
J: The associated numerical value is an estimated quantity
mg/kg: milligrams per kilogram
NA: exceedance criteria not applicable for compound/analyte
PCB: Polychlorinated Biphenyl
R: The data are unusable (the compound/analyte may or may not be present). Resampling and reanalysis are necessary for v
SVOC: SemiVolatile Organic Compound
U: The compound/analyte was analyzed for, but not detected. The associated numerical value is the sample quantitation limit
ug/kg: micrograms per kilogram
UJ: The compound/analyte was analyzed for, but not detected. The sample quantitation limit is an estimated quantity
VOC: Volatile Organic Compound

TABLE 3.3
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 3W/6N/16, 0-2 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	MW-9-03		MW-9-03		SB-132-04		SB-23-02		SB-24-02		SB-25-02		SB-35-02		SB-94-03		SB-95-03		SB-96-03		TT-SB249		TT-SB265		Maximum Detected Concentration	
			Field Sample ID:	MW-9-03 (0-2)		MW-9-03 DUP (0-2)		SB-132-04		SB-23-02		SB-24-02		SB-25-02		SB-35-02		SB-94-03		SB-95-03		SB-96-03		TT-SB249-G-02		TT-SB265-G-02			
			Date:	1/17/2003		1/17/2003		1/21/2004		4/10/2002		4/10/2002		4/10/2002		4/15/2002		4/1/2003		4/1/2003		4/1/2003		4/3/2013		4/4/2013			
	C/I	Construction	Depth:	0 - 2		0 - 2		0 - 2		1 - 3		1 - 3		1 - 3		1 - 3		1 - 3		1 - 3		1 - 3		0 - 2		0 - 2			
VOCs																													
1,1,1-Trichloroethane	640,000	640,000	ug/kg	4.2	U	4.4	U	300	U	5	U	10	U	240	U	7.3	U	-		-		-		-		-		-	
1,1,2,2-Tetrachloroethane	75,000	670,000	ug/kg	4.2	U	4.4	U	300	U	5	U	10	U	240	U	7.3	U	-		-		-		-		-		-	
1,1,2-Trichloroethane	140,000	1,200,000	ug/kg	4.2	U	4.4	U	300	U	5	U	10	U	240	U	7.3	U	-		-		-		-		-		-	
1,1-Dichloroethane	420,000	1,700,000	ug/kg	4.2	U	4.4	U	300	U	5	U	10	U	240	U	7.3	U	-		-		-		-		-		-	
1,1-Dichloroethene	1,200,000	360,000	ug/kg	4.2	U	4.4	U	300	U	5	U	10	U	240	U	7.3	U	-		-		-		-		-		-	
1,2,4-Trichlorobenzene, VOC	400,000	400,000	ug/kg	4.2	U	4.4	U	300	U	5	U	10	U	240	U	7.3	U	-		-		-		-		-		-	
1,2-Dibromo-3-chloropropane	1,700	15,000	ug/kg	8.3	U	8.8	U	600	U	10	U	20	U	480	U	15	U	-		-		-		-		-		-	
1,2-Dibromoethane	4,400	38,000	ug/kg	4.2	U	4.4	U	300	U	5	U	10	U	240	U	7.3	U	-		-		-		-		-		-	
1,2-Dichlorobenzene, VOC	380,000	380,000	ug/kg	4.2	U	4.4	U	300	U	5	U	10	U	240	U	7.3	U	-		-		-		-		-		-	
1,2-Dichloroethane	56,000	480,000	ug/kg	4.2	U	4.4	U	300	U	5	U	10	U	240	U	7.3	U	-		-		-		-		-		-	
1,2-Dichloropropane	120,000	180,000	ug/kg	4.2	U	4.4	U	300	U	5	U	10	U	240	U	7.3	U	-		-		-		-		-		-	
1,3-Dichlorobenzene, VOC	NA	NA	ug/kg	4.2	U	4.4	U	300	U	5	U	10	U	240	U	7.3	U	-		-		-		-		-		-	
1,4-Dichlorobenzene, VOC	310,000	2,600,000	ug/kg	4.2	U	4.4	U	300	U	5	U	10	U	240	U	7.3	U	-		-		-		-		-		-	
2-Butanone	28,000,000	28,000,000	ug/kg	17	U	18	U	1200	U	20	U	40	U	970	U	29	U	-		-		-		-		-		-	
2-Hexanone	NA	NA	ug/kg	17	U	18	U	1200	U	20	U	40	U	970	U	29	U	-		-		-		-		-		-	
4-Methyl-2-Pentanone	3,400,000	3,400,000	ug/kg	17	U	18	U	1200	U	20	U	40	U	970	U	29	U	-		-		-		-		-		-	
Acetone	110,000,000	110,000,000	ug/kg	17	U	18	U	1200	UJ	20	U	40	UJ	**300**	**J**	29	UJ	-		-		-		-		-		**300**	**J**
Benzene	140,000	1,200,000	ug/kg	4.2	U	4.4	U	300	U	5	U	10	U	240	R	7.3	U	-		-		-		-		-		-	
Bromodichloromethane	35,000	300,000	ug/kg	4.2	U	4.4	U	300	U	5	U	10	U	240	U	7.3	U	-		-		-		-		-		-	
Bromoform	6,200,000	130,000,000	ug/kg	4.2	UJ	4.4	UJ	300	U	5	UJ	10	UJ	240	U	7.3	UJ	-		-		-		-		-		-	
Bromomethane	82,000	550,000	ug/kg	4.2	UJ	4.4	UJ	300	U	5	UJ	10	UJ	240	U	7.3	UJ	-		-		-		-		-		-	
Carbon disulfide	740,000	740,000	ug/kg	4.2	U	4.4	U	300	U	5	U	10	U	240	U	7.3	U	-		-		-		-		-		-	
Carbon tetrachloride	79,000	460,000	ug/kg	4.2	U	4.4	U	300	U	5	UJ	10	U	240	U	7.3	U	-		-		-		-		-		-	
Chlorobenzene	760,000	760,000	ug/kg	4.2	U	4.4	U	300	U	5	U	10	U	240	U	7.3	U	-		-		-		-		-		-	
Chloroethane	2,100,000	2,100,000	ug/kg	4.2	U	4.4	U	300	R	5	U	10	U	240	U	7.3	U	-		-		-		-		-		-	
Chloroform	38,000	320,000	ug/kg	4.2	U	4.4	U	300	U	5	U	10	U	240	U	7.3	U	-		-		-		-		-		-	
Chloromethane	1,300,000	1,300,000	ug/kg	4.2	U	4.4	U	300	U	5	U	10	U	240	U	7.3	U	-		-		-		-		-		-	
cis-1,2-Dichloroethene	2,400,000	2,400,000	ug/kg	2.1	U	2.2	U	**2200**		2.5	U	5	U	120	U	3.7	U	-		-		-		-		-		**2200**	
cis-1,3-Dichloropropene	NA	NA	ug/kg	4.2	U	4.4	U	300	U	5	U	10	U	240	U	7.3	U	-		-		-		-		-		-	
Cyclohexane	120,000	120,000	ug/kg	8.3	U	8.8	U	600	U	10	U	20	U	480	U	15	U	-		-		-		-		-		-	
Dibromochloromethane	84,000	770,000	ug/kg	4.2	U	4.4	U	300	U	5	U	10	U	240	U	7.3	U	-		-		-		-		-		-	
Dichlorodifluoromethane	850,000	850,000	ug/kg	4.2	UJ	4.4	UJ	300	U	5	U	10	U	240	U	7.3	U	-		-		-		-		-		-	
Ethylbenzene	480,000	480,000	ug/kg	4.2	U	4.4	U	300	U	5	U	10	U	240	U	7.3	U	-		-		-		-		-		-	
Isopropylbenzene, VOC	270,000	270,000	ug/kg	4.2	U	4.4	U	300	U	5	U	10	U	240	U	7.3	U	-		-		-		-		-		-	
Methyl acetate	NA	NA	ug/kg	8.3	U	8.8	U	600	U	10	U	20	U	480	U	15	U	-		-		-		-		-		-	
Methyl cyclohexane	NA	NA	ug/kg	8.3	U	8.8	U	**66**	**J**	10	U	20	U	**190**	**J**	15	U	-		-		-		-		-		**190**	**J**
Methyl tert butyl ether	5,700,000	8,900,000	ug/kg	17	U	18	U	1200	U	20	U	40	U	970	U	29	U	-		-		-		-		-		-	
Methylene chloride	3,300,000	3,300,000	ug/kg	4.2	U	4.4	U	300	U	5	U	10	U	240	U	7.3	U	-		-		-		-		-		-	
Styrene	870,000	870,000	ug/kg	4.2	U	4.4	U	300	U	5	U	10	U	240	U	7.3	U	-		-		-		-		-		-	
Tetrachloroethene	170,000	170,000	ug/kg	**4.6**		**6.5**		**380**		**3.1**	**J**	10	U	**250**		7.3	U	-		-		-		-		-		**380**	
Toluene	820,000	820,000	ug/kg	**0.35**	**J**	4.4	U	300	U	**0.69**	**J**	10	U	240	U	7.3	U	-		-		-		-		-		**0.69**	**J**
trans-1,2-Dichloroethene	1,700,000	1,700,000	ug/kg	2.1	U	2.2	U	150	U	2.5	U	5	U	120	U	3.7	U	-		-		-		-		-		-	
trans-1,3-Dichloropropene	NA	NA	ug/kg	4.2	U	4.4	U	300	U	5	U	10	U	240	U	7.3	U	-		-		-		-		-		-	
Trichloroethene	51,000	17,000	ug/kg	4.2	U	4.4	U	**6400**		5	U	10	U	240	U	7.3	U	-		-		-		-		-		**6400**	
Trichlorofluoromethane	1,200,000	1,200,000	ug/kg	4.2	U	4.4	U	300	U	5	UJ	10	U	240	UJ	7.3	U	-		-		-		-		-		-	
Trifluorotrichloroethane	NA	NA	ug/kg	4.2	U	4.4	U	300	U	5	U	10	U	240	U	7.3	U	-		-		-		-		-		-	
Vinyl chloride	50,000	280,000	ug/kg	4.2	U	4.4	U	300	U	5	U	10	U	240	U	7.3	U	-		-		-		-		-		-	
Xylene (Total)	260,000	260,000	ug/kg	8.3	U	8.8	U	600	U	10	U	20	U	480	U	15	U	-		-		-		-		-		-	

TABLE 3.3
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 3W/6N/16, 0-2 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	MW-9-03		MW-9-03		SB-132-04		SB-23-02		SB-24-02		SB-25-02		SB-35-02		SB-94-03		SB-95-03		SB-96-03		TT-SB249		TT-SB265		Maximum Detected Concentration	
			Field Sample ID:	MW-9-03 (0-2)		MW-9-03 DUP (0-2)		SB-132-04		SB-23-02		SB-24-02		SB-25-02		SB-35-02		SB-94-03		SB-95-03		SB-96-03		TT-SB249-G-02		TT-SB265-G-02			
			Date:	1/17/2003		1/17/2003		1/21/2004		4/10/2002		4/10/2002		4/10/2002		4/15/2002		4/1/2003		4/1/2003		4/1/2003		4/3/2013		4/4/2013			
	C/I	Construction	Depth:	0 - 2		0 - 2		0 - 2		1 - 3		1 - 3		1 - 3		1 - 3		1 - 3		1 - 3		1 - 3		0 - 2		0 - 2			
SVOCs																													
2,2-oxybis(2-Chloropropane), SVOC	NA	NA	ug/kg	350	U	350	U	-		-		-		-		340	U	860	U	350	U	420	U	-		-		-	
2,4,5-Trichlorophenol	180,000,000	1,000,000,000	ug/kg	350	U	350	U	-		-		-		-		340	U	860	U	350	U	420	U	-		-		-	
2,4,6-Trichlorophenol	1,800,000	1,400,000	ug/kg	350	U	350	U	-		-		-		-		340	U	860	U	350	U	420	U	-		-		-	
2,4-Dichlorophenol	NA	NA	ug/kg	350	U	350	U	-		-		-		-		340	U	860	U	350	U	420	U	-		-		-	
2,4-Dimethylphenol	35,000,000	85,000,000	ug/kg	350	U	350	U	-		-		-		-		340	U	860	U	350	U	420	U	-		-		-	
2,4-Dinitrophenol	3,500,000	28,000,000	ug/kg	1700	U	1700	U	-		-		-		-		1700	U	4200	U	1700	U	2000	U	-		-		-	
2,4-Dinitrotoluene	160,000	2,800,000	ug/kg	350	U	350	U	-		-		-		-		340	U	860	U	350	U	420	U	-		-		-	
2,6-Dinitrotoluene	NA	NA	ug/kg	350	U	350	U	-		-		-		-		340	U	860	U	350	U	420	U	-		-		-	
2-Chloronaphthalene	330,000,000	1,000,000,000	ug/kg	350	U	350	U	-		-		-		-		340	U	860	U	350	U	420	U	-		-		-	
2-Chlorophenol	20,000,000	22,000,000	ug/kg	350	U	350	U	-		-		-		-		340	U	860	U	350	U	420	U	-		-		-	
2-Methylnaphthalene	6,000,000	5,200,000	ug/kg	350	U	350	U	-		-		-		-		340	U	860	U	350	U	**100**	**J**	-		-		**100**	**J**
2-Methylphenol	88,000,000	710,000,000	ug/kg	350	U	350	U	-		-		-		-		340	U	860	U	350	U	420	U	-		-		-	
2-Nitroaniline	NA	NA	ug/kg	1700	U	1700	U	-		-		-		-		1700	U	4200	U	1700	U	2000	U	-		-		-	
2-Nitrophenol	NA	NA	ug/kg	350	U	350	U	-		-		-		-		340	U	860	U	350	U	420	U	-		-		-	
3,3-Dichlorobenzidine	NA	NA	ug/kg	1700	U	1700	U	-		-		-		-		1700	U	4200	U	1700	U	2000	U	-		-		-	
3-Nitroaniline	NA	NA	ug/kg	1700	U	1700	U	-		-		-		-		1700	U	4200	U	1700	U	2000	U	-		-		-	
4,6-Dinitro-2-methylphenol	140,000	110,000	ug/kg	1700	U	1700	U	-		-		-		-		1700	U	4200	U	1700	U	2000	U	-		-		-	
4-Bromophenyl phenyl ether	NA	NA	ug/kg	350	U	350	U	-		-		-		-		340	U	860	U	350	U	420	U	-		-		-	
4-Chloro-3-methylphenol	180,000,000	140,000,000	ug/kg	350	U	350	U	-		-		-		-		340	U	860	U	350	U	420	U	-		-		-	
4-Chloroaniline	250,000	710,000	ug/kg	350	U	350	U	-		-		-		-		340	U	860	U	350	U	420	U	-		-		-	
4-Chlorophenyl phenyl ether	NA	NA	ug/kg	350	U	350	U	-		-		-		-		340	U	860	U	350	U	420	U	-		-		-	
4-Methylphenol	180,000,000	28,000,000	ug/kg	350	U	350	U	-		-		-		-		340	U	860	U	350	U	420	U	-		-		-	
4-Nitroaniline	2,500,000	14,000,000	ug/kg	1700	U	1700	U	-		-		-		-		1700	U	4200	U	1700	U	2000	U	-		-		-	
4-Nitrophenol	NA	NA	ug/kg	1700	U	1700	U	-		-		-		-		1700	U	4200	U	1700	U	2000	U	-		-		-	
Acenaphthene	90,000,000	780,000,000	ug/kg	350	U	350	U	-		-		-		-		340	U	860	U	**16**	**J**	**85**	**J**	-		-		**85**	**J**
Acenaphthylene	90,000,000	780,000,000	ug/kg	350	U	350	U	-		-		-		-		340	U	860	U	350	U	**59**	**J**	-		-		**59**	**J**
Acetophenone	2,500,000	2,500,000	ug/kg	350	U	350	U	-		-		-		-		340	U	860	U	350	U	420	U	-		-		-	
Anthracene	450,000,000	1,000,000,000	ug/kg	350	U	350	U	-		-		-		-		340	U	860	U	**24**	**J**	**290**	**J**	-		-		**290**	**J**
Atrazine	NA	NA	ug/kg	350	U	350	U	-		-		-		-		340	U	860	U	350	U	420	U	-		-		-	
Benzaldehyde	NA	NA	ug/kg	350	U	350	U	-		-		-		-		340	U	860	U	350	U	420	U	-		-		-	
Benzo(a)anthracene	58,000	1,200,000	ug/kg	350	U	350	U	-		-		-		-		340	U	860	U	**100**	**J**	**610**		-		-		**610**	
Benzo(a)pyrene	5,800	120,000	ug/kg	350	U	350	U	-		-		-		-		340	U	860	U	**41**	**J**	**520**		-		-		**520**	
Benzo(b)fluoranthene	58,000	1,200,000	ug/kg	350	U	350	U	-		-		-		-		340	U	860	U	**44**	**J**	**400**	**J**	-		-		**400**	**J**
Benzo(g,h,i)perylene	45,000,000	390,000,000	ug/kg	350	U	350	U	-		-		-		-		340	U	860	U	**27**	**J**	**230**	**J**	-		-		**230**	**J**
Benzo(k)fluoranthene	580,000	12,000,000	ug/kg	350	U	350	U	-		-		-		-		340	U	860	U	**28**	**J**	**410**	**J**	-		-		**410**	**J**
Biphenyl	14,000,000	190,000,000	ug/kg	350	U	350	U	-		-		-		-		340	U	860	U	350	U	**80**	**J**	-		-		**80**	**J**
bis(2-Chloroethoxy)methane	5,300,000	43,000,000	ug/kg	350	U	350	U	-		-		-		-		340	U	860	U	350	U	420	U	-		-		-	
bis(2-Chloroethyl)ether	30,000	290,000	ug/kg	350	U	350	U	-		-		-		-		340	U	860	U	350	U	420	U	-		-		-	
bis(2-Ethylhexyl)phthalate	3,500,000	71,000,000	ug/kg	350	U	350	U	-		-		-		-		340	U	**2300**		**15**	**J**	**150**	**J**	-		-		**2300**	
Butyl benzylphthalate	26,000,000	520,000,000	ug/kg	350	U	350	U	-		-		-		-		340	U	860	U	350	U	420	U	-		-		-	
Caprolactam	NA	NA	ug/kg	350	U	350	U	-		-		-		-		340	U	860	U	350	U	420	U	-		-		-	
Carbazole	2,500,000	50,000,000	ug/kg	350	U	350	U	-		-		-		-		340	U	860	U	350	U	**110**	**J**	-		-		**110**	**J**
Chrysene	5,800,000	120,000,000	ug/kg	350	U	350	U	-		-		-		-		340	U	860	U	**47**	**J**	**640**		-		-		**640**	
Dibenz(a,h)anthracene	5,800	120,000	ug/kg	350	U	350	U	-		-		-		-		340	U	860	U	350	U	**84**	**J**	-		-		**84**	**J**
Dibenzofuran	4,100,000	2,100,000	ug/kg	350	U	350	U	-		-		-		-		340	U	860	U	350	U	**140**	**J**	-		-		**140**	**J**
Diethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	350	U	350	U	-		-		-		-		340	U	860	U	350	U	420	U	-		-		-	
Dimethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	350	U	350	U	-		-		-		-		340	U	860	U	350	U	420	U	-		-		-	
Di-n-butylphthalate	180,000,000	430,000,000	ug/kg	350	U	350	U	-		-		-		-		340	U	860	U	350	U	420	U	-		-		-	
Di-N-Octyl phthalate	18,000,000	140,000,000	ug/kg	350	U	350	U	-		-		-		-		340	U	860	U	350	U	420	U	-		-		-	
Fluoranthene	60,000,000	160,000,000	ug/kg	350	U	350	U	-		-		-		-		340	U	860	U	**130**	**J**	**1500**		-		-		**1500**	
Fluorene	60,000,000	520,000,000	ug/kg	350	U	350	U	-		-		-		-		340	U	860	U	**67**	**J**	**210**	**J**	-		-		**210**	**J**
Hexachlorobenzene	31,000	14,000	ug/kg	350	U	350	U	-		-		-		-		340	U	860	U	350	U	420	U	-		-		-	
Hexachlorobutadiene, SVOC	630,000	1,400,000	ug/kg	350	U	350	U	-		-		-		-		340	U	860	U	350	U	420	U	-		-		-	
Hexachlorocyclopentadiene	11,000,000	26,000,000	ug/kg	1700	U	1700	U	-		-		-		-		1700	U	4200	U	1700	U	2000	U	-		-		-	
Hexachloroethane	1,200,000	3,000,000	ug/kg	350	U	350	U	-		-		-		-		340	U	860	U	350	U	420	U	-		-		-	
Indeno(1,2,3-cd)pyrene	58,000	1,200,000	ug/kg	350	U	350	U	-		-		-		-		340	U	860	U	**25**	**J**	**230**	**J**	-		-		**230**	**J**
Isophorone	52,000,000	1,000,000,000	ug/kg	350	U	350	U	-		-		-		-		340	U	860	U	350	U	420	U	-		-		-	
Naphthalene, SVOC	450,000	560,000	ug/kg	350	U	350	U	-		-		-		-		340	U	860	U	350	U	**110**	**J**	-		-		**110**	**J**
Nitrobenzene	610,000	3,000,000	ug/kg	350	U	350	U	-		-		-		-		340	U	860	U	350	U	420	U	-		-		-	
N-Nitrosodi-n-propylamine	7,000	140,000	ug/kg	350	U	350	U	-		-		-		-		340	U	860	U	350	U	420	U	-		-		-	
N-Nitrosodiphenylamine	10,000,000	200,000,000	ug/kg	350	U	350	U	-		-		-		-		340	U	860	U	350	U	420	U	-		-		-	
Pentachlorophenol	67,000	950,000	ug/kg	350	U	350	U	-		-		-		-		340	U	860	U	350	U	420	U	-		-		-	
Phenanthrene	450,000,000	1,000,000,000	ug/kg	350	U	350	U	-		-		-		-		340	U	860	U	**120**	**J**	**1700**		-		-		**1700**	
Phenol	530,000,000	840,000,000	ug/kg	350	U	350	U	-		-		-		-		340	U	860	U	350	U	420	U	-		-		-	
Pyrene, SVOC	45,000,000	390,000,000	ug/kg	350	UJ	350	UJ	-		-		-		-		340	U	860	U	**110**	**J**	**1300**		-		-		**1300**	

TABLE 3.3
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 3W/6N/16, 0-2 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	MW-9-03		MW-9-03		SB-132-04		SB-23-02		SB-24-02		SB-25-02		SB-35-02		SB-94-03		SB-95-03		SB-96-03		TT-SB249		TT-SB265		Maximum Detected Concentration	
			Field Sample ID:	MW-9-03 (0-2)		MW-9-03 DUP (0-2)		SB-132-04		SB-23-02		SB-24-02		SB-25-02		SB-35-02		SB-94-03		SB-95-03		SB-96-03		TT-SB249-G-02		TT-SB265-G-02			
			Date:	1/17/2003		1/17/2003		1/21/2004		4/10/2002		4/10/2002		4/10/2002		4/15/2002		4/1/2003		4/1/2003		4/1/2003		4/3/2013		4/4/2013			
	C/I	Construction	Depth:	0 - 2		0 - 2		0 - 2		1 - 3		1 - 3		1 - 3		1 - 3		1 - 3		1 - 3		1 - 3		0 - 2		0 - 2			
PCBs																													
Aroclor-1016	100,000	260,000	ug/kg	35	U	35	U	78	UJ	34	U	34	U	40	U	34	U	-		-		-		21.3	U	23.3	U	-	
Aroclor-1221	14,000	210,000	ug/kg	35	U	35	U	78	UJ	34	U	34	U	40	U	34	U	-		-		-		21.3	U	23.3	U	-	
Aroclor-1232	14,000	73,000	ug/kg	35	U	35	U	78	UJ	34	U	34	U	40	U	34	U	-		-		-		21.3	U	23.3	U	-	
Aroclor-1242	20,000	440,000	ug/kg	35	U	35	U	78	UJ	34	U	34	U	40	U	34	U	-		-		-		21.3	U	23.3	U	-	
Aroclor-1248	20,000	440,000	ug/kg	35	U	35	U	78	UJ	34	U	34	U	40	U	34	U	-		-		-		21.3	U	463	D	-	
Aroclor-1254	20,000	75,000	ug/kg	35	U	35	U	**810**	**J**	34	U	34	U	**53**		34	U	-		-		-		**989**	**D**	23.3	U	**989**	**D**
Aroclor-1260	20,000	440,000	ug/kg	35	U	35	U	78	UJ	34	U	34	U	40	U	34	U	-		-		-		21.3	U	23.3	U	-	
Total PCBs	20,000	440,000	ug/kg	35	U	35	U	**810**	**J**	34	U	34	U	**53**		34	U	-		-		-		**989**	**D**	463	D	**989**	**D**
Metals																													
Antimony	1,600	850	mg/kg	6.3	U	6.4	U	-		6.3	U	6.2	U	7.2	U	6.3	U	-		-		-		-		-		-	
Arsenic	77	690	mg/kg	**4.9**		**4.9**		-		**1.2**		**1.6**		**5.9**		**1.6**		-		-		-		-		-		**5.9**	
Barium	680,000	320,000	mg/kg	**23.1**	**J**	**28.2**	**J**	-		**4.2**	**J**	**7.2**	**J**	**131**		**12.1**	**J**	-		-		-		-		-		**131**	
Beryllium	7,800	3,400	mg/kg	0.53	U	0.53	U	-		0.52	U	0.52	U	**0.63**		0.52	U	-		-		-		-		-		**0.63**	
Cadmium	2,600	1,000	mg/kg	**0.05**	**J**	**0.07**	**J**	-		0.52	U	**0.047**	**J**	**0.28**	**J**	**0.097**	**J**	-		-		-		-		-		**0.28**	**J**
Chromium Total	NA	NA	mg/kg	**4.1**	**J**	**3.9**	**J**	-		**2.1**		**1.7**		**7.6**		**1.7**		-		-		-		-		-		**7.6**	
Cobalt	1,200	2,800	mg/kg	**2.5**	**J**	**2.7**	**J**	-		**0.68**	**J**	**1.3**	**J**	**3.8**	**J**	**0.98**	**J**	-		-		-		-		-		**3.8**	**J**
Copper	160,000	21,000	mg/kg	**8.7**		**7.7**		-		**2.1**	**J**	**7.5**		**28.1**		**3.1**		-		-		-		-		-		**28.1**	
Cyanide (total)	370	150	mg/kg	0.53	U	0.53	U	-		0.52	U	0.52	U	0.6	U	0.52	U	-		-		-		-		-		-	
Lead	800	400	mg/kg	**4.8**		**5**		-		**1.1**		**0.86**		**46.5**		**2.7**		-		-		-		-		-		**46.5**	
Manganese	NA	NA	mg/kg	**199**	**J**	**198**	**J**	-		**114**		**97.5**		**342**		**163**		-		-		-		-		-		**342**	
Mercury	3.1	3.1	mg/kg	0.11	U	0.11	U	-		0.1	U	0.1	U	**0.23**		**0.04**	**J**	-		-		-		-		-		**0.23**	
Nickel	74,000	23,000	mg/kg	**6.8**		**7.1**		-		**2**	**J**	**2.9**	**J**	**10.4**		**1.8**	**J**	-		-		-		-		-		**10.4**	
Selenium	20,000	11,000	mg/kg	0.53	U	0.53	U	-		0.52	U	0.52	U	0.6	U	0.52	U	-		-		-		-		-		-	
Silver	20,000	11,000	mg/kg	1.1	U	1.1	U	-		1	U	1	U	1.2	U	1	U	-		-		-		-		-		-	
Thallium	41	21	mg/kg	**0.81**	**J**	**0.7**	**J**	-		**1.2**		**1.2**		**1.3**		**1**		-		-		-		-		-		**1.3**	
Vanadium	20,000	11,000	mg/kg	**5.4**		**7.3**		-		**6.5**		**3.1**	**J**	**11.8**		**2.7**	**J**	-		-		-		-		-		**11.8**	
Zinc	1,000,000	640,000	mg/kg	**34.2**		**30.6**		-		**6.2**		**17.3**		**69**		**12.1**		-		-		-		-		-		**69**	

NOTES:

Shaded values indicate concentration exceeds C/I Single Chemical Generic Direct Contact Soil Standard
Shaded values indicate concentration exceeds Construction Single Chemical Generic Direct Contact Soil Standard
Shaded values indicate concentration exceeds both Single Chemical Generic Direct Contact Soil Standards
bold text indicates detection above reporting limit
Total PCBs value is the sum of all positively deteted PCB aroclors
D: The reported value is from a dilution
C/I: Commercial/ Industrial
J: The associated numerical value is an estimated quantity
mg/kg: milligrams per kilogram
NA: exceedance criteria not applicable for compound/analyte
PCB: Polychlorinated Biphenyl
R: The data are unusable (the compound/analyte may or may not be present). Resampling and reanalysis are necessary for verification
SVOC: SemiVolatile Organic Compound
U: The compound/analyte was analyzed for, but not detected. The associated numerical value is the sample quantitation limit
ug/kg: micrograms per kilogram
UJ: The compound/analyte was analyzed for, but not detected. The sample quantitation limit is an estimated quantity
VOC: Volatile Organic Compound

TABLE 3.4
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 5C, 0-2 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	BH-181		SB-136-04		SB-140-04		SB-142-04		SB-153-04		SB-154-04		SB-155-04	
			Field Sample ID:	S-111104-NZ-035		SB-136-04		SB-140-04		SB-142-04		SB-153-04		SB-154-04		SB-155-04	
			Date:	11/11/2004		2/5/2004		1/27/2004		1/27/2004		2/3/2004		2/5/2004		2/3/2004	
	C/I	Construction	Depth:	0 - 2		0 - 2		0 - 2		0 - 2		0 - 2		0 - 2		0 - 2	
VOCs																	
1,1,1-Trichloroethane	640,000	640,000	ug/kg	720	U	360	U	260	U	320	UJ	750	U	1100	U	280	U
1,1,2,2-Tetrachloroethane	75,000	670,000	ug/kg	720	U	360	U	260	U	320	UJ	750	U	1100	U	280	U
1,1,2-Trichloroethane	140,000	1,200,000	ug/kg	720	U	360	U	260	U	320	UJ	750	U	1100	U	280	U
1,1-Dichloroethane	420,000	1,700,000	ug/kg	720	U	360	U	260	U	320	UJ	750	U	1100	U	280	U
1,1-Dichloroethene	1,200,000	360,000	ug/kg	720	U	360	U	260	U	320	UJ	750	U	1100	U	280	U
1,2,4-Trichlorobenzene, VOC	400,000	400,000	ug/kg	720	U	360	U	260	U	320	UJ	750	U	1100	U	280	U
1,2-Dibromo-3-chloropropane	1,700	15,000	ug/kg	1400	U	710	U	520	U	640	UJ	1500	U	2200	U	560	U
1,2-Dibromoethane	4,400	38,000	ug/kg	720	U	360	U	260	U	320	UJ	750	U	1100	U	280	U
1,2-Dichlorobenzene, VOC	380,000	380,000	ug/kg	720	U	360	U	260	U	**100**	**J**	750	U	1100	U	280	U
1,2-Dichloroethane	56,000	480,000	ug/kg	720	U	360	U	260	U	320	UJ	750	U	1100	U	280	U
1,2-Dichloropropane	120,000	180,000	ug/kg	720	U	360	U	260	U	320	UJ	750	U	1100	U	280	U
1,3-Dichlorobenzene, VOC	NA	NA	ug/kg	720	U	360	U	260	U	320	UJ	750	U	1100	U	280	U
1,4-Dichlorobenzene, VOC	310,000	2,600,000	ug/kg	720	U	360	U	260	U	320	UJ	750	U	1100	U	280	U
2-Butanone	28,000,000	28,000,000	ug/kg	2900	U	1400	U	1000	UJ	1300	UJ	3000	U	4300	U	1100	UJ
2-Hexanone	NA	NA	ug/kg	2900	U	1400	U	1000	UJ	1300	UJ	3000	U	4300	U	1100	U
4-Methyl-2-Pentanone	3,400,000	3,400,000	ug/kg	2900	U	1400	U	1000	U	1300	UJ	3000	U	4300	U	1100	U
Acetone	110,000,000	110,000,000	ug/kg	2900	U	**430**	**J**	1000	UJ	1300	UJ	3000	U	4300	U	1100	UJ
Benzene	140,000	1,200,000	ug/kg	720	U	360	U	260	U	320	UJ	750	U	1100	U	280	U
Bromodichloromethane	35,000	300,000	ug/kg	720	U	360	U	260	U	320	UJ	750	U	1100	U	280	U
Bromoform	6,200,000	130,000,000	ug/kg	720	U	360	U	260	U	320	UJ	750	U	1100	U	280	U
Bromomethane	82,000	550,000	ug/kg	720	U	**210**	**J**	260	U	320	UJ	750	U	1100	U	280	U
Carbon disulfide	740,000	740,000	ug/kg	720	U	360	U	260	U	320	UJ	750	U	1100	U	280	U
Carbon tetrachloride	79,000	460,000	ug/kg	720	U	360	U	260	U	320	UJ	750	U	1100	U	280	U
Chlorobenzene	760,000	760,000	ug/kg	720	U	360	U	260	U	320	UJ	750	U	1100	U	280	U
Chloroethane	2,100,000	2,100,000	ug/kg	720	U	360	U	260	U	320	UJ	750	R	1100	U	280	R
Chloroform	38,000	320,000	ug/kg	720	U	360	U	260	U	320	UJ	750	U	1100	U	280	U
Chloromethane	1,300,000	1,300,000	ug/kg	720	U	360	U	260	U	320	UJ	750	U	1100	U	280	U
cis-1,2-Dichloroethene	2,400,000	2,400,000	ug/kg	**2100**		**430**		130	U	160	UJ	**520**		**240**	**J**	140	U
cis-1,3-Dichloropropene	NA	NA	ug/kg	720	U	360	U	260	U	320	UJ	750	U	1100	U	280	U
Cyclohexane	120,000	120,000	ug/kg	1400	U	710	U	520	U	640	UJ	**190**	**J**	**330**	**J**	560	U
Dibromochloromethane	84,000	770,000	ug/kg	720	U	360	U	260	U	320	UJ	750	U	1100	U	280	U
Dichlorodifluoromethane	850,000	850,000	ug/kg	720	UJ	360	U	260	U	320	UJ	750	U	1100	U	280	U
Ethylbenzene	480,000	480,000	ug/kg	720	U	360	U	260	U	320	UJ	750	U	1100	U	280	U
Isopropylbenzene, VOC	270,000	270,000	ug/kg	720	U	360	U	260	U	320	UJ	750	U	1100	U	280	U
Methyl acetate	NA	NA	ug/kg	1400	U	**150**	**J**	**340**	**J**	640	UJ	1500	U	2200	U	560	U
Methyl cyclohexane	NA	NA	ug/kg	**98**	**J**	710	U	**96**	**J**	**130**	**J**	**390**	**J**	**690**	**J**	560	U
Methyl tert butyl ether	5,700,000	8,900,000	ug/kg	2900	U	1400	U	1000	U	1300	UJ	3000	UJ	4300	U	1100	U
Methylene chloride	3,300,000	3,300,000	ug/kg	720	U	**180**	**J**	260	U	320	UJ	**300**	**J**	**560**	**J**	280	U
Styrene	870,000	870,000	ug/kg	720	U	360	U	260	U	320	UJ	750	U	1100	U	280	U
Tetrachloroethene	170,000	170,000	ug/kg	**9800**		**2100**		**510**		**2600**	**J**	**25000**		**30000**		**450**	
Toluene	820,000	820,000	ug/kg	720	U	360	U	260	U	320	UJ	750	U	1100	U	280	U
trans-1,2-Dichloroethene	1,700,000	1,700,000	ug/kg	720	U	180	U	130	U	160	UJ	380	U	540	U	140	U
trans-1,3-Dichloropropene	NA	NA	ug/kg	720	U	360	U	260	U	320	UJ	750	U	1100	U	280	U
Trichloroethene	51,000	17,000	ug/kg	**22000**		**5400**		**1800**		**9800**	**J**	**9500**		**17000**		**400**	
Trichlorofluoromethane	1,200,000	1,200,000	ug/kg	720	U	360	U	260	U	320	UJ	750	U	1100	U	280	U
Trifluorotrichloroethane	NA	NA	ug/kg	720	U	360	U	260	U	320	UJ	750	U	1100	U	280	U
Vinyl chloride	50,000	280,000	ug/kg	720	U	360	U	260	U	320	UJ	750	U	1100	U	280	U
Xylene (Total)	260,000	260,000	ug/kg	1400	U	710	U	520	U	640	UJ	1500	U	2200	U	560	U

TABLE 3.4
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 5C, 0-2 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	SB-156-04		SB-165-04		SB-33-02		TT-SB251		TT-SB251		Maximum Detected Concentration	
			Field Sample ID:	SB-156-04		SB-165-04		SB-33-02		TT-SB251-G-02 DP		TT-SB251-G-02			
			Date:	2/3/2004		2/6/2004		4/12/2002		4/3/2013		4/3/2013			
	C/I	Construction	Depth:	0 - 2		0 - 2		1 - 3		0 - 2		0 - 2			
VOCs															
1,1,1-Trichloroethane	640,000	640,000	ug/kg	1500	U	7.4	U	330	U	-		-		-	
1,1,2,2-Tetrachloroethane	75,000	670,000	ug/kg	1500	U	7.4	U	330	U	-		-		-	
1,1,2-Trichloroethane	140,000	1,200,000	ug/kg	1500	U	7.4	U	330	U	-		-		-	
1,1-Dichloroethane	420,000	1,700,000	ug/kg	1500	U	7.4	U	330	U	-		-		-	
1,1-Dichloroethene	1,200,000	360,000	ug/kg	1500	U	7.4	U	330	U	-		-		-	
1,2,4-Trichlorobenzene, VOC	400,000	400,000	ug/kg	1500	U	7.4	U	330	UJ	-		-		-	
1,2-Dibromo-3-chloropropane	1,700	15,000	ug/kg	3000	U	15	U	650	U	-		-		-	
1,2-Dibromoethane	4,400	38,000	ug/kg	1500	U	7.4	U	330	U	-		-		-	
1,2-Dichlorobenzene, VOC	380,000	380,000	ug/kg	1500	U	7.4	U	330	U	-		-		**100**	**J**
1,2-Dichloroethane	56,000	480,000	ug/kg	1500	U	7.4	U	330	U	-		-		-	
1,2-Dichloropropane	120,000	180,000	ug/kg	1500	U	7.4	U	330	U	-		-		-	
1,3-Dichlorobenzene, VOC	NA	NA	ug/kg	1500	U	7.4	U	330	U	-		-		-	
1,4-Dichlorobenzene, VOC	310,000	2,600,000	ug/kg	1500	U	7.4	U	330	U	-		-		-	
2-Butanone	28,000,000	28,000,000	ug/kg	6000	U	30	U	1300	U	-		-		-	
2-Hexanone	NA	NA	ug/kg	6000	U	30	U	1300	U	-		-		-	
4-Methyl-2-Pentanone	3,400,000	3,400,000	ug/kg	6000	U	30	U	1300	U	-		-		-	
Acetone	110,000,000	110,000,000	ug/kg	6000	U	**240**	**J**	1300	U	-		-		**430**	**J**
Benzene	140,000	1,200,000	ug/kg	1500	U	7.4	U	330	U	-		-		-	
Bromodichloromethane	35,000	300,000	ug/kg	1500	U	7.4	U	330	U	-		-		-	
Bromoform	6,200,000	130,000,000	ug/kg	1500	U	7.4	U	330	U	-		-		-	
Bromomethane	82,000	550,000	ug/kg	1500	U	7.4	U	330	U	-		-		**210**	**J**
Carbon disulfide	740,000	740,000	ug/kg	1500	U	7.4	U	330	U	-		-		-	
Carbon tetrachloride	79,000	460,000	ug/kg	1500	U	7.4	U	330	U	-		-		-	
Chlorobenzene	760,000	760,000	ug/kg	1500	U	7.4	U	330	U	-		-		-	
Chloroethane	2,100,000	2,100,000	ug/kg	1500	R	7.4	U	330	U	-		-		-	
Chloroform	38,000	320,000	ug/kg	1500	U	7.4	U	330	U	-		-		-	
Chloromethane	1,300,000	1,300,000	ug/kg	1500	U	7.4	U	330	U	-		-		-	
cis-1,2-Dichloroethene	2,400,000	2,400,000	ug/kg	**2500**		3.7	U	160	U	-		-		**2500**	
cis-1,3-Dichloropropene	NA	NA	ug/kg	1500	U	7.4	U	330	U	-		-		-	
Cyclohexane	120,000	120,000	ug/kg	3000	U	15	U	650	U	-		-		**330**	**J**
Dibromochloromethane	84,000	770,000	ug/kg	1500	U	7.4	U	330	U	-		-		-	
Dichlorodifluoromethane	850,000	850,000	ug/kg	1500	U	7.4	U	330	U	-		-		-	
Ethylbenzene	480,000	480,000	ug/kg	1500	U	**0.82**	**J**	330	U	-		-		**0.82**	**J**
Isopropylbenzene, VOC	270,000	270,000	ug/kg	1500	U	7.4	U	330	U	-		-		-	
Methyl acetate	NA	NA	ug/kg	**410**	**J**	15	U	650	U	-		-		**410**	**J**
Methyl cyclohexane	NA	NA	ug/kg	**300**	**J**	15	U	650	U	-		-		**690**	**J**
Methyl tert butyl ether	5,700,000	8,900,000	ug/kg	6000	UJ	30	U	1300	U	-		-		-	
Methylene chloride	3,300,000	3,300,000	ug/kg	**660**	**J**	7.4	U	330	U	-		-		**660**	**J**
Styrene	870,000	870,000	ug/kg	1500	U	7.4	U	330	U	-		-		-	
Tetrachloroethene	170,000	170,000	ug/kg	**29000**		**4.6**	**J**	**2200**		-		-		**30000**	
Toluene	820,000	820,000	ug/kg	1500	U	**0.68**	**J**	330	U	-		-		**0.68**	**J**
trans-1,2-Dichloroethene	1,700,000	1,700,000	ug/kg	750	U	3.7	U	160	U	-		-		-	
trans-1,3-Dichloropropene	NA	NA	ug/kg	1500	U	7.4	U	330	U	-		-		-	
Trichloroethene	51,000	17,000	ug/kg	**49000**		**3.5**	**J**	**2600**		-		-		**49000**	
Trichlorofluoromethane	1,200,000	1,200,000	ug/kg	1500	U	7.4	U	330	U	-		-		-	
Trifluorotrichloroethane	NA	NA	ug/kg	1500	U	7.4	U	330	U	-		-		-	
Vinyl chloride	50,000	280,000	ug/kg	1500	U	7.4	U	330	U	-		-		-	
Xylene (Total)	260,000	260,000	ug/kg	3000	U	**2.1**	**J**	650	U	-		-		**2.1**	**J**

TABLE 3.4
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 5C, 0-2 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	BH-181		SB-136-04		SB-140-04		SB-142-04		SB-153-04		SB-154-04		SB-155-04	
			Field Sample ID:	S-111104-NZ-035		SB-136-04		SB-140-04		SB-142-04		SB-153-04		SB-154-04		SB-155-04	
			Date:	11/11/2004		2/5/2004		1/27/2004		1/27/2004		2/3/2004		2/5/2004		2/3/2004	
	C/I	Construction	Depth:	0 - 2		0 - 2		0 - 2		0 - 2		0 - 2		0 - 2		0 - 2	
SVOCs																	
2,2-oxybis(2-Chloropropane), SVOC	NA	NA	ug/kg	-		7900	U	370	U	380	U	-		-		-	
2,4,5-Trichlorophenol	180,000,000	1,000,000,000	ug/kg	-		7900	U	370	U	380	U	-		-		-	
2,4,6-Trichlorophenol	1,800,000	1,400,000	ug/kg	-		7900	U	370	U	380	U	-		-		-	
2,4-Dichlorophenol	NA	NA	ug/kg	-		7900	U	370	U	380	U	-		-		-	
2,4-Dimethylphenol	35,000,000	85,000,000	ug/kg	-		7900	U	370	U	380	U	-		-		-	
2,4-Dinitrophenol	3,500,000	28,000,000	ug/kg	-		38000	U	1800	U	1800	U	-		-		-	
2,4-Dinitrotoluene	160,000	2,800,000	ug/kg	-		7900	U	370	U	380	U	-		-		-	
2,6-Dinitrotoluene	NA	NA	ug/kg	-		7900	U	370	U	380	U	-		-		-	
2-Chloronaphthalene	330,000,000	1,000,000,000	ug/kg	-		7900	U	370	U	380	U	-		-		-	
2-Chlorophenol	20,000,000	22,000,000	ug/kg	-		7900	U	370	U	380	U	-		-		-	
2-Methylnaphthalene	6,000,000	5,200,000	ug/kg	-		7900	U	**23**	**J**	**57**	**J**	-		-		-	
2-Methylphenol	88,000,000	710,000,000	ug/kg	-		7900	U	370	U	380	U	-		-		-	
2-Nitroaniline	NA	NA	ug/kg	-		38000	U	1800	U	1800	U	-		-		-	
2-Nitrophenol	NA	NA	ug/kg	-		7900	U	370	U	380	U	-		-		-	
3,3-Dichlorobenzidine	NA	NA	ug/kg	-		38000	U	1800	U	1800	U	-		-		-	
3-Nitroaniline	NA	NA	ug/kg	-		38000	U	1800	U	1800	U	-		-		-	
4,6-Dinitro-2-methylphenol	140,000	110,000	ug/kg	-		38000	U	1800	U	1800	U	-		-		-	
4-Bromophenyl phenyl ether	NA	NA	ug/kg	-		7900	U	370	U	380	U	-		-		-	
4-Chloro-3-methylphenol	180,000,000	140,000,000	ug/kg	-		7900	U	370	U	380	U	-		-		-	
4-Chloroaniline	250,000	710,000	ug/kg	-		7900	U	370	U	380	U	-		-		-	
4-Chlorophenyl phenyl ether	NA	NA	ug/kg	-		7900	U	370	U	380	U	-		-		-	
4-Methylphenol	180,000,000	28,000,000	ug/kg	-		7900	U	370	U	380	U	-		-		-	
4-Nitroaniline	2,500,000	14,000,000	ug/kg	-		38000	U	1800	U	1800	U	-		-		-	
4-Nitrophenol	NA	NA	ug/kg	-		38000	U	1800	U	1800	U	-		-		-	
Acenaphthene	90,000,000	780,000,000	ug/kg	-		7900	U	370	U	380	U	-		-		-	
Acenaphthylene	90,000,000	780,000,000	ug/kg	-		7900	U	370	U	380	U	-		-		-	
Acetophenone	2,500,000	2,500,000	ug/kg	-		7900	U	370	U	380	U	-		-		-	
Anthracene	450,000,000	1,000,000,000	ug/kg	-		7900	U	**130**	**J**	380	U	-		-		-	
Atrazine	NA	NA	ug/kg	-		7900	U	370	U	380	U	-		-		-	
Benzaldehyde	NA	NA	ug/kg	-		7900	U	370	U	380	U	-		-		-	
Benzo(a)anthracene	58,000	1,200,000	ug/kg	-		7900	U	**420**		**84**	**J**	-		-		-	
Benzo(a)pyrene	5,800	120,000	ug/kg	-		7900	U	**320**	**J**	380	U	-		-		-	
Benzo(b)fluoranthene	58,000	1,200,000	ug/kg	-		7900	U	**500**		380	U	-		-		-	
Benzo(g,h,i)perylene	45,000,000	390,000,000	ug/kg	-		7900	U	**330**	**J**	380	U	-		-		-	
Benzo(k)fluoranthene	580,000	12,000,000	ug/kg	-		7900	U	**210**	**J**	380	U	-		-		-	
Biphenyl	14,000,000	190,000,000	ug/kg	-		7900	U	370	U	380	U	-		-		-	
bis(2-Chloroethoxy)methane	5,300,000	43,000,000	ug/kg	-		7900	U	370	U	380	U	-		-		-	
bis(2-Chloroethyl)ether	30,000	290,000	ug/kg	-		7900	U	370	U	380	U	-		-		-	
bis(2-Ethylhexyl)phthalate	3,500,000	71,000,000	ug/kg	-		7900	U	**41**	**J**	**29**	**J**	-		-		-	
Butyl benzylphthalate	26,000,000	520,000,000	ug/kg	-		7900	U	370	U	380	U	-		-		-	
Caprolactam	NA	NA	ug/kg	-		7900	U	370	U	380	U	-		-		-	
Carbazole	2,500,000	50,000,000	ug/kg	-		7900	U	370	U	380	U	-		-		-	
Chrysene	5,800,000	120,000,000	ug/kg	-		7900	U	**420**		**87**	**J**	-		-		-	
Dibenz(a,h)anthracene	5,800	120,000	ug/kg	-		7900	U	**26**	**J**	380	U	-		-		-	
Dibenzofuran	4,100,000	2,100,000	ug/kg	-		7900	U	**21**	**J**	380	U	-		-		-	
Diethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	-		7900	U	370	U	380	U	-		-		-	
Dimethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	-		7900	U	370	U	380	U	-		-		-	
Di-n-butylphthalate	180,000,000	430,000,000	ug/kg	-		7900	U	370	U	380	U	-		-		-	
Di-N-Octyl phthalate	18,000,000	140,000,000	ug/kg	-		7900	U	370	U	380	U	-		-		-	
Fluoranthene	60,000,000	160,000,000	ug/kg	-		7900	U	**1000**		**120**	**J**	-		-		-	
Fluorene	60,000,000	520,000,000	ug/kg	-		7900	U	**36**	**J**	380	U	-		-		-	
Hexachlorobenzene	31,000	14,000	ug/kg	-		7900	U	370	U	380	U	-		-		-	
Hexachlorobutadiene, SVOC	630,000	1,400,000	ug/kg	-		7900	U	370	U	380	U	-		-		-	
Hexachlorocyclopentadiene	11,000,000	26,000,000	ug/kg	-		38000	U	1800	U	1800	U	-		-		-	
Hexachloroethane	1,200,000	3,000,000	ug/kg	-		7900	U	370	U	380	U	-		-		-	
Indeno(1,2,3-cd)pyrene	58,000	1,200,000	ug/kg	-		7900	U	**280**	**J**	380	U	-		-		-	
Isophorone	52,000,000	1,000,000,000	ug/kg	-		7900	U	370	U	380	U	-		-		-	
Naphthalene, SVOC	450,000	560,000	ug/kg	-		7900	U	**26**	**J**	**22**	**J**	-		-		-	
Nitrobenzene	610,000	3,000,000	ug/kg	-		7900	U	370	U	380	U	-		-		-	
N-Nitrosodi-n-propylamine	7,000	140,000	ug/kg	-		7900	U	370	U	380	U	-		-		-	
N-Nitrosodiphenylamine	10,000,000	200,000,000	ug/kg	-		7900	U	370	U	380	U	-		-		-	
Pentachlorophenol	67,000	950,000	ug/kg	-		7900	U	370	U	380	U	-		-		-	
Phenanthrene	450,000,000	1,000,000,000	ug/kg	-		7900	U	**260**	**J**	**160**	**J**	-		-		-	
Phenol	530,000,000	840,000,000	ug/kg	-		7900	U	370	U	380	U	-		-		-	
Pyrene, SVOC	45,000,000	390,000,000	ug/kg	-		7900	U	**960**		**110**	**J**	-		-		-	

TABLE 3.4
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 5C, 0-2 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	SB-156-04		SB-165-04		SB-33-02		TT-SB251		TT-SB251		Maximum Detected Concentration	
			Field Sample ID:	SB-156-04		SB-165-04		SB-33-02		TT-SB251-G-02 DP		TT-SB251-G-02			
			Date:	2/3/2004		2/6/2004		4/12/2002		4/3/2013		4/3/2013			
	C/I	Construction	Depth:	0 - 2		0 - 2		1 - 3		0 - 2		0 - 2			
SVOCs															
2,2-oxybis(2-Chloropropane), SVOC	NA	NA	ug/kg	-		-		370	U	-		-		-	
2,4,5-Trichlorophenol	180,000,000	1,000,000,000	ug/kg	-		-		370	U	-		-		-	
2,4,6-Trichlorophenol	1,800,000	1,400,000	ug/kg	-		-		370	U	-		-		-	
2,4-Dichlorophenol	NA	NA	ug/kg	-		-		370	U	-		-		-	
2,4-Dimethylphenol	35,000,000	85,000,000	ug/kg	-		-		370	U	-		-		-	
2,4-Dinitrophenol	3,500,000	28,000,000	ug/kg	-		-		1800	U	-		-		-	
2,4-Dinitrotoluene	160,000	2,800,000	ug/kg	-		-		370	U	-		-		-	
2,6-Dinitrotoluene	NA	NA	ug/kg	-		-		370	U	-		-		-	
2-Chloronaphthalene	330,000,000	1,000,000,000	ug/kg	-		-		370	U	-		-		-	
2-Chlorophenol	20,000,000	22,000,000	ug/kg	-		-		370	U	-		-		-	
2-Methylnaphthalene	6,000,000	5,200,000	ug/kg	-		-		370	U	-		-		**57**	**J**
2-Methylphenol	88,000,000	710,000,000	ug/kg	-		-		370	U	-		-		-	
2-Nitroaniline	NA	NA	ug/kg	-		-		1800	U	-		-		-	
2-Nitrophenol	NA	NA	ug/kg	-		-		370	U	-		-		-	
3,3-Dichlorobenzidine	NA	NA	ug/kg	-		-		1800	U	-		-		-	
3-Nitroaniline	NA	NA	ug/kg	-		-		1800	U	-		-		-	
4,6-Dinitro-2-methylphenol	140,000	110,000	ug/kg	-		-		1800	U	-		-		-	
4-Bromophenyl phenyl ether	NA	NA	ug/kg	-		-		370	U	-		-		-	
4-Chloro-3-methylphenol	180,000,000	140,000,000	ug/kg	-		-		370	U	-		-		-	
4-Chloroaniline	250,000	710,000	ug/kg	-		-		370	U	-		-		-	
4-Chlorophenyl phenyl ether	NA	NA	ug/kg	-		-		370	U	-		-		-	
4-Methylphenol	180,000,000	28,000,000	ug/kg	-		-		370	U	-		-		-	
4-Nitroaniline	2,500,000	14,000,000	ug/kg	-		-		1800	U	-		-		-	
4-Nitrophenol	NA	NA	ug/kg	-		-		1800	U	-		-		-	
Acenaphthene	90,000,000	780,000,000	ug/kg	-		-		370	U	-		-		-	
Acenaphthylene	90,000,000	780,000,000	ug/kg	-		-		370	U	-		-		-	
Acetophenone	2,500,000	2,500,000	ug/kg	-		-		370	U	-		-		-	
Anthracene	450,000,000	1,000,000,000	ug/kg	-		-		370	U	-		-		**130**	**J**
Atrazine	NA	NA	ug/kg	-		-		370	U	-		-		-	
Benzaldehyde	NA	NA	ug/kg	-		-		370	U	-		-		-	
Benzo(a)anthracene	58,000	1,200,000	ug/kg	-		-		370	U	-		-		**420**	
Benzo(a)pyrene	5,800	120,000	ug/kg	-		-		370	U	-		-		**320**	**J**
Benzo(b)fluoranthene	58,000	1,200,000	ug/kg	-		-		370	U	-		-		**500**	
Benzo(g,h,i)perylene	45,000,000	390,000,000	ug/kg	-		-		370	U	-		-		**330**	**J**
Benzo(k)fluoranthene	580,000	12,000,000	ug/kg	-		-		370	U	-		-		**210**	**J**
Biphenyl	14,000,000	190,000,000	ug/kg	-		-		370	U	-		-		-	
bis(2-Chloroethoxy)methane	5,300,000	43,000,000	ug/kg	-		-		370	U	-		-		-	
bis(2-Chloroethyl)ether	30,000	290,000	ug/kg	-		-		370	U	-		-		-	
bis(2-Ethylhexyl)phthalate	3,500,000	71,000,000	ug/kg	-		-		370	U	-		-		**41**	**J**
Butyl benzylphthalate	26,000,000	520,000,000	ug/kg	-		-		370	U	-		-		-	
Caprolactam	NA	NA	ug/kg	-		-		370	U	-		-		-	
Carbazole	2,500,000	50,000,000	ug/kg	-		-		370	U	-		-		-	
Chrysene	5,800,000	120,000,000	ug/kg	-		-		370	U	-		-		**420**	
Dibenz(a,h)anthracene	5,800	120,000	ug/kg	-		-		370	U	-		-		**26**	**J**
Dibenzofuran	4,100,000	2,100,000	ug/kg	-		-		370	U	-		-		**21**	**J**
Diethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	-		-		370	U	-		-		-	
Dimethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	-		-		370	U	-		-		-	
Di-n-butylphthalate	180,000,000	430,000,000	ug/kg	-		-		370	U	-		-		-	
Di-N-Octyl phthalate	18,000,000	140,000,000	ug/kg	-		-		370	U	-		-		-	
Fluoranthene	60,000,000	160,000,000	ug/kg	-		-		370	U	-		-		**1000**	
Fluorene	60,000,000	520,000,000	ug/kg	-		-		370	U	-		-		**36**	**J**
Hexachlorobenzene	31,000	14,000	ug/kg	-		-		370	U	-		-		-	
Hexachlorobutadiene, SVOC	630,000	1,400,000	ug/kg	-		-		370	U	-		-		-	
Hexachlorocyclopentadiene	11,000,000	26,000,000	ug/kg	-		-		1800	UJ	-		-		-	
Hexachloroethane	1,200,000	3,000,000	ug/kg	-		-		370	U	-		-		-	
Indeno(1,2,3-cd)pyrene	58,000	1,200,000	ug/kg	-		-		370	U	-		-		**280**	**J**
Isophorone	52,000,000	1,000,000,000	ug/kg	-		-		370	U	-		-		-	
Naphthalene, SVOC	450,000	560,000	ug/kg	-		-		370	U	-		-		**26**	**J**
Nitrobenzene	610,000	3,000,000	ug/kg	-		-		370	U	-		-		-	
N-Nitrosodi-n-propylamine	7,000	140,000	ug/kg	-		-		370	U	-		-		-	
N-Nitrosodiphenylamine	10,000,000	200,000,000	ug/kg	-		-		370	U	-		-		-	
Pentachlorophenol	67,000	950,000	ug/kg	-		-		370	U	-		-		-	
Phenanthrene	450,000,000	1,000,000,000	ug/kg	-		-		370	U	-		-		**260**	**J**
Phenol	530,000,000	840,000,000	ug/kg	-		-		370	U	-		-		-	
Pyrene, SVOC	45,000,000	390,000,000	ug/kg	-		-		370	U	-		-		**960**	

TABLE 3.4
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 5C, 0-2 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	BH-181		SB-136-04		SB-140-04		SB-142-04		SB-153-04		SB-154-04		SB-155-04	
			Field Sample ID:	S-111104-NZ-035		SB-136-04		SB-140-04		SB-142-04		SB-153-04		SB-154-04		SB-155-04	
			Date:	11/11/2004		2/5/2004		1/27/2004		1/27/2004		2/3/2004		2/5/2004		2/3/2004	
	C/I	Construction	Depth:	0 - 2		0 - 2		0 - 2		0 - 2		0 - 2		0 - 2		0 - 2	
PCBs																	
Aroclor-1016	100,000	260,000	ug/kg	43	U	39	U	37	U	76	U	-		-		-	
Aroclor-1221	14,000	210,000	ug/kg	43	U	39	U	37	U	76	U	-		-		-	
Aroclor-1232	14,000	73,000	ug/kg	43	U	39	U	37	U	76	U	-		-		-	
Aroclor-1242	20,000	440,000	ug/kg	43	U	39	U	37	U	76	U	-		-		-	
Aroclor-1248	20,000	440,000	ug/kg	43	U	39	U	37	U	76	U	-		-		-	
Aroclor-1254	20,000	75,000	ug/kg	43	U	39	U	37	U	76	U	-		-		-	
Aroclor-1260	20,000	440,000	ug/kg	43	U	39	U	37	U	76	U	-		-		-	
Total PCBs	20,000	440,000	ug/kg	43	U	39	U	37	U	76	U	-		-		-	
Metals																	
Antimony	1,600	850	mg/kg	-		7.2	UJ	**4**	**J**	6.9	UJ	7.6	U	7.3	UJ	7.6	U
Arsenic	77	690	mg/kg	-		**2.7**		**3.4**		**9**		**6.6**		**4.6**		**11.2**	
Barium	680,000	320,000	mg/kg	-		**24.6**		**28.1**		**181**		**147**		**130**		**155**	
Beryllium	7,800	3,400	mg/kg	-		**0.1**	**J**	0.56	U	**0.64**		**0.39**	**J**	**0.52**	**J**	**0.38**	**J**
Cadmium	2,600	1,000	mg/kg	-		**0.22**	**J**	**0.28**	**J**	**0.98**		**9.9**		**0.26**	**J**	**6.5**	
Chromium Total	NA	NA	mg/kg	-		**4.1**	**J**	**7.1**	**J**	**6.4**	**J**	**54.1**		**6.2**	**J**	**28.4**	
Cobalt	1,200	2,800	mg/kg	-		**9.5**		**2**	**J**	**5.1**	**J**	**18.1**		**3.2**	**J**	**84.8**	
Copper	160,000	21,000	mg/kg	-		**13.5**	**J**	**488**	**J**	**177**	**J**	**50.1**		**86.9**	**J**	**9420**	
Cyanide (total)	370	150	mg/kg	-		0.6	U	**2.1**		0.58	U	**4.3**		**0.59**	**J**	**0.97**	
Lead	800	400	mg/kg	-		**28.2**	**J**	**327**		**39**		**57.8**		**84.6**	**J**	**262**	
Manganese	NA	NA	mg/kg	-		**169**		**160**		**799**		**436**		**427**		**517**	
Mercury	3.1	3.1	mg/kg	-		**0.045**	**J**	**2.2**		**0.15**		**0.31**		**0.16**		**0.92**	
Nickel	74,000	23,000	mg/kg	-		**4.1**	**J**	**15.5**		**427**		**12.3**		**15.7**	**J**	**37.3**	
Selenium	20,000	11,000	mg/kg	-		0.6	U	0.56	U	0.58	U	0.63	U	0.61	U	**0.57**	**J**
Silver	20,000	11,000	mg/kg	-		1.2	U	**0.28**	**J**	1.2	U	1.3	U	1.2	U	**2.5**	
Thallium	41	21	mg/kg	-		1.2	U	**0.65**	**J**	1.2	U	**1.2**	**J**	1.2	U	**1.4**	
Vanadium	20,000	11,000	mg/kg	-		**5.8**	**J**	**7.1**		**13.8**		**14**		**11**		**18.8**	
Zinc	1,000,000	640,000	mg/kg	-		**41.4**	**J**	**201**	**J**	**576**	**J**	**3540**		**89.5**	**J**	**876**	

TABLE 3.4
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 5C, 0-2 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	SB-156-04		SB-165-04		SB-33-02		TT-SB251		TT-SB251		Maximum Detected Concentration	
			Field Sample ID:	SB-156-04		SB-165-04		SB-33-02		TT-SB251-G-02 DP		TT-SB251-G-02			
			Date:	2/3/2004		2/6/2004		4/12/2002		4/3/2013		4/3/2013			
	C/I	Construction	Depth:	0 - 2		0 - 2		1 - 3		0 - 2		0 - 2			
PCBs															
Aroclor-1016	100,000	260,000	ug/kg	-		-		37	U	21.3	U	20.7	U	-	
Aroclor-1221	14,000	210,000	ug/kg	-		-		37	U	21.3	U	20.7	U	-	
Aroclor-1232	14,000	73,000	ug/kg	-		-		37	U	21.3	U	20.7	U	-	
Aroclor-1242	20,000	440,000	ug/kg	-		-		37	U	21.3	U	20.7	U	-	
Aroclor-1248	20,000	440,000	ug/kg	-		-		37	U	21.3	U	20.7	U	-	
Aroclor-1254	20,000	75,000	ug/kg	-		-		37	U	**148**		**184**		**184**	
Aroclor-1260	20,000	440,000	ug/kg	-		-		37	U	21.3	U	20.7	U	-	
Total PCBs	20,000	440,000	ug/kg	-		-		37	U	**148**		**184**		**184**	
Metals															
Antimony	1,600	850	mg/kg	**1.3**	**J**	7	UJ	6.8	U	-		-		**4**	**J**
Arsenic	77	690	mg/kg	**12.1**		**2.9**		**6.4**		-		-		**12.1**	
Barium	680,000	320,000	mg/kg	**190**		**62.3**	**J**	**111**		-		-		**190**	
Beryllium	7,800	3,400	mg/kg	**1.2**		**0.3**	**J**	0.79	U	-		-		**1.2**	
Cadmium	2,600	1,000	mg/kg	**0.52**	**J**	**0.15**	**J**	**81.8**		-		-		**81.8**	
Chromium Total	NA	NA	mg/kg	**152**		**8.9**	**J**	**1790**		-		-		**1790**	
Cobalt	1,200	2,800	mg/kg	**9.1**		**13.3**		**3.7**	**J**	-		-		**84.8**	
Copper	160,000	21,000	mg/kg	**129**		**11.8**		**377**		-		-		**9420**	
Cyanide (total)	370	150	mg/kg	**0.11**	**J**	**0.18**	**J**	**11.7**		-		-		**11.7**	
Lead	800	400	mg/kg	**120**		**9.3**	**J**	**29.2**		-		-		**327**	
Manganese	NA	NA	mg/kg	**457**		**44.4**		**436**		-		-		**799**	
Mercury	3.1	3.1	mg/kg	**7.5**		**0.76**		**2.3**		-		-		**7.5**	
Nickel	74,000	23,000	mg/kg	**22.8**		**6.4**		**21.9**		-		-		**427**	
Selenium	20,000	11,000	mg/kg	0.63	U	0.58	U	0.57	U	-		-		**0.57**	**J**
Silver	20,000	11,000	mg/kg	1.3	U	**0.11**	**J**	**0.65**	**J**	-		-		**2.5**	
Thallium	41	21	mg/kg	**1.2**	**J**	1.2	U	1.1	U	-		-		**1.4**	
Vanadium	20,000	11,000	mg/kg	**19.9**		**4.2**	**J**	**14.9**		-		-		**19.9**	
Zinc	1,000,000	640,000	mg/kg	**229**		**16.4**		**43300**		-		-		**43300**	

NOTES:

Shaded values indicate concentration exceeds C/I Single Chemical Generic Direct Contact Soil Standard
Shaded values indicate concentration exceeds Construction Single Chemical Generic Direct Contact Soil Standard
Shaded values indicate concentration exceeds both Single Chemical Generic Direct Contact Soil Standards

bold text indicates detection above reporting limit
Total PCBs value is the sum of all positively deteted PCB aroclors
D: The reported value is from a dilution
C/I: Commercial/ Industrial
J: The associated numerical value is an estimated quantity
mg/kg: milligrams per kilogram
NA: exceedance criteria not applicable for compound/analyte
PCB: Polychlorinated Biphenyl
R: The data are unusable (the compound/analyte may or may not be present). Resampling and reanalysis are necessary for verification
SVOC: SemiVolatile Organic Compound
U: The compound/analyte was analyzed for, but not detected. The associated numerical value is the sample quantitation limit
ug/kg: micrograms per kilogram
UJ: The compound/analyte was analyzed for, but not detected. The sample quantitation limit is an estimated quantity
VOC: Volatile Organic Compound

TABLE 3.5
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 5E, 0-2 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	BH-180		BH-180		SB-137-04		SB-138-04		SB-17-02		SB-54-02		TT-SB252		TT-SB253		TT-SB254		Maximum Detected Concentration	
			Field Sample ID:	S-111104-NZ-031		S-111104-NZ-032		SB-137-04		SB-138-04		SB-17-02		SB-54-02		TT-SB252-G-02		TT-SB253-G-02		TT-SB254-G-02			
			Date:	11/11/2004		11/11/2004		1/26/2004		1/26/2004		4/8/2002		4/17/2002		4/3/2013		4/3/2013		4/3/2013			
	C/I	Construction	Depth:	0 - 2		0 - 2		0 - 2		0 - 2		1 - 3		1 - 3		0 - 2		0 - 2		0 - 2			
VOCs																							
1,1,1-Trichloroethane	640,000	640,000	ug/kg	770	U	**29**	**J**	370	U	720	U	230	U	310	U	-		-				**29**	**J**
1,1,2,2-Tetrachloroethane	75,000	670,000	ug/kg	770	U	270	U	370	U	720	U	230	U	310	U	-		-				-	
1,1,2-Trichloroethane	140,000	1,200,000	ug/kg	770	U	270	U	370	U	720	U	230	U	310	U	-		-				-	
1,1-Dichloroethane	420,000	1,700,000	ug/kg	770	U	270	U	370	U	720	U	230	U	310	U	-		-				-	
1,1-Dichloroethene	1,200,000	360,000	ug/kg	770	U	270	U	370	U	720	U	230	U	310	U	-		-				-	
1,2,4-Trichlorobenzene, VOC	400,000	400,000	ug/kg	770	U	270	U	370	U	720	U	230	U	310	U	-		-				-	
1,2-Dibromo-3-chloropropane	1,700	15,000	ug/kg	1500	U	530	U	740	U	1400	U	450	U	610	U	-		-				-	
1,2-Dibromoethane	4,400	38,000	ug/kg	770	U	270	U	370	U	720	U	230	U	310	U	-		-				-	
1,2-Dichlorobenzene, VOC	380,000	380,000	ug/kg	770	U	270	U	370	U	720	U	230	U	310	U	-		-				-	
1,2-Dichloroethane	56,000	480,000	ug/kg	770	U	270	U	370	U	720	U	230	U	310	U	-		-				-	
1,2-Dichloropropane	120,000	180,000	ug/kg	770	U	270	U	370	U	720	U	230	U	310	U	-		-				-	
1,3-Dichlorobenzene, VOC			ug/kg	770	U	270	U	370	U	720	U	230	U	310	U	-		-				-	
1,4-Dichlorobenzene, VOC	310,000	2,600,000	ug/kg	770	U	270	U	370	U	720	U	230	U	310	U	-		-				-	
2-Butanone	28,000,000	28,000,000	ug/kg	3100	U	1100	U	1500	UJ	2900	UJ	900	U	1200	U	-		-				-	
2-Hexanone			ug/kg	3100	U	1100	U	1500	UJ	2900	UJ	900	U	1200	U	-		-				-	
4-Methyl-2-Pentanone	3,400,000	3,400,000	ug/kg	3100	U	1100	U	1500	U	2900	U	900	U	1200	U	-		-				-	
Acetone	110,000,000	110,000,000	ug/kg	3100	U	1100	U	1500	UJ	2900	UJ	900	U	1200	U	-		-				-	
Benzene	140,000	1,200,000	ug/kg	**110**	**J**	270	U	370	U	**180**	**J**	230	U	310	U	-		-				**180**	**J**
Bromodichloromethane	35,000	300,000	ug/kg	770	U	270	U	370	U	720	U	230	U	310	U	-		-				-	
Bromoform	6,200,000	130,000,000	ug/kg	770	U	270	U	370	U	720	U	230	U	310	U	-		-				-	
Bromomethane	82,000	550,000	ug/kg	770	U	270	U	370	U	720	U	230	U	310	U	-		-				-	
Carbon disulfide	740,000	740,000	ug/kg	770	U	270	U	370	U	720	U	230	U	310	U	-		-				-	
Carbon tetrachloride	79,000	460,000	ug/kg	770	U	270	U	370	U	720	U	230	U	310	U	-		-				-	
Chlorobenzene	760,000	760,000	ug/kg	770	U	270	U	370	U	720	U	230	U	310	U	-		-				-	
Chloroethane	2,100,000	2,100,000	ug/kg	770	U	270	U	370	U	720	U	230	U	310	U	-		-				-	
Chloroform	38,000	320,000	ug/kg	770	U	270	U	370	U	720	U	230	U	310	U	-		-				-	
Chloromethane	1,300,000	1,300,000	ug/kg	770	U	270	U	370	U	720	U	230	U	310	U	-		-				-	
cis-1,2-Dichloroethene	2,400,000	2,400,000	ug/kg	**110**	**J**	**26**	**J**	**34**	**J**	360	U	110	U	**110**	**J**	-		-				**110**	**J**
cis-1,3-Dichloropropene			ug/kg	770	U	270	U	370	U	720	U	230	U	310	U	-		-				-	
Cyclohexane	120,000	120,000	ug/kg	**750**	**J**	**81**	**J**	740	U	**1000**	**J**	450	U	**46**	**J**	-		-				**1000**	**J**
Dibromochloromethane	84,000	770,000	ug/kg	770	U	270	U	370	U	720	U	230	U	310	U	-		-				-	
Dichlorodifluoromethane	850,000	850,000	ug/kg	770	U	270	U	370	U	720	U	230	U	310	U	-		-				-	
Ethylbenzene	480,000	480,000	ug/kg	**81**	**J**	270	U	370	U	**700**	**J**	230	U	310	U	-		-				**700**	**J**
Isopropylbenzene, VOC	270,000	270,000	ug/kg	770	U	270	U	370	U	**580**	**J**	230	U	310	U	-		-				**580**	**J**
Methyl acetate			ug/kg	**280**	**J**	530	U	**140**	**J**	**170**	**J**	450	U	610	U	-		-				**280**	**J**
Methyl cyclohexane			ug/kg	**2200**		**210**	**J**	740	U	**3000**		450	U	**190**	**J**	-		-				**3000**	
Methyl tert butyl ether	5,700,000	8,900,000	ug/kg	3100	U	1100	U	1500	U	2900	U	900	U	1200	U	-		-				-	
Methylene chloride	3,300,000	3,300,000	ug/kg	770	U	270	U	370	U	720	U	230	U	310	U	-		-				-	
Styrene	870,000	870,000	ug/kg	770	U	270	U	370	U	720	U	230	U	310	U	-		-				-	
Tetrachloroethene	170,000	170,000	ug/kg	**740**	**J**	**750**		**2700**		**17000**		**950**		**6300**		-		-				**17000**	
Toluene	820,000	820,000	ug/kg	800	B	270	U	370	U	**2100**		230	U	310	U	-		-				**2100**	
trans-1,2-Dichloroethene	1,700,000	1,700,000	ug/kg	770	U	270	U	180	U	360	U	110	U	150	U	-		-				-	
trans-1,3-Dichloropropene			ug/kg	770	U	270	U	370	U	720	U	230	U	310	U	-		-				-	
Trichloroethene	51,000	17,000	ug/kg	**12000**		**5300**		**5200**	**J**	**14000**		**280**		**8400**		-		-				**14000**	
Trichlorofluoromethane	1,200,000	1,200,000	ug/kg	770	U	270	U	370	U	720	U	230	U	310	U	-		-				-	
Trifluorotrichloroethane			ug/kg	770	U	270	U	370	U	720	U	230	U	310	U	-		-				-	
Vinyl chloride	50,000	280,000	ug/kg	770	U	270	U	370	U	720	U	230	U	310	U	-		-				-	
Xylene (Total)	260,000	260,000	ug/kg	**1600**		**170**	**J**	740	U	**5400**		450	U	**100**	**J**	-		-				**5400**	

TABLE 3.5
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 5E, 0-2 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	BH-180		BH-180		SB-137-04		SB-138-04		SB-17-02		SB-54-02		TT-SB252		TT-SB253		TT-SB254		Maximum Detected Concentration	
			Field Sample ID:	S-111104-NZ-031		S-111104-NZ-032		SB-137-04		SB-138-04		SB-17-02		SB-54-02		TT-SB252-G-02		TT-SB253-G-02		TT-SB254-G-02			
			Date:	11/11/2004		11/11/2004		1/26/2004		1/26/2004		4/8/2002		4/17/2002		4/3/2013		4/3/2013		4/3/2013			
	C/I	Construction	Depth:	0 - 2		0 - 2		0 - 2		0 - 2		1 - 3		1 - 3		0 - 2		0 - 2		0 - 2			
SVOCs																							
2,2-oxybis(2-Chloropropane), SVOC			ug/kg	-		-		-		-		350	U	7800	U	-		-				-	
2,4,5-Trichlorophenol	180,000,000	1,000,000,000	ug/kg	-		-		-		-		350	U	7800	U	-		-				-	
2,4,6-Trichlorophenol	1,800,000	1,400,000	ug/kg	-		-		-		-		350	U	7800	U	-		-				-	
2,4-Dichlorophenol			ug/kg	-		-		-		-		350	U	7800	U	-		-				-	
2,4-Dimethylphenol	35,000,000	85,000,000	ug/kg	-		-		-		-		350	U	7800	U	-		-				-	
2,4-Dinitrophenol	3,500,000	28,000,000	ug/kg	-		-		-		-		1700	U	38000	U	-		-				-	
2,4-Dinitrotoluene	160,000	2,800,000	ug/kg	-		-		-		-		350	U	7800	U	-		-				-	
2,6-Dinitrotoluene			ug/kg	-		-		-		-		350	U	7800	U	-		-				-	
2-Chloronaphthalene	330,000,000	1,000,000,000	ug/kg	-		-		-		-		350	U	7800	U	-		-				-	
2-Chlorophenol	20,000,000	22,000,000	ug/kg	-		-		-		-		350	U	7800	U	-		-				-	
2-Methylnaphthalene	6,000,000	5,200,000	ug/kg	-		-		-		-		350	U	7800	U	-		-				-	
2-Methylphenol	88,000,000	710,000,000	ug/kg	-		-		-		-		350	U	7800	U	-		-				-	
2-Nitroaniline			ug/kg	-		-		-		-		1700	U	38000	U	-		-				-	
2-Nitrophenol			ug/kg	-		-		-		-		350	U	7800	U	-		-				-	
3,3-Dichlorobenzidine			ug/kg	-		-		-		-		1700	U	38000	U	-		-				-	
3-Nitroaniline			ug/kg	-		-		-		-		1700	U	38000	U	-		-				-	
4,6-Dinitro-2-methylphenol	140,000	110,000	ug/kg	-		-		-		-		1700	U	38000	U	-		-				-	
4-Bromophenyl phenyl ether			ug/kg	-		-		-		-		350	U	7800	U	-		-				-	
4-Chloro-3-methylphenol	180,000,000	140,000,000	ug/kg	-		-		-		-		350	U	7800	U	-		-				-	
4-Chloroaniline	250,000	710,000	ug/kg	-		-		-		-		350	U	7800	U	-		-				-	
4-Chlorophenyl phenyl ether			ug/kg	-		-		-		-		350	U	7800	U	-		-				-	
4-Methylphenol	180,000,000	28,000,000	ug/kg	-		-		-		-		350	U	7800	U	-		-				-	
4-Nitroaniline	2,500,000	14,000,000	ug/kg	-		-		-		-		1700	U	38000	U	-		-				-	
4-Nitrophenol			ug/kg	-		-		-		-		1700	U	38000	U	-		-				-	
Acenaphthene	90,000,000	780,000,000	ug/kg	-		-		-		-		350	U	7800	U	-		-				-	
Acenaphthylene	90,000,000	780,000,000	ug/kg	-		-		-		-		350	U	7800	U	-		-				-	
Acetophenone	2,500,000	2,500,000	ug/kg	-		-		-		-		350	U	7800	U	-		-				-	
Anthracene	450,000,000	1,000,000,000	ug/kg	-		-		-		-		350	U	7800	U	-		-				-	
Atrazine			ug/kg	-		-		-		-		350	U	7800	U	-		-				-	
Benzaldehyde			ug/kg	-		-		-		-		350	U	7800	U	-		-				-	
Benzo(a)anthracene	58,000	1,200,000	ug/kg	-		-		-		-		350	U	7800	U	-		-				-	
Benzo(a)pyrene	5,800	120,000	ug/kg	-		-		-		-		350	U	7800	U	-		-				-	
Benzo(b)fluoranthene	58,000	1,200,000	ug/kg	-		-		-		-		350	U	7800	U	-		-				-	
Benzo(g,h,i)perylene	45,000,000	390,000,000	ug/kg	-		-		-		-		350	U	7800	U	-		-				-	
Benzo(k)fluoranthene	580,000	12,000,000	ug/kg	-		-		-		-		350	U	7800	U	-		-				-	
Biphenyl	14,000,000	190,000,000	ug/kg	-		-		-		-		350	U	7800	U	-		-				-	
bis(2-Chloroethoxy)methane	5,300,000	43,000,000	ug/kg	-		-		-		-		350	U	7800	U	-		-				-	
bis(2-Chloroethyl)ether	30,000	290,000	ug/kg	-		-		-		-		350	U	7800	U	-		-				-	
bis(2-Ethylhexyl)phthalate	3,500,000	71,000,000	ug/kg	-		-		-		-		350	U	7800	U	-		-				-	
Butyl benzylphthalate	26,000,000	520,000,000	ug/kg	-		-		-		-		350	U	7800	U	-		-				-	
Caprolactam			ug/kg	-		-		-		-		350	U	7800	U	-		-				-	
Carbazole	2,500,000	50,000,000	ug/kg	-		-		-		-		350	U	7800	U	-		-				-	
Chrysene	5,800,000	120,000,000	ug/kg	-		-		-		-		350	U	7800	U	-		-				-	
Dibenz(a,h)anthracene	5,800	120,000	ug/kg	-		-		-		-		350	U	7800	U	-		-				-	
Dibenzofuran	4,100,000	2,100,000	ug/kg	-		-		-		-		350	U	7800	U	-		-				-	
Diethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	-		-		-		-		350	U	7800	U	-		-				-	
Dimethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	-		-		-		-		350	U	7800	U	-		-				-	
Di-n-butylphthalate	180,000,000	430,000,000	ug/kg	-		-		-		-		350	U	7800	U	-		-				-	
Di-N-Octyl phthalate	18,000,000	140,000,000	ug/kg	-		-		-		-		350	U	7800	U	-		-				-	
Fluoranthene	60,000,000	160,000,000	ug/kg	-		-		-		-		350	U	7800	U	-		-				-	
Fluorene	60,000,000	520,000,000	ug/kg	-		-		-		-		350	U	7800	U	-		-				-	
Hexachlorobenzene	31,000	14,000	ug/kg	-		-		-		-		350	U	7800	U	-		-				-	
Hexachlorobutadiene, SVOC	630,000	1,400,000	ug/kg	-		-		-		-		350	U	7800	U	-		-				-	
Hexachlorocyclopentadiene	11,000,000	26,000,000	ug/kg	-		-		-		-		1700	U	38000	U	-		-				-	
Hexachloroethane	1,200,000	3,000,000	ug/kg	-		-		-		-		350	U	7800	U	-		-				-	
Indeno(1,2,3-cd)pyrene	58,000	1,200,000	ug/kg	-		-		-		-		350	U	7800	U	-		-				-	
Isophorone	52,000,000	1,000,000,000	ug/kg	-		-		-		-		350	U	7800	U	-		-				-	
Naphthalene, SVOC	450,000	560,000	ug/kg	-		-		-		-		350	U	7800	U	-		-				-	
Nitrobenzene	610,000	3,000,000	ug/kg	-		-		-		-		350	U	7800	U	-		-				-	
N-Nitrosodi-n-propylamine	7,000	140,000	ug/kg	-		-		-		-		350	U	7800	U	-		-				-	
N-Nitrosodiphenylamine	10,000,000	200,000,000	ug/kg	-		-		-		-		350	U	7800	U	-		-				-	
Pentachlorophenol	67,000	950,000	ug/kg	-		-		-		-		350	U	7800	U	-		-				-	
Phenanthrene	450,000,000	1,000,000,000	ug/kg	-		-		-		-		350	U	7800	U	-		-				-	
Phenol	530,000,000	840,000,000	ug/kg	-		-		-		-		350	U	7800	U	-		-				-	
Pyrene, SVOC	45,000,000	390,000,000	ug/kg	-		-		-		-		350	U	7800	U	-		-				-	

TABLE 3.5
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 5E, 0-2 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	BH-180		BH-180		SB-137-04		SB-138-04		SB-17-02		SB-54-02		TT-SB252		TT-SB253		TT-SB254		Maximum Detected Concentration	
			Field Sample ID:	S-111104-NZ-031		S-111104-NZ-032		SB-137-04		SB-138-04		SB-17-02		SB-54-02		TT-SB252-G-02		TT-SB253-G-02		TT-SB254-G-02			
			Date:	11/11/2004		11/11/2004		1/26/2004		1/26/2004		4/8/2002		4/17/2002		4/3/2013		4/3/2013		4/3/2013			
	C/I	Construction	Depth:	0 - 2		0 - 2		0 - 2		0 - 2		1 - 3		1 - 3		0 - 2		0 - 2		0 - 2			
PCBs																							
Aroclor-1016	100,000	260,000	ug/kg	-		-		-		-		35	U	39	U	21.8	U	22.2	U	21.1	U	-	
Aroclor-1221	14,000	210,000	ug/kg	-		-		-		-		35	U	39	U	21.8	U	22.2	U	21.1	U	-	
Aroclor-1232	14,000	73,000	ug/kg	-		-		-		-		35	U	39	U	21.8	U	22.2	U	21.1	U	-	
Aroclor-1242	20,000	440,000	ug/kg	-		-		-		-		35	U	39	U	21.8	U	22.2	U	21.1	U	-	
Aroclor-1248	20,000	440,000	ug/kg	-		-		-		-		35	U	39	U	21.8	U	22.2	U	21.1	U	-	
Aroclor-1254	20,000	75,000	ug/kg	-		-		-		-		35	U	39	U	**269**		**300**		**507**		**507**	
Aroclor-1260	20,000	440,000	ug/kg	-		-		-		-		35	U	39	U	21.8	U	22.2	U	21.1	U	-	
Total PCBs	20,000	440,000	ug/kg	-		-		-		-		35	U	39	U	**269**		**300**		**507**		**507**	
Metals																							
Antimony	1,600	850	mg/kg	-		-		-		-		6.4	U	**3.1**	**J**	-		-				**3.1**	**J**
Arsenic	77	690	mg/kg	-		-		-		-		**3.2**		**15.4**		-		-				**15.4**	
Barium	680,000	320,000	mg/kg	-		-		-		-		**26.5**		**61.3**		-		-				**61.3**	
Beryllium	7,800	3,400	mg/kg	-		-		-		-		0.54	UJ	**0.5**	**J**	-		-				**0.5**	**J**
Cadmium	2,600	1,000	mg/kg	-		-		-		-		0.54	U	**4**		-		-				**4**	
Chromium Total			mg/kg	-		-		-		-		**4**		**13.2**		-		-				**13.2**	
Cobalt	1,200	2,800	mg/kg	-		-		-		-		**1.5**	**J**	**11.5**		-		-				**11.5**	
Copper	160,000	21,000	mg/kg	-		-		-		-		**7.6**		**153**		-		-				**153**	
Cyanide (total)	370	150	mg/kg	-		-		-		-		0.54	U	0.59	U	-		-				-	
Lead	800	400	mg/kg	-		-		-		-		**3.5**		**286**		-		-				**286**	
Manganese			mg/kg	-		-		**727**		**452**		**283**		**578**		-		-				**727**	
Mercury	3.1	3.1	mg/kg	-		-		-		-		**0.025**	**J**	**0.28**		-		-				**0.28**	
Nickel	74,000	23,000	mg/kg	-		-		-		-		**3.7**	**J**	**17.1**		-		-				**17.1**	
Selenium	20,000	11,000	mg/kg	-		-		-		-		0.54	U	1.2	U	-		-				-	
Silver	20,000	11,000	mg/kg	-		-		-		-		1.1	U	**0.48**	**J**	-		-				**0.48**	**J**
Thallium	41	21	mg/kg	-		-		-		-		1.1	U	**1.2**	**J**	-		-				**1.2**	**J**
Vanadium	20,000	11,000	mg/kg	-		-		-		-		**4.7**	**J**	**16.4**		-		-				**16.4**	
Zinc	1,000,000	640,000	mg/kg	-		-		-		-		**13**		**1750**		-		-				**1750**	

NOTES:

Shaded values indicate concentration exceeds C/I Single Chemical Generic Direct Contact Soil Standard
Shaded values indicate concentration exceeds Construction Single Chemical Generic Direct Contact Soil Standard
Shaded values indicate concentration exceeds both Single Chemical Generic Direct Contact Soil Standards

bold text indicates detection above reporting limit
Total PCBs value is the sum of all positively deteted PCB aroclors
D: The reported value is from a dilution
C/I: Commercial/ Industrial
J: The associated numerical value is an estimated quantity
mg/kg: milligrams per kilogram
NA: exceedance criteria not applicable for compound/analyte
PCB: Polychlorinated Biphenyl
R: The data are unusable (the compound/analyte may or may not be present). Resampling and reanalysis are necessary for verification
SVOC: SemiVolatile Organic Compound
U: The compound/analyte was analyzed for, but not detected. The associated numerical value is the sample quantitation limit
ug/kg: micrograms per kilogram
UJ: The compound/analyte was analyzed for, but not detected. The sample quantitation limit is an estimated quantity
VOC: Volatile Organic Compound

TABLE 3.6
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 7 , 0-2 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	BH-182		SB-145-04		SB-159-04		SB-89-03		TT-SB264		Maximum Detected Concentration	
			Field Sample ID:	S-111104-NZ-		SB-145-04		SB-159-04		SB-89-03		TT-SB264-G-02			
			Date:	11/11/2004		1/28/2004		2/4/2004		4/1/2003		4/4/2013			
	C/I	Construction	Depth:	0 - 2		0 - 2		0 - 2		1 - 3		0 - 2			
VOCs															
1,1,1-Trichloroethane	640,000	640,000	ug/kg	-		2900	U	4.9	U	-		-		-	
1,1,2,2-Tetrachloroethane	75,000	670,000	ug/kg	-		2900	U	4.9	U	-		-		-	
1,1,2-Trichloroethane	140,000	1,200,000	ug/kg	-		2900	U	4.9	U	-		-		-	
1,1-Dichloroethane	420,000	1,700,000	ug/kg	-		2900	U	4.9	U	-		-		-	
1,1-Dichloroethene	1,200,000	360,000	ug/kg	-		2900	U	4.9	U	-		-		-	
1,2,4-Trichlorobenzene, VOC	400,000	400,000	ug/kg	-		2900	U	4.9	U	-		-		-	
1,2-Dibromo-3-chloropropane	1,700	15,000	ug/kg	-		5700	U	9.9	U	-		-		-	
1,2-Dibromoethane	4,400	38,000	ug/kg	-		2900	U	4.9	U	-		-		-	
1,2-Dichlorobenzene, VOC	380,000	380,000	ug/kg	-		2900	U	4.9	U	-		-		-	
1,2-Dichloroethane	56,000	480,000	ug/kg	-		2900	U	4.9	U	-		-		-	
1,2-Dichloropropane	120,000	180,000	ug/kg	-		2900	U	4.9	U	-		-		-	
1,3-Dichlorobenzene, VOC	NA	NA	ug/kg	-		2900	U	4.9	U	-		-		-	
1,4-Dichlorobenzene, VOC	310,000	2,600,000	ug/kg	-		2900	U	4.9	U	-		-		-	
2-Butanone	28,000,000	28,000,000	ug/kg	-		11000	U	20	U	-		-		-	
2-Hexanone	NA	NA	ug/kg	-		11000	U	20	U	-		-		-	
4-Methyl-2-Pentanone	3,400,000	3,400,000	ug/kg	-		11000	U	20	U	-		-		-	
Acetone	110,000,000	110,000,000	ug/kg	-		11000	U	20	U	-		-		-	
Benzene	140,000	1,200,000	ug/kg	-		2900	U	4.9	U	-		-		-	
Bromodichloromethane	35,000	300,000	ug/kg	-		2900	U	4.9	U	-		-		-	
Bromoform	6,200,000	130,000,000	ug/kg	-		2900	U	4.9	U	-		-		-	
Bromomethane	82,000	550,000	ug/kg	-		**770**	**J**	4.9	U	-		-		**770**	**J**
Carbon disulfide	740,000	740,000	ug/kg	-		2900	U	4.9	U	-		-		-	
Carbon tetrachloride	79,000	460,000	ug/kg	-		2900	U	4.9	U	-		-		-	
Chlorobenzene	760,000	760,000	ug/kg	-		2900	U	4.9	U	-		-		-	
Chloroethane	2,100,000	2,100,000	ug/kg	-		2900	U	4.9	U	-		-		-	
Chloroform	38,000	320,000	ug/kg	-		2900	U	4.9	U	-		-		-	
Chloromethane	1,300,000	1,300,000	ug/kg	-		2900	U	4.9	U	-		-		-	
cis-1,2-Dichloroethene	2,400,000	2,400,000	ug/kg	-		1400	U	2.5	U	-		-		-	
cis-1,3-Dichloropropene	NA	NA	ug/kg	-		2900	U	4.9	U	-		-		-	
Cyclohexane	120,000	120,000	ug/kg	-		5700	U	9.9	U	-		-		-	
Dibromochloromethane	84,000	770,000	ug/kg	-		2900	U	4.9	U	-		-		-	
Dichlorodifluoromethane	850,000	850,000	ug/kg	-		2900	UJ	4.9	U	-		-		-	
Ethylbenzene	480,000	480,000	ug/kg	-		2900	U	4.9	U	-		-		-	
Isopropylbenzene, VOC	270,000	270,000	ug/kg	-		2900	U	4.9	U	-		-		-	
Methyl acetate	NA	NA	ug/kg	-		5700	U	9.9	U	-		-		-	
Methyl cyclohexane	NA	NA	ug/kg	-		5700	U	9.9	U	-		-		-	
Methyl tert butyl ether	5,700,000	8,900,000	ug/kg	-		11000	U	20	U	-		-		-	
Methylene chloride	3,300,000	3,300,000	ug/kg	-		2900	U	**5.5**		-		-		**5.5**	
Styrene	870,000	870,000	ug/kg	-		2900	U	4.9	U	-		-		-	
Tetrachloroethene	170,000	170,000	ug/kg	-		**840**	**J**	4.9	U	-		-		**840**	**J**
Toluene	820,000	820,000	ug/kg	-		2900	U	4.9	U	-		-		-	
trans-1,2-Dichloroethene	1,700,000	1,700,000	ug/kg	-		1400	U	2.5	U	-		-		-	
trans-1,3-Dichloropropene	NA	NA	ug/kg	-		2900	U	4.9	U	-		-		-	
Trichloroethene	51,000	17,000	ug/kg	-		**91000**		4.9	U	-		-		**91000**	
Trichlorofluoromethane	1,200,000	1,200,000	ug/kg	-		2900	U	4.9	U	-		-		-	
Trifluorotrichloroethane	NA	NA	ug/kg	-		2900	U	4.9	U	-		-		-	
Vinyl chloride	50,000	280,000	ug/kg	-		2900	U	4.9	U	-		-		-	
Xylene (Total)	260,000	260,000	ug/kg	-		5700	U	9.9	U	-		-		-	
SVOCs															
2,2-oxybis(2-Chloropropane), SVOC	NA	NA	ug/kg	440	U	390	U	-		1600	U	-		-	
2,4,5-Trichlorophenol	180,000,000	1,000,000,000	ug/kg	440	U	390	U	-		1600	U	-		-	
2,4,6-Trichlorophenol	1,800,000	1,400,000	ug/kg	440	U	390	U	-		1600	U	-		-	
2,4-Dichlorophenol	NA	NA	ug/kg	440	U	390	U	-		1600	U	-		-	
2,4-Dimethylphenol	35,000,000	85,000,000	ug/kg	440	U	390	U	-		1600	U	-		-	
2,4-Dinitrophenol	3,500,000	28,000,000	ug/kg	2100	U	1900	U	-		8000	U	-		-	
2,4-Dinitrotoluene	160,000	2,800,000	ug/kg	440	U	390	U	-		1600	U	-		-	
2,6-Dinitrotoluene	NA	NA	ug/kg	440	U	390	U	-		1600	U	-		-	
2-Chloronaphthalene	330,000,000	1,000,000,000	ug/kg	440	U	390	U	-		1600	U	-		-	
2-Chlorophenol	20,000,000	22,000,000	ug/kg	440	U	390	U	-		1600	U	-		-	
2-Methylnaphthalene	6,000,000	5,200,000	ug/kg	**39**	**J**	390	U	-		1600	U	-		**39**	**J**
2-Methylphenol	88,000,000	710,000,000	ug/kg	440	U	390	U	-		1600	U	-		-	
2-Nitroaniline	NA	NA	ug/kg	2100	U	1900	U	-		8000	U	-		-	
2-Nitrophenol	NA	NA	ug/kg	440	U	390	U	-		1600	U	-		-	
3,3-Dichlorobenzidine	NA	NA	ug/kg	2100	U	1900	U	-		8000	U	-		-	
3-Nitroaniline	NA	NA	ug/kg	2100	U	1900	U	-		8000	U	-		-	
4,6-Dinitro-2-methylphenol	140,000	110,000	ug/kg	2100	U	1900	U	-		8000	U	-		-	
4-Bromophenyl phenyl ether	NA	NA	ug/kg	440	U	390	U	-		1600	U	-		-	
4-Chloro-3-methylphenol	180,000,000	140,000,000	ug/kg	440	U	390	U	-		1600	U	-		-	
4-Chloroaniline	250,000	710,000	ug/kg	440	U	390	U	-		1600	U	-		-	
4-Chlorophenyl phenyl ether	NA	NA	ug/kg	440	U	390	U	-		1600	U	-		-	
4-Methylphenol	180,000,000	28,000,000	ug/kg	440	U	390	U	-		1600	U	-		-	
4-Nitroaniline	2,500,000	14,000,000	ug/kg	2100	U	1900	U	-		8000	U	-		-	
4-Nitrophenol	NA	NA	ug/kg	2100	U	1900	U	-		8000	U	-		-	
Acenaphthene	90,000,000	780,000,000	ug/kg	440	U	390	U	-		1600	U	-		-	
Acenaphthylene	90,000,000	780,000,000	ug/kg	440	U	390	U	-		1600	U	-		-	
Acetophenone	2,500,000	2,500,000	ug/kg	440	U	390	U	-		1600	U	-		-	
Anthracene	450,000,000	1,000,000,000	ug/kg	440	U	390	U	-		**410**	**J**	-		**410**	**J**
Atrazine	NA	NA	ug/kg	440	U	390	U	-		1600	U	-		-	

TABLE 3.6
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 7 , 0-2 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

Benzaldehyde	NA	NA	ug/kg	440	U	390	U	-		1600	U	-		-	
Benzo(a)anthracene	58,000	1,200,000	ug/kg	**34**	**J**	**38**	**J**	-		**1300**	**J**	-		**1300**	**J**
Benzo(a)pyrene	5,800	120,000	ug/kg	**30**	**J**	**55**	**J**	-		**1400**	**J**	-		**1400**	**J**
Benzo(b)fluoranthene	58,000	1,200,000	ug/kg	**38**	**J**	**85**	**J**	-		**1600**		-		**1600**	
Benzo(g,h,i)perylene	45,000,000	390,000,000	ug/kg	440	U	**39**	**J**	-		**970**	**J**	-		**970**	**J**
Benzo(k)fluoranthene	580,000	12,000,000	ug/kg	440	U	**27**	**J**	-		**990**	**J**	-		**990**	**J**
Biphenyl	14,000,000	190,000,000	ug/kg	440	U	390	U	-		1600	U	-		-	
bis(2-Chloroethoxy)methane	5,300,000	43,000,000	ug/kg	440	U	390	U	-		1600	U	-		-	
bis(2-Chloroethyl)ether	30,000	290,000	ug/kg	440	U	390	U	-		1600	U	-		-	
bis(2-Ethylhexyl)phthalate	3,500,000	71,000,000	ug/kg	440	U	390	U	-		1600	U	-		-	
Butyl benzylphthalate	26,000,000	520,000,000	ug/kg	440	U	390	U	-		1600	U	-		-	
Caprolactam	NA	NA	ug/kg	440	U	390	U	-		1600	U	-		-	
Carbazole	2,500,000	50,000,000	ug/kg	440	U	390	U	-		1600	U	-		-	
Chrysene	5,800,000	120,000,000	ug/kg	**30**	**J**	**62**	**J**	-		**1400**	**J**	-		**1400**	**J**
Dibenz(a,h)anthracene	5,800	120,000	ug/kg	440	U	390	U	-		**230**	**J**	-		**230**	**J**
Dibenzofuran	4,100,000	2,100,000	ug/kg	440	U	390	U	-		1600	U	-		-	
Diethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	440	U	390	U	-		1600	U	-		-	
Dimethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	440	U	390	U	-		1600	U	-		-	
Di-n-butylphthalate	180,000,000	430,000,000	ug/kg	440	U	390	U	-		1600	U	-		-	
Di-N-Octyl phthalate	18,000,000	140,000,000	ug/kg	440	U	390	U	-		1600	U	-		-	
Fluoranthene	60,000,000	160,000,000	ug/kg	**46**	**J**	**140**	**J**	-		**3700**		-		**3700**	
Fluorene	60,000,000	520,000,000	ug/kg	440	U	390	U	-		**310**	**J**	-		**310**	**J**
Hexachlorobenzene	31,000	14,000	ug/kg	440	U	390	U	-		1600	U	-		-	
Hexachlorobutadiene, SVOC	630,000	1,400,000	ug/kg	440	U	390	U	-		1600	U	-		-	
Hexachlorocyclopentadiene	11,000,000	26,000,000	ug/kg	2100	UJ	1900	U	-		8000	U	-		-	
Hexachloroethane	1,200,000	3,000,000	ug/kg	440	U	390	U	-		1600	U	-		-	
Indeno(1,2,3-cd)pyrene	58,000	1,200,000	ug/kg	440	U	**34**	**J**	-		**760**	**J**	-		**760**	**J**
Isophorone	52,000,000	1,000,000,000	ug/kg	440	U	390	U	-		1600	U	-		-	
Naphthalene, SVOC	450,000	560,000	ug/kg	**37**	**J**	390	U	-		1600	U	-		**37**	**J**
Nitrobenzene	610,000	3,000,000	ug/kg	440	U	390	U	-		1600	U	-		-	
N-Nitrosodi-n-propylamine	7,000	140,000	ug/kg	440	U	390	U	-		1600	U	-		-	
N-Nitrosodiphenylamine	10,000,000	200,000,000	ug/kg	440	U	390	U	-		1600	U	-		-	
Pentachlorophenol	67,000	950,000	ug/kg	440	U	390	U	-		1600	U	-		-	
Phenanthrene	450,000,000	1,000,000,000	ug/kg	**58**	**J**	**110**	**J**	-		**1600**		-		**1600**	
Phenol	530,000,000	840,000,000	ug/kg	440	U	390	U	-		1600	U	-		-	
Pyrene, SVOC	45,000,000	390,000,000	ug/kg	**42**	**J**	**110**	**J**	-		**3200**		-		**3200**	
PCBs															
Aroclor-1016	100,000	260,000	ug/kg	-		39	U	-		-		24.2	U	-	
Aroclor-1221	14,000	210,000	ug/kg	-		39	U	-		-		24.2	U	-	
Aroclor-1232	14,000	73,000	ug/kg	-		39	U	-		-		24.2	U	-	
Aroclor-1242	20,000	440,000	ug/kg	-		39	U	-		-		24.2	U	-	
Aroclor-1248	20,000	440,000	ug/kg	-		39	U	-		-		24.2	U	-	
Aroclor-1254	20,000	75,000	ug/kg	-		**14**	**J**	-		-		**5610**	**D**	**5610**	**D**
Aroclor-1260	20,000	440,000	ug/kg	-		39	U	-		-		24.2	U		
Total PCBs	20,000	440,000	ug/kg	-		**14**	**J**	-		-		**5610**	**D**	**5610**	**D**
Metals															
Antimony	1,600	850	mg/kg	**1.2**	**J**	**0.56**	**J**	-		-		-		**1.2**	**J**
Arsenic	77	690	mg/kg	**15.6**	**J**	**8.5**		-		-		-		**15.6**	**J**
Barium	680,000	320,000	mg/kg	**224**	**J**	**167**		-		-		-		**224**	**J**
Beryllium	7,800	3,400	mg/kg	**3.5**	**J**	**0.87**		-		-		-		**3.5**	**J**
Cadmium	2,600	1,000	mg/kg	**0.3**	**J**	**0.24**	**J**	-		-		-		**0.3**	**J**
Chromium Total	NA	NA	mg/kg	**15.8**	**J**	**10.4**		-		-		-		**15.8**	**J**
Cobalt	1,200	2,800	mg/kg	**9**	**J**	**5.4**	**J**	-		-		-		**9**	**J**
Copper	160,000	21,000	mg/kg	**239**	**J**	**92.8**		-		-		-		**239**	**J**
Cyanide (total)	370	150	mg/kg	**0.46**	**J**	0.59	U	-		-		-		**0.46**	**J**
Lead	800	400	mg/kg	**242**	**J**	**130**		-		-		-		**242**	**J**
Manganese	NA	NA	mg/kg	**1230**		**578**		-		-		-		**1230**	
Mercury	3.1	3.1	mg/kg	**0.33**		**0.11**	**J**	-		-		-		**0.33**	
Nickel	74,000	23,000	mg/kg	**17.3**	**J**	**11.9**		-		-		-		**17.3**	**J**
Selenium	20,000	11,000	mg/kg	**0.39**	**J**	0.59	U	-		-		-		**0.39**	**J**
Silver	20,000	11,000	mg/kg	1.3	UJ	1.2	U	-		-		-		-	
Thallium	41	21	mg/kg	1.3	UJ	**0.54**	**J**	-		-		-		**0.54**	**J**
Vanadium	20,000	11,000	mg/kg	**39.1**	**J**	**21**		-		-		-		**39.1**	**J**
Zinc	1,000,000	640,000	mg/kg	**76.2**	**J**	**84**		-		-		-		**84**	

NOTES:

Shaded values indicate concentration exceeds C/I Single Chemical Generic Direct Contact Soil Standard
Shaded values indicate concentration exceeds Construction Single Chemical Generic Direct Contact Soil Standard
Shaded values indicate concentration exceeds both Single Chemical Generic Direct Contact Soil Standards

bold text indicates detection above reporting limit
Total PCBs value is the sum of all positively deteted PCB aroclors
D: The reported value is from a dilution
C/I: Commercial/ Industrial
J: The associated numerical value is an estimated quantity
mg/kg: milligrams per kilogram
NA: exceedance criteria not applicable for compound/analyte
PCB: Polychlorinated Biphenyl
R: The data are unusable (the compound/analyte may or may not be present). Resampling and reanalysis are necessary for verification
SVOC: SemiVolatile Organic Compound
U: The compound/analyte was analyzed for, but not detected. The associated numerical value is the sample quantitation limit
ug/kg: micrograms per kilogram
UJ: The compound/analyte was analyzed for, but not detected. The sample quantitation limit is an estimated quantity
VOC: Volatile Organic Compound

TABLE 3.7
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 11, 0-2 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	MW-12-03		SB-18-02		SB-72-03		SB-148-04		SB-149-04		Maximum Detected Concentration	
			Field Sample ID:	MW-12-03		SB-18-02		SB-72-03		SB-148-04		SB-149-04			
			Date:	3/5/2003		4/8/2002		2/20/2003		1/28/2004		1/28/2004			
	C/I	Construction	Depth:	1 - 3		1 - 3		1 - 3		0 - 2		0 - 2			
VOCs															
1,1,1-Trichloroethane	640,000	640,000	ug/kg	290	U	**300**	**J**	270	U	540	U	5.1	U	**300**	**J**
1,1,2,2-Tetrachloroethane	75,000	670,000	ug/kg	290	U	560	U	270	U	540	U	5.1	U	-	
1,1,2-Trichloroethane	140,000	1,200,000	ug/kg	290	U	560	U	270	U	540	U	5.1	U	-	
1,1-Dichloroethane	420,000	1,700,000	ug/kg	290	U	560	U	270	U	540	U	5.1	U	-	
1,1-Dichloroethene	1,200,000	360,000	ug/kg	290	U	560	U	270	U	540	U	5.1	U	-	
1,2,4-Trichlorobenzene, VOC	400,000	400,000	ug/kg	290	U	560	U	270	U	540	U	5.1	U	-	
1,2-Dibromo-3-chloropropane	1,700	15,000	ug/kg	580	U	1100	U	530	U	1100	U	10	U	-	
1,2-Dibromoethane	4,400	38,000	ug/kg	290	U	560	U	270	U	540	U	5.1	U	-	
1,2-Dichlorobenzene, VOC	380,000	380,000	ug/kg	290	U	560	U	270	U	540	U	5.1	U	-	
1,2-Dichloroethane	56,000	480,000	ug/kg	290	U	560	U	270	U	540	U	5.1	U	-	
1,2-Dichloropropane	120,000	180,000	ug/kg	290	U	560	U	270	U	540	U	5.1	U	-	
1,3-Dichlorobenzene, VOC	NA	NA	ug/kg	290	U	560	U	270	U	540	U	5.1	U	-	
1,4-Dichlorobenzene, VOC	310,000	2,600,000	ug/kg	290	U	560	U	270	U	540	U	5.1	U	-	
2-Butanone	28,000,000	28,000,000	ug/kg	**87**	**J**	2200	U	1100	U	2200	U	**1.6**	**J**	**87**	**J**
2-Hexanone	NA	NA	ug/kg	1200	U	2200	U	1100	U	2200	U	20	U	-	
4-Methyl-2-Pentanone	3,400,000	3,400,000	ug/kg	1200	U	2200	U	1100	U	2200	U	20	U	-	
Acetone	110,000,000	110,000,000	ug/kg	1200	U	2200	U	1100	U	2200	U	**8.1**	**J**	**8.1**	**J**
Benzene	140,000	1,200,000	ug/kg	290	U	560	U	270	U	540	U	5.1	U	-	
Bromodichloromethane	35,000	300,000	ug/kg	290	U	560	U	270	U	540	U	5.1	U	-	
Bromoform	6,200,000	130,000,000	ug/kg	290	U	560	U	270	U	540	U	5.1	UJ	-	
Bromomethane	82,000	550,000	ug/kg	290	U	560	U	270	R	540	U	5.1	U	-	
Carbon disulfide	740,000	740,000	ug/kg	290	U	560	U	270	U	540	U	5.1	U	-	
Carbon tetrachloride	79,000	460,000	ug/kg	290	U	560	U	270	U	540	U	5.1	U	-	
Chlorobenzene	760,000	760,000	ug/kg	290	U	560	U	270	U	540	U	5.1	U	-	
Chloroethane	2,100,000	2,100,000	ug/kg	290	U	560	U	270	U	540	U	5.1	U	-	
Chloroform	38,000	320,000	ug/kg	290	U	560	U	270	U	540	U	5.1	U	-	
Chloromethane	1,300,000	1,300,000	ug/kg	290	U	560	U	270	U	540	U	5.1	U	-	
cis-1,2-Dichloroethene	2,400,000	2,400,000	ug/kg	**340**		**590**		**20**	**J**	**140**	**J**	2.5	U	**590**	
cis-1,3-Dichloropropene	NA	NA	ug/kg	290	U	560	U	270	U	540	U	5.1	U	-	
Cyclohexane	120,000	120,000	ug/kg	580	U	**430**	**J**	**29**	**J**	1100	U	10	U	**430**	**J**
Dibromochloromethane	84,000	770,000	ug/kg	290	U	560	U	270	U	540	U	5.1	U	-	
Dichlorodifluoromethane	850,000	850,000	ug/kg	290	U	560	UJ	270	U	540	UJ	5.1	U	-	
Ethylbenzene	480,000	480,000	ug/kg	290	U	560	U	270	U	540	U	5.1	U	-	
Isopropylbenzene, VOC	270,000	270,000	ug/kg	290	U	560	U	270	U	540	U	5.1	U	-	
Methyl acetate	NA	NA	ug/kg	580	U	1100	U	**32**	**J**	1100	U	10	U	**32**	**J**
Methyl cyclohexane	NA	NA	ug/kg	**34**	**J**	**430**	**J**	**67**	**J**	**73**	**J**	10	U	**430**	**J**
Methyl tert butyl ether	5,700,000	8,900,000	ug/kg	1200	U	2200	U	1100	U	2200	U	20	U	-	
Methylene chloride	3,300,000	3,300,000	ug/kg	290	U	**210**	**J**	270	U	540	U	5.1	U	**210**	**J**
Styrene	870,000	870,000	ug/kg	290	U	560	U	270	U	540	U	5.1	U	-	
Tetrachloroethene	170,000	170,000	ug/kg	**7300**		**6100**		**810**		**1100**		**2.8**	**J**	**7300**	
Toluene	820,000	820,000	ug/kg	290	U	560	U	**27**	**J**	540	U	5.1	U	**27**	**J**
trans-1,2-Dichloroethene	1,700,000	1,700,000	ug/kg	140	U	280	U	130	U	270	U	2.5	U	-	
trans-1,3-Dichloropropene	NA	NA	ug/kg	290	U	560	U	270	U	540	U	5.1	U	-	
Trichloroethene	51,000	17,000	ug/kg	**9400**		**23000**		**9900**		**17000**		**2**	**J**	**23000**	
Trichlorofluoromethane	1,200,000	1,200,000	ug/kg	290	U	560	U	270	U	540	U	5.1	U	-	
Trifluorotrichloroethane	NA	NA	ug/kg	290	U	560	U	270	U	540	U	5.1	U	-	
Vinyl chloride	50,000	280,000	ug/kg	290	U	560	U	270	U	540	U	5.1	U	-	
Xylene (Total)	260,000	260,000	ug/kg	580	U	1100	U	530	U	**110**	**J**	10	U	**110**	**J**

TABLE 3.7
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 11, 0-2 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	MW-12-03		SB-18-02		SB-72-03		SB-148-04		SB-149-04		Maximum Detected Concentration	
			Field Sample ID:	MW-12-03		SB-18-02		SB-72-03		SB-148-04		SB-149-04			
			Date:	3/5/2003		4/8/2002		2/20/2003		1/28/2004		1/28/2004			
	C/I	Construction	Depth:	1 - 3		1 - 3		1 - 3		0 - 2		0 - 2			
SVOCs															
2,2-oxybis(2-Chloropropane), SVOC	NA	NA	ug/kg	4300	U	440	U	370	U	3800	U	360	U	-	
2,4,5-Trichlorophenol	180,000,000	1,000,000,000	ug/kg	4300	U	440	U	370	U	3800	U	360	U	-	
2,4,6-Trichlorophenol	1,800,000	1,400,000	ug/kg	4300	U	440	U	370	U	3800	U	360	U	-	
2,4-Dichlorophenol	NA	NA	ug/kg	4300	U	440	U	370	U	3800	U	360	U	-	
2,4-Dimethylphenol	35,000,000	85,000,000	ug/kg	4300	U	440	U	370	U	3800	U	360	U	-	
2,4-Dinitrophenol	3,500,000	28,000,000	ug/kg	21000	U	2100	U	1800	U	18000	UJ	1700	U	-	
2,4-Dinitrotoluene	160,000	2,800,000	ug/kg	4300	U	440	U	370	U	3800	U	360	U	-	
2,6-Dinitrotoluene	NA	NA	ug/kg	4300	U	440	U	370	U	3800	U	360	U	-	
2-Chloronaphthalene	330,000,000	1,000,000,000	ug/kg	4300	U	440	U	370	U	3800	U	360	U	-	
2-Chlorophenol	20,000,000	22,000,000	ug/kg	4300	U	440	U	370	U	3800	U	360	U	-	
2-Methylnaphthalene	6,000,000	5,200,000	ug/kg	4300	U	**170**	**J**	**110**	**J**	**370**	**J**	**83**	**J**	**370**	**J**
2-Methylphenol	88,000,000	710,000,000	ug/kg	4300	U	440	U	370	U	3800	U	360	U	-	
2-Nitroaniline	NA	NA	ug/kg	21000	U	2100	U	1800	U	18000	U	1700	U	-	
2-Nitrophenol	NA	NA	ug/kg	4300	U	440	U	370	U	3800	U	360	U	-	
3,3-Dichlorobenzidine	NA	NA	ug/kg	21000	U	2100	U	1800	U	18000	U	1700	U	-	
3-Nitroaniline	NA	NA	ug/kg	21000	U	2100	U	1800	U	18000	U	1700	U	-	
4,6-Dinitro-2-methylphenol	140,000	110,000	ug/kg	21000	U	2100	U	1800	U	18000	U	1700	U	-	
4-Bromophenyl phenyl ether	NA	NA	ug/kg	4300	U	440	U	370	U	3800	U	360	U	-	
4-Chloro-3-methylphenol	180,000,000	140,000,000	ug/kg	4300	U	440	U	370	U	3800	U	360	U	-	
4-Chloroaniline	250,000	710,000	ug/kg	4300	U	440	U	370	U	3800	U	360	U	-	
4-Chlorophenyl phenyl ether	NA	NA	ug/kg	4300	U	440	U	370	U	3800	U	360	U	-	
4-Methylphenol	180,000,000	28,000,000	ug/kg	4300	U	440	U	370	U	3800	U	360	U	-	
4-Nitroaniline	2,500,000	14,000,000	ug/kg	21000	U	2100	U	1800	U	18000	U	1700	U	-	
4-Nitrophenol	NA	NA	ug/kg	21000	U	2100	U	1800	U	18000	U	1700	U	-	
Acenaphthene	90,000,000	780,000,000	ug/kg	**420**	**J**	440	U	370	U	3800	U	**180**	**J**	**420**	**J**
Acenaphthylene	90,000,000	780,000,000	ug/kg	4300	U	440	U	**25**	**J**	3800	U	360	U	**25**	**J**
Acetophenone	2,500,000	2,500,000	ug/kg	4300	U	440	U	370	U	3800	U	360	U	-	
Anthracene	450,000,000	1,000,000,000	ug/kg	**2700**	**J**	**110**	**J**	**33**	**J**	3800	U	**390**		**2700**	**J**
Atrazine	NA	NA	ug/kg	4300	U	440	U	370	U	3800	U	360	U	-	
Benzaldehyde	NA	NA	ug/kg	4300	U	440	U	**21**	**J**	3800	U	360	U	**21**	**J**
Benzo(a)anthracene	58,000	1,200,000	ug/kg	**3800**	**J**	**360**	**J**	**240**	**J**	3800	U	**1100**		**3800**	**J**
Benzo(a)pyrene	5,800	120,000	ug/kg	**3500**	**J**	**330**	**J**	**230**	**J**	3800	U	**1100**		**3500**	**J**
Benzo(b)fluoranthene	58,000	1,200,000	ug/kg	**4000**	**J**	**430**	**J**	**220**	**J**	**320**	**J**	**1300**		**4000**	**J**
Benzo(g,h,i)perylene	45,000,000	390,000,000	ug/kg	**1800**	**J**	**250**	**J**	**98**	**J**	3800	U	**570**		**1800**	**J**
Benzo(k)fluoranthene	580,000	12,000,000	ug/kg	**2600**	**J**	**220**	**J**	**180**	**J**	3800	U	**600**		**2600**	**J**
Biphenyl	14,000,000	190,000,000	ug/kg	4300	U	440	U	370	U	3800	U	360	U	-	
bis(2-Chloroethoxy)methane	5,300,000	43,000,000	ug/kg	4300	U	440	U	370	U	3800	U	360	U	-	
bis(2-Chloroethyl)ether	30,000	290,000	ug/kg	4300	U	440	U	370	U	3800	U	360	U	-	
bis(2-Ethylhexyl)phthalate	3,500,000	71,000,000	ug/kg	4300	U	440	U	**24**	**J**	3800	U	**51**	**J**	**51**	**J**
Butyl benzylphthalate	26,000,000	520,000,000	ug/kg	4300	U	440	U	370	U	3800	U	360	U	-	
Caprolactam	NA	NA	ug/kg	4300	U	440	U	370	U	3800	U	360	U	-	
Carbazole	2,500,000	50,000,000	ug/kg	**620**	**J**	440	U	**81**	**J**	3800	U	**250**	**J**	**620**	**J**
Chrysene	5,800,000	120,000,000	ug/kg	**5500**		**410**	**J**	**240**	**J**	**410**	**J**	**1000**		**5500**	
Dibenz(a,h)anthracene	5,800	120,000	ug/kg	4300	U	440	U	**44**	**J**	3800	U	**210**	**J**	**210**	**J**
Dibenzofuran	4,100,000	2,100,000	ug/kg	**230**	**J**	**86**	**J**	**36**	**J**	3800	U	**140**	**J**	**230**	**J**
Diethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	4300	U	440	U	370	U	3800	U	360	U	-	
Dimethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	4300	U	440	U	370	U	3800	U	360	U	-	
Di-n-butylphthalate	180,000,000	430,000,000	ug/kg	4300	U	440	U	370	U	3800	U	360	U	-	
Di-N-Octyl phthalate	18,000,000	140,000,000	ug/kg	4300	U	440	U	370	U	3800	U	360	U	-	
Fluoranthene	60,000,000	160,000,000	ug/kg	**10000**		**940**		**360**	**J**	**340**	**J**	**2600**		**10000**	
Fluorene	60,000,000	520,000,000	ug/kg	**290**	**J**	440	U	370	U	3800	U	**170**	**J**	**290**	**J**
Hexachlorobenzene	31,000	14,000	ug/kg	4300	U	440	U	370	U	3800	U	360	U	-	
Hexachlorobutadiene, SVOC	630,000	1,400,000	ug/kg	4300	U	440	U	370	U	3800	U	360	U	-	
Hexachlorocyclopentadiene	11,000,000	26,000,000	ug/kg	21000	U	2100	U	1800	U	18000	U	1700	U	-	
Hexachloroethane	1,200,000	3,000,000	ug/kg	4300	U	440	U	370	U	3800	U	360	U	-	
Indeno(1,2,3-cd)pyrene	58,000	1,200,000	ug/kg	**1600**	**J**	**220**	**J**	**100**	**J**	3800	U	**520**		**1600**	**J**
Isophorone	52,000,000	1,000,000,000	ug/kg	4300	U	440	U	370	U	3800	U	360	U	-	
Naphthalene, SVOC	450,000	560,000	ug/kg	4300	U	**350**	**J**	**77**	**J**	**640**	**J**	360	U	**640**	**J**
Nitrobenzene	610,000	3,000,000	ug/kg	4300	U	440	U	370	U	3800	U	360	U	-	
N-Nitrosodi-n-propylamine	7,000	140,000	ug/kg	4300	U	440	U	370	U	3800	U	360	U	-	
N-Nitrosodiphenylamine	10,000,000	200,000,000	ug/kg	4300	U	440	U	370	U	3800	U	360	U	-	
Pentachlorophenol	67,000	950,000	ug/kg	4300	U	440	U	370	U	3800	U	360	U	-	
Phenanthrene	450,000,000	1,000,000,000	ug/kg	**7000**		**860**		**230**	**J**	**360**	**J**	**1700**		**7000**	
Phenol	530,000,000	840,000,000	ug/kg	4300	U	440	U	370	U	3800	U	360	U	-	
Pyrene, SVOC	45,000,000	390,000,000	ug/kg	**7700**		**790**		**360**	**J**	**310**	**J**	**2000**		**7700**	

TABLE 3.7
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 11, 0-2 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	MW-12-03		SB-18-02		SB-72-03		SB-148-04		SB-149-04		Maximum Detected Concentration	
			Field Sample ID:	MW-12-03		SB-18-02		SB-72-03		SB-148-04		SB-149-04			
			Date:	3/5/2003		4/8/2002		2/20/2003		1/28/2004		1/28/2004			
	C/I	Construction	Depth:	1 - 3		1 - 3		1 - 3		0 - 2		0 - 2			
PCBs															
Aroclor-1016	100,000	260,000	ug/kg	43	U	44	U	-		38	U	360	U	-	
Aroclor-1221	14,000	210,000	ug/kg	43	U	44	U	-		38	U	360	U	-	
Aroclor-1232	14,000	73,000	ug/kg	43	U	44	U	-		38	U	360	U	-	
Aroclor-1242	20,000	440,000	ug/kg	43	U	44	U	-		38	U	360	U	-	
Aroclor-1248	20,000	440,000	ug/kg	43	U	44	U	-		38	U	360	U	-	
Aroclor-1254	20,000	75,000	ug/kg	43	U	44	U	-		**300**		**3700**		**3700**	
Aroclor-1260	20,000	440,000	ug/kg	43	U	44	U	-		38	U	360	U	-	
Total PCBs	20,000	440,000	ug/kg	43	U	44	U	-		**300**		**3700**		**3700**	
Metals															
Antimony	1,600	850	mg/kg	**2.2**	**J**	**2.6**	**J**	**1.8**	**J**	**1**	**J**	6.5	UJ	**2.6**	**J**
Arsenic	77	690	mg/kg	**9.1**		**6.4**		**7.7**	**J**	**16.5**		**5.3**		**16.5**	
Barium	680,000	320,000	mg/kg	**98.4**	**J**	**141**		**50**	**J**	**133**		**34.1**		**141**	
Beryllium	7,800	3,400	mg/kg	**0.6**	**J**	**0.69**	**J**	**0.13**	**J**	**1.1**		0.54	U	**1.1**	
Cadmium	2,600	1,000	mg/kg	0.65	U	**0.67**		0.57	UJ	**0.91**		**0.33**	**J**	**0.91**	
Chromium Total	NA	NA	mg/kg	**10.7**		**8.7**		**11.7**	**J**	**12.9**		**4.7**		**12.9**	
Cobalt	1,200	2,800	mg/kg	**6.3**	**J**	**18**		**7**	**J**	**7.4**		**2.6**	**J**	**18**	
Copper	160,000	21,000	mg/kg	**78.4**		**172**		**71.2**	**J**	**107**		**13.9**		**172**	
Cyanide (total)	370	150	mg/kg	**0.13**	**J**	**0.29**	**J**	**0.17**	**J**	**0.21**	**J**	0.54	U	**0.29**	**J**
Lead	800	400	mg/kg	**392**		**137**		**134**	**J**	**528**		**11**		**528**	
Manganese	NA	NA	mg/kg	**880**	**J**	**373**		**1190**	**J**	**642**		**227**		**1190**	**J**
Mercury	3.1	3.1	mg/kg	**0.18**	**J**	**0.28**		**0.1**	**J**	**0.17**		**0.025**	**J**	**0.28**	
Nickel	74,000	23,000	mg/kg	**13.1**		**10**		**11.5**		**14.3**		**7.2**		**14.3**	
Selenium	20,000	11,000	mg/kg	0.65	U	**1.5**		0.57	U	0.57	U	0.54	U	**1.5**	
Silver	20,000	11,000	mg/kg	1.3	U	1.3	U	1.1	U	1.1	U	1.1	U	-	
Thallium	41	21	mg/kg	**1.6**		1.3	U	1.1	UJ	**1.2**		**0.78**	**J**	**1.6**	
Vanadium	20,000	11,000	mg/kg	**24.7**		**16.6**		**24.3**	**J**	**26.1**		**7.1**		**26.1**	
Zinc	1,000,000	640,000	mg/kg	**122**	**J**	**160**		**89**	**J**	**285**		**52.4**		**285**	

NOTES:

Shaded values indicate concentration exceeds C/I Single Chemical Generic Direct Contact Soil Standard

Shaded values indicate concentration exceeds Construction Single Chemical Generic Direct Contact Soil Standard

Shaded values indicate concentration exceeds both Single Chemical Generic Direct Contact Soil Standards

bold text indicates detection above reporting limit

Total PCBs value is the sum of all positively deteted PCB aroclors

D: The reported value is from a dilution

C/I: Commercial/ Industrial

J: The associated numerical value is an estimated quantity

mg/kg: milligrams per kilogram

NA: exceedance criteria not applicable for compound/analyte

PCB: Polychlorinated Biphenyl

R: The data are unusable (the compound/analyte may or may not be present). Resampling and reanalysis are necessary for verification

SVOC: SemiVolatile Organic Compound

U: The compound/analyte was analyzed for, but not detected. The associated numerical value is the sample quantitation limit

ug/kg: micrograms per kilogram

UJ: The compound/analyte was analyzed for, but not detected. The sample quantitation limit is an estimated quantity

VOC: Volatile Organic Compound

TABLE 3.8
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 15/25/6S, 0-2 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	MW-3-02		SB-22-02		SB-38-02		SB-39-02		SB-39-02		SB-40-02		SB-41-02		SB-43-02	
			Field Sample ID:	MW-3-02		SB-22-02		SB-38-02		SB-39-02 DUP		SB-39-02		SB-40-02		SB-41-02		SB-43-02	
			Date:	6/26/2002		4/10/2002		4/15/2002		4/15/2002		4/15/2002		4/15/2002		4/15/2002		4/15/2002	
	C/I	Construction	Depth:	0 - 2		1 - 3		1 - 3		1 - 3		1 - 3		1 - 3		1 - 3		1 - 3	
Vocs																			
1,1,1-Trichloroethane	640,000	640,000	ug/kg	-		240	U	260	U	240	U	270	U	620	U	**510**	**J**	420	U
1,1,2,2-Tetrachloroethane	75,000	670,000	ug/kg	-		240	U	260	U	240	U	270	U	620	U	680	UJ	420	U
1,1,2-Trichloroethane	140,000	1,200,000	ug/kg	-		240	U	260	U	240	U	270	U	620	U	680	UJ	420	U
1,1-Dichloroethane	420,000	1,700,000	ug/kg	-		240	U	260	U	240	U	270	U	620	U	**150**	**J**	420	U
1,1-Dichloroethene	1,200,000	360,000	ug/kg	-		240	U	260	U	240	U	270	U	**120**	**J**	680	UJ	420	U
1,2,4-Trichlorobenzene, VOC	400,000	400,000	ug/kg	-		240	U	260	U	240	U	270	U	620	U	680	UJ	420	U
1,2-Dibromo-3-chloropropane	1,700	15,000	ug/kg	-		480	U	520	U	470	U	550	U	1200	U	1400	UJ	830	U
1,2-Dibromoethane	4,400	38,000	ug/kg	-		240	U	260	U	240	U	270	U	620	U	680	UJ	420	U
1,2-Dichlorobenzene, VOC	380,000	380,000	ug/kg	-		240	U	260	U	240	U	270	U	620	U	680	UJ	420	U
1,2-Dichloroethane	56,000	480,000	ug/kg	-		240	U	260	U	240	U	270	U	620	U	680	UJ	420	U
1,2-Dichloropropane	120,000	180,000	ug/kg	-		240	U	260	U	240	U	270	U	620	U	680	UJ	420	U
1,3-Dichlorobenzene, VOC	NA	NA	ug/kg	-		240	U	260	U	240	U	270	U	620	U	680	UJ	420	U
1,4-Dichlorobenzene, VOC	310,000	2,600,000	ug/kg	-		240	U	**17**	**J**	**17**	**J**	**22**	**J**	620	U	680	UJ	420	U
2-Butanone	28,000,000	28,000,000	ug/kg	-		970	U	**110**	**J**	**96**	**J**	**120**	**J**	2500	U	2700	UJ	**210**	**J**
2-Hexanone	NA	NA	ug/kg	-		970	U	1000	U	950	U	1100	U	2500	U	2700	UJ	1700	U
4-Methyl-2-Pentanone	3,400,000	3,400,000	ug/kg	-		970	U	1000	U	950	U	1100	U	2500	U	2700	UJ	1700	U
Acetone	110,000,000	110,000,000	ug/kg	-		**320**	**J**	1000	UJ	950	UJ	1100	UJ	2500	U	2700	UJ	1700	UJ
Benzene	140,000	1,200,000	ug/kg	-		240	R	260	U	240	U	270	U	620	U	680	UJ	420	U
Bromodichloromethane	35,000	300,000	ug/kg	-		240	U	260	U	240	U	270	U	620	U	680	UJ	420	U
Bromoform	6,200,000	130,000,000	ug/kg	-		240	U	260	UJ	240	UJ	270	UJ	620	U	680	UJ	420	UJ
Bromomethane	82,000	550,000	ug/kg	-		240	U	260	U	240	U	270	U	620	U	680	UJ	420	U
Carbon disulfide	740,000	740,000	ug/kg	-		240	U	260	U	240	U	270	U	620	U	680	UJ	420	U
Carbon tetrachloride	79,000	460,000	ug/kg	-		240	U	260	UJ	240	UJ	270	UJ	620	U	680	UJ	420	UJ
Chlorobenzene	760,000	760,000	ug/kg	-		240	U	260	U	240	U	270	U	620	U	680	UJ	420	U
Chloroethane	2,100,000	2,100,000	ug/kg	-		240	U	260	U	240	U	270	U	620	U	680	UJ	420	U
Chloroform	38,000	320,000	ug/kg	-		240	U	260	U	240	U	270	U	620	U	680	UJ	420	U
Chloromethane	1,300,000	1,300,000	ug/kg	-		240	U	260	U	240	U	270	U	620	U	680	UJ	420	U
cis-1,2-Dichloroethene	2,400,000	2,400,000	ug/kg	-		120	U	130	U	**19**	**J**	**33**	**J**	**19000**		**1900**	**J**	**100**	**J**
cis-1,3-Dichloropropene	NA	NA	ug/kg	-		240	U	260	U	240	U	270	U	620	U	680	UJ	420	U
Cyclohexane	120,000	120,000	ug/kg	-		480	U	520	U	470	U	550	U	**48**	**J**	1400	UJ	**290**	**J**
Dibromochloromethane	84,000	770,000	ug/kg	-		240	U	260	U	240	U	270	U	620	U	680	UJ	420	U
Dichlorodifluoromethane	850,000	850,000	ug/kg	-		240	UJ	260	U	240	U	270	U	620	U	680	UJ	420	U
Ethylbenzene	480,000	480,000	ug/kg	-		240	U	260	U	240	U	270	U	**37**	**J**	680	UJ	**31**	**J**
Isopropylbenzene, VOC	270,000	270,000	ug/kg	-		240	U	260	U	240	U	270	U	620	U	680	UJ	420	U
Methyl acetate	NA	NA	ug/kg	-		480	U	**160**	**J**	470	U	550	U	**200**	**J**	1400	UJ	830	U
Methyl cyclohexane	NA	NA	ug/kg	-		480	U	520	U	**23**	**J**	550	U	**160**	**J**	**54**	**J**	**770**	**J**
Methyl tert butyl ether	5,700,000	8,900,000	ug/kg	-		970	U	1000	U	950	U	1100	U	2500	U	2700	UJ	1700	U
Methylene chloride	3,300,000	3,300,000	ug/kg	-		240	U	260	U	240	U	270	U	620	U	680	UJ	420	U
Styrene	870,000	870,000	ug/kg	-		240	U	260	U	240	U	270	U	620	U	680	UJ	420	U
Tetrachloroethene	170,000	170,000	ug/kg	-		**1900**		**840**		**2800**		**1200**		**7300**		**23000**	**J**	**15000**	
Toluene	820,000	820,000	ug/kg	-		240	U	**13**	**J**	240	U	270	U	**70**	**J**	**35**	**J**	**120**	**J**
trans-1,2-Dichloroethene	1,700,000	1,700,000	ug/kg	-		120	U	130	U	120	U	140	U	**390**		**110**	**J**	210	U
trans-1,3-Dichloropropene	NA	NA	ug/kg	-		240	U	260	U	240	U	270	U	620	U	680	UJ	420	U
Trichloroethene	51,000	17,000	ug/kg	-		**140**	**J**	**410**		**780**		**420**		**7600**	**J**	**15000**	**J**	**1300**	
Trichlorofluoromethane	1,200,000	1,200,000	ug/kg	-		240	U	260	U	240	U	270	U	620	U	680	UJ	420	U
Trifluorotrichloroethane	NA	NA	ug/kg	-		240	U	260	U	240	U	270	U	620	U	680	UJ	420	U
Vinyl chloride	50,000	280,000	ug/kg	-		240	U	260	U	240	U	270	U	620	U	680	UJ	420	U
Xylene (Total)	260,000	260,000	ug/kg	-		480	U	520	U	470	U	550	U	**180**	**J**	**70**	**J**	**440**	**J**

TABLE 3.8
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 15/25/6S, 0-2 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	SB-56-02		SB-75-03		SB-87-03		SB-88-03		TT-SB262		TT-SB263		Maximum Detected Concentration	
			Field Sample ID:	SB-56-02		SB-75-03		SB-87-03		SB-88-03		TT-SB262-G-02		TT-SB263-G-02			
			Date:	4/17/2002		2/20/2003		4/1/2003		4/1/2003		4/4/2013		4/4/2013			
	C/I	Construction	Depth:	1 - 3		1 - 3		1 - 3		1 - 3		0 - 2		0 - 2			
Vocs																	
1,1,1-Trichloroethane	640,000	640,000	ug/kg	**3700**	**J**	230	U	-		240	U	-		-		**3700**	**J**
1,1,2,2-Tetrachloroethane	75,000	670,000	ug/kg	1300	UJ	230	U	-		240	U	-		-		-	
1,1,2-Trichloroethane	140,000	1,200,000	ug/kg	1300	UJ	230	U	-		240	U	-		-		-	
1,1-Dichloroethane	420,000	1,700,000	ug/kg	**1100**	**J**	230	U	-		240	U	-		-		**1100**	**J**
1,1-Dichloroethene	1,200,000	360,000	ug/kg	1300	UJ	230	U	-		240	U	-		-		**120**	**J**
1,2,4-Trichlorobenzene, VOC	400,000	400,000	ug/kg	1300	UJ	230	U	-		240	U	-		-		-	
1,2-Dibromo-3-chloropropane	1,700	15,000	ug/kg	2700	UJ	460	U	-		470	U	-		-		-	
1,2-Dibromoethane	4,400	38,000	ug/kg	1300	UJ	230	U	-		240	U	-		-		-	
1,2-Dichlorobenzene, VOC	380,000	380,000	ug/kg	1300	UJ	230	U	-		240	U	-		-		-	
1,2-Dichloroethane	56,000	480,000	ug/kg	1300	UJ	230	U	-		240	U	-		-		-	
1,2-Dichloropropane	120,000	180,000	ug/kg	1300	UJ	230	U	-		240	U	-		-		-	
1,3-Dichlorobenzene, VOC	NA	NA	ug/kg	1300	UJ	230	U	-		240	U	-		-		-	
1,4-Dichlorobenzene, VOC	310,000	2,600,000	ug/kg	1300	UJ	230	U	-		240	U	-		-		**22**	**J**
2-Butanone	28,000,000	28,000,000	ug/kg	5400	UJ	920	U	-		940	U	-		-		**210**	**J**
2-Hexanone	NA	NA	ug/kg	5400	UJ	920	U	-		940	U	-		-		-	
4-Methyl-2-Pentanone	3,400,000	3,400,000	ug/kg	5400	UJ	920	U	-		940	U	-		-		-	
Acetone	110,000,000	110,000,000	ug/kg	5400	UJ	**77**	**J**	-		940	UJ	-		-		**320**	**J**
Benzene	140,000	1,200,000	ug/kg	1300	UJ	230	U	-		240	U	-		-		-	
Bromodichloromethane	35,000	300,000	ug/kg	1300	UJ	230	U	-		240	U	-		-		-	
Bromoform	6,200,000	130,000,000	ug/kg	1300	UJ	230	U	-		240	U	-		-		-	
Bromomethane	82,000	550,000	ug/kg	1300	UJ	230	R	-		240	U	-		-		-	
Carbon disulfide	740,000	740,000	ug/kg	1300	UJ	230	U	-		240	U	-		-		-	
Carbon tetrachloride	79,000	460,000	ug/kg	**69**	**J**	230	U	-		240	U	-		-		**69**	**J**
Chlorobenzene	760,000	760,000	ug/kg	1300	UJ	230	U	-		240	U	-		-		-	
Chloroethane	2,100,000	2,100,000	ug/kg	1300	UJ	230	U	-		240	U	-		-		-	
Chloroform	38,000	320,000	ug/kg	**94**	**J**	230	U	-		240	U	-		-		**94**	**J**
Chloromethane	1,300,000	1,300,000	ug/kg	1300	UJ	230	U	-		240	U	-		-		-	
cis-1,2-Dichloroethene	2,400,000	2,400,000	ug/kg	**2200**	**J**	**360**		-		120	U	-		-		**19000**	
cis-1,3-Dichloropropene	NA	NA	ug/kg	1300	UJ	230	U	-		240	U	-		-		-	
Cyclohexane	120,000	120,000	ug/kg	**140**	**J**	**16**	**J**	-		470	U	-		-		**290**	**J**
Dibromochloromethane	84,000	770,000	ug/kg	1300	UJ	230	U	-		240	U	-		-		-	
Dichlorodifluoromethane	850,000	850,000	ug/kg	1300	UJ	230	U	-		240	U	-		-		-	
Ethylbenzene	480,000	480,000	ug/kg	1300	UJ	230	U	-		240	U	-		-		**37**	**J**
Isopropylbenzene, VOC	270,000	270,000	ug/kg	1300	UJ	230	U	-		240	U	-		-		-	
Methyl acetate	NA	NA	ug/kg	**470**	**J**	**170**	**J**	-		470	U	-		-		**470**	**J**
Methyl cyclohexane	NA	NA	ug/kg	**380**	**J**	460	U	-		470	U	-		-		**770**	**J**
Methyl tert butyl ether	5,700,000	8,900,000	ug/kg	5400	UJ	920	U	-		940	U	-		-		-	
Methylene chloride	3,300,000	3,300,000	ug/kg	1300	UJ	230	U	-		240	U	-		-		-	
Styrene	870,000	870,000	ug/kg	1300	UJ	230	U	-		240	U	-		-		-	
Tetrachloroethene	170,000	170,000	ug/kg	**39000**	**J**	**2400**		-		**1800**		-		-		**39000**	**J**
Toluene	820,000	820,000	ug/kg	1300	UJ	230	U	-		240	U	-		-		**120**	**J**
trans-1,2-Dichloroethene	1,700,000	1,700,000	ug/kg	670	UJ	**22**	**J**	-		120	U	-		-		**390**	
trans-1,3-Dichloropropene	NA	NA	ug/kg	1300	UJ	230	U	-		240	U	-		-		-	
Trichloroethene	51,000	17,000	ug/kg	**12000**	**J**	**630**		-		**34**	**J**	-		-		**15000**	**J**
Trichlorofluoromethane	1,200,000	1,200,000	ug/kg	1300	UJ	230	U	-		240	U	-		-		-	
Trifluorotrichloroethane	NA	NA	ug/kg	1300	UJ	230	U	-		240	U	-		-		-	
Vinyl chloride	50,000	280,000	ug/kg	1300	UJ	230	U	-		240	U	-		-		-	
Xylene (Total)	260,000	260,000	ug/kg	**380**	**J**	460	U	-		470	U	-		-		**440**	**J**

TABLE 3.8
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 15/25/6S, 0-2 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	MW-3-02		SB-22-02		SB-38-02		SB-39-02		SB-39-02		SB-40-02		SB-41-02		SB-43-02	
			Field Sample ID:	MW-3-02		SB-22-02		SB-38-02		SB-39-02 DUP		SB-39-02		SB-40-02		SB-41-02		SB-43-02	
			Date:	6/26/2002		4/10/2002		4/15/2002		4/15/2002		4/15/2002		4/15/2002		4/15/2002		4/15/2002	
	C/I	Construction	Depth:	0 - 2		1 - 3		1 - 3		1 - 3		1 - 3		1 - 3		1 - 3		1 - 3	
SVOCs																			
2,2-oxybis(2-Chloropropane), SVOC	NA	NA	ug/kg	-		-		360	U	340	U	390	U	440	U	380	U	980	U
2,4,5-Trichlorophenol	180,000,000	1,000,000,000	ug/kg	-		-		360	U	340	U	390	U	440	U	380	U	980	U
2,4,6-Trichlorophenol	1,800,000	1,400,000	ug/kg	-		-		360	U	340	U	390	U	440	U	380	U	980	U
2,4-Dichlorophenol	NA	NA	ug/kg	-		-		360	U	340	U	390	U	440	U	380	U	980	U
2,4-Dimethylphenol	35,000,000	85,000,000	ug/kg	-		-		360	U	340	U	390	U	440	U	380	U	980	U
2,4-Dinitrophenol	3,500,000	28,000,000	ug/kg	-		-		1800	U	1700	UJ	1900	U	2100	U	1800	UJ	4800	UJ
2,4-Dinitrotoluene	160,000	2,800,000	ug/kg	-		-		360	U	340	U	390	U	440	U	380	U	980	U
2,6-Dinitrotoluene	NA	NA	ug/kg	-		-		360	U	340	U	390	U	440	U	380	U	980	U
2-Chloronaphthalene	330,000,000	1,000,000,000	ug/kg	-		-		360	U	340	U	390	U	440	U	380	U	980	U
2-Chlorophenol	20,000,000	22,000,000	ug/kg	-		-		360	U	340	U	390	U	440	U	380	U	980	U
2-Methylnaphthalene	6,000,000	5,200,000	ug/kg	-		-		360	U	340	U	390	U	440	U	380	U	980	U
2-Methylphenol	88,000,000	710,000,000	ug/kg	-		-		360	U	340	U	390	U	440	U	380	U	980	U
2-Nitroaniline	NA	NA	ug/kg	-		-		1800	U	1700	U	1900	U	2100	U	1800	U	4800	U
2-Nitrophenol	NA	NA	ug/kg	-		-		360	U	340	U	390	U	440	U	380	U	980	U
3,3-Dichlorobenzidine	NA	NA	ug/kg	-		-		1800	U	1700	U	1900	U	2100	U	1800	U	4800	U
3-Nitroaniline	NA	NA	ug/kg	-		-		1800	U	1700	U	1900	U	2100	U	1800	U	4800	U
4,6-Dinitro-2-methylphenol	140,000	110,000	ug/kg	-		-		1800	U	1700	UJ	1900	U	2100	U	1800	UJ	4800	UJ
4-Bromophenyl phenyl ether	NA	NA	ug/kg	-		-		360	U	340	U	390	U	440	U	380	U	980	U
4-Chloro-3-methylphenol	180,000,000	140,000,000	ug/kg	-		-		360	U	340	U	390	U	440	U	380	U	980	U
4-Chloroaniline	250,000	710,000	ug/kg	-		-		360	U	340	U	390	U	440	U	380	U	980	U
4-Chlorophenyl phenyl ether	NA	NA	ug/kg	-		-		360	U	340	U	390	U	440	U	380	U	980	U
4-Methylphenol	180,000,000	28,000,000	ug/kg	-		-		360	U	340	U	390	U	440	U	380	U	980	U
4-Nitroaniline	2,500,000	14,000,000	ug/kg	-		-		1800	U	1700	U	1900	U	2100	U	1800	U	4800	U
4-Nitrophenol	NA	NA	ug/kg	-		-		1800	U	1700	U	1900	U	2100	U	1800	U	4800	U
Acenaphthene	90,000,000	780,000,000	ug/kg	-		-		360	U	340	U	390	U	440	U	380	U	980	U
Acenaphthylene	90,000,000	780,000,000	ug/kg	-		-		360	U	340	U	390	U	440	U	380	U	980	U
Acetophenone	2,500,000	2,500,000	ug/kg	-		-		360	U	340	U	390	U	440	U	380	U	980	U
Anthracene	450,000,000	1,000,000,000	ug/kg	-		-		360	U	340	U	390	U	440	U	380	U	980	U
Atrazine	NA	NA	ug/kg	-		-		360	U	340	U	390	U	440	U	380	U	980	U
Benzaldehyde	NA	NA	ug/kg	-		-		360	U	340	U	390	U	440	U	380	U	980	U
Benzo(a)anthracene	58,000	1,200,000	ug/kg	-		-		360	U	340	U	**72**	**J**	440	U	**160**	**J**	980	U
Benzo(a)pyrene	5,800	120,000	ug/kg	-		-		360	U	**70**	**J**	**80**	**J**	440	U	**230**	**J**	980	U
Benzo(b)fluoranthene	58,000	1,200,000	ug/kg	-		-		360	U	**110**	**J**	**91**	**J**	440	U	**420**		980	U
Benzo(g,h,i)perylene	45,000,000	390,000,000	ug/kg	-		-		360	U	340	U	390	U	440	U	**150**	**J**	980	U
Benzo(k)fluoranthene	580,000	12,000,000	ug/kg	-		-		360	U	340	U	**65**	**J**	440	U	**160**	**J**	980	U
Biphenyl	14,000,000	190,000,000	ug/kg	-		-		360	U	340	U	390	U	440	U	380	U	980	U
bis(2-Chloroethoxy)methane	5,300,000	43,000,000	ug/kg	-		-		360	U	340	U	390	U	440	U	380	U	980	U
bis(2-Chloroethyl)ether	30,000	290,000	ug/kg	-		-		360	U	340	U	390	U	440	U	380	U	980	U
bis(2-Ethylhexyl)phthalate	3,500,000	71,000,000	ug/kg	-		-		**110**	**J**	340	U	390	U	440	U	380	U	980	U
Butyl benzylphthalate	26,000,000	520,000,000	ug/kg	-		-		360	U	340	U	390	U	440	U	380	U	980	U
Caprolactam	NA	NA	ug/kg	-		-		360	U	340	U	390	U	440	U	380	U	980	U
Carbazole	2,500,000	50,000,000	ug/kg	-		-		360	U	340	U	390	U	440	U	380	U	980	U
Chrysene	5,800,000	120,000,000	ug/kg	-		-		360	U	**58**	**J**	**69**	**J**	440	U	**200**	**J**	980	U
Dibenz(a,h)anthracene	5,800	120,000	ug/kg	-		-		360	U	340	U	390	U	440	U	380	U	980	U
Dibenzofuran	4,100,000	2,100,000	ug/kg	-		-		360	U	340	U	390	U	440	U	380	U	980	U
Diethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	-		-		360	U	340	U	390	U	440	U	380	U	980	U
Dimethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	-		-		360	U	340	U	390	U	440	U	380	U	980	U
Di-n-butylphthalate	180,000,000	430,000,000	ug/kg	-		-		360	U	340	U	390	U	440	U	380	U	980	U
Di-N-Octyl phthalate	18,000,000	140,000,000	ug/kg	-		-		**110**	**J**	340	U	390	U	440	U	380	U	980	U
Fluoranthene	60,000,000	160,000,000	ug/kg	-		-		360	U	**110**	**J**	**100**	**J**	440	U	**220**	**J**	980	U
Fluorene	60,000,000	520,000,000	ug/kg	-		-		360	U	340	U	390	U	440	U	380	U	980	U
Hexachlorobenzene	31,000	14,000	ug/kg	-		-		360	U	340	U	390	U	440	U	380	U	980	U
Hexachlorobutadiene, SVOC	630,000	1,400,000	ug/kg	-		-		360	U	340	U	390	U	440	U	380	U	980	U
Hexachlorocyclopentadiene	11,000,000	26,000,000	ug/kg	-		-		1800	U	1700	U	1900	U	2100	U	1800	U	4800	U
Hexachloroethane	1,200,000	3,000,000	ug/kg	-		-		360	U	340	U	390	U	440	U	380	U	980	U
Indeno(1,2,3-cd)pyrene	58,000	1,200,000	ug/kg	-		-		360	U	340	U	390	U	440	U	**130**	**J**	980	U
Isophorone	52,000,000	1,000,000,000	ug/kg	-		-		360	U	340	U	390	U	440	U	380	U	980	U
Naphthalene, SVOC	450,000	560,000	ug/kg	-		-		360	U	340	U	390	U	440	U	380	U	980	U
Nitrobenzene	610,000	3,000,000	ug/kg	-		-		360	U	340	U	390	U	440	U	380	U	980	U
N-Nitrosodi-n-propylamine	7,000	140,000	ug/kg	-		-		360	U	340	U	390	U	440	U	380	U	980	U
N-Nitrosodiphenylamine	10,000,000	200,000,000	ug/kg	-		-		360	U	340	U	390	U	440	U	380	U	980	U
Pentachlorophenol	67,000	950,000	ug/kg	-		-		360	U	340	U	390	U	440	U	380	U	980	U
Phenanthrene	450,000,000	1,000,000,000	ug/kg	-		-		360	U	340	U	390	U	440	U	**95**	**J**	980	U
Phenol	530,000,000	840,000,000	ug/kg	-		-		360	U	340	U	390	U	440	U	380	U	980	U
Pyrene, SVOC	45,000,000	390,000,000	ug/kg	-		-		360	U	**92**	**J**	**85**	**J**	440	U	**200**	**J**	980	U

TABLE 3.8
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 15/25/6S, 0-2 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	SB-56-02		SB-75-03		SB-87-03		SB-88-03		TT-SB262		TT-SB263		Maximum Detected Concentration	
			Field Sample ID:	SB-56-02		SB-75-03		SB-87-03		SB-88-03		TT-SB262-G-02		TT-SB263-G-02			
			Date:	4/17/2002		2/20/2003		4/1/2003		4/1/2003		4/4/2013		4/4/2013			
	C/I	Construction	Depth:	1 - 3		1 - 3		1 - 3		1 - 3		0 - 2		0 - 2			
SVOCs																	
2,2-oxybis(2-Chloropropane), SVOC	NA	NA	ug/kg	370	U	3800	U	380	U	360	U	-		-		-	
2,4,5-Trichlorophenol	180,000,000	1,000,000,000	ug/kg	370	U	3800	U	380	U	360	U	-		-		-	
2,4,6-Trichlorophenol	1,800,000	1,400,000	ug/kg	370	U	3800	U	380	U	360	U	-		-		-	
2,4-Dichlorophenol	NA	NA	ug/kg	370	U	3800	U	380	U	360	U	-		-		-	
2,4-Dimethylphenol	35,000,000	85,000,000	ug/kg	370	U	3800	U	380	U	360	U	-		-		-	
2,4-Dinitrophenol	3,500,000	28,000,000	ug/kg	1800	U	18000	U	1800	U	1800	U	-		-		-	
2,4-Dinitrotoluene	160,000	2,800,000	ug/kg	370	U	3800	U	380	U	360	U	-		-		-	
2,6-Dinitrotoluene	NA	NA	ug/kg	370	U	3800	U	380	U	360	U	-		-		-	
2-Chloronaphthalene	330,000,000	1,000,000,000	ug/kg	370	U	3800	U	380	U	360	U	-		-		-	
2-Chlorophenol	20,000,000	22,000,000	ug/kg	370	U	3800	U	380	U	360	U	-		-		-	
2-Methylnaphthalene	6,000,000	5,200,000	ug/kg	370	U	**270**	**J**	380	U	360	U	-		-		**270**	**J**
2-Methylphenol	88,000,000	710,000,000	ug/kg	370	U	3800	U	380	U	360	U	-		-		-	
2-Nitroaniline	NA	NA	ug/kg	1800	U	18000	U	1800	U	1800	U	-		-		-	
2-Nitrophenol	NA	NA	ug/kg	370	U	3800	U	380	U	360	U	-		-		-	
3,3-Dichlorobenzidine	NA	NA	ug/kg	1800	U	18000	U	1800	U	1800	U	-		-		-	
3-Nitroaniline	NA	NA	ug/kg	1800	U	18000	U	1800	U	1800	U	-		-		-	
4,6-Dinitro-2-methylphenol	140,000	110,000	ug/kg	1800	U	18000	U	1800	U	1800	U	-		-		-	
4-Bromophenyl phenyl ether	NA	NA	ug/kg	370	U	3800	U	380	U	360	U	-		-		-	
4-Chloro-3-methylphenol	180,000,000	140,000,000	ug/kg	370	U	3800	U	380	U	360	U	-		-		-	
4-Chloroaniline	250,000	710,000	ug/kg	370	U	3800	U	380	U	360	U	-		-		-	
4-Chlorophenyl phenyl ether	NA	NA	ug/kg	370	U	3800	U	380	U	360	U	-		-		-	
4-Methylphenol	180,000,000	28,000,000	ug/kg	370	U	3800	U	380	U	360	U	-		-		-	
4-Nitroaniline	2,500,000	14,000,000	ug/kg	1800	U	18000	U	1800	U	1800	U	-		-		-	
4-Nitrophenol	NA	NA	ug/kg	1800	U	18000	U	1800	U	1800	U	-		-		-	
Acenaphthene	90,000,000	780,000,000	ug/kg	370	U	3800	U	380	U	**24**	**J**	-		-		**24**	**J**
Acenaphthylene	90,000,000	780,000,000	ug/kg	**93**	**J**	3800	U	380	U	**41**	**J**	-		-		**93**	**J**
Acetophenone	2,500,000	2,500,000	ug/kg	370	U	3800	U	380	U	360	U	-		-		-	
Anthracene	450,000,000	1,000,000,000	ug/kg	**140**	**J**	3800	U	380	U	**73**	**J**	-		-		**140**	**J**
Atrazine	NA	NA	ug/kg	370	U	3800	U	380	U	360	U	-		-		-	
Benzaldehyde	NA	NA	ug/kg	370	U	3800	U	380	U	360	U	-		-		-	
Benzo(a)anthracene	58,000	1,200,000	ug/kg	**1300**		**290**	**J**	380	U	**550**		-		-		**1300**	
Benzo(a)pyrene	5,800	120,000	ug/kg	**2100**		3800	U	380	U	**860**		-		-		**2100**	
Benzo(b)fluoranthene	58,000	1,200,000	ug/kg	**3000**		3800	U	380	U	**1600**		-		-		**3000**	
Benzo(g,h,i)perylene	45,000,000	390,000,000	ug/kg	**1300**		3800	U	380	U	**580**		-		-		**1300**	
Benzo(k)fluoranthene	580,000	12,000,000	ug/kg	**1400**		3800	U	380	U	**720**		-		-		**1400**	
Biphenyl	14,000,000	190,000,000	ug/kg	370	U	3800	U	380	U	360	U	-		-		-	
bis(2-Chloroethoxy)methane	5,300,000	43,000,000	ug/kg	370	U	3800	U	380	U	360	U	-		-		-	
bis(2-Chloroethyl)ether	30,000	290,000	ug/kg	370	U	3800	U	380	U	360	U	-		-		-	
bis(2-Ethylhexyl)phthalate	3,500,000	71,000,000	ug/kg	370	U	3800	U	380	U	**55**	**J**	-		-		**110**	**J**
Butyl benzylphthalate	26,000,000	520,000,000	ug/kg	370	U	3800	U	380	U	360	U	-		-		-	
Caprolactam	NA	NA	ug/kg	370	U	3800	U	380	U	360	U	-		-		-	
Carbazole	2,500,000	50,000,000	ug/kg	**68**	**J**	3800	U	380	U	**25**	**J**	-		-		**68**	**J**
Chrysene	5,800,000	120,000,000	ug/kg	**1500**		**550**	**J**	380	U	**820**		-		-		**1500**	
Dibenz(a,h)anthracene	5,800	120,000	ug/kg	**340**	**J**	3800	U	380	U	**180**	**J**	-		-		**340**	**J**
Dibenzofuran	4,100,000	2,100,000	ug/kg	370	U	3800	U	380	U	360	U	-		-		-	
Diethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	370	U	3800	U	380	U	360	U	-		-		-	
Dimethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	370	U	3800	U	380	U	360	U	-		-		-	
Di-n-butylphthalate	180,000,000	430,000,000	ug/kg	370	U	3800	U	380	U	360	U	-		-		-	
Di-N-Octyl phthalate	18,000,000	140,000,000	ug/kg	370	U	3800	U	380	U	360	U	-		-		**110**	**J**
Fluoranthene	60,000,000	160,000,000	ug/kg	**1600**		**950**	**J**	380	U	**1200**		-		-		**1600**	
Fluorene	60,000,000	520,000,000	ug/kg	370	U	3800	U	380	U	**76**	**J**	-		-		**76**	**J**
Hexachlorobenzene	31,000	14,000	ug/kg	370	U	3800	U	380	U	360	U	-		-		-	
Hexachlorobutadiene, SVOC	630,000	1,400,000	ug/kg	370	U	3800	U	380	U	360	U	-		-		-	
Hexachlorocyclopentadiene	11,000,000	26,000,000	ug/kg	1800	U	18000	U	1800	U	1800	U	-		-		-	
Hexachloroethane	1,200,000	3,000,000	ug/kg	370	U	3800	U	380	U	360	U	-		-		-	
Indeno(1,2,3-cd)pyrene	58,000	1,200,000	ug/kg	**1100**		3800	U	380	U	**540**		-		-		**1100**	
Isophorone	52,000,000	1,000,000,000	ug/kg	370	U	3800	U	380	U	360	U	-		-		-	
Naphthalene, SVOC	450,000	560,000	ug/kg	370	U	3800	U	380	U	360	U	-		-		-	
Nitrobenzene	610,000	3,000,000	ug/kg	370	U	3800	U	380	U	360	U	-		-		-	
N-Nitrosodi-n-propylamine	7,000	140,000	ug/kg	370	U	3800	U	380	U	360	U	-		-		-	
N-Nitrosodiphenylamine	10,000,000	200,000,000	ug/kg	370	U	3800	U	380	U	360	U	-		-		-	
Pentachlorophenol	67,000	950,000	ug/kg	370	U	3800	U	380	U	360	U	-		-		-	
Phenanthrene	450,000,000	1,000,000,000	ug/kg	**370**		**930**	**J**	380	U	**180**	**J**	-		-		**930**	**J**
Phenol	530,000,000	840,000,000	ug/kg	370	U	3800	U	380	U	360	U	-		-		-	
Pyrene, SVOC	45,000,000	390,000,000	ug/kg	**1800**		**1400**	**J**	380	U	**1500**		-		-		**1800**	

TABLE 3.8
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 15/25/6S, 0-2 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	MW-3-02		SB-22-02		SB-38-02		SB-39-02		SB-39-02		SB-40-02		SB-41-02		SB-43-02	
			Field Sample ID:	MW-3-02		SB-22-02		SB-38-02		SB-39-02 DUP		SB-39-02		SB-40-02		SB-41-02		SB-43-02	
			Date:	6/26/2002		4/10/2002		4/15/2002		4/15/2002		4/15/2002		4/15/2002		4/15/2002		4/15/2002	
	C/I	Construction	Depth:	0 - 2		1 - 3		1 - 3		1 - 3		1 - 3		1 - 3		1 - 3		1 - 3	
PCBs																			
Aroclor-1016	100,000	260,000	ug/kg	40	U	39	U	180	U	34	U	39	U	44	U	38	U	2000	U
Aroclor-1221	14,000	210,000	ug/kg	40	U	39	U	180	U	34	U	39	U	44	U	38	U	2000	U
Aroclor-1232	14,000	73,000	ug/kg	40	U	39	U	180	U	34	U	39	U	44	U	38	U	2000	U
Aroclor-1242	20,000	440,000	ug/kg	40	U	39	U	180	U	34	U	39	U	44	U	38	U	2000	U
Aroclor-1248	20,000	440,000	ug/kg	40	U	39	U	180	U	34	U	39	U	44	U	38	U	2000	U
Aroclor-1254	20,000	75,000	ug/kg	**190**		39	U	**1100**		34	U	39	U	**41**	**J**	**67**		**23000**	
Aroclor-1260	20,000	440,000	ug/kg	40	U	39	U	180	U	34	U	39	U	44	U	38	U	2000	U
Total PCBs	20,000	440,000	ug/kg	**190**		39	U	**1100**		34	U	39	U	**41**	**J**	**67**		**23000**	
Metals																			
Antimony	1,600	850	mg/kg	7.2	U	7.1	U	6.6	UJ	**1.7**	**J**	7	UJ	8	UJ	**1.5**	**J**	7.1	UJ
Arsenic	77	690	mg/kg	**11.7**		**8.7**		**5.2**	**J**	**12**	**J**	**9.4**	**J**	**5.4**	**J**	**13**	**J**	**2.8**	**J**
Barium	680,000	320,000	mg/kg	**148**		**43.1**		**42.1**	**J**	**77.7**	**J**	**122**	**J**	**299**	**J**	**101**	**J**	**44.5**	**J**
Beryllium	7,800	3,400	mg/kg	0.6	U	0.59	U	0.55	UJ	**0.39**	**J**	**0.41**	**J**	**4.3**	**J**	0.58	UJ	**0.1**	**J**
Cadmium	2,600	1,000	mg/kg	0.6	U	**0.38**	**J**	0.55	UJ	0.52	UJ	0.58	UJ	0.67	UJ	**0.064**	**J**	0.59	UJ
Chromium Total	NA	NA	mg/kg	**15**		**9.3**		**11.9**	**J**	**12.4**	**J**	**9.5**	**J**	**30.3**	**J**	**16.8**	**J**	**4.3**	**J**
Cobalt	1,200	2,800	mg/kg	**12**		**6.1**		**5.4**	**J**	**7.7**	**J**	**5.1**	**J**	**2.6**	**J**	**7.6**	**J**	**1.8**	**J**
Copper	160,000	21,000	mg/kg	**74.2**		**16.8**		**21.4**	**J**	**142**	**J**	**52.9**	**J**	**18.6**	**J**	**278**	**J**	**23.3**	**J**
Cyanide (total)	370	150	mg/kg	**0.15**	**J**	0.59	U	0.55	U	0.52	U	0.58	U	**1.7**		0.58	U	0.59	U
Lead	800	400	mg/kg	**228**		**8**		**15.7**	**J**	**137**	**J**	**140**	**J**	**11.9**	**J**	**80.6**	**J**	**15**	**J**
Manganese	NA	NA	mg/kg	**1090**		**299**		**362**		**802**		**616**		**5760**		**1810**		**139**	
Mercury	3.1	3.1	mg/kg	**0.11**	**J**	0.12	U	0.11	UJ	**0.16**	**J**	**0.097**	**J**	0.13	UJ	0.12	UJ	0.12	R
Nickel	74,000	23,000	mg/kg	**22.4**		**20**		**10.4**	**J**	**14.4**	**J**	**10.5**	**J**	**4.2**	**J**	**15.1**	**J**	**3.9**	**J**
Selenium	20,000	11,000	mg/kg	0.6	U	0.59	U	0.55	UJ	0.52	UJ	0.58	UJ	**1.2**	**J**	0.58	UJ	0.59	UJ
Silver	20,000	11,000	mg/kg	1.2	U	1.2	U	1.1	U	1	U	1.2	U	2.7	U	1.2	U	1.2	U
Thallium	41	21	mg/kg	1.2	U	**2.1**		**1**	**J**	**0.94**	**J**	**1**	**J**	**2.5**	**J**	**0.74**	**J**	1.2	UJ
Vanadium	20,000	11,000	mg/kg	**26.9**		**14.1**		**13.5**	**J**	**23.5**	**J**	**19.7**	**J**	**18.9**	**J**	**30.2**	**J**	**5.3**	**J**
Zinc	1,000,000	640,000	mg/kg	**65.9**		**55.7**		**24.2**	**J**	**104**	**J**	**80.3**	**J**	**11.7**	**J**	**138**	**J**	**17.5**	**J**

TABLE 3.8
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 15/25/6S, 0-2 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	SB-56-02		SB-75-03		SB-87-03		SB-88-03		TT-SB262		TT-SB263		Maximum Detected Concentration	
			Field Sample ID:	SB-56-02		SB-75-03		SB-87-03		SB-88-03		TT-SB262-G-02		TT-SB263-G-02			
			Date:	4/17/2002		2/20/2003		4/1/2003		4/1/2003		4/4/2013		4/4/2013			
	C/I	Construction	Depth:	1 - 3		1 - 3		1 - 3		1 - 3		0 - 2		0 - 2			
PCBs																	
Aroclor-1016	100,000	260,000	ug/kg	740	U	-		-		36	U	21.5	U	21.1	U	-	
Aroclor-1221	14,000	210,000	ug/kg	740	U	-		-		36	U	21.5	U	21.1	U	-	
Aroclor-1232	14,000	73,000	ug/kg	740	U	-		-		36	U	21.5	U	21.1	U	-	
Aroclor-1242	20,000	440,000	ug/kg	740	U	-		-		36	U	21.5	U	21.1	U	-	
Aroclor-1248	20,000	440,000	ug/kg	740	U	-		-		36	U	21.5	U	21.1	U	-	
Aroclor-1254	20,000	75,000	ug/kg	**9300**		-		-		36	U	**579**		**246**		**23000**	
Aroclor-1260	20,000	440,000	ug/kg	740	U	-		-		**210**		21.5	U	21.1	U	**210**	
Total PCBs	20,000	440,000	ug/kg	**9300**		-		-		**210**		**579**		**246**		**23000**	
Metals																	
Antimony	1,600	850	mg/kg	6.7	U	**1.1**	**J**	-		-		-		-		**1.7**	**J**
Arsenic	77	690	mg/kg	**8**		**15.2**	**J**	-		-		-		-		**15.2**	**J**
Barium	680,000	320,000	mg/kg	**152**		**81.3**	**J**	-		-		-		-		**299**	**J**
Beryllium	7,800	3,400	mg/kg	**0.49**	**J**	**0.49**	**J**	-		-		-		-		**4.3**	**J**
Cadmium	2,600	1,000	mg/kg	**0.83**		0.57	UJ	-		-		-		-		**0.83**	
Chromium Total	NA	NA	mg/kg	**12.5**		**10.4**	**J**	-		-		-		-		**30.3**	**J**
Cobalt	1,200	2,800	mg/kg	**4.8**	**J**	**8.4**	**J**	-		-		-		-		**12**	
Copper	160,000	21,000	mg/kg	**178**		**53.5**	**J**	-		-		-		-		**278**	**J**
Cyanide (total)	370	150	mg/kg	0.56	U	**0.26**	**J**	-		-		-		-		**1.7**	
Lead	800	400	mg/kg	**94.7**		**63.1**	**J**	-		-		-		-		**228**	
Manganese	NA	NA	mg/kg	**462**		**560**	**J**	-		-		-		-		**5760**	
Mercury	3.1	3.1	mg/kg	**0.23**		**0.09**	**J**	-		-		-		-		**0.23**	
Nickel	74,000	23,000	mg/kg	**12.3**		**19.7**		-		-		-		-		**22.4**	
Selenium	20,000	11,000	mg/kg	0.56	U	**0.71**	**J**	-		-		-		-		**1.2**	**J**
Silver	20,000	11,000	mg/kg	**0.31**	**J**	1.1	U	-		-		-		-		**0.31**	**J**
Thallium	41	21	mg/kg	1.1	U	**1.1**	**J**	-		-		-		-		**2.5**	**J**
Vanadium	20,000	11,000	mg/kg	**14.1**		**18.7**	**J**	-		-		-		-		**30.2**	**J**
Zinc	1,000,000	640,000	mg/kg	**155**		**62.1**	**J**	-		-		-		-		**155**	

NOTES:

Shaded values indicate concentration exceeds C/I Single Chemical Generic Direct Contact Soil Standard
Shaded values indicate concentration exceeds Construction Single Chemical Generic Direct Contact Soil Standard
Shaded values indicate concentration exceeds both Single Chemical Generic Direct Contact Soil Standards

bold text indicates detection above reporting limit
Total PCBs value is the sum of all positively deteted PCB aroclors
D: The reported value is from a dilution
C/I: Commercial/ Industrial
J: The associated numerical value is an estimated quantity
mg/kg: milligrams per kilogram
NA: exceedance criteria not applicable for compound/analyte
PCB: Polychlorinated Biphenyl
R: The data are unusable (the compound/analyte may or may not be present). Resampling and reanalysis are necessary for verification
SVOC: SemiVolatile Organic Compound
U: The compound/analyte was analyzed for, but not detected. The associated numerical value is the sample quantitation limit
ug/kg: micrograms per kilogram
UJ: The compound/analyte was analyzed for, but not detected. The sample quantitation limit is an estimated quantity
VOC: Volatile Organic Compound

TABLE 3.9
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 18/19, 0-2 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	BH-169		BH-170		BH-176		BH-177		BH-183		MW-26-04		SB-130-04		SB-133-04		SB-139-04		SB-150-04		SB-150-04	
			Field Sample ID:	S-110104-NZ-001		S-110104-NZ-003		S-110204-NZ-019		S-110204-NZ-021		S-112904-NZ-041		MW-26-04		SB-130-04		SB-133-04		SB-139-04		SB-150-04		SB-150-04	
			Date:	11/1/2004		11/1/2004		11/2/2004		11/2/2004		11/29/2004		3/4/2004		1/21/2004		1/22/2004		1/27/2004		1/28/2004		1/28/2004	
	C/I	Construction	Depth:	0 - 2		0 - 2		0 - 2		0 - 2		0 - 2		0 - 2		0 - 2		0 - 2		0 - 2		0 - 2		0 - 2	
VOCs																									
1,1,1-Trichloroethane	640,000	640,000	ug/kg	-		-		4.3	U	6.2	U	330	U	1900	U	290	U	320	UJ	**71**	**J**	**210**	**J**	**240**	**J**
1,1,2,2-Tetrachloroethane	75,000	670,000	ug/kg	-		-		4.3	U	6.2	U	330	U	1900	U	290	U	320	UJ	450	U	900	U	1100	U
1,1,2-Trichloroethane	140,000	1,200,000	ug/kg	-		-		4.3	U	6.2	U	330	U	1900	U	290	U	320	UJ	450	U	900	U	1100	U
1,1-Dichloroethane	420,000	1,700,000	ug/kg	-		-		4.3	U	6.2	U	330	U	1900	U	290	U	320	UJ	450	U	**3100**		**3600**	
1,1-Dichloroethene	1,200,000	360,000	ug/kg	-		-		4.3	U	6.2	U	330	U	1900	U	290	U	320	UJ	450	U	**290**	**J**	**340**	**J**
1,2,4-Trichlorobenzene, VOC	400,000	400,000	ug/kg	-		-		4.3	U	6.2	U	330	U	1900	U	290	U	320	UJ	450	U	900	U	1100	U
1,2-Dibromo-3-chloropropane	1,700	15,000	ug/kg	-		-		8.7	U	12	U	650	U	3800	U	570	U	640	UJ	900	U	1800	U	2300	U
1,2-Dibromoethane	4,400	38,000	ug/kg	-		-		4.3	U	6.2	U	330	U	1900	U	290	U	320	UJ	450	U	900	U	1100	U
1,2-Dichlorobenzene, VOC	380,000	380,000	ug/kg	-		-		4.3	U	6.2	U	330	U	1900	U	290	U	320	UJ	450	U	900	U	1100	U
1,2-Dichloroethane	56,000	480,000	ug/kg	-		-		4.3	U	6.2	U	330	U	1900	U	290	U	320	UJ	450	U	900	U	1100	U
1,2-Dichloropropane	120,000	180,000	ug/kg	-		-		4.3	U	6.2	U	330	U	1900	U	290	U	320	UJ	450	U	900	U	1100	U
1,3-Dichlorobenzene, VOC	NA	NA	ug/kg	-		-		4.3	U	6.2	U	330	U	1900	U	290	U	320	UJ	450	U	900	U	1100	U
1,4-Dichlorobenzene, VOC	310,000	2,600,000	ug/kg	-		-		4.3	U	6.2	U	330	U	1900	U	290	U	320	UJ	450	U	900	U	1100	U
2-Butanone	28,000,000	28,000,000	ug/kg	-		-		**5**	**J**	**10**	**J**	1300	UJ	7500	U	1100	U	1300	UJ	1800	UJ	3600	U	4500	U
2-Hexanone	NA	NA	ug/kg	-		-		17	U	25	U	1300	U	7500	U	1100	U	1300	UJ	1800	UJ	3600	U	4500	U
4-Methyl-2-Pentanone	3,400,000	3,400,000	ug/kg	-		-		17	U	25	U	1300	U	7500	U	1100	U	1300	UJ	1800	U	3600	U	4500	U
Acetone	110,000,000	110,000,000	ug/kg	-		-		**19**		**42**		1300	UJ	7500	UJ	1100	UJ	1300	UJ	1800	UJ	3600	U	4500	U
Benzene	140,000	1,200,000	ug/kg	-		-		**5.7**		**32**	**J**	**84**	**J**	1900	U	290	U	320	UJ	450	U	900	U	1100	U
Bromodichloromethane	35,000	300,000	ug/kg	-		-		4.3	U	6.2	U	330	U	1900	U	290	U	320	UJ	450	U	900	U	1100	U
Bromoform	6,200,000	130,000,000	ug/kg	-		-		4.3	U	6.2	U	330	U	1900	U	290	U	320	UJ	450	U	900	U	1100	UJ
Bromomethane	82,000	550,000	ug/kg	-		-		4.3	U	6.2	U	330	U	1900	U	290	U	320	UJ	450	U	900	U	1100	U
Carbon disulfide	740,000	740,000	ug/kg	-		-		4.3	U	6.2	U	330	U	1900	U	290	U	320	UJ	450	U	900	U	1100	U
Carbon tetrachloride	79,000	460,000	ug/kg	-		-		4.3	U	6.2	U	330	U	1900	U	290	U	320	UJ	450	U	900	U	1100	U
Chlorobenzene	760,000	760,000	ug/kg	-		-		4.3	U	6.2	U	330	U	1900	U	290	U	320	UJ	450	U	900	U	1100	U
Chloroethane	2,100,000	2,100,000	ug/kg	-		-		4.3	U	6.2	U	330	U	1900	U	290	R	320	R	450	U	900	U	1100	U
Chloroform	38,000	320,000	ug/kg	-		-		4.3	U	6.2	U	330	U	1900	U	290	U	320	UJ	450	U	900	U	1100	U
Chloromethane	1,300,000	1,300,000	ug/kg	-		-		4.3	U	6.2	U	330	U	1900	U	290	U	320	UJ	450	U	900	U	1100	U
cis-1,2-Dichloroethene	2,400,000	2,400,000	ug/kg	-		-		4.3	U	6.2	U	**58**	**J**	**3400**		**230**		**200**	**J**	**120**	**J**	**10000**		**13000**	
cis-1,3-Dichloropropene	NA	NA	ug/kg	-		-		4.3	U	6.2	U	330	U	1900	U	290	U	320	UJ	450	U	900	U	1100	U
Cyclohexane	120,000	120,000	ug/kg	-		-		**10**		**6**	**J**	**230**	**J**	3800	U	**120**	**J**	640	UJ	900	U	**280**	**J**	**330**	**J**
Dibromochloromethane	84,000	770,000	ug/kg	-		-		4.3	U	6.2	U	330	U	1900	U	290	U	320	UJ	450	U	900	U	1100	U
Dichlorodifluoromethane	850,000	850,000	ug/kg	-		-		4.3	U	6.2	U	330	U	1900	UJ	290	U	320	UJ	450	U	900	UJ	1100	UJ
Ethylbenzene	480,000	480,000	ug/kg	-		-		**6.7**		**5.2**	**J**	**47**	**J**	1900	U	290	U	320	UJ	450	U	900	U	1100	U
Isopropylbenzene, VOC	270,000	270,000	ug/kg	-		-		4.3	U	6.2	U	**20**	**J**	1900	U	290	U	320	UJ	450	U	900	U	1100	U
Methyl acetate	NA	NA	ug/kg	-		-		8.7	U	12	U	**81**	**J**	3800	U	570	U	640	UJ	900	U	1800	U	2300	U
Methyl cyclohexane	NA	NA	ug/kg	-		-		**15**		**7.6**	**J**	**680**		3800	U	**330**	**J**	640	UJ	900	U	**660**	**J**	**780**	**J**
Methyl tert butyl ether	5,700,000	8,900,000	ug/kg	-		-		17	U	25	U	1300	U	7500	U	1100	U	1300	UJ	1800	U	3600	U	4500	U
Methylene chloride	3,300,000	3,300,000	ug/kg	-		-		12	U	20	U	330	U	1900	U	290	U	320	UJ	450	U	900	U	1100	U
Styrene	870,000	870,000	ug/kg	-		-		4.3	U	6.2	U	330	U	1900	U	290	U	320	UJ	450	U	900	U	1100	U
Tetrachloroethene	170,000	170,000	ug/kg	-		-		4.3	U	6.2	U	**8200**		**49000**		**1000**		**2400**	**J**	**3400**		**500**	**J**	**630**	**J**
Toluene	820,000	820,000	ug/kg	-		-		**15**		**24**		**590**	**J**	1900	U	**140**	**J**	320	UJ	450	U	**98**	**J**	**120**	**J**
trans-1,2-Dichloroethene	1,700,000	1,700,000	ug/kg	-		-		4.3	U	6.2	U	330	U	**290**	**J**	140	U	160	UJ	220	U	**700**		**930**	
trans-1,3-Dichloropropene	NA	NA	ug/kg	-		-		4.3	U	6.2	U	330	U	1900	U	290	U	320	UJ	450	U	900	U	1100	U
Trichloroethene	51,000	17,000	ug/kg	-		-		4.3	U	6.2	U	**4300**	**J**	**66000**		**6900**		**3000**	**J**	**10000**		**27000**		**32000**	
Trichlorofluoromethane	1,200,000	1,200,000	ug/kg	-		-		4.3	U	6.2	U	330	U	1900	U	290	U	320	UJ	450	U	900	U	1100	U
Trifluorotrichloroethane	NA	NA	ug/kg	-		-		4.3	U	6.2	U	330	U	1900	U	290	U	320	UJ	450	U	900	U	1100	U
Vinyl chloride	50,000	280,000	ug/kg	-		-		4.3	U	6.2	U	330	U	1900	U	290	U	320	UJ	450	U	**1900**		**1700**	
Xylene (Total)	260,000	260,000	ug/kg	-		-		**12**		**11**	**J**	**790**		3800	U	**200**	**J**	640	UJ	900	U	**290**	**J**	**220**	**J**

TABLE 3.9
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 18/19, 0-2 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	SB-151-04		SB-160-04		SB-161-04		SB-162-04		SB-162-04		SB-163-04		SB-164-04		SB-19-02		SB-53-02		Maximum Detected Concentration	
			Field Sample ID:	SB-151-04		SB-160-04		SB-161-04 (0-2)		SB-162-04 (0-2)		SB-162-04 DUP (0-2)		SB-163-04		SB-164-04		SB-19-02		SB-53-02			
			Date:	2/5/2004		2/4/2004		2/4/2004		2/4/2004		2/4/2004		2/5/2004		2/6/2004		4/9/2002		4/17/2002			
	C/I	Construction	Depth:	0 - 2		0 - 2		0 - 2		0 - 2		0 - 2		0 - 2		0 - 2		1 - 3		1 - 3			
VOCs																							
1,1,1-Trichloroethane	640,000	640,000	ug/kg	5.6	U	5.5	U	4.7	U	330	U	290	U	980	U	**8700**	**J**	**140**	**J**	**94**	**J**	**8700**	**J**
1,1,2,2-Tetrachloroethane	75,000	670,000	ug/kg	5.6	U	5.5	U	4.7	U	330	U	290	U	980	U	370	UJ	320	U	460	U	-	
1,1,2-Trichloroethane	140,000	1,200,000	ug/kg	5.6	U	5.5	U	4.7	U	330	U	290	U	980	U	370	UJ	320	U	460	U	-	
1,1-Dichloroethane	420,000	1,700,000	ug/kg	5.6	U	5.5	U	4.7	U	330	U	290	U	980	U	**1500**	**J**	**340**		460	U	**3600**	
1,1-Dichloroethene	1,200,000	360,000	ug/kg	5.6	U	5.5	U	4.7	U	330	U	290	U	980	U	**110**	**J**	320	U	460	U	**340**	**J**
1,2,4-Trichlorobenzene, VOC	400,000	400,000	ug/kg	5.6	U	5.5	U	4.7	U	330	U	290	U	980	U	370	UJ	320	U	460	U	-	
1,2-Dibromo-3-chloropropane	1,700	15,000	ug/kg	11	U	11	U	9.4	U	660	U	580	U	2000	U	740	UJ	640	U	910	U	-	
1,2-Dibromoethane	4,400	38,000	ug/kg	5.6	U	5.5	U	4.7	U	330	U	290	U	980	U	370	UJ	320	U	460	U	-	
1,2-Dichlorobenzene, VOC	380,000	380,000	ug/kg	5.6	U	5.5	U	4.7	U	330	U	290	U	980	U	370	UJ	320	U	460	U	-	
1,2-Dichloroethane	56,000	480,000	ug/kg	5.6	U	5.5	U	4.7	U	330	U	290	U	980	U	370	UJ	320	U	460	U	-	
1,2-Dichloropropane	120,000	180,000	ug/kg	5.6	U	5.5	U	4.7	U	330	U	290	U	980	U	370	UJ	320	U	460	U	-	
1,3-Dichlorobenzene, VOC	NA	NA	ug/kg	5.6	U	5.5	U	4.7	U	330	U	290	U	980	U	370	UJ	320	U	460	U	-	
1,4-Dichlorobenzene, VOC	310,000	2,600,000	ug/kg	5.6	U	5.5	U	4.7	U	330	U	290	U	980	U	370	UJ	320	U	460	U	-	
2-Butanone	28,000,000	28,000,000	ug/kg	22	U	22	U	19	U	1300	UJ	1200	UJ	3900	U	1500	UJ	1300	U	1800	U	**10**	**J**
2-Hexanone	NA	NA	ug/kg	22	U	22	U	19	U	1300	U	1200	U	3900	U	1500	UJ	1300	U	1800	U	-	
4-Methyl-2-Pentanone	3,400,000	3,400,000	ug/kg	22	U	22	U	19	U	1300	U	1200	U	3900	U	1500	UJ	1300	U	1800	U	-	
Acetone	110,000,000	110,000,000	ug/kg	22	U	22	U	19	U	1300	UJ	1200	UJ	3900	U	1500	UJ	**320**	**J**	1800	U	**320**	**J**
Benzene	140,000	1,200,000	ug/kg	5.6	U	5.5	U	4.7	U	330	U	290	U	980	U	**30**	**J**	320	U	460	U	**84**	**J**
Bromodichloromethane	35,000	300,000	ug/kg	5.6	U	5.5	U	4.7	U	330	U	290	U	980	U	370	UJ	320	U	460	U	-	
Bromoform	6,200,000	130,000,000	ug/kg	5.6	U	5.5	U	4.7	U	330	U	290	U	980	U	370	UJ	320	U	460	U	-	
Bromomethane	82,000	550,000	ug/kg	5.6	U	5.5	U	4.7	U	330	U	290	U	980	U	370	UJ	320	U	460	U	-	
Carbon disulfide	740,000	740,000	ug/kg	5.6	U	5.5	U	4.7	U	330	U	290	U	980	U	370	UJ	320	U	460	U	-	
Carbon tetrachloride	79,000	460,000	ug/kg	5.6	U	5.5	U	4.7	U	330	U	290	U	980	U	**43**	**J**	320	U	460	U	**43**	**J**
Chlorobenzene	760,000	760,000	ug/kg	5.6	U	5.5	U	4.7	U	330	U	290	U	980	U	370	UJ	320	U	460	U	-	
Chloroethane	2,100,000	2,100,000	ug/kg	5.6	U	5.5	U	4.7	U	330	R	290	R	980	U	370	R	320	U	460	U	-	
Chloroform	38,000	320,000	ug/kg	5.6	U	5.5	U	4.7	U	330	U	290	U	980	U	**90**	**J**	320	U	460	U	**90**	**J**
Chloromethane	1,300,000	1,300,000	ug/kg	5.6	U	5.5	U	4.7	U	330	U	290	U	980	U	370	UJ	320	U	460	U	-	
cis-1,2-Dichloroethene	2,400,000	2,400,000	ug/kg	**0.77**	**J**	2.7	U	2.4	U	170	U	150	U	**380**	**J**	**630**	**J**	**2100**		**720**		**13000**	
cis-1,3-Dichloropropene	NA	NA	ug/kg	5.6	U	5.5	U	4.7	U	330	U	290	U	980	U	370	UJ	320	U	460	U	-	
Cyclohexane	120,000	120,000	ug/kg	11	U	11	U	9.4	U	660	U	580	U	2000	U	**330**	**J**	640	U	910	U	**330**	**J**
Dibromochloromethane	84,000	770,000	ug/kg	5.6	U	5.5	U	4.7	U	330	U	290	U	980	U	370	UJ	320	U	460	U	-	
Dichlorodifluoromethane	850,000	850,000	ug/kg	5.6	U	5.5	U	4.7	U	330	U	290	U	980	UJ	370	UJ	320	U	460	U	-	
Ethylbenzene	480,000	480,000	ug/kg	**0.49**	**J**	5.5	U	**0.65**	**J**	330	U	290	U	980	U	370	UJ	320	U	460	U	**47**	**J**
Isopropylbenzene, VOC	270,000	270,000	ug/kg	5.6	U	5.5	U	4.7	U	330	U	290	U	980	U	370	UJ	**150**	**J**	460	U	**150**	**J**
Methyl acetate	NA	NA	ug/kg	11	U	11	U	9.4	U	660	U	580	U	2000	U	**130**	**J**	640	U	910	U	**130**	**J**
Methyl cyclohexane	NA	NA	ug/kg	11	U	11	U	9.4	U	**40**	**J**	580	U	2000	U	**1000**	**J**	640	U	**34**	**J**	**1000**	**J**
Methyl tert butyl ether	5,700,000	8,900,000	ug/kg	22	U	22	U	19	U	1300	U	1200	U	3900	UJ	1500	UJ	1300	U	1800	U	-	
Methylene chloride	3,300,000	3,300,000	ug/kg	**4.6**	**J**	**8.2**		**7.7**		330	U	290	U	**560**	**J**	370	UJ	320	U	460	U	**560**	**J**
Styrene	870,000	870,000	ug/kg	5.6	U	5.5	U	4.7	U	330	U	290	U	980	U	370	UJ	320	U	460	U	-	
Tetrachloroethene	170,000	170,000	ug/kg	**150**		5.5	U	4.7	U	**1200**		**800**		**27000**		**5000**	**J**	**1300**		**16000**		**49000**	
Toluene	820,000	820,000	ug/kg	**0.94**	**J**	**0.92**	**J**	**1.2**	**J**	330	U	290	U	980	U	**110**	**J**	320	U	460	U	**590**	**J**
trans-1,2-Dichloroethene	1,700,000	1,700,000	ug/kg	2.8	U	2.7	U	2.4	U	170	U	150	U	490	U	180	UJ	**170**		**45**	**J**	**930**	
trans-1,3-Dichloropropene	NA	NA	ug/kg	5.6	U	5.5	U	4.7	U	330	U	290	U	980	U	370	UJ	320	U	460	U	-	
Trichloroethene	51,000	17,000	ug/kg	**40**		5.5	U	4.7	U	**56**	**J**	**36**	**J**	**12000**		**7800**	**J**	**5100**	**J**	**5000**		**66000**	
Trichlorofluoromethane	1,200,000	1,200,000	ug/kg	5.6	U	5.5	U	4.7	U	330	U	290	U	980	U	370	UJ	320	UJ	460	U	-	
Trifluorotrichloroethane	NA	NA	ug/kg	5.6	U	5.5	U	4.7	U	330	U	290	U	980	U	370	UJ	320	U	460	U	-	
Vinyl chloride	50,000	280,000	ug/kg	5.6	U	5.5	U	4.7	U	330	U	290	U	980	U	370	UJ	320	U	460	U	**1900**	
Xylene (Total)	260,000	260,000	ug/kg	**1.7**	**J**	11	U	9.4	U	660	U	580	U	2000	U	**280**	**J**	640	U	910	U	**790**	

TABLE 3.9
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 18/19, 0-2 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	BH-169		BH-170		BH-176		BH-177		BH-183		MW-26-04		SB-130-04		SB-133-04		SB-139-04		SB-150-04		SB-150-04	
			Field Sample ID:	S-110104-NZ-001		S-110104-NZ-003		S-110204-NZ-019		S-110204-NZ-021		S-112904-NZ-041		MW-26-04		SB-130-04		SB-133-04		SB-139-04		SB-150-04		SB-150-04	
			Date:	11/1/2004		11/1/2004		11/2/2004		11/2/2004		11/29/2004		3/4/2004		1/21/2004		1/22/2004		1/27/2004		1/28/2004		1/28/2004	
	C/I	Construction	Depth:	0 - 2		0 - 2		0 - 2		0 - 2		0 - 2		0 - 2		0 - 2		0 - 2		0 - 2		0 - 2		0 - 2	
SVOCs																									
2,2-oxybis(2-Chloropropane), SVOC	NA	NA	ug/kg	-		-		370	U	870	U	420	U	950	U	4300	U	420	U	-		3800	U	4600	U
2,4,5-Trichlorophenol	180,000,000	1,000,000,000	ug/kg	-		-		370	U	870	U	420	U	950	U	4300	U	420	U	-		3800	U	4600	U
2,4,6-Trichlorophenol	1,800,000	1,400,000	ug/kg	-		-		370	U	870	U	420	U	950	U	4300	U	420	U	-		3800	U	4600	U
2,4-Dichlorophenol	NA	NA	ug/kg	-		-		370	U	870	U	420	U	950	U	4300	U	420	U	-		3800	U	4600	U
2,4-Dimethylphenol	35,000,000	85,000,000	ug/kg	-		-		370	U	870	U	420	U	950	U	4300	U	420	U	-		3800	U	4600	U
2,4-Dinitrophenol	3,500,000	28,000,000	ug/kg	-		-		1800	U	4200	U	2000	U	4600	R	21000	U	2000	U	-		18000	UJ	22000	UJ
2,4-Dinitrotoluene	160,000	2,800,000	ug/kg	-		-		370	U	870	U	420	U	950	U	4300	U	420	U	-		3800	U	4600	U
2,6-Dinitrotoluene	NA	NA	ug/kg	-		-		370	U	870	U	420	U	950	U	4300	U	420	U	-		3800	U	4600	U
2-Chloronaphthalene	330,000,000	1,000,000,000	ug/kg	-		-		370	U	870	U	420	U	950	U	4300	U	420	U	-		3800	U	4600	U
2-Chlorophenol	20,000,000	22,000,000	ug/kg	-		-		370	U	870	U	420	U	950	U	4300	U	420	U	-		3800	U	4600	U
2-Methylnaphthalene	6,000,000	5,200,000	ug/kg	-		-		370	U	**170**	**J**	**53**	**J**	**190**	**J**	4300	U	**83**	**J**	-		3800	U	4600	U
2-Methylphenol	88,000,000	710,000,000	ug/kg	-		-		370	U	870	U	420	U	950	U	4300	U	420	U	-		3800	U	4600	U
2-Nitroaniline	NA	NA	ug/kg	-		-		1800	U	4200	U	2000	UJ	4600	U	21000	U	2000	U	-		18000	U	22000	U
2-Nitrophenol	NA	NA	ug/kg	-		-		370	U	870	U	420	U	950	U	4300	U	420	U	-		3800	U	4600	U
3,3-Dichlorobenzidine	NA	NA	ug/kg	-		-		1800	U	4200	U	2000	U	4600	U	21000	U	2000	U	-		18000	U	22000	U
3-Nitroaniline	NA	NA	ug/kg	-		-		1800	U	4200	U	2000	U	4600	U	21000	U	2000	U	-		18000	U	22000	U
4,6-Dinitro-2-methylphenol	140,000	110,000	ug/kg	-		-		1800	U	4200	U	2000	U	4600	R	21000	U	2000	U	-		18000	U	22000	U
4-Bromophenyl phenyl ether	NA	NA	ug/kg	-		-		370	U	870	U	420	U	950	U	4300	U	420	U	-		3800	U	4600	U
4-Chloro-3-methylphenol	180,000,000	140,000,000	ug/kg	-		-		370	U	870	U	420	U	950	U	4300	U	420	U	-		3800	U	4600	U
4-Chloroaniline	250,000	710,000	ug/kg	-		-		370	U	870	U	420	U	950	U	4300	U	420	U	-		3800	U	4600	U
4-Chlorophenyl phenyl ether	NA	NA	ug/kg	-		-		370	U	870	U	420	U	950	U	4300	U	420	U	-		3800	U	4600	U
4-Methylphenol	180,000,000	28,000,000	ug/kg	-		-		370	U	870	U	420	U	950	U	4300	U	420	U	-		3800	U	4600	U
4-Nitroaniline	2,500,000	14,000,000	ug/kg	-		-		1800	U	4200	U	2000	U	4600	U	21000	U	2000	U	-		18000	U	22000	U
4-Nitrophenol	NA	NA	ug/kg	-		-		1800	UJ	4200	UJ	2000	U	4600	U	21000	U	2000	U	-		18000	U	22000	U
Acenaphthene	90,000,000	780,000,000	ug/kg	-		-		370	U	**42**	**J**	420	U	950	U	4300	U	420	U	-		3800	U	4600	U
Acenaphthylene	90,000,000	780,000,000	ug/kg	-		-		370	U	**280**	**J**	420	U	950	U	4300	U	420	U	-		3800	U	4600	U
Acetophenone	2,500,000	2,500,000	ug/kg	-		-		370	U	870	U	420	U	950	U	4300	U	420	U	-		3800	U	4600	U
Anthracene	450,000,000	1,000,000,000	ug/kg	-		-		370	U	**240**	**J**	420	U	950	U	**490**	**J**	420	U	-		3800	U	4600	U
Atrazine	NA	NA	ug/kg	-		-		370	U	870	U	420	U	950	U	4300	U	420	U	-		3800	U	4600	U
Benzaldehyde	NA	NA	ug/kg	-		-		370	U	870	U	420	U	950	U	4300	U	420	U	-		3800	U	4600	U
Benzo(a)anthracene	58,000	1,200,000	ug/kg	-		-		**63**	**J**	**830**	**J**	420	U	**140**	**J**	**1300**	**J**	**100**	**J**	-		3800	U	4600	U
Benzo(a)pyrene	5,800	120,000	ug/kg	-		-		**80**	**J**	**1000**		**21**	**J**	**130**	**J**	**1200**	**J**	**110**	**J**	-		3800	U	4600	U
Benzo(b)fluoranthene	58,000	1,200,000	ug/kg	-		-		**120**	**J**	**1300**		**27**	**J**	**200**	**J**	**1300**	**J**	**150**	**J**	-		3800	U	4600	U
Benzo(g,h,i)perylene	45,000,000	390,000,000	ug/kg	-		-		**160**	**J**	**1400**		**18**	**J**	**91**	**J**	**770**	**J**	**86**	**J**	-		3800	U	4600	U
Benzo(k)fluoranthene	580,000	12,000,000	ug/kg	-		-		**43**	**J**	**460**	**J**	420	U	**67**	**J**	**550**	**J**	**84**	**J**	-		3800	U	4600	U
Biphenyl	14,000,000	190,000,000	ug/kg	-		-		370	U	870	U	420	U	950	U	4300	U	420	U	-		3800	U	4600	U
bis(2-Chloroethoxy)methane	5,300,000	43,000,000	ug/kg	-		-		370	U	870	U	420	U	950	U	4300	U	420	U	-		3800	U	4600	U
bis(2-Chloroethyl)ether	30,000	290,000	ug/kg	-		-		370	U	870	U	420	U	950	U	4300	U	420	U	-		3800	U	4600	U
bis(2-Ethylhexyl)phthalate	3,500,000	71,000,000	ug/kg	-		-		370	JU	870	U	420	U	950	U	4300	U	420	U	-		3800	U	4600	U
Butyl benzylphthalate	26,000,000	520,000,000	ug/kg	-		-		370	U	870	U	420	U	950	U	4300	U	420	U	-		3800	U	4600	U
Caprolactam	NA	NA	ug/kg	-		-		370	U	870	U	420	U	950	U	4300	U	420	U	-		3800	U	4600	U
Carbazole	2,500,000	50,000,000	ug/kg	-		-		370	U	**130**	**J**	420	U	950	U	4300	U	420	U	-		3800	U	4600	U
Chrysene	5,800,000	120,000,000	ug/kg	-		-		**61**	**J**	**830**	**J**	420	U	**160**	**J**	**1200**	**J**	**150**	**J**	-		3800	U	4600	U
Dibenz(a,h)anthracene	5,800	120,000	ug/kg	-		-		370	U	**190**	**J**	420	U	**90**	**J**	4300	U	**63**	**J**	-		3800	U	4600	U
Dibenzofuran	4,100,000	2,100,000	ug/kg	-		-		370	U	**110**	**J**	420	U	950	U	4300	U	**62**	**J**	-		3800	U	4600	U
Diethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	-		-		370	U	870	U	420	U	950	U	4300	U	420	U	-		3800	U	4600	U
Dimethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	-		-		370	U	870	U	420	U	950	U	4300	U	420	U	-		3800	U	4600	U
Di-n-butylphthalate	180,000,000	430,000,000	ug/kg	-		-		370	U	870	U	420	U	950	U	4300	U	420	U	-		3800	U	4600	U
Di-N-Octyl phthalate	18,000,000	140,000,000	ug/kg	-		-		**56**	**J**	870	U	420	U	950	U	4300	U	420	U	-		3800	U	4600	U
Fluoranthene	60,000,000	160,000,000	ug/kg	-		-		**67**	**J**	**2100**		**44**	**J**	**150**	**J**	**3000**	**J**	**200**	**J**	-		3800	U	4600	U
Fluorene	60,000,000	520,000,000	ug/kg	-		-		370	U	**100**	**J**	420	U	950	U	4300	U	420	U	-		3800	U	4600	U
Hexachlorobenzene	31,000	14,000	ug/kg	-		-		370	U	870	U	420	U	950	U	4300	U	420	U	-		3800	U	4600	U
Hexachlorobutadiene, SVOC	630,000	1,400,000	ug/kg	-		-		370	U	870	U	420	U	950	U	4300	U	420	U	-		3800	U	4600	U
Hexachlorocyclopentadiene	11,000,000	26,000,000	ug/kg	-		-		1800	U	4200	U	2000	UJ	4600	U	21000	U	2000	U	-		18000	U	22000	U
Hexachloroethane	1,200,000	3,000,000	ug/kg	-		-		370	U	870	U	420	U	950	U	4300	U	420	U	-		3800	U	4600	U
Indeno(1,2,3-cd)pyrene	58,000	1,200,000	ug/kg	-		-		**63**	**J**	**660**	**J**	420	U	**73**	**J**	**660**	**J**	**74**	**J**	-		3800	U	4600	U
Isophorone	52,000,000	1,000,000,000	ug/kg	-		-		370	U	870	U	420	U	950	U	4300	U	420	U	-		3800	U	4600	U
Naphthalene, SVOC	450,000	560,000	ug/kg	-		-		370	U	**110**	**J**	**38**	**J**	**150**	**J**	4300	U	**67**	**J**	-		3800	U	4600	U
Nitrobenzene	610,000	3,000,000	ug/kg	-		-		370	U	870	U	420	U	950	U	4300	U	420	U	-		3800	U	4600	U
N-Nitrosodi-n-propylamine	7,000	140,000	ug/kg	-		-		370	U	870	U	420	U	950	U	4300	U	420	U	-		3800	U	4600	U
N-Nitrosodiphenylamine	10,000,000	200,000,000	ug/kg	-		-		370	U	870	U	420	U	950	U	4300	U	420	U	-		3800	U	4600	U
Pentachlorophenol	67,000	950,000	ug/kg	-		-		370	UJ	870	UJ	420	U	950	U	4300	U	420	U	-		3800	U	4600	U
Phenanthrene	450,000,000	1,000,000,000	ug/kg	-		-		**17**	**J**	**1500**		**42**	**J**	**400**	**J**	**1800**	**J**	**290**	**J**	-		3800	U	4600	U
Phenol	530,000,000	840,000,000	ug/kg	-		-		370	U	870	U	420	U	950	U	4300	U	420	U	-		3800	U	4600	U
Pyrene, SVOC	45,000,000	390,000,000	ug/kg	-		-		**74**	**J**	**1800**	**J**	**28**	**J**	**180**	**J**	**2400**	**J**	**160**	**J**	-		3800	U	4600	U

TABLE 3.9
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 18/19, 0-2 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	SB-151-04		SB-160-04		SB-161-04		SB-162-04		SB-162-04		SB-163-04		SB-164-04		SB-19-02		SB-53-02		Maximum Detected Concentration	
			Field Sample ID:	SB-151-04		SB-160-04		SB-161-04 (0-2)		SB-162-04 (0-2)		SB-162-04 DUP (0-2)		SB-163-04		SB-164-04		SB-19-02		SB-53-02			
			Date:	2/5/2004		2/4/2004		2/4/2004		2/4/2004		2/4/2004		2/5/2004		2/6/2004		4/9/2002		4/17/2002			
	C/I	Construction	Depth:	0 - 2		0 - 2		0 - 2		0 - 2		0 - 2		0 - 2		0 - 2		1 - 3		1 - 3			
SVOCs																							
2,2-oxybis(2-Chloropropane), SVOC	NA	NA	ug/kg	390	U	-		-		-		-		390	U	380	U	430	U	400	U	-	
2,4,5-Trichlorophenol	180,000,000	1,000,000,000	ug/kg	390	U	-		-		-		-		390	U	380	U	430	U	400	U	-	
2,4,6-Trichlorophenol	1,800,000	1,400,000	ug/kg	390	U	-		-		-		-		390	U	380	U	430	U	400	U	-	
2,4-Dichlorophenol	NA	NA	ug/kg	390	U	-		-		-		-		390	U	380	U	430	U	400	U	-	
2,4-Dimethylphenol	35,000,000	85,000,000	ug/kg	390	U	-		-		-		-		390	U	380	U	430	U	400	U	-	
2,4-Dinitrophenol	3,500,000	28,000,000	ug/kg	1900	U	-		-		-		-		1900	U	1800	U	2100	UJ	1900	U	-	
2,4-Dinitrotoluene	160,000	2,800,000	ug/kg	390	U	-		-		-		-		390	U	380	U	430	U	400	U	-	
2,6-Dinitrotoluene	NA	NA	ug/kg	390	U	-		-		-		-		390	U	380	U	430	U	400	U	-	
2-Chloronaphthalene	330,000,000	1,000,000,000	ug/kg	390	U	-		-		-		-		390	U	380	U	430	U	400	U	-	
2-Chlorophenol	20,000,000	22,000,000	ug/kg	390	U	-		-		-		-		390	U	380	U	430	U	400	U	-	
2-Methylnaphthalene	6,000,000	5,200,000	ug/kg	**78**	**J**	-		-		-		-		390	U	**95**	**J**	430	U	400	U	**190**	**J**
2-Methylphenol	88,000,000	710,000,000	ug/kg	390	U	-		-		-		-		390	U	380	U	430	U	400	U	-	
2-Nitroaniline	NA	NA	ug/kg	1900	U	-		-		-		-		1900	U	1800	U	2100	U	1900	U	-	
2-Nitrophenol	NA	NA	ug/kg	390	U	-		-		-		-		390	U	380	U	430	U	400	U	-	
3,3-Dichlorobenzidine	NA	NA	ug/kg	1900	U	-		-		-		-		1900	U	1800	U	2100	U	1900	U	-	
3-Nitroaniline	NA	NA	ug/kg	1900	U	-		-		-		-		1900	U	1800	U	2100	U	1900	U	-	
4,6-Dinitro-2-methylphenol	140,000	110,000	ug/kg	1900	U	-		-		-		-		1900	U	1800	U	2100	U	1900	U	-	
4-Bromophenyl phenyl ether	NA	NA	ug/kg	390	U	-		-		-		-		390	U	380	U	430	U	400	U	-	
4-Chloro-3-methylphenol	180,000,000	140,000,000	ug/kg	390	U	-		-		-		-		390	U	380	U	430	U	400	U	-	
4-Chloroaniline	250,000	710,000	ug/kg	390	U	-		-		-		-		390	U	380	U	430	U	400	U	-	
4-Chlorophenyl phenyl ether	NA	NA	ug/kg	390	U	-		-		-		-		390	U	380	U	430	U	400	U	-	
4-Methylphenol	180,000,000	28,000,000	ug/kg	390	U	-		-		-		-		390	U	380	U	430	U	400	U	-	
4-Nitroaniline	2,500,000	14,000,000	ug/kg	1900	U	-		-		-		-		1900	U	1800	U	2100	U	1900	U	-	
4-Nitrophenol	NA	NA	ug/kg	1900	U	-		-		-		-		1900	U	1800	U	2100	U	1900	U	-	
Acenaphthene	90,000,000	780,000,000	ug/kg	390	U	-		-		-		-		390	U	380	U	430	U	**71**	**J**	**71**	**J**
Acenaphthylene	90,000,000	780,000,000	ug/kg	390	U	-		-		-		-		390	U	380	U	430	U	400	U	**280**	**J**
Acetophenone	2,500,000	2,500,000	ug/kg	390	U	-		-		-		-		390	U	380	U	430	U	400	U	-	
Anthracene	450,000,000	1,000,000,000	ug/kg	390	U	-		-		-		-		390	U	380	U	430	U	**230**	**J**	**490**	**J**
Atrazine	NA	NA	ug/kg	390	U	-		-		-		-		390	U	380	U	430	U	400	U	-	
Benzaldehyde	NA	NA	ug/kg	390	U	-		-		-		-		390	U	380	U	430	U	400	U	-	
Benzo(a)anthracene	58,000	1,200,000	ug/kg	390	U	-		-		-		-		**50**	**J**	**29**	**J**	**99**	**J**	**920**		**1300**	**J**
Benzo(a)pyrene	5,800	120,000	ug/kg	390	U	-		-		-		-		**51**	**J**	**22**	**J**	**86**	**J**	**1100**		**1200**	**J**
Benzo(b)fluoranthene	58,000	1,200,000	ug/kg	390	U	-		-		-		-		**65**	**J**	**48**	**J**	**130**	**J**	**1100**		**1300**	**J**
Benzo(g,h,i)perylene	45,000,000	390,000,000	ug/kg	390	U	-		-		-		-		**27**	**J**	380	U	430	U	**860**		**1400**	
Benzo(k)fluoranthene	580,000	12,000,000	ug/kg	390	U	-		-		-		-		**27**	**J**	380	U	430	U	**610**		**610**	
Biphenyl	14,000,000	190,000,000	ug/kg	**29**	**J**	-		-		-		-		390	U	380	U	430	U	400	U	**29**	**J**
bis(2-Chloroethoxy)methane	5,300,000	43,000,000	ug/kg	390	U	-		-		-		-		390	U	380	U	430	U	400	U	-	
bis(2-Chloroethyl)ether	30,000	290,000	ug/kg	390	U	-		-		-		-		390	U	380	U	430	U	400	U	-	
bis(2-Ethylhexyl)phthalate	3,500,000	71,000,000	ug/kg	**71**	**J**	-		-		-		-		390	U	380	U	430	U	400	U	**71**	**J**
Butyl benzylphthalate	26,000,000	520,000,000	ug/kg	390	U	-		-		-		-		390	U	380	U	430	U	400	U	-	
Caprolactam	NA	NA	ug/kg	390	U	-		-		-		-		390	U	380	U	430	U	400	U	-	
Carbazole	2,500,000	50,000,000	ug/kg	390	U	-		-		-		-		390	U	380	U	430	U	**110**	**J**	**130**	**J**
Chrysene	5,800,000	120,000,000	ug/kg	390	U	-		-		-		-		**57**	**J**	**56**	**J**	**130**	**J**	**990**		**1200**	**J**
Dibenz(a,h)anthracene	5,800	120,000	ug/kg	390	U	-		-		-		-		390	U	380	U	430	U	**200**	**J**	**200**	**J**
Dibenzofuran	4,100,000	2,100,000	ug/kg	390	U	-		-		-		-		390	U	**31**	**J**	430	U	400	U	**110**	**J**
Diethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	390	U	-		-		-		-		390	U	380	U	430	U	400	U	-	
Dimethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	390	U	-		-		-		-		390	U	380	U	430	U	400	U	-	
Di-n-butylphthalate	180,000,000	430,000,000	ug/kg	390	U	-		-		-		-		390	U	380	U	430	U	400	U	-	
Di-N-Octyl phthalate	18,000,000	140,000,000	ug/kg	390	U	-		-		-		-		390	U	380	U	430	U	400	U	**56**	**J**
Fluoranthene	60,000,000	160,000,000	ug/kg	390	U	-		-		-		-		**93**	**J**	**48**	**J**	**280**	**J**	**1900**		**3000**	**J**
Fluorene	60,000,000	520,000,000	ug/kg	390	U	-		-		-		-		390	U	380	U	430	U	**61**	**J**	**100**	**J**
Hexachlorobenzene	31,000	14,000	ug/kg	390	U	-		-		-		-		390	U	380	U	430	U	400	U	-	
Hexachlorobutadiene, SVOC	630,000	1,400,000	ug/kg	390	U	-		-		-		-		390	U	380	U	430	U	400	U	-	
Hexachlorocyclopentadiene	11,000,000	26,000,000	ug/kg	1900	U	-		-		-		-		1900	U	1800	U	2100	U	1900	U	-	
Hexachloroethane	1,200,000	3,000,000	ug/kg	390	U	-		-		-		-		390	U	380	U	430	U	400	U	-	
Indeno(1,2,3-cd)pyrene	58,000	1,200,000	ug/kg	390	U	-		-		-		-		**26**	**J**	380	U	430	U	**720**		**720**	
Isophorone	52,000,000	1,000,000,000	ug/kg	390	U	-		-		-		-		390	U	380	U	430	U	400	U	-	
Naphthalene, SVOC	450,000	560,000	ug/kg	390	U	-		-		-		-		390	U	**47**	**J**	430	U	**67**	**J**	**150**	**J**
Nitrobenzene	610,000	3,000,000	ug/kg	390	U	-		-		-		-		390	U	380	U	430	U	400	U	-	
N-Nitrosodi-n-propylamine	7,000	140,000	ug/kg	390	U	-		-		-		-		390	U	380	U	430	U	400	U	-	
N-Nitrosodiphenylamine	10,000,000	200,000,000	ug/kg	390	U	-		-		-		-		390	U	380	U	430	U	400	U	-	
Pentachlorophenol	67,000	950,000	ug/kg	390	U	-		-		-		-		390	U	380	U	430	U	400	U	-	
Phenanthrene	450,000,000	1,000,000,000	ug/kg	**45**	**J**	-		-		-		-		**31**	**J**	**140**	**J**	**210**	**J**	**1100**		**1800**	**J**
Phenol	530,000,000	840,000,000	ug/kg	390	U	-		-		-		-		390	U	380	U	430	U	400	U	-	
Pyrene, SVOC	45,000,000	390,000,000	ug/kg	**26**	**J**	-		-		-		-		**82**	**J**	**42**	**J**	**180**	**J**	**1800**		**2400**	**J**

TABLE 3.9
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 18/19, 0-2 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	BH-169		BH-170		BH-176		BH-177		BH-183		MW-26-04		SB-130-04		SB-133-04		SB-139-04		SB-150-04		SB-150-04	
			Field Sample ID:	S-110104-NZ-001		S-110104-NZ-003		S-110204-NZ-019		S-110204-NZ-021		S-112904-NZ-041		MW-26-04		SB-130-04		SB-133-04		SB-139-04		SB-150-04		SB-150-04	
			Date:	11/1/2004		11/1/2004		11/2/2004		11/2/2004		11/29/2004		3/4/2004		1/21/2004		1/22/2004		1/27/2004		1/28/2004		1/28/2004	
	C/I	Construction	Depth:	0 - 2		0 - 2		0 - 2		0 - 2		0 - 2		0 - 2		0 - 2		0 - 2		0 - 2		0 - 2		0 - 2	
PCBs																									
Aroclor-1016	100,000	260,000	ug/kg	-		-		-		-		-		38	U	-		-		-		38	U	46	U
Aroclor-1221	14,000	210,000	ug/kg	-		-		-		-		-		38	U	-		-		-		38	U	46	U
Aroclor-1232	14,000	73,000	ug/kg	-		-		-		-		-		38	U	-		-		-		38	U	46	U
Aroclor-1242	20,000	440,000	ug/kg	-		-		-		-		-		38	U	-		-		-		38	U	46	U
Aroclor-1248	20,000	440,000	ug/kg	-		-		-		-		-		38	U	-		-		-		38	U	46	U
Aroclor-1254	20,000	75,000	ug/kg	-		-		-		-		-		38	U	-		-		-		**8.1**	**J**	**14**	**J**
Aroclor-1260	20,000	440,000	ug/kg	-		-		-		-		-		38	U	-		-		-		38	U	46	U
Total PCBs	20,000	440,000	ug/kg	-		-		-		-		-		38	U	-		-		-		**8.1**	**J**	**14**	**J**
Metals																									
Antimony	1,600	850	mg/kg	6.7	UJ	6.3	UJ	6.7	UJ	**1.7**	**J**	**28.8**	**J**	**11**	**J**	-		-		-		**1.1**	**J**	**0.6**	**J**
Arsenic	77	690	mg/kg	**3.4**		**1.1**		**5.2**		**9.2**		**12.4**		**10.7**		-		-		-		**7**		**10.2**	
Barium	680,000	320,000	mg/kg	**78.7**		**2.8**	**J**	**96.4**		**173**		**275**		**24.4**		-		-		-		**211**		**178**	
Beryllium	7,800	3,400	mg/kg	**0.39**	**J**	**0.034**	**J**	0.55	U	**0.17**	**J**	**1.1**		**0.26**	**J**	-		-		-		**0.74**		**1.1**	
Cadmium	2,600	1,000	mg/kg	0.56	U	0.52	U	**1.3**		**0.56**	**J**	**0.035**	**J**	0.58	U	-		-		-		0.57	U	0.69	U
Chromium Total	NA	NA	mg/kg	**3.4**		**2**		**9.6**	**J**	**22.7**	**J**	**11.9**	**J**	**6.4**		-		-		-		**7**		**9.1**	
Cobalt	1,200	2,800	mg/kg	**1.7**	**J**	5.2	U	**3.7**	**J**	**10.6**		**7.6**		**8.5**		-		-		-		**5**	**J**	**6.8**	**J**
Copper	160,000	21,000	mg/kg	**7.6**		**1.2**	**J**	**48.4**		**428**		**33.6**		**49.1**	**J**	-		-		-		**73.2**		**67.5**	
Cyanide (total)	370	150	mg/kg	0.56	U	0.52	U	0.55	U	0.66	U	0.64	U	**0.17**	**J**	-		-		-		**0.21**	**J**	0.69	U
Lead	800	400	mg/kg	**20.4**		**1.5**		**48.8**	**J**	**160**	**J**	**451**		**153**	**J**	-		-		-		**109**		**105**	
Manganese	NA	NA	mg/kg	**252**		**122**		**384**		**660**		**382**	**J**	**299**		-		-		-		**306**		**537**	
Mercury	3.1	3.1	mg/kg	**0.15**		**0.0077**	**J**	**0.076**	**J**	**0.67**		**0.38**		**0.1**	**J**	-		-		-		**0.07**	**J**	**0.15**	
Nickel	74,000	23,000	mg/kg	**3.4**	**J**	**1**	**J**	**10.1**		**19.6**		**15.4**		**19**		-		-		-		**10.8**		**14**	
Selenium	20,000	11,000	mg/kg	0.56	U	0.52	U	0.55	U	0.66	U	**0.63**	**J**	0.58	U	-		-		-		0.57	U	0.69	U
Silver	20,000	11,000	mg/kg	1.1	U	1	U	**0.13**	**J**	1.3	U	1.3	U	1.2	U	-		-		-		1.1	U	1.4	U
Thallium	41	21	mg/kg	1.1	U	1	U	**0.71**	**J**	**1**	**J**	1.3	U	**0.52**	**J**	-		-		-		**0.74**	**J**	**1.1**	**J**
Vanadium	20,000	11,000	mg/kg	**5.8**		**1.7**	**J**	**9.9**		**20.9**		**30.6**		**12.4**		-		-		-		**10.4**		**13.9**	
Zinc	1,000,000	640,000	mg/kg	**24.6**		**3.2**		**122**		**307**		**73.5**		**29.8**		-		-		-		**68.5**		**74.4**	

TABLE 3.9
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 18/19, 0-2 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	SB-151-04		SB-160-04		SB-161-04		SB-162-04		SB-162-04		SB-163-04		SB-164-04		SB-19-02		SB-53-02		Maximum Detected Concentration	
			Field Sample ID:	SB-151-04		SB-160-04		SB-161-04 (0-2)		SB-162-04 (0-2)		SB-162-04 DUP (0-2)		SB-163-04		SB-164-04		SB-19-02		SB-53-02			
			Date:	2/5/2004		2/4/2004		2/4/2004		2/4/2004		2/4/2004		2/5/2004		2/6/2004		4/9/2002		4/17/2002			
	C/I	Construction	Depth:	0 - 2		0 - 2		0 - 2		0 - 2		0 - 2		0 - 2		0 - 2		1 - 3		1 - 3			
PCBs																							
Aroclor-1016	100,000	260,000	ug/kg	39	U	-		-		-		-		39	U	38	U	43	U	40	U	-	
Aroclor-1221	14,000	210,000	ug/kg	39	U	-		-		-		-		39	U	38	U	43	U	40	U	-	
Aroclor-1232	14,000	73,000	ug/kg	39	U	-		-		-		-		39	U	38	U	43	U	40	U	-	
Aroclor-1242	20,000	440,000	ug/kg	39	U	-		-		-		-		39	U	38	U	43	U	40	U	-	
Aroclor-1248	20,000	440,000	ug/kg	39	U	-		-		-		-		39	U	38	U	43	U	40	U	-	
Aroclor-1254	20,000	75,000	ug/kg	**490**	**J**	-		-		-		-		39	UJ	38	U	**27**	**J**	40	U	**490**	**J**
Aroclor-1260	20,000	440,000	ug/kg	39	UJ	-		-		-		-		39	UJ	38	U	43	U	40	U	-	
Total PCBs	20,000	440,000	ug/kg	**490**	**J**	-		-		-		-		39	UJ	38	U	**27**	**J**	40	U	**490**	**J**
Metals																							
Antimony	1,600	850	mg/kg	7.2	UJ	-		-		-		-		7.2	UJ	6.9	UJ	7.8	UJ	7.2	U	**28.8**	**J**
Arsenic	77	690	mg/kg	**3.2**		-		-		-		-		**8.4**		**8.6**		**4.7**		**8.8**		**12.4**	
Barium	680,000	320,000	mg/kg	**56.1**		-		-		-		-		**66.2**		**125**	**J**	**68.2**		**150**		**275**	
Beryllium	7,800	3,400	mg/kg	**0.14**	**J**	-		-		-		-		**0.38**	**J**	**0.73**		0.65	U	**0.6**		**1.1**	
Cadmium	2,600	1,000	mg/kg	**0.15**	**J**	-		-		-		-		**0.3**	**J**	**1.1**		0.65	U	**0.8**		**1.3**	
Chromium Total	NA	NA	mg/kg	**10.4**	**J**	-		-		-		-		**7.8**	**J**	**26.2**	**J**	**11.6**		**12.6**		**26.2**	**J**
Cobalt	1,200	2,800	mg/kg	**39.5**		-		-		-		-		**7.1**		**8.6**		**4.5**	**J**	**4.5**	**J**	**39.5**	
Copper	160,000	21,000	mg/kg	**9.8**	**J**	-		-		-		-		**23.9**	**J**	**128**		**21.7**	**J**	**404**		**428**	
Cyanide (total)	370	150	mg/kg	0.6	U	-		-		-		-		0.6	U	0.58	U	**0.22**	**J**	**3.6**		**3.6**	
Lead	800	400	mg/kg	**4.8**	**J**	-		-		-		-		**209**	**J**	**98.2**	**J**	**276**	**J**	**213**		**451**	
Manganese	NA	NA	mg/kg	**609**		-		-		-		-		**322**		**3940**		**710**		**479**		**3940**	
Mercury	3.1	3.1	mg/kg	0.12	U	-		-		-		-		**0.087**	**J**	**0.077**	**J**	**0.045**	**J**	**0.51**		**0.67**	
Nickel	74,000	23,000	mg/kg	**7.4**	**J**	-		-		-		-		**6.9**	**J**	**11.9**		**6.5**		**27.2**		**27.2**	
Selenium	20,000	11,000	mg/kg	0.6	U	-		-		-		-		0.6	U	1.2	U	0.65	U	0.6	U	**0.63**	**J**
Silver	20,000	11,000	mg/kg	**0.35**	**J**	-		-		-		-		1.2	U	2.3	U	1.3	U	1.2	U	**0.35**	**J**
Thallium	41	21	mg/kg	1.2	U	-		-		-		-		1.2	U	1.2	U	1.3	U	1.2	U	**1.1**	**J**
Vanadium	20,000	11,000	mg/kg	**13.2**		-		-		-		-		**23.5**		**63.1**	**J**	**16.1**		**15**		**63.1**	**J**
Zinc	1,000,000	640,000	mg/kg	**23.5**	**J**	-		-		-		-		**40**	**J**	**495**		**39.4**	**J**	**464**		**495**	

NOTES:

Shaded values indicate concentration exceeds C/I Single Chemical Generic Direct Contact Soil Standard
Shaded values indicate concentration exceeds Construction Single Chemical Generic Direct Contact Soil Standard
Shaded values indicate concentration exceeds both Single Chemical Generic Direct Contact Soil Standards
bold text indicates detection above reporting limit
Total PCBs value is the sum of all positively deteted PCB aroclors
D: The reported value is from a dilution
C/I: Commercial/ Industrial
J: The associated numerical value is an estimated quantity
mg/kg: milligrams per kilogram
NA: exceedance criteria not applicable for compound/analyte
PCB: Polychlorinated Biphenyl
R: The data are unusable (the compound/analyte may or may not be present). Resampling and reanalysis are necessary for verification
SVOC: SemiVolatile Organic Compound
U: The compound/analyte was analyzed for, but not detected. The associated numerical value is the sample quantitation limit
ug/kg: micrograms per kilogram
UJ: The compound/analyte was analyzed for, but not detected. The sample quantitation limit is an estimated quantity
VOC: Volatile Organic Compound

TABLE 3.10
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 27, 0-2 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	SB-13-02		SB-131-04		Maximum Detected Concentration	
			Field Sample ID:	SB-13-02		SB-131-04			
			Date:	4/5/2002		1/21/2004			
	C/I	Construction	Depth:	1 - 3		0 - 2			
VOCs									
1,1,1-Trichloroethane	640,000	640,000	ug/kg	5.1	U	1100	U	-	
1,1,2,2-Tetrachloroethane	75,000	670,000	ug/kg	5.1	U	1100	U	-	
1,1,2-Trichloroethane	140,000	1,200,000	ug/kg	5.1	U	1100	U	-	
1,1-Dichloroethane	420,000	1,700,000	ug/kg	5.1	U	1100	U	-	
1,1-Dichloroethene	1,200,000	360,000	ug/kg	5.1	U	1100	U	-	
1,2,4-Trichlorobenzene, VOC	400,000	400,000	ug/kg	5.1	U	1100	U	-	
1,2-Dibromo-3-chloropropane	1,700	15,000	ug/kg	10	U	2200	U	-	
1,2-Dibromoethane	4,400	38,000	ug/kg	5.1	U	1100	U	-	
1,2-Dichlorobenzene, VOC	380,000	380,000	ug/kg	5.1	U	1100	U	-	
1,2-Dichloroethane	56,000	480,000	ug/kg	5.1	U	1100	U	-	
1,2-Dichloropropane	120,000	180,000	ug/kg	5.1	U	1100	U	-	
1,3-Dichlorobenzene, VOC	NA	NA	ug/kg	5.1	U	1100	U	-	
1,4-Dichlorobenzene, VOC	310,000	2,600,000	ug/kg	5.1	U	1100	U	-	
2-Butanone	28,000,000	28,000,000	ug/kg	20	U	4500	U	-	
2-Hexanone	NA	NA	ug/kg	20	U	4500	U	-	
4-Methyl-2-Pentanone	3,400,000	3,400,000	ug/kg	20	U	4500	U	-	
Acetone	110,000,000	110,000,000	ug/kg	20	UJ	4500	UJ	-	
Benzene	140,000	1,200,000	ug/kg	5.1	U	**93**	**J**	**93**	**J**
Bromodichloromethane	35,000	300,000	ug/kg	5.1	U	1100	U	-	
Bromoform	6,200,000	130,000,000	ug/kg	5.1	UJ	1100	U	-	
Bromomethane	82,000	550,000	ug/kg	5.1	UJ	1100	U	-	
Carbon disulfide	740,000	740,000	ug/kg	5.1	U	1100	U	-	
Carbon tetrachloride	79,000	460,000	ug/kg	5.1	UJ	1100	U	-	
Chlorobenzene	760,000	760,000	ug/kg	5.1	U	1100	U	-	
Chloroethane	2,100,000	2,100,000	ug/kg	5.1	U	1100	R	-	
Chloroform	38,000	320,000	ug/kg	5.1	U	**100**	**J**	**100**	**J**
Chloromethane	1,300,000	1,300,000	ug/kg	5.1	U	1100	U	-	
cis-1,2-Dichloroethene	2,400,000	2,400,000	ug/kg	2.5	U	**920**		**920**	
cis-1,3-Dichloropropene	NA	NA	ug/kg	5.1	U	1100	U	-	
Cyclohexane	120,000	120,000	ug/kg	10	U	**1200**	**J**	**1500**	**J**
Dibromochloromethane	84,000	770,000	ug/kg	5.1	U	1100	U	-	
Dichlorodifluoromethane	850,000	850,000	ug/kg	5.1	U	1100	U	-	
Ethylbenzene	480,000	480,000	ug/kg	5.1	U	1100	U	-	
Isopropylbenzene, VOC	270,000	270,000	ug/kg	5.1	U	1100	U	-	
Methyl acetate	NA	NA	ug/kg	10	U	2200	U	-	
Methyl cyclohexane	NA	NA	ug/kg	10	U	**3500**		**3500**	
Methyl tert butyl ether	5,700,000	8,900,000	ug/kg	20	U	4500	U	-	
Methylene chloride	3,300,000	3,300,000	ug/kg	5.1	U	1100	U	-	
Styrene	870,000	870,000	ug/kg	5.1	U	1100	U	-	
Tetrachloroethene	170,000	170,000	ug/kg	**4.8**	**J**	**7800**		**7800**	
Toluene	820,000	820,000	ug/kg	5.1	U	**710**	**J**	**710**	**J**
trans-1,2-Dichloroethene	1,700,000	1,700,000	ug/kg	2.5	U	560	U	-	
trans-1,3-Dichloropropene	NA	NA	ug/kg	5.1	U	1100	U	-	
Trichloroethene	51,000	17,000	ug/kg	**1.4**	**J**	**32000**		**32000**	
Trichlorofluoromethane	1,200,000	1,200,000	ug/kg	5.1	U	1100	U	-	
Trifluorotrichloroethane	NA	NA	ug/kg	5.1	U	1100	U	-	
Vinyl chloride	50,000	280,000	ug/kg	5.1	U	1100	U	-	
Xylene (Total)	260,000	260,000	ug/kg	10	U	**1600**	**J**	**1600**	**J**
SVOCs									
2,2-oxybis(2-Chloropropane), SVOC	NA	NA	ug/kg	390	U	3600	U	-	
2,4,5-Trichlorophenol	180,000,000	1,000,000,000	ug/kg	390	U	3600	U	-	
2,4,6-Trichlorophenol	1,800,000	1,400,000	ug/kg	390	U	3600	U	-	
2,4-Dichlorophenol	NA	NA	ug/kg	390	U	3600	U	-	
2,4-Dimethylphenol	35,000,000	85,000,000	ug/kg	390	U	3600	U	-	
2,4-Dinitrophenol	3,500,000	28,000,000	ug/kg	1900	U	18000	U	-	
2,4-Dinitrotoluene	160,000	2,800,000	ug/kg	390	U	3600	U	-	
2,6-Dinitrotoluene	NA	NA	ug/kg	390	U	3600	U	-	
2-Chloronaphthalene	330,000,000	1,000,000,000	ug/kg	390	U	3600	U	-	
2-Chlorophenol	20,000,000	22,000,000	ug/kg	390	U	3600	U	-	
2-Methylnaphthalene	6,000,000	5,200,000	ug/kg	390	U	3600	U	-	
2-Methylphenol	88,000,000	710,000,000	ug/kg	390	U	3600	U	-	
2-Nitroaniline	NA	NA	ug/kg	1900	U	18000	U	-	
2-Nitrophenol	NA	NA	ug/kg	390	U	3600	U	-	
3,3-Dichlorobenzidine	NA	NA	ug/kg	1900	U	18000	U	-	
3-Nitroaniline	NA	NA	ug/kg	1900	U	18000	U	-	
4,6-Dinitro-2-methylphenol	140,000	110,000	ug/kg	1900	U	18000	U	-	
4-Bromophenyl phenyl ether	NA	NA	ug/kg	390	U	3600	U	-	
4-Chloro-3-methylphenol	180,000,000	140,000,000	ug/kg	390	U	3600	U	-	
4-Chloroaniline	250,000	710,000	ug/kg	390	U	3600	U	-	
4-Chlorophenyl phenyl ether	NA	NA	ug/kg	390	U	3600	U	-	
4-Methylphenol	180,000,000	28,000,000	ug/kg	390	U	3600	U	-	
4-Nitroaniline	2,500,000	14,000,000	ug/kg	1900	U	18000	U	-	
4-Nitrophenol	NA	NA	ug/kg	1900	U	18000	U	-	
Acenaphthene	90,000,000	780,000,000	ug/kg	390	U	3600	U	-	
Acenaphthylene	90,000,000	780,000,000	ug/kg	390	U	3600	U	-	
Acetophenone	2,500,000	2,500,000	ug/kg	390	U	3600	U	-	
Anthracene	450,000,000	1,000,000,000	ug/kg	390	U	3600	U	-	
Atrazine	NA	NA	ug/kg	390	U	3600	U	-	

TABLE 3.10
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 27, 0-2 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	SB-13-02		SB-131-04		Maximum Detected Concentration	
			Field Sample ID:	SB-13-02		SB-131-04			
			Date:	4/5/2002		1/21/2004			
	C/I	Construction	Depth:	1 - 3		0 - 2			
Benzaldehyde	NA	NA	ug/kg	390	U	3600	U	-	
Benzo(a)anthracene	58,000	1,200,000	ug/kg	390	U	**310**	**J**	**310**	**J**
Benzo(a)pyrene	5,800	120,000	ug/kg	390	U	**250**	**J**	**250**	**J**
Benzo(b)fluoranthene	58,000	1,200,000	ug/kg	390	U	**450**	**J**	**450**	**J**
Benzo(g,h,i)perylene	45,000,000	390,000,000	ug/kg	390	U	3600	U	**79**	**J**
Benzo(k)fluoranthene	580,000	12,000,000	ug/kg	390	U	3600	U	-	
Biphenyl	14,000,000	190,000,000	ug/kg	390	U	3600	U	-	
bis(2-Chloroethoxy)methane	5,300,000	43,000,000	ug/kg	390	U	3600	U	-	
bis(2-Chloroethyl)ether	30,000	290,000	ug/kg	390	U	3600	U	-	
bis(2-Ethylhexyl)phthalate	3,500,000	71,000,000	ug/kg	390	U	3600	U	-	
Butyl benzylphthalate	26,000,000	520,000,000	ug/kg	390	U	3600	U	-	
Caprolactam	NA	NA	ug/kg	390	U	3600	U	-	
Carbazole	2,500,000	50,000,000	ug/kg	390	U	3600	U	-	
Chrysene	5,800,000	120,000,000	ug/kg	390	U	**360**	**J**	**360**	**J**
Dibenz(a,h)anthracene	5,800	120,000	ug/kg	390	U	3600	U	-	
Dibenzofuran	4,100,000	2,100,000	ug/kg	390	U	3600	U	-	
Diethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	390	U	3600	U	-	
Dimethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	390	U	3600	U	-	
Di-n-butylphthalate	180,000,000	430,000,000	ug/kg	390	U	3600	U	-	
Di-N-Octyl phthalate	18,000,000	140,000,000	ug/kg	390	U	3600	U	-	
Fluoranthene	60,000,000	160,000,000	ug/kg	390	U	**750**	**J**	**750**	**J**
Fluorene	60,000,000	520,000,000	ug/kg	390	U	3600	U	-	
Hexachlorobenzene	31,000	14,000	ug/kg	390	U	3600	U	-	
Hexachlorobutadiene, SVOC	630,000	1,400,000	ug/kg	390	U	3600	U	-	
Hexachlorocyclopentadiene	11,000,000	26,000,000	ug/kg	1900	U	18000	U	-	
Hexachloroethane	1,200,000	3,000,000	ug/kg	390	U	3600	U	-	
Indeno(1,2,3-cd)pyrene	58,000	1,200,000	ug/kg	390	U	3600	U	-	
Isophorone	52,000,000	1,000,000,000	ug/kg	390	U	3600	U	-	
Naphthalene, SVOC	450,000	560,000	ug/kg	390	U	3600	U	-	
Nitrobenzene	610,000	3,000,000	ug/kg	390	U	3600	U	-	
N-Nitrosodi-n-propylamine	7,000	140,000	ug/kg	390	U	3600	U	-	
N-Nitrosodiphenylamine	10,000,000	200,000,000	ug/kg	390	U	3600	U	-	
Pentachlorophenol	67,000	950,000	ug/kg	390	U	3600	U	-	
Phenanthrene	450,000,000	1,000,000,000	ug/kg	390	U	**570**	**J**	**570**	**J**
Phenol	530,000,000	840,000,000	ug/kg	390	U	3600	U	-	
Pyrene, SVOC	45,000,000	390,000,000	ug/kg	390	U	**600**	**J**	**600**	**J**
PCBs									
Aroclor-1016	100,000	260,000	ug/kg	39	U	-		-	
Aroclor-1221	14,000	210,000	ug/kg	39	U	-		-	
Aroclor-1232	14,000	73,000	ug/kg	39	U	-		-	
Aroclor-1242	20,000	440,000	ug/kg	39	U	-		-	
Aroclor-1248	20,000	440,000	ug/kg	39	U	-		-	
Aroclor-1254	20,000	75,000	ug/kg	39	U	-		-	
Aroclor-1260	20,000	440,000	ug/kg	39	U	-		-	
Total PCBs	20,000	440,000	ug/kg	39	U	-		-	
Metals									
Antimony	1,600	850	mg/kg	7.1	UJ	-		-	
Arsenic	77	690	mg/kg	**8.7**	**J**	-		**8.7**	**J**
Barium	680,000	320,000	mg/kg	**76.8**		-		**76.8**	
Beryllium	7,800	3,400	mg/kg	**0.43**	**J**	-		**0.43**	**J**
Cadmium	2,600	1,000	mg/kg	0.6	U	-		-	
Chromium Total	NA	NA	mg/kg	**12.5**		-		**12.5**	
Cobalt	1,200	2,800	mg/kg	**6.6**	**J**	-		**6.6**	**J**
Copper	160,000	21,000	mg/kg	**13.8**		-		**13.8**	
Cyanide (total)	370	150	mg/kg	0.6	U	-		-	
Lead	800	400	mg/kg	**14.4**		-		**121**	**J**
Manganese	NA	NA	mg/kg	**577**	**J**	-		**577**	**J**
Mercury	3.1	3.1	mg/kg	**0.023**	**J**	-		**0.023**	**J**
Nickel	74,000	23,000	mg/kg	**12.5**	**J**	-		**12.5**	**J**
Selenium	20,000	11,000	mg/kg	0.6	U	-		-	**J**
Silver	20,000	11,000	mg/kg	1.2	U	-		-	
Thallium	41	21	mg/kg	1.2	U	-		-	
Vanadium	20,000	11,000	mg/kg	**23.5**		-		**23.5**	
Zinc	1,000,000	640,000	mg/kg	**48.2**	**J**	-		**48.2**	**J**

NOTES:

Shaded values indicate concentration exceeds C/I Single Chemical Generic Direct Contact Soil Standard
Shaded values indicate concentration exceeds Construction Single Chemical Generic Direct Contact Soil Standard
Shaded values indicate concentration exceeds both Single Chemical Generic Direct Contact Soil Standards

bold text indicates detection above reporting limit
Total PCBs value is the sum of all positively deteted PCB aroclors
D: The reported value is from a dilution
C/I: Commercial/ Industrial
J: The associated numerical value is an estimated quantity
mg/kg: milligrams per kilogram
NA: exceedance criteria not applicable for compound/analyte
PCB: Polychlorinated Biphenyl
R: The data are unusable (the compound/analyte may or may not be present). Resampling and reanalysis are necessary for verification
SVOC: SemiVolatile Organic Compound
U: The compound/analyte was analyzed for, but not detected. The associated numerical value is the sample quantitation limit
ug/kg: micrograms per kilogram
UJ: The compound/analyte was analyzed for, but not detected. The sample quantitation limit is an estimated quantity
VOC: Volatile Organic Compound

TABLE 3.11
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 28, 0-2 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	BH-171		SB-44-02		SB-90-03		SB-91-03		Maximum Detected Concentration	
			Field Sample ID:	S-110104-NZ-005		SB-44-02		SB-90-03		SB-91-03			
			Date:	11/1/2004		4/15/2002		4/1/2003		4/1/2003			
	C/I	Construction	Depth:	0 - 2		1 - 3		1 - 3		1 - 3			
VOCs													
1,1,1-Trichloroethane	640,000	640,000	ug/kg	-		5.6	U	-		-		-	
1,1,2,2-Tetrachloroethane	75,000	670,000	ug/kg	-		5.6	U	-		-		-	
1,1,2-Trichloroethane	140,000	1,200,000	ug/kg	-		5.6	U	-		-		-	
1,1-Dichloroethane	420,000	1,700,000	ug/kg	-		5.6	U	-		-		-	
1,1-Dichloroethene	1,200,000	360,000	ug/kg	-		5.6	U	-		-		-	
1,2,4-Trichlorobenzene, VOC	400,000	400,000	ug/kg	-		5.6	U	-		-		-	
1,2-Dibromo-3-chloropropane	1,700	15,000	ug/kg	-		11	UJ	-		-		-	
1,2-Dibromoethane	4,400	38,000	ug/kg	-		5.6	U	-		-		-	
1,2-Dichlorobenzene, VOC	380,000	380,000	ug/kg	-		5.6	U	-		-		-	
1,2-Dichloroethane	56,000	480,000	ug/kg	-		5.6	U	-		-		-	
1,2-Dichloropropane	120,000	180,000	ug/kg	-		5.6	U	-		-		-	
1,3-Dichlorobenzene, VOC	NA	NA	ug/kg	-		5.6	U	-		-		-	
1,4-Dichlorobenzene, VOC	310,000	2,600,000	ug/kg	-		5.6	U	-		-		-	
2-Butanone	28,000,000	28,000,000	ug/kg	-		23	U	-		-		-	
2-Hexanone	NA	NA	ug/kg	-		23	U	-		-		-	
4-Methyl-2-Pentanone	3,400,000	3,400,000	ug/kg	-		**2.6**	**J**	-		-		**2.6**	**J**
Acetone	110,000,000	110,000,000	ug/kg	-		23	UJ	-		-		-	
Benzene	140,000	1,200,000	ug/kg	-		5.6	U	-		-		-	
Bromodichloromethane	35,000	300,000	ug/kg	-		5.6	U	-		-		-	
Bromoform	6,200,000	130,000,000	ug/kg	-		5.6	UJ	-		-		-	
Bromomethane	82,000	550,000	ug/kg	-		5.6	UJ	-		-		-	
Carbon disulfide	740,000	740,000	ug/kg	-		5.6	U	-		-		-	
Carbon tetrachloride	79,000	460,000	ug/kg	-		5.6	UJ	-		-		-	
Chlorobenzene	760,000	760,000	ug/kg	-		5.6	U	-		-		-	
Chloroethane	2,100,000	2,100,000	ug/kg	-		5.6	U	-		-		-	
Chloroform	38,000	320,000	ug/kg	-		5.6	U	-		-		-	
Chloromethane	1,300,000	1,300,000	ug/kg	-		5.6	U	-		-		-	
cis-1,2-Dichloroethene	2,400,000	2,400,000	ug/kg	-		2.8	U	-		-		-	
cis-1,3-Dichloropropene	NA	NA	ug/kg	-		5.6	U	-		-		-	
Cyclohexane	120,000	120,000	ug/kg	-		11	U	-		-		-	
Dibromochloromethane	84,000	770,000	ug/kg	-		5.6	U	-		-		-	
Dichlorodifluoromethane	850,000	850,000	ug/kg	-		5.6	U	-		-		-	
Ethylbenzene	480,000	480,000	ug/kg	-		5.6	U	-		-		-	
Isopropylbenzene, VOC	270,000	270,000	ug/kg	-		5.6	U	-		-		-	
Methyl acetate	NA	NA	ug/kg	-		11	U	-		-		-	
Methyl cyclohexane	NA	NA	ug/kg	-		**1.1**	**J**	-		-		**1.1**	**J**
Methyl tert butyl ether	5,700,000	8,900,000	ug/kg	-		23	U	-		-		-	
Methylene chloride	3,300,000	3,300,000	ug/kg	-		5.6	U	-		-		-	
Styrene	870,000	870,000	ug/kg	-		5.6	U	-		-		-	
Tetrachloroethene	170,000	170,000	ug/kg	-		**1.6**	**J**	-		-		**1.6**	**J**
Toluene	820,000	820,000	ug/kg	-		**2.7**	**J**	-		-		**2.7**	**J**
trans-1,2-Dichloroethene	1,700,000	1,700,000	ug/kg	-		2.8	U	-		-		-	
trans-1,3-Dichloropropene	NA	NA	ug/kg	-		5.6	U	-		-		-	
Trichloroethene	51,000	17,000	ug/kg	-		5.6	U	-		-		-	
Trichlorofluoromethane	1,200,000	1,200,000	ug/kg	-		5.6	U	-		-		-	
Trifluorotrichloroethane	NA	NA	ug/kg	-		5.6	U	-		-		-	
Vinyl chloride	50,000	280,000	ug/kg	-		5.6	U	-		-		-	
Xylene (Total)	260,000	260,000	ug/kg	-		11	U	-		-		-	
SVOCs													
2,2-oxybis(2-Chloropropane), SVOC	NA	NA	ug/kg	-		2200	U	380	U	1300	U	-	
2,4,5-Trichlorophenol	180,000,000	1,000,000,000	ug/kg	-		2200	U	380	U	1300	U	-	
2,4,6-Trichlorophenol	1,800,000	1,400,000	ug/kg	-		2200	U	380	U	1300	U	-	
2,4-Dichlorophenol	NA	NA	ug/kg	-		2200	U	380	U	1300	U	-	
2,4-Dimethylphenol	35,000,000	85,000,000	ug/kg	-		2200	U	380	U	1300	U	-	
2,4-Dinitrophenol	3,500,000	28,000,000	ug/kg	-		11000	U	1800	U	6500	U	-	
2,4-Dinitrotoluene	160,000	2,800,000	ug/kg	-		2200	U	380	U	1300	U	-	
2,6-Dinitrotoluene	NA	NA	ug/kg	-		2200	U	380	U	1300	U	-	
2-Chloronaphthalene	330,000,000	1,000,000,000	ug/kg	-		2200	U	380	U	1300	U	-	
2-Chlorophenol	20,000,000	22,000,000	ug/kg	-		2200	U	380	U	1300	U	-	
2-Methylnaphthalene	6,000,000	5,200,000	ug/kg	-		**680**	**J**	**100**	**J**	1300	U	**680**	**J**
2-Methylphenol	88,000,000	710,000,000	ug/kg	-		2200	U	380	U	1300	U	-	
2-Nitroaniline	NA	NA	ug/kg	-		11000	U	1800	U	6500	U	-	
2-Nitrophenol	NA	NA	ug/kg	-		2200	U	380	U	1300	U	-	
3,3-Dichlorobenzidine	NA	NA	ug/kg	-		11000	U	1800	U	6500	U	-	
3-Nitroaniline	NA	NA	ug/kg	-		11000	U	1800	U	6500	U	-	
4,6-Dinitro-2-methylphenol	140,000	110,000	ug/kg	-		11000	U	1800	U	6500	U	-	
4-Bromophenyl phenyl ether	NA	NA	ug/kg	-		2200	U	380	U	1300	U	-	
4-Chloro-3-methylphenol	180,000,000	140,000,000	ug/kg	-		2200	U	380	U	1300	U	-	
4-Chloroaniline	250,000	710,000	ug/kg	-		2200	U	380	U	1300	U	-	
4-Chlorophenyl phenyl ether	NA	NA	ug/kg	-		2200	U	380	U	1300	U	-	
4-Methylphenol	180,000,000	28,000,000	ug/kg	-		2200	U	380	U	1300	U	-	
4-Nitroaniline	2,500,000	14,000,000	ug/kg	-		11000	U	1800	U	6500	U	-	
4-Nitrophenol	NA	NA	ug/kg	-		11000	U	1800	U	6500	U	-	
Acenaphthene	90,000,000	780,000,000	ug/kg	-		**930**	**J**	**30**	**J**	**85**	**J**	**930**	**J**
Acenaphthylene	90,000,000	780,000,000	ug/kg	-		2200	U	380	U	1300	U	-	
Acetophenone	2,500,000	2,500,000	ug/kg	-		2200	U	380	U	1300	U	-	
Anthracene	450,000,000	1,000,000,000	ug/kg	-		**1400**	**J**	**92**	**J**	**260**	**J**	**1400**	**J**
Atrazine	NA	NA	ug/kg	-		2200	U	380	U	1300	U	-	

TABLE 3.11
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 28, 0-2 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	BH-171		SB-44-02		SB-90-03		SB-91-03		Maximum Detected Concentration	
			Field Sample ID:	S-110104-NZ-005		SB-44-02		SB-90-03		SB-91-03			
			Date:	11/1/2004		4/15/2002		4/1/2003		4/1/2003			
	C/I	Construction	Depth:	0 - 2		1 - 3		1 - 3		1 - 3			
Benzaldehyde	NA	NA	ug/kg	-		2200	U	380	U	1300	U	-	
Benzo(a)anthracene	58,000	1,200,000	ug/kg	-		**6800**		**300**	**J**	**1500**		**6800**	
Benzo(a)pyrene	5,800	120,000	ug/kg	-		**5700**		**280**	**J**	**1700**		**5700**	
Benzo(b)fluoranthene	58,000	1,200,000	ug/kg	-		**9500**		**280**	**J**	**1700**		**9500**	
Benzo(g,h,i)perylene	45,000,000	390,000,000	ug/kg	-		**2600**		**160**	**J**	**1000**	**J**	**2600**	
Benzo(k)fluoranthene	580,000	12,000,000	ug/kg	-		**4000**		**170**	**J**	**1400**		**4000**	
Biphenyl	14,000,000	190,000,000	ug/kg	-		2200	U	**61**	**J**	1300	U	**61**	**J**
bis(2-Chloroethoxy)methane	5,300,000	43,000,000	ug/kg	-		2200	U	380	U	1300	U	-	
bis(2-Chloroethyl)ether	30,000	290,000	ug/kg	-		2200	U	380	U	1300	U	-	
bis(2-Ethylhexyl)phthalate	3,500,000	71,000,000	ug/kg	-		2200	U	380	U	1300	U	-	
Butyl benzylphthalate	26,000,000	520,000,000	ug/kg	-		2200	U	380	U	1300	U	-	
Caprolactam	NA	NA	ug/kg	-		2200	U	380	U	1300	U	-	
Carbazole	2,500,000	50,000,000	ug/kg	-		**1700**	**J**	**33**	**J**	**110**	**J**	**1700**	**J**
Chrysene	5,800,000	120,000,000	ug/kg	-		**8000**		**310**	**J**	**1700**		**8000**	
Dibenz(a,h)anthracene	5,800	120,000	ug/kg	-		**710**	**J**	**38**	**J**	**270**	**J**	**710**	**J**
Dibenzofuran	4,100,000	2,100,000	ug/kg	-		**1600**	**J**	**40**	**J**	1300	U	**1600**	**J**
Diethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	-		2200	U	380	U	1300	U	-	
Dimethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	-		2200	U	380	U	1300	U	-	
Di-n-butylphthalate	180,000,000	430,000,000	ug/kg	-		2200	U	380	U	1300	U	-	
Di-N-Octyl phthalate	18,000,000	140,000,000	ug/kg	-		2200	U	380	U	1300	U	-	
Fluoranthene	60,000,000	160,000,000	ug/kg	-		**18000**		**670**		**3100**		**18000**	
Fluorene	60,000,000	520,000,000	ug/kg	-		**370**	**J**	**82**	**J**	**270**	**J**	**370**	**J**
Hexachlorobenzene	31,000	14,000	ug/kg	-		2200	U	380	U	1300	U	-	
Hexachlorobutadiene, SVOC	630,000	1,400,000	ug/kg	-		2200	U	380	U	1300	U	-	
Hexachlorocyclopentadiene	11,000,000	26,000,000	ug/kg	-		11000	U	1800	U	6500	U	-	
Hexachloroethane	1,200,000	3,000,000	ug/kg	-		2200	U	380	U	1300	U	-	
Indeno(1,2,3-cd)pyrene	58,000	1,200,000	ug/kg	-		**2700**		**140**	**J**	**840**	**J**	**2700**	
Isophorone	52,000,000	1,000,000,000	ug/kg	-		2200	U	380	U	1300	U	-	
Naphthalene, SVOC	450,000	560,000	ug/kg	-		2200	U	**59**	**J**	1300	U	**59**	**J**
Nitrobenzene	610,000	3,000,000	ug/kg	-		2200	U	380	U	1300	U	-	
N-Nitrosodi-n-propylamine	7,000	140,000	ug/kg	-		2200	U	380	U	1300	U	-	
N-Nitrosodiphenylamine	10,000,000	200,000,000	ug/kg	-		2200	U	380	U	1300	U	-	
Pentachlorophenol	67,000	950,000	ug/kg	-		2200	U	380	U	1300	U	-	
Phenanthrene	450,000,000	1,000,000,000	ug/kg	-		**11000**		**460**		**1300**		**11000**	
Phenol	530,000,000	840,000,000	ug/kg	-		2200	U	380	U	1300	U	-	
Pyrene, SVOC	45,000,000	390,000,000	ug/kg	-		**19000**		**630**		**3200**		**19000**	
PCBs													
Aroclor-1016	100,000	260,000	ug/kg	-		33	U	-		-		-	
Aroclor-1221	14,000	210,000	ug/kg	-		33	U	-		-		-	
Aroclor-1232	14,000	73,000	ug/kg	-		33	U	-		-		-	
Aroclor-1242	20,000	440,000	ug/kg	-		33	U	-		-		-	
Aroclor-1248	20,000	440,000	ug/kg	-		33	U	-		-		-	
Aroclor-1254	20,000	75,000	ug/kg	-		33	U	-		-		-	
Aroclor-1260	20,000	440,000	ug/kg	-		33	U	-		-		-	
Total PCBs	20,000	440,000	ug/kg	-		33	U	-		-		-	
Metals													
Antimony	1,600	850	mg/kg	-		6	UJ	-		-		-	
Arsenic	77	690	mg/kg	-		**1.6**	**J**	-		-		**1.6**	**J**
Barium	680,000	320,000	mg/kg	-		**7.8**	**J**	-		-		**7.8**	**J**
Beryllium	7,800	3,400	mg/kg	-		**0.048**	**J**	-		-		**0.048**	**J**
Cadmium	2,600	1,000	mg/kg	-		**0.068**	**J**	-		-		**0.068**	**J**
Chromium Total	NA	NA	mg/kg	-		**2.4**	**J**	-		-		**2.4**	**J**
Cobalt	1,200	2,800	mg/kg	-		**0.95**	**J**	-		-		**0.95**	**J**
Copper	160,000	21,000	mg/kg	-		**4.6**	**J**	-		-		**4.6**	**J**
Cyanide (total)	370	150	mg/kg	-		0.5	U	-		-		-	
Lead	800	400	mg/kg	-		**4.1**	**J**	-		-		**4.1**	**J**
Manganese	NA	NA	mg/kg	**182**		**132**		-		-		**182**	
Mercury	3.1	3.1	mg/kg	-		0.1	R	-		-		-	
Nickel	74,000	23,000	mg/kg	-		**4.6**	**J**	-		-		**4.6**	**J**
Selenium	20,000	11,000	mg/kg	-		0.5	UJ	-		-		-	
Silver	20,000	11,000	mg/kg	-		1	U	-		-		-	
Thallium	41	21	mg/kg	-		**1.1**	**J**	-		-		**1.1**	**J**
Vanadium	20,000	11,000	mg/kg	-		**13.3**	**J**	-		-		**13.3**	**J**
Zinc	1,000,000	640,000	mg/kg	-		**11.3**	**J**	-		-		**11.3**	**J**

NOTES:

Shaded values indicate concentration exceeds C/I Single Chemical Generic Direct Contact Soil Standard
Shaded values indicate concentration exceeds Construction Single Chemical Generic Direct Contact Soil Standard
Shaded values indicate concentration exceeds both Single Chemical Generic Direct Contact Soil Standards

bold text indicates detection above reporting limit
Total PCBs value is the sum of all positively deteted PCB aroclors
D: The reported value is from a dilution
C/I: Commercial/ Industrial
J: The associated numerical value is an estimated quantity
mg/kg: milligrams per kilogram
NA: exceedance criteria not applicable for compound/analyte
PCB: Polychlorinated Biphenyl
R: The data are unusable (the compound/analyte may or may not be present). Resampling and reanalysis are necessary for verification
SVOC: SemiVolatile Organic Compound
U: The compound/analyte was analyzed for, but not detected. The associated numerical value is the sample quantitation limit
ug/kg: micrograms per kilogram
UJ: The compound/analyte was analyzed for, but not detected. The sample quantitation limit is an estimated quantity
VOC: Volatile Organic Compound

TABLE 3.12
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 32, 0-2 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	SB-134-04		SB-134-04		SB-135-04		Maximum Detected Concentration	
			Field Sample ID:	SB-134-04 DUP		SB-134-04		SB-135-04			
			Date:	2/6/2004		2/6/2004		1/22/2004			
	C/I	Construction	Depth:	0 - 2		0 - 2		0 - 2			
VOCs											
1,1,1-Trichloroethane	640,000	640,000	ug/kg	6	U	5.8	U	300	U	-	
1,1,2,2-Tetrachloroethane	75,000	670,000	ug/kg	6	U	5.8	U	300	U	-	
1,1,2-Trichloroethane	140,000	1,200,000	ug/kg	6	U	5.8	U	300	U	-	
1,1-Dichloroethane	420,000	1,700,000	ug/kg	6	U	5.8	U	300	U	-	
1,1-Dichloroethene	1,200,000	360,000	ug/kg	6	U	5.8	U	300	U	-	
1,2,4-Trichlorobenzene, VOC	400,000	400,000	ug/kg	6	U	5.8	U	300	U	-	
1,2-Dibromo-3-chloropropane	1,700	15,000	ug/kg	12	U	12	U	600	U	-	
1,2-Dibromoethane	4,400	38,000	ug/kg	6	U	5.8	U	300	U	-	
1,2-Dichlorobenzene, VOC	380,000	380,000	ug/kg	6	U	5.8	U	300	U	-	
1,2-Dichloroethane	56,000	480,000	ug/kg	6	U	5.8	U	300	U	-	
1,2-Dichloropropane	120,000	180,000	ug/kg	6	U	5.8	U	300	U	-	
1,3-Dichlorobenzene, VOC	NA	NA	ug/kg	6	U	5.8	U	300	U	-	
1,4-Dichlorobenzene, VOC	310,000	2,600,000	ug/kg	6	U	5.8	U	300	U	-	
2-Butanone	28,000,000	28,000,000	ug/kg	24	U	23	U	1200	U	-	
2-Hexanone	NA	NA	ug/kg	24	U	23	U	1200	U	-	
4-Methyl-2-Pentanone	3,400,000	3,400,000	ug/kg	24	U	23	U	1200	U	-	
Acetone	110,000,000	110,000,000	ug/kg	24	U	23	U	1200	UJ	-	
Benzene	140,000	1,200,000	ug/kg	6	U	5.8	U	300	U	-	
Bromodichloromethane	35,000	300,000	ug/kg	6	U	5.8	U	300	U	-	
Bromoform	6,200,000	130,000,000	ug/kg	6	U	5.8	U	300	U	-	
Bromomethane	82,000	550,000	ug/kg	6	U	5.8	U	300	U	-	
Carbon disulfide	740,000	740,000	ug/kg	6	U	5.8	U	300	U	-	
Carbon tetrachloride	79,000	460,000	ug/kg	6	U	5.8	U	300	U	-	
Chlorobenzene	760,000	760,000	ug/kg	6	U	5.8	U	300	U	-	
Chloroethane	2,100,000	2,100,000	ug/kg	6	U	5.8	U	300	R	-	
Chloroform	38,000	320,000	ug/kg	6	U	5.8	U	300	U	-	
Chloromethane	1,300,000	1,300,000	ug/kg	6	U	5.8	U	300	U	-	
cis-1,2-Dichloroethene	2,400,000	2,400,000	ug/kg	3	U	2.9	U	150	U	-	
cis-1,3-Dichloropropene	NA	NA	ug/kg	6	U	5.8	U	300	U	-	
Cyclohexane	120,000	120,000	ug/kg	12	U	**0.69**	J	600	U	**0.69**	J
Dibromochloromethane	84,000	770,000	ug/kg	6	U	5.8	U	300	U	-	
Dichlorodifluoromethane	850,000	850,000	ug/kg	6	U	5.8	U	300	U	-	
Ethylbenzene	480,000	480,000	ug/kg	6	U	5.8	U	300	U	-	
Isopropylbenzene, VOC	270,000	270,000	ug/kg	6	U	5.8	U	300	U	-	
Methyl acetate	NA	NA	ug/kg	12	U	12	U	600	U	-	
Methyl cyclohexane	NA	NA	ug/kg	**0.89**	J	**1.2**	J	600	U	**1.2**	J
Methyl tert butyl ether	5,700,000	8,900,000	ug/kg	24	U	23	U	1200	U	-	
Methylene chloride	3,300,000	3,300,000	ug/kg	6	U	5.8	U	300	U	-	
Styrene	870,000	870,000	ug/kg	6	U	5.8	U	300	U	-	
Tetrachloroethene	170,000	170,000	ug/kg	**2.6**	J	**3.8**	J	**520**		**520**	
Toluene	820,000	820,000	ug/kg	**1**	J	**1.4**	J	300	U	**1.4**	J
trans-1,2-Dichloroethene	1,700,000	1,700,000	ug/kg	3	U	2.9	U	150	U	-	
trans-1,3-Dichloropropene	NA	NA	ug/kg	6	U	5.8	U	300	U	-	
Trichloroethene	51,000	17,000	ug/kg	**1.2**	J	**1.7**	J	**490**		**490**	
Trichlorofluoromethane	1,200,000	1,200,000	ug/kg	6	U	5.8	U	300	UJ	-	
Trifluorotrichloroethane	NA	NA	ug/kg	6	U	5.8	U	300	U	-	
Vinyl chloride	50,000	280,000	ug/kg	6	U	5.8	U	300	U	-	
Xylene (Total)	260,000	260,000	ug/kg	12	U	12	U	600	U	-	
PCBs											
Aroclor-1016	100,000	260,000	ug/kg	40	U	42	U	44	U	-	
Aroclor-1221	14,000	210,000	ug/kg	40	U	42	U	44	U	-	
Aroclor-1232	14,000	73,000	ug/kg	40	U	42	U	44	U	-	
Aroclor-1242	20,000	440,000	ug/kg	40	U	42	U	44	U	-	
Aroclor-1248	20,000	440,000	ug/kg	40	U	42	U	44	U	-	
Aroclor-1254	20,000	75,000	ug/kg	40	U	42	U	44	U	-	
Aroclor-1260	20,000	440,000	ug/kg	40	U	42	U	44	U	-	
Total PCBs	20,000	440,000	ug/kg	40	U	42	U	44	U	-	

NOTES:

Shaded values indicate concentration exceeds C/I Single Chemical Generic Direct Contact Soil Standard
Shaded values indicate concentration exceeds Construction Single Chemical Generic Direct Contact Soil Standard
Shaded values indicate concentration exceeds both Single Chemical Generic Direct Contact Soil Standards

bold text indicates detection above reporting limit
Total PCBs value is the sum of all positively deteted PCB aroclors
D: The reported value is from a dilution
C/I: Commercial/ Industrial
J: The associated numerical value is an estimated quantity
mg/kg: milligrams per kilogram
NA: exceedance criteria not applicable for compound/analyte
PCB: Polychlorinated Biphenyl
R: The data are unusable (the compound/analyte may or may not be present). Resampling and reanalysis are necessary for verification
SVOC: SemiVolatile Organic Compound
U: The compound/analyte was analyzed for, but not detected. The associated numerical value is the sample quantitation limit
ug/kg: micrograms per kilogram
UJ: The compound/analyte was analyzed for, but not detected. The sample quantitation limit is an estimated quantity
VOC: Volatile Organic Compound

TABLE 3.13
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 35, 0-2 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	SB-144-04		SB-146-04		Maximum Detected Concentration	
			Field Sample ID:	SB-144-04		SB-146-04			
			Date:	1/27/2004		1/28/2004			
	C/I	Construction	Depth:	0 - 2		0 - 2			
VOCs									
1,1,1-Trichloroethane	640,000	640,000	ug/kg	1500	U	460	U	-	
1,1,2,2-Tetrachloroethane	75,000	670,000	ug/kg	1500	U	460	U	-	
1,1,2-Trichloroethane	140,000	1,200,000	ug/kg	1500	U	460	U	-	
1,1-Dichloroethane	420,000	1,700,000	ug/kg	1500	U	460	U	-	
1,1-Dichloroethene	1,200,000	360,000	ug/kg	1500	U	460	U	-	
1,2,4-Trichlorobenzene, VOC	400,000	400,000	ug/kg	1500	U	460	U	-	
1,2-Dibromo-3-chloropropane	1,700	15,000	ug/kg	3100	U	930	U	-	
1,2-Dibromoethane	4,400	38,000	ug/kg	1500	U	460	U	-	
1,2-Dichlorobenzene, VOC	380,000	380,000	ug/kg	1500	U	460	U	-	
1,2-Dichloroethane	56,000	480,000	ug/kg	1500	U	460	U	-	
1,2-Dichloropropane	120,000	180,000	ug/kg	1500	U	460	U	-	
1,3-Dichlorobenzene, VOC	NA	NA	ug/kg	1500	U	460	U	-	
1,4-Dichlorobenzene, VOC	310,000	2,600,000	ug/kg	1500	U	460	U	-	
2-Butanone	28,000,000	28,000,000	ug/kg	6200	UJ	1900	U	-	
2-Hexanone	NA	NA	ug/kg	6200	UJ	1900	U	-	
4-Methyl-2-Pentanone	3,400,000	3,400,000	ug/kg	6200	U	1900	U	-	
Acetone	110,000,000	110,000,000	ug/kg	6200	UJ	1900	U	-	
Benzene	140,000	1,200,000	ug/kg	1500	U	460	U	-	
Bromodichloromethane	35,000	300,000	ug/kg	1500	U	460	U	-	
Bromoform	6,200,000	130,000,000	ug/kg	1500	U	460	U	-	
Bromomethane	82,000	550,000	ug/kg	1500	U	460	U	-	
Carbon disulfide	740,000	740,000	ug/kg	1500	U	460	U	-	
Carbon tetrachloride	79,000	460,000	ug/kg	1500	U	460	U	-	
Chlorobenzene	760,000	760,000	ug/kg	1500	U	460	U	-	
Chloroethane	2,100,000	2,100,000	ug/kg	1500	U	460	U	-	
Chloroform	38,000	320,000	ug/kg	1500	U	**180**	**J**	**180**	**J**
Chloromethane	1,300,000	1,300,000	ug/kg	1500	U	460	U	-	
cis-1,2-Dichloroethene	2,400,000	2,400,000	ug/kg	**4000**		**6200**		**6200**	
cis-1,3-Dichloropropene	NA	NA	ug/kg	1500	U	460	U	-	
Cyclohexane	120,000	120,000	ug/kg	3100	U	930	U	-	
Dibromochloromethane	84,000	770,000	ug/kg	1500	U	460	U	-	
Dichlorodifluoromethane	850,000	850,000	ug/kg	1500	U	460	UJ	-	
Ethylbenzene	480,000	480,000	ug/kg	1500	U	460	U	-	
Isopropylbenzene, VOC	270,000	270,000	ug/kg	1500	U	460	U	-	
Methyl acetate	NA	NA	ug/kg	3100	U	930	U	-	
Methyl cyclohexane	NA	NA	ug/kg	**530**	**J**	**110**	**J**	**530**	**J**
Methyl tert butyl ether	5,700,000	8,900,000	ug/kg	6200	U	1900	U	-	
Methylene chloride	3,300,000	3,300,000	ug/kg	1500	U	460	U	-	
Styrene	870,000	870,000	ug/kg	1500	U	460	U	-	
Tetrachloroethene	170,000	170,000	ug/kg	**53000**		**12000**		**53000**	
Toluene	820,000	820,000	ug/kg	1500	U	460	U	-	
trans-1,2-Dichloroethene	1,700,000	1,700,000	ug/kg	770	U	**270**		**270**	
trans-1,3-Dichloropropene	NA	NA	ug/kg	1500	U	460	U	-	
Trichloroethene	51,000	17,000	ug/kg	**48000**		**10000**		**48000**	
Trichlorofluoromethane	1,200,000	1,200,000	ug/kg	1500	U	460	U	-	
Trifluorotrichloroethane	NA	NA	ug/kg	1500	U	460	U	-	
Vinyl chloride	50,000	280,000	ug/kg	1500	U	460	U	-	
Xylene (Total)	260,000	260,000	ug/kg	3100	U	**110**	**J**	**110**	**J**
SVOCs									
2,2-oxybis(2-Chloropropane)	NA	NA	ug/kg	400	U	4800	U	-	
2,4,5-Trichlorophenol	180,000,000	1,000,000,000	ug/kg	400	U	4800	U	-	
2,4,6-Trichlorophenol	1,800,000	1,400,000	ug/kg	400	U	4800	U	-	
2,4-Dichlorophenol			ug/kg	400	U	4800	U	-	
2,4-Dimethylphenol	35,000,000	85,000,000	ug/kg	400	U	4800	U	-	
2,4-Dinitrophenol	3,500,000	28,000,000	ug/kg	2000	U	23000	UJ	-	
2,4-Dinitrotoluene	160,000	2,800,000	ug/kg	400	U	4800	U	-	
2,6-Dinitrotoluene	NA	NA	ug/kg	400	U	4800	U	-	
2-Chloronaphthalene	330,000,000	1,000,000,000	ug/kg	400	U	4800	U	-	
2-Chlorophenol	20,000,000	22,000,000	ug/kg	400	U	4800	U	-	
2-Methylnaphthalene	6,000,000	5,200,000	ug/kg	**51**	**J**	4800	U	**51**	**J**
2-Methylphenol	88,000,000	710,000,000	ug/kg	400	U	4800	U	-	
2-Nitroaniline	NA	NA	ug/kg	2000	U	23000	U	-	
2-Nitrophenol	NA	NA	ug/kg	400	U	4800	U	-	
3,3-Dichlorobenzidine	NA	NA	ug/kg	2000	U	23000	U	-	
3-Nitroaniline	NA	NA	ug/kg	2000	U	23000	U	-	
4,6-Dinitro-2-methylphenol	140,000	110,000	ug/kg	2000	U	23000	U	-	
4-Bromophenyl phenyl ether	NA	NA	ug/kg	400	U	4800	U	-	
4-Chloro-3-methylphenol	180,000,000	140,000,000	ug/kg	400	U	4800	U	-	
4-Chloroaniline	250,000	710,000	ug/kg	400	U	4800	U	-	
4-Chlorophenyl phenyl ether	NA	NA	ug/kg	400	U	4800	U	-	
4-Methylphenol	180,000,000	28,000,000	ug/kg	400	U	4800	U	-	
4-Nitroaniline	2,500,000	14,000,000	ug/kg	2000	U	23000	U	-	
4-Nitrophenol	NA	NA	ug/kg	2000	U	23000	U	-	
Acenaphthene	90,000,000	780,000,000	ug/kg	400	U	4800	U	-	
Acenaphthylene	90,000,000	780,000,000	ug/kg	400	U	4800	U	-	
Acetophenone	2,500,000	2,500,000	ug/kg	400	U	4800	U	-	
Anthracene	450,000,000	1,000,000,000	ug/kg	400	U	4800	U	-	
Atrazine	NA	NA	ug/kg	400	U	4800	U	-	

TABLE 3.13
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 35, 0-2 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	SB-144-04		SB-146-04		Maximum Detected Concentration	
			Field Sample ID:	SB-144-04		SB-146-04			
			Date:	1/27/2004		1/28/2004			
	C/I	Construction	Depth:	0 - 2		0 - 2			
Benzaldehyde	NA	NA	ug/kg	400	U	4800	U	-	
Benzo(a)anthracene	58,000	1,200,000	ug/kg	**31**	**J**	4800	U	**31**	**J**
Benzo(a)pyrene	5,800	120,000	ug/kg	400	U	4800	U	-	
Benzo(b)fluoranthene	58,000	1,200,000	ug/kg	400	U	4800	U	-	
Benzo(g,h,i)perylene	45,000,000	390,000,000	ug/kg	**29**	**J**	4800	U	**29**	**J**
Benzo(k)fluoranthene	580,000	12,000,000	ug/kg	400	U	4800	U	-	
Biphenyl	14,000,000	190,000,000	ug/kg	400	U	4800	U	-	
bis(2-Chloroethoxy)methane	5,300,000	43,000,000	ug/kg	400	U	4800	U	-	
bis(2-Chloroethyl)ether	30,000	290,000	ug/kg	400	U	4800	U	-	
bis(2-Ethylhexyl)phthalate	3,500,000	71,000,000	ug/kg	400	U	4800	U	-	
Butyl benzylphthalate	26,000,000	520,000,000	ug/kg	400	U	4800	U	-	
Caprolactam	NA	NA	ug/kg	400	U	4800	U	-	
Carbazole	2,500,000	50,000,000	ug/kg	400	U	4800	U	-	
Chrysene	5,800,000	120,000,000	ug/kg	**54**	**J**	4800	U	**54**	**J**
Dibenz(a,h)anthracene	5,800	120,000	ug/kg	400	U	4800	U	-	
Dibenzofuran	4,100,000	2,100,000	ug/kg	400	U	4800	U	-	
Diethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	400	U	4800	U	-	
Dimethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	400	U	4800	U	-	
Di-n-butylphthalate	180,000,000	430,000,000	ug/kg	400	U	4800	U	-	
Di-N-Octyl phthalate	18,000,000	140,000,000	ug/kg	400	U	4800	U	-	
Fluoranthene	60,000,000	160,000,000	ug/kg	**63**	**J**	4800	U	**63**	**J**
Fluorene	60,000,000	520,000,000	ug/kg	400	U	4800	U	-	
Hexachlorobenzene	31,000	14,000	ug/kg	400	U	4800	U	-	
Hexachlorobutadiene, SVOC	630,000	1,400,000	ug/kg	400	U	4800	U	-	
Hexachlorocyclopentadiene	11,000,000	26,000,000	ug/kg	2000	U	23000	U	-	
Hexachloroethane	1,200,000	3,000,000	ug/kg	400	U	4800	U	-	
Indeno(1,2,3-cd)pyrene	58,000	1,200,000	ug/kg	400	U	4800	U	-	
Isophorone	52,000,000	1,000,000,000	ug/kg	400	U	4800	U	-	
Naphthalene, SVOC	450,000	560,000	ug/kg	**30**	**J**	4800	U	**30**	**J**
Nitrobenzene	610,000	3,000,000	ug/kg	400	U	4800	U	-	
N-Nitrosodi-n-propylamine	7,000	140,000	ug/kg	400	U	4800	U	-	
N-Nitrosodiphenylamine	10,000,000	200,000,000	ug/kg	400	U	4800	U	-	
Pentachlorophenol	67,000	950,000	ug/kg	400	U	4800	U	-	
Phenanthrene	450,000,000	1,000,000,000	ug/kg	**100**	**J**	4800	U	**100**	**J**
Phenol	530,000,000	840,000,000	ug/kg	400	U	4800	U	-	
Pyrene, SVOC	45,000,000	390,000,000	ug/kg	**57**	**J**	4800	U	**57**	**J**
PCBs									
Aroclor-1016	100,000	260,000	ug/kg	40	U	2400	U	-	
Aroclor-1221	14,000	210,000	ug/kg	40	U	2400	U	-	
Aroclor-1232	14,000	73,000	ug/kg	40	U	2400	U	-	
Aroclor-1242	20,000	440,000	ug/kg	40	U	2400	U	-	
Aroclor-1248	20,000	440,000	ug/kg	40	U	2400	U	-	
Aroclor-1254	20,000	75,000	ug/kg	40	U	**13000**		**13000**	
Aroclor-1260	20,000	440,000	ug/kg	40	U	2400	U	-	
Total PCBs	20,000	440,000	ug/kg	40	U	**13000**		**13000**	
Metals									
Antimony	1,600	850	mg/kg	7.3	UJ	**0.5**	**J**	**0.5**	**J**
Arsenic	77	690	mg/kg	**3.3**		**6.5**		**6.5**	
Barium	680,000	320,000	mg/kg	**151**		**255**		**255**	
Beryllium	7,800	3,400	mg/kg	**0.8**		**1.3**		**1.3**	
Cadmium	2,600	1,000	mg/kg	**0.51**	**J**	**3**		**3**	
Chromium Total	NA	NA	mg/kg	**36.3**	**J**	**43.5**		**43.5**	
Cobalt	1,200	2,800	mg/kg	**4.4**	**J**	**4**	**J**	**4.4**	**J**
Copper	160,000	21,000	mg/kg	**454**	**J**	**310**		**454**	**J**
Cyanide (total)	370	150	mg/kg	0.61	U	0.73	U	-	
Lead	800	400	mg/kg	**172**		**240**		**240**	
Manganese	NA	NA	mg/kg	**266**		**217**		**266**	
Mercury	3.1	3.1	mg/kg	**0.072**	**J**	**0.081**	**J**	**0.081**	**J**
Nickel	74,000	23,000	mg/kg	**66.5**		**49.4**		**66.5**	
Selenium	20,000	11,000	mg/kg	0.61	U	0.73	U	-	
Silver	20,000	11,000	mg/kg	**0.29**	**J**	1.5	U	**0.29**	**J**
Thallium	41	21	mg/kg	**0.74**	**J**	**0.72**	**J**	**0.74**	**J**
Vanadium	20,000	11,000	mg/kg	**8.9**		**23.5**		**23.5**	
Zinc	1,000,000	640,000	mg/kg	**153**	**J**	**141**		**153**	**J**

NOTES:

Shaded values indicate concentration exceeds C/I Single Chemical Generic Direct Contact Soil Standard
Shaded values indicate concentration exceeds Construction Single Chemical Generic Direct Contact Soil Standard
Shaded values indicate concentration exceeds both Single Chemical Generic Direct Contact Soil Standards

bold text indicates detection above reporting limit
Total PCBs value is the sum of all positively deteted PCB aroclors
D: The reported value is from a dilution
C/I: Commercial/ Industrial
J: The associated numerical value is an estimated quantity
mg/kg: milligrams per kilogram
NA: exceedance criteria not applicable for compound/analyte
PCB: Polychlorinated Biphenyl
R: The data are unusable (the compound/analyte may or may not be present). Resampling and reanalysis are necessary for verification
SVOC: SemiVolatile Organic Compound
U: The compound/analyte was analyzed for, but not detected. The associated numerical value is the sample quantitation limit
ug/kg: micrograms per kilogram
UJ: The compound/analyte was analyzed for, but not detected. The sample quantitation limit is an estimated quantity
VOC: Volatile Organic Compound

TABLE 3.14
SOIL ANALYTICAL DATA
IDENTIFIED AREA: COD5, 0-2 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	B01		B01		B02		B02		B03		B03		B04		COD05-N003	
			Field Sample ID:	B01-0-05		B01-0-05		B02-0-05		B02-1-05		B03-0-05		B03-0-05		B04-0-05		COD05-N003	
			Date:	5/19/2006		5/19/2006		5/19/2006		5/19/2006		5/19/2006		5/19/2006		5/18/2006		5/22/2007	
	C/I	Construction	Depth:	0.5 - 1.5		0.5 - 5		0.5 - 5		0.5 - 5		0.5 - 1		0.5 - 5		0.5 - 5		1.5 - 1.5	
VOCs																			
1,1,1,2-Tetrachloroethane	240,000	680,000	ug/kg	5	U	-		-		-		42	U	-		-		-	
1,1,1-Trichloroethane	640,000	640,000	ug/kg	5	U	-		-		-		42	U	-		-		-	
1,1,2,2-Tetrachloroethane	75,000	670,000	ug/kg	5	U	-		-		-		42	U	-		-		-	
1,1,2-Trichloroethane	140,000	1,200,000	ug/kg	5	U	-		-		-		42	U	-		-		-	
1,1-Dichloroethane	420,000	1,700,000	ug/kg	5	U	-		-		-		42	U	-		-		-	
1,1-Dichloroethene	1,200,000	360,000	ug/kg	5	U	-		-		-		42	U	-		-		-	
1,1-Dichloropropene	NA	NA	ug/kg	5	U	-		-		-		42	U	-		-		-	
1,2,3-Trichlorobenzene	NA	NA	ug/kg	-		-		-		-		-		-		-		-	
1,2,3-Trichloropropane	3,800	19,000	ug/kg	-		-		-		-		-		-		-		-	
1,2,4-Trichlorobenzene, VOC	400,000	400,000	ug/kg	5	U	-		-		-		42	U	-		-		-	
1,2,4-Trimethylbenzene	220,000	220,000	ug/kg	5	U	-		-		-		**106**		-		-		-	
1,2-Dibromo-3-chloropropane	1,700	15,000	ug/kg	-		-		-		-		-		-		-		-	
1,2-Dibromoethane	4,400	38,000	ug/kg	-		-		-		-		-		-		-		-	
1,2-Dichlorobenzene, VOC	380,000	380,000	ug/kg	5	U	-		-		-		42	U	-		-		-	
1,2-Dichloroethane	56,000	480,000	ug/kg	5	U	-		-		-		42	U	-		-		-	
1,2-Dichloropropane	120,000	180,000	ug/kg	5	U	-		-		-		42	U	-		-		-	
1,3,5-Trimethylbenzene	180,000	180,000	ug/kg	5	U	-		-		-		**46.9**		-		-		-	
1,3-Dichlorobenzene, VOC	NA	NA	ug/kg	5	U	-		-		-		42	U	-		-		-	
1,3-Dichloropropane	1,500,000	1,500,000	ug/kg	5	U	-		-		-		42	U	-		-		-	
1,4-Dichlorobenzene, VOC	310,000	2,600,000	ug/kg	5	U	-		-		-		42	U	-		-		-	
1,4-Dioxane	490,000	10,000,000	ug/kg	20	U	-		-		-		20	U	-		-		-	
2,2-Dichloropropane	NA	NA	ug/kg	5	U	-		-		-		42	U	-		-		-	
2-Butanone	28,000,000	28,000,000	ug/kg	50	U	-		-		-		420	U	-		-		-	
2-Chlorotoluene	NA	NA	ug/kg	5	U	-		-		-		42	U	-		-		-	
2-Hexanone	NA	NA	ug/kg	50	U	-		-		-		420	U	-		-		-	
2-Phenylbutane	NA	NA	ug/kg	-		-		-		-		-		-		-		-	
4-Chlorotoluene	NA	NA	ug/kg	5	U	-		-		-		42	U	-		-		-	
4-Methyl-2-Pentanone	3,400,000	3,400,000	ug/kg	50	U	-		-		-		420	U	-		-		-	
Acetone	110,000,000	110,000,000	ug/kg	100	U	-		-		-		840	U	-		-		-	
Benzene	140,000	1,200,000	ug/kg	5	U	-		-		-		42	U	-		-		-	
Bromobenzene	NA	NA	ug/kg	5	U	-		-		-		42	U	-		-		-	
Bromochloromethane	NA	NA	ug/kg	5	U	-		-		-		42	U	-		-		-	
Bromodichloromethane	35,000	300,000	ug/kg	5	U	-		-		-		42	U	-		-		-	
Bromoform	6,200,000	130,000,000	ug/kg	5	U	-		-		-		42	U	-		-		-	
Bromomethane	82,000	550,000	ug/kg	10	U	-		-		-		84	U	-		-		-	
Carbon disulfide	740,000	740,000	ug/kg	5	U	-		-		-		42	U	-		-		-	
Carbon tetrachloride	79,000	460,000	ug/kg	5	U	-		-		-		42	U	-		-		-	
Chlorobenzene	760,000	760,000	ug/kg	5	U	-		-		-		42	U	-		-		-	
Chlorobromomethane	NA	NA	ug/kg	-		-		-		-		-		-		-		-	
Chloroethane	2,100,000	2,100,000	ug/kg	10	U	-		-		-		84	U	-		-		-	
Chloroform	38,000	320,000	ug/kg	5	U	-		-		-		42	U	-		-		-	
Chloromethane	1,300,000	1,300,000	ug/kg	10	U	-		-		-		84	U	-		-		-	
cis-1,2-Dichloroethene	2,400,000	2,400,000	ug/kg	5	U	-		-		-		42	U	-		-		-	
cis-1,3-Dichloropropene	NA	NA	ug/kg	5	U	-		-		-		42	U	-		-		-	
Cymene	160,000	160,000	ug/kg	-		-		-		-		-		-		-		-	
Dibromochloromethane	84,000	770,000	ug/kg	5	U	-		-		-		42	U	-		-		-	
Dibromomethane	2,800,000	2,800,000	ug/kg	5	U	-		-		-		42	U	-		-		-	
Dichlorodifluoromethane	850,000	850,000	ug/kg	5	U	-		-		-		42	U	-		-		-	
Ethylbenzene	480,000	480,000	ug/kg	5	U	-		-		-		42	U	-		-		-	
Hexachlorobutadiene, VOC	630,000	1,400,000	ug/kg	5	U	-		-		-		42	U	-		-		-	
Isopropylbenzene, VOC	270,000	270,000	ug/kg	5	U	-		-		-		42	U	-		-		-	

TABLE 3.14
SOIL ANALYTICAL DATA
IDENTIFIED AREA: COD5, 0-2 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	COD05-S005		DAY-20		SS15		SS15		SS17		SS17		SS18		SS18		Maximum Detected Concentration	
			Field Sample ID:	COD05-S005		DAY-20 0-2		SS15-0-01		SS15-0-01		SS17-0-01		SS17-0-01		SS18-0-01		SS18-0-01			
			Date:	5/22/2007		1/10/2002		5/19/2006		5/19/2006		5/18/2006		5/18/2006		5/18/2006		5/18/2006			
	C/I	Construction	Depth:	1.5 - 1.5		0 - 2		0.5 - 1		0.5 - 1.5		0.5 - 1		0.5 - 1.5		0.5 - 1		0.5 - 1.5			
VOCs																					
1,1,1,2-Tetrachloroethane	240,000	680,000	ug/kg	-		5	U	5	U	-		5	U	-		5	U	-		-	
1,1,1-Trichloroethane	640,000	640,000	ug/kg	-		5	U	5	U	-		5	U	-		5	U	-		-	
1,1,2,2-Tetrachloroethane	75,000	670,000	ug/kg	-		5	U	5	U	-		5	U	-		5	U	-		-	
1,1,2-Trichloroethane	140,000	1,200,000	ug/kg	-		5	U	5	U	-		5	U	-		5	U	-		-	
1,1-Dichloroethane	420,000	1,700,000	ug/kg	-		5	U	5	U	-		5	U	-		5	U	-		-	
1,1-Dichloroethene	1,200,000	360,000	ug/kg	-		5	U	5	U	-		5	U	-		5	U	-		-	
1,1-Dichloropropene	NA	NA	ug/kg	-		5	U	5	U	-		5	U	-		5	U	-		-	
1,2,3-Trichlorobenzene	NA	NA	ug/kg	-		5	U	-		-		-		-		-		-		-	
1,2,3-Trichloropropane	3,800	19,000	ug/kg	-		5	U	-		-		-		-		-		-		-	
1,2,4-Trichlorobenzene, VOC	400,000	400,000	ug/kg	-		5	U	5	U	-		5	U	-		5	U	-		-	
1,2,4-Trimethylbenzene	220,000	220,000	ug/kg	-		5	U	5	U	-		5	U	-		5	U	-		**106**	
1,2-Dibromo-3-chloropropane	1,700	15,000	ug/kg	-		10	U	-		-		-		-		-		-		-	
1,2-Dibromoethane	4,400	38,000	ug/kg	-		5	U	-		-		-		-		-		-		-	
1,2-Dichlorobenzene, VOC	380,000	380,000	ug/kg	-		5	U	5	U	-		5	U	-		5	U	-		-	
1,2-Dichloroethane	56,000	480,000	ug/kg	-		5	U	5	U	-		5	U	-		5	U	-		-	
1,2-Dichloropropane	120,000	180,000	ug/kg	-		5	U	5	U	-		5	U	-		5	U	-		-	
1,3,5-Trimethylbenzene	180,000	180,000	ug/kg	-		5	U	5	U	-		5	U	-		5	U	-		**46.9**	
1,3-Dichlorobenzene, VOC	NA	NA	ug/kg	-		5	U	5	U	-		5	U	-		5	U	-		-	
1,3-Dichloropropane	1,500,000	1,500,000	ug/kg	-		5	U	5	U	-		5	U	-		5	U	-		-	
1,4-Dichlorobenzene, VOC	310,000	2,600,000	ug/kg	-		5	U	5	U	-		5	U	-		5	U	-		-	
1,4-Dioxane	490,000	10,000,000	ug/kg	-		-		20	U	-		20	U	-		20	U	-		-	
2,2-Dichloropropane	NA	NA	ug/kg	-		5	U	5	U	-		5	U	-		5	U	-		-	
2-Butanone	28,000,000	28,000,000	ug/kg	-		50	U	50	U	-		50	U	-		50	U	-		-	
2-Chlorotoluene	NA	NA	ug/kg	-		5	U	5	U	-		5	U	-		5	U	-		-	
2-Hexanone	NA	NA	ug/kg	-		50	U	50	U	-		50	U	-		50	U	-		-	
2-Phenylbutane	NA	NA	ug/kg	-		5	U	-		-		-		-		-		-		-	
4-Chlorotoluene	NA	NA	ug/kg	-		5	U	5	U	-		5	U	-		5	U	-		-	
4-Methyl-2-Pentanone	3,400,000	3,400,000	ug/kg	-		50	U	50	U	-		50	U	-		50	U	-		-	
Acetone	110,000,000	110,000,000	ug/kg	-		50	U	100	U	-		100	U	-		100	U	-		-	
Benzene	140,000	1,200,000	ug/kg	-		5	U	5	U	-		**6.5**		-		**5.7**		-		**6.5**	
Bromobenzene	NA	NA	ug/kg	-		5	U	5	U	-		5	U	-		5	U	-		-	
Bromochloromethane	NA	NA	ug/kg	-		-		5	U	-		5	U	-		5	U	-		-	
Bromodichloromethane	35,000	300,000	ug/kg	-		5	U	5	U	-		5	U	-		5	U	-		-	
Bromoform	6,200,000	130,000,000	ug/kg	-		-		5	U	-		5	U	-		5	U	-		-	
Bromomethane	82,000	550,000	ug/kg	-		5	U	10	U	-		10	U	-		10	U	-		-	
Carbon disulfide	740,000	740,000	ug/kg	-		50	U	5	U	-		5	U	-		5	U	-		-	
Carbon tetrachloride	79,000	460,000	ug/kg	-		5	U	5	U	-		5	U	-		5	U	-		-	
Chlorobenzene	760,000	760,000	ug/kg	-		5	U	5	U	-		5	U	-		5	U	-		-	
Chlorobromomethane	NA	NA	ug/kg	-		5	U	-		-		-		-		-		-		-	
Chloroethane	2,100,000	2,100,000	ug/kg	-		5	U	10	U	-		10	U	-		10	U	-		-	
Chloroform	38,000	320,000	ug/kg	-		5	U	5	U	-		5	U	-		5	U	-		-	
Chloromethane	1,300,000	1,300,000	ug/kg	-		5	U	10	U	-		10	U	-		10	U	-		-	
cis-1,2-Dichloroethene	2,400,000	2,400,000	ug/kg	-		5	U	5	U	-		5	U	-		5	U	-		-	
cis-1,3-Dichloropropene	NA	NA	ug/kg	-		5	U	5	U	-		5	U	-		5	U	-		-	
Cymene	160,000	160,000	ug/kg	-		5	U	-		-		-		-		-		-		-	
Dibromochloromethane	84,000	770,000	ug/kg	-		5	U	5	U	-		5	U	-		5	U	-		-	
Dibromomethane	2,800,000	2,800,000	ug/kg	-		5	U	5	U	-		5	U	-		5	U	-		-	
Dichlorodifluoromethane	850,000	850,000	ug/kg	-		5	U	5	U	-		5	U	-		5	U	-		-	
Ethylbenzene	480,000	480,000	ug/kg	-		5	U	5	U	-		5	U	-		5	U	-		-	
Hexachlorobutadiene, VOC	630,000	1,400,000	ug/kg	-		5	U	5	U	-		5	U	-		5	U	-		-	
Isopropylbenzene, VOC	270,000	270,000	ug/kg	-		5	U	5	U	-		5	U	-		5	U	-		-	

TABLE 3.14
SOIL ANALYTICAL DATA
IDENTIFIED AREA: COD5, 0-2 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	B01		B01		B02		B02		B03		B03		B04		COD05-N003	
			Field Sample ID:	B01-0-05		B01-0-05		B02-0-05		B02-1-05		B03-0-05		B03-0-05		B04-0-05		COD05-N003	
			Date:	5/19/2006		5/19/2006		5/19/2006		5/19/2006		5/19/2006		5/19/2006		5/18/2006		5/22/2007	
	C/I	Construction	Depth:	0.5 - 1.5		0.5 - 5		0.5 - 5		0.5 - 5		0.5 - 1		0.5 - 5		0.5 - 5		1.5 - 1.5	
m&p-Xylene	NA	NA	ug/kg	-		-		-		-		-		-		-		-	
Methyl tert butyl ether	5,700,000	8,900,000	ug/kg	5	U	-		-		-		42	U	-		-		-	
Methylene chloride	3,300,000	3,300,000	ug/kg	10	U	-		-		-		84	U	-		-		-	
Naphthalene, VOC	450,000	560,000	ug/kg	-		-		-		-		-		-		-		-	
n-Butylbenzene	110,000	110,000	ug/kg	5	U	-		-		-		42	U	-		-		-	
n-Hexane	140,000	140,000	ug/kg	20	U	-		-		-		170	U	-		-		-	
n-Propylbenzene	260,000	260,000	ug/kg	5	U	-		-		-		42	U	-		-		-	
o-Xylene	NA	NA	ug/kg	-		-		-		-		-		-		-		-	
Pentachloroethane	550,000	11,000,000	ug/kg	-		-		-		-		-		-		-		-	
p-Isopropyltoluene	NA	NA	ug/kg	5	U	-		-		-		42	U	-		-		-	
sec-Butylbenzene	140,000	140,000	ug/kg	5	U	-		-		-		42	U	-		-		-	
Styrene	870,000	870,000	ug/kg	5	U	-		-		-		42	U	-		-		-	
tert-Butylbenzene	180,000	180,000	ug/kg	5	U	-		-		-		42	U	-		-		-	
Tetrachloroethene	170,000	170,000	ug/kg	5	U	-		-		-		-		-		-		-	
Toluene	820,000	820,000	ug/kg	5	U	-		-		-		**188**		-		-		-	
trans-1,2-Dichloroethene	1,700,000	1,700,000	ug/kg	5	U	-		-		-		42	U	-		-		-	
trans-1,3-Dichloropropene	NA	NA	ug/kg	5	U	-		-		-		42	U	-		-		-	
Trichloroethene	51,000	17,000	ug/kg	5	U	-		-		-		42	U	-		-		-	
Trichlorofluoromethane	1,200,000	1,200,000	ug/kg	5	U	-		-		-		42	U	-		-		-	
Vinyl acetate	2,700,000	620,000	ug/kg	5	U	-		-		-		42	U	-		-		-	
Vinyl chloride	50,000	280,000	ug/kg	2	U	-		-		-		17	U	-		-		-	
Xylene (Total)	260,000	260,000	ug/kg	5	U	-		-		-		**371**		-		-		-	
SVOCs																			
1,2,4,5-Tetrachlorobenzene	530,000	4,300,000	ug/kg	-		-		-		-		-		-		-		-	
1,2,4-Trichlorobenzene, SVOC	400,000	400,000	ug/kg	-		330	U	330	U	330	U	-		6600	U	3300	U	-	
1,2-Dichlorobenzene, SVOC	380,000	380,000	ug/kg	-		330	U	330	U	330	U	-		6600	U	3300	U	-	
1,2-Diphenylhydrazine	62,000	1,200,000	ug/kg	-		-		-		-		-		-		-		-	
1,3-Dichlorobenzene, SVOC	NA	NA	ug/kg	-		330	U	330	U	330	U	-		6600	U	3300	U	-	
1,4-Dichlorobenzene, SVOC	310,000	2,600,000	ug/kg	-		330	U	330	U	330	U	-		6600	U	3300	U	-	
1-Naphthylamine	NA	NA	ug/kg	-		-		-		-		-		-		-		-	
2,2-oxybis(2-Chloropropane)	NA	NA	ug/kg	-		-		-		-		-		-		-		-	
2,3,4,6-Tetrachlorophenol	53,000,000	430,000,000	ug/kg	-		-		-		-		-		-		-		-	
2,4,5-Trichlorophenol	180,000,000	1,000,000,000	ug/kg	-		330	U	330	U	330	U	-		6600	U	3300	U	-	
2,4,6-Trichlorophenol	1,800,000	1,400,000	ug/kg	-		330	U	330	U	330	U	-		6600	U	3300	U	-	
2,4-Dichlorophenol	NA	NA	ug/kg	-		330	U	330	U	330	U	-		6600	U	3300	U	-	
2,4-Dimethylphenol	35,000,000	85,000,000	ug/kg	-		330	U	330	U	330	U	-		6600	U	3300	U	-	
2,4-Dinitrophenol	3,500,000	28,000,000	ug/kg	-		-		-		-		-		-		-		-	
2,4-Dinitrotoluene	160,000	2,800,000	ug/kg	-		330	U	330	U	330	U	-		6600	U	3300	U	-	
2,6-Dichlorophenol	33,000	670,000	ug/kg	-		-		-		-		-		-		-		-	
2,6-Dinitrotoluene	NA	NA	ug/kg	-		330	U	330	U	330	U	-		6600	U	3300	U	-	
2-Chloronaphthalene	330,000,000	1,000,000,000	ug/kg	-		330	U	330	U	330	U	-		6600	U	3300	U	-	
2-Chlorophenol	20,000,000	22,000,000	ug/kg	-		330	U	330	U	330	U	-		6600	U	3300	U	-	
2-Methylnaphthalene	6,000,000	5,200,000	ug/kg	-		-		-		-		-		-		-		86.7	U
2-Methylphenol	88,000,000	710,000,000	ug/kg	-		330	U	330	U	330	U	-		6600	U	3300	U	-	
2-Naphthylamine	27,000	550,000	ug/kg	-		-		-		-		-		-		-		-	
2-Nitroaniline	NA	NA	ug/kg	-		-		-		-		-		-		-		-	
2-Nitrophenol	NA	NA	ug/kg	-		330	U	330	U	330	U	-		6600	U	3300	U	-	
2-Picoline	NA	NA	ug/kg	-		-		-		-		-		-		-		-	
2-Toluidine	NA	NA	ug/kg	-		-		-		-		-		-		-		-	
3&4-Methylphenol	NA	NA	ug/kg	-		330	U	330	U	330	U	-		6600	U	3300	U	-	
3,3-Dichlorobenzidine	NA	NA	ug/kg	-		-		-		-		-		-		-		-	
3-Methylcholanthrene	NA	NA	ug/kg	-		-		-		-		-		-		-		-	
3-Nitroaniline	NA	NA	ug/kg	-		-		-		-		-		-		-		-	
4,6-Dinitro-2-methylphenol	140,000	110,000	ug/kg	-		330	U	330	U	330	U	-		6600	U	3300	U	-	
4-Aminobiphenyl	2,300	47,000	ug/kg	-		-		-		-		-		-		-		-	
4-Bromophenyl phenyl ether	NA	NA	ug/kg	-		330	U	330	U	330	U	-		6600	U	3300	U	-	

TABLE 3.14
SOIL ANALYTICAL DATA
IDENTIFIED AREA: COD5, 0-2 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	COD05-S005		DAY-20		SS15		SS15		SS17		SS17		SS18		SS18		Maximum Detected Concentration	
			Field Sample ID:	COD05-S005		DAY-20 0-2		SS15-0-01		SS15-0-01		SS17-0-01		SS17-0-01		SS18-0-01		SS18-0-01			
			Date:	5/22/2007		1/10/2002		5/19/2006		5/19/2006		5/18/2006		5/18/2006		5/18/2006		5/18/2006			
	C/I	Construction	Depth:	1.5 - 1.5		0 - 2		0.5 - 1		0.5 - 1.5		0.5 - 1		0.5 - 1.5		0.5 - 1		0.5 - 1.5			
m&p-Xylene	NA	NA	ug/kg	-		5	U	-		-		-		-		-		-		-	
Methyl tert butyl ether	5,700,000	8,900,000	ug/kg	-		10	U	5	U	-		5	U	-		5	U	-		-	
Methylene chloride	3,300,000	3,300,000	ug/kg	-		5	U	10	U	-		10	U	-		10	U	-		-	
Naphthalene, VOC	450,000	560,000	ug/kg	-		5	U	-		-		-		-		-		-		-	
n-Butylbenzene	110,000	110,000	ug/kg	-		5	U	5	U	-		5	U	-		5	U	-		-	
n-Hexane	140,000	140,000	ug/kg	-		-		20	U	-		20	U	-		20	U	-		-	
n-Propylbenzene	260,000	260,000	ug/kg	-		5	U	5	U	-		5	U	-		5	U	-		-	
o-Xylene	NA	NA	ug/kg	-		5	U	-		-		-		-		-		-		-	
Pentachloroethane	550,000	11,000,000	ug/kg	-		330	U	-		-		-		-		-		-		-	
p-Isopropyltoluene	NA	NA	ug/kg	-		-		5	U	-		5	U	-		5	U	-		-	
sec-Butylbenzene	140,000	140,000	ug/kg	-		-		5	U	-		5	U	-		5	U	-		-	
Styrene	870,000	870,000	ug/kg	-		5	U	5	U	-		5	U	-		5	U	-		-	
tert-Butylbenzene	180,000	180,000	ug/kg	-		5	U	5	U	-		5	U	-		5	U	-		-	
Tetrachloroethene	170,000	170,000	ug/kg	-		5	U	5	U	-		5	U	-		5	U	-		-	
Toluene	820,000	820,000	ug/kg	-		5	U	5	U	-		**6.3**		-		**5.2**		-		**188**	
trans-1,2-Dichloroethene	1,700,000	1,700,000	ug/kg	-		5	U	5	U	-		5	U	-		5	U	-		-	
trans-1,3-Dichloropropene	NA	NA	ug/kg	-		5	U	5	U	-		5	U	-		5	U	-		-	
Trichloroethene	51,000	17,000	ug/kg	-		5	U	5	U	-		5	U	-		5	U	-		-	
Trichlorofluoromethane	1,200,000	1,200,000	ug/kg	-		5	U	5	U	-		5	U	-		5	U	-		-	
Vinyl acetate	2,700,000	620,000	ug/kg	-		-		5	U	-		5	U	-		5	U	-		-	
Vinyl chloride	50,000	280,000	ug/kg	-		2	U	2	U	-		2	U	-		2	U	-		-	
Xylene (Total)	260,000	260,000	ug/kg	-		-		5	U	-		5	U	-		5	U	-		**371**	
SVOCs																					
1,2,4,5-Tetrachlorobenzene	530,000	4,300,000	ug/kg	-		330	U	-		-		-		-		-		-		-	
1,2,4-Trichlorobenzene, SVOC	400,000	400,000	ug/kg	-		330	U	-		3300	U	-		6600	U	-		3300	U	-	
1,2-Dichlorobenzene, SVOC	380,000	380,000	ug/kg	-		330	U	-		3300	U	-		6600	U	-		3300	U	-	
1,2-Diphenylhydrazine	62,000	1,200,000	ug/kg	-		330	U	-		-		-		-		-		-		-	
1,3-Dichlorobenzene, SVOC	NA	NA	ug/kg	-		330	U	-		3300	U	-		6600	U	-		3300	U	-	
1,4-Dichlorobenzene, SVOC	310,000	2,600,000	ug/kg	-		330	U	-		3300	U	-		6600	U	-		3300	U	-	
1-Naphthylamine	NA	NA	ug/kg	-		330	U	-		-		-		-		-		-		-	
2,2-oxybis(2-Chloropropane)	NA	NA	ug/kg	-		330	U	-		-		-		-		-		-		-	
2,3,4,6-Tetrachlorophenol	53,000,000	430,000,000	ug/kg	-		330	U	-		-		-		-		-		-		-	
2,4,5-Trichlorophenol	180,000,000	1,000,000,000	ug/kg	-		330	U	-		3300	U	-		6600	U	-		3300	U	-	
2,4,6-Trichlorophenol	1,800,000	1,400,000	ug/kg	-		330	U	-		3300	U	-		6600	U	-		3300	U	-	
2,4-Dichlorophenol	NA	NA	ug/kg	-		330	U	-		3300	U	-		6600	U	-		3300	U	-	
2,4-Dimethylphenol	35,000,000	85,000,000	ug/kg	-		330	U	-		3300	U	-		6600	U	-		3300	U	-	
2,4-Dinitrophenol	3,500,000	28,000,000	ug/kg	-		1650	U	-		-		-		-		-		-		-	
2,4-Dinitrotoluene	160,000	2,800,000	ug/kg	-		330	U	-		3300	U	-		6600	U	-		3300	U	-	
2,6-Dichlorophenol	33,000	670,000	ug/kg	-		330	U	-		-		-		-		-		-		-	
2,6-Dinitrotoluene	NA	NA	ug/kg	-		330	U	-		3300	U	-		6600	U	-		3300	U	-	
2-Chloronaphthalene	330,000,000	1,000,000,000	ug/kg	-		330	U	-		3300	U	-		6600	U	-		3300	U	-	
2-Chlorophenol	20,000,000	22,000,000	ug/kg	-		330	U	-		3300	U	-		6600	U	-		3300	U	-	
2-Methylnaphthalene	6,000,000	5,200,000	ug/kg	80.2	U	330	U	-		-		-		-		-		-		-	
2-Methylphenol	88,000,000	710,000,000	ug/kg	-		330	U	-		3300	U	-		6600	U	-		3300	U	-	
2-Naphthylamine	27,000	550,000	ug/kg	-		330	U	-		-		-		-		-		-		-	
2-Nitroaniline	NA	NA	ug/kg	-		1650	U	-		-		-		-		-		-		-	
2-Nitrophenol	NA	NA	ug/kg	-		330	U	-		3300	U	-		6600	U	-		3300	U	-	
2-Picoline	NA	NA	ug/kg	-		330	U	-		-		-		-		-		-		-	
2-Toluidine	NA	NA	ug/kg	-		330	U	-		-		-		-		-		-		-	
3&4-Methylphenol	NA	NA	ug/kg	-		330	U	-		3300	U	-		6600	U	-		3300	U	-	
3,3-Dichlorobenzidine	NA	NA	ug/kg	-		660	U	-		-		-		-		-		-		-	
3-Methylcholanthrene	NA	NA	ug/kg	-		330	U	-		-		-		-		-		-		-	
3-Nitroaniline	NA	NA	ug/kg	-		1650	U	-		-		-		-		-		-		-	
4,6-Dinitro-2-methylphenol	140,000	110,000	ug/kg	-		1650	U	-		3300	U	-		6600	U	-		3300	U	-	
4-Aminobiphenyl	2,300	47,000	ug/kg	-		660	U	-		-		-		-		-		-		-	
4-Bromophenyl phenyl ether	NA	NA	ug/kg	-		330	U	-		3300	U	-		6600	U	-		3300	U	-	

TABLE 3.14
SOIL ANALYTICAL DATA
IDENTIFIED AREA: COD5, 0-2 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	B01		B01		B02		B02		B03		B03		B04		COD05-N003	
			Field Sample ID:	B01-0-05		B01-0-05		B02-0-05		B02-1-05		B03-0-05		B03-0-05		B04-0-05		COD05-N003	
			Date:	5/19/2006		5/19/2006		5/19/2006		5/19/2006		5/19/2006		5/19/2006		5/18/2006		5/22/2007	
	C/I	Construction	Depth:	0.5 - 1.5		0.5 - 5		0.5 - 5		0.5 - 5		0.5 - 1		0.5 - 5		0.5 - 5		1.5 - 1.5	
4-Chloro-3-methylphenol	180,000,000	140,000,000	ug/kg	-		330	U	330	U	330	U	-		6600	U	3300	U	-	
4-Chloroaniline	250,000	710,000	ug/kg	-		330	U	330	U	330	U	-		6600	U	3300	U	-	
4-Chlorophenyl phenyl ether	NA	NA	ug/kg	-		-		-		-		-		-		-		-	
4-Dimethylaminoazobenzene	11,000	220,000	ug/kg	-		-		-		-		-		-		-		-	
4-Nitroaniline	2,500,000	14,000,000	ug/kg	-		-		-		-		-		-		-		-	
4-Nitrophenol	NA	NA	ug/kg	-		-		-		-		-		-		-		-	
5-Nitro-2-Toluidine	NA	NA	ug/kg	-		-		-		-		-		-		-		-	
7,12-Dimethylbenz(a)anthracene	170	3,600	ug/kg	-		-		-		-		-		-		-		-	
Acenaphthene	90,000,000	780,000,000	ug/kg	-		330	U	330	U	330	U	-		6600	U	3300	U	86.7	U
Acenaphthylene	90,000,000	780,000,000	ug/kg	-		330	U	330	U	330	U	-		6600	U	3300	U	86.7	U
Acetophenone	2,500,000	2,500,000	ug/kg	-		-		-		-		-		-		-		-	
Aniline	8,700,000	9,900,000	ug/kg	-		-		-		-		-		-		-		-	
Anthracene	450,000,000	1,000,000,000	ug/kg	-		330	U	330	U	330	U	-		6600	U	3300	U	86.7	U
Benzidine	210	4,300	ug/kg	-		-		-		-		-		-		-		-	
Benzo(a)anthracene	58,000	1,200,000	ug/kg	-		**403**		**619**		330	U	-		6600	U	3300	U	86.7	U
Benzo(a)pyrene	5,800	120,000	ug/kg	-		**391**		**665**		**234**		-		**4930**		1600	U	86.7	U
Benzo(b)fluoranthene	58,000	1,200,000	ug/kg	-		**627**		**1190**		**384**		-		**8850**		3300	U	86.7	U
Benzo(g,h,i)perylene	45,000,000	390,000,000	ug/kg	-		330	U	330	U	330	U	-		6600	U	3300	U	86.7	U
Benzo(k)fluoranthene	580,000	12,000,000	ug/kg	-		330	U	**373**		330	U	-		6600	U	3300	U	86.7	U
Benzoic acid	1,000,000,000	1,000,000,000	ug/kg	-		1650	U	1650	U	1650	U	-		33000	U	16000	U	-	
Benzyl alcohol	NA	NA	ug/kg	-		330	U	330	U	330	U	-		6600	U	3300	U	-	
Benzyl butyl phthalate	NA	NA	ug/kg	-		330	U	330	U	330	U	-		6600	U	3300	U	-	
bis(2-Chloroethoxy)methane	5,300,000	43,000,000	ug/kg	-		330	U	330	U	330	U	-		6600	U	3300	U	-	
bis(2-Chloroethyl)ether	30,000	290,000	ug/kg	-		330	U	330	U	330	U	-		6600	U	3300	U	-	
bis(2-chloroisopropyl)ether	NA	NA	ug/kg	-		330	U	330	U	330	U	-		6600	U	3300	U	-	
bis(2-Ethylhexyl)phthalate	3,500,000	71,000,000	ug/kg	-		330	U	330	U	330	U	-		6600	U	3300	U	-	
Butyl benzylphthalate	26,000,000	520,000,000	ug/kg	-		-		-		-		-		-		-		-	
Chrysene	5,800,000	120,000,000	ug/kg	-		**394**		**604**		330	U	-		6600	U	3300	U	86.7	U
Dibenz(a,h)anthracene	5,800	120,000	ug/kg	-		165	U	165	U	165	U	-		3300	U	1600	U	86.7	U
Dibenzofuran	4,100,000	2,100,000	ug/kg	-		330	U	330	U	330	U	-		6600	U	3300	U	-	
Diethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	-		330	U	330	U	330	U	-		6600	U	3300	U	-	
Dimethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	-		330	U	330	U	330	U	-		6600	U	3300	U	-	
Di-n-butylphthalate	180,000,000	430,000,000	ug/kg	-		-		-		-		-		-		-		-	
Di-N-Octyl phthalate	18,000,000	140,000,000	ug/kg	-		330	U	330	U	330	U	-		6600	U	3300	U	-	
Ethyl methanesulfonate	NA	NA	ug/kg	-		-		-		-		-		-		-		-	
Fluoranthene	60,000,000	160,000,000	ug/kg	-		**782**		**1330**		**523**		-		**11800**		**3710**		86.7	U
Fluorene	60,000,000	520,000,000	ug/kg	-		330	U	330	U	330	U	-		6600	U	3300	U	86.7	U
Hexachlorobenzene	31,000	14,000	ug/kg	-		330	U	330	U	330	U	-		6600	U	3300	U	-	
Hexachlorobutadiene, SVOC	630,000	1,400,000	ug/kg	-		-		-		-		-		-		-		-	
Hexachlorocyclopentadiene	11,000,000	26,000,000	ug/kg	-		660	U	660	U	660	U	-		13000	U	6600	U	-	
Hexachloroethane	1,200,000	3,000,000	ug/kg	-		330	U	330	U	330	U	-		6600	U	3300	U	-	
Indeno(1,2,3-cd)pyrene	58,000	1,200,000	ug/kg	-		330	U	330	U	330	U	-		6600	U	3300	U	86.7	U
Isophorone	52,000,000	1,000,000,000	ug/kg	-		330	U	330	U	330	U	-		6600	U	3300	U	-	
Methyl methanesulfonate	NA	NA	ug/kg	-		-		-		-		-		-		-		-	
Naphthalene, SVOC	450,000	560,000	ug/kg	-		330	U	330	U	330	U	-		6600	U	3300	U	86.7	U
Nitrobenzene	610,000	3,000,000	ug/kg	-		330	U	330	U	330	U	-		6600	U	3300	U	-	
N-Nitrosodimethylamine	1,000	11,000	ug/kg	-		-		-		-		-		-		-		-	
N-Nitrosodi-N-butylamine	14,000	150,000	ug/kg	-		-		-		-		-		-		-		-	
N-Nitrosodi-n-propylamine	7,000	140,000	ug/kg	-		38.1	U	38.1	U	38.1	U	-		760	U	380	U	-	
N-Nitrosodiphenylamine	10,000,000	200,000,000	ug/kg	-		-		-		-		-		-		-		-	
N-Nitrosopiperidine	5,200	110,000	ug/kg	-		-		-		-		-		-		-		-	
Pentachlorobenzene	1,400,000	11,000,000	ug/kg	-		-		-		-		-		-		-		-	
Pentachloronitrobenzene	190,000	3,800,000	ug/kg	-		-		-		-		-		-		-		-	
Pentachlorophenol	67,000	950,000	ug/kg	-		330	U	330	U	330	U	-		6600	U	3300	U	-	
Phenacetin	22,000,000	450,000,000	ug/kg	-		-		-		-		-		-		-		-	
Phenanthrene	450,000,000	1,000,000,000	ug/kg	-		**429**		**1030**		330	U	-		**8900**		**3570**		86.7	U
Phenol	530,000,000	840,000,000	ug/kg	-		330	U	330	U	330	U	-		6600	U	3300	U	-	
Pronamide	NA	NA	ug/kg	-		-		-		-		-		-		-		-	
Pyrene, SVOC	45,000,000	390,000,000	ug/kg	-		**740**		**1690**		**570**		-		**15700**		**4430**		86.7	U
Pyridine	4,100,000	21,000,000	ug/kg	-		-		-		-		-		-		-		-	

TABLE 3.14
SOIL ANALYTICAL DATA
IDENTIFIED AREA: COD5, 0-2 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	COD05-S005		DAY-20		SS15		SS15		SS17		SS17		SS18		SS18		Maximum Detected Concentration	
			Field Sample ID:	COD05-S005		DAY-20 0-2		SS15-0-01		SS15-0-01		SS17-0-01		SS17-0-01		SS18-0-01		SS18-0-01			
			Date:	5/22/2007		1/10/2002		5/19/2006		5/19/2006		5/18/2006		5/18/2006		5/18/2006		5/18/2006			
	C/I	Construction	Depth:	1.5 - 1.5		0 - 2		0.5 - 1		0.5 - 1.5		0.5 - 1		0.5 - 1.5		0.5 - 1		0.5 - 1.5			
4-Chloro-3-methylphenol	180,000,000	140,000,000	ug/kg	-		660	U	-		3300	U	-		6600	U	-		3300	U	-	
4-Chloroaniline	250,000	710,000	ug/kg	-		660	U	-		3300	U	-		6600	U	-		3300	U	-	
4-Chlorophenyl phenyl ether	NA	NA	ug/kg	-		330	U	-		-		-		-		-		-		-	
4-Dimethylaminoazobenzene	11,000	220,000	ug/kg	-		330	U	-		-		-		-		-		-		-	
4-Nitroaniline	2,500,000	14,000,000	ug/kg	-		660	U	-		-		-		-		-		-		-	
4-Nitrophenol	NA	NA	ug/kg	-		1650	U	-		-		-		-		-		-		-	
5-Nitro-2-Toluidine	NA	NA	ug/kg	-		330	U	-		-		-		-		-		-		-	
7,12-Dimethylbenz(a)anthracene	170	3,600	ug/kg	-		330	U	-		-		-		-		-		-		-	
Acenaphthene	90,000,000	780,000,000	ug/kg	80.2	U	330	U	-		3300	U	-		6600	U	-		3300	U	-	
Acenaphthylene	90,000,000	780,000,000	ug/kg	**173**		330	U	-		3300	U	-		6600	U	-		3300	U	**173**	
Acetophenone	2,500,000	2,500,000	ug/kg	-		330	U	-		-		-		-		-		-		-	
Aniline	8,700,000	9,900,000	ug/kg	-		330	U	-		-		-		-		-		-		-	
Anthracene	450,000,000	1,000,000,000	ug/kg	**125**		**420**		-		3300	U	-		6600	U	-		3300	U	**420**	
Benzidine	210	4,300	ug/kg	-		330	U	-		-		-		-		-		-		-	
Benzo(a)anthracene	58,000	1,200,000	ug/kg	**283**		**1800**		-		3300	U	-		6600	U	-		3300	U	**1800**	
Benzo(a)pyrene	5,800	120,000	ug/kg	**279**		**1700**		-		1600	U	-		**4220**		-		1600	U	**4930**	
Benzo(b)fluoranthene	58,000	1,200,000	ug/kg	**273**		**1700**		-		3300	U	-		**8530**		-		3300	U	**8850**	
Benzo(g,h,i)perylene	45,000,000	390,000,000	ug/kg	**262**		**1100**		-		3300	U	-		6600	U	-		3300	U	**1100**	
Benzo(k)fluoranthene	580,000	12,000,000	ug/kg	**218**		**1900**		-		3300	U	-		6600	U	-		3300	U	**1900**	
Benzoic acid	1,000,000,000	1,000,000,000	ug/kg	-		-		-		16000	U	-		33000	U	-		16000	U	-	
Benzyl alcohol	NA	NA	ug/kg	-		660	U	-		3300	U	-		6600	U	-		3300	U	-	
Benzyl butyl phthalate	NA	NA	ug/kg	-		-		-		3300	U	-		6600	U	-		3300	U	-	
bis(2-Chloroethoxy)methane	5,300,000	43,000,000	ug/kg	-		330	U	-		3300	U	-		6600	U	-		3300	U	-	
bis(2-Chloroethyl)ether	30,000	290,000	ug/kg	-		330	U	-		3300	U	-		6600	U	-		3300	U	-	
bis(2-chloroisopropyl)ether	NA	NA	ug/kg	-		-		-		3300	U	-		6600	U	-		3300	U	-	
bis(2-Ethylhexyl)phthalate	3,500,000	71,000,000	ug/kg	-		1650	U	-		3300	U	-		6600	U	-		3300	U	-	
Butyl benzylphthalate	26,000,000	520,000,000	ug/kg	-		330	U	-		-		-		-		-		-		-	
Chrysene	5,800,000	120,000,000	ug/kg	**259**		**1600**		-		3300	U	-		6600	U	-		3300	U	**1600**	
Dibenz(a,h)anthracene	5,800	120,000	ug/kg	80.2	U	**540**		-		1600	U	-		3300	U	-		1600	U	**540**	
Dibenzofuran	4,100,000	2,100,000	ug/kg	-		330	U	-		3300	U	-		6600	U	-		3300	U	-	
Diethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	-		330	U	-		3300	U	-		6600	U	-		3300	U	-	
Dimethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	-		330	U	-		3300	U	-		6600	U	-		3300	U	-	
Di-n-butylphthalate	180,000,000	430,000,000	ug/kg	-		330	U	-		-		-		-		-		-		-	
Di-N-Octyl phthalate	18,000,000	140,000,000	ug/kg	-		330	U	-		3300	U	-		6600	U	-		3300	U	-	
Ethyl methanesulfonate	NA	NA	ug/kg	-		330	U	-		-		-		-		-		-		-	
Fluoranthene	60,000,000	160,000,000	ug/kg	**437**		**3900**		-		**4600**		-		**10700**		-		3300	U	**11800**	
Fluorene	60,000,000	520,000,000	ug/kg	80.2	U	330	U	-		3300	U	-		6600	U	-		3300	U	-	
Hexachlorobenzene	31,000	14,000	ug/kg	-		330	U	-		3300	U	-		6600	U	-		3300	U	-	
Hexachlorobutadiene, SVOC	630,000	1,400,000	ug/kg	-		330	U	-		-		-		-		-		-		-	
Hexachlorocyclopentadiene	11,000,000	26,000,000	ug/kg	-		330	U	-		6600	U	-		13000	U	-		6600	U	-	
Hexachloroethane	1,200,000	3,000,000	ug/kg	-		330	U	-		3300	U	-		6600	U	-		3300	U	-	
Indeno(1,2,3-cd)pyrene	58,000	1,200,000	ug/kg	**192**		**960**		-		3300	U	-		6600	U	-		3300	U	**960**	
Isophorone	52,000,000	1,000,000,000	ug/kg	-		330	U	-		3300	U	-		6600	U	-		3300	U	-	
Methyl methanesulfonate	NA	NA	ug/kg	-		330	U	-		-		-		-		-		-		-	
Naphthalene, SVOC	450,000	560,000	ug/kg	80.2	U	330	U	-		3300	U	-		6600	U	-		3300	U	-	
Nitrobenzene	610,000	3,000,000	ug/kg	-		330	U	-		3300	U	-		6600	U	-		3300	U	-	
N-Nitrosodimethylamine	1,000	11,000	ug/kg	-		330	U	-		-		-		-		-		-		-	
N-Nitrosodi-N-butylamine	14,000	150,000	ug/kg	-		330	U	-		-		-		-		-		-		-	
N-Nitrosodi-n-propylamine	7,000	140,000	ug/kg	-		330	U	-		380	U	-		760	U	-		380	U	-	
N-Nitrosodiphenylamine	10,000,000	200,000,000	ug/kg	-		330	U	-		-		-		-		-		-		-	
N-Nitrosopiperidine	5,200	110,000	ug/kg	-		330	U	-		-		-		-		-		-		-	
Pentachlorobenzene	1,400,000	11,000,000	ug/kg	-		330	U	-		-		-		-		-		-		-	
Pentachloronitrobenzene	190,000	3,800,000	ug/kg	-		660	U	-		-		-		-		-		-		-	
Pentachlorophenol	67,000	950,000	ug/kg	-		1650	U	-		3300	U	-		6600	U	-		3300	U	-	
Phenacetin	22,000,000	450,000,000	ug/kg	-		660	U	-		-		-		-		-		-		-	
Phenanthrene	450,000,000	1,000,000,000	ug/kg	**150**		**1900**		-		**4180**		-		**9120**		-		3300	U	**9120**	
Phenol	530,000,000	840,000,000	ug/kg	-		330	U	-		3300	U	-		6600	U	-		3300	U	-	
Pronamide	NA	NA	ug/kg	-		330	U	-		-		-		-		-		-		-	
Pyrene, SVOC	45,000,000	390,000,000	ug/kg	**384**		**3400**		-		**5100**		-		**17100**		-		3300	U	**17100**	
Pyridine	4,100,000	21,000,000	ug/kg	-		330	U	-		-		-		-		-		-		-	

TABLE 3.14
SOIL ANALYTICAL DATA
IDENTIFIED AREA: COD5, 0-2 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	B01		B01		B02		B02		B03		B03		B04		COD05-N003	
			Field Sample ID:	B01-0-05		B01-0-05		B02-0-05		B02-1-05		B03-0-05		B03-0-05		B04-0-05		COD05-N003	
			Date:	5/19/2006		5/19/2006		5/19/2006		5/19/2006		5/19/2006		5/19/2006		5/18/2006		5/22/2007	
	C/I	Construction	Depth:	0.5 - 1.5		0.5 - 5		0.5 - 5		0.5 - 5		0.5 - 1		0.5 - 5		0.5 - 5		1.5 - 1.5	
PCBs																			
Aroclor-1016	100,000	260,000	ug/kg	-		250	U	250	U	250	U	-		250	U	250	U	-	
Aroclor-1221	14,000	210,000	ug/kg	-		250	U	250	U	250	U	-		250	U	250	U	-	
Aroclor-1232	14,000	73,000	ug/kg	-		250	U	250	U	250	U	-		250	U	250	U	-	
Aroclor-1242	20,000	440,000	ug/kg	-		250	U	250	U	250	U	-		250	U	250	U	-	
Aroclor-1248	20,000	440,000	ug/kg	-		250	U	250	U	250	U	-		250	U	250	U	-	
Aroclor-1254	20,000	75,000	ug/kg	-		250	U	250	U	250	U	-		250	U	250	U	-	
Aroclor-1260	20,000	440,000	ug/kg	-		250	U	250	U	250	U	-		250	U	250	U	-	
Total PCBs Calculated	20,000	440,000	ug/kg	-		250	U	250	U	250	U	-		250	U	250	U	-	
Metals																			
Antimony	1,600	850	mg/kg	-		0.96	U	0.99	U	0.97	U	-		0.97	U	1	U	-	
Arsenic	77	690	mg/kg	-		**4.8**		**8.5**		**8.9**		-		**6.1**		**5.4**		-	
Barium	680,000	320,000	mg/kg	-		**115**		**172**		**165**		-		**67.8**		**137**		-	
Beryllium	7,800	3,400	mg/kg	-		1.6	U	1.6	U	1.6	U	-		1.6	U	1.6	U	-	
Cadmium	2,600	1,000	mg/kg	-		3.3	U	3.2	U	3.1	U	-		3.2	U	3.3	U	-	
Chromium Total	NA	NA	mg/kg	-		6.5	U	**8.3**		**8.35**		-		**9.14**		**7.04**		-	
Copper	160,000	21,000	mg/kg	-		**22.2**		**27.2**		**34.2**		-		**37.9**		**17.4**		-	
Lead	800	400	mg/kg	-		**87.8**		**63.9**		**60.1**		-		**104**		**41.1**		-	
Mercury	3.1	3.1	mg/kg	-		**0.135**		**0.639**		**0.294**		-		**0.098**		**0.183**		-	
Nickel	74,000	23,000	mg/kg	-		**7.08**		**15.2**		**20.8**		-		**16.2**		**9.65**		-	
Selenium	20,000	11,000	mg/kg	-		6.5	U	6.5	U	6.3	U	-		6.5	U	6.6	U	-	
Silver	20,000	11,000	mg/kg	-		0.5	U	0.5	U	0.5	U	-		0.5	U	0.5	U	-	
Thallium	41	21	mg/kg	-		0.96	U	0.99	U	0.97	U	-		0.97	U	1	U	-	
Zinc	1,000,000	640,000	mg/kg	-		**51.1**		**208**		**218**		-		**80**		**52.3**		-	
TPH																			
Total Petroleum Hydrocarbons	NA	1,000,000	ug/kg	-		-		-		-		-		-		-		-	
TPH C10-C20	NA	NA	ug/kg	-		**12800**		**10000**		10000	U	-		**104000**		**27500**		-	
TPH C20-C34	5,000,000	5,000,000	ug/kg	-		**72700**		**51200**		**25700**		-		**407000**		**103000**		-	

TABLE 3.14
SOIL ANALYTICAL DATA
IDENTIFIED AREA: COD5, 0-2 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	COD05-S005		DAY-20		SS15		SS15		SS17		SS17		SS18		SS18		Maximum Detected Concentration	
			Field Sample ID:	COD05-S005		DAY-20 0-2		SS15-0-01		SS15-0-01		SS17-0-01		SS17-0-01		SS18-0-01		SS18-0-01			
			Date:	5/22/2007		1/10/2002		5/19/2006		5/19/2006		5/18/2006		5/18/2006		5/18/2006		5/18/2006			
	C/I	Construction	Depth:	1.5 - 1.5		0 - 2		0.5 - 1		0.5 - 1.5		0.5 - 1		0.5 - 1.5		0.5 - 1		0.5 - 1.5			
PCBs																					
Aroclor-1016	100,000	260,000	ug/kg	-		0.02	U	-		250	U	-		250	U	-		250	U	-	
Aroclor-1221	14,000	210,000	ug/kg	-		0.04	U	-		250	U	-		250	U	-		250	U	-	
Aroclor-1232	14,000	73,000	ug/kg	-		0.02	U	-		250	U	-		250	U	-		250	U	-	
Aroclor-1242	20,000	440,000	ug/kg	-		0.02	U	-		250	U	-		250	U	-		250	U	-	
Aroclor-1248	20,000	440,000	ug/kg	-		0.02	U	-		250	U	-		250	U	-		250	U	-	
Aroclor-1254	20,000	75,000	ug/kg	-		20	U	-		250	U	-		250	U	-		250	U	-	
Aroclor-1260	20,000	440,000	ug/kg	-		20	U	-		250	U	-		250	U	-		250	U	-	
Total PCBs Calculated	20,000	440,000	ug/kg	-		20	U	-		250	U	-		250	U	-		250	U	-	
Metals																					
Antimony	1,600	850	mg/kg	-		-		-		0.93	U	-		0.93	U	-		0.99	U	-	
Arsenic	77	690	mg/kg	-		**9.1**		-		**6.4**		-		5	U	-		**8.3**		**9.1**	
Barium	680,000	320,000	mg/kg	-		**170**		-		**57.2**		-		**91.2**		-		**139**		**172**	
Beryllium	7,800	3,400	mg/kg	-		-		-		1.6	U	-		3.3	U	-		1.6	U	-	
Cadmium	2,600	1,000	mg/kg	-		0.5	U	-		3.2	U	-		6.6	U	-		3.2	U	-	
Chromium Total	NA	NA	mg/kg	-		**9.3**		-		**7.44**		-		**14.4**		-		**6.74**		**14.4**	
Copper	160,000	21,000	mg/kg	-		-		-		**60.3**		-		**27.5**		-		**33.7**		**60.3**	
Lead	800	400	mg/kg	-		**120**		-		**74.3**		-		**86.7**		-		**168**		**168**	
Mercury	3.1	3.1	mg/kg	-		0.3	U	-		**0.184**		-		**0.067**		-		**0.275**		**0.639**	
Nickel	74,000	23,000	mg/kg	-		-		-		**7**		-		6.6	U	-		**7.24**		**20.8**	
Selenium	20,000	11,000	mg/kg	-		3	U	-		6.5	U	-		13	U	-		6.3	U	-	
Silver	20,000	11,000	mg/kg	-		1	U	-		0.5	U	-		0.5	U	-		0.5	U	-	
Thallium	41	21	mg/kg	-		-		-		0.93	U	-		0.93	U	-		0.99	U	-	
Zinc	1,000,000	640,000	mg/kg	-		-		-		**73.7**		-		**42.5**		-		**132**		**218**	
TPH																					
Total Petroleum Hydrocarbons	NA	1,000,000	ug/kg	-		**340000**		-		-		-		-		-		-		**340000**	
TPH C10-C20	NA	NA	ug/kg	-		-		-		**52500**		-		**180000**		-		**24400**		**180000**	
TPH C20-C34	5,000,000	5,000,000	ug/kg	-		-		-		**231000**		-		**865000**		-		**111000**		**865000**	

NOTES:

Shaded values indicate concentration exceeds C/I Single Chemical Generic Direct Contact Soil Standard

Shaded values indicate concentration exceeds Construction Single Chemical Generic Direct Contact Soil Standard

Shaded values indicate concentration exceeds both Single Chemical Generic Direct Contact Soil Standards

bold text indicates detection above reporting limit
Total PCBs value is the sum of all positively deteted PCB aroclors
D: The reported value is from a dilution
C/I: Commercial/ Industrial
J: The associated numerical value is an estimated quantity
mg/kg: milligrams per kilogram
NA: exceedance criteria not applicable for compound/analyte
PCB: Polychlorinated Biphenyl
R: The data are unusable (the compound/analyte may or may not be present). Resampling and reanalysis are necessary for verification
SVOC: SemiVolatile Organic Compound
U: The compound/analyte was analyzed for, but not detected. The associated numerical value is the sample quantitation limit
ug/kg: micrograms per kilogram
UJ: The compound/analyte was analyzed for, but not detected. The sample quantitation limit is an estimated quantity
VOC: Volatile Organic Compound

TABLE 3.15
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 3E/5W/21/33, 2-12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	MW-14B-04		MW-14B-04		MW-14B-04		MW-23-04		MW-24-04		MW-37-05		SB-14-02		SB-14-02		SB-15-02		SB-15-02		SB-15-02		SB-34-02	
			Field Sample ID:	MW-14B-04 DUP		MW-14B-04		MW-14B-04		MW-23-04		MW-24-04		SO-051205-CB-001		SB-14-02		SB-14-02		SB-15-02		SB-15-02		SB-15-02		SB-34-02	
			Date:	3/8/2004		3/8/2004		3/8/2004		3/3/2004		3/3/2004		5/12/2005		4/5/2002		4/5/2002		4/5/2002		4/5/2002		4/5/2002		4/12/2002	
	C/I	Construction	Depth:	8 - 10		8 - 10		11 - 13		8 - 10		8 - 10		3.5 - 4.5		4 - 6		10 - 12		3 - 5		8 - 10		11.5 - 13.5		8 - 10	
VOCs																											
1,1,1,2-Tetrachloroethane	240,000	680,000	ug/kg	-		-		-		-		-		-		-		-		-		-		-		-	
1,1,1-Trichloroethane	640,000	640,000	ug/kg	4.4	U	4.3	U	4.4	U	850	U	230	U	450	U	610	U	6.3	U	5.7	U	4	U	220	U	5.4	U
1,1,2,2-Tetrachloroethane	75,000	670,000	ug/kg	4.4	U	4.3	U	4.4	U	850	U	230	U	450	U	610	U	6.3	U	5.7	U	4	U	220	U	5.4	U
1,1,2-Trichloroethane	140,000	1,200,000	ug/kg	4.4	U	4.3	U	4.4	U	850	U	230	U	450	U	610	U	6.3	U	5.7	U	4	U	220	U	5.4	U
1,1-Dichloroethane	420,000	1,700,000	ug/kg	4.4	U	4.3	U	4.4	U	850	U	230	U	450	U	610	U	6.3	U	5.7	U	4	U	220	U	5.4	U
1,1-Dichloroethene	1,200,000	360,000	ug/kg	4.4	U	4.3	U	4.4	U	850	U	230	U	450	U	610	U	6.3	U	5.7	U	4	U	220	U	5.4	U
1,1-Dichloropropene	NA	NA	ug/kg	-		-		-		-		-		-		-		-		-		-		-		-	
1,2,4-Trichlorobenzene, VOC	400,000	400,000	ug/kg	4.4	U	4.3	U	4.4	U	850	U	230	U	450	U	610	U	6.3	U	5.7	U	4	U	220	U	5.4	U
1,2-Dibromo-3-chloropropane	1,700	15,000	ug/kg	8.7	U	8.6	U	8.8	U	1700	U	460	U	900	U	1200	U	13	U	11	U	7.9	U	440	U	11	U
1,2-Dibromoethane	4,400	38,000	ug/kg	4.4	U	4.3	U	4.4	U	850	U	230	U	450	U	610	U	6.3	U	5.7	U	4	U	220	U	5.4	U
1,2-Dichlorobenzene, VOC	380,000	380,000	ug/kg	4.4	U	4.3	U	4.4	U	850	U	230	U	450	U	610	U	6.3	U	5.7	U	4	U	220	U	5.4	U
1,2-Dichloroethane	56,000	480,000	ug/kg	4.4	U	4.3	U	4.4	U	850	U	230	U	450	U	610	U	6.3	U	5.7	U	4	U	220	U	5.4	U
1,2-Dichloropropane	120,000	180,000	ug/kg	4.4	U	4.3	U	4.4	U	850	U	230	U	450	U	610	U	6.3	U	5.7	U	4	U	220	U	5.4	U
1,3-Dichlorobenzene, VOC	NA	NA	ug/kg	4.4	U	4.3	U	4.4	U	850	U	230	U	450	U	610	U	6.3	U	5.7	U	4	U	220	U	5.4	U
1,3-Dichloropropane	1,500,000	1,500,000	ug/kg	-		-		-		-		-		-		-		-		-		-		-		-	
1,4-Dichlorobenzene, VOC	310,000	2,600,000	ug/kg	4.4	U	4.3	U	4.4	U	850	U	230	U	450	U	610	U	6.3	U	5.7	U	**2.1**	**J**	220	U	5.4	U
2,2-Dichloropropane	NA	NA	ug/kg	-		-		-		-		-		-		-		-		-		-		-		-	
2-Butanone	28,000,000	28,000,000	ug/kg	17	U	17	U	18	U	3400	U	930	U	1800	U	2400	U	25	U	**18**	**J**	**130**		890	U	22	U
2-Chlorotoluene	NA	NA	ug/kg	-		-		-		-		-		-		-		-		-		-		-		-	
2-Hexanone	NA	NA	ug/kg	17	U	17	U	18	U	3400	U	930	U	1800	U	2400	U	25	U	**2.6**	**J**	**27**		890	U	22	U
4-Chlorotoluene	NA	NA	ug/kg	-		-		-		-		-		-		-		-		-		-		-		-	
4-Methyl-2-Pentanone	3,400,000	3,400,000	ug/kg	17	U	17	U	18	U	3400	U	930	U	1800	U	2400	U	25	U	**3.9**	**J**	**21**		890	U	**3.3**	**J**
Acetone	110,000,000	110,000,000	ug/kg	17	U	17	U	18	U	3400	UJ	930	UJ	1800	R	2400	U	25	UJ	**99**	**J**	**780**	**J**	890	U	22	UJ
Acetonitrile	9,200	26,000	mg/kg	-		-		-		-		-		-		-		-		-		-		-		-	
Acrolein	1,600	5,500	ug/kg	-		-		-		-		-		-		-		-		-		-		-		-	
Acrylonitrile	32,000	62,000	ug/kg	-		-		-		-		-		-		-		-		-		-		-		-	
Allyl chloride	19,000	64,000	ug/kg	-		-		-		-		-		-		-		-		-		-		-		-	
Benzene	140,000	1,200,000	ug/kg	4.4	U	4.3	U	4.4	U	850	U	230	U	450	U	610	U	6.3	U	5.7	U	**1.9**	**J**	220	U	5.4	U
Bromobenzene	NA	NA	ug/kg	-		-		-		-		-		-		-		-		-		-		-		-	
Bromochloromethane	NA	NA	ug/kg	-		-		-		-		-		-		-		-		-		-		-		-	
Bromodichloromethane	35,000	300,000	ug/kg	4.4	U	4.3	U	4.4	U	850	U	230	U	450	UJ	610	U	6.3	U	5.7	U	4	U	220	U	5.4	U
Bromoform	6,200,000	130,000,000	ug/kg	4.4	U	4.3	U	4.4	U	850	U	230	U	450	UJ	610	U	6.3	UJ	5.7	UJ	4	UJ	220	U	5.4	UJ
Bromomethane	82,000	550,000	ug/kg	4.4	U	4.3	U	4.4	U	850	U	230	U	450	U	610	U	6.3	UJ	5.7	UJ	4	UJ	220	U	5.4	UJ
Carbon disulfide	740,000	740,000	ug/kg	4.4	U	4.3	U	4.4	U	850	U	230	U	450	U	610	U	6.3	U	5.7	U	**2.1**	**J**	220	U	5.4	U
Carbon tetrachloride	79,000	460,000	ug/kg	4.4	U	4.3	U	4.4	U	850	U	230	U	450	U	610	U	6.3	UJ	5.7	UJ	4	UJ	220	U	5.4	U
Chlorobenzene	760,000	760,000	ug/kg	4.4	U	4.3	U	4.4	U	850	U	230	U	450	U	610	U	6.3	U	5.7	U	4	U	220	U	5.4	U
Chloroethane	2,100,000	2,100,000	ug/kg	4.4	U	4.3	U	4.4	U	850	U	230	U	450	U	610	U	6.3	U	5.7	U	4	U	220	U	5.4	U
Chloroform	38,000	320,000	ug/kg	4.4	U	4.3	U	4.4	U	850	U	230	U	450	U	610	U	6.3	U	5.7	U	4	U	220	U	5.4	U
Chloromethane	1,300,000	1,300,000	ug/kg	4.4	U	4.3	U	4.4	U	850	U	230	U	450	U	610	U	6.3	U	5.7	U	4	U	220	U	5.4	U
cis-1,2-Dichloroethene	2,400,000	2,400,000	ug/kg	2.2	U	2.2	U	2.2	U	**3500**		**540**		**650**		**3200**		3.2	U	2.9	U	**11**		**4300**		2.7	U
cis-1,3-Dichloropropene	NA	NA	ug/kg	4.4	U	4.3	U	4.4	U	850	U	230	U	450	UJ	610	U	6.3	U	5.7	U	4	U	220	U	5.4	U
Cyclohexane	120,000	120,000	ug/kg	8.7	U	8.6	U	8.8	U	1700	U	460	U	900	U	1200	U	13	U	11	U	**2.8**	**J**	**170**	**J**	11	U
Dibromochloromethane	84,000	770,000	ug/kg	4.4	U	4.3	U	4.4	U	850	U	230	U	450	U	610	U	6.3	U	5.7	U	4	U	220	U	5.4	U
Dibromomethane	2,800,000	2,800,000	ug/kg	-		-		-		-		-		-		-		-		-		-		-		-	
Dichlorodifluoromethane	850,000	850,000	ug/kg	4.4	U	4.3	U	4.4	U	850	UJ	230	UJ	450	U	610	UJ	6.3	U	5.7	U	4	U	220	UJ	5.4	U
Ethylbenzene	480,000	480,000	ug/kg	4.4	U	**0.37**	**J**	4.4	U	**510**	**J**	230	U	450	U	610	U	6.3	U	5.7	U	**4.6**		220	U	5.4	U
Iodomethane	NA	NA	ug/kg	-		-		-		-		-		-		-		-		-		-		-		-	
Isopropylbenzene, VOC	270,000	270,000	ug/kg	4.4	U	4.3	U	4.4	U	**290**	**J**	230	U	**190**	**J**	610	U	6.3	U	5.7	U	4	U	220	U	5.4	U
Methyl acetate	NA	NA	ug/kg	8.7	U	8.6	U	8.8	U	**1100**	**J**	460	U	900	U	1200	U	13	U	11	U	7.9	U	440	U	11	U
Methyl cyclohexane	NA	NA	ug/kg	8.7	U	8.6	U	8.8	U	**120**	**J**	460	U	900	U	**490**	**J**	13	U	11	U	**4.9**	**J**	**180**	**J**	11	U
Methyl tert butyl ether	5,700,000	8,900,000	ug/kg	17	U	17	U	18	U	3400	U	930	U	1800	U	2400	U	25	U	23	U	16	U	890	U	22	U
Methylene chloride	3,300,000	3,300,000	ug/kg	**2.8**	**J**	**2.4**	**J**	**2.4**	**J**	850	U	230	U	450	U	610	U	6.3	U	5.7	U	4	U	220	U	5.4	U
n-Hexane	140,000	140,000	ug/kg	-		-		-		-		-		-		-		-		-		-		-		-	
o-Xylene	NA	NA	ug/kg	-		-		-		-		-		-		-		-		-		-		-		-	
Styrene	870,000	870,000	ug/kg	4.4	U	4.3	U	4.4	U	850	U	230	U	450	U	610	U	6.3	U	5.7	U	4	U	220	U	5.4	U
Tetrachloroethene	170,000	170,000	ug/kg	**3.3**	**J**	**5.5**		**0.72**	**J**	**21000**		**1000**		450	U	**21000**		**4.5**	**J**	5.7	U	**8.3**		**3300**		**4.9**	**J**
Toluene	820,000	820,000	ug/kg	**0.64**	**J**	**0.87**	**J**	4.4	U	**270**	**J**	230	U	450	U	610	U	6.3	U	5.7	U	**8**		220	U	**0.9**	**J**
trans-1,2-Dichloroethene	1,700,000	1,700,000	ug/kg	2.2	U	2.2	U	2.2	U	420	U	120	U	450	U	310	U	3.2	U	2.9	U	2	U	110	U	2.7	U
trans-1,3-Dichloropropene	NA	NA	ug/kg	4.4	U	4.3	U	4.4	U	850	U	230	U	450	UJ	610	U	6.3	U	5.7	U	4	U	220	U	5.4	U
Trichloroethene	51,000	17,000	ug/kg	**1.1**	**J**	**1.9**	**J**	**0.54**	**J**	**26000**		**3800**		**260**	**J**	**20000**		**1.1**	**J**	5.7	U	**2.4**	**J**	**400**		**5**	**J**
Trichlorofluoromethane	1,200,000	1,200,000	ug/kg	4.4	U	4.3	U	4.4	U	850	U	230	U	450	U	610	U	6.3	U	5.7	U	4	U	220	U	5.4	U
Trifluorotrichloroethane	NA	NA	ug/kg	4.4	U	4.3	U	4.4	U	850	U	230	U	450	U	610	U	6.3	U	5.7	U	4	U	220	U	5.4	U
Vinyl acetate	2,700,000	620,000	ug/kg	-		-		-		-		-		-		-		-		-		-		-		-	
Vinyl chloride	50,000	280,000	ug/kg	4.4	U	4.3	U	4.4	U	850	U	230	U	450	U	610	U	6.3	U	5.7	U	4	U	220	U	5.4	U
Xylene (Total)	260,000	260,000	ug/kg	8.7	U	8.6	U	8.8	U	**2900**		460	U	**760**	**J**	1200	U	13	U	11	U	**14**		440	U	11	U

TABLE 3.15
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 3E/5W/21/33, 2-12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	SB-36-02		SB-36-02		SB-37-02		SB-92-03		SB-92-03		SB-93-03		TT-PCB-15E-N		TT-PCB-15E-N		TT-PCB-15E-S		TT-PCB-15E-S	
			Field Sample ID:	SB-36-02		SB-36-02		SB-37-02		SB-92-03		SB-92-03		SB-93-03		TT-PCB-15E-N0-050214		TT-PCB-15E-N4-050214		TT-PCB-15E-S0-050214		TT-PCB-15E-S4-050214	
			Date:	4/15/2002		4/15/2002		4/15/2002		4/1/2003		4/1/2003		4/1/2003		5/2/2014		5/2/2014		5/2/2014		5/2/2014	
	C/I	Construction	Depth:	4 - 6		8.5 - 10.5		9 - 11		6.5 - 8.5		9 - 11		8.5 - 10.5		3.5 - 4.5		7.5 - 8.5		3.5 - 4.5		7.5 - 8.5	
VOCs																							
1,1,1,2-Tetrachloroethane	240,000	680,000	ug/kg	-		-		-		-		-		-		-		-		-		-	
1,1,1-Trichloroethane	640,000	640,000	ug/kg	310	U	5.5	U	4.7	U	240	U	250	U	220	U	-		-		-		-	
1,1,2,2-Tetrachloroethane	75,000	670,000	ug/kg	310	U	5.5	U	4.7	U	240	U	250	U	220	U	-		-		-		-	
1,1,2-Trichloroethane	140,000	1,200,000	ug/kg	310	U	5.5	U	4.7	U	240	U	250	U	220	U	-		-		-		-	
1,1-Dichloroethane	420,000	1,700,000	ug/kg	310	U	5.5	U	4.7	U	240	U	250	U	220	U	-		-		-		-	
1,1-Dichloroethene	1,200,000	360,000	ug/kg	310	U	5.5	U	4.7	U	240	U	250	U	220	U	-		-		-		-	
1,1-Dichloropropene	NA	NA	ug/kg	-		-		-		-		-		-		-		-		-		-	
1,2,4-Trichlorobenzene, VOC	400,000	400,000	ug/kg	310	U	5.5	U	4.7	U	240	U	250	U	220	U	-		-		-		-	
1,2-Dibromo-3-chloropropane	1,700	15,000	ug/kg	620	U	11	U	9.4	UJ	490	U	500	U	450	U	-		-		-		-	
1,2-Dibromoethane	4,400	38,000	ug/kg	310	U	5.5	U	4.7	U	240	U	250	U	220	U	-		-		-		-	
1,2-Dichlorobenzene, VOC	380,000	380,000	ug/kg	310	U	5.5	U	4.7	U	240	U	250	U	220	U	-		-		-		-	
1,2-Dichloroethane	56,000	480,000	ug/kg	310	U	5.5	U	4.7	U	240	U	250	U	220	U	-		-		-		-	
1,2-Dichloropropane	120,000	180,000	ug/kg	310	U	5.5	U	4.7	U	240	U	250	U	220	U	-		-		-		-	
1,3-Dichlorobenzene, VOC	NA	NA	ug/kg	310	U	5.5	U	4.7	U	240	U	250	U	220	U	-		-		-		-	
1,3-Dichloropropane	1,500,000	1,500,000	ug/kg	-		-		-		-		-		-		-		-		-		-	
1,4-Dichlorobenzene, VOC	310,000	2,600,000	ug/kg	**22**	**J**	5.5	U	4.7	U	240	U	250	U	220	U	-		-		-		-	
2,2-Dichloropropane	NA	NA	ug/kg	-		-		-		-		-		-		-		-		-		-	
2-Butanone	28,000,000	28,000,000	ug/kg	**130**	**J**	22	U	19	U	980	U	1000	U	900	U	-		-		-		-	
2-Chlorotoluene	NA	NA	ug/kg	-		-		-		-		-		-		-		-		-		-	
2-Hexanone	NA	NA	ug/kg	1200	U	22	U	19	U	980	U	1000	U	900	U	-		-		-		-	
4-Chlorotoluene	NA	NA	ug/kg	-		-		-		-		-		-		-		-		-		-	
4-Methyl-2-Pentanone	3,400,000	3,400,000	ug/kg	1200	U	22	U	19	U	980	U	1000	U	900	U	-		-		-		-	
Acetone	110,000,000	110,000,000	ug/kg	1200	UJ	22	UJ	19	UJ	980	UJ	1000	UJ	900	UJ	-		-		-		-	
Acetonitrile	9,200	26,000	mg/kg	-		-		-		-		-		-		-		-		-		-	
Acrolein	1,600	5,500	ug/kg	-		-		-		-		-		-		-		-		-		-	
Acrylonitrile	32,000	62,000	ug/kg	-		-		-		-		-		-		-		-		-		-	
Allyl chloride	19,000	64,000	ug/kg	-		-		-		-		-		-		-		-		-		-	
Benzene	140,000	1,200,000	ug/kg	310	U	5.5	U	4.7	U	240	U	250	U	220	U	-		-		-		-	
Bromobenzene	NA	NA	ug/kg	-		-		-		-		-		-		-		-		-		-	
Bromochloromethane	NA	NA	ug/kg	-		-		-		-		-		-		-		-		-		-	
Bromodichloromethane	35,000	300,000	ug/kg	310	U	5.5	U	4.7	U	240	U	250	U	220	U	-		-		-		-	
Bromoform	6,200,000	130,000,000	ug/kg	310	UJ	5.5	UJ	4.7	UJ	240	U	250	U	220	U	-		-		-		-	
Bromomethane	82,000	550,000	ug/kg	310	U	5.5	U	4.7	UJ	240	U	250	U	220	U	-		-		-		-	
Carbon disulfide	740,000	740,000	ug/kg	310	U	5.5	U	4.7	U	240	U	250	U	220	U	-		-		-		-	
Carbon tetrachloride	79,000	460,000	ug/kg	310	UJ	5.5	UJ	4.7	UJ	240	U	250	U	220	U	-		-		-		-	
Chlorobenzene	760,000	760,000	ug/kg	310	U	5.5	U	4.7	U	240	U	250	U	220	U	-		-		-		-	
Chloroethane	2,100,000	2,100,000	ug/kg	310	U	5.5	U	4.7	U	240	U	250	U	220	U	-		-		-		-	
Chloroform	38,000	320,000	ug/kg	310	U	5.5	U	4.7	U	240	U	250	U	220	U	-		-		-		-	
Chloromethane	1,300,000	1,300,000	ug/kg	310	U	5.5	U	4.7	U	240	U	250	U	220	U	-		-		-		-	
cis-1,2-Dichloroethene	2,400,000	2,400,000	ug/kg	**240**		**3.7**		**4.6**		120	U	**940**		110	U	-		-		-		-	
cis-1,3-Dichloropropene	NA	NA	ug/kg	310	U	5.5	U	4.7	U	240	U	250	U	220	U	-		-		-		-	
Cyclohexane	120,000	120,000	ug/kg	620	U	11	U	9.4	U	490	U	500	U	450	U	-		-		-		-	
Dibromochloromethane	84,000	770,000	ug/kg	310	U	5.5	U	4.7	U	240	U	250	U	220	U	-		-		-		-	
Dibromomethane	2,800,000	2,800,000	ug/kg	-		-		-		-		-		-		-		-		-		-	
Dichlorodifluoromethane	850,000	850,000	ug/kg	310	U	5.5	U	4.7	U	240	U	250	U	220	U	-		-		-		-	
Ethylbenzene	480,000	480,000	ug/kg	**97**	**J**	5.5	U	4.7	U	240	U	250	U	220	U	-		-		-		-	
Iodomethane	NA	NA	ug/kg	-		-		-		-		-		-		-		-		-		-	
Isopropylbenzene, VOC	270,000	270,000	ug/kg	310	U	5.5	U	4.7	U	240	U	250	U	220	U	-		-		-		-	
Methyl acetate	NA	NA	ug/kg	620	U	11	U	9.4	U	490	U	500	U	450	U	-		-		-		-	
Methyl cyclohexane	NA	NA	ug/kg	620	U	11	U	9.4	U	490	U	500	U	450	U	-		-		-		-	
Methyl tert butyl ether	5,700,000	8,900,000	ug/kg	1200	U	22	U	19	U	980	U	1000	U	900	U	-		-		-		-	
Methylene chloride	3,300,000	3,300,000	ug/kg	310	U	5.5	U	4.7	U	240	U	250	U	220	U	-		-		-		-	
n-Hexane	140,000	140,000	ug/kg	-		-		-		-		-		-		-		-		-		-	
o-Xylene	NA	NA	ug/kg	-		-		-		-		-		-		-		-		-		-	
Styrene	870,000	870,000	ug/kg	310	U	5.5	U	4.7	U	240	U	250	U	220	U	-		-		-		-	
Tetrachloroethene	170,000	170,000	ug/kg	**1800**		**67**		**140**		**1100**		**5600**		**1300**		-		-		-		-	
Toluene	820,000	820,000	ug/kg	**56**	**J**	5.5	U	**0.68**	**J**	240	U	250	U	220	U	-		-		-		-	
trans-1,2-Dichloroethene	1,700,000	1,700,000	ug/kg	150	U	2.8	U	2.4	U	120	U	130	U	110	U	-		-		-		-	
trans-1,3-Dichloropropene	NA	NA	ug/kg	310	U	5.5	U	4.7	U	240	U	250	U	220	U	-		-		-		-	
Trichloroethene	51,000	17,000	ug/kg	**1800**		**51**		**120**		**100**	**J**	**980**		**570**		-		-		-		-	
Trichlorofluoromethane	1,200,000	1,200,000	ug/kg	310	U	5.5	U	4.7	U	240	U	250	U	220	U	-		-		-		-	
Trifluorotrichloroethane	NA	NA	ug/kg	310	U	5.5	U	4.7	U	240	U	250	U	220	U	-		-		-		-	
Vinyl acetate	2,700,000	620,000	ug/kg	-		-		-		-		-		-		-		-		-		-	
Vinyl chloride	50,000	280,000	ug/kg	310	U	5.5	U	4.7	U	240	U	250	U	220	U	-		-		-		-	
Xylene (Total)	260,000	260,000	ug/kg	**720**		11	U	9.4	U	490	U	500	U	450	U	-		-		-		-	

TABLE 3.15
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 3E/5W/21/33, 2-12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	TT-PCB-250-N		TT-PCB-250-N		TT-PCB-250-S		TT-PCB-250-S		TT-SB250		TT-SB250		TT-SB250		TT-SB250		Maximum Detected Concentration	
			Field Sample ID:	TT-PCB-250-N0-050214		TT-PCB-250-N4-050214		TT-PCB-250-S0-050214		TT-PCB-250-S4-050214		TT-SB250-G-04		TT-SB250-C-06		TT-SB250-G-06		TT-SB250-G-08			
			Date:	5/2/2014		5/2/2014		5/2/2014		5/2/2014		4/3/2013		4/3/2013		4/3/2013		4/3/2013			
	C/I	Construction	Depth:	3.5 - 4.5		7.5 - 8.5		3.5 - 4.5		7.5 - 8.5		2 - 4		4 - 6		4 - 6		6 - 8			
VOCs																					
1,1,1,2-Tetrachloroethane	240,000	680,000	ug/kg	-		-		-		-		-		-		252	UD	-		-	
1,1,1-Trichloroethane	640,000	640,000	ug/kg	-		-		-		-		-		-		252	UD	-		-	
1,1,2,2-Tetrachloroethane	75,000	670,000	ug/kg	-		-		-		-		-		-		252	UD	-		-	
1,1,2-Trichloroethane	140,000	1,200,000	ug/kg	-		-		-		-		-		-		252	UD	-		-	
1,1-Dichloroethane	420,000	1,700,000	ug/kg	-		-		-		-		-		-		252	UD	-		-	
1,1-Dichloroethene	1,200,000	360,000	ug/kg	-		-		-		-		-		-		252	UD	-		-	
1,1-Dichloropropene	NA	NA	ug/kg	-		-		-		-		-		-		252	UD	-		-	
1,2,4-Trichlorobenzene, VOC	400,000	400,000	ug/kg	-		-		-		-		-		-		-		-		-	
1,2-Dibromo-3-chloropropane	1,700	15,000	ug/kg	-		-		-		-		-		-		-		-		-	
1,2-Dibromoethane	4,400	38,000	ug/kg	-		-		-		-		-		-		252	UD	-		-	
1,2-Dichlorobenzene, VOC	380,000	380,000	ug/kg	-		-		-		-		-		-		-		-		-	
1,2-Dichloroethane	56,000	480,000	ug/kg	-		-		-		-		-		-		252	UD	-		-	
1,2-Dichloropropane	120,000	180,000	ug/kg	-		-		-		-		-		-		252	UD	-		-	
1,3-Dichlorobenzene, VOC	NA	NA	ug/kg	-		-		-		-		-		-		-		-		-	
1,3-Dichloropropane	1,500,000	1,500,000	ug/kg	-		-		-		-		-		-		252	UD	-		-	
1,4-Dichlorobenzene, VOC	310,000	2,600,000	ug/kg	-		-		-		-		-		-		-		-		**22**	**J**
2,2-Dichloropropane	NA	NA	ug/kg	-		-		-		-		-		-		252	UD	-		-	
2-Butanone	28,000,000	28,000,000	ug/kg	-		-		-		-		-		-		1010	UD	-		**130**	**J**
2-Chlorotoluene	NA	NA	ug/kg	-		-		-		-		-		-		252	UD	-		-	
2-Hexanone	NA	NA	ug/kg	-		-		-		-		-		-		1010	UD	-		**27**	
4-Chlorotoluene	NA	NA	ug/kg	-		-		-		-		-		-		252	UD	-		-	
4-Methyl-2-Pentanone	3,400,000	3,400,000	ug/kg	-		-		-		-		-		-		1010	UD	-		**21**	
Acetone	110,000,000	110,000,000	ug/kg	-		-		-		-		-		-		2520	UD	-		**780**	**J**
Acetonitrile	9,200	26,000	mg/kg	-		-		-		-		-		-		2.02	UD	-		-	
Acrolein	1,600	5,500	ug/kg	-		-		-		-		-		-		2520	UD	-		-	
Acrylonitrile	32,000	62,000	ug/kg	-		-		-		-		-		-		1010	UD	-		-	
Allyl chloride	19,000	64,000	ug/kg	-		-		-		-		-		-		504	UD	-		-	
Benzene	140,000	1,200,000	ug/kg	-		-		-		-		-		-		252	UD	-		**1.9**	**J**
Bromobenzene	NA	NA	ug/kg	-		-		-		-		-		-		252	UD	-		-	
Bromochloromethane	NA	NA	ug/kg	-		-		-		-		-		-		252	UD	-		-	
Bromodichloromethane	35,000	300,000	ug/kg	-		-		-		-		-		-		252	UD	-		-	
Bromoform	6,200,000	130,000,000	ug/kg	-		-		-		-		-		-		252	UD	-		-	
Bromomethane	82,000	550,000	ug/kg	-		-		-		-		-		-		252	UD	-		-	
Carbon disulfide	740,000	740,000	ug/kg	-		-		-		-		-		-		1010	UD	-		**2.1**	**J**
Carbon tetrachloride	79,000	460,000	ug/kg	-		-		-		-		-		-		252	UD	-		-	
Chlorobenzene	760,000	760,000	ug/kg	-		-		-		-		-		-		252	UD	-		-	
Chloroethane	2,100,000	2,100,000	ug/kg	-		-		-		-		-		-		252	UD	-		-	
Chloroform	38,000	320,000	ug/kg	-		-		-		-		-		-		252	UD	-		-	
Chloromethane	1,300,000	1,300,000	ug/kg	-		-		-		-		-		-		252	UD	-		-	
cis-1,2-Dichloroethene	2,400,000	2,400,000	ug/kg	-		-		-		-		-		-		252	UD	-		**4300**	
cis-1,3-Dichloropropene	NA	NA	ug/kg	-		-		-		-		-		-		252	UD	-		-	
Cyclohexane	120,000	120,000	ug/kg	-		-		-		-		-		-		-		-		**170**	**J**
Dibromochloromethane	84,000	770,000	ug/kg	-		-		-		-		-		-		252	UD	-		-	
Dibromomethane	2,800,000	2,800,000	ug/kg	-		-		-		-		-		-		252	UD	-		-	
Dichlorodifluoromethane	850,000	850,000	ug/kg	-		-		-		-		-		-		252	UD	-		-	
Ethylbenzene	480,000	480,000	ug/kg	-		-		-		-		-		-		252	UD	-		**510**	**J**
Iodomethane	NA	NA	ug/kg	-		-		-		-		-		-		504	UD	-		-	
Isopropylbenzene, VOC	270,000	270,000	ug/kg	-		-		-		-		-		-		-		-		**290**	**J**
Methyl acetate	NA	NA	ug/kg	-		-		-		-		-		-		-		-		**1100**	**J**
Methyl cyclohexane	NA	NA	ug/kg	-		-		-		-		-		-		-		-		**490**	**J**
Methyl tert butyl ether	5,700,000	8,900,000	ug/kg	-		-		-		-		-		-		504	UD	-		-	
Methylene chloride	3,300,000	3,300,000	ug/kg	-		-		-		-		-		-		252	UD	-		**2.8**	**J**
n-Hexane	140,000	140,000	ug/kg	-		-		-		-		-		-		252	UD	-		-	
o-Xylene	NA	NA	ug/kg	-		-		-		-		-		-		252	UD	-		-	
Styrene	870,000	870,000	ug/kg	-		-		-		-		-		-		252	UD	-		-	
Tetrachloroethene	170,000	170,000	ug/kg	-		-		-		-		-		-		252	UD	-		**21000**	
Toluene	820,000	820,000	ug/kg	-		-		-		-		-		-		252	UD	-		**270**	**J**
trans-1,2-Dichloroethene	1,700,000	1,700,000	ug/kg	-		-		-		-		-		-		252	UD	-		-	
trans-1,3-Dichloropropene	NA	NA	ug/kg	-		-		-		-		-		-		252	UD	-		-	
Trichloroethene	51,000	17,000	ug/kg	-		-		-		-		-		-		**787**	**D**	-		**26000**	
Trichlorofluoromethane	1,200,000	1,200,000	ug/kg	-		-		-		-		-		-		252	UD	-		-	
Trifluorotrichloroethane	NA	NA	ug/kg	-		-		-		-		-		-		-		-		-	
Vinyl acetate	2,700,000	620,000	ug/kg	-		-		-		-		-		-		504	UD	-		-	
Vinyl chloride	50,000	280,000	ug/kg	-		-		-		-		-		-		252	UD	-		-	
Xylene (Total)	260,000	260,000	ug/kg	-		-		-		-		-		-		504	UD	-		**2900**	

TABLE 3.15
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 3E/5W/21/33, 2-12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	MW-14B-04		MW-14B-04		MW-14B-04		MW-23-04		MW-24-04		MW-37-05		SB-14-02		SB-14-02		SB-15-02		SB-15-02		SB-15-02		SB-34-02	
			Field Sample ID:	MW-14B-04 DUP		MW-14B-04		MW-14B-04		MW-23-04		MW-24-04		SO-051205-CB-001		SB-14-02		SB-14-02		SB-15-02		SB-15-02		SB-15-02		SB-34-02	
			Date:	3/8/2004		3/8/2004		3/8/2004		3/3/2004		3/3/2004		5/12/2005		4/5/2002		4/5/2002		4/5/2002		4/5/2002		4/5/2002		4/12/2002	
	C/I	Construction	Depth:	8 - 10		8 - 10		11 - 13		8 - 10		8 - 10		3.5 - 4.5		4 - 6		10 - 12		3 - 5		8 - 10		11.5 - 13.5		8 - 10	
SVOCs																											
2,2-oxybis(1-Chloropropane)	NA	NA	ug/kg	-		-		-		-		-		7900	U	-		-		-		-		-		-	
2,2-oxybis(2-Chloropropane)	NA	NA	ug/kg	350	U	350	U	350	U	390	UJ	360	UJ	-		460	U	350	U	360	U	350	U	370	U	390	U
2,4,5-Trichlorophenol	180,000,000	1,000,000,000	ug/kg	350	U	350	U	350	U	390	UJ	360	U	7900	U	460	U	350	U	360	U	350	U	370	U	390	U
2,4,6-Trichlorophenol	1,800,000	1,400,000	ug/kg	350	U	350	U	350	U	390	UJ	360	U	7900	U	460	U	350	U	360	U	350	U	370	U	390	U
2,4-Dichlorophenol	NA	NA	ug/kg	350	U	350	U	350	U	390	UJ	360	U	7900	U	460	U	350	U	360	U	350	U	370	U	390	UJ
2,4-Dimethylphenol	35,000,000	85,000,000	ug/kg	350	U	350	U	350	U	390	UJ	360	U	7900	U	460	U	350	U	360	U	350	U	370	U	390	UJ
2,4-Dinitrophenol	3,500,000	28,000,000	ug/kg	1700	U	1700	U	1700	U	1900	R	1700	U	38000	U	2200	UJ	1700	U	1700	UJ	1700	UJ	1800	UJ	1900	U
2,4-Dinitrotoluene	160,000	2,800,000	ug/kg	350	U	350	U	350	U	390	UJ	360	U	7900	U	460	U	350	U	360	U	350	U	370	U	390	U
2,6-Dinitrotoluene	NA	NA	ug/kg	350	U	350	U	350	U	390	UJ	360	U	7900	U	460	U	350	U	360	U	350	U	370	U	390	U
2-Chloronaphthalene	330,000,000	1,000,000,000	ug/kg	350	U	350	U	350	U	390	UJ	360	U	7900	U	460	U	350	U	360	U	350	U	370	U	390	U
2-Chlorophenol	20,000,000	22,000,000	ug/kg	350	U	350	U	350	U	390	UJ	360	UJ	7900	U	460	U	350	U	360	U	350	U	370	U	390	U
2-Methylnaphthalene	6,000,000	5,200,000	ug/kg	350	U	350	U	350	U	390	UJ	360	U	7900	U	460	U	350	U	360	U	350	U	370	U	390	UJ
2-Methylphenol	88,000,000	710,000,000	ug/kg	350	U	350	U	350	U	390	UJ	360	UJ	7900	U	460	U	350	U	360	U	350	U	370	U	390	U
2-Nitroaniline	NA	NA	ug/kg	1700	U	1700	U	1700	U	1900	UJ	1700	U	38000	U	2200	U	1700	U	1700	U	1700	U	1800	U	1900	U
2-Nitrophenol	NA	NA	ug/kg	350	U	350	U	350	U	390	UJ	360	U	7900	U	460	U	350	U	360	U	350	U	370	U	390	UJ
3,3-Dichlorobenzidine	NA	NA	ug/kg	1700	U	1700	U	1700	U	1900	UJ	1700	UJ	38000	U	2200	U	1700	U	1700	U	1700	U	1800	U	1900	U
3-Nitroaniline	NA	NA	ug/kg	1700	U	1700	U	1700	U	1900	UJ	1700	U	38000	U	2200	U	1700	U	1700	U	1700	U	1800	U	1900	U
4,6-Dinitro-2-methylphenol	140,000	110,000	ug/kg	1700	U	1700	U	1700	U	1900	R	1700	U	38000	U	2200	U	1700	U	1700	U	1700	U	1800	U	1900	U
4-Bromophenyl phenyl ether	NA	NA	ug/kg	350	U	350	U	350	U	390	UJ	360	U	7900	U	460	U	350	U	360	U	350	U	370	U	390	U
4-Chloro-3-methylphenol	180,000,000	140,000,000	ug/kg	350	U	350	U	350	U	390	UJ	360	U	7900	U	460	U	350	U	360	U	350	U	370	U	390	UJ
4-Chloroaniline	250,000	710,000	ug/kg	350	U	350	U	350	U	390	UJ	360	U	7900	U	460	U	350	U	360	U	350	U	370	U	390	UJ
4-Chlorophenyl phenyl ether	NA	NA	ug/kg	350	U	350	U	350	U	390	UJ	360	U	7900	U	460	U	350	U	360	U	350	U	370	U	390	U
4-Methylphenol	180,000,000	28,000,000	ug/kg	350	U	350	U	350	U	390	UJ	360	UJ	7900	U	460	U	350	U	360	U	350	U	370	U	390	U
4-Nitroaniline	2,500,000	14,000,000	ug/kg	1700	U	1700	U	1700	U	1900	UJ	1700	U	38000	U	2200	U	1700	U	1700	U	1700	U	1800	U	1900	U
4-Nitrophenol	NA	NA	ug/kg	1700	U	1700	U	1700	U	1900	UJ	1700	U	38000	U	2200	U	1700	U	1700	U	1700	U	1800	U	1900	U
Acenaphthene	90,000,000	780,000,000	ug/kg	350	U	350	U	350	U	390	UJ	360	U	7900	U	460	U	350	U	360	U	350	U	370	U	390	U
Acenaphthylene	90,000,000	780,000,000	ug/kg	350	U	350	U	350	U	390	UJ	360	U	7900	U	460	U	350	U	360	U	350	U	370	U	390	U
Acetophenone	2,500,000	2,500,000	ug/kg	350	U	350	U	350	U	390	UJ	360	U	7900	U	460	U	350	U	360	U	350	U	370	U	390	U
Anthracene	450,000,000	1,000,000,000	ug/kg	350	U	350	U	350	U	**38**	**J**	360	U	7900	U	460	U	350	U	360	U	350	U	**62**	**J**	390	U
Atrazine	NA	NA	ug/kg	350	U	350	U	350	U	390	UJ	360	U	7900	U	460	U	350	U	360	U	350	U	370	U	390	U
Benzaldehyde	NA	NA	ug/kg	350	U	350	U	350	U	390	UJ	360	U	7900	U	460	U	350	U	360	U	350	U	370	U	390	U
Benzo(a)anthracene	58,000	1,200,000	ug/kg	350	U	350	U	350	U	**220**	**J**	**41**	**J**	7900	U	**100**	**J**	350	U	360	U	350	U	**120**	**J**	390	U
Benzo(a)pyrene	5,800	120,000	ug/kg	350	U	350	U	350	U	**230**	**J**	**34**	**J**	7900	U	**120**	**J**	350	U	360	U	350	U	**96**	**J**	390	U
Benzo(b)fluoranthene	58,000	1,200,000	ug/kg	350	U	350	U	350	U	**250**	**J**	**45**	**J**	7900	U	**120**	**J**	350	U	360	U	350	U	**120**	**J**	390	U
Benzo(g,h,i)perylene	45,000,000	390,000,000	ug/kg	350	U	350	U	350	U	**130**	**J**	360	U	7900	U	**98**	**J**	350	U	360	U	350	U	**72**	**J**	390	U
Benzo(k)fluoranthene	580,000	12,000,000	ug/kg	350	U	350	U	350	U	**120**	**J**	360	U	7900	U	**74**	**J**	350	U	360	U	350	U	**61**	**J**	390	U
Biphenyl	14,000,000	190,000,000	ug/kg	350	U	350	U	350	U	390	UJ	360	U	7900	U	460	U	350	U	360	U	350	U	370	U	390	U
bis(2-Chloroethoxy)methane	5,300,000	43,000,000	ug/kg	350	U	350	U	350	U	390	UJ	360	U	7900	U	460	U	350	U	360	U	350	U	370	U	390	UJ
bis(2-Chloroethyl)ether	30,000	290,000	ug/kg	350	U	350	U	350	U	390	UJ	360	UJ	7900	U	460	U	350	U	360	U	350	U	370	U	390	U
bis(2-Ethylhexyl)phthalate	3,500,000	71,000,000	ug/kg	**36**	**J**	**29**	**J**	**29**	**J**	390	UJ	360	UJ	7900	U	460	U	350	U	360	U	350	U	370	U	390	U
Butyl benzylphthalate	26,000,000	520,000,000	ug/kg	350	U	350	U	350	U	390	UJ	360	UJ	7900	U	460	U	350	U	360	U	350	U	370	U	390	U
Caprolactam	NA	NA	ug/kg	350	U	350	U	350	U	390	UJ	360	U	7900	U	460	U	350	U	360	U	350	U	370	U	390	U
Carbazole	2,500,000	50,000,000	ug/kg	350	U	350	U	350	U	390	UJ	360	U	7900	U	460	U	350	U	360	U	350	U	370	U	390	U
Chrysene	5,800,000	120,000,000	ug/kg	350	U	350	U	350	U	**210**	**J**	**42**	**J**	7900	U	**110**	**J**	350	U	360	U	350	U	**140**	**J**	390	U
Dibenz(a,h)anthracene	5,800	120,000	ug/kg	350	U	350	U	350	U	**48**	**J**	360	U	7900	U	460	U	350	U	360	U	350	U	370	U	390	U
Dibenzofuran	4,100,000	2,100,000	ug/kg	350	U	350	U	350	U	390	UJ	360	U	7900	U	460	U	350	U	360	U	350	U	370	U	390	U
Diethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	350	U	350	U	350	U	390	UJ	360	U	7900	U	460	U	350	U	360	U	350	U	370	U	390	U
Dimethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	350	U	350	U	350	U	390	UJ	360	U	7900	U	460	U	350	U	360	U	350	U	370	U	390	U
Di-n-butylphthalate	180,000,000	430,000,000	ug/kg	350	U	350	U	350	U	390	UJ	360	U	7900	U	460	U	350	U	360	U	350	U	370	U	390	U
Di-N-Octyl phthalate	18,000,000	140,000,000	ug/kg	**23**	**J**	350	U	350	U	390	UJ	360	U	7900	U	460	U	350	U	360	U	350	U	370	U	390	U
Fluoranthene	60,000,000	160,000,000	ug/kg	350	U	350	U	350	U	**330**	**J**	**80**	**J**	7900	U	**190**	**J**	350	U	360	U	**89**	**J**	**300**	**J**	390	U
Fluorene	60,000,000	520,000,000	ug/kg	350	U	350	U	350	U	390	UJ	360	U	7900	U	460	U	350	U	360	U	350	U	370	U	390	U
Hexachlorobenzene	31,000	14,000	ug/kg	350	U	350	U	350	U	390	UJ	360	U	7900	U	460	U	350	U	360	U	350	U	370	U	390	U
Hexachlorobutadiene, SVOC	630,000	1,400,000	ug/kg	350	U	350	U	350	U	390	UJ	360	U	7900	U	460	U	350	U	360	U	350	U	370	U	390	UJ
Hexachlorocyclopentadiene	11,000,000	26,000,000	ug/kg	1700	U	1700	U	1700	U	1900	UJ	1700	U	38000	UJ	2200	U	1700	U	1700	U	1700	U	1800	U	1900	UJ
Hexachloroethane	1,200,000	3,000,000	ug/kg	350	U	350	U	350	U	390	UJ	360	UJ	7900	U	460	U	350	U	360	U	350	U	370	U	390	U
Indeno(1,2,3-cd)pyrene	58,000	1,200,000	ug/kg	350	U	350	U	350	U	**140**	**J**	360	U	7900	U	460	U	350	U	360	U	350	U	370	U	390	U
Isophorone	52,000,000	1,000,000,000	ug/kg	350	U	350	U	350	U	390	UJ	360	U	7900	U	460	U	350	U	360	U	350	U	370	U	390	UJ
Naphthalene, SVOC	450,000	560,000	ug/kg	350	U	350	U	350	U	390	UJ	360	U	7900	U	460	U	350	U	360	U	350	U	**110**	**J**	390	UJ
Nitrobenzene	610,000	3,000,000	ug/kg	350	U	350	U	350	U	390	UJ	360	U	7900	U	460	U	350	U	360	U	350	U	370	U	390	UJ
N-Nitrosodi-n-propylamine	7,000	140,000	ug/kg	350	U	350	U	350	U	390	UJ	360	UJ	7900	U	460	U	350	U	360	U	350	U	370	U	390	U
N-Nitrosodiphenylamine	10,000,000	200,000,000	ug/kg	350	U	350	U	350	U	390	UJ	360	U	7900	U	460	U	350	U	360	U	350	U	370	U	390	U
Pentachlorophenol	67,000	950,000	ug/kg	350	U	350	U	350	U	390	UJ	360	U	7900	U	460	U	350	U	360	U	350	U	370	U	390	U
Phenanthrene	450,000,000	1,000,000,000	ug/kg	350	U	350	U	350	U	**130**	**J**	**43**	**J**	7900	U	**72**	**J**	350	U	360	U	**56**	**J**	**300**	**J**	390	U
Phenol	530,000,000	840,000,000	ug/kg	350	U	350	U	350	U	390	UJ	360	UJ	7900	U	460	U	350	U	360	U	350	U	370	U	390	U
Pyrene, SVOC	45,000,000	390,000,000	ug/kg	350	U	350	U	350	U	**280**	**J**	**63**	**J**	7900	U	**130**	**J**	350	U	360	UJ	**66**	**J**	**240**	**J**	390	U

TABLE 3.15
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 3E/5W/21/33, 2-12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	SB-36-02		SB-36-02		SB-37-02		SB-92-03		SB-92-03		SB-93-03		TT-PCB-15E-N		TT-PCB-15E-N		TT-PCB-15E-S		TT-PCB-15E-S	
			Field Sample ID:	SB-36-02		SB-36-02		SB-37-02		SB-92-03		SB-92-03		SB-93-03		TT-PCB-15E-N0-050214		TT-PCB-15E-N4-050214		TT-PCB-15E-S0-050214		TT-PCB-15E-S4-050214	
			Date:	4/15/2002		4/15/2002		4/15/2002		4/1/2003		4/1/2003		4/1/2003		5/2/2014		5/2/2014		5/2/2014		5/2/2014	
	C/I	Construction	Depth:	4 - 6		8.5 - 10.5		9 - 11		6.5 - 8.5		9 - 11		8.5 - 10.5		3.5 - 4.5		7.5 - 8.5		3.5 - 4.5		7.5 - 8.5	
SVOCs																							
2,2-oxybis(1-Chloropropane)	NA	NA	ug/kg	-		-		-		-		-		-		-		-		-		-	
2,2-oxybis(2-Chloropropane)	NA	NA	ug/kg	410	U	360	U	360	U	350	U	410	U	370	U	-		-		-		-	
2,4,5-Trichlorophenol	180,000,000	1,000,000,000	ug/kg	410	U	360	U	360	U	350	U	410	U	370	U	-		-		-		-	
2,4,6-Trichlorophenol	1,800,000	1,400,000	ug/kg	410	U	360	U	360	U	350	U	410	U	370	U	-		-		-		-	
2,4-Dichlorophenol	NA	NA	ug/kg	410	U	360	U	360	U	350	U	410	U	370	U	-		-		-		-	
2,4-Dimethylphenol	35,000,000	85,000,000	ug/kg	410	U	360	U	360	U	350	U	410	U	370	U	-		-		-		-	
2,4-Dinitrophenol	3,500,000	28,000,000	ug/kg	2000	U	1700	U	1700	U	1700	U	2000	U	1800	U	-		-		-		-	
2,4-Dinitrotoluene	160,000	2,800,000	ug/kg	410	U	360	U	360	U	350	U	410	U	370	U	-		-		-		-	
2,6-Dinitrotoluene	NA	NA	ug/kg	410	U	360	U	360	U	350	U	410	U	370	U	-		-		-		-	
2-Chloronaphthalene	330,000,000	1,000,000,000	ug/kg	410	U	360	U	360	U	350	U	410	U	370	U	-		-		-		-	
2-Chlorophenol	20,000,000	22,000,000	ug/kg	410	U	360	U	360	U	350	U	410	U	370	U	-		-		-		-	
2-Methylnaphthalene	6,000,000	5,200,000	ug/kg	**170**	**J**	360	U	360	U	350	U	410	U	370	U	-		-		-		-	
2-Methylphenol	88,000,000	710,000,000	ug/kg	410	U	360	U	360	U	350	U	410	U	370	U	-		-		-		-	
2-Nitroaniline	NA	NA	ug/kg	2000	U	1700	U	1700	U	1700	U	2000	U	1800	U	-		-		-		-	
2-Nitrophenol	NA	NA	ug/kg	410	U	360	U	360	U	350	U	410	U	370	U	-		-		-		-	
3,3-Dichlorobenzidine	NA	NA	ug/kg	2000	U	1700	U	1700	U	1700	U	2000	U	1800	U	-		-		-		-	
3-Nitroaniline	NA	NA	ug/kg	2000	U	1700	U	1700	U	1700	U	2000	U	1800	U	-		-		-		-	
4,6-Dinitro-2-methylphenol	140,000	110,000	ug/kg	2000	U	1700	U	1700	U	1700	U	2000	U	1800	U	-		-		-		-	
4-Bromophenyl phenyl ether	NA	NA	ug/kg	410	U	360	U	360	U	350	U	410	U	370	U	-		-		-		-	
4-Chloro-3-methylphenol	180,000,000	140,000,000	ug/kg	410	U	360	U	360	U	350	U	410	U	370	U	-		-		-		-	
4-Chloroaniline	250,000	710,000	ug/kg	410	U	360	U	360	U	350	U	410	U	370	U	-		-		-		-	
4-Chlorophenyl phenyl ether	NA	NA	ug/kg	410	U	360	U	360	U	350	U	410	U	370	U	-		-		-		-	
4-Methylphenol	180,000,000	28,000,000	ug/kg	410	U	360	U	360	U	350	U	410	U	370	U	-		-		-		-	
4-Nitroaniline	2,500,000	14,000,000	ug/kg	2000	U	1700	U	1700	U	1700	U	2000	U	1800	U	-		-		-		-	
4-Nitrophenol	NA	NA	ug/kg	2000	U	1700	U	1700	U	1700	U	2000	U	1800	U	-		-		-		-	
Acenaphthene	90,000,000	780,000,000	ug/kg	410	U	360	U	360	U	350	U	410	U	370	U	-		-		-		-	
Acenaphthylene	90,000,000	780,000,000	ug/kg	410	U	360	U	360	U	350	U	410	U	370	U	-		-		-		-	
Acetophenone	2,500,000	2,500,000	ug/kg	410	U	360	U	360	U	350	U	410	U	370	U	-		-		-		-	
Anthracene	450,000,000	1,000,000,000	ug/kg	410	U	360	U	360	U	350	U	410	U	370	U	-		-		-		-	
Atrazine	NA	NA	ug/kg	410	U	360	U	360	U	350	U	410	U	370	U	-		-		-		-	
Benzaldehyde	NA	NA	ug/kg	410	U	360	U	360	U	350	U	410	U	370	U	-		-		-		-	
Benzo(a)anthracene	58,000	1,200,000	ug/kg	410	U	360	U	360	U	350	U	**110**	**J**	370	U	-		-		-		-	
Benzo(a)pyrene	5,800	120,000	ug/kg	410	U	360	U	360	U	350	U	**43**	**J**	370	U	-		-		-		-	
Benzo(b)fluoranthene	58,000	1,200,000	ug/kg	410	U	360	U	360	U	350	U	**43**	**J**	370	U	-		-		-		-	
Benzo(g,h,i)perylene	45,000,000	390,000,000	ug/kg	410	U	360	U	360	U	350	U	**30**	**J**	370	U	-		-		-		-	
Benzo(k)fluoranthene	580,000	12,000,000	ug/kg	410	U	360	U	360	U	350	U	**38**	**J**	370	U	-		-		-		-	
Biphenyl	14,000,000	190,000,000	ug/kg	410	U	360	U	360	U	350	U	410	U	370	U	-		-		-		-	
bis(2-Chloroethoxy)methane	5,300,000	43,000,000	ug/kg	410	U	360	U	360	U	350	U	410	U	370	U	-		-		-		-	
bis(2-Chloroethyl)ether	30,000	290,000	ug/kg	410	U	360	U	360	U	350	U	410	U	370	U	-		-		-		-	
bis(2-Ethylhexyl)phthalate	3,500,000	71,000,000	ug/kg	410	U	360	U	360	U	**29**	**J**	**43**	**J**	370	U	-		-		-		-	
Butyl benzylphthalate	26,000,000	520,000,000	ug/kg	410	U	360	U	360	U	350	U	410	U	370	U	-		-		-		-	
Caprolactam	NA	NA	ug/kg	410	U	360	U	360	U	350	U	410	U	370	U	-		-		-		-	
Carbazole	2,500,000	50,000,000	ug/kg	410	U	360	U	360	U	350	U	410	U	370	U	-		-		-		-	
Chrysene	5,800,000	120,000,000	ug/kg	410	U	360	U	360	U	350	U	**44**	**J**	370	U	-		-		-		-	
Dibenz(a,h)anthracene	5,800	120,000	ug/kg	410	U	360	U	360	U	350	U	410	U	370	U	-		-		-		-	
Dibenzofuran	4,100,000	2,100,000	ug/kg	410	U	360	U	360	U	350	U	410	U	370	U	-		-		-		-	
Diethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	410	U	360	U	360	U	350	U	410	U	370	U	-		-		-		-	
Dimethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	410	U	360	U	360	U	350	U	410	U	370	U	-		-		-		-	
Di-n-butylphthalate	180,000,000	430,000,000	ug/kg	410	U	360	U	360	U	350	U	410	U	370	U	-		-		-		-	
Di-N-Octyl phthalate	18,000,000	140,000,000	ug/kg	410	U	360	U	360	U	350	U	410	U	370	U	-		-		-		-	
Fluoranthene	60,000,000	160,000,000	ug/kg	410	U	360	U	360	U	350	U	**77**	**J**	370	U	-		-		-		-	
Fluorene	60,000,000	520,000,000	ug/kg	410	U	360	U	360	U	350	U	**69**	**J**	370	U	-		-		-		-	
Hexachlorobenzene	31,000	14,000	ug/kg	410	U	360	U	360	U	350	U	410	U	370	U	-		-		-		-	
Hexachlorobutadiene, SVOC	630,000	1,400,000	ug/kg	410	U	360	U	360	U	350	U	410	U	370	U	-		-		-		-	
Hexachlorocyclopentadiene	11,000,000	26,000,000	ug/kg	2000	U	1700	U	1700	U	1700	U	2000	U	1800	U	-		-		-		-	
Hexachloroethane	1,200,000	3,000,000	ug/kg	410	U	360	U	360	U	350	U	410	U	370	U	-		-		-		-	
Indeno(1,2,3-cd)pyrene	58,000	1,200,000	ug/kg	410	U	360	U	360	U	350	U	410	U	370	U	-		-		-		-	
Isophorone	52,000,000	1,000,000,000	ug/kg	410	U	360	U	360	U	350	U	410	U	370	U	-		-		-		-	
Naphthalene, SVOC	450,000	560,000	ug/kg	410	U	360	U	360	U	350	U	410	U	370	U	-		-		-		-	
Nitrobenzene	610,000	3,000,000	ug/kg	410	U	360	U	360	U	350	U	410	U	370	U	-		-		-		-	
N-Nitrosodi-n-propylamine	7,000	140,000	ug/kg	410	U	360	U	360	U	350	U	410	U	370	U	-		-		-		-	
N-Nitrosodiphenylamine	10,000,000	200,000,000	ug/kg	410	U	360	U	360	U	350	U	410	U	370	U	-		-		-		-	
Pentachlorophenol	67,000	950,000	ug/kg	410	U	360	U	360	U	350	U	410	U	370	U	-		-		-		-	
Phenanthrene	450,000,000	1,000,000,000	ug/kg	410	U	360	U	360	U	350	U	**46**	**J**	370	U	-		-		-		-	
Phenol	530,000,000	840,000,000	ug/kg	410	U	360	U	360	U	350	U	410	U	370	U	-		-		-		-	
Pyrene, SVOC	45,000,000	390,000,000	ug/kg	410	U	360	U	360	U	350	U	**83**	**J**	370	U	-		-		-		-	

TABLE 3.15
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 3E/5W/21/33, 2-12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	TT-PCB-250-N		TT-PCB-250-N		TT-PCB-250-S		TT-PCB-250-S		TT-SB250		TT-SB250		TT-SB250		TT-SB250		Maximum Detected Concentration	
			Field Sample ID:	TT-PCB-250-N0-050214		TT-PCB-250-N4-050214		TT-PCB-250-S0-050214		TT-PCB-250-S4-050214		TT-SB250-G-04		TT-SB250-C-06		TT-SB250-G-06		TT-SB250-G-08			
			Date:	5/2/2014		5/2/2014		5/2/2014		5/2/2014		4/3/2013		4/3/2013		4/3/2013		4/3/2013			
	C/I	Construction	Depth:	3.5 - 4.5		7.5 - 8.5		3.5 - 4.5		7.5 - 8.5		2 - 4		4 - 6		4 - 6		6 - 8			
SVOCs																					
2,2-oxybis(1-Chloropropane)	NA	NA	ug/kg	-		-		-		-		-		-		-		-		-	
2,2-oxybis(2-Chloropropane)	NA	NA	ug/kg	-		-		-		-		-		-		-		-		-	
2,4,5-Trichlorophenol	180,000,000	1,000,000,000	ug/kg	-		-		-		-		-		-		-		-		-	
2,4,6-Trichlorophenol	1,800,000	1,400,000	ug/kg	-		-		-		-		-		-		-		-		-	
2,4-Dichlorophenol	NA	NA	ug/kg	-		-		-		-		-		-		-		-		-	
2,4-Dimethylphenol	35,000,000	85,000,000	ug/kg	-		-		-		-		-		-		-		-		-	
2,4-Dinitrophenol	3,500,000	28,000,000	ug/kg	-		-		-		-		-		-		-		-		-	
2,4-Dinitrotoluene	160,000	2,800,000	ug/kg	-		-		-		-		-		-		-		-		-	
2,6-Dinitrotoluene	NA	NA	ug/kg	-		-		-		-		-		-		-		-		-	
2-Chloronaphthalene	330,000,000	1,000,000,000	ug/kg	-		-		-		-		-		-		-		-		-	
2-Chlorophenol	20,000,000	22,000,000	ug/kg	-		-		-		-		-		-		-		-		-	
2-Methylnaphthalene	6,000,000	5,200,000	ug/kg	-		-		-		-		-		-		-		-		**170**	**J**
2-Methylphenol	88,000,000	710,000,000	ug/kg	-		-		-		-		-		-		-		-		-	
2-Nitroaniline	NA	NA	ug/kg	-		-		-		-		-		-		-		-		-	
2-Nitrophenol	NA	NA	ug/kg	-		-		-		-		-		-		-		-		-	
3,3-Dichlorobenzidine	NA	NA	ug/kg	-		-		-		-		-		-		-		-		-	
3-Nitroaniline	NA	NA	ug/kg	-		-		-		-		-		-		-		-		-	
4,6-Dinitro-2-methylphenol	140,000	110,000	ug/kg	-		-		-		-		-		-		-		-		-	
4-Bromophenyl phenyl ether	NA	NA	ug/kg	-		-		-		-		-		-		-		-		-	
4-Chloro-3-methylphenol	180,000,000	140,000,000	ug/kg	-		-		-		-		-		-		-		-		-	
4-Chloroaniline	250,000	710,000	ug/kg	-		-		-		-		-		-		-		-		-	
4-Chlorophenyl phenyl ether	NA	NA	ug/kg	-		-		-		-		-		-		-		-		-	
4-Methylphenol	180,000,000	28,000,000	ug/kg	-		-		-		-		-		-		-		-		-	
4-Nitroaniline	2,500,000	14,000,000	ug/kg	-		-		-		-		-		-		-		-		-	
4-Nitrophenol	NA	NA	ug/kg	-		-		-		-		-		-		-		-		-	
Acenaphthene	90,000,000	780,000,000	ug/kg	-		-		-		-		-		-		-		-		-	
Acenaphthylene	90,000,000	780,000,000	ug/kg	-		-		-		-		-		-		-		-		-	
Acetophenone	2,500,000	2,500,000	ug/kg	-		-		-		-		-		-		-		-		-	
Anthracene	450,000,000	1,000,000,000	ug/kg	-		-		-		-		-		-		-		-		**62**	**J**
Atrazine	NA	NA	ug/kg	-		-		-		-		-		-		-		-		-	
Benzaldehyde	NA	NA	ug/kg	-		-		-		-		-		-		-		-		-	
Benzo(a)anthracene	58,000	1,200,000	ug/kg	-		-		-		-		-		-		-		-		**220**	**J**
Benzo(a)pyrene	5,800	120,000	ug/kg	-		-		-		-		-		-		-		-		**230**	**J**
Benzo(b)fluoranthene	58,000	1,200,000	ug/kg	-		-		-		-		-		-		-		-		**250**	**J**
Benzo(g,h,i)perylene	45,000,000	390,000,000	ug/kg	-		-		-		-		-		-		-		-		**130**	**J**
Benzo(k)fluoranthene	580,000	12,000,000	ug/kg	-		-		-		-		-		-		-		-		**120**	**J**
Biphenyl	14,000,000	190,000,000	ug/kg	-		-		-		-		-		-		-		-		-	
bis(2-Chloroethoxy)methane	5,300,000	43,000,000	ug/kg	-		-		-		-		-		-		-		-		-	
bis(2-Chloroethyl)ether	30,000	290,000	ug/kg	-		-		-		-		-		-		-		-		-	
bis(2-Ethylhexyl)phthalate	3,500,000	71,000,000	ug/kg	-		-		-		-		-		-		-		-		**43**	**J**
Butyl benzylphthalate	26,000,000	520,000,000	ug/kg	-		-		-		-		-		-		-		-		-	
Caprolactam	NA	NA	ug/kg	-		-		-		-		-		-		-		-		-	
Carbazole	2,500,000	50,000,000	ug/kg	-		-		-		-		-		-		-		-		-	
Chrysene	5,800,000	120,000,000	ug/kg	-		-		-		-		-		-		-		-		**210**	**J**
Dibenz(a,h)anthracene	5,800	120,000	ug/kg	-		-		-		-		-		-		-		-		**48**	**J**
Dibenzofuran	4,100,000	2,100,000	ug/kg	-		-		-		-		-		-		-		-		-	
Diethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	-		-		-		-		-		-		-		-		-	
Dimethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	-		-		-		-		-		-		-		-		-	
Di-n-butylphthalate	180,000,000	430,000,000	ug/kg	-		-		-		-		-		-		-		-		-	
Di-N-Octyl phthalate	18,000,000	140,000,000	ug/kg	-		-		-		-		-		-		-		-		**23**	**J**
Fluoranthene	60,000,000	160,000,000	ug/kg	-		-		-		-		-		-		-		-		**330**	**J**
Fluorene	60,000,000	520,000,000	ug/kg	-		-		-		-		-		-		-		-		**69**	**J**
Hexachlorobenzene	31,000	14,000	ug/kg	-		-		-		-		-		-		-		-		-	
Hexachlorobutadiene, SVOC	630,000	1,400,000	ug/kg	-		-		-		-		-		-		-		-		-	
Hexachlorocyclopentadiene	11,000,000	26,000,000	ug/kg	-		-		-		-		-		-		-		-		-	
Hexachloroethane	1,200,000	3,000,000	ug/kg	-		-		-		-		-		-		-		-		-	
Indeno(1,2,3-cd)pyrene	58,000	1,200,000	ug/kg	-		-		-		-		-		-		-		-		**140**	**J**
Isophorone	52,000,000	1,000,000,000	ug/kg	-		-		-		-		-		-		-		-		-	
Naphthalene, SVOC	450,000	560,000	ug/kg	-		-		-		-		-		-		-		-		**110**	**J**
Nitrobenzene	610,000	3,000,000	ug/kg	-		-		-		-		-		-		-		-		-	
N-Nitrosodi-n-propylamine	7,000	140,000	ug/kg	-		-		-		-		-		-		-		-		-	
N-Nitrosodiphenylamine	10,000,000	200,000,000	ug/kg	-		-		-		-		-		-		-		-		-	
Pentachlorophenol	67,000	950,000	ug/kg	-		-		-		-		-		-		-		-		-	
Phenanthrene	450,000,000	1,000,000,000	ug/kg	-		-		-		-		-		-		-		-		**300**	**J**
Phenol	530,000,000	840,000,000	ug/kg	-		-		-		-		-		-		-		-		-	
Pyrene, SVOC	45,000,000	390,000,000	ug/kg	-		-		-		-		-		-		-		-		**280**	**J**

TABLE 3.15
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 3E/5W/21/33, 2-12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	MW-14B-04		MW-14B-04		MW-14B-04		MW-23-04		MW-24-04		MW-37-05		SB-14-02		SB-14-02		SB-15-02		SB-15-02		SB-15-02		SB-34-02	
			Field Sample ID:	MW-14B-04 DUP		MW-14B-04		MW-14B-04		MW-23-04		MW-24-04		SO-051205-CB-001		SB-14-02		SB-14-02		SB-15-02		SB-15-02		SB-15-02		SB-34-02	
			Date:	3/8/2004		3/8/2004		3/8/2004		3/3/2004		3/3/2004		5/12/2005		4/5/2002		4/5/2002		4/5/2002		4/5/2002		4/5/2002		4/12/2002	
	C/I	Construction	Depth:	8 - 10		8 - 10		11 - 13		8 - 10		8 - 10		3.5 - 4.5		4 - 6		10 - 12		3 - 5		8 - 10		11.5 - 13.5		8 - 10	
PCBs																											
Aroclor-1016	100,000	260,000	ug/kg	35	U	35	U	35	U	78	U	36	U	7900	U	230	U	710	U	36	U	35	U	74	U	39	U
Aroclor-1221	14,000	210,000	ug/kg	35	U	35	U	35	U	78	U	36	U	7900	U	230	U	710	U	36	U	35	U	74	U	39	U
Aroclor-1232	14,000	73,000	ug/kg	35	U	35	U	35	U	78	U	36	U	7900	U	230	U	710	U	36	U	35	U	74	U	39	U
Aroclor-1242	20,000	440,000	ug/kg	35	U	35	U	35	U	78	U	36	U	7900	U	230	U	710	U	36	U	35	U	74	U	39	U
Aroclor-1248	20,000	440,000	ug/kg	35	U	35	U	35	U	78	U	36	U	7900	U	230	U	710	U	36	U	35	U	74	U	39	U
Aroclor-1254	20,000	75,000	ug/kg	60		**24**	**J**	**24**	**J**	**600**	**J**	**15**	**J**	**110000**		**1100**		**4100**		**35**	**J**	**27**	**J**	**580**		39	U
Aroclor-1260	20,000	440,000	ug/kg	35	U	35	U	35	U	78	UJ	36	UJ	7900	U	230	U	710	U	36	U	35	U	74	U	39	U
Total PCBs	20,000	440,000	ug/kg	**60**		**24**	**J**	**24**	**J**	**600**	**J**	**15**	**J**	**110000**		**1100**		**4100**		**35**	**J**	**27**	**J**	**580**		39	U
Metals																											
Antimony	1,600	850	mg/kg	6.4	U	6.3	U	6.4	U	**0.3**	**J**	**0.34**	**J**	7.2	UJ	**0.79**	**J**	6.4	UJ	6.5	UJ	6.4	UJ	6.7	UJ	7.1	U
Arsenic	77	690	mg/kg	**6**		**4.5**		**3.6**		**5.8**		**5.6**		**4.7**	**J**	**13**	**J**	**4.3**	**J**	**4.2**	**J**	**4.6**	**J**	**2**	**J**	**5.7**	
Barium	680,000	320,000	mg/kg	84.9		**76.7**		**54.8**		**47.1**		**117**		**85.6**		**183**		**77.4**		**38.8**		**28.4**		**113**		**94.3**	
Beryllium	7,800	3,400	mg/kg	0.53	U	0.53	U	0.53	U	**0.51**	**J**	**0.26**	**J**	0.6	U	**0.76**		0.54	U	0.55	U	0.54	U	0.56	U	0.59	U
Cadmium	2,600	1,000	mg/kg	**0.11**	**J**	**0.073**	**J**	**16.3**		0.59	U	**0.13**	**J**	**0.39**	**J**	**2110**		**3340**		**14.6**		**1.1**		**2.8**		**0.09**	**J**
Chromium Total	NA	NA	mg/kg	**3.5**		**4**		**3.8**		**6.4**		**9**		**25**	**J**	**47.1**		**15.8**		**14.1**		**10**		**53**		**3.4**	
Cobalt	1,200	2,800	mg/kg	**2.1**	**J**	**2**	**J**	**1.4**	**J**	**2.2**	**J**	**4.5**	**J**	**3.4**	**J**	**10.6**	**J**	**3.1**	**J**	**4.3**	**J**	**3.2**	**J**	**1.1**	**J**	**2.1**	**J**
Copper	160,000	21,000	mg/kg	2.9		**2.7**		**6.5**	**J**	**18.5**		**17.1**		**40**	**J**	**1730**		**14**		**17.8**		**8.5**		**362**		**4.8**	
Cyanide (total)	370	150	mg/kg	**0.53**	U	0.53	U	0.53	U	0.59	U	0.54	U	-		**2.6**		**0.22**	**J**	0.55	U	0.54	U	**50.5**		0.59	U
Lead	800	400	mg/kg	2.6		**1.9**		**1.2**		**45.8**		**20.6**		**58.5**	**J**	**191**		**1.8**		**15.6**		**7.9**		**4**		**4.6**	
Manganese	NA	NA	mg/kg	**403**		**393**		**370**		**238**		**530**		**360**		**1070**	**J**	**204**	**J**	**304**	**J**	**244**	**J**	**218**	**J**	**886**	
Mercury	3.1	3.1	mg/kg	**0.0072**	**J**	**0.005**	**J**	**0.0051**	**J**	**0.34**		**0.087**	**J**	**0.56**		**0.43**		**0.011**	**J**	**0.031**	**J**	**0.021**	**J**	0.11	U	0.12	U
Nickel	74,000	23,000	mg/kg	**5.4**		**4.7**		**4.4**		**5.9**		**9.8**		**9.2**		**23**	**J**	**3.8**	**J**	**10.2**	**J**	**9.4**	**J**	**38.4**	**J**	**6.7**	
Potassium	NA	NA	mg/kg	**-**		-		-		-		-		**576**	**J**	-		-		-		-		-		**-**	
Selenium	20,000	11,000	mg/kg	0.53	U	0.53	U	0.53	U	**0.48**	**J**	0.54	U	30	U	0.69	U	0.54	U	0.55	U	0.54	U	0.56	U	0.59	U
Silver	20,000	11,000	mg/kg	**1.1**	U	1.1	U	1.1	U	1.2	U	1.1	U	1.2	U	**1.2**	**J**	**0.28**	**J**	1.1	U	1.1	U	1.1	U	1.2	U
Thallium	41	21	mg/kg	1.1	U	1.1	U	1.1	U	**0.64**	**J**	**1.3**		240	U	3.2	U	1.8	U	1.7	U	1.6	U	1.4	U	1.2	U
Vanadium	20,000	11,000	mg/kg	6.8		**6.7**		**5.1**	**J**	**9.8**		**11.9**		**10.3**		**21.7**		**5.2**	**J**	**7.7**		**7.2**		**3.8**	**J**	**8**	
Zinc	1,000,000	640,000	mg/kg	11		**11.7**		**38.8**	**J**	**41.6**		**64.3**		**63.3**	**J**	**545**	**J**	**28.2**	**J**	**37.9**	**J**	**30.6**	**J**	**22.4**	**J**	**18.2**	
TPH																											
C21-C34 Aliphatics	5,000,000	5,000,000	ug/kg	**-**		-		-		-		-		-		-		-		-		-		-		-	
Diesel Range Organics (DRO)	2,000,000	2,000,000	ug/kg	**-**		-		-		-		-		-		-		-		-		-		-		-	
Gasoline Range Organics (GRO)	1,000,000	1,000,000	ug/kg	**-**		-		-		-		-		-		-		-		-		-		-		-	

TABLE 3.15
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 3E/5W/21/33, 2-12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	SB-36-02		SB-36-02		SB-37-02		SB-92-03		SB-92-03		SB-93-03		TT-PCB-15E-N		TT-PCB-15E-N		TT-PCB-15E-S		TT-PCB-15E-S	
			Field Sample ID:	SB-36-02		SB-36-02		SB-37-02		SB-92-03		SB-92-03		SB-93-03		TT-PCB-15E-N0-050214		TT-PCB-15E-N4-050214		TT-PCB-15E-S0-050214		TT-PCB-15E-S4-050214	
			Date:	4/15/2002		4/15/2002		4/15/2002		4/1/2003		4/1/2003		4/1/2003		5/2/2014		5/2/2014		5/2/2014		5/2/2014	
	C/I	Construction	Depth:	4 - 6		8.5 - 10.5		9 - 11		6.5 - 8.5		9 - 11		8.5 - 10.5		3.5 - 4.5		7.5 - 8.5		3.5 - 4.5		7.5 - 8.5	
PCBs																							
Aroclor-1016	100,000	260,000	ug/kg	41	U	36	U	36	U	-		-		-		110	U	140	U	120	U	130	U
Aroclor-1221	14,000	210,000	ug/kg	41	U	36	U	36	U	-		-		-		230	U	280	U	230	U	270	U
Aroclor-1232	14,000	73,000	ug/kg	41	U	36	U	36	U	-		-		-		110	U	140	U	120	U	130	U
Aroclor-1242	20,000	440,000	ug/kg	41	U	36	U	36	U	-		-		-		110	U	140	U	120	U	130	U
Aroclor-1248	20,000	440,000	ug/kg	41	U	36	U	36	U	-		-		-		110	U	140	U	120	U	130	U
Aroclor-1254	20,000	75,000	ug/kg	**200**		**170**		**200**		-		-		-		**14000**		**9300**		**13000**		**10000**	
Aroclor-1260	20,000	440,000	ug/kg	41	U	36	U	36	U	-		-		-		560	U	690	U	580	U	670	U
Total PCBs	20,000	440,000	ug/kg	**200**		**170**		**200**		-		-		-		**14000**		**9300**		**13000**		**10000**	
Metals																							
Antimony	1,600	850	mg/kg	7.5	U	6.5	UJ	6.5	UJ	6.4	UJ	7.5	UJ	6.7	UJ			-		-		-	
Arsenic	77	690	mg/kg	**4.9**		**3.6**	**J**	**4.3**	**J**	**2.3**		**12.3**		**3.4**				-		-		-	
Barium	680,000	320,000	mg/kg	**162**		**90.9**	**J**	**54.8**	**J**	**14.8**	**J**	**154**	**J**	**79.8**	**J**			-		-		-	
Beryllium	7,800	3,400	mg/kg	0.62	U	0.54	UJ	0.54	UJ	0.53	U	0.62	U	0.56	U			-		-		-	
Cadmium	2,600	1,000	mg/kg	**0.27**	**J**	**0.057**	**J**	**0.091**	**J**	**0.14**	**J**	**3.3**		**0.13**	**J**			-		-		-	
Chromium Total	NA	NA	mg/kg	**9.4**		**3.6**	**J**	**4.9**	**J**	**4.7**	**J**	**25.8**	**J**	**3.9**	**J**			-		-		-	
Cobalt	1,200	2,800	mg/kg	**3.2**	**J**	**1.4**	**J**	**1.8**	**J**	**1.7**	**J**	**3.1**	**J**	**1.4**	**J**			-		-		-	
Copper	160,000	21,000	mg/kg	**14.5**		**4.1**	**J**	**6.5**	**J**	**5.6**	**J**	**48.1**	**J**	**2.8**	**J**			-		-		-	
Cyanide (total)	370	150	mg/kg	0.62	U	0.54	U	0.54	U	0.53	U	**0.95**		0.56	U			-		-		-	
Lead	800	400	mg/kg	**22.6**		**2.6**	**J**	**17.4**	**J**	**2.8**	**J**	**20.7**	**J**	**2.4**	**J**			-		-		-	
Manganese	NA	NA	mg/kg	**905**		**360**		**238**		**139**	**J**	**904**	**J**	**404**	**J**			-		-		-	
Mercury	3.1	3.1	mg/kg	**0.19**		0.11	UJ	0.11	R	0.11	U	0.12	U	0.11	U			-		-		-	
Nickel	74,000	23,000	mg/kg	**7.1**		**3.5**	**J**	**4.7**	**J**	**4.1**	**J**	**21.2**		**3.2**	**J**			-		-		-	
Potassium	NA	NA	mg/kg	-		-		-		-		-		-				-		-		-	
Selenium	20,000	11,000	mg/kg	0.62	U	0.54	UJ	0.54	UJ	0.53	U	0.62	U	0.56	U			-		-		-	
Silver	20,000	11,000	mg/kg	1.2	U	1.1	U	1.1	U	**0.16**	**J**	1.2	U	1.1	U			-		-		-	
Thallium	41	21	mg/kg	**1.3**		**1**	**J**	**0.92**	**J**	1.1	U	1.2	U	1.1	U			-		-		-	
Vanadium	20,000	11,000	mg/kg	**17.2**		**5.1**	**J**	**6.8**	**J**	**4.8**	**J**	**8.7**		**4.6**	**J**			-		-		-	
Zinc	1,000,000	640,000	mg/kg	**58.7**		**9.9**	**J**	**26.8**	**J**	**16.4**	**J**	**127**	**J**	**11.8**	**J**			-		-		-	
TPH																							
C21-C34 Aliphatics	5,000,000	5,000,000	ug/kg	-		-		-		-		-		-				-		-		-	
Diesel Range Organics (DRO)	2,000,000	2,000,000	ug/kg	-		-		-		-		-		-				-		-		-	
Gasoline Range Organics (GRO)	1,000,000	1,000,000	ug/kg	-		-		-		-		-		-				-		-		-	

TABLE 3.15
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 3E/5W/21/33, 2-12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	TT-PCB-250-N		TT-PCB-250-N		TT-PCB-250-S		TT-PCB-250-S		TT-SB250		TT-SB250		TT-SB250		TT-SB250		Maximum Detected Concentration	
			Field Sample ID:	TT-PCB-250-N0-050214		TT-PCB-250-N4-050214		TT-PCB-250-S0-050214		TT-PCB-250-S4-050214		TT-SB250-G-04		TT-SB250-C-06		TT-SB250-G-06		TT-SB250-G-08			
			Date:	5/2/2014		5/2/2014		5/2/2014		5/2/2014		4/3/2013		4/3/2013		4/3/2013		4/3/2013			
	C/I	Construction	Depth:	3.5 - 4.5		7.5 - 8.5		3.5 - 4.5		7.5 - 8.5		2 - 4		4 - 6		4 - 6		6 - 8			
PCBs																					
Aroclor-1016	100,000	260,000	ug/kg	120	U	120	U	110	U	120	U	11100	UD	-		117	UD	21.8	U	-	
Aroclor-1221	14,000	210,000	ug/kg	230	U	230	U	230	U	240	U	11100	UD	-		117	UD	21.8	U	-	
Aroclor-1232	14,000	73,000	ug/kg	120	U	120	U	110	U	120	U	11100	UD	-		117	UD	21.8	U	-	
Aroclor-1242	20,000	440,000	ug/kg	120	U	120	U	110	U	120	U	11100	UD	-		117	UD	21.8	U	-	
Aroclor-1248	20,000	440,000	ug/kg	120	U	120	U	110	U	120	U	11100	UD	-		117	UD	21.8	U	-	
Aroclor-1254	20,000	75,000	ug/kg	**6100**		**1700**		**8400**		**1800**		**42300**	**D**	-		**1460**	**D**	**89.5**		110000	
Aroclor-1260	20,000	440,000	ug/kg	590	U	120	U	570	U	120	U	11100	UD	-		117	UD	21.8	U	-	
Total PCBs	20,000	440,000	ug/kg	**6100**		**1700**		**8400**		**1800**		**42300**	**D**	-		**1460**	**D**	**89.5**		110000	
Metals																					
Antimony	1,600	850	mg/kg	-		-		-		-		-		-		-		-		**0.79**	**J**
Arsenic	77	690	mg/kg	-		-		-		-		-		-		-		-		**13**	**J**
Barium	680,000	320,000	mg/kg	-		-		-		-		-		-		-		-		**183**	
Beryllium	7,800	3,400	mg/kg	-		-		-		-		-		-		-		-		**0.76**	
Cadmium	2,600	1,000	mg/kg	-		-		-		-		-		-		-		-		3340	
Chromium Total	NA	NA	mg/kg	-		-		-		-		-		-		-		-		**53**	
Cobalt	1,200	2,800	mg/kg	-		-		-		-		-		-		-		-		**10.6**	**J**
Copper	160,000	21,000	mg/kg	-		-		-		-		-		-		-		-		**1730**	
Cyanide (total)	370	150	mg/kg	-		-		-		-		-		-		-		-		**50.5**	
Lead	800	400	mg/kg	-		-		-		-		-		-		-		-		**191**	
Manganese	NA	NA	mg/kg	-		-		-		-		-		-		-		-		**1070**	**J**
Mercury	3.1	3.1	mg/kg	-		-		-		-		-		-		-		-		**0.56**	
Nickel	74,000	23,000	mg/kg	-		-		-		-		-		-		-		-		**38.4**	**J**
Potassium	NA	NA	mg/kg	-		-		-		-		-		-		-		-		**576**	**J**
Selenium	20,000	11,000	mg/kg	-		-		-		-		-		-		-		-		**0.48**	**J**
Silver	20,000	11,000	mg/kg	-		-		-		-		-		-		-		-		**1.2**	**J**
Thallium	41	21	mg/kg	-		-		-		-		-		-		-		-		**1.3**	
Vanadium	20,000	11,000	mg/kg	-		-		-		-		-		-		-		-		**21.7**	
Zinc	1,000,000	640,000	mg/kg	-		-		-		-		-		-		-		-		**545**	**J**
TPH																					
C21-C34 Aliphatics	5,000,000	5,000,000	ug/kg	-		-		-		-		-		669000	U	-		-		-	
Diesel Range Organics (DRO)	2,000,000	2,000,000	ug/kg	-		-		-		-		-		**201000**		-		-		**201000**	
Gasoline Range Organics (GRO)	1,000,000	1,000,000	ug/kg	-		-		-		-		-		-		**70000**		-		**70000**	

NOTES:
Shaded values indicate concentration exceeds C/I Single Chemical Generic Direct Contact Soil Standard
Shaded values indicate concentration exceeds Construction Single Chemical Generic Direct Contact Soil Standard
Shaded values indicate concentration exceeds both Single Chemical Generic Direct Contact Soil Standards
bold text indicates detection above reporting limit
Total PCBs value is the sum of all positively deteted PCB aroclors
D: The reported value is from a dilution
C/I: Commercial / Industrial
J: The associated numerical value is an estimated quantity
mg/kg: milligrams per kilogram
NA: exceedance criteria not applicable for compound/analyte
PCB: Polychlorinated Biphenyl
R: The data are unusable (the compound/analyte may or may not be present). Resampling and reanalysis are necessary for verification
SVOC: SemiVolatile Organic Compound
U: The compound/analyte was analyzed for, but not detected. The associated numerical value is the sample quantitation limit
ug/kg: micrograms per kilogram
UJ: The compound/analyte was analyzed for, but not detected. The sample quantitation limit is an estimated quantity
VOC: Volatile Organic Compound

TABLE 3.16
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 3W/6N/16, 2-12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	MW-9-03		SB-132-04		SB-23-02		SB-24-02		SB-25-02		SB-35-02		SB-94-03		SB-94-03		SB-95-03		SB-96-03		TT-PCB-15W-N		TT-PCB-15W-N		TT-PCB-15W-S	
			Field Sample ID:	MW-9-03 (9-11)		SB-132-04		SB-23-02		SB-24-02		SB-25-02		SB-35-02		SB-94-03 DUP		SB-94-03		SB-95-03		SB-96-03		TT-PCB-15W-N0-050214		TT-PCB-15W-N4-050214		TT-PCB-15W-S0-050214	
			Date:	1/17/2003		1/21/2004		4/10/2002		4/10/2002		4/10/2002		4/15/2002		4/1/2003		4/1/2003		4/1/2003		4/1/2003		5/2/2014		5/2/2014		5/2/2014	
	C/I	Construction	Depth:	9 - 11		8 - 10		9 - 11		9 - 11		9 - 11		9 - 11		9 - 11		9 - 11		9 - 11		9 - 11		3.5 - 4.5		7.5 - 8.5		3.5 - 4.5	
VOCs																													
1,1,1,2-Tetrachloroethane	240,000	680,000	ug/kg	-		-		-		-		-		-		-		-		-		-		-		-		-	
1,1,1-Trichloroethane	640,000	640,000	ug/kg	4.6	U	7	U	240	U	5.5	U	4.7	U	4.6	U	-		-		-		-		-		-		-	
1,1,2,2-Tetrachloroethane	75,000	670,000	ug/kg	4.6	U	7	U	240	U	5.5	U	4.7	U	4.6	U	-		-		-		-		-		-		-	
1,1,2-Trichloroethane	140,000	1,200,000	ug/kg	4.6	U	7	U	240	U	5.5	U	4.7	U	4.6	U	-		-		-		-		-		-		-	
1,1-Dichloroethane	420,000	1,700,000	ug/kg	4.6	U	7	U	240	U	5.5	U	4.7	U	4.6	U	-		-		-		-		-		-		-	
1,1-Dichloroethene	1,200,000	360,000	ug/kg	4.6	U	7	U	240	U	5.5	U	4.7	U	4.6	U	-		-		-		-		-		-		-	
1,1-Dichloropropene	NA	NA	ug/kg	-		-		-		-		-		-		-		-		-		-		-		-		-	
1,2,4-Trichlorobenzene, VOC	400,000	400,000	ug/kg	4.6	U	7	U	240	U	5.5	U	4.7	U	4.6	UJ	-		-		-		-		-		-		-	
1,2-Dibromo-3-chloropropane	1,700	15,000	ug/kg	9.1	U	14	U	480	U	11	U	9.4	U	9.3	UJ	-		-		-		-		-		-		-	
1,2-Dibromoethane	4,400	38,000	ug/kg	4.6	U	7	U	240	U	5.5	U	4.7	U	4.6	U	-		-		-		-		-		-		-	
1,2-Dichlorobenzene, VOC	380,000	380,000	ug/kg	4.6	U	7	U	240	U	5.5	U	4.7	U	4.6	UJ	-		-		-		-		-		-		-	
1,2-Dichloroethane	56,000	480,000	ug/kg	4.6	U	7	U	240	U	5.5	U	4.7	U	4.6	U	-		-		-		-		-		-		-	
1,2-Dichloropropane	120,000	180,000	ug/kg	4.6	U	7	U	240	U	5.5	U	4.7	U	4.6	U	-		-		-		-		-		-		-	
1,3-Dichlorobenzene, VOC	NA	NA	ug/kg	4.6	U	7	U	240	U	5.5	U	4.7	U	4.6	UJ	-		-		-		-		-		-		-	
1,3-Dichloropropane	1,500,000	1,500,000	ug/kg	-		-		-		-		-		-		-		-		-		-		-		-		-	
1,4-Dichlorobenzene, VOC	310,000	2,600,000	ug/kg	4.6	U	7	U	240	U	5.5	U	4.7	U	4.6	UJ	-		-		-		-		-		-		-	
2,2-Dichloropropane	NA	NA	ug/kg	-		-		-		-		-		-		-		-		-		-		-		-		-	
2-Butanone	28,000,000	28,000,000	ug/kg	18	U	28	U	960	U	22	U	19	U	**4.3**	**J**	-		-		-		-		-		-		-	
2-Chlorotoluene	NA	NA	ug/kg	-		-		-		-		-		-		-		-		-		-		-		-		-	
2-Hexanone	NA	NA	ug/kg	18	U	28	U	960	U	22	U	19	U	19	U	-		-		-		-		-		-		-	
4-Chlorotoluene	NA	NA	ug/kg	-		-		-		-		-		-		-		-		-		-		-		-		-	
4-Methyl-2-Pentanone	3,400,000	3,400,000	ug/kg	18	U	28	U	960	U	22	U	19	U	19	U	-		-		-		-		-		-		-	
Acetone	110,000,000	110,000,000	ug/kg	18	U	28	U	960	U	22	UJ	19	UJ	**240**	**J**	-		-		-		-		-		-		-	
Acetonitrile	9,200	26,000	mg/kg	-		-		-		-		-		-		-		-		-		-		-		-		-	
Acrolein	1,600	5,500	ug/kg	-		-		-		-		-		-		-		-		-		-		-		-		-	
Acrylonitrile	32,000	62,000	ug/kg	-		-		-		-		-		-		-		-		-		-		-		-		-	
Allyl chloride	19,000	64,000	ug/kg	-		-		-		-		-		-		-		-		-		-		-		-		-	
Benzene	140,000	1,200,000	ug/kg	4.6	U	7	U	240	U	5.5	U	4.7	U	4.6	U	-		-		-		-		-		-		-	
Bromobenzene	NA	NA	ug/kg	-		-		-		-		-		-		-		-		-		-		-		-		-	
Bromochloromethane	NA	NA	ug/kg	-		-		-		-		-		-		-		-		-		-		-		-		-	
Bromodichloromethane	35,000	300,000	ug/kg	4.6	U	7	U	240	U	5.5	U	4.7	U	4.6	U	-		-		-		-		-		-		-	
Bromoform	6,200,000	130,000,000	ug/kg	4.6	UJ	7	U	240	U	5.5	UJ	4.7	UJ	4.6	UJ	-		-		-		-		-		-		-	
Bromomethane	82,000	550,000	ug/kg	4.6	UJ	7	U	240	U	5.5	UJ	4.7	UJ	4.6	UJ	-		-		-		-		-		-		-	
Carbon disulfide	740,000	740,000	ug/kg	4.6	U	7	U	240	U	5.5	U	4.7	U	4.6	U	-		-		-		-		-		-		-	
Carbon tetrachloride	79,000	460,000	ug/kg	4.6	U	7	U	240	U	5.5	U	4.7	U	4.6	U	-		-		-		-		-		-		-	
Chlorobenzene	760,000	760,000	ug/kg	4.6	U	7	U	240	U	5.5	U	4.7	U	4.6	U	-		-		-		-		-		-		-	
Chloroethane	2,100,000	2,100,000	ug/kg	4.6	U	7	U	240	U	5.5	U	4.7	U	4.6	U	-		-		-		-		-		-		-	
Chloroform	38,000	320,000	ug/kg	4.6	U	7	U	240	U	5.5	U	4.7	U	4.6	U	-		-		-		-		-		-		-	
Chloromethane	1,300,000	1,300,000	ug/kg	4.6	U	7	U	240	U	5.5	U	4.7	U	4.6	U	-		-		-		-		-		-		-	
cis-1,2-Dichloroethene	2,400,000	2,400,000	ug/kg	**0.35**	**J**	**1.9**	**J**	120	U	2.8	U	2.4	U	2.3	U	-		-		-		-		-		-		-	
cis-1,3-Dichloropropene	NA	NA	ug/kg	4.6	U	7	U	240	U	5.5	U	4.7	U	4.6	U	-		-		-		-		-		-		-	
Cyclohexane	120,000	120,000	ug/kg	**0.72**	**J**	14	U	480	U	11	U	9.4	U	9.3	U	-		-		-		-		-		-		-	
Dibromochloromethane	84,000	770,000	ug/kg	4.6	U	7	U	240	U	5.5	U	4.7	U	4.6	U	-		-		-		-		-		-		-	
Dibromomethane	2,800,000	2,800,000	ug/kg	-		-		-		-		-		-		-		-		-		-		-		-		-	
Dichlorodifluoromethane	850,000	850,000	ug/kg	4.6	UJ	7	U	240	UJ	5.5	U	4.7	U	4.6	U	-		-		-		-		-		-		-	
Ethylbenzene	480,000	480,000	ug/kg	4.6	U	7	U	240	U	5.5	U	4.7	U	4.6	U	-		-		-		-		-		-		-	
Iodomethane	NA	NA	ug/kg	-		-		-		-		-		-		-		-		-		-		-		-		-	
Isopropylbenzene, VOC	270,000	270,000	ug/kg	4.6	U	7	U	240	U	5.5	U	4.7	U	4.6	U	-		-		-		-		-		-		-	
Methyl acetate	NA	NA	ug/kg	9.1	U	14	U	480	U	11	U	9.4	U	9.3	U	-		-		-		-		-		-		-	
Methyl cyclohexane	NA	NA	ug/kg	**1.7**	**J**	14	U	**170**	**J**	11	U	9.4	U	9.3	U	-		-		-		-		-		-		-	
Methyl tert butyl ether	5,700,000	8,900,000	ug/kg	18	U	28	U	960	U	22	U	19	U	19	U	-		-		-		-		-		-		-	
Methylene chloride	3,300,000	3,300,000	ug/kg	4.6	U	7	U	240	U	5.5	U	4.7	U	4.6	U	-		-		-		-		-		-		-	
n-Hexane	140,000	140,000	ug/kg	-		-		-		-		-		-		-		-		-		-		-		-		-	
o-Xylene	NA	NA	ug/kg	-		-		-		-		-		-		-		-		-		-		-		-		-	
Styrene	870,000	870,000	ug/kg	4.6	U	7	U	240	U	5.5	U	4.7	U	4.6	U	-		-		-		-		-		-		-	
Tetrachloroethene	170,000	170,000	ug/kg	**20**		**6**	**J**	**450**		**5.6**		**4.5**	**J**	**41**		-		-		-		-		-		-		-	
Toluene	820,000	820,000	ug/kg	**0.94**	**J**	7	U	240	U	**0.65**	**J**	**1.4**	**J**	4.6	U	-		-		-		-		-		-		-	
trans-1,2-Dichloroethene	1,700,000	1,700,000	ug/kg	2.3	U	3.5	U	120	U	2.8	U	2.4	U	2.3	U	-		-		-		-		-		-		-	
trans-1,3-Dichloropropene	NA	NA	ug/kg	4.6	U	7	U	240	U	5.5	U	4.7	U	4.6	U	-		-		-		-		-		-		-	
Trichloroethene	51,000	17,000	ug/kg	**2.4**	**J**	**140**		240	U	5.5	U	4.7	U	4.6	U	-		-		-		-		-		-		-	
Trichlorofluoromethane	1,200,000	1,200,000	ug/kg	4.6	U	7	U	**160**	**J**	5.5	U	4.7	U	4.6	U	-		-		-		-		-		-		-	
Trifluorotrichloroethane	NA	NA	ug/kg	4.6	U	7	U	240	U	5.5	U	4.7	U	4.6	U	-		-		-		-		-		-		-	
Vinyl acetate	2,700,000	620,000	ug/kg	-		-		-		-		-		-		-		-		-		-		-		-		-	
Vinyl chloride	50,000	280,000	ug/kg	4.6	U	7	U	240	U	5.5	U	4.7	U	4.6	U	-		-		-		-		-		-		-	
Xylene (Total)	260,000	260,000	ug/kg	9.1	U	14	U	480	U	11	U	9.4	U	9.3	U	-		-		-		-		-		-		-	

TABLE 3.16
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 3W/6N/16, 2-12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	TT-PCB-15W-S		TT-SB249		TT-SB249		TT-SB249		TT-SB249		TT-SB265		TT-SB265		TT-SB265		TT-SB265		Maximum Detected Concentration	
			Field Sample ID:	TT-PCB-15W-S4-050214		TT-SB249-G-04		TT-SB249-C-06		TT-SB249-G-06		TT-SB249-G-07		TT-SB265-G-04		TT-SB265-G-06		TT-SB265-G-08		TT-SB265-G-08			
			Date:	5/2/2014		4/3/2013		4/3/2013		4/3/2013		4/3/2013		4/4/2013		4/4/2013		4/4/2013		4/4/2013			
	C/I	Construction	Depth:	7.5 - 8.5		2 - 4		4 - 6		4 - 6		6 - 7		2 - 4		4 - 6		6 - 8		6 - 8			
VOCs																							
1,1,1,2-Tetrachloroethane	240,000	680,000	ug/kg	-		-		-		472	UD	-										-	
1,1,1-Trichloroethane	640,000	640,000	ug/kg	-		-		-		**20.4**		-										**20.4**	
1,1,2,2-Tetrachloroethane	75,000	670,000	ug/kg	-		-		-		472	UD	-										-	
1,1,2-Trichloroethane	140,000	1,200,000	ug/kg	-		-		-		9.34	U	-										-	
1,1-Dichloroethane	420,000	1,700,000	ug/kg	-		-		-		9.34	U	-										-	
1,1-Dichloroethene	1,200,000	360,000	ug/kg	-		-		-		9.34	U	-										-	
1,1-Dichloropropene	NA	NA	ug/kg	-		-		-		9.34	U	-										-	
1,2,4-Trichlorobenzene, VOC	400,000	400,000	ug/kg	-		-		-		-		-										-	
1,2-Dibromo-3-chloropropane	1,700	15,000	ug/kg	-		-		-		-		-										-	
1,2-Dibromoethane	4,400	38,000	ug/kg	-		-		-		472	UD	-										-	
1,2-Dichlorobenzene, VOC	380,000	380,000	ug/kg	-		-		-		-		-										-	
1,2-Dichloroethane	56,000	480,000	ug/kg	-		-		-		9.34	U	-										-	
1,2-Dichloropropane	120,000	180,000	ug/kg	-		-		-		9.34	U	-										-	
1,3-Dichlorobenzene, VOC	NA	NA	ug/kg	-		-		-		-		-										-	
1,3-Dichloropropane	1,500,000	1,500,000	ug/kg	-		-		-		9.34	U	-										-	
1,4-Dichlorobenzene, VOC	310,000	2,600,000	ug/kg	-		-		-		-		-										-	
2,2-Dichloropropane	NA	NA	ug/kg	-		-		-		9.34	U	-										-	
2-Butanone	28,000,000	28,000,000	ug/kg	-		-		-		37.4	U	-										**4.3**	**J**
2-Chlorotoluene	NA	NA	ug/kg	-		-		-		472	UD	-										-	
2-Hexanone	NA	NA	ug/kg	-		-		-		37.4	U	-										-	
4-Chlorotoluene	NA	NA	ug/kg	-		-		-		472	UD	-										-	
4-Methyl-2-Pentanone	3,400,000	3,400,000	ug/kg	-		-		-		37.4	U	-										-	
Acetone	110,000,000	110,000,000	ug/kg	-		-		-		93.4	U	-										**240**	**J**
Acetonitrile	9,200	26,000	mg/kg	-		-		-		0.0747	U	-										-	
Acrolein	1,600	5,500	ug/kg	-		-		-		93.4	U	-										-	
Acrylonitrile	32,000	62,000	ug/kg	-		-		-		37.4	U	-										-	
Allyl chloride	19,000	64,000	ug/kg	-		-		-		18.7	U	-										-	
Benzene	140,000	1,200,000	ug/kg	-		-		-		**13.3**		-										**13.3**	
Bromobenzene	NA	NA	ug/kg	-		-		-		472	UD	-										-	
Bromochloromethane	NA	NA	ug/kg	-		-		-		9.34	U	-										-	
Bromodichloromethane	35,000	300,000	ug/kg	-		-		-		9.34	U	-										-	
Bromoform	6,200,000	130,000,000	ug/kg	-		-		-		472	UD	-										-	
Bromomethane	82,000	550,000	ug/kg	-		-		-		9.34	U	-										-	
Carbon disulfide	740,000	740,000	ug/kg	-		-		-		37.4	U	-										-	
Carbon tetrachloride	79,000	460,000	ug/kg	-		-		-		9.34	U	-										-	
Chlorobenzene	760,000	760,000	ug/kg	-		-		-		472	UD	-										-	
Chloroethane	2,100,000	2,100,000	ug/kg	-		-		-		9.34	U	-										-	
Chloroform	38,000	320,000	ug/kg	-		-		-		9.34	U	-										-	
Chloromethane	1,300,000	1,300,000	ug/kg	-		-		-		9.34	U	-										-	
cis-1,2-Dichloroethene	2,400,000	2,400,000	ug/kg	-		-		-		**28.8**		-										**28.8**	
cis-1,3-Dichloropropene	NA	NA	ug/kg	-		-		-		9.34	U	-										-	
Cyclohexane	120,000	120,000	ug/kg	-		-		-		-		-										**0.72**	**J**
Dibromochloromethane	84,000	770,000	ug/kg	-		-		-		472	UD	-										-	
Dibromomethane	2,800,000	2,800,000	ug/kg	-		-		-		9.34	U	-										-	
Dichlorodifluoromethane	850,000	850,000	ug/kg	-		-		-		9.34	U	-										-	
Ethylbenzene	480,000	480,000	ug/kg	-		-		-		472	UD	-										-	
Iodomethane	NA	NA	ug/kg	-		-		-		18.7	U	-										-	
Isopropylbenzene, VOC	270,000	270,000	ug/kg	-		-		-		-		-										-	
Methyl acetate	NA	NA	ug/kg	-		-		-		-		-										-	
Methyl cyclohexane	NA	NA	ug/kg	-		-		-		-		-										**170**	**J**
Methyl tert butyl ether	5,700,000	8,900,000	ug/kg	-		-		-		18.7	U	-										-	
Methylene chloride	3,300,000	3,300,000	ug/kg	-		-		-		9.34	U	-										-	
n-Hexane	140,000	140,000	ug/kg	-		-		-		**20.3**		-										**20.3**	
o-Xylene	NA	NA	ug/kg	-		-		-		472	UD	-										-	
Styrene	870,000	870,000	ug/kg	-		-		-		472	UD	-										-	
Tetrachloroethene	170,000	170,000	ug/kg	-		-		-		**6480**	**D**	-										**6480**	**D**
Toluene	820,000	820,000	ug/kg	-		-		-		9.34	U	-										**1.4**	**J**
trans-1,2-Dichloroethene	1,700,000	1,700,000	ug/kg	-		-		-		9.34	U	-										-	
trans-1,3-Dichloropropene	NA	NA	ug/kg	-		-		-		9.34	U	-										-	
Trichloroethene	51,000	17,000	ug/kg	-		-		-		**356**		-										**356**	
Trichlorofluoromethane	1,200,000	1,200,000	ug/kg	-		-		-		9.34	U	-										**160**	**J**
Trifluorotrichloroethane	NA	NA	ug/kg	-		-		-		-		-										-	
Vinyl acetate	2,700,000	620,000	ug/kg	-		-		-		18.7	U	-										-	
Vinyl chloride	50,000	280,000	ug/kg	-		-		-		9.34	U	-										-	
Xylene (Total)	260,000	260,000	ug/kg	-		-		-		944	UD	-										-	

TABLE 3.16
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 3W/6N/16, 2-12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	MW-9-03		SB-132-04		SB-23-02		SB-24-02		SB-25-02		SB-35-02		SB-94-03		SB-94-03		SB-95-03		SB-96-03		TT-PCB-15W-N		TT-PCB-15W-N		TT-PCB-15W-S	
			Field Sample ID:	MW-9-03 (9-11)		SB-132-04		SB-23-02		SB-24-02		SB-25-02		SB-35-02		SB-94-03 DUP		SB-94-03		SB-95-03		SB-96-03		TT-PCB-15W-N0-050214		TT-PCB-15W-N4-050214		TT-PCB-15W-S0-050214	
			Date:	1/17/2003		1/21/2004		4/10/2002		4/10/2002		4/10/2002		4/15/2002		4/1/2003		4/1/2003		4/1/2003		4/1/2003		5/2/2014		5/2/2014		5/2/2014	
	C/I	Construction	Depth:	9 - 11		8 - 10		9 - 11		9 - 11		9 - 11		9 - 11		9 - 11		9 - 11		9 - 11		9 - 11		3.5 - 4.5		7.5 - 8.5		3.5 - 4.5	
SVOCs																													
2,2-oxybis(2-Chloropropane), SVOC	NA	NA	ug/kg	360	U	-		-		-		-		370	U	340	U	340	U	1800	U	350	U	-		-		-	
2,4,5-Trichlorophenol	180,000,000	1,000,000,000	ug/kg	360	U	-		-		-		-		370	U	340	U	340	U	1800	U	350	U	-		-		-	
2,4,6-Trichlorophenol	1,800,000	1,400,000	ug/kg	360	U	-		-		-		-		370	U	340	U	340	U	1800	U	350	U	-		-		-	
2,4-Dichlorophenol	NA	NA	ug/kg	360	U	-		-		-		-		370	U	340	U	340	U	1800	U	350	U	-		-		-	
2,4-Dimethylphenol	35,000,000	85,000,000	ug/kg	360	U	-		-		-		-		370	U	340	U	340	U	1800	U	350	U	-		-		-	
2,4-Dinitrophenol	3,500,000	28,000,000	ug/kg	1800	U	-		-		-		-		1800	U	1700	U	1700	U	8700	U	1700	U	-		-		-	
2,4-Dinitrotoluene	160,000	2,800,000	ug/kg	360	U	-		-		-		-		370	U	340	U	340	U	1800	U	350	U	-		-		-	
2,6-Dinitrotoluene	NA	NA	ug/kg	360	U	-		-		-		-		370	U	340	U	340	U	1800	U	350	U	-		-		-	
2-Chloronaphthalene	330,000,000	1,000,000,000	ug/kg	360	U	-		-		-		-		370	U	340	U	340	U	1800	U	350	U	-		-		-	
2-Chlorophenol	20,000,000	22,000,000	ug/kg	360	U	-		-		-		-		370	U	340	U	340	U	1800	U	350	U	-		-		-	
2-Methylnaphthalene	6,000,000	5,200,000	ug/kg	360	U	-		-		-		-		370	U	340	U	340	U	1800	U	350	U	-		-		-	
2-Methylphenol	88,000,000	710,000,000	ug/kg	360	U	-		-		-		-		370	U	340	U	340	U	1800	U	350	U	-		-		-	
2-Nitroaniline	NA	NA	ug/kg	1800	U	-		-		-		-		1800	U	1700	U	1700	U	8700	U	1700	U	-		-		-	
2-Nitrophenol	NA	NA	ug/kg	360	U	-		-		-		-		370	U	340	U	340	U	1800	U	350	U	-		-		-	
3,3-Dichlorobenzidine	NA	NA	ug/kg	1800	U	-		-		-		-		1800	U	1700	U	1700	U	8700	U	1700	U	-		-		-	
3-Nitroaniline	NA	NA	ug/kg	1800	U	-		-		-		-		1800	U	1700	U	1700	U	8700	U	1700	U	-		-		-	
4,6-Dinitro-2-methylphenol	140,000	110,000	ug/kg	1800	U	-		-		-		-		1800	U	1700	U	1700	U	8700	U	1700	U	-		-		-	
4-Bromophenyl phenyl ether	NA	NA	ug/kg	360	U	-		-		-		-		370	U	340	U	340	U	1800	U	350	U	-		-		-	
4-Chloro-3-methylphenol	180,000,000	140,000,000	ug/kg	360	U	-		-		-		-		370	U	340	U	340	U	1800	U	350	U	-		-		-	
4-Chloroaniline	250,000	710,000	ug/kg	360	U	-		-		-		-		370	U	340	U	340	U	1800	U	350	U	-		-		-	
4-Chlorophenyl phenyl ether	NA	NA	ug/kg	360	U	-		-		-		-		370	U	340	U	340	U	1800	U	350	U	-		-		-	
4-Methylphenol	180,000,000	28,000,000	ug/kg	360	U	-		-		-		-		370	U	340	U	340	U	1800	U	350	U	-		-		-	
4-Nitroaniline	2,500,000	14,000,000	ug/kg	1800	U	-		-		-		-		1800	U	1700	U	1700	U	8700	U	1700	U	-		-		-	
4-Nitrophenol	NA	NA	ug/kg	1800	U	-		-		-		-		1800	U	1700	U	1700	U	8700	U	1700	U	-		-		-	
Acenaphthene	90,000,000	780,000,000	ug/kg	360	U	-		-		-		-		370	U	340	U	340	U	1800	U	350	U	-		-		-	
Acenaphthylene	90,000,000	780,000,000	ug/kg	360	U	-		-		-		-		370	U	340	U	340	U	1800	U	350	U	-		-		-	
Acetophenone	2,500,000	2,500,000	ug/kg	360	U	-		-		-		-		370	U	340	U	340	U	1800	U	350	U	-		-		-	
Anthracene	450,000,000	1,000,000,000	ug/kg	360	U	-		-		-		-		370	U	340	U	340	U	1800	U	350	U	-		-		-	
Atrazine	NA	NA	ug/kg	360	U	-		-		-		-		370	U	340	U	340	U	1800	U	350	U	-		-		-	
Benzaldehyde	NA	NA	ug/kg	360	U	-		-		-		-		370	U	340	U	340	U	1800	U	350	U	-		-		-	
Benzo(a)anthracene	58,000	1,200,000	ug/kg	360	U	-		-		-		-		370	U	340	U	340	U	1800	U	350	U	-		-		-	
Benzo(a)pyrene	5,800	120,000	ug/kg	360	U	-		-		-		-		370	U	340	U	340	U	1800	U	350	U	-		-		-	
Benzo(b)fluoranthene	58,000	1,200,000	ug/kg	360	U	-		-		-		-		370	U	340	U	340	U	1800	U	350	U	-		-		-	
Benzo(g,h,i)perylene	45,000,000	390,000,000	ug/kg	360	U	-		-		-		-		370	U	340	U	340	U	1800	U	350	U	-		-		-	
Benzo(k)fluoranthene	580,000	12,000,000	ug/kg	360	U	-		-		-		-		370	U	340	U	340	U	1800	U	350	U	-		-		-	
Biphenyl	14,000,000	190,000,000	ug/kg	360	U	-		-		-		-		370	U	340	U	340	U	1800	U	350	U	-		-		-	
bis(2-Chloroethoxy)methane	5,300,000	43,000,000	ug/kg	360	U	-		-		-		-		370	U	340	U	340	U	1800	U	350	U	-		-		-	
bis(2-Chloroethyl)ether	30,000	290,000	ug/kg	360	U	-		-		-		-		370	U	340	U	340	U	1800	U	350	U	-		-		-	
bis(2-Ethylhexyl)phthalate	3,500,000	71,000,000	ug/kg	360	U	-		-		-		-		370	U	**16**	**J**	**14**	**J**	1800	U	350	U	-		-		-	
Butyl benzylphthalate	26,000,000	520,000,000	ug/kg	360	U	-		-		-		-		370	U	340	U	340	U	1800	U	350	U	-		-		-	
Caprolactam	NA	NA	ug/kg	360	U	-		-		-		-		370	U	340	U	340	U	1800	U	350	U	-		-		-	
Carbazole	2,500,000	50,000,000	ug/kg	360	U	-		-		-		-		370	U	340	U	340	U	1800	U	350	U	-		-		-	
Chrysene	5,800,000	120,000,000	ug/kg	360	U	-		-		-		-		370	U	340	U	340	U	1800	U	350	U	-		-		-	
Dibenz(a,h)anthracene	5,800	120,000	ug/kg	360	U	-		-		-		-		370	U	340	U	340	U	1800	U	350	U	-		-		-	
Dibenzofuran	4,100,000	2,100,000	ug/kg	360	U	-		-		-		-		370	U	340	U	340	U	1800	U	350	U	-		-		-	
Diethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	360	U	-		-		-		-		370	U	340	U	340	U	1800	U	350	U	-		-		-	
Dimethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	360	U	-		-		-		-		370	U	340	U	340	U	1800	U	350	U	-		-		-	
Di-n-butylphthalate	180,000,000	430,000,000	ug/kg	360	U	-		-		-		-		370	U	340	U	340	U	1800	U	350	U	-		-		-	
Di-N-Octyl phthalate	18,000,000	140,000,000	ug/kg	360	U	-		-		-		-		370	U	340	U	340	U	1800	U	350	U	-		-		-	
Fluoranthene	60,000,000	160,000,000	ug/kg	**30**	**J**	-		-		-		-		370	U	340	U	340	U	1800	U	350	U	-		-		-	
Fluorene	60,000,000	520,000,000	ug/kg	360	U	-		-		-		-		370	U	340	U	340	U	1800	U	350	U	-		-		-	
Hexachlorobenzene	31,000	14,000	ug/kg	360	U	-		-		-		-		370	U	340	U	340	U	1800	U	350	U	-		-		-	
Hexachlorobutadiene, SVOC	630,000	1,400,000	ug/kg	360	U	-		-		-		-		370	U	340	U	340	U	1800	U	350	U	-		-		-	
Hexachlorocyclopentadiene	11,000,000	26,000,000	ug/kg	1800	U	-		-		-		-		1800	U	1700	U	1700	U	8700	U	1700	U	-		-		-	
Hexachloroethane	1,200,000	3,000,000	ug/kg	360	U	-		-		-		-		370	U	340	U	340	U	1800	U	350	U	-		-		-	
Indeno(1,2,3-cd)pyrene	58,000	1,200,000	ug/kg	360	U	-		-		-		-		370	U	340	U	340	U	1800	U	350	U	-		-		-	
Isophorone	52,000,000	1,000,000,000	ug/kg	360	U	-		-		-		-		370	U	340	U	340	U	1800	U	350	U	-		-		-	
Naphthalene, SVOC	450,000	560,000	ug/kg	360	U	-		-		-		-		370	U	340	U	340	U	1800	U	350	U	-		-		-	
Nitrobenzene	610,000	3,000,000	ug/kg	360	U	-		-		-		-		370	U	340	U	340	U	1800	U	350	U	-		-		-	
N-Nitrosodi-n-propylamine	7,000	140,000	ug/kg	360	U	-		-		-		-		370	U	340	U	340	U	1800	U	350	U	-		-		-	
N-Nitrosodiphenylamine	10,000,000	200,000,000	ug/kg	360	U	-		-		-		-		370	U	340	U	340	U	1800	U	350	U	-		-		-	
Pentachlorophenol	67,000	950,000	ug/kg	360	U	-		-		-		-		370	U	340	U	340	U	1800	U	350	U	-		-		-	
Phenanthrene	450,000,000	1,000,000,000	ug/kg	360	U	-		-		-		-		370	U	340	U	340	U	1800	U	350	U	-		-		-	
Phenol	530,000,000	840,000,000	ug/kg	360	U	-		-		-		-		370	U	340	U	340	U	1800	U	350	U	-		-		-	
Pyrene, SVOC	45,000,000	390,000,000	ug/kg	360	U	-		-		-		-		370	U	340	U	340	U	1800	U	350	U	-		-		-	

TABLE 3.16
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 3W/6N/16, 2-12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	TT-PCB-15W-S		TT-SB249		TT-SB249		TT-SB249		TT-SB249		TT-SB265		TT-SB265		TT-SB265		TT-SB265		Maximum Detected Concentration	
			Field Sample ID:	TT-PCB-15W-S4-050214		TT-SB249-G-04		TT-SB249-C-06		TT-SB249-G-06		TT-SB249-G-07		TT-SB265-G-04		TT-SB265-G-06		TT-SB265-G-08		TT-SB265-G-08			
			Date:	5/2/2014		4/3/2013		4/3/2013		4/3/2013		4/3/2013		4/4/2013		4/4/2013		4/4/2013		4/4/2013			
	C/I	Construction	Depth:	7.5 - 8.5		2 - 4		4 - 6		4 - 6		6 - 7		2 - 4		4 - 6		6 - 8		6 - 8			
SVOCs																							
2,2-oxybis(2-Chloropropane), SVOC	NA	NA	ug/kg	-		-		-		-		-										-	
2,4,5-Trichlorophenol	180,000,000	1,000,000,000	ug/kg	-		-		-		-		-										-	
2,4,6-Trichlorophenol	1,800,000	1,400,000	ug/kg	-		-		-		-		-										-	
2,4-Dichlorophenol	NA	NA	ug/kg	-		-		-		-		-										-	
2,4-Dimethylphenol	35,000,000	85,000,000	ug/kg	-		-		-		-		-										-	
2,4-Dinitrophenol	3,500,000	28,000,000	ug/kg	-		-		-		-		-										-	
2,4-Dinitrotoluene	160,000	2,800,000	ug/kg	-		-		-		-		-										-	
2,6-Dinitrotoluene	NA	NA	ug/kg	-		-		-		-		-										-	
2-Chloronaphthalene	330,000,000	1,000,000,000	ug/kg	-		-		-		-		-										-	
2-Chlorophenol	20,000,000	22,000,000	ug/kg	-		-		-		-		-										-	
2-Methylnaphthalene	6,000,000	5,200,000	ug/kg	-		-		-		-		-										-	
2-Methylphenol	88,000,000	710,000,000	ug/kg	-		-		-		-		-										-	
2-Nitroaniline	NA	NA	ug/kg	-		-		-		-		-										-	
2-Nitrophenol	NA	NA	ug/kg	-		-		-		-		-										-	
3,3-Dichlorobenzidine	NA	NA	ug/kg	-		-		-		-		-										-	
3-Nitroaniline	NA	NA	ug/kg	-		-		-		-		-										-	
4,6-Dinitro-2-methylphenol	140,000	110,000	ug/kg	-		-		-		-		-										-	
4-Bromophenyl phenyl ether	NA	NA	ug/kg	-		-		-		-		-										-	
4-Chloro-3-methylphenol	180,000,000	140,000,000	ug/kg	-		-		-		-		-										-	
4-Chloroaniline	250,000	710,000	ug/kg	-		-		-		-		-										-	
4-Chlorophenyl phenyl ether	NA	NA	ug/kg	-		-		-		-		-										-	
4-Methylphenol	180,000,000	28,000,000	ug/kg	-		-		-		-		-										-	
4-Nitroaniline	2,500,000	14,000,000	ug/kg	-		-		-		-		-										-	
4-Nitrophenol	NA	NA	ug/kg	-		-		-		-		-										-	
Acenaphthene	90,000,000	780,000,000	ug/kg	-		-		-		-		-										-	
Acenaphthylene	90,000,000	780,000,000	ug/kg	-		-		-		-		-										-	
Acetophenone	2,500,000	2,500,000	ug/kg	-		-		-		-		-										-	
Anthracene	450,000,000	1,000,000,000	ug/kg	-		-		-		-		-										-	
Atrazine	NA	NA	ug/kg	-		-		-		-		-										-	
Benzaldehyde	NA	NA	ug/kg	-		-		-		-		-										-	
Benzo(a)anthracene	58,000	1,200,000	ug/kg	-		-		-		-		-										-	
Benzo(a)pyrene	5,800	120,000	ug/kg	-		-		-		-		-										-	
Benzo(b)fluoranthene	58,000	1,200,000	ug/kg	-		-		-		-		-										-	
Benzo(g,h,i)perylene	45,000,000	390,000,000	ug/kg	-		-		-		-		-										-	
Benzo(k)fluoranthene	580,000	12,000,000	ug/kg	-		-		-		-		-										-	
Biphenyl	14,000,000	190,000,000	ug/kg	-		-		-		-		-										-	
bis(2-Chloroethoxy)methane	5,300,000	43,000,000	ug/kg	-		-		-		-		-										-	
bis(2-Chloroethyl)ether	30,000	290,000	ug/kg	-		-		-		-		-										-	
bis(2-Ethylhexyl)phthalate	3,500,000	71,000,000	ug/kg	-		-		-		-		-										**16**	**J**
Butyl benzylphthalate	26,000,000	520,000,000	ug/kg	-		-		-		-		-										-	
Caprolactam	NA	NA	ug/kg	-		-		-		-		-										-	
Carbazole	2,500,000	50,000,000	ug/kg	-		-		-		-		-										-	
Chrysene	5,800,000	120,000,000	ug/kg	-		-		-		-		-										-	
Dibenz(a,h)anthracene	5,800	120,000	ug/kg	-		-		-		-		-										-	
Dibenzofuran	4,100,000	2,100,000	ug/kg	-		-		-		-		-										-	
Diethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	-		-		-		-		-										-	
Dimethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	-		-		-		-		-										-	
Di-n-butylphthalate	180,000,000	430,000,000	ug/kg	-		-		-		-		-										-	
Di-N-Octyl phthalate	18,000,000	140,000,000	ug/kg	-		-		-		-		-										-	
Fluoranthene	60,000,000	160,000,000	ug/kg	-		-		-		-		-										**30**	**J**
Fluorene	60,000,000	520,000,000	ug/kg	-		-		-		-		-										-	
Hexachlorobenzene	31,000	14,000	ug/kg	-		-		-		-		-										-	
Hexachlorobutadiene, SVOC	630,000	1,400,000	ug/kg	-		-		-		-		-										-	
Hexachlorocyclopentadiene	11,000,000	26,000,000	ug/kg	-		-		-		-		-										-	
Hexachloroethane	1,200,000	3,000,000	ug/kg	-		-		-		-		-										-	
Indeno(1,2,3-cd)pyrene	58,000	1,200,000	ug/kg	-		-		-		-		-										-	
Isophorone	52,000,000	1,000,000,000	ug/kg	-		-		-		-		-										-	
Naphthalene, SVOC	450,000	560,000	ug/kg	-		-		-		-		-										-	
Nitrobenzene	610,000	3,000,000	ug/kg	-		-		-		-		-										-	
N-Nitrosodi-n-propylamine	7,000	140,000	ug/kg	-		-		-		-		-										-	
N-Nitrosodiphenylamine	10,000,000	200,000,000	ug/kg	-		-		-		-		-										-	
Pentachlorophenol	67,000	950,000	ug/kg	-		-		-		-		-										-	
Phenanthrene	450,000,000	1,000,000,000	ug/kg	-		-		-		-		-										-	
Phenol	530,000,000	840,000,000	ug/kg	-		-		-		-		-										-	
Pyrene, SVOC	45,000,000	390,000,000	ug/kg	-		-		-		-		-										-	

TABLE 3.16
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 3W/6N/16, 2-12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	MW-9-03		SB-132-04		SB-23-02		SB-24-02		SB-25-02		SB-35-02		SB-94-03		SB-94-03		SB-95-03		SB-96-03		TT-PCB-15W-N		TT-PCB-15W-N		TT-PCB-15W-S	
			Field Sample ID:	MW-9-03 (9-11)		SB-132-04		SB-23-02		SB-24-02		SB-25-02		SB-35-02		SB-94-03 DUP		SB-94-03		SB-95-03		SB-96-03		TT-PCB-15W-N0-050214		TT-PCB-15W-N4-050214		TT-PCB-15W-S0-050214	
			Date:	1/17/2003		1/21/2004		4/10/2002		4/10/2002		4/10/2002		4/15/2002		4/1/2003		4/1/2003		4/1/2003		4/1/2003		5/2/2014		5/2/2014		5/2/2014	
	C/I	Construction	Depth:	9 - 11		8 - 10		9 - 11		9 - 11		9 - 11		9 - 11		9 - 11		9 - 11		9 - 11		9 - 11		3.5 - 4.5		7.5 - 8.5		3.5 - 4.5	
PCBs																													
Aroclor-1016	100,000	260,000	ug/kg	36	U	45	UJ	36	U	37	U	37	U	37	U	-		-		-		-		120	U	120	U	120	U
Aroclor-1221	14,000	210,000	ug/kg	36	U	45	UJ	36	U	37	U	37	U	37	U	-		-		-		-		240	U	230	U	230	U
Aroclor-1232	14,000	73,000	ug/kg	36	U	45	UJ	36	U	37	U	37	U	37	U	-		-		-		-		120	U	120	U	120	U
Aroclor-1242	20,000	440,000	ug/kg	36	U	45	UJ	36	U	37	U	37	U	37	U	-		-		-		-		120	U	120	U	120	U
Aroclor-1248	20,000	440,000	ug/kg	36	U	45	UJ	36	U	37	U	37	U	37	U	-		-		-		-		120	U	120	U	120	U
Aroclor-1254	20,000	75,000	ug/kg	**55**		45	UJ	36	U	37	U	37	U	37	U	-		-		-		-		**440**		**4400**		**1400**	
Aroclor-1260	20,000	440,000	ug/kg	36	U	**23**	**J**	36	U	37	U	37	U	**8.9**	**J**	-		-		-		-		120	U	120	U	120	U
Total PCBs	20,000	440,000	ug/kg	**55**		**23**	**J**	36	U	37	U	37	U	**8.9**		-		-		-		-		**440**		**4400**		**1400**	
Metals																													
Antimony	1,600	850	mg/kg	6.6	U	-		6.5	U	6.7	U	6.7	U	6.8	U	-		-		-		-		-		-		-	
Arsenic	77	690	mg/kg	**4.5**		-		**3.7**		**4.1**		**4**		**3.4**		-		-		-		-		-		-		-	
Barium	680,000	320,000	mg/kg	**66**	**J**	-		**19**	**J**	**79.6**		**90.6**		**27.8**		-		-		-		-		-		-		-	
Beryllium	7,800	3,400	mg/kg	0.55	U	-		0.54	U	0.56	U	0.56	U	0.57	U	-		-		-		-		-		-		-	
Cadmium	2,600	1,000	mg/kg	**0.11**	**J**	-		**0.23**	**J**	**0.19**	**J**	**0.12**	**J**	**0.097**	**J**	-		-		-		-		-		-		-	
Chromium Total	NA	NA	mg/kg	**3.9**	**J**	-		**5.9**		**5.3**		**4**		**4.9**		-		-		-		-		-		-		-	
Cobalt	1,200	2,800	mg/kg	**2.2**	**J**	-		**1.8**	**J**	**2**	**J**	**2.8**	**J**	**2.1**	**J**	-		-		-		-		-		-		-	
Copper	160,000	21,000	mg/kg	**6.9**		-		**6**		**6**		**3.8**		**7.5**		-		-		-		-		-		-		-	
Cyanide (total)	370	150	mg/kg	**0.097**	**J**	-		0.54	U	0.56	U	0.56	U	0.57	U	-		-		-		-		-		-		-	
Lead	800	400	mg/kg	**6.6**		-		**4.7**		**8.1**		**2.4**		**5.8**		-		-		-		-		-		-		-	
Manganese	NA	NA	mg/kg	**251**	**J**	-		**173**		**305**		**251**		**186**		-		-		-		-		-		-		-	
Mercury	3.1	3.1	mg/kg	**0.042**	**J**	-		**0.073**	**J**	**0.087**	**J**	0.11	U	0.11	U	-		-		-		-		-		-		-	
Nickel	74,000	23,000	mg/kg	**5.9**		-		**5.4**		**4.8**		**4.5**		**5.6**		-		-		-		-		-		-		-	
Selenium	20,000	11,000	mg/kg	0.55	U	-		0.54	U	0.56	U	0.56	U	0.57	U	-		-		-		-		-		-		-	
Silver	20,000	11,000	mg/kg	**0.19**	**J**	-		1.1	U	1.1	U	1.1	U	1.1	U	-		-		-		-		-		-		-	
Thallium	41	21	mg/kg	**0.76**	**J**	-		**1.1**		**1.7**		**1.2**		**1**	**J**	-		-		-		-		-		-		-	
Vanadium	20,000	11,000	mg/kg	**6.6**		-		**6.5**		**6.6**		**13.7**		**6.6**		-		-		-		-		-		-		-	
Zinc	1,000,000	640,000	mg/kg	**25.1**		-		**19.2**		**48.2**		**15.2**		**21.4**		-		-		-		-		-		-		-	
TPH																													
C21-C34 Aliphatics	5,000,000	5,000,000	ug/kg	-		-		-		-		-		-		-		-		-		-		-		-		-	
Diesel Range Organics (DRO)	2,000,000	2,000,000	ug/kg	-		-		-		-		-		-		-		-		-		-		-		-		-	
Gasoline Range Organics (GRO)	1,000,000	1,000,000	ug/kg	-		-		-		-		-		-		-		-		-		-		-		-		-	

TABLE 3.16
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 3W/6N/16, 2-12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	TT-PCB-15W-S		TT-SB249		TT-SB249		TT-SB249		TT-SB249		TT-SB265		TT-SB265		TT-SB265		TT-SB265		Maximum Detected Concentration	
			Field Sample ID:	TT-PCB-15W-S4-050214		TT-SB249-G-04		TT-SB249-C-06		TT-SB249-G-06		TT-SB249-G-07		TT-SB265-G-04		TT-SB265-G-06		TT-SB265-G-08		TT-SB265-G-08			
			Date:	5/2/2014		4/3/2013		4/3/2013		4/3/2013		4/3/2013		4/4/2013		4/4/2013		4/4/2013		4/4/2013			
	C/I	Construction	Depth:	7.5 - 8.5		2 - 4		4 - 6		4 - 6		6 - 7		2 - 4		4 - 6		6 - 8		6 - 8			
PCBs																							
Aroclor-1016	100,000	260,000	ug/kg	140	U	21.4	U	-		24.2	U	25.9	U	23.7	U	23.5	U	21.4	U	21.3	U	-	
Aroclor-1221	14,000	210,000	ug/kg	270	U	21.4	U	-		24.2	U	25.9	U	23.7	U	23.5	U	21.4	U	21.3	U	-	
Aroclor-1232	14,000	73,000	ug/kg	140	U	21.4	U	-		24.2	U	25.9	U	23.7	U	23.5	U	21.4	U	21.3	U	-	
Aroclor-1242	20,000	440,000	ug/kg	140	U	21.4	U	-		24.2	U	25.9	U	23.7	U	23.5	U	21.4	U	21.3	U	-	
Aroclor-1248	20,000	440,000	ug/kg	140	U	21.4	U	-		24.2	U	25.9	U	23.7	U	**321**	**D**	21.4	U	21.3	U	-	
Aroclor-1254	20,000	75,000	ug/kg	140	U	21.4	U	-		**88.2**		25.9	U	23.7	U	23.5	U	21.4	U	21.3	U	**4400**	
Aroclor-1260	20,000	440,000	ug/kg	140	U	21.4	U	-		24.2	U	25.9	U	23.7	U	23.5	U	21.4	U	21.3	U	**23**	**J**
Total PCBs	20,000	440,000	ug/kg	270	U	21.4	U	-		**88.2**		25.9	U	23.7	U	**321**	**D**	21.4	U	21.3	U	**4400**	
Metals																							
Antimony	1,600	850	mg/kg	-		-		-		-		-										-	
Arsenic	77	690	mg/kg	-		-		-		-		-										**4.5**	
Barium	680,000	320,000	mg/kg	-		-		-		-		-										**90.6**	
Beryllium	7,800	3,400	mg/kg	-		-		-		-		-										-	
Cadmium	2,600	1,000	mg/kg	-		-		-		-		-										**0.23**	**J**
Chromium Total	NA	NA	mg/kg	-		-		-		-		-										**5.9**	
Cobalt	1,200	2,800	mg/kg	-		-		-		-		-										**2.8**	**J**
Copper	160,000	21,000	mg/kg	-		-		-		-		-										**7.5**	
Cyanide (total)	370	150	mg/kg	-		-		-		-		-										**0.097**	**J**
Lead	800	400	mg/kg	-		-		-		-		-										**8.1**	
Manganese	NA	NA	mg/kg	-		-		-		-		-										**305**	
Mercury	3.1	3.1	mg/kg	-		-		-		-		-										**0.087**	**J**
Nickel	74,000	23,000	mg/kg	-		-		-		-		-										**5.9**	
Selenium	20,000	11,000	mg/kg	-		-		-		-		-										-	
Silver	20,000	11,000	mg/kg	-		-		-		-		-										**0.19**	**J**
Thallium	41	21	mg/kg	-		-		-		-		-										**1.7**	
Vanadium	20,000	11,000	mg/kg	-		-		-		-		-										**13.7**	
Zinc	1,000,000	640,000	mg/kg	-		-		-		-		-										**48.2**	
TPH																							
C21-C34 Aliphatics	5,000,000	5,000,000	ug/kg	-		-		632000	U	-		-										-	
Diesel Range Organics (DRO)	2,000,000	2,000,000	ug/kg	-		-		**31200**		-		-										**31200**	
Gasoline Range Organics (GRO)	1,000,000	1,000,000	ug/kg	-		-		-		7260	U	-										-	

NOTES:

Shaded values indicate concentration exceeds C/I Single Chemical Generic Direct Contact Soil Standard

Shaded values indicate concentration exceeds Construction Single Chemical Generic Direct Contact Soil Standard

Shaded values indicate concentration exceeds both Single Chemical Generic Direct Contact Soil Standards

bold text indicates detection above reporting limit

Total PCBs value is the sum of all positively deteted PCB aroclors

D: The reported value is from a dilution

C/I: Commercial. Industrial

J: The associated numerical value is an estimated quantity

mg/kg: milligrams per kilogram

NA: exceedance criteria not applicable for compound/analyte

PCB: Polychlorinated Biphenyl

R: The data are unusable (the compound/analyte may or may not be present). Resampling and reanalysis are necessary for verification

SVOC: SemiVolatile Organic Compound

U: The compound/analyte was analyzed for, but not detected. The associated numerical value is the sample quantitation limit

ug/kg: micrograms per kilogram

UJ: The compound/analyte was analyzed for, but not detected. The sample quantitation limit is an estimated quantity

VOC: Volatile Organic Compound

TABLE 3.17
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 5C, 2-12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	BH-181		BH-181		SB-136-04		SB-136-04		SB-140-04		SB-141-04		SB-141-04		SB-142-04	
			Field Sample ID:	S-111104-NZ-036		S-111104-NZ-037		SB-136-04		SB-136-04		SB-140-04		SB-141-04 DUP		SB-141-04		SB-142-04	
			Date:	11/11/2004		11/11/2004		2/5/2004		2/5/2004		1/27/2004		1/27/2004		1/27/2004		1/27/2004	
	C/I	Construction	Depth:	8 - 10		11.5 - 13.5		8 - 10		11.5 - 13.5		8 - 10		8 - 10		8 - 10		8 - 10	
VOCs																			
1,1,1-Trichloroethane	640,000	640,000	ug/kg	7.7	U	5.1	U	300	U	5.2	U	240	U	360	UJ	410	U	7.1	U
1,1,2,2-Tetrachloroethane	75,000	670,000	ug/kg	7.7	U	5.1	U	300	U	5.2	U	240	U	360	UJ	410	U	7.1	U
1,1,2-Trichloroethane	140,000	1,200,000	ug/kg	7.7	U	5.1	U	300	U	5.2	U	240	U	360	UJ	410	U	7.1	U
1,1-Dichloroethane	420,000	1,700,000	ug/kg	7.7	U	5.1	U	300	U	5.2	U	240	U	360	UJ	410	U	7.1	U
1,1-Dichloroethene	1,200,000	360,000	ug/kg	7.7	U	5.1	U	300	U	5.2	U	240	U	360	UJ	410	U	7.1	U
1,2,4-Trichlorobenzene, VOC	400,000	400,000	ug/kg	7.7	UJ	5.1	UJ	300	U	5.2	U	240	U	360	UJ	410	U	7.1	U
1,2-Dibromo-3-chloropropane	1,700	15,000	ug/kg	15	U	10	U	600	U	10	U	480	U	710	UJ	820	U	14	U
1,2-Dibromoethane	4,400	38,000	ug/kg	7.7	U	5.1	U	300	U	5.2	U	240	U	360	UJ	410	U	7.1	U
1,2-Dichlorobenzene, VOC	380,000	380,000	ug/kg	7.7	U	5.1	U	300	U	5.2	U	240	U	360	UJ	410	U	7.1	U
1,2-Dichloroethane	56,000	480,000	ug/kg	7.7	U	5.1	U	300	U	5.2	U	240	U	360	UJ	410	U	7.1	U
1,2-Dichloropropane	120,000	180,000	ug/kg	7.7	U	5.1	U	300	U	5.2	U	240	U	360	UJ	410	U	7.1	U
1,3-Dichlorobenzene, VOC	NA	NA	ug/kg	7.7	U	5.1	U	300	U	5.2	U	240	U	360	UJ	410	U	7.1	U
1,4-Dichlorobenzene, VOC	310,000	2,600,000	ug/kg	7.7	U	5.1	U	300	U	5.2	U	240	U	360	UJ	410	U	7.1	U
2-Butanone	28,000,000	28,000,000	ug/kg	**6**	**J**	**4.1**	**J**	1200	U	21	U	950	UJ	1400	UJ	1600	UJ	28	U
2-Hexanone	NA	NA	ug/kg	31	U	21	U	1200	U	21	U	950	UJ	1400	UJ	1600	UJ	28	U
4-Methyl-2-Pentanone	3,400,000	3,400,000	ug/kg	31	U	21	U	1200	U	21	U	950	U	1400	UJ	1600	U	28	U
Acetone	110,000,000	110,000,000	ug/kg	**32**		**19**	**J**	**430**	**J**	21	U	950	UJ	1400	UJ	1600	UJ	28	U
Benzene	140,000	1,200,000	ug/kg	**11**		**4.6**	**J**	300	U	5.2	U	240	U	360	UJ	410	U	7.1	U
Bromodichloromethane	35,000	300,000	ug/kg	7.7	U	5.1	U	300	U	5.2	U	240	U	360	UJ	410	U	7.1	U
Bromoform	6,200,000	130,000,000	ug/kg	7.7	U	5.1	U	300	U	5.2	U	240	U	360	UJ	410	U	7.1	UJ
Bromomethane	82,000	550,000	ug/kg	7.7	U	5.1	U	**190**	**J**	5.2	U	240	U	360	UJ	410	U	7.1	U
Carbon disulfide	740,000	740,000	ug/kg	7.7	U	5.1	U	300	U	5.2	U	240	U	360	UJ	410	U	7.1	U
Carbon tetrachloride	79,000	460,000	ug/kg	7.7	U	5.1	U	300	U	5.2	U	240	U	360	UJ	410	U	7.1	U
Chlorobenzene	760,000	760,000	ug/kg	7.7	U	5.1	U	300	U	5.2	U	240	U	360	UJ	410	U	7.1	U
Chloroethane	2,100,000	2,100,000	ug/kg	7.7	U	5.1	U	300	U	5.2	U	240	U	360	UJ	410	U	7.1	U
Chloroform	38,000	320,000	ug/kg	7.7	U	5.1	U	300	U	5.2	U	240	U	360	UJ	410	U	7.1	U
Chloromethane	1,300,000	1,300,000	ug/kg	7.7	U	5.1	U	300	U	5.2	U	240	U	360	UJ	410	U	7.1	U
cis-1,2-Dichloroethene	2,400,000	2,400,000	ug/kg	**2.5**	**J**	5.1	U	**40**	**J**	**11**		120	U	180	UJ	200	U	3.5	U
cis-1,3-Dichloropropene	NA	NA	ug/kg	7.7	U	5.1	U	300	U	5.2	U	240	U	360	UJ	410	U	7.1	U
Cyclohexane	120,000	120,000	ug/kg	**1.4**	**J**	**7.7**	**J**	600	U	10	U	480	U	710	UJ	820	U	14	U
Dibromochloromethane	84,000	770,000	ug/kg	7.7	U	5.1	U	300	U	5.2	U	240	U	360	UJ	410	U	7.1	U
Dichlorodifluoromethane	850,000	850,000	ug/kg	7.7	UJ	5.1	UJ	300	U	5.2	U	240	U	360	UJ	410	U	7.1	U
Ethylbenzene	480,000	480,000	ug/kg	7.7	U	**6.8**		300	U	5.2	U	240	U	360	UJ	410	U	7.1	U
Isopropylbenzene, VOC	270,000	270,000	ug/kg	7.7	U	5.1	U	300	U	5.2	U	240	U	360	UJ	410	U	7.1	U
Methyl acetate	NA	NA	ug/kg	15	U	10	U	**4000**		10	U	480	U	710	UJ	820	U	14	U
Methyl cyclohexane	NA	NA	ug/kg	**1.7**	**J**	**12**		600	U	10	U	480	U	710	UJ	820	U	14	U
Methyl tert butyl ether	5,700,000	8,900,000	ug/kg	31	U	21	U	1200	U	21	U	950	U	1400	UJ	1600	U	28	U
Methylene chloride	3,300,000	3,300,000	ug/kg	7.7	U	6.5	U	**160**	**J**	**4**	**J**	240	U	360	UJ	410	U	7.1	U
Styrene	870,000	870,000	ug/kg	7.7	U	5.1	U	300	U	5.2	U	240	U	360	UJ	410	U	7.1	U
Tetrachloroethene	170,000	170,000	ug/kg	**60**		**1.8**	**J**	**88**	**J**	**71**		**340**		**700**	**J**	**840**		**77**	
Toluene	820,000	820,000	ug/kg	**9.2**		**16**		300	U	5.2	U	240	U	360	UJ	410	U	7.1	U
trans-1,2-Dichloroethene	1,700,000	1,700,000	ug/kg	7.7	U	5.1	U	150	U	2.6	U	120	U	180	UJ	200	U	3.5	U
trans-1,3-Dichloropropene	NA	NA	ug/kg	7.7	U	5.1	U	300	U	5.2	U	240	U	360	UJ	410	U	7.1	U
Trichloroethene	51,000	17,000	ug/kg	**60**		**2**	**J**	**120**	**J**	**92**		**76**	**J**	**110**	**J**	**190**	**J**	**26**	
Trichlorofluoromethane	1,200,000	1,200,000	ug/kg	7.7	U	5.1	U	300	U	5.2	U	240	U	360	UJ	410	U	7.1	U
Trifluorotrichloroethane	NA	NA	ug/kg	7.7	U	5.1	U	300	U	5.2	U	240	U	360	UJ	410	U	7.1	U
Vinyl chloride	50,000	280,000	ug/kg	7.7	U	5.1	U	300	U	5.2	U	240	U	360	UJ	410	U	7.1	U
Xylene (Total)	260,000	260,000	ug/kg	15	U	**11**		600	U	10	U	480	U	710	UJ	820	U	14	U

TABLE 3.17
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 5C, 2-12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	SB-142-04		SB-143-04		SB-153-04		SB-153-04		SB-154-04		SB-154-04		SB-155-04		SB-155-04		SB-156-04	
			Field Sample ID:	SB-142-04		SB-143-04		SB-153-04		SB-153-04		SB-154-04		SB-154-04		SB-155-04 DUP		SB-155-04		SB-156-04	
			Date:	1/27/2004		1/27/2004		2/3/2004		2/3/2004		2/5/2004		2/5/2004		2/3/2004		2/3/2004		2/3/2004	
	C/I	Construction	Depth:	11 - 13		8 - 10		8 - 10		11 - 13		8 - 10		11.5 - 13.5		8 - 10		8 - 10		8 - 10	
VOCs																					
1,1,1-Trichloroethane	640,000	640,000	ug/kg	4.6	U	5.9	U	6.2	U	250	U	2800	U	4600	U	5.5	U	4.8	U	**1.4**	**J**
1,1,2,2-Tetrachloroethane	75,000	670,000	ug/kg	4.6	U	5.9	U	6.2	U	250	U	2800	U	4600	U	5.5	U	4.8	U	5.1	U
1,1,2-Trichloroethane	140,000	1,200,000	ug/kg	4.6	U	5.9	U	6.2	U	250	U	2800	U	4600	U	5.5	U	4.8	U	5.1	U
1,1-Dichloroethane	420,000	1,700,000	ug/kg	4.6	U	5.9	U	6.2	U	250	U	2800	U	4600	U	5.5	U	4.8	U	**0.61**	**J**
1,1-Dichloroethene	1,200,000	360,000	ug/kg	4.6	U	5.9	U	6.2	U	250	U	2800	U	4600	U	5.5	U	4.8	U	5.1	U
1,2,4-Trichlorobenzene, VOC	400,000	400,000	ug/kg	4.6	U	5.9	U	6.2	U	250	U	2800	U	4600	U	5.5	U	4.8	U	5.1	U
1,2-Dibromo-3-chloropropane	1,700	15,000	ug/kg	9.3	U	12	U	12	U	510	U	5600	U	9100	U	11	U	9.6	U	10	U
1,2-Dibromoethane	4,400	38,000	ug/kg	4.6	U	5.9	U	6.2	U	250	U	2800	U	4600	U	5.5	U	4.8	U	5.1	U
1,2-Dichlorobenzene, VOC	380,000	380,000	ug/kg	4.6	U	5.9	U	6.2	U	250	U	2800	U	4600	U	5.5	U	4.8	U	5.1	U
1,2-Dichloroethane	56,000	480,000	ug/kg	4.6	U	5.9	U	6.2	U	250	U	2800	U	4600	U	5.5	U	4.8	U	5.1	U
1,2-Dichloropropane	120,000	180,000	ug/kg	4.6	U	5.9	U	6.2	U	250	U	2800	U	4600	U	5.5	U	4.8	U	5.1	U
1,3-Dichlorobenzene, VOC	NA	NA	ug/kg	4.6	U	5.9	U	6.2	U	250	U	2800	U	4600	U	5.5	U	4.8	U	5.1	U
1,4-Dichlorobenzene, VOC	310,000	2,600,000	ug/kg	4.6	U	5.9	U	6.2	U	250	U	2800	U	4600	U	5.5	U	4.8	U	5.1	U
2-Butanone	28,000,000	28,000,000	ug/kg	19	U	24	U	25	U	1000	UJ	11000	U	18000	U	22	U	19	U	20	U
2-Hexanone	NA	NA	ug/kg	19	U	24	U	25	U	1000	U	11000	U	18000	U	22	U	19	U	20	U
4-Methyl-2-Pentanone	3,400,000	3,400,000	ug/kg	19	U	24	U	25	U	1000	U	11000	U	18000	U	22	U	19	U	20	U
Acetone	110,000,000	110,000,000	ug/kg	19	U	24	U	**7.2**	**J**	1000	UJ	11000	U	18000	U	22	U	19	U	20	U
Benzene	140,000	1,200,000	ug/kg	4.6	U	5.9	U	6.2	U	250	U	2800	U	4600	U	5.5	U	4.8	U	5.1	U
Bromodichloromethane	35,000	300,000	ug/kg	4.6	U	5.9	U	6.2	U	250	U	2800	U	4600	U	5.5	U	4.8	U	5.1	U
Bromoform	6,200,000	130,000,000	ug/kg	4.6	UJ	5.9	UJ	6.2	U	250	U	2800	U	4600	U	5.5	U	4.8	U	5.1	U
Bromomethane	82,000	550,000	ug/kg	4.6	U	5.9	U	6.2	U	250	U	2800	U	4600	U	5.5	U	4.8	U	5.1	U
Carbon disulfide	740,000	740,000	ug/kg	4.6	U	5.9	U	6.2	U	250	U	2800	U	4600	U	5.5	U	4.8	U	5.1	U
Carbon tetrachloride	79,000	460,000	ug/kg	4.6	U	5.9	U	6.2	U	250	U	2800	U	4600	U	5.5	U	4.8	U	5.1	U
Chlorobenzene	760,000	760,000	ug/kg	4.6	U	5.9	U	6.2	U	250	U	2800	U	4600	U	5.5	U	4.8	U	5.1	U
Chloroethane	2,100,000	2,100,000	ug/kg	4.6	U	5.9	U	6.2	U	250	R	2800	U	4600	U	5.5	U	4.8	U	5.1	U
Chloroform	38,000	320,000	ug/kg	4.6	U	5.9	U	6.2	U	250	U	2800	U	4600	U	5.5	U	4.8	U	5.1	U
Chloromethane	1,300,000	1,300,000	ug/kg	4.6	U	5.9	U	6.2	U	250	U	2800	U	4600	U	5.5	U	4.8	U	5.1	U
cis-1,2-Dichloroethene	2,400,000	2,400,000	ug/kg	2.3	U	3	U	3.1	U	130	U	**370**	**J**	2300	U	2.8	U	2.4	U	**2.7**	
cis-1,3-Dichloropropene	NA	NA	ug/kg	4.6	U	5.9	U	6.2	U	250	U	2800	U	4600	U	5.5	U	4.8	U	5.1	U
Cyclohexane	120,000	120,000	ug/kg	9.3	U	12	U	12	U	510	U	5600	U	9100	U	11	U	9.6	U	10	U
Dibromochloromethane	84,000	770,000	ug/kg	4.6	U	5.9	U	6.2	U	250	U	2800	U	4600	U	5.5	U	4.8	U	5.1	U
Dichlorodifluoromethane	850,000	850,000	ug/kg	4.6	U	5.9	U	6.2	UJ	250	U	2800	U	4600	U	5.5	UJ	4.8	UJ	5.1	UJ
Ethylbenzene	480,000	480,000	ug/kg	4.6	U	5.9	U	6.2	U	250	U	2800	U	4600	U	5.5	U	4.8	U	5.1	U
Isopropylbenzene, VOC	270,000	270,000	ug/kg	4.6	U	5.9	U	6.2	U	250	U	2800	U	4600	U	5.5	U	4.8	U	5.1	U
Methyl acetate	NA	NA	ug/kg	9.3	U	12	U	12	U	510	U	5600	U	9100	U	11	U	9.6	U	10	U
Methyl cyclohexane	NA	NA	ug/kg	9.3	U	12	U	12	U	510	U	5600	U	9100	U	11	U	9.6	U	10	U
Methyl tert butyl ether	5,700,000	8,900,000	ug/kg	19	U	24	U	25	U	1000	U	11000	U	18000	U	22	U	19	U	20	U
Methylene chloride	3,300,000	3,300,000	ug/kg	4.6	U	5.9	U	6.2	U	250	U	**1600**	**J**	**2600**	**J**	5.5	U	4.8	U	5.1	U
Styrene	870,000	870,000	ug/kg	4.6	U	5.9	U	6.2	U	250	U	2800	U	4600	U	5.5	U	4.8	U	5.1	U
Tetrachloroethene	170,000	170,000	ug/kg	**1.3**	**J**	**15**		**150**		**1200**		**66000**		**130000**		**10**		**4.5**	**J**	**98**	
Toluene	820,000	820,000	ug/kg	4.6	U	**0.58**	**J**	6.2	U	250	U	2800	U	4600	U	**0.61**	**J**	4.8	U	5.1	U
trans-1,2-Dichloroethene	1,700,000	1,700,000	ug/kg	2.3	U	3	U	3.1	U	130	U	1400	U	2300	U	2.8	U	2.4	U	2.6	U
trans-1,3-Dichloropropene	NA	NA	ug/kg	4.6	U	5.9	U	6.2	U	250	U	2800	U	4600	U	5.5	U	4.8	U	5.1	U
Trichloroethene	51,000	17,000	ug/kg	**1.5**	**J**	**9.5**		**12**		**77**	**J**	**820**	**J**	**1900**	**J**	**7.1**		**1.5**	**J**	**100**	
Trichlorofluoromethane	1,200,000	1,200,000	ug/kg	4.6	U	5.9	U	6.2	U	250	U	2800	U	4600	U	5.5	U	4.8	U	5.1	U
Trifluorotrichloroethane	NA	NA	ug/kg	4.6	U	5.9	U	6.2	U	250	U	2800	U	4600	U	5.5	U	4.8	U	5.1	U
Vinyl chloride	50,000	280,000	ug/kg	4.6	U	5.9	U	6.2	U	250	U	2800	U	4600	U	5.5	U	4.8	U	5.1	U
Xylene (Total)	260,000	260,000	ug/kg	9.3	U	12	U	12	U	510	U	5600	U	9100	U	11	U	9.6	U	10	U

TABLE 3.17
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 5C, 2-12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	SB-33-02		TT-SB251		TT-SB251B		TT-SB251B		TT-SB251B		Maximum Detected Concentration	
			Field Sample ID:	SB-33-02		TT-SB251-G-03		TT-SB251B-G-08 DP		TT-SB251B-G-08		TT-SB251B-G-10			
			Date:	4/12/2002		4/3/2013		4/4/2013		4/4/2013		4/4/2013			
	C/I	Construction	Depth:	9 - 11		2 - 3		6 - 8		6 - 8		8 - 10			
VOCs															
1,1,1-Trichloroethane	640,000	640,000	ug/kg	270	U	-		-		-		-		**1.4**	**J**
1,1,2,2-Tetrachloroethane	75,000	670,000	ug/kg	270	U	-		-		-		-		-	
1,1,2-Trichloroethane	140,000	1,200,000	ug/kg	270	U	-		-		-		-		-	
1,1-Dichloroethane	420,000	1,700,000	ug/kg	270	U	-		-		-		-		**0.61**	**J**
1,1-Dichloroethene	1,200,000	360,000	ug/kg	270	U	-		-		-		-		-	
1,2,4-Trichlorobenzene, VOC	400,000	400,000	ug/kg	270	UJ	-		-		-		-		-	
1,2-Dibromo-3-chloropropane	1,700	15,000	ug/kg	530	U	-		-		-		-		-	
1,2-Dibromoethane	4,400	38,000	ug/kg	270	U	-		-		-		-		-	
1,2-Dichlorobenzene, VOC	380,000	380,000	ug/kg	270	U	-		-		-		-		-	
1,2-Dichloroethane	56,000	480,000	ug/kg	270	U	-		-		-		-		-	
1,2-Dichloropropane	120,000	180,000	ug/kg	270	U	-		-		-		-		-	
1,3-Dichlorobenzene, VOC	NA	NA	ug/kg	270	U	-		-		-		-		-	
1,4-Dichlorobenzene, VOC	310,000	2,600,000	ug/kg	270	U	-		-		-		-		-	
2-Butanone	28,000,000	28,000,000	ug/kg	1100	U	-		-		-		-		**6**	**J**
2-Hexanone	NA	NA	ug/kg	1100	U	-		-		-		-		-	
4-Methyl-2-Pentanone	3,400,000	3,400,000	ug/kg	1100	U	-		-		-		-		-	
Acetone	110,000,000	110,000,000	ug/kg	1100	U	-		-		-		-		**430**	**J**
Benzene	140,000	1,200,000	ug/kg	270	U	-		-		-		-		**11**	
Bromodichloromethane	35,000	300,000	ug/kg	270	U	-		-		-		-		-	
Bromoform	6,200,000	130,000,000	ug/kg	270	U	-		-		-		-		-	
Bromomethane	82,000	550,000	ug/kg	270	U	-		-		-		-		**190**	**J**
Carbon disulfide	740,000	740,000	ug/kg	270	U	-		-		-		-		-	
Carbon tetrachloride	79,000	460,000	ug/kg	270	U	-		-		-		-		-	
Chlorobenzene	760,000	760,000	ug/kg	270	U	-		-		-		-		-	
Chloroethane	2,100,000	2,100,000	ug/kg	270	U	-		-		-		-		-	
Chloroform	38,000	320,000	ug/kg	270	U	-		-		-		-		-	
Chloromethane	1,300,000	1,300,000	ug/kg	270	U	-		-		-		-		-	
cis-1,2-Dichloroethene	2,400,000	2,400,000	ug/kg	130	U	-		-		-		-		**370**	**J**
cis-1,3-Dichloropropene	NA	NA	ug/kg	270	U	-		-		-		-		-	
Cyclohexane	120,000	120,000	ug/kg	530	U	-		-		-		-		**7.7**	**J**
Dibromochloromethane	84,000	770,000	ug/kg	270	U	-		-		-		-		-	
Dichlorodifluoromethane	850,000	850,000	ug/kg	270	U	-		-		-		-		-	
Ethylbenzene	480,000	480,000	ug/kg	270	U	-		-		-		-		**6.8**	
Isopropylbenzene, VOC	270,000	270,000	ug/kg	270	U	-		-		-		-		-	
Methyl acetate	NA	NA	ug/kg	530	U	-		-		-		-		**4000**	
Methyl cyclohexane	NA	NA	ug/kg	530	U	-		-		-		-		**12**	
Methyl tert butyl ether	5,700,000	8,900,000	ug/kg	1100	U	-		-		-		-		-	
Methylene chloride	3,300,000	3,300,000	ug/kg	270	U	-		-		-		-		**2600**	**J**
Styrene	870,000	870,000	ug/kg	270	U	-		-		-		-		-	
Tetrachloroethene	170,000	170,000	ug/kg	**2000**		-		-		-		-		**130000**	
Toluene	820,000	820,000	ug/kg	270	U	-		-		-		-		**16**	
trans-1,2-Dichloroethene	1,700,000	1,700,000	ug/kg	130	U	-		-		-		-		-	
trans-1,3-Dichloropropene	NA	NA	ug/kg	270	U	-		-		-		-		-	
Trichloroethene	51,000	17,000	ug/kg	**210**	**J**	-		-		-		-		**1900**	**J**
Trichlorofluoromethane	1,200,000	1,200,000	ug/kg	270	U	-		-		-		-		-	
Trifluorotrichloroethane	NA	NA	ug/kg	270	U	-		-		-		-		-	
Vinyl chloride	50,000	280,000	ug/kg	270	U	-		-		-		-		-	
Xylene (Total)	260,000	260,000	ug/kg	530	U	-		-		-		-		**11**	

TABLE 3.17
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 5C, 2-12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	BH-181		BH-181		SB-136-04		SB-136-04		SB-140-04		SB-141-04		SB-141-04		SB-142-04	
			Field Sample ID:	S-111104-NZ-036		S-111104-NZ-037		SB-136-04		SB-136-04		SB-140-04		SB-141-04 DUP		SB-141-04		SB-142-04	
			Date:	11/11/2004		11/11/2004		2/5/2004		2/5/2004		1/27/2004		1/27/2004		1/27/2004		1/27/2004	
	C/I	Construction	Depth:	8 - 10		11.5 - 13.5		8 - 10		11.5 - 13.5		8 - 10		8 - 10		8 - 10		8 - 10	
SVOCs																			
2,2-oxybis(2-Chloropropane)	NA	NA	ug/kg	-		-		3900	U	18000	U	350	U	460	U	460	U	470	U
2,4,5-Trichlorophenol	180,000,000	1,000,000,000	ug/kg	-		-		3900	U	18000	U	350	U	460	U	460	U	470	U
2,4,6-Trichlorophenol	1,800,000	1,400,000	ug/kg	-		-		3900	U	18000	U	350	U	460	U	460	U	470	U
2,4-Dichlorophenol	NA	NA	ug/kg	-		-		3900	U	18000	U	350	U	460	U	460	U	470	U
2,4-Dimethylphenol	35,000,000	85,000,000	ug/kg	-		-		3900	U	18000	U	350	U	460	U	460	U	470	U
2,4-Dinitrophenol	3,500,000	28,000,000	ug/kg	-		-		19000	U	86000	U	1700	U	2200	U	2300	U	2300	U
2,4-Dinitrotoluene	160,000	2,800,000	ug/kg	-		-		3900	U	18000	U	350	U	460	U	460	U	470	U
2,6-Dinitrotoluene	NA	NA	ug/kg	-		-		3900	U	18000	U	350	U	460	U	460	U	470	U
2-Chloronaphthalene	330,000,000	1,000,000,000	ug/kg	-		-		3900	U	18000	U	350	U	460	U	460	U	470	U
2-Chlorophenol	20,000,000	22,000,000	ug/kg	-		-		3900	U	18000	U	350	U	460	U	460	U	470	U
2-Methylnaphthalene	6,000,000	5,200,000	ug/kg	-		-		3900	U	18000	U	350	U	460	U	460	U	470	U
2-Methylphenol	88,000,000	710,000,000	ug/kg	-		-		3900	U	18000	U	350	U	460	U	460	U	470	U
2-Nitroaniline	NA	NA	ug/kg	-		-		19000	U	86000	U	1700	U	2200	U	2300	U	2300	U
2-Nitrophenol	NA	NA	ug/kg	-		-		3900	U	18000	U	350	U	460	U	460	U	470	U
3,3-Dichlorobenzidine	NA	NA	ug/kg	-		-		19000	U	86000	U	1700	U	2200	U	2300	U	2300	U
3-Nitroaniline	NA	NA	ug/kg	-		-		19000	U	86000	U	1700	U	2200	U	2300	U	2300	U
4,6-Dinitro-2-methylphenol	140,000	110,000	ug/kg	-		-		19000	U	86000	U	1700	U	2200	U	2300	U	2300	U
4-Bromophenyl phenyl ether	NA	NA	ug/kg	-		-		3900	U	18000	U	350	U	460	U	460	U	470	U
4-Chloro-3-methylphenol	180,000,000	140,000,000	ug/kg	-		-		3900	U	18000	U	350	U	460	U	460	U	470	U
4-Chloroaniline	250,000	710,000	ug/kg	-		-		3900	U	18000	U	350	U	460	U	460	U	470	U
4-Chlorophenyl phenyl ether	NA	NA	ug/kg	-		-		3900	U	18000	U	350	U	460	U	460	U	470	U
4-Methylphenol	180,000,000	28,000,000	ug/kg	-		-		3900	U	18000	U	350	U	460	U	460	U	470	U
4-Nitroaniline	2,500,000	14,000,000	ug/kg	-		-		19000	U	86000	U	1700	U	2200	U	2300	U	2300	U
4-Nitrophenol	NA	NA	ug/kg	-		-		19000	U	86000	U	1700	U	2200	U	2300	U	2300	U
Acenaphthene	90,000,000	780,000,000	ug/kg	-		-		3900	U	18000	U	350	U	460	U	460	U	470	U
Acenaphthylene	90,000,000	780,000,000	ug/kg	-		-		3900	U	18000	U	350	U	460	U	460	U	470	U
Acetophenone	2,500,000	2,500,000	ug/kg	-		-		3900	U	18000	U	350	U	460	U	460	U	470	U
Anthracene	450,000,000	1,000,000,000	ug/kg	-		-		3900	U	18000	U	350	U	460	U	460	U	470	U
Atrazine	NA	NA	ug/kg	-		-		3900	U	18000	U	350	U	460	U	460	U	470	U
Benzaldehyde	NA	NA	ug/kg	-		-		3900	U	18000	U	350	U	460	U	460	U	470	U
Benzo(a)anthracene	58,000	1,200,000	ug/kg	-		-		3900	U	18000	U	350	U	460	U	460	U	470	U
Benzo(a)pyrene	5,800	120,000	ug/kg	-		-		3900	U	18000	U	350	U	460	U	460	U	470	U
Benzo(b)fluoranthene	58,000	1,200,000	ug/kg	-		-		**230**	**J**	18000	U	350	U	460	U	460	U	470	U
Benzo(g,h,i)perylene	45,000,000	390,000,000	ug/kg	-		-		3900	U	18000	U	350	U	460	U	460	U	470	U
Benzo(k)fluoranthene	580,000	12,000,000	ug/kg	-		-		3900	U	18000	U	350	U	460	U	460	U	470	U
Biphenyl	14,000,000	190,000,000	ug/kg	-		-		3900	U	18000	U	350	U	460	U	460	U	470	U
bis(2-Chloroethoxy)methane	5,300,000	43,000,000	ug/kg	-		-		3900	U	18000	U	350	U	460	U	460	U	470	U
bis(2-Chloroethyl)ether	30,000	290,000	ug/kg	-		-		3900	U	18000	U	350	U	460	U	460	U	470	U
bis(2-Ethylhexyl)phthalate	3,500,000	71,000,000	ug/kg	-		-		3900	U	18000	U	350	U	460	U	460	U	**90**	**J**
Butyl benzylphthalate	26,000,000	520,000,000	ug/kg	-		-		3900	U	18000	U	350	U	460	U	460	U	470	U
Caprolactam	NA	NA	ug/kg	-		-		3900	U	18000	U	350	U	460	U	460	U	470	U
Carbazole	2,500,000	50,000,000	ug/kg	-		-		3900	U	18000	U	350	U	460	U	460	U	470	U
Chrysene	5,800,000	120,000,000	ug/kg	-		-		3900	U	18000	U	350	U	460	U	460	U	470	U
Dibenz(a,h)anthracene	5,800	120,000	ug/kg	-		-		3900	U	18000	U	350	U	460	U	460	U	470	U
Dibenzofuran	4,100,000	2,100,000	ug/kg	-		-		3900	U	18000	U	350	U	460	U	460	U	470	U
Diethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	-		-		3900	U	18000	U	350	U	460	U	460	U	470	U
Dimethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	-		-		3900	U	18000	U	350	U	460	U	460	U	470	U
Di-n-butylphthalate	180,000,000	430,000,000	ug/kg	-		-		3900	U	18000	U	350	U	460	U	460	U	470	U
Di-N-Octyl phthalate	18,000,000	140,000,000	ug/kg	-		-		3900	U	18000	U	350	U	460	U	460	U	470	U
Fluoranthene	60,000,000	160,000,000	ug/kg	-		-		**280**	**J**	18000	U	350	U	460	U	460	U	470	U
Fluorene	60,000,000	520,000,000	ug/kg	-		-		3900	U	18000	U	350	U	460	U	460	U	470	U
Hexachlorobenzene	31,000	14,000	ug/kg	-		-		3900	U	18000	U	350	U	460	U	460	U	470	U
Hexachlorobutadiene, SVOC	630,000	1,400,000	ug/kg	-		-		3900	U	18000	U	350	U	460	U	460	U	470	U
Hexachlorocyclopentadiene	11,000,000	26,000,000	ug/kg	-		-		19000	U	86000	U	1700	U	2200	U	2300	U	2300	U
Hexachloroethane	1,200,000	3,000,000	ug/kg	-		-		3900	U	18000	U	350	U	460	U	460	U	470	U
Indeno(1,2,3-cd)pyrene	58,000	1,200,000	ug/kg	-		-		3900	U	18000	U	350	U	460	U	460	U	470	U
Isophorone	52,000,000	1,000,000,000	ug/kg	-		-		3900	U	18000	U	350	U	460	U	460	U	470	U
Naphthalene, SVOC	450,000	560,000	ug/kg	-		-		3900	U	18000	U	350	U	460	U	460	U	470	U
Nitrobenzene	610,000	3,000,000	ug/kg	-		-		3900	U	18000	U	350	U	460	U	460	U	470	U
N-Nitrosodi-n-propylamine	7,000	140,000	ug/kg	-		-		3900	U	18000	U	350	U	460	U	460	U	470	U
N-Nitrosodiphenylamine	10,000,000	200,000,000	ug/kg	-		-		3900	U	18000	U	350	U	460	U	460	U	470	U
Pentachlorophenol	67,000	950,000	ug/kg	-		-		3900	U	18000	U	350	U	460	U	460	U	470	U
Phenanthrene	450,000,000	1,000,000,000	ug/kg	-		-		3900	U	18000	U	350	U	460	U	460	U	470	U
Phenol	530,000,000	840,000,000	ug/kg	-		-		3900	U	18000	U	350	U	460	U	460	U	470	U
Pyrene, SVOC	45,000,000	390,000,000	ug/kg	-		-		**230**	**J**	18000	U	350	U	460	U	460	U	470	U

TABLE 3.17
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 5C, 2-12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	SB-142-04		SB-143-04		SB-153-04		SB-153-04		SB-154-04		SB-154-04		SB-155-04		SB-155-04		SB-156-04	
			Field Sample ID:	SB-142-04		SB-143-04		SB-153-04		SB-153-04		SB-154-04		SB-154-04		SB-155-04 DUP		SB-155-04		SB-156-04	
			Date:	1/27/2004		1/27/2004		2/3/2004		2/3/2004		2/5/2004		2/5/2004		2/3/2004		2/3/2004		2/3/2004	
	C/I	Construction	Depth:	11 - 13		8 - 10		8 - 10		11 - 13		8 - 10		11.5 - 13.5		8 - 10		8 - 10		8 - 10	
SVOCs																					
2,2-oxybis(2-Chloropropane)	NA	NA	ug/kg	17000	U	440	U	-		-		-		-		-		-		-	
2,4,5-Trichlorophenol	180,000,000	1,000,000,000	ug/kg	17000	U	440	U	-		-		-		-		-		-		-	
2,4,6-Trichlorophenol	1,800,000	1,400,000	ug/kg	17000	U	440	U	-		-		-		-		-		-		-	
2,4-Dichlorophenol	NA	NA	ug/kg	17000	U	440	U	-		-		-		-		-		-		-	
2,4-Dimethylphenol	35,000,000	85,000,000	ug/kg	17000	U	440	U	-		-		-		-		-		-		-	
2,4-Dinitrophenol	3,500,000	28,000,000	ug/kg	85000	U	2100	U	-		-		-		-		-		-		-	
2,4-Dinitrotoluene	160,000	2,800,000	ug/kg	17000	U	440	U	-		-		-		-		-		-		-	
2,6-Dinitrotoluene	NA	NA	ug/kg	17000	U	440	U	-		-		-		-		-		-		-	
2-Chloronaphthalene	330,000,000	1,000,000,000	ug/kg	17000	U	440	U	-		-		-		-		-		-		-	
2-Chlorophenol	20,000,000	22,000,000	ug/kg	17000	U	440	U	-		-		-		-		-		-		-	
2-Methylnaphthalene	6,000,000	5,200,000	ug/kg	**1600**	**J**	440	U	-		-		-		-		-		-		-	
2-Methylphenol	88,000,000	710,000,000	ug/kg	17000	U	440	U	-		-		-		-		-		-		-	
2-Nitroaniline	NA	NA	ug/kg	85000	U	2100	U	-		-		-		-		-		-		-	
2-Nitrophenol	NA	NA	ug/kg	17000	U	440	U	-		-		-		-		-		-		-	
3,3-Dichlorobenzidine	NA	NA	ug/kg	85000	U	2100	U	-		-		-		-		-		-		-	
3-Nitroaniline	NA	NA	ug/kg	85000	U	2100	U	-		-		-		-		-		-		-	
4,6-Dinitro-2-methylphenol	140,000	110,000	ug/kg	85000	U	2100	U	-		-		-		-		-		-		-	
4-Bromophenyl phenyl ether	NA	NA	ug/kg	17000	U	440	U	-		-		-		-		-		-		-	
4-Chloro-3-methylphenol	180,000,000	140,000,000	ug/kg	17000	U	440	U	-		-		-		-		-		-		-	
4-Chloroaniline	250,000	710,000	ug/kg	17000	U	440	U	-		-		-		-		-		-		-	
4-Chlorophenyl phenyl ether	NA	NA	ug/kg	17000	U	440	U	-		-		-		-		-		-		-	
4-Methylphenol	180,000,000	28,000,000	ug/kg	17000	U	440	U	-		-		-		-		-		-		-	
4-Nitroaniline	2,500,000	14,000,000	ug/kg	85000	U	2100	U	-		-		-		-		-		-		-	
4-Nitrophenol	NA	NA	ug/kg	85000	U	2100	U	-		-		-		-		-		-		-	
Acenaphthene	90,000,000	780,000,000	ug/kg	17000	U	440	U	-		-		-		-		-		-		-	
Acenaphthylene	90,000,000	780,000,000	ug/kg	17000	U	440	U	-		-		-		-		-		-		-	
Acetophenone	2,500,000	2,500,000	ug/kg	17000	U	440	U	-		-		-		-		-		-		-	
Anthracene	450,000,000	1,000,000,000	ug/kg	17000	U	440	U	-		-		-		-		-		-		-	
Atrazine	NA	NA	ug/kg	17000	U	440	U	-		-		-		-		-		-		-	
Benzaldehyde	NA	NA	ug/kg	17000	U	440	U	-		-		-		-		-		-		-	
Benzo(a)anthracene	58,000	1,200,000	ug/kg	**1300**	**J**	440	U	-		-		-		-		-		-		-	
Benzo(a)pyrene	5,800	120,000	ug/kg	17000	U	440	U	-		-		-		-		-		-		-	
Benzo(b)fluoranthene	58,000	1,200,000	ug/kg	**1800**	**J**	440	U	-		-		-		-		-		-		-	
Benzo(g,h,i)perylene	45,000,000	390,000,000	ug/kg	17000	U	440	U	-		-		-		-		-		-		-	
Benzo(k)fluoranthene	580,000	12,000,000	ug/kg	17000	U	440	U	-		-		-		-		-		-		-	
Biphenyl	14,000,000	190,000,000	ug/kg	17000	U	440	U	-		-		-		-		-		-		-	
bis(2-Chloroethoxy)methane	5,300,000	43,000,000	ug/kg	17000	U	440	U	-		-		-		-		-		-		-	
bis(2-Chloroethyl)ether	30,000	290,000	ug/kg	17000	U	440	U	-		-		-		-		-		-		-	
bis(2-Ethylhexyl)phthalate	3,500,000	71,000,000	ug/kg	17000	U	440	U	-		-		-		-		-		-		-	
Butyl benzylphthalate	26,000,000	520,000,000	ug/kg	17000	U	440	U	-		-		-		-		-		-		-	
Caprolactam	NA	NA	ug/kg	17000	U	440	U	-		-		-		-		-		-		-	
Carbazole	2,500,000	50,000,000	ug/kg	17000	U	440	U	-		-		-		-		-		-		-	
Chrysene	5,800,000	120,000,000	ug/kg	**1900**	**J**	440	U	-		-		-		-		-		-		-	
Dibenz(a,h)anthracene	5,800	120,000	ug/kg	17000	U	440	U	-		-		-		-		-		-		-	
Dibenzofuran	4,100,000	2,100,000	ug/kg	17000	U	440	U	-		-		-		-		-		-		-	
Diethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	17000	U	440	U	-		-		-		-		-		-		-	
Dimethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	17000	U	440	U	-		-		-		-		-		-		-	
Di-n-butylphthalate	180,000,000	430,000,000	ug/kg	17000	U	440	U	-		-		-		-		-		-		-	
Di-N-Octyl phthalate	18,000,000	140,000,000	ug/kg	17000	U	440	U	-		-		-		-		-		-		-	
Fluoranthene	60,000,000	160,000,000	ug/kg	**6300**	**J**	440	U	-		-		-		-		-		-		-	
Fluorene	60,000,000	520,000,000	ug/kg	17000	U	440	U	-		-		-		-		-		-		-	
Hexachlorobenzene	31,000	14,000	ug/kg	17000	U	440	U	-		-		-		-		-		-		-	
Hexachlorobutadiene, SVOC	630,000	1,400,000	ug/kg	17000	U	440	U	-		-		-		-		-		-		-	
Hexachlorocyclopentadiene	11,000,000	26,000,000	ug/kg	85000	U	2100	U	-		-		-		-		-		-		-	
Hexachloroethane	1,200,000	3,000,000	ug/kg	17000	U	440	U	-		-		-		-		-		-		-	
Indeno(1,2,3-cd)pyrene	58,000	1,200,000	ug/kg	17000	U	440	U	-		-		-		-		-		-		-	
Isophorone	52,000,000	1,000,000,000	ug/kg	17000	U	440	U	-		-		-		-		-		-		-	
Naphthalene, SVOC	450,000	560,000	ug/kg	**2800**	**J**	440	U	-		-		-		-		-		-		-	
Nitrobenzene	610,000	3,000,000	ug/kg	17000	U	440	U	-		-		-		-		-		-		-	
N-Nitrosodi-n-propylamine	7,000	140,000	ug/kg	17000	U	440	U	-		-		-		-		-		-		-	
N-Nitrosodiphenylamine	10,000,000	200,000,000	ug/kg	17000	U	440	U	-		-		-		-		-		-		-	
Pentachlorophenol	67,000	950,000	ug/kg	17000	U	440	U	-		-		-		-		-		-		-	
Phenanthrene	450,000,000	1,000,000,000	ug/kg	**8300**	**J**	440	U	-		-		-		-		-		-		-	
Phenol	530,000,000	840,000,000	ug/kg	17000	U	440	U	-		-		-		-		-		-		-	
Pyrene, SVOC	45,000,000	390,000,000	ug/kg	**4700**	**J**	440	U	-		-		-		-		-		-		-	

TABLE 3.17
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 5C, 2-12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	SB-33-02		TT-SB251		TT-SB251B		TT-SB251B		TT-SB251B		Maximum Detected Concentration	
			Field Sample ID:	SB-33-02		TT-SB251-G-03		TT-SB251B-G-08 DP		TT-SB251B-G-08		TT-SB251B-G-10			
			Date:	4/12/2002		4/3/2013		4/4/2013		4/4/2013		4/4/2013			
	C/I	Construction	Depth:	9 - 11		2 - 3		6 - 8		6 - 8		8 - 10			
SVOCs															
2,2-oxybis(2-Chloropropane)	NA	NA	ug/kg	450	U	-		-		-		-		-	
2,4,5-Trichlorophenol	180,000,000	1,000,000,000	ug/kg	450	U	-		-		-		-		-	
2,4,6-Trichlorophenol	1,800,000	1,400,000	ug/kg	450	U	-		-		-		-		-	
2,4-Dichlorophenol	NA	NA	ug/kg	450	U	-		-		-		-		-	
2,4-Dimethylphenol	35,000,000	85,000,000	ug/kg	450	U	-		-		-		-		-	
2,4-Dinitrophenol	3,500,000	28,000,000	ug/kg	2200	U	-		-		-		-		-	
2,4-Dinitrotoluene	160,000	2,800,000	ug/kg	450	U	-		-		-		-		-	
2,6-Dinitrotoluene	NA	NA	ug/kg	450	U	-		-		-		-		-	
2-Chloronaphthalene	330,000,000	1,000,000,000	ug/kg	450	U	-		-		-		-		-	
2-Chlorophenol	20,000,000	22,000,000	ug/kg	450	U	-		-		-		-		-	
2-Methylnaphthalene	6,000,000	5,200,000	ug/kg	450	U	-		-		-		-		**1600**	**J**
2-Methylphenol	88,000,000	710,000,000	ug/kg	450	U	-		-		-		-		-	
2-Nitroaniline	NA	NA	ug/kg	2200	U	-		-		-		-		-	
2-Nitrophenol	NA	NA	ug/kg	450	U	-		-		-		-		-	
3,3-Dichlorobenzidine	NA	NA	ug/kg	2200	U	-		-		-		-		-	
3-Nitroaniline	NA	NA	ug/kg	2200	U	-		-		-		-		-	
4,6-Dinitro-2-methylphenol	140,000	110,000	ug/kg	2200	U	-		-		-		-		-	
4-Bromophenyl phenyl ether	NA	NA	ug/kg	450	U	-		-		-		-		-	
4-Chloro-3-methylphenol	180,000,000	140,000,000	ug/kg	450	U	-		-		-		-		-	
4-Chloroaniline	250,000	710,000	ug/kg	450	U	-		-		-		-		-	
4-Chlorophenyl phenyl ether	NA	NA	ug/kg	450	U	-		-		-		-		-	
4-Methylphenol	180,000,000	28,000,000	ug/kg	450	U	-		-		-		-		-	
4-Nitroaniline	2,500,000	14,000,000	ug/kg	2200	U	-		-		-		-		-	
4-Nitrophenol	NA	NA	ug/kg	2200	U	-		-		-		-		-	
Acenaphthene	90,000,000	780,000,000	ug/kg	450	U	-		-		-		-		-	
Acenaphthylene	90,000,000	780,000,000	ug/kg	450	U	-		-		-		-		-	
Acetophenone	2,500,000	2,500,000	ug/kg	450	U	-		-		-		-		-	
Anthracene	450,000,000	1,000,000,000	ug/kg	450	U	-		-		-		-		-	
Atrazine	NA	NA	ug/kg	450	U	-		-		-		-		-	
Benzaldehyde	NA	NA	ug/kg	450	U	-		-		-		-		-	
Benzo(a)anthracene	58,000	1,200,000	ug/kg	450	U	-		-		-		-		**1300**	**J**
Benzo(a)pyrene	5,800	120,000	ug/kg	450	U	-		-		-		-		-	
Benzo(b)fluoranthene	58,000	1,200,000	ug/kg	450	U	-		-		-		-		**1800**	**J**
Benzo(g,h,i)perylene	45,000,000	390,000,000	ug/kg	450	U	-		-		-		-		-	
Benzo(k)fluoranthene	580,000	12,000,000	ug/kg	450	U	-		-		-		-		-	
Biphenyl	14,000,000	190,000,000	ug/kg	450	U	-		-		-		-		-	
bis(2-Chloroethoxy)methane	5,300,000	43,000,000	ug/kg	450	U	-		-		-		-		-	
bis(2-Chloroethyl)ether	30,000	290,000	ug/kg	450	U	-		-		-		-		-	
bis(2-Ethylhexyl)phthalate	3,500,000	71,000,000	ug/kg	450	U	-		-		-		-		**90**	**J**
Butyl benzylphthalate	26,000,000	520,000,000	ug/kg	450	U	-		-		-		-		-	
Caprolactam	NA	NA	ug/kg	450	U	-		-		-		-		-	
Carbazole	2,500,000	50,000,000	ug/kg	450	U	-		-		-		-		-	
Chrysene	5,800,000	120,000,000	ug/kg	450	U	-		-		-		-		**1900**	**J**
Dibenz(a,h)anthracene	5,800	120,000	ug/kg	450	U	-		-		-		-		-	
Dibenzofuran	4,100,000	2,100,000	ug/kg	450	U	-		-		-		-		-	
Diethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	450	U	-		-		-		-		-	
Dimethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	450	U	-		-		-		-		-	
Di-n-butylphthalate	180,000,000	430,000,000	ug/kg	450	U	-		-		-		-		-	
Di-N-Octyl phthalate	18,000,000	140,000,000	ug/kg	450	U	-		-		-		-		-	
Fluoranthene	60,000,000	160,000,000	ug/kg	450	U	-		-		-		-		**6300**	**J**
Fluorene	60,000,000	520,000,000	ug/kg	450	U	-		-		-		-		-	
Hexachlorobenzene	31,000	14,000	ug/kg	450	U	-		-		-		-		-	
Hexachlorobutadiene, SVOC	630,000	1,400,000	ug/kg	450	U	-		-		-		-		-	
Hexachlorocyclopentadiene	11,000,000	26,000,000	ug/kg	2200	UJ	-		-		-		-		-	
Hexachloroethane	1,200,000	3,000,000	ug/kg	450	U	-		-		-		-		-	
Indeno(1,2,3-cd)pyrene	58,000	1,200,000	ug/kg	450	U	-		-		-		-		-	
Isophorone	52,000,000	1,000,000,000	ug/kg	450	U	-		-		-		-		-	
Naphthalene, SVOC	450,000	560,000	ug/kg	450	U	-		-		-		-		**2800**	**J**
Nitrobenzene	610,000	3,000,000	ug/kg	450	U	-		-		-		-		-	
N-Nitrosodi-n-propylamine	7,000	140,000	ug/kg	450	U	-		-		-		-		-	
N-Nitrosodiphenylamine	10,000,000	200,000,000	ug/kg	450	U	-		-		-		-		-	
Pentachlorophenol	67,000	950,000	ug/kg	450	U	-		-		-		-		-	
Phenanthrene	450,000,000	1,000,000,000	ug/kg	450	U	-		-		-		-		**8300**	**J**
Phenol	530,000,000	840,000,000	ug/kg	450	U	-		-		-		-		-	
Pyrene, SVOC	45,000,000	390,000,000	ug/kg	450	U	-		-		-		-		**4700**	**J**

TABLE 3.17
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 5C, 2-12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	BH-181		BH-181		SB-136-04		SB-136-04		SB-140-04		SB-141-04		SB-141-04		SB-142-04	
			Field Sample ID:	S-111104-NZ-036		S-111104-NZ-037		SB-136-04		SB-136-04		SB-140-04		SB-141-04 DUP		SB-141-04		SB-142-04	
			Date:	11/11/2004		11/11/2004		2/5/2004		2/5/2004		1/27/2004		1/27/2004		1/27/2004		1/27/2004	
	C/I	Construction	Depth:	8 - 10		11.5 - 13.5		8 - 10		11.5 - 13.5		8 - 10		8 - 10		8 - 10		8 - 10	
PCBs																			
Aroclor-1016	100,000	260,000	ug/kg	50	U	37	U	39	U	35	U	35	U	46	U	46	U	47	U
Aroclor-1221	14,000	210,000	ug/kg	50	U	37	U	39	U	35	U	35	U	46	U	46	U	47	U
Aroclor-1232	14,000	73,000	ug/kg	50	U	37	U	39	U	35	U	35	U	46	U	46	U	47	U
Aroclor-1242	20,000	440,000	ug/kg	50	U	37	U	39	U	35	U	35	U	46	U	46	U	47	U
Aroclor-1248	20,000	440,000	ug/kg	50	U	37	U	**17**	**J**	35	U	35	U	46	U	46	U	47	U
Aroclor-1254	20,000	75,000	ug/kg	50	U	37	U	39	UJ	35	UJ	35	U	46	U	46	U	47	U
Aroclor-1260	20,000	440,000	ug/kg	50	U	37	U	39	UJ	35	UJ	35	U	46	U	46	U	47	U
Total PCBs	20,000	440,000	ug/kg	50	U	37	U	**17**	**J**	35	UJ	35	U	46	U	46	U	47	U
Metals																			
Antimony	1,600	850	mg/kg	-		-		7	UJ	6.4	UJ	6.4	UJ	8.4	UJ	8.4	UJ	8.5	UJ
Arsenic	77	690	mg/kg	-		-		**5.2**		**2.3**		**2.5**		**5.2**		**6.5**		**6.3**	
Barium	680,000	320,000	mg/kg	-		-		**237**		**95.1**		**54.6**		**172**		**241**		**238**	
Beryllium	7,800	3,400	mg/kg	-		-		**0.39**	**J**	**0.075**	**J**	0.54	U	**0.35**	**J**	**0.43**	**J**	**0.44**	**J**
Cadmium	2,600	1,000	mg/kg	-		-		**91.7**		**69.3**		**2.4**		**0.37**	**J**	**0.42**	**J**	**0.39**	**J**
Chromium Total	NA	NA	mg/kg	-		-		**123**	**J**	**9**	**J**	**3.5**	**J**	**9**	**J**	**9.6**	**J**	**9.5**	**J**
Cobalt	1,200	2,800	mg/kg	-		-		**7.3**		**1.8**	**J**	**1.8**	**J**	**4**	**J**	**4.9**	**J**	**4.7**	**J**
Copper	160,000	21,000	mg/kg	-		-		**91.4**	**J**	**17.6**	**J**	**393**	**J**	**69.8**	**J**	**12.7**	**J**	**11.7**	**J**
Cyanide (total)	370	150	mg/kg	-		-		**0.58**	**J**	**0.5**	**J**	0.54	U	0.7	U	0.7	U	0.71	U
Lead	800	400	mg/kg	-		-		**116**	**J**	**26.1**	**J**	**2.9**		**10.9**		**7.7**		**7.5**	
Manganese	NA	NA	mg/kg	-		-		**253**		**216**		**244**		**504**		**778**		**648**	
Mercury	3.1	3.1	mg/kg	-		-		**0.28**		0.11	U	**0.082**	**J**	**0.066**	**J**	**0.045**	**J**	**0.044**	**J**
Nickel	74,000	23,000	mg/kg	-		-		**34.6**	**J**	**6.8**	**J**	**3.4**	**J**	**9.4**		**11.3**		**11.3**	
Selenium	20,000	11,000	mg/kg	-		-		0.59	U	0.53	U	0.54	U	0.7	U	0.7	U	0.71	U
Silver	20,000	11,000	mg/kg	-		-		1.2	U	1.1	U	1.1	U	**0.12**	**J**	1.4	U	1.4	U
Thallium	41	21	mg/kg	-		-		1.2	U	1.1	U	1.1	U	**0.61**	**J**	**0.73**	**J**	1.4	U
Vanadium	20,000	11,000	mg/kg	-		-		**11.6**		**6.3**		**5.6**		**12.4**		**14.3**		**13.8**	
Zinc	1,000,000	640,000	mg/kg	-		-		**858**	**J**	**211**	**J**	**103**	**J**	**52**	**J**	**44.7**	**J**	**46.7**	**J**

TABLE 3.17
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 5C, 2-12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	SB-142-04		SB-143-04		SB-153-04		SB-153-04		SB-154-04		SB-154-04		SB-155-04		SB-155-04		SB-156-04	
			Field Sample ID:	SB-142-04		SB-143-04		SB-153-04		SB-153-04		SB-154-04		SB-154-04		SB-155-04 DUP		SB-155-04		SB-156-04	
			Date:	1/27/2004		1/27/2004		2/3/2004		2/3/2004		2/5/2004		2/5/2004		2/3/2004		2/3/2004		2/3/2004	
	C/I	Construction	Depth:	11 - 13		8 - 10		8 - 10		11 - 13		8 - 10		11.5 - 13.5		8 - 10		8 - 10		8 - 10	
PCBs																					
Aroclor-1016	100,000	260,000	ug/kg	70	U	44	U	-		-		-		-		-		-		-	
Aroclor-1221	14,000	210,000	ug/kg	70	U	44	U	-		-		-		-		-		-		-	
Aroclor-1232	14,000	73,000	ug/kg	70	U	44	U	-		-		-		-		-		-		-	
Aroclor-1242	20,000	440,000	ug/kg	70	U	44	U	-		-		-		-		-		-		-	
Aroclor-1248	20,000	440,000	ug/kg	70	U	44	U	-		-		-		-		-		-		-	
Aroclor-1254	20,000	75,000	ug/kg	**890**	**J**	44	U	-		-		-		-		-		-		-	
Aroclor-1260	20,000	440,000	ug/kg	70	U	44	U	-		-		-		-		-		-		-	
Total PCBs	20,000	440,000	ug/kg	**890**	**J**	44	U	-		-		-		-		-		-		-	
Metals																					
Antimony	1,600	850	mg/kg	6.3	UJ	8	UJ	7.3	U	6.7	U	7.5	UJ	6.6	UJ	6.4	U	6.4	U	7.2	U
Arsenic	77	690	mg/kg	**3.1**		**1.9**		**12**		**7.7**		**1.9**		**3.9**		**5.7**		**4.7**		**2.4**	
Barium	680,000	320,000	mg/kg	**78.1**		**156**		**748**		**155**		**122**		**227**		**149**		**94.4**		**106**	
Beryllium	7,800	3,400	mg/kg	**0.23**	**J**	0.67	U	**0.11**	**J**	**0.16**	**J**	**0.091**	**J**	**0.084**	**J**	0.53	U	0.53	U	0.6	U
Cadmium	2,600	1,000	mg/kg	**0.17**	**J**	**0.21**	**J**	**6.2**		**6.2**		**0.2**	**J**	**0.59**		**0.12**	**J**	**0.1**	**J**	**0.11**	**J**
Chromium Total	NA	NA	mg/kg	**12.5**	**J**	**7.3**	**J**	**46**		**27.1**		**5**	**J**	**8.7**	**J**	**5.2**		**3**		**5.2**	
Cobalt	1,200	2,800	mg/kg	**3**	**J**	**1.8**	**J**	**2.7**	**J**	**5.3**	**J**	**1.5**	**J**	**1.7**	**J**	**2.5**	**J**	**1.5**	**J**	**1.8**	**J**
Copper	160,000	21,000	mg/kg	**21.4**	**J**	**6.8**	**J**	**321**		**63.1**		**34.6**	**J**	**96.5**	**J**	**4.2**		**3.2**		**6.4**	
Cyanide (total)	370	150	mg/kg	0.53	U	0.67	U	0.61	U	**0.93**		**0.31**	**J**	**0.36**	**J**	0.53	U	0.53	U	0.6	U
Lead	800	400	mg/kg	**10.3**		**4.5**		**26.3**		**15.9**		**3.3**	**J**	**15.7**	**J**	**2.9**		**2.3**		**3**	
Manganese	NA	NA	mg/kg	**323**		**175**		**1130**		**383**		**204**		**238**		**653**		**482**		**151**	
Mercury	3.1	3.1	mg/kg	**0.057**	**J**	**0.029**	**J**	**0.6**		**0.14**		0.12	U	0.11	U	0.11	U	0.11	U	0.12	U
Nickel	74,000	23,000	mg/kg	**15.9**		**5.4**		**21.1**		**9.2**		**5.2**	**J**	**12.4**	**J**	**8.4**		**4.9**		**4.7**	**J**
Selenium	20,000	11,000	mg/kg	0.53	U	0.67	U	0.61	U	0.56	U	0.62	U	0.55	U	0.53	U	0.53	U	0.6	U
Silver	20,000	11,000	mg/kg	**2.9**		1.3	U	**0.29**	**J**	**0.16**	**J**	1.2	U	1.1	U	1.1	U	1.1	U	1.2	U
Thallium	41	21	mg/kg	1.1	U	1.3	U	**1.3**		**0.61**	**J**	**0.55**	**J**	1.1	U	**1.5**		**0.95**	**J**	**0.9**	**J**
Vanadium	20,000	11,000	mg/kg	**14.2**		**7.6**		**10.7**		**8.4**		**6.7**		**7.3**		**7.9**		**5.4**		**7**	
Zinc	1,000,000	640,000	mg/kg	**47.9**	**J**	**23.2**	**J**	**77.7**		**739**		**14.5**	**J**	**78.6**	**J**	**292**		**60.3**		**16.8**	

TABLE 3.17
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 5C, 2-12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	SB-33-02		TT-SB251		TT-SB251B		TT-SB251B		TT-SB251B		Maximum Detected Concentration	
			Field Sample ID:	SB-33-02		TT-SB251-G-03		TT-SB251B-G-08 DP		TT-SB251B-G-08		TT-SB251B-G-10			
			Date:	4/12/2002		4/3/2013		4/4/2013		4/4/2013		4/4/2013			
	C/I	Construction	Depth:	9 - 11		2 - 3		6 - 8		6 - 8		8 - 10			
PCBs															
Aroclor-1016	100,000	260,000	ug/kg	45	U	22.1	U	19.9	U	20	U	24.9	U	-	
Aroclor-1221	14,000	210,000	ug/kg	45	U	22.1	U	19.9	U	20	U	24.9	U	-	
Aroclor-1232	14,000	73,000	ug/kg	45	U	22.1	U	19.9	U	20	U	24.9	U	-	
Aroclor-1242	20,000	440,000	ug/kg	45	U	22.1	U	19.9	U	20	U	24.9	U	-	
Aroclor-1248	20,000	440,000	ug/kg	45	U	22.1	U	19.9	U	20	U	**208**		**208**	
Aroclor-1254	20,000	75,000	ug/kg	45	U	**252**		19.9	U	20	U	24.9	U	**890**	**J**
Aroclor-1260	20,000	440,000	ug/kg	45	U	22.1	U	19.9	U	20	U	24.9	U		
Total PCBs	20,000	440,000	ug/kg	45	U	**252**		19.9	U	20	U	**208**		**890**	**J**
Metals															
Antimony	1,600	850	mg/kg	8.1	U	-		-		-		-		-	
Arsenic	77	690	mg/kg	**3.2**		-		-		-		-		**12**	
Barium	680,000	320,000	mg/kg	**120**		-		-		-		-		**748**	
Beryllium	7,800	3,400	mg/kg	0.67	U	-		-		-		-		**0.44**	**J**
Cadmium	2,600	1,000	mg/kg	**1.2**		-		-		-		-		**91.7**	
Chromium Total	NA	NA	mg/kg	**78.1**		-		-		-		-		**123**	**J**
Cobalt	1,200	2,800	mg/kg	**2.4**	**J**	-		-		-		-		**7.3**	
Copper	160,000	21,000	mg/kg	**43.2**		-		-		-		-		**393**	**J**
Cyanide (total)	370	150	mg/kg	**0.43**	**J**	-		-		-		-		**0.93**	
Lead	800	400	mg/kg	**5.6**		-		-		-		-		**116**	**J**
Manganese	NA	NA	mg/kg	**325**		-		-		-		-		**1130**	
Mercury	3.1	3.1	mg/kg	**0.44**		-		-		-		-		**0.6**	
Nickel	74,000	23,000	mg/kg	**8.9**		-		-		-		-		**34.6**	**J**
Selenium	20,000	11,000	mg/kg	0.67	U	-		-		-		-		-	
Silver	20,000	11,000	mg/kg	1.3	U	-		-		-		-		**2.9**	
Thallium	41	21	mg/kg	1.3	U	-		-		-		-		**1.5**	
Vanadium	20,000	11,000	mg/kg	**8.6**		-		-		-		-		**14.3**	
Zinc	1,000,000	640,000	mg/kg	**288**		-		-		-		-		**858**	**J**

NOTES:

Shaded values indicate concentration exceeds C/I Single Chemical Generic Direct Contact Soil Standard

Shaded values indicate concentration exceeds Construction Single Chemical Generic Direct Contact Soil Standard

Shaded values indicate concentration exceeds both Single Chemical Generic Direct Contact Soil Standards

bold text indicates detection above reporting limit
Total PCBs value is the sum of all positively deteted PCB aroclors
D: The reported value is from a dilution
C/I: Commercial/ Industrial
J: The associated numerical value is an estimated quantity
mg/kg: milligrams per kilogram
NA: exceedance criteria not applicable for compound/analyte
PCB: Polychlorinated Biphenyl
R: The data are unusable (the compound/analyte may or may not be present). Resampling and reanalysis are necessary for verification
SVOC: SemiVolatile Organic Compound
U: The compound/analyte was analyzed for, but not detected. The associated numerical value is the sample quantitation limit
ug/kg: micrograms per kilogram
UJ: The compound/analyte was analyzed for, but not detected. The sample quantitation limit is an estimated quantity
VOC: Volatile Organic Compound

TABLE 3.18
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 5E, 2-12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	BH-180		SB-137-04		SB-137-04		SB-138-04		SB-138-04		SB-138-04		SB-17-02		SB-17-02		SB-54-02		TT-SB252		TT-SB252	
			Field Sample ID:	S-111104-NZ-033		SB-137-04		SB-137-04		SB-138-04 DUP		SB-138-04		SB-138-04		SB-17-02		SB-17-02		SB-54-02		TT-SB252-G-06		TT-SB252-G-08 DP	
			Date:	11/11/2004		1/26/2004		1/26/2004		1/26/2004		1/26/2004		1/26/2004		4/8/2002		4/8/2002		4/17/2002		4/3/2013		4/3/2013	
	C/I	Construction	Depth:	8 - 10		8 - 10		11 - 13		8 - 10		8 - 10		11 - 13		8 - 10		10 - 12		9 - 11		4 - 6		6 - 8	
VOCs																									
1,1,1-Trichloroethane	640,000	640,000	ug/kg	8.3	U	210	U	4.7	U	6.4	U	6.2	U	290	UJ	6.5	U	5.4	U	270	U	-		-	
1,1,2,2-Tetrachloroethane	75,000	670,000	ug/kg	8.3	U	210	U	4.7	U	6.4	U	6.2	U	290	UJ	6.5	U	5.4	U	270	U	-		-	
1,1,2-Trichloroethane	140,000	1,200,000	ug/kg	8.3	U	210	U	4.7	U	6.4	U	6.2	U	290	UJ	6.5	U	5.4	U	270	U	-		-	
1,1-Dichloroethane	420,000	1,700,000	ug/kg	8.3	U	210	U	4.7	U	6.4	U	6.2	U	290	UJ	6.5	U	5.4	U	270	U	-		-	
1,1-Dichloroethene	1,200,000	360,000	ug/kg	8.3	U	210	U	4.7	U	6.4	U	6.2	U	290	UJ	6.5	U	5.4	U	270	U	-		-	
1,2,4-Trichlorobenzene, VOC	400,000	400,000	ug/kg	8.3	U	210	U	4.7	U	6.4	U	6.2	U	290	UJ	6.5	U	5.4	U	270	U	-		-	
1,2-Dibromo-3-chloropropane	1,700	15,000	ug/kg	17	U	420	U	9.5	U	13	U	12	U	570	UJ	13	UJ	11	UJ	550	U	-		-	
1,2-Dibromoethane	4,400	38,000	ug/kg	8.3	U	210	U	4.7	U	6.4	U	6.2	U	290	UJ	6.5	U	5.4	U	270	U	-		-	
1,2-Dichlorobenzene, VOC	380,000	380,000	ug/kg	8.3	U	210	U	4.7	U	6.4	U	6.2	U	290	UJ	6.5	U	5.4	U	270	U	-		-	
1,2-Dichloroethane	56,000	480,000	ug/kg	8.3	U	210	U	4.7	U	6.4	U	6.2	U	290	UJ	6.5	U	5.4	U	270	U	-		-	
1,2-Dichloropropane	120,000	180,000	ug/kg	8.3	U	210	U	4.7	U	6.4	U	6.2	U	290	UJ	6.5	U	5.4	U	270	U	-		-	
1,3-Dichlorobenzene, VOC	NA	NA	ug/kg	8.3	U	210	U	4.7	U	6.4	U	6.2	U	290	UJ	6.5	U	5.4	U	270	U	-		-	
1,4-Dichlorobenzene, VOC	310,000	2,600,000	ug/kg	8.3	U	210	U	4.7	U	6.4	U	6.2	U	290	UJ	6.5	U	5.4	U	270	U	-		-	
2-Butanone	28,000,000	28,000,000	ug/kg	**7.9**	**J**	850	UJ	19	UJ	26	UJ	25	UJ	1100	UJ	26	U	22	U	1100	U	-		-	
2-Hexanone	NA	NA	ug/kg	33	U	850	UJ	19	UJ	26	UJ	25	UJ	1100	UJ	26	U	22	U	1100	U	-		-	
4-Methyl-2-Pentanone	3,400,000	3,400,000	ug/kg	33	U	850	U	19	U	26	U	25	U	1100	UJ	26	U	22	U	1100	U	-		-	
Acetone	110,000,000	110,000,000	ug/kg	**31**	**J**	850	UJ	19	UJ	26	UJ	25	UJ	1100	UJ	26	UJ	22	UJ	1100	U	-		-	
Benzene	140,000	1,200,000	ug/kg	**15**		210	U	**0.39**	**J**	6.4	U	6.2	U	**84**	**J**	6.5	U	5.4	U	270	U	-		-	
Bromodichloromethane	35,000	300,000	ug/kg	8.3	U	210	U	4.7	U	6.4	U	6.2	U	290	UJ	6.5	U	5.4	U	270	U	-		-	
Bromoform	6,200,000	130,000,000	ug/kg	8.3	U	210	U	4.7	U	6.4	U	6.2	U	290	UJ	6.5	UJ	5.4	UJ	270	U	-		-	
Bromomethane	82,000	550,000	ug/kg	8.3	U	210	U	4.7	U	6.4	U	6.2	U	290	UJ	6.5	U	5.4	U	270	U	-		-	
Carbon disulfide	740,000	740,000	ug/kg	8.3	U	210	U	4.7	U	6.4	U	6.2	U	290	UJ	6.5	U	5.4	U	270	U	-		-	
Carbon tetrachloride	79,000	460,000	ug/kg	8.3	U	210	U	4.7	U	6.4	U	6.2	U	290	UJ	6.5	U	5.4	U	270	U	-		-	
Chlorobenzene	760,000	760,000	ug/kg	8.3	U	210	U	4.7	U	6.4	U	6.2	U	290	UJ	6.5	U	5.4	U	270	U	-		-	
Chloroethane	2,100,000	2,100,000	ug/kg	8.3	U	210	U	4.7	U	6.4	U	6.2	U	290	UJ	6.5	U	5.4	U	270	U	-		-	
Chloroform	38,000	320,000	ug/kg	8.3	U	210	U	4.7	U	6.4	U	6.2	U	290	UJ	6.5	U	5.4	U	270	U	-		-	
Chloromethane	1,300,000	1,300,000	ug/kg	8.3	U	210	U	4.7	U	6.4	U	6.2	U	290	UJ	6.5	U	5.4	U	270	U	-		-	
cis-1,2-Dichloroethene	2,400,000	2,400,000	ug/kg	8.3	U	110	U	2.4	U	3.2	U	3.1	U	140	UJ	3.3	U	2.7	U	**200**		-		-	
cis-1,3-Dichloropropene	NA	NA	ug/kg	8.3	U	210	U	4.7	U	6.4	U	6.2	U	290	UJ	6.5	U	5.4	U	270	U	-		-	
Cyclohexane	120,000	120,000	ug/kg	**21**		420	U	9.5	U	13	U	12	U	**180**	**J**	13	U	11	U	**47**	**J**	-		-	
Dibromochloromethane	84,000	770,000	ug/kg	8.3	U	210	U	4.7	U	6.4	U	6.2	U	290	UJ	6.5	U	5.4	U	270	U	-		-	
Dichlorodifluoromethane	850,000	850,000	ug/kg	8.3	UJ	210	U	4.7	U	6.4	U	6.2	U	290	UJ	6.5	U	5.4	U	270	U	-		-	
Ethylbenzene	480,000	480,000	ug/kg	**23**		210	U	**0.55**	**J**	6.4	U	6.2	U	**50**	**J**	6.5	U	5.4	U	270	U	-		-	
Isopropylbenzene, VOC	270,000	270,000	ug/kg	**2.8**	**J**	210	U	4.7	U	6.4	U	6.2	U	290	UJ	6.5	U	5.4	U	270	U	-		-	
Methyl acetate	NA	NA	ug/kg	17	U	**52**	**J**	9.5	U	13	U	12	U	**360**	**J**	13	U	11	U	**130**	**J**	-		-	
Methyl cyclohexane	NA	NA	ug/kg	**33**		420	U	**0.47**	**J**	13	U	12	U	**510**	**J**	13	U	11	U	**96**	**J**	-		-	
Methyl tert butyl ether	5,700,000	8,900,000	ug/kg	33	UJ	850	U	19	U	26	U	25	U	1100	UJ	26	U	22	U	1100	U	-		-	
Methylene chloride	3,300,000	3,300,000	ug/kg	8.5	U	210	U	4.7	U	**4**	**J**	**2.2**	**J**	290	UJ	6.5	U	5.4	U	270	U	-		-	
Styrene	870,000	870,000	ug/kg	8.3	U	210	U	4.7	U	6.4	U	6.2	U	290	UJ	6.5	U	5.4	U	270	U	-		-	
Tetrachloroethene	170,000	170,000	ug/kg	8.3	U	**230**		**24**		**3.1**	**J**	**3.8**	**J**	**4000**	**J**	**260**		**4.2**	**J**	**2900**		-		-	
Toluene	820,000	820,000	ug/kg	**48**		210	U	**1.3**	**J**	6.4	U	**0.64**	**J**	**370**	**J**	**0.96**	**J**	**0.75**	**J**	270	U	-		-	
trans-1,2-Dichloroethene	1,700,000	1,700,000	ug/kg	8.3	U	110	U	2.4	U	3.2	U	3.1	U	140	UJ	3.3	U	2.7	U	140	U	-		-	
trans-1,3-Dichloropropene	NA	NA	ug/kg	8.3	U	210	U	4.7	U	6.4	U	6.2	U	290	UJ	6.5	U	5.4	U	270	U	-		-	
Trichloroethene	51,000	17,000	ug/kg	**7.2**	**J**	**240**		**56**		**59**		**57**		**3400**	**J**	**130**		**1.6**	**J**	**6800**		-		-	
Trichlorofluoromethane	1,200,000	1,200,000	ug/kg	8.3	U	210	U	4.7	U	6.4	U	6.2	U	290	UJ	6.5	U	5.4	U	270	U	-		-	
Trifluorotrichloroethane	NA	NA	ug/kg	8.3	U	210	U	4.7	U	6.4	U	6.2	U	290	UJ	6.5	U	5.4	U	270	U	-		-	
Vinyl chloride	50,000	280,000	ug/kg	8.3	U	210	U	4.7	U	6.4	U	6.2	U	290	UJ	6.5	U	5.4	U	270	U	-		-	
Xylene (Total)	260,000	260,000	ug/kg	**38**		420	U	**1.1**	**J**	13	U	12	U	**560**	**J**	13	U	11	U	**78**	**J**	-		-	

TABLE 3.18
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 5E, 2-12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	TT-SB252		TT-SB253		TT-SB253		TT-SB253		TT-SB253		TT-SB253		TT-SB253		TT-SB254		TT-SB254B		Maximum Detected Concentration	
			Field Sample ID:	TT-SB252-G-08		TT-SB253-C-08 DP		TT-SB253-C-08		TT-SB253-G-04		TT-SB253-G-06		TT-SB253-G-08 DP		TT-SB253-G-08		TT-SB254-G-04		TT-SB254B-G-10			
			Date:	4/3/2013		4/3/2013		4/3/2013		4/3/2013		4/3/2013		4/3/2013		4/3/2013		4/3/2013		4/4/2013			
	C/I	Construction	Depth:	6 - 8		6 - 8		6 - 8		2 - 4		4 - 6		6 - 8		6 - 8		2 - 4		8 - 10			
VOCs																							
1,1,1-Trichloroethane	640,000	640,000	ug/kg	-		-		-		-		-		-		-						-	
1,1,2,2-Tetrachloroethane	75,000	670,000	ug/kg	-		-		-		-		-		-		-						-	
1,1,2-Trichloroethane	140,000	1,200,000	ug/kg	-		-		-		-		-		-		-						-	
1,1-Dichloroethane	420,000	1,700,000	ug/kg	-		-		-		-		-		-		-						-	
1,1-Dichloroethene	1,200,000	360,000	ug/kg	-		-		-		-		-		-		-						-	
1,2,4-Trichlorobenzene, VOC	400,000	400,000	ug/kg	-		-		-		-		-		-		-						-	
1,2-Dibromo-3-chloropropane	1,700	15,000	ug/kg	-		-		-		-		-		-		-						-	
1,2-Dibromoethane	4,400	38,000	ug/kg	-		-		-		-		-		-		-						-	
1,2-Dichlorobenzene, VOC	380,000	380,000	ug/kg	-		-		-		-		-		-		-						-	
1,2-Dichloroethane	56,000	480,000	ug/kg	-		-		-		-		-		-		-						-	
1,2-Dichloropropane	120,000	180,000	ug/kg	-		-		-		-		-		-		-						-	
1,3-Dichlorobenzene, VOC	NA	NA	ug/kg	-		-		-		-		-		-		-						-	
1,4-Dichlorobenzene, VOC	310,000	2,600,000	ug/kg	-		-		-		-		-		-		-						-	
2-Butanone	28,000,000	28,000,000	ug/kg	-		-		-		-		-		-		-						**7.9**	**J**
2-Hexanone	NA	NA	ug/kg	-		-		-		-		-		-		-						-	
4-Methyl-2-Pentanone	3,400,000	3,400,000	ug/kg	-		-		-		-		-		-		-						-	
Acetone	110,000,000	110,000,000	ug/kg	-		-		-		-		-		-		-						**31**	**J**
Benzene	140,000	1,200,000	ug/kg	-		-		-		-		-		-		-						**84**	**J**
Bromodichloromethane	35,000	300,000	ug/kg	-		-		-		-		-		-		-						-	
Bromoform	6,200,000	130,000,000	ug/kg	-		-		-		-		-		-		-						-	
Bromomethane	82,000	550,000	ug/kg	-		-		-		-		-		-		-						-	
Carbon disulfide	740,000	740,000	ug/kg	-		-		-		-		-		-		-						-	
Carbon tetrachloride	79,000	460,000	ug/kg	-		-		-		-		-		-		-						-	
Chlorobenzene	760,000	760,000	ug/kg	-		-		-		-		-		-		-						-	
Chloroethane	2,100,000	2,100,000	ug/kg	-		-		-		-		-		-		-						-	
Chloroform	38,000	320,000	ug/kg	-		-		-		-		-		-		-						-	
Chloromethane	1,300,000	1,300,000	ug/kg	-		-		-		-		-		-		-						-	
cis-1,2-Dichloroethene	2,400,000	2,400,000	ug/kg	-		-		-		-		-		-		-						**200**	
cis-1,3-Dichloropropene	NA	NA	ug/kg	-		-		-		-		-		-		-						-	
Cyclohexane	120,000	120,000	ug/kg	-		-		-		-		-		-		-						**180**	**J**
Dibromochloromethane	84,000	770,000	ug/kg	-		-		-		-		-		-		-						-	
Dichlorodifluoromethane	850,000	850,000	ug/kg	-		-		-		-		-		-		-						-	
Ethylbenzene	480,000	480,000	ug/kg	-		-		-		-		-		-		-						**50**	**J**
Isopropylbenzene, VOC	270,000	270,000	ug/kg	-		-		-		-		-		-		-						**2.8**	**J**
Methyl acetate	NA	NA	ug/kg	-		-		-		-		-		-		-						**360**	**J**
Methyl cyclohexane	NA	NA	ug/kg	-		-		-		-		-		-		-						**510**	**J**
Methyl tert butyl ether	5,700,000	8,900,000	ug/kg	-		-		-		-		-		-		-						-	
Methylene chloride	3,300,000	3,300,000	ug/kg	-		-		-		-		-		-		-						**4**	**J**
Styrene	870,000	870,000	ug/kg	-		-		-		-		-		-		-						-	
Tetrachloroethene	170,000	170,000	ug/kg	-		-		-		-		-		-		-						**4000**	**J**
Toluene	820,000	820,000	ug/kg	-		-		-		-		-		-		-						**370**	**J**
trans-1,2-Dichloroethene	1,700,000	1,700,000	ug/kg	-		-		-		-		-		-		-						-	
trans-1,3-Dichloropropene	NA	NA	ug/kg	-		-		-		-		-		-		-						-	
Trichloroethene	51,000	17,000	ug/kg	-		-		-		-		-		-		-						**6800**	
Trichlorofluoromethane	1,200,000	1,200,000	ug/kg	-		-		-		-		-		-		-						-	
Trifluorotrichloroethane	NA	NA	ug/kg	-		-		-		-		-		-		-						-	
Vinyl chloride	50,000	280,000	ug/kg	-		-		-		-		-		-		-						-	
Xylene (Total)	260,000	260,000	ug/kg	-		-		-		-		-		-		-						**560**	**J**

TABLE 3.18
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 5E, 2-12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	BH-180		SB-137-04		SB-137-04		SB-138-04		SB-138-04		SB-138-04		SB-17-02		SB-17-02		SB-54-02		TT-SB252		TT-SB252	
			Field Sample ID:	S-111104-NZ-033		SB-137-04		SB-137-04		SB-138-04 DUP		SB-138-04		SB-138-04		SB-17-02		SB-17-02		SB-54-02		TT-SB252-G-06		TT-SB252-G-08 DP	
			Date:	11/11/2004		1/26/2004		1/26/2004		1/26/2004		1/26/2004		1/26/2004		4/8/2002		4/8/2002		4/17/2002		4/3/2013		4/3/2013	
	C/I	Construction	Depth:	8 - 10		8 - 10		11 - 13		8 - 10		8 - 10		11 - 13		8 - 10		10 - 12		9 - 11		4 - 6		6 - 8	
SVOCs																									
2,2-oxybis(2-Chloropropane), SVOC	NA	NA	ug/kg	-		-		-		-		-		-		440	U	340	U	1800	U	-		-	
2,4,5-Trichlorophenol	180,000,000	1,000,000,000	ug/kg	-		-		-		-		-		-		440	U	340	U	1800	U	-		-	
2,4,6-Trichlorophenol	1,800,000	1,400,000	ug/kg	-		-		-		-		-		-		440	U	340	U	1800	U	-		-	
2,4-Dichlorophenol	NA	NA	ug/kg	-		-		-		-		-		-		440	U	340	U	1800	U	-		-	
2,4-Dimethylphenol	35,000,000	85,000,000	ug/kg	-		-		-		-		-		-		440	U	340	U	1800	U	-		-	
2,4-Dinitrophenol	3,500,000	28,000,000	ug/kg	-		-		-		-		-		-		2100	U	1700	U	9000	U	-		-	
2,4-Dinitrotoluene	160,000	2,800,000	ug/kg	-		-		-		-		-		-		440	U	340	U	1800	U	-		-	
2,6-Dinitrotoluene	NA	NA	ug/kg	-		-		-		-		-		-		440	U	340	U	1800	U	-		-	
2-Chloronaphthalene	330,000,000	1,000,000,000	ug/kg	-		-		-		-		-		-		440	U	340	U	1800	U	-		-	
2-Chlorophenol	20,000,000	22,000,000	ug/kg	-		-		-		-		-		-		440	U	340	U	1800	U	-		-	
2-Methylnaphthalene	6,000,000	5,200,000	ug/kg	-		-		-		-		-		-		440	U	340	U	1800	U	-		-	
2-Methylphenol	88,000,000	710,000,000	ug/kg	-		-		-		-		-		-		440	U	340	U	1800	U	-		-	
2-Nitroaniline	NA	NA	ug/kg	-		-		-		-		-		-		2100	U	1700	U	9000	U	-		-	
2-Nitrophenol	NA	NA	ug/kg	-		-		-		-		-		-		440	U	340	U	1800	U	-		-	
3,3-Dichlorobenzidine	NA	NA	ug/kg	-		-		-		-		-		-		2100	U	1700	U	9000	U	-		-	
3-Nitroaniline	NA	NA	ug/kg	-		-		-		-		-		-		2100	U	1700	U	9000	U	-		-	
4,6-Dinitro-2-methylphenol	140,000	110,000	ug/kg	-		-		-		-		-		-		2100	U	1700	U	9000	U	-		-	
4-Bromophenyl phenyl ether	NA	NA	ug/kg	-		-		-		-		-		-		440	U	340	U	1800	U	-		-	
4-Chloro-3-methylphenol	180,000,000	140,000,000	ug/kg	-		-		-		-		-		-		440	U	340	U	1800	U	-		-	
4-Chloroaniline	250,000	710,000	ug/kg	-		-		-		-		-		-		440	U	340	U	1800	U	-		-	
4-Chlorophenyl phenyl ether	NA	NA	ug/kg	-		-		-		-		-		-		440	U	340	U	1800	U	-		-	
4-Methylphenol	180,000,000	28,000,000	ug/kg	-		-		-		-		-		-		440	U	340	U	1800	U	-		-	
4-Nitroaniline	2,500,000	14,000,000	ug/kg	-		-		-		-		-		-		2100	U	1700	U	9000	U	-		-	
4-Nitrophenol	NA	NA	ug/kg	-		-		-		-		-		-		2100	U	1700	U	9000	U	-		-	
Acenaphthene	90,000,000	780,000,000	ug/kg	-		-		-		-		-		-		440	U	340	U	1800	U	-		-	
Acenaphthylene	90,000,000	780,000,000	ug/kg	-		-		-		-		-		-		440	U	340	U	1800	U	-		-	
Acetophenone	2,500,000	2,500,000	ug/kg	-		-		-		-		-		-		440	U	340	U	1800	U	-		-	
Anthracene	450,000,000	1,000,000,000	ug/kg	-		-		-		-		-		-		440	U	340	U	1800	U	-		-	
Atrazine	NA	NA	ug/kg	-		-		-		-		-		-		440	U	340	U	1800	U	-		-	
Benzaldehyde	NA	NA	ug/kg	-		-		-		-		-		-		440	U	340	U	1800	U	-		-	
Benzo(a)anthracene	58,000	1,200,000	ug/kg	-		-		-		-		-		-		440	U	340	U	1800	U	-		-	
Benzo(a)pyrene	5,800	120,000	ug/kg	-		-		-		-		-		-		440	U	340	U	1800	U	-		-	
Benzo(b)fluoranthene	58,000	1,200,000	ug/kg	-		-		-		-		-		-		440	U	340	U	1800	U	-		-	
Benzo(g,h,i)perylene	45,000,000	390,000,000	ug/kg	-		-		-		-		-		-		440	U	340	U	1800	U	-		-	
Benzo(k)fluoranthene	580,000	12,000,000	ug/kg	-		-		-		-		-		-		440	U	340	U	1800	U	-		-	
Biphenyl	14,000,000	190,000,000	ug/kg	-		-		-		-		-		-		440	U	340	U	1800	U	-		-	
bis(2-Chloroethoxy)methane	5,300,000	43,000,000	ug/kg	-		-		-		-		-		-		440	U	340	U	1800	U	-		-	
bis(2-Chloroethyl)ether	30,000	290,000	ug/kg	-		-		-		-		-		-		440	U	340	U	1800	U	-		-	
bis(2-Ethylhexyl)phthalate	3,500,000	71,000,000	ug/kg	-		-		-		-		-		-		440	U	340	U	1800	U	-		-	
Butyl benzylphthalate	26,000,000	520,000,000	ug/kg	-		-		-		-		-		-		440	U	340	U	1800	U	-		-	
Caprolactam	NA	NA	ug/kg	-		-		-		-		-		-		440	U	340	U	1800	U	-		-	
Carbazole	2,500,000	50,000,000	ug/kg	-		-		-		-		-		-		440	U	340	U	1800	U	-		-	
Chrysene	5,800,000	120,000,000	ug/kg	-		-		-		-		-		-		**64**	**J**	340	U	1800	U	-		-	
Dibenz(a,h)anthracene	5,800	120,000	ug/kg	-		-		-		-		-		-		440	U	340	U	1800	U	-		-	
Dibenzofuran	4,100,000	2,100,000	ug/kg	-		-		-		-		-		-		440	U	340	U	1800	U	-		-	
Diethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	-		-		-		-		-		-		440	U	340	U	1800	U	-		-	
Dimethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	-		-		-		-		-		-		440	U	340	U	1800	U	-		-	
Di-n-butylphthalate	180,000,000	430,000,000	ug/kg	-		-		-		-		-		-		440	U	340	U	1800	U	-		-	
Di-N-Octyl phthalate	18,000,000	140,000,000	ug/kg	-		-		-		-		-		-		440	U	340	U	1800	U	-		-	
Fluoranthene	60,000,000	160,000,000	ug/kg	-		-		-		-		-		-		**160**	**J**	340	U	1800	U	-		-	
Fluorene	60,000,000	520,000,000	ug/kg	-		-		-		-		-		-		440	U	340	U	1800	U	-		-	
Hexachlorobenzene	31,000	14,000	ug/kg	-		-		-		-		-		-		440	U	340	U	1800	U	-		-	
Hexachlorobutadiene, SVOC	630,000	1,400,000	ug/kg	-		-		-		-		-		-		440	U	340	U	1800	U	-		-	
Hexachlorocyclopentadiene	11,000,000	26,000,000	ug/kg	-		-		-		-		-		-		2100	U	1700	U	9000	U	-		-	
Hexachloroethane	1,200,000	3,000,000	ug/kg	-		-		-		-		-		-		440	U	340	U	1800	U	-		-	
Indeno(1,2,3-cd)pyrene	58,000	1,200,000	ug/kg	-		-		-		-		-		-		440	U	340	U	1800	U	-		-	
Isophorone	52,000,000	1,000,000,000	ug/kg	-		-		-		-		-		-		440	U	340	U	1800	U	-		-	
Naphthalene, SVOC	450,000	560,000	ug/kg	-		-		-		-		-		-		440	U	340	U	1800	U	-		-	
Nitrobenzene	610,000	3,000,000	ug/kg	-		-		-		-		-		-		440	U	340	U	1800	U	-		-	
N-Nitrosodi-n-propylamine	7,000	140,000	ug/kg	-		-		-		-		-		-		440	U	340	U	1800	U	-		-	
N-Nitrosodiphenylamine	10,000,000	200,000,000	ug/kg	-		-		-		-		-		-		440	U	340	U	1800	U	-		-	
Pentachlorophenol	67,000	950,000	ug/kg	-		-		-		-		-		-		440	U	340	U	1800	U	-		-	
Phenanthrene	450,000,000	1,000,000,000	ug/kg	-		-		-		-		-		-		**160**	**J**	340	U	1800	U	-		-	
Phenol	530,000,000	840,000,000	ug/kg	-		-		-		-		-		-		440	U	340	U	1800	U	-		-	
Pyrene, SVOC	45,000,000	390,000,000	ug/kg	-		-		-		-		-		-		**140**	**J**	340	U	1800	U	-		-	

TABLE 3.18
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 5E, 2-12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	TT-SB252		TT-SB253		TT-SB253		TT-SB253		TT-SB253		TT-SB253		TT-SB253		TT-SB254		TT-SB254B		Maximum Detected Concentration	
			Field Sample ID:	TT-SB252-G-08		TT-SB253-C-08 DP		TT-SB253-C-08		TT-SB253-G-04		TT-SB253-G-06		TT-SB253-G-08 DP		TT-SB253-G-08		TT-SB254-G-04		TT-SB254B-G-10			
			Date:	4/3/2013		4/3/2013		4/3/2013		4/3/2013		4/3/2013		4/3/2013		4/3/2013		4/3/2013		4/4/2013			
	C/I	Construction	Depth:	6 - 8		6 - 8		6 - 8		2 - 4		4 - 6		6 - 8		6 - 8		2 - 4		8 - 10			
SVOCs																							
2,2-oxybis(2-Chloropropane), SVOC	NA	NA	ug/kg	-		-		-		-		-		-		-						-	
2,4,5-Trichlorophenol	180,000,000	1,000,000,000	ug/kg	-		-		-		-		-		-		-						-	
2,4,6-Trichlorophenol	1,800,000	1,400,000	ug/kg	-		-		-		-		-		-		-						-	
2,4-Dichlorophenol	NA	NA	ug/kg	-		-		-		-		-		-		-						-	
2,4-Dimethylphenol	35,000,000	85,000,000	ug/kg	-		-		-		-		-		-		-						-	
2,4-Dinitrophenol	3,500,000	28,000,000	ug/kg	-		-		-		-		-		-		-						-	
2,4-Dinitrotoluene	160,000	2,800,000	ug/kg	-		-		-		-		-		-		-						-	
2,6-Dinitrotoluene	NA	NA	ug/kg	-		-		-		-		-		-		-						-	
2-Chloronaphthalene	330,000,000	1,000,000,000	ug/kg	-		-		-		-		-		-		-						-	
2-Chlorophenol	20,000,000	22,000,000	ug/kg	-		-		-		-		-		-		-						-	
2-Methylnaphthalene	6,000,000	5,200,000	ug/kg	-		-		-		-		-		-		-						-	
2-Methylphenol	88,000,000	710,000,000	ug/kg	-		-		-		-		-		-		-						-	
2-Nitroaniline	NA	NA	ug/kg	-		-		-		-		-		-		-						-	
2-Nitrophenol	NA	NA	ug/kg	-		-		-		-		-		-		-						-	
3,3-Dichlorobenzidine	NA	NA	ug/kg	-		-		-		-		-		-		-						-	
3-Nitroaniline	NA	NA	ug/kg	-		-		-		-		-		-		-						-	
4,6-Dinitro-2-methylphenol	140,000	110,000	ug/kg	-		-		-		-		-		-		-						-	
4-Bromophenyl phenyl ether	NA	NA	ug/kg	-		-		-		-		-		-		-						-	
4-Chloro-3-methylphenol	180,000,000	140,000,000	ug/kg	-		-		-		-		-		-		-						-	
4-Chloroaniline	250,000	710,000	ug/kg	-		-		-		-		-		-		-						-	
4-Chlorophenyl phenyl ether	NA	NA	ug/kg	-		-		-		-		-		-		-						-	
4-Methylphenol	180,000,000	28,000,000	ug/kg	-		-		-		-		-		-		-						-	
4-Nitroaniline	2,500,000	14,000,000	ug/kg	-		-		-		-		-		-		-						-	
4-Nitrophenol	NA	NA	ug/kg	-		-		-		-		-		-		-						-	
Acenaphthene	90,000,000	780,000,000	ug/kg	-		-		-		-		-		-		-						-	
Acenaphthylene	90,000,000	780,000,000	ug/kg	-		-		-		-		-		-		-						-	
Acetophenone	2,500,000	2,500,000	ug/kg	-		-		-		-		-		-		-						-	
Anthracene	450,000,000	1,000,000,000	ug/kg	-		-		-		-		-		-		-						-	
Atrazine	NA	NA	ug/kg	-		-		-		-		-		-		-						-	
Benzaldehyde	NA	NA	ug/kg	-		-		-		-		-		-		-						-	
Benzo(a)anthracene	58,000	1,200,000	ug/kg	-		-		-		-		-		-		-						-	
Benzo(a)pyrene	5,800	120,000	ug/kg	-		-		-		-		-		-		-						-	
Benzo(b)fluoranthene	58,000	1,200,000	ug/kg	-		-		-		-		-		-		-						-	
Benzo(g,h,i)perylene	45,000,000	390,000,000	ug/kg	-		-		-		-		-		-		-						-	
Benzo(k)fluoranthene	580,000	12,000,000	ug/kg	-		-		-		-		-		-		-						-	
Biphenyl	14,000,000	190,000,000	ug/kg	-		-		-		-		-		-		-						-	
bis(2-Chloroethoxy)methane	5,300,000	43,000,000	ug/kg	-		-		-		-		-		-		-						-	
bis(2-Chloroethyl)ether	30,000	290,000	ug/kg	-		-		-		-		-		-		-						-	
bis(2-Ethylhexyl)phthalate	3,500,000	71,000,000	ug/kg	-		-		-		-		-		-		-						-	
Butyl benzylphthalate	26,000,000	520,000,000	ug/kg	-		-		-		-		-		-		-						-	
Caprolactam	NA	NA	ug/kg	-		-		-		-		-		-		-						-	
Carbazole	2,500,000	50,000,000	ug/kg	-		-		-		-		-		-		-						-	
Chrysene	5,800,000	120,000,000	ug/kg	-		-		-		-		-		-		-						**64**	**J**
Dibenz(a,h)anthracene	5,800	120,000	ug/kg	-		-		-		-		-		-		-						-	
Dibenzofuran	4,100,000	2,100,000	ug/kg	-		-		-		-		-		-		-						-	
Diethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	-		-		-		-		-		-		-						-	
Dimethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	-		-		-		-		-		-		-						-	
Di-n-butylphthalate	180,000,000	430,000,000	ug/kg	-		-		-		-		-		-		-						-	
Di-N-Octyl phthalate	18,000,000	140,000,000	ug/kg	-		-		-		-		-		-		-						-	
Fluoranthene	60,000,000	160,000,000	ug/kg	-		-		-		-		-		-		-						**160**	**J**
Fluorene	60,000,000	520,000,000	ug/kg	-		-		-		-		-		-		-						-	
Hexachlorobenzene	31,000	14,000	ug/kg	-		-		-		-		-		-		-						-	
Hexachlorobutadiene, SVOC	630,000	1,400,000	ug/kg	-		-		-		-		-		-		-						-	
Hexachlorocyclopentadiene	11,000,000	26,000,000	ug/kg	-		-		-		-		-		-		-						-	
Hexachloroethane	1,200,000	3,000,000	ug/kg	-		-		-		-		-		-		-						-	
Indeno(1,2,3-cd)pyrene	58,000	1,200,000	ug/kg	-		-		-		-		-		-		-						-	
Isophorone	52,000,000	1,000,000,000	ug/kg	-		-		-		-		-		-		-						-	
Naphthalene, SVOC	450,000	560,000	ug/kg	-		-		-		-		-		-		-						-	
Nitrobenzene	610,000	3,000,000	ug/kg	-		-		-		-		-		-		-						-	
N-Nitrosodi-n-propylamine	7,000	140,000	ug/kg	-		-		-		-		-		-		-						-	
N-Nitrosodiphenylamine	10,000,000	200,000,000	ug/kg	-		-		-		-		-		-		-						-	
Pentachlorophenol	67,000	950,000	ug/kg	-		-		-		-		-		-		-						-	
Phenanthrene	450,000,000	1,000,000,000	ug/kg	-		-		-		-		-		-		-						**160**	**J**
Phenol	530,000,000	840,000,000	ug/kg	-		-		-		-		-		-		-						-	
Pyrene, SVOC	45,000,000	390,000,000	ug/kg	-		-		-		-		-		-		-						**140**	**J**

TABLE 3.18
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 5E, 2-12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	BH-180		SB-137-04		SB-137-04		SB-138-04		SB-138-04		SB-138-04		SB-17-02		SB-17-02		SB-54-02		TT-SB252		TT-SB252	
			Field Sample ID:	S-111104-NZ-033		SB-137-04		SB-137-04		SB-138-04 DUP		SB-138-04		SB-138-04		SB-17-02		SB-17-02		SB-54-02		TT-SB252-G-06		TT-SB252-G-08 DP	
			Date:	11/11/2004		1/26/2004		1/26/2004		1/26/2004		1/26/2004		1/26/2004		4/8/2002		4/8/2002		4/17/2002		4/3/2013		4/3/2013	
	C/I	Construction	Depth:	8 - 10		8 - 10		11 - 13		8 - 10		8 - 10		11 - 13		8 - 10		10 - 12		9 - 11		4 - 6		6 - 8	
PCBs																									
Aroclor-1016	100,000	260,000	ug/kg	-		-		-		-		-		-		44	U	34	U	37	U	22	U	24.1	U
Aroclor-1221	14,000	210,000	ug/kg	-		-		-		-		-		-		44	U	34	U	37	U	22	U	24.1	U
Aroclor-1232	14,000	73,000	ug/kg	-		-		-		-		-		-		44	U	34	U	37	U	22	U	24.1	U
Aroclor-1242	20,000	440,000	ug/kg	-		-		-		-		-		-		44	U	34	U	37	U	22	U	24.1	U
Aroclor-1248	20,000	440,000	ug/kg	-		-		-		-		-		-		44	U	34	U	37	U	22	U	24.1	U
Aroclor-1254	20,000	75,000	ug/kg	-		-		-		-		-		-		44	U	34	U	37	U	**108**		24.1	U
Aroclor-1260	20,000	440,000	ug/kg	-		-		-		-		-		-		44	U	34	U	37	U	22	U	24.1	U
Total PCBs	20,000	440,000	ug/kg	-		-		-		-		-		-		44	U	34	U	37	U	**108**		24.1	U
Metals																									
Antimony	1,600	850	mg/kg	-		-		-		-		-		-		8	U	6.2	U	13.4	U	-		-	
Arsenic	77	690	mg/kg	-		-		-		-		-		-		**7.5**		**3.3**		**8.4**		-		-	
Barium	680,000	320,000	mg/kg	-		-		-		-		-		-		**259**		**57.8**		**84.5**		-		-	
Beryllium	7,800	3,400	mg/kg	-		-		-		-		-		-		0.67	UJ	0.52	UJ	0.56	U	-		-	
Cadmium	2,600	1,000	mg/kg	-		-		-		-		-		-		0.67	U	0.52	U	**2.3**		-		-	
Chromium Total	NA	NA	mg/kg	-		-		-		-		-		-		**11.5**		**3.1**		**21.7**		-		-	
Cobalt	1,200	2,800	mg/kg	-		-		-		-		-		-		**5.7**	**J**	**1.4**	**J**	**8.9**		-		-	
Copper	160,000	21,000	mg/kg	-		-		-		-		-		-		**11.2**		**1.5**	**J**	**77.8**		-		-	
Cyanide (total)	370	150	mg/kg	-		-		-		-		-		-		**0.26**	**J**	0.52	U	**0.28**	**J**	-		-	
Lead	800	400	mg/kg	-		-		-		-		-		-		**10.2**		**1.9**		**181**		-		-	
Manganese	NA	NA	mg/kg	-		**230**		**194**		**290**		**261**		**275**		**844**		**271**		**3360**		-		-	
Mercury	3.1	3.1	mg/kg	-		-		-		-		-		-		**0.053**	**J**	**0.015**	**J**	**0.18**		-		-	
Nickel	74,000	23,000	mg/kg	-		-		-		-		-		-		**13**		**3.1**	**J**	**12.5**		-		-	
Selenium	20,000	11,000	mg/kg	-		-		-		-		-		-		**0.55**	**J**	0.52	U	1.1	U	-		-	
Silver	20,000	11,000	mg/kg	-		-		-		-		-		-		1.3	U	1	U	**0.79**	**J**	-		-	
Thallium	41	21	mg/kg	-		-		-		-		-		-		1.3	U	1	U	2.2	U	-		-	
Vanadium	20,000	11,000	mg/kg	-		-		-		-		-		-		**16.8**		**5.2**		**40.8**		-		-	
Zinc	1,000,000	640,000	mg/kg	-		-		-		-		-		-		**57.5**		**10.1**		**929**		-		-	
TPH																									
C21-C34 Aliphatics	5,000,000	5,000,000	ug/kg	-		-		-		-		-		-		-		-		-		-		-	
Diesel Range Organics (DRO)	2,000,000	2,000,000	ug/kg	-		-		-		-		-		-		-		-		-		-		-	
Gasoline Range Organics (GRO)	1,000,000	1,000,000	ug/kg	-		-		-		-		-		-		-		-		-		-		-	

TABLE 3.18
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 5E, 2-12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	TT-SB252		TT-SB253		TT-SB253		TT-SB253		TT-SB253		TT-SB253		TT-SB253		TT-SB254		TT-SB254B		Maximum Detected Concentration	
			Field Sample ID:	TT-SB252-G-08		TT-SB253-C-08 DP		TT-SB253-C-08		TT-SB253-G-04		TT-SB253-G-06		TT-SB253-G-08 DP		TT-SB253-G-08		TT-SB254-G-04		TT-SB254B-G-10			
			Date:	4/3/2013		4/3/2013		4/3/2013		4/3/2013		4/3/2013		4/3/2013		4/3/2013		4/3/2013		4/4/2013			
	C/I	Construction	Depth:	6 - 8		6 - 8		6 - 8		2 - 4		4 - 6		6 - 8		6 - 8		2 - 4		8 - 10			
PCBs																							
Aroclor-1016	100,000	260,000	ug/kg	25.7	U	-		-		21.9	U	20.8	U	-		26.7	U	22	U	23	U	-	
Aroclor-1221	14,000	210,000	ug/kg	25.7	U	-		-		21.9	U	20.8	U	-		26.7	U	22	U	23	U	-	
Aroclor-1232	14,000	73,000	ug/kg	25.7	U	-		-		21.9	U	20.8	U	-		26.7	U	22	U	23	U	-	
Aroclor-1242	20,000	440,000	ug/kg	25.7	U	-		-		21.9	U	20.8	U	-		26.7	U	22	U	23	U	-	
Aroclor-1248	20,000	440,000	ug/kg	25.7	U	-		-		21.9	U	20.8	U	-		26.7	U	22	U	23	U	-	
Aroclor-1254	20,000	75,000	ug/kg	25.7	U	-		-		**246**		**38.5**		-		26.7	U	**375**		**3920**	**D**	**3920**	**D**
Aroclor-1260	20,000	440,000	ug/kg	25.7	U	-		-		21.9	U	20.8	U	-		26.7	U	22	U	23	U	-	
Total PCBs	20,000	440,000	ug/kg	25.7	U	-		-		**246**		**38.5**		-		26.7	U	**375**		**3920**	**D**	**3920**	**D**
Metals																							
Antimony	1,600	850	mg/kg	-		-		-		-		-		-		-						-	
Arsenic	77	690	mg/kg	-		-		-		-		-		-		-						**8.4**	
Barium	680,000	320,000	mg/kg	-		-		-		-		-		-		-						**259**	
Beryllium	7,800	3,400	mg/kg	-		-		-		-		-		-		-						-	
Cadmium	2,600	1,000	mg/kg	-		-		-		-		-		-		-						**2.3**	
Chromium Total	NA	NA	mg/kg	-		-		-		-		-		-		-						**21.7**	
Cobalt	1,200	2,800	mg/kg	-		-		-		-		-		-		-						**8.9**	
Copper	160,000	21,000	mg/kg	-		-		-		-		-		-		-						**77.8**	
Cyanide (total)	370	150	mg/kg	-		-		-		-		-		-		-						**0.28**	**J**
Lead	800	400	mg/kg	-		-		-		-		-		-		-						**181**	
Manganese	NA	NA	mg/kg	-		-		-		-		-		-		-						**3360**	
Mercury	3.1	3.1	mg/kg	-		-		-		-		-		-		-						**0.18**	
Nickel	74,000	23,000	mg/kg	-		-		-		-		-		-		-						**13**	
Selenium	20,000	11,000	mg/kg	-		-		-		-		-		-		-						**0.55**	**J**
Silver	20,000	11,000	mg/kg	-		-		-		-		-		-		-						**0.79**	**J**
Thallium	41	21	mg/kg	-		-		-		-		-		-		-						-	
Vanadium	20,000	11,000	mg/kg	-		-		-		-		-		-		-						**40.8**	
Zinc	1,000,000	640,000	mg/kg	-		-		-		-		-		-		-						**929**	
TPH																							
C21-C34 Aliphatics	5,000,000	5,000,000	ug/kg	-		588000	U	551000	U	-		-		-		-						-	
Diesel Range Organics (DRO)	2,000,000	2,000,000	ug/kg	-		**28500**		**26100**		-		-		-		-						**28500**	
Gasoline Range Organics (GRO)	1,000,000	1,000,000	ug/kg	-		-		-		-		-		5640	U	5820	U					-	

NOTES:

Shaded values indicate concentration exceeds C/I Single Chemical Generic Direct Contact Soil Standard
Shaded values indicate concentration exceeds Construction Single Chemical Generic Direct Contact Soil Standard
Shaded values indicate concentration exceeds both Single Chemical Generic Direct Contact Soil Standards

bold text indicates detection above reporting limit
Total PCBs value is the sum of all positively deteted PCB aroclors
D: The reported value is from a dilution
C/I: Commercial/ Industrial
J: The associated numerical value is an estimated quantity
mg/kg: milligrams per kilogram
NA: exceedance criteria not applicable for compound/analyte
PCB: Polychlorinated Biphenyl
R: The data are unusable (the compound/analyte may or may not be present). Resampling and reanalysis are necessary for verification
SVOC: SemiVolatile Organic Compound
U: The compound/analyte was analyzed for, but not detected. The associated numerical value is the sample quantitation limit
ug/kg: micrograms per kilogram
UJ: The compound/analyte was analyzed for, but not detected. The sample quantitation limit is an estimated quantity
VOC: Volatile Organic Compound

TABLE 3.19
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 7, 2-12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	091216-3		091216-5		BH-182		SB-145-04		SB-145-04		SB-159-04		TT-SB264	
			Field Sample ID:	091216-3		091216-5		S-111104-NZ-039		SB-145-04		SB-145-04		SB-159-04		TT-SB264-G-04	
			Date:	12/16/2009		12/16/2009		11/11/2004		1/28/2004		1/28/2004		2/4/2004		4/4/2013	
	C/I	Construction	Depth:	12 - 12		8 - 8		8 - 10		8 - 10		11 - 13		7 - 9		2 - 4	
VOCs																	
1,1,1,2-Tetrachloroethane	240,000	680,000	ug/kg	22.1	U	264	U	-		-		-		-		-	
1,1,1-Trichloroethane	640,000	640,000	ug/kg	22.1	U	13	U	-		4.5	U	5.4	U	5.3	U	-	
1,1,2,2-Tetrachloroethane	75,000	670,000	ug/kg	22.1	U	264	U	-		4.5	U	5.4	U	5.3	U	-	
1,1,2-Trichloroethane	140,000	1,200,000	ug/kg	22.1	U	13	U	-		4.5	U	5.4	U	5.3	U	-	
1,1-Dichloroethane	420,000	1,700,000	ug/kg	22.1	U	13	U	-		4.5	U	5.4	U	5.3	U	-	
1,1-Dichloroethene	1,200,000	360,000	ug/kg	22.1	U	13	U	-		4.5	U	5.4	U	5.3	U	-	
1,1-Dichloropropene	NA	NA	ug/kg	22.1	U	13	U	-		-		-		-		-	
1,2,4-Trichlorobenzene, VOC	400,000	400,000	ug/kg	-		-		-		4.5	U	5.4	U	5.3	U	-	
1,2-Dibromo-3-chloropropane	1,700	15,000	ug/kg	-		-		-		9	U	11	U	11	U	-	
1,2-Dibromoethane	4,400	38,000	ug/kg	22.1	U	264	U	-		4.5	U	5.4	U	5.3	U	-	
1,2-Dichlorobenzene, VOC	380,000	380,000	ug/kg	-		-		-		4.5	U	5.4	U	5.3	U	-	
1,2-Dichloroethane	56,000	480,000	ug/kg	22.1	U	13	U	-		4.5	U	5.4	U	5.3	U	-	
1,2-Dichloropropane	120,000	180,000	ug/kg	22.1	U	13	U	-		4.5	U	5.4	U	5.3	U	-	
1,3-Dichlorobenzene, VOC	NA	NA	ug/kg	-		-		-		4.5	U	5.4	U	5.3	U	-	
1,3-Dichloropropane	1,500,000	1,500,000	ug/kg	22.1	U	13	U	-		-		-		-		-	
1,4-Dichlorobenzene, VOC	310,000	2,600,000	ug/kg	-		-		-		4.5	U	5.4	U	5.3	U	-	
2,2-Dichloropropane	NA	NA	ug/kg	22.1	U	13	U	-		-		-		-		-	
2-Butanone	28,000,000	28,000,000	ug/kg	88.2	U	52.1	U	-		18	U	21	U	21	U	-	
2-Chloroethyl vinyl ether	NA	NA	ug/kg	110	U	65.1	U	-		-		-		-		-	
2-Chlorotoluene	NA	NA	ug/kg	22.1	U	**927**		-		-		-		-		-	
2-Hexanone	NA	NA	ug/kg	88.2	U	**552**		-		18	U	21	U	21	U	-	
4-Chlorotoluene	NA	NA	ug/kg	22.1	U	**598**		-		-		-		-		-	
4-Methyl-2-Pentanone	3,400,000	3,400,000	ug/kg	88.2	U	52.1	U	-		18	U	21	U	**1.8**	**J**	-	
Acetone	110,000,000	110,000,000	ug/kg	221	U	130	U	-		18	U	21	U	21	U	-	
Acetonitrile	9,200	26,000	mg/kg	0.176	U	0.104	U	-		-		-		-		-	
Acrolein	1,600	5,500	ug/kg	88.2	U	52.1	U	-		-		-		-		-	
Acrylonitrile	32,000	62,000	ug/kg	88.2	U	52.1	U	-		-		-		-		-	
Allyl chloride	19,000	64,000	ug/kg	44.1	U	26.1	U	-		-		-		-		-	
Benzene	140,000	1,200,000	ug/kg	22.1	U	13	U	-		4.5	U	5.4	U	5.3	U	-	
Bromobenzene	NA	NA	ug/kg	22.1	U	264	U	-		-		-		-		-	
Bromochloromethane	NA	NA	ug/kg	22.1	U	13	U	-		-		-		-		-	
Bromodichloromethane	35,000	300,000	ug/kg	22.1	U	13	U	-		4.5	U	5.4	U	5.3	U	-	
Bromoform	6,200,000	130,000,000	ug/kg	22.1	U	264	U	-		4.5	UJ	5.4	UJ	5.3	U	-	
Bromomethane	82,000	550,000	ug/kg	22.1	U	13	U	-		4.5	U	5.4	U	5.3	U	-	
Carbon disulfide	740,000	740,000	ug/kg	88.2	U	52.1	U	-		4.5	U	5.4	U	5.3	U	-	
Carbon tetrachloride	79,000	460,000	ug/kg	22.1	U	13	U	-		4.5	U	5.4	U	5.3	U	-	
Chlorobenzene	760,000	760,000	ug/kg	22.1	U	264	U	-		4.5	U	5.4	U	5.3	U	-	
Chloroethane	2,100,000	2,100,000	ug/kg	22.1	U	13	U	-		4.5	U	5.4	U	5.3	U	-	
Chloroform	38,000	320,000	ug/kg	22.1	U	13	U	-		4.5	U	**0.55**	**J**	5.3	U	-	
Chloromethane	1,300,000	1,300,000	ug/kg	22.1	U	13	U	-		4.5	U	5.4	U	5.3	U	-	
cis-1,2-Dichloroethene	2,400,000	2,400,000	ug/kg	22.1	U	13	U	-		2.2	U	2.7	U	2.7	U	-	
cis-1,3-Dichloropropene	NA	NA	ug/kg	22.1	U	13	U	-		4.5	U	5.4	U	5.3	U	-	
Cyclohexane	120,000	120,000	ug/kg	-		-		-		9	U	11	U	11	U	-	
Dibromochloromethane	84,000	770,000	ug/kg	22.1	U	264	U	-		4.5	U	5.4	U	5.3	U	-	
Dibromomethane	2,800,000	2,800,000	ug/kg	22.1	U	13	U	-		-		-		-		-	
Dichlorodifluoromethane	850,000	850,000	ug/kg	22.1	U	13	U	-		4.5	U	5.4	U	5.3	U	-	
Ethylbenzene	480,000	480,000	ug/kg	**120**		264	U	-		**0.46**	**J**	5.4	U	5.3	U	-	
Iodomethane	NA	NA	ug/kg	44.1	U	26.1	U	-		-		-		-		-	
Isopropylbenzene, VOC	270,000	270,000	ug/kg	-		-		-		4.5	U	5.4	U	5.3	U	-	
m&p-Xylene	NA	NA	ug/kg	**36.2**		527	U	-		-		-		-		-	
Methyl acetate	NA	NA	ug/kg	-		-		-		9	U	11	U	11	U	-	
Methyl cyclohexane	NA	NA	ug/kg	-		-		-		9	U	11	U	11	U	-	
Methyl tert butyl ether	5,700,000	8,900,000	ug/kg	44.1	U	26.1	U	-		18	U	21	U	21	U	-	
Methylene chloride	3,300,000	3,300,000	ug/kg	22.1	U	13	U	-		4.5	U	5.4	U	**5**	**J**	-	
n-Hexane	140,000	140,000	ug/kg	22.1	U	13	U	-		-		-		-		-	
o-Xylene	NA	NA	ug/kg	**365**		264	U	-		-		-		-		-	
Styrene	870,000	870,000	ug/kg	22.1	U	264	U	-		4.5	U	5.4	U	5.3	U	-	
Tetrachloroethene	170,000	170,000	ug/kg	22.1	U	264	U	-		**2**	**J**	**14**		5.3	U	-	
Toluene	820,000	820,000	ug/kg	22.1	U	13	U	-		**1.2**	**J**	**0.81**	**J**	5.3	U	-	
trans-1,2-Dichloroethene	1,700,000	1,700,000	ug/kg	22.1	U	13	U	-		2.2	U	2.7	U	2.7	U	-	
trans-1,3-Dichloropropene	NA	NA	ug/kg	22.1	U	13	U	-		4.5	U	5.4	U	5.3	U	-	
Trichloroethene	51,000	17,000	ug/kg	22.1	U	13	U	-		**2.1**	**J**	**170**		5.3	U	-	
Trichlorofluoromethane	1,200,000	1,200,000	ug/kg	22.1	U	13	U	-		4.5	U	5.4	U	5.3	U	-	
Trifluorotrichloroethane	NA	NA	ug/kg	-		-		-		4.5	U	5.4	U	5.3	U	-	
Vinyl acetate	2,700,000	620,000	ug/kg	44.1	U	26.1	U	-		-		-		-		-	
Vinyl chloride	50,000	280,000	ug/kg	22.1	U	13	U	-		4.5	U	5.4	U	5.3	U	-	
Xylene (Total)	260,000	260,000	ug/kg	-		-		-		9	U	11	U	11	U	-	

TABLE 3.19
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 7, 2-12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	TT-SB264		TT-SB264		TT-SB264		TT-SB264		TT-SB264		Maximum Detected Concentration	
			Field Sample ID:	TT-SB264-G-06		TT-SB264-G-08 DP		TT-SB264-G-08		TT-SB264-G-10		TT-SB264-G-10			
			Date:	4/4/2013		4/4/2013		4/4/2013		4/4/2013		4/4/2013			
	C/I	Construction	Depth:	4 - 6		6 - 8		6 - 8		8 - 10		8 - 10			
VOCs															
1,1,1,2-Tetrachloroethane	240,000	680,000	ug/kg	-		-		-		-		-		-	
1,1,1-Trichloroethane	640,000	640,000	ug/kg	-		-		-		-		-		-	
1,1,2,2-Tetrachloroethane	75,000	670,000	ug/kg	-		-		-		-		-		-	
1,1,2-Trichloroethane	140,000	1,200,000	ug/kg	-		-		-		-		-		-	
1,1-Dichloroethane	420,000	1,700,000	ug/kg	-		-		-		-		-		-	
1,1-Dichloroethene	1,200,000	360,000	ug/kg	-		-		-		-		-		-	
1,1-Dichloropropene	NA	NA	ug/kg	-		-		-		-		-		-	
1,2,4-Trichlorobenzene, VOC	400,000	400,000	ug/kg	-		-		-		-		-		-	
1,2-Dibromo-3-chloropropane	1,700	15,000	ug/kg	-		-		-		-		-		-	
1,2-Dibromoethane	4,400	38,000	ug/kg	-		-		-		-		-		-	
1,2-Dichlorobenzene, VOC	380,000	380,000	ug/kg	-		-		-		-		-		-	
1,2-Dichloroethane	56,000	480,000	ug/kg	-		-		-		-		-		-	
1,2-Dichloropropane	120,000	180,000	ug/kg	-		-		-		-		-		-	
1,3-Dichlorobenzene, VOC	NA	NA	ug/kg	-		-		-		-		-		-	
1,3-Dichloropropane	1,500,000	1,500,000	ug/kg	-		-		-		-		-		-	
1,4-Dichlorobenzene, VOC	310,000	2,600,000	ug/kg	-		-		-		-		-		-	
2,2-Dichloropropane	NA	NA	ug/kg	-		-		-		-		-		-	
2-Butanone	28,000,000	28,000,000	ug/kg	-		-		-		-		-		-	
2-Chloroethyl vinyl ether	NA	NA	ug/kg	-		-		-		-		-		-	
2-Chlorotoluene	NA	NA	ug/kg	-		-		-		-		-		**927**	
2-Hexanone	NA	NA	ug/kg	-		-		-		-		-		**552**	
4-Chlorotoluene	NA	NA	ug/kg	-		-		-		-		-		**598**	
4-Methyl-2-Pentanone	3,400,000	3,400,000	ug/kg	-		-		-		-		-		**1.8**	**J**
Acetone	110,000,000	110,000,000	ug/kg	-		-		-		-		-		-	
Acetonitrile	9,200	26,000	mg/kg	-		-		-		-		-		-	
Acrolein	1,600	5,500	ug/kg	-		-		-		-		-		-	
Acrylonitrile	32,000	62,000	ug/kg	-		-		-		-		-		-	
Allyl chloride	19,000	64,000	ug/kg	-		-		-		-		-		-	
Benzene	140,000	1,200,000	ug/kg	-		-		-		-		-		-	
Bromobenzene	NA	NA	ug/kg	-		-		-		-		-		-	
Bromochloromethane	NA	NA	ug/kg	-		-		-		-		-		-	
Bromodichloromethane	35,000	300,000	ug/kg	-		-		-		-		-		-	
Bromoform	6,200,000	130,000,000	ug/kg	-		-		-		-		-		-	
Bromomethane	82,000	550,000	ug/kg	-		-		-		-		-		-	
Carbon disulfide	740,000	740,000	ug/kg	-		-		-		-		-		-	
Carbon tetrachloride	79,000	460,000	ug/kg	-		-		-		-		-		-	
Chlorobenzene	760,000	760,000	ug/kg	-		-		-		-		-		-	
Chloroethane	2,100,000	2,100,000	ug/kg	-		-		-		-		-		-	
Chloroform	38,000	320,000	ug/kg	-		-		-		-		-		**0.55**	**J**
Chloromethane	1,300,000	1,300,000	ug/kg	-		-		-		-		-		-	
cis-1,2-Dichloroethene	2,400,000	2,400,000	ug/kg	-		-		-		-		-		-	
cis-1,3-Dichloropropene	NA	NA	ug/kg	-		-		-		-		-		-	
Cyclohexane	120,000	120,000	ug/kg	-		-		-		-		-		-	
Dibromochloromethane	84,000	770,000	ug/kg	-		-		-		-		-		-	
Dibromomethane	2,800,000	2,800,000	ug/kg	-		-		-		-		-		-	
Dichlorodifluoromethane	850,000	850,000	ug/kg	-		-		-		-		-		-	
Ethylbenzene	480,000	480,000	ug/kg	-		-		-		-		-		**120**	
Iodomethane	NA	NA	ug/kg	-		-		-		-		-		-	
Isopropylbenzene, VOC	270,000	270,000	ug/kg	-		-		-		-		-		-	
m&p-Xylene	NA	NA	ug/kg	-		-		-		-		-		**36.2**	
Methyl acetate	NA	NA	ug/kg	-		-		-		-		-		-	
Methyl cyclohexane	NA	NA	ug/kg	-		-		-		-		-		-	
Methyl tert butyl ether	5,700,000	8,900,000	ug/kg	-		-		-		-		-		-	
Methylene chloride	3,300,000	3,300,000	ug/kg	-		-		-		-		-		**5**	**J**
n-Hexane	140,000	140,000	ug/kg	-		-		-		-		-		-	
o-Xylene	NA	NA	ug/kg	-		-		-		-		-		**365**	
Styrene	870,000	870,000	ug/kg	-		-		-		-		-		-	
Tetrachloroethene	170,000	170,000	ug/kg	-		-		-		-		-		**14**	
Toluene	820,000	820,000	ug/kg	-		-		-		-		-		**1.2**	**J**
trans-1,2-Dichloroethene	1,700,000	1,700,000	ug/kg	-		-		-		-		-		-	
trans-1,3-Dichloropropene	NA	NA	ug/kg	-		-		-		-		-		-	
Trichloroethene	51,000	17,000	ug/kg	-		-		-		-		-		**170**	
Trichlorofluoromethane	1,200,000	1,200,000	ug/kg	-		-		-		-		-		-	
Trifluorotrichloroethane	NA	NA	ug/kg	-		-		-		-		-		-	
Vinyl acetate	2,700,000	620,000	ug/kg	-		-		-		-		-		-	
Vinyl chloride	50,000	280,000	ug/kg	-		-		-		-		-		-	
Xylene (Total)	260,000	260,000	ug/kg	-		-		-		-		-		-	

TABLE 3.19
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 7, 2-12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	091216-3		091216-5		BH-182		SB-145-04		SB-145-04		SB-159-04		TT-SB264	
			Field Sample ID:	091216-3		091216-5		S-111104-NZ-039		SB-145-04		SB-145-04		SB-159-04		TT-SB264-G-04	
			Date:	12/16/2009		12/16/2009		11/11/2004		1/28/2004		1/28/2004		2/4/2004		4/4/2013	
	C/I	Construction	Depth:	12 - 12		8 - 8		8 - 10		8 - 10		11 - 13		7 - 9		2 - 4	
SVOCs																	
2,2-oxybis(2-Chloropropane), SVOC	NA	NA	ug/kg	-		-		460	U	340	U	350	U	-		-	
2,4,5-Trichlorophenol	180,000,000	1,000,000,000	ug/kg	-		-		460	U	340	U	350	U	-		-	
2,4,6-Trichlorophenol	1,800,000	1,400,000	ug/kg	-		-		460	U	340	U	350	U	-		-	
2,4-Dichlorophenol	NA	NA	ug/kg	-		-		460	U	340	U	350	U	-		-	
2,4-Dimethylphenol	35,000,000	85,000,000	ug/kg	-		-		460	U	340	U	350	U	-		-	
2,4-Dinitrophenol	3,500,000	28,000,000	ug/kg	-		-		2200	U	1700	U	1700	U	-		-	
2,4-Dinitrotoluene	160,000	2,800,000	ug/kg	-		-		460	U	340	U	350	U	-		-	
2,6-Dinitrotoluene	NA	NA	ug/kg	-		-		460	U	340	U	350	U	-		-	
2-Chloronaphthalene	330,000,000	1,000,000,000	ug/kg	-		-		460	U	340	U	350	U	-		-	
2-Chlorophenol	20,000,000	22,000,000	ug/kg	-		-		460	U	340	U	350	U	-		-	
2-Methylnaphthalene	6,000,000	5,200,000	ug/kg	125	U	1050	U	460	U	340	U	350	U	-		-	
2-Methylphenol	88,000,000	710,000,000	ug/kg	-		-		460	U	340	U	350	U	-		-	
2-Nitroaniline	NA	NA	ug/kg	-		-		2200	U	1700	U	1700	U	-		-	
2-Nitrophenol	NA	NA	ug/kg	-		-		460	U	340	U	350	U	-		-	
3,3-Dichlorobenzidine	NA	NA	ug/kg	-		-		2200	U	1700	U	1700	U	-		-	
3-Nitroaniline	NA	NA	ug/kg	-		-		2200	U	1700	U	1700	U	-		-	
4,6-Dinitro-2-methylphenol	140,000	110,000	ug/kg	-		-		2200	U	1700	U	1700	U	-		-	
4-Bromophenyl phenyl ether	NA	NA	ug/kg	-		-		460	U	340	U	350	U	-		-	
4-Chloro-3-methylphenol	180,000,000	140,000,000	ug/kg	-		-		460	U	340	U	350	U	-		-	
4-Chloroaniline	250,000	710,000	ug/kg	-		-		460	U	340	U	350	U	-		-	
4-Chlorophenyl phenyl ether	NA	NA	ug/kg	-		-		460	U	340	U	350	U	-		-	
4-Methylphenol	180,000,000	28,000,000	ug/kg	-		-		460	U	340	U	350	U	-		-	
4-Nitroaniline	2,500,000	14,000,000	ug/kg	-		-		2200	U	1700	U	1700	U	-		-	
4-Nitrophenol	NA	NA	ug/kg	-		-		2200	U	1700	U	1700	U	-		-	
Acenaphthene	90,000,000	780,000,000	ug/kg	125	U	1050	U	460	U	340	U	350	U	-		-	
Acenaphthylene	90,000,000	780,000,000	ug/kg	125	U	1050	U	460	U	340	U	350	U	-		-	
Acetophenone	2,500,000	2,500,000	ug/kg	-		-		460	U	340	U	350	U	-		-	
Anthracene	450,000,000	1,000,000,000	ug/kg	125	U	1050	U	460	U	340	U	350	U	-		-	
Atrazine	NA	NA	ug/kg	-		-		460	U	340	U	350	U	-		-	
Benzaldehyde	NA	NA	ug/kg	-		-		460	U	340	U	350	U	-		-	
Benzo(a)anthracene	58,000	1,200,000	ug/kg	125	U	1050	U	460	U	340	U	350	U	-		-	
Benzo(a)pyrene	5,800	120,000	ug/kg	125	U	1050	U	460	U	340	U	350	U	-		-	
Benzo(b)fluoranthene	58,000	1,200,000	ug/kg	125	U	1050	U	460	U	340	U	350	U	-		-	
Benzo(g,h,i)perylene	45,000,000	390,000,000	ug/kg	125	U	1050	U	460	U	340	U	350	U	-		-	
Benzo(k)fluoranthene	580,000	12,000,000	ug/kg	125	U	1050	U	460	U	340	U	350	U	-		-	
Biphenyl	14,000,000	190,000,000	ug/kg	-		-		460	U	340	U	350	U	-		-	
bis(2-Chloroethoxy)methane	5,300,000	43,000,000	ug/kg	-		-		460	U	340	U	350	U	-		-	
bis(2-Chloroethyl)ether	30,000	290,000	ug/kg	-		-		460	U	340	U	350	U	-		-	
bis(2-Ethylhexyl)phthalate	3,500,000	71,000,000	ug/kg	-		-		460	U	340	U	350	U	-		-	
Butyl benzylphthalate	26,000,000	520,000,000	ug/kg	-		-		460	U	340	U	350	U	-		-	
Caprolactam	NA	NA	ug/kg	-		-		460	U	340	U	350	U	-		-	
Carbazole	2,500,000	50,000,000	ug/kg	-		-		460	U	340	U	350	U	-		-	
Chrysene	5,800,000	120,000,000	ug/kg	125	U	1050	U	460	U	340	U	350	U	-		-	
Dibenz(a,h)anthracene	5,800	120,000	ug/kg	125	U	1050	U	460	U	340	U	350	U	-		-	
Dibenzofuran	4,100,000	2,100,000	ug/kg	-		-		460	U	340	U	350	U	-		-	
Diethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	-		-		460	U	340	U	350	U	-		-	
Dimethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	-		-		460	U	340	U	350	U	-		-	
Di-n-butylphthalate	180,000,000	430,000,000	ug/kg	-		-		460	U	340	U	350	U	-		-	
Di-N-Octyl phthalate	18,000,000	140,000,000	ug/kg	-		-		460	U	340	U	350	U	-		-	
Fluoranthene	60,000,000	160,000,000	ug/kg	125	U	1050	U	460	U	340	U	350	U	-		-	
Fluorene	60,000,000	520,000,000	ug/kg	125	U	1050	U	460	U	340	U	350	U	-		-	
Hexachlorobenzene	31,000	14,000	ug/kg	-		-		460	U	340	U	350	U	-		-	
Hexachlorobutadiene, SVOC	630,000	1,400,000	ug/kg	-		-		460	U	340	U	350	U	-		-	
Hexachlorocyclopentadiene	11,000,000	26,000,000	ug/kg	-		-		2200	UJ	1700	U	1700	U	-		-	
Hexachloroethane	1,200,000	3,000,000	ug/kg	-		-		460	U	340	U	350	U	-		-	
Indeno(1,2,3-cd)pyrene	58,000	1,200,000	ug/kg	125	U	1050	U	460	U	340	U	350	U	-		-	
Isophorone	52,000,000	1,000,000,000	ug/kg	-		-		460	U	340	U	350	U	-		-	
Naphthalene, SVOC	450,000	560,000	ug/kg	125	U	1050	U	460	U	340	U	350	U	-		-	
Nitrobenzene	610,000	3,000,000	ug/kg	-		-		460	U	340	U	350	U	-		-	
N-Nitrosodi-n-propylamine	7,000	140,000	ug/kg	-		-		460	U	340	U	350	U	-		-	
N-Nitrosodiphenylamine	10,000,000	200,000,000	ug/kg	-		-		460	U	340	U	350	U	-		-	
Pentachlorophenol	67,000	950,000	ug/kg	-		-		460	U	340	U	350	U	-		-	
Phenanthrene	450,000,000	1,000,000,000	ug/kg	125	U	1050	U	460	U	340	U	350	U	-		-	
Phenol	530,000,000	840,000,000	ug/kg	-		-		460	U	340	U	350	U	-		-	
Pyrene, SVOC	45,000,000	390,000,000	ug/kg	125	U	1050	U	460	U	340	U	350	U	-		-	

TABLE 3.19
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 7, 2-12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	TT-SB264		TT-SB264		TT-SB264		TT-SB264		TT-SB264		Maximum Detected Concentration	
			Field Sample ID:	TT-SB264-G-06		TT-SB264-G-08 DP		TT-SB264-G-08		TT-SB264-G-10		TT-SB264-G-10			
			Date:	4/4/2013		4/4/2013		4/4/2013		4/4/2013		4/4/2013			
	C/I	Construction	Depth:	4 - 6		6 - 8		6 - 8		8 - 10		8 - 10			
SVOCs															
2,2-oxybis(2-Chloropropane), SVOC	NA	NA	ug/kg	-		-		-		-		-		-	
2,4,5-Trichlorophenol	180,000,000	1,000,000,000	ug/kg	-		-		-		-		-		-	
2,4,6-Trichlorophenol	1,800,000	1,400,000	ug/kg	-		-		-		-		-		-	
2,4-Dichlorophenol	NA	NA	ug/kg	-		-		-		-		-		-	
2,4-Dimethylphenol	35,000,000	85,000,000	ug/kg	-		-		-		-		-		-	
2,4-Dinitrophenol	3,500,000	28,000,000	ug/kg	-		-		-		-		-		-	
2,4-Dinitrotoluene	160,000	2,800,000	ug/kg	-		-		-		-		-		-	
2,6-Dinitrotoluene	NA	NA	ug/kg	-		-		-		-		-		-	
2-Chloronaphthalene	330,000,000	1,000,000,000	ug/kg	-		-		-		-		-		-	
2-Chlorophenol	20,000,000	22,000,000	ug/kg	-		-		-		-		-		-	
2-Methylnaphthalene	6,000,000	5,200,000	ug/kg	-		-		-		-		-		-	
2-Methylphenol	88,000,000	710,000,000	ug/kg	-		-		-		-		-		-	
2-Nitroaniline	NA	NA	ug/kg	-		-		-		-		-		-	
2-Nitrophenol	NA	NA	ug/kg	-		-		-		-		-		-	
3,3-Dichlorobenzidine	NA	NA	ug/kg	-		-		-		-		-		-	
3-Nitroaniline	NA	NA	ug/kg	-		-		-		-		-		-	
4,6-Dinitro-2-methylphenol	140,000	110,000	ug/kg	-		-		-		-		-		-	
4-Bromophenyl phenyl ether	NA	NA	ug/kg	-		-		-		-		-		-	
4-Chloro-3-methylphenol	180,000,000	140,000,000	ug/kg	-		-		-		-		-		-	
4-Chloroaniline	250,000	710,000	ug/kg	-		-		-		-		-		-	
4-Chlorophenyl phenyl ether	NA	NA	ug/kg	-		-		-		-		-		-	
4-Methylphenol	180,000,000	28,000,000	ug/kg	-		-		-		-		-		-	
4-Nitroaniline	2,500,000	14,000,000	ug/kg	-		-		-		-		-		-	
4-Nitrophenol	NA	NA	ug/kg	-		-		-		-		-		-	
Acenaphthene	90,000,000	780,000,000	ug/kg	-		-		-		-		-		-	
Acenaphthylene	90,000,000	780,000,000	ug/kg	-		-		-		-		-		-	
Acetophenone	2,500,000	2,500,000	ug/kg	-		-		-		-		-		-	
Anthracene	450,000,000	1,000,000,000	ug/kg	-		-		-		-		-		-	
Atrazine	NA	NA	ug/kg	-		-		-		-		-		-	
Benzaldehyde	NA	NA	ug/kg	-		-		-		-		-		-	
Benzo(a)anthracene	58,000	1,200,000	ug/kg	-		-		-		-		-		-	
Benzo(a)pyrene	5,800	120,000	ug/kg	-		-		-		-		-		-	
Benzo(b)fluoranthene	58,000	1,200,000	ug/kg	-		-		-		-		-		-	
Benzo(g,h,i)perylene	45,000,000	390,000,000	ug/kg	-		-		-		-		-		-	
Benzo(k)fluoranthene	580,000	12,000,000	ug/kg	-		-		-		-		-		-	
Biphenyl	14,000,000	190,000,000	ug/kg	-		-		-		-		-		-	
bis(2-Chloroethoxy)methane	5,300,000	43,000,000	ug/kg	-		-		-		-		-		-	
bis(2-Chloroethyl)ether	30,000	290,000	ug/kg	-		-		-		-		-		-	
bis(2-Ethylhexyl)phthalate	3,500,000	71,000,000	ug/kg	-		-		-		-		-		-	
Butyl benzylphthalate	26,000,000	520,000,000	ug/kg	-		-		-		-		-		-	
Caprolactam	NA	NA	ug/kg	-		-		-		-		-		-	
Carbazole	2,500,000	50,000,000	ug/kg	-		-		-		-		-		-	
Chrysene	5,800,000	120,000,000	ug/kg	-		-		-		-		-		-	
Dibenz(a,h)anthracene	5,800	120,000	ug/kg	-		-		-		-		-		-	
Dibenzofuran	4,100,000	2,100,000	ug/kg	-		-		-		-		-		-	
Diethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	-		-		-		-		-		-	
Dimethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	-		-		-		-		-		-	
Di-n-butylphthalate	180,000,000	430,000,000	ug/kg	-		-		-		-		-		-	
Di-N-Octyl phthalate	18,000,000	140,000,000	ug/kg	-		-		-		-		-		-	
Fluoranthene	60,000,000	160,000,000	ug/kg	-		-		-		-		-		-	
Fluorene	60,000,000	520,000,000	ug/kg	-		-		-		-		-		-	
Hexachlorobenzene	31,000	14,000	ug/kg	-		-		-		-		-		-	
Hexachlorobutadiene, SVOC	630,000	1,400,000	ug/kg	-		-		-		-		-		-	
Hexachlorocyclopentadiene	11,000,000	26,000,000	ug/kg	-		-		-		-		-		-	
Hexachloroethane	1,200,000	3,000,000	ug/kg	-		-		-		-		-		-	
Indeno(1,2,3-cd)pyrene	58,000	1,200,000	ug/kg	-		-		-		-		-		-	
Isophorone	52,000,000	1,000,000,000	ug/kg	-		-		-		-		-		-	
Naphthalene, SVOC	450,000	560,000	ug/kg	-		-		-		-		-		-	
Nitrobenzene	610,000	3,000,000	ug/kg	-		-		-		-		-		-	
N-Nitrosodi-n-propylamine	7,000	140,000	ug/kg	-		-		-		-		-		-	
N-Nitrosodiphenylamine	10,000,000	200,000,000	ug/kg	-		-		-		-		-		-	
Pentachlorophenol	67,000	950,000	ug/kg	-		-		-		-		-		-	
Phenanthrene	450,000,000	1,000,000,000	ug/kg	-		-		-		-		-		-	
Phenol	530,000,000	840,000,000	ug/kg	-		-		-		-		-		-	
Pyrene, SVOC	45,000,000	390,000,000	ug/kg	-		-		-		-		-		-	

TABLE 3.19
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 7, 2-12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	091216-3		091216-5		BH-182		SB-145-04		SB-145-04		SB-159-04		TT-SB264	
			Field Sample ID:	091216-3		091216-5		S-111104-NZ-039		SB-145-04		SB-145-04		SB-159-04		TT-SB264-G-04	
			Date:	12/16/2009		12/16/2009		11/11/2004		1/28/2004		1/28/2004		2/4/2004		4/4/2013	
	C/I	Construction	Depth:	12 - 12		8 - 8		8 - 10		8 - 10		11 - 13		7 - 9		2 - 4	
PCBs																	
Aroclor-1016	100,000	260,000	ug/kg	-		-		-		34	U	35	U	-		22	U
Aroclor-1221	14,000	210,000	ug/kg	-		-		-		34	U	35	U	-		22	U
Aroclor-1232	14,000	73,000	ug/kg	-		-		-		34	U	35	U	-		22	U
Aroclor-1242	20,000	440,000	ug/kg	-		-		-		34	U	35	U	-		22	U
Aroclor-1248	20,000	440,000	ug/kg	-		-		-		34	U	35	U	-		22	U
Aroclor-1254	20,000	75,000	ug/kg	-		-		-		34	U	**35**		-		**29300**	**D**
Aroclor-1260	20,000	440,000	ug/kg	-		-		-		34	U	35	U	-		22	U
Total PCBs	20,000	440,000	ug/kg	-		-		-		34	U	**35**		-		**29300**	**D**
Metals																	
Antimony	1,600	850	mg/kg	-		-		8.3	UJ	6.2	UJ	6.4	UJ	-		-	
Arsenic	77	690	mg/kg	-		-		**1.4**	**J**	**5.3**		**2.8**		-		-	
Barium	680,000	320,000	mg/kg	-		-		**310**	**J**	**157**		**148**		-		-	
Beryllium	7,800	3,400	mg/kg	-		-		**0.092**	**J**	0.52	U	0.54	U	-		-	
Cadmium	2,600	1,000	mg/kg	-		-		**0.69**	**J**	**0.24**	**J**	**0.19**	**J**	-		-	
Chromium Total	NA	NA	mg/kg	-		-		**8.3**	**J**	**3.3**		**2.5**		-		-	
Cobalt	1,200	2,800	mg/kg	-		-		**0.49**	**J**	**1.4**	**J**	**0.84**	**J**	-		-	
Copper	160,000	21,000	mg/kg	-		-		**228**	**J**	**3.2**		**14.9**		-		-	
Cyanide (total)	370	150	mg/kg	-		-		0.69	U	0.52	U	0.54	U	-		-	
Lead	800	400	mg/kg	-		-		**8.5**	**J**	**2.1**		**2.3**		-		-	
Manganese	NA	NA	mg/kg	-		-		**316**		**523**		**358**		-		-	
Mercury	3.1	3.1	mg/kg	-		-		**0.022**	**J**	**0.25**		0.11	U	-		-	
Nickel	74,000	23,000	mg/kg	-		-		**9.1**	**J**	**4.6**		**3.8**	**J**	-		-	
Selenium	20,000	11,000	mg/kg	-		-		0.69	UJ	0.52	U	0.54	U	-		-	
Silver	20,000	11,000	mg/kg	-		-		1.4	UJ	1	U	1.1	U	-		-	
Thallium	41	21	mg/kg	-		-		1.4	UJ	1	U	**0.45**	**J**	-		-	
Vanadium	20,000	11,000	mg/kg	-		-		**2.1**	**J**	**5.4**		**3.7**	**J**	-		-	
Zinc	1,000,000	640,000	mg/kg	-		-		**31.7**	**J**	**13.4**		**11.5**		-		-	
TPH																	
GRO (C6-C12)	1,000,000	1,000,000	ug/kg	**213000**		**1850000**		-		-		-		-		-	
TPH C10-C20	2,000,000	2,000,000	ug/kg	**429000**		**1530000**		-		-		-		-		-	
TPH C20-C34	5,000,000	5,000,000	ug/kg	**3330000**		**9000000**		-		-		-		-		-	

TABLE 3.19
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 7, 2-12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	TT-SB264		TT-SB264		TT-SB264		TT-SB264		TT-SB264		Maximum Detected Concentration	
			Field Sample ID:	TT-SB264-G-06		TT-SB264-G-08 DP		TT-SB264-G-08		TT-SB264-G-10		TT-SB264-G-10			
			Date:	4/4/2013		4/4/2013		4/4/2013		4/4/2013		4/4/2013			
	C/I	Construction	Depth:	4 - 6		6 - 8		6 - 8		8 - 10		8 - 10			
PCBs															
Aroclor-1016	100,000	260,000	ug/kg	21.8	U	24.1	U	24.5	U	-		21.3	U	-	
Aroclor-1221	14,000	210,000	ug/kg	21.8	U	24.1	U	24.5	U	-		21.3	U	-	
Aroclor-1232	14,000	73,000	ug/kg	21.8	U	24.1	U	24.5	U	-		21.3	U	-	
Aroclor-1242	20,000	440,000	ug/kg	21.8	U	24.1	U	24.5	U	-		21.3	U	-	
Aroclor-1248	20,000	440,000	ug/kg	21.8	U	24.1	U	24.5	U	-		21.3	U	-	
Aroclor-1254	20,000	75,000	ug/kg	**18100**	**D**	**4060**	**D**	**6270**	**D**	-		**299**		**29300**	**D**
Aroclor-1260	20,000	440,000	ug/kg	21.8	U	24.1	U	24.5	U	-		21.3	U		
Total PCBs	20,000	440,000	ug/kg	**18100**	**D**	**4060**	**D**	**6270**	**D**	-		**299**		**29300**	**D**
Metals															
Antimony	1,600	850	mg/kg	-		-		-		-		-		-	
Arsenic	77	690	mg/kg	-		-		-		-		-		**5.3**	
Barium	680,000	320,000	mg/kg	-		-		-		-		-		**310**	**J**
Beryllium	7,800	3,400	mg/kg	-		-		-		-		-		**0.092**	**J**
Cadmium	2,600	1,000	mg/kg	-		-		-		-		-		**0.69**	**J**
Chromium Total	NA	NA	mg/kg	-		-		-		-		-		**8.3**	**J**
Cobalt	1,200	2,800	mg/kg	-		-		-		-		-		**1.4**	**J**
Copper	160,000	21,000	mg/kg	-		-		-		-		-		**228**	**J**
Cyanide (total)	370	150	mg/kg	-		-		-		-		-		-	
Lead	800	400	mg/kg	-		-		-		-		-		**8.5**	**J**
Manganese	NA	NA	mg/kg	-		-		-		-		-		**523**	
Mercury	3.1	3.1	mg/kg	-		-		-		-		-		**0.25**	
Nickel	74,000	23,000	mg/kg	-		-		-		-		-		**9.1**	**J**
Selenium	20,000	11,000	mg/kg	-		-		-		-		-		-	
Silver	20,000	11,000	mg/kg	-		-		-		-		-		-	
Thallium	41	21	mg/kg	-		-		-		-		-		**0.45**	**J**
Vanadium	20,000	11,000	mg/kg	-		-		-		-		-		**5.4**	
Zinc	1,000,000	640,000	mg/kg	-		-		-		-		-		**31.7**	**J**
TPH															
GRO (C6-C12)	1,000,000	1,000,000	ug/kg	-		-		-		-		-		**1850000**	
TPH C10-C20	2,000,000	2,000,000	ug/kg	-		-		-		-		-		**1530000**	
TPH C20-C34	5,000,000	5,000,000	ug/kg	-		-		-		-		-		**9000000**	

NOTES:
Shaded values indicate concentration exceeds C/I Single Chemical Generic Direct Contact Soil Standard
Shaded values indicate concentration exceeds Construction Single Chemical Generic Direct Contact Soil Standard
Shaded values indicate concentration exceeds both Single Chemical Generic Direct Contact Soil Standards
bold text indicates detection above reporting limit
Total PCBs value is the sum of all positively deteted PCB aroclors
D: The reported value is from a dilution
C/I: Commercial/ Industrial
J: The associated numerical value is an estimated quantity
mg/kg: milligrams per kilogram
NA: exceedance criteria not applicable for compound/analyte
PCB: Polychlorinated Biphenyl
R: The data are unusable (the compound/analyte may or may not be present). Resampling and reanalysis are necessary for verification
SVOC: SemiVolatile Organic Compound
U: The compound/analyte was analyzed for, but not detected. The associated numerical value is the sample quantitation limit
ug/kg: micrograms per kilogram
UJ: The compound/analyte was analyzed for, but not detected. The sample quantitation limit is an estimated quantity
VOC: Volatile Organic Compound

TABLE 3.20
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 11, 2-12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	MW-12-03		SB-18-02		SB-72-03		SB-72-03		SB-148-04		SB-148-04		SB-149-04		SB-149-04		Maximum Detected Concentration	
			Field Sample ID:	MW-12-03		SB-18-02		SB-72-03 DUP		SB-72-03		SB-148-04		SB-148-04		SB-149-04		SB-149-04			
			Date:	3/5/2003		4/8/2002		2/20/2003		2/20/2003		1/28/2004		1/28/2004		1/28/2004		1/28/2004			
	C/I	Construction	Depth:	9 - 11		9 - 11		9 - 11		9 - 11		8 - 10		11 - 13		8 - 10		11 - 13			
VOCs																					
1,1,1-Trichloroethane	640,000	640,000	ug/kg	470	U	8	U	4.3	U	4.9	U	4.7	U	5.3	U	390	U	250	U	-	
1,1,2,2-Tetrachloroethane	75,000	670,000	ug/kg	470	U	8	U	4.3	U	4.9	U	4.7	U	5.3	U	390	U	250	U	-	
1,1,2-Trichloroethane	140,000	1,200,000	ug/kg	470	U	8	U	4.3	U	4.9	U	4.7	U	5.3	U	390	U	250	U	-	
1,1-Dichloroethane	420,000	1,700,000	ug/kg	470	U	8	U	4.3	U	4.9	U	4.7	U	5.3	U	390	U	250	U	-	
1,1-Dichloroethene	1,200,000	360,000	ug/kg	470	U	8	U	4.3	U	4.9	U	4.7	U	5.3	U	390	U	250	U	-	
1,2,4-Trichlorobenzene, VOC	400,000	400,000	ug/kg	470	U	8	U	4.3	U	4.9	U	4.7	U	5.3	U	390	U	250	U	-	
1,2-Dibromo-3-chloropropane	1,700	15,000	ug/kg	940	UJ	16	UJ	8.7	U	9.9	U	9.4	U	11	U	770	U	500	U	-	
1,2-Dibromoethane	4,400	38,000	ug/kg	470	U	8	U	4.3	U	4.9	U	4.7	U	5.3	U	390	U	250	U	-	
1,2-Dichlorobenzene, VOC	380,000	380,000	ug/kg	470	U	8	U	4.3	U	4.9	U	4.7	U	5.3	U	390	U	250	U	-	
1,2-Dichloroethane	56,000	480,000	ug/kg	470	U	8	U	4.3	U	4.9	U	4.7	U	5.3	U	390	U	250	U	-	
1,2-Dichloropropane	120,000	180,000	ug/kg	470	U	8	U	4.3	U	4.9	U	4.7	U	5.3	U	390	U	250	U	-	
1,3-Dichlorobenzene, VOC	NA	NA	ug/kg	470	U	8	U	4.3	U	4.9	U	4.7	U	5.3	U	390	U	250	U	-	
1,4-Dichlorobenzene, VOC	310,000	2,600,000	ug/kg	470	U	8	U	4.3	U	4.9	U	4.7	U	5.3	U	390	U	250	U	-	
2-Butanone	28,000,000	28,000,000	ug/kg	1900	U	32	U	17	U	20	U	19	U	21	U	1500	U	990	U	-	
2-Hexanone	NA	NA	ug/kg	1900	U	32	U	17	U	20	U	19	U	21	U	1500	U	990	U	-	
4-Methyl-2-Pentanone	3,400,000	3,400,000	ug/kg	1900	U	32	U	17	U	20	U	19	U	21	U	1500	U	990	U	-	
Acetone	110,000,000	110,000,000	ug/kg	1900	U	32	UJ	17	U	20	U	19	U	21	U	1500	U	990	U	-	
Benzene	140,000	1,200,000	ug/kg	470	U	8	U	**0.3**	**J**	4.9	U	4.7	U	5.3	U	390	U	250	U	**0.3**	**J**
Bromodichloromethane	35,000	300,000	ug/kg	470	U	8	U	4.3	U	4.9	U	4.7	U	5.3	U	390	U	250	U	-	
Bromoform	6,200,000	130,000,000	ug/kg	470	U	8	UJ	4.3	UJ	4.9	UJ	4.7	UJ	5.3	UJ	390	U	250	U	-	
Bromomethane	82,000	550,000	ug/kg	470	R	8	UJ	4.3	UJ	4.9	UJ	4.7	U	5.3	U	**160**	**J**	**80**	**J**	**160**	**J**
Carbon disulfide	740,000	740,000	ug/kg	470	U	8	U	4.3	U	4.9	U	4.7	U	5.3	U	390	U	250	U	-	
Carbon tetrachloride	79,000	460,000	ug/kg	470	U	8	UJ	4.3	UJ	4.9	UJ	4.7	U	5.3	U	390	U	250	U	-	
Chlorobenzene	760,000	760,000	ug/kg	470	U	8	U	4.3	U	4.9	U	4.7	U	5.3	U	390	U	250	U	-	
Chloroethane	2,100,000	2,100,000	ug/kg	470	R	8	U	4.3	U	4.9	U	4.7	U	5.3	U	390	U	250	U	-	
Chloroform	38,000	320,000	ug/kg	470	U	8	U	4.3	U	4.9	U	4.7	U	5.3	U	390	U	250	U	-	
Chloromethane	1,300,000	1,300,000	ug/kg	470	U	8	U	4.3	U	4.9	U	4.7	U	5.3	U	390	U	250	U	-	
cis-1,2-Dichloroethene	2,400,000	2,400,000	ug/kg	**860**		**1.3**	**J**	2.2	U	2.5	U	2.3	U	2.6	U	190	U	120	U	**860**	
cis-1,3-Dichloropropene	NA	NA	ug/kg	470	U	8	U	4.3	U	4.9	U	4.7	U	5.3	U	390	U	250	U	-	
Cyclohexane	120,000	120,000	ug/kg	**70**	**J**	16	U	8.7	U	9.9	U	9.4	U	11	U	770	U	500	U	**70**	**J**
Dibromochloromethane	84,000	770,000	ug/kg	470	U	8	U	4.3	U	4.9	U	4.7	U	5.3	U	390	U	250	U	-	
Dichlorodifluoromethane	850,000	850,000	ug/kg	470	U	8	U	4.3	UJ	4.9	UJ	4.7	U	5.3	U	390	UJ	250	UJ	-	
Ethylbenzene	480,000	480,000	ug/kg	470	U	8	U	4.3	U	4.9	U	**0.38**	**J**	5.3	U	390	U	250	U	**0.38**	**J**
Isopropylbenzene, VOC	270,000	270,000	ug/kg	470	U	8	U	4.3	U	4.9	U	4.7	U	5.3	U	390	U	250	U	-	
Methyl acetate	NA	NA	ug/kg	**55**	**J**	16	U	8.7	U	9.9	U	9.4	U	11	U	770	U	500	U	**55**	**J**
Methyl cyclohexane	NA	NA	ug/kg	**210**	**J**	16	U	**0.42**	**J**	9.9	U	9.4	U	11	U	770	U	500	U	**210**	**J**
Methyl tert butyl ether	5,700,000	8,900,000	ug/kg	1900	U	32	U	17	U	20	U	19	U	21	U	1500	U	990	U	-	
Methylene chloride	3,300,000	3,300,000	ug/kg	470	U	8	U	4.3	U	4.9	U	4.7	U	5.3	U	390	U	250	U	-	
Styrene	870,000	870,000	ug/kg	470	U	8	U	4.3	U	4.9	U	4.7	U	5.3	U	390	U	250	U	-	
Tetrachloroethene	170,000	170,000	ug/kg	**8700**		**25**		4.3	U	4.9	U	**4.7**		**3.1**	**J**	390	U	**23**	**J**	**8700**	
Toluene	820,000	820,000	ug/kg	**64**	**J**	**1.1**	**J**	**0.87**	**J**	**0.51**	**J**	**0.87**	**J**	**0.79**	**J**	390	U	250	U	**64**	**J**
trans-1,2-Dichloroethene	1,700,000	1,700,000	ug/kg	240	U	4	U	2.2	U	2.5	U	2.3	U	2.6	U	190	U	120	U	-	
trans-1,3-Dichloropropene	NA	NA	ug/kg	470	U	8	U	4.3	U	4.9	U	4.7	U	5.3	U	390	U	250	U	-	
Trichloroethene	51,000	17,000	ug/kg	**14000**		**28**		**1.2**	**J**	**0.91**	**J**	**24**		**12**		390	U	**28**	**J**	**14000**	
Trichlorofluoromethane	1,200,000	1,200,000	ug/kg	470	U	8	UJ	4.3	UJ	4.9	UJ	4.7	U	5.3	U	390	U	250	U	-	
Trifluorotrichloroethane	NA	NA	ug/kg	470	U	8	U	4.3	U	4.9	U	4.7	U	5.3	U	390	U	250	U	-	
Vinyl chloride	50,000	280,000	ug/kg	470	U	8	U	4.3	U	4.9	U	4.7	U	5.3	U	390	U	250	U	-	
Xylene (Total)	260,000	260,000	ug/kg	**160**	**J**	16	U	8.7	U	9.9	U	9.4	U	11	U	770	U	500	U	**160**	**J**

TABLE 3.20
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 11, 2-12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	MW-12-03		SB-18-02		SB-72-03		SB-72-03		SB-148-04		SB-148-04		SB-149-04		SB-149-04		Maximum Detected Concentration	
			Field Sample ID:	MW-12-03		SB-18-02		SB-72-03 DUP		SB-72-03		SB-148-04		SB-148-04		SB-149-04		SB-149-04			
			Date:	3/5/2003		4/8/2002		2/20/2003		2/20/2003		1/28/2004		1/28/2004		1/28/2004		1/28/2004			
	C/I	Construction	Depth:	9 - 11		9 - 11		9 - 11		9 - 11		8 - 10		11 - 13		8 - 10		11 - 13			
SVOCs																					
2,2-oxybis(2-Chloropropane), SVOC	NA	NA	ug/kg	360	U	360	U	350	U	360	U	350	U	340	U	22000	U	18000	U	-	
2,4,5-Trichlorophenol	180,000,000	1,000,000,000	ug/kg	360	U	360	U	350	U	360	U	350	U	340	U	22000	U	18000	U	-	
2,4,6-Trichlorophenol	1,800,000	1,400,000	ug/kg	360	U	360	U	350	U	360	U	350	U	340	U	22000	U	18000	U	-	
2,4-Dichlorophenol	NA	NA	ug/kg	360	U	360	U	350	U	360	U	350	U	340	U	22000	U	18000	U	-	
2,4-Dimethylphenol	35,000,000	85,000,000	ug/kg	360	U	360	U	350	U	360	U	350	U	340	U	22000	U	18000	U	-	
2,4-Dinitrophenol	3,500,000	28,000,000	ug/kg	1700	U	1700	U	1700	U	1700	U	1700	U	1700	U	110000	UJ	87000	U	-	
2,4-Dinitrotoluene	160,000	2,800,000	ug/kg	360	U	360	U	350	U	360	U	350	U	340	U	22000	U	18000	U	-	
2,6-Dinitrotoluene	NA	NA	ug/kg	360	U	360	U	350	U	360	U	350	U	340	U	22000	U	18000	U	-	
2-Chloronaphthalene	330,000,000	1,000,000,000	ug/kg	360	U	360	U	350	U	360	U	350	U	340	U	22000	U	18000	U	-	
2-Chlorophenol	20,000,000	22,000,000	ug/kg	360	U	360	U	350	U	360	U	350	U	340	U	22000	U	18000	U	-	
2-Methylnaphthalene	6,000,000	5,200,000	ug/kg	**96**	**J**	360	U	350	U	360	U	350	U	340	U	22000	U	18000	U	**96**	**J**
2-Methylphenol	88,000,000	710,000,000	ug/kg	360	U	360	U	350	U	360	U	350	U	340	U	22000	U	18000	U	-	
2-Nitroaniline	NA	NA	ug/kg	1700	U	1700	U	1700	U	1700	U	1700	U	1700	U	110000	U	87000	U	-	
2-Nitrophenol	NA	NA	ug/kg	360	U	360	U	350	U	360	U	350	U	340	U	22000	U	18000	U	-	
3,3-Dichlorobenzidine	NA	NA	ug/kg	1700	U	1700	U	1700	U	1700	U	1700	U	1700	U	110000	U	87000	U	-	
3-Nitroaniline	NA	NA	ug/kg	1700	U	1700	U	1700	U	1700	U	1700	U	1700	U	110000	U	87000	U	-	
4,6-Dinitro-2-methylphenol	140,000	110,000	ug/kg	1700	U	1700	U	1700	U	1700	U	1700	U	1700	U	110000	U	87000	U	-	
4-Bromophenyl phenyl ether	NA	NA	ug/kg	360	U	360	U	350	U	360	U	350	U	340	U	22000	U	18000	U	-	
4-Chloro-3-methylphenol	180,000,000	140,000,000	ug/kg	360	U	360	U	350	U	360	U	350	U	340	U	22000	U	18000	U	-	
4-Chloroaniline	250,000	710,000	ug/kg	360	U	360	U	350	U	360	U	350	U	340	U	22000	U	18000	U	-	
4-Chlorophenyl phenyl ether	NA	NA	ug/kg	360	U	360	U	350	U	360	U	350	U	340	U	22000	U	18000	U	-	
4-Methylphenol	180,000,000	28,000,000	ug/kg	360	U	360	U	350	U	360	U	350	U	340	U	22000	U	18000	U	-	
4-Nitroaniline	2,500,000	14,000,000	ug/kg	1700	U	1700	U	1700	U	1700	U	1700	U	1700	U	110000	U	87000	U	-	
4-Nitrophenol	NA	NA	ug/kg	1700	U	1700	U	1700	U	1700	U	1700	U	1700	U	110000	U	87000	U	-	
Acenaphthene	90,000,000	780,000,000	ug/kg	360	U	360	U	350	U	360	U	350	U	340	U	22000	U	18000	U	-	
Acenaphthylene	90,000,000	780,000,000	ug/kg	**29**	**J**	360	U	350	U	360	U	350	U	340	U	22000	U	18000	U	**29**	**J**
Acetophenone	2,500,000	2,500,000	ug/kg	360	U	360	U	350	U	360	U	350	U	340	U	22000	U	18000	U	-	
Anthracene	450,000,000	1,000,000,000	ug/kg	**79**	**J**	360	U	350	U	360	U	350	U	340	U	22000	U	18000	U	**79**	**J**
Atrazine	NA	NA	ug/kg	360	U	360	U	350	U	360	U	350	U	340	U	22000	U	18000	U	-	
Benzaldehyde	NA	NA	ug/kg	360	U	360	U	350	U	360	U	350	U	340	U	22000	U	18000	U	-	
Benzo(a)anthracene	58,000	1,200,000	ug/kg	**340**	**J**	360	U	350	U	360	U	350	U	340	U	22000	U	18000	U	**340**	**J**
Benzo(a)pyrene	5,800	120,000	ug/kg	**380**		360	U	350	U	360	U	350	U	340	U	22000	U	18000	U	**380**	
Benzo(b)fluoranthene	58,000	1,200,000	ug/kg	**400**		360	U	350	U	360	U	350	U	340	U	22000	U	18000	U	**400**	
Benzo(g,h,i)perylene	45,000,000	390,000,000	ug/kg	**180**	**J**	360	U	350	U	360	U	350	U	340	U	22000	U	18000	U	**180**	**J**
Benzo(k)fluoranthene	580,000	12,000,000	ug/kg	**340**	**J**	360	U	350	U	360	U	350	U	340	U	22000	U	18000	U	**340**	**J**
Biphenyl	14,000,000	190,000,000	ug/kg	360	U	360	U	350	U	360	U	350	U	340	U	22000	U	18000	U	-	
bis(2-Chloroethoxy)methane	5,300,000	43,000,000	ug/kg	360	U	360	U	350	U	360	U	350	U	340	U	22000	U	18000	U	-	
bis(2-Chloroethyl)ether	30,000	290,000	ug/kg	360	U	360	U	350	U	360	U	350	U	340	U	22000	U	18000	U	-	
bis(2-Ethylhexyl)phthalate	3,500,000	71,000,000	ug/kg	360	U	360	U	350	U	360	U	350	U	340	U	22000	U	18000	U	-	
Butyl benzylphthalate	26,000,000	520,000,000	ug/kg	360	U	360	U	350	U	360	U	350	U	340	U	22000	U	18000	U	-	
Caprolactam	NA	NA	ug/kg	360	U	360	U	350	U	360	U	350	U	340	U	22000	U	18000	U	-	
Carbazole	2,500,000	50,000,000	ug/kg	**32**	**J**	360	U	350	U	360	U	350	U	340	U	22000	U	18000	U	**32**	**J**
Chrysene	5,800,000	120,000,000	ug/kg	**420**		360	U	350	U	360	U	350	U	340	U	22000	U	18000	U	**420**	
Dibenz(a,h)anthracene	5,800	120,000	ug/kg	**55**	**J**	360	U	350	U	360	U	350	U	340	U	22000	U	18000	U	**55**	**J**
Dibenzofuran	4,100,000	2,100,000	ug/kg	**32**	**J**	360	U	350	U	360	U	350	U	340	U	22000	U	18000	U	**32**	**J**
Diethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	360	U	360	U	350	U	360	U	350	U	340	U	22000	U	18000	U	-	
Dimethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	360	U	360	U	350	U	360	U	350	U	340	U	22000	U	18000	U	-	
Di-n-butylphthalate	180,000,000	430,000,000	ug/kg	360	U	360	U	350	U	360	U	350	U	340	U	22000	U	18000	U	-	
Di-N-Octyl phthalate	18,000,000	140,000,000	ug/kg	360	U	360	U	350	U	360	U	350	U	340	U	22000	U	18000	U	-	
Fluoranthene	60,000,000	160,000,000	ug/kg	**760**		360	U	350	U	360	U	350	U	340	U	22000	U	18000	U	**760**	
Fluorene	60,000,000	520,000,000	ug/kg	360	U	360	U	350	U	360	U	350	U	340	U	22000	U	18000	U	-	
Hexachlorobenzene	31,000	14,000	ug/kg	360	U	360	U	350	U	360	U	350	U	340	U	22000	U	18000	U	-	
Hexachlorobutadiene, SVOC	630,000	1,400,000	ug/kg	360	U	360	U	350	U	360	U	350	U	340	U	22000	U	18000	U	-	
Hexachlorocyclopentadiene	11,000,000	26,000,000	ug/kg	1700	U	1700	U	1700	U	1700	U	1700	U	1700	U	110000	U	87000	U	-	
Hexachloroethane	1,200,000	3,000,000	ug/kg	360	U	360	U	350	U	360	U	350	U	340	U	22000	U	18000	U	-	
Indeno(1,2,3-cd)pyrene	58,000	1,200,000	ug/kg	**170**	**J**	360	U	350	U	360	U	350	U	340	U	22000	U	18000	U	**170**	**J**
Isophorone	52,000,000	1,000,000,000	ug/kg	360	U	360	U	350	U	360	U	350	U	340	U	22000	U	18000	U	-	
Naphthalene, SVOC	450,000	560,000	ug/kg	**92**	**J**	360	U	350	U	360	U	350	U	340	U	22000	U	18000	U	**92**	**J**
Nitrobenzene	610,000	3,000,000	ug/kg	360	U	360	U	350	U	360	U	350	U	340	U	22000	U	18000	U	-	
N-Nitrosodi-n-propylamine	7,000	140,000	ug/kg	360	U	360	U	350	U	360	U	350	U	340	U	22000	U	18000	U	-	
N-Nitrosodiphenylamine	10,000,000	200,000,000	ug/kg	360	U	360	U	350	U	360	U	350	U	340	U	22000	U	18000	U	-	
Pentachlorophenol	67,000	950,000	ug/kg	360	U	360	U	350	U	360	U	350	U	340	U	22000	U	18000	U	-	
Phenanthrene	450,000,000	1,000,000,000	ug/kg	**370**		360	U	350	U	360	U	350	U	340	U	22000	U	18000	U	**370**	
Phenol	530,000,000	840,000,000	ug/kg	360	U	360	U	350	U	360	U	350	U	340	U	22000	U	18000	U	-	
Pyrene, SVOC	45,000,000	390,000,000	ug/kg	**540**		360	U	350	U	360	U	350	U	340	U	22000	U	18000	U	**540**	

TABLE 3.20
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 11, 2-12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	MW-12-03		SB-18-02		SB-72-03		SB-72-03		SB-148-04		SB-148-04		SB-149-04		SB-149-04		Maximum Detected Concentration	
			Field Sample ID:	MW-12-03		SB-18-02		SB-72-03 DUP		SB-72-03		SB-148-04		SB-148-04		SB-149-04		SB-149-04			
			Date:	3/5/2003		4/8/2002		2/20/2003		2/20/2003		1/28/2004		1/28/2004		1/28/2004		1/28/2004			
	C/I	Construction	Depth:	9 - 11		9 - 11		9 - 11		9 - 11		8 - 10		11 - 13		8 - 10		11 - 13			
PCBs																					
Aroclor-1016	100,000	260,000	ug/kg	360	U	36	U	-		-		35	U	34	U	220	U	36	U	-	
Aroclor-1221	14,000	210,000	ug/kg	360	U	36	U	-		-		35	U	34	U	220	U	36	U	-	
Aroclor-1232	14,000	73,000	ug/kg	360	U	36	U	-		-		35	U	34	U	220	U	36	U	-	
Aroclor-1242	20,000	440,000	ug/kg	360	U	36	U	-		-		35	U	34	U	220	U	36	U	-	
Aroclor-1248	20,000	440,000	ug/kg	360	U	36	U	-		-		35	U	34	U	**65**	**J**	36	U	**65**	**J**
Aroclor-1254	20,000	75,000	ug/kg	**2100**		36	U	-		-		**81**		**17**	**J**	220	U	**320**		**2100**	
Aroclor-1260	20,000	440,000	ug/kg	360	U	36	U	-		-		35	U	34	U	220	U	36	U	-	
Total PCBs	20,000	440,000	ug/kg	**2100**		36	U	-		-		**81**		**17**	**J**	**65**	**J**	**320**		**2100**	
Metals																					
Antimony	1,600	850	mg/kg	**6.1**	**J**	6.5	U	**0.43**	**J**	6.5	UJ	6.3	UJ	6.2	UJ	**5.1**	**J**	6.5	UJ	**6.1**	**J**
Arsenic	77	690	mg/kg	**7.1**		**5.5**		**5.3**	**J**	**5.9**	**J**	**3.1**		**6**		**6.1**		**2.8**		**7.1**	
Barium	680,000	320,000	mg/kg	**79.6**	**J**	**89.1**		**52.2**	**J**	**79**	**J**	**91.9**		**45.6**		**193**		**28.6**		**193**	
Beryllium	7,800	3,400	mg/kg	**0.42**	**J**	0.54	UJ	0.53	UJ	0.54	UJ	0.53	U	0.52	U	**0.55**	**J**	0.55	U	**0.55**	**J**
Cadmium	2,600	1,000	mg/kg	**0.14**	**J**	0.54	U	**0.043**	**J**	**0.081**	**J**	0.53	U	0.52	U	**0.28**	**J**	0.55	U	**0.28**	**J**
Chromium Total	NA	NA	mg/kg	**7.4**		**3.3**		**6.2**	**J**	**3.6**	**J**	**4.1**		**4**		**10.5**		**3.7**		**10.5**	
Cobalt	1,200	2,800	mg/kg	**4.8**	**J**	**2.2**	**J**	**2.5**	**J**	**1.4**	**J**	**1.8**	**J**	**2.3**	**J**	**4.5**	**J**	**1.4**	**J**	**4.8**	**J**
Copper	160,000	21,000	mg/kg	**54.6**		**4.9**		**2.9**	**J**	**2.7**	**J**	**2.9**		**4.6**		**12.8**		**24.2**		**54.6**	
Cyanide (total)	370	150	mg/kg	0.54	U	0.54	U	0.53	UJ	0.54	UJ	0.53	U	0.52	U	0.68	U	0.55	U	-	
Lead	800	400	mg/kg	**339**		**3.7**		**2.5**	**J**	**1.9**	**J**	**1.4**		**2.5**		**11**		**3.5**		**339**	
Manganese	NA	NA	mg/kg	**429**	**J**	**353**		**366**	**J**	**317**	**J**	**330**		**248**		**464**		**215**		**464**	
Mercury	3.1	3.1	mg/kg	**0.16**	**J**	0.11	U	0.11	U	0.11	U	0.11	U	0.1	U	**0.09**	**J**	0.11	U	**0.16**	**J**
Nickel	74,000	23,000	mg/kg	**10.3**		**4**	**J**	**7.7**		**4**	**J**	**4.4**		**13.7**		**10.9**		**3.3**	**J**	**13.7**	
Selenium	20,000	11,000	mg/kg	0.54	U	0.54	U	0.53	U	0.54	U	0.53	U	0.52	U	0.68	U	0.55	U	-	
Silver	20,000	11,000	mg/kg	1.1	U	1.1	U	1.1	U	1.1	U	1.1	U	1	U	1.4	U	1.1	U	-	
Thallium	41	21	mg/kg	**1.5**		1.1	U	1.1	UJ	1.1	UJ	**0.61**	**J**	**0.62**	**J**	**0.74**	**J**	**0.82**	**J**	**1.5**	
Vanadium	20,000	11,000	mg/kg	**14.8**		**6.2**		**9**	**J**	**6.8**	**J**	**6.1**		**8.4**		**15.6**		**6.2**		**15.6**	
Zinc	1,000,000	640,000	mg/kg	**69.2**	**J**	**13.8**		**18.2**	**J**	**11.1**	**J**	**10.1**		**27.8**		**44.1**		**15.9**		**69.2**	**J**

NOTES:

Shaded values indicate concentration exceeds C/I Single Chemical Generic Direct Contact Soil Standard

Shaded values indicate concentration exceeds Construction Single Chemical Generic Direct Contact Soil Standard

Shaded values indicate concentration exceeds both Single Chemical Generic Direct Contact Soil Standards

bold text indicates detection above reporting limit
Total PCBs value is the sum of all positively deteted PCB aroclors
D: The reported value is from a dilution
C/I: Commercial/ Industrial
J: The associated numerical value is an estimated quantity
mg/kg: milligrams per kilogram
NA: exceedance criteria not applicable for compound/analyte
PCB: Polychlorinated Biphenyl
R: The data are unusable (the compound/analyte may or may not be present). Resampling and reanalysis are necessary for verification
SVOC: SemiVolatile Organic Compound
U: The compound/analyte was analyzed for, but not detected. The associated numerical value is the sample quantitation limit
ug/kg: micrograms per kilogram
UJ: The compound/analyte was analyzed for, but not detected. The sample quantitation limit is an estimated quantity
VOC: Volatile Organic Compound

TABLE 3.21
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 15/25/6S, 2-12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	MW-3-02		SB-22-02		SB-38-02		SB-39-02		SB-40-02		SB-41-02		SB-41-02		SB-43-02		SB-43-02		SB-56-02		SB-56-02	
			Field Sample ID:	MW-3-02		SB-22-02		SB-38-02		SB-39-02		SB-40-02		SB-41-02		SB-41-02		SB-43-02		SB-43-02		SB-56-02		SB-56-02	
			Date:	6/26/2002		4/10/2002		4/15/2002		4/15/2002		4/15/2002		4/15/2002		4/15/2002		4/15/2002		4/15/2002		4/17/2002		4/17/2002	
	C/I	Construction	Depth:	8 - 10		9 - 11		9 - 11		8.5 - 10.5		9.5 - 11.5		6 - 8		9 - 11		4 - 6		9 - 11		6 - 8		9.5 - 11.5	
VOCs																									
1,1,1-Trichloroethane	640,000	640,000	ug/kg	-		270	U	5.6	U	300	UJ	300	U	880	UJ	660	U	230	U	330	U	7	U	4.6	U
1,1,2,2-Tetrachloroethane	75,000	670,000	ug/kg	-		270	U	5.6	U	300	UJ	300	U	880	UJ	660	U	230	U	330	U	7	U	4.6	U
1,1,2-Trichloroethane	140,000	1,200,000	ug/kg	-		270	U	5.6	U	300	UJ	300	U	880	UJ	660	U	230	U	330	U	7	U	4.6	U
1,1-Dichloroethane	420,000	1,700,000	ug/kg	-		270	U	5.6	U	300	UJ	300	U	880	UJ	660	U	230	U	330	U	**26**		4.6	U
1,1-Dichloroethene	1,200,000	360,000	ug/kg	-		270	U	5.6	U	300	UJ	300	U	880	UJ	660	U	230	U	330	U	7	U	4.6	U
1,2,4-Trichlorobenzene, VOC	400,000	400,000	ug/kg	-		270	U	5.6	U	300	UJ	300	U	880	UJ	660	U	230	U	330	U	7	UJ	4.6	U
1,2-Dibromo-3-chloropropane	1,700	15,000	ug/kg	-		550	U	11	UJ	610	UJ	590	U	1800	UJ	1300	U	470	U	660	U	14	UJ	9.1	UJ
1,2-Dibromoethane	4,400	38,000	ug/kg	-		270	U	5.6	U	300	UJ	300	U	880	UJ	660	U	230	U	330	U	7	U	4.6	U
1,2-Dichlorobenzene, VOC	380,000	380,000	ug/kg	-		270	U	5.6	U	300	UJ	300	U	880	UJ	660	U	230	U	330	U	7	UJ	4.6	U
1,2-Dichloroethane	56,000	480,000	ug/kg	-		270	U	5.6	U	300	UJ	300	U	880	UJ	660	U	230	U	330	U	7	U	4.6	U
1,2-Dichloropropane	120,000	180,000	ug/kg	-		270	U	5.6	U	300	UJ	300	U	880	UJ	660	U	230	U	330	U	7	U	4.6	U
1,3-Dichlorobenzene, VOC	NA	NA	ug/kg	-		270	U	5.6	U	300	UJ	300	U	880	UJ	660	U	230	U	330	U	7	UJ	4.6	U
1,4-Dichlorobenzene, VOC	310,000	2,600,000	ug/kg	-		270	U	**0.85**	J	**22**	J	**27**	J	880	UJ	660	U	230	U	330	U	7	UJ	4.6	U
2-Butanone	28,000,000	28,000,000	ug/kg	-		1100	U	22	U	**140**	J	**110**	J	**310**	J	2600	U	930	U	**150**	J	28	U	18	U
2-Hexanone	NA	NA	ug/kg	-		1100	U	22	U	1200	UJ	1200	U	3500	UJ	2600	U	930	U	1300	U	28	U	18	U
4-Methyl-2-Pentanone	3,400,000	3,400,000	ug/kg	-		1100	U	22	U	1200	UJ	1200	U	3500	UJ	2600	U	930	U	1300	U	28	U	18	U
Acetone	110,000,000	110,000,000	ug/kg	-		**320**	J	22	UJ	1200	UJ	1200	UJ	3500	UJ	2600	UJ	930	UJ	1300	UJ	52	UJ	18	UJ
Benzene	140,000	1,200,000	ug/kg	-		270	R	5.6	U	**52**	J	300	U	880	UJ	660	U	230	U	330	U	7	U	4.6	U
Bromodichloromethane	35,000	300,000	ug/kg	-		270	U	5.6	U	300	UJ	300	U	880	UJ	660	U	230	U	330	U	7	U	4.6	U
Bromoform	6,200,000	130,000,000	ug/kg	-		270	U	5.6	UJ	300	UJ	300	UJ	880	UJ	660	UJ	230	UJ	330	UJ	7	UJ	4.6	UJ
Bromomethane	82,000	550,000	ug/kg	-		270	U	5.6	UJ	300	UJ	300	U	880	UJ	660	U	230	U	330	U	7	UJ	4.6	UJ
Carbon disulfide	740,000	740,000	ug/kg	-		270	U	5.6	U	300	UJ	300	U	880	UJ	660	U	230	U	330	U	7	U	4.6	U
Carbon tetrachloride	79,000	460,000	ug/kg	-		270	U	5.6	UJ	300	UJ	300	UJ	880	UJ	660	UJ	230	UJ	330	UJ	7	UJ	4.6	UJ
Chlorobenzene	760,000	760,000	ug/kg	-		270	U	5.6	U	300	UJ	300	U	880	UJ	660	U	230	U	330	U	7	U	4.6	U
Chloroethane	2,100,000	2,100,000	ug/kg	-		270	U	5.6	U	300	UJ	300	U	880	UJ	660	U	230	U	330	U	7	U	4.6	U
Chloroform	38,000	320,000	ug/kg	-		270	U	5.6	U	300	UJ	300	U	880	UJ	660	U	230	U	330	U	7	U	4.6	U
Chloromethane	1,300,000	1,300,000	ug/kg	-		270	U	5.6	U	300	UJ	300	U	880	UJ	660	U	230	U	330	U	7	U	4.6	U
cis-1,2-Dichloroethene	2,400,000	2,400,000	ug/kg	-		140	U	2.8	U	**42**	J	**230**		**180**	J	330	U	**740**		160	U	**180**		2.3	U
cis-1,3-Dichloropropene	NA	NA	ug/kg	-		270	U	5.6	U	300	UJ	300	U	880	UJ	660	U	230	U	330	U	7	U	4.6	U
Cyclohexane	120,000	120,000	ug/kg	-		550	U	11	U	**95**	J	590	U	1800	UJ	1300	U	**24**	J	660	U	14	U	9.1	U
Dibromochloromethane	84,000	770,000	ug/kg	-		270	U	5.6	U	300	UJ	300	U	880	UJ	660	U	230	U	330	U	7	U	4.6	U
Dichlorodifluoromethane	850,000	850,000	ug/kg	-		270	UJ	5.6	U	300	UJ	300	U	880	UJ	660	U	230	U	330	U	7	U	4.6	U
Ethylbenzene	480,000	480,000	ug/kg	-		270	U	5.6	U	**34**	J	300	U	880	UJ	660	U	230	U	330	U	7	U	4.6	U
Isopropylbenzene, VOC	270,000	270,000	ug/kg	-		270	U	5.6	U	300	UJ	300	U	880	UJ	660	U	230	U	330	U	7	U	4.6	U
Methyl acetate	NA	NA	ug/kg	-		550	U	11	U	**470**	J	**130**	J	1800	UJ	1300	U	**62**	J	**79**	J	14	U	9.1	U
Methyl cyclohexane	NA	NA	ug/kg	-		550	U	11	U	**53**	J	**22**	J	1800	UJ	1300	U	**63**	J	660	U	14	U	9.1	U
Methyl tert butyl ether	5,700,000	8,900,000	ug/kg	-		1100	U	22	U	1200	UJ	1200	U	3500	UJ	2600	U	930	U	1300	U	28	U	18	U
Methylene chloride	3,300,000	3,300,000	ug/kg	-		270	U	5.6	U	300	UJ	300	U	880	UJ	660	U	230	U	330	U	7	U	4.6	U
Styrene	870,000	870,000	ug/kg	-		270	U	5.6	U	300	UJ	300	U	880	UJ	660	U	230	U	330	U	7	U	4.6	U
Tetrachloroethene	170,000	170,000	ug/kg	-		**4100**		**2**	J	**5100**	J	**4800**		880	UJ	660	U	**1300**		**180**	J	**29**		**92**	
Toluene	820,000	820,000	ug/kg	-		270	U	5.6	U	**81**	J	**18**	J	**54**	J	**70**	J	**35**	J	**23**	J	7	U	**0.56**	J
trans-1,2-Dichloroethene	1,700,000	1,700,000	ug/kg	-		140	U	2.8	U	150	UJ	150	U	440	UJ	330	U	**36**	J	160	U	**2.6**	J	2.3	U
trans-1,3-Dichloropropene	NA	NA	ug/kg	-		270	U	5.6	U	300	UJ	300	U	880	UJ	660	U	230	U	330	U	7	U	4.6	U
Trichloroethene	51,000	17,000	ug/kg	-		**270**		5.6	U	**840**	J	**510**		880	UJ	660	U	**700**		**45**	J	**13**		**3.8**	J
Trichlorofluoromethane	1,200,000	1,200,000	ug/kg	-		270	U	5.6	U	300	UJ	300	U	880	UJ	660	U	230	U	330	U	7	U	4.6	U
Trifluorotrichloroethane	NA	NA	ug/kg	-		270	U	5.6	U	300	UJ	300	U	880	UJ	660	U	230	U	330	U	7	U	4.6	U
Vinyl chloride	50,000	280,000	ug/kg	-		270	U	5.6	U	300	UJ	300	U	880	UJ	660	U	**220**	J	330	U	**16**		4.6	U
Xylene (Total)	260,000	260,000	ug/kg	-		550	U	11	U	**78**	J	**35**	J	1800	UJ	1300	U	**56**	J	**80**	J	14	U	9.1	U

TABLE 3.21
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 15/25/6S, 2-12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	SB-75-03		SB-75-03		SB-87-03		SB-88-03		SB-88-03		TT-SB262		TT-SB262		TT-SB262		TT-SB262		TT-SB263		TT-SB263		Maximum Detected Concentration	
			Field Sample ID:	SB-75-03 DUP		SB-75-03		SB-87-03		SB-88-03 DUP		SB-88-03		TT-SB262-G-04		TT-SB262-G-06		TT-SB262-G-08		TT-SB262-G-08		TT-SB263-G-04		TT-SB263-G-06			
			Date:	2/20/2003		2/20/2003		4/1/2003		4/1/2003		4/1/2003		4/4/2013		4/4/2013		4/4/2013		4/4/2013		4/4/2013		4/4/2013			
	C/I	Construction	Depth:	9.5 - 11.5		9.5 - 11.5		9 - 11		3 - 5		3 - 5		2 - 4		4 - 6		6 - 8		6 - 8		2 - 4		4 - 6			
VOCs																											
1,1,1-Trichloroethane	640,000	640,000	ug/kg	5.1	U	4.9	U	-		680	U	200	U	-		-		-		-		-		-		-	
1,1,2,2-Tetrachloroethane	75,000	670,000	ug/kg	5.1	U	4.9	U	-		680	U	200	U	-		-		-		-		-		-		-	
1,1,2-Trichloroethane	140,000	1,200,000	ug/kg	5.1	U	4.9	U	-		680	U	200	U	-		-		-		-		-		-		-	
1,1-Dichloroethane	420,000	1,700,000	ug/kg	5.1	U	4.9	U	-		680	U	200	U	-		-		-		-		-		-		**26**	
1,1-Dichloroethene	1,200,000	360,000	ug/kg	5.1	U	4.9	U	-		680	U	200	U	-		-		-		-		-		-		-	
1,2,4-Trichlorobenzene, VOC	400,000	400,000	ug/kg	5.1	U	4.9	U	-		680	U	200	U	-		-		-		-		-		-		-	
1,2-Dibromo-3-chloropropane	1,700	15,000	ug/kg	10	U	9.8	U	-		1400	U	410	U	-		-		-		-		-		-		-	
1,2-Dibromoethane	4,400	38,000	ug/kg	5.1	U	4.9	U	-		680	U	200	U	-		-		-		-		-		-		-	
1,2-Dichlorobenzene, VOC	380,000	380,000	ug/kg	5.1	U	4.9	U	-		680	U	200	U	-		-		-		-		-		-		-	
1,2-Dichloroethane	56,000	480,000	ug/kg	5.1	U	4.9	U	-		680	U	200	U	-		-		-		-		-		-		-	
1,2-Dichloropropane	120,000	180,000	ug/kg	5.1	U	4.9	U	-		680	U	200	U	-		-		-		-		-		-		-	
1,3-Dichlorobenzene, VOC	NA	NA	ug/kg	5.1	U	4.9	U	-		680	U	200	U	-		-		-		-		-		-		-	
1,4-Dichlorobenzene, VOC	310,000	2,600,000	ug/kg	5.1	U	4.9	U	-		680	U	200	U	-		-		-		-		-		-		**27**	J
2-Butanone	28,000,000	28,000,000	ug/kg	20	U	20	U	-		2700	U	820	U	-		-		-		-		-		-		**310**	J
2-Hexanone	NA	NA	ug/kg	20	U	20	U	-		2700	U	820	U	-		-		-		-		-		-		-	
4-Methyl-2-Pentanone	3,400,000	3,400,000	ug/kg	20	U	20	U	-		2700	U	820	U	-		-		-		-		-		-		-	
Acetone	110,000,000	110,000,000	ug/kg	20	U	20	U	-		2700	UJ	820	UJ	-		-		-		-		-		-		**320**	J
Benzene	140,000	1,200,000	ug/kg	5.1	U	4.9	U	-		680	U	200	U	-		-		-		-		-		-		**52**	J
Bromodichloromethane	35,000	300,000	ug/kg	5.1	U	4.9	U	-		680	U	200	U	-		-		-		-		-		-		-	
Bromoform	6,200,000	130,000,000	ug/kg	5.1	UJ	4.9	UJ	-		680	U	200	U	-		-		-		-		-		-		-	
Bromomethane	82,000	550,000	ug/kg	5.1	UJ	4.9	UJ	-		680	U	200	U	-		-		-		-		-		-		-	
Carbon disulfide	740,000	740,000	ug/kg	5.1	U	4.9	U	-		680	U	200	U	-		-		-		-		-		-		-	
Carbon tetrachloride	79,000	460,000	ug/kg	5.1	UJ	4.9	UJ	-		680	U	200	U	-		-		-		-		-		-		-	
Chlorobenzene	760,000	760,000	ug/kg	5.1	U	4.9	U	-		680	U	200	U	-		-		-		-		-		-		-	
Chloroethane	2,100,000	2,100,000	ug/kg	5.1	U	4.9	U	-		680	U	200	U	-		-		-		-		-		-		-	
Chloroform	38,000	320,000	ug/kg	5.1	U	4.9	U	-		680	U	**52**	J	-		-		-		-		-		-		**52**	J
Chloromethane	1,300,000	1,300,000	ug/kg	5.1	U	4.9	U	-		680	U	200	U	-		-		-		-		-		-		-	
cis-1,2-Dichloroethene	2,400,000	2,400,000	ug/kg	2.5	U	2.5	U	-		340	U	100	U	-		-		-		-		-		-		**740**	
cis-1,3-Dichloropropene	NA	NA	ug/kg	5.1	U	4.9	U	-		680	U	200	U	-		-		-		-		-		-		-	
Cyclohexane	120,000	120,000	ug/kg	10	U	9.8	U	-		1400	U	410	U	-		-		-		-		-		-		**95**	J
Dibromochloromethane	84,000	770,000	ug/kg	5.1	U	4.9	U	-		680	U	200	U	-		-		-		-		-		-		-	
Dichlorodifluoromethane	850,000	850,000	ug/kg	5.1	UJ	4.9	UJ	-		680	U	200	U	-		-		-		-		-		-		-	
Ethylbenzene	480,000	480,000	ug/kg	5.1	U	4.9	U	-		680	U	200	U	-		-		-		-		-		-		**34**	J
Isopropylbenzene, VOC	270,000	270,000	ug/kg	5.1	U	4.9	U	-		680	U	200	U	-		-		-		-		-		-		-	
Methyl acetate	NA	NA	ug/kg	10	U	9.8	U	-		1400	UJ	410	U	-		-		-		-		-		-		**470**	J
Methyl cyclohexane	NA	NA	ug/kg	10	U	9.8	U	-		1400	U	410	U	-		-		-		-		-		-		**63**	J
Methyl tert butyl ether	5,700,000	8,900,000	ug/kg	20	U	20	U	-		2700	U	820	U	-		-		-		-		-		-		-	
Methylene chloride	3,300,000	3,300,000	ug/kg	5.1	U	**1.8**	J	-		**400**	J	200	U	-		-		-		-		-		-		**400**	J
Styrene	870,000	870,000	ug/kg	5.1	U	4.9	U	-		680	U	200	U	-		-		-		-		-		-		-	
Tetrachloroethene	170,000	170,000	ug/kg	**25**		**9.9**		-		**17000**		**4400**		-		-		-		-		-		-		**17000**	
Toluene	820,000	820,000	ug/kg	**0.64**	J	**0.45**	J	-		680	U	200	U	-		-		-		-		-		-		**81**	J
trans-1,2-Dichloroethene	1,700,000	1,700,000	ug/kg	2.5	U	2.5	U	-		340	U	100	U	-		-		-		-		-		-		**36**	J
trans-1,3-Dichloropropene	NA	NA	ug/kg	5.1	U	4.9	U	-		680	U	200	U	-		-		-		-		-		-		-	
Trichloroethene	51,000	17,000	ug/kg	**1.4**	J	4.9	U	-		**180**	J	**89**	J	-		-		-		-		-		-		**840**	J
Trichlorofluoromethane	1,200,000	1,200,000	ug/kg	5.1	UJ	4.9	UJ	-		680	U	200	U	-		-		-		-		-		-		-	
Trifluorotrichloroethane	NA	NA	ug/kg	5.1	U	4.9	U	-		680	U	200	U	-		-		-		-		-		-		-	
Vinyl chloride	50,000	280,000	ug/kg	5.1	U	4.9	U	-		680	U	200	U	-		-		-		-		-		-		**220**	J
Xylene (Total)	260,000	260,000	ug/kg	10	U	9.8	U	-		1400	U	410	U	-		-		-		-		-		-		**80**	J

TABLE 3.21
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 15/25/6S, 2-12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	MW-3-02		SB-22-02		SB-38-02		SB-39-02		SB-40-02		SB-41-02		SB-41-02		SB-43-02		SB-43-02		SB-56-02		SB-56-02	
			Field Sample ID:	MW-3-02		SB-22-02		SB-38-02		SB-39-02		SB-40-02		SB-41-02		SB-41-02		SB-43-02		SB-43-02		SB-56-02		SB-56-02	
			Date:	6/26/2002		4/10/2002		4/15/2002		4/15/2002		4/15/2002		4/15/2002		4/15/2002		4/15/2002		4/15/2002		4/17/2002		4/17/2002	
	C/I	Construction	Depth:	8 - 10		9 - 11		9 - 11		8.5 - 10.5		9.5 - 11.5		6 - 8		9 - 11		4 - 6		9 - 11		6 - 8		9.5 - 11.5	
SVOCs																									
2,2-oxybis(2-Chloropropane), SVOC	NA	NA	ug/kg	-		-		340	U	440	U	350	U	460	U	7100	U	350	U	900	U	3100	U	350	U
2,4,5-Trichlorophenol	180,000,000	1,000,000,000	ug/kg	-		-		340	U	440	U	350	U	460	U	7100	U	350	U	900	U	3100	U	350	U
2,4,6-Trichlorophenol	1,800,000	1,400,000	ug/kg	-		-		340	U	440	U	350	U	460	U	7100	U	350	U	900	U	3100	U	350	U
2,4-Dichlorophenol	NA	NA	ug/kg	-		-		340	U	440	U	350	U	460	U	7100	U	350	U	900	U	3100	U	350	U
2,4-Dimethylphenol	35,000,000	85,000,000	ug/kg	-		-		340	U	440	U	350	U	460	U	7100	U	350	U	900	U	3100	U	350	U
2,4-Dinitrophenol	3,500,000	28,000,000	ug/kg	-		-		1700	U	2100	U	1700	U	2200	U	34000	UJ	1700	UJ	4400	U	15000	U	1700	U
2,4-Dinitrotoluene	160,000	2,800,000	ug/kg	-		-		340	U	440	U	350	U	460	U	7100	U	350	U	900	U	3100	U	350	U
2,6-Dinitrotoluene	NA	NA	ug/kg	-		-		340	U	440	U	350	U	460	U	7100	U	350	U	900	U	3100	U	350	U
2-Chloronaphthalene	330,000,000	1,000,000,000	ug/kg	-		-		340	U	440	U	350	U	460	U	7100	U	350	U	900	U	3100	U	350	U
2-Chlorophenol	20,000,000	22,000,000	ug/kg	-		-		340	U	440	U	350	U	460	U	7100	U	350	U	900	U	3100	U	350	U
2-Methylnaphthalene	6,000,000	5,200,000	ug/kg	-		-		340	U	440	U	350	U	460	U	**1300**	J	350	U	**1000**		3100	U	350	U
2-Methylphenol	88,000,000	710,000,000	ug/kg	-		-		340	U	440	U	350	U	460	U	7100	U	350	U	900	U	3100	U	350	U
2-Nitroaniline	NA	NA	ug/kg	-		-		1700	U	2100	U	1700	U	2200	U	34000	U	1700	U	4400	U	15000	U	1700	U
2-Nitrophenol	NA	NA	ug/kg	-		-		340	U	440	U	350	U	460	U	7100	U	350	U	900	U	3100	U	350	U
3,3-Dichlorobenzidine	NA	NA	ug/kg	-		-		1700	U	2100	U	1700	U	2200	U	34000	U	1700	U	4400	U	15000	U	1700	U
3-Nitroaniline	NA	NA	ug/kg	-		-		1700	U	2100	U	1700	U	2200	U	34000	U	1700	U	4400	U	15000	U	1700	U
4,6-Dinitro-2-methylphenol	140,000	110,000	ug/kg	-		-		1700	U	2100	U	1700	U	2200	U	34000	UJ	1700	UJ	4400	U	15000	U	1700	U
4-Bromophenyl phenyl ether	NA	NA	ug/kg	-		-		340	U	440	U	350	U	460	U	7100	U	350	U	900	U	3100	U	350	U
4-Chloro-3-methylphenol	180,000,000	140,000,000	ug/kg	-		-		340	U	440	U	350	U	460	U	7100	U	350	U	900	U	3100	U	350	U
4-Chloroaniline	250,000	710,000	ug/kg	-		-		340	U	440	U	350	U	460	U	7100	U	350	U	900	U	3100	U	350	U
4-Chlorophenyl phenyl ether	NA	NA	ug/kg	-		-		340	U	440	U	350	U	460	U	7100	U	350	U	900	U	3100	U	350	U
4-Methylphenol	180,000,000	28,000,000	ug/kg	-		-		340	U	440	U	350	U	460	U	7100	U	350	U	900	U	3100	U	350	U
4-Nitroaniline	2,500,000	14,000,000	ug/kg	-		-		1700	U	2100	U	1700	U	2200	U	34000	U	1700	U	4400	U	15000	U	1700	U
4-Nitrophenol	NA	NA	ug/kg	-		-		1700	U	2100	U	1700	U	2200	U	34000	U	1700	U	4400	U	15000	U	1700	U
Acenaphthene	90,000,000	780,000,000	ug/kg	-		-		340	U	440	U	350	U	460	U	7100	U	350	U	**600**	J	3100	U	350	U
Acenaphthylene	90,000,000	780,000,000	ug/kg	-		-		340	U	440	U	350	U	460	U	7100	U	350	U	**210**	J	3100	U	350	U
Acetophenone	2,500,000	2,500,000	ug/kg	-		-		340	U	440	U	350	U	460	U	7100	U	350	U	900	U	3100	U	350	U
Anthracene	450,000,000	1,000,000,000	ug/kg	-		-		340	U	440	U	350	U	460	U	7100	U	350	U	**2700**		3100	U	350	U
Atrazine	NA	NA	ug/kg	-		-		340	U	440	U	350	U	460	U	7100	U	350	U	900	U	3100	U	350	U
Benzaldehyde	NA	NA	ug/kg	-		-		340	U	440	U	350	U	460	U	7100	U	350	U	900	U	3100	U	350	U
Benzo(a)anthracene	58,000	1,200,000	ug/kg	-		-		340	U	440	U	350	U	460	U	7100	U	350	U	**4200**		3100	U	350	U
Benzo(a)pyrene	5,800	120,000	ug/kg	-		-		340	U	440	U	350	U	460	U	7100	U	350	U	**3200**		3100	U	**79**	J
Benzo(b)fluoranthene	58,000	1,200,000	ug/kg	-		-		340	U	440	U	350	U	460	U	7100	U	**70**	J	**3800**		3100	U	**110**	J
Benzo(g,h,i)perylene	45,000,000	390,000,000	ug/kg	-		-		340	U	440	U	350	U	460	U	7100	U	350	U	**880**	J	3100	U	**71**	J
Benzo(k)fluoranthene	580,000	12,000,000	ug/kg	-		-		340	U	440	U	350	U	460	U	7100	U	350	U	**1500**		3100	U	350	U
Biphenyl	14,000,000	190,000,000	ug/kg	-		-		340	U	440	U	350	U	460	U	7100	U	350	U	900	U	3100	U	350	U
bis(2-Chloroethoxy)methane	5,300,000	43,000,000	ug/kg	-		-		340	U	440	U	350	U	460	U	7100	U	350	U	900	U	3100	U	350	U
bis(2-Chloroethyl)ether	30,000	290,000	ug/kg	-		-		340	U	440	U	350	U	460	U	7100	U	350	U	900	U	3100	U	350	U
bis(2-Ethylhexyl)phthalate	3,500,000	71,000,000	ug/kg	-		-		340	U	440	U	350	U	**84**	J	7100	U	350	U	900	U	3100	U	350	U
Butyl benzylphthalate	26,000,000	520,000,000	ug/kg	-		-		340	U	440	U	350	U	460	U	7100	U	350	U	900	U	3100	U	350	U
Caprolactam	NA	NA	ug/kg	-		-		340	U	440	U	350	U	460	U	7100	U	350	U	900	U	3100	U	350	U
Carbazole	2,500,000	50,000,000	ug/kg	-		-		340	U	440	U	350	U	460	U	7100	U	350	U	**680**	J	3100	U	350	U
Chrysene	5,800,000	120,000,000	ug/kg	-		-		340	U	440	U	350	U	460	U	7100	U	**58**	J	**3300**		3100	U	**62**	J
Dibenz(a,h)anthracene	5,800	120,000	ug/kg	-		-		340	U	440	U	350	U	460	U	7100	U	350	U	**380**	J	3100	U	350	U
Dibenzofuran	4,100,000	2,100,000	ug/kg	-		-		340	U	440	U	350	U	460	U	7100	U	350	U	**1200**		3100	U	350	U
Diethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	-		-		340	U	440	U	350	U	460	U	7100	U	350	U	900	U	3100	U	350	U
Dimethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	-		-		340	U	440	U	350	U	460	U	7100	U	350	U	900	U	3100	U	350	U
Di-n-butylphthalate	180,000,000	430,000,000	ug/kg	-		-		340	U	440	U	350	U	460	U	7100	U	350	U	900	U	3100	U	350	U
Di-N-Octyl phthalate	18,000,000	140,000,000	ug/kg	-		-		340	U	440	U	350	U	460	U	7100	U	350	U	900	U	3100	U	350	U
Fluoranthene	60,000,000	160,000,000	ug/kg	-		-		340	U	440	U	350	U	460	U	7100	U	350	U	**6300**		3100	U	**63**	J
Fluorene	60,000,000	520,000,000	ug/kg	-		-		340	U	440	U	350	U	**71**	J	7100	U	350	U	**1600**		3100	U	350	U
Hexachlorobenzene	31,000	14,000	ug/kg	-		-		340	U	440	U	350	U	460	U	7100	U	350	U	900	U	3100	U	350	U
Hexachlorobutadiene, SVOC	630,000	1,400,000	ug/kg	-		-		340	U	440	U	350	U	460	U	7100	U	350	U	900	U	3100	U	350	U
Hexachlorocyclopentadiene	11,000,000	26,000,000	ug/kg	-		-		1700	U	2100	U	1700	U	2200	U	34000	U	1700	U	4400	U	15000	U	1700	U
Hexachloroethane	1,200,000	3,000,000	ug/kg	-		-		340	U	440	U	350	U	460	U	7100	U	350	U	900	U	3100	U	350	U
Indeno(1,2,3-cd)pyrene	58,000	1,200,000	ug/kg	-		-		340	U	440	U	350	U	460	U	7100	U	350	U	**1000**		3100	U	350	U
Isophorone	52,000,000	1,000,000,000	ug/kg	-		-		340	U	440	U	350	U	460	U	7100	U	350	U	900	U	3100	U	350	U
Naphthalene, SVOC	450,000	560,000	ug/kg	-		-		340	U	440	U	350	U	460	U	7100	U	350	U	**720**	J	3100	U	350	U
Nitrobenzene	610,000	3,000,000	ug/kg	-		-		340	U	440	U	350	U	460	U	7100	U	350	U	900	U	3100	U	350	U
N-Nitrosodi-n-propylamine	7,000	140,000	ug/kg	-		-		340	U	440	U	350	U	460	U	7100	U	350	U	900	U	3100	U	350	U
N-Nitrosodiphenylamine	10,000,000	200,000,000	ug/kg	-		-		340	U	440	U	350	U	460	U	7100	U	350	U	900	U	3100	U	350	U
Pentachlorophenol	67,000	950,000	ug/kg	-		-		340	U	440	U	350	U	460	U	7100	U	350	U	900	U	3100	U	350	U
Phenanthrene	450,000,000	1,000,000,000	ug/kg	-		-		340	U	440	U	350	U	**170**	J	**1100**	J	**62**	J	**9100**		3100	U	350	U
Phenol	530,000,000	840,000,000	ug/kg	-		-		340	U	440	U	350	U	460	U	7100	U	350	U	900	U	3100	U	350	U
Pyrene, SVOC	45,000,000	390,000,000	ug/kg	-		-		340	U	440	U	350	U	460	U	7100	U	350	U	**6500**		3100	U	**78**	J

TABLE 3.21
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 15/25/6S, 2-12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	SB-75-03		SB-75-03		SB-87-03		SB-88-03		SB-88-03		TT-SB262		TT-SB262		TT-SB262		TT-SB262		TT-SB263		TT-SB263		Maximum Detected Concentration	
			Field Sample ID:	SB-75-03 DUP		SB-75-03		SB-87-03		SB-88-03 DUP		SB-88-03		TT-SB262-G-04		TT-SB262-G-06		TT-SB262-G-08		TT-SB262-G-08		TT-SB263-G-04		TT-SB263-G-06			
			Date:	2/20/2003		2/20/2003		4/1/2003		4/1/2003		4/1/2003		4/4/2013		4/4/2013		4/4/2013		4/4/2013		4/4/2013		4/4/2013			
	C/I	Construction	Depth:	9.5 - 11.5		9.5 - 11.5		9 - 11		3 - 5		3 - 5		2 - 4		4 - 6		6 - 8		6 - 8		2 - 4		4 - 6			
SVOCs																											
2,2-oxybis(2-Chloropropane), SVOC	NA	NA	ug/kg	350	U	350	U	360	U	350	U	350	U	-		-		-		-		-		-		-	
2,4,5-Trichlorophenol	180,000,000	1,000,000,000	ug/kg	350	U	350	U	360	U	350	U	350	U	-		-		-		-		-		-		-	
2,4,6-Trichlorophenol	1,800,000	1,400,000	ug/kg	350	U	350	U	360	U	350	U	350	U	-		-		-		-		-		-		-	
2,4-Dichlorophenol	NA	NA	ug/kg	350	U	350	U	360	U	350	U	350	U	-		-		-		-		-		-		-	
2,4-Dimethylphenol	35,000,000	85,000,000	ug/kg	350	U	350	U	360	U	350	U	350	U	-		-		-		-		-		-		-	
2,4-Dinitrophenol	3,500,000	28,000,000	ug/kg	1700	U	1700	U	1800	U	1700	U	1700	U	-		-		-		-		-		-		-	
2,4-Dinitrotoluene	160,000	2,800,000	ug/kg	350	U	350	U	360	U	350	U	350	U	-		-		-		-		-		-		-	
2,6-Dinitrotoluene	NA	NA	ug/kg	350	U	350	U	360	U	350	U	350	U	-		-		-		-		-		-		-	
2-Chloronaphthalene	330,000,000	1,000,000,000	ug/kg	350	U	350	U	360	U	350	U	350	U	-		-		-		-		-		-		-	
2-Chlorophenol	20,000,000	22,000,000	ug/kg	350	U	350	U	360	U	350	U	350	U	-		-		-		-		-		-		-	
2-Methylnaphthalene	6,000,000	5,200,000	ug/kg	350	U	350	U	360	U	350	U	350	U	-		-		-		-		-		-		**1300**	J
2-Methylphenol	88,000,000	710,000,000	ug/kg	350	U	350	U	360	U	350	U	350	U	-		-		-		-		-		-		-	
2-Nitroaniline	NA	NA	ug/kg	1700	U	1700	U	1800	U	1700	U	1700	U	-		-		-		-		-		-		-	
2-Nitrophenol	NA	NA	ug/kg	350	U	350	U	360	U	350	U	350	U	-		-		-		-		-		-		-	
3,3-Dichlorobenzidine	NA	NA	ug/kg	1700	U	1700	U	1800	U	1700	U	1700	U	-		-		-		-		-		-		-	
3-Nitroaniline	NA	NA	ug/kg	1700	U	1700	U	1800	U	1700	U	1700	U	-		-		-		-		-		-		-	
4,6-Dinitro-2-methylphenol	140,000	110,000	ug/kg	1700	U	1700	U	1800	U	1700	U	1700	U	-		-		-		-		-		-		-	
4-Bromophenyl phenyl ether	NA	NA	ug/kg	350	U	350	U	360	U	350	U	350	U	-		-		-		-		-		-		-	
4-Chloro-3-methylphenol	180,000,000	140,000,000	ug/kg	350	U	350	U	360	U	350	U	350	U	-		-		-		-		-		-		-	
4-Chloroaniline	250,000	710,000	ug/kg	350	U	350	U	360	U	350	U	350	U	-		-		-		-		-		-		-	
4-Chlorophenyl phenyl ether	NA	NA	ug/kg	350	U	350	U	360	U	350	U	350	U	-		-		-		-		-		-		-	
4-Methylphenol	180,000,000	28,000,000	ug/kg	350	U	350	U	360	U	350	U	350	U	-		-		-		-		-		-		-	
4-Nitroaniline	2,500,000	14,000,000	ug/kg	1700	U	1700	U	1800	U	1700	U	1700	U	-		-		-		-		-		-		-	
4-Nitrophenol	NA	NA	ug/kg	1700	U	1700	U	1800	U	1700	U	1700	U	-		-		-		-		-		-		-	
Acenaphthene	90,000,000	780,000,000	ug/kg	350	U	350	U	360	U	350	U	350	U	-		-		-		-		-		-		**600**	J
Acenaphthylene	90,000,000	780,000,000	ug/kg	350	U	350	U	360	U	350	U	350	U	-		-		-		-		-		-		**210**	J
Acetophenone	2,500,000	2,500,000	ug/kg	350	U	350	U	360	U	350	U	350	U	-		-		-		-		-		-		-	
Anthracene	450,000,000	1,000,000,000	ug/kg	350	U	350	U	**19**	J	350	U	**22**	J	-		-		-		-		-		-		**2700**	
Atrazine	NA	NA	ug/kg	350	U	350	U	360	U	350	U	350	U	-		-		-		-		-		-		-	
Benzaldehyde	NA	NA	ug/kg	350	U	350	U	360	U	350	U	350	U	-		-		-		-		-		-		-	
Benzo(a)anthracene	58,000	1,200,000	ug/kg	350	U	350	U	**160**	J	**130**	J	**140**	J	-		-		-		-		-		-		**4200**	
Benzo(a)pyrene	5,800	120,000	ug/kg	350	U	350	U	**130**	J	**96**	J	**99**	J	-		-		-		-		-		-		**3200**	
Benzo(b)fluoranthene	58,000	1,200,000	ug/kg	350	U	350	U	**170**	J	**150**	J	**180**	J	-		-		-		-		-		-		**3800**	
Benzo(g,h,i)perylene	45,000,000	390,000,000	ug/kg	350	U	350	U	**85**	J	**63**	J	**110**	J	-		-		-		-		-		-		**880**	J
Benzo(k)fluoranthene	580,000	12,000,000	ug/kg	350	U	350	U	**72**	J	**83**	J	**94**	J	-		-		-		-		-		-		**1500**	
Biphenyl	14,000,000	190,000,000	ug/kg	350	U	350	U	360	U	350	U	350	U	-		-		-		-		-		-		-	
bis(2-Chloroethoxy)methane	5,300,000	43,000,000	ug/kg	350	U	350	U	360	U	350	U	350	U	-		-		-		-		-		-		-	
bis(2-Chloroethyl)ether	30,000	290,000	ug/kg	350	U	350	U	360	U	350	U	350	U	-		-		-		-		-		-		-	
bis(2-Ethylhexyl)phthalate	3,500,000	71,000,000	ug/kg	**40**	J	350	U	**16**	J	**21**	J	**22**	J	-		-		-		-		-		-		**84**	J
Butyl benzylphthalate	26,000,000	520,000,000	ug/kg	350	U	350	U	360	U	350	U	350	U	-		-		-		-		-		-		-	
Caprolactam	NA	NA	ug/kg	350	U	350	U	360	U	350	U	350	U	-		-		-		-		-		-		-	
Carbazole	2,500,000	50,000,000	ug/kg	350	U	350	U	360	U	350	U	350	U	-		-		-		-		-		-		**680**	J
Chrysene	5,800,000	120,000,000	ug/kg	350	U	350	U	**130**	J	**110**	J	**130**	J	-		-		-		-		-		-		**3300**	
Dibenz(a,h)anthracene	5,800	120,000	ug/kg	350	U	350	U	**23**	J	350	U	350	U	-		-		-		-		-		-		**380**	J
Dibenzofuran	4,100,000	2,100,000	ug/kg	350	U	350	U	360	U	350	U	350	U	-		-		-		-		-		-		**1200**	
Diethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	350	U	350	U	360	U	350	U	350	U	-		-		-		-		-		-		-	
Dimethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	350	U	350	U	360	U	350	U	350	U	-		-		-		-		-		-		-	
Di-n-butylphthalate	180,000,000	430,000,000	ug/kg	350	U	350	U	360	U	350	U	350	U	-		-		-		-		-		-		-	
Di-N-Octyl phthalate	18,000,000	140,000,000	ug/kg	350	U	350	U	360	U	350	U	350	U	-		-		-		-		-		-		-	
Fluoranthene	60,000,000	160,000,000	ug/kg	350	U	350	U	**200**	J	**150**	J	**180**	J	-		-		-		-		-		-		**6300**	
Fluorene	60,000,000	520,000,000	ug/kg	350	U	350	U	360	U	**61**	J	350	U	-		-		-		-		-		-		**1600**	
Hexachlorobenzene	31,000	14,000	ug/kg	350	U	350	U	360	U	350	U	350	U	-		-		-		-		-		-		-	
Hexachlorobutadiene, SVOC	630,000	1,400,000	ug/kg	350	U	350	U	360	U	350	U	350	U	-		-		-		-		-		-		-	
Hexachlorocyclopentadiene	11,000,000	26,000,000	ug/kg	1700	U	1700	U	1800	U	1700	U	1700	U	-		-		-		-		-		-		-	
Hexachloroethane	1,200,000	3,000,000	ug/kg	350	U	350	U	360	U	350	U	350	U	-		-		-		-		-		-		-	
Indeno(1,2,3-cd)pyrene	58,000	1,200,000	ug/kg	350	U	350	U	**71**	J	**59**	J	**89**	J	-		-		-		-		-		-		**1000**	
Isophorone	52,000,000	1,000,000,000	ug/kg	350	U	350	U	360	U	350	U	350	U	-		-		-		-		-		-		-	
Naphthalene, SVOC	450,000	560,000	ug/kg	350	U	350	U	360	U	350	U	350	U	-		-		-		-		-		-		**720**	J
Nitrobenzene	610,000	3,000,000	ug/kg	350	U	350	U	360	U	350	U	350	U	-		-		-		-		-		-		-	
N-Nitrosodi-n-propylamine	7,000	140,000	ug/kg	350	U	350	U	360	U	350	U	350	U	-		-		-		-		-		-		-	
N-Nitrosodiphenylamine	10,000,000	200,000,000	ug/kg	350	U	350	U	360	U	350	U	350	U	-		-		-		-		-		-		-	
Pentachlorophenol	67,000	950,000	ug/kg	350	U	350	U	360	U	350	U	350	U	-		-		-		-		-		-		-	
Phenanthrene	450,000,000	1,000,000,000	ug/kg	350	U	350	U	**46**	J	**58**	J	**75**	J	-		-		-		-		-		-		**9100**	
Phenol	530,000,000	840,000,000	ug/kg	350	U	350	U	360	U	350	U	350	U	-		-		-		-		-		-		-	
Pyrene, SVOC	45,000,000	390,000,000	ug/kg	350	U	350	U	**220**	J	**150**	J	**170**	J	-		-		-		-		-		-		**6500**	

TABLE 3.21
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 15/25/6S, 2-12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	MW-3-02		SB-22-02		SB-38-02		SB-39-02		SB-40-02		SB-41-02		SB-41-02		SB-43-02		SB-43-02		SB-56-02		SB-56-02	
			Field Sample ID:	MW-3-02		SB-22-02		SB-38-02		SB-39-02		SB-40-02		SB-41-02		SB-41-02		SB-43-02		SB-43-02		SB-56-02		SB-56-02	
			Date:	6/26/2002		4/10/2002		4/15/2002		4/15/2002		4/15/2002		4/15/2002		4/15/2002		4/15/2002		4/15/2002		4/17/2002		4/17/2002	
	C/I	Construction	Depth:	8 - 10		9 - 11		9 - 11		8.5 - 10.5		9.5 - 11.5		6 - 8		9 - 11		4 - 6		9 - 11		6 - 8		9.5 - 11.5	
PCBs																									
Aroclor-1016	100,000	260,000	ug/kg	2400	U	38	U	34	U	44	U	35	U	2300	U	710	U	180	U	2300	U	4700	U	1800	U
Aroclor-1221	14,000	210,000	ug/kg	2400	U	38	U	34	U	44	U	35	U	2300	U	710	U	180	U	2300	U	4700	U	1800	U
Aroclor-1232	14,000	73,000	ug/kg	2400	U	38	U	34	U	44	U	35	U	2300	U	710	U	180	U	2300	U	4700	U	1800	U
Aroclor-1242	20,000	440,000	ug/kg	2400	U	38	U	34	U	44	U	35	U	2300	U	710	U	180	U	2300	U	4700	U	1800	U
Aroclor-1248	20,000	440,000	ug/kg	2400	U	38	U	34	U	44	U	35	U	2300	U	710	U	180	U	2300	U	4700	U	1800	U
Aroclor-1254	20,000	75,000	ug/kg	**27000**		38	U	**46**		44	U	**440**		**20000**		**13000**		**1400**		**30000**		**48000**		**33000**	
Aroclor-1260	20,000	440,000	ug/kg	2400	U	38	U	34	U	44	U	35	U	2300	U	710	U	180	U	2300	U	4700	U	1800	U
Total PCBs	20,000	440,000	ug/kg	**27000**		38	U	**46**		44	U	**440**		**20000**		**13000**		**1400**		**30000**		**48000**		**33000**	
Metals																									
Antimony	1,600	850	mg/kg	8.6	U	7	U	6.2	UJ	**1.5**	J	6.3	UJ	8.4	UJ	6.4	UJ	**3.2**	J	**1.6**	J	8.5	U	6.4	U
Arsenic	77	690	mg/kg	**3.6**		**8.9**		**2.7**	J	**5.2**	J	**2.8**	J	**3.1**	J	**3.8**	J	**32.4**	J	**15.3**	J	**4.7**		**3.4**	
Barium	680,000	320,000	mg/kg	**211**		**30.5**		**25.8**	J	**140**	J	**79.7**	J	**207**	J	**47.5**	J	**40**	J	**226**	J	**237**		**43.4**	
Beryllium	7,800	3,400	mg/kg	0.71	U	0.58	U	0.52	UJ	0.66	UJ	**0.68**	J	**0.28**	J	**0.12**	J	**0.36**	J	**0.29**	J	0.71	U	0.54	U
Cadmium	2,600	1,000	mg/kg	**0.56**	J	**0.36**	J	0.52	UJ	0.66	UJ	0.52	UJ	**0.29**	J	**0.62**	J	2.7	UJ	**0.26**	J	**0.37**	J	**0.31**	J
Chromium Total	NA	NA	mg/kg	**8**		**8.8**		**3.8**	J	**23.3**	J	**8.9**	J	**7.2**	J	**18.4**	J	**8.5**	J	**17**	J	**8**		**7.2**	
Cobalt	1,200	2,800	mg/kg	**3.7**	J	**5.7**	J	**1.4**	J	**4.3**	J	**1.5**	J	**3.3**	J	**2.9**	J	**28.6**	J	**4.4**	J	**3.9**	J	**1.7**	J
Copper	160,000	21,000	mg/kg	**7.9**		**17.9**		**6.7**	J	**24.4**	J	**5.5**	J	**8.2**	J	**8.6**	J	**112**	J	**87.2**	J	**9.3**		**25**	
Cyanide (total)	370	150	mg/kg	0.71	U	0.58	U	0.52	U	0.66	U	**0.77**		0.7	U	0.53	U	**0.39**	J	**0.49**	J	0.71	U	0.54	U
Lead	800	400	mg/kg	**7.1**		**8.3**		**5.7**	J	**47.5**	J	**4.5**	J	**6.8**	J	**8.8**	J	**65.1**	J	**71.2**	J	**7.4**		**18.5**	
Manganese	NA	NA	mg/kg	**292**		**273**		**262**		**2700**		**1230**		**420**		**333**		**457**		**436**		**427**		**214**	
Mercury	3.1	3.1	mg/kg	0.14	U	0.12	U	0.1	UJ	0.13	UJ	0.1	UJ	0.14	R	0.11	R	**0.19**	J	**2.8**	J	**0.026**	J	**0.06**	J
Nickel	74,000	23,000	mg/kg	**10.4**		**16.8**		**3.8**	J	**8.3**	J	**2.6**	J	**7.9**	J	**6.6**	J	**55.7**	J	**10.5**	J	**9.3**		**4.7**	
Selenium	20,000	11,000	mg/kg	0.71	U	0.58	U	0.52	UJ	0.66	UJ	**0.5**	J	**0.52**	J	0.53	UJ	**1.7**	J	0.69	UJ	0.71	U	0.54	U
Silver	20,000	11,000	mg/kg	1.4	U	1.2	U	1	U	1.3	U	1	U	1.4	U	1.1	U	1.1	U	1.4	U	1.4	U	1.1	U
Thallium	41	21	mg/kg	1.4	U	**1.3**		**1.7**	J	**2**	J	**2.5**	J	**0.88**	J	**0.94**	J	5.4	UJ	**1.6**	J	1.4	U	1.1	U
Vanadium	20,000	11,000	mg/kg	**12.9**		**14.4**		**5.3**	J	**42.1**	J	**7.1**	J	**10.4**	J	**9.2**	J	**13.2**	J	**14**	J	**13.2**		**6.6**	
Zinc	1,000,000	640,000	mg/kg	**42.8**		**60.8**		**12.1**	J	**46**	J	**8.6**	J	**35.6**	J	**25**	J	**51**	J	**135**	J	**41.8**		**36.9**	
TPH																									
C21-C34 Aliphatics	5,000,000	5,000,000	ug/kg	-		-		-		-		-		-		-		-		-		-		-	
Diesel Range Organics (DRO)	2,000,000	2,000,000	ug/kg	-		-		-		-		-		-		-		-		-		-		-	
Gasoline Range Organics (GRO)	1,000,000	1,000,000	ug/kg	-		-		-		-		-		-		-		-		-		-		-	

TABLE 3.21
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 15/25/6S, 2-12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	SB-75-03		SB-75-03		SB-87-03		SB-88-03		SB-88-03		TT-SB262		TT-SB262		TT-SB262		TT-SB262		TT-SB263		TT-SB263		Maximum Detected Concentration	
			Field Sample ID:	SB-75-03 DUP		SB-75-03		SB-87-03		SB-88-03 DUP		SB-88-03		TT-SB262-G-04		TT-SB262-G-06		TT-SB262-G-08		TT-SB262-G-08		TT-SB263-G-04		TT-SB263-G-06			
			Date:	2/20/2003		2/20/2003		4/1/2003		4/1/2003		4/1/2003		4/4/2013		4/4/2013		4/4/2013		4/4/2013		4/4/2013		4/4/2013			
	C/I	Construction	Depth:	9.5 - 11.5		9.5 - 11.5		9 - 11		3 - 5		3 - 5		2 - 4		4 - 6		6 - 8		6 - 8		2 - 4		4 - 6			
PCBs																											
Aroclor-1016	100,000	260,000	ug/kg	-		-		-		35	U	35	U	21.5	U	234	UD	-		25.5	U	20.8	U	21.6	U	-	
Aroclor-1221	14,000	210,000	ug/kg	-		-		-		35	U	35	U	21.5	U	234	UD	-		25.5	U	20.8	U	21.6	U	-	
Aroclor-1232	14,000	73,000	ug/kg	-		-		-		35	U	35	U	21.5	U	234	UD	-		25.5	U	20.8	U	21.6	U	-	
Aroclor-1242	20,000	440,000	ug/kg	-		-		-		35	U	35	U	21.5	U	234	UD	-		25.5	U	20.8	U	21.6	U	-	
Aroclor-1248	20,000	440,000	ug/kg	-		-		-		35	U	35	U	21.5	U	234	UD	-		25.5	U	20.8	U	21.6	U	-	
Aroclor-1254	20,000	75,000	ug/kg	-		-		-		35	U	35	U	2120	D	3660	D	-		7620	D	**54.8**		**78.2**		**48000**	
Aroclor-1260	20,000	440,000	ug/kg	-		-		-		**34**	J	**30**	J	21.5	U	234	UD	-		25.5	U	20.8	U	21.6	U	**34**	J
Total PCBs	20,000	440,000	ug/kg	-		-		-		**34**	J	**30**	J	2120	D	3660	D	-		7620	D	**54.8**		**78.2**		**48000**	
Metals																											
Antimony	1,600	850	mg/kg	6.3	UJ	6.4	UJ	-		-		-		-		-		-		-		-		-		**3.2**	J
Arsenic	77	690	mg/kg	**3.9**	J	**3.1**	J	-		-		-		-		-		-		-		-		-		**32.4**	J
Barium	680,000	320,000	mg/kg	**33.4**	J	**39.9**	J	-		-		-		-		-		-		-		-		-		**237**	
Beryllium	7,800	3,400	mg/kg	0.53	UJ	0.53	UJ	-		-		-		-		-		-		-		-		-		**0.68**	J
Cadmium	2,600	1,000	mg/kg	**0.02**	J	**0.032**	J	-		-		-		-		-		-		-		-		-		**0.62**	J
Chromium Total	NA	NA	mg/kg	**5.3**	J	**4.1**	J	-		-		-		-		-		-		-		-		-		**23.3**	J
Cobalt	1,200	2,800	mg/kg	**1.8**	J	**1.5**	J	-		-		-		-		-		-		-		-		-		**28.6**	J
Copper	160,000	21,000	mg/kg	**4.6**	J	**3**	J	-		-		-		-		-		-		-		-		-		**112**	J
Cyanide (total)	370	150	mg/kg	0.53	UJ	0.53	UJ	-		-		-		-		-		-		-		-		-		**0.77**	
Lead	800	400	mg/kg	**2.1**	J	**1.8**	J	-		-		-		-		-		-		-		-		-		**71.2**	J
Manganese	NA	NA	mg/kg	**180**	J	**160**	J	-		-		-		-		-		-		-		-		-		**2700**	
Mercury	3.1	3.1	mg/kg	0.11	U	0.11	U	-		-		-		-		-		-		-		-		-		**2.8**	J
Nickel	74,000	23,000	mg/kg	**4**	J	**3.6**	J	-		-		-		-		-		-		-		-		-		**55.7**	J
Selenium	20,000	11,000	mg/kg	0.53	U	0.53	U	-		-		-		-		-		-		-		-		-		**1.7**	J
Silver	20,000	11,000	mg/kg	1.1	U	1.1	U	-		-		-		-		-		-		-		-		-		-	
Thallium	41	21	mg/kg	**0.67**	J	1.1	UJ	-		-		-		-		-		-		-		-		-		**2.5**	J
Vanadium	20,000	11,000	mg/kg	**7**	J	**7.7**	J	-		-		-		-		-		-		-		-		-		**42.1**	J
Zinc	1,000,000	640,000	mg/kg	**9.9**	J	**12.4**	J	-		-		-		-		-		-		-		-		-		**135**	J
TPH																											
C21-C34 Aliphatics	5,000,000	5,000,000	ug/kg	-		-		-		-		-		-		-		605000	U	-		-		-		-	
Diesel Range Organics (DRO)	2,000,000	2,000,000	ug/kg	-		-		-		-		-		-		-		**51700**		-		-		-		**51700**	
Gasoline Range Organics (GRO)	1,000,000	1,000,000	ug/kg	-		-		-		-		-		-		-		-		6190	UD	-		-		-	

NOTES:

Shaded values indicate concentration exceeds C/I Single Chemical Generic Direct Contact Soil Standard
Shaded values indicate concentration exceeds Construction Single Chemical Generic Direct Contact Soil Standard
Shaded values indicate concentration exceeds both Single Chemical Generic Direct Contact Soil Standards

bold text indicates detection above reporting limit
Total PCBs value is the sum of all positively deteted PCB aroclors
D: The reported value is from a dilution
C/I: Commercial/ Industrial
J: The associated numerical value is an estimated quantity
mg/kg: milligrams per kilogram
NA: exceedance criteria not applicable for compound/analyte
PCB: Polychlorinated Biphenyl
R: The data are unusable (the compound/analyte may or may not be present). Resampling and reanalysis are necessary for verification
SVOC: SemiVolatile Organic Compound
U: The compound/analyte was analyzed for, but not detected. The associated numerical value is the sample quantitation limit
ug/kg: micrograms per kilogram
UJ: The compound/analyte was analyzed for, but not detected. The sample quantitation limit is an estimated quantity
VOC: Volatile Organic Compound

TABLE 3.22
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 18/19, 2-12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	BH-169		BH-170		BH-176		BH-177		BH-177		BH-183		MW-13-03		MW-13-03		MW-26-04	
			Field Sample ID:	S-110104-NZ-002		S-110104-NZ-004		S-110204-NZ-020		S-110204-NZ-022		S-110204-NZ-023		S-112904-NZ-042		MW-13-03		MW-13-03		MW-26-04	
			Date:	11/1/2004		11/1/2004		11/2/2004		11/2/2004		11/2/2004		11/29/2004		3/5/2003		3/5/2003		3/4/2004	
	C/I	Construction	Depth:	7.5 - 9.5		8 - 10		8 - 10		7.5 - 9.5		7.5 - 9.5		8 - 10		2 - 4		9 - 11		8 - 10	
VOCs																					
1,1,1-Trichloroethane	640,000	640,000	ug/kg	-		-		8.4	U	8.9	U	5.9	U	7.5	U	370	U	4.6	U	4.2	U
1,1,2,2-Tetrachloroethane	75,000	670,000	ug/kg	-		-		8.4	U	8.9	U	5.9	U	7.5	U	370	U	4.6	U	4.2	U
1,1,2-Trichloroethane	140,000	1,200,000	ug/kg	-		-		8.4	U	8.9	U	5.9	U	7.5	U	370	U	4.6	U	4.2	U
1,1-Dichloroethane	420,000	1,700,000	ug/kg	-		-		8.4	U	8.9	U	5.9	U	7.5	U	370	U	4.6	U	4.2	U
1,1-Dichloroethene	1,200,000	360,000	ug/kg	-		-		8.4	U	8.9	U	5.9	U	7.5	U	370	U	4.6	U	4.2	U
1,2,4-Trichlorobenzene, VOC	400,000	400,000	ug/kg	-		-		8.4	U	8.9	U	5.9	U	7.5	U	370	U	4.6	U	4.2	U
1,2-Dibromo-3-chloropropane	1,700	15,000	ug/kg	-		-		17	U	18	U	12	U	15	U	750	U	9.1	U	8.4	U
1,2-Dibromoethane	4,400	38,000	ug/kg	-		-		8.4	U	8.9	U	5.9	U	7.5	U	370	U	4.6	U	4.2	U
1,2-Dichlorobenzene, VOC	380,000	380,000	ug/kg	-		-		8.4	U	8.9	U	5.9	U	7.5	U	370	U	4.6	U	4.2	U
1,2-Dichloroethane	56,000	480,000	ug/kg	-		-		8.4	U	8.9	U	5.9	U	7.5	U	370	U	4.6	U	4.2	U
1,2-Dichloropropane	120,000	180,000	ug/kg	-		-		8.4	U	8.9	U	5.9	U	7.5	U	370	U	4.6	U	4.2	U
1,3-Dichlorobenzene, VOC	NA	NA	ug/kg	-		-		8.4	U	8.9	U	5.9	U	7.5	U	370	U	4.6	U	4.2	U
1,4-Dichlorobenzene, VOC	310,000	2,600,000	ug/kg	-		-		8.4	U	8.9	U	5.9	U	7.5	U	370	U	4.6	U	4.2	U
2-Butanone	28,000,000	28,000,000	ug/kg	-		-		**8.1**	**J**	**8.9**	**J**	**11**	**J**	**8.6**	**J**	**130**	**J**	18	U	17	U
2-Hexanone	NA	NA	ug/kg	-		-		34	U	36	U	24	U	30	U	1500	U	18	U	17	U
4-Methyl-2-Pentanone	3,400,000	3,400,000	ug/kg	-		-		34	U	36	U	24	U	30	U	1500	U	18	U	17	U
Acetone	110,000,000	110,000,000	ug/kg	-		-		**21**	**J**	**35**	**J**	**52**		**56**	**J**	1500	U	18	U	17	UJ
Benzene	140,000	1,200,000	ug/kg	-		-		**12**		**4**	**J**	**4.5**	**J**	**28**		370	U	**0.33**	**J**	4.2	U
Bromodichloromethane	35,000	300,000	ug/kg	-		-		8.4	U	8.9	U	5.9	U	7.5	U	370	U	4.6	U	4.2	U
Bromoform	6,200,000	130,000,000	ug/kg	-		-		8.4	U	8.9	U	5.9	U	7.5	U	370	U	4.6	U	4.2	U
Bromomethane	82,000	550,000	ug/kg	-		-		8.4	U	8.9	U	5.9	U	7.5	U	370	U	4.6	U	4.2	U
Carbon disulfide	740,000	740,000	ug/kg	-		-		8.4	U	8.9	U	5.9	U	7.5	U	370	U	4.6	U	4.2	U
Carbon tetrachloride	79,000	460,000	ug/kg	-		-		8.4	U	8.9	U	5.9	U	7.5	U	370	U	4.6	U	4.2	U
Chlorobenzene	760,000	760,000	ug/kg	-		-		8.4	U	8.9	U	5.9	U	7.5	U	370	U	4.6	U	4.2	U
Chloroethane	2,100,000	2,100,000	ug/kg	-		-		8.4	U	8.9	U	5.9	U	7.5	U	370	U	4.6	U	4.2	U
Chloroform	38,000	320,000	ug/kg	-		-		8.4	U	8.9	U	5.9	U	7.5	U	370	U	4.6	U	4.2	U
Chloromethane	1,300,000	1,300,000	ug/kg	-		-		8.4	U	8.9	U	5.9	U	7.5	U	370	U	4.6	U	4.2	U
cis-1,2-Dichloroethene	2,400,000	2,400,000	ug/kg	-		-		8.4	U	8.9	U	5.9	U	7.5	U	**160**	**J**	2.3	U	2.1	U
cis-1,3-Dichloropropene	NA	NA	ug/kg	-		-		8.4	U	8.9	U	5.9	U	7.5	U	370	U	4.6	U	4.2	U
Cyclohexane	120,000	120,000	ug/kg	-		-		**34**		**9.3**	**J**	**5.7**	**J**	**1.8**	**J**	**38**	**J**	9.1	U	8.4	U
Dibromochloromethane	84,000	770,000	ug/kg	-		-		8.4	U	8.9	U	5.9	U	7.5	U	370	U	4.6	U	4.2	U
Dichlorodifluoromethane	850,000	850,000	ug/kg	-		-		8.4	U	8.9	U	5.9	U	7.5	UJ	370	U	4.6	U	4.2	UJ
Ethylbenzene	480,000	480,000	ug/kg	-		-		**17**		**3.7**	**J**	**2.9**	**J**	**4.9**	**J**	370	U	4.6	U	4.2	U
Isopropylbenzene, VOC	270,000	270,000	ug/kg	-		-		**2.3**	**J**	8.9	U	5.9	U	7.5	U	370	U	4.6	U	4.2	U
Methyl acetate	NA	NA	ug/kg	-		-		17	U	18	U	12	U	15	U	750	U	9.1	U	8.4	U
Methyl cyclohexane	NA	NA	ug/kg	-		-		**49**		**12**	**J**	**6.5**	**J**	**2.1**	**J**	**90**	**J**	9.1	U	8.4	U
Methyl tert butyl ether	5,700,000	8,900,000	ug/kg	-		-		34	U	36	U	24	U	30	U	1500	U	18	U	17	U
Methylene chloride	3,300,000	3,300,000	ug/kg	-		-		24	U	32	U	20	U	**31**	**J**	370	U	4.6	U	4.2	U
Styrene	870,000	870,000	ug/kg	-		-		8.4	U	8.9	U	5.9	U	**3.2**	**J**	370	U	4.6	U	4.2	U
Tetrachloroethene	170,000	170,000	ug/kg	-		-		8.4	U	8.9	U	**3.2**	**J**	**130**		**1600**		**6.4**		**1.7**	**J**
Toluene	820,000	820,000	ug/kg	-		-		**40**		**17**		**14**		29	B	370	U	**1.1**	**J**	**0.45**	**J**
trans-1,2-Dichloroethene	1,700,000	1,700,000	ug/kg	-		-		8.4	U	8.9	U	5.9	U	7.5	U	190	U	2.3	U	2.1	U
trans-1,3-Dichloropropene	NA	NA	ug/kg	-		-		8.4	U	8.9	U	5.9	U	7.5	U	370	U	4.6	U	4.2	U
Trichloroethene	51,000	17,000	ug/kg	-		-		8.4	U	8.9	U	5.9	U	**35**		**1600**		**1.2**	**J**	**5.1**	
Trichlorofluoromethane	1,200,000	1,200,000	ug/kg	-		-		8.4	U	8.9	U	5.9	U	7.5	U	370	U	4.6	U	4.2	U
Trifluorotrichloroethane	NA	NA	ug/kg	-		-		8.4	U	8.9	U	5.9	U	7.5	U	370	U	4.6	U	4.2	U
Vinyl chloride	50,000	280,000	ug/kg	-		-		8.4	U	8.9	U	5.9	U	7.5	U	370	U	4.6	U	4.2	U
Xylene (Total)	260,000	260,000	ug/kg	-		-		**38**		**7.3**	**J**	**5.2**	**J**	**10**	**J**	750	U	9.1	U	8.4	U

TABLE 3.22
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 18/19, 2-12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	MW-26-04		SB-130-04		SB-130-04		SB-133-04		SB-133-04		SB-133-04		SB-139-04		SB-139-04		SB-150-04		SB-151-04		SB-151-04	
			Field Sample ID:	MW-26-04		SB-130-04		SB-130-04		SB-133-04		SB-133-04 DUP		SB-133-04		SB-139-04		SB-139-04		SB-150-04		SB-151-04 DUP		SB-151-04	
			Date:	3/4/2004		1/21/2004		1/21/2004		1/22/2004		1/22/2004		1/22/2004		1/27/2004		1/27/2004		1/28/2004		2/5/2004		2/5/2004	
	C/I	Construction	Depth:	10 - 12		8 - 10		10 - 12		8 - 10		11 - 13		11 - 13		8 - 10		11.5 - 13.5		8 - 10		8 - 10		8 - 10	
VOCs																									
1,1,1-Trichloroethane	640,000	640,000	ug/kg	4.7	U	5.4	U	290	U	5.2	UJ	320	UJ	7.2	UJ	6	U	5.1	U	**1.5**	**J**	7	U	4.9	U
1,1,2,2-Tetrachloroethane	75,000	670,000	ug/kg	4.7	U	5.4	U	290	U	5.2	UJ	320	UJ	7.2	UJ	6	U	5.1	U	4.4	U	7	U	4.9	U
1,1,2-Trichloroethane	140,000	1,200,000	ug/kg	4.7	U	5.4	U	290	U	5.2	UJ	320	UJ	7.2	UJ	6	U	5.1	U	4.4	U	7	U	4.9	U
1,1-Dichloroethane	420,000	1,700,000	ug/kg	4.7	U	5.4	U	290	U	5.2	UJ	320	UJ	7.2	UJ	6	U	5.1	U	**5.1**		7	U	4.9	U
1,1-Dichloroethene	1,200,000	360,000	ug/kg	4.7	U	5.4	U	290	U	5.2	UJ	320	UJ	7.2	UJ	6	U	5.1	U	4.4	U	7	U	4.9	U
1,2,4-Trichlorobenzene, VOC	400,000	400,000	ug/kg	4.7	U	5.4	U	290	U	5.2	UJ	320	UJ	7.2	UJ	6	U	5.1	U	4.4	U	7	U	4.9	U
1,2-Dibromo-3-chloropropane	1,700	15,000	ug/kg	9.3	U	11	UJ	580	U	10	UJ	640	UJ	14	UJ	12	U	10	U	8.8	U	14	U	9.8	U
1,2-Dibromoethane	4,400	38,000	ug/kg	4.7	U	5.4	U	290	U	5.2	UJ	320	UJ	7.2	UJ	6	U	5.1	U	4.4	U	7	U	4.9	U
1,2-Dichlorobenzene, VOC	380,000	380,000	ug/kg	4.7	U	5.4	U	290	U	5.2	UJ	320	UJ	7.2	UJ	6	U	5.1	U	4.4	U	7	U	4.9	U
1,2-Dichloroethane	56,000	480,000	ug/kg	4.7	U	5.4	U	290	U	5.2	UJ	320	UJ	7.2	UJ	6	U	5.1	U	4.4	U	7	U	4.9	U
1,2-Dichloropropane	120,000	180,000	ug/kg	4.7	U	5.4	U	290	U	5.2	UJ	320	UJ	7.2	UJ	6	U	5.1	U	4.4	U	7	U	4.9	U
1,3-Dichlorobenzene, VOC	NA	NA	ug/kg	4.7	U	5.4	U	290	U	5.2	UJ	320	UJ	7.2	UJ	6	U	5.1	U	4.4	U	7	U	4.9	U
1,4-Dichlorobenzene, VOC	310,000	2,600,000	ug/kg	4.7	U	5.4	U	290	U	5.2	UJ	320	UJ	7.2	UJ	6	U	5.1	U	4.4	U	7	U	4.9	U
2-Butanone	28,000,000	28,000,000	ug/kg	19	U	21	U	1200	U	21	UJ	1300	UJ	29	UJ	24	UJ	20	UJ	**4.1**	**J**	28	U	20	U
2-Hexanone	NA	NA	ug/kg	19	U	21	U	1200	U	21	UJ	1300	UJ	29	UJ	24	UJ	20	UJ	18	U	28	U	20	U
4-Methyl-2-Pentanone	3,400,000	3,400,000	ug/kg	19	U	21	U	1200	U	21	UJ	1300	UJ	29	UJ	24	U	20	U	18	U	28	U	20	U
Acetone	110,000,000	110,000,000	ug/kg	19	UJ	21	UJ	1200	UJ	21	UJ	1300	UJ	29	UJ	24	UJ	20	UJ	**18**		28	U	20	U
Benzene	140,000	1,200,000	ug/kg	**0.51**	**J**	5.4	U	290	U	5.2	UJ	320	UJ	7.2	UJ	6	U	**0.47**	**J**	4.4	U	7	U	4.9	U
Bromodichloromethane	35,000	300,000	ug/kg	4.7	U	5.4	U	290	U	5.2	UJ	320	UJ	7.2	UJ	6	U	5.1	U	4.4	U	7	U	4.9	U
Bromoform	6,200,000	130,000,000	ug/kg	4.7	U	5.4	U	290	U	5.2	UJ	320	UJ	7.2	UJ	6	U	5.1	U	4.4	U	7	U	4.9	U
Bromomethane	82,000	550,000	ug/kg	4.7	U	5.4	U	290	U	5.2	UJ	320	UJ	7.2	UJ	6	U	5.1	U	4.4	U	7	U	4.9	U
Carbon disulfide	740,000	740,000	ug/kg	4.7	U	5.4	U	290	U	5.2	UJ	320	UJ	7.2	UJ	6	U	5.1	U	4.4	U	7	U	4.9	U
Carbon tetrachloride	79,000	460,000	ug/kg	4.7	U	5.4	U	290	U	5.2	UJ	320	UJ	7.2	UJ	6	U	5.1	U	4.4	U	7	U	4.9	U
Chlorobenzene	760,000	760,000	ug/kg	4.7	U	5.4	U	290	U	5.2	UJ	320	UJ	7.2	UJ	6	U	5.1	U	4.4	U	7	U	4.9	U
Chloroethane	2,100,000	2,100,000	ug/kg	4.7	U	5.4	R	290	R	5.2	UJ	320	R	7.2	UJ	6	R	5.1	R	4.4	U	7	U	4.9	U
Chloroform	38,000	320,000	ug/kg	4.7	U	5.4	U	290	U	5.2	UJ	320	UJ	7.2	UJ	6	U	5.1	U	4.4	U	7	U	4.9	U
Chloromethane	1,300,000	1,300,000	ug/kg	4.7	U	5.4	U	290	U	5.2	UJ	320	UJ	7.2	UJ	6	U	5.1	U	4.4	U	7	U	4.9	U
cis-1,2-Dichloroethene	2,400,000	2,400,000	ug/kg	**0.71**	**J**	**2.3**	**J**	**120**	**J**	**0.72**	**J**	160	UJ	**8**	**J**	3	U	2.5	U	**1.1**	**J**	3.5	U	2.5	U
cis-1,3-Dichloropropene	NA	NA	ug/kg	4.7	U	5.4	U	290	U	5.2	UJ	320	UJ	7.2	UJ	6	U	5.1	U	4.4	U	7	U	4.9	U
Cyclohexane	120,000	120,000	ug/kg	**0.68**	**J**	11	U	**76**	**J**	10	UJ	640	UJ	14	UJ	12	U	10	U	8.8	U	14	U	9.8	U
Dibromochloromethane	84,000	770,000	ug/kg	4.7	U	5.4	U	290	U	5.2	UJ	320	UJ	7.2	UJ	6	U	5.1	U	4.4	U	7	U	4.9	U
Dichlorodifluoromethane	850,000	850,000	ug/kg	4.7	UJ	5.4	U	290	U	5.2	UJ	320	UJ	7.2	UJ	6	U	5.1	U	4.4	U	7	U	4.9	U
Ethylbenzene	480,000	480,000	ug/kg	**1.3**	**J**	5.4	U	290	U	5.2	UJ	320	UJ	7.2	UJ	6	U	**0.43**	**J**	4.4	U	7	U	4.9	U
Isopropylbenzene, VOC	270,000	270,000	ug/kg	4.7	U	5.4	U	290	U	5.2	UJ	320	UJ	7.2	UJ	6	U	5.1	U	4.4	U	7	U	4.9	U
Methyl acetate	NA	NA	ug/kg	9.3	U	11	U	**430**	**J**	10	UJ	640	UJ	14	UJ	12	U	10	U	8.8	U	14	U	9.8	U
Methyl cyclohexane	NA	NA	ug/kg	**1.2**	**J**	11	U	**240**	**J**	10	UJ	640	UJ	14	UJ	12	U	**0.44**	**J**	8.8	U	14	U	9.8	U
Methyl tert butyl ether	5,700,000	8,900,000	ug/kg	19	U	21	U	1200	U	21	UJ	1300	UJ	29	UJ	24	UJ	20	UJ	18	U	28	U	20	U
Methylene chloride	3,300,000	3,300,000	ug/kg	4.7	U	5.4	U	290	U	5.2	UJ	320	UJ	7.2	UJ	6	U	5.1	U	4.4	U	**6.1**	**J**	**4.4**	**J**
Styrene	870,000	870,000	ug/kg	4.7	U	5.4	U	290	U	5.2	UJ	320	UJ	7.2	UJ	6	U	5.1	U	4.4	U	7	U	4.9	U
Tetrachloroethene	170,000	170,000	ug/kg	**29**		**18**		**590**		**36**	**J**	**490**	**J**	**160**	**J**	**3.1**	**J**	**3.7**	**J**	**1.5**	**J**	**11**		**1.9**	**J**
Toluene	820,000	820,000	ug/kg	**2.3**	**J**	**0.9**	**J**	**310**		**0.69**	**J**	320	UJ	**1.3**	**J**	**0.6**	**J**	**1.7**	**J**	**0.86**	**J**	**1.3**	**J**	4.9	U
trans-1,2-Dichloroethene	1,700,000	1,700,000	ug/kg	2.3	U	2.7	U	150	U	2.6	UJ	160	UJ	3.6	UJ	3	U	2.5	U	2.2	U	3.5	U	2.5	U
trans-1,3-Dichloropropene	NA	NA	ug/kg	4.7	U	5.4	U	290	U	5.2	UJ	320	UJ	7.2	UJ	6	U	5.1	U	4.4	U	7	U	4.9	U
Trichloroethene	51,000	17,000	ug/kg	**150**		**210**		**3800**		**29**	**J**	320	UJ	**59**	**J**	**5.3**	**J**	**9.9**		**6**		**2.9**	**J**	**0.46**	**J**
Trichlorofluoromethane	1,200,000	1,200,000	ug/kg	4.7	U	5.4	UJ	290	U	5.2	UJ	320	UJ	7.2	UJ	6	UJ	5.1	UJ	4.4	U	7	U	4.9	U
Trifluorotrichloroethane	NA	NA	ug/kg	4.7	U	5.4	U	290	U	5.2	UJ	320	UJ	7.2	UJ	6	U	5.1	U	4.4	U	7	U	4.9	U
Vinyl chloride	50,000	280,000	ug/kg	4.7	U	5.4	U	290	U	5.2	UJ	320	UJ	7.2	UJ	6	U	5.1	U	4.4	U	7	U	4.9	U
Xylene (Total)	260,000	260,000	ug/kg	**2.5**	**J**	11	U	**140**	**J**	10	UJ	640	UJ	14	UJ	12	U	10	U	8.8	U	14	U	9.8	U

TABLE 3.22
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 18/19, 2-12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	SB-151-04		SB-160-04		SB-161-04		SB-162-04		SB-163-04		SB-163-04		SB-164-04		SB-164-04		SB-19-02		Maximum Detected Concentration	
			Field Sample ID:	SB-151-04		SB-160-04		SB-161-04 (7.5-9.5)		SB-162-04 (7.5-9.5)		SB-163-04		SB-163-04		SB-164-04		SB-164-04		SB-19-02			
			Date:	2/5/2004		2/4/2004		2/4/2004		2/4/2004		2/5/2004		2/5/2004		2/6/2004		2/6/2004		4/9/2002			
	C/I	Construction	Depth:	11 - 13		6 - 8		7.5 - 9.5		7.5 - 9.5		8 - 10		11.5 - 13.5		8 - 10		11 - 13		9.5 - 11.5			
VOCs																							
1,1,1-Trichloroethane	640,000	640,000	ug/kg	5.2	U	5.9	UJ	5.1	U	5.3	U	5.7	U	280	U	6.7	U	6.4	U	5	U	**1.5**	**J**
1,1,2,2-Tetrachloroethane	75,000	670,000	ug/kg	5.2	U	5.9	UJ	5.1	U	5.3	U	5.7	U	280	U	6.7	U	6.4	U	5	U	-	
1,1,2-Trichloroethane	140,000	1,200,000	ug/kg	5.2	U	5.9	UJ	5.1	U	5.3	U	5.7	U	280	U	6.7	U	6.4	U	5	U	-	
1,1-Dichloroethane	420,000	1,700,000	ug/kg	5.2	U	5.9	UJ	5.1	U	5.3	U	5.7	U	280	U	6.7	U	6.4	U	5	U	**5.1**	
1,1-Dichloroethene	1,200,000	360,000	ug/kg	5.2	U	5.9	UJ	5.1	U	5.3	U	5.7	U	280	U	6.7	U	6.4	U	5	U	-	
1,2,4-Trichlorobenzene, VOC	400,000	400,000	ug/kg	5.2	U	5.9	UJ	5.1	U	5.3	U	5.7	U	280	U	6.7	U	6.4	U	5	U	-	
1,2-Dibromo-3-chloropropane	1,700	15,000	ug/kg	10	U	12	UJ	10	U	11	U	11	U	550	U	13	U	13	U	9.9	UJ	-	
1,2-Dibromoethane	4,400	38,000	ug/kg	5.2	U	5.9	UJ	5.1	U	5.3	U	5.7	U	280	U	6.7	U	6.4	U	5	U	-	
1,2-Dichlorobenzene, VOC	380,000	380,000	ug/kg	5.2	U	5.9	UJ	5.1	U	5.3	U	5.7	U	280	U	6.7	U	6.4	U	5	U	-	
1,2-Dichloroethane	56,000	480,000	ug/kg	5.2	U	5.9	UJ	5.1	U	5.3	U	5.7	U	280	U	6.7	U	6.4	U	5	U	-	
1,2-Dichloropropane	120,000	180,000	ug/kg	5.2	U	5.9	UJ	5.1	U	5.3	U	5.7	U	280	U	6.7	U	6.4	U	5	U	-	
1,3-Dichlorobenzene, VOC	NA	NA	ug/kg	5.2	U	5.9	UJ	5.1	U	5.3	U	5.7	U	280	U	6.7	U	6.4	U	5	U	-	
1,4-Dichlorobenzene, VOC	310,000	2,600,000	ug/kg	5.2	U	5.9	UJ	5.1	U	5.3	U	5.7	U	280	U	6.7	U	6.4	U	5	U	-	
2-Butanone	28,000,000	28,000,000	ug/kg	21	U	**2.7**	**J**	20	U	21	U	23	U	1100	U	27	U	26	U	20	U	**130**	**J**
2-Hexanone	NA	NA	ug/kg	21	U	23	UJ	20	U	21	U	23	U	1100	U	27	U	26	U	20	U	-	
4-Methyl-2-Pentanone	3,400,000	3,400,000	ug/kg	21	U	23	UJ	20	U	21	U	23	U	1100	U	27	U	26	U	20	U	-	
Acetone	110,000,000	110,000,000	ug/kg	21	U	**16**	**J**	20	U	21	U	23	U	**330**	**J**	27	U	26	U	20	UJ	**330**	**J**
Benzene	140,000	1,200,000	ug/kg	5.2	U	5.9	UJ	5.1	U	5.3	U	5.7	U	280	U	6.7	U	6.4	U	5	U	**28**	
Bromodichloromethane	35,000	300,000	ug/kg	5.2	U	5.9	UJ	5.1	U	5.3	U	5.7	U	280	U	6.7	U	6.4	U	5	U	-	
Bromoform	6,200,000	130,000,000	ug/kg	5.2	U	5.9	UJ	5.1	U	5.3	U	5.7	U	280	U	6.7	U	6.4	U	5	UJ	-	
Bromomethane	82,000	550,000	ug/kg	5.2	U	5.9	UJ	5.1	U	5.3	U	5.7	U	280	U	6.7	U	6.4	U	5	UJ	-	
Carbon disulfide	740,000	740,000	ug/kg	5.2	U	5.9	UJ	5.1	U	5.3	U	5.7	U	280	U	6.7	U	6.4	U	5	U	-	
Carbon tetrachloride	79,000	460,000	ug/kg	5.2	U	5.9	UJ	5.1	U	5.3	U	5.7	U	280	U	6.7	U	6.4	U	5	UJ	-	
Chlorobenzene	760,000	760,000	ug/kg	5.2	U	5.9	UJ	5.1	U	5.3	U	5.7	U	280	U	6.7	U	6.4	U	5	U	-	
Chloroethane	2,100,000	2,100,000	ug/kg	5.2	U	5.9	UJ	5.1	U	5.3	U	5.7	U	280	U	6.7	U	6.4	U	5	U	-	
Chloroform	38,000	320,000	ug/kg	5.2	U	5.9	UJ	5.1	U	5.3	U	5.7	U	280	U	6.7	U	6.4	U	5	U	-	
Chloromethane	1,300,000	1,300,000	ug/kg	5.2	U	5.9	UJ	5.1	U	5.3	U	5.7	U	280	U	6.7	U	6.4	U	5	U	-	
cis-1,2-Dichloroethene	2,400,000	2,400,000	ug/kg	2.6	U	2.9	UJ	2.6	U	2.7	U	**1.4**	**J**	140	U	3.4	U	3.2	U	2.5	U	**160**	**J**
cis-1,3-Dichloropropene	NA	NA	ug/kg	5.2	U	5.9	UJ	5.1	U	5.3	U	5.7	U	280	U	6.7	U	6.4	U	5	U	-	
Cyclohexane	120,000	120,000	ug/kg	10	U	12	UJ	10	U	11	U	11	U	550	U	13	U	13	U	9.9	U	**76**	**J**
Dibromochloromethane	84,000	770,000	ug/kg	5.2	U	5.9	UJ	5.1	U	5.3	U	5.7	U	280	U	6.7	U	6.4	U	5	U	-	
Dichlorodifluoromethane	850,000	850,000	ug/kg	5.2	U	5.9	UJ	5.1	U	5.3	U	5.7	U	280	U	6.7	UJ	6.4	U	5	U	-	
Ethylbenzene	480,000	480,000	ug/kg	5.2	U	5.9	UJ	5.1	U	5.3	U	5.7	U	280	U	6.7	U	6.4	U	5	U	**17**	
Isopropylbenzene, VOC	270,000	270,000	ug/kg	5.2	U	5.9	UJ	5.1	U	5.3	U	5.7	U	280	U	6.7	U	6.4	U	5	U	**2.3**	**J**
Methyl acetate	NA	NA	ug/kg	10	U	12	UJ	10	U	11	U	11	U	**90**	**J**	13	U	13	U	9.9	U	**430**	**J**
Methyl cyclohexane	NA	NA	ug/kg	10	U	12	UJ	10	U	11	U	11	U	550	U	13	U	13	U	9.9	U	**240**	**J**
Methyl tert butyl ether	5,700,000	8,900,000	ug/kg	21	U	23	UJ	20	U	21	U	23	U	1100	U	27	UJ	26	U	20	U	-	
Methylene chloride	3,300,000	3,300,000	ug/kg	**4.5**	**J**	**8.9**	**J**	**8.7**		**8**		5.7	U	**130**	**J**	6.7	U	6.4	U	5	U	**130**	**J**
Styrene	870,000	870,000	ug/kg	5.2	U	5.9	UJ	5.1	U	5.3	U	5.7	U	280	U	6.7	U	6.4	U	5	U	**3.2**	**J**
Tetrachloroethene	170,000	170,000	ug/kg	**3.7**	**J**	**5.2**	**J**	**1**	**J**	**2.6**	**J**	**93**		**940**		**17**		**0.96**	**J**	**1.7**	**J**	**1600**	
Toluene	820,000	820,000	ug/kg	5.2	U	**0.65**	**J**	5.1	U	5.3	U	5.7	U	280	U	6.7	U	6.4	U	5	U	**310**	
trans-1,2-Dichloroethene	1,700,000	1,700,000	ug/kg	2.6	U	2.9	UJ	2.6	U	2.7	U	2.9	U	140	U	3.4	U	3.2	U	2.5	U	-	
trans-1,3-Dichloropropene	NA	NA	ug/kg	5.2	U	5.9	UJ	5.1	U	5.3	U	5.7	U	280	U	6.7	U	6.4	U	5	U	-	
Trichloroethene	51,000	17,000	ug/kg	**0.9**	**J**	5.9	UJ	5.1	U	5.3	U	**8.8**		**40**	**J**	**1.2**	**J**	6.4	U	**1.6**	**J**	**3800**	
Trichlorofluoromethane	1,200,000	1,200,000	ug/kg	5.2	U	5.9	UJ	5.1	U	5.3	U	5.7	U	280	U	6.7	U	6.4	U	5	UJ	-	
Trifluorotrichloroethane	NA	NA	ug/kg	5.2	U	5.9	UJ	5.1	U	5.3	U	5.7	U	280	U	6.7	U	6.4	U	5	U	-	
Vinyl chloride	50,000	280,000	ug/kg	5.2	U	5.9	UJ	5.1	U	5.3	U	5.7	U	280	U	6.7	U	6.4	U	5	U	-	
Xylene (Total)	260,000	260,000	ug/kg	10	U	12	UJ	10	U	11	U	11	U	550	U	13	U	13	U	9.9	U	**140**	**J**

TABLE 3.22
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 18/19, 2-12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	BH-169		BH-170		BH-176		BH-177		BH-177		BH-183		MW-13-03		MW-13-03		MW-26-04	
			Field Sample ID:	S-110104-NZ-002		S-110104-NZ-004		S-110204-NZ-020		S-110204-NZ-022		S-110204-NZ-023		S-112904-NZ-042		MW-13-03		MW-13-03		MW-26-04	
			Date:	11/1/2004		11/1/2004		11/2/2004		11/2/2004		11/2/2004		11/29/2004		3/5/2003		3/5/2003		3/4/2004	
	C/I	Construction	Depth:	7.5 - 9.5		8 - 10		8 - 10		7.5 - 9.5		7.5 - 9.5		8 - 10		2 - 4		9 - 11		8 - 10	
SVOCs																					
2,2-oxybis(2-Chloropropane), SVOC	NA	NA	ug/kg	-		-		370	U	350	U	360	U	440	U	450	U	340	U	350	U
2,4,5-Trichlorophenol	180,000,000	1,000,000,000	ug/kg	-		-		370	U	350	U	360	U	440	U	450	U	340	U	350	U
2,4,6-Trichlorophenol	1,800,000	1,400,000	ug/kg	-		-		370	U	350	U	360	U	440	U	450	U	340	U	350	U
2,4-Dichlorophenol	NA	NA	ug/kg	-		-		370	U	350	U	360	U	440	U	450	U	340	U	350	U
2,4-Dimethylphenol	35,000,000	85,000,000	ug/kg	-		-		370	U	350	U	360	U	440	U	450	U	340	U	350	U
2,4-Dinitrophenol	3,500,000	28,000,000	ug/kg	-		-		1800	U	1700	U	1700	U	2100	U	2200	U	1700	U	1700	R
2,4-Dinitrotoluene	160,000	2,800,000	ug/kg	-		-		370	U	350	U	360	U	440	U	450	U	340	U	350	U
2,6-Dinitrotoluene	NA	NA	ug/kg	-		-		370	U	350	U	360	U	440	U	450	U	340	U	350	U
2-Chloronaphthalene	330,000,000	1,000,000,000	ug/kg	-		-		370	U	350	U	360	U	440	U	450	U	340	U	350	U
2-Chlorophenol	20,000,000	22,000,000	ug/kg	-		-		370	U	350	U	360	U	440	U	450	U	340	U	350	U
2-Methylnaphthalene	6,000,000	5,200,000	ug/kg	-		-		370	U	350	U	360	U	440	U	**33**	**J**	340	U	350	U
2-Methylphenol	88,000,000	710,000,000	ug/kg	-		-		370	U	350	U	360	U	440	U	450	U	340	U	350	U
2-Nitroaniline	NA	NA	ug/kg	-		-		1800	U	1700	U	1700	U	2100	UJ	2200	U	1700	U	1700	U
2-Nitrophenol	NA	NA	ug/kg	-		-		370	U	350	U	360	U	440	U	450	U	340	U	350	U
3,3-Dichlorobenzidine	NA	NA	ug/kg	-		-		1800	U	1700	U	1700	U	2100	U	2200	U	1700	U	1700	U
3-Nitroaniline	NA	NA	ug/kg	-		-		1800	U	1700	U	1700	U	2100	U	2200	U	1700	U	1700	U
4,6-Dinitro-2-methylphenol	140,000	110,000	ug/kg	-		-		1800	U	1700	U	1700	U	2100	U	2200	U	1700	U	1700	R
4-Bromophenyl phenyl ether	NA	NA	ug/kg	-		-		370	U	350	U	360	U	440	U	450	U	340	U	350	U
4-Chloro-3-methylphenol	180,000,000	140,000,000	ug/kg	-		-		370	U	350	U	360	U	440	U	450	U	340	U	350	U
4-Chloroaniline	250,000	710,000	ug/kg	-		-		370	U	350	U	360	U	440	U	450	U	340	U	350	U
4-Chlorophenyl phenyl ether	NA	NA	ug/kg	-		-		370	U	350	U	360	U	440	U	450	U	340	U	350	U
4-Methylphenol	180,000,000	28,000,000	ug/kg	-		-		370	U	350	U	360	U	440	U	450	U	340	U	350	U
4-Nitroaniline	2,500,000	14,000,000	ug/kg	-		-		1800	U	1700	U	1700	U	2100	U	2200	U	1700	U	1700	U
4-Nitrophenol	NA	NA	ug/kg	-		-		1800	UJ	1700	UJ	1700	UJ	2100	U	2200	U	1700	U	1700	U
Acenaphthene	90,000,000	780,000,000	ug/kg	-		-		370	U	350	U	360	U	440	U	450	U	340	U	350	U
Acenaphthylene	90,000,000	780,000,000	ug/kg	-		-		370	U	350	U	360	U	440	U	450	U	340	U	350	U
Acetophenone	2,500,000	2,500,000	ug/kg	-		-		370	U	350	U	360	U	440	U	450	U	340	U	350	U
Anthracene	450,000,000	1,000,000,000	ug/kg	-		-		370	U	350	U	360	U	440	U	450	U	340	U	350	U
Atrazine	NA	NA	ug/kg	-		-		370	U	350	U	360	U	440	U	450	U	340	U	350	U
Benzaldehyde	NA	NA	ug/kg	-		-		370	U	350	U	360	U	440	U	450	U	340	U	350	U
Benzo(a)anthracene	58,000	1,200,000	ug/kg	-		-		370	U	350	U	360	U	440	U	450	U	340	U	350	U
Benzo(a)pyrene	5,800	120,000	ug/kg	-		-		370	U	350	U	360	U	440	U	450	U	340	U	350	U
Benzo(b)fluoranthene	58,000	1,200,000	ug/kg	-		-		370	U	350	U	360	U	440	U	450	U	340	U	350	U
Benzo(g,h,i)perylene	45,000,000	390,000,000	ug/kg	-		-		370	U	350	U	360	U	440	U	450	U	340	U	350	U
Benzo(k)fluoranthene	580,000	12,000,000	ug/kg	-		-		370	U	350	U	360	U	440	U	450	U	340	U	350	U
Biphenyl	14,000,000	190,000,000	ug/kg	-		-		370	U	350	U	360	U	440	U	450	U	340	U	350	U
bis(2-Chloroethoxy)methane	5,300,000	43,000,000	ug/kg	-		-		370	U	350	U	360	U	440	U	450	U	340	U	350	U
bis(2-Chloroethyl)ether	30,000	290,000	ug/kg	-		-		370	U	350	U	360	U	440	U	450	U	340	U	350	U
bis(2-Ethylhexyl)phthalate	3,500,000	71,000,000	ug/kg	-		-		370	U	350	U	360	U	440	U	450	U	340	U	350	U
Butyl benzylphthalate	26,000,000	520,000,000	ug/kg	-		-		370	U	350	U	360	U	440	U	450	U	340	U	350	U
Caprolactam	NA	NA	ug/kg	-		-		370	U	350	U	360	U	440	U	450	U	340	U	350	U
Carbazole	2,500,000	50,000,000	ug/kg	-		-		370	U	350	U	360	U	440	U	450	U	340	U	350	U
Chrysene	5,800,000	120,000,000	ug/kg	-		-		370	U	350	U	360	U	440	U	450	U	340	U	350	U
Dibenz(a,h)anthracene	5,800	120,000	ug/kg	-		-		370	U	350	U	360	U	440	U	450	U	340	U	350	U
Dibenzofuran	4,100,000	2,100,000	ug/kg	-		-		370	U	350	U	360	U	440	U	450	U	340	U	350	U
Diethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	-		-		370	U	350	U	360	U	440	U	450	U	340	U	350	U
Dimethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	-		-		370	U	350	U	360	U	440	U	450	U	340	U	350	U
Di-n-butylphthalate	180,000,000	430,000,000	ug/kg	-		-		370	U	350	U	360	U	440	U	450	U	340	U	350	U
Di-N-Octyl phthalate	18,000,000	140,000,000	ug/kg	-		-		370	U	350	U	360	U	440	U	450	U	340	U	350	U
Fluoranthene	60,000,000	160,000,000	ug/kg	-		-		370	U	350	U	360	U	440	U	**24**	**J**	340	U	350	U
Fluorene	60,000,000	520,000,000	ug/kg	-		-		370	U	350	U	360	U	440	U	450	U	340	U	350	U
Hexachlorobenzene	31,000	14,000	ug/kg	-		-		370	U	350	U	360	U	440	U	450	U	340	U	350	U
Hexachlorobutadiene, SVOC	630,000	1,400,000	ug/kg	-		-		370	U	350	U	360	U	440	U	450	U	340	U	350	U
Hexachlorocyclopentadiene	11,000,000	26,000,000	ug/kg	-		-		1800	U	1700	U	1700	U	2100	UJ	2200	U	1700	U	1700	U
Hexachloroethane	1,200,000	3,000,000	ug/kg	-		-		370	U	350	U	360	U	440	U	450	U	340	U	350	U
Indeno(1,2,3-cd)pyrene	58,000	1,200,000	ug/kg	-		-		370	U	350	U	360	U	440	U	450	U	340	U	350	U
Isophorone	52,000,000	1,000,000,000	ug/kg	-		-		370	U	350	U	360	U	440	U	450	U	340	U	350	U
Naphthalene, SVOC	450,000	560,000	ug/kg	-		-		370	U	350	U	360	U	440	U	450	U	340	U	350	U
Nitrobenzene	610,000	3,000,000	ug/kg	-		-		370	U	350	U	360	U	440	U	450	U	340	U	350	U
N-Nitrosodi-n-propylamine	7,000	140,000	ug/kg	-		-		370	U	350	U	360	U	440	U	450	U	340	U	350	U
N-Nitrosodiphenylamine	10,000,000	200,000,000	ug/kg	-		-		370	U	350	U	360	U	440	U	450	U	340	U	350	U
Pentachlorophenol	67,000	950,000	ug/kg	-		-		370	UJ	350	UJ	360	UJ	440	U	450	U	340	U	350	U
Phenanthrene	450,000,000	1,000,000,000	ug/kg	-		-		370	U	350	U	360	U	440	U	**43**	**J**	340	U	350	U
Phenol	530,000,000	840,000,000	ug/kg	-		-		370	U	350	U	360	U	440	U	450	U	340	U	350	U
Pyrene, SVOC	45,000,000	390,000,000	ug/kg	-		-		370	U	350	U	360	U	440	U	450	U	340	U	350	U

TABLE 3.22
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 18/19, 2-12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	MW-26-04		SB-130-04		SB-130-04		SB-133-04		SB-133-04		SB-133-04		SB-139-04		SB-139-04		SB-150-04		SB-151-04		SB-151-04	
			Field Sample ID:	MW-26-04		SB-130-04		SB-130-04		SB-133-04		SB-133-04 DUP		SB-133-04		SB-139-04		SB-139-04		SB-150-04		SB-151-04 DUP		SB-151-04	
			Date:	3/4/2004		1/21/2004		1/21/2004		1/22/2004		1/22/2004		1/22/2004		1/27/2004		1/27/2004		1/28/2004		2/5/2004		2/5/2004	
	C/I	Construction	Depth:	10 - 12		8 - 10		10 - 12		8 - 10		11 - 13		11 - 13		8 - 10		11.5 - 13.5		8 - 10		8 - 10		8 - 10	
SVOCs																									
2,2-oxybis(2-Chloropropane), SVOC	NA	NA	ug/kg	350	U	390	U	7300	U	340	U	350	U	340	U	-		-		3500	U	410	U	350	U
2,4,5-Trichlorophenol	180,000,000	1,000,000,000	ug/kg	350	U	390	U	7300	U	340	U	350	U	340	U	-		-		3500	U	410	U	350	U
2,4,6-Trichlorophenol	1,800,000	1,400,000	ug/kg	350	U	390	U	7300	U	340	U	350	U	340	U	-		-		3500	U	410	U	350	U
2,4-Dichlorophenol	NA	NA	ug/kg	350	U	390	U	7300	U	340	U	350	U	340	U	-		-		3500	U	410	U	350	U
2,4-Dimethylphenol	35,000,000	85,000,000	ug/kg	350	U	390	U	7300	U	340	U	350	U	340	U	-		-		3500	U	410	U	350	U
2,4-Dinitrophenol	3,500,000	28,000,000	ug/kg	1700	R	1900	U	35000	U	1700	U	1700	U	1700	U	-		-		17000	UJ	2000	U	1700	U
2,4-Dinitrotoluene	160,000	2,800,000	ug/kg	350	U	390	U	7300	U	340	U	350	U	340	U	-		-		3500	U	410	U	350	U
2,6-Dinitrotoluene	NA	NA	ug/kg	350	U	390	U	7300	U	340	U	350	U	340	U	-		-		3500	U	410	U	350	U
2-Chloronaphthalene	330,000,000	1,000,000,000	ug/kg	350	U	390	U	7300	U	340	U	350	U	340	U	-		-		3500	U	410	U	350	U
2-Chlorophenol	20,000,000	22,000,000	ug/kg	350	U	390	U	7300	U	340	U	350	U	340	U	-		-		3500	U	410	U	350	U
2-Methylnaphthalene	6,000,000	5,200,000	ug/kg	350	U	390	U	7300	U	340	U	350	U	340	U	-		-		3500	U	410	U	350	U
2-Methylphenol	88,000,000	710,000,000	ug/kg	350	U	390	U	7300	U	340	U	350	U	340	U	-		-		3500	U	410	U	350	U
2-Nitroaniline	NA	NA	ug/kg	1700	U	1900	U	35000	U	1700	U	1700	U	1700	U	-		-		17000	U	2000	U	1700	U
2-Nitrophenol	NA	NA	ug/kg	350	U	390	U	7300	U	340	U	350	U	340	U	-		-		3500	U	410	U	350	U
3,3-Dichlorobenzidine	NA	NA	ug/kg	1700	U	1900	U	35000	U	1700	U	1700	U	1700	U	-		-		17000	U	2000	U	1700	U
3-Nitroaniline	NA	NA	ug/kg	1700	U	1900	U	35000	U	1700	U	1700	U	1700	U	-		-		17000	U	2000	U	1700	U
4,6-Dinitro-2-methylphenol	140,000	110,000	ug/kg	1700	R	1900	U	35000	U	1700	U	1700	U	1700	U	-		-		17000	U	2000	U	1700	U
4-Bromophenyl phenyl ether	NA	NA	ug/kg	350	U	390	U	7300	U	340	U	350	U	340	U	-		-		3500	U	410	U	350	U
4-Chloro-3-methylphenol	180,000,000	140,000,000	ug/kg	350	U	390	U	7300	U	340	U	350	U	340	U	-		-		3500	U	410	U	350	U
4-Chloroaniline	250,000	710,000	ug/kg	350	U	390	U	7300	U	340	U	350	U	340	U	-		-		3500	U	410	U	350	U
4-Chlorophenyl phenyl ether	NA	NA	ug/kg	350	U	390	U	7300	U	340	U	350	U	340	U	-		-		3500	U	410	U	350	U
4-Methylphenol	180,000,000	28,000,000	ug/kg	350	U	390	U	7300	U	340	U	350	U	340	U	-		-		3500	U	410	U	350	U
4-Nitroaniline	2,500,000	14,000,000	ug/kg	1700	U	1900	U	35000	U	1700	U	1700	U	1700	U	-		-		17000	U	2000	U	1700	U
4-Nitrophenol	NA	NA	ug/kg	1700	U	1900	U	35000	U	1700	U	1700	U	1700	U	-		-		17000	U	2000	U	1700	U
Acenaphthene	90,000,000	780,000,000	ug/kg	350	U	390	U	7300	U	340	U	350	U	340	U	-		-		3500	U	410	U	350	U
Acenaphthylene	90,000,000	780,000,000	ug/kg	350	U	390	U	7300	U	340	U	350	U	340	U	-		-		3500	U	410	U	350	U
Acetophenone	2,500,000	2,500,000	ug/kg	350	U	390	U	7300	U	340	U	350	U	340	U	-		-		3500	U	410	U	350	U
Anthracene	450,000,000	1,000,000,000	ug/kg	350	U	390	U	7300	U	340	U	350	U	**45**	**J**	-		-		3500	U	410	U	350	U
Atrazine	NA	NA	ug/kg	350	U	390	U	7300	U	340	U	350	U	340	U	-		-		3500	U	410	U	350	U
Benzaldehyde	NA	NA	ug/kg	350	U	390	U	7300	U	340	U	350	U	340	U	-		-		3500	U	410	U	350	U
Benzo(a)anthracene	58,000	1,200,000	ug/kg	350	U	390	U	7300	U	340	U	350	U	**120**	**J**	-		-		3500	U	410	U	350	U
Benzo(a)pyrene	5,800	120,000	ug/kg	350	U	390	U	7300	U	340	U	350	U	**110**	**J**	-		-		3500	U	410	U	350	U
Benzo(b)fluoranthene	58,000	1,200,000	ug/kg	350	U	**25**	**J**	7300	U	340	U	350	U	**150**	**J**	-		-		3500	U	410	U	350	U
Benzo(g,h,i)perylene	45,000,000	390,000,000	ug/kg	350	U	390	U	7300	U	340	U	350	U	**85**	**J**	-		-		3500	U	410	U	350	U
Benzo(k)fluoranthene	580,000	12,000,000	ug/kg	350	U	390	U	7300	U	340	U	350	U	**80**	**J**	-		-		3500	U	410	U	350	U
Biphenyl	14,000,000	190,000,000	ug/kg	350	U	390	U	7300	U	340	U	350	U	340	U	-		-		3500	U	410	U	350	U
bis(2-Chloroethoxy)methane	5,300,000	43,000,000	ug/kg	350	U	390	U	7300	U	340	U	350	U	340	U	-		-		3500	U	410	U	350	U
bis(2-Chloroethyl)ether	30,000	290,000	ug/kg	350	U	390	U	7300	U	340	U	350	U	340	U	-		-		3500	U	410	U	350	U
bis(2-Ethylhexyl)phthalate	3,500,000	71,000,000	ug/kg	350	U	390	U	**540**	**J**	**32**	**J**	350	U	340	U	-		-		3500	U	410	U	350	U
Butyl benzylphthalate	26,000,000	520,000,000	ug/kg	350	U	390	U	7300	U	340	U	350	U	340	U	-		-		3500	U	410	U	350	U
Caprolactam	NA	NA	ug/kg	350	U	390	U	7300	U	340	U	350	U	340	U	-		-		3500	U	410	U	350	U
Carbazole	2,500,000	50,000,000	ug/kg	350	U	390	U	7300	U	340	U	350	U	**34**	**J**	-		-		3500	U	410	U	350	U
Chrysene	5,800,000	120,000,000	ug/kg	350	U	390	U	7300	U	340	U	350	U	**130**	**J**	-		-		3500	U	410	U	350	U
Dibenz(a,h)anthracene	5,800	120,000	ug/kg	350	U	390	U	7300	U	340	U	350	U	**49**	**J**	-		-		3500	U	410	U	350	U
Dibenzofuran	4,100,000	2,100,000	ug/kg	350	U	390	U	7300	U	340	U	350	U	340	U	-		-		3500	U	410	U	350	U
Diethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	350	U	390	U	7300	U	340	U	350	U	340	U	-		-		3500	U	410	U	350	U
Dimethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	350	U	390	U	7300	U	340	U	350	U	340	U	-		-		3500	U	410	U	350	U
Di-n-butylphthalate	180,000,000	430,000,000	ug/kg	350	U	390	U	7300	U	340	U	350	U	340	U	-		-		3500	U	410	U	350	U
Di-N-Octyl phthalate	18,000,000	140,000,000	ug/kg	350	U	390	U	7300	U	340	U	350	U	340	U	-		-		3500	U	410	U	350	U
Fluoranthene	60,000,000	160,000,000	ug/kg	350	U	390	U	7300	U	340	U	350	U	**340**		-		-		3500	U	410	U	350	U
Fluorene	60,000,000	520,000,000	ug/kg	350	U	390	U	7300	U	340	U	350	U	340	U	-		-		3500	U	410	U	350	U
Hexachlorobenzene	31,000	14,000	ug/kg	350	U	390	U	7300	U	340	U	350	U	340	U	-		-		3500	U	410	U	350	U
Hexachlorobutadiene, SVOC	630,000	1,400,000	ug/kg	350	U	390	U	7300	U	340	U	350	U	340	U	-		-		3500	U	410	U	350	U
Hexachlorocyclopentadiene	11,000,000	26,000,000	ug/kg	1700	U	1900	U	35000	U	1700	U	1700	U	1700	U	-		-		17000	U	2000	U	1700	U
Hexachloroethane	1,200,000	3,000,000	ug/kg	350	U	390	U	7300	U	340	U	350	U	340	U	-		-		3500	U	410	U	350	U
Indeno(1,2,3-cd)pyrene	58,000	1,200,000	ug/kg	350	U	390	U	7300	U	340	U	350	U	**73**	**J**	-		-		3500	U	410	U	350	U
Isophorone	52,000,000	1,000,000,000	ug/kg	350	U	390	U	7300	U	340	U	350	U	340	U	-		-		3500	U	410	U	350	U
Naphthalene, SVOC	450,000	560,000	ug/kg	350	U	390	U	7300	U	340	U	350	U	340	U	-		-		3500	U	410	U	350	U
Nitrobenzene	610,000	3,000,000	ug/kg	350	U	390	U	7300	U	340	U	350	U	340	U	-		-		3500	U	410	U	350	U
N-Nitrosodi-n-propylamine	7,000	140,000	ug/kg	350	U	390	U	7300	U	340	U	350	U	340	U	-		-		3500	U	410	U	350	U
N-Nitrosodiphenylamine	10,000,000	200,000,000	ug/kg	350	U	390	U	7300	U	340	U	350	U	340	U	-		-		3500	U	410	U	350	U
Pentachlorophenol	67,000	950,000	ug/kg	350	U	390	U	7300	U	340	U	350	U	340	U	-		-		3500	U	410	U	350	U
Phenanthrene	450,000,000	1,000,000,000	ug/kg	350	U	390	U	**530**	**J**	340	U	350	U	**280**	**J**	-		-		3500	U	410	U	350	U
Phenol	530,000,000	840,000,000	ug/kg	350	U	390	U	7300	U	340	U	350	U	340	U	-		-		3500	U	410	U	350	U
Pyrene, SVOC	45,000,000	390,000,000	ug/kg	350	U	390	U	**410**	**J**	340	U	350	U	**260**	**J**	-		-		3500	U	410	U	350	U

TABLE 3.22
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 18/19, 2-12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	SB-151-04		SB-160-04		SB-161-04		SB-162-04		SB-163-04		SB-163-04		SB-164-04		SB-164-04		SB-19-02		Maximum Detected Concentration	
			Field Sample ID:	SB-151-04		SB-160-04		SB-161-04 (7.5-9.5)		SB-162-04 (7.5-9.5)		SB-163-04		SB-163-04		SB-164-04		SB-164-04		SB-19-02			
			Date:	2/5/2004		2/4/2004		2/4/2004		2/4/2004		2/5/2004		2/5/2004		2/6/2004		2/6/2004		4/9/2002			
	C/I	Construction	Depth:	11 - 13		6 - 8		7.5 - 9.5		7.5 - 9.5		8 - 10		11.5 - 13.5		8 - 10		11 - 13		9.5 - 11.5			
SVOCs																							
2,2-oxybis(2-Chloropropane), SVOC	NA	NA	ug/kg	360	U	-		-		-		360	U	7300	U	350	U	710	U	360	U	-	
2,4,5-Trichlorophenol	180,000,000	1,000,000,000	ug/kg	360	U	-		-		-		360	U	7300	U	350	U	710	U	360	U	-	
2,4,6-Trichlorophenol	1,800,000	1,400,000	ug/kg	360	U	-		-		-		360	U	7300	U	350	U	710	U	360	U	-	
2,4-Dichlorophenol	NA	NA	ug/kg	360	U	-		-		-		360	U	7300	U	350	U	710	U	360	U	-	
2,4-Dimethylphenol	35,000,000	85,000,000	ug/kg	360	U	-		-		-		360	U	7300	U	350	U	710	U	360	U	-	
2,4-Dinitrophenol	3,500,000	28,000,000	ug/kg	1700	U	-		-		-		1800	U	35000	U	1700	U	3400	U	1700	UJ	-	
2,4-Dinitrotoluene	160,000	2,800,000	ug/kg	360	U	-		-		-		360	U	7300	U	350	U	710	U	360	U	-	
2,6-Dinitrotoluene	NA	NA	ug/kg	360	U	-		-		-		360	U	7300	U	350	U	710	U	360	U	-	
2-Chloronaphthalene	330,000,000	1,000,000,000	ug/kg	360	U	-		-		-		360	U	7300	U	350	U	710	U	360	U	-	
2-Chlorophenol	20,000,000	22,000,000	ug/kg	360	U	-		-		-		360	U	7300	U	350	U	710	U	360	U	-	
2-Methylnaphthalene	6,000,000	5,200,000	ug/kg	360	U	-		-		-		360	U	7300	U	350	U	710	U	360	U	**33**	**J**
2-Methylphenol	88,000,000	710,000,000	ug/kg	360	U	-		-		-		360	U	7300	U	350	U	710	U	360	U	-	
2-Nitroaniline	NA	NA	ug/kg	1700	U	-		-		-		1800	U	35000	U	1700	U	3400	U	1700	U	-	
2-Nitrophenol	NA	NA	ug/kg	360	U	-		-		-		360	U	7300	U	350	U	710	U	360	U	-	
3,3-Dichlorobenzidine	NA	NA	ug/kg	1700	U	-		-		-		1800	U	35000	U	1700	U	3400	U	1700	U	-	
3-Nitroaniline	NA	NA	ug/kg	1700	U	-		-		-		1800	U	35000	U	1700	U	3400	U	1700	U	-	
4,6-Dinitro-2-methylphenol	140,000	110,000	ug/kg	1700	U	-		-		-		1800	U	35000	U	1700	U	3400	U	1700	U	-	
4-Bromophenyl phenyl ether	NA	NA	ug/kg	360	U	-		-		-		360	U	7300	U	350	U	710	U	360	U	-	
4-Chloro-3-methylphenol	180,000,000	140,000,000	ug/kg	360	U	-		-		-		360	U	7300	U	350	U	710	U	360	U	-	
4-Chloroaniline	250,000	710,000	ug/kg	360	U	-		-		-		360	U	7300	U	350	U	710	U	360	U	-	
4-Chlorophenyl phenyl ether	NA	NA	ug/kg	360	U	-		-		-		360	U	7300	U	350	U	710	U	360	U	-	
4-Methylphenol	180,000,000	28,000,000	ug/kg	360	U	-		-		-		360	U	7300	U	350	U	710	U	360	U	-	
4-Nitroaniline	2,500,000	14,000,000	ug/kg	1700	U	-		-		-		1800	U	35000	U	1700	U	3400	U	1700	U	-	
4-Nitrophenol	NA	NA	ug/kg	1700	U	-		-		-		1800	U	35000	U	1700	U	3400	U	1700	U	-	
Acenaphthene	90,000,000	780,000,000	ug/kg	360	U	-		-		-		360	U	7300	U	350	U	710	U	360	U	-	
Acenaphthylene	90,000,000	780,000,000	ug/kg	360	U	-		-		-		360	U	7300	U	350	U	710	U	360	U	-	
Acetophenone	2,500,000	2,500,000	ug/kg	360	U	-		-		-		360	U	7300	U	350	U	710	U	360	U	-	
Anthracene	450,000,000	1,000,000,000	ug/kg	360	U	-		-		-		360	U	7300	U	350	U	710	U	360	U	**45**	**J**
Atrazine	NA	NA	ug/kg	360	U	-		-		-		360	U	7300	U	350	U	710	U	360	U	-	
Benzaldehyde	NA	NA	ug/kg	360	U	-		-		-		360	U	7300	U	350	U	710	U	360	U	-	
Benzo(a)anthracene	58,000	1,200,000	ug/kg	360	U	-		-		-		360	U	7300	U	350	U	710	U	360	U	**120**	**J**
Benzo(a)pyrene	5,800	120,000	ug/kg	360	U	-		-		-		360	U	7300	U	350	U	710	U	360	U	**110**	**J**
Benzo(b)fluoranthene	58,000	1,200,000	ug/kg	360	U	-		-		-		360	U	7300	U	350	U	710	U	360	U	**150**	**J**
Benzo(g,h,i)perylene	45,000,000	390,000,000	ug/kg	360	U	-		-		-		360	U	7300	U	350	U	710	U	360	U	**85**	**J**
Benzo(k)fluoranthene	580,000	12,000,000	ug/kg	360	U	-		-		-		360	U	7300	U	350	U	710	U	360	U	**80**	**J**
Biphenyl	14,000,000	190,000,000	ug/kg	360	U	-		-		-		360	U	7300	U	350	U	710	U	360	U	-	
bis(2-Chloroethoxy)methane	5,300,000	43,000,000	ug/kg	360	U	-		-		-		360	U	7300	U	350	U	710	U	360	U	-	
bis(2-Chloroethyl)ether	30,000	290,000	ug/kg	360	U	-		-		-		360	U	7300	U	350	U	710	U	360	U	-	
bis(2-Ethylhexyl)phthalate	3,500,000	71,000,000	ug/kg	360	U	-		-		-		360	U	7300	U	350	U	710	U	360	U	**540**	**J**
Butyl benzylphthalate	26,000,000	520,000,000	ug/kg	360	U	-		-		-		360	U	7300	U	350	U	710	U	360	U	-	
Caprolactam	NA	NA	ug/kg	360	U	-		-		-		360	U	7300	U	350	U	710	U	360	U	-	
Carbazole	2,500,000	50,000,000	ug/kg	360	U	-		-		-		360	U	7300	U	350	U	710	U	360	U	**34**	**J**
Chrysene	5,800,000	120,000,000	ug/kg	360	U	-		-		-		360	U	7300	U	350	U	710	U	360	U	**130**	**J**
Dibenz(a,h)anthracene	5,800	120,000	ug/kg	360	U	-		-		-		360	U	7300	U	350	U	710	U	360	U	**49**	**J**
Dibenzofuran	4,100,000	2,100,000	ug/kg	360	U	-		-		-		360	U	7300	U	350	U	710	U	360	U	-	
Diethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	360	U	-		-		-		360	U	7300	U	350	U	710	U	360	U	-	
Dimethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	360	U	-		-		-		360	U	7300	U	350	U	710	U	360	U	-	
Di-n-butylphthalate	180,000,000	430,000,000	ug/kg	360	U	-		-		-		360	U	7300	U	350	U	710	U	360	U	-	
Di-N-Octyl phthalate	18,000,000	140,000,000	ug/kg	360	U	-		-		-		360	U	7300	U	350	U	710	U	360	U	-	
Fluoranthene	60,000,000	160,000,000	ug/kg	360	U	-		-		-		360	U	7300	U	350	U	710	U	360	U	**340**	
Fluorene	60,000,000	520,000,000	ug/kg	360	U	-		-		-		360	U	7300	U	350	U	710	U	360	U	-	
Hexachlorobenzene	31,000	14,000	ug/kg	360	U	-		-		-		360	U	7300	U	350	U	710	U	360	U	-	
Hexachlorobutadiene, SVOC	630,000	1,400,000	ug/kg	360	U	-		-		-		360	U	7300	U	350	U	710	U	360	U	-	
Hexachlorocyclopentadiene	11,000,000	26,000,000	ug/kg	1700	U	-		-		-		1800	U	35000	U	1700	U	3400	U	1700	U	-	
Hexachloroethane	1,200,000	3,000,000	ug/kg	360	U	-		-		-		360	U	7300	U	350	U	710	U	360	U	-	
Indeno(1,2,3-cd)pyrene	58,000	1,200,000	ug/kg	360	U	-		-		-		360	U	7300	U	350	U	710	U	360	U	**73**	**J**
Isophorone	52,000,000	1,000,000,000	ug/kg	360	U	-		-		-		360	U	7300	U	350	U	710	U	360	U	-	
Naphthalene, SVOC	450,000	560,000	ug/kg	360	U	-		-		-		360	U	7300	U	350	U	710	U	360	U	-	
Nitrobenzene	610,000	3,000,000	ug/kg	360	U	-		-		-		360	U	7300	U	350	U	710	U	360	U	-	
N-Nitrosodi-n-propylamine	7,000	140,000	ug/kg	360	U	-		-		-		360	U	7300	U	350	U	710	U	360	U	-	
N-Nitrosodiphenylamine	10,000,000	200,000,000	ug/kg	360	U	-		-		-		360	U	7300	U	350	U	710	U	360	U	-	
Pentachlorophenol	67,000	950,000	ug/kg	360	U	-		-		-		360	U	7300	U	350	U	710	U	360	U	-	
Phenanthrene	450,000,000	1,000,000,000	ug/kg	360	U	-		-		-		360	U	7300	U	350	U	710	U	360	U	**530**	**J**
Phenol	530,000,000	840,000,000	ug/kg	360	U	-		-		-		360	U	7300	U	350	U	710	U	360	U	-	
Pyrene, SVOC	45,000,000	390,000,000	ug/kg	360	U	-		-		-		360	U	7300	U	350	U	710	U	360	U	**410**	**J**

TABLE 3.22
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 18/19, 2-12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	BH-169		BH-170		BH-176		BH-177		BH-177		BH-183		MW-13-03		MW-13-03		MW-26-04	
			Field Sample ID:	S-110104-NZ-002		S-110104-NZ-004		S-110204-NZ-020		S-110204-NZ-022		S-110204-NZ-023		S-112904-NZ-042		MW-13-03		MW-13-03		MW-26-04	
			Date:	11/1/2004		11/1/2004		11/2/2004		11/2/2004		11/2/2004		11/29/2004		3/5/2003		3/5/2003		3/4/2004	
	C/I	Construction	Depth:	7.5 - 9.5		8 - 10		8 - 10		7.5 - 9.5		7.5 - 9.5		8 - 10		2 - 4		9 - 11		8 - 10	
PCBs																					
Aroclor-1016	100,000	260,000	ug/kg	-		-		-		-		-		-		45	U	69	U	35	U
Aroclor-1221	14,000	210,000	ug/kg	-		-		-		-		-		-		45	U	69	U	35	U
Aroclor-1232	14,000	73,000	ug/kg	-		-		-		-		-		-		45	U	69	U	35	U
Aroclor-1242	20,000	440,000	ug/kg	-		-		-		-		-		-		45	U	69	U	35	U
Aroclor-1248	20,000	440,000	ug/kg	-		-		-		-		-		-		45	U	69	U	**3.9**	**J**
Aroclor-1254	20,000	75,000	ug/kg	-		-		-		-		-		-		45	U	**550**		35	U
Aroclor-1260	20,000	440,000	ug/kg	-		-		-		-		-		-		45	U	69	U	35	U
Total PCBs	20,000	440,000	ug/kg	-		-		-		-		-		-		45	U	**550**		**3.9**	**J**
Metals																					
Antimony	1,600	850	mg/kg	6.4	UJ	6.3	UJ	6.7	UJ	**0.51**	**J**	6.5	UJ	8.1	R	**0.68**	**J**	**0.24**	**J**	**0.41**	**J**
Arsenic	77	690	mg/kg	**3**		**6.1**		**3.8**		**2.8**		**6.4**		**6.4**		**7.8**		**2.4**		**5.5**	
Barium	680,000	320,000	mg/kg	**43**		**26.2**		**133**		**44.2**		**80.8**		**271**		**233**	**J**	**30.4**	**J**	**34.7**	
Beryllium	7,800	3,400	mg/kg	**0.063**	**J**	**0.1**	**J**	**0.05**	**J**	0.53	U	0.54	U	**0.31**	**J**	**0.4**	**J**	0.52	U	0.53	U
Cadmium	2,600	1,000	mg/kg	0.53	U	0.52	U	**1.2**		**0.063**	**J**	**0.11**	**J**	**0.14**	**J**	**0.065**	**J**	0.52	U	0.53	U
Chromium Total	NA	NA	mg/kg	**3.4**		**7.7**		**4**	**J**	**4.1**	**J**	**5.7**	**J**	**9.7**	**J**	**10.1**		**3.4**		**5.1**	
Cobalt	1,200	2,800	mg/kg	**1.6**	**J**	**2.2**	**J**	**1.7**	**J**	**1.9**	**J**	**1.6**	**J**	**4.2**	**J**	**4.8**	**J**	**2**	**J**	**2**	**J**
Copper	160,000	21,000	mg/kg	**6.9**		**9.4**		**15.7**		**3.7**		**2.5**	**J**	**7.1**		**17.3**		**4.2**		**2.9**	**J**
Cyanide (total)	370	150	mg/kg	0.53	U	0.52	U	0.55	U	0.53	U	0.54	U	0.67	U	**0.15**	**J**	**0.13**	**J**	0.53	U
Lead	800	400	mg/kg	**6.3**		**3.2**		**5.2**	**J**	**2.3**	**J**	**3**	**J**	**6.9**		**23.9**		**2.2**		**2.5**	**J**
Manganese	NA	NA	mg/kg	**269**		**422**		**359**		**299**		**393**		**265**	**J**	**627**	**J**	**164**	**J**	**247**	
Mercury	3.1	3.1	mg/kg	**0.019**	**J**	**0.04**	**J**	**0.022**	**J**	0.11	U	**0.012**	**J**	**0.021**	**J**	0.14	U	0.1	U	**0.0057**	**J**
Nickel	74,000	23,000	mg/kg	**6.2**		**5.7**		**4.9**		**4**	**J**	**3.8**	**J**	**9.2**		**12.7**		**4.9**		**4.4**	
Selenium	20,000	11,000	mg/kg	0.53	U	0.52	U	0.55	U	0.53	U	0.54	U	0.67	U	**0.76**		0.52	U	0.53	U
Silver	20,000	11,000	mg/kg	1.1	U	1	U	1.1	U	1.1	U	1.1	U	1.3	U	1.4	U	1	U	1.1	U
Thallium	41	21	mg/kg	1.1	U	1	U	**0.78**	**J**	**1.1**		**0.84**	**J**	1.3	U	**1.7**		1	U	**0.79**	**J**
Vanadium	20,000	11,000	mg/kg	**5.2**	**J**	**7.2**		**6.1**		**6.4**		**7.6**		**14.2**		**15.6**		**6.8**		**7.8**	
Zinc	1,000,000	640,000	mg/kg	**50.6**		**18.1**		**65.9**		**12.8**		**15.1**		**36**		**61.2**	**J**	15.2	U	**9.7**	
TPH																					
C21-C34 Aliphatics	5,000,000	5,000,000	ug/kg	-		-		-		-		-		-		-		-		-	
Diesel Range Organics (DRO)	2,000,000	2,000,000	ug/kg	-		-		-		-		-		-		-		-		-	
Gasoline Range Organics (GRO)	1,000,000	1,000,000	ug/kg	-		-		-		-		-		-		-		-		-	

TABLE 3.22
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 18/19, 2-12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	MW-26-04		SB-130-04		SB-130-04		SB-133-04		SB-133-04		SB-133-04		SB-139-04		SB-139-04		SB-150-04		SB-151-04		SB-151-04	
			Field Sample ID:	MW-26-04		SB-130-04		SB-130-04		SB-133-04		SB-133-04 DUP		SB-133-04		SB-139-04		SB-139-04		SB-150-04		SB-151-04 DUP		SB-151-04	
			Date:	3/4/2004		1/21/2004		1/21/2004		1/22/2004		1/22/2004		1/22/2004		1/27/2004		1/27/2004		1/28/2004		2/5/2004		2/5/2004	
	C/I	Construction	Depth:	10 - 12		8 - 10		10 - 12		8 - 10		11 - 13		11 - 13		8 - 10		11.5 - 13.5		8 - 10		8 - 10		8 - 10	
PCBs																									
Aroclor-1016	100,000	260,000	ug/kg	35	U	-		-		-		-		-		-		-		35	U	41	U	35	U
Aroclor-1221	14,000	210,000	ug/kg	35	U	-		-		-		-		-		-		-		35	U	41	U	35	U
Aroclor-1232	14,000	73,000	ug/kg	35	U	-		-		-		-		-		-		-		35	U	41	U	35	U
Aroclor-1242	20,000	440,000	ug/kg	35	U	-		-		-		-		-		-		-		35	U	41	U	35	U
Aroclor-1248	20,000	440,000	ug/kg	35	U	-		-		-		-		-		-		-		35	U	41	U	35	U
Aroclor-1254	20,000	75,000	ug/kg	**42**		-		-		-		-		-		-		-		35	U	41	UJ	35	UJ
Aroclor-1260	20,000	440,000	ug/kg	35	U	-		-		-		-		-		-		-		35	U	41	UJ	35	UJ
Total PCBs	20,000	440,000	ug/kg	**42**		-		-		-		-		-		-		-		35	U	41	UJ	35	UJ
Metals																									
Antimony	1,600	850	mg/kg	6.3	UJ	-		-		-		-		-		-		-		6.4	UJ	7.4	UJ	6.3	UJ
Arsenic	77	690	mg/kg	**7.2**		-		-		-		-		-		-		-		1.1	U	**2.9**		**3**	
Barium	680,000	320,000	mg/kg	**116**		-		-		-		-		-		-		-		**21.5**		**52**		**51.5**	
Beryllium	7,800	3,400	mg/kg	0.53	U	-		-		-		-		-		-		-		0.53	U	**0.082**	**J**	**0.078**	**J**
Cadmium	2,600	1,000	mg/kg	0.53	U	-		-		-		-		-		-		-		0.53	U	**0.16**	**J**	**0.17**	**J**
Chromium Total	NA	NA	mg/kg	**4.7**		-		-		-		-		-		-		-		**2.5**		**3.8**	**J**	**3.5**	**J**
Cobalt	1,200	2,800	mg/kg	**2.5**	**J**	-		-		-		-		-		-		-		**0.88**	**J**	**2**	**J**	**1.6**	**J**
Copper	160,000	21,000	mg/kg	**3.9**	**J**	-		-		-		-		-		-		-		**1.5**	**J**	**3.5**	**J**	**2.4**	**J**
Cyanide (total)	370	150	mg/kg	0.53	U	-		-		-		-		-		-		-		0.53	U	0.62	U	0.53	U
Lead	800	400	mg/kg	**2.8**	**J**	-		-		-		-		-		-		-		**1.1**		**2.8**	**J**	**2.1**	**J**
Manganese	NA	NA	mg/kg	**623**		-		-		-		-		-		-		-		**90.1**		**520**		**240**	
Mercury	3.1	3.1	mg/kg	**0.014**	**J**	-		-		-		-		-		-		-		0.11	U	0.12	U	0.11	U
Nickel	74,000	23,000	mg/kg	**6**		-		-		-		-		-		-		-		**1.9**	**J**	**3.9**	**J**	**3.7**	**J**
Selenium	20,000	11,000	mg/kg	0.53	U	-		-		-		-		-		-		-		0.53	U	0.62	U	0.53	U
Silver	20,000	11,000	mg/kg	1.1	U	-		-		-		-		-		-		-		1.1	U	1.2	U	1.1	U
Thallium	41	21	mg/kg	**1**	**J**	-		-		-		-		-		-		-		**0.71**	**J**	1.2	U	1.1	U
Vanadium	20,000	11,000	mg/kg	**7.3**		-		-		-		-		-		-		-		**3.4**	**J**	**5.5**	**J**	**5.3**	
Zinc	1,000,000	640,000	mg/kg	**13**		-		-		-		-		-		-		-		**6.4**		**10.3**	**J**	**13**	**J**
TPH																									
C21-C34 Aliphatics	5,000,000	5,000,000	ug/kg	-		-		-		-		-		-		-		-		-		-		-	
Diesel Range Organics (DRO)	2,000,000	2,000,000	ug/kg	-		-		-		-		-		-		-		-		-		-		-	
Gasoline Range Organics (GRO)	1,000,000	1,000,000	ug/kg	-		-		-		-		-		-		-		-		-		-		-	

TABLE 3.22
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 18/19, 2-12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	SB-151-04		SB-160-04		SB-161-04		SB-162-04		SB-163-04		SB-163-04		SB-164-04		SB-164-04		SB-19-02		Maximum Detected Concentration	
			Field Sample ID:	SB-151-04		SB-160-04		SB-161-04 (7.5-9.5)		SB-162-04 (7.5-9.5)		SB-163-04		SB-163-04		SB-164-04		SB-164-04		SB-19-02			
			Date:	2/5/2004		2/4/2004		2/4/2004		2/4/2004		2/5/2004		2/5/2004		2/6/2004		2/6/2004		4/9/2002			
	C/I	Construction	Depth:	11 - 13		6 - 8		7.5 - 9.5		7.5 - 9.5		8 - 10		11.5 - 13.5		8 - 10		11 - 13		9.5 - 11.5			
PCBs																							
Aroclor-1016	100,000	260,000	ug/kg	36	U	-		-		-		36	U	36	U	35	U	36	U	36	U	-	
Aroclor-1221	14,000	210,000	ug/kg	36	U	-		-		-		36	U	36	U	35	U	36	U	36	U	-	
Aroclor-1232	14,000	73,000	ug/kg	36	U	-		-		-		36	U	36	U	35	U	36	U	36	U	-	
Aroclor-1242	20,000	440,000	ug/kg	36	U	-		-		-		36	U	36	U	35	U	36	U	36	U	-	
Aroclor-1248	20,000	440,000	ug/kg	36	U	-		-		-		36	U	36	U	35	U	36	U	36	U	**3.9**	**J**
Aroclor-1254	20,000	75,000	ug/kg	36	UJ	-		-		-		36	UJ	36	UJ	35	U	36	U	**250**		**550**	
Aroclor-1260	20,000	440,000	ug/kg	**100**	**J**	-		-		-		36	UJ	**30**	**J**	35	U	**68**		36	U	**100**	**J**
Total PCBs	20,000	440,000	ug/kg	**100**	**J**	-		-		-		36	UJ	**30**	**J**	35	U	**68**	**J**	**250**		**550**	
Metals																							
Antimony	1,600	850	mg/kg	6.5	UJ	-		-		-		6.6	UJ	6.6	UJ	6.4	UJ	6.5	UJ	6.5	UJ	**0.68**	**J**
Arsenic	77	690	mg/kg	**5.1**		-		-		-		**4.5**		**4.8**		**7**		**8.4**		**3.9**		**8.4**	
Barium	680,000	320,000	mg/kg	**41.7**		-		-		-		**67.8**		**73.8**		**80.2**	**J**	**127**	**J**	**90.8**		**271**	
Beryllium	7,800	3,400	mg/kg	**0.1**	**J**	-		-		-		**0.093**	**J**	**0.068**	**J**	**0.079**	**J**	**0.073**	**J**	0.54	U	**0.4**	**J**
Cadmium	2,600	1,000	mg/kg	**0.2**	**J**	-		-		-		**0.17**	**J**	**0.14**	**J**	**0.25**	**J**	**0.27**	**J**	0.54	U	**1.2**	
Chromium Total	NA	NA	mg/kg	**3.7**	**J**	-		-		-		**3.3**	**J**	**2.4**	**J**	**4.6**	**J**	**3.4**	**J**	**5.5**		**10.1**	
Cobalt	1,200	2,800	mg/kg	**2.5**	**J**	-		-		-		**1.8**	**J**	**1.4**	**J**	**1.9**	**J**	**2.9**	**J**	**1.7**	**J**	**4.8**	**J**
Copper	160,000	21,000	mg/kg	**2**	**J**	-		-		-		**2.5**	**J**	**2.5**	**J**	**2.8**		**3.6**		**9.9**	**J**	**17.3**	
Cyanide (total)	370	150	mg/kg	0.54	U	-		-		-		0.55	U	0.55	U	0.54	U	0.54	U	0.54	U	**0.15**	**J**
Lead	800	400	mg/kg	**2**	**J**	-		-		-		**2**	**J**	**1.9**	**J**	**2.4**	**J**	**2.7**	**J**	**28.3**	**J**	**28.3**	**J**
Manganese	NA	NA	mg/kg	**339**		-		-		-		**279**		**477**		**308**		**773**		**391**		**773**	
Mercury	3.1	3.1	mg/kg	0.11	U	-		-		-		0.11	U	0.11	U	0.11	U	**0.045**	**J**	**0.018**	**J**	**0.045**	**J**
Nickel	74,000	23,000	mg/kg	**4.1**	**J**	-		-		-		**4**	**J**	**3.6**	**J**	**4.2**	**J**	**5.6**		**15.6**		**15.6**	
Selenium	20,000	11,000	mg/kg	0.54	U	-		-		-		0.55	U	0.55	U	0.54	U	0.54	U	0.54	U	**0.76**	
Silver	20,000	11,000	mg/kg	1.1	U	-		-		-		1.1	U	1.1	U	1.1	U	1.1	U	1.1	U	-	
Thallium	41	21	mg/kg	1.1	U	-		-		-		1.1	U	1.1	U	1.1	U	1.1	U	1.1	U	**1.7**	
Vanadium	20,000	11,000	mg/kg	**5.8**		-		-		-		**6.4**		**4.8**	**J**	**7.6**	**J**	**9.3**	**J**	**5**	**J**	**15.6**	
Zinc	1,000,000	640,000	mg/kg	**10.3**	**J**	-		-		-		**12.3**	**J**	**10.6**	**J**	**16.2**		**47.2**		**43.4**	**J**	**65.9**	
TPH																							
C21-C34 Aliphatics	5,000,000	5,000,000	ug/kg	-		-		-		-		-		-		-		-		-		-	
Diesel Range Organics (DRO)	2,000,000	2,000,000	ug/kg	-		-		-		-		-		-		-		-		-		**27000**	
Gasoline Range Organics (GRO)	1,000,000	1,000,000	ug/kg	-		-		-		-		-		-		-		-		-		-	

NOTES:
Shaded values indicate concentration exceeds C/I Single Chemical Generic Direct Contact Soil Standard
Shaded values indicate concentration exceeds Construction Single Chemical Generic Direct Contact Soil Standard
Shaded values indicate concentration exceeds both Single Chemical Generic Direct Contact Soil Standards
bold text indicates detection above reporting limit
Total PCBs value is the sum of all positively deteted PCB aroclors
D: The reported value is from a dilution
C/I: Commercial/ Industrial
J: The associated numerical value is an estimated quantity
mg/kg: milligrams per kilogram
NA: exceedance criteria not applicable for compound/analyte
PCB: Polychlorinated Biphenyl
R: The data are unusable (the compound/analyte may or may not be present). Resampling and reanalysis are necessary for verification
SVOC: SemiVolatile Organic Compound
U: The compound/analyte was analyzed for, but not detected. The associated numerical value is the sample quantitation limit
ug/kg: micrograms per kilogram
UJ: The compound/analyte was analyzed for, but not detected. The sample quantitation limit is an estimated quantity
VOC: Volatile Organic Compound

TABLE 3.23
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 27, 2-12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	SB-13-02		SB-13-02		SB-131-04		SB-131-04		SB-74-03		SB-74-03		Maximum Detected Concentration	
			Field Sample ID:	SB-13-02		SB-13-02		SB-131-04 DUP		SB-131-04		SB-74-03		SB-74-03			
			Date:	4/5/2002		4/5/2002		1/21/2004		1/21/2004		2/20/2003		2/20/2003			
	C/I	Construction	Depth:	8 - 10		10 - 12		8 - 10		8 - 10		2 - 4		8 - 10			
VOCs																	
1,1,1-Trichloroethane	640,000	640,000	ug/kg	4.7	U	4.9	U	560	U	420	U	2700	U	1800	U	-	
1,1,2,2-Tetrachloroethane	75,000	670,000	ug/kg	4.7	U	4.9	U	560	U	420	U	2700	U	1800	U	-	
1,1,2-Trichloroethane	140,000	1,200,000	ug/kg	4.7	U	4.9	U	560	U	420	U	2700	U	1800	U	-	
1,1-Dichloroethane	420,000	1,700,000	ug/kg	4.7	U	4.9	U	560	U	420	U	2700	U	1800	U	-	
1,1-Dichloroethene	1,200,000	360,000	ug/kg	4.7	U	4.9	U	560	U	420	U	2700	U	1800	U	-	
1,2,4-Trichlorobenzene, VOC	400,000	400,000	ug/kg	4.7	U	4.9	U	560	U	420	U	2700	U	1800	U	-	
1,2-Dibromo-3-chloropropane	1,700	15,000	ug/kg	9.3	U	9.9	U	1100	U	850	U	5400	U	3500	U	-	
1,2-Dibromoethane	4,400	38,000	ug/kg	4.7	U	4.9	U	560	U	420	U	2700	U	1800	U	-	
1,2-Dichlorobenzene, VOC	380,000	380,000	ug/kg	4.7	U	4.9	U	560	U	420	U	2700	U	1800	U	-	
1,2-Dichloroethane	56,000	480,000	ug/kg	4.7	U	4.9	U	560	U	420	U	2700	U	1800	U	-	
1,2-Dichloropropane	120,000	180,000	ug/kg	4.7	U	4.9	U	560	U	420	U	2700	U	1800	U	-	
1,3-Dichlorobenzene, VOC	NA	NA	ug/kg	4.7	U	4.9	U	560	U	420	U	2700	U	1800	U	-	
1,4-Dichlorobenzene, VOC	310,000	2,600,000	ug/kg	4.7	U	4.9	U	560	U	420	U	2700	U	1800	U	-	
2-Butanone	28,000,000	28,000,000	ug/kg	19	U	20	U	2300	U	1700	U	11000	U	7000	U	-	
2-Hexanone	NA	NA	ug/kg	19	U	20	U	2300	U	1700	U	11000	U	7000	U	-	
4-Methyl-2-Pentanone	3,400,000	3,400,000	ug/kg	19	U	20	U	2300	U	1700	U	11000	U	7000	U	-	
Acetone	110,000,000	110,000,000	ug/kg	19	UJ	20	UJ	2300	UJ	1700	UJ	11000	U	7000	U	-	
Benzene	140,000	1,200,000	ug/kg	4.7	U	4.9	U	**73**	**J**	420	U	2700	U	1800	U	**73**	**J**
Bromodichloromethane	35,000	300,000	ug/kg	4.7	U	4.9	U	560	U	420	U	2700	U	1800	U	-	
Bromoform	6,200,000	130,000,000	ug/kg	4.7	UJ	4.9	UJ	560	U	420	U	2700	U	1800	U	-	
Bromomethane	82,000	550,000	ug/kg	4.7	UJ	4.9	UJ	560	U	420	U	2700	R	1800	R	-	
Carbon disulfide	740,000	740,000	ug/kg	4.7	U	4.9	U	560	U	420	U	2700	U	1800	U	-	
Carbon tetrachloride	79,000	460,000	ug/kg	4.7	U	4.9	U	560	U	420	U	2700	U	1800	U	-	
Chlorobenzene	760,000	760,000	ug/kg	4.7	U	4.9	U	560	U	420	U	2700	U	1800	U	-	
Chloroethane	2,100,000	2,100,000	ug/kg	4.7	U	4.9	U	560	R	420	R	2700	U	1800	U	-	
Chloroform	38,000	320,000	ug/kg	4.7	U	4.9	U	**56**	**J**	**44**	**J**	2700	U	1800	U	**56**	**J**
Chloromethane	1,300,000	1,300,000	ug/kg	4.7	U	4.9	U	560	U	420	U	2700	U	1800	U	-	
cis-1,2-Dichloroethene	2,400,000	2,400,000	ug/kg	2.3	U	2.5	U	**590**		**920**		**6400**		**3900**		**6400**	
cis-1,3-Dichloropropene	NA	NA	ug/kg	4.7	U	4.9	U	560	U	420	U	2700	U	1800	U	-	
Cyclohexane	120,000	120,000	ug/kg	9.3	U	9.9	U	**550**	**J**	**310**	**J**	**1500**	**J**	**790**	**J**	**790**	**J**
Dibromochloromethane	84,000	770,000	ug/kg	4.7	U	4.9	U	560	U	420	U	2700	U	1800	U	-	
Dichlorodifluoromethane	850,000	850,000	ug/kg	4.7	U	4.9	U	**88**	**J**	**170**	**J**	**300**	**J**	**180**	**J**	**300**	**J**
Ethylbenzene	480,000	480,000	ug/kg	4.7	U	4.9	U	**47**	**J**	420	U	2700	U	1800	U	**47**	**J**
Isopropylbenzene, VOC	270,000	270,000	ug/kg	4.7	U	4.9	U	560	U	420	U	2700	U	1800	U	-	
Methyl acetate	NA	NA	ug/kg	9.3	U	9.9	U	**1200**		**860**		5400	U	**810**	**J**	**1200**	
Methyl cyclohexane	NA	NA	ug/kg	9.3	U	9.9	U	**1600**		**890**		**3800**	**J**	**2000**	**J**	**3800**	**J**
Methyl tert butyl ether	5,700,000	8,900,000	ug/kg	19	U	20	U	2300	U	1700	U	11000	U	7000	U	-	
Methylene chloride	3,300,000	3,300,000	ug/kg	4.7	U	4.9	U	560	U	420	U	2700	U	1800	U	-	
Styrene	870,000	870,000	ug/kg	4.7	U	4.9	U	560	U	420	U	2700	U	1800	U	-	
Tetrachloroethene	170,000	170,000	ug/kg	**4.5**	**J**	**1.2**	**J**	**3900**		**2100**		**21000**		**10000**		**21000**	
Toluene	820,000	820,000	ug/kg	4.7	U	4.9	U	**520**	**J**	**240**	**J**	**680**	**J**	**300**	**J**	**680**	**J**
trans-1,2-Dichloroethene	1,700,000	1,700,000	ug/kg	2.3	U	2.5	U	280	U	210	U	1300	U	880	U	-	
trans-1,3-Dichloropropene	NA	NA	ug/kg	4.7	U	4.9	U	560	U	420	U	2700	U	1800	U	-	
Trichloroethene	51,000	17,000	ug/kg	**1**	**J**	4.9	U	**17000**		**13000**		**81000**		**53000**	**J**	**81000**	**J**
Trichlorofluoromethane	1,200,000	1,200,000	ug/kg	4.7	U	4.9	U	560	U	420	U	2700	U	1800	U	-	
Trifluorotrichloroethane	NA	NA	ug/kg	4.7	U	4.9	U	560	U	420	U	2700	U	1800	U	-	
Vinyl chloride	50,000	280,000	ug/kg	4.7	U	4.9	U	560	U	420	U	2700	U	1800	U	-	
Xylene (Total)	260,000	260,000	ug/kg	9.3	U	9.9	U	**860**	**J**	**450**	**J**	**1600**	**J**	**950**	**J**	**1600**	**J**

TABLE 3.23
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 27, 2-12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	SB-13-02		SB-13-02		SB-131-04		SB-131-04		SB-74-03		SB-74-03		Maximum Detected Concentration	
			Field Sample ID:	SB-13-02		SB-13-02		SB-131-04 DUP		SB-131-04		SB-74-03		SB-74-03			
			Date:	4/5/2002		4/5/2002		1/21/2004		1/21/2004		2/20/2003		2/20/2003			
	C/I	Construction	Depth:	8 - 10		10 - 12		8 - 10		8 - 10		2 - 4		8 - 10			
SVOCs																	
2,2-oxybis(2-Chloropropane)	NA	NA	ug/kg	380	U	350	U	7200	U	7100	U	810	U	10000	U	-	
2,4,5-Trichlorophenol	180,000,000	1,000,000,000	ug/kg	380	U	350	U	7200	U	7100	U	810	U	10000	U	-	
2,4,6-Trichlorophenol	1,800,000	1,400,000	ug/kg	380	U	350	U	7200	U	7100	U	810	U	10000	U	-	
2,4-Dichlorophenol	NA	NA	ug/kg	380	U	350	U	7200	U	7100	U	810	U	10000	U	-	
2,4-Dimethylphenol	35,000,000	85,000,000	ug/kg	380	U	350	U	7200	U	7100	U	810	U	10000	U	-	
2,4-Dinitrophenol	3,500,000	28,000,000	ug/kg	1900	U	1700	UJ	35000	U	35000	U	3900	U	49000	U	-	
2,4-Dinitrotoluene	160,000	2,800,000	ug/kg	380	U	350	U	7200	U	7100	U	810	U	10000	U	-	
2,6-Dinitrotoluene	NA	NA	ug/kg	380	U	350	U	7200	U	7100	U	810	U	10000	U	-	
2-Chloronaphthalene	330,000,000	1,000,000,000	ug/kg	380	U	350	U	7200	U	7100	U	810	U	10000	U	-	
2-Chlorophenol	20,000,000	22,000,000	ug/kg	380	U	350	U	7200	U	7100	U	810	U	10000	U	-	
2-Methylnaphthalene	6,000,000	5,200,000	ug/kg	380	U	350	U	7200	U	7100	U	**2100**		10000	U	-	
2-Methylphenol	88,000,000	710,000,000	ug/kg	380	U	350	U	7200	U	7100	U	810	U	10000	U	-	
2-Nitroaniline	NA	NA	ug/kg	1900	U	1700	U	35000	U	35000	U	3900	U	49000	U	-	
2-Nitrophenol	NA	NA	ug/kg	380	U	350	U	7200	U	7100	U	810	U	10000	U	-	
3,3-Dichlorobenzidine	NA	NA	ug/kg	1900	U	1700	U	35000	U	35000	U	3900	U	49000	U	-	
3-Nitroaniline	NA	NA	ug/kg	1900	U	1700	U	35000	U	35000	U	3900	U	49000	U	-	
4,6-Dinitro-2-methylphenol	140,000	110,000	ug/kg	1900	U	1700	U	35000	U	35000	U	3900	U	49000	U	-	
4-Bromophenyl phenyl ether	NA	NA	ug/kg	380	U	350	U	7200	U	7100	U	810	U	10000	U	-	
4-Chloro-3-methylphenol	180,000,000	140,000,000	ug/kg	380	U	350	U	7200	U	7100	U	810	U	10000	U	-	
4-Chloroaniline	250,000	710,000	ug/kg	380	U	350	U	7200	U	7100	U	810	U	10000	U	-	
4-Chlorophenyl phenyl ether	NA	NA	ug/kg	380	U	350	U	7200	U	7100	U	810	U	10000	U	-	
4-Methylphenol	180,000,000	28,000,000	ug/kg	380	U	350	U	7200	U	7100	U	810	U	10000	U	-	
4-Nitroaniline	2,500,000	14,000,000	ug/kg	1900	U	1700	U	35000	U	35000	U	3900	U	49000	U	-	
4-Nitrophenol	NA	NA	ug/kg	1900	U	1700	U	35000	U	35000	U	3900	U	49000	U	-	
Acenaphthene	90,000,000	780,000,000	ug/kg	380	U	350	U	7200	U	7100	U	810	U	10000	U	-	
Acenaphthylene	90,000,000	780,000,000	ug/kg	380	U	350	U	7200	U	7100	U	810	U	**610**	**J**	**610**	**J**
Acetophenone	2,500,000	2,500,000	ug/kg	380	U	350	U	7200	U	7100	U	**110**	**J**	10000	U	-	
Anthracene	450,000,000	1,000,000,000	ug/kg	380	U	350	U	7200	U	7100	U	810	U	**1500**	**J**	**1500**	**J**
Atrazine	NA	NA	ug/kg	380	U	350	U	7200	U	7100	U	810	U	10000	U	-	
Benzaldehyde	NA	NA	ug/kg	380	U	350	U	7200	U	7100	U	**180**	**J**	10000	U	-	
Benzo(a)anthracene	58,000	1,200,000	ug/kg	380	U	350	U	7200	U	7100	U	**250**	**J**	**10000**		**10000**	
Benzo(a)pyrene	5,800	120,000	ug/kg	380	U	350	U	7200	U	7100	U	**190**	**J**	**8400**	**J**	**8400**	**J**
Benzo(b)fluoranthene	58,000	1,200,000	ug/kg	380	U	350	U	**590**	**J**	**580**	**J**	**240**	**J**	**10000**	**J**	**10000**	**J**
Benzo(g,h,i)perylene	45,000,000	390,000,000	ug/kg	380	U	350	U	7200	U	7100	U	**79**	**J**	**4700**	**J**	**4700**	**J**
Benzo(k)fluoranthene	580,000	12,000,000	ug/kg	380	U	350	U	7200	U	7100	U	**110**	**J**	**6700**	**J**	**6700**	**J**
Biphenyl	14,000,000	190,000,000	ug/kg	380	U	350	U	7200	U	7100	U	**130**	**J**	10000	U	-	
bis(2-Chloroethoxy)methane	5,300,000	43,000,000	ug/kg	380	U	350	U	7200	U	7100	U	810	U	10000	U	-	
bis(2-Chloroethyl)ether	30,000	290,000	ug/kg	380	U	350	U	7200	U	7100	U	810	U	10000	U	-	
bis(2-Ethylhexyl)phthalate	3,500,000	71,000,000	ug/kg	380	U	350	U	**570**	**J**	**730**	**J**	810	U	**3000**	**J**	**3000**	**J**
Butyl benzylphthalate	26,000,000	520,000,000	ug/kg	380	U	350	U	7200	U	7100	U	810	U	10000	U	-	
Caprolactam	NA	NA	ug/kg	380	U	350	U	7200	U	7100	U	810	U	10000	U	-	
Carbazole	2,500,000	50,000,000	ug/kg	380	U	350	U	7200	U	7100	U	**220**	**J**	**5300**	**J**	**5300**	**J**
Chrysene	5,800,000	120,000,000	ug/kg	380	U	350	U	**460**	**J**	7100	U	**480**	**J**	**11000**		**11000**	
Dibenz(a,h)anthracene	5,800	120,000	ug/kg	380	U	350	U	7200	U	7100	U	810	U	**1000**	**J**	**1000**	**J**
Dibenzofuran	4,100,000	2,100,000	ug/kg	380	U	350	U	7200	U	7100	U	**500**	**J**	10000	U	**500**	**J**
Diethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	380	U	350	U	7200	U	7100	U	810	U	10000	U	-	
Dimethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	380	U	350	U	7200	U	7100	U	810	U	10000	U	-	
Di-n-butylphthalate	180,000,000	430,000,000	ug/kg	380	U	350	U	7200	U	7100	U	810	U	10000	U	-	
Di-N-Octyl phthalate	18,000,000	140,000,000	ug/kg	380	U	350	U	7200	U	7100	U	810	U	10000	UJ	-	
Fluoranthene	60,000,000	160,000,000	ug/kg	380	U	350	U	**880**	**J**	**700**	**J**	**270**	**J**	**27000**		**27000**	
Fluorene	60,000,000	520,000,000	ug/kg	380	U	350	U	7200	U	7100	U	810	U	10000	U	-	
Hexachlorobenzene	31,000	14,000	ug/kg	380	U	350	U	7200	U	7100	U	810	U	10000	U	-	
Hexachlorobutadiene, SVOC	630,000	1,400,000	ug/kg	380	U	350	U	7200	U	7100	U	810	U	10000	U	-	
Hexachlorocyclopentadiene	11,000,000	26,000,000	ug/kg	1900	U	1700	U	35000	U	35000	U	3900	U	49000	U	-	
Hexachloroethane	1,200,000	3,000,000	ug/kg	380	U	350	U	7200	U	7100	U	810	U	10000	U	-	
Indeno(1,2,3-cd)pyrene	58,000	1,200,000	ug/kg	380	U	350	U	7200	U	7100	U	**50**	**J**	**4100**	**J**	**4100**	**J**
Isophorone	52,000,000	1,000,000,000	ug/kg	380	U	350	U	7200	U	7100	U	810	U	10000	U	-	
Naphthalene, SVOC	450,000	560,000	ug/kg	380	U	350	U	7200	U	7100	U	**1100**		10000	U	**1100**	
Nitrobenzene	610,000	3,000,000	ug/kg	380	U	350	U	7200	U	7100	U	810	U	10000	U	-	
N-Nitrosodi-n-propylamine	7,000	140,000	ug/kg	380	U	350	U	7200	U	7100	U	810	U	10000	U	-	
N-Nitrosodiphenylamine	10,000,000	200,000,000	ug/kg	380	U	350	U	7200	U	7100	U	810	U	10000	U	-	
Pentachlorophenol	67,000	950,000	ug/kg	380	U	350	U	7200	U	7100	U	810	U	10000	U	-	
Phenanthrene	450,000,000	1,000,000,000	ug/kg	380	U	350	U	**600**	**J**	**440**	**J**	**2000**		**4000**	**J**	**4000**	**J**
Phenol	530,000,000	840,000,000	ug/kg	380	U	350	U	7200	U	7100	U	810	U	10000	U	-	
Pyrene, SVOC	45,000,000	390,000,000	ug/kg	380	U	350	UJ	**700**	**J**	**580**	**J**	**430**	**J**	**25000**		**25000**	

TABLE 3.23
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 27, 2-12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	SB-13-02		SB-13-02		SB-131-04		SB-131-04		SB-74-03		SB-74-03		Maximum Detected Concentration	
			Field Sample ID:	SB-13-02		SB-13-02		SB-131-04 DUP		SB-131-04		SB-74-03		SB-74-03			
			Date:	4/5/2002		4/5/2002		1/21/2004		1/21/2004		2/20/2003		2/20/2003			
	C/I	Construction	Depth:	8 - 10		10 - 12		8 - 10		8 - 10		2 - 4		8 - 10			
PCBs																	
Aroclor-1016	100,000	260,000	ug/kg	38	U	180	U	-		-		-		-		-	
Aroclor-1221	14,000	210,000	ug/kg	38	U	180	U	-		-		-		-		-	
Aroclor-1232	14,000	73,000	ug/kg	38	U	180	U	-		-		-		-		-	
Aroclor-1242	20,000	440,000	ug/kg	38	U	180	U	-		-		-		-		-	
Aroclor-1248	20,000	440,000	ug/kg	38	U	180	U	-		-		-		-		-	
Aroclor-1254	20,000	75,000	ug/kg	38	U	180	U	-		-		-		-		-	
Aroclor-1260	20,000	440,000	ug/kg	38	U	**1100**		-		-		-		-		**1100**	
Total PCBs	20,000	440,000	ug/kg	38	U	**1100**		-		-		-		-		**1100**	
Metals																	
Antimony	1,600	850	mg/kg	7	UJ	6.4	UJ	-		-		**0.83**	**J**	**0.57**	**J**	**0.83**	**J**
Arsenic	77	690	mg/kg	**2.5**	**J**	**5.6**	**J**	-		-		**11**	**J**	**6.7**	**J**	**11**	**J**
Barium	680,000	320,000	mg/kg	**153**		**73.8**		-		-		**152**	**J**	**143**	**J**	**153**	
Beryllium	7,800	3,400	mg/kg	**0.16**	**J**	0.53	U	-		-		**0.72**	**J**	**0.34**	**J**	**0.72**	**J**
Cadmium	2,600	1,000	mg/kg	0.58	U	**18.3**		-		-		**1.3**	**J**	**1.5**	**J**	**18.3**	
Chromium Total	NA	NA	mg/kg	**14.7**		**114**		-		-		**7.4**	**J**	**9.3**	**J**	**114**	
Cobalt	1,200	2,800	mg/kg	**2**	**J**	**1.6**	**J**	-		-		**7.4**	**J**	**7.1**	**J**	**7.4**	**J**
Copper	160,000	21,000	mg/kg	**5**		**32.8**		-		-		**158**	**J**	**101**	**J**	**158**	**J**
Cyanide (total)	370	150	mg/kg	0.58	U	**0.43**	**J**	-		-		**4.7**	**J**	**2.1**	**J**	**4.7**	**J**
Lead	800	400	mg/kg	**4.1**		**41.3**		-		-		**121**	**J**	**53.1**	**J**	**121**	**J**
Manganese	NA	NA	mg/kg	**211**	**J**	**264**	**J**	-		-		**47.1**	**J**	**261**	**J**	**264**	**J**
Mercury	3.1	3.1	mg/kg	**0.27**		**0.48**		-		-		**0.2**		**0.16**		**0.48**	
Nickel	74,000	23,000	mg/kg	**5**	**J**	**6.4**	**J**	-		-		**47.5**		**23.4**		**47.5**	
Selenium	20,000	11,000	mg/kg	0.58	U	0.53	U	-		-		**2.3**	**J**	0.62	U	**2.3**	**J**
Silver	20,000	11,000	mg/kg	1.2	U	1.1	U	-		-		1.2	U	1.2	U		
Thallium	41	21	mg/kg	1.6	U	1.6	U	-		-		1.2	UJ	**0.83**	**J**	**0.83**	**J**
Vanadium	20,000	11,000	mg/kg	**6.8**		**5.7**		-		-		**12.5**	**J**	**12.5**	**J**	**12.5**	**J**
Zinc	1,000,000	640,000	mg/kg	**21.6**	**J**	**253**	**J**	-		-		**252**	**J**	**372**	**J**	**372**	**J**

NOTES:

Shaded values indicate concentration exceeds C/I Single Chemical Generic Direct Contact Soil Standard
Shaded values indicate concentration exceeds Construction Single Chemical Generic Direct Contact Soil Standard
Shaded values indicate concentration exceeds both Single Chemical Generic Direct Contact Soil Standards

bold text indicates detection above reporting limit
Total PCBs value is the sum of all positively deteted PCB aroclors
D: The reported value is from a dilution
C/I: Commercial/ Industrial
J: The associated numerical value is an estimated quantity
mg/kg: milligrams per kilogram
NA: exceedance criteria not applicable for compound/analyte
PCB: Polychlorinated Biphenyl
R: The data are unusable (the compound/analyte may or may not be present). Resampling and reanalysis are necessary for verification
SVOC: SemiVolatile Organic Compound
U: The compound/analyte was analyzed for, but not detected. The associated numerical value is the sample quantitation limit
ug/kg: micrograms per kilogram
UJ: The compound/analyte was analyzed for, but not detected. The sample quantitation limit is an estimated quantity
VOC: Volatile Organic Compound

TABLE 3.24
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 28, 2-12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	BH-171	SB-44-02		Maximum Detected Concentration	
			Field Sample ID:	S-110104-NZ-006	SB-44-02			
			Date:	11/1/2004	4/15/2002			
	C/I	Construction	Depth:	7.5 - 9.5	9 - 11			
VOCs								
1,1,1-Trichloroethane	640,000	640,000	ug/kg	-	7.2	U	-	
1,1,2,2-Tetrachloroethane	75,000	670,000	ug/kg	-	7.2	U	-	
1,1,2-Trichloroethane	140,000	1,200,000	ug/kg	-	7.2	U	-	
1,1-Dichloroethane	420,000	1,700,000	ug/kg	-	7.2	U	-	
1,1-Dichloroethene	1,200,000	360,000	ug/kg	-	7.2	U	-	
1,2,4-Trichlorobenzene, VOC	400,000	400,000	ug/kg	-	7.2	U	-	
1,2-Dibromo-3-chloropropane	1,700	15,000	ug/kg	-	14	UJ	-	
1,2-Dibromoethane	4,400	38,000	ug/kg	-	7.2	U	-	
1,2-Dichlorobenzene, VOC	380,000	380,000	ug/kg	-	7.2	U	-	
1,2-Dichloroethane	56,000	480,000	ug/kg	-	7.2	U	-	
1,2-Dichloropropane	120,000	180,000	ug/kg	-	7.2	U	-	
1,3-Dichlorobenzene, VOC	NA	NA	ug/kg	-	7.2	U	-	
1,4-Dichlorobenzene, VOC	310,000	2,600,000	ug/kg	-	7.2	U	-	
2-Butanone	28,000,000	28,000,000	ug/kg	-	29	U	-	
2-Hexanone	NA	NA	ug/kg	-	29	U	-	
4-Methyl-2-Pentanone	3,400,000	3,400,000	ug/kg	-	29	U	-	
Acetone	110,000,000	110,000,000	ug/kg	-	29	UJ	-	
Benzene	140,000	1,200,000	ug/kg	-	7.2	U	-	
Bromodichloromethane	35,000	300,000	ug/kg	-	7.2	U	-	
Bromoform	6,200,000	130,000,000	ug/kg	-	7.2	UJ	-	
Bromomethane	82,000	550,000	ug/kg	-	7.2	UJ	-	
Carbon disulfide	740,000	740,000	ug/kg	-	7.2	U	-	
Carbon tetrachloride	79,000	460,000	ug/kg	-	7.2	UJ	-	
Chlorobenzene	760,000	760,000	ug/kg	-	7.2	U	-	
Chloroethane	2,100,000	2,100,000	ug/kg	-	7.2	U	-	
Chloroform	38,000	320,000	ug/kg	-	7.2	U	-	
Chloromethane	1,300,000	1,300,000	ug/kg	-	7.2	U	-	
cis-1,2-Dichloroethene	2,400,000	2,400,000	ug/kg	-	3.6	U	-	
cis-1,3-Dichloropropene	NA	NA	ug/kg	-	7.2	U	-	
Cyclohexane	120,000	120,000	ug/kg	-	14	U	-	
Dibromochloromethane	84,000	770,000	ug/kg	-	7.2	U	-	
Dichlorodifluoromethane	850,000	850,000	ug/kg	-	7.2	U	-	
Ethylbenzene	480,000	480,000	ug/kg	-	7.2	U	-	
Isopropylbenzene, VOC	270,000	270,000	ug/kg	-	7.2	U	-	
Methyl acetate	NA	NA	ug/kg	-	14	U	-	
Methyl cyclohexane	NA	NA	ug/kg	-	14	U	-	
Methyl tert butyl ether	5,700,000	8,900,000	ug/kg	-	29	U	-	
Methylene chloride	3,300,000	3,300,000	ug/kg	-	7.2	U	-	
Styrene	870,000	870,000	ug/kg	-	7.2	U	-	
Tetrachloroethene	170,000	170,000	ug/kg	-	**2.5**	**J**	**2.5**	**J**
Toluene	820,000	820,000	ug/kg	-	7.2	U	-	
trans-1,2-Dichloroethene	1,700,000	1,700,000	ug/kg	-	3.6	U	-	
trans-1,3-Dichloropropene	NA	NA	ug/kg	-	7.2	U	-	
Trichloroethene	51,000	17,000	ug/kg	-	7.2	U	-	
Trichlorofluoromethane	1,200,000	1,200,000	ug/kg	-	7.2	U	-	
Trifluorotrichloroethane	NA	NA	ug/kg	-	7.2	U	-	
Vinyl chloride	50,000	280,000	ug/kg	-	7.2	U	-	
Xylene (Total)	260,000	260,000	ug/kg	-	14	U	-	
SVOCs								
2,2-oxybis(2-Chloropropane), SVOC	NA	NA	ug/kg	-	490	U	-	
2,4,5-Trichlorophenol	180,000,000	1,000,000,000	ug/kg	-	490	U	-	
2,4,6-Trichlorophenol	1,800,000	1,400,000	ug/kg	-	490	U	-	
2,4-Dichlorophenol	NA	NA	ug/kg	-	490	U	-	
2,4-Dimethylphenol	35,000,000	85,000,000	ug/kg	-	490	U	-	
2,4-Dinitrophenol	3,500,000	28,000,000	ug/kg	-	2400	U	-	
2,4-Dinitrotoluene	160,000	2,800,000	ug/kg	-	490	U	-	
2,6-Dinitrotoluene	NA	NA	ug/kg	-	490	U	-	
2-Chloronaphthalene	330,000,000	1,000,000,000	ug/kg	-	490	U	-	
2-Chlorophenol	20,000,000	22,000,000	ug/kg	-	490	U	-	
2-Methylnaphthalene	6,000,000	5,200,000	ug/kg	-	490	U	-	
2-Methylphenol	88,000,000	710,000,000	ug/kg	-	490	U	-	
2-Nitroaniline	NA	NA	ug/kg	-	2400	U	-	
2-Nitrophenol	NA	NA	ug/kg	-	490	U	-	
3,3-Dichlorobenzidine	NA	NA	ug/kg	-	2400	U	-	
3-Nitroaniline	NA	NA	ug/kg	-	2400	U	-	
4,6-Dinitro-2-methylphenol	140,000	110,000	ug/kg	-	2400	U	-	
4-Bromophenyl phenyl ether	NA	NA	ug/kg	-	490	U	-	
4-Chloro-3-methylphenol	180,000,000	140,000,000	ug/kg	-	490	U	-	
4-Chloroaniline	250,000	710,000	ug/kg	-	490	U	-	
4-Chlorophenyl phenyl ether	NA	NA	ug/kg	-	490	U	-	
4-Methylphenol	180,000,000	28,000,000	ug/kg	-	490	U	-	
4-Nitroaniline	2,500,000	14,000,000	ug/kg	-	2400	U	-	
4-Nitrophenol	NA	NA	ug/kg	-	2400	U	-	
Acenaphthene	90,000,000	780,000,000	ug/kg	-	490	U	-	
Acenaphthylene	90,000,000	780,000,000	ug/kg	-	490	U	-	
Acetophenone	2,500,000	2,500,000	ug/kg	-	490	U	-	
Anthracene	450,000,000	1,000,000,000	ug/kg	-	490	U	-	
Atrazine	NA	NA	ug/kg	-	490	U	-	

TABLE 3.24
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 28, 2-12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	BH-171	SB-44-02		Maximum Detected Concentration	
			Field Sample ID:	S-110104-NZ-006	SB-44-02			
			Date:	11/1/2004	4/15/2002			
	C/I	Construction	Depth:	7.5 - 9.5	9 - 11			
Benzaldehyde	NA	NA	ug/kg	-	490	U	-	
Benzo(a)anthracene	58,000	1,200,000	ug/kg	-	490	U	-	
Benzo(a)pyrene	5,800	120,000	ug/kg	-	490	U	-	
Benzo(b)fluoranthene	58,000	1,200,000	ug/kg	-	490	U	-	
Benzo(g,h,i)perylene	45,000,000	390,000,000	ug/kg	-	490	U	-	
Benzo(k)fluoranthene	580,000	12,000,000	ug/kg	-	490	U	-	
Biphenyl	14,000,000	190,000,000	ug/kg	-	490	U	-	
bis(2-Chloroethoxy)methane	5,300,000	43,000,000	ug/kg	-	490	U	-	
bis(2-Chloroethyl)ether	30,000	290,000	ug/kg	-	490	U	-	
bis(2-Ethylhexyl)phthalate	3,500,000	71,000,000	ug/kg	-	490	U	-	
Butyl benzylphthalate	26,000,000	520,000,000	ug/kg	-	490	U	-	
Caprolactam	NA	NA	ug/kg	-	490	U	-	
Carbazole	2,500,000	50,000,000	ug/kg	-	490	U	-	
Chrysene	5,800,000	120,000,000	ug/kg	-	490	U	-	
Dibenz(a,h)anthracene	5,800	120,000	ug/kg	-	490	U	-	
Dibenzofuran	4,100,000	2,100,000	ug/kg	-	490	U	-	
Diethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	-	490	U	-	
Dimethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	-	490	U	-	
Di-n-butylphthalate	180,000,000	430,000,000	ug/kg	-	490	U	-	
Di-N-Octyl phthalate	18,000,000	140,000,000	ug/kg	-	490	U	-	
Fluoranthene	60,000,000	160,000,000	ug/kg	-	490	U	-	
Fluorene	60,000,000	520,000,000	ug/kg	-	490	U	-	
Hexachlorobenzene	31,000	14,000	ug/kg	-	490	U	-	
Hexachlorobutadiene, SVOC	630,000	1,400,000	ug/kg	-	490	U	-	
Hexachlorocyclopentadiene	11,000,000	26,000,000	ug/kg	-	2400	U	-	
Hexachloroethane	1,200,000	3,000,000	ug/kg	-	490	U	-	
Indeno(1,2,3-cd)pyrene	58,000	1,200,000	ug/kg	-	490	U	-	
Isophorone	52,000,000	1,000,000,000	ug/kg	-	490	U	-	
Naphthalene, SVOC	450,000	560,000	ug/kg	-	490	U	-	
Nitrobenzene	610,000	3,000,000	ug/kg	-	490	U	-	
N-Nitrosodi-n-propylamine	7,000	140,000	ug/kg	-	490	U	-	
N-Nitrosodiphenylamine	10,000,000	200,000,000	ug/kg	-	490	U	-	
Pentachlorophenol	67,000	950,000	ug/kg	-	490	U	-	
Phenanthrene	450,000,000	1,000,000,000	ug/kg	-	490	U	-	
Phenol	530,000,000	840,000,000	ug/kg	-	490	U	-	
Pyrene, SVOC	45,000,000	390,000,000	ug/kg	-	490	U	-	
PCBs								
Aroclor-1016	100,000	260,000	ug/kg	-	49	U	-	
Aroclor-1221	14,000	210,000	ug/kg	-	49	U	-	
Aroclor-1232	14,000	73,000	ug/kg	-	49	U	-	
Aroclor-1242	20,000	440,000	ug/kg	-	49	U	-	
Aroclor-1248	20,000	440,000	ug/kg	-	49	U	-	
Aroclor-1254	20,000	75,000	ug/kg	-	49	U	-	
Aroclor-1260	20,000	440,000	ug/kg	-	49	U	-	
Total PCBs	20,000	440,000	ug/kg	-	49	U	-	
Metals								
Antimony	1,600	850	mg/kg	-	8.9	UJ	-	
Arsenic	77	690	mg/kg	-	**10.7**	**J**	**10.7**	**J**
Barium	680,000	320,000	mg/kg	-	**197**	**J**	**197**	**J**
Beryllium	7,800	3,400	mg/kg	-	**1.1**	**J**	**1.1**	**J**
Cadmium	2,600	1,000	mg/kg	-	**0.29**	**J**	**0.29**	**J**
Chromium Total	NA	NA	mg/kg	-	**17.2**	**J**	**17.2**	**J**
Cobalt	1,200	2,800	mg/kg	-	**7.7**	**J**	**7.7**	**J**
Copper	160,000	21,000	mg/kg	-	**45.9**	**J**	**45.9**	**J**
Cyanide (total)	370	150	mg/kg	-	0.74	U	-	
Lead	800	400	mg/kg	-	**147**	**J**	**147**	**J**
Manganese	NA	NA	mg/kg	**401**	**422**		**422**	
Mercury	3.1	3.1	mg/kg	-	**0.54**	**J**	**0.54**	**J**
Nickel	74,000	23,000	mg/kg	-	**20.1**	**J**	**20.1**	**J**
Selenium	20,000	11,000	mg/kg	-	0.74	UJ	-	
Silver	20,000	11,000	mg/kg	-	1.5	U	-	
Thallium	41	21	mg/kg	-	**1.9**	**J**	**1.9**	**J**
Vanadium	20,000	11,000	mg/kg	-	**26.8**	**J**	**26.8**	**J**
Zinc	1,000,000	640,000	mg/kg	-	**121**	**J**	**121**	**J**

NOTES:

Shaded values indicate concentration exceeds C/I Single Chemical Generic Direct Contact Soil Standard
Shaded values indicate concentration exceeds Construction Single Chemical Generic Direct Contact Soil Standard
Shaded values indicate concentration exceeds both Single Chemical Generic Direct Contact Soil Standards

bold text indicates detection above reporting limit
Total PCBs value is the sum of all positively deteted PCB aroclors
D: The reported value is from a dilution
C/I: Commercial/ Industrial
J: The associated numerical value is an estimated quantity
mg/kg: milligrams per kilogram
NA: exceedance criteria not applicable for compound/analyte
PCB: Polychlorinated Biphenyl
R: The data are unusable (the compound/analyte may or may not be present). Resampling and reanalysis are necessary for verification
SVOC: SemiVolatile Organic Compound
U: The compound/analyte was analyzed for, but not detected. The associated numerical value is the sample quantitation limit
ug/kg: micrograms per kilogram
UJ: The compound/analyte was analyzed for, but not detected. The sample quantitation limit is an estimated quantity
VOC: Volatile Organic Compound

TABLE 3.25
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 32, 2-12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	SB-134-04		SB-135-04		SB-135-04		Maximum Detected Concentration	
			Field Sample ID:	SB-134-04		SB-135-04		SB-135-04			
			Date:	2/6/2004		1/22/2004		1/22/2004			
	C/I	Construction	Depth:	8 - 10		10 - 12		8 - 10			
VOCs											
1,1,1-Trichloroethane	640,000	640,000	ug/kg	7	U	4.7	U	5.8	U	-	
1,1,2,2-Tetrachloroethane	75,000	670,000	ug/kg	7	U	4.7	U	5.8	U	-	
1,1,2-Trichloroethane	140,000	1,200,000	ug/kg	7	U	4.7	U	5.8	U	-	
1,1-Dichloroethane	420,000	1,700,000	ug/kg	7	U	4.7	U	5.8	U	-	
1,1-Dichloroethene	1,200,000	360,000	ug/kg	7	U	4.7	U	5.8	U	-	
1,2,4-Trichlorobenzene, VOC	400,000	400,000	ug/kg	7	U	4.7	U	5.8	U	-	
1,2-Dibromo-3-chloropropane	1,700	15,000	ug/kg	14	U	9.3	U	12	U	-	
1,2-Dibromoethane	4,400	38,000	ug/kg	7	U	4.7	U	5.8	U	-	
1,2-Dichlorobenzene, VOC	380,000	380,000	ug/kg	7	U	4.7	U	5.8	U	-	
1,2-Dichloroethane	56,000	480,000	ug/kg	7	U	4.7	U	5.8	U	-	
1,2-Dichloropropane	120,000	180,000	ug/kg	7	U	4.7	U	5.8	U	-	
1,3-Dichlorobenzene, VOC	NA	NA	ug/kg	7	U	4.7	U	5.8	U	-	
1,4-Dichlorobenzene, VOC	310,000	2,600,000	ug/kg	7	U	4.7	U	5.8	U	-	
2-Butanone	28,000,000	28,000,000	ug/kg	28	U	19	U	23	U	-	
2-Hexanone	NA	NA	ug/kg	28	U	19	U	23	U	-	
4-Methyl-2-Pentanone	3,400,000	3,400,000	ug/kg	28	U	**1.4**	**J**	23	U	**1.4**	**J**
Acetone	110,000,000	110,000,000	ug/kg	28	U	**5.1**	**J**	23	U	**5.1**	**J**
Benzene	140,000	1,200,000	ug/kg	7	U	4.7	U	5.8	U	-	
Bromodichloromethane	35,000	300,000	ug/kg	7	U	4.7	U	5.8	U	-	
Bromoform	6,200,000	130,000,000	ug/kg	7	U	4.7	U	5.8	U	-	
Bromomethane	82,000	550,000	ug/kg	7	U	4.7	U	5.8	U	-	
Carbon disulfide	740,000	740,000	ug/kg	7	U	4.7	U	5.8	U	-	
Carbon tetrachloride	79,000	460,000	ug/kg	7	U	4.7	U	5.8	U	-	
Chlorobenzene	760,000	760,000	ug/kg	7	U	4.7	U	5.8	U	-	
Chloroethane	2,100,000	2,100,000	ug/kg	7	U	4.7	U	5.8	U	-	
Chloroform	38,000	320,000	ug/kg	7	U	4.7	U	5.8	U	-	
Chloromethane	1,300,000	1,300,000	ug/kg	7	U	4.7	U	5.8	U	-	
cis-1,2-Dichloroethene	2,400,000	2,400,000	ug/kg	3.5	U	2.3	U	2.9	U	-	
cis-1,3-Dichloropropene	NA	NA	ug/kg	7	U	4.7	U	5.8	U	-	
Cyclohexane	120,000	120,000	ug/kg	14	U	9.3	U	12	U	-	
Dibromochloromethane	84,000	770,000	ug/kg	7	U	4.7	U	5.8	U	-	
Dichlorodifluoromethane	850,000	850,000	ug/kg	7	U	4.7	U	5.8	U	-	
Ethylbenzene	480,000	480,000	ug/kg	7	U	4.7	U	5.8	U	-	
Isopropylbenzene, VOC	270,000	270,000	ug/kg	7	U	4.7	U	5.8	U	-	
Methyl acetate	NA	NA	ug/kg	14	U	9.3	U	12	U	-	
Methyl cyclohexane	NA	NA	ug/kg	14	U	9.3	U	12	U	-	
Methyl tert butyl ether	5,700,000	8,900,000	ug/kg	28	U	19	U	23	U	-	
Methylene chloride	3,300,000	3,300,000	ug/kg	7	U	4.7	U	5.8	U	-	
Styrene	870,000	870,000	ug/kg	7	U	4.7	U	5.8	U	-	
Tetrachloroethene	170,000	170,000	ug/kg	**3.3**	**J**	**7.4**		**60**		**60**	
Toluene	820,000	820,000	ug/kg	7	U	**0.57**	**J**	5.8	U	**0.57**	**J**
trans-1,2-Dichloroethene	1,700,000	1,700,000	ug/kg	3.5	U	2.3	U	2.9	U	-	
trans-1,3-Dichloropropene	NA	NA	ug/kg	7	U	4.7	U	5.8	U	-	
Trichloroethene	51,000	17,000	ug/kg	7	U	**1.7**	**J**	**7.9**		**7.9**	
Trichlorofluoromethane	1,200,000	1,200,000	ug/kg	7	U	4.7	U	5.8	U	-	
Trifluorotrichloroethane	NA	NA	ug/kg	7	U	4.7	U	5.8	U	-	
Vinyl chloride	50,000	280,000	ug/kg	7	U	4.7	U	5.8	U	-	
Xylene (Total)	260,000	260,000	ug/kg	14	U	9.3	U	12	U	-	
PCBs											
Aroclor-1016	100,000	260,000	ug/kg	36	U	40	U	43	U	-	
Aroclor-1221	14,000	210,000	ug/kg	36	U	40	U	43	U	-	
Aroclor-1232	14,000	73,000	ug/kg	36	U	40	U	43	U	-	
Aroclor-1242	20,000	440,000	ug/kg	36	U	40	U	43	U	-	
Aroclor-1248	20,000	440,000	ug/kg	36	U	40	U	43	U	-	
Aroclor-1254	20,000	75,000	ug/kg	36	U	**14**	**J**	43	U	**14**	**J**
Aroclor-1260	20,000	440,000	ug/kg	36	U	40	U	43	U	-	
Total PCBs	20,000	440,000	ug/kg	36	U	**14**	**J**	43	U	**14**	**J**

NOTES:

Shaded values indicate concentration exceeds C/I Single Chemical Generic Direct Contact Soil Standard
Shaded values indicate concentration exceeds Construction Single Chemical Generic Direct Contact Soil Standard
Shaded values indicate concentration exceeds both Single Chemical Generic Direct Contact Soil Standards

bold text indicates detection above reporting limit
Total PCBs value is the sum of all positively deteted PCB aroclors
D: The reported value is from a dilution
C/I: Commercial/ Industrial
J: The associated numerical value is an estimated quantity
mg/kg: milligrams per kilogram
NA: exceedance criteria not applicable for compound/analyte
PCB: Polychlorinated Biphenyl
R: The data are unusable (the compound/analyte may or may not be present). Resampling and reanalysis are necessary for verification
SVOC: SemiVolatile Organic Compound
U: The compound/analyte was analyzed for, but not detected. The associated numerical value is the sample quantitation limit
ug/kg: micrograms per kilogram
UJ: The compound/analyte was analyzed for, but not detected. The sample quantitation limit is an estimated quantity
VOC: Volatile Organic Compound

TABLE 3.26
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 34, 2-12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	SB-73-03		MW-25-04		SB-73-03		Maximum Detected Concentration	
			Field Sample ID:	SB-73-03		MW-25-04		SB-73-03			
			Date:	2/20/2003		3/4/2004		2/20/2003			
	C/I	Construction	Depth:	2 - 4		8 - 10		8 - 10			
VOCs											
1,1,1-Trichloroethane	640,000	640,000	ug/kg	2100	U	6.3	U	5700	U	-	
1,1,2,2-Tetrachloroethane	75,000	670,000	ug/kg	2100	U	6.3	U	5700	U	-	
1,1,2-Trichloroethane	140,000	1,200,000	ug/kg	2100	U	6.3	U	5700	U	-	
1,1-Dichloroethane	420,000	1,700,000	ug/kg	2100	U	6.3	U	5700	U	-	
1,1-Dichloroethene	1,200,000	360,000	ug/kg	2100	U	6.3	U	5700	U	-	
1,2,4-Trichlorobenzene, VOC	400,000	400,000	ug/kg	2100	U	**1.1**	**J**	5700	U	**1.1**	**J**
1,2-Dibromo-3-chloropropane	1,700	15,000	ug/kg	4100	U	13	U	11000	U	-	
1,2-Dibromoethane	4,400	38,000	ug/kg	2100	U	6.3	U	5700	U	-	
1,2-Dichlorobenzene, VOC	380,000	380,000	ug/kg	2100	U	6.3	U	5700	U	-	
1,2-Dichloroethane	56,000	480,000	ug/kg	2100	U	6.3	U	5700	U	-	
1,2-Dichloropropane	120,000	180,000	ug/kg	2100	U	6.3	U	5700	U	-	
1,3-Dichlorobenzene, VOC	NA	NA	ug/kg	2100	U	6.3	U	5700	U	-	
1,4-Dichlorobenzene, VOC	310,000	2,600,000	ug/kg	2100	U	6.3	U	5700	U	-	
2-Butanone	28,000,000	28,000,000	ug/kg	8200	U	25	U	23000	U	-	
2-Hexanone	NA	NA	ug/kg	8200	U	25	U	23000	U	-	
4-Methyl-2-Pentanone	3,400,000	3,400,000	ug/kg	8200	U	25	U	23000	U	-	
Acetone	110,000,000	110,000,000	ug/kg	8200	U	25	UJ	23000	U	-	
Benzene	140,000	1,200,000	ug/kg	2100	U	6.3	U	5700	U	-	
Bromodichloromethane	35,000	300,000	ug/kg	2100	U	6.3	U	5700	U	-	
Bromoform	6,200,000	130,000,000	ug/kg	2100	U	6.3	U	5700	U	-	
Bromomethane	82,000	550,000	ug/kg	2100	R	6.3	U	5700	R	-	
Carbon disulfide	740,000	740,000	ug/kg	2100	U	6.3	U	5700	U	-	
Carbon tetrachloride	79,000	460,000	ug/kg	2100	U	6.3	U	5700	U	-	
Chlorobenzene	760,000	760,000	ug/kg	2100	U	6.3	U	5700	U	-	
Chloroethane	2,100,000	2,100,000	ug/kg	2100	U	6.3	U	5700	U	-	
Chloroform	38,000	320,000	ug/kg	2100	U	6.3	U	5700	U	-	
Chloromethane	1,300,000	1,300,000	ug/kg	2100	U	6.3	U	5700	U	-	
cis-1,2-Dichloroethene	2,400,000	2,400,000	ug/kg	**11000**		**1.7**	**J**	**22000**		**22000**	
cis-1,3-Dichloropropene	NA	NA	ug/kg	2100	U	6.3	U	5700	U	-	
Cyclohexane	120,000	120,000	ug/kg	**150**	**J**	13	U	11000	U	**150**	**J**
Dibromochloromethane	84,000	770,000	ug/kg	2100	U	6.3	U	5700	U	-	
Dichlorodifluoromethane	850,000	850,000	ug/kg	2100	UJ	6.3	UJ	5700	UJ	-	
Ethylbenzene	480,000	480,000	ug/kg	2100	U	6.3	U	5700	U	-	
Isopropylbenzene, VOC	270,000	270,000	ug/kg	2100	U	6.3	U	5700	U	-	
Methyl acetate	NA	NA	ug/kg	**410**	**J**	13	U	11000	U	**410**	**J**
Methyl cyclohexane	NA	NA	ug/kg	**360**	**J**	13	U	11000	U	**360**	**J**
Methyl tert butyl ether	5,700,000	8,900,000	ug/kg	8200	U	25	U	23000	U	-	
Methylene chloride	3,300,000	3,300,000	ug/kg	2100	U	6.3	U	5700	U	-	
Styrene	870,000	870,000	ug/kg	2100	U	6.3	U	5700	U	-	
Tetrachloroethene	170,000	170,000	ug/kg	**26000**		**96**		**26000**		**26000**	
Toluene	820,000	820,000	ug/kg	2100	U	**0.59**	**J**	5700	U	**0.59**	**J**
trans-1,2-Dichloroethene	1,700,000	1,700,000	ug/kg	**170**	**J**	3.1	U	2900	U	**170**	**J**
trans-1,3-Dichloropropene	NA	NA	ug/kg	2100	U	6.3	U	5700	U	-	
Trichloroethene	51,000	17,000	ug/kg	**60000**		**100**	**J**	**100000**		**100000**	
Trichlorofluoromethane	1,200,000	1,200,000	ug/kg	2100	U	6.3	U	5700	U	-	
Trifluorotrichloroethane	NA	NA	ug/kg	2100	U	6.3	U	5700	U	-	
Vinyl chloride	50,000	280,000	ug/kg	2100	U	6.3	U	5700	U	-	
Xylene (Total)	260,000	260,000	ug/kg	4100	U	13	U	11000	U	-	
SVOCs											
2,2-oxybis(2-Chloropropane), SVOC	NA	NA	ug/kg	370	U	-		410	U	-	
2,4,5-Trichlorophenol	180,000,000	1,000,000,000	ug/kg	370	U	-		410	U	-	
2,4,6-Trichlorophenol	1,800,000	1,400,000	ug/kg	370	U	-		410	U	-	
2,4-Dichlorophenol	NA	NA	ug/kg	370	U	-		410	U	-	
2,4-Dimethylphenol	35,000,000	85,000,000	ug/kg	370	U	-		410	U	-	
2,4-Dinitrophenol	3,500,000	28,000,000	ug/kg	1800	U	-		2000	U	-	
2,4-Dinitrotoluene	160,000	2,800,000	ug/kg	370	U	-		410	U	-	
2,6-Dinitrotoluene	NA	NA	ug/kg	370	U	-		410	U	-	
2-Chloronaphthalene	330,000,000	1,000,000,000	ug/kg	370	U	-		410	U	-	
2-Chlorophenol	20,000,000	22,000,000	ug/kg	370	U	-		410	U	-	
2-Methylnaphthalene	6,000,000	5,200,000	ug/kg	**210**	**J**	-		**140**	**J**	**210**	**J**
2-Methylphenol	88,000,000	710,000,000	ug/kg	370	U	-		410	U	-	
2-Nitroaniline	NA	NA	ug/kg	1800	U	-		2000	U	-	
2-Nitrophenol	NA	NA	ug/kg	370	U	-		410	U	-	
3,3-Dichlorobenzidine	NA	NA	ug/kg	1800	U	-		2000	U	-	
3-Nitroaniline	NA	NA	ug/kg	1800	U	-		2000	U	-	
4,6-Dinitro-2-methylphenol	140,000	110,000	ug/kg	1800	U	-		2000	U	-	
4-Bromophenyl phenyl ether	NA	NA	ug/kg	370	U	-		410	U	-	
4-Chloro-3-methylphenol	180,000,000	140,000,000	ug/kg	370	U	-		410	U	-	
4-Chloroaniline	250,000	710,000	ug/kg	370	U	-		410	U	-	
4-Chlorophenyl phenyl ether	NA	NA	ug/kg	370	U	-		410	U	-	
4-Methylphenol	180,000,000	28,000,000	ug/kg	370	U	-		410	U	-	
4-Nitroaniline	2,500,000	14,000,000	ug/kg	1800	U	-		2000	U	-	
4-Nitrophenol	NA	NA	ug/kg	1800	U	-		2000	U	-	
Acenaphthene	90,000,000	780,000,000	ug/kg	370	U	-		**36**	**J**	**36**	**J**
Acenaphthylene	90,000,000	780,000,000	ug/kg	370	U	-		410	U	-	

TABLE 3.26
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 34, 2-12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	SB-73-03		MW-25-04		SB-73-03		Maximum Detected Concentration	
			Field Sample ID:	SB-73-03		MW-25-04		SB-73-03			
			Date:	2/20/2003		3/4/2004		2/20/2003			
	C/I	Construction	Depth:	2 - 4		8 - 10		8 - 10			
Acetophenone	2,500,000	2,500,000	ug/kg	370	U	-		410	U	-	
Anthracene	450,000,000	1,000,000,000	ug/kg	**29**	**J**	-		**110**	**J**	**110**	**J**
Atrazine	NA	NA	ug/kg	370	U	-		410	U	-	
Benzaldehyde	NA	NA	ug/kg	370	U	-		**29**	**J**	**29**	**J**
Benzo(a)anthracene	58,000	1,200,000	ug/kg	**130**	**J**	-		**340**	**J**	**340**	**J**
Benzo(a)pyrene	5,800	120,000	ug/kg	370	UJ	-		**300**	**J**	**300**	**J**
Benzo(b)fluoranthene	58,000	1,200,000	ug/kg	370	UJ	-		**330**	**J**	**330**	**J**
Benzo(g,h,i)perylene	45,000,000	390,000,000	ug/kg	**58**	**J**	-		**120**	**J**	**120**	**J**
Benzo(k)fluoranthene	580,000	12,000,000	ug/kg	370	UJ	-		**260**	**J**	**260**	**J**
Biphenyl	14,000,000	190,000,000	ug/kg	**29**	**J**	-		410	U	**29**	**J**
bis(2-Chloroethoxy)methane	5,300,000	43,000,000	ug/kg	370	U	-		410	U	-	
bis(2-Chloroethyl)ether	30,000	290,000	ug/kg	370	U	-		410	U	-	
bis(2-Ethylhexyl)phthalate	3,500,000	71,000,000	ug/kg	370	U	-		**130**	**J**	**130**	**J**
Butyl benzylphthalate	26,000,000	520,000,000	ug/kg	370	U	-		410	U	-	
Caprolactam	NA	NA	ug/kg	370	U	-		410	U	-	
Carbazole	2,500,000	50,000,000	ug/kg	**85**	**J**	-		**120**	**J**	**120**	**J**
Chrysene	5,800,000	120,000,000	ug/kg	**190**	**J**	-		**360**	**J**	**360**	**J**
Dibenz(a,h)anthracene	5,800	120,000	ug/kg	**21**	**J**	-		**43**	**J**	**43**	**J**
Dibenzofuran	4,100,000	2,100,000	ug/kg	**53**	**J**	-		**69**	**J**	**69**	**J**
Diethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	370	U	-		410	U	-	
Dimethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	370	U	-		410	U	-	
Di-n-butylphthalate	180,000,000	430,000,000	ug/kg	370	U	-		410	U	-	
Di-N-Octyl phthalate	18,000,000	140,000,000	ug/kg	370	UJ	-		**100**	**J**	**100**	**J**
Fluoranthene	60,000,000	160,000,000	ug/kg	**260**	**J**	-		**640**		**640**	
Fluorene	60,000,000	520,000,000	ug/kg	370	U	-		**39**	**J**	**39**	**J**
Hexachlorobenzene	31,000	14,000	ug/kg	370	U	-		410	U	-	
Hexachlorobutadiene, SVOC	630,000	1,400,000	ug/kg	370	U	-		410	U	-	
Hexachlorocyclopentadiene	11,000,000	26,000,000	ug/kg	1800	U	-		2000	U	-	
Hexachloroethane	1,200,000	3,000,000	ug/kg	370	U	-		410	U	-	
Indeno(1,2,3-cd)pyrene	58,000	1,200,000	ug/kg	**52**	**J**	-		**120**	**J**	**120**	**J**
Isophorone	52,000,000	1,000,000,000	ug/kg	370	U	-		410	U	-	
Naphthalene, SVOC	450,000	560,000	ug/kg	**90**	**J**	-		**80**	**J**	**90**	**J**
Nitrobenzene	610,000	3,000,000	ug/kg	370	U	-		410	U	-	
N-Nitrosodi-n-propylamine	7,000	140,000	ug/kg	370	U	-		410	U	-	
N-Nitrosodiphenylamine	10,000,000	200,000,000	ug/kg	370	U	-		410	U	-	
Pentachlorophenol	67,000	950,000	ug/kg	370	U	-		410	U	-	
Phenanthrene	450,000,000	1,000,000,000	ug/kg	**340**	**J**	-		**690**		**690**	
Phenol	530,000,000	840,000,000	ug/kg	370	U	-		410	U	-	
Pyrene, SVOC	45,000,000	390,000,000	ug/kg	**250**	**J**	-		**650**		**650**	
Metals											
Antimony	1,600	850	mg/kg	**1.1**	**J**	-		**6.5**	**J**	**6.5**	**J**
Arsenic	77	690	mg/kg	**6.8**	**J**	-		**14**	**J**	**14**	**J**
Barium	680,000	320,000	mg/kg	**75.7**	**J**	-		**128**	**J**	**128**	**J**
Beryllium	7,800	3,400	mg/kg	**0.39**	**J**	-		**0.3**	**J**	**0.39**	**J**
Cadmium	2,600	1,000	mg/kg	**0.062**	**J**	-		**0.12**	**J**	**0.12**	**J**
Chromium Total	NA	0	mg/kg	**14.5**	**J**	-		**12.2**	**J**	**14.5**	**J**
Cobalt	1,200	2,800	mg/kg	**6.3**	**J**	-		**6.3**	**J**	**6.3**	**J**
Copper	160,000	21,000	mg/kg	**81.1**	**J**	-		**5610**	**J**	**5610**	**J**
Cyanide (total)	370	150	mg/kg	**0.12**	**J**	-		**0.21**	**J**	**0.21**	**J**
Lead	800	400	mg/kg	**84.6**	**J**	-		**302**	**J**	**302**	**J**
Manganese	NA	NA	mg/kg	**592**	**J**	-		**525**	**J**	**592**	**J**
Mercury	3.1	3.1	mg/kg	**0.087**	**J**	-		**0.22**		**0.22**	
Nickel	74,000	23,000	mg/kg	**15.2**		-		**16.9**		**16.9**	
Selenium	20,000	11,000	mg/kg	**0.52**	**J**	-		**0.65**	**J**	**0.65**	**J**
Silver	20,000	11,000	mg/kg	1.1	U	-		**0.35**	**J**	**0.35**	**J**
Thallium	41	21	mg/kg	1.1	UJ	-		1.2	UJ	-	
Vanadium	20,000	11,000	mg/kg	**17.3**	**J**	-		**17.1**	**J**	**17.3**	**J**
Zinc	1,000,000	640,000	mg/kg	**142**	**J**	-		**467**	**J**	**467**	**J**

NOTES:

Shaded values indicate concentration exceeds C/I Single Chemical Generic Direct Contact Soil Standard

Shaded values indicate concentration exceeds Construction Single Chemical Generic Direct Contact Soil Standard

Shaded values indicate concentration exceeds both Single Chemical Generic Direct Contact Soil Standards

bold text indicates detection above reporting limit

Total PCBs value is the sum of all positively deteted PCB aroclors

D: The reported value is from a dilution

C/I: Commercial/ Industrial

J: The associated numerical value is an estimated quantity

mg/kg: milligrams per kilogram

NA: exceedance criteria not applicable for compound/analyte

PCB: Polychlorinated Biphenyl

R: The data are unusable (the compound/analyte may or may not be present). Resampling and reanalysis are necessary for verification

SVOC: SemiVolatile Organic Compound

U: The compound/analyte was analyzed for, but not detected. The associated numerical value is the sample quantitation limit

ug/kg: micrograms per kilogram

UJ: The compound/analyte was analyzed for, but not detected. The sample quantitation limit is an estimated quantity

VOC: Volatile Organic Compound

TABLE 3.27
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 35, 2-12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	SB-144-04		SB-146-04		SB-147-04		Maximum Detected Concentration	
			Field Sample ID:	SB-144-04		SB-146-04		SB-147-04			
			Date:	1/27/2004		1/28/2004		1/28/2004			
	C/I	Construction	Depth:	8 - 10		8 - 10		8 - 10			
VOCs											
1,1,1-Trichloroethane	640,000	640,000	ug/kg	9.3	U	270	U	5.3	U	-	
1,1,2,2-Tetrachloroethane	75,000	670,000	ug/kg	9.3	U	270	U	5.3	U	-	
1,1,2-Trichloroethane	140,000	1,200,000	ug/kg	9.3	U	270	U	5.3	U	-	
1,1-Dichloroethane	420,000	1,700,000	ug/kg	9.3	U	270	U	5.3	U	-	
1,1-Dichloroethene	1,200,000	360,000	ug/kg	9.3	U	270	U	5.3	U	-	
1,2,4-Trichlorobenzene, VOC	400,000	400,000	ug/kg	9.3	U	270	U	5.3	U	-	
1,2-Dibromo-3-chloropropane	1,700	15,000	ug/kg	19	U	530	U	11	U	-	
1,2-Dibromoethane	4,400	38,000	ug/kg	9.3	U	270	U	5.3	U	-	
1,2-Dichlorobenzene, VOC	380,000	380,000	ug/kg	**72**		270	U	5.3	U	**72**	
1,2-Dichloroethane	56,000	480,000	ug/kg	9.3	U	270	U	5.3	U	-	
1,2-Dichloropropane	120,000	180,000	ug/kg	9.3	U	270	U	5.3	U	-	
1,3-Dichlorobenzene, VOC	NA	NA	ug/kg	9.3	U	270	U	5.3	U	-	
1,4-Dichlorobenzene, VOC	310,000	2,600,000	ug/kg	**11**		270	U	5.3	U	**11**	
2-Butanone	28,000,000	28,000,000	ug/kg	**10**	**J**	1100	U	21	U	**10**	**J**
2-Hexanone	NA	NA	ug/kg	37	U	1100	U	21	U	-	
4-Methyl-2-Pentanone	3,400,000	3,400,000	ug/kg	37	U	1100	U	21	U	-	
Acetone	110,000,000	110,000,000	ug/kg	**36**	**J**	1100	U	21	U	**36**	**J**
Benzene	140,000	1,200,000	ug/kg	9.3	U	270	U	5.3	U	-	
Bromodichloromethane	35,000	300,000	ug/kg	9.3	U	270	U	5.3	U	-	
Bromoform	6,200,000	130,000,000	ug/kg	9.3	UJ	270	U	5.3	UJ	-	
Bromomethane	82,000	550,000	ug/kg	9.3	U	**120**	**J**	5.3	U	**120**	**J**
Carbon disulfide	740,000	740,000	ug/kg	9.3	U	270	U	5.3	U	-	
Carbon tetrachloride	79,000	460,000	ug/kg	9.3	U	270	U	5.3	U	-	
Chlorobenzene	760,000	760,000	ug/kg	**23**		270	U	5.3	U	**23**	
Chloroethane	2,100,000	2,100,000	ug/kg	9.3	U	270	U	5.3	U	-	
Chloroform	38,000	320,000	ug/kg	9.3	U	270	U	5.3	U	-	
Chloromethane	1,300,000	1,300,000	ug/kg	9.3	U	270	U	5.3	U	-	
cis-1,2-Dichloroethene	2,400,000	2,400,000	ug/kg	4.7	U	130	U	**1.1**	**J**	**1.1**	**J**
cis-1,3-Dichloropropene	NA	NA	ug/kg	9.3	U	270	U	5.3	U	-	
Cyclohexane	120,000	120,000	ug/kg	19	U	530	U	11	U	-	
Dibromochloromethane	84,000	770,000	ug/kg	9.3	U	270	U	5.3	U	-	
Dichlorodifluoromethane	850,000	850,000	ug/kg	9.3	U	270	UJ	5.3	U	-	
Ethylbenzene	480,000	480,000	ug/kg	9.3	U	270	U	**0.39**	**J**	**0.39**	**J**
Isopropylbenzene, VOC	270,000	270,000	ug/kg	**25**		270	U	5.3	U	**25**	
Methyl acetate	NA	NA	ug/kg	19	U	530	U	11	U	-	
Methyl cyclohexane	NA	NA	ug/kg	**3.2**	**J**	530	U	11	U	**3.2**	**J**
Methyl tert butyl ether	5,700,000	8,900,000	ug/kg	37	U	1100	U	21	U	-	
Methylene chloride	3,300,000	3,300,000	ug/kg	9.3	U	270	U	5.3	U	-	
Styrene	870,000	870,000	ug/kg	9.3	U	270	U	5.3	U	-	
Tetrachloroethene	170,000	170,000	ug/kg	**7.1**	**J**	270	U	**8.5**		**8.5**	
Toluene	820,000	820,000	ug/kg	**1.1**	**J**	270	U	**0.81**	**J**	**1.1**	**J**
trans-1,2-Dichloroethene	1,700,000	1,700,000	ug/kg	4.7	U	130	U	2.7	U	-	
trans-1,3-Dichloropropene	NA	NA	ug/kg	9.3	U	270	U	5.3	U	-	
Trichloroethene	51,000	17,000	ug/kg	**1.9**	**J**	270	U	**5.4**		**5.4**	
Trichlorofluoromethane	1,200,000	1,200,000	ug/kg	9.3	U	270	U	5.3	U	-	
Trifluorotrichloroethane	NA	NA	ug/kg	9.3	U	270	U	5.3	U	-	
Vinyl chloride	50,000	280,000	ug/kg	9.3	U	270	U	5.3	U	-	
Xylene (Total)	260,000	260,000	ug/kg	**2.1**	**J**	530	U	11	U	**2.1**	**J**
SVOCs											
2,2-oxybis(2-Chloropropane)	NA	NA	ug/kg	470	U	19000	U	-		-	
2,4,5-Trichlorophenol	180,000,000	1,000,000,000	ug/kg	470	U	19000	U	-		-	
2,4,6-Trichlorophenol	1,800,000	1,400,000	ug/kg	470	U	19000	U	-		-	
2,4-Dichlorophenol	NA	NA	ug/kg	470	U	19000	U	-		-	
2,4-Dimethylphenol	35,000,000	85,000,000	ug/kg	470	U	19000	U	-		-	
2,4-Dinitrophenol	3,500,000	28,000,000	ug/kg	2300	U	90000	UJ	-		-	
2,4-Dinitrotoluene	160,000	2,800,000	ug/kg	470	U	19000	U	-		-	
2,6-Dinitrotoluene	NA	NA	ug/kg	470	U	19000	U	-		-	
2-Chloronaphthalene	330,000,000	1,000,000,000	ug/kg	470	U	19000	U	-		-	
2-Chlorophenol	20,000,000	22,000,000	ug/kg	470	U	19000	U	-		-	
2-Methylnaphthalene	6,000,000	5,200,000	ug/kg	470	U	19000	U	-		-	
2-Methylphenol	88,000,000	710,000,000	ug/kg	470	U	19000	U	-		-	
2-Nitroaniline	NA	NA	ug/kg	2300	U	90000	U	-		-	
2-Nitrophenol	NA	NA	ug/kg	470	U	19000	U	-		-	
3,3-Dichlorobenzidine	NA	NA	ug/kg	2300	U	90000	U	-		-	
3-Nitroaniline	NA	NA	ug/kg	2300	U	90000	U	-		-	
4,6-Dinitro-2-methylphenol	140,000	110,000	ug/kg	2300	U	90000	U	-		-	
4-Bromophenyl phenyl ether	NA	NA	ug/kg	470	U	19000	U	-		-	
4-Chloro-3-methylphenol	180,000,000	140,000,000	ug/kg	470	U	19000	U	-		-	
4-Chloroaniline	250,000	710,000	ug/kg	470	U	19000	U	-		-	
4-Chlorophenyl phenyl ether	NA	NA	ug/kg	470	U	19000	U	-		-	
4-Methylphenol	180,000,000	28,000,000	ug/kg	470	U	19000	U	-		-	
4-Nitroaniline	2,500,000	14,000,000	ug/kg	2300	U	90000	U	-		-	
4-Nitrophenol	NA	NA	ug/kg	2300	U	90000	U	-		-	
Acenaphthene	90,000,000	780,000,000	ug/kg	470	U	19000	U	-		-	
Acenaphthylene	90,000,000	780,000,000	ug/kg	470	U	19000	U	-		-	
Acetophenone	2,500,000	2,500,000	ug/kg	470	U	19000	U	-		-	
Anthracene	450,000,000	1,000,000,000	ug/kg	470	U	19000	U	-		-	
Atrazine	NA	NA	ug/kg	470	U	19000	U	-		-	

TABLE 3.27
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 35, 2-12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	SB-144-04		SB-146-04		SB-147-04		Maximum Detected Concentration	
			Field Sample ID:	SB-144-04		SB-146-04		SB-147-04			
			Date:	1/27/2004		1/28/2004		1/28/2004			
	C/I	Construction	Depth:	8 - 10		8 - 10		8 - 10			
Benzaldehyde	NA	NA	ug/kg	470	U	19000	U	-		-	
Benzo(a)anthracene	58,000	1,200,000	ug/kg	470	U	19000	U	-		-	
Benzo(a)pyrene	5,800	120,000	ug/kg	470	U	19000	U	-		-	
Benzo(b)fluoranthene	58,000	1,200,000	ug/kg	470	U	19000	U	-		-	
Benzo(g,h,i)perylene	45,000,000	390,000,000	ug/kg	470	U	19000	U	-		-	
Benzo(k)fluoranthene	580,000	12,000,000	ug/kg	470	U	19000	U	-		-	
Biphenyl	14,000,000	190,000,000	ug/kg	470	U	19000	U	-		-	
bis(2-Chloroethoxy)methane	5,300,000	43,000,000	ug/kg	470	U	19000	U	-		-	
bis(2-Chloroethyl)ether	30,000	290,000	ug/kg	470	U	19000	U	-		-	
bis(2-Ethylhexyl)phthalate	3,500,000	71,000,000	ug/kg	**69**	**J**	19000	U	-		**69**	**J**
Butyl benzylphthalate	26,000,000	520,000,000	ug/kg	470	U	19000	U	-		-	
Caprolactam	NA	NA	ug/kg	470	U	19000	U	-		-	
Carbazole	2,500,000	50,000,000	ug/kg	470	U	19000	U	-		-	
Chrysene	5,800,000	120,000,000	ug/kg	470	U	19000	U	-		-	
Dibenz(a,h)anthracene	5,800	120,000	ug/kg	470	U	19000	U	-		-	
Dibenzofuran	4,100,000	2,100,000	ug/kg	470	U	19000	U	-		-	
Diethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	470	U	19000	U	-		-	
Dimethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	470	U	19000	U	-		-	
Di-n-butylphthalate	180,000,000	430,000,000	ug/kg	470	U	19000	U	-		-	
Di-N-Octyl phthalate	18,000,000	140,000,000	ug/kg	470	U	19000	U	-		-	
Fluoranthene	60,000,000	160,000,000	ug/kg	470	U	19000	U	-		-	
Fluorene	60,000,000	520,000,000	ug/kg	470	U	19000	U	-		-	
Hexachlorobenzene	31,000	14,000	ug/kg	470	U	19000	U	-		-	
Hexachlorobutadiene, SVOC	630,000	1,400,000	ug/kg	470	U	19000	U	-		-	
Hexachlorocyclopentadiene	11,000,000	26,000,000	ug/kg	2300	U	90000	U	-		-	
Hexachloroethane	1,200,000	3,000,000	ug/kg	470	U	19000	U	-		-	
Indeno(1,2,3-cd)pyrene	58,000	1,200,000	ug/kg	470	U	19000	U	-		-	
Isophorone	52,000,000	1,000,000,000	ug/kg	470	U	19000	U	-		-	
Naphthalene, SVOC	450,000	560,000	ug/kg	470	U	19000	U	-		-	
Nitrobenzene	610,000	3,000,000	ug/kg	470	U	19000	U	-		-	
N-Nitrosodi-n-propylamine	7,000	140,000	ug/kg	470	U	19000	U	-		-	
N-Nitrosodiphenylamine	10,000,000	200,000,000	ug/kg	470	U	19000	U	-		-	
Pentachlorophenol	67,000	950,000	ug/kg	470	U	19000	U	-		-	
Phenanthrene	450,000,000	1,000,000,000	ug/kg	470	U	19000	U	-		-	
Phenol	530,000,000	840,000,000	ug/kg	470	U	19000	U	-		-	
Pyrene, SVOC	45,000,000	390,000,000	ug/kg	470	U	19000	U	-		-	
PCBs											
Aroclor-1016	100,000	260,000	ug/kg	47	U	37	U	-		-	
Aroclor-1221	14,000	210,000	ug/kg	47	U	37	U	-		-	
Aroclor-1232	14,000	73,000	ug/kg	47	U	37	U	-		-	
Aroclor-1242	20,000	440,000	ug/kg	47	U	37	U	-		-	
Aroclor-1248	20,000	440,000	ug/kg	47	U	37	U	-		-	
Aroclor-1254	20,000	75,000	ug/kg	**13**	**J**	**250**		-		**250**	
Aroclor-1260	20,000	440,000	ug/kg	47	U	37	U	-		-	
Total PCBs	20,000	440,000	ug/kg	**13**	**J**	**250**		-		**250**	
Metals											
Antimony	1,600	850	mg/kg	8.5	UJ	6.8	UJ	-		-	
Arsenic	77	690	mg/kg	**4.4**		**2**		-		**4.4**	
Barium	680,000	320,000	mg/kg	**249**		**178**		-		**249**	
Beryllium	7,800	3,400	mg/kg	**0.47**	**J**	0.57	U	-		**0.47**	**J**
Cadmium	2,600	1,000	mg/kg	**0.4**	**J**	**1.6**		-		**1.6**	
Chromium Total	NA	0	mg/kg	**9.8**	**J**	**25.6**		-		**25.6**	
Cobalt	1,200	2,800	mg/kg	**5.3**	**J**	**1.8**	**J**	-		**5.3**	**J**
Copper	160,000	21,000	mg/kg	**10.8**	**J**	**73.1**		-		**73.1**	
Cyanide (total)	370	150	mg/kg	0.71	U	0.57	U	-		-	
Lead	800	400	mg/kg	**9.6**		**40.8**		-		**40.8**	
Manganese	NA	NA	mg/kg	**751**		**297**		-		**751**	
Mercury	3.1	3.1	mg/kg	**0.054**	**J**	**0.12**		-		**0.12**	
Nickel	74,000	23,000	mg/kg	**12.3**		**101**		-		**101**	
Selenium	20,000	11,000	mg/kg	0.71	U	0.57	U	-		-	
Silver	20,000	11,000	mg/kg	1.4	U	1.1	U	-		-	
Thallium	41	21	mg/kg	1.4	U	1.1	U	-		-	
Vanadium	20,000	11,000	mg/kg	**14**		**4.5**	**J**	-		**14**	
Zinc	1,000,000	640,000	mg/kg	**46.3**	**J**	**79.4**		-		**79.4**	

NOTES:

Shaded values indicate concentration exceeds C/I Single Chemical Generic Direct Contact Soil Standard
Shaded values indicate concentration exceeds Construction Single Chemical Generic Direct Contact Soil Standard
Shaded values indicate concentration exceeds both Single Chemical Generic Direct Contact Soil Standards

bold text indicates detection above reporting limit
Total PCBs value is the sum of all positively deteted PCB aroclors
D: The reported value is from a dilution
C/I: Commercial/ Industrial
J: The associated numerical value is an estimated quantity
mg/kg: milligrams per kilogram
NA: exceedance criteria not applicable for compound/analyte
PCB: Polychlorinated Biphenyl
R: The data are unusable (the compound/analyte may or may not be present). Resampling and reanalysis are necessary for verification
SVOC: SemiVolatile Organic Compound
U: The compound/analyte was analyzed for, but not detected. The associated numerical value is the sample quantitation limit
ug/kg: micrograms per kilogram
UJ: The compound/analyte was analyzed for, but not detected. The sample quantitation limit is an estimated quantity
VOC: Volatile Organic Compound

TABLE 3.28
SOIL ANALYTICAL DATA
IDENTIFIED AREA: COD5, 2-12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	B01		B01		B02		B02		B02		B02		B03	
			Field Sample ID:	B01-0-10		B01-0-10		B02-0-05		B02-0-10		B02-0-10		B02-1-05		B03-0-10	
			Date:	5/19/2006		5/19/2006		5/19/2006		5/19/2006		5/19/2006		5/19/2006		5/19/2006	
	C/I	Construction	Depth:	5 - 10		5 - 6		3 - 4		5 - 10		8 - 9		3 - 4		5 - 10	
VOCs																	
1,1,1,2-Tetrachloroethane	240,000	680,000	ug/kg	-		5	U	5	U	-		5	U	5	U	-	
1,1,1-Trichloroethane	640,000	640,000	ug/kg	-		5	U	5	U	-		5	U	5	U	-	
1,1,2,2-Tetrachloroethane	75,000	670,000	ug/kg	-		5	U	5	U	-		5	U	5	U	-	
1,1,2-Trichloroethane	140,000	1,200,000	ug/kg	-		5	U	5	U	-		5	U	5	U	-	
1,1-Dichloroethane	420,000	1,700,000	ug/kg	-		5	U	5	U	-		5	U	5	U	-	
1,1-Dichloroethene	1,200,000	360,000	ug/kg	-		5	U	5	U	-		5	U	5	U	-	
1,1-Dichloropropene	NA	NA	ug/kg	-		5	U	5	U	-		5	U	5	U	-	
1,2,3-Trichlorobenzene	NA	NA	ug/kg	-		-		-		-		-		-		-	
1,2,3-Trichloropropane	3,800	19,000	ug/kg	-		-		-		-		-		-		-	
1,2,4-Trichlorobenzene, VOC	400,000	400,000	ug/kg	-		5	U	5	U	-		5	U	5	U	-	
1,2,4-Trimethylbenzene	220,000	220,000	ug/kg	-		5	U	5	U	-		**6**		5	U	-	
1,2-Dibromo-3-chloropropane	1,700	15,000	ug/kg	-		-		-		-		-		-		-	
1,2-Dibromoethane	4,400	38,000	ug/kg	-		-		-		-		-		-		-	
1,2-Dichlorobenzene, VOC	380,000	380,000	ug/kg	-		5	U	5	U	-		5	U	5	U	-	
1,2-Dichloroethane	56,000	480,000	ug/kg	-		5	U	5	U	-		5	U	5	U	-	
1,2-Dichloropropane	120,000	180,000	ug/kg	-		5	U	5	U	-		5	U	5	U	-	
1,3,5-Trimethylbenzene	180,000	180,000	ug/kg	-		5	U	5	U	-		5	U	5	U	-	
1,3-Dichlorobenzene, VOC	NA	NA	ug/kg	-		5	U	5	U	-		5	U	5	U	-	
1,3-Dichloropropane	1,500,000	1,500,000	ug/kg	-		5	U	5	U	-		5	U	5	U	-	
1,4-Dichlorobenzene, VOC	310,000	2,600,000	ug/kg	-		5	U	5	U	-		5	U	5	U	-	
1,4-Dioxane	490,000	10,000,000	ug/kg	-		20	U	20	U	-		20	U	20	U	-	
2,2-Dichloropropane	NA	NA	ug/kg	-		5	U	5	U	-		5	U	5	U	-	
2-Butanone	28,000,000	28,000,000	ug/kg	-		50	U	50	U	-		50	U	50	U	-	
2-Chlorotoluene	NA	NA	ug/kg	-		5	U	5	U	-		5	U	5	U	-	
2-Hexanone	NA	NA	ug/kg	-		50	U	50	U	-		50	U	50	U	-	
2-Phenylbutane	NA	NA	ug/kg	-		-		-		-		-		-		-	
4-Chlorotoluene	NA	NA	ug/kg	-		5	U	5	U	-		5	U	5	U	-	
4-Methyl-2-Pentanone	3,400,000	3,400,000	ug/kg	-		50	U	50	U	-		50	U	50	U	-	
Acetone	110,000,000	110,000,000	ug/kg	-		100	U	100	U	-		100	U	100	U	-	
Benzene	140,000	1,200,000	ug/kg	-		**10.1**		**10.4**		-		**7.1**		**9.4**		-	
Bromobenzene	NA	NA	ug/kg	-		5	U	5	U	-		5	U	5	U	-	
Bromochloromethane	NA	NA	ug/kg	-		5	U	5	U	-		5	U	5	U	-	
Bromodichloromethane	35,000	300,000	ug/kg	-		5	U	5	U	-		5	U	5	U	-	
Bromoform	6,200,000	130,000,000	ug/kg	-		5	U	5	U	-		5	U	5	U	-	
Bromomethane	82,000	550,000	ug/kg	-		10	U	10	U	-		10	U	10	U	-	
Carbon disulfide	740,000	740,000	ug/kg	-		5	U	5	U	-		5	U	5	U	-	
Carbon tetrachloride	79,000	460,000	ug/kg	-		5	U	5	U	-		5	U	5	U	-	
Chlorobenzene	760,000	760,000	ug/kg	-		5	U	5	U	-		5	U	5	U	-	
Chlorobromomethane	NA	NA	ug/kg	-		-		-		-		-		-		-	
Chloroethane	2,100,000	2,100,000	ug/kg	-		10	U	10	U	-		10	U	10	U	-	
Chloroform	38,000	320,000	ug/kg	-		5	U	5	U	-		5	U	5	U	-	
Chloromethane	1,300,000	1,300,000	ug/kg	-		10	U	10	U	-		10	U	10	U	-	
cis-1,2-Dichloroethene	2,400,000	2,400,000	ug/kg	-		5	U	5	U	-		5	U	5	U	-	
cis-1,3-Dichloropropene	NA	NA	ug/kg	-		5	U	5	U	-		5	U	5	U	-	
Cymene	160,000	160,000	ug/kg	-		-		-		-		-		-		-	
Dibromochloromethane	84,000	770,000	ug/kg	-		5	U	5	U	-		5	U	5	U	-	
Dibromomethane	2,800,000	2,800,000	ug/kg	-		5	U	5	U	-		5	U	5	U	-	
Dichlorodifluoromethane	850,000	850,000	ug/kg	-		5	U	5	U	-		5	U	5	U	-	
Ethylbenzene	480,000	480,000	ug/kg	-		5	U	5	U	-		**8**		5	U	-	
Hexachlorobutadiene, VOC	630,000	1,400,000	ug/kg	-		5	U	5	U	-		5	U	5	U	-	
Isopropylbenzene, VOC	270,000	270,000	ug/kg	-		5	U	5	U	-		5	U	5	U	-	
m&p-Xylene	NA	NA	ug/kg	-		-		-		-		-		-		-	
Methyl tert butyl ether	5,700,000	8,900,000	ug/kg	-		5	U	5	U	-		5	U	5	U	-	
Methylene chloride	3,300,000	3,300,000	ug/kg	-		10	U	10	U	-		10	U	10	U	-	
Naphthalene, VOC	450,000	560,000	ug/kg	-		-		-		-		-		-		-	
n-Butylbenzene	110,000	110,000	ug/kg	-		5	U	5	U	-		5	U	5	U	-	
n-Hexane	140,000	140,000	ug/kg	-		20	U	20	U	-		**39**		20	U	-	
n-Propylbenzene	260,000	260,000	ug/kg	-		5	U	5	U	-		5	U	5	U	-	
o-Xylene	NA	NA	ug/kg	-		-		-		-		-		-		-	
Pentachloroethane	550,000	11,000,000	ug/kg	-		-		-		-		-		-		-	

TABLE 3.28
SOIL ANALYTICAL DATA
IDENTIFIED AREA: COD5, 2-12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	B03		B04		B04		B04		COD05-C004		DAY-20		Maximum Detected Concentration	
			Field Sample ID:	B03-0-10		B04-0-05		B04-0-10		B04-0-10		COD05-C004		DAY-20 5-7			
			Date:	5/19/2006		5/18/2006		5/18/2006		5/18/2006		5/22/2007		1/10/2002			
	C/I	Construction	Depth:	7 - 8		2 - 2.5		5 - 10		5 - 6		3 - 3		5 - 7			
VOCs																	
1,1,1,2-Tetrachloroethane	240,000	680,000	ug/kg	42	U	5	U	-		5	U	-		5	U	-	
1,1,1-Trichloroethane	640,000	640,000	ug/kg	42	U	5	U	-		5	U	-		5	U	-	
1,1,2,2-Tetrachloroethane	75,000	670,000	ug/kg	42	U	5	U	-		5	U	-		5	U	-	
1,1,2-Trichloroethane	140,000	1,200,000	ug/kg	42	U	5	U	-		5	U	-		5	U	-	
1,1-Dichloroethane	420,000	1,700,000	ug/kg	42	U	5	U	-		5	U	-		5	U	-	
1,1-Dichloroethene	1,200,000	360,000	ug/kg	42	U	5	U	-		5	U	-		5	U	-	
1,1-Dichloropropene	NA	NA	ug/kg	42	U	5	U	-		5	U	-		5	U	-	
1,2,3-Trichlorobenzene	NA	NA	ug/kg	-		-		-		-		-		5	U	-	
1,2,3-Trichloropropane	3,800	19,000	ug/kg	-		-		-		-		-		5	U	-	
1,2,4-Trichlorobenzene, VOC	400,000	400,000	ug/kg	42	U	5	U	-		5	U	-		5	U	-	
1,2,4-Trimethylbenzene	220,000	220,000	ug/kg	42	U	5	U	-		5	U	-		5	U	**6**	
1,2-Dibromo-3-chloropropane	1,700	15,000	ug/kg	-		-		-		-		-		10	U	-	
1,2-Dibromoethane	4,400	38,000	ug/kg	-		-		-		-		-		5	U	-	
1,2-Dichlorobenzene, VOC	380,000	380,000	ug/kg	42	U	5	U	-		5	U	-		5	U	-	
1,2-Dichloroethane	56,000	480,000	ug/kg	42	U	5	U	-		5	U	-		5	U	-	
1,2-Dichloropropane	120,000	180,000	ug/kg	42	U	5	U	-		5	U	-		5	U	-	
1,3,5-Trimethylbenzene	180,000	180,000	ug/kg	42	U	5	U	-		5	U	-		5	U	-	
1,3-Dichlorobenzene, VOC	NA	NA	ug/kg	42	U	5	U	-		5	U	-		5	U	-	
1,3-Dichloropropane	1,500,000	1,500,000	ug/kg	42	U	5	U	-		5	U	-		5	U	-	
1,4-Dichlorobenzene, VOC	310,000	2,600,000	ug/kg	42	U	5	U	-		5	U	-		5	U	-	
1,4-Dioxane	490,000	10,000,000	ug/kg	20	U	20	U	-		20	U	-		-		-	
2,2-Dichloropropane	NA	NA	ug/kg	42	U	5	U	-		5	U	-		5	U	-	
2-Butanone	28,000,000	28,000,000	ug/kg	420	U	50	U	-		50	U	-		50	U	-	
2-Chlorotoluene	NA	NA	ug/kg	42	U	5	U	-		5	U	-		5	U	-	
2-Hexanone	NA	NA	ug/kg	420	U	50	U	-		50	U	-		50	U	-	
2-Phenylbutane	NA	NA	ug/kg	-		-		-		-		-		5	U	-	
4-Chlorotoluene	NA	NA	ug/kg	42	U	5	U	-		5	U	-		5	U	-	
4-Methyl-2-Pentanone	3,400,000	3,400,000	ug/kg	420	U	50	U	-		50	U	-		50	U	-	
Acetone	110,000,000	110,000,000	ug/kg	840	U	100	U	-		100	U	-		50	U	-	
Benzene	140,000	1,200,000	ug/kg	42	U	**18.2**		-		**10**		-		5	U	**18.2**	
Bromobenzene	NA	NA	ug/kg	42	U	5	U	-		5	U	-		5	U	-	
Bromochloromethane	NA	NA	ug/kg	42	U	5	U	-		5	U	-		-		-	
Bromodichloromethane	35,000	300,000	ug/kg	42	U	5	U	-		5	U	-		5	U	-	
Bromoform	6,200,000	130,000,000	ug/kg	42	U	5	U	-		5	U	-		-		-	
Bromomethane	82,000	550,000	ug/kg	84	U	10	U	-		10	U	-		5	U	-	
Carbon disulfide	740,000	740,000	ug/kg	42	U	5	U	-		5	U	-		50	U	-	
Carbon tetrachloride	79,000	460,000	ug/kg	42	U	5	U	-		5	U	-		5	U	-	
Chlorobenzene	760,000	760,000	ug/kg	42	U	5	U	-		5	U	-		5	U	-	
Chlorobromomethane	NA	NA	ug/kg	-		-		-		-		-		5	U	-	
Chloroethane	2,100,000	2,100,000	ug/kg	84	U	10	U	-		10	U	-		5	U	-	
Chloroform	38,000	320,000	ug/kg	42	U	5	U	-		5	U	-		5	U	-	
Chloromethane	1,300,000	1,300,000	ug/kg	84	U	10	U	-		10	U	-		5	U	-	
cis-1,2-Dichloroethene	2,400,000	2,400,000	ug/kg	42	U	5	U	-		5	U	-		5	U	-	
cis-1,3-Dichloropropene	NA	NA	ug/kg	42	U	5	U	-		5	U	-		5	U	-	
Cymene	160,000	160,000	ug/kg	-		-		-		-		-		5	U	-	
Dibromochloromethane	84,000	770,000	ug/kg	42	U	5	U	-		5	U	-		5	U	-	
Dibromomethane	2,800,000	2,800,000	ug/kg	42	U	5	U	-		5	U	-		5	U	-	
Dichlorodifluoromethane	850,000	850,000	ug/kg	42	U	5	U	-		5	U	-		5	U	-	
Ethylbenzene	480,000	480,000	ug/kg	42	U	5	U	-		5	U	-		5	U	**8**	
Hexachlorobutadiene, VOC	630,000	1,400,000	ug/kg	42	U	5	U	-		5	U	-		5	U	-	
Isopropylbenzene, VOC	270,000	270,000	ug/kg	42	U	5	U	-		5	U	-		5	U	-	
m&p-Xylene	NA	NA	ug/kg	-		-		-		-		-		5	U	-	
Methyl tert butyl ether	5,700,000	8,900,000	ug/kg	42	U	5	U	-		5	U	-		10	U	-	
Methylene chloride	3,300,000	3,300,000	ug/kg	84	U	10	U	-		10	U	-		5	U	-	
Naphthalene, VOC	450,000	560,000	ug/kg	-		-		-		-		-		5	U	-	
n-Butylbenzene	110,000	110,000	ug/kg	42	U	5	U	-		5	U	-		5	U	-	
n-Hexane	140,000	140,000	ug/kg	170	U	20	U	-		20	U	-		-		**39**	
n-Propylbenzene	260,000	260,000	ug/kg	42	U	5	U	-		5	U	-		5	U	-	
o-Xylene	NA	NA	ug/kg	-		-		-		-		-		5	U	-	
Pentachloroethane	550,000	11,000,000	ug/kg	-		-		-		-		-		330	U	-	

TABLE 3.28
SOIL ANALYTICAL DATA
IDENTIFIED AREA: COD5, 2-12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	B01		B01		B02		B02		B02		B02		B03	
			Field Sample ID:	B01-0-10		B01-0-10		B02-0-05		B02-0-10		B02-0-10		B02-1-05		B03-0-10	
			Date:	5/19/2006		5/19/2006		5/19/2006		5/19/2006		5/19/2006		5/19/2006		5/19/2006	
	C/I	Construction	Depth:	5 - 10		5 - 6		3 - 4		5 - 10		8 - 9		3 - 4		5 - 10	
p-Isopropyltoluene	NA	NA	ug/kg	-		5	U	5	U	-		5	U	5	U	-	
sec-Butylbenzene	140,000	140,000	ug/kg	-		5	U	5	U	-		5	U	5	U	-	
Styrene	870,000	870,000	ug/kg	-		5	U	5	U	-		5	U	5	U	-	
tert-Butylbenzene	180,000	180,000	ug/kg	-		5	U	5	U	-		5	U	5	U	-	
Tetrachloroethene	170,000	170,000	ug/kg	-		**6.8**		5	U	-		5	U	5	U	-	
Toluene	820,000	820,000	ug/kg	-		**8.3**		**8.9**		-		**19.2**		**7.5**		-	
trans-1,2-Dichloroethene	1,700,000	1,700,000	ug/kg	-		5	U	5	U	-		5	U	5	U	-	
trans-1,3-Dichloropropene	NA	NA	ug/kg	-		5	U	5	U	-		5	U	5	U	-	
Trichloroethene	51,000	17,000	ug/kg	-		5	U	5	U	-		5	U	5	U	-	
Trichlorofluoromethane	1,200,000	1,200,000	ug/kg	-		5	U	5	U	-		5	U	5	U	-	
Vinyl acetate	2,700,000	620,000	ug/kg	-		5	U	5	U	-		5	U	5	U	-	
Vinyl chloride	50,000	280,000	ug/kg	-		2	U	2	U	-		2	U	2	U	-	
Xylene (Total)	260,000	260,000	ug/kg	-		5	U	5	U	-		**10.1**		5	U	-	
SVOCs																	
1,2,4,5-Tetrachlorobenzene	530,000	4,300,000	ug/kg	-		-		-		-		-		-		-	
1,2,4-Trichlorobenzene, SVOC	400,000	400,000	ug/kg	330	U	-		-		330	U	-		-		330	U
1,2-Dichlorobenzene, SVOC	380,000	380,000	ug/kg	330	U	-		-		330	U	-		-		330	U
1,2-Diphenylhydrazine	62,000	1,200,000	ug/kg	-		-		-		-		-		-		-	
1,3-Dichlorobenzene, SVOC	NA	NA	ug/kg	330	U	-		-		330	U	-		-		330	U
1,4-Dichlorobenzene, SVOC	310,000	2,600,000	ug/kg	330	U	-		-		330	U	-		-		330	U
1-Naphthylamine	NA	NA	ug/kg	-		-		-		-		-		-		-	
2,2-oxybis(2-Chloropropane)	NA	NA	ug/kg	-		-		-		-		-		-		-	
2,3,4,6-Tetrachlorophenol	53,000,000	430,000,000	ug/kg	-		-		-		-		-		-		-	
2,4,5-Trichlorophenol	180,000,000	1,000,000,000	ug/kg	330	U	-		-		330	U	-		-		330	U
2,4,6-Trichlorophenol	1,800,000	1,400,000	ug/kg	330	U	-		-		330	U	-		-		330	U
2,4-Dichlorophenol	NA	NA	ug/kg	330	U	-		-		330	U	-		-		330	U
2,4-Dimethylphenol	35,000,000	85,000,000	ug/kg	330	U	-		-		330	U	-		-		330	U
2,4-Dinitrophenol	3,500,000	28,000,000	ug/kg	-		-		-		-		-		-		-	
2,4-Dinitrotoluene	160,000	2,800,000	ug/kg	330	U	-		-		330	U	-		-		330	U
2,6-Dichlorophenol	33,000	670,000	ug/kg	-		-		-		-		-		-		-	
2,6-Dinitrotoluene	NA	NA	ug/kg	330	U	-		-		330	U	-		-		330	U
2-Chloronaphthalene	330,000,000	1,000,000,000	ug/kg	330	U	-		-		330	U	-		-		330	U
2-Chlorophenol	20,000,000	22,000,000	ug/kg	330	U	-		-		330	U	-		-		330	U
2-Methylnaphthalene	6,000,000	5,200,000	ug/kg	-		-		-		-		-		-		-	
2-Methylphenol	88,000,000	710,000,000	ug/kg	330	U	-		-		330	U	-		-		330	U
2-Naphthylamine	27,000	550,000	ug/kg	-		-		-		-		-		-		-	
2-Nitroaniline	NA	NA	ug/kg	-		-		-		-		-		-		-	
2-Nitrophenol	NA	NA	ug/kg	330	U	-		-		330	U	-		-		330	U
2-Picoline	NA	NA	ug/kg	-		-		-		-		-		-		-	
2-Toluidine	NA	NA	ug/kg	-		-		-		-		-		-		-	
3&4-Methylphenol	NA	NA	ug/kg	330	U	-		-		330	U	-		-		330	U
3,3-Dichlorobenzidine	NA	NA	ug/kg	-		-		-		-		-		-		-	
3-Methylcholanthrene	NA	NA	ug/kg	-		-		-		-		-		-		-	
3-Nitroaniline	NA	NA	ug/kg	-		-		-		-		-		-		-	
4,6-Dinitro-2-methylphenol	140,000	110,000	ug/kg	330	U	-		-		330	U	-		-		330	U
4-Aminobiphenyl	2,300	47,000	ug/kg	-		-		-		-		-		-		-	
4-Bromophenyl phenyl ether	NA	NA	ug/kg	330	U	-		-		330	U	-		-		330	U
4-Chloro-3-methylphenol	180,000,000	140,000,000	ug/kg	330	U	-		-		330	U	-		-		330	U
4-Chloroaniline	250,000	710,000	ug/kg	330	U	-		-		330	U	-		-		330	U
4-Chlorophenyl phenyl ether	NA	NA	ug/kg	-		-		-		-		-		-		-	
4-Dimethylaminoazobenzene	11,000	220,000	ug/kg	-		-		-		-		-		-		-	

TABLE 3.28
SOIL ANALYTICAL DATA
IDENTIFIED AREA: COD5, 2-12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	B03		B04		B04		B04		COD05-C004		DAY-20		Maximum Detected Concentration	
			Field Sample ID:	B03-0-10		B04-0-05		B04-0-10		B04-0-10		COD05-C004		DAY-20 5-7			
			Date:	5/19/2006		5/18/2006		5/18/2006		5/18/2006		5/22/2007		1/10/2002			
	C/I	Construction	Depth:	7 - 8		2 - 2.5		5 - 10		5 - 6		3 - 3		5 - 7			
p-Isopropyltoluene	NA	NA	ug/kg	42	U	5	U	-		5	U	-		-		-	
sec-Butylbenzene	140,000	140,000	ug/kg	42	U	5	U	-		5	U	-		-		-	
Styrene	870,000	870,000	ug/kg	42	U	5	U	-		5	U	-		5	U	-	
tert-Butylbenzene	180,000	180,000	ug/kg	42	U	5	U	-		5	U	-		5	U	-	
Tetrachloroethene	170,000	170,000	ug/kg	42	U	**6.2**		-		5	U	-		5	U	**6.8**	
Toluene	820,000	820,000	ug/kg	42	U	**15.1**		-		**8.2**		-		5	U	**19.2**	
trans-1,2-Dichloroethene	1,700,000	1,700,000	ug/kg	42	U	5	U	-		5	U	-		5	U	-	
trans-1,3-Dichloropropene	NA	NA	ug/kg	42	U	5	U	-		5	U	-		5	U	-	
Trichloroethene	51,000	17,000	ug/kg	42	U	5	U	-		5	U	-		5	U	-	
Trichlorofluoromethane	1,200,000	1,200,000	ug/kg	42	U	5	U	-		5	U	-		5	U	-	
Vinyl acetate	2,700,000	620,000	ug/kg	42	U	5	U	-		5	U	-		-		-	
Vinyl chloride	50,000	280,000	ug/kg	17	U	2	U	-		2	U	-		2	U	-	
Xylene (Total)	260,000	260,000	ug/kg	42	U	5	U	-		5	U	-		-		**10.1**	
SVOCs																	
1,2,4,5-Tetrachlorobenzene	530,000	4,300,000	ug/kg	-		-		-		-		-		330	U	-	
1,2,4-Trichlorobenzene, SVOC	400,000	400,000	ug/kg	-		-		330	U	-		-		330	U	-	
1,2-Dichlorobenzene, SVOC	380,000	380,000	ug/kg	-		-		330	U	-		-		330	U	-	
1,2-Diphenylhydrazine	62,000	1,200,000	ug/kg	-		-		-		-		-		330	U	-	
1,3-Dichlorobenzene, SVOC	NA	NA	ug/kg	-		-		330	U	-		-		330	U	-	
1,4-Dichlorobenzene, SVOC	310,000	2,600,000	ug/kg	-		-		330	U	-		-		330	U	-	
1-Naphthylamine	NA	NA	ug/kg	-		-		-		-		-		330	U	-	
2,2-oxybis(2-Chloropropane)	NA	NA	ug/kg	-		-		-		-		-		330	U	-	
2,3,4,6-Tetrachlorophenol	53,000,000	430,000,000	ug/kg	-		-		-		-		-		330	U	-	
2,4,5-Trichlorophenol	180,000,000	1,000,000,000	ug/kg	-		-		330	U	-		-		330	U	-	
2,4,6-Trichlorophenol	1,800,000	1,400,000	ug/kg	-		-		330	U	-		-		330	U	-	
2,4-Dichlorophenol	NA	NA	ug/kg	-		-		330	U	-		-		330	U	-	
2,4-Dimethylphenol	35,000,000	85,000,000	ug/kg	-		-		330	U	-		-		330	U	-	
2,4-Dinitrophenol	3,500,000	28,000,000	ug/kg	-		-		-		-		-		1650	U	-	
2,4-Dinitrotoluene	160,000	2,800,000	ug/kg	-		-		330	U	-		-		330	U	-	
2,6-Dichlorophenol	33,000	670,000	ug/kg	-		-		-		-		-		330	U	-	
2,6-Dinitrotoluene	NA	NA	ug/kg	-		-		330	U	-		-		330	U	-	
2-Chloronaphthalene	330,000,000	1,000,000,000	ug/kg	-		-		330	U	-		-		330	U	-	
2-Chlorophenol	20,000,000	22,000,000	ug/kg	-		-		330	U	-		-		330	U	-	
2-Methylnaphthalene	6,000,000	5,200,000	ug/kg	-		-		-		-		83.9	U	330	U	-	
2-Methylphenol	88,000,000	710,000,000	ug/kg	-		-		330	U	-		-		330	U	-	
2-Naphthylamine	27,000	550,000	ug/kg	-		-		-		-		-		330	U	-	
2-Nitroaniline	NA	NA	ug/kg	-		-		-		-		-		1650	U	-	
2-Nitrophenol	NA	NA	ug/kg	-		-		330	U	-		-		330	U	-	
2-Picoline	NA	NA	ug/kg	-		-		-		-		-		330	U	-	
2-Toluidine	NA	NA	ug/kg	-		-		-		-		-		330	U	-	
3&4-Methylphenol	NA	NA	ug/kg	-		-		330	U	-		-		330	U	-	
3,3-Dichlorobenzidine	NA	NA	ug/kg	-		-		-		-		-		660	U	-	
3-Methylcholanthrene	NA	NA	ug/kg	-		-		-		-		-		330	U	-	
3-Nitroaniline	NA	NA	ug/kg	-		-		-		-		-		1650	U	-	
4,6-Dinitro-2-methylphenol	140,000	110,000	ug/kg	-		-		330	U	-		-		1650	U	-	
4-Aminobiphenyl	2,300	47,000	ug/kg	-		-		-		-		-		660	U	-	
4-Bromophenyl phenyl ether	NA	NA	ug/kg	-		-		330	U	-		-		330	U	-	
4-Chloro-3-methylphenol	180,000,000	140,000,000	ug/kg	-		-		330	U	-		-		660	U	-	
4-Chloroaniline	250,000	710,000	ug/kg	-		-		330	U	-		-		660	U	-	
4-Chlorophenyl phenyl ether	NA	NA	ug/kg	-		-		-		-		-		330	U	-	
4-Dimethylaminoazobenzene	11,000	220,000	ug/kg	-		-		-		-		-		330	U	-	

TABLE 3.28
SOIL ANALYTICAL DATA
IDENTIFIED AREA: COD5, 2-12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	B01		B01		B02		B02		B02		B02		B03	
			Field Sample ID:	B01-0-10		B01-0-10		B02-0-05		B02-0-10		B02-0-10		B02-1-05		B03-0-10	
			Date:	5/19/2006		5/19/2006		5/19/2006		5/19/2006		5/19/2006		5/19/2006		5/19/2006	
	C/I	Construction	Depth:	5 - 10		5 - 6		3 - 4		5 - 10		8 - 9		3 - 4		5 - 10	
4-Nitroaniline	2,500,000	14,000,000	ug/kg	-		-		-		-		-		-		-	
4-Nitrophenol	NA	NA	ug/kg	-		-		-		-		-		-		-	
5-Nitro-2-Toluidine	NA	NA	ug/kg	-		-		-		-		-		-		-	
7,12-Dimethylbenz(a)anthracene	170	3,600	ug/kg	-		-		-		-		-		-		-	
Acenaphthene	90,000,000	780,000,000	ug/kg	330	U	-		-		330	U	-		-		330	U
Acenaphthylene	90,000,000	780,000,000	ug/kg	330	U	-		-		330	U	-		-		330	U
Acetophenone	2,500,000	2,500,000	ug/kg	-		-		-		-		-		-		-	
Aniline	8,700,000	9,900,000	ug/kg	-		-		-		-		-		-		-	
Anthracene	450,000,000	1,000,000,000	ug/kg	330	U	-		-		330	U	-		-		330	U
Benzidine	210	4,300	ug/kg	-		-		-		-		-		-		-	
Benzo(a)anthracene	58,000	1,200,000	ug/kg	330	U	-		-		330	U	-		-		**570**	
Benzo(a)pyrene	5,800	120,000	ug/kg	**191**		-		-		**199**		-		-		**941**	
Benzo(b)fluoranthene	58,000	1,200,000	ug/kg	**344**		-		-		**389**		-		-		**1240**	
Benzo(g,h,i)perylene	45,000,000	390,000,000	ug/kg	330	U	-		-		330	U	-		-		330	U
Benzo(k)fluoranthene	580,000	12,000,000	ug/kg	330	U	-		-		330	U	-		-		**539**	
Benzoic acid	1,000,000,000	1,000,000,000	ug/kg	1650	U	-		-		1650	U	-		-		1650	U
Benzyl alcohol	NA	NA	ug/kg	330	U	-		-		330	U	-		-		330	U
Benzyl butyl phthalate	NA	NA	ug/kg	330	U	-		-		330	U	-		-		330	U
bis(2-Chloroethoxy)methane	5,300,000	43,000,000	ug/kg	330	U	-		-		330	U	-		-		330	U
bis(2-Chloroethyl)ether	30,000	290,000	ug/kg	330	U	-		-		330	U	-		-		330	U
bis(2-chloroisopropyl)ether	NA	NA	ug/kg	330	U	-		-		330	U	-		-		330	U
bis(2-Ethylhexyl)phthalate	3,500,000	71,000,000	ug/kg	330	U	-		-		330	U	-		-		330	U
Butyl benzylphthalate	26,000,000	520,000,000	ug/kg	-		-		-		-		-		-		-	
Chrysene	5,800,000	120,000,000	ug/kg	330	U	-		-		330	U	-		-		**503**	
Dibenz(a,h)anthracene	5,800	120,000	ug/kg	165	U	-		-		165	U	-		-		165	U
Dibenzofuran	4,100,000	2,100,000	ug/kg	330	U	-		-		330	U	-		-		330	U
Diethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	330	U	-		-		330	U	-		-		330	U
Dimethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	330	U	-		-		330	U	-		-		330	U
Di-n-butylphthalate	180,000,000	430,000,000	ug/kg	-		-		-		-		-		-		-	
Di-N-Octyl phthalate	18,000,000	140,000,000	ug/kg	330	U	-		-		330	U	-		-		330	U
Ethyl methanesulfonate	NA	NA	ug/kg	-		-		-		-		-		-		-	
Fluoranthene	60,000,000	160,000,000	ug/kg	**485**		-		-		**673**		-		-		**618**	
Fluorene	60,000,000	520,000,000	ug/kg	330	U	-		-		330	U	-		-		330	U
Hexachlorobenzene	31,000	14,000	ug/kg	330	U	-		-		330	U	-		-		330	U
Hexachlorobutadiene, SVOC	630,000	1,400,000	ug/kg	-		-		-		-		-		-		-	
Hexachlorocyclopentadiene	11,000,000	26,000,000	ug/kg	660	U	-		-		660	U	-		-		660	U
Hexachloroethane	1,200,000	3,000,000	ug/kg	330	U	-		-		330	U	-		-		330	U
Indeno(1,2,3-cd)pyrene	58,000	1,200,000	ug/kg	330	U	-		-		330	U	-		-		330	U
Isophorone	52,000,000	1,000,000,000	ug/kg	330	U	-		-		330	U	-		-		330	U
Methyl methanesulfonate	NA	NA	ug/kg	-		-		-		-		-		-		-	
Naphthalene, SVOC	450,000	560,000	ug/kg	330	U	-		-		330	U	-		-		330	U
Nitrobenzene	610,000	3,000,000	ug/kg	330	U	-		-		330	U	-		-		330	U
N-Nitrosodimethylamine	1,000	11,000	ug/kg	-		-		-		-		-		-		-	
N-Nitrosodi-N-butylamine	14,000	150,000	ug/kg	-		-		-		-		-		-		-	
N-Nitrosodi-n-propylamine	7,000	140,000	ug/kg	38.1	U	-		-		38.1	U	-		-		38.1	U
N-Nitrosodiphenylamine	10,000,000	200,000,000	ug/kg	-		-		-		-		-		-		-	
N-Nitrosopiperidine	5,200	110,000	ug/kg	-		-		-		-		-		-		-	
Pentachlorobenzene	1,400,000	11,000,000	ug/kg	-		-		-		-		-		-		-	
Pentachloronitrobenzene	190,000	3,800,000	ug/kg	-		-		-		-		-		-		-	
Pentachlorophenol	67,000	950,000	ug/kg	330	U	-		-		330	U	-		-		330	U
Phenacetin	22,000,000	450,000,000	ug/kg	-		-		-		-		-		-		-	
Phenanthrene	450,000,000	1,000,000,000	ug/kg	**385**		-		-		**739**		-		-		**410**	
Phenol	530,000,000	840,000,000	ug/kg	330	U	-		-		330	U	-		-		330	U
Pronamide	NA	NA	ug/kg	-		-		-		-		-		-		-	
Pyrene, SVOC	45,000,000	390,000,000	ug/kg	**426**		-		-		**749**		-		-		**695**	
Pyridine	4,100,000	21,000,000	ug/kg	-		-		-		-		-		-		-	

TABLE 3.28
SOIL ANALYTICAL DATA
IDENTIFIED AREA: COD5, 2-12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	B03		B04		B04		B04		COD05-C004		DAY-20		Maximum Detected Concentration	
			Field Sample ID:	B03-0-10		B04-0-05		B04-0-10		B04-0-10		COD05-C004		DAY-20 5-7			
			Date:	5/19/2006		5/18/2006		5/18/2006		5/18/2006		5/22/2007		1/10/2002			
	C/I	Construction	Depth:	7 - 8		2 - 2.5		5 - 10		5 - 6		3 - 3		5 - 7			
4-Nitroaniline	2,500,000	14,000,000	ug/kg	-		-		-		-		-		660	U	-	
4-Nitrophenol	NA	NA	ug/kg	-		-		-		-		-		1650	U	-	
5-Nitro-2-Toluidine	NA	NA	ug/kg	-		-		-		-		-		330	U	-	
7,12-Dimethylbenz(a)anthracene	170	3,600	ug/kg	-		-		-		-		-		330	U	-	
Acenaphthene	90,000,000	780,000,000	ug/kg	-		-		330	U	-		83.9	U	330	U	-	
Acenaphthylene	90,000,000	780,000,000	ug/kg	-		-		330	U	-		83.9	U	330	U	-	
Acetophenone	2,500,000	2,500,000	ug/kg	-		-		-		-		-		330	U	-	
Aniline	8,700,000	9,900,000	ug/kg	-		-		-		-		-		330	U	-	
Anthracene	450,000,000	1,000,000,000	ug/kg	-		-		330	U	-		83.9	U	330	U	-	
Benzidine	210	4,300	ug/kg	-		-		-		-		-		330	U	-	
Benzo(a)anthracene	58,000	1,200,000	ug/kg	-		-		**481**		-		83.9	U	330	U	**570**	
Benzo(a)pyrene	5,800	120,000	ug/kg	-		-		**415**		-		83.9	U	330	U	**941**	
Benzo(b)fluoranthene	58,000	1,200,000	ug/kg	-		-		**821**		-		83.9	U	330	U	**1240**	
Benzo(g,h,i)perylene	45,000,000	390,000,000	ug/kg	-		-		330	U	-		83.9	U	330	U	-	
Benzo(k)fluoranthene	580,000	12,000,000	ug/kg	-		-		330	U	-		83.9	U	330	U	**539**	
Benzoic acid	1,000,000,000	1,000,000,000	ug/kg	-		-		1650	U	-		-		-		-	
Benzyl alcohol	NA	NA	ug/kg	-		-		330	U	-		-		660	U	-	
Benzyl butyl phthalate	NA	NA	ug/kg	-		-		330	U	-		-		-		-	
bis(2-Chloroethoxy)methane	5,300,000	43,000,000	ug/kg	-		-		330	U	-		-		330	U	-	
bis(2-Chloroethyl)ether	30,000	290,000	ug/kg	-		-		330	U	-		-		330	U	-	
bis(2-chloroisopropyl)ether	NA	NA	ug/kg	-		-		330	U	-		-		-		-	
bis(2-Ethylhexyl)phthalate	3,500,000	71,000,000	ug/kg	-		-		330	U	-		-		1650	U	-	
Butyl benzylphthalate	26,000,000	520,000,000	ug/kg	-		-		-		-		-		330	U	-	
Chrysene	5,800,000	120,000,000	ug/kg	-		-		**481**		-		83.9	U	330	U	**503**	
Dibenz(a,h)anthracene	5,800	120,000	ug/kg	-		-		165	U	-		83.9	U	330	U	-	
Dibenzofuran	4,100,000	2,100,000	ug/kg	-		-		330	U	-		-		330	U	-	
Diethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	-		-		330	U	-		-		330	U	-	
Dimethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	-		-		330	U	-		-		330	U	-	
Di-n-butylphthalate	180,000,000	430,000,000	ug/kg	-		-		-		-		-		330	U	-	
Di-N-Octyl phthalate	18,000,000	140,000,000	ug/kg	-		-		330	U	-		-		330	U	-	
Ethyl methanesulfonate	NA	NA	ug/kg	-		-		-		-		-		330	U	-	
Fluoranthene	60,000,000	160,000,000	ug/kg	-		-		**1310**		-		**169**		330	U	**1310**	
Fluorene	60,000,000	520,000,000	ug/kg	-		-		330	U	-		83.9	U	330	U	-	
Hexachlorobenzene	31,000	14,000	ug/kg	-		-		330	U	-		-		330	U	-	
Hexachlorobutadiene, SVOC	630,000	1,400,000	ug/kg	-		-		-		-		-		330	U	-	
Hexachlorocyclopentadiene	11,000,000	26,000,000	ug/kg	-		-		660	U	-		-		330	U	-	
Hexachloroethane	1,200,000	3,000,000	ug/kg	-		-		330	U	-		-		330	U	-	
Indeno(1,2,3-cd)pyrene	58,000	1,200,000	ug/kg	-		-		330	U	-		83.9	U	150	U	-	
Isophorone	52,000,000	1,000,000,000	ug/kg	-		-		330	U	-		-		330	U	-	
Methyl methanesulfonate	NA	NA	ug/kg	-		-		-		-		-		330	U	-	
Naphthalene, SVOC	450,000	560,000	ug/kg	-		-		330	U	-		83.9	U	330	U	-	
Nitrobenzene	610,000	3,000,000	ug/kg	-		-		330	U	-		-		330	U	-	
N-Nitrosodimethylamine	1,000	11,000	ug/kg	-		-		-		-		-		330	U	-	
N-Nitrosodi-N-butylamine	14,000	150,000	ug/kg	-		-		-		-		-		330	U	-	
N-Nitrosodi-n-propylamine	7,000	140,000	ug/kg	-		-		38.1	U	-		-		330	U	-	
N-Nitrosodiphenylamine	10,000,000	200,000,000	ug/kg	-		-		-		-		-		330	U	-	
N-Nitrosopiperidine	5,200	110,000	ug/kg	-		-		-		-		-		330	U	-	
Pentachlorobenzene	1,400,000	11,000,000	ug/kg	-		-		-		-		-		330	U	-	
Pentachloronitrobenzene	190,000	3,800,000	ug/kg	-		-		-		-		-		660	U	-	
Pentachlorophenol	67,000	950,000	ug/kg	-		-		330	U	-		-		1650	U	-	
Phenacetin	22,000,000	450,000,000	ug/kg	-		-		-		-		-		660	U	-	
Phenanthrene	450,000,000	1,000,000,000	ug/kg	-		-		**1200**		-		83.89999	U	330	U	**1200**	
Phenol	530,000,000	840,000,000	ug/kg	-		-		330	U	-		-		330	U	-	
Pronamide	NA	NA	ug/kg	-		-		-		-		-		330	U	-	
Pyrene, SVOC	45,000,000	390,000,000	ug/kg	-		-		**1360**		-		**134**		330	U	**1360**	
Pyridine	4,100,000	21,000,000	ug/kg	-		-		-		-		-		330	U	-	

TABLE 3.28
SOIL ANALYTICAL DATA
IDENTIFIED AREA: COD5, 2-12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	B01		B01		B02		B02		B02		B02		B03	
			Field Sample ID:	B01-0-10		B01-0-10		B02-0-05		B02-0-10		B02-0-10		B02-1-05		B03-0-10	
			Date:	5/19/2006		5/19/2006		5/19/2006		5/19/2006		5/19/2006		5/19/2006		5/19/2006	
	C/I	Construction	Depth:	5 - 10		5 - 6		3 - 4		5 - 10		8 - 9		3 - 4		5 - 10	
PCBs																	
Aroclor-1016	100,000	260,000	ug/kg	250	U	-		-		250	U	-		-		250	U
Aroclor-1221	14,000	210,000	ug/kg	250	U	-		-		250	U	-		-		250	U
Aroclor-1232	14,000	73,000	ug/kg	250	U	-		-		250	U	-		-		250	U
Aroclor-1242	20,000	440,000	ug/kg	250	U	-		-		250	U	-		-		250	U
Aroclor-1248	20,000	440,000	ug/kg	250	U	-		-		250	U	-		-		250	U
Aroclor-1254	20,000	75,000	ug/kg	250	U	-		-		250	U	-		-		250	U
Aroclor-1260	20,000	440,000	ug/kg	250	U	-		-		250	U	-		-		250	U
Total PCBs Calculated	20,000	440,000	ug/kg	250	U	-		-		250	U	-		-		250	U
Metals																	
Antimony	1,600	850	mg/kg	1	U	-		-		1	U	-		-		0.95	U
Arsenic	77	690	mg/kg	**4**		-		-		**3.4**		-		-		4.5	U
Barium	680,000	320,000	mg/kg	**122**		-		-		**52.1**		-		-		**48.8**	
Beryllium	7,800	3,400	mg/kg	1.6	U	-		-		1.6	U	-		-		1.6	U
Cadmium	2,600	1,000	mg/kg	3.2	U	-		-		3.2	U	-		-		3.1	U
Chromium Total	NA	NA	mg/kg	6.4	U	-		-		6.3	U	-		-		**8.73**	
Copper	160,000	21,000	mg/kg	**9.4**		-		-		**9.3**		-		-		**16.3**	
Lead	800	400	mg/kg	**47.9**		-		-		**18.2**		-		-		**67.4**	
Mercury	3.1	3.1	mg/kg	**0.026**		-		-		**0.024**		-		-		**0.025**	
Nickel	74,000	23,000	mg/kg	**5.18**		-		-		**6.06**		-		-		**5.72**	
Selenium	20,000	11,000	mg/kg	6.4	U	-		-		6.3	U	-		-		6.3	U
Silver	20,000	11,000	mg/kg	0.5	U	-		-		0.5	U	-		-		**1.2**	
Thallium	41	21	mg/kg	1	U	-		-		1	U	-		-		0.95	U
Zinc	1,000,000	640,000	mg/kg	**26.2**		-		-		**94.2**		-		-		**1400**	
TPH																	
Total Petroleum Hydrocarbons	NA	1,000,000	ug/kg	-		-		-		-		-		-		-	
TPH C10-C20	NA	NA	ug/kg	10000	U	-		-		10000	U	-		-		10000	U
TPH C20-C34	5,000,000	5,000,000	ug/kg	**25100**		-		-		**38100**		-		-		**48100**	

TABLE 3.28
SOIL ANALYTICAL DATA
IDENTIFIED AREA: COD5, 2-12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	B03		B04		B04		B04		COD05-C004		DAY-20		Maximum Detected Concentration	
			Field Sample ID:	B03-0-10		B04-0-05		B04-0-10		B04-0-10		COD05-C004		DAY-20 5-7			
			Date:	5/19/2006		5/18/2006		5/18/2006		5/18/2006		5/22/2007		1/10/2002			
	C/I	Construction	Depth:	7 - 8		2 - 2.5		5 - 10		5 - 6		3 - 3		5 - 7			
PCBs																	
Aroclor-1016	100,000	260,000	ug/kg	-		-		250	U	-		-		0.02	U	-	
Aroclor-1221	14,000	210,000	ug/kg	-		-		250	U	-		-		0.04	U	-	
Aroclor-1232	14,000	73,000	ug/kg	-		-		250	U	-		-		0.02	U	-	
Aroclor-1242	20,000	440,000	ug/kg	-		-		250	U	-		-		0.02	U	-	
Aroclor-1248	20,000	440,000	ug/kg	-		-		250	U	-		-		0.02	U	-	
Aroclor-1254	20,000	75,000	ug/kg	-		-		250	U	-		-		20	U	-	
Aroclor-1260	20,000	440,000	ug/kg	-		-		250	U	-		-		20	U	-	
Total PCBs Calculated	20,000	440,000	ug/kg	-		-		250	U	-		-		20	U	-	
Metals																	
Antimony	1,600	850	mg/kg	-		-		0.99	U	-		-		-		-	
Arsenic	77	690	mg/kg	-		-		**6.2**		-		-		5	U	**6.2**	
Barium	680,000	320,000	mg/kg	-		-		**76.2**		-		-		**150**		**150**	
Beryllium	7,800	3,400	mg/kg	-		-		1.6	U	-		-		-		-	
Cadmium	2,600	1,000	mg/kg	-		-		3.1	U	-		-		0.5	U	-	
Chromium Total	NA	NA	mg/kg	-		-		**9.38**		-		-		**5.4**		**9.38**	
Copper	160,000	21,000	mg/kg	-		-		**7.51**		-		-		-		**16.3**	
Lead	800	400	mg/kg	-		-		**20.1**		-		-		**4.3**		**67.4**	
Mercury	3.1	3.1	mg/kg	-		-		**0.246**		-		-		0.3	U	**0.246**	
Nickel	74,000	23,000	mg/kg	-		-		**7.66**		-		-		-		**7.66**	
Selenium	20,000	11,000	mg/kg	-		-		6.3	U	-		-		3	U	-	
Silver	20,000	11,000	mg/kg	-		-		0.5	U	-		-		1	U	**1.2**	
Thallium	41	21	mg/kg	-		-		0.99	U	-		-		-		-	
Zinc	1,000,000	640,000	mg/kg	-		-		**38**		-		-		-		**1400**	
TPH																	
Total Petroleum Hydrocarbons	NA	1,000,000	ug/kg	-		-		-		-		-		50000	U	-	
TPH C10-C20	NA	NA	ug/kg	-		-		50000	U	-		-		-		-	
TPH C20-C34	5,000,000	5,000,000	ug/kg	-		-		100000	U	-		-		-		**48100**	

NOTES:

Shaded values indicate concentration exceeds C/I Single Chemical Generic Direct Contact Soil Standard

Shaded values indicate concentration exceeds Construction Single Chemical Generic Direct Contact Soil Standard

Shaded values indicate concentration exceeds both Single Chemical Generic Direct Contact Soil Standards

bold text indicates detection above reporting limit

Total PCBs value is the sum of all positively deteted PCB aroclors

D: The reported value is from a dilution

C/I: Commercial/ Industrial

J: The associated numerical value is an estimated quantity

mg/kg: milligrams per kilogram

NA: exceedance criteria not applicable for compound/analyte

PCB: Polychlorinated Biphenyl

R: The data are unusable (the compound/analyte may or may not be present). Resampling and reanalysis are necessary for verification

SVOC: SemiVolatile Organic Compound

U: The compound/analyte was analyzed for, but not detected. The associated numerical value is the sample quantitation limit

ug/kg: micrograms per kilogram

UJ: The compound/analyte was analyzed for, but not detected. The sample quantitation limit is an estimated quantity

VOC: Volatile Organic Compound

TABLE 3.29
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 3E/5W/21/33, > 12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	MW-24-04		SB-34-02		Maximum Detected Concentration	
			Field Sample ID:	MW-24-04		SB-34-02			
			Date:	3/3/2004		4/12/2002			
	C/I	Construction	Depth:	13 - 15		12 - 14			
VOCs									
1,1,1-Trichloroethane	640,000	640,000	ug/kg	4.5	U	4.9	U	-	
1,1,2,2-Tetrachloroethane	75,000	670,000	ug/kg	4.5	U	4.9	U	-	
1,1,2-Trichloroethane	140,000	1,200,000	ug/kg	4.5	U	4.9	U	-	
1,1-Dichloroethane	420,000	1,700,000	ug/kg	4.5	U	4.9	U	-	
1,1-Dichloroethene	1,200,000	360,000	ug/kg	4.5	U	4.9	U	-	
1,2,4-Trichlorobenzene, VOC	400,000	400,000	ug/kg	4.5	U	4.9	U	-	
1,2-Dibromo-3-chloropropane	1,700	15,000	ug/kg	8.9	U	9.7	U	-	
1,2-Dibromoethane	4,400	38,000	ug/kg	4.5	U	4.9	U	-	
1,2-Dichlorobenzene, VOC	380,000	380,000	ug/kg	4.5	U	4.9	U	-	
1,2-Dichloroethane	56,000	480,000	ug/kg	4.5	U	4.9	U	-	
1,2-Dichloropropane	120,000	180,000	ug/kg	4.5	U	4.9	U	-	
1,3-Dichlorobenzene, VOC	NA	NA	ug/kg	4.5	U	4.9	U	-	
1,4-Dichlorobenzene, VOC	310,000	2,600,000	ug/kg	4.5	U	4.9	U	-	
2-Butanone	28,000,000	28,000,000	ug/kg	**16**	**J**	19	U	**16**	**J**
2-Hexanone	NA	NA	ug/kg	18	U	19	U	-	
4-Methyl-2-Pentanone	3,400,000	3,400,000	ug/kg	**2.2**	**J**	19	U	**2.2**	**J**
Acetone	110,000,000	110,000,000	ug/kg	47	U	19	UJ	-	
Benzene	140,000	1,200,000	ug/kg	**0.45**	**J**	4.9	U	**0.45**	**J**
Bromodichloromethane	35,000	300,000	ug/kg	4.5	U	4.9	U	-	
Bromoform	6,200,000	130,000,000	ug/kg	4.5	U	4.9	UJ	-	
Bromomethane	82,000	550,000	ug/kg	4.5	U	4.9	UJ	-	
Carbon disulfide	740,000	740,000	ug/kg	4.5	U	4.9	U	-	
Carbon tetrachloride	79,000	460,000	ug/kg	4.5	U	4.9	U	-	
Chlorobenzene	760,000	760,000	ug/kg	4.5	U	4.9	U	-	
Chloroethane	2,100,000	2,100,000	ug/kg	4.5	U	4.9	U	-	
Chloroform	38,000	320,000	ug/kg	4.5	U	4.9	U	-	
Chloromethane	1,300,000	1,300,000	ug/kg	4.5	U	4.9	U	-	
cis-1,2-Dichloroethene	2,400,000	2,400,000	ug/kg	**3**		2.4	U	**3**	
cis-1,3-Dichloropropene	NA	NA	ug/kg	4.5	U	4.9	U	-	
Cyclohexane	120,000	120,000	ug/kg	8.9	U	9.7	U	-	
Dibromochloromethane	84,000	770,000	ug/kg	4.5	U	4.9	U	-	
Dichlorodifluoromethane	850,000	850,000	ug/kg	4.5	U	4.9	U	-	
Ethylbenzene	480,000	480,000	ug/kg	**0.9**	**J**	4.9	U	**0.9**	**J**
Isopropylbenzene, VOC	270,000	270,000	ug/kg	4.5	U	4.9	U	-	
Methyl acetate	NA	NA	ug/kg	8.9	U	9.7	U	-	
Methyl cyclohexane	NA	NA	ug/kg	**0.58**	**J**	9.7	U	**0.58**	**J**
Methyl tert butyl ether	5,700,000	8,900,000	ug/kg	18	U	19	U	-	
Methylene chloride	3,300,000	3,300,000	ug/kg	**1.5**	**J**	4.9	U	**1.5**	**J**
Styrene	870,000	870,000	ug/kg	4.5	U	4.9	U	-	
Tetrachloroethene	170,000	170,000	ug/kg	**0.46**	**J**	**8.4**		**8.4**	
Toluene	820,000	820,000	ug/kg	**2.6**	**J**	**0.69**	**J**	**2.6**	**J**
trans-1,2-Dichloroethene	1,700,000	1,700,000	ug/kg	2.2	U	2.4	U	-	
trans-1,3-Dichloropropene	NA	NA	ug/kg	4.5	U	4.9	U	-	
Trichloroethene	51,000	17,000	ug/kg	4.5	U	**13**		**13**	
Trichlorofluoromethane	1,200,000	1,200,000	ug/kg	4.5	U	4.9	U	-	
Trifluorotrichloroethane	NA	NA	ug/kg	4.5	U	4.9	U	-	
Vinyl chloride	50,000	280,000	ug/kg	4.5	U	4.9	U	-	
Xylene (Total)	260,000	260,000	ug/kg	**1.2**	**J**	9.7	U	**1.2**	**J**

TABLE 3.29
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 3E/5W/21/33, > 12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	MW-24-04		SB-34-02		Maximum Detected Concentration	
			Field Sample ID:	MW-24-04		SB-34-02			
			Date:	3/3/2004		4/12/2002			
	C/I	Construction	Depth:	13 - 15		12 - 14			
SVOCs									
2,2-oxybis(2-Chloropropane)	NA	NA	ug/kg	17000	UJ	360	U	-	
2,4,5-Trichlorophenol	180,000,000	1,000,000,000	ug/kg	17000	UJ	360	U	-	
2,4,6-Trichlorophenol	1,800,000	1,400,000	ug/kg	17000	UJ	360	U	-	
2,4-Dichlorophenol	NA	NA	ug/kg	17000	UJ	360	U	-	
2,4-Dimethylphenol	35,000,000	85,000,000	ug/kg	17000	UJ	360	U	-	
2,4-Dinitrophenol	3,500,000	28,000,000	ug/kg	84000	R	1700	U	-	
2,4-Dinitrotoluene	160,000	2,800,000	ug/kg	17000	UJ	360	U	-	
2,6-Dinitrotoluene	NA	NA	ug/kg	17000	UJ	360	U	-	
2-Chloronaphthalene	330,000,000	1,000,000,000	ug/kg	17000	UJ	360	U	-	
2-Chlorophenol	20,000,000	22,000,000	ug/kg	17000	UJ	360	U	-	
2-Methylnaphthalene	6,000,000	5,200,000	ug/kg	17000	UJ	360	U	-	
2-Methylphenol	88,000,000	710,000,000	ug/kg	17000	UJ	360	U	-	
2-Nitroaniline	NA	NA	ug/kg	84000	UJ	1700	U	-	
2-Nitrophenol	NA	NA	ug/kg	17000	UJ	360	U	-	
3,3-Dichlorobenzidine	NA	NA	ug/kg	84000	UJ	1700	U	-	
3-Nitroaniline	NA	NA	ug/kg	84000	UJ	1700	U	-	
4,6-Dinitro-2-methylphenol	140,000	110,000	ug/kg	84000	R	1700	U	-	
4-Bromophenyl phenyl ether	NA	NA	ug/kg	17000	UJ	360	U	-	
4-Chloro-3-methylphenol	180,000,000	140,000,000	ug/kg	17000	UJ	360	U	-	
4-Chloroaniline	250,000	710,000	ug/kg	17000	UJ	360	U	-	
4-Chlorophenyl phenyl ether	NA	NA	ug/kg	17000	UJ	360	U	-	
4-Methylphenol	180,000,000	28,000,000	ug/kg	17000	UJ	360	U	-	
4-Nitroaniline	2,500,000	14,000,000	ug/kg	84000	UJ	1700	U	-	
4-Nitrophenol	NA	NA	ug/kg	84000	UJ	1700	U	-	
Acenaphthene	90,000,000	780,000,000	ug/kg	17000	UJ	360	U	-	
Acenaphthylene	90,000,000	780,000,000	ug/kg	17000	UJ	360	U	-	
Acetophenone	2,500,000	2,500,000	ug/kg	17000	UJ	360	U	-	
Anthracene	450,000,000	1,000,000,000	ug/kg	17000	UJ	360	U	-	
Atrazine	NA	NA	ug/kg	17000	UJ	360	U	-	
Benzaldehyde	NA	NA	ug/kg	17000	UJ	360	U	-	
Benzo(a)anthracene	58,000	1,200,000	ug/kg	17000	UJ	360	U	-	
Benzo(a)pyrene	5,800	120,000	ug/kg	17000	UJ	360	U	-	
Benzo(b)fluoranthene	58,000	1,200,000	ug/kg	17000	UJ	360	U	-	
Benzo(g,h,i)perylene	45,000,000	390,000,000	ug/kg	17000	UJ	360	U	-	
Benzo(k)fluoranthene	580,000	12,000,000	ug/kg	17000	UJ	360	U	-	
Biphenyl	14,000,000	190,000,000	ug/kg	17000	UJ	360	U	-	
bis(2-Chloroethoxy)methane	5,300,000	43,000,000	ug/kg	17000	UJ	360	U	-	
bis(2-Chloroethyl)ether	30,000	290,000	ug/kg	17000	UJ	360	U	-	
bis(2-Ethylhexyl)phthalate	3,500,000	71,000,000	ug/kg	17000	UJ	360	U	-	
Butyl benzylphthalate	26,000,000	520,000,000	ug/kg	17000	UJ	360	U	-	
Caprolactam	NA	NA	ug/kg	17000	UJ	360	U	-	
Carbazole	2,500,000	50,000,000	ug/kg	17000	UJ	360	U	-	
Chrysene	5,800,000	120,000,000	ug/kg	17000	UJ	360	U	-	
Dibenz(a,h)anthracene	5,800	120,000	ug/kg	17000	UJ	360	U	-	
Dibenzofuran	4,100,000	2,100,000	ug/kg	17000	UJ	360	U	-	
Diethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	17000	UJ	360	U	-	
Dimethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	17000	UJ	360	U	-	
Di-n-butylphthalate	180,000,000	430,000,000	ug/kg	17000	UJ	360	U	-	
Di-N-Octyl phthalate	18,000,000	140,000,000	ug/kg	17000	UJ	360	U	-	
Fluoranthene	60,000,000	160,000,000	ug/kg	17000	UJ	360	U	-	
Fluorene	60,000,000	520,000,000	ug/kg	17000	UJ	360	U	-	
Hexachlorobenzene	31,000	14,000	ug/kg	17000	UJ	360	U	-	
Hexachlorobutadiene, SVOC	630,000	1,400,000	ug/kg	17000	UJ	360	U	-	
Hexachlorocyclopentadiene	11,000,000	26,000,000	ug/kg	84000	UJ	1700	UJ	-	
Hexachloroethane	1,200,000	3,000,000	ug/kg	17000	UJ	360	U	-	
Indeno(1,2,3-cd)pyrene	58,000	1,200,000	ug/kg	17000	UJ	360	U	-	
Isophorone	52,000,000	1,000,000,000	ug/kg	17000	UJ	360	U	-	
Naphthalene, SVOC	450,000	560,000	ug/kg	17000	UJ	360	U	-	
Nitrobenzene	610,000	3,000,000	ug/kg	17000	UJ	360	U	-	
N-Nitrosodi-n-propylamine	7,000	140,000	ug/kg	17000	UJ	360	U	-	
N-Nitrosodiphenylamine	10,000,000	200,000,000	ug/kg	17000	UJ	360	U	-	
Pentachlorophenol	67,000	950,000	ug/kg	17000	UJ	360	U	-	
Phenanthrene	450,000,000	1,000,000,000	ug/kg	17000	UJ	360	U	-	
Phenol	530,000,000	840,000,000	ug/kg	17000	UJ	360	U	-	
Pyrene, SVOC	45,000,000	390,000,000	ug/kg	17000	UJ	360	U	-	

TABLE 3.29
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 3E/5W/21/33, > 12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	MW-24-04		SB-34-02		Maximum Detected Concentration	
			Field Sample ID:	MW-24-04		SB-34-02			
			Date:	3/3/2004		4/12/2002			
	C/I	Construction	Depth:	13 - 15		12 - 14			
PCBs									
Aroclor-1016	100,000	260,000	ug/kg	35	U	36	U	-	
Aroclor-1221	14,000	210,000	ug/kg	35	U	36	U	-	
Aroclor-1232	14,000	73,000	ug/kg	35	U	36	U	-	
Aroclor-1242	20,000	440,000	ug/kg	35	U	36	U	-	
Aroclor-1248	20,000	440,000	ug/kg	35	U	36	U	-	
Aroclor-1254	20,000	75,000	ug/kg	35	UJ	36	U	-	
Aroclor-1260	20,000	440,000	ug/kg	35	UJ	36	U	-	
Total PCBs	20,000	440,000	ug/kg	35	UJ	36	U	-	
Metals									
Antimony	1,600	850	mg/kg	6.3	U	6.5	U	-	
Arsenic	77	690	mg/kg	**3.8**		**5.2**		**5.2**	
Barium	680,000	320,000	mg/kg	**48.2**		**81.5**		**81.5**	
Beryllium	7,800	3,400	mg/kg	**0.054**	**J**	0.54	U	**0.054**	**J**
Cadmium	2,600	1,000	mg/kg	**40.8**		**0.085**	**J**	**40.8**	
Chromium Total	NA	NA	mg/kg	**51.5**		**5**		**51.5**	
Cobalt	1,200	2,800	mg/kg	**2.1**	**J**	**1.9**	**J**	**2.1**	**J**
Copper	160,000	21,000	mg/kg	**16.3**		**5.6**		**16.3**	
Cyanide (total)	370	150	mg/kg	0.53	U	0.54	U	-	
Lead	800	400	mg/kg	**2**		**13.5**		**13.5**	
Manganese	NA	NA	mg/kg	**259**		**394**		**394**	
Mercury	3.1	3.1	mg/kg	**0.077**	**J**	0.11	U	**0.077**	**J**
Nickel	74,000	23,000	mg/kg	**8.9**		**4.6**		**8.9**	
Selenium	20,000	11,000	mg/kg	0.53	U	0.54	U	-	
Silver	20,000	11,000	mg/kg	**0.4**	**J**	1.1	U	**0.4**	**J**
Thallium	41	21	mg/kg	**0.92**	**J**	1.1	U	**0.92**	**J**
Vanadium	20,000	11,000	mg/kg	**6.6**		**7.1**		**7.1**	
Zinc	1,000,000	640,000	mg/kg	**23.2**		**29.2**		**29.2**	

NOTES:

Shaded values indicate concentration exceeds C/I Single Chemical Generic Direct Contact Soil Standard
Shaded values indicate concentration exceeds Construction Single Chemical Generic Direct Contact Soil Standard
Shaded values indicate concentration exceeds both Single Chemical Generic Direct Contact Soil Standards

bold text indicates detection above reporting limit
Total PCBs value is the sum of all positively deteted PCB aroclors
D: The reported value is from a dilution
C/I: Commercial/ Industrial
J: The associated numerical value is an estimated quantity
mg/kg: milligrams per kilogram
NA: exceedance criteria not applicable for compound/analyte
PCB: Polychlorinated Biphenyl
R: The data are unusable (the compound/analyte may or may not be present). Resampling and reanalysis are necessary for verification
SVOC: SemiVolatile Organic Compound
U: The compound/analyte was analyzed for, but not detected. The associated numerical value is the sample quantitation limit
ug/kg: micrograms per kilogram
UJ: The compound/analyte was analyzed for, but not detected. The sample quantitation limit is an estimated quantity
VOC: Volatile Organic Compound

TABLE 3.30
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 5C, >12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	SB-140-04		SB-141-04		SB-143-04		SB-155-04		SB-156-04		Maximum Detected Concentration	
			Field Sample ID:	SB-140-04		SB-141-04		SB-143-04		SB-155-04		SB-156-04			
			Date:	1/27/2004		1/27/2004		1/27/2004		2/3/2004		2/3/2004			
	C/I	Construction	Depth:	12 - 14		12 - 14		12 - 14		12 - 14		13 - 15			
VOCs															
1,1,1-Trichloroethane	640,000	640,000	ug/kg	4.6	U	5.1	U	6.1	U	7.9	U	1800	U	-	
1,1,2,2-Tetrachloroethane	75,000	670,000	ug/kg	4.6	U	5.1	U	6.1	U	7.9	U	1800	U	-	
1,1,2-Trichloroethane	140,000	1,200,000	ug/kg	4.6	U	5.1	U	6.1	U	7.9	U	1800	U	-	
1,1-Dichloroethane	420,000	1,700,000	ug/kg	4.6	U	5.1	U	6.1	U	7.9	U	1800	U	-	
1,1-Dichloroethene	1,200,000	360,000	ug/kg	4.6	U	5.1	U	6.1	U	7.9	U	1800	U	-	
1,2,4-Trichlorobenzene, VOC	400,000	400,000	ug/kg	4.6	U	5.1	U	6.1	U	7.9	U	1800	U	-	
1,2-Dibromo-3-chloropropane	1,700	15,000	ug/kg	9.3	U	10	U	12	U	16	U	3500	U	-	
1,2-Dibromoethane	4,400	38,000	ug/kg	4.6	U	5.1	U	6.1	U	7.9	U	1800	U	-	
1,2-Dichlorobenzene, VOC	380,000	380,000	ug/kg	4.6	U	5.1	U	6.1	U	7.9	U	1800	U	-	
1,2-Dichloroethane	56,000	480,000	ug/kg	4.6	U	5.1	U	6.1	U	7.9	U	1800	U	-	
1,2-Dichloropropane	120,000	180,000	ug/kg	4.6	U	5.1	U	6.1	U	7.9	U	1800	U	-	
1,3-Dichlorobenzene, VOC	NA	NA	ug/kg	4.6	U	5.1	U	6.1	U	7.9	U	1800	U	-	
1,4-Dichlorobenzene, VOC	310,000	2,600,000	ug/kg	4.6	U	5.1	U	6.1	U	7.9	U	1800	U	-	
2-Butanone	28,000,000	28,000,000	ug/kg	19	U	21	U	24	U	32	U	7100	U	-	
2-Hexanone	NA	NA	ug/kg	19	U	21	U	24	U	32	U	7100	U	-	
4-Methyl-2-Pentanone	3,400,000	3,400,000	ug/kg	19	U	21	U	24	U	32	U	7100	U	-	
Acetone	110,000,000	110,000,000	ug/kg	19	U	21	U	24	U	32	U	7100	U	-	
Benzene	140,000	1,200,000	ug/kg	4.6	U	5.1	U	6.1	U	**0.81**	**J**	1800	U	**0.81**	**J**
Bromodichloromethane	35,000	300,000	ug/kg	4.6	U	5.1	U	6.1	U	7.9	U	1800	U	-	
Bromoform	6,200,000	130,000,000	ug/kg	4.6	UJ	5.1	UJ	6.1	UJ	7.9	U	1800	U	-	
Bromomethane	82,000	550,000	ug/kg	4.6	U	5.1	U	6.1	U	7.9	U	1800	U	-	
Carbon disulfide	740,000	740,000	ug/kg	4.6	U	5.1	U	6.1	U	7.9	U	1800	U	-	
Carbon tetrachloride	79,000	460,000	ug/kg	4.6	U	5.1	U	6.1	U	7.9	U	1800	U	-	
Chlorobenzene	760,000	760,000	ug/kg	4.6	U	5.1	U	6.1	U	7.9	U	1800	U	-	
Chloroethane	2,100,000	2,100,000	ug/kg	4.6	U	5.1	U	6.1	U	7.9	U	1800	R	-	
Chloroform	38,000	320,000	ug/kg	4.6	U	5.1	U	6.1	U	7.9	U	1800	U	-	
Chloromethane	1,300,000	1,300,000	ug/kg	4.6	U	5.1	U	6.1	U	7.9	U	1800	U	-	
cis-1,2-Dichloroethene	2,400,000	2,400,000	ug/kg	2.3	U	2.6	U	3	U	4	U	**3000**		**3000**	
cis-1,3-Dichloropropene	NA	NA	ug/kg	4.6	U	5.1	U	6.1	U	7.9	U	1800	U	-	
Cyclohexane	120,000	120,000	ug/kg	9.3	U	10	U	12	U	**1.1**	**J**	3500	U	**1.1**	**J**
Dibromochloromethane	84,000	770,000	ug/kg	4.6	U	5.1	U	6.1	U	7.9	U	1800	U	-	
Dichlorodifluoromethane	850,000	850,000	ug/kg	4.6	U	5.1	U	6.1	U	7.9	UJ	1800	U	-	
Ethylbenzene	480,000	480,000	ug/kg	4.6	U	**0.4**	**J**	6.1	U	**1.7**	**J**	1800	U	**1.7**	**J**
Isopropylbenzene, VOC	270,000	270,000	ug/kg	4.6	U	5.1	U	6.1	U	7.9	U	1800	U	-	
Methyl acetate	NA	NA	ug/kg	9.3	U	10	U	12	U	16	U	**430**	**J**	**430**	**J**
Methyl cyclohexane	NA	NA	ug/kg	**0.44**	**J**	10	U	12	U	**1.9**	**J**	**220**	**J**	**220**	**J**
Methyl tert butyl ether	5,700,000	8,900,000	ug/kg	19	U	21	U	24	U	32	U	7100	UJ	-	
Methylene chloride	3,300,000	3,300,000	ug/kg	4.6	U	5.1	U	6.1	U	7.9	U	**1000**	**J**	**1000**	**J**
Styrene	870,000	870,000	ug/kg	4.6	U	5.1	U	6.1	U	7.9	U	1800	U	-	
Tetrachloroethene	170,000	170,000	ug/kg	**33**		**74**		**7.4**		**20**		**35000**		**35000**	
Toluene	820,000	820,000	ug/kg	**0.8**	**J**	**1**	**J**	**0.7**	**J**	**3.2**	**J**	1800	U	**3.2**	**J**
trans-1,2-Dichloroethene	1,700,000	1,700,000	ug/kg	2.3	U	2.6	U	3	U	4	U	880	U	-	
trans-1,3-Dichloropropene	NA	NA	ug/kg	4.6	U	5.1	U	6.1	U	7.9	U	1800	U	-	
Trichloroethene	51,000	17,000	ug/kg	**14**		**27**		**5.3**	**J**	**14**		**60000**		**60000**	
Trichlorofluoromethane	1,200,000	1,200,000	ug/kg	4.6	U	5.1	U	6.1	U	7.9	U	1800	U	-	
Trifluorotrichloroethane	NA	NA	ug/kg	4.6	U	5.1	U	6.1	U	7.9	U	1800	U	-	
Vinyl chloride	50,000	280,000	ug/kg	4.6	U	5.1	U	6.1	U	7.9	U	1800	U	-	
Xylene (Total)	260,000	260,000	ug/kg	9.3	U	**1.1**	**J**	12	U	**2.3**	**J**	3500	U	**2.3**	**J**
SVOCs															
2,2-oxybis(2-Chloropropane), SVOC	NA	NA	ug/kg	350	U	350	U	350	U	-		-		-	
2,4,5-Trichlorophenol	180,000,000	1,000,000,000	ug/kg	350	U	350	U	350	U	-		-		-	
2,4,6-Trichlorophenol	1,800,000	1,400,000	ug/kg	350	U	350	U	350	U	-		-		-	
2,4-Dichlorophenol	NA	NA	ug/kg	350	U	350	U	350	U	-		-		-	
2,4-Dimethylphenol	35,000,000	85,000,000	ug/kg	350	U	350	U	350	U	-		-		-	
2,4-Dinitrophenol	3,500,000	28,000,000	ug/kg	1700	U	1700	U	1700	U	-		-		-	
2,4-Dinitrotoluene	160,000	2,800,000	ug/kg	350	U	350	U	350	U	-		-		-	
2,6-Dinitrotoluene	NA	NA	ug/kg	350	U	350	U	350	U	-		-		-	
2-Chloronaphthalene	330,000,000	1,000,000,000	ug/kg	350	U	350	U	350	U	-		-		-	
2-Chlorophenol	20,000,000	22,000,000	ug/kg	350	U	350	U	350	U	-		-		-	
2-Methylnaphthalene	6,000,000	5,200,000	ug/kg	350	U	350	U	350	U	-		-		-	
2-Methylphenol	88,000,000	710,000,000	ug/kg	350	U	350	U	350	U	-		-		-	
2-Nitroaniline	NA	NA	ug/kg	1700	U	1700	U	1700	U	-		-		-	
2-Nitrophenol	NA	NA	ug/kg	350	U	350	U	350	U	-		-		-	
3,3-Dichlorobenzidine	NA	NA	ug/kg	1700	U	1700	U	1700	U	-		-		-	
3-Nitroaniline	NA	NA	ug/kg	1700	U	1700	U	1700	U	-		-		-	
4,6-Dinitro-2-methylphenol	140,000	110,000	ug/kg	1700	U	1700	U	1700	U	-		-		-	
4-Bromophenyl phenyl ether	NA	NA	ug/kg	350	U	350	U	350	U	-		-		-	
4-Chloro-3-methylphenol	180,000,000	140,000,000	ug/kg	350	U	350	U	350	U	-		-		-	
4-Chloroaniline	250,000	710,000	ug/kg	350	U	350	U	350	U	-		-		-	
4-Chlorophenyl phenyl ether	NA	NA	ug/kg	350	U	350	U	350	U	-		-		-	
4-Methylphenol	180,000,000	28,000,000	ug/kg	350	U	350	U	350	U	-		-		-	
4-Nitroaniline	2,500,000	14,000,000	ug/kg	1700	U	1700	U	1700	U	-		-		-	
4-Nitrophenol	NA	NA	ug/kg	1700	U	1700	U	1700	U	-		-		-	
Acenaphthene	90,000,000	780,000,000	ug/kg	350	U	350	U	350	U	-		-		-	
Acenaphthylene	90,000,000	780,000,000	ug/kg	350	U	350	U	350	U	-		-		-	
Acetophenone	2,500,000	2,500,000	ug/kg	350	U	350	U	350	U	-		-		-	
Anthracene	450,000,000	1,000,000,000	ug/kg	350	U	350	U	350	U	-		-		-	
Atrazine	NA	NA	ug/kg	350	U	350	U	350	U	-		-		-	

TABLE 3.30
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 5C, >12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	SB-140-04		SB-141-04		SB-143-04		SB-155-04		SB-156-04		Maximum Detected Concentration	
			Field Sample ID:	SB-140-04		SB-141-04		SB-143-04		SB-155-04		SB-156-04			
			Date:	1/27/2004		1/27/2004		1/27/2004		2/3/2004		2/3/2004			
	C/I	Construction	Depth:	12 - 14		12 - 14		12 - 14		12 - 14		13 - 15			
Benzaldehyde	NA	NA	ug/kg	350	U	350	U	350	U	-		-		-	
Benzo(a)anthracene	58,000	1,200,000	ug/kg	350	U	350	U	350	U	-		-		-	
Benzo(a)pyrene	5,800	120,000	ug/kg	350	U	350	U	350	U	-		-		-	
Benzo(b)fluoranthene	58,000	1,200,000	ug/kg	**22**	**J**	350	U	**28**	**J**	-		-		**28**	**J**
Benzo(g,h,i)perylene	45,000,000	390,000,000	ug/kg	350	U	350	U	350	U	-		-		-	
Benzo(k)fluoranthene	580,000	12,000,000	ug/kg	350	U	350	U	350	U	-		-		-	
Biphenyl	14,000,000	190,000,000	ug/kg	350	U	350	U	350	U	-		-		-	
bis(2-Chloroethoxy)methane	5,300,000	43,000,000	ug/kg	350	U	350	U	350	U	-		-		-	
bis(2-Chloroethyl)ether	30,000	290,000	ug/kg	350	U	350	U	350	U	-		-		-	
bis(2-Ethylhexyl)phthalate	3,500,000	71,000,000	ug/kg	350	U	350	U	350	U	-		-		-	
Butyl benzylphthalate	26,000,000	520,000,000	ug/kg	350	U	350	U	350	U	-		-		-	
Caprolactam	NA	NA	ug/kg	350	U	350	U	350	U	-		-		-	
Carbazole	2,500,000	50,000,000	ug/kg	350	U	350	U	350	U	-		-		-	
Chrysene	5,800,000	120,000,000	ug/kg	350	U	350	U	**21**	**J**	-		-		**21**	**J**
Dibenz(a,h)anthracene	5,800	120,000	ug/kg	350	U	350	U	350	U	-		-		-	
Dibenzofuran	4,100,000	2,100,000	ug/kg	350	U	350	U	350	U	-		-		-	
Diethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	350	U	350	U	350	U	-		-		-	
Dimethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	350	U	350	U	350	U	-		-		-	
Di-n-butylphthalate	180,000,000	430,000,000	ug/kg	350	U	350	U	350	U	-		-		-	
Di-N-Octyl phthalate	18,000,000	140,000,000	ug/kg	350	U	350	U	350	U	-		-		-	
Fluoranthene	60,000,000	160,000,000	ug/kg	350	U	350	U	**72**	**J**	-		-		**72**	**J**
Fluorene	60,000,000	520,000,000	ug/kg	350	U	350	U	350	U	-		-		-	
Hexachlorobenzene	31,000	14,000	ug/kg	350	U	350	U	350	U	-		-		-	
Hexachlorobutadiene, SVOC	630,000	1,400,000	ug/kg	350	U	350	U	350	U	-		-		-	
Hexachlorocyclopentadiene	11,000,000	26,000,000	ug/kg	1700	U	1700	U	1700	U	-		-		-	
Hexachloroethane	1,200,000	3,000,000	ug/kg	350	U	350	U	350	U	-		-		-	
Indeno(1,2,3-cd)pyrene	58,000	1,200,000	ug/kg	350	U	350	U	350	U	-		-		-	
Isophorone	52,000,000	1,000,000,000	ug/kg	350	U	350	U	350	U	-		-		-	
Naphthalene, SVOC	450,000	560,000	ug/kg	350	U	350	U	350	U	-		-		-	
Nitrobenzene	610,000	3,000,000	ug/kg	350	U	350	U	350	U	-		-		-	
N-Nitrosodi-n-propylamine	7,000	140,000	ug/kg	350	U	350	U	350	U	-		-		-	
N-Nitrosodiphenylamine	10,000,000	200,000,000	ug/kg	350	U	350	U	350	U	-		-		-	
Pentachlorophenol	67,000	950,000	ug/kg	350	U	350	U	350	U	-		-		-	
Phenanthrene	450,000,000	1,000,000,000	ug/kg	350	U	350	U	**99**	**J**	-		-		**99**	**J**
Phenol	530,000,000	840,000,000	ug/kg	350	U	350	U	350	U	-		-		-	
Pyrene, SVOC	45,000,000	390,000,000	ug/kg	**19**	**J**	350	U	**54**	**J**	-		-		**54**	**J**
PCBs															
Aroclor-1016	100,000	260,000	ug/kg	35	U	35	U	350	U	-		-		-	
Aroclor-1221	14,000	210,000	ug/kg	35	U	35	U	350	U	-		-		-	
Aroclor-1232	14,000	73,000	ug/kg	35	U	35	U	350	U	-		-		-	
Aroclor-1242	20,000	440,000	ug/kg	35	U	35	U	350	U	-		-		-	
Aroclor-1248	20,000	440,000	ug/kg	35	U	35	U	350	U	-		-		-	
Aroclor-1254	20,000	75,000	ug/kg	35	U	35	U	**2400**		-		-		**2400**	
Aroclor-1260	20,000	440,000	ug/kg	35	U	35	U	350	U	-		-		-	
Total PCBs	20,000	440,000	ug/kg	35	U	35	U	**2400**		-		-		**2400**	
Metals															
Antimony	1,600	850	mg/kg	**0.55**	**J**	6.3	UJ	6.4	UJ	6.5	U	7.5	U	**0.55**	**J**
Arsenic	77	690	mg/kg	**4.5**		**4.3**		**2.8**		**5.6**		**5.2**		**5.6**	
Barium	680,000	320,000	mg/kg	**84.6**		**72.8**		**62.3**		**101**		**153**		**153**	
Beryllium	7,800	3,400	mg/kg	0.53	U	0.52	U	0.53	U	0.54	U	**0.24**	**J**	**0.24**	**J**
Cadmium	2,600	1,000	mg/kg	**0.41**	**J**	**0.13**	**J**	**0.16**	**J**	**0.41**	**J**	**0.47**	**J**	**0.47**	**J**
Chromium Total	NA	NA	mg/kg	**4.9**	**J**	**4.1**	**J**	**10.8**	**J**	**5.9**		**44.5**		**44.5**	
Cobalt	1,200	2,800	mg/kg	**3.5**	**J**	**1.6**	**J**	**1.6**	**J**	**3.3**	**J**	**5.8**	**J**	**5.8**	**J**
Copper	160,000	21,000	mg/kg	**3480**	**J**	**3.5**	**J**	**14.5**	**J**	**196**		**67.8**		**3480**	**J**
Cyanide (total)	370	150	mg/kg	0.71	U	0.52	U	0.53	U	0.54	U	0.62	U	-	
Lead	800	400	mg/kg	**13.3**		**2**		**6.1**		**5.6**		**18.8**		**18.8**	
Manganese	NA	NA	mg/kg	**508**		**374**		**248**		**536**		**456**		**536**	
Mercury	3.1	3.1	mg/kg	**0.18**		0.1	U	**0.075**	**J**	**0.02**	**J**	**4.1**		**4.1**	
Nickel	74,000	23,000	mg/kg	**5.6**		**3.2**	**J**	**4.3**		**6**		**14.6**		**14.6**	
Selenium	20,000	11,000	mg/kg	0.53	U	0.52	U	0.53	U	0.54	U	0.62	U	-	
Silver	20,000	11,000	mg/kg	**0.091**	**J**	1	U	**1.1**		1.1	U	1.2	U	**1.1**	
Thallium	41	21	mg/kg	**0.86**	**J**	1	U	1.1	U	**1.2**		**0.79**	**J**	**1.2**	
Vanadium	20,000	11,000	mg/kg	**6**		**6.1**		**6.8**		**7.3**		**11.2**		**11.2**	
Zinc	1,000,000	640,000	mg/kg	**191**	**J**	**18.9**	**J**	**26.5**	**J**	**75.9**		**165**		**191**	**J**

NOTES:

Shaded values indicate concentration exceeds C/I Single Chemical Generic Direct Contact Soil Standard
Shaded values indicate concentration exceeds Construction Single Chemical Generic Direct Contact Soil Standard
Shaded values indicate concentration exceeds both Single Chemical Generic Direct Contact Soil Standards

bold text indicates detection above reporting limit
Total PCBs value is the sum of all positively deteted PCB aroclors
D: The reported value is from a dilution
C/I: Commercial/ Industrial
J: The associated numerical value is an estimated quantity
mg/kg: milligrams per kilogram
NA: exceedance criteria not applicable for compound/analyte
PCB: Polychlorinated Biphenyl
R: The data are unusable (the compound/analyte may or may not be present). Resampling and reanalysis are necessary for verification
SVOC: SemiVolatile Organic Compound
U: The compound/analyte was analyzed for, but not detected. The associated numerical value is the sample quantitation limit
ug/kg: micrograms per kilogram
UJ: The compound/analyte was analyzed for, but not detected. The sample quantitation limit is an estimated quantity
VOC: Volatile Organic Compound

TABLE 3.31
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 5E, >12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	BH-180		Maximum Detected Concentration	
			Field Sample ID:	S-111104-NZ-034			
			Date:	11/11/2004			
	C/I	Construction	Depth:	12.5 - 14.5			
VOCs							
1,1,1-Trichloroethane	640,000	640,000	ug/kg	4.7	U	-	
1,1,2,2-Tetrachloroethane	75,000	670,000	ug/kg	4.7	U	-	
1,1,2-Trichloroethane	140,000	1,200,000	ug/kg	4.7	U	-	
1,1-Dichloroethane	420,000	1,700,000	ug/kg	4.7	U	-	
1,1-Dichloroethene	1,200,000	360,000	ug/kg	4.7	U	-	
1,2,4-Trichlorobenzene, VOC	400,000	400,000	ug/kg	4.7	U	-	
1,2-Dibromo-3-chloropropane	1,700	15,000	ug/kg	9.3	U	-	
1,2-Dibromoethane	4,400	38,000	ug/kg	4.7	U	-	
1,2-Dichlorobenzene, VOC	380,000	380,000	ug/kg	4.7	U	-	
1,2-Dichloroethane	56,000	480,000	ug/kg	4.7	U	-	
1,2-Dichloropropane	120,000	180,000	ug/kg	4.7	U	-	
1,3-Dichlorobenzene, VOC	NA	NA	ug/kg	4.7	U	-	
1,4-Dichlorobenzene, VOC	310,000	2,600,000	ug/kg	4.7	U	-	
2-Butanone	28,000,000	28,000,000	ug/kg	**3.5**	**J**	**3.5**	**J**
2-Hexanone	NA	NA	ug/kg	19	U	-	
4-Methyl-2-Pentanone	3,400,000	3,400,000	ug/kg	19	U	-	
Acetone	110,000,000	110,000,000	ug/kg	**13**	**J**	**13**	**J**
Benzene	140,000	1,200,000	ug/kg	**4.2**	**J**	**4.2**	**J**
Bromodichloromethane	35,000	300,000	ug/kg	4.7	U	-	
Bromoform	6,200,000	130,000,000	ug/kg	4.7	U	-	
Bromomethane	82,000	550,000	ug/kg	4.7	U	-	
Carbon disulfide	740,000	740,000	ug/kg	4.7	U	-	
Carbon tetrachloride	79,000	460,000	ug/kg	4.7	U	-	
Chlorobenzene	760,000	760,000	ug/kg	4.7	U	-	
Chloroethane	2,100,000	2,100,000	ug/kg	4.7	U	-	
Chloroform	38,000	320,000	ug/kg	4.7	U	-	
Chloromethane	1,300,000	1,300,000	ug/kg	4.7	U	-	
cis-1,2-Dichloroethene	2,400,000	2,400,000	ug/kg	4.7	U	-	
cis-1,3-Dichloropropene	NA	NA	ug/kg	4.7	U	-	
Cyclohexane	120,000	120,000	ug/kg	**6.2**	**J**	**6.2**	**J**
Dibromochloromethane	84,000	770,000	ug/kg	4.7	U	-	
Dichlorodifluoromethane	850,000	850,000	ug/kg	4.7	UJ	-	
Ethylbenzene	480,000	480,000	ug/kg	**4.2**	**J**	**4.2**	**J**
Isopropylbenzene, VOC	270,000	270,000	ug/kg	4.7	U	-	
Methyl acetate	NA	NA	ug/kg	9.3	U	-	
Methyl cyclohexane	NA	NA	ug/kg	**9**	**J**	**9**	**J**
Methyl tert butyl ether	5,700,000	8,900,000	ug/kg	19	UJ	-	
Methylene chloride	3,300,000	3,300,000	ug/kg	4.7	U	-	
Styrene	870,000	870,000	ug/kg	4.7	U	-	
Tetrachloroethene	170,000	170,000	ug/kg	4.7	U	-	
Toluene	820,000	820,000	ug/kg	**12**		**12**	
trans-1,2-Dichloroethene	1,700,000	1,700,000	ug/kg	4.7	U	-	
trans-1,3-Dichloropropene	NA	NA	ug/kg	4.7	U	-	
Trichloroethene	51,000	17,000	ug/kg	**3.6**	**J**	**3.6**	**J**
Trichlorofluoromethane	1,200,000	1,200,000	ug/kg	4.7	U	-	
Trifluorotrichloroethane	NA	NA	ug/kg	4.7	U	-	
Vinyl chloride	50,000	280,000	ug/kg	4.7	U	-	
Xylene (Total)	260,000	260,000	ug/kg	**8.7**	**J**	**8.7**	**J**

TABLE 3.31
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 5E, >12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	BH-180		Maximum Detected Concentration	
			Field Sample ID:	S-111104-NZ-034			
			Date:	11/11/2004			
	C/I	Construction	Depth:	12.5 - 14.5			
SVOCs							
2,2-oxybis(2-Chloropropane), SVOC	NA	NA	ug/kg	350	UJ	-	
2,4,5-Trichlorophenol	180,000,000	1,000,000,000	ug/kg	350	U	-	
2,4,6-Trichlorophenol	1,800,000	1,400,000	ug/kg	350	U	-	
2,4-Dichlorophenol	NA	NA	ug/kg	350	U	-	
2,4-Dimethylphenol	35,000,000	85,000,000	ug/kg	350	U	-	
2,4-Dinitrophenol	3,500,000	28,000,000	ug/kg	1700	U	-	
2,4-Dinitrotoluene	160,000	2,800,000	ug/kg	350	UJ	-	
2,6-Dinitrotoluene	NA	NA	ug/kg	350	UJ	-	
2-Chloronaphthalene	330,000,000	1,000,000,000	ug/kg	350	UJ	-	
2-Chlorophenol	20,000,000	22,000,000	ug/kg	350	U	-	
2-Methylnaphthalene	6,000,000	5,200,000	ug/kg	350	UJ	-	
2-Methylphenol	88,000,000	710,000,000	ug/kg	350	U	-	
2-Nitroaniline	NA	NA	ug/kg	1700	UJ	-	
2-Nitrophenol	NA	NA	ug/kg	350	U	-	
3,3-Dichlorobenzidine	NA	NA	ug/kg	1700	UJ	-	
3-Nitroaniline	NA	NA	ug/kg	1700	UJ	-	
4,6-Dinitro-2-methylphenol	140,000	110,000	ug/kg	1700	U	-	
4-Bromophenyl phenyl ether	NA	NA	ug/kg	350	UJ	-	
4-Chloro-3-methylphenol	180,000,000	140,000,000	ug/kg	350	U	-	
4-Chloroaniline	250,000	710,000	ug/kg	350	UJ	-	
4-Chlorophenyl phenyl ether	NA	NA	ug/kg	350	UJ	-	
4-Methylphenol	180,000,000	28,000,000	ug/kg	350	U	-	
4-Nitroaniline	2,500,000	14,000,000	ug/kg	1700	UJ	-	
4-Nitrophenol	NA	NA	ug/kg	1700	U	-	
Acenaphthene	90,000,000	780,000,000	ug/kg	350	UJ	-	
Acenaphthylene	90,000,000	780,000,000	ug/kg	350	UJ	-	
Acetophenone	2,500,000	2,500,000	ug/kg	350	UJ	-	
Anthracene	450,000,000	1,000,000,000	ug/kg	350	UJ	-	
Atrazine	NA	NA	ug/kg	350	UJ	-	
Benzaldehyde	NA	NA	ug/kg	350	UJ	-	
Benzo(a)anthracene	58,000	1,200,000	ug/kg	350	UJ	-	
Benzo(a)pyrene	5,800	120,000	ug/kg	350	UJ	-	
Benzo(b)fluoranthene	58,000	1,200,000	ug/kg	350	UJ	-	
Benzo(g,h,i)perylene	45,000,000	390,000,000	ug/kg	350	UJ	-	
Benzo(k)fluoranthene	580,000	12,000,000	ug/kg	350	UJ	-	
Biphenyl	14,000,000	190,000,000	ug/kg	350	UJ	-	
bis(2-Chloroethoxy)methane	5,300,000	43,000,000	ug/kg	350	UJ	-	
bis(2-Chloroethyl)ether	30,000	290,000	ug/kg	350	UJ	-	
bis(2-Ethylhexyl)phthalate	3,500,000	71,000,000	ug/kg	350	UJ	-	
Butyl benzylphthalate	26,000,000	520,000,000	ug/kg	350	UJ	-	
Caprolactam	NA	NA	ug/kg	**18**	**J**	**18**	**J**
Carbazole	2,500,000	50,000,000	ug/kg	350	UJ	-	
Chrysene	5,800,000	120,000,000	ug/kg	350	UJ	-	
Dibenz(a,h)anthracene	5,800	120,000	ug/kg	350	UJ	-	
Dibenzofuran	4,100,000	2,100,000	ug/kg	350	UJ	-	
Diethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	350	UJ	-	
Dimethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	350	UJ	-	
Di-n-butylphthalate	180,000,000	430,000,000	ug/kg	350	UJ	-	
Di-N-Octyl phthalate	18,000,000	140,000,000	ug/kg	350	UJ	-	
Fluoranthene	60,000,000	160,000,000	ug/kg	350	UJ	-	
Fluorene	60,000,000	520,000,000	ug/kg	350	UJ	-	
Hexachlorobenzene	31,000	14,000	ug/kg	350	UJ	-	
Hexachlorobutadiene, SVOC	630,000	1,400,000	ug/kg	350	UJ	-	
Hexachlorocyclopentadiene	11,000,000	26,000,000	ug/kg	1700	UJ	-	
Hexachloroethane	1,200,000	3,000,000	ug/kg	350	UJ	-	
Indeno(1,2,3-cd)pyrene	58,000	1,200,000	ug/kg	350	UJ	-	
Isophorone	52,000,000	1,000,000,000	ug/kg	350	UJ	-	
Naphthalene, SVOC	450,000	560,000	ug/kg	350	UJ	-	
Nitrobenzene	610,000	3,000,000	ug/kg	350	UJ	-	
N-Nitrosodi-n-propylamine	7,000	140,000	ug/kg	350	UJ	-	
N-Nitrosodiphenylamine	10,000,000	200,000,000	ug/kg	350	UJ	-	
Pentachlorophenol	67,000	950,000	ug/kg	350	U	-	
Phenanthrene	450,000,000	1,000,000,000	ug/kg	350	UJ	-	
Phenol	530,000,000	840,000,000	ug/kg	350	U	-	
Pyrene, SVOC	45,000,000	390,000,000	ug/kg	350	UJ	-	

TABLE 3.31
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 5E, >12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	BH-180		Maximum Detected Concentration	
			Field Sample ID:	S-111104-NZ-034			
			Date:	11/11/2004			
	C/I	Construction	Depth:	12.5 - 14.5			
PCBs							
Aroclor-1016	100,000	260,000	ug/kg	35	U	-	
Aroclor-1221	14,000	210,000	ug/kg	35	U	-	
Aroclor-1232	14,000	73,000	ug/kg	35	U	-	
Aroclor-1242	20,000	440,000	ug/kg	35	U	-	
Aroclor-1248	20,000	440,000	ug/kg	35	U	-	
Aroclor-1254	20,000	75,000	ug/kg	35	U	-	
Aroclor-1260	20,000	440,000	ug/kg	35	U	-	
Total PCBs	20,000	440,000	ug/kg	35	U	-	
Metals							
Antimony	1,600	850	mg/kg	6.4	UJ	-	
Arsenic	77	690	mg/kg	**7.4**	**J**	**7.4**	**J**
Barium	680,000	320,000	mg/kg	**123**	**J**	**123**	**J**
Beryllium	7,800	3,400	mg/kg	**0.13**	**J**	**0.13**	**J**
Cadmium	2,600	1,000	mg/kg	**0.19**	**J**	**0.19**	**J**
Chromium Total	NA	NA	mg/kg	**4.3**	**J**	**4.3**	**J**
Cobalt	1,200	2,800	mg/kg	**2.6**	**J**	**2.6**	**J**
Copper	160,000	21,000	mg/kg	**3.1**	**J**	**3.1**	**J**
Cyanide (total)	370	150	mg/kg	0.53	U	-	
Lead	800	400	mg/kg	**3.5**	**J**	**3.5**	**J**
Manganese	NA	NA	mg/kg	**637**		**637**	
Mercury	3.1	3.1	mg/kg	**0.015**	**J**	**0.015**	**J**
Nickel	74,000	23,000	mg/kg	**5.7**	**J**	**5.7**	**J**
Selenium	20,000	11,000	mg/kg	0.53	UJ	-	
Silver	20,000	11,000	mg/kg	1.1	UJ	-	
Thallium	41	21	mg/kg	1.1	UJ	-	
Vanadium	20,000	11,000	mg/kg	**8.8**	**J**	**8.8**	**J**
Zinc	1,000,000	640,000	mg/kg	**14.5**	**J**	**14.5**	**J**

NOTES:

Shaded values indicate concentration exceeds C/I Single Chemical Generic Direct Contact Soil Standard
Shaded values indicate concentration exceeds Construction Single Chemical Generic Direct Contact Soil Standard
Shaded values indicate concentration exceeds both Single Chemical Generic Direct Contact Soil Standards

bold text indicates detection above reporting limit
Total PCBs value is the sum of all positively deteted PCB aroclors
D: The reported value is from a dilution
C/I: Commercial/ Industrial
J: The associated numerical value is an estimated quantity
mg/kg: milligrams per kilogram
NA: exceedance criteria not applicable for compound/analyte
PCB: Polychlorinated Biphenyl
R: The data are unusable (the compound/analyte may or may not be present). Resampling and reanalysis are necessary for verification
SVOC: SemiVolatile Organic Compound
U: The compound/analyte was analyzed for, but not detected. The associated numerical value is the sample quantitation limit
ug/kg: micrograms per kilogram
UJ: The compound/analyte was analyzed for, but not detected. The sample quantitation limit is an estimated quantity
VOC: Volatile Organic Compound

TABLE 3.32
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 7, >12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	BH-182		z		Maximum Detected Concentration	
			Field Sample ID:	S-111104-NZ-040		z			
			Date:	11/11/2004		12/31/2015			
	C/I	Construction	Depth:	12 - 14		99 - 99			
SVOCs									
2,2-oxybis(2-Chloropropane), SVOC	NA	NA	ug/kg	350	U	-		-	
2,4,5-Trichlorophenol	180,000,000	1,000,000,000	ug/kg	350	U	-		-	
2,4,6-Trichlorophenol	1,800,000	1,400,000	ug/kg	350	U	-		-	
2,4-Dichlorophenol	NA	NA	ug/kg	350	U	-		-	
2,4-Dimethylphenol	35,000,000	85,000,000	ug/kg	350	U	-		-	
2,4-Dinitrophenol	3,500,000	28,000,000	ug/kg	1700	U	-		-	
2,4-Dinitrotoluene	160,000	2,800,000	ug/kg	350	U	-		-	
2,6-Dinitrotoluene	NA	NA	ug/kg	350	U	-		-	
2-Chloronaphthalene	330,000,000	1,000,000,000	ug/kg	350	U	-		-	
2-Chlorophenol	20,000,000	22,000,000	ug/kg	350	U	-		-	
2-Methylnaphthalene	6,000,000	5,200,000	ug/kg	350	U	-		-	
2-Methylphenol	88,000,000	710,000,000	ug/kg	350	U	-		-	
2-Nitroaniline	NA	NA	ug/kg	1700	U	-		-	
2-Nitrophenol	NA	NA	ug/kg	350	U	-		-	
3,3-Dichlorobenzidine	NA	NA	ug/kg	1700	U	-		-	
3-Nitroaniline	NA	NA	ug/kg	1700	U	-		-	
4,6-Dinitro-2-methylphenol	140,000	110,000	ug/kg	1700	U	-		-	
4-Bromophenyl phenyl ether	NA	NA	ug/kg	350	U	-		-	
4-Chloro-3-methylphenol	180,000,000	140,000,000	ug/kg	350	U	-		-	
4-Chloroaniline	250,000	710,000	ug/kg	350	U	-		-	
4-Chlorophenyl phenyl ether	NA	NA	ug/kg	350	U	-		-	
4-Methylphenol	180,000,000	28,000,000	ug/kg	350	U	-		-	
4-Nitroaniline	2,500,000	14,000,000	ug/kg	1700	U	-		-	
4-Nitrophenol	NA	NA	ug/kg	1700	U	-		-	
Acenaphthene	90,000,000	780,000,000	ug/kg	350	U	-		-	
Acenaphthylene	90,000,000	780,000,000	ug/kg	350	U	-		-	
Acetophenone	2,500,000	2,500,000	ug/kg	350	U	-		-	
Anthracene	450,000,000	1,000,000,000	ug/kg	350	U	-		-	
Atrazine	NA	NA	ug/kg	350	U	-		-	
Benzaldehyde	NA	NA	ug/kg	350	U	-		-	
Benzo(a)anthracene	58,000	1,200,000	ug/kg	350	U	-		-	
Benzo(a)pyrene	5,800	120,000	ug/kg	350	U	-		-	
Benzo(b)fluoranthene	58,000	1,200,000	ug/kg	350	U	-		-	
Benzo(g,h,i)perylene	45,000,000	390,000,000	ug/kg	350	U	-		-	
Benzo(k)fluoranthene	580,000	12,000,000	ug/kg	350	U	-		-	
Biphenyl	14,000,000	190,000,000	ug/kg	350	U	-		-	
bis(2-Chloroethoxy)methane	5,300,000	43,000,000	ug/kg	350	U	-		-	
bis(2-Chloroethyl)ether	30,000	290,000	ug/kg	350	U	-		-	
bis(2-Ethylhexyl)phthalate	3,500,000	71,000,000	ug/kg	350	U	-		-	
Butyl benzylphthalate	26,000,000	520,000,000	ug/kg	350	U	-		-	
Caprolactam	NA	NA	ug/kg	350	U	-		-	
Carbazole	2,500,000	50,000,000	ug/kg	350	U	-		-	
Chrysene	5,800,000	120,000,000	ug/kg	350	U	-		-	
Dibenz(a,h)anthracene	5,800	120,000	ug/kg	350	U	-		-	
Dibenzofuran	4,100,000	2,100,000	ug/kg	350	U	-		-	
Diethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	350	U	-		-	
Dimethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	350	U	-		-	
Di-n-butylphthalate	180,000,000	430,000,000	ug/kg	350	U	-		-	
Di-N-Octyl phthalate	18,000,000	140,000,000	ug/kg	350	U	-		-	
Fluoranthene	60,000,000	160,000,000	ug/kg	350	U	-		-	
Fluorene	60,000,000	520,000,000	ug/kg	350	U	-		-	
Hexachlorobenzene	31,000	14,000	ug/kg	350	U	-		-	
Hexachlorobutadiene, SVOC	630,000	1,400,000	ug/kg	350	U	-		-	
Hexachlorocyclopentadiene	11,000,000	26,000,000	ug/kg	1700	UJ	-		-	
Hexachloroethane	1,200,000	3,000,000	ug/kg	350	U	-		-	
Indeno(1,2,3-cd)pyrene	58,000	1,200,000	ug/kg	350	U	-		-	
Isophorone	52,000,000	1,000,000,000	ug/kg	350	U	-		-	
Naphthalene, SVOC	450,000	560,000	ug/kg	350	U	-		-	
Nitrobenzene	610,000	3,000,000	ug/kg	350	U	-		-	
N-Nitrosodi-n-propylamine	7,000	140,000	ug/kg	350	U	-		-	
N-Nitrosodiphenylamine	10,000,000	200,000,000	ug/kg	350	U	-		-	
Pentachlorophenol	67,000	950,000	ug/kg	350	U	-		-	
Phenanthrene	450,000,000	1,000,000,000	ug/kg	350	U	-		-	
Phenol	530,000,000	840,000,000	ug/kg	350	U	-		-	
Pyrene, SVOC	45,000,000	390,000,000	ug/kg	350	U	-		-	

TABLE 3.32
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 7, >12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

Metals									
Antimony	1,600	850	mg/kg	6.3	UJ	-		-	
Arsenic	77	690	mg/kg	**2.5**	**J**	2.5	**J**	2.5	**J**
Barium	680,000	320,000	mg/kg	**27.7**	**J**	27.7	**J**	27.7	**J**
Beryllium	7,800	3,400	mg/kg	**0.099**	**J**	0.099	**J**	0.099	**J**
Cadmium	2,600	1,000	mg/kg	**0.14**	**J**	0.14	**J**	0.14	**J**
Chromium Total	NA	NA	mg/kg	**3.8**	**J**	3.8	**J**	3.8	**J**
Cobalt	1,200	2,800	mg/kg	**1.8**	**J**	1.8	**J**	1.8	**J**
Copper	160,000	21,000	mg/kg	**4.4**	**J**	4.4	**J**	4.4	**J**
Cyanide (total)	370	150	mg/kg	**0.54**		0.54		0.54	
Lead	800	400	mg/kg	**2.4**	**J**	2.4	**J**	2.4	**J**
Manganese	NA	NA	mg/kg	**291**		291		291	
Mercury	3.1	3.1	mg/kg	**0.014**	**J**	0.014	**J**	0.014	**J**
Nickel	74,000	23,000	mg/kg	**5.7**	**J**	5.7	**J**	5.7	**J**
Selenium	20,000	11,000	mg/kg	0.53	UJ	-		-	
Silver	20,000	11,000	mg/kg	1.1	UJ	-		-	
Thallium	41	21	mg/kg	1.1	UJ	-		-	
Vanadium	20,000	11,000	mg/kg	**6.3**	**J**	6.3	**J**	6.3	**J**
Zinc	1,000,000	640,000	mg/kg	**14.3**	**J**	14.3	**J**	14.3	**J**

NOTES:

Shaded values indicate concentration exceeds C/I Single Chemical Generic Direct Contact Soil Standard
Shaded values indicate concentration exceeds Construction Single Chemical Generic Direct Contact Soil Standard
Shaded values indicate concentration exceeds both Single Chemical Generic Direct Contact Soil Standards

bold text indicates detection above reporting limit
Total PCBs value is the sum of all positively deteted PCB aroclors
D: The reported value is from a dilution
C/I: Commercial/ Industrial
J: The associated numerical value is an estimated quantity
mg/kg: milligrams per kilogram
NA: exceedance criteria not applicable for compound/analyte
PCB: Polychlorinated Biphenyl
R: The data are unusable (the compound/analyte may or may not be present). Resampling and reanalysis are necessary for verification
SVOC: SemiVolatile Organic Compound
U: The compound/analyte was analyzed for, but not detected. The associated numerical value is the sample quantitation limit
ug/kg: micrograms per kilogram
UJ: The compound/analyte was analyzed for, but not detected. The sample quantitation limit is an estimated quantity
VOC: Volatile Organic Compound

TABLE 3.33
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 11, >12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	SB-72-03		Maximum Detected Concentration	
			Field Sample ID:	SB-72-03			
			Date:	2/20/2003			
	C/I	Construction	Depth:	12.5 - 14.5			
VOCs							
1,1,1-Trichloroethane	640,000	640,000	ug/kg	940	U	-	
1,1,2,2-Tetrachloroethane	75,000	670,000	ug/kg	940	U	-	
1,1,2-Trichloroethane	140,000	1,200,000	ug/kg	940	U	-	
1,1-Dichloroethane	420,000	1,700,000	ug/kg	940	U	-	
1,1-Dichloroethene	1,200,000	360,000	ug/kg	940	U	-	
1,2,4-Trichlorobenzene, VOC	400,000	400,000	ug/kg	940	U	-	
1,2-Dibromo-3-chloropropane	1,700	15,000	ug/kg	1900	U	-	
1,2-Dibromoethane	4,400	38,000	ug/kg	940	U	-	
1,2-Dichlorobenzene, VOC	380,000	380,000	ug/kg	940	U	-	
1,2-Dichloroethane	56,000	480,000	ug/kg	940	U	-	
1,2-Dichloropropane	120,000	180,000	ug/kg	940	U	-	
1,3-Dichlorobenzene, VOC	NA	NA	ug/kg	940	U	-	
1,4-Dichlorobenzene, VOC	310,000	2,600,000	ug/kg	940	U	-	
2-Butanone	28,000,000	28,000,000	ug/kg	3800	U	-	
2-Hexanone	NA	NA	ug/kg	3800	U	-	
4-Methyl-2-Pentanone	3,400,000	3,400,000	ug/kg	3800	U	-	
Acetone	110,000,000	110,000,000	ug/kg	3800	U	-	
Benzene	140,000	1,200,000	ug/kg	940	U	-	
Bromodichloromethane	35,000	300,000	ug/kg	940	U	-	
Bromoform	6,200,000	130,000,000	ug/kg	940	U	-	
Bromomethane	82,000	550,000	ug/kg	940	U	-	
Carbon disulfide	740,000	740,000	ug/kg	940	U	-	
Carbon tetrachloride	79,000	460,000	ug/kg	940	UJ	-	
Chlorobenzene	760,000	760,000	ug/kg	940	U	-	
Chloroethane	2,100,000	2,100,000	ug/kg	940	U	-	
Chloroform	38,000	320,000	ug/kg	940	U	-	
Chloromethane	1,300,000	1,300,000	ug/kg	940	U	-	
cis-1,2-Dichloroethene	2,400,000	2,400,000	ug/kg	470	U	-	
cis-1,3-Dichloropropene	NA	NA	ug/kg	940	U	-	
Cyclohexane	120,000	120,000	ug/kg	1900	U	-	
Dibromochloromethane	84,000	770,000	ug/kg	940	U	-	
Dichlorodifluoromethane	850,000	850,000	ug/kg	940	U	-	
Ethylbenzene	480,000	480,000	ug/kg	940	U	-	
Isopropylbenzene, VOC	270,000	270,000	ug/kg	940	U	-	
Methyl acetate	NA	NA	ug/kg	1900	U	-	
Methyl cyclohexane	NA	NA	ug/kg	**130**	**J**	**130**	**J**
Methyl tert butyl ether	5,700,000	8,900,000	ug/kg	3800	U	-	
Methylene chloride	3,300,000	3,300,000	ug/kg	**200**	**J**	**200**	**J**
Styrene	870,000	870,000	ug/kg	940	U	-	
Tetrachloroethene	170,000	170,000	ug/kg	940	U	-	
Toluene	820,000	820,000	ug/kg	940	U	-	
trans-1,2-Dichloroethene	1,700,000	1,700,000	ug/kg	470	U	-	
trans-1,3-Dichloropropene	NA	NA	ug/kg	940	U	-	
Trichloroethene	51,000	17,000	ug/kg	940	U	-	
Trichlorofluoromethane	1,200,000	1,200,000	ug/kg	940	UJ	-	
Trifluorotrichloroethane	NA	NA	ug/kg	940	U	-	
Vinyl chloride	50,000	280,000	ug/kg	940	U	-	
Xylene (Total)	260,000	260,000	ug/kg	1900	U	-	
SVOCs							
2,2-oxybis(2-Chloropropane), SVOC	NA	NA	ug/kg	360	U	-	
2,4,5-Trichlorophenol	180,000,000	1,000,000,000	ug/kg	360	U	-	
2,4,6-Trichlorophenol	1,800,000	1,400,000	ug/kg	360	U	-	
2,4-Dichlorophenol	NA	NA	ug/kg	360	U	-	
2,4-Dimethylphenol	35,000,000	85,000,000	ug/kg	360	U	-	
2,4-Dinitrophenol	3,500,000	28,000,000	ug/kg	1800	U	-	
2,4-Dinitrotoluene	160,000	2,800,000	ug/kg	360	U	-	
2,6-Dinitrotoluene	NA	NA	ug/kg	360	U	-	
2-Chloronaphthalene	330,000,000	1,000,000,000	ug/kg	360	U	-	
2-Chlorophenol	20,000,000	22,000,000	ug/kg	360	U	-	
2-Methylnaphthalene	6,000,000	5,200,000	ug/kg	**52**	**J**	**52**	**J**
2-Methylphenol	88,000,000	710,000,000	ug/kg	360	U	-	
2-Nitroaniline	NA	NA	ug/kg	1800	U	-	
2-Nitrophenol	NA	NA	ug/kg	360	U	-	
3,3-Dichlorobenzidine	NA	NA	ug/kg	1800	U	-	
3-Nitroaniline	NA	NA	ug/kg	1800	U	-	
4,6-Dinitro-2-methylphenol	140,000	110,000	ug/kg	1800	U	-	
4-Bromophenyl phenyl ether	NA	NA	ug/kg	360	U	-	
4-Chloro-3-methylphenol	180,000,000	140,000,000	ug/kg	360	U	-	
4-Chloroaniline	250,000	710,000	ug/kg	360	U	-	
4-Chlorophenyl phenyl ether	NA	NA	ug/kg	360	U	-	
4-Methylphenol	180,000,000	28,000,000	ug/kg	360	U	-	
4-Nitroaniline	2,500,000	14,000,000	ug/kg	1800	U	-	
4-Nitrophenol	NA	NA	ug/kg	1800	U	-	
Acenaphthene	90,000,000	780,000,000	ug/kg	**17**	**J**	**17**	**J**
Acenaphthylene	90,000,000	780,000,000	ug/kg	360	U	-	
Acetophenone	2,500,000	2,500,000	ug/kg	360	U	-	
Anthracene	450,000,000	1,000,000,000	ug/kg	**43**	**J**	**43**	**J**
Atrazine	NA	NA	ug/kg	360	U	-	

TABLE 3.33
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 11, >12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	SB-72-03		Maximum Detected Concentration	
			Field Sample ID:	SB-72-03			
			Date:	2/20/2003			
	C/I	Construction	Depth:	12.5 - 14.5			
Benzaldehyde	NA	NA	ug/kg	360	U	-	
Benzo(a)anthracene	58,000	1,200,000	ug/kg	**250**	**J**	**250**	**J**
Benzo(a)pyrene	5,800	120,000	ug/kg	**230**	**J**	**230**	**J**
Benzo(b)fluoranthene	58,000	1,200,000	ug/kg	**250**	**J**	**250**	**J**
Benzo(g,h,i)perylene	45,000,000	390,000,000	ug/kg	**97**	**J**	**97**	**J**
Benzo(k)fluoranthene	580,000	12,000,000	ug/kg	**180**	**J**	**180**	**J**
Biphenyl	14,000,000	190,000,000	ug/kg	360	U	-	
bis(2-Chloroethoxy)methane	5,300,000	43,000,000	ug/kg	360	U	-	
bis(2-Chloroethyl)ether	30,000	290,000	ug/kg	360	U	-	
bis(2-Ethylhexyl)phthalate	3,500,000	71,000,000	ug/kg	**93**	**J**	**93**	**J**
Butyl benzylphthalate	26,000,000	520,000,000	ug/kg	360	U	-	
Caprolactam	NA	NA	ug/kg	360	U	-	
Carbazole	2,500,000	50,000,000	ug/kg	**90**	**J**	**90**	**J**
Chrysene	5,800,000	120,000,000	ug/kg	**280**	**J**	**280**	**J**
Dibenz(a,h)anthracene	5,800	120,000	ug/kg	**32**	**J**	**32**	**J**
Dibenzofuran	4,100,000	2,100,000	ug/kg	**21**	**J**	**21**	**J**
Diethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	360	U	-	
Dimethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	360	U	-	
Di-n-butylphthalate	180,000,000	430,000,000	ug/kg	360	U	-	
Di-N-Octyl phthalate	18,000,000	140,000,000	ug/kg	360	U	-	
Fluoranthene	60,000,000	160,000,000	ug/kg	**480**		**480**	
Fluorene	60,000,000	520,000,000	ug/kg	**24**	**J**	**24**	**J**
Hexachlorobenzene	31,000	14,000	ug/kg	360	U	-	
Hexachlorobutadiene, SVOC	630,000	1,400,000	ug/kg	360	U	-	
Hexachlorocyclopentadiene	11,000,000	26,000,000	ug/kg	1800	U	-	
Hexachloroethane	1,200,000	3,000,000	ug/kg	360	U	-	
Indeno(1,2,3-cd)pyrene	58,000	1,200,000	ug/kg	**92**	**J**	**92**	**J**
Isophorone	52,000,000	1,000,000,000	ug/kg	360	U	-	
Naphthalene, SVOC	450,000	560,000	ug/kg	**22**	**J**	**22**	**J**
Nitrobenzene	610,000	3,000,000	ug/kg	360	U	-	
N-Nitrosodi-n-propylamine	7,000	140,000	ug/kg	360	U	-	
N-Nitrosodiphenylamine	10,000,000	200,000,000	ug/kg	360	U	-	
Pentachlorophenol	67,000	950,000	ug/kg	360	U	-	
Phenanthrene	450,000,000	1,000,000,000	ug/kg	**290**	**J**	**290**	**J**
Phenol	530,000,000	840,000,000	ug/kg	360	U	-	
Pyrene, SVOC	45,000,000	390,000,000	ug/kg	**460**		**460**	
Metals							
Antimony	1,600	850	mg/kg	**0.84**	**J**	**0.84**	**J**
Arsenic	77	690	mg/kg	**5.8**	**J**	**5.8**	**J**
Barium	680,000	320,000	mg/kg	**75.3**	**J**	**75.3**	**J**
Beryllium	7,800	3,400	mg/kg	**0.13**	**J**	**0.13**	**J**
Cadmium	2,600	1,000	mg/kg	**0.14**	**J**	**0.14**	**J**
Chromium Total	NA	NA	mg/kg	**8.2**	**J**	**8.2**	**J**
Cobalt	1,200	2,800	mg/kg	**2.4**	**J**	**2.4**	**J**
Copper	160,000	21,000	mg/kg	**20.2**	**J**	**20.2**	**J**
Cyanide (total)	370	150	mg/kg	0.55	UJ	-	
Lead	800	400	mg/kg	**86.6**	**J**	**86.6**	**J**
Manganese	NA	NA	mg/kg	**435**	**J**	**435**	**J**
Mercury	3.1	3.1	mg/kg	**0.54**		**0.54**	
Nickel	74,000	23,000	mg/kg	**5.6**		**5.6**	
Selenium	20,000	11,000	mg/kg	0.55	U	-	
Silver	20,000	11,000	mg/kg	1.1	U	-	
Thallium	41	21	mg/kg	**0.89**	**J**	**0.89**	**J**
Vanadium	20,000	11,000	mg/kg	**12.5**	**J**	**12.5**	**J**
Zinc	1,000,000	640,000	mg/kg	**58.3**	**J**	**58.3**	**J**

NOTES:

Shaded values indicate concentration exceeds C/I Single Chemical Generic Direct Contact Soil Standard
Shaded values indicate concentration exceeds Construction Single Chemical Generic Direct Contact Soil Standard
Shaded values indicate concentration exceeds both Single Chemical Generic Direct Contact Soil Standards

bold text indicates detection above reporting limit
Total PCBs value is the sum of all positively deteted PCB aroclors
D: The reported value is from a dilution
C/I: Commercial/ Industrial
J: The associated numerical value is an estimated quantity
mg/kg: milligrams per kilogram
NA: exceedance criteria not applicable for compound/analyte
PCB: Polychlorinated Biphenyl
R: The data are unusable (the compound/analyte may or may not be present). Resampling and reanalysis are necessary for verification
SVOC: SemiVolatile Organic Compound
U: The compound/analyte was analyzed for, but not detected. The associated numerical value is the sample quantitation limit
ug/kg: micrograms per kilogram
UJ: The compound/analyte was analyzed for, but not detected. The sample quantitation limit is an estimated quantity
VOC: Volatile Organic Compound

TABLE 3.34
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 15/25/6S, >12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	MW-3-02		Maximum Detected Concentration	
			Field Sample ID:	MW-3-02			
			Date:	6/26/2002			
	C/I	Construction	Depth:	12 - 14			
PCBs							
Aroclor-1016	100,000	260,000	ug/kg	7100	U	-	
Aroclor-1221	14,000	210,000	ug/kg	7100	U	-	
Aroclor-1232	14,000	73,000	ug/kg	7100	U	-	
Aroclor-1242	20,000	440,000	ug/kg	7100	U	-	
Aroclor-1248	20,000	440,000	ug/kg	7100	U	-	
Aroclor-1254	20,000	75,000	ug/kg	**61000**		**61000**	
Aroclor-1260	20,000	440,000	ug/kg	7100	U	-	
Total PCBs	20,000	440,000	ug/kg	**61000**		**61000**	
Metals							
Antimony	1,600	850	mg/kg	6.4	U	-	
Arsenic	77	690	mg/kg	**3.1**		**3.1**	
Barium	680,000	320,000	mg/kg	**44**		**44**	
Beryllium	7,800	3,400	mg/kg	0.54	U	-	
Cadmium	2,600	1,000	mg/kg	**0.58**		**0.58**	
Chromium Total	NA	NA	mg/kg	**12.4**		**12.4**	
Cobalt	1,200	2,800	mg/kg	**2.1**	**J**	**2.1**	**J**
Copper	160,000	21,000	mg/kg	2.7	U	-	
Cyanide (total)	370	150	mg/kg	0.54	U	-	
Lead	800	400	mg/kg	**2.4**		**2.4**	
Manganese	NA	NA	mg/kg	**235**		**235**	
Mercury	3.1	3.1	mg/kg	0.11	U	-	
Nickel	74,000	23,000	mg/kg	**5.5**		**5.5**	
Selenium	20,000	11,000	mg/kg	0.54	U	-	
Silver	20,000	11,000	mg/kg	1.1	U	-	
Thallium	41	21	mg/kg	**1.7**		**1.7**	
Vanadium	20,000	11,000	mg/kg	**7.4**		**7.4**	
Zinc	1,000,000	640,000	mg/kg	**15.3**		**15.3**	

NOTES:

Shaded values indicate concentration exceeds C/I Single Chemical Generic Direct Contact Soil Standard
Shaded values indicate concentration exceeds Construction Single Chemical Generic Direct Contact Soil Standard
Shaded values indicate concentration exceeds both Single Chemical Generic Direct Contact Soil Standards

bold text indicates detection above reporting limit
Total PCBs value is the sum of all positively deteted PCB aroclors
D: The reported value is from a dilution
C/I: Commercial/ Industrial
J: The associated numerical value is an estimated quantity
mg/kg: milligrams per kilogram
NA: exceedance criteria not applicable for compound/analyte
PCB: Polychlorinated Biphenyl
R: The data are unusable (the compound/analyte may or may not be present). Resampling and reanalysis are necessary for ver
SVOC: SemiVolatile Organic Compound
U: The compound/analyte was analyzed for, but not detected. The associated numerical value is the sample quantitation limit
ug/kg: micrograms per kilogram
UJ: The compound/analyte was analyzed for, but not detected. The sample quantitation limit is an estimated quantity
VOC: Volatile Organic Compound

TABLE 3.35
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 18/19, >12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	BH-183		SB-150-04		Maximum Detected Concentration	
			Field Sample ID:	S-112904-NZ-043		SB-150-04			
			Date:	11/29/2004		1/28/2004			
	C/I	Construction	Depth:	12 - 14		12 - 14			
VOCs									
1,1,1-Trichloroethane	640,000	640,000	ug/kg	5.3	U	6.2	U	-	
1,1,2,2-Tetrachloroethane	75,000	670,000	ug/kg	5.3	U	6.2	U	-	
1,1,2-Trichloroethane	140,000	1,200,000	ug/kg	5.3	U	6.2	U	-	
1,1-Dichloroethane	420,000	1,700,000	ug/kg	5.3	U	6.2	U	-	
1,1-Dichloroethene	1,200,000	360,000	ug/kg	5.3	U	6.2	U	-	
1,2,4-Trichlorobenzene, VOC	400,000	400,000	ug/kg	5.3	U	6.2	U	-	
1,2-Dibromo-3-chloropropane	1,700	15,000	ug/kg	11	U	12	U	-	
1,2-Dibromoethane	4,400	38,000	ug/kg	5.3	U	6.2	U	-	
1,2-Dichlorobenzene, VOC	380,000	380,000	ug/kg	5.3	U	6.2	U	-	
1,2-Dichloroethane	56,000	480,000	ug/kg	5.3	U	6.2	U	-	
1,2-Dichloropropane	120,000	180,000	ug/kg	5.3	U	6.2	U	-	
1,3-Dichlorobenzene, VOC	NA	NA	ug/kg	5.3	U	6.2	U	-	
1,4-Dichlorobenzene, VOC	310,000	2,600,000	ug/kg	5.3	U	6.2	U	-	
2-Butanone	28,000,000	28,000,000	ug/kg	21	U	**2.4**	**J**	**2.4**	**J**
2-Hexanone	NA	NA	ug/kg	21	U	25	U	-	
4-Methyl-2-Pentanone	3,400,000	3,400,000	ug/kg	21	U	**1.4**	**J**	**1.4**	**J**
Acetone	110,000,000	110,000,000	ug/kg	**15**	**J**	**13**	**J**	**15**	**J**
Benzene	140,000	1,200,000	ug/kg	**6.2**		6.2	U	**6.2**	
Bromodichloromethane	35,000	300,000	ug/kg	5.3	U	6.2	U	-	
Bromoform	6,200,000	130,000,000	ug/kg	5.3	U	6.2	U	-	
Bromomethane	82,000	550,000	ug/kg	5.3	U	6.2	U	-	
Carbon disulfide	740,000	740,000	ug/kg	5.3	U	**2**	**J**	**2**	**J**
Carbon tetrachloride	79,000	460,000	ug/kg	5.3	U	6.2	U	-	
Chlorobenzene	760,000	760,000	ug/kg	5.3	U	6.2	U	-	
Chloroethane	2,100,000	2,100,000	ug/kg	5.3	U	6.2	U	-	
Chloroform	38,000	320,000	ug/kg	5.3	U	6.2	U	-	
Chloromethane	1,300,000	1,300,000	ug/kg	5.3	U	6.2	U	-	
cis-1,2-Dichloroethene	2,400,000	2,400,000	ug/kg	5.3	U	3.1	U	-	
cis-1,3-Dichloropropene	NA	NA	ug/kg	5.3	U	6.2	U	-	
Cyclohexane	120,000	120,000	ug/kg	**14**		12	U	**14**	
Dibromochloromethane	84,000	770,000	ug/kg	5.3	U	6.2	U	-	
Dichlorodifluoromethane	850,000	850,000	ug/kg	5.3	UJ	6.2	U	-	
Ethylbenzene	480,000	480,000	ug/kg	**9.7**		**1**	**J**	**9.7**	
Isopropylbenzene, VOC	270,000	270,000	ug/kg	5.3	U	6.2	U	-	
Methyl acetate	NA	NA	ug/kg	11	U	12	U	-	
Methyl cyclohexane	NA	NA	ug/kg	**20**		**0.47**	**J**	**20**	
Methyl tert butyl ether	5,700,000	8,900,000	ug/kg	21	U	25	U	-	
Methylene chloride	3,300,000	3,300,000	ug/kg	**17**	**J**	6.2	U	**17**	**J**
Styrene	870,000	870,000	ug/kg	5.3	U	6.2	U	-	
Tetrachloroethene	170,000	170,000	ug/kg	**85**		**1.2**	**J**	**85**	
Toluene	820,000	820,000	ug/kg	**26**	**B**	**2.2**	**J**	**26**	**B**
trans-1,2-Dichloroethene	1,700,000	1,700,000	ug/kg	5.3	U	3.1	U	-	
trans-1,3-Dichloropropene	NA	NA	ug/kg	5.3	U	6.2	U	-	
Trichloroethene	51,000	17,000	ug/kg	**8.8**		6.2	U	**8.8**	
Trichlorofluoromethane	1,200,000	1,200,000	ug/kg	5.3	U	6.2	U	-	
Trifluorotrichloroethane	NA	NA	ug/kg	5.3	U	6.2	U	-	
Vinyl chloride	50,000	280,000	ug/kg	5.3	U	6.2	U	-	
Xylene (Total)	260,000	260,000	ug/kg	**22**		**2.1**	**J**	**22**	
SVOCs									
2,2-oxybis(2-Chloropropane), SVOC	NA	NA	ug/kg	370	U	18000	U	-	
2,4,5-Trichlorophenol	180,000,000	1,000,000,000	ug/kg	370	U	18000	U	-	
2,4,6-Trichlorophenol	1,800,000	1,400,000	ug/kg	370	U	18000	U	-	
2,4-Dichlorophenol	NA	NA	ug/kg	370	U	18000	U	-	
2,4-Dimethylphenol	35,000,000	85,000,000	ug/kg	370	U	18000	U	-	
2,4-Dinitrophenol	3,500,000	28,000,000	ug/kg	1800	U	85000	U	-	
2,4-Dinitrotoluene	160,000	2,800,000	ug/kg	370	U	18000	U	-	
2,6-Dinitrotoluene	NA	NA	ug/kg	370	U	18000	U	-	
2-Chloronaphthalene	330,000,000	1,000,000,000	ug/kg	370	U	18000	U	-	
2-Chlorophenol	20,000,000	22,000,000	ug/kg	370	U	18000	U	-	
2-Methylnaphthalene	6,000,000	5,200,000	ug/kg	370	U	18000	U	-	
2-Methylphenol	88,000,000	710,000,000	ug/kg	370	U	18000	U	-	
2-Nitroaniline	NA	NA	ug/kg	1800	UJ	85000	U	-	
2-Nitrophenol	NA	NA	ug/kg	370	U	18000	U	-	
3,3-Dichlorobenzidine	NA	NA	ug/kg	1800	U	85000	U	-	
3-Nitroaniline	NA	NA	ug/kg	1800	U	85000	U	-	
4,6-Dinitro-2-methylphenol	140,000	110,000	ug/kg	1800	U	85000	U	-	
4-Bromophenyl phenyl ether	NA	NA	ug/kg	370	U	18000	U	-	
4-Chloro-3-methylphenol	180,000,000	140,000,000	ug/kg	370	U	18000	U	-	
4-Chloroaniline	250,000	710,000	ug/kg	370	U	18000	U	-	
4-Chlorophenyl phenyl ether	NA	NA	ug/kg	370	U	18000	U	-	
4-Methylphenol	180,000,000	28,000,000	ug/kg	370	U	18000	U	-	
4-Nitroaniline	2,500,000	14,000,000	ug/kg	1800	U	85000	U	-	
4-Nitrophenol	NA	NA	ug/kg	1800	U	85000	U	-	
Acenaphthene	90,000,000	780,000,000	ug/kg	370	U	18000	U	-	
Acenaphthylene	90,000,000	780,000,000	ug/kg	370	U	18000	U	-	
Acetophenone	2,500,000	2,500,000	ug/kg	370	U	18000	U	-	
Anthracene	450,000,000	1,000,000,000	ug/kg	370	U	18000	U	-	
Atrazine	NA	NA	ug/kg	370	U	18000	U	-	

TABLE 3.35
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 18/19, >12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	BH-183		SB-150-04		Maximum Detected Concentration	
			Field Sample ID:	S-112904-NZ-043		SB-150-04			
			Date:	11/29/2004		1/28/2004			
	C/I	Construction	Depth:	12 - 14		12 - 14			
Benzaldehyde	NA	NA	ug/kg	370	U	18000	U	-	
Benzo(a)anthracene	58,000	1,200,000	ug/kg	370	U	18000	U	-	
Benzo(a)pyrene	5,800	120,000	ug/kg	370	U	18000	U	-	
Benzo(b)fluoranthene	58,000	1,200,000	ug/kg	370	U	18000	U	-	
Benzo(g,h,i)perylene	45,000,000	390,000,000	ug/kg	370	U	18000	U	-	
Benzo(k)fluoranthene	580,000	12,000,000	ug/kg	370	U	18000	U	-	
Biphenyl	14,000,000	190,000,000	ug/kg	370	U	18000	U	-	
bis(2-Chloroethoxy)methane	5,300,000	43,000,000	ug/kg	370	U	18000	U	-	
bis(2-Chloroethyl)ether	30,000	290,000	ug/kg	370	U	18000	U	-	
bis(2-Ethylhexyl)phthalate	3,500,000	71,000,000	ug/kg	370	U	18000	U	-	
Butyl benzylphthalate	26,000,000	520,000,000	ug/kg	370	U	18000	U	-	
Caprolactam	NA	NA	ug/kg	370	U	18000	U	-	
Carbazole	2,500,000	50,000,000	ug/kg	370	U	18000	U	-	
Chrysene	5,800,000	120,000,000	ug/kg	370	U	18000	U	-	
Dibenz(a,h)anthracene	5,800	120,000	ug/kg	370	U	18000	U	-	
Dibenzofuran	4,100,000	2,100,000	ug/kg	370	U	18000	U	-	
Diethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	370	U	18000	U	-	
Dimethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	370	U	18000	U	-	
Di-n-butylphthalate	180,000,000	430,000,000	ug/kg	370	U	18000	U	-	
Di-N-Octyl phthalate	18,000,000	140,000,000	ug/kg	370	U	18000	U	-	
Fluoranthene	60,000,000	160,000,000	ug/kg	370	U	18000	U	-	
Fluorene	60,000,000	520,000,000	ug/kg	370	U	18000	U	-	
Hexachlorobenzene	31,000	14,000	ug/kg	370	U	18000	U	-	
Hexachlorobutadiene, SVOC	630,000	1,400,000	ug/kg	370	U	18000	U	-	
Hexachlorocyclopentadiene	11,000,000	26,000,000	ug/kg	1800	UJ	85000	U	-	
Hexachloroethane	1,200,000	3,000,000	ug/kg	370	U	18000	U	-	
Indeno(1,2,3-cd)pyrene	58,000	1,200,000	ug/kg	370	U	18000	U	-	
Isophorone	52,000,000	1,000,000,000	ug/kg	370	U	18000	U	-	
Naphthalene, SVOC	450,000	560,000	ug/kg	370	U	18000	U	-	
Nitrobenzene	610,000	3,000,000	ug/kg	370	U	18000	U	-	
N-Nitrosodi-n-propylamine	7,000	140,000	ug/kg	370	U	18000	U	-	
N-Nitrosodiphenylamine	10,000,000	200,000,000	ug/kg	370	U	18000	U	-	
Pentachlorophenol	67,000	950,000	ug/kg	370	U	18000	U	-	
Phenanthrene	450,000,000	1,000,000,000	ug/kg	370	U	18000	U	-	
Phenol	530,000,000	840,000,000	ug/kg	370	U	18000	U	-	
Pyrene, SVOC	45,000,000	390,000,000	ug/kg	370	U	18000	U	-	
PCBs									
Aroclor-1016	100,000	260,000	ug/kg	-		35	U	-	
Aroclor-1221	14,000	210,000	ug/kg	-		35	U	-	
Aroclor-1232	14,000	73,000	ug/kg	-		35	U	-	
Aroclor-1242	20,000	440,000	ug/kg	-		35	U	-	
Aroclor-1248	20,000	440,000	ug/kg	-		35	U	-	
Aroclor-1254	20,000	75,000	ug/kg	-		**290**		**290**	
Aroclor-1260	20,000	440,000	ug/kg	-		35	U	-	
Total PCBs	20,000	440,000	ug/kg	-		**290**		**290**	
Metals									
Antimony	1,600	850	mg/kg	6.7	R	6.4	UJ	-	
Arsenic	77	690	mg/kg	**1.8**		**2.8**		**2.8**	
Barium	680,000	320,000	mg/kg	**159**		**53.1**		**159**	
Beryllium	7,800	3,400	mg/kg	**0.047**	**J**	0.53	U	**0.047**	**J**
Cadmium	2,600	1,000	mg/kg	**0.07**	**J**	0.53	U	**0.07**	**J**
Chromium Total	NA	NA	mg/kg	**2.2**	**J**	**3.3**		**3.3**	
Cobalt	1,200	2,800	mg/kg	**0.71**	**J**	**1.3**	**J**	**1.3**	**J**
Copper	160,000	21,000	mg/kg	**1.9**	**J**	**3.2**		**3.2**	
Cyanide (total)	370	150	mg/kg	0.56	U	0.53	U	-	
Lead	800	400	mg/kg	**2.8**		**2.1**		**2.8**	
Manganese	NA	NA	mg/kg	**275**	**J**	**180**		**275**	**J**
Mercury	3.1	3.1	mg/kg	**0.011**	**J**	**0.02**	**J**	**0.02**	**J**
Nickel	74,000	23,000	mg/kg	**2**	**J**	**3.2**	**J**	**3.2**	**J**
Selenium	20,000	11,000	mg/kg	0.56	U	0.53	U	-	
Silver	20,000	11,000	mg/kg	1.1	U	1.1	U	-	
Thallium	41	21	mg/kg	1.1	U	1.1	U	-	
Vanadium	20,000	11,000	mg/kg	**3.3**	**J**	**9.5**		**9.5**	
Zinc	1,000,000	640,000	mg/kg	**16.1**		**11.3**		**16.1**	

NOTES:

Shaded values indicate concentration exceeds C/I Single Chemical Generic Direct Contact Soil Standard
Shaded values indicate concentration exceeds Construction Single Chemical Generic Direct Contact Soil Standard
Shaded values indicate concentration exceeds both Single Chemical Generic Direct Contact Soil Standards

bold text indicates detection above reporting limit
Total PCBs value is the sum of all positively deteted PCB aroclors
D: The reported value is from a dilution
C/I: Commercial/ Industrial
J: The associated numerical value is an estimated quantity
mg/kg: milligrams per kilogram
NA: exceedance criteria not applicable for compound/analyte
PCB: Polychlorinated Biphenyl
R: The data are unusable (the compound/analyte may or may not be present). Resampling and reanalysis are necessary for verification
SVOC: SemiVolatile Organic Compound
U: The compound/analyte was analyzed for, but not detected. The associated numerical value is the sample quantitation limit
ug/kg: micrograms per kilogram
UJ: The compound/analyte was analyzed for, but not detected. The sample quantitation limit is an estimated quantity
VOC: Volatile Organic Compound

TABLE 3.36
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 27, >12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	SB-74-03		Maximum Detected Concentration	
			Field Sample ID:	SB-74-03			
			Date:	2/20/2003			
	C/I	Construction	Depth:	13 - 15			
VOCs							
1,1,1-Trichloroethane	640,000	640,000	ug/kg	4.3	U	-	
1,1,2,2-Tetrachloroethane	75,000	670,000	ug/kg	4.3	U	-	
1,1,2-Trichloroethane	140,000	1,200,000	ug/kg	4.3	U	-	
1,1-Dichloroethane	420,000	1,700,000	ug/kg	4.3	U	-	
1,1-Dichloroethene	1,200,000	360,000	ug/kg	4.3	U	-	
1,2,4-Trichlorobenzene, VOC	400,000	400,000	ug/kg	4.3	U	-	
1,2-Dibromo-3-chloropropane	1,700	15,000	ug/kg	8.7	U	-	
1,2-Dibromoethane	4,400	38,000	ug/kg	4.3	U	-	
1,2-Dichlorobenzene, VOC	380,000	380,000	ug/kg	4.3	U	-	
1,2-Dichloroethane	56,000	480,000	ug/kg	4.3	U	-	
1,2-Dichloropropane	120,000	180,000	ug/kg	4.3	U	-	
1,3-Dichlorobenzene, VOC	NA	NA	ug/kg	4.3	U	-	
1,4-Dichlorobenzene, VOC	310,000	2,600,000	ug/kg	4.3	U	-	
2-Butanone	28,000,000	28,000,000	ug/kg	17	U	-	
2-Hexanone	NA	NA	ug/kg	17	U	-	
4-Methyl-2-Pentanone	3,400,000	3,400,000	ug/kg	17	U	-	
Acetone	110,000,000	110,000,000	ug/kg	17	U	-	
Benzene	140,000	1,200,000	ug/kg	4.3	U	-	
Bromodichloromethane	35,000	300,000	ug/kg	4.3	U	-	
Bromoform	6,200,000	130,000,000	ug/kg	4.3	UJ	-	
Bromomethane	82,000	550,000	ug/kg	4.3	UJ	-	
Carbon disulfide	740,000	740,000	ug/kg	4.3	U	-	
Carbon tetrachloride	79,000	460,000	ug/kg	4.3	UJ	-	
Chlorobenzene	760,000	760,000	ug/kg	4.3	U	-	
Chloroethane	2,100,000	2,100,000	ug/kg	4.3	U	-	
Chloroform	38,000	320,000	ug/kg	4.3	U	-	
Chloromethane	1,300,000	1,300,000	ug/kg	4.3	U	-	
cis-1,2-Dichloroethene	2,400,000	2,400,000	ug/kg	2.2	U	-	
cis-1,3-Dichloropropene	NA	NA	ug/kg	4.3	U	-	
Cyclohexane	120,000	120,000	ug/kg	8.7	U	-	
Dibromochloromethane	84,000	770,000	ug/kg	4.3	U	-	
Dichlorodifluoromethane	850,000	850,000	ug/kg	4.3	UJ	-	
Ethylbenzene	480,000	480,000	ug/kg	4.3	U	-	
Isopropylbenzene, VOC	270,000	270,000	ug/kg	4.3	U	-	
Methyl acetate	NA	NA	ug/kg	8.7	U	-	
Methyl cyclohexane	NA	NA	ug/kg	8.7	U	-	
Methyl tert butyl ether	5,700,000	8,900,000	ug/kg	17	U	-	
Methylene chloride	3,300,000	3,300,000	ug/kg	4.3	U	-	
Styrene	870,000	870,000	ug/kg	4.3	U	-	
Tetrachloroethene	170,000	170,000	ug/kg	**26**		**26**	
Toluene	820,000	820,000	ug/kg	**0.83**	**J**	**0.83**	**J**
trans-1,2-Dichloroethene	1,700,000	1,700,000	ug/kg	2.2	U	-	
trans-1,3-Dichloropropene	NA	NA	ug/kg	4.3	U	-	
Trichloroethene	51,000	17,000	ug/kg	**9.2**		**9.2**	
Trichlorofluoromethane	1,200,000	1,200,000	ug/kg	4.3	UJ	-	
Trifluorotrichloroethane	NA	NA	ug/kg	4.3	U	-	
Vinyl chloride	50,000	280,000	ug/kg	4.3	U	-	
Xylene (Total)	260,000	260,000	ug/kg	8.7	U	-	
SVOCs							
2,2-oxybis(2-Chloropropane), SVOC	NA	NA	ug/kg	350	U	-	
2,4,5-Trichlorophenol	180,000,000	1,000,000,000	ug/kg	350	U	-	
2,4,6-Trichlorophenol	1,800,000	1,400,000	ug/kg	350	U	-	
2,4-Dichlorophenol	NA	NA	ug/kg	350	U	-	
2,4-Dimethylphenol	35,000,000	85,000,000	ug/kg	350	U	-	
2,4-Dinitrophenol	3,500,000	28,000,000	ug/kg	1700	U	-	
2,4-Dinitrotoluene	160,000	2,800,000	ug/kg	350	U	-	
2,6-Dinitrotoluene	NA	NA	ug/kg	350	U	-	
2-Chloronaphthalene	330,000,000	1,000,000,000	ug/kg	350	U	-	
2-Chlorophenol	20,000,000	22,000,000	ug/kg	350	U	-	
2-Methylnaphthalene	6,000,000	5,200,000	ug/kg	**45**	**J**	**45**	**J**
2-Methylphenol	88,000,000	710,000,000	ug/kg	350	U	-	
2-Nitroaniline	NA	NA	ug/kg	1700	U	-	
2-Nitrophenol	NA	NA	ug/kg	350	U	-	
3,3-Dichlorobenzidine	NA	NA	ug/kg	1700	U	-	
3-Nitroaniline	NA	NA	ug/kg	1700	U	-	
4,6-Dinitro-2-methylphenol	140,000	110,000	ug/kg	1700	U	-	
4-Bromophenyl phenyl ether	NA	NA	ug/kg	350	U	-	
4-Chloro-3-methylphenol	180,000,000	140,000,000	ug/kg	350	U	-	
4-Chloroaniline	250,000	710,000	ug/kg	350	U	-	
4-Chlorophenyl phenyl ether	NA	NA	ug/kg	350	U	-	
4-Methylphenol	180,000,000	28,000,000	ug/kg	350	U	-	
4-Nitroaniline	2,500,000	14,000,000	ug/kg	1700	U	-	
4-Nitrophenol	NA	NA	ug/kg	1700	U	-	
Acenaphthene	90,000,000	780,000,000	ug/kg	**17**	**J**	**17**	**J**
Acenaphthylene	90,000,000	780,000,000	ug/kg	350	U	-	
Acetophenone	2,500,000	2,500,000	ug/kg	350	U	-	
Anthracene	450,000,000	1,000,000,000	ug/kg	**31**	**J**	**31**	**J**
Atrazine	NA	NA	ug/kg	350	U	-	

TABLE 3.36
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 27, >12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	SB-74-03		Maximum Detected Concentration	
			Field Sample ID:	SB-74-03			
			Date:	2/20/2003			
	C/I	Construction	Depth:	13 - 15			
Benzaldehyde	NA	NA	ug/kg	350	U	-	
Benzo(a)anthracene	58,000	1,200,000	ug/kg	**150**	**J**	**150**	**J**
Benzo(a)pyrene	5,800	120,000	ug/kg	**130**	**J**	**130**	**J**
Benzo(b)fluoranthene	58,000	1,200,000	ug/kg	**170**	**J**	**170**	**J**
Benzo(g,h,i)perylene	45,000,000	390,000,000	ug/kg	**65**	**J**	**65**	**J**
Benzo(k)fluoranthene	580,000	12,000,000	ug/kg	**130**	**J**	**130**	**J**
Biphenyl	14,000,000	190,000,000	ug/kg	350	U	-	
bis(2-Chloroethoxy)methane	5,300,000	43,000,000	ug/kg	350	U	-	
bis(2-Chloroethyl)ether	30,000	290,000	ug/kg	350	U	-	
bis(2-Ethylhexyl)phthalate	3,500,000	71,000,000	ug/kg	**32**	**J**	**32**	**J**
Butyl benzylphthalate	26,000,000	520,000,000	ug/kg	350	U	-	
Caprolactam	NA	NA	ug/kg	350	U	-	
Carbazole	2,500,000	50,000,000	ug/kg	**86**	**J**	**86**	**J**
Chrysene	5,800,000	120,000,000	ug/kg	**170**	**J**	**170**	**J**
Dibenz(a,h)anthracene	5,800	120,000	ug/kg	350	U	-	
Dibenzofuran	4,100,000	2,100,000	ug/kg	**22**	**J**	**22**	**J**
Diethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	350	U	-	
Dimethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	350	U	-	
Di-n-butylphthalate	180,000,000	430,000,000	ug/kg	350	U	-	
Di-N-Octyl phthalate	18,000,000	140,000,000	ug/kg	350	U	-	
Fluoranthene	60,000,000	160,000,000	ug/kg	**340**	**J**	**340**	**J**
Fluorene	60,000,000	520,000,000	ug/kg	350	U	-	
Hexachlorobenzene	31,000	14,000	ug/kg	350	U	-	
Hexachlorobutadiene, SVOC	630,000	1,400,000	ug/kg	350	U	-	
Hexachlorocyclopentadiene	11,000,000	26,000,000	ug/kg	1700	U	-	
Hexachloroethane	1,200,000	3,000,000	ug/kg	350	U	-	
Indeno(1,2,3-cd)pyrene	58,000	1,200,000	ug/kg	**54**	**J**	**54**	**J**
Isophorone	52,000,000	1,000,000,000	ug/kg	350	U	-	
Naphthalene, SVOC	450,000	560,000	ug/kg	**26**	**J**	**26**	**J**
Nitrobenzene	610,000	3,000,000	ug/kg	350	U	-	
N-Nitrosodi-n-propylamine	7,000	140,000	ug/kg	350	U	-	
N-Nitrosodiphenylamine	10,000,000	200,000,000	ug/kg	350	U	-	
Pentachlorophenol	67,000	950,000	ug/kg	350	U	-	
Phenanthrene	450,000,000	1,000,000,000	ug/kg	**300**	**J**	**300**	**J**
Phenol	530,000,000	840,000,000	ug/kg	350	U	-	
Pyrene, SVOC	45,000,000	390,000,000	ug/kg	**360**		**360**	
Metals							
Antimony	1,600	850	mg/kg	6.4	UJ	-	
Arsenic	77	690	mg/kg	**3.8**	**J**	**3.8**	**J**
Barium	680,000	320,000	mg/kg	**74.5**	**J**	**74.5**	**J**
Beryllium	7,800	3,400	mg/kg	0.54	UJ	-	
Cadmium	2,600	1,000	mg/kg	**0.079**	**J**	**0.079**	**J**
Chromium Total	NA	NA	mg/kg	**4.9**	**J**	**4.9**	**J**
Cobalt	1,200	2,800	mg/kg	**1.4**	**J**	**1.4**	**J**
Copper	160,000	21,000	mg/kg	**10.3**	**J**	**10.3**	**J**
Cyanide (total)	370	150	mg/kg	**0.21**	**J**	**0.21**	**J**
Lead	800	400	mg/kg	**5.6**	**J**	**5.6**	**J**
Manganese	NA	NA	mg/kg	**273**	**J**	**273**	**J**
Mercury	3.1	3.1	mg/kg	0.11	U	-	
Nickel	74,000	23,000	mg/kg	**4**	**J**	**4**	**J**
Selenium	20,000	11,000	mg/kg	0.54	U	-	
Silver	20,000	11,000	mg/kg	1.1	U	-	
Thallium	41	21	mg/kg	1.1	UJ	-	
Vanadium	20,000	11,000	mg/kg	**6**	**J**	**6**	**J**
Zinc	1,000,000	640,000	mg/kg	**17.1**	**J**	**17.1**	**J**

NOTES:

Shaded values indicate concentration exceeds C/I Single Chemical Generic Direct Contact Soil Standard
Shaded values indicate concentration exceeds Construction Single Chemical Generic Direct Contact Soil Standard
Shaded values indicate concentration exceeds both Single Chemical Generic Direct Contact Soil Standards

bold text indicates detection above reporting limit
Total PCBs value is the sum of all positively deteted PCB aroclors
D: The reported value is from a dilution
C/I: Commercial/ Industrial
J: The associated numerical value is an estimated quantity
mg/kg: milligrams per kilogram
NA: exceedance criteria not applicable for compound/analyte
PCB: Polychlorinated Biphenyl
R: The data are unusable (the compound/analyte may or may not be present). Resampling and reanalysis are necessary for verification
SVOC: SemiVolatile Organic Compound
U: The compound/analyte was analyzed for, but not detected. The associated numerical value is the sample quantitation limit
ug/kg: micrograms per kilogram
UJ: The compound/analyte was analyzed for, but not detected. The sample quantitation limit is an estimated quantity
VOC: Volatile Organic Compound

TABLE 3.37
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 34, >12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	MW-25-04		MW-25-04		SB-73-03		Maximum Detected Concentration	
			Field Sample ID:	MW-25-04 DUP		MW-25-04		SB-73-03			
			Date:	3/4/2004		3/4/2004		2/20/2003			
	C/I	Construction	Depth:	13 - 15		13 - 15		12 - 14			
VOCs											
1,1,1-Trichloroethane	640,000	640,000	ug/kg	4.2	U	4.1	U	4.2	U	-	
1,1,2,2-Tetrachloroethane	75,000	670,000	ug/kg	4.2	U	4.1	U	4.2	U	-	
1,1,2-Trichloroethane	140,000	1,200,000	ug/kg	4.2	U	4.1	U	4.2	U	-	
1,1-Dichloroethane	420,000	1,700,000	ug/kg	4.2	U	4.1	U	4.2	U	-	
1,1-Dichloroethene	1,200,000	360,000	ug/kg	4.2	U	4.1	U	4.2	U	-	
1,2,4-Trichlorobenzene, VOC	400,000	400,000	ug/kg	4.2	U	4.1	U	4.2	U	-	
1,2-Dibromo-3-chloropropane	1,700	15,000	ug/kg	8.3	U	8.3	U	8.4	U	-	
1,2-Dibromoethane	4,400	38,000	ug/kg	4.2	U	4.1	U	4.2	U	-	
1,2-Dichlorobenzene, VOC	380,000	380,000	ug/kg	4.2	U	4.1	U	4.2	U	-	
1,2-Dichloroethane	56,000	480,000	ug/kg	4.2	U	4.1	U	4.2	U	-	
1,2-Dichloropropane	120,000	180,000	ug/kg	4.2	U	4.1	U	4.2	U	-	
1,3-Dichlorobenzene, VOC	NA	NA	ug/kg	4.2	U	4.1	U	4.2	U	-	
1,4-Dichlorobenzene, VOC	310,000	2,600,000	ug/kg	4.2	U	4.1	U	4.2	U	-	
2-Butanone	28,000,000	28,000,000	ug/kg	17	U	17	U	17	U	-	
2-Hexanone	NA	NA	ug/kg	17	U	17	U	17	U	-	
4-Methyl-2-Pentanone	3,400,000	3,400,000	ug/kg	17	U	17	U	17	U	-	
Acetone	110,000,000	110,000,000	ug/kg	**5.1**	**J**	**5**	**J**	17	U	**5.1**	**J**
Benzene	140,000	1,200,000	ug/kg	4.2	U	**0.7**	**J**	**0.29**	**J**	**0.7**	**J**
Bromodichloromethane	35,000	300,000	ug/kg	4.2	U	4.1	U	4.2	U	-	
Bromoform	6,200,000	130,000,000	ug/kg	4.2	U	4.1	U	4.2	UJ	-	
Bromomethane	82,000	550,000	ug/kg	4.2	U	4.1	U	4.2	UJ	-	
Carbon disulfide	740,000	740,000	ug/kg	4.2	U	4.1	U	4.2	U	-	
Carbon tetrachloride	79,000	460,000	ug/kg	4.2	U	4.1	U	4.2	UJ	-	
Chlorobenzene	760,000	760,000	ug/kg	4.2	U	4.1	U	4.2	U	-	
Chloroethane	2,100,000	2,100,000	ug/kg	4.2	U	4.1	U	4.2	U	-	
Chloroform	38,000	320,000	ug/kg	4.2	U	4.1	U	4.2	U	-	
Chloromethane	1,300,000	1,300,000	ug/kg	4.2	U	4.1	U	4.2	U	-	
cis-1,2-Dichloroethene	2,400,000	2,400,000	ug/kg	2.1	U	2.1	U	**6.3**		**6.3**	
cis-1,3-Dichloropropene	NA	NA	ug/kg	4.2	U	4.1	U	4.2	U	-	
Cyclohexane	120,000	120,000	ug/kg	8.3	U	**0.76**	**J**	8.4	U	**0.76**	**J**
Dibromochloromethane	84,000	770,000	ug/kg	4.2	U	4.1	U	4.2	U	-	
Dichlorodifluoromethane	850,000	850,000	ug/kg	4.2	UJ	4.1	UJ	4.2	UJ	-	
Ethylbenzene	480,000	480,000	ug/kg	**0.42**	**J**	**1.4**	**J**	4.2	U	**1.4**	**J**
Isopropylbenzene, VOC	270,000	270,000	ug/kg	4.2	U	4.1	U	4.2	U	-	
Methyl acetate	NA	NA	ug/kg	8.3	U	8.3	U	8.4	U	-	
Methyl cyclohexane	NA	NA	ug/kg	**0.46**	**J**	**1.6**	**J**	**0.55**	**J**	**1.6**	**J**
Methyl tert butyl ether	5,700,000	8,900,000	ug/kg	17	U	17	U	17	U	-	
Methylene chloride	3,300,000	3,300,000	ug/kg	4.2	U	4.1	U	4.2	U	-	
Styrene	870,000	870,000	ug/kg	4.2	U	4.1	U	4.2	U	-	
Tetrachloroethene	170,000	170,000	ug/kg	**2.6**	**J**	**8.7**		**17**		**17**	
Toluene	820,000	820,000	ug/kg	**0.66**	**J**	**2.7**	**J**	**0.81**	**J**	**2.7**	**J**
trans-1,2-Dichloroethene	1,700,000	1,700,000	ug/kg	2.1	U	2.1	U	2.1	U	-	
trans-1,3-Dichloropropene	NA	NA	ug/kg	4.2	U	4.1	U	4.2	U	-	
Trichloroethene	51,000	17,000	ug/kg	**1.9**	**J**	**5.1**		**41**		**41**	
Trichlorofluoromethane	1,200,000	1,200,000	ug/kg	4.2	U	4.1	U	4.2	UJ	-	
Trifluorotrichloroethane	NA	NA	ug/kg	4.2	U	4.1	U	4.2	U	-	
Vinyl chloride	50,000	280,000	ug/kg	4.2	U	4.1	U	4.2	U	-	
Xylene (Total)	260,000	260,000	ug/kg	8.3	U	**2.7**	**J**	8.4	U	**2.7**	**J**
SVOCs											
2,2-oxybis(2-Chloropropane), SVOC	NA	NA	ug/kg	-		-		350	U	-	
2,4,5-Trichlorophenol	180,000,000	1,000,000,000	ug/kg	-		-		350	U	-	
2,4,6-Trichlorophenol	1,800,000	1,400,000	ug/kg	-		-		350	U	-	
2,4-Dichlorophenol	NA	NA	ug/kg	-		-		350	U	-	
2,4-Dimethylphenol	35,000,000	85,000,000	ug/kg	-		-		350	U	-	
2,4-Dinitrophenol	3,500,000	28,000,000	ug/kg	-		-		1700	U	-	
2,4-Dinitrotoluene	160,000	2,800,000	ug/kg	-		-		350	U	-	
2,6-Dinitrotoluene	NA	NA	ug/kg	-		-		350	U	-	
2-Chloronaphthalene	330,000,000	1,000,000,000	ug/kg	-		-		350	U	-	
2-Chlorophenol	20,000,000	22,000,000	ug/kg	-		-		350	U	-	
2-Methylnaphthalene	6,000,000	5,200,000	ug/kg	-		-		350	U	-	
2-Methylphenol	88,000,000	710,000,000	ug/kg	-		-		350	U	-	
2-Nitroaniline	NA	NA	ug/kg	-		-		1700	U	-	
2-Nitrophenol	NA	NA	ug/kg	-		-		350	U	-	
3,3-Dichlorobenzidine	NA	NA	ug/kg	-		-		1700	U	-	
3-Nitroaniline	NA	NA	ug/kg	-		-		1700	U	-	
4,6-Dinitro-2-methylphenol	140,000	110,000	ug/kg	-		-		1700	U	-	
4-Bromophenyl phenyl ether	NA	NA	ug/kg	-		-		350	U	-	
4-Chloro-3-methylphenol	180,000,000	140,000,000	ug/kg	-		-		350	U	-	
4-Chloroaniline	250,000	710,000	ug/kg	-		-		350	U	-	
4-Chlorophenyl phenyl ether	NA	NA	ug/kg	-		-		350	U	-	
4-Methylphenol	180,000,000	28,000,000	ug/kg	-		-		350	U	-	
4-Nitroaniline	2,500,000	14,000,000	ug/kg	-		-		1700	U	-	
4-Nitrophenol	NA	NA	ug/kg	-		-		1700	U	-	
Acenaphthene	90,000,000	780,000,000	ug/kg	-		-		**28**	**J**	**28**	**J**
Acenaphthylene	90,000,000	780,000,000	ug/kg	-		-		350	U	-	

TABLE 3.37
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 34, >12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	MW-25-04		MW-25-04		SB-73-03		Maximum Detected Concentration	
			Field Sample ID:	MW-25-04 DUP		MW-25-04		SB-73-03			
			Date:	3/4/2004		3/4/2004		2/20/2003			
	C/I	Construction	Depth:	13 - 15		13 - 15		12 - 14			
Acetophenone	2,500,000	2,500,000	ug/kg	-		-		350	U	-	
Anthracene	450,000,000	1,000,000,000	ug/kg	-		-		**47**	**J**	**47**	**J**
Atrazine	NA	NA	ug/kg	-		-		350	U	-	
Benzaldehyde	NA	NA	ug/kg	-		-		350	U	-	
Benzo(a)anthracene	58,000	1,200,000	ug/kg	-		-		**180**	**J**	**180**	**J**
Benzo(a)pyrene	5,800	120,000	ug/kg	-		-		**170**	**J**	**170**	**J**
Benzo(b)fluoranthene	58,000	1,200,000	ug/kg	-		-		**220**	**J**	**220**	**J**
Benzo(g,h,i)perylene	45,000,000	390,000,000	ug/kg	-		-		**140**	**J**	**140**	**J**
Benzo(k)fluoranthene	580,000	12,000,000	ug/kg	-		-		**98**	**J**	**98**	**J**
Biphenyl	14,000,000	190,000,000	ug/kg	-		-		350	U	-	
bis(2-Chloroethoxy)methane	5,300,000	43,000,000	ug/kg	-		-		350	U	-	
bis(2-Chloroethyl)ether	30,000	290,000	ug/kg	-		-		350	U	-	
bis(2-Ethylhexyl)phthalate	3,500,000	71,000,000	ug/kg	-		-		**150**	**J**	**150**	**J**
Butyl benzylphthalate	26,000,000	520,000,000	ug/kg	-		-		350	U	-	
Caprolactam	NA	NA	ug/kg	-		-		350	U	-	
Carbazole	2,500,000	50,000,000	ug/kg	-		-		**30**	**J**	**30**	**J**
Chrysene	5,800,000	120,000,000	ug/kg	-		-		**200**	**J**	**200**	**J**
Dibenz(a,h)anthracene	5,800	120,000	ug/kg	-		-		**29**	**J**	**29**	**J**
Dibenzofuran	4,100,000	2,100,000	ug/kg	-		-		**18**	**J**	**18**	**J**
Diethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	-		-		350	U	-	
Dimethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	-		-		350	U	-	
Di-n-butylphthalate	180,000,000	430,000,000	ug/kg	-		-		350	U	-	
Di-N-Octyl phthalate	18,000,000	140,000,000	ug/kg	-		-		**220**	**J**	**220**	**J**
Fluoranthene	60,000,000	160,000,000	ug/kg	-		-		**410**		**410**	
Fluorene	60,000,000	520,000,000	ug/kg	-		-		**23**	**J**	**23**	**J**
Hexachlorobenzene	31,000	14,000	ug/kg	-		-		350	U	-	
Hexachlorobutadiene, SVOC	630,000	1,400,000	ug/kg	-		-		350	U	-	
Hexachlorocyclopentadiene	11,000,000	26,000,000	ug/kg	-		-		1700	U	-	
Hexachloroethane	1,200,000	3,000,000	ug/kg	-		-		350	U	-	
Indeno(1,2,3-cd)pyrene	58,000	1,200,000	ug/kg	-		-		**100**	**J**	**100**	**J**
Isophorone	52,000,000	1,000,000,000	ug/kg	-		-		350	U	-	
Naphthalene, SVOC	450,000	560,000	ug/kg	-		-		350	U	-	
Nitrobenzene	610,000	3,000,000	ug/kg	-		-		350	U	-	
N-Nitrosodi-n-propylamine	7,000	140,000	ug/kg	-		-		350	U	-	
N-Nitrosodiphenylamine	10,000,000	200,000,000	ug/kg	-		-		350	U	-	
Pentachlorophenol	67,000	950,000	ug/kg	-		-		350	U	-	
Phenanthrene	450,000,000	1,000,000,000	ug/kg	-		-		**310**	**J**	**310**	**J**
Phenol	530,000,000	840,000,000	ug/kg	-		-		350	U	-	
Pyrene, SVOC	45,000,000	390,000,000	ug/kg	-		-		**500**		**500**	
Metals											
Antimony	1,600	850	mg/kg	-		-		**0.38**	**J**	**0.38**	**J**
Arsenic	77	690	mg/kg	-		-		**4.4**	**J**	**4.4**	**J**
Barium	680,000	320,000	mg/kg	-		-		**60.5**	**J**	**60.5**	**J**
Beryllium	7,800	3,400	mg/kg	-		-		**0.12**	**J**	**0.12**	**J**
Cadmium	2,600	1,000	mg/kg	-		-		**0.23**	**J**	**0.23**	**J**
Chromium Total	NA	0	mg/kg	-		-		**6.5**	**J**	**6.5**	**J**
Cobalt	1,200	2,800	mg/kg	-		-		**2.2**	**J**	**2.2**	**J**
Copper	160,000	21,000	mg/kg	-		-		**305**	**J**	**305**	**J**
Cyanide (total)	370	150	mg/kg	-		-		**0.18**	**J**	**0.18**	**J**
Lead	800	400	mg/kg	-		-		**65.8**	**J**	**65.8**	**J**
Manganese	NA	NA	mg/kg	-		-		**273**	**J**	**273**	**J**
Mercury	3.1	3.1	mg/kg	-		-		**0.53**		**0.53**	
Nickel	74,000	23,000	mg/kg	-		-		**5.9**		**5.9**	
Selenium	20,000	11,000	mg/kg	-		-		0.53	U	-	
Silver	20,000	11,000	mg/kg	-		-		1.1	U	-	
Thallium	41	21	mg/kg	-		-		1.1	UJ	-	
Vanadium	20,000	11,000	mg/kg	-		-		**8.2**	**J**	**8.2**	**J**
Zinc	1,000,000	640,000	mg/kg	-		-		**68**	**J**	**68**	**J**

NOTES:

Shaded values indicate concentration exceeds C/I Single Chemical Generic Direct Contact Soil Standard
Shaded values indicate concentration exceeds Construction Single Chemical Generic Direct Contact Soil Standard
Shaded values indicate concentration exceeds both Single Chemical Generic Direct Contact Soil Standards

bold text indicates detection above reporting limit
Total PCBs value is the sum of all positively deteted PCB aroclors
D: The reported value is from a dilution
C/I: Commercial/ Industrial
J: The associated numerical value is an estimated quantity
mg/kg: milligrams per kilogram
NA: exceedance criteria not applicable for compound/analyte
PCB: Polychlorinated Biphenyl
R: The data are unusable (the compound/analyte may or may not be present). Resampling and reanalysis are necessary for verification
SVOC: SemiVolatile Organic Compound
U: The compound/analyte was analyzed for, but not detected. The associated numerical value is the sample quantitation limit
ug/kg: micrograms per kilogram
UJ: The compound/analyte was analyzed for, but not detected. The sample quantitation limit is an estimated quantity
VOC: Volatile Organic Compound

TABLE 3.38
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 35, >12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	SB-144-04		SB-146-04		SB-147-04		SB-147-04		Maximum Detected Concentration	
			Field Sample ID:	SB-144-04		SB-146-04		SB-147-04 DUP		SB-147-04			
			Date:	1/27/2004		1/28/2004		1/28/2004		1/28/2004			
	C/I	Construction	Depth:	12.5 - 14.5		12 - 14		12.5 - 14.5		12.5 - 14.5			
VOCs													
1,1,1-Trichloroethane	640,000	640,000	ug/kg	300	U	300	U	5.4	U	**1.8**	**J**	**1.8**	**J**
1,1,2,2-Tetrachloroethane	75,000	670,000	ug/kg	300	U	300	U	5.4	U	4.8	U	-	
1,1,2-Trichloroethane	140,000	1,200,000	ug/kg	300	U	300	U	5.4	U	4.8	U	-	
1,1-Dichloroethane	420,000	1,700,000	ug/kg	300	U	300	U	5.4	U	4.8	U	-	
1,1-Dichloroethene	1,200,000	360,000	ug/kg	300	U	300	U	5.4	U	4.8	U	-	
1,2,4-Trichlorobenzene, VOC	400,000	400,000	ug/kg	300	U	300	U	5.4	U	4.8	U	-	
1,2-Dibromo-3-chloropropane	1,700	15,000	ug/kg	590	U	600	U	11	U	9.6	U	-	
1,2-Dibromoethane	4,400	38,000	ug/kg	300	U	300	U	5.4	U	4.8	U	-	
1,2-Dichlorobenzene, VOC	380,000	380,000	ug/kg	**340**		300	U	5.4	U	4.8	U	**340**	
1,2-Dichloroethane	56,000	480,000	ug/kg	300	U	300	U	5.4	U	4.8	U	-	
1,2-Dichloropropane	120,000	180,000	ug/kg	300	U	300	U	5.4	U	4.8	U	-	
1,3-Dichlorobenzene, VOC	NA	NA	ug/kg	300	U	300	U	5.4	U	4.8	U	-	
1,4-Dichlorobenzene, VOC	310,000	2,600,000	ug/kg	300	U	300	U	5.4	U	4.8	U	-	
2-Butanone	28,000,000	28,000,000	ug/kg	1200	UJ	1200	U	21	U	19	U	-	
2-Hexanone	NA	NA	ug/kg	1200	UJ	1200	U	21	U	19	U	-	
4-Methyl-2-Pentanone	3,400,000	3,400,000	ug/kg	1200	U	1200	U	21	U	19	U	-	
Acetone	110,000,000	110,000,000	ug/kg	1200	UJ	1200	U	21	U	**5.6**	**J**	**5.6**	**J**
Benzene	140,000	1,200,000	ug/kg	300	U	300	U	5.4	U	**0.45**	**J**	**0.45**	**J**
Bromodichloromethane	35,000	300,000	ug/kg	300	U	300	U	5.4	U	4.8	U	-	
Bromoform	6,200,000	130,000,000	ug/kg	300	U	300	U	5.4	UJ	4.8	UJ	-	
Bromomethane	82,000	550,000	ug/kg	300	U	300	U	5.4	U	4.8	U	-	
Carbon disulfide	740,000	740,000	ug/kg	300	U	300	U	5.4	U	4.8	U	-	
Carbon tetrachloride	79,000	460,000	ug/kg	300	U	300	U	5.4	U	4.8	U	-	
Chlorobenzene	760,000	760,000	ug/kg	**63**	**J**	300	U	5.4	U	4.8	U	**63**	**J**
Chloroethane	2,100,000	2,100,000	ug/kg	300	U	300	U	5.4	U	4.8	U	-	
Chloroform	38,000	320,000	ug/kg	300	U	300	U	5.4	U	4.8	U	-	
Chloromethane	1,300,000	1,300,000	ug/kg	300	U	300	U	5.4	U	4.8	U	-	
cis-1,2-Dichloroethene	2,400,000	2,400,000	ug/kg	**77**	**J**	150	U	2.7	U	2.4	U	**77**	**J**
cis-1,3-Dichloropropene	NA	NA	ug/kg	300	U	300	U	5.4	U	4.8	U	-	
Cyclohexane	120,000	120,000	ug/kg	590	U	600	U	11	U	9.6	U	-	
Dibromochloromethane	84,000	770,000	ug/kg	300	U	300	U	5.4	U	4.8	U	-	
Dichlorodifluoromethane	850,000	850,000	ug/kg	300	U	300	UJ	5.4	U	4.8	U	-	
Ethylbenzene	480,000	480,000	ug/kg	300	U	300	U	**0.51**	**J**	**0.64**	**J**	**0.64**	**J**
Isopropylbenzene, VOC	270,000	270,000	ug/kg	**270**	**J**	300	U	5.4	U	4.8	U	**270**	**J**
Methyl acetate	NA	NA	ug/kg	590	U	600	U	11	U	9.6	U	-	
Methyl cyclohexane	NA	NA	ug/kg	590	U	600	U	11	U	9.6	U	-	
Methyl tert butyl ether	5,700,000	8,900,000	ug/kg	1200	U	1200	U	21	U	19	U	-	
Methylene chloride	3,300,000	3,300,000	ug/kg	300	U	300	U	5.4	U	4.8	U	-	
Styrene	870,000	870,000	ug/kg	300	U	300	U	5.4	U	4.8	U	-	
Tetrachloroethene	170,000	170,000	ug/kg	300	U	300	U	**32**		**30**		**32**	
Toluene	820,000	820,000	ug/kg	300	U	300	U	**1.2**	**J**	**1.8**	**J**	**1.8**	**J**
trans-1,2-Dichloroethene	1,700,000	1,700,000	ug/kg	150	U	150	U	2.7	U	2.4	U	-	
trans-1,3-Dichloropropene	NA	NA	ug/kg	300	U	300	U	5.4	U	4.8	U	-	
Trichloroethene	51,000	17,000	ug/kg	300	U	300	U	**4.3**	**J**	**6.2**		**6.2**	
Trichlorofluoromethane	1,200,000	1,200,000	ug/kg	300	U	300	U	5.4	U	4.8	U	-	
Trifluorotrichloroethane	NA	NA	ug/kg	300	U	300	U	5.4	U	4.8	U	-	
Vinyl chloride	50,000	280,000	ug/kg	300	U	300	U	5.4	U	4.8	U	-	
Xylene (Total)	260,000	260,000	ug/kg	590	U	600	U	11	U	**1.3**	**J**	**1.3**	**J**
SVOCs													
2,2-oxybis(2-Chloropropane)	NA	NA	ug/kg	7400	U	18000	U	-		-		-	
2,4,5-Trichlorophenol	180,000,000	1,000,000,000	ug/kg	7400	U	18000	U	-		-		-	
2,4,6-Trichlorophenol	1,800,000	1,400,000	ug/kg	7400	U	18000	U	-		-		-	
2,4-Dichlorophenol	NA	NA	ug/kg	7400	U	18000	U	-		-		-	
2,4-Dimethylphenol	35,000,000	85,000,000	ug/kg	7400	U	18000	U	-		-		-	
2,4-Dinitrophenol	3,500,000	28,000,000	ug/kg	36000	U	87000	UJ	-		-		-	
2,4-Dinitrotoluene	160,000	2,800,000	ug/kg	7400	U	18000	U	-		-		-	
2,6-Dinitrotoluene	NA	NA	ug/kg	7400	U	18000	U	-		-		-	
2-Chloronaphthalene	330,000,000	1,000,000,000	ug/kg	7400	U	18000	U	-		-		-	
2-Chlorophenol	20,000,000	22,000,000	ug/kg	7400	U	18000	U	-		-		-	
2-Methylnaphthalene	6,000,000	5,200,000	ug/kg	7400	U	18000	U	-		-		-	
2-Methylphenol	88,000,000	710,000,000	ug/kg	7400	U	18000	U	-		-		-	
2-Nitroaniline	NA	NA	ug/kg	36000	U	87000	U	-		-		-	
2-Nitrophenol	NA	NA	ug/kg	7400	U	18000	U	-		-		-	
3,3-Dichlorobenzidine	NA	NA	ug/kg	36000	U	87000	U	-		-		-	
3-Nitroaniline	NA	NA	ug/kg	36000	U	87000	U	-		-		-	
4,6-Dinitro-2-methylphenol	140,000	110,000	ug/kg	36000	U	87000	U	-		-		-	
4-Bromophenyl phenyl ether	NA	NA	ug/kg	7400	U	18000	U	-		-		-	
4-Chloro-3-methylphenol	180,000,000	140,000,000	ug/kg	7400	U	18000	U	-		-		-	
4-Chloroaniline	250,000	710,000	ug/kg	7400	U	18000	U	-		-		-	
4-Chlorophenyl phenyl ether	NA	NA	ug/kg	7400	U	18000	U	-		-		-	
4-Methylphenol	180,000,000	28,000,000	ug/kg	7400	U	18000	U	-		-		-	
4-Nitroaniline	2,500,000	14,000,000	ug/kg	36000	U	87000	U	-		-		-	
4-Nitrophenol	NA	NA	ug/kg	36000	U	87000	U	-		-		-	
Acenaphthene	90,000,000	780,000,000	ug/kg	7400	U	18000	U	-		-		-	
Acenaphthylene	90,000,000	780,000,000	ug/kg	7400	U	18000	U	-		-		-	
Acetophenone	2,500,000	2,500,000	ug/kg	7400	U	18000	U	-		-		-	
Anthracene	450,000,000	1,000,000,000	ug/kg	7400	U	18000	U	-		-		-	

TABLE 3.38
SOIL ANALYTICAL DATA
IDENTIFIED AREA: 35, >12 FT BGS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Generic Direct-Contact Soil Standards for a Single Chemical		Station:	SB-144-04		SB-146-04		SB-147-04		SB-147-04		Maximum Detected Concentration	
			Field Sample ID:	SB-144-04		SB-146-04		SB-147-04 DUP		SB-147-04			
			Date:	1/27/2004		1/28/2004		1/28/2004		1/28/2004			
	C/I	Construction	Depth:	12.5 - 14.5		12 - 14		12.5 - 14.5		12.5 - 14.5			
Atrazine	NA	NA	ug/kg	7400	U	18000	U	-		-		-	
Benzaldehyde	NA	NA	ug/kg	7400	U	18000	U	-		-		-	
Benzo(a)anthracene	58,000	1,200,000	ug/kg	7400	U	18000	U	-		-		-	
Benzo(a)pyrene	5,800	120,000	ug/kg	7400	U	18000	U	-		-		-	
Benzo(b)fluoranthene	58,000	1,200,000	ug/kg	7400	U	18000	U	-		-		-	
Benzo(g,h,i)perylene	45,000,000	390,000,000	ug/kg	7400	U	18000	U	-		-		-	
Benzo(k)fluoranthene	580,000	12,000,000	ug/kg	7400	U	18000	U	-		-		-	
Biphenyl	14,000,000	190,000,000	ug/kg	7400	U	18000	U	-		-		-	
bis(2-Chloroethoxy)methane	5,300,000	43,000,000	ug/kg	7400	U	18000	U	-		-		-	
bis(2-Chloroethyl)ether	30,000	290,000	ug/kg	7400	U	18000	U	-		-		-	
bis(2-Ethylhexyl)phthalate	3,500,000	71,000,000	ug/kg	7400	U	18000	U	-		-		-	
Butyl benzylphthalate	26,000,000	520,000,000	ug/kg	7400	U	18000	U	-		-		-	
Caprolactam	NA	NA	ug/kg	7400	U	18000	U	-		-		-	
Carbazole	2,500,000	50,000,000	ug/kg	7400	U	18000	U	-		-		-	
Chrysene	5,800,000	120,000,000	ug/kg	7400	U	18000	U	-		-		-	
Dibenz(a,h)anthracene	5,800	120,000	ug/kg	7400	U	18000	U	-		-		-	
Dibenzofuran	4,100,000	2,100,000	ug/kg	7400	U	18000	U	-		-		-	
Diethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	7400	U	18000	U	-		-		-	
Dimethyl phthalate	1,000,000,000	1,000,000,000	ug/kg	7400	U	18000	U	-		-		-	
Di-n-butylphthalate	180,000,000	430,000,000	ug/kg	7400	U	18000	U	-		-		-	
Di-N-Octyl phthalate	18,000,000	140,000,000	ug/kg	7400	U	18000	U	-		-		-	
Fluoranthene	60,000,000	160,000,000	ug/kg	7400	U	18000	U	-		-		-	
Fluorene	60,000,000	520,000,000	ug/kg	7400	U	18000	U	-		-		-	
Hexachlorobenzene	31,000	14,000	ug/kg	7400	U	18000	U	-		-		-	
Hexachlorobutadiene, SVOC	630,000	1,400,000	ug/kg	7400	U	18000	U	-		-		-	
Hexachlorocyclopentadiene	11,000,000	26,000,000	ug/kg	36000	U	87000	U	-		-		-	
Hexachloroethane	1,200,000	3,000,000	ug/kg	7400	U	18000	U	-		-		-	
Indeno(1,2,3-cd)pyrene	58,000	1,200,000	ug/kg	7400	U	18000	U	-		-		-	
Isophorone	52,000,000	1,000,000,000	ug/kg	7400	U	18000	U	-		-		-	
Naphthalene, SVOC	450,000	560,000	ug/kg	7400	U	18000	U	-		-		-	
Nitrobenzene	610,000	3,000,000	ug/kg	7400	U	18000	U	-		-		-	
N-Nitrosodi-n-propylamine	7,000	140,000	ug/kg	7400	U	18000	U	-		-		-	
N-Nitrosodiphenylamine	10,000,000	200,000,000	ug/kg	7400	U	18000	U	-		-		-	
Pentachlorophenol	67,000	950,000	ug/kg	7400	U	18000	U	-		-		-	
Phenanthrene	450,000,000	1,000,000,000	ug/kg	7400	U	18000	U	-		-		-	
Phenol	530,000,000	840,000,000	ug/kg	7400	U	18000	U	-		-		-	
Pyrene, SVOC	45,000,000	390,000,000	ug/kg	7400	U	18000	U	-		-		-	
PCBs													
Aroclor-1016	100,000	260,000	ug/kg	1800	U	36	U	-		-		-	
Aroclor-1221	14,000	210,000	ug/kg	1800	U	36	U	-		-		-	
Aroclor-1232	14,000	73,000	ug/kg	1800	U	36	U	-		-		-	
Aroclor-1242	20,000	440,000	ug/kg	1800	U	36	U	-		-		-	
Aroclor-1248	20,000	440,000	ug/kg	1800	U	36	U	-		-		-	
Aroclor-1254	20,000	75,000	ug/kg	**12000**		**190**		-		-		**12000**	
Aroclor-1260	20,000	440,000	ug/kg	1800	U	36	U	-		-		-	
Total PCBs	20,000	440,000	ug/kg	**12000**		**190**		-		-		**12000**	
Metals													
Antimony	1,600	850	mg/kg	6.7	UJ	6.5	UJ	-		-		-	
Arsenic	77	690	mg/kg	**8.2**		**4.7**		-		-		**8.2**	
Barium	680,000	320,000	mg/kg	**364**		**62.9**		-		-		**364**	
Beryllium	7,800	3,400	mg/kg	0.56	U	0.55	U	-		-		-	
Cadmium	2,600	1,000	mg/kg	**0.71**		0.55	U	-		-		**0.71**	
Chromium Total	NA	0	mg/kg	**13.8**	**J**	**5.6**		-		-		**13.8**	**J**
Cobalt	1,200	2,800	mg/kg	**4.3**	**J**	**1.4**	**J**	-		-		**4.3**	**J**
Copper	160,000	21,000	mg/kg	**397**	**J**	**6.7**		-		-		**397**	**J**
Cyanide (total)	370	150	mg/kg	0.56	U	0.55	U	-		-		-	
Lead	800	400	mg/kg	**15.2**		**2.2**		-		-		**15.2**	
Manganese	NA	NA	mg/kg	**1090**		**163**		-		-		**1090**	
Mercury	3.1	3.1	mg/kg	**0.065**	**J**	0.11	U	-		-		**0.065**	**J**
Nickel	74,000	23,000	mg/kg	**20.4**		**11.8**		-		-		**20.4**	
Selenium	20,000	11,000	mg/kg	0.56	U	0.55	U	-		-		-	
Silver	20,000	11,000	mg/kg	**0.43**	**J**	1.1	U	-		-		**0.43**	**J**
Thallium	41	21	mg/kg	1.1	U	1.1	U	-		-		-	
Vanadium	20,000	11,000	mg/kg	**9.5**		**5.6**		-		-		**9.5**	
Zinc	1,000,000	640,000	mg/kg	**35.5**	**J**	**11.3**		-		-		**35.5**	**J**

NOTES:

Shaded values indicate concentration exceeds C/I Single Chemical Generic Direct Contact Soil Standard
Shaded values indicate concentration exceeds Construction Single Chemical Generic Direct Contact Soil Standard
Shaded values indicate concentration exceeds both Single Chemical Generic Direct Contact Soil Standards

bold text indicates detection above reporting limit
Total PCBs value is the sum of all positively deteted PCB aroclors
D: The reported value is from a dilution
C/I: Commercial/ Industrial
J: The associated numerical value is an estimated quantity
mg/kg: milligrams per kilogram
NA: exceedance criteria not applicable for compound/analyte
PCB: Polychlorinated Biphenyl
R: The data are unusable (the compound/analyte may or may not be present). Resampling and reanalysis are necessary for verification
SVOC: SemiVolatile Organic Compound
U: The compound/analyte was analyzed for, but not detected. The associated numerical value is the sample quantitation limit
ug/kg: micrograms per kilogram
UJ: The compound/analyte was analyzed for, but not detected. The sample quantitation limit is an estimated quantity
VOC: Volatile Organic Compound

Table 3.39
Summary of TCLP Soil Analytical Results
Former GM Delphi Harrison Thermal Systems Plant Site
Dayton, Ohio

		Identified Area	3W/6N/16	3E/5W/21/33	-	5C	5E	5E	18/19/GW/0	15/25/65	15/25/65	18/19/GW/0	18/19/GW/0
		Field Sample ID	TT-SB249-C-07	TT-SB250-C-08	T-SB248/SB249/SB2500C-(	TT-SB251B-C-10	TT-SB252-C-08	TT-SB253-C-08	TT-SB254B-C-10	TT-SB262-C-08	TT-SB263-C-06	TT-SB264-C-10	TT-SB265-C-10
		Location ID	TT-SB249	TT-SB250	TT-SB248/SB249/SB250	TT-SB251B	TT-SB252	TT-SB253	TT-SB254B	TT-SB262	TT-SB263	TT-SB264	TT-SB265
		Sample Date	4/3/2013	4/3/2013	4/3/2013	4/4/2013	4/3/2013	4/3/2013	4/4/2013	4/4/2013	4/4/2013	4/4/2013	4/4/2013
		Depth	4-6	2-4	0-5.5	6-8	6-8	6-8	8-10	2-4	2-4	2-4	2-4
Parameter	**Criteria Level**	**Units**											
VOCs													
1,1-Dichloroethene, TCLP	0.7	mg/L	0.005 U	0.2 UD	0.005 U	0.2 UD	0.005 U	0.005 U	0.2 UD	0.2 UD	0.2 UD	0.2 UD	0.2 UD
1,2-Dichloroethane, TCLP	0.5	mg/L	0.005 U	0.2 UD	0.005 U	0.2 UD	0.005 U	0.005 U	0.2 UD	0.2 UD	0.2 UD	0.2 UD	0.2 UD
2-Butanone, TCLP	200	mg/L	0.02 U	0.8 UD	0.02 U	0.8 UD	0.02 U	0.02 U	0.8 UD	0.8 UD	0.8 UD	0.8 UD	0.8 UD
Benzene, TCLP	0.5	mg/L	0.005 U	0.2 UD	0.005 U	0.2 UD	0.005 U	0.005 U	0.2 UD	0.2 UD	0.2 UD	0.2 UD	0.2 UD
Carbon tetrachloride, TCLP	0.5	mg/L	0.005 U	0.2 UD	0.005 U	0.2 UD	0.005 U	0.005 U	0.2 UD	0.2 UD	0.2 UD	0.2 UD	0.2 UD
Chlorobenzene, TCLP	100	mg/L	0.005 U	0.2 UD	0.005 U	0.2 UD	0.005 U	0.005 U	0.2 UD	0.2 UD	0.2 UD	0.2 UD	0.2 UD
Chloroform, TCLP	6	mg/L	0.005 U	0.2 UD	0.005 U	0.2 UD	0.005 U	0.005 U	0.2 UD	0.2 UD	0.2 UD	0.2 UD	0.2 UD
Tetrachloroethene, TCLP	0.7	mg/L	0.005 U	0.2 UD	0.005 U	0.2 UD	0.005 U	0.005 U	**2.64 D**	0.2 UD	0.2 UD	0.2 UD	0.2 UD
Trichloroethene, TCLP	0.5	mg/L	0.005 U	0.2 UD	0.005 U	0.2 UD	0.005 U	0.005 U	0.2 UD	0.2 UD	0.2 UD	0.2 UD	0.2 UD
Vinyl chloride, TCLP	0.2	mg/L	0.005 U	0.2 UD	0.005 U	0.2 UD	0.005 U	0.005 U	0.2 UD	0.2 UD	0.2 UD	0.2 UD	0.2 UD
SVOCs													
1,4-Dichlorobenzene, TCLP	7.5	mg/L	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
2,4,5-Trichlorophenol, TCLP	400	mg/L	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
2,4-Dinitrotoluene, TCLP	0.13	mg/L	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
2-Methylphenol, TCLP	200	mg/L	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
3 & 4-Methylphenol, TCLP	200	mg/L	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Hexachlorobenzene, TCLP	0.13	mg/L	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Hexachlorobutadiene, TCLP	0.5	mg/L	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Hexachloroethane, TCLP	3	mg/L	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Nitrobenzene, TCLP	2	mg/L	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Pentachlorophenol, TCLP	100	mg/L	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Pyridine, TCLP	5	mg/L	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Metals													
Arsenic, TCLP	5	mg/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Barium, TCLP	100	mg/L	0.816	1.11	1.01	1.28	1.14	0.86	0.733	1.4	0.506	2.13	1.52
Cadmium, TCLP	1	mg/L	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Chromium, TCLP	5	mg/L	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
Lead, TCLP	5	mg/L	0.05 U	0.05 U	0.05 U	0.05 U	1.27	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Mercury, TCLP	0.2	mg/L	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Selenium, TCLP	1	mg/L	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Silver, TCLP	5	mg/L	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U

Notes:

Shaded values indicate concentration exceeds 40 CFR Part 261, Subpart C 261.24 (b)

- = Not analyzed or not available
µg/L = micrograms per kilogram
D = Result was obtained from the analysis of a dilution
J = Result is estimated
mg/L = Milligrams per liter
SVOC = Semi-volatile organic compound
TCLP = Toxicity characteristic leaching procedure
U = Parameter not detected, reporting limit is presented
VOC = Volatile organic compound

TABLE 3.40
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS FOR UPPER AQUIFER
FORMER GM DELPHI HARRISON THERMAL SYSTEMS PLANT SITE
DAYTON, OHIO

	Voluntary Action Program GUPUS	Field Sample ID:	DAY-20		DAY-20		001		009		MW20-0-0601		HD-16		HD-16		HD-18		HD-18		001		9/15/2006-0		8/27/2007-0		8/27/2007-0-		MW-12A-03		MW-12B-03		024		MW-13A-03		004		092012		040913		121814	
		Station:	DAY-20		DAY-20		DAY-20		DAY-20		DAY-20		HD-16		HD-16		HD-18		HD-18		HD-18		HD-18		HD-18		HD-18		MW-12A-03		MW-12B-03		MW-12B-03		MW-13A-03		MW-13A-03		MW-13A-03		MW-13A-03		MW-13A-03	
		Date:	7/9/2002		4/7/2003		11/8/2004		11/10/2004		6/1/2006		7/9/2002		3/28/2003		7/16/2002		3/19/2003		11/16/2004		9/15/2006		8/27/2007		8/27/2007		4/15/2003		4/16/2003		11/17/2004		4/16/2003		11/17/2004		9/20/2012		4/9/2013		12/18/2014	
		Aquifer:	UA:WT		UA:WT		UA:WT		UA:WT		UA:WT		UA:TT		UA:TT		UA:TT		UA:TT		UA:TT		UA:TT		UA:TT		UA:TT		UA:WT		UA:TT		UA:TT		UA:WT		UA:WT		UA:WT		UA:WT		UA:WT	
VOCs																																													
1,1,1,2-Tetrachloroethane	5	ug/l	-		-		-		-		1	U	-		-		-		-		-		-		-		-		-		-		-		-		5	U	-		5	U
1,1,1-Trichloroethane	200	ug/l	1	U	1	U	1.4	U	1	U	1	U	1	U	1	U	0.65	J	0.55	J	2	U	0.21	J	1.4	U	2	U	1	U	1	U	0.5	J	1	U	1	U	5	U	-		5	U
1,1,2,2-Tetrachloroethane	0.66	ug/l	1	U	1	U	1.4	U	1	U	1	U	1	U	1	U	1	U	1.3	U	2	U	1	U	1.4	U	2	U	1	U	1	U	1	U	1	U	1	U	5	U	-		5	U
1,1,2-Trichloroethane	5	ug/l	1	U	1	U	1.4	U	1	U	1	U	1	U	1	U	1	U	1.3	U	2	U	1	U	1.4	U	2	U	1	U	1	U	1	U	1	U	1	U	5	U	-		5	U
1,1-Dichloroethane	24	ug/l	1	U	1	U	1.4	U	1	U	1	U	1	U	1	U	1	U	1.3	U	2	U	1	UJ	1.4	U	2	U	0.42	J	1	U	1	U	1	U	1	U	5	U	-		5	U
1,1-Dichloroethene	7	ug/l	1	U	1	U	1.4	U	1	U	1	U	1	U	1	U	1	U	1.3	U	2	U	1	U	1.4	U	2	U	1	U	1	U	1	U	1	U	1	U	5	U	-		5	U
1,1-Dichloropropene	NA	ug/l	-		-		-		-		1	U	-		-		-		-		-		-		-		-		-		-		-		-		-		5	U	-		5	U
1,2,3-Trichlorobenzene	NA	ug/l	-		-		-		-		-		-		-		-		-		-		-		-		-		-		-		-		-		-		-		5	U
1,2,3-Trichloropropane	0.02	ug/l	-		-		-		-		-		-		-		-		-		-		-		-		-		-		-		-		-		-		-		5	U
1,2,4-Trichlorobenzene, VOC	70	ug/l	1	U	1	UJ	1.4	U	1	UJ	5	U	1	U	1	U	1	U	1.3	U	2	UJ	1	U	1.4	U	2	U	1	UJ	1	U	1	UJ	1	UJ	1	UJ	-		-		5	U
1,2,4-Trimethylbenzene	15	ug/l	-		-		-		-		1	U	-		-		-		-		-		-		-		-		-		-		-		-		-		-		5	U
1,2-Dibromo-3-chloropropane	0.20	ug/l	2	U	2	UJ	2.9	U	2	U	-		2	U	2	UJ	2	U	2.7	U	4	U	1	U	1.4	U	2	U	2	U	2	U	2	U	2	U	2	U	-		-		10	U
1,2-Dibromoethane	0.05	ug/l	1	U	1	U	1.4	U	1	U	-		1	U	1	U	1	U	1.3	U	2	U	1	U	1.4	U	2	U	1	U	1	U	1	U	1	U	1	U	5	U	-		5	U
1,2-Dichlorobenzene, VOC	600	ug/l	1	U	1	U	1.4	U	1	U	1	U	1	U	1	U	1	U	1.3	U	2	U	1	U	1.4	U	2	U	1	U	1	U	1	U	1	U	1	U	-		-		5	U
1,2-Dichloroethane	5	ug/l	1	U	1	U	1.4	U	1	U	1	U	1	U	1	U	1	U	1.3	U	2	U	1	U	1.4	U	2	U	1	U	1	U	1	U	1	U	1	U	5	U	-		5	U
1,2-Dichloropropane	5	ug/l	1	U	1	U	1.4	U	1	U	1	U	1	U	1	U	1	U	1.3	U	2	U	1	U	1.4	U	2	U	1	U	1	U	1	U	1	U	1	U	5	U	-		5	U
1,3,5-Trimethylbenzene	87	ug/l	-		-		-		-		1	U	-		-		-		-		-		-		-		-		-		-		-		-		-		-		5	U
1,3-Dichlorobenzene, VOC	NA	ug/l	1	U	1	U	1.4	U	1	U	1	U	1	U	1	U	1	U	1.3	U	2	U	1	U	1.4	U	2	U	1	U	1	U	1	U	1	U	1	U	-		-		5	U
1,3-Dichloropropane	290	ug/l	-		-		-		-		1	U	-		-		-		-		-		-		-		-		-		-		-		-		-		5	U	-		5	U
1,4-Dichlorobenzene, VOC	75	ug/l	1	U	1	U	1.4	U	1	U	1	U	1	U	1	U	1	U	1.3	U	2	U	1	U	1.4	U	2	U	1	U	1	U	1	U	1	U	1	U	-		-		5	U
1,4-Dioxane	6.7	ug/l	-		-		-		-		20	U	-		-		-		-		-		-		-		-		-		-		-		-		-		-		-	
2,2-Dichloropropane	NA	ug/l	-		-		-		-		1	U	-		-		-		-		-		-		-		-		-		-		-		-		-		5	U	-		5	U
2-Butanone	4,900	ug/l	10	U	10	U	14	U	10	U	12.5	U	10	U	10	UJ	10	U	13	U	20	UJ	10	U	14	U	20	U	10	UJ	10	U	10	U	10	U	10	U	20	U	-		20	U
2-Chlorotoluene	NA	ug/l	-		-		-		-		1	U	-		-		-		-		-		-		-		-		-		-		-		-		-		5	U	-		5	U
2-Hexanone	NA	ug/l	10	U	10	UJ	14	UJ	10	UJ	12.5	U	10	U	10	UJ	10	U	13	UJ	20	UJ	10	U	14	U	20	U	10	UJ	10	U	10	U	10	U	10	U	20	U	-		20	U
4-Chlorotoluene	NA	ug/l	-		-		-		-		1	U	-		-		-		-		-		-		-		-		-		-		-		-		-		5	U	-		5	U
4-Methyl-2-Pentanone	1,000	ug/l	10	U	10	U	14	U	10	U	12.5	U	10	U	10	UJ	10	U	13	U	20	U	10	U	14	U	20	U	10	U	10	U	10	U	10	U	10	U	20	U	-		20	U
Acetone	12,000	ug/l	10	U	10	UJ	14	U	10	UJ	20	U	10	U	10	UJ	10	U	13	UJ	20	UJ	10	U	14	U	20	U	10	UJ	10	U	10	UJ	10	U	10	UJ	20	U	-		20	U
Acetonitrile	130	ug/l	-		-		-		-		-		-		-		-		-		-		-		-		-		-		-		-		-		-		40	U	-		40	U
Acrolein	0.041	ug/l	-		-		-		-		-		-		-		-		-		-		-		-		-		-		-		-		-		-		20	U	-		20	U
Acrylonitrile	0.450	ug/l	-		-		-		-		-		-		-		-		-		-		-		-		-		-		-		-		-		-		20	U	-		20	U
Allyl chloride	2.1	ug/l	-		-		-		-		-		-		-		-		-		-		-		-		-		-		-		-		-		-		5	U	-		5	U
Benzene	5	ug/l	1	U	1	U	1.4	U	1	U	1	U	1	U	1	U	1	U	1.3	U	2	U	1	U	1.4	U	2	U	1	U	1	U	1	U	1	U	1	U	5	U	-		5	U
Bromobenzene	NA	ug/l	-		-		-		-		1	U	-		-		-		-		-		-		-		-		-		-		-		-		-		5	U	-		5	U
Bromochloromethane	NA	ug/l	-		-		-		-		1	U	-		-		-		-		-		-		-		-		-		-		-		-		-		5	U	-		5	U
Bromodichloromethane	80	ug/l	1	U	1	U	1.4	U	1	U	1	U	1	U	1	U	1	U	1.3	U	2	U	1	UJ	1.4	UJ	2	U	1	U	1	U	1	U	1	U	1	U	5	U	-		5	U
Bromoform	80	ug/l	1	U	1	UJ	1.4	U	1	U	1	U	1	U	1	U	1	U	1.3	U	2	U	1	U	1.4	U	2	U	1	U	1	U	1	U	1	U	1	U	5	U	-		5	U
Bromomethane	7	ug/l	1	U	1	U	1.4	U	1	U	5	U	1	U	1	U	1	U	1.3	U	2	U	1	U	1.4	U	2	U	1	U	1	U	1	U	1	U	1	U	5	U	-		5	U
Carbon disulfide	720	ug/l	1	U	1	U	1.4	U	1	U	1	U	1	U	1	U	1	U	1.3	U	2	U	1	U	1.4	U	2	U	1	U	1	U	1	U	1	U	1	U	20	U	-		20	U
Carbon tetrachloride	5	ug/l	1	U	1	U	1.4	U	1	U	-		1	U	1	U	1	U	1.3	U	2	U	1	U	1.4	U	2	U	1	U	1	U	1	U	1	U	1	U	5	U	-		5	U
Chlorobenzene	100	ug/l	1	U	1	U	1.4	U	1	U	1	U	1	U	1	U	1	U	1.3	U	2	U	1	U	1.4	U	2	U	1	U	1	U	1	U	1	U	1	U	5	U	-		5	U
Chloroethane	21,000	ug/l	1	U	1	U	1.4	U	1	U	5	U	1	U	1	U	1	U	1.3	U	2	U	1	U	1.4	U	2	UJ	1	U	1	U	1	U	1	U	1	U	5	U	-		5	U
Chloroform	80	ug/l	1.3		1.3		1.4	U	5.2		3.5		0.82	J	1.3		1	U	1.7	U	9.3		12		13		14		1	U	3		1.2		2.6		2.6		5	U	-		5	U
Chloromethane	190	ug/l	1	U	1	UJ	1.4	U	1	U	5	U	1	U	1	U	1	U	1.3	U	2	U	1	U	1.4	UJ	2	UJ	1	U	1	U	1	U	1	U	1	U	5	U	-		5	U
cis-1,2-Dichloroethene	70	ug/l	1.1		0.69		3.1		1	U	1	U	1.2		0.69		5.8		3		0.97	J	0.99	J	1.4	U	2	U	1.7		0.74		0.9	J	1.7		0.23	J	13.4		-		5	U
cis-1,3-Dichloropropene	NA	ug/l	1	U	1	U	1.4	U	1	U	1	U	1	U	1	U	1	U	1.3	U	2	U	1	U	1.4	UJ	2	U	1	U	1	U	1	U	1	U	1	U	5	U	-		5	U
Cyclohexane	13,000	ug/l	1	U	1	U	1.4	U	1	U	-		1	U	1	U	1	U	1.3	U	2	U	1	U	1.4	U	2	U	1	U	1	U	1	U	1	U	1	U	-		-		-	
Dibromochloromethane	80	ug/l	1	U	1	UJ	1.4	U	1	U	1	U	1	U	1	U	1	U	1.3	U	2	U	1	U	1.4	U	2	U	1	U	1	U	1	U	1	U	1	U	5	U	-		5	U
Dibromomethane	150	ug/l	-		-		-		-		1	U	-		-		-		-		-		-		-		-		-		-		-		-		-		5	U	-		5	U
Dichlorodifluoromethane	2,800	ug/l	1	U	1	UJ	1.4	U	1	U	1	U	1	U	1	U	1	U	1.3	U	2	U	1	U	1.4	U	2	U	1	U	1	U	1	U	1	U	1	U	5	U	-		5	U
Ethylbenzene	700	ug/l	1	U	1	U	1.4	U	1	U	1	U	1	U	1	U	1	U	1.3	U	2	U	1	UJ	1.4	U	2	U	1	U	1	U	1	U	1	U	1	U	5	U	-		5	U
Hexachlorobutadiene, VOC	2.6	ug/l	-		-		-		-		5	U	-		-		-		-		-		-		-		-		-		-		-		-		-		-		-		5	U
Iodomethane	NA	ug/l	-		-		-		-		-		-		-		-		-		-		-		-		-		-		-		-		-		-		10	U	-		10	U
Isopropylbenzene, VOC	390	ug/l	1	U	1	U	1.4	U	1	U	1	U	1	U	1	U	1	U	1.3	U	2	U	1	U	1.4	U	2	U	1.8		1	U	1	U	1	U	1	U	-		-		5	U
m&p-Xylene	NA	ug/l	-		-		-		-		-		-		-		-		-		-		-		-		-		-		-		-		-		-		-		10	U
Methyl acetate	NA	ug/l	10	U	10	U	14	U	10	U	-		10	U	10	U	10	U	13	U	20	U	10	U	14	U	20	U	10	U	10	U	10	U	10	U	10	U	-		-		-	
Methyl cyclohexane	NA	ug/l	1	U	1	U	1.4	U	1	U	-		1	U	1	U	1	U	1.3	U	2	U	1	U	1.4	U	2	U	1	U	1	U	1	U	1	U	1	U	-		-		-	
Methyl tert butyl ether	120	ug/l	5	U	5	UJ	7.2	U	5	U	5	U	5	U	5	U	5	U	6.6	U	10	U	5	U	7.2	UJ	10	U	5	U	5	U	5	U	5	U	5	U	10	U	-		10	U
Methylene chloride	5	ug/l	1	U	1	U	1.4	U	1	U	5	U	1	U	1	U	1	U	1.3	U	2.3	U	5	U	7.2	U	10	U	1	U	1	U	1	U	1	U	1	U	5	U	-		5	U
Naphthalene, VOC	1.4	ug/l	-		-		-		-		-		-		-		-		-		-		-		-		-		-		-		-		-		-		-		-		5	U
n-Butylbenzene	780	ug/l	-		-		-		-		1	U	-		-		-		-		-		-		-		-		-		-		-		-		-		-		-		5	U
n-Hexane	250	ug/l	-		-		-		-		5	U	-		-		-		-		-		-		-		-		-		-		-		-		-		5	U	-		5	U
n-Propylbenzene	530	ug/l	-		-		-		-		1	U	-		-		-		-		-		-		-		-		-		-		-		-		-		-		-		5	U
o-Xylene	NA	ug/l	-		-		-		-		-		-		-		-		-		-		-		-		-		-		-		-		-		-		5	U	-		5	U
p-Isopropyltoluene	170	ug/l	-		-		-		-		1	U	-		-		-		-		-		-		-		-		-		-		-		-		-		-		-		5	U
sec-Butylbenzene	1,600	ug/l	-		-		-		-		1	U	-		-		-		-		-		-		-		-		-		-		-		-		-		-		-		5	U
Styrene	100	ug/l	1	U	1	U	1.4	U	1	U	1	U	1	U	1	U	1	U	1.3	U	2	U	1	U	1.4	U	2	U	1	U	1	U	1	U	1	U	1	U	5	U	-		5	U
tert-Butylbenzene	510	ug/l	-		-		-		-		1	U	-		-		-		-		-		-		-		-		-		-		-		-		-		-		-		5	U
Tetrachloroethene	5	ug/l	1		1.1	J	48		0.87	J	1	U	0.78	J	0.69	J	39		36		44		37	J	40		38		1	U	2.1		1.1		12		4.8		13		-		12.9	
Toluene	1,000	ug/l	1	U	1	U	1.4	U	1	U	1	U	1	U	1	U	1	U	1.3	U	2	U	1	U	1.4	U	2	U	1	U	1	U	1	U	1	U	1	U	5	U	-		5	U
trans-1,2-Dichloroethene	100	ug/l	0.5	U	0.5	U	1.4	U	1	U	1	U	0.5	U	0.5	U	0.5	U	0.66	U	2	U	1	U	1.4	U	2	U	0.5	U	0.5	U	1	U	0.5	U	1	U	5	U	-		5	U
trans-1,3-Dichloropropene	NA	ug/l	1	U	1	U	1.4	U	1	U	1	U	1	U	1	U	1	U	1.3	U	2	U	1	U	1.4	UJ	2	UJ	1	U	1	U	1	U	1	U	1	U	5	U	-		5	U
Trichloroethene	5	ug/l	17		17		20		8.2		9.3		21		15		15		17		10		12		6.1		6.2		0.54	J	13		10		2.8		1.3		7.41		-		5	U
Trichlorofluoromethane	1,100	ug/l	1	U	1	U	1.4	U	1	U	1	U	1	U	1	U	1	U	1.3	U	2	U	1	U	1.4	U	2	U	1	U	1	U	1	U	1	U	1	U	5	U	-		5	U
Trifluorotrichloroethane	NA	ug/l	1	U	1	U	1.4	U	1	U	-		1	U	1	U	1	U	1.3	U	2	U	1	U	1.4	U	2	U	1	U	1	U	1	U	1	U	1	U	-		-		-	
Vinyl acetate	410	ug/l	-		-		-		-		5	U	-		-		-		-		-		-		-		-		-		-		-		-		-		10	U	-		10	U
Vinyl chloride	2	ug/l	1	U	1	U	1.4	U	1	U	1	U	1	U	1	U	1	U	1.3	U	2	U	1	U	1.4	U	2	U	0.78	J	1	U	1	U	1	U	1	U	1	U	-		1	U
Xylene (Total)	10,000	ug/l	1	U	1	U	2.9	U	2	U	2	U	1	U	1	U	1	U	1.3	U	4	U	2	UJ	2.9	U	4	U	1	U	1	U	2	U	1	U	2	U	10	U	-		-	

TABLE 3.40
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS FOR UPPER AQUIFER
FORMER GM DELPHI HARRISON THERMAL SYSTEMS PLANT SITE
DAYTON, OHIO

	Voluntary Action Program GUPUS	Field Sample ID:	MW-13B-03		022		GJL-144		AC-028		092112		PCB-092512		MW-14B-04		003		1/23/2006-0		MW-23-04		005		002		003		11/2/2006-0		092112		121814		05182015		MW-24-04		092112 DUP		092112		MW-25-04	
		Station:	MW-13B-03		MW-13B-03		MW-14A-03		MW-14A-03		MW-14A-03		MW-14A-03		MW-14B-04		MW-14B-04		MW-14B-04		MW-23-04		MW-23-04		MW-23-04		MW-23-04		MW-23-04		MW-23-04		MW-23-04		MW-23-04		MW-24-04		MW-24-04		MW-24-04		MW-25-04	
		Date:	4/17/2003		11/17/2003		4/18/2003		11/18/2004		9/21/2012		9/25/2012		3/30/2004		11/18/2004		1/23/2006		3/30/2004		11/17/2004		4/1/2005		4/1/2005		11/2/2006		9/21/2012		12/18/2014		5/18/2015		3/25/2004		9/21/2012		9/21/2012		3/26/2004	
		Aquifer:	UA:TT		UA:TT		UA:WT		UA:WT		UA:WT		UA:WT		UA:TT		UA:TT		UA:TT		UA:WT		UA:WT		UA:WT		UA:WT		UA:WT		UA:WT		UA:WT		UA:WT		UA:WT		UA:WT		UA:WT	
VOCs																																											
1,1,1,2-Tetrachloroethane	5	ug/l	-		-		-		-		5	U	-		-		-		-		-		-		-		-		5	U	500	UD	5	U	-		5	U	5	U	-	
1,1,1-Trichloroethane	200	ug/l	1	U	1	U	10	U	20	U	5	U	-		1.7	U	2	U	2.9	U	33	U	1000	U	1200	U	1200	U	330	U	5	U	500	UD	5	U	12	U	5	U	5	U	**2.9**	
1,1,2,2-Tetrachloroethane	0.66	ug/l	1	UJ	1	U	10	U	20	U	5	U	-		1.7	U	2	U	2.9	U	33	U	1000	U	1200	U	1200	U	330	U	5	U	500	UD	5	U	12	U	5	U	5	U	1.7	U
1,1,2-Trichloroethane	5	ug/l	1	U	1	U	10	U	20	U	5	U	-		1.7	U	2	U	2.9	U	33	U	1000	U	1200	U	1200	U	330	U	5	U	500	UD	5	U	12	U	5	U	5	U	1.7	U
1,1-Dichloroethane	24	ug/l	1	U	1	U	**5.1**	J	**12**	J	5	U	-		1.7	U	2	U	2.9	U	33	U	1000	U	1200	U	1200	U	330	U	5	U	500	UD	5	U	12	U	5	U	5	U	**7.3**	
1,1-Dichloroethene	7	ug/l	1	U	1	U	10	U	20	U	5	U	-		1.7	U	2	U	2.9	U	33	U	1000	U	1200	U	1200	U	330	U	**39.4**		500	UD	**9.41**		12	U	5	U	5	U	1.7	U
1,1-Dichloropropene	NA	ug/l	-		-		-		-		5	U	-		-		-		-		-		-		-		-		-		5	U	500	UD	5	U	-		5	U	5	U	-	
1,2,3-Trichlorobenzene	NA	ug/l	-		-		-		-		-		-		-		-		-		-		-		-		-		-		-		500	UD	5	U	-		-		-		-	
1,2,3-Trichloropropane	0.02	ug/l	-		-		-		-		-		-		-		-		-		-		-		-		-		-		-		500	UD	5	U	-		-		-		-	
1,2,4-Trichlorobenzene, VOC	70	ug/l	1	U	1	UJ	10	U	20	U	-		-		1.7	U	2	UJ	2.9	U	33	U	1000	UJ	6200	UJ	6200	UJ	330	U	-		500	UD	5	U	12	U	-		-		1.7	U
1,2,4-Trimethylbenzene	15	ug/l	-		-		-		-		-		-		-		-		-		-		-		-		-		-		-		500	UD	5	U	-		-		-		-	
1,2-Dibromo-3-chloropropane	0.20	ug/l	2	U	2	U	20	U	40	U	-		-		3.3	U	4	U	2.9	U	67	U	2000	U	1200	U	1200	U	330	U	-		1000	UD	10	U	25	U	-		-		3.3	U
1,2-Dibromoethane	0.05	ug/l	1	U	1	U	10	U	20	U	5	U	-		1.7	U	2	U	2.9	U	33	U	1000	U	1200	U	1200	U	330	U	5	U	500	UD	5	U	12	U	5	U	5	U	1.7	U
1,2-Dichlorobenzene, VOC	600	ug/l	1	U	1	U	10	U	20	U	-		-		1.7	U	2	U	2.9	U	33	U	1000	U	1200	U	1200	U	330	U	-		500	UD	5	U	12	U	-		-		1.7	U
1,2-Dichloroethane	5	ug/l	1	U	1	U	10	U	20	U	5	U	-		1.7	U	2	U	2.9	U	33	U	1000	U	1200	U	1200	U	330	U	5	U	500	UD	5	U	12	U	5	U	5	U	1.7	U
1,2-Dichloropropane	5	ug/l	1	U	1	U	10	U	20	U	5	U	-		1.7	U	2	U	2.9	U	33	U	1000	U	1200	U	1200	U	330	U	5	U	500	UD	5	U	12	U	5	U	5	U	1.7	U
1,3,5-Trimethylbenzene	87	ug/l	-		-		-		-		-		-		-		-		-		-		-		-		-		-		-		500	UD	5	U	-		-		-		-	
1,3-Dichlorobenzene, VOC	NA	ug/l	1	U	1	U	10	U	20	U	-		-		1.7	U	2	U	2.9	U	33	U	1000	U	1200	U	1200	U	330	U	-		500	UD	5	U	12	U	-		-		1.7	U
1,3-Dichloropropane	290	ug/l	-		-		-		-		5	U	-		-		-		-		-		-		-		-		-		5	U	500	UD	5	U	-		5	U	5	U	-	
1,4-Dichlorobenzene, VOC	75	ug/l	1	U	1	U	10	U	20	U	-		-		1.7	U	2	U	2.9	U	33	U	1000	U	1200	U	1200	U	330	U	-		500	UD	5	U	12	U	-		-		1.7	U
1,4-Dioxane	6.7	ug/l	-		-		-		-		-		-		-		-		-		-		-		-		-		-		-		-		-		-		-		-		-	
2,2-Dichloropropane	NA	ug/l	-		-		-		-		5	U	-		-		-		-		-		-		-		-		-		5	U	500	UD	5	U	-		5	U	5	U	-	
2-Butanone	4,900	ug/l	10	UJ	10	U	100	U	200	U	20	U	-		17	U	20	UJ	29	U	330	U	10000	U	31000	U	31000	U	3300	U	20	U	2000	UD	20	U	120	U	20	U	20	U	17	U
2-Chlorotoluene	NA	ug/l	-		-		-		-		5	U	-		-		-		-		-		-		-		-		-		5	U	500	UD	5	U	-		5	U	5	U	-	
2-Hexanone	NA	ug/l	10	UJ	10	U	100	UJ	200	U	20	U	-		17	U	20	UJ	29	U	330	U	10000	U	62000	U	62000	U	3300	U	20	U	2000	UD	20	U	120	U	20	U	20	U	17	U
4-Chlorotoluene	NA	ug/l	-		-		-		-		5	U	-		-		-		-		-		-		-		-		-		5	U	500	UD	5	U	-		5	U	5	U	-	
4-Methyl-2-Pentanone	1,000	ug/l	10	U	10	U	100	U	200	U	20	U	-		17	U	20	U	29	UJ	330	U	10000	U	62000	U	62000	U	3300	U	20	U	2000	UD	20	U	120	U	20	U	20	U	17	U
Acetone	12,000	ug/l	10	UJ	10	UJ	100	UJ	200	U	20	U	-		17	U	20	UJ	29	U	330	U	10000	U	31000	U	31000	U	3300	U	20	U	2000	UD	20	U	120	U	20	U	20	U	17	UJ
Acetonitrile	130	ug/l	-		-		-		-		40	U	-		-		-		-		-		-		-		-		-		40	U	4000	UD	40	U	-		40	U	40	U	-	
Acrolein	0.041	ug/l	-		-		-		-		20	U	-		-		-		-		-		-		-		-		-		20	U	2000	UD	20	U	-		20	U	20	U	-	
Acrylonitrile	0.450	ug/l	-		-		-		-		20	U	-		-		-		-		-		-		-		-		-		20	U	2000	UD	20	U	-		20	U	20	U	-	
Allyl chloride	2.1	ug/l	-		-		-		-		5	U	-		-		-		-		-		-		-		-		-		5	U	500	UD	5	U	-		5	U	5	U	-	
Benzene	5	ug/l	1	U	1	U	10	U	20	U	5	U	-		1.7	U	2	U	2.9	U	33	U	1000	U	1200	U	1200	U	330	U	5	U	500	UD	5	U	12	U	5	U	5	U	1.7	U
Bromobenzene	NA	ug/l	-		-		-		-		5	U	-		-		-		-		-		-		-		-		-		5	U	500	UD	5	U	-		5	U	5	U	-	
Bromochloromethane	NA	ug/l	-		-		-		-		5	U	-		-		-		-		-		-		-		-		-		5	U	500	UD	5	U	-		5	U	5	U	-	
Bromodichloromethane	80	ug/l	1	U	1	U	10	U	20	U	5	U	-		1.7	U	2	U	2.9	U	33	U	1000	U	1200	U	1200	U	330	U	5	U	500	UD	5	U	12	U	5	U	5	U	1.7	U
Bromoform	80	ug/l	1	U	1	U	10	U	20	U	5	U	-		1.7	U	2	U	2.9	U	33	U	1000	U	1200	U	1200	U	330	U	5	U	500	UD	5	U	12	U	5	U	5	U	1.7	U
Bromomethane	7	ug/l	1	U	1	U	10	U	20	U	5	U	-		1.7	UJ	2	U	2.9	U	33	UJ	1000	U	1200	UJ	1200	UJ	330	U	5	U	500	UD	5	U	12	U	5	U	5	U	1.7	U
Carbon disulfide	720	ug/l	1	U	1	U	10	U	20	U	20	U	-		1.7	U	2	U	2.9	U	33	U	1000	U	6200	U	6200	U	330	U	20	U	2000	UD	20	U	12	U	20	U	20	U	1.7	U
Carbon tetrachloride	5	ug/l	1	U	1	U	10	U	20	U	5	U	-		1.7	U	2	U	2.9	U	33	U	1000	U	1200	U	1200	U	330	U	5	U	500	UD	5	U	12	U	5	U	5	U	1.7	U
Chlorobenzene	100	ug/l	1	U	1	U	10	U	20	U	5	U	-		1.7	U	2	U	2.9	U	33	U	1000	U	1200	U	1200	U	330	U	**9.11**		500	UD	5	U	12	U	5	U	5	U	1.7	U
Chloroethane	21,000	ug/l	1	U	1	U	10	U	20	U	5	U	-		1.7	U	2	U	2.9	U	33	U	1000	U	1200	UJ	1200	UJ	330	U	5	U	500	UD	5	U	12	U	5	U	5	U	1.7	U
Chloroform	80	ug/l	**10**		**18**		10	U	20	U	5	U	-		**10**		**13**		**11**		33	U	1000	U	1200	U	1200	U	330	U	5	U	500	UD	5	U	12	U	5	U	5	U	1.7	U
Chloromethane	190	ug/l	1	U	1	U	10	U	20	U	5	U	-		1.7	UJ	2	U	2.9	U	33	UJ	1000	U	1200	U	1200	U	330	U	5	U	500	UD	5	U	12	U	5	U	5	U	1.7	U
cis-1,2-Dichloroethene	70	ug/l	**0.63**		**0.27**	J	**280**		**560**		**176**		-		**1.1**		**1.2**	J	**0.98**	J	**1100**		**28000**		**35000**		**34000**		**21000**		**28700**	D	**40300**	D	**7430**		**310**		**159**		**156**		**22**	
cis-1,3-Dichloropropene	NA	ug/l	1	U	1	U	10	U	20	U	5	U	-		1.7	U	2	U	2.9	U	33	U	1000	U	1200	U	1200	U	330	U	5	U	-		5	U	12	U	5	U	5	U	1.7	U
Cyclohexane	13,000	ug/l	1	U	1	U	10	U	20	U	-		-		1.7	U	2	U	2.9	U	33	U	1000	U	1200	U	1200	U	330	UJ	-		-		-		12	U	-		-		1.7	U
Dibromochloromethane	80	ug/l	1	U	1	U	10	U	20	U	5	U	-		1.7	U	2	U	2.9	U	33	U	1000	U	1200	U	1200	U	330	U	5	U	500	UD	5	U	12	U	5	U	5	U	1.7	U
Dibromomethane	150	ug/l	-		-		-		-		5	U	-		-		-		-		-		-		-		-		-		5	U	500	UD	5	U	-		5	U	5	U	-	
Dichlorodifluoromethane	2,800	ug/l	1	UJ	1	U	10	UJ	20	U	5	U	-		1.7	U	2	U	2.9	UJ	33	U	1000	U	1200	UJ	1200	UJ	330	UJ	5	U	500	UD	5	U	12	U	5	U	5	U	1.7	U
Ethylbenzene	700	ug/l	1	U	1	U	10	U	20	U	5	U	-		1.7	U	2	U	2.9	U	33	U	1000	U	1200	U	1200	U	330	U	**18.9**		500	UD	5	U	12	U	5	U	5	U	1.7	U
Hexachlorobutadiene, VOC	2.6	ug/l	-		-		-		-		-		-		-		-		-		-		-		-		-		-		-		500	UD	5	U	-		-		-		-	
Iodomethane	NA	ug/l	-		-		-		-		10	U	-		-		-		-		-		-		-		-		-		10	U	1000	UD	10	U	-		10	U	10	U	-	
Isopropylbenzene, VOC	390	ug/l	1	U	1	U	10	U	20	U	-		-		1.7	U	2	U	2.9	U	33	U	1000	U	6200	U	6200	U	330	U	-		500	UD	**5.61**		12	U	-		-		1.7	U
m&p-Xylene	NA	ug/l	-		-		-		-		-		-		-		-		-		-		-		-		-		-		-		1000	UD	10	U	-		-		-		-	
Methyl acetate	NA	ug/l	10	U	10	U	100	U	200	U	-		-		17	UJ	20	U	29	U	330	UJ	10000	U	12000	U	12000	U	3300	U	-		-		-		120	U	-		-		17	U
Methyl cyclohexane	NA	ug/l	1	U	1	U	10	U	20	U	-		-		1.7	U	2	U	2.9	U	33	U	1000	U	1200	U	1200	U	330	UJ	-		-		-		12	U	-		-		1.7	U
Methyl tert butyl ether	120	ug/l	5	U	5	U	50	U	100	U	10	U	-		8.4	U	10	U	14	U	170	U	5000	U	6200	U	6200	U	1700	U	10	U	1000	UD	10	U	62	U	10	U	10	U	8.4	U
Methylene chloride	5	ug/l	1	U	1	U	3.5	U	20	U	5	U	-		1.7	U	2.6	U	14	U	33	U	1000	U	6200	U	6200	U	**76**	J	5	U	500	UD	5	U	12	U	5	U	5	U	1.7	U
Naphthalene, VOC	1.4	ug/l	-		-		-		-		-		-		-		-		-		-		-		-		-		-		-		500	UD	5	U	-		-		-		-	
n-Butylbenzene	780	ug/l	-		-		-		-		-		-		-		-		-		-		-		-		-		-		-		500	UD	5	U	-		-		-		-	
n-Hexane	250	ug/l	-		-		-		-		5	U	-		-		-		-		-		-		-		-		-		5	U	500	UD	5	U	-		5	U	5	U	-	
n-Propylbenzene	530	ug/l	-		-		-		-		-		-		-		-		-		-		-		-		-		-		-		500	UD	5	U	-		-		-		-	
o-Xylene	NA	ug/l	-		-		-		-		5	U	-		-		-		-		-		-		-		-		-		**50.4**		500	UD	**7.41**		-		5	U	5	U	-	
p-Isopropyltoluene	170	ug/l	-		-		-		-		-		-		-		-		-		-		-		-		-		-		-		500	UD	5	U	-		-		-		-	
sec-Butylbenzene	1,600	ug/l	-		-		-		-		-		-		-		-		-		-		-		-		-		-		-		500	UD	5	U	-		-		-		-	
Styrene	100	ug/l	1	U	1	U	10	U	20	U	5	U	-		1.7	U	2	U	2.9	U	33	U	1000	U	1200	U	1200	U	330	UJ	5	U	500	UD	5	U	12	U	5	U	5	U	1.7	U
tert-Butylbenzene	510	ug/l	-		-		-		-		-		-		-		-		-		-		-		-		-		-		-		500	UD	5	U	-		-		-		-	
Tetrachloroethene	5	ug/l	**17**		**12**		**4.6**	J	20	U	5	U	-		**49**		**65**		**83**		**1200**		**4600**		**1300**		**1300**		**170**	J	**2200**	D	**525**	D	**516**		12	U	5	U	5	U	**18**	
Toluene	1,000	ug/l	1	U	1	U	10	U	20	U	5	U	-		1.7	U	2	U	2.9	U	33	U	1000	U	1200	U	1200	U	330	U	**19.2**		500	UD	5	U	12	U	5	U	5	U	1.7	U
trans-1,2-Dichloroethene	100	ug/l	0.5	U	1	U	5	U	20	U	5	U	-		0.84	U	2	U	2.9	U	**8.7**	J	1000	U	1200	U	1200	U	330	U	**141**		500	UD	**18.7**		6.2	U	5	U	5	U	0.84	U
trans-1,3-Dichloropropene	NA	ug/l	1	U	1	U	10	U	20	U	5	U	-		1.7	U	2	U	2.9	U	33	U	1000	U	1200	U	1200	U	330	U	5	U	500	UD	5	U	12	U	5	U	5	U	1.7	U
Trichloroethene	5	ug/l	**2**		**1.7**		**7.9**	J	20	U	5	U	-		**6.7**		**8.2**		**8.3**		**390**		**1300**		**620**	J	**580**	J	330	U	**1390**	D	500	UD	**302**		12	U	5	U	5	U	**47**	
Trichlorofluoromethane	1,100	ug/l	1	U	1	U	10	U	20	U	5	U	-		1.7	UJ	2	U	2.9	U	33	UJ	1000	UJ	1200	UJ	1200	UJ	330	U	5	U	500	UD	5	U	12	U	5	U	5	U	1.7	UJ
Trifluorotrichloroethane	NA	ug/l	1	U	1	U	10	U	20	U	-		-		1.7	U	2	U	2.9	U	33	U	1000	U	1200	U	1200	U	330	U	-		-		-		12	U	-		-		1.7	U
Vinyl acetate	410	ug/l	-		-		-		-		10	U	-		-		-		-		-		-		-		-		-		10	U	1000	UD	10	U	-		10	U	10	U	-	
Vinyl chloride	2	ug/l	1	U	1	U	**26**		**43**		**12.4**		-		1.7	U	2	U	2.9	U	**120**		**2900**		**790**	J	**830**	J	**2800**		**3480**	D	**2980**	D	**456**		**18**		**14.4**		**14.2**		1.7	U
Xylene (Total)	10,000	ug/l	1	U	2	U	10	U	40	U	10	U	-		1.7	U	4	U	5.7	U	33	U	2000	U	2500	U	2500	U	670	UJ	**24.2**		-		-		12	U	10	U	10	U	1.7	U

TABLE 3.40
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS FOR UPPER AQUIFER
FORMER GM DELPHI HARRISON THERMAL SYSTEMS PLANT SITE
DAYTON, OHIO

	Voluntary Action Program GUPUS	Field Sample ID:	033		MW-26-04		007		9/21/2006-0		092012		121714		05182015		MW-3-02		006		041013		041013DP		121814		001		11/2/2006-0		092112		MW-72		03 4/10/2003		002		092412		Maximum Detected Concentration	
		Station:	MW-25-04		MW-26-04		MW-26-04		MW-26-04		MW-26-04		MW-26-04		MW-26-04		MW-3-02		MW-3-02		MW-3-02		MW-3-02		MW-3-02		MW-37-05		MW-37-05		MW-37-05		MW-72		MW-9-03		MW-9-03		MW-9-03			
		Date:	11/19/2004		3/26/2004		11/17/2004		9/21/2006		9/20/2012		12/17/2014		5/18/2015		4/18/2003		11/12/2004		4/10/2013		4/10/2013		12/18/2014		6/3/2005		11/2/2006		9/21/2012		2/25/2015		4/10/2003		11/15/2004		9/24/2012			
		Aquifer:	UA:WT		UA:WT		UA:WT		UA:WT		UA:WT		UA:WT		UA:WT		UA:WT		UA:WT		UA:WT		UA:WT		UA:WT		UA:TT		UA:TT		UA:TT		UA:WT		UA:WT		UA:WT		UA:WT			
VOCs																																									
1,1,1,2-Tetrachloroethane	5	ug/l	-		-		-		-		5	U	-		-		-		-		5	U	5	U	-		-		5	U	5	U	-		-		5	U	-		
1,1,1-Trichloroethane	200	ug/l	**2.5**		4	U	3.3	U	5	U	5	U	-		-		1.4	U	1	U	5	U	5	U	-		170	U	17	U	5	U	5	U	1	U	1	U	5	U	**2.9**	
1,1,2,2-Tetrachloroethane	0.66	ug/l	1	U	4	U	3.3	U	5	UJ	5	U	-		-		1.4	U	1	U	5	U	5	U	-		170	U	17	U	5	U	5	U	1	U	1	U	5	U	-	
1,1,2-Trichloroethane	5	ug/l	1	U	4	U	3.3	U	5	U	5	U	-		-		1.4	U	1	U	5	U	5	U	-		170	U	17	U	5	U	5	U	1	U	1	U	5	U	-	
1,1-Dichloroethane	24	ug/l	**3.1**		**10**		**9.2**		**6.4**		5	U	-		-		**0.48**	**J**	1	U	5	U	5	U	-		170	U	17	U	5	U	5	U	**0.66**	**J**	**1.5**		5	U	**12**	**J**
1,1-Dichloroethene	7	ug/l	1	U	4	U	3.3	U	5	U	5	U	-		-		1.4	U	1	U	5	U	5	U	-		170	U	17	U	5	U	5	U	1	U	1	U	5	U	**39.4**	
1,1-Dichloropropene	NA	ug/l	-		-		-		-		5	U	-		-		-		-		5	U	5	U	-		-		-		5	U	-		-		5	U	-	
1,2,3-Trichlorobenzene	NA	ug/l	-		-		-		-		-		-		-		-		-		-		-		-		-		-		5	U	-		-		-		-	
1,2,3-Trichloropropane	0.02	ug/l	-		-		-		-		-		-		-		-		-		-		-		-		-		-		5	U	-		-		-		-	
1,2,4-Trichlorobenzene, VOC	70	ug/l	1	U	4	U	3.3	UJ	5	U	-		-		-		1.4	U	1	UJ	-		-		-		830	U	17	U	-		5	U	1	U	1	UJ	-		-	
1,2,4-Trimethylbenzene	15	ug/l	-		-		-		-		-		-		-		-		-		-		-		-		-		-		5	U	-		-		-		-	
1,2-Dibromo-3-chloropropane	0.20	ug/l	2	U	8	U	6.7	U	5	U	-		-		-		2.9	U	2	U	-		-		-		170	U	17	U	-		10	U	2	U	2	U	-		-	
1,2-Dibromoethane	0.05	ug/l	1	U	4	U	3.3	U	5	U	5	U	-		-		1.4	U	1	U	5	U	5	U	-		170	U	17	U	5	U	5	U	1	U	1	U	5	U	-	
1,2-Dichlorobenzene, VOC	600	ug/l	1	U	4	U	3.3	U	5	U	-		-		-		1.4	U	1	U	-		-		-		170	U	17	U	-		5	U	1	U	1	U	-		-	
1,2-Dichloroethane	5	ug/l	1	U	4	U	3.3	U	5	U	5	U	-		-		1.4	U	1	U	5	U	5	U	-		170	U	17	U	5	U	5	U	1	U	1	U	5	U	-	
1,2-Dichloropropane	5	ug/l	1	U	4	U	3.3	U	5	U	5	U	-		-		1.4	U	1	U	5	U	5	U	-		170	U	17	U	5	U	5	U	1	U	1	U	5	U	-	
1,3,5-Trimethylbenzene	87	ug/l	-		-		-		-		-		-		-		-		-		-		-		-		-		-		5	U	-		-		-		-	
1,3-Dichlorobenzene, VOC	NA	ug/l	1	U	4	U	3.3	U	5	U	-		-		-		1.4	U	1	U	-		-		-		170	U	17	U	-		5	U	1	U	1	U	-		-	
1,3-Dichloropropane	290	ug/l	-		-		-		-		5	U	-		-		-		-		5	U	5	U	-		-		-		5	U	-		-		-		-	
1,4-Dichlorobenzene, VOC	75	ug/l	1	U	4	U	3.3	U	5	U	-		-		-		1.4	U	1	U	-		-		-		170	U	17	U	-		5	U	1	U	1	U	-		-	
1,4-Dioxane	6.7	ug/l	-		-		-		-		-		-		-		-		-		-		-		-		-		-		-		-		-		-		-	
2,2-Dichloropropane	NA	ug/l	-		-		-		-		5	U	-		-		-		-		5	U	5	U	-		-		-		5	U	-		-		-		-	
2-Butanone	4,900	ug/l	10	UJ	40	U	33	U	50	U	20	U	-		-		14	U	10	UJ	20	U	20	U	-		4200	U	170	U	20	U	20	U	10	U	10	U	20	U	-	
2-Chlorotoluene	NA	ug/l	-		-		-		-		5	U	-		-		-		-		5	U	5	U	-		-		-		5	U	5	U	-		-		5	U	-	
2-Hexanone	NA	ug/l	10	U	40	U	33	U	50	U	20	U	-		-		14	UJ	10	UJ	20	U	20	U	-		8300	U	170	U	20	U	20	U	10	UJ	10	U	20	U	-	
4-Chlorotoluene	NA	ug/l	-		-		-		-		5	U	-		-		-		-		5	U	5	U	-		-		-		5	U	5	U	-		-		5	U	-	
4-Methyl-2-Pentanone	1,000	ug/l	10	U	40	U	33	U	50	U	20	U	-		-		14	U	10	U	20	U	20	U	-		8300	U	170	U	20	U	20	U	10	U	10	U	20	U	-	
Acetone	12,000	ug/l	10	UJ	40	UJ	33	U	50	UJ	20	U	-		-		14	UJ	10	UJ	20	U	20	U	-		**140**	**J**	170	U	20	U	20	U	10	UJ	10	UJ	20	U	**140**	**J**
Acetonitrile	130	ug/l	-		-		-		-		40	U	-		-		-		-		40	U	40	U	-		-		-		40	U	40	U	-		-		40	U	-	
Acrolein	0.041	ug/l	-		-		-		-		20	U	-		-		-		-		20	U	20	U	-		-		-		20	U	20	U	-		-		20	U	-	
Acrylonitrile	0.450	ug/l	-		-		-		-		20	U	-		-		-		-		20	U	20	U	-		-		-		20	U	20	U	-		-		20	U	-	
Allyl chloride	2.1	ug/l	-		-		-		-		5	U	-		-		-		-		5	U	5	U	-		-		-		5	U	5	U	-		-		5	U	-	
Benzene	5	ug/l	1	U	4	U	3.3	U	5	U	5	U	-		-		1.4	U	1	U	5	U	5	U	-		170	U	17	U	5	U	5	U	1	U	**0.42**	**J**	5	U	**0.42**	**J**
Bromobenzene	NA	ug/l	-		-		-		-		5	U	-		-		-		-		5	U	5	U	-		-		-		5	U	5	U	-		-		5	U	-	
Bromochloromethane	NA	ug/l	-		-		-		-		5	U	-		-		-		-		5	U	5	U	-		-		-		5	U	5	U	-		-		5	U	-	
Bromodichloromethane	80	ug/l	1	U	4	U	3.3	U	5	U	5	U	-		-		1.4	U	1	U	5	U	5	U	-		170	U	17	U	5	U	5	U	1	U	1	U	5	U	-	
Bromoform	80	ug/l	1	U	4	U	3.3	U	5	U	5	U	-		-		1.4	U	1	U	5	U	5	U	-		170	U	17	U	5	U	5	U	1	U	1	U	5	U	-	
Bromomethane	7	ug/l	1	U	4	U	3.3	U	5	U	5	U	-		-		1.4	U	1	U	5	U	5	U	-		170	UJ	17	U	5	U	5	U	1	U	1	U	5	U	-	
Carbon disulfide	720	ug/l	1	U	4	U	3.3	U	5	U	20	U	-		-		1.4	U	1	U	20	U	20	U	-		830	U	17	U	20	U	20	U	1	U	1	U	20	U	-	
Carbon tetrachloride	5	ug/l	1	U	4	U	3.3	U	5	U	5	U	-		-		1.4	U	1	U	5	U	5	U	-		170	U	17	U	5	U	5	U	1	U	1	U	5	U	-	
Chlorobenzene	100	ug/l	1	U	4	U	3.3	U	5	U	5	U	-		-		1.4	U	1	U	5	U	5	U	-		170	U	17	U	5	U	5	U	1	U	1	U	5	U	**9.11**	
Chloroethane	21,000	ug/l	1	U	4	U	3.3	U	5	U	5	U	-		-		1.4	U	1	U	5	U	5	U	-		170	UJ	17	U	5	U	5	U	1	U	1	U	5	U	-	
Chloroform	80	ug/l	1	U	4	U	3.3	U	5	U	5	U	-		-		**3.2**		**10**		**7.35**		**7.41**		-		170	U	**4.2**	**J**	5	U	**14.7**		1	U	1	U	5	U	**18**	
Chloromethane	190	ug/l	1	U	4	U	3.3	U	5	U	5	U	-		-		1.4	U	1	U	5	U	5	U	-		170	U	17	U	5	U	5	U	1	U	1	U	5	U	-	
cis-1,2-Dichloroethene	70	ug/l	**18**		**140**		**72**		**110**		**11.1**		-		-		**35**		**1.9**		**7.91**		**7.79**		-		**4000**		**250**		**44.6**		5	U	**0.61**		**2.5**		**56.1**		**40300**	**D**
cis-1,3-Dichloropropene	NA	ug/l	1	U	4	U	3.3	U	5	U	5	U	-		-		1.4	U	1	U	5	U	5	U	-		170	U	17	U	5	U	5	U	1	U	1	U	5	U	-	
Cyclohexane	13,000	ug/l	1	U	4	U	3.3	U	5	U	-		-		-		1.4	U	1	U	-		-		-		170	U	17	UJ	-		-		1	U	**0.46**	**J**	-		**0.46**	**J**
Dibromochloromethane	80	ug/l	1	U	4	U	3.3	U	5	U	5	U	-		-		1.4	U	1	U	5	U	5	U	-		170	U	17	U	5	U	5	U	1	U	1	U	5	U	-	
Dibromomethane	150	ug/l	-		-		-		-		5	U	-		-		-		-		5	U	5	U	-		-		-		5	U	5	U	-		-		5	U	-	
Dichlorodifluoromethane	2,800	ug/l	1	U	4	U	3.3	U	5	U	5	U	-		-		1.4	UJ	1	U	5	U	5	U	-		170	U	17	U	5	U	5	U	1	UJ	1	U	5	U	-	
Ethylbenzene	700	ug/l	1	U	4	U	3.3	U	5	U	5	U	-		-		1.4	U	1	U	5	U	5	U	-		170	U	17	U	5	U	5	U	1	U	1	U	5	U	**18.9**	
Hexachlorobutadiene, VOC	2.6	ug/l	-		-		-		-		-		-		-		-		-		-		-		-		-		-		5	U	-		-		-		-	
Iodomethane	NA	ug/l	-		-		-		-		10	U	-		-		-		-		10	U	10	U	-		-		-		10	U	-		-		10	U	-	
Isopropylbenzene, VOC	390	ug/l	1	U	4	U	3.3	U	5	U	-		-		-		1.4	U	1	U	-		-		-		830	U	17	U	-		5	U	1	U	**0.7**	**J**	-		**5.61**	
m&p-Xylene	NA	ug/l	-		-		-		-		-		-		-		-		-		-		-		-		-		-		10	U	-		-		-		-	
Methyl acetate	NA	ug/l	10	U	40	U	33	U	50	U	-		-		-		14	U	10	U	-		-		-		1700	U	170	U	-		-		10	U	10	U	-		-	
Methyl cyclohexane	NA	ug/l	1	U	4	U	3.3	U	5	U	-		-		-		1.4	U	1	U	-		-		-		170	U	17	UJ	-		-		1	U	1	U	-		-	
Methyl tert butyl ether	120	ug/l	5	U	20	U	17	U	25	U	10	U	-		-		7.2	U	5	U	10	U	10	U	-		830	U	83	U	10	U	10	U	5	U	5	U	10	U	-	
Methylene chloride	5	ug/l	1	U	4	U	3.3	U	**2.6**	**J**	5	U	-		-		1	U	1	U	5	U	5	U	-		830	U	83	U	5	U	5	U	1	U	1	U	5	U	**70**	**J**
Naphthalene, VOC	1.4	ug/l	-		-		-		-		-		-		-		-		-		-		-		-		-		-		5	U	-		-		-		-	
n-Butylbenzene	780	ug/l	-		-		-		-		-		-		-		-		-		-		-		-		-		-		5	U	-		-		-		-	
n-Hexane	250	ug/l	-		-		-		-		5	U	-		-		-		-		5	U	5	U	-		-		-		5	U	5	U	-		-		5	U	-	
n-Propylbenzene	530	ug/l	-		-		-		-		-		-		-		-		-		-		-		-		-		-		5	U	-		-		-		-	
o-Xylene	NA	ug/l	-		-		-		-		5	U	-		-		-		-		5	U	5	U	-		-		-		5	U	5	U	-		-		5	U	**50.4**	
p-Isopropyltoluene	170	ug/l	-		-		-		-		-		-		-		-		-		-		-		-		-		-		5	U	-		-		-		-	
sec-Butylbenzene	1,600	ug/l	-		-		-		-		-		-		-		-		-		-		-		-		-		-		5	U	-		-		-		-	
Styrene	100	ug/l	1	U	4	U	3.3	U	5	U	5	U	-		-		1.4	U	1	U	5	U	5	U	-		170	U	17	UJ	5	U	5	U	1	U	1	U	5	U	-	
tert-Butylbenzene	510	ug/l	-		-		-		-		-		-		-		-		-		-		-		-		-		-		5	U	-		-		-		-	
Tetrachloroethene	5	ug/l	**14**		**1.8**	**J**	**0.74**	**J**	**3.8**	**J**	5	U	-		-		**40**		**9.1**		5	U	5	U	-		**790**		**860**		**292**	**D**	5	U	**8.4**		**0.53**	**J**	5	U	**4600**	
Toluene	1,000	ug/l	1	U	4	U	3.3	U	5	U	5	U	-		-		1.4	U	1	U	5	U	5	U	-		170	U	17	U	5	U	5	U	1	U	1	U	5	U	**19.2**	
trans-1,2-Dichloroethene	100	ug/l	1	U	**3**		3.3	U	5	U	5	U	-		-		0.72	U	1	U	5	U	5	U	-		**29**	**J**	**4.1**	**J**	5	U	5	U	0.5	U	1	U	5	U	**141**	
trans-1,3-Dichloropropene	NA	ug/l	1	U	4	U	3.3	U	5	UJ	5	U	-		-		1.4	U	1	U	5	U	5	U	-		170	U	17	U	5	U	5	U	1	U	1	U	5	U	-	
Trichloroethene	5	ug/l	**25**		**8.7**		**11**		**93**		**22.4**		-		-		**6.2**		**3**		5	U	5	U	-		**180**		**260**		**94.3**		5	U	**0.58**	**J**	**1.3**		5	U	**1390**	**D**
Trichlorofluoromethane	1,100	ug/l	1	U	4	UJ	3.3	UJ	5	U	5	U	-		-		1.4	U	1	U	5	U	5	U	-		170	U	17	U	5	U	5	U	1	U	1	U	5	U	-	
Trifluorotrichloroethane	NA	ug/l	1	U	4	U	3.3	U	5	UJ	-		-		-		1.4	U	1	U	-		-		-		170	U	17	U	-		-		1	U	1	U	-		-	
Vinyl acetate	410	ug/l	-		-		-		-		10	U	-		-		-		-		10	U	10	U	-		-		-		10	U	10	U	-		-		10	U	-	
Vinyl chloride	2	ug/l	**1.2**		**6.2**		**5.2**		**2.2**	**J**	1	U	-		-		**0.59**	**J**	1	U	1	U	1	U	-		170	U	17	U	1	U	1	U	1	U	**1.2**		**68.3**		**3480**	**D**
Xylene (Total)	10,000	ug/l	2	U	4	U	6.7	U	10	U	10	U	-		-		1.4	U	2	U	10	U	10	U	-		330	U	33	UJ	10	U	-		1	U	2	U	10	U	**24.2**	

TABLE 3.40
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS FOR UPPER AQUIFER
FORMER GM DELPHI HARRISON THERMAL SYSTEMS PLANT SITE
DAYTON, OHIO

	Voluntary Action Program GUPUS	Field Sample ID:	DAY-20	DAY-20	001	009	MW20-0-0601	HD-16	HD-16	HD-18	HD-18	001	9/15/2006-0	8/27/2007-0	8/27/2007-0-	MW-12A-03	MW-12B-03	024	MW-13A-03	004	092012	040913	121814
		Station:	DAY-20	DAY-20	DAY-20	DAY-20	DAY-20	HD-16	HD-16	HD-18	HD-18	HD-18	HD-18	HD-18	HD-18	MW-12A-03	MW-12B-03	MW-12B-03	MW-13A-03	MW-13A-03	MW-13A-03	MW-13A-03	MW-13A-03
		Date:	7/9/2002	4/7/2003	11/8/2004	11/10/2004	6/1/2006	7/9/2002	3/28/2003	7/16/2002	3/19/2003	11/16/2004	9/15/2006	8/27/2007	8/27/2007	4/15/2003	4/16/2003	11/17/2004	4/16/2003	11/17/2004	9/20/2012	4/9/2013	12/18/2014
		Aquifer:	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:TT	UA:TT	UA:TT	UA:TT	UA:TT	UA:TT	UA:TT	UA:TT	UA:WT	UA:TT	UA:TT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT
SVOCs																							
2,2-oxybis(1-Chloropropane)	3.1	ug/l	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2,2-oxybis(2-Chloropropane)	NA	ug/l	10 U	10 U	-	-	-	10 U	10 U	10 U	10 U	-	-	-	-	10 U	20 U	-	10 U	-	-	-	-
2,4,5-Trichlorophenol	890	ug/l	10 U	10 U	-	-	-	10 U	10 U	10 U	10 U	-	-	-	-	10 U	20 U	-	10 U	-	-	-	-
2,4,6-Trichlorophenol	9	ug/l	10 U	10 U	-	-	-	10 U	10 U	10 U	10 U	-	-	-	-	10 U	20 U	-	10 U	-	-	-	-
2,4-Dichlorophenol	35	ug/l	10 U	10 U	-	-	-	10 U	10 U	10 U	10 U	-	-	-	-	10 U	20 U	-	10 U	-	-	-	-
2,4-Dimethylphenol	270	ug/l	10 U	10 U	-	-	-	10 U	10 U	10 U	10 U	-	-	-	-	10 U	20 U	-	10 U	-	-	-	-
2,4-Dinitrophenol	30	ug/l	50 U	50 UJ	-	-	-	50 U	50 U	50 U	50 U	-	-	-	-	50 U	100 U	-	50 U	-	-	-	-
2,4-Dinitrotoluene	2	ug/l	10 U	10 U	-	-	-	10 U	10 U	10 U	10 U	-	-	-	-	10 U	20 U	-	10 U	-	-	-	-
2,6-Dinitrotoluene	0.42	ug/l	10 U	10 U	-	-	-	10 U	10 U	10 U	10 U	-	-	-	-	10 U	20 U	-	10 U	-	-	-	-
2-Chloronaphthalene	550	ug/l	10 U	10 U	-	-	-	10 U	10 U	10 U	10 U	-	-	-	-	10 U	20 U	-	10 U	-	-	-	-
2-Chlorophenol	71	ug/l	10 U	10 U	-	-	-	10 U	10 U	10 U	10 U	-	-	-	-	10 U	20 U	-	10 U	-	-	-	-
2-Methylnaphthalene	27	ug/l	10 U	10 U	-	-	-	10 U	10 U	10 U	10 U	-	-	-	-	10 U	20 U	-	10 U	-	-	-	-
2-Methylphenol	720	ug/l	10 U	10 U	-	-	-	10 U	10 U	10 U	10 U	-	-	-	-	10 U	20 U	-	10 U	-	-	-	-
2-Nitroaniline	NA	ug/l	50 U	50 U	-	-	-	50 U	50 UJ	50 U	50 U	-	-	-	-	50 U	100 U	-	50 U	-	-	-	-
2-Nitrophenol	NA	ug/l	10 U	10 U	-	-	-	10 U	10 U	10 U	10 U	-	-	-	-	10 U	20 U	-	10 U	-	-	-	-
3,3-Dichlorobenzidine	1.1	ug/l	50 U	50 U	-	-	-	50 U	50 U	50 U	50 U	-	-	-	-	50 U	100 U	-	50 U	-	-	-	-
3-Nitroaniline	NA	ug/l	50 U	50 U	-	-	-	50 U	50 U	50 U	50 U	-	-	-	-	50 U	100 U	-	50 U	-	-	-	-
4,6-Dinitro-2-methylphenol	1.2	ug/l	50 U	50 UJ	-	-	-	50 U	50 U	50 U	50 UJ	-	-	-	-	50 U	100 U	-	50 U	-	-	-	-
4-Bromophenyl phenyl ether	NA	ug/l	10 U	10 U	-	-	-	10 U	10 U	10 U	10 U	-	-	-	-	10 U	20 U	-	10 U	-	-	-	-
4-Chloro-3-methylphenol	1,100	ug/l	10 U	10 U	-	-	-	10 U	10 U	10 U	10 U	-	-	-	-	10 U	20 U	-	10 U	-	-	-	-
4-Chloroaniline	3.2	ug/l	10 U	10 U	-	-	-	10 U	10 U	10 U	10 U	-	-	-	-	10 U	20 U	-	10 U	-	-	-	-
4-Chlorophenyl phenyl ether	NA	ug/l	10 U	10 U	-	-	-	10 U	10 U	10 U	10 U	-	-	-	-	10 U	20 U	-	10 U	-	-	-	-
4-Methylphenol	1,400	ug/l	10 U	10 U	-	-	-	10 U	10 U	10 U	10 U	-	-	-	-	10 U	20 U	-	10 U	-	-	-	-
4-Nitroaniline	33	ug/l	50 U	50 U	-	-	-	50 U	50 UJ	50 U	50 U	-	-	-	-	50 U	100 U	-	50 U	-	-	-	-
4-Nitrophenol	NA	ug/l	50 U	50 U	-	-	-	50 U	50 UJ	50 U	50 U	-	-	-	-	50 U	100 U	-	50 U	-	-	-	-
Acenaphthene	400	ug/l	10 U	10 U	-	-	-	10 U	10 U	10 U	10 U	-	-	-	-	10 U	20 U	-	10 U	-	-	-	-
Acenaphthylene	390	ug/l	10 U	10 U	-	-	-	10 U	10 U	10 U	10 U	-	-	-	-	10 U	20 U	-	10 U	-	-	-	-
Acetophenone	1,500	ug/l	10 U	10 U	-	-	-	10 U	10 U	10 U	10 U	-	-	-	-	10 U	20 U	-	10 U	-	-	-	-
Anthracene	1,300	ug/l	10 U	10 U	-	-	-	10 U	10 U	10 U	10 U	-	-	-	-	10 U	20 U	-	10 U	-	-	-	-
Atrazine	NA	ug/l	10 U	10 U	-	-	-	10 U	10 U	10 U	10 U	-	-	-	-	10 U	20 U	-	10 U	-	-	-	-
Benzaldehyde	NA	ug/l	10 U	10 U	-	-	-	10 U	10 U	10 U	10 U	-	-	-	-	10 U	20 U	-	10 U	-	-	-	-
Benzo(a)anthracene	0.92	ug/l	10 U	10 U	-	-	-	10 U	10 U	10 U	10 U	-	-	-	-	10 U	20 U	-	10 U	-	-	-	-
Benzo(a)pyrene	0.2	ug/l	10 U	10 U	-	-	-	10 U	10 U	10 U	10 U	-	-	-	-	10 U	20 U	-	10 U	-	-	-	-
Benzo(b)fluoranthene	0.92	ug/l	10 U	10 U	-	-	-	10 U	10 U	10 U	10 U	-	-	-	-	10 U	20 U	-	10 U	-	-	-	-
Benzo(g,h,i)perylene	470	ug/l	10 U	10 U	-	-	-	10 U	10 U	10 U	10 UJ	-	-	-	-	10 U	20 U	-	10 U	-	-	-	-
Benzo(k)fluoranthene	9.2	ug/l	10 U	10 U	-	-	-	10 U	10 U	10 U	10 U	-	-	-	-	10 U	20 U	-	10 U	-	-	-	-
Biphenyl	33	ug/l	10 U	10 U	-	-	-	10 U	10 U	10 U	10 U	-	-	-	-	10 U	20 U	-	10 U	-	-	-	-
bis(2-Chloroethoxy)methane	46	ug/l	10 U	10 U	-	-	-	10 U	10 U	10 U	10 U	-	-	-	-	10 U	20 U	-	10 U	-	-	-	-
bis(2-Chloroethyl)ether	0.12	ug/l	10 U	10 U	-	-	-	10 U	10 U	10 U	10 U	-	-	-	-	10 U	20 U	-	10 U	-	-	-	-
bis(2-Ethylhexyl)phthalate	6	ug/l	10 U	10 U	-	-	-	10 U	10 U	**4.7** **J**	10 U	-	-	-	-	10 U	20 U	-	10 U	-	-	-	-
Butyl benzylphthalate	140	ug/l	10 U	10 U	-	-	-	10 U	10 U	10 UJ	10 U	-	-	-	-	10 U	20 U	-	10 U	-	-	-	-
Caprolactam	NA	ug/l	10 U	**58**	-	-	-	10 U	10 U	10 U	10 U	-	-	-	-	**34**	**53**	-	**38**	-	-	-	-
Carbazole	17	ug/l	10 U	10 U	-	-	-	10 U	10 U	10 U	10 U	-	-	-	-	10 U	20 U	-	10 U	-	-	-	-
Chrysene	92	ug/l	10 U	10 U	-	-	-	10 U	10 U	10 U	10 U	-	-	-	-	10 U	20 U	-	10 U	-	-	-	-
Dibenz(a,h)anthracene	0.092	ug/l	10 U	10 U	-	-	-	10 U	10 U	10 U	10 UJ	-	-	-	-	10 U	20 U	-	10 U	-	-	-	-
Dibenzofuran	5.8	ug/l	10 U	10 U	-	-	-	10 U	10 U	10 U	10 U	-	-	-	-	10 U	20 U	-	10 U	-	-	-	-
Diethyl phthalate	11,000	ug/l	10 U	10 U	-	-	-	10 U	10 U	10 U	10 U	-	-	-	-	**0.78** **J**	20 U	-	10 U	-	-	-	-
Dimethyl phthalate	12,000	ug/l	10 U	10 U	-	-	-	10 U	10 U	10 U	10 U	-	-	-	-	10 U	20 U	-	10 U	-	-	-	-
Di-n-butylphthalate	670	ug/l	10 U	10 U	-	-	-	10 U	10 U	10 U	10 U	-	-	-	-	10 U	20 U	-	10 U	-	-	-	-
Di-N-Octyl phthalate	160	ug/l	10 U	10 U	-	-	-	10 U	10 U	10 U	10 U	-	-	-	-	10 U	20 U	-	10 U	-	-	-	-
Fluoranthene	630	ug/l	10 U	10 U	-	-	-	10 U	10 U	10 U	10 U	-	-	-	-	10 U	20 U	-	10 U	-	-	-	-
Fluorene	220	ug/l	10 U	10 U	-	-	-	10 U	10 U	10 U	10 U	-	-	-	-	10 U	20 U	-	10 U	-	-	-	-
Hexachlorobenzene	1	ug/l	10 U	10 U	-	-	-	10 U	10 U	10 U	10 U	-	-	-	-	10 U	20 U	-	10 U	-	-	-	-
Hexachlorobutadiene, SVOC	2.6	ug/l	10 U	10 U	-	-	-	10 U	10 U	10 U	10 U	-	-	-	-	10 U	20 U	-	10 U	-	-	-	-
Hexachlorocyclopentadiene	50	ug/l	50 U	50 U	-	-	-	50 U	50 U	50 U	50 U	-	-	-	-	50 U	100 U	-	50 U	-	-	-	-
Hexachloroethane	5.1	ug/l	10 U	10 U	-	-	-	10 U	10 U	10 U	10 U	-	-	-	-	10 U	20 U	-	10 U	-	-	-	-
Indeno(1,2,3-cd)pyrene	0.92	ug/l	10 U	10 U	-	-	-	10 U	10 U	10 U	10 UJ	-	-	-	-	10 U	20 U	-	10 U	-	-	-	-
Isophorone	670	ug/l	10 U	10 U	-	-	-	10 U	10 U	10 U	10 U	-	-	-	-	10 U	20 U	-	10 U	-	-	-	-
Naphthalene, SVOC	1.40	ug/l	10 U	10 U	-	-	-	10 U	10 U	10 U	10 U	-	-	-	-	10 U	20 U	-	10 U	-	-	-	-
Nitrobenzene	1.20	ug/l	10 U	10 U	-	-	-	10 U	10 U	10 U	10 U	-	-	-	-	10 U	20 U	-	10 U	-	-	-	-
N-Nitrosodi-n-propylamine	0.093	ug/l	10 U	10 U	-	-	-	10 U	10 U	10 U	10 U	-	-	-	-	10 U	20 U	-	10 U	-	-	-	-
N-Nitrosodiphenylamine	100	ug/l	10 U	10 U	-	-	-	10 U	10 U	10 U	10 U	-	-	-	-	10 U	20 U	-	10 U	-	-	-	-
Pentachlorophenol	1	ug/l	10 U	10 U	-	-	-	10 U	10 U	10 U	10 U	-	-	-	-	10 U	20 U	-	10 U	-	-	-	-
Phenanthrene	3,400	ug/l	10 U	10 U	-	-	-	10 U	10 U	10 U	10 U	-	-	-	-	10 U	20 U	-	10 U	-	-	-	-
Phenol	4,500	ug/l	10 U	10 U	-	-	-	10 U	10 U	10 U	10 U	-	-	-	-	10 U	20 U	-	10 U	-	-	-	-
Pyrene, SVOC	87	ug/l	10 U	10 U	-	-	-	10 U	10 U	10 UJ	10 UJ	-	-	-	-	10 U	20 U	-	10 U	-	-	-	-

TABLE 3.40
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS FOR UPPER AQUIFER
FORMER GM DELPHI HARRISON THERMAL SYSTEMS PLANT SITE
DAYTON, OHIO

	Voluntary Action Program GUPUS	Field Sample ID:	MW-13B-03		022		GJL-144		AC-028		092112	PCB-092512	MW-14B-04	003	1/23/2006-0		MW-23-04	005	002	003	11/2/2006-0	092112	121814	05182015	MW-24-04	092112 DUP	092112	MW-25-04
		Station:	MW-13B-03		MW-13B-03		MW-14A-03		MW-14A-03		MW-14A-03	MW-14A-03	MW-14B-04	MW-14B-04	MW-14B-04		MW-23-04	MW-23-04	MW-23-04	MW-23-04	MW-23-04	MW-23-04	MW-23-04	MW-23-04	MW-24-04	MW-24-04	MW-24-04	MW-25-04
		Date:	4/17/2003		11/17/2004		4/18/2003		11/18/2004		9/21/2012	9/25/2012	3/30/2004	11/18/2004	1/23/2006		3/30/2004	11/17/2004	4/1/2005	4/1/2005	11/2/2006	9/21/2012	12/18/2014	5/18/2015	3/25/2004	9/21/2012	9/21/2012	3/26/2004
		Aquifer:	UA:TT		UA:TT		UA:WT		UA:WT		UA:WT	UA:WT	UA:TT	UA:TT	UA:TT		UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT
SVOCs																												
2,2-oxybis(1-Chloropropane)	3.1	ug/l	-		-		-		-		-	-	-	-	10	U	-	-	-	-	-	-	-	-	-	-	-	-
2,2-oxybis(2-Chloropropane)	NA	ug/l	10	U	-		10	U	-		-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-
2,4,5-Trichlorophenol	890	ug/l	10	U	-		10	U	-		-	-	-	-	10	U	-	-	-	-	-	-	-	-	-	-	-	-
2,4,6-Trichlorophenol	9	ug/l	10	U	-		10	U	-		-	-	-	-	10	U	-	-	-	-	-	-	-	-	-	-	-	-
2,4-Dichlorophenol	35	ug/l	10	U	-		10	U	-		-	-	-	-	10	U	-	-	-	-	-	-	-	-	-	-	-	-
2,4-Dimethylphenol	270	ug/l	10	U	-		10	U	-		-	-	-	-	10	U	-	-	-	-	-	-	-	-	-	-	-	-
2,4-Dinitrophenol	30	ug/l	50	U	-		50	U	-		-	-	-	-	50	U	-	-	-	-	-	-	-	-	-	-	-	-
2,4-Dinitrotoluene	2	ug/l	10	U	-		10	U	-		-	-	-	-	10	U	-	-	-	-	-	-	-	-	-	-	-	-
2,6-Dinitrotoluene	0.42	ug/l	10	U	-		10	U	-		-	-	-	-	10	U	-	-	-	-	-	-	-	-	-	-	-	-
2-Chloronaphthalene	550	ug/l	10	U	-		10	U	-		-	-	-	-	10	U	-	-	-	-	-	-	-	-	-	-	-	-
2-Chlorophenol	71	ug/l	10	U	-		10	U	-		-	-	-	-	10	U	-	-	-	-	-	-	-	-	-	-	-	-
2-Methylnaphthalene	27	ug/l	10	U	-		10	U	-		-	-	-	-	10	U	-	-	-	-	-	-	-	-	-	-	-	-
2-Methylphenol	720	ug/l	10	U	-		10	U	-		-	-	-	-	10	U	-	-	-	-	-	-	-	-	-	-	-	-
2-Nitroaniline	NA	ug/l	50	U	-		50	U	-		-	-	-	-	50	U	-	-	-	-	-	-	-	-	-	-	-	-
2-Nitrophenol	NA	ug/l	10	U	-		10	U	-		-	-	-	-	10	U	-	-	-	-	-	-	-	-	-	-	-	-
3,3-Dichlorobenzidine	1.1	ug/l	50	U	-		50	U	-		-	-	-	-	50	U	-	-	-	-	-	-	-	-	-	-	-	-
3-Nitroaniline	NA	ug/l	50	U	-		50	U	-		-	-	-	-	50	U	-	-	-	-	-	-	-	-	-	-	-	-
4,6-Dinitro-2-methylphenol	1.2	ug/l	50	U	-		50	U	-		-	-	-	-	50	U	-	-	-	-	-	-	-	-	-	-	-	-
4-Bromophenyl phenyl ether	NA	ug/l	10	U	-		10	U	-		-	-	-	-	10	U	-	-	-	-	-	-	-	-	-	-	-	-
4-Chloro-3-methylphenol	1,100	ug/l	10	U	-		10	U	-		-	-	-	-	10	U	-	-	-	-	-	-	-	-	-	-	-	-
4-Chloroaniline	3.2	ug/l	10	U	-		10	U	-		-	-	-	-	10	U	-	-	-	-	-	-	-	-	-	-	-	-
4-Chlorophenyl phenyl ether	NA	ug/l	10	U	-		10	U	-		-	-	-	-	10	U	-	-	-	-	-	-	-	-	-	-	-	-
4-Methylphenol	1,400	ug/l	10	U	-		10	U	-		-	-	-	-	10	U	-	-	-	-	-	-	-	-	-	-	-	-
4-Nitroaniline	33	ug/l	50	U	-		50	U	-		-	-	-	-	50	U	-	-	-	-	-	-	-	-	-	-	-	-
4-Nitrophenol	NA	ug/l	50	U	-		50	U	-		-	-	-	-	50	U	-	-	-	-	-	-	-	-	-	-	-	-
Acenaphthene	400	ug/l	10	U	-		10	U	-		-	-	-	-	10	U	-	-	-	-	-	-	-	-	-	-	-	-
Acenaphthylene	390	ug/l	10	U	-		10	U	-		-	-	-	-	10	U	-	-	-	-	-	-	-	-	-	-	-	-
Acetophenone	1,500	ug/l	10	U	-		10	U	-		-	-	-	-	10	U	-	-	-	-	-	-	-	-	-	-	-	-
Anthracene	1,300	ug/l	10	U	-		10	U	-		-	-	-	-	10	U	-	-	-	-	-	-	-	-	-	-	-	-
Atrazine	NA	ug/l	10	U	-		10	U	-		-	-	-	-	10	U	-	-	-	-	-	-	-	-	-	-	-	-
Benzaldehyde	NA	ug/l	10	U	-		10	U	-		-	-	-	-	10	U	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(a)anthracene	0.92	ug/l	10	U	-		10	U	-		-	-	-	-	10	U	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(a)pyrene	0.2	ug/l	10	U	-		10	U	-		-	-	-	-	10	U	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(b)fluoranthene	0.92	ug/l	10	U	-		10	U	-		-	-	-	-	10	U	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(g,h,i)perylene	470	ug/l	10	U	-		10	U	-		-	-	-	-	10	U	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(k)fluoranthene	9.2	ug/l	10	U	-		10	U	-		-	-	-	-	10	U	-	-	-	-	-	-	-	-	-	-	-	-
Biphenyl	33	ug/l	10	U	-		10	U	-		-	-	-	-	10	U	-	-	-	-	-	-	-	-	-	-	-	-
bis(2-Chloroethoxy)methane	46	ug/l	10	U	-		10	U	-		-	-	-	-	10	U	-	-	-	-	-	-	-	-	-	-	-	-
bis(2-Chloroethyl)ether	0.12	ug/l	10	U	-		10	U	-		-	-	-	-	10	U	-	-	-	-	-	-	-	-	-	-	-	-
bis(2-Ethylhexyl)phthalate	6	ug/l	10	U	-		10	U	-		-	-	-	-	**0.99**	**J**	-	-	-	-	-	-	-	-	-	-	-	-
Butyl benzylphthalate	140	ug/l	10	U	-		10	U	-		-	-	-	-	10	U	-	-	-	-	-	-	-	-	-	-	-	-
Caprolactam	NA	ug/l	**470**		-		**43**		-		-	-	-	-	10	U	-	-	-	-	-	-	-	-	-	-	-	-
Carbazole	17	ug/l	10	U	-		10	U	-		-	-	-	-	10	U	-	-	-	-	-	-	-	-	-	-	-	-
Chrysene	92	ug/l	10	U	-		10	U	-		-	-	-	-	10	U	-	-	-	-	-	-	-	-	-	-	-	-
Dibenz(a,h)anthracene	0.092	ug/l	10	U	-		10	U	-		-	-	-	-	10	U	-	-	-	-	-	-	-	-	-	-	-	-
Dibenzofuran	5.8	ug/l	10	U	-		10	U	-		-	-	-	-	10	U	-	-	-	-	-	-	-	-	-	-	-	-
Diethyl phthalate	11,000	ug/l	10	U	-		**0.86**	**J**	-		-	-	-	-	10	U	-	-	-	-	-	-	-	-	-	-	-	-
Dimethyl phthalate	12,000	ug/l	10	U	-		10	U	-		-	-	-	-	10	U	-	-	-	-	-	-	-	-	-	-	-	-
Di-n-butylphthalate	670	ug/l	10	U	-		10	U	-		-	-	-	-	10	U	-	-	-	-	-	-	-	-	-	-	-	-
Di-N-Octyl phthalate	160	ug/l	10	U	-		10	U	-		-	-	-	-	10	U	-	-	-	-	-	-	-	-	-	-	-	-
Fluoranthene	630	ug/l	10	U	-		10	U	-		-	-	-	-	10	U	-	-	-	-	-	-	-	-	-	-	-	-
Fluorene	220	ug/l	10	U	-		10	U	-		-	-	-	-	10	U	-	-	-	-	-	-	-	-	-	-	-	-
Hexachlorobenzene	1	ug/l	10	U	-		10	U	-		-	-	-	-	10	U	-	-	-	-	-	-	-	-	-	-	-	-
Hexachlorobutadiene, SVOC	2.6	ug/l	10	U	-		10	U	-		-	-	-	-	10	U	-	-	-	-	-	-	-	-	-	-	-	-
Hexachlorocyclopentadiene	50	ug/l	50	U	-		50	U	-		-	-	-	-	50	U	-	-	-	-	-	-	-	-	-	-	-	-
Hexachloroethane	5.1	ug/l	10	U	-		10	U	-		-	-	-	-	10	U	-	-	-	-	-	-	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	0.92	ug/l	10	U	-		10	U	-		-	-	-	-	10	U	-	-	-	-	-	-	-	-	-	-	-	-
Isophorone	670	ug/l	10	U	-		10	U	-		-	-	-	-	10	U	-	-	-	-	-	-	-	-	-	-	-	-
Naphthalene, SVOC	1.40	ug/l	10	U	-		10	U	-		-	-	-	-	10	U	-	-	-	-	-	-	-	-	-	-	-	-
Nitrobenzene	1.20	ug/l	10	U	-		10	U	-		-	-	-	-	10	U	-	-	-	-	-	-	-	-	-	-	-	-
N-Nitrosodi-n-propylamine	0.093	ug/l	10	U	-		10	U	-		-	-	-	-	10	U	-	-	-	-	-	-	-	-	-	-	-	-
N-Nitrosodiphenylamine	100	ug/l	10	U	-		10	U	-		-	-	-	-	10	U	-	-	-	-	-	-	-	-	-	-	-	-
Pentachlorophenol	1	ug/l	10	U	-		10	U	-		-	-	-	-	10	U	-	-	-	-	-	-	-	-	-	-	-	-
Phenanthrene	3,400	ug/l	10	U	-		10	U	-		-	-	-	-	10	U	-	-	-	-	-	-	-	-	-	-	-	-
Phenol	4,500	ug/l	10	U	-		10	U	-		-	-	-	-	10	U	-	-	-	-	-	-	-	-	-	-	-	-
Pyrene, SVOC	87	ug/l	10	U	-		10	U	-		-	-	-	-	10	U	-	-	-	-	-	-	-	-	-	-	-	-

TABLE 3.40
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS FOR UPPER AQUIFER
FORMER GM DELPHI HARRISON THERMAL SYSTEMS PLANT SITE
DAYTON, OHIO

	Voluntary Action Program GUPUS	Field Sample ID:	033		MW-26-04		007		9/21/2006-0		092012		121714		05182015		MW-3-02		006		041013		041013DP		121814		001		11/2/2006-0		092112		MW-72		03_4/10/2003		002		092412		Maximum Detected Concentration	
		Station:	MW-25-04		MW-26-04		MW-26-04		MW-26-04		MW-26-04		MW-26-04		MW-26-04		MW-3-02		MW-3-02		MW-3-02		MW-3-02		MW-3-02		MW-37-05		MW-37-05		MW-37-05		MW-72		MW-9-03		MW-9-03		MW-9-03			
		Date:	11/19/2004		3/26/2004		11/17/2004		9/21/2006		9/20/2012		12/17/2014		5/18/2015		4/18/2003		11/12/2004		4/10/2013		4/10/2013		12/18/2014		6/3/2005		11/2/2006		9/21/2012		2/25/2015		4/10/2003		11/15/2004		9/24/2012			
		Aquifer:	UA:WT		UA:WT		UA:WT		UA:WT		UA:WT		UA:WT		UA:WT		UA:WT		UA:WT		UA:WT		UA:WT		UA:WT		UA:TT		UA:TT		UA:TT		UA:WT		UA:WT		UA:WT		UA:WT			
SVOCs																																									
2,2-oxybis(1-Chloropropane)	3.1	ug/l	-		-		-		-		-		-		-		-		-		-		-		-		-		-		-		-		-		-		-	
2,2-oxybis(2-Chloropropane)	NA	ug/l	-		-		-		-		-		-		-		10	U	-		-		-		-		-		-		-		-		10	U	-		-	
2,4,5-Trichlorophenol	890	ug/l	-		-		-		-		-		-		-		10	U	-		-		-		-		-		-		-		-		10	U	-		-	
2,4,6-Trichlorophenol	9	ug/l	-		-		-		-		-		-		-		10	U	-		-		-		-		-		-		-		-		10	U	-		-	
2,4-Dichlorophenol	35	ug/l	-		-		-		-		-		-		-		10	U	-		-		-		-		-		-		-		-		10	U	-		-	
2,4-Dimethylphenol	270	ug/l	-		-		-		-		-		-		-		10	U	-		-		-		-		-		-		-		-		10	U	-		-	
2,4-Dinitrophenol	30	ug/l	-		-		-		-		-		-		-		50	U	-		-		-		-		-		-		-		-		50	UJ	-		-	
2,4-Dinitrotoluene	2	ug/l	-		-		-		-		-		-		-		10	U	-		-		-		-		-		-		-		-		10	U	-		-	
2,6-Dinitrotoluene	0.42	ug/l	-		-		-		-		-		-		-		10	U	-		-		-		-		-		-		-		-		10	U	-		-	
2-Chloronaphthalene	550	ug/l	-		-		-		-		-		-		-		10	U	-		-		-		-		-		-		-		-		10	U	-		-	
2-Chlorophenol	71	ug/l	-		-		-		-		-		-		-		10	U	-		-		-		-		-		-		-		-		10	U	-		-	
2-Methylnaphthalene	27	ug/l	-		-		-		-		-		-		-		10	U	-		-		-		-		-		-		-		-		10	U	-		-	
2-Methylphenol	720	ug/l	-		-		-		-		-		-		-		10	U	-		-		-		-		-		-		-		-		10	U	-		-	
2-Nitroaniline	NA	ug/l	-		-		-		-		-		-		-		50	U	-		-		-		-		-		-		-		-		50	U	-		-	
2-Nitrophenol	NA	ug/l	-		-		-		-		-		-		-		10	U	-		-		-		-		-		-		-		-		10	U	-		-	
3,3-Dichlorobenzidine	1.1	ug/l	-		-		-		-		-		-		-		50	U	-		-		-		-		-		-		-		-		50	U	-		-	
3-Nitroaniline	NA	ug/l	-		-		-		-		-		-		-		50	U	-		-		-		-		-		-		-		-		50	U	-		-	
4,6-Dinitro-2-methylphenol	1.2	ug/l	-		-		-		-		-		-		-		50	U	-		-		-		-		-		-		-		-		50	UJ	-		-	
4-Bromophenyl phenyl ether	NA	ug/l	-		-		-		-		-		-		-		10	U	-		-		-		-		-		-		-		-		10	U	-		-	
4-Chloro-3-methylphenol	1,100	ug/l	-		-		-		-		-		-		-		10	U	-		-		-		-		-		-		-		-		10	U	-		-	
4-Chloroaniline	3.2	ug/l	-		-		-		-		-		-		-		10	U	-		-		-		-		-		-		-		-		10	U	-		-	
4-Chlorophenyl phenyl ether	NA	ug/l	-		-		-		-		-		-		-		10	U	-		-		-		-		-		-		-		-		10	U	-		-	
4-Methylphenol	1,400	ug/l	-		-		-		-		-		-		-		10	U	-		-		-		-		-		-		-		-		10	U	-		-	
4-Nitroaniline	33	ug/l	-		-		-		-		-		-		-		50	U	-		-		-		-		-		-		-		-		50	U	-		-	
4-Nitrophenol	NA	ug/l	-		-		-		-		-		-		-		50	U	-		-		-		-		-		-		-		-		50	U	-		-	
Acenaphthene	400	ug/l	-		-		-		-		-		-		-		10	U	-		-		-		-		-		-		-		-		10	U	-		-	
Acenaphthylene	390	ug/l	-		-		-		-		-		-		-		10	U	-		-		-		-		-		-		-		-		10	U	-		-	
Acetophenone	1,500	ug/l	-		-		-		-		-		-		-		10	U	-		-		-		-		-		-		-		-		10	U	-		-	
Anthracene	1,300	ug/l	-		-		-		-		-		-		-		10	U	-		-		-		-		-		-		-		-		10	U	-		-	
Atrazine	NA	ug/l	-		-		-		-		-		-		-		10	U	-		-		-		-		-		-		-		-		10	U	-		-	
Benzaldehyde	NA	ug/l	-		-		-		-		-		-		-		10	U	-		-		-		-		-		-		-		-		10	U	-		-	
Benzo(a)anthracene	0.92	ug/l	-		-		-		-		-		-		-		10	U	-		-		-		-		-		-		-		-		10	U	-		-	
Benzo(a)pyrene	0.2	ug/l	-		-		-		-		-		-		-		10	U	-		-		-		-		-		-		-		-		10	U	-		-	
Benzo(b)fluoranthene	0.92	ug/l	-		-		-		-		-		-		-		10	U	-		-		-		-		-		-		-		-		10	U	-		-	
Benzo(g,h,i)perylene	470	ug/l	-		-		-		-		-		-		-		10	U	-		-		-		-		-		-		-		-		10	U	-		-	
Benzo(k)fluoranthene	9.2	ug/l	-		-		-		-		-		-		-		10	U	-		-		-		-		-		-		-		-		10	U	-		-	
Biphenyl	33	ug/l	-		-		-		-		-		-		-		10	U	-		-		-		-		-		-		-		-		10	U	-		-	
bis(2-Chloroethoxy)methane	46	ug/l	-		-		-		-		-		-		-		10	U	-		-		-		-		-		-		-		-		10	U	-		-	
bis(2-Chloroethyl)ether	0.12	ug/l	-		-		-		-		-		-		-		10	U	-		-		-		-		-		-		-		-		10	U	-		-	
bis(2-Ethylhexyl)phthalate	6	ug/l	-		-		-		-		-		-		-		10	U	-		-		-		-		-		-		-		-		10	U	-		-		**4.7**	**J**
Butyl benzylphthalate	140	ug/l	-		-		-		-		-		-		-		10	U	-		-		-		-		-		-		-		-		10	U	-		-		-	
Caprolactam	NA	ug/l	-		-		-		-		-		-		-		**84.6**		-		-		-		-		-		-		-		-		**250**		-		-		**470**	
Carbazole	17	ug/l	-		-		-		-		-		-		-		10	U	-		-		-		-		-		-		-		-		10	U	-		-		-	
Chrysene	92	ug/l	-		-		-		-		-		-		-		10	U	-		-		-		-		-		-		-		-		10	U	-		-		-	
Dibenz(a,h)anthracene	0.092	ug/l	-		-		-		-		-		-		-		10	U	-		-		-		-		-		-		-		-		10	U	-		-		-	
Dibenzofuran	5.8	ug/l	-		-		-		-		-		-		-		10	U	-		-		-		-		-		-		-		-		10	U	-		-		-	
Diethyl phthalate	11,000	ug/l	-		-		-		-		-		-		-		10	U	-		-		-		-		-		-		-		-		10	U	-		-		**0.86**	**J**
Dimethyl phthalate	12,000	ug/l	-		-		-		-		-		-		-		10	U	-		-		-		-		-		-		-		-		10	U	-		-		-	
Di-n-butylphthalate	670	ug/l	-		-		-		-		-		-		-		10	U	-		-		-		-		-		-		-		-		10	U	-		-		-	
Di-N-Octyl phthalate	160	ug/l	-		-		-		-		-		-		-		10	U	-		-		-		-		-		-		-		-		10	U	-		-		-	
Fluoranthene	630	ug/l	-		-		-		-		-		-		-		10	U	-		-		-		-		-		-		-		-		10	U	-		-		-	
Fluorene	220	ug/l	-		-		-		-		-		-		-		10	U	-		-		-		-		-		-		-		-		10	U	-		-		-	
Hexachlorobenzene	1	ug/l	-		-		-		-		-		-		-		10	U	-		-		-		-		-		-		-		-		10	U	-		-		-	
Hexachlorobutadiene, SVOC	2.6	ug/l	-		-		-		-		-		-		-		10	U	-		-		-		-		-		-		-		-		10	U	-		-		-	
Hexachlorocyclopentadiene	50	ug/l	-		-		-		-		-		-		-		50	U	-		-		-		-		-		-		-		-		50	U	-		-		-	
Hexachloroethane	5.1	ug/l	-		-		-		-		-		-		-		10	U	-		-		-		-		-		-		-		-		10	U	-		-		-	
Indeno(1,2,3-cd)pyrene	0.92	ug/l	-		-		-		-		-		-		-		10	U	-		-		-		-		-		-		-		-		10	U	-		-		-	
Isophorone	670	ug/l	-		-		-		-		-		-		-		10	U	-		-		-		-		-		-		-		-		10	U	-		-		-	
Naphthalene, SVOC	1.40	ug/l	-		-		-		-		-		-		-		10	U	-		-		-		-		-		-		-		-		10	U	-		-		-	
Nitrobenzene	1.20	ug/l	-		-		-		-		-		-		-		10	U	-		-		-		-		-		-		-		-		10	U	-		-		-	
N-Nitrosodi-n-propylamine	0.093	ug/l	-		-		-		-		-		-		-		10	U	-		-		-		-		-		-		-		-		10	U	-		-		-	
N-Nitrosodiphenylamine	100	ug/l	-		-		-		-		-		-		-		10	U	-		-		-		-		-		-		-		-		10	U	-		-		-	
Pentachlorophenol	1	ug/l	-		-		-		-		-		-		-		10	U	-		-		-		-		-		-		-		-		10	U	-		-		-	
Phenanthrene	3,400	ug/l	-		-		-		-		-		-		-		10	U	-		-		-		-		-		-		-		-		10	U	-		-		-	
Phenol	4,500	ug/l	-		-		-		-		-		-		-		10	U	-		-		-		-		-		-		-		-		10	U	-		-		-	
Pyrene, SVOC	87	ug/l	-		-		-		-		-		-		-		10	U	-		-		-		-		-		-		-		-		10	U	-		-		-	

TABLE 3.40
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS FOR UPPER AQUIFER
FORMER GM DELPHI HARRISON THERMAL SYSTEMS PLANT SITE
DAYTON, OHIO

	Voluntary Action Program GUPUS	Field Sample ID:	DAY-20		DAY-20		001		009		MW20-0-0601		HD-16		HD-16		HD-18		HD-18		001		9/15/2006-0		8/27/2007-0		8/27/2007-0-		MW-12A-03		MW-12B-03		024		MW-13A-03		004		092012		040913		121814	
		Station:	DAY-20		DAY-20		DAY-20		DAY-20		DAY-20		HD-16		HD-16		HD-18		HD-18		HD-18		HD-18		HD-18		HD-18		MW-12A-03		MW-12B-03		MW-12B-03		MW-13A-03		MW-13A-03		MW-13A-03		MW-13A-03		MW-13A-03	
		Date:	7/9/2002		4/7/2003		11/8/2004		11/10/2004		6/1/2006		7/9/2002		3/28/2003		7/16/2002		3/19/2003		11/16/2004		9/15/2006		8/27/2007		8/27/2007		4/15/2003		4/16/2003		11/17/2004		4/16/2003		11/17/2004		9/20/2012		4/9/2013		12/18/2014	
		Aquifer:	UA:WT		UA:WT		UA:WT		UA:WT		UA:WT		UA:TT		UA:TT		UA:TT		UA:TT		UA:TT		UA:TT		UA:TT		UA:TT		UA:WT		UA:TT		UA:TT		UA:WT		UA:WT		UA:WT		UA:WT		UA:WT	
PCBs																																													
Aroclor-1016	1.1	ug/l	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	UJ	-		-		-		0.2	U	0.2	U	0.2	UJ	0.2	U	0.2	UJ	-		0.5	U	0.5	U
Aroclor-1221	0.041	ug/l	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	-		-		-		0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	-		0.5	U	0.5	U
Aroclor-1232	0.041	ug/l	0.4	U	0.4	U	0.4	U	0.4	U	0.2	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	-		-		-		0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	-		0.5	U	0.5	U
Aroclor-1242	0.34	ug/l	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	-		-		-		0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	-		0.5	U	0.5	U
Aroclor-1248	0.34	ug/l	0.2	U	**0.13**	J	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	-		-		-		0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	-		0.5	U	0.5	U
Aroclor-1254	0.31	ug/l	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	-		-		-		**1.2**		0.2	U	0.2	U	0.2	U	0.2	U	-		0.5	U	0.5	U
Aroclor-1260	0.34	ug/l	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	-		-		-		0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	-		0.5	U	0.5	U
Total PCBs	0.5	ug/l	0.4	U	**0.13**	J	0.4	U	0.4	U	0.2	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	-		-		-		**1.2**		0.4	U	0.4	U	0.4	U	0.4	U	-		0.5	U	0.5	U
Metals																																												
Aluminum	NA	mg/l	-		-		-		-		-		-		-		-		-		-		-		-		-		-		-		-		-		-		-		-		-	
Antimony	0.006	mg/l	0.002	U	0.002	U	-		-		0.001	U	0.002	U	0.002	U	0.002	U	0.002	U	-		-		-		-		0.002	U	0.002	U	-		0.002	U	-		-		-		-	
Arsenic	0.01	mg/l	0.01	U	0.01	U	-		-		0.005	U	**0.0038**	J	0.01	U	0.01	U	**0.0027**	J	-		-		-		-		**0.0031**	J	0.01	U	-		0.01	U	-		-		-		-	
Barium	2	mg/l	**0.12**	J	**0.12**	J	-		-		-		**0.15**	J	**0.12**	J	**0.11**	J	**0.11**	J	-		-		-		-		**0.61**		**0.17**	J	-		**0.078**	J	-		-		-		-	
Beryllium	0.004	mg/l	0.001	U	0.001	U	-		-		0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	-		-		-		-		0.001	U	0.001	U	-		0.001	U	-		-		-		-	
Cadmium	0.005	mg/l	0.005	U	0.005	U	-		-		0.001	U	0.005	U	0.005	U	**0.0004**	J	0.005	U	-		-		-		-		0.005	U	0.005	U	-		0.005	U	-		-		-		-	
Calcium	NA	mg/l	-		-		-		-		-		**90.1**		-		**41.9**		-		-		-		-		-		-		-		-		-		-		-		-		-	
Chromium Total	0.100	mg/l	**0.0027**	J	0.01	U	-		-		0.002	U	**0.0025**	J	0.01	U	0.01	U	0.01	U	-		-		-		-		0.01	U	0.01	U	-		0.01	U	-		-		-		-	
Cobalt	0.005	mg/l	0.05	U	0.05	U	-		-		-		0.05	U	0.05	U	0.05	U	0.05	U	-		-		-		-		0.05	U	**0.00077**	J	-		0.05	U	-		-		-		-	
Copper	1.30	mg/l	0.025	U	0.025	U	-		-		0.005	U	**0.031**		0.025	U	0.025	U	**0.0023**	J	-		-		-		-		0.025	U	**0.0036**	J	-		0.025	U	-		-		-		-	
Cyanide (total)	0.200	mg/l	0.01	U	0.01	U	-		-		-		0.01	U	0.01	U	0.01	U	0.01	U	-		-		-		-		0.01	U	0.01	U	-		0.01	U	-		-		-		-	
Iron	NA	mg/l	-		-		-		-		-		**0.17**		-		**0.12**		-		-		-		-		-		-		-		-		-		-		-		-		-	
Lead	0.015	mg/l	0.003	U	0.003	U	-		-		0.001	U	0.003	U	0.003	U	0.003	U	0.003	U	-		-		-		-		0.003	U	**0.002**	J	-		0.003	U	-		-		-		-	
Magnesium	NA	mg/l	-		-		-		-		-		**37.4**		-		**27.3**		-		-		-		-		-		-		-		-		-		-		-		-		-	
Manganese	NA	mg/l	**0.0079**	J	**0.027**		**0.3**		-		-		0.015	U	0.015	U	**0.036**		**0.022**		**0.0059**	J	-		-		-		**0.46**		**0.21**		-		**0.031**		-		-		-		-	
Mercury	0.002	mg/l	0.0002	U	0.0002	U	-		-		0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	-		-		-		-		0.0002	U	0.0002	U	-		0.0002	U	-		-		-		-	
Nickel	0	mg/l	0.04	U	0.04	U	-		-		0.005	U	0.04	U	0.04	U	0.04	U	0.04	U	-		-		-		-		0.04	U	0.04	U	-		0.04	U	-		-		-		-	
Potassium	NA	mg/l	-		-		-		-		-		**5.2**		-		**2.7**	J	-		-		-		-		-		-		-		-		-		-		-		-		-	
Selenium	0.050	mg/l	0.005	U	0.005	U	-		-		0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	-		-		-		-		0.005	U	0.005	U	-		0.005	U	-		-		-		-	
Silver	0.071	mg/l	0.01	U	0.01	U	-		-		0.0005	U	0.01	U	0.01	U	0.01	U	0.01	U	-		-		-		-		0.01	U	0.01	U	-		0.01	U	-		-		-		-	
Sodium	NA	mg/l	-		-		-		-		-		**89.4**		-		**37**		-		-		-		-		-		-		-		-		-		-		-		-		-	
Thallium	0.002	mg/l	0.001	U	0.001	U	-		-		0.001	U	0.001	U	0.001	U	0.001	U	0.001	U	-		-		-		-		0.001	U	0.001	U	-		0.001	U	-		-		-		-	
Vanadium	0.063	mg/l	0.05	U	0.05	U	-		-		-		0.05	U	0.05	U	0.05	U	0.05	U	-		-		-		-		0.05	U	**0.0013**	J	-		0.05	U	-		-		-		-	
Zinc	4.7	mg/l	0.02	U	0.02	U	-		-		0.05	U	0.02	U	0.02	U	0.02	U	0.02	U	-		-		-		-		**0.017**	J	0.02	U	-		0.02	U	-		-		-		-	

TABLE 3.40
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS FOR UPPER AQUIFER
FORMER GM DELPHI HARRISON THERMAL SYSTEMS PLANT SITE
DAYTON, OHIO

	Voluntary Action Program GUPUS	Field Sample ID:	MW-13B-03		022		GJL-144		AC-028		092112		PCB-092512		MW-14B-04		003		1/23/2006-0		MW-23-04		005		002		003		11/2/2006-0		092112		121814		05182015		MW-24-04		092112 DUP		092112		MW-25-04	
		Station:	MW-13B-03		MW-13B-03		MW-14A-03		MW-14A-03		MW-14A-03		MW-14A-03		MW-14B-04		MW-14B-04		MW-14B-04		MW-23-04		MW-23-04		MW-23-04		MW-23-04		MW-23-04		MW-23-04		MW-23-04		MW-24-04		MW-24-04		MW-24-04		MW-25-04	
		Date:	4/17/2003		11/17/2004		4/18/2003		11/18/2004		9/21/2012		9/25/2012		3/30/2004		11/18/2004		1/23/2006		3/30/2004		11/17/2004		4/1/2005		4/1/2005		11/2/2006		9/21/2012		12/18/2014		5/18/2015		3/25/2004		9/21/2012		3/26/2004	
		Aquifer:	UA:TT		UA:TT		UA:WT		UA:WT		UA:WT		UA:WT		UA:TT		UA:TT		UA:TT		UA:WT		UA:WT		UA:WT		UA:WT		UA:WT		UA:WT		UA:WT		UA:WT		UA:WT		UA:WT		UA:WT	
PCBs																																											
Aroclor-1016	1.1	ug/l	0.2	U	0.2	UJ	0.2	UJ	-		-		0.5	U	0.2	U	-		0.2	U	0.2	U	0.2	UJ	-		-		-		-		0.5	U	0.5	U	0.2	U	0.5	U	0.5	U	0.2	U
Aroclor-1221	0.041	ug/l	0.2	U	0.2	U	0.2	UJ	-		-		0.5	U	0.2	U	-		0.2	U	0.2	U	0.2	U	-		-		-		-		0.5	U	0.5	U	0.2	U	0.5	U	0.5	U	0.2	U
Aroclor-1232	0.041	ug/l	0.4	U	0.4	U	0.4	UJ	-		-		0.5	U	0.4	U	-		0.4	U	0.4	U	0.4	U	-		-		-		-		0.5	U	0.5	U	0.4	U	0.5	U	0.5	U	0.4	U
Aroclor-1242	0.34	ug/l	0.2	U	0.2	U	0.2	UJ	-		-		0.5	U	0.2	U	-		0.2	U	0.2	U	0.2	U	-		-		-		-		0.5	U	0.5	U	0.2	U	0.5	U	0.5	U	0.2	U
Aroclor-1248	0.34	ug/l	0.2	U	0.2	U	0.2	UJ	-		-		0.5	U	0.2	U	-		0.2	U	0.2	U	0.2	U	-		-		-		-		0.5	U	0.5	U	0.2	U	0.5	U	0.5	U	0.2	U
Aroclor-1254	0.31	ug/l	0.2	U	0.2	U	**0.11**	**J**	-		-		0.5	U	0.2	U	-		**0.048**	**J**	0.2	U	0.2	U	-		-		-		-		0.5	U	**0.75**		0.2	U	0.5	U	0.5	U	0.2	U
Aroclor-1260	0.34	ug/l	0.2	U	0.2	U	0.2	UJ	-		-		0.5	U	0.2	U	-		0.2	U	0.2	U	0.2	U	-		-		-		-		0.5	U	0.5	U	0.2	U	0.5	U	0.5	U	0.2	U
Total PCBs	0.5	ug/l	0.4	U	0.4	U	**0.11**	**J**	-		-		0.5	U	0.4	U	-		-		0.4	U	0.4	U	-		-		-		-		0.5	U	**0.75**		0.4	U	0.5	U	0.5	U	0.4	U
Metals																																											
Aluminum	NA	mg/l	-		-		-		-		**0.136**		-		-		-		-		-		-		-		-		-		0.1	U	-		-		-		0.1	U	0.1	U	-	
Antimony	0.006	mg/l	0.002	U	-		0.002	U	-		0.005	U	-		0.002	U	-		0.06	U	0.002	U	-		-		-		-		0.005	U	-		-		0.002	U	0.005	U	0.005	U	0.002	U
Arsenic	0.01	mg/l	**0.0029**	**J**	-		**0.0035**	**J**	-		**0.0106**		-		**0.0034**	**J**	-		**0.0021**	**J**	**0.0044**	**J**	-		-		-		-		**0.00772**		-		-		**0.02**		**0.0234**		**0.0233**		**0.0029**	**J**
Barium	2	mg/l	**0.064**	**J**	-		**0.41**		-		**0.603**		-		**0.062**	**J**	-		**0.0685**	**J**	**0.18**	**J**	-		-		-		-		**0.216**		-		-		**0.62**		**0.79**		**0.833**		**0.32**	
Beryllium	0.004	mg/l	0.001	U	-		0.001	U	-		0.0005	U	-		0.001	U	-		0.005	U	0.001	U	-		-		-		-		0.0005	U	-		-		0.001	U	0.0005	U	0.0005	U	0.001	U
Cadmium	0.005	mg/l	0.005	U	-		**0.0028**	**J**	-		0.002	U	-		0.005	U	-		0.005	U	0.005	U	-		-		-		-		0.002	U	-		-		**0.00056**	**J**	0.002	U	0.002	U	0.005	U
Calcium	NA	mg/l	-		-		-		-		**143**		-		-		-		-		-		-		-		-		**151**		**176**		-		-		-		**158**		**167**		-	
Chromium Total	0.100	mg/l	0.0019	U	-		0.01	U	-		0.005	U	-		0.01	U	-		0.01	U	0.01	U	-		-		-		-		**0.00772**		-		-		0.01	U	**0.00516**		**0.00534**		0.01	U
Cobalt	0.005	mg/l	**0.001**	**J**	-		0.05	U	-		0.005	U	-		0.05	U	-		0.05	U	0.05	U	-		-		-		-		0.005	U	-		-		0.05	U	0.005	U	0.005	U	0.05	U
Copper	1.30	mg/l	0.025	U	-		0.025	U	-		**0.00643**		-		0.025	U	-		0.025	U	0.025	U	-		-		-		-		0.005	U	-		-		0.025	U	0.005	U	0.005	U	**0.0028**	**J**
Cyanide (total)	0.200	mg/l	0.01	U	-		**0.024**		-		-		-		0.01	U	-		-		0.01	U	-		-		-		-		-		-		-		0.01	U	-		-		0.01	U
Iron	NA	mg/l	-		-		-		-		**7.01**		-		-		-		-		-		-		-		-		**17.1**		**12.6**		-		-		-		**1.41**		**1.48**		-	
Lead	0.015	mg/l	0.003	U	-		0.003	U	-		0.005	U	-		0.003	U	-		**0.0009**	**J**	0.003	U	-		-		-		-		0.005	U	-		-		0.003	U	0.005	U	0.005	U	0.003	U
Magnesium	NA	mg/l	-		-		-		-		**34.7**		-		-		-		-		-		-		-		-		**22.3**		**25.3**		-		-		-		**23.8**		**25.1**		-	
Manganese	NA	mg/l	**0.06**		-		**1.5**	**J**	-		**0.951**		-		**0.009**	**J**	-		0.015	U	**0.3**		-		-		-		**1.1**		**1.09**		-		-		**0.59**		**0.538**		**0.566**		**1.4**	**J**
Mercury	0.002	mg/l	0.0002	U	-		0.0002	U	-		0.0002	U	-		0.0002	U	-		0.0002	U	0.0002	U	-		-		-		-		0.0002	U	-		-		0.0002	U	0.0002	U	0.0002	U	0.0002	U
Nickel	0	mg/l	0.04	U	-		**0.0033**	**J**	-		**0.00547**		-		0.04	U	-		0.04	U	0.04	U	-		-		-		-		**0.0094**		-		-		**0.0051**	**J**	**0.00748**		**0.00875**		**0.0093**	**J**
Potassium	NA	mg/l	-		-		-		-		**11.1**		-		-		-		-		-		-		-		-		**10.1**		**18.4**		-		-		-		**55.4**		**58**		-	
Selenium	0.050	mg/l	0.005	U	-		0.005	U	-		0.01	U	-		0.005	U	-		**0.00091**	**J**	0.005	U	-		-		-		-		0.01	U	-		-		0.005	U	0.01	U	0.01	U	0.005	U
Silver	0.071	mg/l	0.01	U	-		0.01	U	-		0.002	U	-		0.01	U	-		0.01	U	0.01	U	-		-		-		-		0.002	U	-		-		0.01	U	0.002	U	0.002	U	**0.00089**	**J**
Sodium	NA	mg/l	-		-		-		-		**29.7**		-		-		-		-		-		-		-		-		**45.8**		**75.8**		-		-		-		**36.1**		**38.4**		-	
Thallium	0.002	mg/l	0.001	U	-		0.001	U	-		0.001	U	-		0.001	U	-		0.01	U	0.001	U	-		-		-		-		0.001	U	-		-		0.001	U	0.001	U	0.001	U	0.001	U
Vanadium	0.063	mg/l	0.05	U	-		0.05	U	-		0.005	U	-		0.05	U	-		0.05	U	0.05	U	-		-		-		-		0.005	U	-		-		0.05	U	0.005	U	0.005	U	0.05	U
Zinc	4.7	mg/l	**0.017**	**J**	-		0.02	U	-		**0.0565**		-		0.02	U	-		0.02	U	0.02	U	-		-		-		-		0.01	U	-		-		0.02	U	0.01	U	0.01	U	0.02	U

TABLE 3.40
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS FOR UPPER AQUIFER
FORMER GM DELPHI HARRISON THERMAL SYSTEMS PLANT SITE
DAYTON, OHIO

	Voluntary Action Program GUPUS	Field Sample ID:	033		MW-26-04		007		9/21/2006-0		092012		121714		05182015		MW-3-02		006		041013		041013DP		121814		001		11/2/2006-0		092112		MW-72		03_4/10/2003		002		092412		Maximum Detected Concentration	
		Station:	MW-25-04		MW-26-04		MW-26-04		MW-26-04		MW-26-04		MW-26-04		MW-26-04		MW-3-02		MW-3-02		MW-3-02		MW-3-02		MW-3-02		MW-37-05		MW-37-05		MW-37-05		MW-72		MW-9-03		MW-9-03		MW-9-03			
		Date:	11/19/2004		3/26/2004		11/17/2004		9/21/2006		9/20/2012		12/17/2014		5/18/2015		4/18/2003		11/12/2004		4/10/2013		4/10/2013		12/18/2014		6/3/2005		11/2/2006		9/21/2012		2/25/2015		4/10/2003		11/15/2004		9/24/2012			
		Aquifer:	UA:WT		UA:WT		UA:WT		UA:WT		UA:WT		UA:WT		UA:WT		UA:WT		UA:WT		UA:WT		UA:WT		UA:WT		UA:TT		UA:TT		UA:TT		UA:WT		UA:WT		UA:WT			
PCBs																																									
Aroclor-1016	1.1	ug/l	0.2	U	0.2	UJ	0.2	UJ	-		0.5	U	0.5	U	0.5	U	0.4	U	0.2	U	0.5	U	0.5	U	0.5	U	-		-		-		0.5	U	0.2	UJ	0.2	U	-		-	
Aroclor-1221	0.041	ug/l	0.2	U	0.2	UJ	0.2	U	-		0.5	U	0.5	U	0.5	U	0.4	U	0.2	U	0.5	U	0.5	U	0.5	U	-		-		-		0.5	U	0.2	UJ	0.2	U	-		-	
Aroclor-1232	0.041	ug/l	0.4	U	0.4	UJ	0.4	U	-		0.5	U	0.5	U	0.5	U	0.8	U	0.4	U	0.5	U	0.5	U	0.5	U	-		-		-		0.5	U	0.4	UJ	0.4	U	-		-	
Aroclor-1242	0.34	ug/l	0.2	U	0.2	UJ	0.2	U	-		0.5	U	0.5	U	0.5	U	0.4	U	0.2	U	0.5	U	0.5	U	0.5	U	-		-		-		0.5	U	0.2	UJ	0.2	U	-		-	
Aroclor-1248	0.34	ug/l	0.2	U	0.2	UJ	0.2	U	-		0.5	U	0.5	U	0.5	U	0.4	U	0.2	U	0.5	U	0.5	U	0.5	U	-		-		-		0.5	U	0.2	UJ	0.2	U	-		**0.13**	**J**
Aroclor-1254	0.31	ug/l	0.2	U	0.2	UJ	0.2	U	-		0.5	U	0.5	U	0.5	U	**5.7**		**1.2**		**2.17**		**1.73**		**2.3**		-		-		-		**1.03**		0.2	UJ	0.2	U	-		**5.7**	
Aroclor-1260	0.34	ug/l	0.2	U	0.2	UJ	0.2	U	-		0.5	U	0.5	U	0.5	U	0.4	U	0.2	U	0.5	U	0.5	U	0.5	U	-		-		-		0.5	U	0.2	UJ	0.2	U	-		-	
Total PCBs	0.5	ug/l	0.4	U	0.4	UJ	0.4	U	-		0.5	U	0.5	U	0.5	U	**5.7**		**1.2**		**2.17**		**1.73**		**2.3**		-		-		**1.03**		0.4	UJ	0.4	U	-		**5.7**	
Metals																																									
Aluminum	NA	mg/l	-		-		-		-		**0.128**		-		-		-		-		-		-		-		-		-		-		-		-		-		**0.136**	
Antimony	0.006	mg/l	-		0.002	U	-		-		0.005	U	-		-		0.002	U	-		-		-		-		-		-		-		-		0.002	U	-		-	
Arsenic	0.01	mg/l	-		**0.011**		-		-		**0.00726**		-		-		0.01	U	-		-		-		-		-		-		-		-		0.01	U	-		**0.0234**	
Barium	2	mg/l	-		**1.1**		-		-		**0.523**		-		-		**0.091**	**J**	-		-		-		-		-		-		-		-		**0.19**	**J**	-		**1.1**	
Beryllium	0.004	mg/l	-		0.001	U	-		-		0.0005	U	-		-		0.001	U	-		-		-		-		-		-		-		-		0.001	U	-		-	
Cadmium	0.005	mg/l	-		0.005	U	-		-		0.002	U	-		-		**0.00028**	**J**	-		-		-		-		-		-		-		-		0.005	U	-		**0.0028**	**J**
Calcium	NA	mg/l	-		-		-		-		**70.9**		-		-		-		-		-		-		-		-		**196**		-		-		-		-		**196**	
Chromium Total	0.100	mg/l	-		0.01	U	-		-		0.005	U	-		-		0.01	U	-		-		-		-		-		-		-		-		0.01	U	-		**0.00772**	
Cobalt	0.005	mg/l	-		0.05	U	-		-		0.005	U	-		-		0.05	U	-		-		-		-		-		-		-		-		0.05	U	-		**0.001**	**J**
Copper	1.30	mg/l	-		0.025	U	-		-		0.005	U	-		-		0.025	U	-		-		-		-		-		-		-		-		0.025	U	-		**0.031**	
Cyanide (total)	0.200	mg/l	-		0.01	U	-		-		-		-		-		0.01	U	-		-		-		-		-		-		-		-		0.01	U	-		**0.024**	
Iron	NA	mg/l	-		-		-		-		**1.21**		-		-		-		-		-		-		-		-		**0.12**		-		-		-		-		**17.1**	
Lead	0.015	mg/l	-		0.003	U	-		-		0.005	U	-		-		0.003	U	-		-		-		-		-		-		-		-		0.003	U	-		**0.002**	**J**
Magnesium	NA	mg/l	-		-		-		-		**27.4**		-		-		-		-		-		-		-		-		**0.27**	**J**	-		-		-		-		**37.4**	
Manganese	NA	mg/l	-		**1.3**	**J**	**1**		-		**0.605**		-		-		**0.13**		-		-		-		-		-		0.015	U	-		-		**0.41**		-		**1.5**	**J**
Mercury	0.002	mg/l	-		0.0002	U	-		-		0.0002	U	-		-		0.0002	U	-		-		-		-		-		-		-		-		0.0002	U	-		-	
Nickel	0	mg/l	-		**0.0063**	**J**	-		-		0.005	U	-		-		0.04	U	-		-		-		-		-		-		-		-		0.04	U	-		**0.0094**	
Potassium	NA	mg/l	-		-		-		-		**2.73**		-		-		-		-		-		-		-		-		**37**		-		-		-		-		**58**	
Selenium	0.050	mg/l	-		0.005	U	-		-		0.01	U	-		-		0.005	U	-		-		-		-		-		-		-		-		0.005	U	-		**0.00091**	**J**
Silver	0.071	mg/l	-		0.01	UJ	-		-		0.002	U	-		-		0.01	U	-		-		-		-		-		-		-		-		0.01	U	-		**0.00089**	**J**
Sodium	NA	mg/l	-		-		-		-		**16.7**		-		-		-		-		-		-		-		-		**42**		-		-		-		-		**89.4**	
Thallium	0.002	mg/l	-		0.001	U	-		-		0.001	U	-		-		0.001	U	-		-		-		-		-		-		-		-		0.001	U	-		-	
Vanadium	0.063	mg/l	-		0.05	U	-		-		0.005	U	-		-		0.05	U	-		-		-		-		-		-		-		-		0.05	U	-		**0.0013**	**J**
Zinc	4.7	mg/l	-		0.02	U	-		-		0.01	U	-		-		0.02	U	-		-		-		-		-		-		-		-		0.02	U	-		**0.0565**	

Notes:
Shaded/Bolded values indicate concentration exceeds the Voluntary Action Program Generic Unrestricted Potable Use Standard
Total PCBs value is the sum of all positively detectec
- = Not analyzed or not available
µg/L = micrograms per kilogram
B = Parameter found in the method blank above the method detection limit and qual
GUPUS = Generic Unrestricted Pol
D = Result was obtained from the a
J = Result is estimated
R = The result was rejected due to a quality control issue. Parameter may or may n
SVOC = Semi-volatile organic compounds
U = Parameter not detected, reporting limit is presen
UA = Upper Aquifer
UA:TT = Upper Aqufier Top of Till
UA:WT = Upper Aquifer Water Table
VOC = Volatile organic compound

TABLE 3.41
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS FOR TILL-RICH ZONE
FORMER GM DELPHI HARRISON THERMAL SYSTEMS PLANT SITE, EAST PHASE
DAYTON, OHIO

	Voluntary Action Program GUPUS	Field Sample ID:	WG-060205-CB-002		WG-060205-CB-003		MW-36-05-11/7/2006-0		Maximum Detected Concentration	
		Station:	MW-36-05		MW-36-05		MW-36-05			
		Date:	6/2/2005		6/2/2005		11/7/2006			
		Aquifer:	TR		TR		TR			
VOCs										
1,1,1-Trichloroethane	200	ug/l	5	U	5	U	5	U	-	
1,1,2,2-Tetrachloroethane	0.66	ug/l	5	U	5	U	5	U	-	
1,1,2-Trichloroethane	5	ug/l	5	U	5	U	5	U	-	
1,1-Dichloroethane	24	ug/l	5	U	5	U	5	U	-	
1,1-Dichloroethene	7	ug/l	5	U	5	U	5	U	-	
1,2,4-Trichlorobenzene, VOC	70	ug/l	25	U	25	U	5	U	-	
1,2-Dibromo-3-chloropropane	0.2	ug/l	5	U	5	U	5	U	-	
1,2-Dibromoethane	0.05	ug/l	5	U	5	U	5	U	-	
1,2-Dichlorobenzene, VOC	600	ug/l	5	U	5	U	5	U	-	
1,2-Dichloroethane	5	ug/l	5	U	5	U	5	U	-	
1,2-Dichloropropane	5	ug/l	5	U	5	U	5	U	-	
1,3-Dichlorobenzene, VOC	NA	ug/l	5	U	5	U	5	U	-	
1,4-Dichlorobenzene, VOC	75	ug/l	5	U	5	U	5	U	-	
2-Butanone	4,900	ug/l	120	U	120	U	50	U	-	
2-Hexanone	NA	ug/l	250	U	250	U	50	U	-	
4-Methyl-2-Pentanone	1,000	ug/l	250	U	250	U	50	U	-	
Acetone	12,000	ug/l	120	U	120	U	50	UJ	-	
Benzene	5	ug/l	5	U	5	U	5	U	-	
Bromodichloromethane	80	ug/l	5	U	5	U	5	U	-	
Bromoform	80	ug/l	5	U	5	U	5	U	-	
Bromomethane	7	ug/l	5	U	5	U	5	U	-	
Carbon disulfide	720	ug/l	25	U	25	U	5	U	-	
Carbon tetrachloride	5	ug/l	5	U	5	U	5	U	-	
Chlorobenzene	100	ug/l	5	U	5	U	5	U	-	
Chloroethane	21,000	ug/l	5	U	5	U	5	U	-	
Chloroform	80	ug/l	**0.95**	**J**	5	U	5	U	**0.95**	**J**
Chloromethane	190	ug/l	5	U	5	U	5	U	-	
cis-1,2-Dichloroethene	70	ug/l	**11**		**12**		**72**		**72**	
cis-1,3-Dichloropropene	NA	ug/l	5	U	5	U	5	U	-	
Cyclohexane	13,000	ug/l	5	U	5	U	5	U	-	
Dibromochloromethane	80	ug/l	5	U	5	U	5	U	-	
Dichlorodifluoromethane	2,800	ug/l	5	U	5	U	5	U	-	
Ethylbenzene	700	ug/l	5	U	5	U	5	U	-	
Isopropylbenzene, VOC	390	ug/l	25	U	25	U	5	U	-	
Methyl acetate	NA	ug/l	50	U	50	U	50	U	-	
Methyl cyclohexane	NA	ug/l	5	U	5	U	5	U	-	
Methyl tert butyl ether	120	ug/l	25	U	25	U	25	U	-	
Methylene chloride	5	ug/l	25	U	25	U	25	U	-	
Styrene	100	ug/l	5	U	5	U	5	U	-	
Tetrachloroethene	5	ug/l	**12**		**11**		**13**		**13**	
Toluene	1,000	ug/l	5	U	5	U	5	U	-	
trans-1,2-Dichloroethene	100	ug/l	5	U	5	U	**3.2**	**J**	**3.2**	**J**
trans-1,3-Dichloropropene	NA	ug/l	5	U	5	U	5	U	-	
Trichloroethene	5	ug/l	**190**		**190**		**110**		**190**	
Trichlorofluoromethane	1,100	ug/l	5	U	5	U	5	U	-	

TABLE 3.41
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS FOR TILL-RICH ZONE
FORMER GM DELPHI HARRISON THERMAL SYSTEMS PLANT SITE, EAST PHASE
DAYTON, OHIO

	Voluntary Action Program GUPUS	Field Sample ID:	WG-060205-CB-002		WG-060205-CB-003		MW-36-05-11/7/2006-0		Maximum Detected Concentration	
		Station:	MW-36-05		MW-36-05		MW-36-05			
		Date:	6/2/2005		6/2/2005		11/7/2006			
		Aquifer:	TR		TR		TR			
Trifluorotrichloroethane	NA	ug/l	5	U	5	U	5	U	-	
Vinyl chloride	2	ug/l	5	U	5	U	5	U	-	
Xylene (Total)	10,000	ug/l	10	U	10	U	10	U	-	
Metals										
Calcium	NA	mg/l	-		-		**62.4**		**62.4**	
Iron	NA	mg/l	-		-		**1.2**		**1.2**	
Magnesium	NA	mg/l	-		-		**24.1**		**24.1**	
Manganese	NA	mg/l	-		-		**0.051**		**0.051**	
Potassium	NA	mg/l	-		-		**2.9**	**J**	**2.9**	**J**
Sodium	NA	mg/l	-		-		**37.6**		**37.6**	

Notes:

Shaded/Bolded values indicate concentration exceeds the Voluntary Action Program Generic Numerical Standard

- = Not analyzed or not available
µg/L = micrograms per kilogram
GUPUS = Generic Unrestricted Potable Use Standards
J = Result is estimated
SVOC = Semi-volatile organic compounds
TR = Till rich aquifer
U = Parameter not detected, reporting limit is presented
VOC = Volatile organic compound

TABLE 3.42
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS FOR LOWER AQUIFER
FORMER GM DELPHI HARRISON THERMAL SYSTEMS PLANT SITE, EAST PHASE
DAYTON, OHIO

	Voluntary Action Program GUPUS	Field Sample ID:	WG-060205-CB-001		MW-39-05-9/25/2006-0		CTA-Geotherm-1		CTA-G-032510-01		CTA-G-041310-01		CTA-GEO-100629		CTA-100913-GEO		CTA-101230-GEO		CTA-032311-GEO	
		Station:	MW-39-05		MW-39-05		TT-Geothermal		TT-Geothermal		TT-Geothermal		TT-Geothermal		TT-Geothermal		TT-Geothermal		TT-Geothermal	
		Date:	6/2/2005		9/25/2006		5/8/2009		3/25/2010		4/13/2010		6/29/2010		9/13/2010		12/30/2010		3/23/2011	
		Aquifer:	LA		LA		LA		LA		LA		LA		LA		LA		LA	
VOCs																				
1,1,1,2-Tetrachloroethane	5	ug/l	-		-		5	U	-		-		-		-		-		-	
1,1,1-Trichloroethane	200	ug/l	1	U	1	U	5	U	-		-		-		-		-		-	
1,1,2,2-Tetrachloroethane	0.66	ug/l	1	U	1	U	5	U	-		-		-		-		-		-	
1,1,2-Trichloroethane	5	ug/l	1	U	1	U	5	U	-		-		-		-		-		-	
1,1-Dichloroethane	24	ug/l	1	U	1	U	5	U	-		-		-		-		-		-	
1,1-Dichloroethene	7	ug/l	1	U	1	U	5	U	-		-		-		-		-		-	
1,1-Dichloropropene	NA	ug/l	-		-		5	U	-		-		-		-		-		-	
1,2,3-Trichloropropane	0.02	ug/l	-		-		-		-		-		-		-		-		-	
1,2,4-Trichlorobenzene, VOC	70	ug/l	5	U	1	U	-		-		-		-		-		-		-	
1,2,4-Trimethylbenzene	15	ug/l	-		-		-		-		-		-		-		-		-	
1,2-Dibromo-3-chloropropane	0.20	ug/l	1	U	1	U	-		-		-		-		-		-		-	
1,2-Dibromoethane	0.05	ug/l	1	U	1	U	5	U	-		-		-		-		-		-	
1,2-Dichlorobenzene, VOC	600	ug/l	1	U	1	U	-		-		-		-		-		-		-	
1,2-Dichloroethane	5	ug/l	1	U	1	U	5	U	-		-		-		-		-		-	
1,2-Dichloropropane	5	ug/l	1	U	1	U	5	U	-		-		-		-		-		-	
1,3,5-Trimethylbenzene	87	ug/l	-		-		-		-		-		-		-		-		-	
1,3-Dichlorobenzene, VOC	NA	ug/l	1	U	1	U	-		-		-		-		-		-		-	
1,3-Dichloropropane	290	ug/l	-		-		5	U	-		-		-		-		-		-	
1,4-Dichlorobenzene, VOC	75	ug/l	1	U	1	U	-		-		-		-		-		-		-	
2,2-Dichloropropane	NA	ug/l	-		-		5	U	-		-		-		-		-		-	
2-Butanone	4,900	ug/l	25	U	10	UJ	20	U	-		-		-		-		-		-	
2-Chloroethyl vinyl ether	NA	ug/l	-		-		10	U	-		-		-		-		-		-	
2-Chlorotoluene	NA	ug/l	-		-		5	U	-		-		-		-		-		-	
2-Hexanone	NA	ug/l	50	UJ	10	UJ	20	U	-		-		-		-		-		-	
2-Phenylbutane	NA	ug/l	-		-		-		-		-		-		-		-		-	
4-Chlorotoluene	NA	ug/l	-		-		5	U	-		-		-		-		-		-	
4-Methyl-2-Pentanone	1,000	ug/l	50	U	10	UJ	20	U	-		-		-		-		-		-	
Acetone	12,000	ug/l	25	UJ	10	UJ	20	U	-		-		-		-		-		-	
Acetonitrile	130	ug/l	-		-		40	U	-		-		-		-		-		-	
Acrolein	0.041	ug/l	-		-		20	U	-		-		-		-		-		-	
Acrylonitrile	0.450	ug/l	-		-		20	U	-		-		-		-		-		-	
Allyl chloride	2.1	ug/l	-		-		5	U	-		-		-		-		-		-	
Benzene	5	ug/l	1	U	1	U	5	U	-		-		-		-		-		-	
Bromobenzene	NA	ug/l	-		-		5	U	-		-		-		-		-		-	
Bromochloromethane	NA	ug/l	-		-		5	U	-		-		-		-		-		-	
Bromodichloromethane	80	ug/l	1	U	1	U	5	U	-		-		-		-		-		-	
Bromoform	80	ug/l	1	U	1	U	5	U	-		-		-		-		-		-	
Bromomethane	7	ug/l	1	U	1	UJ	5	U	-		-		-		-		-		-	
Carbon disulfide	720	ug/l	5	U	1	U	20	U	-		-		-		-		-		-	
Carbon tetrachloride	5	ug/l	1	U	1	U	5	U	-		-		-		-		-		-	
Chlorobenzene	100	ug/l	1	U	1	U	5	U	-		-		-		-		-		-	
Chloroethane	21,000	ug/l	1	U	1	UJ	5	U	-		-		-		-		-		-	
Chloroform	80	ug/l	1	U	1	U	5	U	-		-		-		-		-		-	
Chloromethane	190	ug/l	1	U	1	UJ	5	U	-		-		-		-		-		-	
cis-1,2-Dichloroethane	NA	ug/l	-		-		5	U	-		-		-		-		-		-	
cis-1,2-Dichloroethene	70	ug/l	1	U	**1.2**		-		1.00	U	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U
cis-1,3-Dichloropropene	NA	ug/l	1	UJ	1	U	5	U	-		-		-		-		-		-	

TABLE 3.42
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS FOR LOWER AQUIFER
FORMER GM DELPHI HARRISON THERMAL SYSTEMS PLANT SITE, EAST PHASE
DAYTON, OHIO

	Voluntary Action Program GUPUS	Field Sample ID:	CTA-090811-GEO-2		CTA-121411-GEO		CTA-031612-GEO		CTA-061411-GEO		CTA-081712-GEO		CTA-092713-GEO		CTA-090414-GEO		CTA-100314-GEO		Maximum Detected Concentration	
		Station:	TT-Geothermal		TT-Geothermal		TT-Geothermal		TT-Geothermal		TT-Geothermal		TT-Geothermal		TT-Geothermal		TT-Geothermal			
		Date:	9/8/2011		12/14/2011		3/16/2012		6/14/2012		8/17/2012		9/27/2013		9/4/2014		10/3/2014			
		Aquifer:	LA		LA		LA		LA		LA		LA		LA		LA			
VOCs																				
1,1,1,2-Tetrachloroethane	5	ug/l	-		-		-		-		-		-		-		-		-	
1,1,1-Trichloroethane	200	ug/l	-		-		-		-		-		-		-		-		-	
1,1,2,2-Tetrachloroethane	0.66	ug/l	-		-		-		-		-		-		-		-		-	
1,1,2-Trichloroethane	5	ug/l	-		-		-		-		-		-		-		-		-	
1,1-Dichloroethane	24	ug/l	-		-		-		-		-		-		-		-		-	
1,1-Dichloroethene	7	ug/l	-		-		-		-		-		-		-		-		-	
1,1-Dichloropropene	NA	ug/l	-		-		-		-		-		-		-		-		-	
1,2,3-Trichloropropane	0.02	ug/l	-		-		-		-		-		-		-		-		-	
1,2,4-Trichlorobenzene, VOC	70	ug/l	-		-		-		-		-		-		-		-		-	
1,2,4-Trimethylbenzene	15	ug/l	-		-		-		-		-		-		-		-		-	
1,2-Dibromo-3-chloropropane	0.20	ug/l	-		-		-		-		-		-		-		-		-	
1,2-Dibromoethane	0.05	ug/l	-		-		-		-		-		-		-		-		-	
1,2-Dichlorobenzene, VOC	600	ug/l	-		-		-		-		-		-		-		-		-	
1,2-Dichloroethane	5	ug/l	-		-		-		-		-		-		-		-		-	
1,2-Dichloropropane	5	ug/l	-		-		-		-		-		-		-		-		-	
1,3,5-Trimethylbenzene	87	ug/l	-		-		-		-		-		-		-		-		-	
1,3-Dichlorobenzene, VOC	NA	ug/l	-		-		-		-		-		-		-		-		-	
1,3-Dichloropropane	290	ug/l	-		-		-		-		-		-		-		-		-	
1,4-Dichlorobenzene, VOC	75	ug/l	-		-		-		-		-		-		-		-		-	
2,2-Dichloropropane	NA	ug/l	-		-		-		-		-		-		-		-		-	
2-Butanone	4,900	ug/l	-		-		-		-		-		-		-		-		-	
2-Chloroethyl vinyl ether	NA	ug/l	-		-		-		-		-		-		-		-		-	
2-Chlorotoluene	NA	ug/l	-		-		-		-		-		-		-		-		-	
2-Hexanone	NA	ug/l	-		-		-		-		-		-		-		-		-	
2-Phenylbutane	NA	ug/l	-		-		-		-		-		-		-		-		-	
4-Chlorotoluene	NA	ug/l	-		-		-		-		-		-		-		-		-	
4-Methyl-2-Pentanone	1,000	ug/l	-		-		-		-		-		-		-		-		-	
Acetone	12,000	ug/l	-		-		-		-		-		-		-		-		**#REF!**	
Acetonitrile	130	ug/l	-		-		-		-		-		-		-		-		-	
Acrolein	0.041	ug/l	-		-		-		-		-		-		-		-		-	
Acrylonitrile	0.450	ug/l	-		-		-		-		-		-		-		-		-	
Allyl chloride	2.1	ug/l	-		-		-		-		-		-		-		-		-	
Benzene	5	ug/l	-		-		-		-		-		-		-		-		-	
Bromobenzene	NA	ug/l	-		-		-		-		-		-		-		-		-	
Bromochloromethane	NA	ug/l	-		-		-		-		-		-		-		-		-	
Bromodichloromethane	80	ug/l	-		-		-		-		-		-		-		-		**#REF!**	
Bromoform	80	ug/l	-		-		-		-		-		-		-		-		-	
Bromomethane	7	ug/l	-		-		-		-		-		-		-		-		-	
Carbon disulfide	720	ug/l	-		-		-		-		-		-		-		-		-	
Carbon tetrachloride	5	ug/l	-		-		-		-		-		-		-		-		-	
Chlorobenzene	100	ug/l	-		-		-		-		-		-		-		-		-	
Chloroethane	21,000	ug/l	-		-		-		-		-		-		-		-		-	
Chloroform	80	ug/l	-		-		-		-		-		-		-		-		**#REF!**	
Chloromethane	190	ug/l	-		-		-		-		-		-		-		-		-	
cis-1,2-Dichloroethane	NA	ug/l	-		-		-		-		-		-		-		-		-	
cis-1,2-Dichloroethene	70	ug/l	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U	-		**#REF!**	
cis-1,3-Dichloropropene	NA	ug/l	-		-		-		-		-		-		-		-		-	

TABLE 3.42
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS FOR LOWER AQUIFER
FORMER GM DELPHI HARRISON THERMAL SYSTEMS PLANT SITE, EAST PHASE
DAYTON, OHIO

	Voluntary Action Program GUPUS	Field Sample ID:	WG-060205-CB-001		MW-39-05-9/25/2006-0		CTA-Geotherm-1		CTA-G-032510-01		CTA-G-041310-01		CTA-GEO-100629		CTA-100913-GEO		CTA-101230-GEO		CTA-032311-GEO	
		Station:	MW-39-05		MW-39-05		TT-Geothermal		TT-Geothermal		TT-Geothermal		TT-Geothermal		TT-Geothermal		TT-Geothermal		TT-Geothermal	
		Date:	6/2/2005		9/25/2006		5/8/2009		3/25/2010		4/13/2010		6/29/2010		9/13/2010		12/30/2010		3/23/2011	
		Aquifer:	LA		LA		LA		LA		LA		LA		LA		LA		LA	
Cyclohexane	13,000	ug/l	1	U	1	U	-		-		-		-		-		-		-	
Cymene	170	ug/l	-		-		-		-		-		-		-		-		-	
Dibromochloromethane	80	ug/l	1	U	1	U	5	U	-		-		-		-		-		-	
Dibromomethane	150	ug/l	-		-		5	U	-		-		-		-		-		-	
Dichlorodifluoromethane	2,800	ug/l	1	U	**3.3**	**J**	5	U	-		-		-		-		-		-	
Ethylbenzene	700	ug/l	1	U	1	U	5	U	-		-		-		-		-		-	
Hexachlorobutadiene, VOC	2.6	ug/l	-		-		-		-		-		-		-		-		-	
Iodomethane	NA	ug/l	-		-		10	U	-		-		-		-		-		-	
Isopropylbenzene, VOC	390	ug/l	5	U	1	U	-		-		-		-		-		-		-	
m&p-Xylene	NA	ug/l	-		-		10	U	-		-		-		-		-		-	
Methyl acetate	NA	ug/l	10	U	10	UJ	-		-		-		-		-		-		-	
Methyl cyclohexane	NA	ug/l	1	U	1	U	-		-		-		-		-		-		-	
Methyl tert butyl ether	120	ug/l	5	U	5	U	10	U	-		-		-		-		-		-	
Methylene chloride	5	ug/l	5	UJ	5	U	5	U	-		-		-		-		-		-	
n-Butylbenzene	780	ug/l	-		-		-		-		-		-		-		-		-	
n-Hexane	250	ug/l	-		-		5	U	-		-		-		-		-		-	
n-Propylbenzene	530	ug/l	-		-		-		-		-		-		-		-		-	
o-Xylene	NA	ug/l	-		-		5	U	-		-		-		-		-		-	
Styrene	100	ug/l	1	U	1	U	5	U	-		-		-		-		-		-	
tert-Butylbenzene	510	ug/l	-		-		-		-		-		-		-		-		-	
Tetrachloroethene	5	ug/l	1	U	1	U	5	U	-		-		-		-		-		-	
Toluene	1,000	ug/l	**0.17**	**J**	**0.3**	**J**	5	U	-		-		-		-		-		-	
trans-1,2-Dichloroethene	100	ug/l	1	U	1	U	5	U	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U
trans-1,3-Dichloropropene	NA	ug/l	1	U	1	U	5	U	-		-		-		-		-		-	
Trichloroethene	5	ug/l	1	U	1	U	5	U	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U
Trichlorofluoromethane	1,100	ug/l	1	U	1	UJ	5	U	-		-		-		-		-		-	
Trifluorotrichloroethane	NA	ug/l	1	U	1	UJ	-		-		-		-		-		-		-	
Vinyl acetate	410	ug/l	-		-		10	U	-		-		-		-		-		-	
Vinyl chloride	2	ug/l	**3**		**4.1**		1	U	1	U	1	U	1	U	1	U	1	U	1	U
Xylene (Total)	10,000	ug/l	2	U	2	U	-		-		-		-		-		-		-	
Metals																				
Antimony	0.006	mg/l	-		-		0.005	U	-		-		-		-		-		-	
Arsenic	0.01	mg/l	-		-		**0.00583**		-		-		-		-		-		-	
Barium	2	mg/l	-		-		-		-		-		-		-		-		-	
Beryllium	0.004	mg/l	-		-		0.0005	U	-		-		-		-		-		-	
Cadmium	0.005	mg/l	-		-		0.0002	U	-		-		-		-		-		-	
Calcium	NA	mg/l	-		-		**108**		-		-		-		-		-		-	
Chromium Total	0.100	mg/l	-		-		0.005	U	-		-		-		-		-		-	
Copper	1.30	mg/l	-		-		0.005	U	-		-		-		-		-		-	
Iron	NA	mg/l	-		-		**2.21**		-		-		-		-		-		-	
Lead	0.015	mg/l	-		-		0.002	U	-		-		-		-		-		-	
Magnesium	NA	mg/l	-		-		**42**		-		-		-		-		-		-	
Manganese	NA	mg/l	-		-		**0.239**		-		-		-		-		-		-	
Mercury	0.002	mg/l	-		-		0.0002	U	-		-		-		-		-		-	
Nickel	0	mg/l	-		-		0.005	U	-		-		-		-		-		-	
Selenium	0.050	mg/l	-		-		0.005	U	-		-		-		-		-		-	
Silver	0.071	mg/l	-		-		0.0005	U	-		-		-		-		-		-	
Strontium		mg/l	-		-		-		-		-		-		-		-		-	
Thallium	0.002	mg/l	-		-		0.001	U	-		-		-		-		-		-	
Zinc	4.7	mg/l	-		-		**0.0531**		-		-		-		-		-		-	

TABLE 3.42
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS FOR LOWER AQUIFER
FORMER GM DELPHI HARRISON THERMAL SYSTEMS PLANT SITE, EAST PHASE
DAYTON, OHIO

	Voluntary Action Program GUPUS	Field Sample ID:	CTA-090811-GEO-2		CTA-121411-GEO		CTA-031612-GEO		CTA-061411-GEO		CTA-081712-GEO		CTA-092713-GEO		CTA-090414-GEO		CTA-100314-GEO		Maximum Detected Concentration	
		Station:	TT-Geothermal		TT-Geothermal		TT-Geothermal		TT-Geothermal		TT-Geothermal		TT-Geothermal		TT-Geothermal		TT-Geothermal			
		Date:	9/8/2011		12/14/2011		3/16/2012		6/14/2012		8/17/2012		9/27/2013		9/4/2014		10/3/2014			
		Aquifer:	LA		LA		LA		LA		LA		LA		LA		LA			
Cyclohexane	13,000	ug/l	-		-		-		-		-		-		-		-		-	
Cymene	170	ug/l	-		-		-		-		-		-		-		-		-	
Dibromochloromethane	80	ug/l	-		-		-		-		-		-		-		-		**#REF!**	
Dibromomethane	150	ug/l	-		-		-		-		-		-		-		-		-	
Dichlorodifluoromethane	2,800	ug/l	-		-		-		-		-		-		-		-		**#REF!**	J
Ethylbenzene	700	ug/l	-		-		-		-		-		-		-		-		-	
Hexachlorobutadiene, VOC	2.6	ug/l	-		-		-		-		-		-		-		-		-	
Iodomethane	NA	ug/l	-		-		-		-		-		-		-		-		-	
Isopropylbenzene, VOC	390	ug/l	-		-		-		-		-		-		-		-		-	
m&p-Xylene	NA	ug/l	-		-		-		-		-		-		-		-		-	
Methyl acetate	NA	ug/l	-		-		-		-		-		-		-		-		-	
Methyl cyclohexane	NA	ug/l	-		-		-		-		-		-		-		-		-	
Methyl tert butyl ether	120	ug/l	-		-		-		-		-		-		-		-		-	
Methylene chloride	5	ug/l	-		-		-		-		-		-		-		-		-	
n-Butylbenzene	780	ug/l	-		-		-		-		-		-		-		-		-	
n-Hexane	250	ug/l	-		-		-		-		-		-		-		-		-	
n-Propylbenzene	530	ug/l	-		-		-		-		-		-		-		-		-	
o-Xylene	NA	ug/l	-		-		-		-		-		-		-		-		-	
Styrene	100	ug/l	-		-		-		-		-		-		-		-		-	
tert-Butylbenzene	510	ug/l	-		-		-		-		-		-		-		-		-	
Tetrachloroethene	5	ug/l	-		-		-		-		-		-		-		-		**#REF!**	
Toluene	1,000	ug/l	-		-		-		-		-		-		-		-		**#REF!**	
trans-1,2-Dichloroethene	100	ug/l	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U	-		**#REF!**	
trans-1,3-Dichloropropene	NA	ug/l	-		-		-		-		-		-		-		-		-	
Trichloroethene	5	ug/l	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U	-		**#REF!**	
Trichlorofluoromethane	1,100	ug/l	-		-		-		-		-		-		-		-		-	
Trifluorotrichloroethane	NA	ug/l	-		-		-		-		-		-		-		-		-	
Vinyl acetate	410	ug/l	-		-		-		-		-		-		-		-		-	
Vinyl chloride	2	ug/l	1	U	1	U	1	U	1	U	1	U	1	U	1	U	-		**#REF!**	
Xylene (Total)	10,000	ug/l	-		-		-		-		-		-		-		-		-	
Metals																				
Antimony	0.006	mg/l	-		-		-		-		-		-		-		-		-	
Arsenic	0.01	mg/l	-		-		-		-		-		-		-		0.01	U	**#REF!**	
Barium	2	mg/l	-		-		-		-		-		-		-		**0.0831**		**#REF!**	
Beryllium	0.004	mg/l	-		-		-		-		-		-		-		-		-	
Cadmium	0.005	mg/l	-		-		-		-		-		-		-		0.001	U	-	
Calcium	NA	mg/l	-		-		-		-		-		-		-		-		**#REF!**	
Chromium Total	0.100	mg/l	-		-		-		-		-		-		-		0.005	U	-	
Copper	1.30	mg/l	-		-		-		-		-		-		-		0.01	U	-	
Iron	NA	mg/l	-		-		-		-		-		-		-		**2.18**		**#REF!**	
Lead	0.015	mg/l	-		-		-		-		-		-		-		0.005	U	-	
Magnesium	NA	mg/l	-		-		-		-		-		-		-		-		**#REF!**	
Manganese	NA	mg/l	-		-		-		-		-		-		-		-		**#REF!**	
Mercury	0.002	mg/l	-		-		-		-		-		-		-		0.0002	U	**#REF!**	
Nickel	0	mg/l	-		-		-		-		-		-		-		0.01	U	-	
Selenium	0.050	mg/l	-		-		-		-		-		-		-		0.01	U	-	
Silver	0.071	mg/l	-		-		-		-		-		-		-		-		-	
Strontium		mg/l	-		-		-		-		-		-		-		**1.02**		**#REF!**	
Thallium	0.002	mg/l	-		-		-		-		-		-		-		-		-	
Zinc	4.7	mg/l	-		-		-		-		-		-		-		**0.0528**		**#REF!**	

Notes:
Shaded/Bolded values indicate concentration exceeds the Voluntary Action
- = Not analyzed or not available
µg/L = micrograms per kilogram
GUPUS = Generic Unrestricted Potable Use Standards
J = Result is estimated
LA = Lower aquifer
U = Parameter not detected, reporting limit is presented
VOC = Volatile organic compound

TABLE 3.43
SUMMARY OF CONCRETE SCREENING RESULTS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Field Sample ID	B5-Compit-112309		CON-01-02		CON-02-02		CON-02-02 DUP		CON-03-02		CON-04-02		CON-06-02	
	Sample Date	11/23/2009		4/2/2002		4/2/2002		4/2/2002		4/2/2002		4/2/2002		4/3/2002	
	Location ID	B5-Cpmpit		CON-01-02		CON-02-02		CON-02-02		CON-03-02		CON-04-02		CON-06-02	
Parameter	**Units**														
Aroclor-1016	mg/kg	0.0206	U	0.07	U	0.034	U	0.034	U	1.7	U	0.34	U	0.34	U
Aroclor-1221	mg/kg	0.0206	U	0.07	U	0.034	U	0.034	U	1.7	U	0.34	U	0.34	U
Aroclor-1232	mg/kg	0.0206	U	0.07	U	0.034	U	0.034	U	1.7	U	0.34	U	0.34	U
Aroclor-1242	mg/kg	0.0206	U	0.07	U	0.034	U	0.034	U	1.7	U	0.34	U	0.34	U
Aroclor-1248	mg/kg	0.0206	U	0.11		0.017	J	0.015	J	1.7	U	0.34	U	0.34	U
Aroclor-1254	mg/kg	1.3		0.07	U	0.034	U	0.034	U	27		4.2		2	
Aroclor-1260	mg/kg	0.0206	U	0.89		0.059		0.052		1.7	U	0.34	U	0.34	U
Total Solids	%			94.9		98.1		98.1		96.3		96.1		97.8	

TABLE 3.43
SUMMARY OF CONCRETE SCREENING RESULTS
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	Field Sample ID	CON-09-02		CON-10-02		CON-11-02		CON-16-03		CON-17-03		CON-18-03	
	Sample Date	4/3/2002		4/3/2002		4/3/2002		4/7/2003		4/7/2003		4/7/2003	
	Location ID	CON-09-02		CON-10-02		CON-11-02		CON-16-03		CON-17-03		CON-18-03	
Parameter	**Units**												
Aroclor-1016	mg/kg	0.036	U	0.35	U	0.071	U	0.17	U	1	U	0.25	U
Aroclor-1221	mg/kg	0.036	U	0.35	U	0.071	U	0.17	U	1	U	0.25	U
Aroclor-1232	mg/kg	0.036	U	0.35	U	0.071	U	0.17	U	1	U	0.25	U
Aroclor-1242	mg/kg	0.036	U	0.35	U	0.071	U	0.17	U	1	U	0.25	U
Aroclor-1248	mg/kg	0.036	U	0.35	U	0.071	U	0.17	U	1	U	0.25	U
Aroclor-1254	mg/kg	0.55		2.5		0.93		0.92		9.4		1.8	
Aroclor-1260	mg/kg	0.036	U	0.35	U	0.071	U	0.17	U	1	U	0.25	U
Total Solids	%	92.9		95.2		93.3		97		97		96.4	

Notes:
% Per cent
mg/kg milligrams per kilogram

TABLE 6.1
SUMMARY OF USTS
FORMER GM DELPHI HARRISON RADIATOR THERMAL SYSTEMS PLANT
DAYTON, OHIO

Release #	Tank ID	Material	Volume (Gallons)	Location/Former Location	Date Installed	Date Last Used	Status
-05	1	Refrigerant Oil	20,000	S of former Bldg 12, E of former Bldg 27	1979	Oct 1992	Removed Sep 1993, BUSTR NFA issued Mar 1998
-05	2	Refrigerant Oil	20,000	S of former Bldg 12, E of former Bldg 27	1979	Oct 1992	Removed Sep 1993, BUSTR NFA issued Mar 1998
-02	3	Refrigerant Oil	10,000	W of former Bldg 12	1966	Oct 1981	Removed Dec 1989
-04	4	Hydraulic Oil	10,000	S of former Bldg 9	1971	1982	Removed Dec 1989, BUSTR NFA issued Oct 2003
-01	5	Hydraulic Oil	10,000	E of former Bldg 10	1972	Jan 1992	Removed Dec 1992
-01	6	Coolant (Cimcool)	10,000	E of former Bldg 10	1972	Dec 1988	Removed Dec 1989
-01	7	Coolant (Quaker 568)	10,000	under former Bldg 10	1972	Jan 1992	Removed Dec 1992
-01	8	Stoddard Solvent	10,000	Basement of former Bldg 13	1963	Dec 1988	Removed Dec 1989
-01	9	S-9 Blending Oil	10,000	Basement of former Bldg 13	1963	Oct 1989	Removed Dec 1989
-01	10	Mineral Oil	10,000	Basement of former Bldg 13	1963	1980	Removed Dec 1989
-01	11	Cutting Oil	10,000	Basement of former Bldg 13	1963	Oct 1989	Removed Dec 1989
-03	12	Non-Leaded Gasoline	10,000	N of former Bldg 4	1974	Jan 1992	Removed Dec 1992
-03	13	Regular Gasoline/Diesel	5,500	NW of former Bldg 4	1974	Feb 1992	Removed Dec 1992
-08	14	Diesel	2,000	W of former Bldg 4	1974	Oct 1989	Removed Dec 1989, BUSTR NFA Aug 1993
-06	15	Stoddard Solvent (3)	3,000	Under former Bldg 24	1967	Apr 1987	Removed Apr 2001, BUSTR NFA Aug 2006
-06	16	Paint	10,000	Under former Bldg 24	1967	May 1991	Removed Apr 2001
-01	17	Cutting Oil	1,200	Under former Bldg G-4	1946	1977	Closed in Place 1977
-02	18	Chlorinated Solvent	10,000	W of former Bldg 12	1966	Oct 1981	Removed Dec 1989
-06	19	Chlorinated Solvent (3)	3,000	Under former Bldg 24	1967	Apr 1987	Removed Apr 2001, BUSTR NFA Aug 2006
-02	20	Stoddard Solvent	10,000	W of former Bldg 12	1965	1982	Removed Dec 1988
-02	21	Kerosene	10,000	W of former Bldg 12	1965	1981	Removed Dec 1988
-01	22	Cutting Oil	2,000	Under former Bldg G-4	1946	Dec 1986	Removed Dec 1988
-01	23	Cutting Oil	5,000	Under former Bldg G-4	1946	Dec 1986	Removed Dec 1988
-01	24	Cutting Oil	8,000	Under former Bldg G-4	unknown	Dec 1986	Removed Dec 1988
-01	25	Cutting Oil	1,800	Under former Bldg G-4	unknown	Dec 1986	Removed Dec 1988
-01	26	Cutting Oil	1,800	Under former Bldg G-4	unknown	Dec 1986	Removed Dec 1988
-01	27	Kerosene	1,000	S of former Bldg 13	unknown	unknown	Removed May 1986
-01	28	Kerosene	500	S of former Bldg 13	unknown	unknown	Removed prior to May 1986
-06	28 (2)	Stoddard Solvent (3)	10,000	Under former Bldg 24	1967	Apr 1987	Removed Apr 2001, BUSTR NFA Aug 2006
-06	27 (2)	Chlorinated Solvent (3)	10,000	Under former Bldg 24	1967	Apr 1987	Removed Apr 2001, BUSTR NFA Aug 2006
-06	N/A	Still Bottoms (3)	3,000	Under former Bldg 24	1967	Apr 1987	Removed Apr 2001, OEPA accepted closure Jan 2002
-07	29 (aka 12)	Stoddard Solvent (3)	10,000	S of former Bldg 7	pre-1965	unknown	Closed in Place Mar 2001, Removed May 2010
N/A	N/A	Waste Oil and Solvent	1,000	E of former Bldg 4	pre-1971	1978	Removed 1978
N/A	N/A	Refrigerant Oil (525 VISC)	1,500	N of former Bldg 8	unknown	pre-1967	Removed 1967
N/A	N/A	Refrigerant Oil (300 VISC)	1,500	N of former Bldg 8	unknown	pre-1967	Removed 1967
N/A	N/A	Refrigerant Oil (525 VISC)	1,500	N of former Bldg 8	unknown	pre-1967	Removed 1967
N/A	N/A	Refrigerant Oil (525 VISC)	1,500	N of former Bldg 8	unknown	pre-1967	Removed 1967
N/A	N/A	Dirty Stoddard Solvent	1,500	N of former Bldg 8	unknown	pre-1967	Removed 1967
N/A	N/A	Dirty Naphtholite	1,500	N of former Bldg 8	unknown	pre-1967	Removed 1967
N/A	N/A	Naphtholite for Fire	1,500	N of former Bldg 8	unknown	pre-1967	Removed 1967
N/A	N/A	Still Dump	1,260	N of former Bldg 8	unknown	pre-1967	Removed 1967
-09	AOI 42-UST 1	Unknown	5,200	Under former Bldg 12B	unknown	unknown	Removed Aug 2006
-09	AOI 43-UST 2	Unknown	1,100	Under former Bldg 12B	unknown	unknown	Removed Aug 2006
-11	AOI 48-UST 3	Unknown	2,000	Under former Bldg 12B	unknown	unknown	Removed Nov 2010, BUSTR NFA Feb 2011
57010450-01	COD-7 UST 1	Waste Oil	2,000	NW corner of Keowee and Monument	unknown	unknown	Removed Jul 2005, BUSTR NFA Sep 2005
57010450-01	COD-7 UST 2	Unknown	2,000	NW corner of Keowee and Monument	unknown	unknown	Removed Jul 2005, BUSTR NFA Sep 2005
57010450-01	COD-7 UST 3	Unknown	2,000	NW corner of Keowee and Monument	unknown	unknown	Removed Jul 2005, BUSTR NFA Sep 2005
57010450-01	COD-7 UST 4	Unknown	2,000	NW corner of Keowee and Monument	unknown	unknown	Removed Jul 2005, BUSTR NFA Sep 2005
-10	COD-7 UST 5	Unknown	350	Parking Lot COD-7	unknown	unknown	Removed May 2007, BUSTR NFA Jan 2008

Notes

Highlight Indicates that Release Area is on the Property

aka - also known as

AOI - Area of Interest

Bldg - Building

BUSTR - Bureau of Underground Storage Tank Regulations

COD - City of Dayton parking lot

E - east

NFA - No Further Action

N/A - Not applicable

N - north

NW - northwest

S - south

W - west

(2) Designation made in 1998 (kerosene tanks 27 and 28 had been removed)

(3) Part of closed loop recycling system

Majority of information provided in Table 1 was obtained from the Current Conditions Report, Former Delphi Harrison Thermal System, Conestoga-Rovers & Associates, June 2001

TABLE 6.2
SUMMARY OF ANALYTICAL RESULTS FOR SOIL REMOVED FROM PROPERTY
FORMER GM DELPHI HARRISON THERMAL SYSTEMS PLANT SITE
DAYTON, OHIO

	Field Sample ID	SS16-0-01		TT-091108-TS		091216-7		091216-8	
	Sample Date	5/19/2006		9/11/2008		12/16/2009		12/16/2009	
Parameter	**Units**								
VOCs									
1,1,1,2-Tetrachloroethane	ug/kg	42	U	NS		27.2	U	5.73	U
1,1,1-Trichloroethane	ug/kg	42	U	NS		27.2	U	5.73	U
1,1,2,2-Tetrachloroethane	ug/kg	42	U	NS		27.2	U	5.73	U
1,1,2-Trichloroethane	ug/kg	42	U	NS		27.2	U	5.73	U
1,1-Dichloroethane	ug/kg	42	U	NS		27.2	U	5.73	U
1,1-Dichloroethene	ug/kg	42	U	NS		27.2	U	5.73	U
1,1-Dichloropropene	ug/kg	42	U	NS		27.2	U	5.73	U
1,2,4-Trichlorobenzene, VOC	ug/kg	42	U	NS		NA		NA	
1,2,4-Trimethylbenzene	ug/kg	42	U	NS		NA		NA	
1,2-Dibromoethane	ug/kg	NA		NS		27.2	U	5.73	U
1,2-Dichlorobenzene, VOC	ug/kg	42	U	NS		NA		NA	
1,2-Dichloroethane	ug/kg	42	U	NS		27.2	U	5.73	U
1,2-Dichloropropane	ug/kg	42	U	NS		27.2	U	5.73	U
1,3,5-Trimethylbenzene	ug/kg	42	U	NS		NA		NA	
1,3-Dichlorobenzene, VOC	ug/kg	42	U	NS		NA		NA	
1,3-Dichloropropane	ug/kg	42	U	NS		27.2	U	5.73	U
1,4-Dichlorobenzene, VOC	ug/kg	42	U	NS		NA		NA	
1,4-Dioxane	ug/kg	20	U	NS		NA		NA	
2,2-Dichloropropane	ug/kg	42	U	NS		27.2	U	5.73	U
2-Butanone	ug/kg	420	U	NS		109	U	22.9	U
2-Chloroethyl vinyl ether	ug/kg	NA		NS		136	U	28.7	U
2-Chlorotoluene	ug/kg	42	U	NS		**43.8**		5.73	U
2-Hexanone	ug/kg	420	U	NS		109	U	22.9	U
4-Chlorotoluene	ug/kg	42	U	NS		**107**		5.73	U
4-Methyl-2-Pentanone	ug/kg	420	U	NS		109	U	22.9	U
Acetone	ug/kg	840	U	NS		272	U	57.3	U
Acetonitrile	ug/kg	NA		NS		218	U	45.9	U
Acrolein	ug/kg	NA		NS		109	U	22.9	U
Acrylonitrile	ug/kg	NA		NS		109	U	22.9	U
Allyl chloride	ug/kg	NA		NS		54.5	U	11.5	U
Benzene	ug/kg	42	U	NS		27.2	U	5.73	U
Bromobenzene	ug/kg	42	U	NS		**49.3**		5.73	U
Bromochloromethane	ug/kg	42	U	NS		27.2	U	5.73	U
Bromodichloromethane	ug/kg	42	U	NS		27.2	U	5.73	U
Bromoform	ug/kg	42	U	NS		27.2	U	5.73	U
Bromomethane	ug/kg	84	U	NS		27.2	U	5.73	U
Carbon disulfide	ug/kg	42	U	NS		109	U	22.9	U
Carbon tetrachloride	ug/kg	42	U	NS		27.2	U	5.73	U
Chlorobenzene	ug/kg	42	U	NS		27.2	U	5.73	U
Chloroethane	ug/kg	84	U	NS		27.2	U	5.73	U
Chloroform	ug/kg	42	U	NS		27.2	U	5.73	U
Chloromethane	ug/kg	84	U	NS		27.2	U	5.73	U
cis-1,2-Dichloroethene	ug/kg	42	U	NS		27.2	U	5.73	U
cis-1,3-Dichloropropene	ug/kg	42	U	NS		27.2	U	5.73	U
Dibromochloromethane	ug/kg	42	U	NS		27.2	U	5.73	U
Dibromomethane	ug/kg	42	U	NS		27.2	U	5.73	U
Dichlorodifluoromethane	ug/kg	42	U	NS		27.2	U	5.73	U
Ethylbenzene	ug/kg	42	U	NS		27.2	U	5.73	U
Hexachlorobutadiene	ug/kg	42	U	NS		NA		NA	
Iodomethane	ug/kg	NA		NS		54.5	U	11.5	U
Isopropylbenzene, VOC	ug/kg	42	U	NS		NA		NA	
m&p-Xylene	ug/kg	NA		NS		54.5	U	11.5	U
Methyl tert butyl ether	ug/kg	42	U	NS		54.5	U	11.5	U
Methylene chloride	ug/kg	84	U	NS		27.2	U	5.73	U
n-Butylbenzene	ug/kg	42	U	NS		NA		NA	
n-Hexane	ug/kg	170	U	NS		27.2	U	5.73	U
n-Propylbenzene	ug/kg	42	U	NS		NA		NA	
p-Isopropyltoluene	ug/kg	42	U	NS		NA		NA	
sec-Butylbenzene	ug/kg	42	U	NS		NA		NA	
o-Xylene	ug/kg	NA		NS		**79.9**		**5.73**	
Styrene	ug/kg	42	U	NS		27.2	U	5.73	U
tert-Butylbenzene	ug/kg	42	U	NS		NA		NA	
Tetrachloroethene	ug/kg	42	U	NS		27.2	U	5.73	U
Toluene	ug/kg	42	U	NS		27.2	U	5.73	U
trans-1,2-Dichloroethene	ug/kg	42	U	NS		27.2	U	5.73	U
trans-1,3-Dichloropropene	ug/kg	42	U	NS		27.2	U	5.73	U
Trichloroethene	ug/kg	42	U	NS		27.2	U	5.73	U
Trichlorofluoromethane	ug/kg	42	U	NS		27.2	U	5.73	U
Vinyl acetate	ug/kg	42	U	NS		54.5	U	11.5	U
Vinyl chloride	ug/kg	17	U	NS		27.2	U	5.73	U
Xylene (Total)	ug/kg	42	U	NS		NA		NA	

TABLE 6.2
SUMMARY OF ANALYTICAL RESULTS FOR SOIL REMOVED FROM PROPERTY
FORMER GM DELPHI HARRISON THERMAL SYSTEMS PLANT SITE
DAYTON, OHIO

	Field Sample ID	SS16-0-01		TT-091108-TS		091216-7		091216-8	
	Sample Date	5/19/2006		9/11/2008		12/16/2009		12/16/2009	
Parameter	**Units**								
SVOCs									
1,2,4-Trichlorobenzene, SVOC	ug/kg	3300	U	NS		NA		NA	
1,2-Dichlorobenzene, SVOC	ug/kg	3300	U	NS		NA		NA	
1,3-Dichlorobenzene, SVOC	ug/kg	3300	U	NS		NA		NA	
1,4-Dichlorobenzene, SVOC	ug/kg	3300	U	NS		NA		NA	
2,4,5-Trichlorophenol	ug/kg	3300	U	NS		NA		NA	
2,4,6-Trichlorophenol	ug/kg	3300	U	NS		NA		NA	
2,4-Dichlorophenol	ug/kg	3300	U	NS		NA		NA	
2,4-Dimethylphenol	ug/kg	3300	U	NS		NA		NA	
2,4-Dinitrotoluene	ug/kg	3300	U	NS		NA		NA	
2,6-Dinitrotoluene	ug/kg	3300	U	NS		NA		NA	
2-ChloroNSphthalene	ug/kg	3300	U	NS		NA		NA	
2-Chlorophenol	ug/kg	3300	U	NS		NA		NA	
2-Methyl-4,6-dinitrophenol	ug/kg	3300	U	NS		NA		NA	
2-Methylnaphthalene	ug/kg	NA		NS		114	U	114	U
2-Methylphenol	ug/kg	3300	U	NS		NA		NA	
2-Nitrophenol	ug/kg	3300	U	NS		NA		NA	
3&4-Methylphenol	ug/kg	3300	U	NS		NA		NA	
4-Bromophenyl phenyl ether	ug/kg	3300	U	NS		NA		NA	
4-Chloro-3-methylphenol	ug/kg	3300	U	NS		NA		NA	
4-Chloroaniline	ug/kg	3300	U	NS		NA		NA	
Acenaphthene	ug/kg	3300	U	NS		114	U	114	U
Acenaphthylene	ug/kg	3300	U	NS		114	U	114	U
Anthracene	ug/kg	**8660**		NS		114	U	114	U
Benzo(a)anthracene	ug/kg	**16500**		NS		114	U	114	U
Benzo(a)pyrene	ug/kg	**13200**		NS		114	U	114	U
Benzo(b)fluoranthene	ug/kg	**23800**		NS		114	U	114	U
Benzo(g,h,i)perylene	ug/kg	3300	U	NS		114	U	114	U
Benzo(k)fluoranthene	ug/kg	**7620**		NS		114	U	114	U
Benzoic acid	ug/kg	16000	U	NS		NA		NA	
Benzyl alcohol	ug/kg	3300	U	NS		NA		NA	
Benzyl butyl phthalate	ug/kg	3300	U	NS		NA		NA	
bis(2-Chloroethoxy)methane	ug/kg	3300	U	NS		NA		NA	
bis(2-Chloroethyl)ether	ug/kg	3300	U	NS		NA		NA	
bis(2-chloroisopropyl)ether	ug/kg	3300	U	NS		NA		NA	
bis(2-Ethylhexyl)phthalate	ug/kg	3300	U	NS		NA		NA	
Chrysene	ug/kg	**14500**		NS		114	U	114	U
Dibenz(a,h)anthracene	ug/kg	1600	U	NS		114	U	114	U
Dibenzofuran	ug/kg	3300	U	NS		NA		NA	
Diethyl phthalate	ug/kg	3300	U	NS		NA		NA	
Dimethyl phthalate	ug/kg	3300	U	NS		NA		NA	
Di-N-Octyl phthalate	ug/kg	3300	U	NS		NA		NA	
Fluoranthene	ug/kg	**58500**		NS		114	U	114	U
Fluorene	ug/kg	**3350**		NS		114	U	114	U
Hexachlorobenzene	ug/kg	3300	U	NS		NA		NA	
Hexachlorocyclopentadiene	ug/kg	6600	U	NS		NA		NA	
Hexachloroethane	ug/kg	3300	U	NS		NA		NA	
Indeno(1,2,3-cd)pyrene	ug/kg	3300	U	NS		114	U	114	U
Isophorone	ug/kg	3300	U	NS		NA		NA	
Naphthalene, SVOC	ug/kg	3300	U	NS		131		114	U
Nitrobenzene	ug/kg	3300	U	NS		NA		NA	
N-Nitrosodi-n-propylamine	ug/kg	380	U	NS		NA		NA	
Pentachlorophenol	ug/kg	3300	U	NS		NA		NA	
Phenanthrene	ug/kg	**46000**		NS		114	U	114	U
Phenol	ug/kg	3300	U	NS		NA		NA	
Pyrene, SVOC	ug/kg	**37500**		NS		114	U	114	U

TABLE 6.2
SUMMARY OF ANALYTICAL RESULTS FOR SOIL REMOVED FROM PROPERTY
FORMER GM DELPHI HARRISON THERMAL SYSTEMS PLANT SITE
DAYTON, OHIO

	Field Sample ID	SS16-0-01		TT-091108-TS		091216-7		091216-8	
	Sample Date	5/19/2006		9/11/2008		12/16/2009		12/16/2009	
Parameter	**Units**								
PCBs									
Aroclor-1016	mg/kg	0.00025	U	0.516	U	2.29	U	0.0229	U
Aroclor-1221	mg/kg	0.00025	U	0.516	U	2.29	U	0.0229	U
Aroclor-1232	mg/kg	0.00025	U	0.516	U	2.29	U	0.0229	U
Aroclor-1242	mg/kg	0.00025	U	0.516	U	2.29	U	**11.7**	
Aroclor-1248	mg/kg	0.00025	U	0.516	U	2.29	U	0.0229	U
Aroclor-1254	mg/kg	0.25	U	**200**		**31.5**		0.0229	U
Aroclor-1260	mg/kg	0.00025	U	0.516	U	2.29	U	0.0229	U
Metals									
Antimony	mg/kg	0.96	U	NS		NS		NS	
Arsenic	mg/kg	**7.5**		NS		NS		NS	
Barium	mg/kg	**220**		NS		NS		NS	
Beryllium	mg/kg	1.7	U	NS		NS		NS	
Cadmium	mg/kg	3.3	U	NS		NS		NS	
Chromium, Total	mg/kg	**9.49**		NS		NS		NS	
Copper	mg/kg	**64.5**		NS		NS		NS	
Lead	mg/kg	**138**		NS		NS		NS	
Mercury	mg/kg	**0.417**		NS		NS		NS	
Nickel	mg/kg	**10.6**		NS		NS		NS	
Selenium	mg/kg	6.7	U	NS		NS		NS	
Silver	mg/kg	0.5	U	NS		NS		NS	
Thallium	mg/kg	0.96	U	NS		NS		NS	
Zinc	mg/kg	**230**		NS		NS		NS	
TPH									
TPH C6-C12	ug/kg	NS		**2980000**		11100	U	8720	U
TPH C10-C20	ug/kg	**15900**		**6770000**		**1670000**		11500	U
TPH C20-C34	ug/kg	**65300**		**18500000**		**7790000**		573000	U

Notes:
Bold = Analyte was detected
µg/kg = micrograms per kilogram
J = Result is estimated
mg/kg = milligrams per kilogram
NA = Not available
NS = Not sampled for this analysis
PCBs = Polychlorinated biphenyls
SVOCs = Semi-volatile organic compounds
U = Not detected at or above the reporting limit identified
TPH = Total Petroleum Hydrocarbons
VOCs = Volatile organic compounds

TABLE 7.1
SUMMARY OF ANALYTICAL RESULTS FOR SOIL RELOCATED ONTO THE PROPERTY
FORMER GM DELPHI HARRISON THERMAL SYSTEMS PLANT SITE
DAYTON, OHIO

	FieldSampleID	P2-C-092409	P2-G-092409	TT-TSSP-01-C	TT-TSSP-01-G	TT-TSSP-02-C	TT-TSSP-02-G	TT-TSSP-03-C	TT-TSSP-03-G	TT-TSSP-04-C	TT-TSSP-04-G	TT-TSSP-05-C	TT-TSSP-05-G	TT-TSSP-06-C	TT-TSSP-06-G	TT-TSSP-07-C	TT-TSSP-07-G
	Sample Date	9/24/2009	9/24/2009	3/18/2011	3/18/2011	3/18/2011	3/18/2011	3/18/2011	3/18/2011	3/18/2011	3/18/2011	3/18/2011	3/18/2011	3/18/2011	3/18/2011	3/18/2011	3/18/2011
Parameter	Units																
VOCs																	
1,1,1,2-Tetrachloroethane	ug/kg	NS	5.01 U	5.83 U	7.93 U	6.22 U	7.37 U	6.23 U	5.46 U	5.78 U	5.28 U	5.94 U	5.48 U	5.77 U	5.37 U	5.43 U	6.29 U
1,1,1-Trichloroethane	ug/kg	NS	5.01 U	5.83 U	7.93 U	6.22 U	7.37 U	6.23 U	5.46 U	5.78 U	5.28 U	5.94 U	5.48 U	5.77 U	5.37 U	5.43 U	6.29 U
1,1,2,2-Tetrachloroethane	ug/kg	NS	5.01 U	5.83 U	7.93 U	6.22 U	7.37 U	6.23 U	5.46 U	5.78 U	5.28 U	5.94 U	5.48 U	5.77 U	5.37 U	5.43 U	6.29 U
1,1,2-Trichloroethane	ug/kg	NS	5.01 U	5.83 U	7.93 U	6.22 U	7.37 U	6.23 U	5.46 U	5.78 U	5.28 U	5.94 U	5.48 U	5.77 U	5.37 U	5.43 U	6.29 U
1,1-Dichloroethane	ug/kg	NS	5.01 U	5.83 U	7.93 U	6.22 U	7.37 U	6.23 U	5.46 U	5.78 U	5.28 U	5.94 U	5.48 U	5.77 U	5.37 U	5.43 U	6.29 U
1,1-Dichloroethene	ug/kg	NS	5.01 U	5.83 U	7.93 U	6.22 U	7.37 U	6.23 U	5.46 U	5.78 U	5.28 U	5.94 U	5.48 U	5.77 U	5.37 U	5.43 U	6.29 U
1,1-Dichloropropene	ug/kg	NS	5.01 U	5.83 U	7.93 U	6.22 U	7.37 U	6.23 U	5.46 U	5.78 U	5.28 U	5.94 U	5.48 U	5.77 U	5.37 U	5.43 U	6.29 U
1,2,4-Trichlorobenzene, VOC	ug/kg	NS	NA	5.83 U	7.93 U	6.22 U	7.37 U	6.23 U	5.46 U	5.78 U	5.28 U	5.94 U	5.48 U	5.77 U	5.37 U	5.43 U	6.29 U
1,2,4-Trimethylbenzene	ug/kg	NS	NA	5.83 U	7.93 U	6.22 U	7.37 U	6.23 U	5.46 U	5.78 U	5.28 U	5.94 U	5.48 U	5.77 U	5.37 U	5.43 U	6.29 U
1,2-Dichlorobenzene, VOC	ug/kg	NS	NA	5.83 U	7.93 U	6.22 U	7.37 U	6.23 U	5.46 U	5.78 U	5.28 U	5.94 U	5.48 U	5.77 U	5.37 U	5.43 U	6.29 U
1,2-Dichloroethane	ug/kg	NS	NA	5.83 U	7.93 U	6.22 U	7.37 U	6.23 U	5.46 U	5.78 U	5.28 U	5.94 U	5.48 U	5.77 U	5.37 U	5.43 U	6.29 U
1,2-Dichloropropane	ug/kg	NS	5.01 U	5.83 U	7.93 U	6.22 U	7.37 U	6.23 U	5.46 U	5.78 U	5.28 U	5.94 U	5.48 U	5.77 U	5.37 U	5.43 U	6.29 U
1,3,5-Trimethylbenzene	ug/kg	NS	NA	5.83 U	7.93 U	6.22 U	7.37 U	6.23 U	5.46 U	5.78 U	5.28 U	5.94 U	5.48 U	5.77 U	5.37 U	5.43 U	6.29 U
1,3-Dichlorobenzene, VOC	ug/kg	NS	NA	5.83 U	7.93 U	6.22 U	7.37 U	6.23 U	5.46 U	5.78 U	5.28 U	5.94 U	5.48 U	5.77 U	5.37 U	5.43 U	6.29 U
1,3-Dichloropropane	ug/kg	NS	5.01 U	5.83 U	7.93 U	6.22 U	7.37 U	6.23 U	5.46 U	5.78 U	5.28 U	5.94 U	5.48 U	5.77 U	5.37 U	5.43 U	6.29 U
1,4-Dichlorobenzene, VOC	ug/kg	NS	NA	5.83 U	7.93 U	6.22 U	7.37 U	6.23 U	5.46 U	5.78 U	5.28 U	5.94 U	5.48 U	5.77 U	5.37 U	5.43 U	6.29 U
2,2-Dichloropropane	ug/kg	NS	5.01 U	5.83 U	7.93 U	6.22 U	7.37 U	6.23 U	5.46 U	5.78 U	5.28 U	5.94 U	5.48 U	5.77 U	5.37 U	5.43 U	6.29 U
2-Butanone	ug/kg	NS	20.0 U	58.3 U	79.3 U	62.2 U	73.7 U	62.3 U	54.6 U	57.8 U	52.8 U	59.4 U	54.8 U	57.7 U	53.7 U	54.3 U	62.9 U
2-Chlorotoluene	ug/kg	NS	5.01 U	5.83 U	7.93 U	6.22 U	7.37 U	6.23 U	5.46 U	5.78 U	5.28 U	5.94 U	5.48 U	5.77 U	5.37 U	5.43 U	6.29 U
2-Hexanone	ug/kg	NS	20.0 U	58.3 U	79.3 U	62.2 U	73.7 U	62.3 U	54.6 U	57.8 U	52.8 U	59.4 U	54.8 U	57.7 U	53.7 U	54.3 U	62.9 U
4-Chlorotoluene	ug/kg	NS	5.01 U	5.83 U	7.93 U	6.22 U	7.37 U	6.23 U	5.46 U	5.78 U	5.28 U	5.94 U	5.48 U	5.77 U	5.37 U	5.43 U	6.29 U
4-Methyl-2-Pentanone	ug/kg	NS	20.0 U	58.3 U	79.3 U	62.2 U	73.7 U	62.3 U	54.6 U	57.8 U	52.8 U	59.4 U	54.8 U	57.7 U	53.7 U	54.3 U	62.9 U
Acetone	ug/kg	NS	5.01 U	117 U	159 U	124 U	147 U	125 U	109 U	116 U	106 U	119 U	110 U	115 U	107 U	109 U	126 U
Benzene	ug/kg	NS	5.01 U	5.83 U	7.93 U	6.22 U	7.37 U	6.23 U	5.46 U	5.78 U	5.28 U	5.94 U	5.48 U	5.77 U	5.37 U	5.43 U	6.29 U
Bromobenzene	ug/kg	NS	5.01 U	5.83 U	7.93 U	6.22 U	7.37 U	6.23 U	5.46 U	5.78 U	5.28 U	5.94 U	5.48 U	5.77 U	5.37 U	5.43 U	6.29 U
Bromodichloromethane	ug/kg	NS	5.01 U	5.83 U	7.93 U	6.22 U	7.37 U	6.23 U	5.46 U	5.78 U	5.28 U	5.94 U	5.48 U	5.77 U	5.37 U	5.43 U	6.29 U
Bromoform	ug/kg	NS	5.01 U	5.83 U	7.93 U	6.22 U	7.37 U	6.23 U	5.46 U	5.78 U	5.28 U	5.94 U	5.48 U	5.77 U	5.37 U	5.43 U	6.29 U
Bromomethane	ug/kg	NS	5.01 U	11.7 U	15.9 U	12.4 U	14.7 U	12.5 U	10.9 U	11.6 U	10.6 U	11.9 U	11 U	11.5 U	10.7 U	10.9 U	12.6 U
Carbon disulfide	ug/kg	NS	20.0 U	5.83 U	7.93 U	6.22 U	7.37 U	6.23 U	5.46 U	5.78 U	5.28 U	5.94 U	5.48 U	5.77 U	5.37 U	5.43 U	6.29 U
Carbon tetrachloride	ug/kg	NS	5.01 U	5.83 U	7.93 U	6.22 U	7.37 U	6.23 U	5.46 U	5.78 U	5.28 U	5.94 U	5.48 U	5.77 U	5.37 U	5.43 U	6.29 U
Chlorobenzene	ug/kg	NS	5.01 U	5.83 U	7.93 U	6.22 U	7.37 U	6.23 U	5.46 U	5.78 U	5.28 U	5.94 U	5.48 U	5.77 U	5.37 U	5.43 U	6.29 U
Chlorobromomethane	ug/kg	NS	NA	5.83 U	7.93 U	6.22 U	7.37 U	6.23 U	5.46 U	5.78 U	5.28 U	5.94 U	5.48 U	5.77 U	5.37 U	5.43 U	6.29 U
Chloroethane	ug/kg	NS	5.01 U	11.7 U	15.9 U	12.4 U	14.7 U	12.5 U	10.9 U	11.6 U	10.6 U	11.9 U	11 U	11.5 U	10.7 U	10.9 U	12.6 U
Chloroform	ug/kg	NS	5.01 U	5.83 U	7.93 U	6.22 U	7.37 U	6.23 U	5.46 U	5.78 U	5.28 U	5.94 U	5.48 U	5.77 U	5.37 U	5.43 U	6.29 U
Chloromethane	ug/kg	NS	5.01 U	11.7 U	15.9 U	12.4 U	14.7 U	12.5 U	10.9 U	11.6 U	10.6 U	11.9 U	11 U	11.5 U	10.7 U	10.9 U	12.6 U
cis-1,2-Dichloroethene	ug/kg	NS	5.01 U	5.83 U	7.93 U	6.22 U	7.37 U	6.23 U	5.46 U	5.78 U	5.28 U	5.94 U	5.48 U	5.77 U	5.37 U	5.43 U	6.29 U
cis-1,3-Dichloropropene	ug/kg	NS	5.01 U	5.83 U	7.93 U	6.22 U	7.37 U	6.23 U	5.46 U	5.78 U	5.28 U	5.94 U	5.48 U	5.77 U	5.37 U	5.43 U	6.29 U
Dibromochloromethane	ug/kg	NS	5.01 U	5.83 U	7.93 U	6.22 U	7.37 U	6.23 U	5.46 U	5.78 U	5.28 U	5.94 U	5.48 U	5.77 U	5.37 U	5.43 U	6.29 U
Dibromomethane	ug/kg	NS	5.01 U	5.83 U	7.93 U	6.22 U	7.37 U	6.23 U	5.46 U	5.78 U	5.28 U	5.94 U	5.48 U	5.77 U	5.37 U	5.43 U	6.29 U
Dichlorodifluoromethane	ug/kg	NS	5.01 U	5.83 U	7.93 U	6.22 U	7.37 U	6.23 U	5.46 U	5.78 U	5.28 U	5.94 U	5.48 U	5.77 U	5.37 U	5.43 U	6.29 U
Ethylbenzene	ug/kg	NS	5.01 U	5.83 U	7.93 U	6.22 U	7.37 U	6.23 U	5.46 U	5.78 U	5.28 U	5.94 U	5.48 U	5.77 U	5.37 U	5.43 U	6.29 U
Hexachlorobutadiene, VOC	ug/kg	NS	NA	5.83 U	7.93 U	6.22 U	7.37 U	6.23 U	5.46 U	5.78 U	5.28 U	5.94 U	5.48 U	5.77 U	5.37 U	5.43 U	6.29 U
Isopropylbenzene, VOC	ug/kg	NS	NA	5.83 U	7.93 U	6.22 U	7.37 U	6.23 U	5.46 U	5.78 U	5.28 U	5.94 U	5.48 U	5.77 U	5.37 U	5.43 U	6.29 U
Methyl tert butyl ether	ug/kg	NS	10.0 U	5.83 U	7.93 U	6.22 U	7.37 U	6.23 U	5.46 U	5.78 U	5.28 U	5.94 U	5.48 U	5.77 U	5.37 U	5.43 U	6.29 U
Methylene chloride	ug/kg	NS	5.01 U	58.3 U	79.3 U	62.2 U	73.7 U	62.3 U	54.6 U	57.8 U	52.8 U	59.4 U	54.8 U	57.7 U	53.7 U	54.3 U	62.9 U
n-Butylbenzene	ug/kg	NS	NA	5.83 U	7.93 U	6.22 U	7.37 U	6.23 U	5.46 U	5.78 U	5.28 U	5.94 U	5.48 U	5.77 U	5.37 U	5.43 U	6.29 U
n-Hexane	ug/kg	NS	5.36 U	23.3 U	31.7 U	24.9 U	29.5 U	24.9 U	21.8 U	23.1 U	21.1 U	23.8 U	21.9 U	23.1 U	21.5 U	21.7 U	25.2 U
n-Propylbenzene	ug/kg	NS	NA	5.83 U	7.93 U	6.22 U	7.37 U	6.23 U	5.46 U	5.78 U	5.28 U	5.94 U	5.48 U	5.77 U	5.37 U	5.43 U	6.29 U
p-Isopropyltoluene	ug/kg	NS	NA	5.83 U	7.93 U	6.22 U	7.37 U	6.23 U	5.46 U	5.78 U	5.28 U	5.94 U	5.48 U	5.77 U	5.37 U	5.43 U	6.29 U
sec-Butylbenzene	ug/kg	NS	NA	5.83 U	7.93 U	6.22 U	7.37 U	6.23 U	5.46 U	5.78 U	5.28 U	5.94 U	5.48 U	5.77 U	5.37 U	5.43 U	6.29 U
Styrene	ug/kg	NS	5.01 U	5.83 U	7.93 U	6.22 U	7.37 U	6.23 U	5.46 U	5.78 U	5.28 U	5.94 U	5.48 U	5.77 U	5.37 U	5.43 U	6.29 U
tert-Butylbenzene	ug/kg	NS	NA	5.83 U	7.93 U	6.22 U	7.37 U	6.23 U	5.46 U	5.78 U	5.28 U	5.94 U	5.48 U	5.77 U	5.37 U	5.43 U	6.29 U
Tetrachloroethene	ug/kg	NS	5.01 U	5.83 U	7.93 U	6.22 U	**32.5**	6.23 U	**26**	5.78 U	**12.6**	5.94 U	**41.8**	5.77 U	**44.7**	5.43 U	6.29 U
Toluene	ug/kg	NS	5.01 U	5.83 U	7.93 U	6.22 U	7.37 U	6.23 U	5.46 U	5.78 U	5.28 U	5.94 U	5.48 U	5.77 U	5.37 U	5.43 U	6.29 U
trans-1,2-Dichloroethene	ug/kg	NS	5.01 U	5.83 U	7.93 U	6.22 U	7.37 U	6.23 U	5.46 U	5.78 U	5.28 U	5.94 U	5.48 U	5.77 U	5.37 U	5.43 U	6.29 U
trans-1,3-Dichloropropene	ug/kg	NS	5.01 U	5.83 U	7.93 U	6.22 U	7.37 U	6.23 U	5.46 U	5.78 U	5.28 U	5.94 U	5.48 U	5.77 U	5.37 U	5.43 U	6.29 U
Trichloroethene	ug/kg	NS	5.01 U	5.83 U	7.93 U	6.22 U	**12.4**	6.23 U	**16.7**	5.78 U	5.28 U	5.94 U	5.48 U	5.77 U	**36.2**	5.43 U	6.29 U
Trichlorofluoromethane	ug/kg	NS	5.01 U	5.83 U	7.93 U	6.22 U	7.37 U	6.23 U	5.46 U	5.78 U	5.28 U	5.94 U	5.48 U	5.77 U	5.37 U	5.43 U	6.29 U
Vinyl acetate	ug/kg	NS	10.0 U	5.83 U	7.93 U	6.22 U	7.37 U	6.23 U	5.46 U	5.78 U	5.28 U	5.94 U	5.48 U	5.77 U	5.37 U	5.43 U	6.29 U
Vinyl chloride	ug/kg	NS	5.01 U	2.33 U	3.17 U	2.49 U	2.95 U	2.49 U	2.18 U	2.31 U	2.11 U	2.38 U	2.19 U	2.31 U	2.15 U	2.17 U	2.52 U
Xylene (Total)	ug/kg	NS	10.0 U	5.83 U	7.93 U	6.22 U	7.37 U	6.23 U	5.46 U	5.78 U	5.28 U	5.94 U	5.48 U	5.77 U	5.37 U	5.43 U	6.29 U

TABLE 7.1
SUMMARY OF ANALYTICAL RESULTS FOR SOIL RELOCATED ONTO THE PROPERTY
FORMER GM DELPHI HARRISON THERMAL SYSTEMS PLANT SITE
DAYTON, OHIO

	FieldSampleID	P2-C-092409	P2-G-092409	TT-TSSP-01-C	TT-TSSP-01-G	TT-TSSP-02-C	TT-TSSP-02-G	TT-TSSP-03-C	TT-TSSP-03-G	TT-TSSP-04-C	TT-TSSP-04-G	TT-TSSP-05-C	TT-TSSP-05-G	TT-TSSP-06-C	TT-TSSP-06-G	TT-TSSP-07-C	TT-TSSP-07-G
	Sample Date	9/24/2009	9/24/2009	3/18/2011	3/18/2011	3/18/2011	3/18/2011	3/18/2011	3/18/2011	3/18/2011	3/18/2011	3/18/2011	3/18/2011	3/18/2011	3/18/2011	3/18/2011	3/18/2011
Parameter	**Units**																
SVOCs																	
1,2,4-Trichlorobenzene, SVOC	ug/kg	567 U,R-05	NS	704 U	NS	735 U	NS	729 U	NS	6860 URL1	NS	719 U	NS	701 U	NS	650 U	NS
1,2-Dichlorobenzene, SVOC	ug/kg	567 U,R-05	NS	704 U	NS	735 U	NS	729 U	NS	6860 URL1	NS	719 U	NS	701 U	NS	650 U	NS
1,3-Dichlorobenzene, SVOC	ug/kg	567 U,R-05	NS	704 U	NS	735 U	NS	729 U	NS	6860 URL1	NS	719 U	NS	701 U	NS	650 U	NS
1,4-Dichlorobenzene, SVOC	ug/kg	567 U,R-05	NS	704 U	NS	735 U	NS	729 U	NS	6860 URL1	NS	719 U	NS	701 U	NS	650 U	NS
2,2-oxybis(2-Chloropropane	ug/kg	NA	NS	704 U	NS	735 U	NS	729 U	NS	6860 URL1	NS	719 U	NS	701 U	NS	650 U	NS
2,4,5-Trichlorophenol	ug/kg	567 U,R-05	NS	704 U	NS	735 U	NS	729 U	NS	6860 URL1	NS	719 U	NS	701 U	NS	650 U	NS
2,4,6-Trichlorophenol	ug/kg	567 U,R-05	NS	704 U	NS	735 U	NS	729 U	NS	6860 URL1	NS	719 U	NS	701 U	NS	650 U	NS
2,4-Dichlorophenol	ug/kg	567 U,R-05	NS	704 U	NS	735 U	NS	729 U	NS	6860 URL1	NS	719 U	NS	701 U	NS	650 U	NS
2,4-Dimethylphenol	ug/kg	567 U,R-05	NS	704 U	NS	735 U	NS	729 U	NS	6860 URL1	NS	719 U	NS	701 U	NS	650 U	NS
2,4-Dinitrotoluene	ug/kg	567 U,R-05	NS	704 U	NS	735 U	NS	729 U	NS	6860 URL1	NS	719 U	NS	701 U	NS	650 U	NS
2,6-Dinitrotoluene	ug/kg	567 U,R-05	NS	704 U	NS	735 U	NS	729 U	NS	6860 URL1	NS	719 U	NS	701 U	NS	650 U	NS
2-Chloronaphthalene	ug/kg	567 U,R-05	NS	704 U	NS	735 U	NS	729 U	NS	6860 URL1	NS	719 U	NS	701 U	NS	650 U	NS
2-Chlorophenol	ug/kg	567 U,R-05	NS	704 U	NS	735 U	NS	729 U	NS	6860 URL1	NS	719 U	NS	701 U	NS	650 U	NS
2-Methylnaphthalene	ug/kg	567 U,R-05	NS	352 U	NS	368 U	NS	365 U	NS	3430 URL1	NS	359 U	NS	350 U	NS	325 U	NS
2-Methylphenol	ug/kg	567 U,R-05	NS	704 U	NS	735 U	NS	729 U	NS	6860 URL1	NS	719 U	NS	701 U	NS	650 U	NS
2-Nitrophenol	ug/kg	567 U,R-05	NS	704 U	NS	735 U	NS	729 U	NS	6860 URL1	NS	719 U	NS	701 U	NS	650 U	NS
4,6-Dinitro-2-methylphenol	ug/kg	567 U,R-05	NS	704 U	NS	735 U	NS	729 U	NS	6860 URL1	NS	719 U	NS	701 U	NS	650 U	NS
4-Bromophenyl phenyl ether	ug/kg	567 U,R-05	NS	704 U	NS	735 U	NS	729 U	NS	6860 URL1	NS	719 U	NS	701 U	NS	650 U	NS
4-Chloro-3-methylphenol	ug/kg	567 U,R-05	NS	704 U	NS	735 U	NS	729 U	NS	6860 URL1	NS	719 U	NS	701 U	NS	650 U	NS
4-Chloroaniline	ug/kg	NA	NS	704 U	NS	735 U	NS	729 U	NS	6860 URL1	NS	719 U	NS	701 U	NS	650 U	NS
4-Methylphenol	ug/kg	NA	NS	704 U	NS	735 U	NS	729 U	NS	6860 URL1	NS	719 U	NS	701 U	NS	650 U	NS
Acenaphthene	ug/kg	567 U,R-05	NS	352 U	NS	368 U	NS	365 U	NS	3430 URL1	NS	359 U	NS	350 U	NS	325 U	NS
Acenaphthylene	ug/kg	567 U,R-05	NS	352 U	NS	368 U	NS	365 U	NS	3430 URL1	NS	359 U	NS	350 U	NS	325 U	NS
Anthracene	ug/kg	567 U,R-05	NS	352 U	NS	368 U	NS	365 U	NS	3430 URL1	NS	359 U	NS	350 U	NS	325 U	NS
Benzo(a)anthracene	ug/kg	**1300**	NS	352 U	NS	**970**	NS	365 U	NS	3430 URL1	NS	359 U	NS	350 U	NS	325 U	NS
Benzo(a)pyrene	ug/kg	**1290**	NS	**469**	NS	**1150**	NS	**229**	NS	1720 URL1	NS	**288**	NS	**264**	NS	**266**	NS
Benzo(b)fluoranthene	ug/kg	**1330**	NS	**456**	NS	**1070**	NS	365 U	NS	3430 URL1	NS	359 U	NS	350 U	NS	325 U	NS
Benzo(g,h,i)perylene	ug/kg	**1220**	NS	352 U	NS	**567**	NS	365 U	NS	3430 URL1	NS	359 U	NS	350 U	NS	325 U	NS
Benzo(k)fluoranthene	ug/kg	**1030**	NS	352 U	NS	**477**	NS	365 U	NS	3430 URL1	NS	359 U	NS	350 U	NS	325 U	NS
Benzoic acid	ug/kg	NA	NS	3520 U	NS	3680 U	NS	3650 U	NS	34300 URL1	NS	3590 U	NS	3500 U	NS	3250 U	NS
Benzyl alcohol	ug/kg	567 U,R-05	NS	704 U	NS	735 U	NS	729 U	NS	6860 URL1	NS	719 U	NS	701 U	NS	650 U	NS
Benzyl butyl phthalate	ug/kg	567 U,R-05	NS	704 U	NS	735 U	NS	729 U	NS	6860 URL1	NS	719 U	NS	701 U	NS	650 U	NS
bis(2-Chloroethoxy)methane	ug/kg	567 U,R-05	NS	704 U	NS	735 U	NS	729 U	NS	6860 URL1	NS	719 U	NS	701 U	NS	650 U	NS
bis(2-Chloroethyl)ether	ug/kg	567 U,R-05	NS	704 U	NS	735 U	NS	729 U	NS	6860 URL1	NS	719 U	NS	701 U	NS	650 U	NS
bis(2-Ethylhexyl)phthalate	ug/kg	567 U,R-05	NS	704 U	NS	735 U	NS	729 U	NS	6860 URL1	NS	719 U	NS	701 U	NS	650 U	NS
Chrysene	ug/kg	**1330**	NS	352 U	NS	**837**	NS	365 U	NS	3430 URL1	NS	359 U	NS	350 U	NS	325 U	NS
Dibenz(a,h)anthracene	ug/kg	567 U,R-05	NS	176 U	NS	**349**	NS	182 U	NS	1720 URL1	NS	180 U	NS	175 U	NS	162 U	NS
Dibenzofuran	ug/kg	567 U,R-05	NS	704 U	NS	735 U	NS	729 U	NS	6860 URL1	NS	719 U	NS	701 U	NS	650 U	NS
Diethyl phthalate	ug/kg	567 U,R-05	NS	704 U	NS	735 U	NS	729 U	NS	6860 URL1	NS	719 U	NS	701 U	NS	650 U	NS
Dimethyl phthalate	ug/kg	567 U,R-05	NS	704 U	NS	735 U	NS	729 U	NS	6860 URL1	NS	719 U	NS	701 U	NS	650 U	NS
Di-N-Octyl phthalate	ug/kg	567 U,R-05	NS	704 U	NS	735 U	NS	729 U	NS	6860 URL1	NS	719 U	NS	701 U	NS	650 U	NS
Fluoranthene	ug/kg	**2630**	NS	**455**	NS	**1120**	NS	365 U	NS	3430 URL1	NS	359 U	NS	350 U	NS	**432**	NS
Fluorene	ug/kg	567 U,R-05	NS	352 U	NS	368 U	NS	365 U	NS	3430 URL1	NS	359 U	NS	350 U	NS	325 U	NS
Hexachlorobenzene	ug/kg	567 U,R-05	NS	352 U	NS	368 U	NS	365 U	NS	3430 URL1	NS	359 U	NS	350 U	NS	325 U	NS
Hexachlorobutadiene, SVOC	ug/kg	567 U,R-05	NS	NA	NS	NA	NS	NA	NS	NA	NS	NA	NS	NA	NS	NA	NS
Hexachlorocyclopentadiene	ug/kg	567 U,R-05	NS	1410 U	NS	1470 U	NS	1460 U	NS	13700 URL1	NS	1440 U	NS	1400 U	NS	1300 U	NS
Hexachloroethane	ug/kg	567 U,R-05	NS	704 U	NS	735 U	NS	729 U	NS	6860 URL1	NS	719 U	NS	701 U	NS	650 U	NS
Indeno(1,2,3-cd)pyrene	ug/kg	**1480**	NS	352 U	NS	**600**	NS	365 U	NS	3430 URL1	NS	359 U	NS	350 U	NS	325 U	NS
Isophorone	ug/kg	567 U,R-05	NS	704 U	NS	735 U	NS	729 U	NS	6860 URL1	NS	719 U	NS	701 U	NS	650 U	NS
Naphthalene, SVOC	ug/kg	567 U,R-05	NS	352 U	NS	368 U	NS	365 U	NS	3430 URL1	NS	359 U	NS	350 U	NS	325 U	NS
Nitrobenzene	ug/kg	567 U,R-05	NS	704 U	NS	735 U	NS	729 U	NS	6860 URL1	NS	719 U	NS	701 U	NS	650 U	NS
N-Nitrosodi-n-propylamine	ug/kg	567 U,R-05	NS	704 U	NS	735 U	NS	729 U	NS	6860 URL1	NS	719 U	NS	701 U	NS	650 U	NS
Pentachlorophenol	ug/kg	567 U,R-05	NS	704 U	NS	735 U	NS	729 U	NS	6860 URL1	NS	719 U	NS	701 U	NS	650 U	NS
Phenanthrene	ug/kg	**1420**	NS	352 U	NS	**538**	NS	365 U	NS	3430 URL1	NS	359 U	NS	350 U	NS	325 U	NS
Phenol	ug/kg	567 U,R-05	NS	704 U	NS	735 U	NS	729 U	NS	6860 URL1	NS	719 U	NS	701 U	NS	650 U	NS
Pyrene, SVOC	ug/kg	**2260**	NS	**457**	NS	**1160**	NS	365 U	NS	3430 URL1	NS	359 U	NS	350 U	NS	**417**	NS

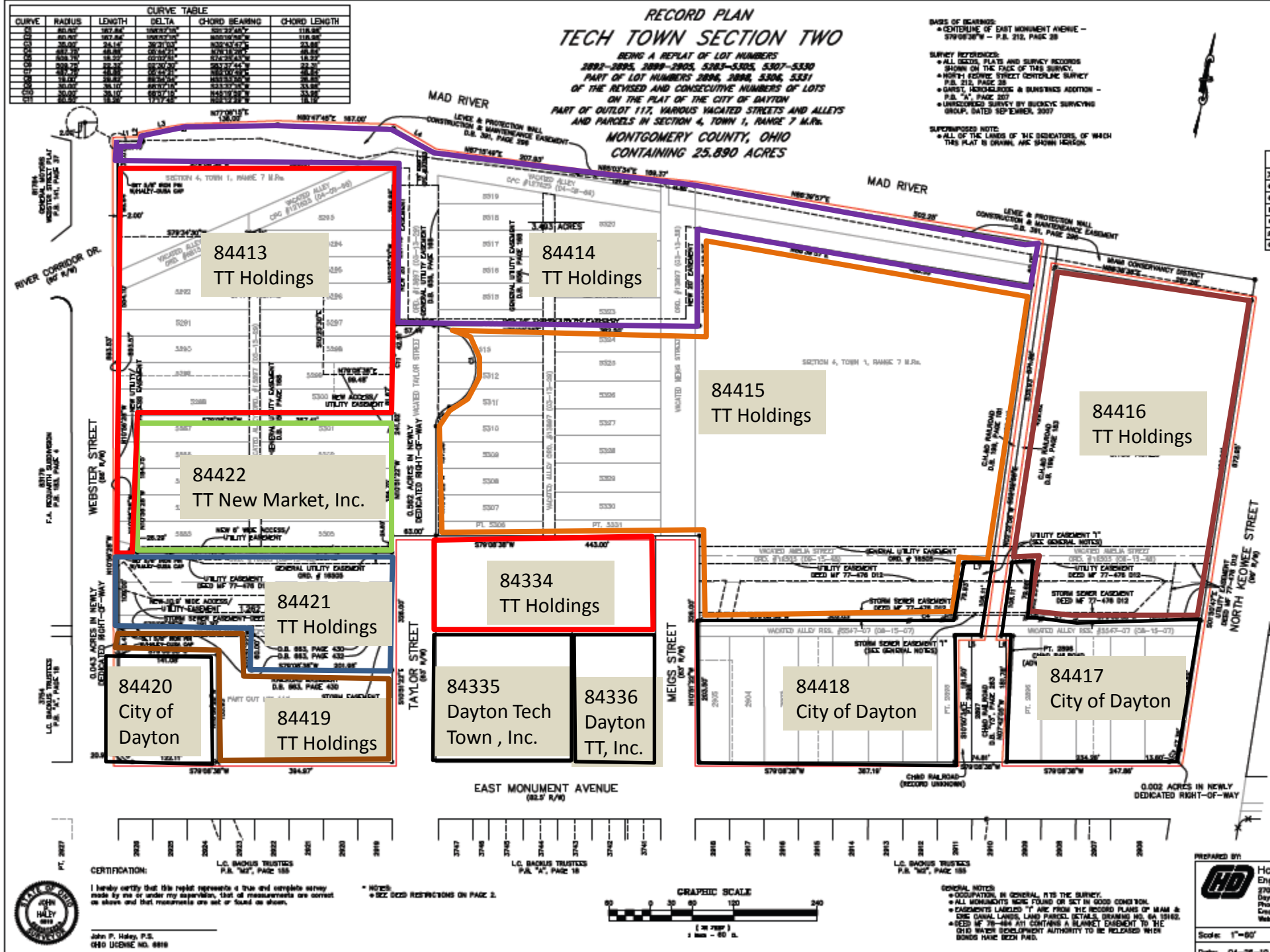
TABLE 7.1
SUMMARY OF ANALYTICAL RESULTS FOR SOIL RELOCATED ONTO THE PROPERTY
FORMER GM DELPHI HARRISON THERMAL SYSTEMS PLANT SITE
DAYTON, OHIO

	FieldSampleID	P2-C-092409	P2-G-092409	TT-TSSP-01-C	TT-TSSP-01-G	TT-TSSP-02-C	TT-TSSP-02-G	TT-TSSP-03-C	TT-TSSP-03-G	TT-TSSP-04-C	TT-TSSP-04-G	TT-TSSP-05-C	TT-TSSP-05-G	TT-TSSP-06-C	TT-TSSP-06-G	TT-TSSP-07-C	TT-TSSP-07-G
	Sample Date	9/24/2009	9/24/2009	3/18/2011	3/18/2011	3/18/2011	3/18/2011	3/18/2011	3/18/2011	3/18/2011	3/18/2011	3/18/2011	3/18/2011	3/18/2011	3/18/2011	3/18/2011	3/18/2011
Parameter	**Units**																
PCBs																	
Aroclor-1016	mg/kg	0.0227 U	NS	0.04 U	NS	0.041 U	NS	0.041 U	NS	0.04 U	NS	0.041 U	NS	0.038 U	NS	0.04 U	NS
Aroclor-1221	mg/kg	0.0227 U	NS	0.04 U	NS	0.041 U	NS	0.041 U	NS	0.04 U	NS	0.041 U	NS	0.038 U	NS	0.04 U	NS
Aroclor-1232	mg/kg	0.0227 U	NS	0.04 U	NS	0.041 U	NS	0.041 U	NS	0.04 U	NS	0.041 U	NS	0.038 U	NS	0.04 U	NS
Aroclor-1242	mg/kg	0.0227 U	NS	0.04 U	NS	0.041 U	NS	0.041 U	NS	0.04 U	NS	0.041 U	NS	**0.046**	NS	0.04 U	NS
Aroclor-1248	mg/kg	0.0227 U	NS	0.04 U	NS	0.041 U	NS	0.041 U	NS	0.04 U	NS	0.041 U	NS	0.038 U	NS	0.04 U	NS
Aroclor-1254	mg/kg	**0.254**	NS	**0.082**	NS	0.041 U	NS	0.041 U	NS	0.04 U	NS	**0.065**	NS	**0.053**	NS	**0.15**	NS
Aroclor-1260	mg/kg	0.0227 U	NS	0.04 U	NS	0.041 U	NS	0.041 U	NS	0.04 U	NS	0.041 U	NS	0.038 U	NS	0.04 U	NS
Metals																	
Antimony	mg/kg	5.56 U	NS	38.5 UM,RL3	NS	20.2 U	NS	40.7 URL3	NS	19 U	NS	39 URL3	NS	38.4 URL3	NS	18.1 U	NS
Arsenic	mg/kg	**5.20**	NS	**8.81** RL3	NS	**6.71**	NS	8.15 URL3	NS	**4.79**	NS	7.82 URL3	NS	7.7 URL3	NS	**7.27**	NS
Beryllium	mg/kg	0.556 U	NS	1.93 URL3	NS	1.02 U	NS	2.04 URL3	NS	0.952 U	NS	1.96 URL3	NS	1.93 URL3	NS	0.906 U	NS
Cadmium	mg/kg	1.11 U	NS	11.5 URL3	NS	6.08 U	NS	12.2 URL3	NS	5.7 U	NS	11.7 URL3	NS	11.5 URL3	NS	5.43 U	NS
Chromium Total	mg/kg	**6.64**	NS	15.4 URL3	NS	**8.59**	NS	16.2 URL3	NS	7.58 U	NS	15.6 URL3	NS	15.3 URL3	NS	**8.32**	NS
Copper	mg/kg	**30.4**	NS	**176** M	NS	**23**	NS	**12.8**	NS	**16.4**	NS	**23.1**	NS	**16.9**	NS	**20.7**	NS
Lead	mg/kg	**41.3**	NS	**41** M	NS	**36.1**	NS	32.5 URL3	NS	**19.8**	NS	**47.7**	NS	30.7 URL3	NS	**21.8**	NS
Mercury	mg/kg	**0.242**	NS	**0.342** M	NS	**0.485**	NS	**0.31**	NS	**0.14**	NS	**0.296**	NS	**0.192**	NS	**0.422**	NS
Nickel	mg/kg	**7.86**	NS	**10.3**	NS	**12.1**	NS	**7.44**	NS	**7.35**	NS	**8.6**	NS	**6.57**	NS	**11.7**	NS
Selenium	mg/kg	5.56 U	NS	38.5 URL3	NS	20.2 U	NS	40.7 URL3	NS	19 U	NS	39 URL3	NS	38.4 URL3	NS	18.1 U	NS
Silver	mg/kg	1.11 U	NS	15.4 URL3	NS	8.09 U	NS	16.2 URL3	NS	7.58 U	NS	15.6 URL3	NS	15.3 URL3	NS	7.22 U	NS
Thallium	mg/kg	5.56 U	NS	11.5 URL3	NS	6.08 U	NS	12.2 URL3	NS	5.7 U	NS	11.7 URL3	NS	11.5 URL3	NS	5.43 U	NS
Zinc	mg/kg	**76.7**	NS	**58.8**	NS	**59**	NS	**44.1**	NS	**48.5**	NS	**124**	NS	**34.9**	NS	**72.7**	NS
TPH																	
DRO (C10-C20)	ug/kg	NS	NS	100000 UH	NS	100000 UH	NS	100000 UH	NS	100000 UH	NS	100000 UH	NS	100000 UH	NS	100000 UH	NS
DRO (C20-C34)	ug/kg	NS	NS	100000 UH	NS	**113000 H**	NS	100000 UH	NS	100000 UH	NS	100000 UH	NS	100000 UH	NS	100000 UH	NS

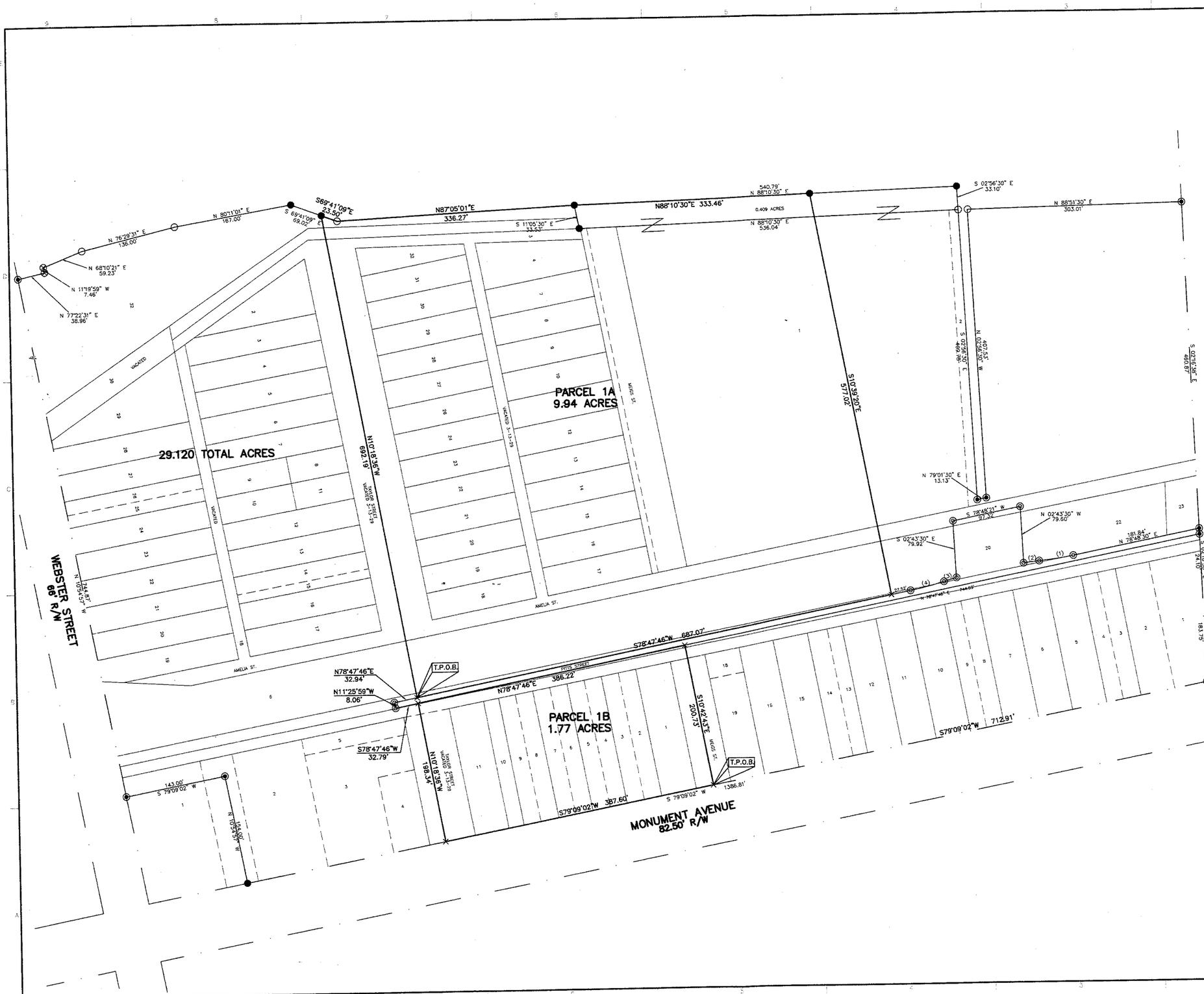
Notes:
Bold = Analyte was detected
µg/kg = micrograms per kilogram
H = Analyzed outside of method holding time
J = Result is estimated
M = Matrix spike and/or matrix spike duplicate recovery outside acceptance limits
mg/kg = milligrams per kilogram
NA = Not available
NS = Not sampled for this analysis
PCBs = Polychlorinated biphenyls
RL1 = Reporting limit raised due to sample matrix effects
RL3 = Reporting limit raised due to high concentrations of non-target analytes
R-05 = The sample was diluted due to the presence of high levels of non-target analytes resulting in elevated reporting limits
SVOCs = Semi-volatile organic compounds
U = Not detected at or above the reporting limit identified
VOCs = Volatile organic compounds

APPENDIX A

LEGAL DESCRIPTION


RECORD PLAN
TECH TOWN SECTION TWO
BEING A REPLAT OF LOT NUMBERS
2892-2895, 2899-2905, 5283-5305, 5307-5330
PART OF LOT NUMBERS 2896, 2898, 5306, 5331
OF THE REVISED AND CONSECUTIVE NUMBERS OF LOTS
ON THE PLAT OF THE CITY OF DAYTON
PART OF OUTLOT 117, VARIOUS VACATED STREETS AND ALLEYS
AND PARCELS IN SECTION 4, TOWN 1, RANGE 7 M.Rs.
MONTGOMERY COUNTY, OHIO
CONTAINING 25.890 ACRES
MAD RIVER
84413
TT Holdings
84414
TT Holdings
84415
TT Holdings
84416
TT Holdings
84422
TT New Market, Inc.
84421
TT Holdings
84334
TT Holdings
84420
City of
Dayton
84419
TT Holdings
84335
Dayton Tech
Town , Inc.
84336
Dayton
TT, Inc.
84418
City of Dayton
84417
City of Dayton
WEBSTER STREET
TAYLOR STREET
MEIGS STREET
NORTH KEOWEE STREET
EAST MONUMENT AVENUE
RIVER CORRIDOR DR.
CERTIFICATION:
GRAPHIC SCALE
GENERAL NOTES:

REVISION RECORD			
NO	DATE	DESCRIPTION	BY
1			



1"= 60'

60 0 60 120

Curve Table

CURVE (1) RADIUS= 487.75' DELTA= 05°44'23" ARC= 48.86' CHORD= 48.84' CHORD BEARING= S 81°40'41" W	CURVE (3) RADIUS= 509.75' DELTA= 02°04'26" ARC= 18.45' CHORD= 18.45' CHORD BEARING= S 74°08'21" W
CURVE (2) RADIUS= 508.75' DELTA= 02°30'58" ARC= 22.34' CHORD= 22.34' CHORD BEARING= S 83°28'39" W	CURVE (4) RADIUS= 487.75' DELTA= 05°44'23" ARC= 48.86' CHORD= 48.84' CHORD BEARING= S 75°56'20" W

Boundary Survey Note

This plat constitutes a boundary survey as set forth in the minimum standards for boundary surveying in the State of Ohio, Administrative Code Chapter 4733-37 and promulgated by the Board of Registration for Professional Engineers and Surveyors of the State of Ohio pursuant to Chapter 4733.

Surveyor's Certificate

This exhibit was based on an actual field survey by Civil & Environmental Consultants, Inc. in November, 2004.

Legend of Symbols & Abbreviations

- ◎ Found P.K. Nail
- ◉ Set P.K. Nail
- ○ Found 5/8" Iron Pipe with an ID Cap stamped WOOLPERT
- ● Set 3/4" Iron Pipe, 30" in Length with an ID Cap stamped CEC PROP CORNER
- ⊗ Found Chiseled X
- × Set Chiseled X

Situate

Situated in the State of Ohio, County of Montgomery, City of Dayton, Section 4, Township 1, Range 7, and Being a 29.120 Total Acres.

Basis of Bearings

Bearings were based on State Plane Coordinate System from Delaware County Monuments D-10 to MOT-1091. Ohio South Zone, NAD 83.

STATE OF OHIO
ANTHONY W. WILLIAMS
7726
REGISTERED
PROFESSIONAL SURVEYOR

Registered Surveyor: Anthony W. Williams
Registered Land Surveyor No.: 7726
In the State of Ohio

Date: 6/21/05

Civil & Environmental Consultants, Inc.
3600 Park 42 Drive, Suite 130B
Cincinnati, OH 45241
(513) 985-0226 (800) 759-5614
Pittsburgh, PA Columbus, OH Indianapolis, IN Nashville, TN
Chicago, IL Export, PA St. Louis, MO

TECH TOWN REDEVELOPMENT SITE (PHASE 2) DAYTON, OHIO

EDIT DATE: 06/15/05	DRN. BY:	MJW	APPROVED BY:
SCALE: 1"= 60'	CHKD. BY:	JDD	PROJ NO: 505-071.0001

BOUNDARY SURVEY

SHEET 1 OF 1

DRAWING NUMBER 050-071

G:\PROJECTS\2004\505-071 - Former Bel Oakes, Dayton\dwg\SURVEY\505-071 Plat of Surveying.dwg, 6/21/2005 11:23:58 AM(EST), G:\Projects\2005\505-071 - Former Bel Oakes, Dayton\dwg\SURVEY\505-071 - Former Bel Oakes, Dayton.dwg

Civil & Environmental Consultants, Inc.
8740 Orion Place, Suite 100 ▪ Columbus, Ohio 43240
Phone 614.540.6633 ▪ Fax 614.540.6638
CHICAGO, IL. ▪ CINCINNATI, OH ▪ EXPORT, PA. ▪ INDIANAPOLIS IN.
NASHVILLE, TN. ▪ PITTSBURGH, PA. ▪ ST. LOUIS, MO.

Description of Parcel 1A and 1B for Peerless Realty Group LTD

Parcel 1A

Situated in the State of Ohio, County of Montgomery, City of Dayton, Section 4, Township 1, Range 7 M.R.s and being all of Lots 5283 thru 5331, and Out Lot 117 of the revised and consecutive numbered lots of the Plat of said City of Dayton, Ohio, and part of vacated Taylor Street, Meigs Street and Amelia Street, and being all of the land conveyed by deeds to General Motor Corporation as recorded in Deed Book 732, Page 519, Deed Book 1260, Page 357, Deed Book 2316, Page 273, Deed Book 440, Page 478, Deed Microfiche No. 77-588A07, Deed Book 2308, Page 506, and Deed Microfiche No. 79-138E09 and part of thee land conveyed in Deed Microfiche No 77-467D12 (all references to deeds, microfiche, plats, surveys, etc. refer to the records of the Montgomery County Recorders Office, unless noted otherwise), said tract of land being more particularly bounded and described as follows:

Beginning for reference with a set P.K. Nail at the intersection of the north right-of-way line of Monument Avenue and the west right-of-way line of North Keowee Street;

Thence South 79°09'02" West, following said right-of-way, a distance of 1100.51 feet to a Set Chiseled "X" in vacated Taylor Street;

Thence North 10°18'36" West, following said vacated Taylor Street, a distance of 198.34 feet to a Set Chiseled "X" in the southerly right-of-way line of Pitts Street;

Thence South 78°47'46" West, following said southerly right-of-way line, a distance of 32.79 feet to a Found P.K. Nail;

Thence leaving said right-of-way line, North 11°25'59" West, a distance of 8.06 feet to a Found P.K. Nail in the northerly right-of-way line of Pitts Street;

Thence North 78°47'46" East, following said northerly right-of-way line, a distance of 32.94 feet to a Set Chiseled "X", said Set Chiseled "X" being the True Point of Beginning;

Thence leaving said northerly right-of-way line, North 10°18'36" West, following vacated Taylor Street, a distance of 692.19 feet to a Set ¾" Iron Pipe, 30" in length with an ID cap stamped CEC PROP CORNER in the southerly line of a tract of land conveyed to The City of Dayton by Deed Book 117, Page 181;

Thence with the following three (3) courses along said southerly line:

1. South 69°41'09" East a distance of 23.50 feet to a Found 5/8" Iron Pipe with an ID cap stamped Woolpert;

2. North 87°05'01" East a distance of 336.27 feet to a Set ¾" Iron Pipe, 30" in length with an ID cap stamped CEC PROP CORNER;

3. North 88°10'30" East a distance of 333.46 feet to a Set ¾" Iron Pipe, 30" in length with an ID cap stamped CEC PROP CORNER;

Thence leaving said southerly line South 10°39'20" East, with a new severance line, a distance of 577.02 feet to a Set Chiseled "X" in the northerly right-of-way line of Pitts Street;

Thence South 78°47'46" West, following said northerly right-of-way line, a distance of 687.07 feet to the True Point of Beginning;

Containing 9.94 acres, more or less, subject to all easements, right-of-ways, and restrictions.

Bearings were based on State Plane Coordinate System from Delaware County Monuments D-10 to MOT-1091. Ohio South Zone, NAD83.

This description was based on field survey performed by Civil & Environmental Consultants in November, 2004.

Parcel 1B

Situated in the State of Ohio, County of Montgomery, City of Dayton, Section 4, Township 1, Range 7 M.R.s, and being all of Lots 3484 thru 3490 and Lots 2892 thru 2905, and part of vacated Meigs Street and Taylor Street, and part of the lands conveyed by Deed to General Motors Corporation as recorded in Deed Book 732, Page 519, (all references to deed, microfiche, plats, surveys, etc. refer to the records of the Montgomery County Recorders Office, unless noted otherwise), said tract of land being more particularly bounded and described as follows:

Beginning for reference with a set P.K. Nail at the intersection of the north right-of-way line of Monument Avenue and the west right-of-way line of North Keowee Street;

Thence South 79°09'02" West following the east right-of-way line of Monument Avenue, a distance of 712.91 feet to a Set Chiseled "X" in the centerline of vacated Meigs Street, said Chiseled "X" being the True Point of Beginning;

Thence South 79°09'02" West, following said right-of-way, a distance of 387.60 feet to a Set Chiseled "X" in vacated Taylor Street;

Thence North 10°18'36" West, following said vacated Taylor Street, a distance of 198.34 feet to a Set Chiseled "X" in the southerly right-of-way line of Pitts Street;

Thence North 78°47'46" East, following said southerly right-of-way line, a distance of 386.22 feet to a Set Chiseled "X" in the centerline of vacated Meigs Street;

Thence South 10°42'43" East, following said centerline, a distance of 200.73 feet to the True Point of Beginning

Containing 1.77 acres, more or less, subject to all easements, right-of-ways and restrictions.

Bearings were based on State Plane Coordinate System from Delaware County Monuments D-10 to MOT-1091. Ohio South Zone, NAD83.

Anthony W. Williams P.S. 7726

6/21/05
Date

STATE OF OHIO
ANTHONY W. WILLIAMS
7726
REGISTERED PROFESSIONAL SURVEYOR

APPENDIX B

VAP ELIGIBILITY DOCUMENTATION

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

10

FEB 2 2 2010

REPLY TO THE ATTENTION OF:

LU-9J

Mr. Timothy Downs
Deputy Director, Office of Economic Development
City of Dayton
101 W. Third Street
Dayton, Ohio 45401

Re: Dayton Tech Town Redevelopment

Dear Mr. Downs:

Thank you for your February 8, 2010 letter regarding the City of Dayton's (City) continuation of the Tech Town development upon parcels of property constituting the former General Motors (GM) Delphi Harrison Thermal Systems Resource Conservation and Recovery Act (RCRA) facility. We concur that GM Corporation's bankruptcy filing has interrupted the progress achieved in recent years.

As you know, the U.S. EPA's Voluntary Corrective Action Agreement (VCAA) cosigned with former GM Corporation in 2001 became null and void on September 24, 2009 when the GM Corporation stated that it would discontinue work under the VCAA. That VCAA covered cleanup activities at a portion of the original RCRA facility. The portion of the facility which was subject to the VCAA is currently owned by Peerless Realty Group. In its 1996 Agreement of Sale and Purchase between GM and Peerless, GM agreed to indemnify Peerless from corrective action liability and responsibilities under Subtitle C of RCRA. However, GM's decision to void the VCAA, based on its bankruptcy claim, terminated the former GM Corporation's role in directing corrective actions at the site. Meanwhile, the City entered its own VCAA with U.S. EPA that covered certain parcels of the former GM Corporation facility, now owned by the City.

During a January 5, 2010 meeting among the City and representatives of the U.S. EPA and Ohio Environmental Protection Agency (OEPA), the City indicated that it anticipates taking ownership of the Peerless property by summer of 2010. The City has questioned regulatory implications of this acquisition.

As you have pointed out, the U.S. EPA has a Memorandum of Agreement (MOA) with the OEPA concerning OEPA's Voluntary Action Program (VAP) effective as of November 8, 2007. According to section IV.A.3 of the MOA, "... U.S. EPA Region 5 has determined that the standards and processes used in the MOA Track VAP are

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adequate, and that active coordination between OEPA's RCRA Corrective Action and Remedial Response programs and the MOA Track VAP will result in cleanups that meet the objectives and requirements of the RCRA Subtitle C Corrective Action program... for facilities and sites subject to this MOA." Indeed, the VAP has allowed the City to orchestrate proper site characterization as well as any remediation needed at one adjacent parcel of the former GM facility, which the City intends to purchase, known as the Environmental Services of America (ESA) wastewater treatment plant. Therefore, the MOA Track VAP would appear to be a suitable mechanism for the investigation and cleanup of other parcels of the former GM facility, including the soon-to-be acquired Peerless parcel as well as those already owned by the City (i.e. Lots 1 through 7).

You have specifically requested that the U.S. EPA relinquish it's VCAA with the City, preferring a MOA Track VAP approach for any and all parcels representing the former entire GM facility that the City might own or acquire. You further inquired whether the U.S. EPA would "defer regulatory authority" for corrective action to the State of Ohio. Finally, you respectfully requested that the U.S. EPA state in writing that "... the agency does not intend to pursue RCRA enforcement with the current or future property owner(s)..." because any pending enforcement order... presents an obstacle to VAP eligibility that would prevent the City from meeting ... (the) OEPA closure objective."

It is our understanding that the OEPA is amenable to taking the lead regulatory responsibility with respect to the cleanup of all parcels of the former GM Corporation site. Based on OEPA taking the lead and the status of the site, the U.S. EPA does not plan or anticipate imposing any RCRA corrective action measures with respect to any of the parcels of the former GM site that you might acquire.

You also questioned who would be your point of contact concerning Toxic Substances Control Act (TSCA) matters pertaining to polychlorinated biphenyl (PCB) contamination detected on and around the Peerless property. That assigned individual would be Mr. Allen Debus, who has been responsible for overseeing RCRA corrective actions. You may continue to contact him at (312) 886-6186 regarding all PCB cleanup related matters associated with Tech Town.

U.S. EPA Region 5 has worked closely and flexibly with the City of Dayton over the past years to help ensure that the Tech Town development can become a reality. We look forward to continuing our support of this important project.

I hope you find this letter responsive. Please feel free to consult with Mr. Debus in case you require any further information.

Sincerely,

Jose Cisneros, Chief
Remediation and Reuse Branch

cc: Allen Debus
Gary Victorine
Mony Chabria, ORC
Peter Felitti, ORC
Harold O'Connell, OEPA-SWDO
Chris Lipson, City of Dayton
Dave Sholtis, OEPA
Joe Dufficy, RDAB

APPENDIX B
U.S. EPA CORRESPONCE REGARDING RCRA CORRECTIVE ACTION, BUSTR CLOSURE, AND TSCA APPLICABILITY

1-2638

HARRISON DAYTON

2601 W STROOP ROAD · MORAINE, OHIO 45439 · (937) 455-2636 · FAX (937) 455-2631

FAX TRANSMITTAL COVER SHEET

To:	Jean Caufield Laura Romeo/Terry Conway Sylvie Eastman Ian Richardson Mark Nielsen Bruce Midolo Chuck Kronbach	From:	Pam Stubbs
Fax:		Fax:	(937)455-2631
Phone:		Phone:	(937)455-2636
cc:			

DATE: November 18, 2003

PAGES: 3

MESSAGE:

Here is the letter from Trish on BUSTR.

Thanks!

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF:
DW-8J

November 13, 2003

Pamela Stubbs Barnett, P.G.
GM Moraine Assembly Plant
2601 W. Stroop Road
Moraine, Ohio 45439

Re: Former GM Harrison Thermal Systems
Dayton, Ohio
OHD 017 958 604

Dear Ms. Barnett:

We have discussed previously the possibility of incorporating the corrective actions for the underground tanks with the current RCRA corrective actions now in progress. This would be similar to what is now in progress for the PCB/TSCA issues being addressed through the current RCRA corrective action activities. It has also come to our attention that there were some areas that the State's Bureau of Underground Storage Tanks (BUSTR) program was not authorized for and instead of having multiple cleanups in progress, we're taking more of a one cleanup approach. The State BUSTR program concurs with this approach.

GM, for the purposes of this corrective action for this facility, should submit all your tank reports to U.S. EPA, Region 5. GM will no longer be required to submit the tank reports to the State BUSTR program. At the end of the corrective action process, we will seek concurrence from the State before making any decision final. Region 5 will coordinate the tank requirements with the ongoing corrective action activities and at the same time strive to ensure compliance with the State requirements.

I will continue to be the Project Manager for this facility. Priscilla Fonseca will continue to be the contact for PCB/TSCA issues and Yves Reme will be the contact person for UST issues. Both of these contacts will be included in future meetings or conference calls regarding this facility. We believe that this approach will keep the corrective action activities moving forward and toward completion.

If you have any questions regarding this, please do not hesitate to contact me at 312-886-8093.

Sincerely,

Patricia J. Polston
Project Manager
Corrective Action Section
Waste, Pesticides and Toxics Division

cc: Jean Caufield, GM Remediation
Pete A. Chase, BUSTR
Yves Reme, U.S. EPA, UST
Pam Hull, OEPA

Department of Commerce
Division of State Fire Marshal
John R. Kasich, Governor
David Goodman, Director

September 5, 2012

VIA EMAIL & REGULAR MAIL

LAURA FUNK
WESTON SOLUTIONS
711 EAST MONUMENT AVE.
SUITE 201
DAYTON, OHIO 45402

SITE: FORMER GENERAL MOTORS
HARRISON THERMAL SYSTEMS
300 TAYLOR ST
DAYTON, OH
MONTGOMERY COUNTY
RELEASES #57000003-N1, N2, N3,
N7, AND N9

RE: Class C Determination

To Whom It May Concern:

This letter shall serve notice that the above referenced releases have been classified by Bureau of Underground Storage Tank Regulations (BUSTR), Division of the State Fire Marshal, as "Class C" release files. The responsible party for the identified BUSTR releases is considered non-viable due to the bankruptcy filing that occurred in June 2009. Since there is no viable responsible party (owner or operator) to conduct corrective actions per ORC 3737.882, the release files are now classified as Class C.

If you have any questions, please contact me at 614-752-7938.

Sincerely,

Lori Stevens, Esq.
Legal Counsel for BUSTR

cc: Site File
OEPA - VAP

Bureau of Underground Storage Tank Regulations
8895 East Main Street
Reynoldsburg, OH 43068 U.S.A.

614 | 752 7938
Fax 614 | 752 7942
TTY/TDD 800 | 750 0750
www.com.ohio.gov

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12473.005.001 file 25

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

30 JUN 2005

REPLY TO THE ATTENTION OF:

DT-8J

Pamela L. Barnett, Project Manager
BOW Environmental Solutions, Inc.
3400 DeWeese Parkway
Dayton, Ohio 45414

Dear Ms. Barnett:

Thank you for the information you and the General Motors Company (GM) representatives provided to us regarding the potential dates associated with the PCB contamination at the former GM Dephi Harrison Thermal System facility in Dayton, Ohio.

After our review and consideration of the information, we do not think it has been proven that the PCB contamination in the buildings located between Webster and Taylor Streets, or at any other location within the facility, occurred solely from releases prior to April 4, 1978 (see 40 C.F.R. § 761.50(b)(3)(iii)) of the Federal PCB regulations).

There are too many uncertainties regarding the actual or potential sources of PCBs at the site and the dates of contamination for us to agree that the PCB contamination occurred solely from releases prior to April 4, 1978. There were several potential sources of PCBs at 50 ppm or greater at the site after 1978, including in and near the buildings located between Webster and Taylor Streets, and there still is an existing contamination at the site with PCBs at 50 ppm or greater.

Electrical equipment having PCBs at concentrations greater than 50 ppm were in and on the buildings between Webster and Taylor Streets after 1978, and, as GM reported, there were releases from that equipment. Even though, as GM reported, the releases from that equipment were cleaned up, the equipment was still used in the buildings after 1978. In addition, there were still other uses of PCBs at concentrations over 50 ppm at the site after 1978. It was in 1995-1996 that other process equipment containing PCBs was identified. A grinder in the tool room was found to contain 409.8 ppm PCBs in the cooling oil. Gear boxes containing PCBs were also found. The uncertainty of the sources of PCBs appeared to us to be partly shared by GM as implied by the plans to investigate the process piping within buildings before demolition. Although we understand no liquids were found in the process piping, we agreed that the process piping should have been investigated.

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Another factor we considered was the contamination found at the site after 1978, some of which still exists at the site. As reported by GM, PCBs over 50 ppm were recently found in the storm sewer associated with the buildings between Webster and Taylor Streets. PCBs over 50 ppm are still at the site as a constituent of LNAPL in the groundwater at the site. Also, PCBs over 50 ppm were found at the site after 1978 in soil and concrete.

We will review any new information GM is able to provide on the potential source of PCBs, but in consideration of all the issues in the preceding paragraphs, we do not think GM will be able to prove, conclusively, that the contamination is solely from releases prior to April 4, 1978. Consequently, although we will review and consider new information regarding the potential date of release of PCBs, you should consider in your schedule that we will not do so at the risk of delaying other projects. In addition, with regards to any area with existing contamination greater than 50 ppm PCBs, the date of contamination does not matter since we would consider requesting information and possibly directing cleanup under 40 C.F.R § 761.50(b)(3)(ii).

We appreciate GM's cooperation in working towards a final remedy of the site and will continue working with GM and the City of Dayton to remediate and redevelop the site under RCRA and TSCA. As you know, we have discussed and provided options to move forward with demolition of the building, storage of the debris, crushing of the debris, and management of some crushed debris on site.

Please call Patricia Polston at (312) 886-6093 or Priscilla Fonseca at (312) 886-1334, if you have any questions regarding this matter.

Sincerely,

Christopher Black, Acting Section Chief
Toxics Program Section

cc: Jean Caufield, GM
Bradford S. White, Weston
Norm Essman, City of Dayton
Patricia Polston, U.S. EPA

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

NOV 26 2013

REPLY TO THE ATTENTION OF:

Ms. Cindy Hafner, Chief
Division of Environmental Response and Revitalization
Ohio Environmental Protection Agency
Post Office Box 1049
Columbus, Ohio 43216-1049

Re: Memorandum of Agreement (MOA) Track Voluntary Action Program (VAP)

Dear Ms. Hafner:

This letter follows recent conversations regarding the 2007 MOA between the U.S. Environmental Protection Agency staff and the Ohio Environmental Protection Agency staff to explain and clarify the roles and responsibilities of the Agencies, and the potential utilization of the MOA-track of Ohio EPA's VAP to assess and address contaminated sites in Ohio.

In 2011 (H.B. 153) and 2012 (S.B. 294), the Ohio General Assembly amended the VAP statute to expand eligibility for the program, allowing its use for sites with certain petroleum underground storage tanks (USTs). In light of those VAP statute amendments, Ohio EPA and U.S. EPA are discussing amendments to the 2007 MOA so that these newly eligible brownfields sites would also be included.

In addition to developing appropriate legal language, the MOA amendment process may require additional EPA review of the State petroleum UST program. In the interim, however, EPA does not object if these newly eligible brownfield properties begin the MOA Track VAP, with the understanding that these properties will not receive the full benefits of the MOA with respect to petroleum underground storage tanks until the appropriate MOA amendments are finalized and effective. In addition, EPA acknowledges that brownfield properties with contamination issues to which the MOA does not apply (e.g., sites contaminated with polychlorinated biphenyls (PCBs)) are not disqualified from participation in the MOA Track VAP if they are otherwise eligible under OAC 3745-300-02. Rather, these properties are subject to other federal and/or state environmental regulatory requirements, and while they may begin the MOA track process with these requirements unfulfilled, only when those regulatory requirements are satisfied do these sites qualify for the benefits described in Section I.B.3 of the MOA.

Sincerely,

Margaret M. Guerriero
Director
Land and Chemicals Division

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APPENDIX C

U.S. EPA APPROVALS UNDER 40 CFR 761

12473.005.001
file 2.5

Funk, Laura

From: Polston.Patricia@epamail.epa.gov
Sent: Thursday, July 14, 2005 2:55 PM
To: Funk, Laura
Cc: White, Bradford S.; Jean.e.caufield@gm.com; Woodyard, John; norm.essman@cityofdayton.org; Pam Barnett; Fonseca.Priscilla@epamail.epa.gov; Martig.Anton@epamail.epa.gov; Olsberg.Colleen@epamail.epa.gov; Mangino.Mario@epamail.epa.gov
Subject: Re: Dayton Concrete Management

Dayton Concrete Plan 3.pdf (19...

Greetings Laura, I wanted to confirm our agreement with the attached submittal. I also wanted to just clarify one thing; if at any time any of the site action levels are exceeded, we would like to be notified. I don't think that was actually listed in the submittal. Thanks. Trish

"Funk, Laura" <Laura.Funk@WestonSolutions.com>
07/06/2005 12:53 PM

To: Patricia Polston/R5/USEPA/US@EPA
cc: norm.essman@cityofdayton.org, Pam Barnett <pam.barnett@sbcglobal.net>, Jean.e.caufield@gm.com, "Woodyard, John" <John.Woodyard@WestonSolutions.com>, "White, Bradford S." <Brad.White@WestonSolutions.com>
Subject: Dayton Concrete Management

Hi Trish,
The attached letter documents the changes to our June 6th concrete management plan that we agreed upon in the conference call a couple weeks ago. Please let me know if you have any questions.

Thanks,
Laura

<<Dayton Concrete Plan 3.pdf>>

Weston Solutions, Inc.
2566 Kohnle Drive
Miamisburg, OH 45342
ph (937) 384-4241
fax (937) 384-4201 (See attached file: Dayton Concrete Plan 3.pdf)

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGIONS 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

MAR 0 7 2006

REPLY TO THE ATTENTION OF:

D-8J

Jean Caufield
GM Remediation
MC 483-520-190
2000 Centerpoint Parkway
Pontiac, Michigan 48341-3147

Dear Ms. Caufield:

The United States Environmental Protection Agency (U.S. EPA), Region 5 is granting approval to General Motors Corporation (GM) to sample, clean up and abandon in place the storm sewer system located between Webster and Taylor Streets, at the former Delphi Harrison Thermal System facility in Dayton, Ohio, in accordance with the procedures described in GM's work plan dated January 6, 2006.

An approval is necessary since residual PCBs may be left in place in the storm sewer system even after the cleanup activities described in the work plan are conducted. The sediment in the storm sewer system and any residual PCBs left in place are PCB remediation waste. This approval is granted in accordance with the Federal PCB regulations at 40 CFR § 761.61(c) under which a Regional Administrator may approve a method to sample, clean up and dispose of PCB remediation waste if it is found that the method will not pose an unreasonable risk of injury to health or the environment. The authority to approve such methods has been delegated in U.S. EPA, Region 5 to the Director of the Waste, Pesticides and Toxics Division.

GM's work plan dated January 6, 2006 includes the following activities:

1) Manhole MH-29, upstream of INT-8, will be sampled. Sediment from all of the other manholes in the storm sewer system have already been sampled.

2) All manholes and storm sewer lines located between Webster and Taylor streets will be cleaned by pressure washing and the structural integrity of the manholes will be visually inspected for cracks or other signs that they are not intact.

3) Where sediment samples from the manholes are found to meet or exceed 50 ppm PCBs, a soil sample will be collected from beneath the manhole if the manhole is not intact.

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4) All sediments, water, and debris resulting from cleaning the manholes and storm sewer lines will be containerized, segregated, characterized and disposed of based on their PCB concentrations.

5) The storm sewer line along Taylor Street will be cleaned and video taped after cleaning to visually verify that all sediments and debris have been removed, since GM plans to reuse the storm sewer line along Taylor Street.

6) The storm sewer line under the building slabs located between Webster and Taylor Streets will be abandoned in place and filled up with flowable slurry grout.

Based on the following information and considerations, we have determined that the sampling, cleanup and disposal of the PCB remediation waste, including the abandonment of the storm sewer lines and manholes with residual PCBs, in accordance with the January 6, 2006 work plan and the above specific activities will not present an unreasonable risk of injury to health or the environment:

- GM has completed the investigation and sampling of the storm sewer lines and manholes to be abandoned, except for manhole #29, which will be sampled prior to abandonment.

- The high pressure wash of the storm sewer system and the filling of the sewer line completely with grout is consistent with what is required under the PCB regulations at 40 CFR § 761.60(b)(5)(i)(C)(2) for the abandonment of natural gas pipelines which contained PCBs.

- The future use of the site will include slab on grade building construction and/or paved parking lots which will serve as caps and will be restricted to industrial use.

- A notation will be recorded on the deed to the property notifying any potential purchaser of the property that PCBs could be left in place in the manholes and storm sewer lines and that the property is restricted to industrial land use.

This approval applies only to the cleanup and abandonment of the storm sewer lines found to be contaminated with PCBs. Any PCB contamination in soil, groundwater or other areas at the site will be addressed after the U.S. EPA, Resource Conservation and Recovery Act (RCRA) corrective action program has completed its evaluations of the risk associated with that contamination. This includes any PCB contamination found in soil underneath the manholes.

As a reminder, remediation waste with less than 50 ppm PCBs must be stored separately from waste having 50 ppm or more PCBs in order to prevent cross contamination or dilution. Disposal of the remediation waste must be in accordance with the Toxics Substances Control Act (TSCA) and RCRA. Water generated during the removal must be treated and disposed of according to 40 CFR § 761.79(b).

GM is responsible for ensuring continued compliance with all applicable provisions of TSCA, the Federal PCB regulations, and the conditions of this approval. Any departure from the conditions of this approval must receive prior written authorization from the U.S. EPA. Further, this approval does not relieve GM from compliance with any other Federal, state, or local regulatory requirements, and does not preclude the U.S. EPA from initiating any enforcement action, including an action seeking civil penalties, for any violation.

Please call either Patricia Polston at (312) 886-8093 or Priscilla Fonseca at (312) 886-1334, if you have any questions related to this matter.

Sincerely,

Margaret M. Guerriero, Director
Waste Pesticides and Toxics Division

cc: Pamela Barnett, BOW Environmental Solutions
Pamela Hull, Ohio EPA
Chris Lipson, City of Dayton

Funk, Laura

From: Funk, Laura
Sent: Wednesday, December 02, 2009 2:29 PM
To: 'Debus.Allen@epamail.epa.gov'
Cc: 'Lipson, Chris'
Subject: RE: Reference to 761.61(c) approval

Hi Allen,
I picked up your voice mail. Thanks for your quick response.

I understand from your message that the reference is to the approval of WESTON's 2005 761.61(c) plan and bolsters what was otherwise documented less formally by the agency.

Thanks for your assistance,
Laura

From: Funk, Laura
Sent: Wednesday, December 02, 2009 10:58 AM
To: 'Debus.Allen@epamail.epa.gov'
Cc: 'Lipson, Chris'
Subject: Reference to 761.61(c) approval

Hi Allen,
Here is the letter that we discussed. Could you review the second to last paragraph and confirm what 761.61(c) approval(s) that is referencing?
Thanks,
Laura

Laura Funk, CP 286
Weston Solutions, Inc.
711 East Monument Avenue, Suite 201
Dayton, OH 45402
(937) 531-4402
fax: (937) 531-4401

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

APR 2 7 2009

REPLY TO THE ATTENTION OF:

LU-9J

Laura Funk
Project Manager
Weston Solutions, Inc.
714 East Monument Avenue, suite 107
Dayton, OH 45402

RE: Self-Implementing PCB Cleanup: Peerless, 300 Taylor Street, Dayton, Ohio

Dear Ms. Funk:

We have completed our review of the April 23, 2009 notification and certification that you intend to conduct a self-implementing cleanup and disposal of PCB remediation waste in accordance with the requirements of 40 CFR 761.61(a). Based on our review, your notification is hereby approved, subject to the following conditions:

1. As stated in 40 CFR 761.61(a), you must conduct the cleanup in accordance with all applicable requirements of 40 CFR 761.61(a)(1) through (9). A copy of those requirements is enclosed for your convenience. To assist you in completing the cleanup successfully, we have placed an "X" in the margin to identify specific requirements for which your notice is deficient in describing how you plan to comply. Specific comments about each of the deficient areas are noted in bold italics following the regulatory citation.

2. You must prepare a cleanup completion summary report that describes how you conducted the cleanup in accordance with the applicable regulatory requirements, including those marked with an "X" on the enclosure. You must send a copy to me within six months after the date of this letter.

2. If your cleanup activity includes the use of a fence or a cap that must be maintained in perpetuity, or if any portion of the site is cleaned up to the levels appropriate for low occupancy areas, then you must notify us thirty days prior to any change in ownership of the property. Such notice must include the name, address and telephone number of the new owner, and the name of the new owner's contact person for this matter. You must also submit a letter, signed by the potential purchaser, stating whether it intends to maintain the fence or cap,

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and whether it plans to maintain the low occupancy land use, or whether it intends to remove and dispose of additional PCB-contaminated soils off-site instead.

Please note that this approval does not relieve you from your duty to comply with all other applicable federal, state, and local requirements. Furthermore, although you stated that USEPA has "recommended" the 40 CFR 761.61(a) for these areas, with respect to PCB contamination, a risk-based disposal approval of 40 CFR 761.61(c) remains in effect for the rest of the former General Motors (GM) Delphi Harrison Radiator Plant facility.

In addition, please note that if you wish to make any changes to your notification (including changes in the project schedule), then you must submit your proposal to Allen Debus of my staff, in writing no less than 14 calendar days prior to the proposed implementation of the change. If you have any questions, please contact her by e-mail at Debus.Allen@epa.gov by telephone at (312) 886-6186.

Sincerely,

Jose G. Cisneros
Chief
Remediation and Reuse Branch

Enclosure

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

SEP 9 2010

REPLY TO THE ATTENTION OF:
L-8J

Chris Lipson, Senior Development Specialist
City of Dayton, City Hall
Office of Economic Development
101 West Third St.
Dayton, Ohio 45401

RE: Conditional Approval for Remediation of Polychlorinated Biphenyls at City of Dayton, Ohio - Tech Town site

Dear Mr. Lipson:

The U.S. Environmental Protection Agency, Region 5, conditionally approves a Work Plan dated August 25, 2010, for Risk-Based Management of Polychlorinated Biphenyls (PCBs) Contaminated Material, submitted by Weston Solutions, Inc., on behalf of the City of Dayton, Ohio. The Region 5 Brownfields program participated in the planning stages of this PCB remediation project; in part, this project is funded by the American Recovery and Reinvestment Act (ARRA). The notification and request for approval were evaluated under Section 6 of the Toxic Substances Control Act (TSCA), 15 U.S.C. §.2605, and the federal PCB regulations at 40 CFR§761.61(c). In accordance with these sections, EPA will approve a risk-based disposal application if it finds that the proposed method will not pose an unreasonable risk of injury to health or the environment. The authority to approve such methods has been delegated to the Director of the Land and Chemicals Division, EPA Region 5.

Weston Solutions' work plan describes removal activities proposed for four Areas of Interest (AOIs) at the Tech Town site. These include AOI 36 (Building 15 T-Trench); AOI 47 (Building 12B T-Trench); AOI 48 (Underground Storage Tank no. 3); and AOI 44 (Building 12B lead contamination). Additionally, a concrete slab overlying contaminated gravel containing up to 27 parts per million total Aroclor PCBs situated at the southern end of AOI 36, will be left in place, without removal. A highly conservative human health risk assessment incorporated into the work plan affirmed that leaving T-Trench materials at the southern end of AOI 36 would not result in unreasonable risks to human health. Accordingly, we concur that removal of certain contaminated materials at all four AOI's, coupled with controlled management of T-Trench materials remaining at the southern portion of AOI 36, will not present an unreasonable risk of injury to health or the environment.

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It is a condition of this Approval that City of Dayton shall institute proper and appropriate restrictions and environmental controls to protect site workers and other visitors to the former Building 15 area. It is our understanding that at conclusion of site-wide remediation, under Ohio Revised Code Chapter 3746 as detailed in Ohio Administrative Code 3745-300, an Environmental Covenant will be prepared, incorporating elements specific to the Building 15 T-Trench area.

Site management will include land use restrictions limiting the property to a commercial/industrial use category. Groundwater use restrictions shall be imposed at the site. The concrete slab itself, left in place, will be covered with several feet of clean fill and paved over with asphalt, constituting a driveway. This barrier system should be appropriately maintained per an Operation and Maintenance plan, to be prepared. Subsequent to driveway installation, there are no plans for other localized procedures for any workers who must excavate or disturb soil within vicinity of the southern Building 15 T-Trench.

This approval is effective as of the date of this letter. The City of Dayton must receive prior written authorization from EPA for any departure from the conditions of this PCB approval or the provisions of the work plan. This approval does not relieve the City of Dayton from compliance with any other federal, state or local regulation and does not preclude EPA from initiating any enforcement action, including an action seeking civil penalties for any violation of federal regulations. All conditions of this approval and other applicable requirements of TSCA and its regulations will continue to apply to the site after construction and redevelopment activities are completed at the Tech Town site.

If you have any further questions, please contact either Peter Ramanauskas at (312) 886-7890 or Allen Debus at (312) 886-6186, of my staff.

Sincerely,

Bruce F. Sypniewski
Acting Director
Land and Chemicals Division

Cc: Laura Funk, Weston Solutions, Inc.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF:

FEB 2 8 2017

CityWide Development Corporation
ATTN: Brian Heitkamp
Chief Operating Officer
8 North Main Street
Dayton, OH 45402

Re: **Request for 40 CFR §761.61(c) Approval Work Plan for Site-Wide Risk-Based Management of PCB-Contaminated Material Dayton Tech Town/Former General Motors Delphi Harrison Thermal Systems Facility 300 Taylor Street, Dayton, Ohio**

Dear Mr. Heitkamp:

This is in response to your July 31, 2015 Request for 40 Code of Federal Regulations (CFR) § 761.61(c) Approval of a Work Plan (Application) for Site-Wide Risk- Based Management of Polychlorinated Biphenyl (PCB) Material at the Dayton Tech Town site as amended in January 2017. The Application was previously submitted by the City of Dayton, a partner in the site development. CityWide Development Corporation is the parent company of Tech Town New Market, Inc., Tech Town Holdings, LLC, and Dayton Tech Town, Inc., and owns the properties to which the Environmental Covenant will be attached at the Recorders Office. The City of Dayton, as a partner in the project, will be identified as a Holder on the Environmental Covenant.

On behalf of the City of Dayton, Weston Solutions Inc. originally submitted a Work Plan under 40 CFR § 761.61(c) in July 2013 to address PCB contamination at the Tech Town site undergoing closure through the Ohio Voluntary Action Program (VAP). The City of Dayton was working to remediate this portion of the former General Motors (GM) Delphi Harrison Radiator Thermal Systems Plant to comply with Ohio VAP standards for commercial and industrial reuse as a campus for technology-oriented companies.

PCBs have been identified in soil on the Site at concentrations exceeding 50 milligrams/kilogram (mg/kg) in five areas that are associated with the following sampling locations: MW-3-02, MW-37- 05, SB-57-02, SB-71-03, and SB-109-04. PCBs have been detected in groundwater samples collected from beneath the Site at concentrations exceeding the

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drinking water standard in several monitoring wells located within or in close proximity to the > 50 mg/kg areas. PCB containing light non-aqueous phase liquid (LNAPL) has been identified at the Site.

The Application, as amended by the City of Dayton, requests a risk-based disposal determination to address the residual PCB contamination at the Site under 40 CFR § 761.61(c) by proposing the following activities:

- Ensuring that no site soils within the 0 to 2-foot interval will exceed 25 mg/kg PCB. For the 2 to 10-foot interval, the City of Dayton applied the Ohio VAP generic standards and use of risk mitigation measures pursuant to a Risk Mitigation Plan to mitigate risk of exposure to PCBs > 42 mg/kg during intrusive site activities. A site-specific single chemical PCB soil standard of 226 mg/kg was calculated to be protective for short- term exposure (i.e. emergency utility repair). Additional soil sampling will be performed in the SB-109-04 area of soils exceeding 226 mg/kg and further action coordinated with EPA.

- Including a notation within an Environmental Covenant that identifies the concentrations and depths of PCB Remediation Waste remaining at the site.

- PCBs were discovered in groundwater at MW-3-02, MW-12A-03, and B-SA21/21R at levels above the TSCA unrestricted use standard of 0.5 µg/L. A bi-annual groundwater monitoring program will be implemented to demonstrate that PCBs discovered in groundwater at the site are not migrating.

- Applying and implementing land and groundwater use restrictions. Potable groundwater use will be prohibited and non-potable groundwater use will be restricted as part of the Environmental Covenant to be recorded at the completion of the voluntary action. Additionally, in August 2009, Ohio EPA issued an Urban Setting Designation approval to the City for a 180-acre area that includes the Tech Town properties under which the groundwater is identified as not currently being used and will not be used for drinking water purposes in the foreseeable future. A notation will be placed within an Environmental Covenant for the site to identify the presence of PCBs at the site and include a requirement to preserve any engineered barriers which may be installed to address residual PCB contamination.

Subject to the conditions of Attachment 1, this approval is granted in accordance with the federal PCB regulations codified at 40 CFR §761.61(c), under which the Regional Administrator may approve a method to dispose of PCB Remediation Waste if it is found that the method will not pose an unreasonable risk of injury to human health or the environment. The Regional Administrator has redelegated this approval authority to the Director of the Land and Chemicals Division. This approval is based on our finding that the use of engineered barriers, groundwater monitoring, and the use of institutional controls (i.e., Environmental Covenant and Urban Setting Designation) to limit human exposure to the remaining on-site PCB-contaminated soil and groundwater will not pose an unreasonable risk to human health and the environment. Compliance with the specific conditions of this approval will also ensure the continued

maintenance of these specific monitoring, engineering, and institutional controls. This approval is effective as of the date of this letter.

EPA shall not consider this project complete until it has received all submittals required under this Approval. Upon EPA receipt and review of the submittals, we may request any additional information necessary to establish that the work has been completed in accordance with 40 CFR Part 761, the Application, and this Approval.

The property owner is responsible for ensuring continued compliance with all applicable provisions of the Toxic Substances Control Act (TSCA), the federal PCB regulations, and the conditions of this Approval. Any departure from the conditions of this Approval or the Notification must receive prior written authorization from this office. Further, this Approval does not relieve the property owner from compliance with any other federal, State, or local regulatory requirements. This Approval does not preclude EPA from initiating any enforcement action, including an action seeking civil penalties, suspension or termination of the Approval for any violation, or requiring additional cleanup should The property owner fail to abide by this Approval. All conditions of this Approval and other applicable requirements of TSCA and its implementing regulations will continue to apply to the Site after any transfer in ownership.

If you have any questions regarding this approval, please do not hesitate to call Peter Ramanauskas, of my staff, at (312) 886-7890.

Sincerely,

Ignacio L. Arrázola
Acting Director
Land and Chemicals Division

Enclosure

cc: Chris Lipson, City of Dayton Michelle Bakkila, Weston Solutions

APPROVAL CONDITIONS

A. Authorized Remedial Action

The property owner is authorized to cleanup and dispose of PCB remediation waste found at the Dayton Tech Town/Former General Motors Delphi Harrison Thermal Systems Facility according to the procedures described in the January 2017 Work Plan and according to the conditions below:

1. The property owner will prepare and submit a sampling and analysis Plan to EPA to perform additional delineation in the area of the Meigs Street extension and in the area of SB-109-04.

2. Prior to any soil excavation activities below a depth of 2 feet that will generate soil for reuse or disposal, the excavation area soils shall be characterized for the presence of PCB contamination using existing data within or in the vicinity of the proposed excavation area or via the collection of additional soil characterization data. Due care shall be exercised in the decision-making process for collecting additional soil characterization samples considering factors such as concentrations of PCBs in nearby sampling locations relative to the action levels described below, respective distance and available PCB data from nearby sampling locations to the proposed excavation area and depth, and visual or olfactory observations of contamination. Soil sample results used for characterization, segregation, and disposal determination purposes must be based on samples collected in-situ.

    a. Soil and/or concrete sample results used for characterization, segregation, and disposal determination purposes must be based on samples collected in-situ.

    b. Soils exceeding 226 mg/kg PCB within 2 to 10 feet below ground surface must be removed and disposed of in accordance with 40 CFR §761.61(a)(5)(i)(B).

    c. Any additionally excavated site soils exceeding 50 mg/kg PCB must be disposed of in accordance with 40 CFR §761.61(a)(5)(i)(B).

    d. Any soils exceeding 25 mg/kg PCB must be removed from the 0 to 2-foot interval or covered by an engineered barrier meeting, at a minimum, the requirements of 40 CFR §761.61(a)(7).

    e. Excavated site soil containing <50 mg/kg PCB may be returned to the site or disposed off-site in accordance with 40 CFR §761.61(a)(5)(i)(B), subject to the condition presented in paragraph A.2.d.

    f. Any water removed from excavation containing PCB must be decontaminated or disposed of as allowed under 40 CFR §761.61(b)(1).

3. Light Non-Aqueous Phase Liquid (LNAPL) will be extracted in the B-SA21R area through use of extraction/soil-vapor extraction wells.

4. LNAPL, absorbent materials, and any residual groundwater will be analyzed and decontaminated to the standards identified in 40 CFR §§761.79(b)(1) or (b)(2), as applicable, or disposed of in accordance with 40 CFR §761.61(b). PCB remediation waste absorbent socks will be placed inside a 30-gallon poly drum and properly labeled. The 30-gallon drum will be placed inside a 55-gallon drum which will also be labeled and stored within a locked enclosure. Disposal arrangements will be made when the 30-gallon poly drum reaches capacity. On-site storage will not exceed 18 months.

B. Monitoring

1. LNAPL thickness monitoring will be conducted in monitoring wells B-SA21R, MW-12A-03, MW-24-04, and B-SA27. B-SA27 is noted as being obscured by fill. If B-SA27 cannot be located or is damaged, a replacement well that screens the water table will be installed for LNAPL thickness monitoring.

2. Monitoring wells MW-3-02 and sentry wells MW-13A-03, MW-72, MW-9-03, DAY-01, MW26-04, and B-SA26 will be sampled biannually for PCBs. If PCB levels at the sentry wells exceed the 40 CFR §761.79(b)(1)(ii) level of 3 micrograms per liter (µg/L), the wells will be resampled within two weeks of validation of the initial results. If resampling results in a PCB detection above 3 ug/L or if LNAPL is identified in any of the sentry wells, the property owner will evaluate the results, contact U.S. EPA within five working days of confirmation, and submit a groundwater assessment proposal, including an assessment of additional remedial activities, to U.S. EPA within 90 days.

3. If after 5 years of biannual sampling, PCBs are not detected in the sentry wells at levels above 3 µg/L, the property owner may submit a proposal to U.S. EPA to modify the groundwater monitoring program.

C. Property Use and Restrictions

1. At least 30 days prior to recording an Environmental Covenant for the site per this approval, the property owner will submit a draft copy for review to EPA, Region 5 for review and approval.

2. The property owner will file, under the Ohio Uniform Environmental Covenants Act, an Environmental Covenant for the site upon EPA's approval and signature reflecting the activity and use limitations and provide a copy of the fully executed and filed Environmental Covenant to EPA.

D. Recordkeeping and Reporting

1. The property owner will maintain all records and documents required by 40 CFR Part 761 including records required by Subparts J and K.

2. The property owner shall notify EPA of the discovery of visual or olfactory observations of potential contamination and provide the results of any additional characterization samples collected from such areas under paragraph A.2.

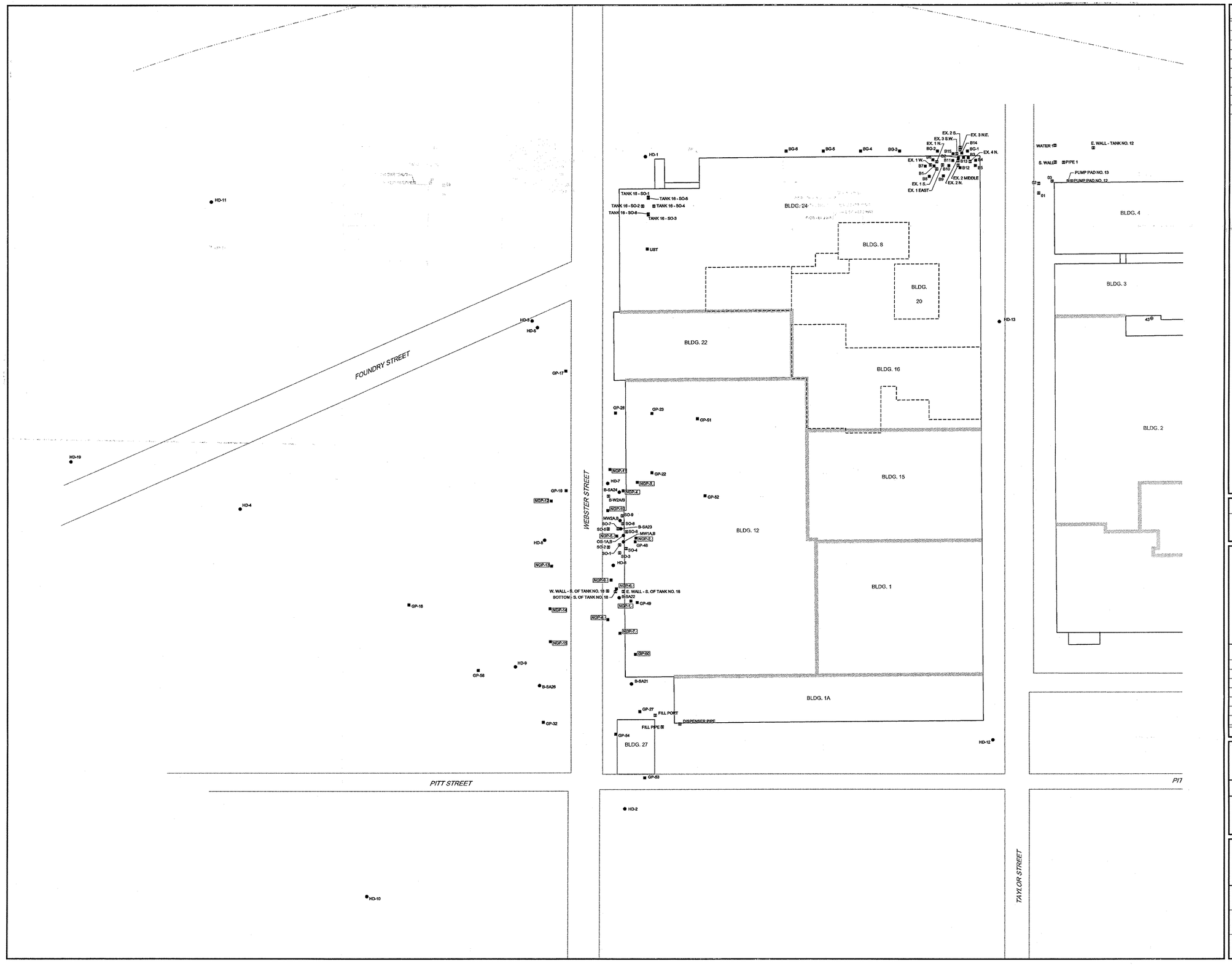
3. The property owner will submit an annual report to EPA identifying groundwater monitoring results, information on any site excavations involving the disturbance or disposal of PCB contaminated soil > 50 mg/kg, and, if engineered barriers are installed under Condition A.2.d, the results of any engineered barrier inspections and repairs. The property owner will maintain such records as long as it owns the site, and will transfer those records to any subsequent owners at the time of conveyance.

4. The property owner will implement a Risk Mitigation Plan to communicate chemical risks and mitigation requirements to construction workers. Limitations on soil disturbance at the site will be identified consistent with the Risk Mitigation Plan.

APPENDIX D

CURRENT CONDITION REPORT EXCERPT –

pre-RFI SAMPLING RESULTS



No	Revision	Date	Initial

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

Approved

DRAWING STATUS

Status	Date	Initial

FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY

DAYTON, OHIO

HISTORICAL SAMPLE LOCATIONS

CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

Project Manager:	Reviewed By:	Date:	
I. RICHARDSON	S. EASTMAN	FEBRUARY 2001	
Scale: 1"=50'	Project No: 12638-02	Report No: 004	Drawing No: G.1a

12638-02(004)GN-WA036 MAY 09/2001

Nº	Revision	Date	Initial

N

0 20 50ft

LEGEND

- BUILDING WALL
- BUILDING BOUNDARY
- FORMER BUILDING WALL
- SHORELINE
- RAILROAD
- GP-38 SOIL BORING LOCATION
- WATER 1 SAMPLE COLLECTED FROM EXCAVATION
- HD-13 WELL LOCATION
- SAMPLES NOT COLLECTED AT THIS LOCATION

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

Approved

DRAWING STATUS

Status	Date	Initial

FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY

DAYTON, OHIO

HISTORICAL SAMPLE LOCATIONS

CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

Project Manager:	Reviewed By:	Date:	
I. RICHARDSON	S. EASTMAN	FEBRUARY 2001	
Scale: 1"=50'	Project Nº: 12638-02	Report Nº: 004	Drawing Nº: G.1b

12638-02(004)GN-WA038 APR 11/2001

APPENDIX G

HISTORICAL SAMPLE RESULTS

HISTORICAL SOIL SAMPLE RESULTS
AOI 1 - SOLVENT RELEASE AREA WEST OF BUILDING 12
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*B-SA21*	*B-SA22*	*B-SA22*	*B-SA23*	*B-SA23*	*B-SA24*	*B-SA24*	*B-SA26*	*B-SA26*	*Dayton-SO-1*
Sample Name:		*B-SA21 S-4*	*B-SA22 S-3*	*B-SA22 S-8*	*B-SA23 S-1*	*B-SA23 S-7*	*B-SA24 S-4*	*B-SA24 S-8*	*B-SA26 S-2*	*B-SA26 S-4*	*Dayton-SO-1*
Sample Depth:		*(7-9)*	*(5-7)*	*(15-17)*	*(1-3)*	*(13-15)*	*(7-9)*	*(15-17)*	*(3-5)*	*(7-9)*	
Sample Date:		*6/11/96*	*6/5/96*	*6/6/96*	*6/5/96*	*6/6/96*	*6/6/96*	*6/6/96*	*6/10/96*	*6/10/96*	*12/8/89*
Parameter	*Units*										
BTEX											
Benzene	ug/Kg	2.2	ND (0.5)	ND (3)	ND (0.6)	ND (75)	370	ND (0.5)	ND (0.6)	ND (0.7)	ND (140)
Ethylbenzene	ug/Kg	ND (0.6)	ND (0.5)	ND (3)	ND (0.6)	480	930	ND (0.5)	ND (0.6)	ND (0.7)	ND (140)
m&p-Xylene	ug/Kg	ND (1.2)	ND (1.0)	200	ND (1.1)	2700	1100	ND (1.1)	ND (1.1)	ND (1.5)	-
o-Xylene	ug/Kg	ND (0.6)	ND (0.5)	850	ND (0.6)	7300	1000	ND (0.5)	ND (0.6)	ND (0.7)	-
Toluene	ug/Kg	ND (4)	ND (0.5)	280	1.3	7500	1600	ND (0.5)	ND (0.6)	ND (0.7)	ND (140)
Xylene (total)	ug/Kg	-	-	-	-	-	-	-	-	-	ND (140)
PAH											
Acenaphthene	ug/Kg	150	ND (35)	ND (39)	ND (37)	6700 E	250	ND (35)	ND (38)	1800	-
Acenaphthylene	ug/Kg	95	ND (35)	ND (39)	ND (37)	2800	ND (81)	ND (35)	ND (38)	2800	-
Anthracene	ug/Kg	490	ND (35)	110	ND (37)	330	400	ND (35)	ND (38)	2900	-
Benzo(a)anthracene	ug/Kg	ND (78)	ND (35)	550	ND (37)	ND (40)	2600	120	170	9200	-
Benzo(a)pyrene	ug/Kg	3200	ND (35)	700	ND (37)	880	2900	120	180	8800	-
Benzo(b)fluoranthene	ug/Kg	ND (78)	ND (35)	540	ND (37)	ND (40)	2500	170	140	ND (390)	-
Benzo(g,h,i)perylene	ug/Kg	ND (78)	ND (35)	460	ND (37)	ND (40)	2300	110	110	ND (390)	-
Benzo(k)fluoranthene	ug/Kg	ND (78)	ND (35)	340	ND (37)	440	1300	64	82	ND (390)	-
Chrysene	ug/Kg	2500	ND (35)	640	ND (37)	820	2900	140	210	ND (390)	-
Dibenz(a,h)anthracene	ug/Kg	2500	ND (35)	71	ND (37)	ND (40)	330	ND (35)	ND (38)	ND (390)	-
Fluoranthene	ug/Kg	3900	ND (35)	690	61	630	5200	340	480	24000	-
Fluorene	ug/Kg	ND (78)	ND (35)	ND (39)	ND (37)	680	140	ND (35)	ND (38)	2300	-
Indeno(1,2,3-cd)pyrene	ug/Kg	ND (78)	ND (35)	ND (39)	ND (37)	ND (40)	2600	110	120	ND (390)	-
Naphthalene	ug/Kg	210	ND (35)	ND (39)	ND (37)	6800 E	96	ND (35)	62	1200	-
Phenanthrene	ug/Kg	1800	ND (35)	380	ND (37)	1200	2300	170	490	12000	-
Pyrene	ug/Kg	5900	ND (35)	790	ND (37)	1400	5000	250	350	21000	-
Petroleum Products											
Total Petroleum Hydrocarbons	mg/Kg	-	-	-	-	-	-	-	-	-	-
Total Petroleum Hydrocarbons - extractable (DRO)	mg/Kg	-	-	-	-	-	-	-	-	-	-
Total Petroleum Hydrocarbons, Field	mg/Kg	-	-	-	-	-	-	-	-	-	-
Total Recoverable Petroleum Hydrocarbons	mg/Kg	401	33.4	1470	720	12700	456	279	1300	9020	7400
Semi-Volatiles											
1,2,4-Trichlorobenzene	ug/Kg	ND (490)	ND (330)	ND (400)	ND (360)	ND (5600)	ND (820)	ND (360)	ND (760)	ND (3300)	-
1,2-Dichlorobenzene	ug/Kg	ND (490)	ND (330)	ND (400)	ND (360)	ND (5600)	ND (820)	ND (360)	ND (760)	ND (3300)	-
1,3-Dichlorobenzene	ug/Kg	ND (490)	ND (330)	ND (400)	ND (360)	ND (5600)	ND (820)	ND (360)	ND (760)	ND (3300)	-
1,4-Dichlorobenzene	ug/Kg	ND (490)	ND (330)	ND (400)	ND (360)	ND (5600)	ND (820)	ND (360)	ND (760)	ND (3300)	-
2,4-Dinitrotoluene	ug/Kg	ND (490)	ND (330)	ND (400)	ND (360)	ND (5600)	ND (820)	ND (360)	ND (760)	ND (3300)	-
2,6-Dinitrotoluene	ug/Kg	ND (490)	ND (330)	ND (400)	ND (360)	ND (5600)	ND (820)	ND (360)	ND (760)	ND (3300)	-
2-Chloronaphthalene	ug/Kg	ND (490)	ND (330)	ND (400)	ND (360)	ND (5600)	ND (820)	ND (360)	ND (760)	ND (3300)	-
2-Methyl naphthalene	ug/Kg	220 J	ND (330)	ND (400)	ND (360)	3100 J	260 J	ND (360)	ND (760)	570 J	-
2-Nitroaniline	ug/Kg	ND (2400)	ND (1600)	ND (1900)	ND (1800)	ND (27000)	ND (4000)	ND (1800)	ND (3700)	ND (16000)	-
3,3'-Dichlorobenzidine	ug/Kg	ND (980)	ND (660)	ND (790)	ND (730)	ND (11000)	ND (1600)	ND (730)	ND (1500)	ND (6600)	-
3-Nitroaniline	ug/Kg	ND (2400)	ND (1600)	ND (1900)	ND (1800)	ND (27000)	ND (4000)	ND (1800)	ND (3700)	ND (16000)	-
4-Bromophenyl phenyl ether	ug/Kg	ND (490)	ND (330)	ND (400)	ND (360)	ND (5600)	ND (820)	ND (360)	ND (760)	ND (3300)	-
4-Chloroaniline	ug/Kg	ND (490)	ND (330)	ND (400)	ND (360)	ND (5600)	ND (820)	ND (360)	ND (760)	ND (3300)	-
4-Chlorophenyl phenyl ether	ug/Kg	ND (490)	ND (330)	ND (400)	ND (360)	ND (5600)	ND (820)	ND (360)	ND (760)	ND (3300)	-
4-Nitroaniline	ug/Kg	ND (2400)	ND (1600)	ND (1900)	ND (1800)	ND (27000)	ND (4000)	ND (1800)	ND (3700)	ND (16000)	-

TABLE G.1

HISTORICAL SOIL SAMPLE RESULTS
AOI 1 - SOLVENT RELEASE AREA WEST OF BUILDING 12
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*B-SA21*	*B-SA22*	*B-SA22*	*B-SA23*	*B-SA23*	*B-SA24*	*B-SA24*	*B-SA26*	*B-SA26*	*Dayton-SO-1*
Sample Name:		*B-SA21 S-4*	*B-SA22 S-3*	*B-SA22 S-8*	*B-SA23 S-1*	*B-SA23 S-7*	*B-SA24 S-4*	*B-SA24 S-8*	*B-SA26 S-2*	*B-SA26 S-4*	*Dayton-SO-1*
Sample Depth:		*(7-9)*	*(5-7)*	*(15-17)*	*(1-3)*	*(13-15)*	*(7-9)*	*(15-17)*	*(3-5)*	*(7-9)*	
Sample Date:		*6/11/96*	*6/5/96*	*6/6/96*	*6/5/96*	*6/6/96*	*6/6/96*	*6/6/96*	*6/10/96*	*6/10/96*	*12/8/89*
Parameter	*Units*										
Acenaphthene	ug/Kg	350 J	ND (330)	ND (400)	ND (360)	ND (5600)	990	ND (360)	ND (760)	1300 J	-
Acenaphthylene	ug/Kg	100 J	ND (330)	ND (400)	ND (360)	ND (5600)	58 J	ND (360)	ND (760)	440 J	-
Anthracene	ug/Kg	830	ND (330)	ND (400)	ND (360)	ND (5600)	1600	ND (360)	ND (760)	3200 J	-
Benzene, isopropyl	ug/Kg	-	-	-	-	-	-	-	-	-	-
Benzo(a)anthracene	ug/Kg	3000	ND (330)	180 J	42 J	580 J	5500	110 J	140 J	11000	-
Benzo(a)pyrene	ug/Kg	2300	ND (330)	230 J	66 J	ND (5600)	6100.0	91 J	110 J	8100	-
Benzo(b)fluoranthene	ug/Kg	5200	ND (330)	ND (400)	56 J	ND (5600)	5500.0	120 J	230 J	18000	-
Benzo(g,h,i)perylene	ug/Kg	2000	ND (330)	240 J	52 J	ND (5600)	5300.0	70 J	ND (760)	4300	-
Benzo(k)fluoranthene	ug/Kg	ND (490)	ND (330)	220 J	41 J	ND (5600)	5600.0	ND (360)	ND (760)	ND (3300)	-
Benzyl Alcohol	ug/Kg	ND (490)	ND (330)	ND (400)	ND (360)	ND (5600)	ND (820)	ND (360)	ND (760)	ND (3300)	-
bis(2-Chloroethoxy)methane	ug/Kg	ND (490)	ND (330)	ND (400)	ND (360)	ND (5600)	ND (820)	ND (360)	ND (760)	ND (3300)	-
bis(2-Chloroethyl)ether	ug/Kg	ND (490)	ND (330)	ND (400)	ND (360)	ND (5600)	ND (820)	ND (360)	ND (760)	ND (3300)	-
bis(2-Chloroisopropyl)ether	ug/Kg	ND (490)	ND (330)	ND (400)	ND (360)	ND (5600)	ND (820)	ND (360)	ND (760)	ND (3300)	-
bis(2-Ethylhexyl)phthalate	ug/Kg	280 J	ND (330)	ND (400)	ND (360)	ND (5600)	ND (820)	ND (360)	ND (760)	ND (3300)	-
Butyl benzyiphthalate	ug/Kg	ND (490)	ND (330)	ND (400)	ND (360)	ND (5600)	ND (820)	ND (360)	ND (760)	ND (3300)	-
Chrysene	ug/Kg	ND (2000)	ND (330)	230 J	55 J	610 J	6200	140 J	170 J	11000	-
Dibenz(a,h)anthracene	ug/Kg	480 J	ND (330)	96 J	ND (360)	ND (5600)	ND (820)	ND (360)	ND (760)	2000 J	-
Dibenzofuran	ug/Kg	300 J	ND (330)	ND (400)	ND (360)	ND (5600)	320 J	ND (360)	ND (760)	840 J	-
Diethyl phthalate	ug/Kg	ND (490)	230 J	ND (400)	ND (360)	ND (5600)	ND (820)	ND (360)	ND (760)	ND (3300)	-
Dimethyl phthalate	ug/Kg	ND (490)	ND (330)	ND (400)	ND (360)	ND (5600)	ND (820)	ND (360)	ND (760)	ND (3300)	-
Di-n-butylphthalate	ug/Kg	ND (490)	ND (330)	ND (400)	ND (360)	ND (5600)	ND (820)	ND (360)	ND (760)	300 JB	-
Di-n-octyl phthalate	ug/Kg	150 J	ND (330)	ND (400)	ND (360)	ND (5600)	ND (820)	ND (360)	260 J	1300 J	-
Fluoranthene	ug/Kg	5700	ND (330)	290 J	110 J	940 J	12000	230 J	300 J	23000	-
Fluorene	ug/Kg	340 J	ND (330)	ND (400)	ND (360)	ND (5600)	530 J	ND (360)	ND (760)	1600 J	-
Hexachlorobenzene	ug/Kg	ND (490)	ND (330)	ND (400)	ND (360)	ND (5600)	ND (820)	ND (360)	ND (760)	ND (3300)	-
Hexachlorobutadiene	ug/Kg	ND (490)	ND (330)	ND (400)	ND (360)	ND (5600)	ND (820)	ND (360)	ND (760)	ND (3300)	-
Hexachlorocyclopentadiene	ug/Kg	ND (490)	ND (330)	ND (400)	ND (360)	ND (5600)	ND (820)	ND (360)	ND (760)	ND (3300)	-
Hexachloroethane	ug/Kg	ND (490)	ND (330)	ND (400)	ND (360)	ND (5600)	ND (820)	ND (360)	ND (760)	ND (3300)	-
Indeno(1,2,3-cd)pyrene	ug/Kg	1400	ND (330)	220 J	43 J	ND (5600)	4300	66 J	ND (760)	3900	-
Isophorone	ug/Kg	ND (490)	ND (330)	ND (400)	ND (360)	ND (5600)	ND (820)	ND (360)	ND (760)	ND (3300)	-
Naphthalene	ug/Kg	290 J	ND (330)	ND (400)	ND (360)	ND (5600)	250 J	ND (360)	ND (760)	960 J	-
Nitrobenzene	ug/Kg	ND (490)	ND (330)	ND (400)	ND (360)	ND (5600)	ND (820)	ND (360)	ND (760)	ND (3300)	-
N-Nitrosodi-n-propylamine	ug/Kg	ND (490)	ND (330)	ND (400)	ND (360)	ND (5600)	ND (820)	ND (360)	ND (760)	ND (3300)	-
N-Nitrosodiphenylamine	ug/Kg	ND (490)	ND (330)	ND (400)	ND (360)	ND (5600)	ND (820)	ND (360)	ND (760)	ND (3300)	-
Phenanthrene	ug/Kg	3900	ND (330)	140 J	64 J	1000 J	7700	70 J	370 J	13000	-
Pyrene	ug/Kg	4600	ND (330)	280 J	100 J	840 J	9100	200 J	320 J	20000	-
Volatiles											
1,1,1,2-Tetrachloroethane	ug/Kg	-	-	-	-	-	-	-	-	-	-
1,1,1-Trichloroethane	ug/Kg	ND (30)	ND (5)	ND (750)	ND (6)	ND (750)	ND (31)	ND (6)	ND (6)	ND (8)	-
1,1,2,2-Tetrachloroethane	ug/Kg	ND (30)	ND (5)	ND (750)	ND (6)	ND (750)	ND (31)	ND (6)	ND (6)	ND (8)	-
1,1,2-Trichloroethane	ug/Kg	ND (30)	ND (5)	ND (750)	ND (6)	ND (750)	ND (62)	ND (6)	ND (6)	ND (8)	-
1,1-Dichloroethane	ug/Kg	ND (30)	ND (5)	ND (750)	ND (6)	ND (750)	ND (31)	ND (6)	ND (6)	ND (8)	-
1,1-Dichloroethene	ug/Kg	ND (30)	ND (5)	ND (750)	ND (6)	ND (750)	ND (31)	ND (6)	ND (6)	ND (8)	-
1,2,3-Trichloropropane	ug/Kg	-	-	-	-	-	-	-	-	-	-
1,2-Dibromo-3-chloropropane (DBCP)	ug/Kg	-	-	-	-	-	-	-	-	-	-
1,2-Dibromoethane (EDB)	ug/Kg	-	-	-	-	-	-	-	-	-	-
1,2-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-
1,2-Dichloroethane	ug/Kg	ND (30)	ND (5)	ND (750)	ND (6)	ND (750)	ND (31)	ND (6)	ND (6)	ND (8)	-
1,2-Dichloroethene (total)	ug/Kg	-	-	-	-	-	-	-	-	-	-
1,2-Dichloropropane	ug/Kg	ND (30)	ND (5)	ND (750)	ND (6)	ND (750)	ND (31)	ND (6)	ND (6)	ND (8)	-

HISTORICAL SOIL SAMPLE RESULTS
AOI 1 - SOLVENT RELEASE AREA WEST OF BUILDING 12
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*B-SA21*	*B-SA22*	*B-SA22*	*B-SA23*	*B-SA23*	*B-SA24*	***B-SA24***	*B-SA26*	*B-SA26*	*Dayton-SO-1*
Sample Name:		*B-SA21 S-4*	*B-SA22 S-3*	*B-SA22 S-8*	*B-SA23 S-1*	*B-SA23 S-7*	*B-SA24 S-4*	***B-SA24 S-8***	*B-SA26 S-2*	*B-SA26 S-4*	*Dayton-SO-1*
Sample Depth:		*(7-9)*	*(5-7)*	*(15-17)*	*(1-3)*	*(13-15)*	*(7-9)*	***(15-17)***	*(3-5)*	*(7-9)*	
Sample Date:		*6/11/96*	*6/5/96*	*6/6/96*	*6/5/96*	*6/6/96*	*6/6/96*	***6/6/96***	*6/10/96*	*6/10/96*	*12/8/89*
Parameter	*Units*										
1,3-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-
1,4-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-
1,4-Dioxane	ug/Kg	-	-	-	-	-	-	-	-	-	-
2-Butanone	ug/Kg	8 J	ND (10)	ND (1500)	ND (11)	ND (1500)	ND (62)	ND (11)	ND (11)	6 J	-
2-Chloroethyl vinyl ether	ug/Kg	-	-	-	-	-	-	-	-	-	-
2-Hexanone	ug/Kg	ND (60)	ND (10)	ND (1500)	ND (11)	ND (1500)	ND (62)	ND (11)	ND (11)	ND (15)	-
4-Methyl-2-pentanone	ug/Kg	ND (60)	ND (10)	ND (1500)	ND (11)	ND (1500)	ND (62)	ND (11)	ND (11)	ND (15)	-
Acetone	ug/Kg	46 JB	3 JB	ND (1500)	2 JB	ND (1500)	17 JB	ND (11)	2 JB	18 B	-
Acrolein	ug/Kg	-	-	-	-	-	-	-	-	-	-
Acrylonitrile	ug/Kg	-	-	-	-	-	-	-	-	-	-
Allyl chloride	ug/Kg	-	-	-	-	-	-	-	-	-	-
Benzene	ug/Kg	-	-	-	-	-	-	-	-	-	-
Bromodichloromethane	ug/Kg	ND (30)	ND (5)	ND (750)	ND (6)	ND (750)	ND (31)	ND (6)	ND (6)	ND (8)	-
Bromoform	ug/Kg	ND (30)	ND (5)	ND (750)	ND (6)	ND (750)	ND (31)	ND (6)	ND (6)	ND (8)	-
Bromomethane	ug/Kg	ND (60)	ND (10)	ND (1500)	ND (11)	ND (1500)	ND (62)	ND (11)	ND (11)	ND (15)	-
Carbon disulfide	ug/Kg	6 J	ND (5)	ND (750)	ND (6)	ND (750)	ND (31)	ND (6)	ND (6)	2 J	-
Carbon tetrachloride	ug/Kg	ND (30)	ND (5)	ND (750)	ND (6)	ND (750)	ND (31)	ND (6)	ND (6)	ND (8)	-
Chlorobenzene	ug/Kg	ND (30)	ND (5)	ND (750)	ND (6)	ND (750)	ND (31)	ND (6)	ND (6)	ND (8)	-
Chlorobromomethane	ug/Kg	-	-	-	-	-	-	-	-	-	-
Chloroethane	ug/Kg	ND (60)	ND (10)	ND (1500)	ND (11)	ND (1500)	ND (62)	ND (11)	ND (11)	ND (15)	-
Chloroform	ug/Kg	ND (30)	ND (5)	ND (750)	ND (6)	ND (750)	ND (31)	ND (6)	ND (6)	ND (8)	-
Chloromethane	ug/Kg	ND (60)	ND (10)	ND (1500)	ND (11)	ND (1500)	ND (62)	ND (11)	ND (11)	ND (15)	-
Chloroprene	ug/Kg	-	-	-	-	-	-	-	-	-	-
cis-1,2-Dichloroethene	ug/Kg	31	ND (5)	ND (750)	ND (6)	21000	76	ND (6)	ND (6)	6 J	-
cis-1,3-Dichloropropene	ug/Kg	ND (30)	ND (5)	ND (750)	ND (6)	ND (750)	ND (31)	ND (6)	ND (6)	ND (8)	-
cis-1,4-Dichloro-2-butene	ug/Kg	-	-	-	-	-	-	-	-	-	-
Dibromochloromethane	ug/Kg	ND (30)	ND (5)	ND (750)	ND (6)	ND (750)	ND (31)	ND (6)	ND (6)	ND (8)	-
Dibromomethane	ug/Kg	-	-	-	-	-	-	-	-	-	-
Dichlorodifluoromethane (CFC-12)	ug/Kg	-	-	-	-	-	-	-	-	-	-
Ethyl methacrylate	ug/Kg	-	-	-	-	-	-	-	-	-	-
Ethylbenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-
Iodomethane	ug/Kg	-	-	-	-	-	-	-	-	-	-
Isobutyl alcohol	ug/Kg	-	-	-	-	-	-	-	-	-	-
Methyl acrylonitrile	ug/Kg	-	-	-	-	-	-	-	-	-	-
Methyl methacrylate	ug/Kg	-	-	-	-	-	-	-	-	-	-
Methyl Tert Butyl Ether	ug/Kg	-	-	-	-	-	-	-	-	-	-
Methylene chloride	ug/Kg	ND (30)	ND (5)	ND (750)	ND (6)	ND (750)	ND (31)	ND (6)	ND (6)	ND (8)	-
Naphtha	ug/Kg	-	-	-	-	-	-	-	-	-	-
Propionitrile (Ethyl cyanide)	ug/Kg	-	-	-	-	-	-	-	-	-	-
Styrene	ug/Kg	ND (30)	ND (5)	ND (750)	ND (6)	ND (750)	ND (31)	ND (6)	ND (6)	ND (8)	-
Tetrachloroethene	ug/Kg	870	4 J	21000	84	140000	1300	81	ND (6)	3 J	3500
Tetrahydrofuran	ug/Kg	-	-	-	-	-	-	-	-	-	-
Toluene	ug/Kg	ND (30)	ND (5)	ND (750)	ND (6)	ND (750)	ND (31)	ND (6)	ND (6)	ND (8)	-
trans-1,2-Dichloroethene	ug/Kg	ND (30)	ND (5)	ND (750)	ND (6)	120 J	ND (31)	ND (6)	ND (6)	ND (8)	-
trans-1,3-Dichloropropene	ug/Kg	ND (30)	ND (5)	ND (750)	ND (6)	ND (750)	ND (31)	ND (6)	ND (6)	ND (8)	-
trans-1,4-Dichloro-2-butene	ug/Kg	-	-	-	-	-	-	-	-	-	-
Trichloroethene	ug/Kg	570	ND (5)	300 J	2 J	2000	ND (440)	3 J	ND (6)	2 J	-
Trichlorofluoromethane (CFC-11)	ug/Kg	-	-	-	-	-	-	-	-	-	-
Trifluorotrichloroethane (Freon 113)	ug/Kg	-	-	-	-	-	-	-	-	-	-
Vinyl acetate	ug/Kg	ND (60)	ND (10)	ND (1500)	ND (11)	ND (1500)	ND (62)	ND (11)	ND (11)	ND (15)	-
Vinyl chloride	ug/Kg	ND (60)	ND (10)	ND (1500)	ND (11)	ND (1500)	ND (62)	ND (11)	ND (11)	ND (15)	-
Volatile Mineral Oils	ug/Kg	-	-	-	-	-	-	-	-	-	-

TABLE G.1

HISTORICAL SOIL SAMPLE RESULTS
AOI 1 - SOLVENT RELEASE AREA WEST OF BUILDING 12
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*B-SA21*	*B-SA22*	*B-SA22*	*B-SA23*	*B-SA23*	*B-SA24*	*B-SA24*	*B-SA26*	*B-SA26*	*Dayton-SO-1*
Sample Name:		*B-SA21 S-4*	*B-SA22 S-3*	*B-SA22 S-8*	*B-SA23 S-1*	*B-SA23 S-7*	*B-SA24 S-4*	*B-SA24 S-8*	*B-SA26 S-2*	*B-SA26 S-4*	*Dayton-SO-1*
Sample Depth:		*(7-9)*	*(5-7)*	*(15-17)*	*(1-3)*	*(13-15)*	*(7-9)*	*(15-17)*	*(3-5)*	*(7-9)*	
Sample Date:		*6/11/96*	*6/5/96*	*6/6/96*	*6/5/96*	*6/6/96*	*6/6/96*	*6/6/96*	*6/10/96*	*6/10/96*	*12/8/89*
Parameter	*Units*										
Xylene (total)	ug/Kg	ND (30)	ND (5)	ND (750)	ND (6)	2000	ND (31)	ND (6)	ND (6)	ND (8)	-
General Chemistry											
Percent Solids	%	-	-	-	-	-	-	-	-	-	-

HISTORICAL SOIL SAMPLE RESULTS
AOI 1 - SOLVENT RELEASE AREA WEST OF BUILDING 12
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*Dayton-SO-2*	*Dayton-SO-3*	*Dayton-SO-4*	*Dayton-SO-5*	*Dayton-SO-6*	*Dayton-SO-7*	*Dayton-SO-8*	*Dayton-SO-9*
Sample Name:		*Dayton-SO-2*	*Dayton-SO-3*	*Dayton-SO-4*	*Dayton-SO-5*	*Dayton-SO-6*	*Dayton-SO-7*	*Dayton-SO-8*	*Dayton-SO-9*
Sample Depth:									
Sample Date:		*12/8/89*	*12/8/89*	*12/8/89*	*12/9/89*	*12/9/89*	*12/9/89*	*12/9/89*	*12/9/89*
Parameter	*Units*								
BTEX									
Benzene	ug/Kg	ND (170)	ND (1900)	ND (170)	ND (5000)	ND (170)	ND (720)	ND (180)	ND (9500)
Ethylbenzene	ug/Kg	ND (170)	ND (1900)	ND (170)	ND (5000)	ND (170)	ND (720)	ND (180)	ND (9500)
m&p-Xylene	ug/Kg	-	-	-	-	-	-	-	-
o-Xylene	ug/Kg	-	-	-	-	-	-	-	-
Toluene	ug/Kg	ND (170)	ND (1900)	ND (170)	ND (5000)	ND (170)	ND (720)	ND (180)	ND (9500)
Xylene (total)	ug/Kg	ND (170)	ND (1900)	ND (170)	ND (5000)	ND (170)	ND (720)	ND (180)	ND (9500)
PAH									
Acenaphthene	ug/Kg	-	-	-	-	-	-	-	-
Acenaphthylene	ug/Kg	-	-	-	-	-	-	-	-
Anthracene	ug/Kg	-	-	-	-	-	-	-	-
Benzo(a)anthracene	ug/Kg	-	-	-	-	-	-	-	-
Benzo(a)pyrene	ug/Kg	-	-	-	-	-	-	-	-
Benzo(b)fluoranthene	ug/Kg	-	-	-	-	-	-	-	-
Benzo(g,h,i)perylene	ug/Kg	-	-	-	-	-	-	-	-
Benzo(k)fluoranthene	ug/Kg	-	-	-	-	-	-	-	-
Chrysene	ug/Kg	-	-	-	-	-	-	-	-
Dibenz(a,h)anthracene	ug/Kg	-	-	-	-	-	-	-	-
Fluoranthene	ug/Kg	-	-	-	-	-	-	-	-
Fluorene	ug/Kg	-	-	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	ug/Kg	-	-	-	-	-	-	-	-
Naphthalene	ug/Kg	-	-	-	-	-	-	-	-
Phenanthrene	ug/Kg	-	-	-	-	-	-	-	-
Pyrene	ug/Kg	-	-	-	-	-	-	-	-
Petroleum Products									
Total Petroleum Hydrocarbons	mg/Kg	-	-	-	-	-	-	-	-
Total Petroleum Hydrocarbons - extractable (DRO)	mg/Kg	-	-	-	-	-	-	-	-
Total Petroleum Hydrocarbons, Field	mg/Kg	-	-	-	-	-	-	-	-
Total Recoverable Petroleum Hydrocarbons	mg/Kg	870	6900	580	15000	300	1800	270	3400
Semi-Volatiles									
1,2,4-Trichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-
1,2-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-
1,3-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-
1,4-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-
2,4-Dinitrotoluene	ug/Kg	-	-	-	-	-	-	-	-
2,6-Dinitrotoluene	ug/Kg	-	-	-	-	-	-	-	-
2-Chloronaphthalene	ug/Kg	-	-	-	-	-	-	-	-
2-Methyl naphthalene	ug/Kg	-	-	-	-	-	-	-	-
2-Nitroaniline	ug/Kg	-	-	-	-	-	-	-	-
3,3'-Dichlorobenzidine	ug/Kg	-	-	-	-	-	-	-	-
3-Nitroaniline	ug/Kg	-	-	-	-	-	-	-	-
4-Bromophenyl phenyl ether	ug/Kg	-	-	-	-	-	-	-	-
4-Chloroaniline	ug/Kg	-	-	-	-	-	-	-	-
4-Chlorophenyl phenyl ether	ug/Kg	-	-	-	-	-	-	-	-
4-Nitroaniline	ug/Kg	-	-	-	-	-	-	-	-

TABLE G.1

HISTORICAL SOIL SAMPLE RESULTS
AOI 1 - SOLVENT RELEASE AREA WEST OF BUILDING 12
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*Dayton-SO-2*	*Dayton-SO-3*	*Dayton-SO-4*	*Dayton-SO-5*	*Dayton-SO-6*	*Dayton-SO-7*	*Dayton-SO-8*	*Dayton-SO-9*
Sample Name:		*Dayton-SO-2*	*Dayton-SO-3*	*Dayton-SO-4*	*Dayton-SO-5*	*Dayton-SO-6*	*Dayton-SO-7*	*Dayton-SO-8*	*Dayton-SO-9*
Sample Depth:									
Sample Date:		*12/8/89*	*12/8/89*	*12/8/89*	*12/9/89*	*12/9/89*	*12/9/89*	*12/9/89*	*12/9/89*
Parameter	*Units*								
Acenaphthene	ug/Kg	-	-	-	-	-	-	-	-
Acenaphthylene	ug/Kg	-	-	-	-	-	-	-	-
Anthracene	ug/Kg	-	-	-	-	-	-	-	-
Benzene, isopropyl	ug/Kg	-	-	-	-	-	-	-	-
Benzo(a)anthracene	ug/Kg	-	-	-	-	-	-	-	-
Benzo(a)pyrene	ug/Kg	-	-	-	-	-	-	-	-
Benzo(b)fluoranthene	ug/Kg	-	-	-	-	-	-	-	-
Benzo(g,h,i)perylene	ug/Kg	-	-	-	-	-	-	-	-
Benzo(k)fluoranthene	ug/Kg	-	-	-	-	-	-	-	-
Benzyl Alcohol	ug/Kg	-	-	-	-	-	-	-	-
bis(2-Chloroethoxy)methane	ug/Kg	-	-	-	-	-	-	-	-
bis(2-Chloroethyl)ether	ug/Kg	-	-	-	-	-	-	-	-
bis(2-Chloroisopropyl)ether	ug/Kg	-	-	-	-	-	-	-	-
bis(2-Ethylhexyl)phthalate	ug/Kg	-	-	-	-	-	-	-	-
Butyl benzylphthalate	ug/Kg	-	-	-	-	-	-	-	-
Chrysene	ug/Kg	-	-	-	-	-	-	-	-
Dibenz(a,h)anthracene	ug/Kg	-	-	-	-	-	-	-	-
Dibenzofuran	ug/Kg	-	-	-	-	-	-	-	-
Diethyl phthalate	ug/Kg	-	-	-	-	-	-	-	-
Dimethyl phthalate	ug/Kg	-	-	-	-	-	-	-	-
Di-n-butylphthalate	ug/Kg	-	-	-	-	-	-	-	-
Di-n-octyl phthalate	ug/Kg	-	-	-	-	-	-	-	-
Fluoranthene	ug/Kg	-	-	-	-	-	-	-	-
Fluorene	ug/Kg	-	-	-	-	-	-	-	-
Hexachlorobenzene	ug/Kg	-	-	-	-	-	-	-	-
Hexachlorobutadiene	ug/Kg	-	-	-	-	-	-	-	-
Hexachlorocyclopentadiene	ug/Kg	-	-	-	-	-	-	-	-
Hexachloroethane	ug/Kg	-	-	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	ug/Kg	-	-	-	-	-	-	-	-
Isophorone	ug/Kg	-	-	-	-	-	-	-	-
Naphthalene	ug/Kg	-	-	-	-	-	-	-	-
Nitrobenzene	ug/Kg	-	-	-	-	-	-	-	-
N-Nitrosodi-n-propylamine	ug/Kg	-	-	-	-	-	-	-	-
N-Nitrosodiphenylamine	ug/Kg	-	-	-	-	-	-	-	-
Phenanthrene	ug/Kg	-	-	-	-	-	-	-	-
Pyrene	ug/Kg	-	-	-	-	-	-	-	-
Volatiles									
1,1,1,2-Tetrachloroethane	ug/Kg	-	-	-	-	-	-	-	-
1,1,1-Trichloroethane	ug/Kg	-	-	-	-	-	-	-	-
1,1,2,2-Tetrachloroethane	ug/Kg	-	-	-	-	-	-	-	-
1,1,2-Trichloroethane	ug/Kg	-	-	-	-	-	-	-	-
1,1-Dichloroethane	ug/Kg	-	-	-	-	-	-	-	-
1,1-Dichloroethene	ug/Kg	-	-	-	-	-	-	-	-
1,2,3-Trichloropropane	ug/Kg	-	-	-	-	-	-	-	-
1,2-Dibromo-3-chloropropane (DBCP)	ug/Kg	-	-	-	-	-	-	-	-
1,2-Dibromoethane (EDB)	ug/Kg	-	-	-	-	-	-	-	-
1,2-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-
1,2-Dichloroethane	ug/Kg	-	-	-	-	-	-	-	-
1,2-Dichloroethene (total)	ug/Kg	-	-	-	-	-	-	-	-
1,2-Dichloropropane	ug/Kg	-	-	-	-	-	-	-	-

HISTORICAL SOIL SAMPLE RESULTS
AOI 1 - SOLVENT RELEASE AREA WEST OF BUILDING 12
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*Dayton-SO-2*	*Dayton-SO-3*	*Dayton-SO-4*	*Dayton-SO-5*	*Dayton-SO-6*	*Dayton-SO-7*	*Dayton-SO-8*	*Dayton-SO-9*
Sample Name:		*Dayton-SO-2*	*Dayton-SO-3*	*Dayton-SO-4*	*Dayton-SO-5*	*Dayton-SO-6*	*Dayton-SO-7*	*Dayton-SO-8*	*Dayton-SO-9*
Sample Depth:									
Sample Date:		*12/8/89*	*12/8/89*	*12/8/89*	*12/9/89*	*12/9/89*	*12/9/89*	*12/9/89*	*12/9/89*
Parameter	*Units*								
1,3-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-
1,4-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-
1,4-Dioxane	ug/Kg	-	-	-	-	-	-	-	-
2-Butanone	ug/Kg	-	-	-	-	-	-	-	-
2-Chloroethyl vinyl ether	ug/Kg	-	-	-	-	-	-	-	-
2-Hexanone	ug/Kg	-	-	-	-	-	-	-	-
4-Methyl-2-pentanone	ug/Kg	-	-	-	-	-	-	-	-
Acetone	ug/Kg	-	-	-	-	-	-	-	-
Acrolein	ug/Kg	-	-	-	-	-	-	-	-
Acrylonitrile	ug/Kg	-	-	-	-	-	-	-	-
Allyl chloride	ug/Kg	-	-	-	-	-	-	-	-
Benzene	ug/Kg	-	-	-	-	-	-	-	-
Bromodichloromethane	ug/Kg	-	-	-	-	-	-	-	-
Bromoform	ug/Kg	-	-	-	-	-	-	-	-
Bromomethane	ug/Kg	-	-	-	-	-	-	-	-
Carbon disulfide	ug/Kg	-	-	-	-	-	-	-	-
Carbon tetrachloride	ug/Kg	-	-	-	-	-	-	-	-
Chlorobenzene	ug/Kg	-	-	-	-	-	-	-	-
Chlorobromomethane	ug/Kg	-	-	-	-	-	-	-	-
Chloroethane	ug/Kg	-	-	-	-	-	-	-	-
Chloroform	ug/Kg	-	-	-	-	-	-	-	-
Chloromethane	ug/Kg	-	-	-	-	-	-	-	-
Chloroprene	ug/Kg	-	-	-	-	-	-	-	-
cis-1,2-Dichloroethene	ug/Kg	-	-	-	-	-	-	-	-
cis-1,3-Dichloropropene	ug/Kg	-	-	-	-	-	-	-	-
cis-1,4-Dichloro-2-butene	ug/Kg	-	-	-	-	-	-	-	-
Dibromochloromethane	ug/Kg	-	-	-	-	-	-	-	-
Dibromomethane	ug/Kg	-	-	-	-	-	-	-	-
Dichlorodifluoromethane (CFC-12)	ug/Kg	-	-	-	-	-	-	-	-
Ethyl methacrylate	ug/Kg	-	-	-	-	-	-	-	-
Ethylbenzene	ug/Kg	-	-	-	-	-	-	-	-
Iodomethane	ug/Kg	-	-	-	-	-	-	-	-
Isobutyl alcohol	ug/Kg	-	-	-	-	-	-	-	-
Methyl acrylonitrile	ug/Kg	-	-	-	-	-	-	-	-
Methyl methacrylate	ug/Kg	-	-	-	-	-	-	-	-
Methyl Tert Butyl Ether	ug/Kg	-	-	-	-	-	-	-	-
Methylene chloride	ug/Kg	-	-	-	-	-	-	-	-
Naphtha	ug/Kg	-	-	-	-	-	-	-	-
Propionitrile (Ethyl cyanide)	ug/Kg	-	-	-	-	-	-	-	-
Styrene	ug/Kg	-	-	-	-	-	-	-	-
Tetrachloroethene	ug/Kg	3300	186000	960	175000	14000	27000	3300	1680000
Tetrahydrofuran	ug/Kg	-	-	-	-	-	-	-	-
Toluene	ug/Kg	-	-	-	-	-	-	-	-
trans-1,2-Dichloroethene	ug/Kg	-	-	-	-	-	-	-	-
trans-1,3-Dichloropropene	ug/Kg	-	-	-	-	-	-	-	-
trans-1,4-Dichloro-2-butene	ug/Kg	-	-	-	-	-	-	-	-
Trichloroethene	ug/Kg	-	-	-	-	-	-	-	-
Trichlorofluoromethane (CFC-11)	ug/Kg	-	-	-	-	-	-	-	-
Trifluorotrichloroethane (Freon 113)	ug/Kg	-	-	-	-	-	-	-	-
Vinyl acetate	ug/Kg	-	-	-	-	-	-	-	-
Vinyl chloride	ug/Kg	-	-	-	-	-	-	-	-
Volatile Mineral Oils	ug/Kg	-	-	-	-	-	-	-	-

TABLE G.1

HISTORICAL SOIL SAMPLE RESULTS
AOI 1 - SOLVENT RELEASE AREA WEST OF BUILDING 12
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*Dayton-SO-2*	*Dayton-SO-3*	*Dayton-SO-4*	*Dayton-SO-5*	*Dayton-SO-6*	*Dayton-SO-7*	*Dayton-SO-8*	*Dayton-SO-9*
Sample Name:		*Dayton-SO-2*	*Dayton-SO-3*	*Dayton-SO-4*	*Dayton-SO-5*	*Dayton-SO-6*	*Dayton-SO-7*	*Dayton-SO-8*	*Dayton-SO-9*
Sample Depth:									
Sample Date:		*12/8/89*	*12/8/89*	*12/8/89*	*12/9/89*	*12/9/89*	*12/9/89*	*12/9/89*	*12/9/89*
Parameter	*Units*								
Xylene (total)	ug/Kg	-	-	-	-	-	-	-	-
General Chemistry									
Percent Solids	%	-	-	-	-	-	-	-	-

HISTORICAL SOIL SAMPLE RESULTS
AOI 1 - SOLVENT RELEASE AREA WEST OF BUILDING 12
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*Dayton-Webster W Wall-Tank18*	*Dayton-Webster E Wall-Tank 18*	*Dayton-Webster St Bot - Tank18*	*GP-16*	*GP-17*	*GP-19*
Sample Name:		*DaytonWebster W Wall S Tank 18*	*DaytonWebster E Wall S Tank 18*	*DaytonWebster Bot 14 S Tank 18*	*GP-16 G-3*	*GP-17 G-2*	*GP-19 G-1*
Sample Depth:					*(8-12)*	*(4-8)*	*(0-4)*
Sample Date:		*12/20/89*	*12/20/89*	*12/20/89*	*9/23/96*	*9/23/96*	*9/24/96*
Parameter	*Units*						
BTEX							
Benzene	ug/Kg	-	-	-	ND (8)	ND (6)	ND (0.6)
Ethylbenzene	ug/Kg	-	-	-	ND (8)	ND (6)	ND (0.6)
m&p-Xylene	ug/Kg	-	-	-	ND (8)	ND (6)	ND (0.6)
o-Xylene	ug/Kg	-	-	-	ND (8)	ND (6)	ND (0.6)
Toluene	ug/Kg	-	-	-	ND (8)	ND (6)	1.8
Xylene (total)	ug/Kg	-	-	-	-	-	-
PAH							
Acenaphthene	ug/Kg	-	-	-	ND (53)	41 P	51
Acenaphthylene	ug/Kg	-	-	-	ND (53)	ND (37)	ND (40)
Anthracene	ug/Kg	-	-	-	77 P	49	120
Benzo(a)anthracene	ug/Kg	-	-	-	310 P	240	560
Benzo(a)pyrene	ug/Kg	-	-	-	260 P	240	600
Benzo(b)fluoranthene	ug/Kg	-	-	-	250	210	520
Benzo(g,h,i)perylene	ug/Kg	-	-	-	190	190	500
Benzo(k)fluoranthene	ug/Kg	-	-	-	140 P	110 P	280 P
Chrysene	ug/Kg	-	-	-	340 P	250 P	580
Dibenz(a,h)anthracene	ug/Kg	-	-	-	ND (53)	27 J	69 P
Fluoranthene	ug/Kg	-	-	-	570	440	1400
Fluorene	ug/Kg	-	-	-	62 P	ND (37)	49
Indeno(1,2,3-cd)pyrene	ug/Kg	-	-	-	250	230 P	510
Naphthalene	ug/Kg	-	-	-	ND (53)	50 P	ND (40)
Phenanthrene	ug/Kg	-	-	-	370	290	730
Pyrene	ug/Kg	-	-	-	420	380	1100
Petroleum Products							
Total Petroleum Hydrocarbons	mg/Kg	-	-	-	-	-	-
Total Petroleum Hydrocarbons - extractable (DRO)	mg/Kg	-	-	-	-	-	-
Total Petroleum Hydrocarbons, Field	mg/Kg	-	-	-	872	402	73
Total Recoverable Petroleum Hydrocarbons	mg/Kg	-	-	-	167	465	123
Semi-Volatiles							
1,2,4-Trichlorobenzene	ug/Kg	-	-	-	ND (530)	ND (360)	ND (400)
1,2-Dichlorobenzene	ug/Kg	-	-	-	ND (530)	ND (360)	ND (400)
1,3-Dichlorobenzene	ug/Kg	-	-	-	ND (530)	ND (360)	ND (400)
1,4-Dichlorobenzene	ug/Kg	-	-	-	ND (530)	ND (360)	ND (400)
2,4-Dinitrotoluene	ug/Kg	-	-	-	ND (530)	ND (360)	ND (400)
2,6-Dinitrotoluene	ug/Kg	-	-	-	ND (530)	ND (360)	ND (400)
2-Chloronaphthalene	ug/Kg	-	-	-	ND (530)	ND (360)	ND (400)
2-Methyl naphthalene	ug/Kg	-	-	-	ND (530)	66 J	50 J
2-Nitroaniline	ug/Kg	-	-	-	ND (2600)	ND (1800)	ND (1900)
3,3'-Dichlorobenzidine	ug/Kg	-	-	-	ND (1100)	ND (730)	ND (790)
3-Nitroaniline	ug/Kg	-	-	-	ND (2600)	ND (1800)	ND (1900)
4-Bromophenyl phenyl ether	ug/Kg	-	-	-	ND (530)	ND (360)	ND (400)
4-Chloroaniline	ug/Kg	-	-	-	ND (530)	ND (360)	ND (400)
4-Chlorophenyl phenyl ether	ug/Kg	-	-	-	ND (530)	ND (360)	ND (400)
4-Nitroaniline	ug/Kg	-	-	-	ND (2600)	ND (1800)	ND (1900)

TABLE G.1

HISTORICAL SOIL SAMPLE RESULTS
AOI 1 - SOLVENT RELEASE AREA WEST OF BUILDING 12
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*Dayton-Webster W Wall-Tank18*	*Dayton-Webster E Wall-Tank 18*	*Dayton-Webster St Bot - Tank18*	*GP-16*	*GP-17*	*GP-19*
Sample Name:		*DaytonWebster W Wall S Tank 18*	*DaytonWebster E Wall S Tank 18*	*DaytonWebster Bot 14 S Tank 18*	*GP-16 G-3*	*GP-17 G-2*	*GP-19 G-1*
Sample Depth:					*(8-12)*	*(4-8)*	*(0-4)*
Sample Date:		*12/20/89*	*12/20/89*	*12/20/89*	*9/23/96*	*9/23/96*	*9/24/96*
Parameter	*Units*						
Acenaphthene	ug/Kg	-	-	-	ND (530)	55 J	40 J
Acenaphthylene	ug/Kg	-	-	-	ND (530)	ND (360)	ND (400)
Anthracene	ug/Kg	-	-	-	78 J	93 J	110 J
Benzene, isopropyl	ug/Kg	-	-	-	-	-	-
Benzo(a)anthracene	ug/Kg	-	-	-	260 J	290 J	720
Benzo(a)pyrene	ug/Kg	-	-	-	320 J	330 J	790
Benzo(b)fluoranthene	ug/Kg	-	-	-	250 J	320 J	840
Benzo(g,h,i)perylene	ug/Kg	-	-	-	93 J	180 J	410
Benzo(k)fluoranthene	ug/Kg	-	-	-	270 J	240 J	620
Benzyl Alcohol	ug/Kg	-	-	-	ND (530)	ND (360)	ND (400)
bis(2-Chloroethoxy)methane	ug/Kg	-	-	-	ND (530)	ND (360)	ND (400)
bis(2-Chloroethyl)ether	ug/Kg	-	-	-	ND (530)	ND (360)	ND (400)
bis(2-Chloroisopropyl)ether	ug/Kg	-	-	-	ND (530)	ND (360)	ND (400)
bis(2-Ethylhexyl)phthalate	ug/Kg	-	-	-	ND (530)	ND (360)	ND (400)
Butyl benzylphthalate	ug/Kg	-	-	-	ND (530)	ND (360)	ND (400)
Chrysene	ug/Kg	-	-	-	290 J	340 J	820
Dibenz(a,h)anthracene	ug/Kg	-	-	-	110 J	110 J	180 J
Dibenzofuran	ug/Kg	-	-	-	ND (530)	46 J	ND (400)
Diethyl phthalate	ug/Kg	-	-	-	ND (530)	ND (360)	ND (400)
Dimethyl phthalate	ug/Kg	-	-	-	ND (530)	ND (360)	ND (400)
Di-n-butylphthalate	ug/Kg	-	-	-	ND (530)	ND (360)	ND (400)
Di-n-octyl phthalate	ug/Kg	-	-	-	ND (530)	ND (360)	ND (400)
Fluoranthene	ug/Kg	-	-	-	400 J	550	1600
Fluorene	ug/Kg	-	-	-	ND (530)	50 J	ND (400)
Hexachlorobenzene	ug/Kg	-	-	-	140 J	ND (360)	ND (400)
Hexachlorobutadiene	ug/Kg	-	-	-	ND (530)	ND (360)	ND (400)
Hexachlorocyclopentadiene	ug/Kg	-	-	-	ND (530)	ND (360)	ND (400)
Hexachloroethane	ug/Kg	-	-	-	140 J	ND (360)	ND (400)
Indeno(1,2,3-cd)pyrene	ug/Kg	-	-	-	260	220 J	430
Isophorone	ug/Kg	-	-	-	ND (530)	ND (360)	ND (400)
Naphthalene	ug/Kg	-	-	-	ND (530)	86 J	ND (400)
Nitrobenzene	ug/Kg	-	-	-	ND (530)	ND (360)	ND (400)
N-Nitrosodi-n-propylamine	ug/Kg	-	-	-	ND (530)	ND (360)	ND (400)
N-Nitrosodiphenylamine	ug/Kg	-	-	-	ND (530)	ND (360)	ND (400)
Phenanthrene	ug/Kg	-	-	-	330 J	440	610
Pyrene	ug/Kg	-	-	-	510 J	540	1500
Volatiles							
1,1,1,2-Tetrachloroethane	ug/Kg	-	-	-	-	-	-
1,1,1-Trichloroethane	ug/Kg	ND (150)	ND (150)	ND (150)	ND (8)	ND (6)	ND (6)
1,1,2,2-Tetrachloroethane	ug/Kg	ND (150)	ND (150)	ND (150)	ND (8)	ND (6)	ND (6)
1,1,2-Trichloroethane	ug/Kg	ND (150)	ND (150)	ND (150)	ND (8)	ND (6)	ND (6)
1,1-Dichloroethane	ug/Kg	ND (150)	ND (150)	ND (150)	ND (8)	ND (6)	ND (6)
1,1-Dichloroethene	ug/Kg	ND (150)	ND (150)	ND (150)	ND (8)	ND (6)	ND (6)
1,2,3-Trichloropropane	ug/Kg	-	-	-	-	-	-
1,2-Dibromo-3-chloropropane (DBCP)	ug/Kg	-	-	-	-	-	-
1,2-Dibromoethane (EDB)	ug/Kg	-	-	-	-	-	-
1,2-Dichlorobenzene	ug/Kg	ND (150)	ND (150)	ND (150)	-	-	-
1,2-Dichloroethane	ug/Kg	ND (150)	ND (150)	ND (150)	ND (8)	ND (6)	ND (6)
1,2-Dichloroethene (total)	ug/Kg	-	-	-	-	-	-
1,2-Dichloropropane	ug/Kg	ND (150)	ND (150)	ND (150)	ND (8)	ND (6)	ND (6)

HISTORICAL SOIL SAMPLE RESULTS
AOI 1 - SOLVENT RELEASE AREA WEST OF BUILDING 12
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*Dayton-Webster W Wall-Tank18*	*Dayton-Webster E Wall-Tank 18*	*Dayton-Webster St Bot - Tank18*	*GP-16*	*GP-17*	*GP-19*
Sample Name:		*DaytonWebster W Wall S Tank 18*	*DaytonWebster E Wall S Tank 18*	*DaytonWebster Bot 14 S Tank 18*	*GP-16 G-3*	*GP-17 G-2*	*GP-19 G-1*
Sample Depth:					*(8-12)*	*(4-8)*	*(0-4)*
Sample Date:		*12/20/89*	*12/20/89*	*12/20/89*	*9/23/96*	*9/23/96*	*9/24/96*
Parameter	*Units*						
1,3-Dichlorobenzene	ug/Kg	ND (150)	ND (150)	ND (150)	-	-	-
1,4-Dichlorobenzene	ug/Kg	ND (150)	ND (150)	ND (150)	-	-	-
1,4-Dioxane	ug/Kg	-	-	-	-	-	-
2-Butanone	ug/Kg	-	-	-	18	3 J	8 J
2-Chloroethyl vinyl ether	ug/Kg	ND (9000)	ND (9000)	ND (9000)	-	-	-
2-Hexanone	ug/Kg	-	-	-	ND (16)	ND (11)	ND (12)
4-Methyl-2-pentanone	ug/Kg	-	-	-	ND (16)	ND (11)	ND (12)
Acetone	ug/Kg	-	-	-	84 B	23 B	30 B
Acrolein	ug/Kg	-	-	-	-	-	-
Acrylonitrile	ug/Kg	-	-	-	-	-	-
Allyl chloride	ug/Kg	-	-	-	-	-	-
Benzene	ug/Kg	ND (150)	ND (150)	ND (150)	-	-	-
Bromodichloromethane	ug/Kg	ND (150)	ND (150)	ND (150)	ND (8)	ND (6)	ND (6)
Bromoform	ug/Kg	ND (150)	ND (150)	ND (150)	ND (8)	ND (6)	ND (6)
Bromomethane	ug/Kg	ND (150)	ND (150)	ND (150)	ND (16)	ND (11)	ND (12)
Carbon disulfide	ug/Kg	-	-	-	ND (8)	ND (6)	1 J
Carbon tetrachloride	ug/Kg	ND (150)	ND (150)	ND (150)	ND (8)	ND (6)	ND (6)
Chlorobenzene	ug/Kg	ND (150)	ND (150)	ND (150)	ND (8)	ND (6)	ND (6)
Chlorobromomethane	ug/Kg	-	-	-	-	-	-
Chloroethane	ug/Kg	-	-	-	ND (16)	ND (11)	ND (12)
Chloroform	ug/Kg	ND (150)	ND (150)	ND (150)	ND (8)	ND (6)	ND (6)
Chloromethane	ug/Kg	ND (150)	ND (150)	ND (150)	ND (16)	ND (11)	ND (12)
Chloroprene	ug/Kg	-	-	-	-	-	-
cis-1,2-Dichloroethene	ug/Kg	-	-	-	ND (8)	ND (6)	ND (6)
cis-1,3-Dichloropropene	ug/Kg	ND (150)	ND (150)	ND (150)	ND (8)	ND (6)	ND (6)
cis-1,4-Dichloro-2-butene	ug/Kg	-	-	-	-	-	-
Dibromochloromethane	ug/Kg	ND (150)	ND (150)	ND (150)	ND (8)	ND (6)	ND (6)
Dibromomethane	ug/Kg	-	-	-	-	-	-
Dichlorodifluoromethane (CFC-12)	ug/Kg	-	-	-	-	-	-
Ethyl methacrylate	ug/Kg	-	-	-	-	-	-
Ethylbenzene	ug/Kg	ND (150)	ND (150)	ND (150)	-	-	-
Iodomethane	ug/Kg	-	-	-	-	-	-
Isobutyl alcohol	ug/Kg	-	-	-	-	-	-
Methyl acrylonitrile	ug/Kg	-	-	-	-	-	-
Methyl methacrylate	ug/Kg	-	-	-	-	-	-
Methyl Tert Butyl Ether	ug/Kg	-	-	-	-	-	-
Methylene chloride	ug/Kg	ND (150)	ND (150)	ND (150)	ND (8)	ND (6)	ND (6)
Naphtha	ug/Kg	-	-	-	-	-	-
Propionitrile (Ethyl cyanide)	ug/Kg	-	-	-	-	-	-
Styrene	ug/Kg	-	-	-	ND (8)	ND (6)	ND (6)
Tetrachloroethene	ug/Kg	320	10400	3000	ND (8)	32	4 J
Tetrahydrofuran	ug/Kg	-	-	-	-	-	-
Toluene	ug/Kg	ND (150)	ND (150)	ND (150)	ND (8)	ND (6)	ND (6)
trans-1,2-Dichloroethene	ug/Kg	ND (150)	ND (150)	ND (150)	ND (8)	ND (6)	ND (6)
trans-1,3-Dichloropropene	ug/Kg	ND (150)	ND (150)	ND (150)	ND (8)	ND (6)	ND (6)
trans-1,4-Dichloro-2-butene	ug/Kg	-	-	-	-	-	-
Trichloroethene	ug/Kg	ND (150)	ND (150)	ND (150)	ND (8)	8	2 J
Trichlorofluoromethane (CFC-11)	ug/Kg	ND (150)	ND (150)	ND (150)	-	-	-
Trifluorotrichloroethane (Freon 113)	ug/Kg	-	-	-	-	-	-
Vinyl acetate	ug/Kg	-	-	-	ND (16)	ND (11)	ND (12)
Vinyl chloride	ug/Kg	-	ND (150)	-	ND (16)	ND (11)	ND (12)
Volatile Mineral Oils	ug/Kg	-	-	-	-	-	-

TABLE G.1

HISTORICAL SOIL SAMPLE RESULTS
AOI 1 - SOLVENT RELEASE AREA WEST OF BUILDING 12
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*Dayton-Webster W Wall-Tank18*	*Dayton-Webster E Wall-Tank 18*	*Dayton-Webster St Bot - Tank18*	*GP-16*	*GP-17*	*GP-19*
Sample Name:		*DaytonWebster W Wall S Tank 18*	*DaytonWebster E Wall S Tank 18*	*DaytonWebster Bot 14 S Tank 18*	*GP-16 G-3*	*GP-17 G-2*	*GP-19 G-1*
Sample Depth:					*(8-12)*	*(4-8)*	*(0-4)*
Sample Date:		*12/20/89*	*12/20/89*	*12/20/89*	*9/23/96*	*9/23/96*	*9/24/96*
Parameter	*Units*						
Xylene (total)	ug/Kg	-	-	-	ND (8)	ND (6)	ND (6)
General Chemistry							
Percent Solids	%	-	-	-	62.5	88.0	82.0

HISTORICAL SOIL SAMPLE RESULTS
AOI 1 - SOLVENT RELEASE AREA WEST OF BUILDING 12
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*GP-22*	*GP-22*	*GP-22*	*GP-23*	*GP-23*	*GP-27*	*GP-28*	*GP-32*	*GP-48*	*GP-49*
Sample Name:		*GP-22 G-1*	*GP-22 G-2*	*GP-22 G-3*	*GP-23 G-1*	*GP-23 G-3*	*GP-27 G-3*	*GP-28 G-3*	*GP-32 G-1*	*GP-48 G-2*	*GP-49 G-2*
Sample Depth:		*(0-4)*	*(4-8)*	*(8-12)*	*(0-4)*	*(8-12)*	*(8-12)*	*(8-12)*	*(0-4)*	*(4-8)*	*(4-8)*
Sample Date:		*9/24/96*	*10/4/96*	*9/24/96*	*9/24/96*	*9/24/96*	*9/25/96*	*9/25/96*	*9/26/96*	*4/24/97*	*4/24/97*
Parameter	*Units*										
BTEX											
Benzene	ug/Kg	ND (36)	-	-	ND (34)	-	ND (0.5)	ND (0.6)	ND (0.6)	ND (3)	ND (2.8)
Ethylbenzene	ug/Kg	140	-	-	ND (34)	-	ND (0.5)	ND (0.6)	ND (0.6)	14	ND (2.8)
m&p-Xylene	ug/Kg	470	-	-	36	-	ND (0.5)	ND (0.6)	ND (0.6)	21	ND (5.6)
o-Xylene	ug/Kg	87	-	-	38	-	ND (0.5)	ND (0.6)	ND (0.6)	20	ND (2.8)
Toluene	ug/Kg	47	-	-	ND (34)	-	ND (6)	ND (0.6)	ND (0.6)	ND (3)	ND (2.8)
Xylene (total)	ug/Kg	-	-	-	-	-	-	-	-	-	-
PAH											
Acenaphthene	ug/Kg	1000 P	-	-	3600 P	-	110	320	1300	-	-
Acenaphthylene	ug/Kg	910 P	-	-	5100	-	ND (36)	ND (74)	ND (390)	-	-
Anthracene	ug/Kg	ND (77)	-	-	ND (360)	-	270	690	ND (390)	-	-
Benzo(a)anthracene	ug/Kg	210 P	-	-	730 P	-	810	2100	7400	-	-
Benzo(a)pyrene	ug/Kg	210 P	-	-	ND (360)	-	820	2100	8100	-	-
Benzo(b)fluoranthene	ug/Kg	510 P	-	-	ND (360)	-	680	1800 J	7200	-	-
Benzo(g,h,i)perylene	ug/Kg	ND (77)	-	-	ND (360)	-	600	1600	5300	-	-
Benzo(k)fluoranthene	ug/Kg	ND (77)	-	-	ND (360)	-	380 P	980 P	4100 P	-	-
Chrysene	ug/Kg	220 P	-	-	440	-	750	2200	8900	-	-
Dibenz(a,h)anthracene	ug/Kg	ND (77)	-	-	ND (360)	-	58 P	220 P	710 P	-	-
Fluoranthene	ug/Kg	590	-	-	1500 P	-	2000	5000	23000	-	-
Fluorene	ug/Kg	230 P	-	-	ND (360)	-	130	270	1600	-	-
Indeno(1,2,3-cd)pyrene	ug/Kg	180	-	-	ND (360)	-	630	1700	6200	-	-
Naphthalene	ug/Kg	500 P	-	-	4900 P	-	35 JP	ND (74)	340 JP	-	-
Phenanthrene	ug/Kg	1300 P	-	-	ND (360)	-	1200	3100	18000	-	-
Pyrene	ug/Kg	540 P	-	-	1200 P	-	1700	4200	18000	-	-
Petroleum Products											
Total Petroleum Hydrocarbons	mg/Kg	-	-	6400	-	-	-	-	-	1850	-
Total Petroleum Hydrocarbons - extractable (DRO)	mg/Kg	-	-	-	-	-	-	-	-	-	-
Total Petroleum Hydrocarbons, Field	mg/Kg	2700	-	-	4216	-	175	162	318	-	-
Total Recoverable Petroleum Hydrocarbons	mg/Kg	6400	-	-	9580	-	544	113	1240	-	4410
Semi-Volatiles											
1,2,4-Trichlorobenzene	ug/Kg	ND (1500)	ND (430)	-	ND (1500)	-	ND (360)	ND (360)	ND (400)	-	ND (710)
1,2-Dichlorobenzene	ug/Kg	ND (1500)	ND (430)	-	ND (1500)	-	ND (360)	ND (360)	ND (400)	-	ND (710)
1,3-Dichlorobenzene	ug/Kg	ND (1500)	ND (430)	-	ND (1500)	-	ND (360)	ND (360)	ND (400)	-	ND (710)
1,4-Dichlorobenzene	ug/Kg	ND (1500)	ND (430)	-	ND (1500)	-	ND (360)	ND (360)	ND (400)	-	ND (29)
2,4-Dinitrotoluene	ug/Kg	ND (1500)	ND (430)	-	ND (1500)	-	ND (360)	ND (360)	ND (400)	-	-
2,6-Dinitrotoluene	ug/Kg	ND (1500)	ND (430)	-	ND (1500)	-	ND (360)	ND (360)	ND (400)	-	-
2-Chloronaphthalene	ug/Kg	ND (1500)	ND (430)	-	ND (1500)	-	ND (360)	ND (360)	ND (400)	-	-
2-Methyl naphthalene	ug/Kg	5200	100 J	-	10000	-	46 J	49 J	100 J	-	-
2-Nitroaniline	ug/Kg	ND (7400)	ND (2100)	-	ND (7000)	-	ND (1800)	ND (1800)	ND (1900)	-	-
3,3'-Dichlorobenzidine	ug/Kg	ND (3000)	ND (860)	-	ND (2900)	-	ND (730)	ND (730)	ND (790)	-	-
3-Nitroaniline	ug/Kg	ND (7400)	ND (2100)	-	ND (7000)	-	ND (1800)	ND (1800)	ND (1900)	-	-
4-Bromophenyl phenyl ether	ug/Kg	ND (1500)	ND (430)	-	ND (1500)	-	ND (360)	ND (360)	ND (400)	-	-
4-Chloroaniline	ug/Kg	ND (1500)	ND (430)	-	ND (1500)	-	ND (360)	ND (360)	ND (400)	-	-
4-Chlorophenyl phenyl ether	ug/Kg	ND (1500)	ND (430)	-	ND (1500)	-	ND (360)	ND (360)	ND (400)	-	-
4-Nitroaniline	ug/Kg	ND (7400)	ND (2100)	-	ND (7000)	-	ND (1800)	ND (1800)	ND (1900)	-	-

TABLE G.1

HISTORICAL SOIL SAMPLE RESULTS
AOI 1 - SOLVENT RELEASE AREA WEST OF BUILDING 12
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*GP-22*	*GP-22*	*GP-22*	*GP-23*	*GP-23*	*GP-27*	*GP-28*	*GP-32*	*GP-48*	*GP-49*
Sample Name:		*GP-22 G-1*	*GP-22 G-2*	*GP-22 G-3*	*GP-23 G-1*	*GP-23 G-3*	*GP-27 G-3*	*GP-28 G-3*	*GP-32 G-1*	*GP-48 G-2*	*GP-49 G-2*
Sample Depth:		*(0-4)*	*(4-8)*	*(8-12)*	*(0-4)*	*(8-12)*	*(8-12)*	*(8-12)*	*(0-4)*	*(4-8)*	*(4-8)*
Sample Date:		*9/24/96*	*10/4/96*	*9/24/96*	*9/24/96*	*9/24/96*	*9/25/96*	*9/25/96*	*9/26/96*	*4/24/97*	*4/24/97*
Parameter	*Units*										
Acenaphthene	ug/Kg	ND (1500)	62 J	-	ND (1500)	-	230 J	340 J	250 J	-	-
Acenaphthylene	ug/Kg	ND (1500)	40 J	-	ND (1500)	-	ND (360)	ND (360)	ND (400)	-	-
Anthracene	ug/Kg	ND (1500)	260 J	-	190 J	-	570	700	440	-	-
Benzene, isopropyl	ug/Kg	-	-	-	-	-	-	-	-	21	ND (29)
Benzo(a)anthracene	ug/Kg	220 J	620	-	ND (1500)	-	1500	2200	1500	-	-
Benzo(a)pyrene	ug/Kg	210 J	690	-	ND (1500)	-	1400	2500	1800	-	-
Benzo(b)fluoranthene	ug/Kg	300 J	600	-	ND (1500)	-	1400	2800	1600	-	-
Benzo(g,h,i)perylene	ug/Kg	210 J	510	-	ND (1500)	-	1100	1800	1000	-	-
Benzo(k)fluoranthene	ug/Kg	ND (1500)	490	-	ND (1500)	-	1200	1700	1500	-	-
Benzyl Alcohol	ug/Kg	ND (1500)	ND (430)	-	ND (1500)	-	ND (360)	ND (360)	ND (400)	-	-
bis(2-Chloroethoxy)methane	ug/Kg	ND (1500)	ND (430)	-	ND (1500)	-	ND (360)	ND (360)	ND (400)	-	-
bis(2-Chloroethyl)ether	ug/Kg	ND (1500)	ND (430)	-	ND (1500)	-	ND (360)	ND (360)	ND (400)	-	-
bis(2-Chloroisopropyl)ether	ug/Kg	ND (1500)	ND (430)	-	ND (1500)	-	ND (360)	ND (360)	ND (400)	-	-
bis(2-Ethylhexyl)phthalate	ug/Kg	1200 J	ND (430)	-	ND (1500)	-	ND (360)	80 J	80 J	-	-
Butyl benzylphthalate	ug/Kg	170 J	ND (430)	-	ND (1500)	-	ND (360)	ND (360)	ND (400.0)	-	-
Chrysene	ug/Kg	310 J	650	-	290 J	-	1400	2400	1800	-	-
Dibenz(a,h)anthracene	ug/Kg	ND (1500)	190 J	-	ND (1500)	-	370	600	380 J	-	-
Dibenzofuran	ug/Kg	550 J	74 J	-	380 J	-	140 J	120 J	220 J	-	-
Diethyl phthalate	ug/Kg	ND (1500)	ND (430)	-	ND (1500)	-	ND (360)	ND (360)	ND (400)	-	-
Dimethyl phthalate	ug/Kg	ND (1500)	ND (430)	-	ND (1500)	-	ND (360)	ND (360)	ND (400)	-	-
Di-n-butylphthalate	ug/Kg	ND (1500)	ND (430)	-	ND (1500)	-	ND (360)	ND (360)	ND (400)	-	-
Di-n-octyl phthalate	ug/Kg	440 J	ND (430)	-	ND (1500)	-	ND (360)	ND (360)	66 J	-	-
Fluoranthene	ug/Kg	970 J	1300	-	570 J	-	3800	5500	3600	-	-
Fluorene	ug/Kg	ND (1500)	92 J	-	ND (1500)	-	260	240 J	260 J	-	-
Hexachlorobenzene	ug/Kg	ND (1500)	ND (430)	-	ND (1500)	-	ND (360)	ND (360)	ND (400)	-	-
Hexachlorobutadiene	ug/Kg	ND (1500)	ND (430)	-	ND (1500)	-	ND (360)	ND (360)	ND (400)	-	ND (710)
Hexachlorocyclopentadiene	ug/Kg	ND (1500)	ND (430)	-	ND (1500)	-	ND (360)	ND (360)	ND (400)	-	-
Hexachloroethane	ug/Kg	ND (1500)	ND (430)	-	ND (1500)	-	ND (360)	ND (360)	ND (400)	-	-
Indeno(1,2,3-cd)pyrene	ug/Kg	190 J	430	-	ND (1500)	-	910	1500	980	-	-
Isophorone	ug/Kg	ND (1500)	ND (430)	-	ND (1500)	-	ND (360)	ND (360)	ND (400)	-	-
Naphthalene	ug/Kg	2100	120 J	-	2600	-	59 J	71 J	140 J	ND (6)	ND (29)
Nitrobenzene	ug/Kg	ND (1500)	ND (430)	-	ND (1500)	-	ND (360)	ND (360)	ND (400)	-	-
N-Nitrosodi-n-propylamine	ug/Kg	ND (1500)	ND (430)	-	ND (1500)	-	ND (360)	ND (360)	ND (400)	-	-
N-Nitrosodiphenylamine	ug/Kg	ND (1500)	ND (430)	-	ND (1500)	-	ND (360)	ND (360)	ND (400)	-	-
Phenanthrene	ug/Kg	1900	820	-	1300 J	-	2500	3300	3300	-	-
Pyrene	ug/Kg	800 J	1100	-	510 J	-	3300	4500	3200	-	-
Volatiles											
1,1,1,2-Tetrachloroethane	ug/Kg	-	-	-	-	-	-	-	-	-	ND (710)
1,1,1-Trichloroethane	ug/Kg	ND (29)	-	-	ND (55)	-	ND (6)	ND (6)	ND (6)	-	ND (29)
1,1,2,2-Tetrachloroethane	ug/Kg	ND (29)	-	-	ND (55)	-	ND (6)	ND (6)	ND (6)	-	ND (29)
1,1,2-Trichloroethane	ug/Kg	ND (29)	-	-	ND (55)	-	ND (6)	ND (6)	ND (6)	-	ND (29)
1,1-Dichloroethane	ug/Kg	ND (29)	-	-	ND (55)	-	ND (6)	ND (6)	ND (6)	-	ND (710)
1,1-Dichloroethene	ug/Kg	ND (29)	-	-	ND (55)	-	ND (6)	ND (6)	ND (6)	ND (6)	29
1,2,3-Trichloropropane	ug/Kg	-	-	-	-	-	-	-	-	-	ND (710)
1,2-Dibromo-3-chloropropane (DBCP)	ug/Kg	-	-	-	-	-	-	-	-	-	ND (1400)
1,2-Dibromoethane (EDB)	ug/Kg	-	-	-	-	-	-	-	-	-	ND (710)
1,2-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-
1,2-Dichloroethane	ug/Kg	ND (29)	-	-	ND (55)	-	ND (6)	ND (6)	ND (6)	-	ND (29)
1,2-Dichloroethene (total)	ug/Kg	-	-	-	-	-	-	-	-	1.9 J	330
1,2-Dichloropropane	ug/Kg	ND (29)	-	-	ND (55)	-	ND (6)	ND (6)	ND (6)	-	ND (710)

HISTORICAL SOIL SAMPLE RESULTS
AOI 1 - SOLVENT RELEASE AREA WEST OF BUILDING 12
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*GP-22*	*GP-22*	*GP-22*	*GP-23*	*GP-23*	*GP-27*	*GP-28*	*GP-32*	*GP-48*	*GP-49*
Sample Name:		*GP-22 G-1*	*GP-22 G-2*	*GP-22 G-3*	*GP-23 G-1*	*GP-23 G-3*	*GP-27 G-3*	*GP-28 G-3*	*GP-32 G-1*	*GP-48 G-2*	*GP-49 G-2*
Sample Depth:		*(0-4)*	*(4-8)*	*(8-12)*	*(0-4)*	*(8-12)*	*(8-12)*	*(8-12)*	*(0-4)*	*(4-8)*	*(4-8)*
Sample Date:		*9/24/96*	*10/4/96*	*9/24/96*	*9/24/96*	*9/24/96*	*9/25/96*	*9/25/96*	*9/26/96*	*4/24/97*	*4/24/97*
Parameter	*Units*										
1,3-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-
1,4-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-
1,4-Dioxane	ug/Kg	-	-	-	-	-	-	-	-	-	ND (1400)
2-Butanone	ug/Kg	49 J	-	-	ND (110)	-	5 J	2 J	ND (10)	ND (12)	ND (57)
2-Chloroethyl vinyl ether	ug/Kg	-	-	-	-	-	-	-	-	-	ND (57)
2-Hexanone	ug/Kg	ND (58)	-	-	ND (110)	-	ND (11)	ND (11)	ND (10)	-	ND (57)
4-Methyl-2-pentanone	ug/Kg	ND (58)	-	-	ND (110)	-	ND (11)	ND (11)	ND (10)	-	ND (57)
Acetone	ug/Kg	ND (58)	-	-	ND (110)	-	34 B	8 JB	7 J	14 B	45 JB
Acrolein	ug/Kg	-	-	-	-	-	-	-	-	-	ND (1400)
Acrylonitrile	ug/Kg	-	-	-	-	-	-	-	-	-	ND (1400)
Allyl chloride	ug/Kg	-	-	-	-	-	-	-	-	-	ND (57)
Benzene	ug/Kg	-	-	-	-	-	-	-	-	-	-
Bromodichloromethane	ug/Kg	ND (29)	-	-	ND (55)	-	ND (6)	ND (6)	ND (6)	-	ND (710)
Bromoform	ug/Kg	ND (29)	-	-	ND (55)	-	ND (6)	ND (6)	ND (6)	-	ND (29)
Bromomethane	ug/Kg	ND (58)	-	-	ND (110)	-	ND (11)	ND (11)	ND (10)	-	ND (710)
Carbon disulfide	ug/Kg	ND (29)	-	-	ND (55)	-	ND (6)	ND (6)	ND (6)	1.6 J	ND (29)
Carbon tetrachloride	ug/Kg	ND (29)	-	-	ND (55)	-	ND (6)	ND (6)	ND (6)	-	ND (29)
Chlorobenzene	ug/Kg	ND (29)	-	-	ND (55)	-	ND (6)	ND (6)	ND (6)	-	ND (710)
Chlorobromomethane	ug/Kg	-	-	-	-	-	-	-	-	-	ND (29)
Chloroethane	ug/Kg	ND (58)	-	-	ND (110)	-	ND (11)	ND (11)	ND (10)	-	ND (710)
Chloroform	ug/Kg	ND (29)	-	-	ND (55)	-	ND (6)	ND (6)	ND (6)	-	ND (29)
Chloromethane	ug/Kg	ND (58)	-	-	ND (110)	-	ND (11)	ND (11)	ND (10)	-	ND (710)
Chloroprene	ug/Kg	-	-	-	-	-	-	-	-	-	ND (1400)
cis-1,2-Dichloroethene	ug/Kg	650	-	-	73	-	3 J	ND (6)	ND (6)	1.9 J	280
cis-1,3-Dichloropropene	ug/Kg	ND (29)	-	-	ND (55)	-	ND (6)	ND (6)	ND (6)	-	ND (710)
cis-1,4-Dichloro-2-butene	ug/Kg	-	-	-	-	-	-	-	-	-	ND (710)
Dibromochloromethane	ug/Kg	ND (29)	-	-	ND (55)	-	ND (6)	ND (6)	ND (6)	-	ND (29)
Dibromomethane	ug/Kg	-	-	-	-	-	-	-	-	-	ND (29)
Dichlorodifluoromethane (CFC-12)	ug/Kg	-	-	-	-	-	-	-	-	-	ND (710)
Ethyl methacrylate	ug/Kg	-	-	-	-	-	-	-	-	-	ND (57)
Ethylbenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-
Iodomethane	ug/Kg	-	-	-	-	-	-	-	-	-	ND (1400)
Isobutyl alcohol	ug/Kg	-	-	-	-	-	-	-	-	-	ND (36000)
Methyl acrylonitrile	ug/Kg	-	-	-	-	-	-	-	-	-	ND (710)
Methyl methacrylate	ug/Kg	-	-	-	-	-	-	-	-	-	ND (710)
Methyl Tert Butyl Ether	ug/Kg	-	-	-	-	-	-	-	-	-	ND (29)
Methylene chloride	ug/Kg	ND (29)	-	-	ND (55)	-	ND (6)	ND (6)	ND (6)	ND (6)	ND (29)
Naphtha	ug/Kg	-	-	-	-	-	-	-	-	-	-
Propionitrile (Ethyl cyanide)	ug/Kg	-	-	-	-	-	-	-	-	-	ND (1400)
Styrene	ug/Kg	ND (29)	-	-	ND (55)	-	ND (6)	ND (6)	ND (6)	-	ND (29)
Tetrachloroethene	ug/Kg	12000	-	-	1300	-	15	130	37	36 D	310
Tetrahydrofuran	ug/Kg	-	-	-	-	-	-	-	-	30	ND (1400)
Toluene	ug/Kg	ND (29)	-	-	ND (55)	-	1.4	ND (6)	ND (6)	ND (6)	ND (29)
trans-1,2-Dichloroethene	ug/Kg	26 J	-	-	ND (55)	-	ND (6)	ND (6)	ND (6)	ND (6)	54
trans-1,3-Dichloropropene	ug/Kg	ND (29)	-	-	ND (55)	-	ND (6)	ND (6)	ND (6)	-	ND (29)
trans-1,4-Dichloro-2-butene	ug/Kg	-	-	-	-	-	-	-	-	-	ND (710)
Trichloroethene	ug/Kg	1500	-	-	280	-	20	25	21	160	11000 D
Trichlorofluoromethane (CFC-11)	ug/Kg	-	-	-	-	-	-	-	-	3.8 J	ND (29)
Trifluorotrichloroethane (Freon 113)	ug/Kg	-	-	-	-	-	-	-	-	-	ND (29)
Vinyl acetate	ug/Kg	ND (58)	-	-	ND (110)	-	ND (11)	ND (11)	ND (10)	-	ND (1400)
Vinyl chloride	ug/Kg	ND (58)	-	-	ND (110)	-	ND (11)	ND (11)	ND (10)	-	ND (710)
Volatile Mineral Oils	ug/Kg	-	-	-	-	-	-	-	-	-	-

TABLE G.1

HISTORICAL SOIL SAMPLE RESULTS
AOI 1 - SOLVENT RELEASE AREA WEST OF BUILDING 12
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*GP-22*	*GP-22*	*GP-22*	*GP-23*	*GP-23*	*GP-27*	*GP-28*	*GP-32*	*GP-48*	*GP-49*
Sample Name:		*GP-22 G-1*	*GP-22 G-2*	*GP-22 G-3*	*GP-23 G-1*	*GP-23 G-3*	*GP-27 G-3*	*GP-28 G-3*	*GP-32 G-1*	*GP-48 G-2*	*GP-49 G-2*
Sample Depth:		*(0-4)*	*(4-8)*	*(8-12)*	*(0-4)*	*(8-12)*	*(8-12)*	*(8-12)*	*(0-4)*	*(4-8)*	*(4-8)*
Sample Date:		*9/24/96*	*10/4/96*	*9/24/96*	*9/24/96*	*9/24/96*	*9/25/96*	*9/25/96*	*9/26/96*	*4/24/97*	*4/24/97*
Parameter	*Units*										
Xylene (total)	ug/Kg	31	-	-	94	-	ND (6)	ND (6)	ND (6)	ND (6)	ND (29)
General Chemistry											
Percent Solids	%	-	-	85.5	-	90.9	-	-	85.4	-	-

HISTORICAL SOIL SAMPLE RESULTS
AOI 1 - SOLVENT RELEASE AREA WEST OF BUILDING 12
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*GP-49*	*GP-51*	*GP-51*	*GP-52*	*GP-58*	*HD-3*	*HRD3-18 Backfill-UST3&18*	*HRD3-18 Backfill-UST3&18*
Sample Name:		*GP-49 G-2-DL*	*GP-51 G-4*	*GP-51 G-4*	*GP-52 G-2*	*GP-58 G-2*	*HD-3-1-SOIL*	*HRD3-18 BACKFILL-UST3&18*	*HRD3-18 BACKFILL-UST3&18*
Sample Depth:		*(4-8)*	*(12-16)*	*(8-12)*	*(4-8)*	*(4-8)*	*(24.5-26.5)*		
Sample Date:		*4/24/97*	*4/28/97*	*4/28/97*	*4/28/97*	*4/30/97*	*5/6/88*	*2/16/90*	*2/20/90*
Parameter	*Units*								
BTEX									
Benzene	ug/Kg	-	-	ND (0.61)	ND (2.9)	ND (0.64)	-	-	3.44
Ethylbenzene	ug/Kg	-	-	ND (0.61)	27	ND (0.64)	-	-	ND (4.0)
m&p-Xylene	ug/Kg	-	-	ND (1.2)	220	ND (1.3)	-	-	-
o-Xylene	ug/Kg	-	-	ND (0.61)	220	ND (0.64)	-	-	-
Toluene	ug/Kg	-	-	ND (0.61)	ND (2.9)	ND (0.64)	-	-	4.89
Xylene (total)	ug/Kg	-	-	-	-	-	-	-	12.9
PAH									
Acenaphthene	ug/Kg	-	-	-	-	-	-	-	-
Acenaphthylene	ug/Kg	-	-	-	-	-	-	-	-
Anthracene	ug/Kg	-	-	-	-	-	-	-	-
Benzo(a)anthracene	ug/Kg	-	-	-	-	-	-	-	-
Benzo(a)pyrene	ug/Kg	-	-	-	-	-	-	-	-
Benzo(b)fluoranthene	ug/Kg	-	-	-	-	-	-	-	-
Benzo(g,h,i)perylene	ug/Kg	-	-	-	-	-	-	-	-
Benzo(k)fluoranthene	ug/Kg	-	-	-	-	-	-	-	-
Chrysene	ug/Kg	-	-	-	-	-	-	-	-
Dibenz(a,h)anthracene	ug/Kg	-	-	-	-	-	-	-	-
Fluoranthene	ug/Kg	-	-	-	-	-	-	-	-
Fluorene	ug/Kg	-	-	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	ug/Kg	-	-	-	-	-	-	-	-
Naphthalene	ug/Kg	-	-	-	-	-	-	-	-
Phenanthrene	ug/Kg	-	-	-	-	-	-	-	-
Pyrene	ug/Kg	-	-	-	-	-	-	-	-
Petroleum Products									
Total Petroleum Hydrocarbons	mg/Kg	-	-	-	-	-	-	ND (100)	ND (5)
Total Petroleum Hydrocarbons - extractable (DRO)	mg/Kg	-	-	-	-	-	-	-	-
Total Petroleum Hydrocarbons, Field	mg/Kg	-	-	-	-	-	-	-	-
Total Recoverable Petroleum Hydrocarbons	mg/Kg	-	84.6	-	358	342	-	-	-
Semi-Volatiles									
1,2,4-Trichlorobenzene	ug/Kg	ND (29)	ND (6.2)	-	ND (620)	ND (6.5)	-	-	-
1,2-Dichlorobenzene	ug/Kg	ND (29)	ND (6.2)	-	ND (620)	ND (6.5)	-	-	-
1,3-Dichlorobenzene	ug/Kg	ND (29)	ND (6.2)	-	ND (620)	ND (6.5)	-	-	-
1,4-Dichlorobenzene	ug/Kg	ND (710)	ND (6.2)	-	ND (620)	ND (6.5)	-	-	-
2,4-Dinitrotoluene	ug/Kg	-	-	-	-	-	-	-	-
2,6-Dinitrotoluene	ug/Kg	-	-	-	-	-	-	-	-
2-Chloronaphthalene	ug/Kg	-	-	-	-	-	-	-	-
2-Methyl naphthalene	ug/Kg	-	-	-	-	-	-	-	-
2-Nitroaniline	ug/Kg	-	-	-	-	-	-	-	-
3,3'-Dichlorobenzidine	ug/Kg	-	-	-	-	-	-	-	-
3-Nitroaniline	ug/Kg	-	-	-	-	-	-	-	-
4-Bromophenyl phenyl ether	ug/Kg	-	-	-	-	-	-	-	-
4-Chloroaniline	ug/Kg	-	-	-	-	-	-	-	-
4-Chlorophenyl phenyl ether	ug/Kg	-	-	-	-	-	-	-	-
4-Nitroaniline	ug/Kg	-	-	-	-	-	-	-	-

TABLE G.1

HISTORICAL SOIL SAMPLE RESULTS
AOI 1 - SOLVENT RELEASE AREA WEST OF BUILDING 12
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*GP-49*	*GP-51*	*GP-51*	*GP-52*	*GP-58*	*HD-3*	*HRD3-18 Backfill-UST3&18*	*HRD3-18 Backfill-UST3&18*
Sample Name:		*GP-49 G-2-DL*	*GP-51 G-4*	*GP-51 G-4*	*GP-52 G-2*	*GP-58 G-2*	*HD-3-1-SOIL*	*HRD3-18 BACKFILL-UST3&18*	*HRD3-18 BACKFILL-UST3&18*
Sample Depth:		*(4-8)*	*(12-16)*	*(8-12)*	*(4-8)*	*(4-8)*	*(24.5-26.5)*		
Sample Date:		*4/24/97*	*4/28/97*	*4/28/97*	*4/28/97*	*4/30/97*	*5/6/88*	*2/16/90*	*2/20/90*
Parameter	*Units*								
Acenaphthene	ug/Kg	-	-	-	-	-	-	-	-
Acenaphthylene	ug/Kg	-	-	-	-	-	-	-	-
Anthracene	ug/Kg	-	-	-	-	-	-	-	-
Benzene, isopropyl	ug/Kg	-	-	ND (6.2)	ND (620)	ND (6.5)	-	-	-
Benzo(a)anthracene	ug/Kg	-	-	-	-	-	-	-	-
Benzo(a)pyrene	ug/Kg	-	-	-	-	-	-	-	-
Benzo(b)fluoranthene	ug/Kg	-	-	-	-	-	-	-	-
Benzo(g,h,i)perylene	ug/Kg	-	-	-	-	-	-	-	-
Benzo(k)fluoranthene	ug/Kg	-	-	-	-	-	-	-	-
Benzyl Alcohol	ug/Kg	-	-	-	-	-	-	-	-
bis(2-Chloroethoxy)methane	ug/Kg	-	-	-	-	-	-	-	-
bis(2-Chloroethyl)ether	ug/Kg	-	-	-	-	-	-	-	-
bis(2-Chloroisopropyl)ether	ug/Kg	-	-	-	-	-	-	-	-
bis(2-Ethylhexyl)phthalate	ug/Kg	-	-	-	-	-	-	-	-
Butyl benzylphthalate	ug/Kg	-	-	-	-	-	-	-	-
Chrysene	ug/Kg	-	-	-	-	-	-	-	-
Dibenz(a,h)anthracene	ug/Kg	-	-	-	-	-	-	-	-
Dibenzofuran	ug/Kg	-	-	-	-	-	-	-	-
Diethyl phthalate	ug/Kg	-	-	-	-	-	-	-	-
Dimethyl phthalate	ug/Kg	-	-	-	-	-	-	-	-
Di-n-butylphthalate	ug/Kg	-	-	-	-	-	-	-	-
Di-n-octyl phthalate	ug/Kg	-	-	-	-	-	-	-	-
Fluoranthene	ug/Kg	-	-	-	-	-	-	-	-
Fluorene	ug/Kg	-	-	-	-	-	-	-	-
Hexachlorobenzene	ug/Kg	-	-	-	-	-	-	-	-
Hexachlorobutadiene	ug/Kg	ND (29)	ND (6.2)	-	ND (620)	ND (6.5)	-	-	-
Hexachlorocyclopentadiene	ug/Kg	-	-	-	-	-	-	-	-
Hexachloroethane	ug/Kg	-	-	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	ug/Kg	-	-	-	-	-	-	-	-
Isophorone	ug/Kg	-	-	-	-	-	-	-	-
Naphthalene	ug/Kg	-	-	ND (6.2)	ND (620)	7.7	-	-	-
Nitrobenzene	ug/Kg	-	-	-	-	-	-	-	-
N-Nitrosodi-n-propylamine	ug/Kg	-	-	-	-	-	-	-	-
N-Nitrosodiphenylamine	ug/Kg	-	-	-	-	-	-	-	-
Phenanthrene	ug/Kg	-	-	-	-	-	-	-	-
Pyrene	ug/Kg	-	-	-	-	-	-	-	-
Volatiles									
1,1,1,2-Tetrachloroethane	ug/Kg	ND (29)	ND (6.2)	-	ND (620)	ND (6.5)	-	-	-
1,1,1-Trichloroethane	ug/Kg	ND (710)	ND (6.2)	-	ND (620)	ND (6.5)	ND (113.0)	-	-
1,1,2,2-Tetrachloroethane	ug/Kg	ND (710)	ND (6.2)	-	ND (620)	ND (6.5)	-	-	-
1,1,2-Trichloroethane	ug/Kg	ND (710)	ND (6.2)	-	ND (620)	ND (6.5)	-	-	-
1,1-Dichloroethane	ug/Kg	ND (29)	ND (6.2)	-	ND (620)	ND (6.5)	ND (113.0)	-	-
1,1-Dichloroethene	ug/Kg	-	-	ND (6.2)	ND (620)	ND (6.5)	-	-	-
1,2,3-Trichloropropane	ug/Kg	ND (29)	ND (6.2)	-	ND (620)	ND (6.5)	-	-	-
1,2-Dibromo-3-chloropropane (DBCP)	ug/Kg	ND (57)	ND (12)	-	ND (1200)	ND (13)	-	-	-
1,2-Dibromoethane (EDB)	ug/Kg	ND (29)	ND (6.2)	-	ND (620)	ND (6.5)	-	-	-
1,2-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-
1,2-Dichloroethane	ug/Kg	ND (710)	ND (6.2)	-	ND (620)	ND (6.5)	-	-	-
1,2-Dichloroethene (total)	ug/Kg	-	-	78	130 J	20	-	-	-
1,2-Dichloropropane	ug/Kg	ND (29)	ND (6.2)	-	ND (620)	ND (6.5)	-	-	-

HISTORICAL SOIL SAMPLE RESULTS
AOI 1 - SOLVENT RELEASE AREA WEST OF BUILDING 12
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*GP-49*	*GP-51*	*GP-51*	*GP-52*	*GP-58*	*HD-3*	*HRD3-18 Backfill-UST3&18*	*HRD3-18 Backfill-UST3&18*
Sample Name:		*GP-49 G-2-DL*	*GP-51 G-4*	*GP-51 G-4*	*GP-52 G-2*	*GP-58 G-2*	*HD-3-1-SOIL*	*HRD3-18 BACKFILL-UST3&18*	*HRD3-18 BACKFILL-UST3&18*
Sample Depth:		*(4-8)*	*(12-16)*	*(8-12)*	*(4-8)*	*(4-8)*	*(24.5-26.5)*		
Sample Date:		*4/24/97*	*4/28/97*	*4/28/97*	*4/28/97*	*4/30/97*	*5/6/88*	*2/16/90*	*2/20/90*
Parameter	*Units*								
1,3-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-
1,4-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-
1,4-Dioxane	ug/Kg	ND (36000)	ND (310)	-	ND (31000)	ND (320)	-	-	-
2-Butanone	ug/Kg	-	-	ND (12)	ND (1200)	19	-	-	-
2-Chloroethyl vinyl ether	ug/Kg	ND (1400)	ND (12)	-	ND (1200)	ND (13)	-	-	-
2-Hexanone	ug/Kg	ND (1400)	ND (12)	-	ND (1200)	ND (13)	-	-	-
4-Methyl-2-pentanone	ug/Kg	ND (1400)	ND (12)	-	ND (1200)	ND (13)	-	-	-
Acetone	ug/Kg	-	-	36	ND (1200)	120	-	-	-
Acrolein	ug/Kg	ND (57)	ND (12)	-	ND (1200)	ND (13)	-	-	-
Acrylonitrile	ug/Kg	ND (57)	ND (12)	-	ND (1200)	ND (13)	-	-	-
Allyl chloride	ug/Kg	ND (1400)	ND (12)	-	ND (1200)	ND (13)	-	-	-
Benzene	ug/Kg	-	-	-	-	-	-	-	-
Bromodichloromethane	ug/Kg	ND (29)	ND (6.2)	-	ND (620)	ND (6.5)	-	-	-
Bromoform	ug/Kg	ND (710)	ND (6.2)	-	ND (620)	ND (6.5)	-	-	-
Bromomethane	ug/Kg	ND (29)	ND (6.2)	-	ND (620)	ND (6.5)	-	-	-
Carbon disulfide	ug/Kg	-	-	ND (6.2)	ND (620)	4.2 J	-	-	-
Carbon tetrachloride	ug/Kg	ND (710)	ND (6.2)	-	ND (620)	ND (6.5)	-	-	-
Chlorobenzene	ug/Kg	ND (29)	ND (6.2)	-	ND (620)	ND (6.5)	-	-	-
Chlorobromomethane	ug/Kg	ND (710)	ND (6.2)	-	ND (620)	ND (6.5)	-	-	-
Chloroethane	ug/Kg	ND (29)	ND (6.2)	-	ND (620)	ND (6.5)	ND (113.0)	-	-
Chloroform	ug/Kg	ND (710)	ND (6.2)	-	ND (620)	ND (6.5)	-	-	-
Chloromethane	ug/Kg	ND (29)	ND (6.2)	-	ND (620)	ND (6.5)	-	-	-
Chloroprene	ug/Kg	ND (57)	ND (12)	-	ND (1200)	ND (13)	-	-	-
cis-1,2-Dichloroethene	ug/Kg	-	-	62	120 J	20	ND (113.0)	-	-
cis-1,3-Dichloropropene	ug/Kg	ND (29)	ND (6.2)	-	ND (620)	ND (6.5)	-	-	-
cis-1,4-Dichloro-2-butene	ug/Kg	ND (29)	ND (6.2)	-	ND (620)	ND (6.5)	-	-	-
Dibromochloromethane	ug/Kg	ND (710)	ND (6.2)	-	ND (620)	ND (6.5)	-	-	-
Dibromomethane	ug/Kg	ND (710)	ND (6.2)	-	ND (620)	ND (6.5)	-	-	-
Dichlorodifluoromethane (CFC-12)	ug/Kg	ND (29)	ND (6.2)	-	ND (620)	ND (6.5)	-	-	-
Ethyl methacrylate	ug/Kg	ND (1400)	ND (12)	-	ND (1200)	ND (13)	-	-	-
Ethylbenzene	ug/Kg	-	-	-	-	-	-	-	-
Iodomethane	ug/Kg	ND (57)	ND (12)	-	ND (1200)	ND (13)	-	-	-
Isobutyl alcohol	ug/Kg	ND (1400)	ND (310)	-	ND (31000)	ND (320)	-	-	-
Methyl acrylonitrile	ug/Kg	ND (29)	ND (6.2)	-	ND (620)	ND (6.5)	-	-	-
Methyl methacrylate	ug/Kg	ND (29)	ND (6.2)	-	ND (620)	ND (6.5)	-	-	-
Methyl Tert Butyl Ether	ug/Kg	ND (710)	ND (6.2)	-	ND (620)	ND (6.5)	-	-	-
Methylene chloride	ug/Kg	-	-	ND (6.2)	ND (620)	3.5 J	-	-	-
Naphtha	ug/Kg	-	-	-	-	-	ND (113.0)	-	-
Propionitrile (Ethyl cyanide)	ug/Kg	ND (57)	ND (12)	-	ND (1200)	ND (13)	-	-	-
Styrene	ug/Kg	ND (710)	ND (6.2)	-	ND (620)	ND (6.5)	-	-	-
Tetrachloroethene	ug/Kg	-	-	5.8 J	14000	38	ND (113.0)	-	-
Tetrahydrofuran	ug/Kg	-	-	ND (310)	ND (31000)	ND (320)	-	-	-
Toluene	ug/Kg	-	-	ND (6.2)	ND (620)	ND (6.5)	-	-	-
trans-1,2-Dichloroethene	ug/Kg	-	-	17	ND (620)	ND (6.5)	ND (113.0)	-	-
trans-1,3-Dichloropropene	ug/Kg	ND (710)	ND (6.2)	-	ND (620)	ND (6.5)	-	-	-
trans-1,4-Dichloro-2-butene	ug/Kg	ND (29)	ND (6.2)	-	ND (620)	ND (6.5)	-	-	-
Trichloroethene	ug/Kg	-	-	64	2200	24	ND (113.0)	-	-
Trichlorofluoromethane (CFC-11)	ug/Kg	-	-	ND (6.2)	ND (620)	ND (6.5)	-	-	-
Trifluorotrichloroethane (Freon 113)	ug/Kg	ND (710)	ND (6.2)	-	ND (620)	ND (6.5)	-	-	-
Vinyl acetate	ug/Kg	ND (57)	ND (12)	-	ND (1200)	ND (13)	-	-	-
Vinyl chloride	ug/Kg	ND (29)	ND (6.2)	-	ND (620)	ND (6.5)	ND (113.0)	-	-
Volatile Mineral Oils	ug/Kg	-	-	-	-	-	ND (113.0)	-	-

TABLE G.1

HISTORICAL SOIL SAMPLE RESULTS
AOI 1 - SOLVENT RELEASE AREA WEST OF BUILDING 12
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*GP-49*	*GP-51*	*GP-51*	*GP-52*	*GP-58*	*HD-3*	*HRD3-18 Backfill-UST3&18*	*HRD3-18 Backfill-UST3&18*
Sample Name:		*GP-49 G-2-DL*	*GP-51 G-4*	*GP-51 G-4*	*GP-52 G-2*	*GP-58 G-2*	*HD-3-1-SOIL*	*HRD3-18 BACKFILL-UST3&18*	*HRD3-18 BACKFILL-UST3&18*
Sample Depth:		*(4-8)*	*(12-16)*	*(8-12)*	*(4-8)*	*(4-8)*	*(24.5-26.5)*		
Sample Date:		*4/24/97*	*4/28/97*	*4/28/97*	*4/28/97*	*4/30/97*	*5/6/88*	*2/16/90*	*2/20/90*
Parameter	*Units*								
Xylene (total)	ug/Kg	-	-	ND (6.2)	ND (620)	ND (6.5)	-	-	-
General Chemistry									
Percent Solids	%	-	81.8	-	86.3	78.1	-	-	-

HISTORICAL SOIL SAMPLE RESULTS
AOI 1 - SOLVENT RELEASE AREA WEST OF BUILDING 12
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*Tank 20*	*Tank 20*	*Tank 20*	*Tank 20*	*Tank 21*	*W-2A*	*W-2B*
Sample Name:		*EAST WALL*	*SOIL UNDER TANK*	*STODDARD TANK*	*WEST WALL*	*KEROSENE TANK*	*W-2A*	*W-2B*
Sample Depth:							*(6-)*	*(1.5-)*
Sample Date:		*12/30/88*	*12/30/88*	*12/21/88*	*12/30/88*	*12/21/88*	*10/19/95*	*10/19/95*
Parameter	*Units*							
BTEX								
Benzene	ug/Kg	-	-	-	-	-	-	-
Ethylbenzene	ug/Kg	-	-	-	-	-	-	-
m&p-Xylene	ug/Kg	-	-	-	-	-	-	-
o-Xylene	ug/Kg	-	-	-	-	-	-	-
Toluene	ug/Kg	-	-	-	-	-	-	-
Xylene (total)	ug/Kg	-	-	-	-	-	-	-
PAH								
Acenaphthene	ug/Kg	-	-	-	-	-	-	-
Acenaphthylene	ug/Kg	-	-	-	-	-	-	-
Anthracene	ug/Kg	-	-	-	-	-	-	-
Benzo(a)anthracene	ug/Kg	-	-	-	-	-	-	-
Benzo(a)pyrene	ug/Kg	-	-	-	-	-	-	-
Benzo(b)fluoranthene	ug/Kg	-	-	-	-	-	-	-
Benzo(g,h,i)perylene	ug/Kg	-	-	-	-	-	-	-
Benzo(k)fluoranthene	ug/Kg	-	-	-	-	-	-	-
Chrysene	ug/Kg	-	-	-	-	-	-	-
Dibenz(a,h)anthracene	ug/Kg	-	-	-	-	-	-	-
Fluoranthene	ug/Kg	-	-	-	-	-	-	-
Fluorene	ug/Kg	-	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	ug/Kg	-	-	-	-	-	-	-
Naphthalene	ug/Kg	-	-	-	-	-	-	-
Phenanthrene	ug/Kg	-	-	-	-	-	-	-
Pyrene	ug/Kg	-	-	-	-	-	-	-
Petroleum Products								
Total Petroleum Hydrocarbons	mg/Kg	-	-	-	-	-	-	-
Total Petroleum Hydrocarbons - extractable (DRO)	mg/Kg	-	-	-	-	-	0.58	0.046
Total Petroleum Hydrocarbons, Field	mg/Kg	-	-	-	-	-	-	-
Total Recoverable Petroleum Hydrocarbons	mg/Kg	-	-	-	-	-	-	-
Semi-Volatiles								
1,2,4-Trichlorobenzene	ug/Kg	-	-	-	-	-	-	-
1,2-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	-
1,3-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	-
1,4-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	-
2,4-Dinitrotoluene	ug/Kg	-	-	-	-	-	-	-
2,6-Dinitrotoluene	ug/Kg	-	-	-	-	-	-	-
2-Chloronaphthalene	ug/Kg	-	-	-	-	-	-	-
2-Methyl naphthalene	ug/Kg	-	-	-	-	-	-	-
2-Nitroaniline	ug/Kg	-	-	-	-	-	-	-
3,3'-Dichlorobenzidine	ug/Kg	-	-	-	-	-	-	-
3-Nitroaniline	ug/Kg	-	-	-	-	-	-	-
4-Bromophenyl phenyl ether	ug/Kg	-	-	-	-	-	-	-
4-Chloroaniline	ug/Kg	-	-	-	-	-	-	-
4-Chlorophenyl phenyl ether	ug/Kg	-	-	-	-	-	-	-
4-Nitroaniline	ug/Kg	-	-	-	-	-	-	-

TABLE G.1

HISTORICAL SOIL SAMPLE RESULTS
AOI 1 - SOLVENT RELEASE AREA WEST OF BUILDING 12
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*Tank 20*	*Tank 20*	*Tank 20*	*Tank 20*	*Tank 21*	*W-2A*	*W-2B*
Sample Name:		*EAST WALL*	*SOIL UNDER TANK*	*STODDARD TANK*	*WEST WALL*	*KEROSENE TANK*	*W-2A*	*W-2B*
Sample Depth:							*(6-)*	*(1.5-)*
Sample Date:		*12/30/88*	*12/30/88*	*12/21/88*	*12/30/88*	*12/21/88*	*10/19/95*	*10/19/95*
Parameter	*Units*							
Acenaphthene	ug/Kg	-	-	-	-	-	-	-
Acenaphthylene	ug/Kg	-	-	-	-	-	-	-
Anthracene	ug/Kg	-	-	-	-	-	-	-
Benzene, isopropyl	ug/Kg	-	-	-	-	-	-	-
Benzo(a)anthracene	ug/Kg	-	-	-	-	-	-	-
Benzo(a)pyrene	ug/Kg	-	-	-	-	-	-	-
Benzo(b)fluoranthene	ug/Kg	-	-	-	-	-	-	-
Benzo(g,h,i)perylene	ug/Kg	-	-	-	-	-	-	-
Benzo(k)fluoranthene	ug/Kg	-	-	-	-	-	-	-
Benzyl Alcohol	ug/Kg	-	-	-	-	-	-	-
bis(2-Chloroethoxy)methane	ug/Kg	-	-	-	-	-	-	-
bis(2-Chloroethyl)ether	ug/Kg	-	-	-	-	-	-	-
bis(2-Chloroisopropyl)ether	ug/Kg	-	-	-	-	-	-	-
bis(2-Ethylhexyl)phthalate	ug/Kg	-	-	-	-	-	-	-
Butyl benzylphthalate	ug/Kg	-	-	-	-	-	-	-
Chrysene	ug/Kg	-	-	-	-	-	-	-
Dibenz(a,h)anthracene	ug/Kg	-	-	-	-	-	-	-
Dibenzofuran	ug/Kg	-	-	-	-	-	-	-
Diethyl phthalate	ug/Kg	-	-	-	-	-	-	-
Dimethyl phthalate	ug/Kg	-	-	-	-	-	-	-
Di-n-butylphthalate	ug/Kg	-	-	-	-	-	-	-
Di-n-octyl phthalate	ug/Kg	-	-	-	-	-	-	-
Fluoranthene	ug/Kg	-	-	-	-	-	-	-
Fluorene	ug/Kg	-	-	-	-	-	-	-
Hexachlorobenzene	ug/Kg	-	-	-	-	-	-	-
Hexachlorobutadiene	ug/Kg	-	-	-	-	-	-	-
Hexachlorocyclopentadiene	ug/Kg	-	-	-	-	-	-	-
Hexachloroethane	ug/Kg	-	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	ug/Kg	-	-	-	-	-	-	-
Isophorone	ug/Kg	-	-	-	-	-	-	-
Naphthalene	ug/Kg	-	-	-	-	-	-	-
Nitrobenzene	ug/Kg	-	-	-	-	-	-	-
N-Nitrosodi-n-propylamine	ug/Kg	-	-	-	-	-	-	-
N-Nitrosodiphenylamine	ug/Kg	-	-	-	-	-	-	-
Phenanthrene	ug/Kg	-	-	-	-	-	-	-
Pyrene	ug/Kg	-	-	-	-	-	-	-
Volatiles								
1,1,1,2-Tetrachloroethane	ug/Kg	-	-	-	-	-	-	-
1,1,1-Trichloroethane	ug/Kg	-	-	-	-	-	-	-
1,1,2,2-Tetrachloroethane	ug/Kg	-	-	-	-	-	-	-
1,1,2-Trichloroethane	ug/Kg	-	-	-	-	-	-	-
1,1-Dichloroethane	ug/Kg	-	-	-	-	-	-	-
1,1-Dichloroethene	ug/Kg	-	-	-	-	-	-	-
1,2,3-Trichloropropane	ug/Kg	-	-	-	-	-	-	-
1,2-Dibromo-3-chloropropane (DBCP)	ug/Kg	-	-	-	-	-	-	-
1,2-Dibromoethane (EDB)	ug/Kg	-	-	-	-	-	-	-
1,2-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	-
1,2-Dichloroethane	ug/Kg	-	-	-	-	-	-	-
1,2-Dichloroethene (total)	ug/Kg	-	-	-	-	-	-	-
1,2-Dichloropropane	ug/Kg	-	-	-	-	-	-	-

HISTORICAL SOIL SAMPLE RESULTS
AOI 1 - SOLVENT RELEASE AREA WEST OF BUILDING 12
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*Tank 20*	*Tank 20*	*Tank 20*	*Tank 20*	*Tank 21*	*W-2A*	*W-2B*
Sample Name:		*EAST WALL*	*SOIL UNDER TANK*	*STODDARD TANK*	*WEST WALL*	*KEROSENE TANK*	*W-2A*	*W-2B*
Sample Depth:							*(6-)*	*(1.5-)*
Sample Date:		*12/30/88*	*12/30/88*	*12/21/88*	*12/30/88*	*12/21/88*	*10/19/95*	*10/19/95*
Parameter	*Units*							
1,3-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	-
1,4-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	-
1,4-Dioxane	ug/Kg	-	-	-	-	-	-	-
2-Butanone	ug/Kg	-	-	-	-	-	-	-
2-Chloroethyl vinyl ether	ug/Kg	-	-	-	-	-	-	-
2-Hexanone	ug/Kg	-	-	-	-	-	-	-
4-Methyl-2-pentanone	ug/Kg	-	-	-	-	-	-	-
Acetone	ug/Kg	-	-	-	-	-	-	-
Acrolein	ug/Kg	-	-	-	-	-	-	-
Acrylonitrile	ug/Kg	-	-	-	-	-	-	-
Allyl chloride	ug/Kg	-	-	-	-	-	-	-
Benzene	ug/Kg	-	-	-	-	-	-	-
Bromodichloromethane	ug/Kg	-	-	-	-	-	-	-
Bromoform	ug/Kg	-	-	-	-	-	-	-
Bromomethane	ug/Kg	-	-	-	-	-	-	-
Carbon disulfide	ug/Kg	-	-	-	-	-	-	-
Carbon tetrachloride	ug/Kg	-	-	-	-	-	-	-
Chlorobenzene	ug/Kg	-	-	-	-	-	-	-
Chlorobromomethane	ug/Kg	-	-	-	-	-	-	-
Chloroethane	ug/Kg	-	-	-	-	-	-	-
Chloroform	ug/Kg	-	-	-	-	-	-	-
Chloromethane	ug/Kg	-	-	-	-	-	-	-
Chloroprene	ug/Kg	-	-	-	-	-	-	-
cis-1,2-Dichloroethene	ug/Kg	-	-	-	-	-	-	-
cis-1,3-Dichloropropene	ug/Kg	-	-	-	-	-	-	-
cis-1,4-Dichloro-2-butene	ug/Kg	-	-	-	-	-	-	-
Dibromochloromethane	ug/Kg	-	-	-	-	-	-	-
Dibromomethane	ug/Kg	-	-	-	-	-	-	-
Dichlorodifluoromethane (CFC-12)	ug/Kg	-	-	-	-	-	-	-
Ethyl methacrylate	ug/Kg	-	-	-	-	-	-	-
Ethylbenzene	ug/Kg	-	-	-	-	-	-	-
Iodomethane	ug/Kg	-	-	-	-	-	-	-
Isobutyl alcohol	ug/Kg	-	-	-	-	-	-	-
Methyl acrylonitrile	ug/Kg	-	-	-	-	-	-	-
Methyl methacrylate	ug/Kg	-	-	-	-	-	-	-
Methyl Tert Butyl Ether	ug/Kg	-	-	-	-	-	-	-
Methylene chloride	ug/Kg	-	-	-	-	-	-	-
Naphtha	ug/Kg	-	-	-	-	-	-	-
Propionitrile (Ethyl cyanide)	ug/Kg	-	-	-	-	-	-	-
Styrene	ug/Kg	-	-	-	-	-	-	-
Tetrachloroethene	ug/Kg	494	1430	46600.0	1810	884.0	-	-
Tetrahydrofuran	ug/Kg	-	-	-	-	-	-	-
Toluene	ug/Kg	-	-	-	-	-	-	-
trans-1,2-Dichloroethene	ug/Kg	-	-	-	-	-	-	-
trans-1,3-Dichloropropene	ug/Kg	-	-	-	-	-	-	-
trans-1,4-Dichloro-2-butene	ug/Kg	-	-	-	-	-	-	-
Trichloroethene	ug/Kg	-	-	-	-	216.0	-	-
Trichlorofluoromethane (CFC-11)	ug/Kg	-	-	-	-	-	-	-
Trifluorotrichloroethane (Freon 113)	ug/Kg	-	-	-	-	-	-	-
Vinyl acetate	ug/Kg	-	-	-	-	-	-	-
Vinyl chloride	ug/Kg	-	-	-	-	-	-	-
Volatile Mineral Oils	ug/Kg	-	-	-	-	-	-	-

TABLE G.1

HISTORICAL SOIL SAMPLE RESULTS
AOI 1 - SOLVENT RELEASE AREA WEST OF BUILDING 12
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*Tank 20*	*Tank 20*	*Tank 20*	*Tank 20*	*Tank 21*	*W-2A*	*W-2B*
Sample Name:		*EAST WALL*	*SOIL UNDER TANK*	*STODDARD TANK*	*WEST WALL*	*KEROSENE TANK*	*W-2A*	*W-2B*
Sample Depth:							*(6-)*	*(1.5-)*
Sample Date:		*12/30/88*	*12/30/88*	*12/21/88*	*12/30/88*	*12/21/88*	*10/19/95*	*10/19/95*
Parameter	*Units*							
Xylene (total)	ug/Kg	-	-	-	-	-	-	-
General Chemistry								
Percent Solids	%	-	-	-	-	-	-	-

Notes:
ND - Non-detect at associated value.
J - Estimated.
B - The reported analyte was detected in the associated method blank as well as the sample.
D - Compounds at secondary dilution factor.
E - Compound quantitation is above the instrument's calibration range for this analysis.
- - Not applicable.

HISTORICAL GROUNDWATER SAMPLE RESULTS
AOI 1 - SOLVENT RELEASE AREA WEST OF BUILDING 12
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*B-SA21*	*B-SA21*	*B-SA22*	*B-SA23*	*B-SA24*	*B-SA24*	*B-SA24*	*B-SA26*	*B-SA26*	*B-SA26*	*B-SA26*	*HD-3*	*HD-3*
Sample Name:		*B-SA21*	*B-SA21-DL*	*B-SA22*	*B-SA23*	*B-SA24*	*B-SA24*	*B-SA24-DL*	*B-SA26*	*B-SA26*	*B-SA26*	*B-SA26-DL*	*HD-3*	*HD-3*
Sample Date:		*6/14/96*	*6/14/96*	*6/14/96*	*6/14/96*	*6/6/96*	*6/14/96*	*6/14/96*	*6/14/96*	*5/12/00*	*6/15/00*	*5/12/00*	*5/18/88*	*6/14/96*
Parameter	*Unit*													
BTEX														
Benzene	ug/L	ND (1.0)	-	ND (2.5)	ND (20)	ND (0.5)	-	-	ND (0.5)	-	-	-	-	ND (0.5)
Ethylbenzene	ug/L	3.2	-	5.3	34	5.9	-	-	ND (0.5)	-	-	-	-	ND (0.5)
m&p-Xylene	ug/L	1.1	-	ND (2.5)	ND (20)	7.4	-	-	ND (1)	-	-	-	-	ND (0.5)
o-Xylene	ug/L	2.3	-	12	45	7.9	-	-	ND (0.5)	-	-	-	-	ND (0.5)
Toluene	ug/L	1.8	-	ND (2.5)	ND (20)	ND (0.5)	-	-	0.6	-	-	-	-	ND (0.5)
Metals														
Arsenic	mg/L	-	-	-	-	-	-	-	-	0.018	0.007	-	-	-
Barium	mg/L	-	-	-	-	-	-	-	-	0.793	0.731	-	-	-
Cadmium	mg/L	-	-	-	-	-	-	-	-	0.0042	0.0036	-	-	-
Chromium	mg/L	-	-	-	-	-	-	-	-	0.037	0.017	-	-	-
Lead	mg/L	-	-	-	-	-	-	-	-	0.183	0.0925	-	-	-
Mercury	mg/L	-	-	-	-	-	-	-	-	0.002	0.0005	-	-	-
Selenium	mg/L	-	-	-	-	-	-	-	-	ND (0.005)	ND (0.005)	-	-	-
Silver	mg/L	-	-	-	-	-	-	-	-	ND (0.0005)	ND (0.0005)	-	-	-
PAH														
Benzo(a)anthracene	ug/L	0.097 M	-	0.91 M	2.2 M	0.11 M	-	-	0.013 M	-	-	-	-	-
Benzo(a)pyrene	ug/L	0.067	-	0.52	0.88	0.33	-	-	ND (0.010)	-	-	-	-	-
Benzo(b)fluoranthene	ug/L	0.061	-	0.34 M	1.3 M	0.4	-	-	ND (0.010)	-	-	-	-	-
Benzo(g,h,i)perylene	ug/L	0.306	-	1.8	2 M	0.5	-	-	ND (0.025)	-	-	-	-	-
Benzo(k)fluoranthene	ug/L	0.048	-	0.34 M	0.56 M	0.2 M	-	-	ND (0.010)	-	-	-	-	-
Chrysene	ug/L	0.138 M	-	2.3 M	3.1 M	0.58	-	-	0.014	-	-	-	-	-
Dibenz(a,h)anthracene	ug/L	ND (0.025)	-	0.29 M	0.45 M	0.11 M	-	-	ND (0.025)	-	-	-	-	-
Fluoranthene	ug/L	0.207	-	0.65 M	5 M	0.76	-	-	0.03	-	-	-	-	-
Fluorene	ug/L	ND (0.10)	-	ND (1.0)	4.9	ND (0.30)	-	-	ND (0.10)	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	ug/L	0.07	-	0.44	0.5 M	ND (0.08)	-	-	ND (0.025)	-	-	-	-	-
Phenanthrene	ug/L	ND (0.10)	-	ND (1.0)	3	ND (0.30)	-	-	ND (0.10)	-	-	-	-	-
Pyrene	ug/L	0.291	-	1.5 M	3.7 M	0.87 M	-	-	ND (0.025)	-	-	-	-	-
PCBs														
Aroclor-1016	mg/L	-	-	-	-	-	-	-	-	-	ND (0.0002)	-	-	-
Aroclor-1221	mg/L	-	-	-	-	-	-	-	-	-	ND (0.0002)	-	-	-
Aroclor-1232	mg/L	-	-	-	-	-	-	-	-	-	ND (0.0002)	-	-	-
Aroclor-1242	mg/L	-	-	-	-	-	-	-	-	-	ND (0.0002)	-	-	-
Aroclor-1248	mg/L	-	-	-	-	-	-	-	-	-	ND (0.0002)	-	-	-
Aroclor-1254	mg/L	-	-	-	-	-	-	-	-	-	ND (0.0002)	-	-	-
Aroclor-1260	mg/L	-	-	-	-	-	-	-	-	-	ND (0.0002)	-	-	-
Semi-Volatiles														
1,2,4-Trichlorobenzene	ug/L	-	-	-	-	-	-	-	-	ND (10)	-	-	-	-
1,2-Dichlorobenzene	ug/L	-	-	-	-	-	-	-	-	ND (10)	-	-	-	-
1,2-Diphenylhydrazine	ug/L	-	-	-	-	-	-	-	-	ND (15)	-	-	-	-
1,3-Dichlorobenzene	ug/L	-	-	-	-	-	-	-	-	ND (10)	-	-	-	-
1,4-Dichlorobenzene	ug/L	-	-	-	-	-	-	-	-	ND (10)	-	-	-	-
2,4,5-Trichlorophenol	ug/L	-	-	-	-	-	-	-	-	ND (10)	-	-	-	-
2,4,6-Trichlorophenol	ug/L	-	-	-	-	-	-	-	-	ND (10)	-	-	-	-
2,4-Dichlorophenol	ug/L	-	-	-	-	-	-	-	-	ND (10)	-	-	-	-
2,4-Dimethylphenol	ug/L	-	-	-	-	-	-	-	-	ND (10)	-	-	-	-

HISTORICAL GROUNDWATER SAMPLE RESULTS
AOI 1 - SOLVENT RELEASE AREA WEST OF BUILDING 12
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*B-SA21*	*B-SA21*	*B-SA22*	*B-SA23*	*B-SA24*	*B-SA24*	*B-SA24*	*B-SA26*	*B-SA26*	*B-SA26*	*B-SA26*	*HD-3*	*HD-3*
Sample Name:		*B-SA21*	*B-SA21-DL*	*B-SA22*	*B-SA23*	*B-SA24*	*B-SA24*	*B-SA24-DL*	*B-SA26*	*B-SA26*	*B-SA26*	*B-SA26-DL*	*HD-3*	*HD-3*
Sample Date:		*6/14/96*	*6/14/96*	*6/14/96*	*6/14/96*	*6/6/96*	*6/14/96*	*6/14/96*	*6/14/96*	*5/12/00*	*6/15/00*	*5/12/00*	*5/18/88*	*6/14/96*
Parameter	*Unit*													
2,4-Dinitrophenol	ug/L	-	-	-	-	-	-	-	-	ND (10)	-	-	-	-
2,4-Dinitrotoluene	ug/L	-	-	-	-	-	-	-	-	ND (10)	-	-	-	-
2,6-Dinitrotoluene	ug/L	-	-	-	-	-	-	-	-	ND (10)	-	-	-	-
2-Chloronaphthalene	ug/L	-	-	-	-	-	-	-	-	ND (10)	-	-	-	-
2-Chlorophenol	ug/L	-	-	-	-	-	-	-	-	ND (10)	-	-	-	-
2-Methylphenol	ug/L	-	-	-	-	-	-	-	-	ND (10)	-	-	-	-
2-Nitroaniline	ug/L	-	-	-	-	-	-	-	-	ND (15)	-	-	-	-
2-Nitrophenol	ug/L	-	-	-	-	-	-	-	-	ND (10)	-	-	-	-
3&4-Methylphenol	ug/L	-	-	-	-	-	-	-	-	ND (10)	-	-	-	-
3,3'-Dichlorobenzidine	ug/L	-	-	-	-	-	-	-	-	ND (50)	-	-	-	-
3-Nitroaniline	ug/L	-	-	-	-	-	-	-	-	ND (15)	-	-	-	-
4,6-Dinitro-2-methylphenol	ug/L	-	-	-	-	-	-	-	-	ND (10)	-	-	-	-
4-Bromophenyl phenyl ether	ug/L	-	-	-	-	-	-	-	-	ND (10)	-	-	-	-
4-Chloro-3-methylphenol	ug/L	-	-	-	-	-	-	-	-	ND (10)	-	-	-	-
4-Chloroaniline	ug/L	-	-	-	-	-	-	-	-	ND (10)	-	-	-	-
4-Chlorophenyl phenyl ether	ug/L	-	-	-	-	-	-	-	-	ND (10)	-	-	-	-
4-Nitroaniline	ug/L	-	-	-	-	-	-	-	-	ND (15)	-	-	-	-
4-Nitrophenol	ug/L	-	-	-	-	-	-	-	-	ND (10)	-	-	-	-
Acenaphthene	ug/L	ND (0.75)	-	ND (7.5)	ND (11)	-	ND (2.2)	-	ND (0.75)	ND (10)	-	-	-	ND (0.75)
Acenaphthylene	ug/L	ND (0.75)	-	ND (7.5)	ND (11)	-	ND (2.2)	-	ND (0.75)	ND (10)	-	-	-	ND (0.75)
Aniline	ug/L	-	-	-	-	-	-	-	-	ND (5)	-	-	-	-
Anthracene	ug/L	ND (0.25)	-	ND (2.5)	ND (3.8)	-	ND (0.75)	-	ND (0.25)	ND (10)	-	-	-	ND (0.25)
Benzidine	ug/L	-	-	-	-	-	-	-	-	ND (50)	-	-	-	-
Benzo(a)anthracene	ug/L	0.097 M	-	-	-	-	-	-	0.013 M	ND (10)	-	-	-	ND (0.01)
Benzo(a)pyrene	ug/L	0.067	-	-	-	-	-	-	ND (0.01)	ND (10)	-	-	-	ND (0.01)
Benzo(b)fluoranthene	ug/L	0.061	-	-	-	-	-	-	ND (0.01)	ND (10)	-	-	-	ND (0.01)
Benzo(g,h,i)perylene	ug/L	0.306	-	-	-	-	-	-	ND (0.025)	ND (10)	-	-	-	ND (0.025)
Benzo(k)fluoranthene	ug/L	0.048 M	-	-	-	-	-	-	ND (0.01)	ND (10)	-	-	-	ND (0.01)
Benzoic acid	ug/L	-	-	-	-	-	-	-	-	ND (50)	-	-	-	-
Benzyl Alcohol	ug/L	-	-	-	-	-	-	-	-	ND (10)	-	-	-	-
bis(2-Chloroethoxy)methane	ug/L	-	-	-	-	-	-	-	-	ND (10)	-	-	-	-
bis(2-Chloroethyl)ether	ug/L	-	-	-	-	-	-	-	-	ND (10)	-	-	-	-
bis(2-Chloroisopropyl)ether	ug/L	-	-	-	-	-	-	-	-	ND (5)	-	ND (10)	-	-
bis(2-Ethylhexyl)phthalate	ug/L	-	-	-	-	-	-	-	-	ND (10)	-	-	-	-
Butyl benzylphthalate	ug/L	-	-	-	-	-	-	-	-	ND (10)	-	-	-	-
Chrysene	ug/L	0.138 M	-	-	-	-	-	-	0.014	ND (10)	-	-	-	ND (0.01)
Dibenz(a,h)anthracene	ug/L	ND (0.025)	-	-	-	-	-	-	ND (0.025)	ND (10)	-	-	-	ND (0.025)
Dibenzofuran	ug/L	-	-	-	-	-	-	-	-	ND (10)	-	-	-	-
Diethyl phthalate	ug/L	-	-	-	-	-	-	-	-	ND (10)	-	-	-	-
Dimethyl phthalate	ug/L	-	-	-	-	-	-	-	-	ND (10)	-	-	-	-
Di-n-butylphthalate	ug/L	-	-	-	-	-	-	-	-	ND (10)	-	-	-	-
Di-n-octyl phthalate	ug/L	-	-	-	-	-	-	-	-	ND (10)	-	-	-	-
Fluoranthene	ug/L	0.207	-	-	-	-	-	-	0.03	ND (10)	-	-	-	ND (0.025)
Fluorene	ug/L	ND (0.1)	-	-	-	-	-	-	ND (0.1)	ND (10)	-	-	-	ND (0.1)
Hexachlorobenzene	ug/L	-	-	-	-	-	-	-	-	ND (10)	-	-	-	-
Hexachlorobutadiene	ug/L	-	-	-	-	-	-	-	-	ND (10)	-	-	-	-
Hexachlorocyclopentadiene	ug/L	-	-	-	-	-	-	-	-	ND (20)	-	-	-	-
Hexachloroethane	ug/L	-	-	-	-	-	-	-	-	ND (10)	-	-	-	-
Indeno(1,2,3-cd)pyrene	ug/L	0.07 M	-	-	-	-	-	-	ND (0.025)	ND (10)	-	-	-	ND (0.025)
Isophorone	ug/L	-	-	-	-	-	-	-	-	ND (10)	-	-	-	-
Naphthalene	ug/L	ND (0.75)	-	ND (7.5)	ND (11)	-	ND (2.2)	-	ND (0.75)	ND (10)	-	-	-	ND (0.75)
Nitrobenzene	ug/L	-	-	-	-	-	-	-	-	ND (10)	-	-	-	-
N-Nitrosodimethylamine	ug/L	-	-	-	-	-	-	-	-	ND (10)	-	-	-	-
N-Nitrosodi-n-propylamine	ug/L	-	-	-	-	-	-	-	-	ND (10)	-	-	-	-
N-Nitrosodiphenylamine	ug/L	-	-	-	-	-	-	-	-	ND (10)	-	-	-	-

HISTORICAL GROUNDWATER SAMPLE RESULTS
AOI 1 - SOLVENT RELEASE AREA WEST OF BUILDING 12
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*B-SA21*	*B-SA21*	*B-SA22*	*B-SA23*	*B-SA24*	*B-SA24*	*B-SA24*	*B-SA26*	*B-SA26*	*B-SA26*	*B-SA26*	*HD-3*	*HD-3*
Sample Name:		*B-SA21*	*B-SA21-DL*	*B-SA22*	*B-SA23*	*B-SA24*	*B-SA24*	*B-SA24-DL*	*B-SA26*	*B-SA26*	*B-SA26*	*B-SA26-DL*	*HD-3*	*HD-3*
Sample Date:		*6/14/96*	*6/14/96*	*6/14/96*	*6/14/96*	*6/6/96*	*6/14/96*	*6/14/96*	*6/14/96*	*5/12/00*	*6/15/00*	*5/12/00*	*5/18/88*	*6/14/96*
Parameter	*Unit*													
Pentachlorophenol	ug/L	-	-	-	-	-	-	-	-	ND (10)	-	-	-	-
Phenanthrene	ug/L	ND (0.1)	-	-	-	-	-	-	ND (0.1)	ND (10)	-	-	-	ND (0.1)
Phenol	ug/L	-	-	-	-	-	-	-	-	ND (10)	-	-	-	-
Pyrene	ug/L	0.291	-	-	-	-	-	-	ND (0.025)	ND (10)	-	-	-	ND (0.025)
Volatiles														
1,1,1,2-Tetrachloroethane	ug/L	-	-	-	-	-	-	-	-	ND (5)	ND (5)	-	-	-
1,1,1-Trichloroethane	ug/L	ND (20)	ND (20)	ND (85)	ND (500)	-	ND (20)	ND (20)	ND (5)	ND (5)	ND (5)	-	1.7	ND (16)
1,1,2,2-Tetrachloroethane	ug/L	ND (20)	ND (20)	ND (85)	ND (500)	-	ND (20)	ND (20)	ND (5)	ND (5)	ND (5)	-	-	ND (16)
1,1,2-Trichloroethane	ug/L	ND (20)	ND (20)	ND (85)	ND (500)	-	ND (20)	ND (20)	ND (5)	ND (5)	ND (5)	-	-	ND (16)
1,1-Dichloroethane	ug/L	ND (20)	ND (20)	ND (85)	ND (500)	-	ND (20)	ND (20)	ND (5)	ND (5)	ND (5)	-	ND (0.5)	ND (16)
1,1-Dichloroethene	ug/L	ND (20)	ND (20)	ND (85)	ND (500)	-	ND (20)	ND (20)	ND (5)	ND (5)	ND (5)	-	ND (0.5)	ND (16)
1,1-Dichloropropene	ug/L	-	-	-	-	-	-	-	-	ND (5)	ND (5)	-	-	-
1,2,3-Trichlorobenzene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2,3-Trichloropropane	ug/L	-	-	-	-	-	-	-	-	ND (5)	ND (5)	-	-	-
1,2,4-Trichlorobenzene	ug/L	-	-	-	-	-	-	-	-	ND (5)	ND (5)	-	-	-
1,2,4-Trimethylbenzene	ug/L	-	-	-	-	-	-	-	-	ND (5)	ND (5)	-	-	-
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	-	-	-	-	-	-	-	-	ND (5)	ND (5)	-	-	-
1,2-Dibromoethane (EDB)	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichlorobenzene	ug/L	-	-	-	-	-	-	-	-	ND (5)	ND (5)	-	-	-
1,2-Dichloroethane	ug/L	ND (20)	ND (20)	ND (85)	ND (500)	-	ND (20)	ND (20)	ND (5)	ND (5)	ND (5)	-	-	ND (16)
1,2-Dichloropropane	ug/L	ND (20)	ND (20)	ND (85)	ND (500)	-	ND (20)	ND (20)	ND (5)	ND (5)	ND (5)	-	-	ND (16)
1,3,5-Trimethylbenzene	ug/L	-	-	-	-	-	-	-	-	ND (5)	ND (5)	-	-	-
1,3-Dichlorobenzene	ug/L	-	-	-	-	-	-	-	-	ND (5)	ND (5)	-	-	-
1,3-Dichloropropane	ug/L	-	-	-	-	-	-	-	-	ND (5)	ND (5)	-	-	-
1,4-Dichlorobenzene	ug/L	-	-	-	-	-	-	-	-	ND (5)	ND (5)	-	-	-
2,2-Dichloropropane	ug/L	-	-	-	-	-	-	-	-	ND (5)	ND (5)	-	-	-
2-Butanone	ug/L	ND (40)	ND (40)	ND (170)	ND (1000)	-	ND (40)	ND (40)	ND (10)	ND (100)	ND (100)	-	-	ND (31)
2-Chloroethyl vinyl ether	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-
2-Chlorotoluene	ug/L	-	-	-	-	-	-	-	-	ND (5)	ND (5)	-	-	-
2-Hexanone	ug/L	ND (40)	ND (40)	ND (170)	ND (1000)	-	ND (40)	ND (40)	ND (10)	ND (50)	ND (50)	-	-	ND (31)
2-Phenylbutane	ug/L	-	-	-	-	-	-	-	-	ND (5)	ND (5)	-	-	-
4-Chlorotoluene	ug/L	-	-	-	-	-	-	-	-	ND (5)	ND (5)	-	-	-
4-Methyl-2-pentanone	ug/L	ND (40)	ND (40)	ND (170)	ND (1000)	-	ND (40)	ND (40)	ND (10)	ND (50)	-	-	-	ND (31)
Acetone	ug/L	ND (40)	ND (40)	ND (170)	ND (1000)	-	ND (40)	ND (40)	ND (10)	ND (100)	ND (100)	-	-	ND (31)
Benzene	ug/L	ND (20)	ND (20)	ND (85)	ND (500)	-	ND (20)	ND (20)	ND (5)	ND (5)	ND (5)	-	-	ND (16)
Benzene, butyl	ug/L	-	-	-	-	-	-	-	-	ND (5)	ND (5)	-	-	-
Benzene, isopropyl	ug/L	-	-	-	-	-	-	-	-	ND (5)	ND (5)	-	-	-
Benzene, tert-butyl	ug/L	-	-	-	-	-	-	-	-	ND (5)	ND (5)	-	-	-
Bromobenzene	ug/L	-	-	-	-	-	-	-	-	ND (5)	ND (5)	-	-	-
Bromodichloromethane	ug/L	ND (20)	ND (20)	ND (85)	ND (500)	-	ND (20)	ND (20)	ND (5)	ND (5)	ND (5)	-	-	ND (16)
Bromoform	ug/L	ND (20)	ND (20)	ND (85)	ND (500)	-	ND (20)	ND (20)	ND (5)	ND (5)	ND (5)	-	-	ND (16)
Bromomethane	ug/L	ND (40)	ND (40)	ND (170)	ND (1000)	-	ND (40)	ND (40)	ND (10)	ND (10)	ND (10)	-	-	ND (31)
Carbon disulfide	ug/L	ND (20)	ND (20)	ND (85)	ND (500)	-	ND (20)	ND (20)	ND (5)	ND (5)	ND (5)	-	-	ND (16)
Carbon tetrachloride	ug/L	ND (20)	ND (20)	ND (85)	ND (500)	-	ND (20)	ND (20)	ND (5)	ND (5)	ND (5)	-	-	ND (16)
Chlorobenzene	ug/L	ND (20)	ND (20)	ND (85)	ND (500)	-	ND (20)	ND (20)	ND (5)	ND (5)	ND (5)	-	-	ND (16)
Chlorobromomethane	ug/L	-	-	-	-	-	-	-	-	ND (5)	ND (5)	-	-	-
Chloroethane	ug/L	ND (40)	ND (40)	ND (170)	ND (1000)	-	ND (40)	ND (40)	ND (10)	ND (10)	ND (10)	-	-	ND (31)
Chloroform	ug/L	4 J	-	ND (85.0)	ND (500.0)	ND (20)	-	-	ND (5)	ND (5)	ND (5)	-	-	ND (16)
Chloromethane	ug/L	ND (40)	ND (40)	ND (170)	ND (1000)	-	ND (40)	ND (40)	ND (10)	ND (10)	ND (10)	-	-	ND (31)
cis-1,2-Dichloroethene	ug/L	770	-	61 J	4200	23	-	-	5	ND (5)	ND (5)	-	13.8	560
cis-1,3-Dichloropropene	ug/L	ND (20)	ND (20)	ND (85)	ND (500)	-	ND (20)	ND (20)	ND (5)	ND (5)	ND (5)	-	-	ND (16)
Cymene	ug/L	-	-	-	-	-	-	-	-	ND (5)	ND (5)	-	-	-
Dibromochloromethane	ug/L	ND (20)	ND (20)	ND (85)	ND (500)	-	ND (20)	ND (20)	ND (5)	ND (5)	ND (5)	-	-	ND (16)

TABLE G.1

HISTORICAL GROUNDWATER SAMPLE RESULTS
AOI 1 - SOLVENT RELEASE AREA WEST OF BUILDING 12
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*B-SA21*	*B-SA21*	*B-SA22*	*B-SA23*	*B-SA24*	*B-SA24*	*B-SA24*	*B-SA26*	*B-SA26*	*B-SA26*	*B-SA26*	*HD-3*	*HD-3*
Sample Name:		*B-SA21*	*B-SA21-DL*	*B-SA22*	*B-SA23*	*B-SA24*	*B-SA24*	*B-SA24-DL*	*B-SA26*	*B-SA26*	*B-SA26*	*B-SA26-DL*	*HD-3*	*HD-3*
Sample Date:		*6/14/96*	*6/14/96*	*6/14/96*	*6/14/96*	*6/6/96*	*6/14/96*	*6/14/96*	*6/14/96*	*5/12/00*	*6/15/00*	*5/12/00*	*5/18/88*	*6/14/96*
Parameter	*Unit*													
Dibromomethane	ug/L	-	-	-	-	-	-	-	-	ND (5)	ND (5)	-	-	-
Dichlorodifluoromethane (CFC-12)	ug/L	-	-	-	-	-	-	-	-	ND (5)	ND (5)	-	-	-
Ethylbenzene	ug/L	ND (20)	ND (20)	ND (85)	ND (500)	-	ND (20)	ND (20)	ND (5)	ND (5)	ND (5)	-	-	ND (16)
Hexachlorobutadiene	ug/L	-	-	-	-	-	-	-	-	ND (5)	ND (5)	-	-	-
Hexane	ug/L	-	-	-	-	-	-	-	-	ND (5)	ND (5)	-	-	-
Methylene chloride	ug/L	ND (20)	ND (20)	ND (85)	ND (500)	-	ND (20)	ND (20)	ND (5)	ND (5)	ND (5)	-	-	ND (16)
Naphthalene	ug/L	-	-	-	-	-	-	-	-	ND (5)	ND (5)	-	-	-
n-Propylbenzene	ug/L	-	-	-	-	-	-	-	-	ND (5)	ND (5)	-	-	-
Styrene	ug/L	ND (20)	ND (20)	ND (85)	ND (500)	-	ND (20)	ND (20)	ND (5)	ND (5)	ND (5)	-	-	ND (16)
Tetrachloroethene	ug/L	780	-	2600	50000	700	-	-	8	ND (5)	ND (5)	-	135.0	370
Toluene	ug/L	ND (20)	ND (20)	ND (85)	ND (500)	-	ND (20)	ND (20)	ND (5)	ND (5)	ND (5)	-	-	ND (16)
trans-1,2-Dichloroethene	ug/L	ND (20)	ND (20)	ND (85)	ND (500)	-	ND (20)	ND (20)	ND (5)	ND (5)	ND (5)	-	ND (0.5)	ND (16)
trans-1,3-Dichloropropene	ug/L	ND (20)	ND (20)	ND (85)	ND (500)	-	ND (20)	ND (20)	ND (5)	ND (5)	ND (5)	-	-	ND (16)
Trichloroethene	ug/L	95	-	29 J	9400	-	69.0	-	4 J	ND (5)	ND (5)	-	63.8	40
Trichlorofluoromethane (CFC-11)	ug/L	-	-	-	-	-	-	-	-	ND (5)	ND (5)	-	-	-
Vinyl acetate	ug/L	ND (40)	ND (40)	ND (170)	ND (1000)	-	ND (40)	ND (40)	ND (10)	ND (5)	ND (5)	-	-	ND (31)
Vinyl chloride	ug/L	7 J	9 J	ND (170)	670	ND (40)	-	ND (50)	ND (10)	ND (2)	ND (2)	-	-	89
Xylene (total)	ug/L	-	-	-	-	-	-	-	-	ND (5)	ND (5)	-	-	-
General Chemistry														
Total Dissolved Solids (TDS)	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-

HISTORICAL GROUNDWATER SAMPLE RESULTS
AOI 1 - SOLVENT RELEASE AREA WEST OF BUILDING 12
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*HD-3*	*HD-3*	*HD-3*	*HD-3*	*HD-5*	*HD-5*	*HD-5*	*HD-6*	*HD-6*	*HD-7*	*HD-7*	*HD-8*	*HD-8*
Sample Name:		*HD-3*	*HD-3*	*HD-3-DL*	*HD-3*	*HD-5*	*HD-5*	*HD-5*	*HD-6*	*HD-6*	*HD-7*	*HD-7*	*HD-8*	*HD-8*
Sample Date:		*6/10/99*	*5/11/00*	*5/11/00*	*6/15/00*	*11/19/98*	*12/10/98*	*6/10/99*	*3/19/99*	*6/11/99*	*3/19/99*	*6/11/99*	*3/19/99*	*6/10/99*
Parameter	*Unit*													
BTEX														
Benzene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethylbenzene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-
m&p-Xylene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-
o-Xylene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Toluene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Metals														
Arsenic	mg/L	-	ND (0.005)	-	ND (0.005)	-	-	-	-	-	-	-	-	-
Barium	mg/L	-	0.317	-	0.257	-	-	-	-	-	-	-	-	-
Cadmium	mg/L	-	0.0028	-	0.0015	-	-	-	-	-	-	-	-	-
Chromium	mg/L	-	ND (0.002)	-	ND (0.002)	-	-	-	-	-	-	-	-	-
Lead	mg/L	-	0.0022	-	0.0023	-	-	-	-	-	-	-	-	-
Mercury	mg/L	-	ND (0.0002)	-	ND (0.0002)	-	-	-	-	-	-	-	-	-
Selenium	mg/L	-	ND (0.005)	-	ND (0.005)	-	-	-	-	-	-	-	-	-
Silver	mg/L	-	ND (0.0005)	-	ND (0.0005)	-	-	-	-	-	-	-	-	-
PAH														
Benzo(a)anthracene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(a)pyrene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(b)fluoranthene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(g,h,i)perylene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(k)fluoranthene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Chrysene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibenz(a,h)anthracene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluoranthene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Fluorene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Phenanthrene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Pyrene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-	-
PCBs														
Aroclor-1016	mg/L	-	-	-	ND (0.0002)	-	-	-	-	-	-	-	-	-
Aroclor-1221	mg/L	-	-	-	ND (0.0002)	-	-	-	-	-	-	-	-	-
Aroclor-1232	mg/L	-	-	-	ND (0.0002)	-	-	-	-	-	-	-	-	-
Aroclor-1242	mg/L	-	-	-	ND (0.0002)	-	-	-	-	-	-	-	-	-
Aroclor-1248	mg/L	-	-	-	ND (0.0002)	-	-	-	-	-	-	-	-	-
Aroclor-1254	mg/L	-	-	-	ND (0.0002)	-	-	-	-	-	-	-	-	-
Aroclor-1260	mg/L	-	-	-	ND (0.0002)	-	-	-	-	-	-	-	-	-
Semi-Volatiles														
1,2,4-Trichlorobenzene	ug/L	-	ND (10)	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichlorobenzene	ug/L	-	ND (10)	-	-	-	-	-	-	-	-	-	-	-
1,2-Diphenylhydrazine	ug/L	-	ND (15)	-	-	-	-	-	-	-	-	-	-	-
1,3-Dichlorobenzene	ug/L	-	ND (10)	-	-	-	-	-	-	-	-	-	-	-
1,4-Dichlorobenzene	ug/L	-	ND (10)	-	-	-	-	-	-	-	-	-	-	-
2,4,5-Trichlorophenol	ug/L	-	ND (10)	-	-	-	-	-	-	-	-	-	-	-
2,4,6-Trichlorophenol	ug/L	-	ND (10)	-	-	-	-	-	-	-	-	-	-	-
2,4-Dichlorophenol	ug/L	-	ND (10)	-	-	-	-	-	-	-	-	-	-	-
2,4-Dimethylphenol	ug/L	-	ND (10)	-	-	-	-	-	-	-	-	-	-	-

TABLE G.1

HISTORICAL GROUNDWATER SAMPLE RESULTS
AOI 1 - SOLVENT RELEASE AREA WEST OF BUILDING 12
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*HD-3*	*HD-3*	*HD-3*	*HD-3*	*HD-5*	*HD-5*	*HD-5*	*HD-6*	*HD-6*	*HD-7*	*HD-7*	*HD-8*	*HD-8*
Sample Name:		*HD-3*	*HD-3*	*HD-3-DL*	*HD-3*	*HD-5*	*HD-5*	*HD-5*	*HD-6*	*HD-6*	*HD-7*	*HD-7*	*HD-8*	*HD-8*
Sample Date:		*6/10/99*	*5/11/00*	*5/11/00*	*6/15/00*	*11/19/98*	*12/10/98*	*6/10/99*	*3/19/99*	*6/11/99*	*3/19/99*	*6/11/99*	*3/19/99*	*6/10/99*
Parameter	*Unit*													
2,4-Dinitrophenol	ug/L	-	ND (10)	-	-	-	-	-	-	-	-	-	-	-
2,4-Dinitrotoluene	ug/L	-	ND (10)	-	-	-	-	-	-	-	-	-	-	-
2,6-Dinitrotoluene	ug/L	-	ND (10)	-	-	-	-	-	-	-	-	-	-	-
2-Chloronaphthalene	ug/L	-	ND (10)	-	-	-	-	-	-	-	-	-	-	-
2-Chlorophenol	ug/L	-	ND (10)	-	-	-	-	-	-	-	-	-	-	-
2-Methylphenol	ug/L	-	ND (10)	-	-	-	-	-	-	-	-	-	-	-
2-Nitroaniline	ug/L	-	ND (15)	-	-	-	-	-	-	-	-	-	-	-
2-Nitrophenol	ug/L	-	ND (10)	-	-	-	-	-	-	-	-	-	-	-
3&4-Methylphenol	ug/L	-	ND (10)	-	-	-	-	-	-	-	-	-	-	-
3,3'-Dichlorobenzidine	ug/L	-	ND (50)	-	-	-	-	-	-	-	-	-	-	-
3-Nitroaniline	ug/L	-	ND (15)	-	-	-	-	-	-	-	-	-	-	-
4,6-Dinitro-2-methylphenol	ug/L	-	ND (10)	-	-	-	-	-	-	-	-	-	-	-
4-Bromophenyl phenyl ether	ug/L	-	ND (10)	-	-	-	-	-	-	-	-	-	-	-
4-Chloro-3-methylphenol	ug/L	-	ND (10)	-	-	-	-	-	-	-	-	-	-	-
4-Chloroaniline	ug/L	-	ND (10)	-	-	-	-	-	-	-	-	-	-	-
4-Chlorophenyl phenyl ether	ug/L	-	ND (10)	-	-	-	-	-	-	-	-	-	-	-
4-Nitroaniline	ug/L	-	ND (15)	-	-	-	-	-	-	-	-	-	-	-
4-Nitrophenol	ug/L	-	ND (10)	-	-	-	-	-	-	-	-	-	-	-
Acenaphthene	ug/L	-	ND (10)	-	-	-	-	-	-	-	-	-	-	-
Acenaphthylene	ug/L	-	ND (10)	-	-	-	-	-	-	-	-	-	-	-
Aniline	ug/L	-	ND (5)	-	-	-	-	-	-	-	-	-	-	-
Anthracene	ug/L	-	ND (10)	-	-	-	-	-	-	-	-	-	-	-
Benzidine	ug/L	-	ND (50)	-	-	-	-	-	-	-	-	-	-	-
Benzo(a)anthracene	ug/L	-	ND (10)	-	-	-	-	-	-	-	-	-	-	-
Benzo(a)pyrene	ug/L	-	ND (10)	-	-	-	-	-	-	-	-	-	-	-
Benzo(b)fluoranthene	ug/L	-	ND (10)	-	-	-	-	-	-	-	-	-	-	-
Benzo(g,h,i)perylene	ug/L	-	ND (10)	-	-	-	-	-	-	-	-	-	-	-
Benzo(k)fluoranthene	ug/L	-	ND (10)	-	-	-	-	-	-	-	-	-	-	-
Benzoic acid	ug/L	-	ND (50)	-	-	-	-	-	-	-	-	-	-	-
Benzyl Alcohol	ug/L	-	ND (10)	-	-	-	-	-	-	-	-	-	-	-
bis(2-Chloroethoxy)methane	ug/L	-	ND (10)	-	-	-	-	-	-	-	-	-	-	-
bis(2-Chloroethyl)ether	ug/L	-	ND (10)	-	-	-	-	-	-	-	-	-	-	-
bis(2-Chloroisopropyl)ether	ug/L	-	ND (5)	ND (10)	-	-	-	-	-	-	-	-	-	-
bis(2-Ethylhexyl)phthalate	ug/L	-	ND (10)	-	-	-	-	-	-	-	-	-	-	-
Butyl benzylphthalate	ug/L	-	ND (10)	-	-	-	-	-	-	-	-	-	-	-
Chrysene	ug/L	-	ND (10)	-	-	-	-	-	-	-	-	-	-	-
Dibenz(a,h)anthracene	ug/L	-	ND (10)	-	-	-	-	-	-	-	-	-	-	-
Dibenzofuran	ug/L	-	ND (10)	-	-	-	-	-	-	-	-	-	-	-
Diethyl phthalate	ug/L	-	ND (10)	-	-	-	-	-	-	-	-	-	-	-
Dimethyl phthalate	ug/L	-	ND (10)	-	-	-	-	-	-	-	-	-	-	-
Di-n-butylphthalate	ug/L	-	ND (10)	-	-	-	-	-	-	-	-	-	-	-
Di-n-octyl phthalate	ug/L	-	ND (10)	-	-	-	-	-	-	-	-	-	-	-
Fluoranthene	ug/L	-	ND (10)	-	-	-	-	-	-	-	-	-	-	-
Fluorene	ug/L	-	ND (10)	-	-	-	-	-	-	-	-	-	-	-
Hexachlorobenzene	ug/L	-	ND (10)	-	-	-	-	-	-	-	-	-	-	-
Hexachlorobutadiene	ug/L	-	ND (10)	-	-	-	-	-	-	-	-	-	-	-
Hexachlorocyclopentadiene	ug/L	-	ND (20)	-	-	-	-	-	-	-	-	-	-	-
Hexachloroethane	ug/L	-	ND (10)	-	-	-	-	-	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	ug/L	-	ND (10)	-	-	-	-	-	-	-	-	-	-	-
Isophorone	ug/L	-	ND (10)	-	-	-	-	-	-	-	-	-	-	-
Naphthalene	ug/L	-	ND (10)	-	-	-	-	-	-	-	-	-	-	-
Nitrobenzene	ug/L	-	ND (10)	-	-	-	-	-	-	-	-	-	-	-
N-Nitrosodimethylamine	ug/L	-	ND (10)	-	-	-	-	-	-	-	-	-	-	-
N-Nitrosodi-n-propylamine	ug/L	-	ND (10)	-	-	-	-	-	-	-	-	-	-	-
N-Nitrosodiphenylamine	ug/L	-	ND (10)	-	-	-	-	-	-	-	-	-	-	-

HISTORICAL GROUNDWATER SAMPLE RESULTS
AOI 1 - SOLVENT RELEASE AREA WEST OF BUILDING 12
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*HD-3*	***HD-3***	*HD-3*	*HD-3*	*HD-5*	*HD-5*	*HD-5*	*HD-6*	***HD-6***	*HD-7*	***HD-7***	*HD-8*	*HD-8*
Sample Name:		*HD-3*	***HD-3***	*HD-3-DL*	*HD-3*	*HD-5*	*HD-5*	*HD-5*	*HD-6*	***HD-6***	*HD-7*	***HD-7***	*HD-8*	*HD-8*
Sample Date:		*6/10/99*	***5/11/00***	*5/11/00*	*6/15/00*	*11/19/98*	*12/10/98*	*6/10/99*	*3/19/99*	***6/11/99***	*3/19/99*	***6/11/99***	*3/19/99*	*6/10/99*
Parameter	*Unit*													
Pentachlorophenol	ug/L	-	ND (10)	-	-	-	-	-	-	-	-	-	-	-
Phenanthrene	ug/L	-	ND (10)	-	-	-	-	-	-	-	-	-	-	-
Phenol	ug/L	-	ND (10)	-	-	-	-	-	-	-	-	-	-	-
Pyrene	ug/L	-	ND (10)	-	-	-	-	-	-	-	-	-	-	-
Volatiles														
1,1,1,2-Tetrachloroethane	ug/L	ND (2)	ND (5)	-	ND (5)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
1,1,1-Trichloroethane	ug/L	ND (2)	ND (5)	-	ND (5)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
1,1,2,2-Tetrachloroethane	ug/L	ND (2)	ND (5)	-	ND (5)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
1,1,2-Trichloroethane	ug/L	ND (2)	ND (5)	-	ND (5)	ND (2)	ND,(2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
1,1-Dichloroethane	ug/L	ND (2)	ND (5)	-	ND (5)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
1,1-Dichloroethene	ug/L	ND (2)	ND (5)	-	ND (5)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
1,1-Dichloropropene	ug/L	ND (2)	ND (5)	-	ND (5)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
1,2,3-Trichlorobenzene	ug/L	ND (2)	-	-	-	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
1,2,3-Trichloropropane	ug/L	ND (2)	ND (5)	-	ND (5)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
1,2,4-Trichlorobenzene	ug/L	ND (2)	ND (5)	-	ND (5)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
1,2,4-Trimethylbenzene	ug/L	ND (2)	ND (5)	-	ND (5)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	ND (10)	ND (5)	-	ND (5)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
1,2-Dibromoethane (EDB)	ug/L	ND (2)	-	-	-	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
1,2-Dichlorobenzene	ug/L	ND (2)	ND (5)	-	ND (5)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
1,2-Dichloroethane	ug/L	ND (2)	ND (5)	-	ND (5)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
1,2-Dichloropropane	ug/L	ND (2)	ND (5)	-	ND (5)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
1,3,5-Trimethylbenzene	ug/L	ND (2)	ND (5)	-	ND (5)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
1,3-Dichlorobenzene	ug/L	ND (2)	ND (5)	-	ND (5)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
1,3-Dichloropropane	ug/L	ND (2)	ND (5)	-	ND (5)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
1,4-Dichlorobenzene	ug/L	ND (2)	ND (5)	-	ND (5)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
2,2-Dichloropropane	ug/L	ND (2)	ND (5)	-	ND (5)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
2-Butanone	ug/L	ND (10)	ND (100)	-	ND (100)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
2-Chloroethyl vinyl ether	ug/L	ND (2)	-	-	-	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
2-Chlorotoluene	ug/L	ND (2)	ND (5)	-	ND (5)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
2-Hexanone	ug/L	ND (10)	ND (50)	-	ND (50)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
2-Phenylbutane	ug/L	ND (2)	ND (5)	-	ND (5)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
4-Chlorotoluene	ug/L	ND (2)	ND (5)	-	ND (5)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
4-Methyl-2-pentanone	ug/L	ND (10)	ND (50)	-	-	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
Acetone	ug/L	ND (10)	ND (100)	-	ND (100)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
Benzene	ug/L	ND (2)	ND (5)	-	ND (5)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
Benzene, butyl	ug/L	ND (2)	ND (5)	-	ND (5)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
Benzene, isopropyl	ug/L	ND (2)	ND (5)	-	ND (5)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
Benzene, tert-butyl	ug/L	ND (2)	ND (5)	-	ND (5)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
Bromobenzene	ug/L	ND (2)	ND (5)	-	ND (5)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
Bromodichloromethane	ug/L	ND (2)	ND (5)	-	ND (5)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
Bromoform	ug/L	ND (2)	ND (5)	-	ND (5)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
Bromomethane	ug/L	ND (2)	ND (10)	-	ND (10)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
Carbon disulfide	ug/L	ND (2)	ND (5)	-	ND (5)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
Carbon tetrachloride	ug/L	ND (2)	ND (5)	-	ND (5)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
Chlorobenzene	ug/L	ND (2)	ND (5)	-	ND (5)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
Chlorobromomethane	ug/L	ND (2)	ND (5)	-	ND (5)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
Chloroethane	ug/L	ND (2)	ND (10)	-	ND (10)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
Chloroform	ug/L	ND (2)	ND (5)	-	ND (5)	ND (2)	ND (2.0)	ND (2)	ND (2.0)	ND (2)	ND (2.0)	ND (2)	3.6	2.1
Chloromethane	ug/L	ND (2)	ND (10)	-	ND (10)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
cis-1,2-Dichloroethene	ug/L	2.2	ND (5)	-	ND (5)	ND (2)	ND (2.0)	2.2	31.4	9.8	2.6	ND (2)	2.3	4.7
cis-1,3-Dichloropropene	ug/L	ND (2)	ND (5)	-	ND (5)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
Cymene	ug/L	ND (2)	ND (5)	-	ND (5)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
Dibromochloromethane	ug/L	ND (2)	ND (5)	-	ND (5)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)

TABLE G.1

HISTORICAL GROUNDWATER SAMPLE RESULTS
AOI 1 - SOLVENT RELEASE AREA WEST OF BUILDING 12
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*HD-3*	*HD-3*	*HD-3*	*HD-3*	*HD-5*	*HD-5*	*HD-5*	*HD-6*	*HD-6*	*HD-7*	*HD-7*	*HD-8*	*HD-8*
Sample Name:		*HD-3*	*HD-3*	*HD-3-DL*	*HD-3*	*HD-5*	*HD-5*	*HD-5*	*HD-6*	*HD-6*	*HD-7*	*HD-7*	*HD-8*	*HD-8*
Sample Date:		*6/10/99*	*5/11/00*	*5/11/00*	*6/15/00*	*11/19/98*	*12/10/98*	*6/10/99*	*3/19/99*	*6/11/99*	*3/19/99*	*6/11/99*	*3/19/99*	*6/10/99*
Parameter	*Unit*													
Dibromomethane	ug/L	ND (2)	ND (5)	-	ND (5)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
Dichlorodifluoromethane (CFC-12)	ug/L	ND (2)	ND (5)	-	ND (5)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
Ethylbenzene	ug/L	ND (2)	ND (5)	-	ND (5)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
Hexachlorobutadiene	ug/L	ND (2)	ND (5)	-	ND (5)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
Hexane	ug/L	-	ND (5)	-	ND (5)	-	-	-	-	-	-	-	-	-
Methylene chloride	ug/L	ND (10)	ND (5)	-	ND (5)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
Naphthalene	ug/L	ND (2)	ND (5)	-	ND (5)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
n-Propylbenzene	ug/L	ND (2)	ND (5)	-	ND (5)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
Styrene	ug/L	ND (2)	ND (5)	-	ND (5)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
Tetrachloroethene	ug/L	62.8	24.5	-	44.3	ND (2)	ND (2.0)	ND (2)	12.0	6.3	31.7	24.5	98.5	86.5
Toluene	ug/L	ND (2)	ND (5)	-	ND (5)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
trans-1,2-Dichloroethene	ug/L	ND (2)	ND (5)	-	ND (5)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
trans-1,3-Dichloropropene	ug/L	ND (2)	ND (5)	-	ND (5)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
Trichloroethene	ug/L	34.4	19.2	-	37.3	ND (2)	ND (2.0)	ND (2)	19.1	6.7	41.1	35.5	46.4	47.3
Trichlorofluoromethane (CFC-11)	ug/L	ND (2)	ND (5)	-	ND (5)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
Vinyl acetate	ug/L	-	ND (5)	-	ND (5)	-	-	-	-	-	-	-	-	-
Vinyl chloride	ug/L	ND (2)	ND (2)	-	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
Xylene (total)	ug/L	ND (2)	ND (5)	-	ND (5)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
General Chemistry														
Total Dissolved Solids (TDS)	ug/L	427000	-	-	-	-	-	514000	-	530000	-	552000	-	464000

HISTORICAL GROUNDWATER SAMPLE RESULTS
AOI 1 - SOLVENT RELEASE AREA WEST OF BUILDING 12
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*HD-8*	*HD-8*	*HD-8*	*HD-8*	*HD-9*	*HD-9*	*HD-9*	*HD-9*	*HD-9*	*HD-9*	*HD-9*	*Tank 20*
Sample Name:		*HD-8*	*HD-8-DL-DL*	*HD-8*	*HD-8 Duplicate*	*HD-9*	*HD-9*	*HD-9*	*HD-9 Dup*	*HD-9 Dup-DL*	*HD-9-DL*	*HD-9*	*GW UNDER TANK*
Sample Date:		*5/12/00*	*5/12/00*	*6/15/00*	*6/15/00*	*3/19/99*	*6/10/99*	*5/12/00*	*5/12/00*	*5/12/00*	*5/12/00*	*6/14/00*	*12/30/88*
					Duplicate				*Duplicate*	*Duplicate*			
Parameter	*Unit*												
BTEX													
Benzene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
Ethylbenzene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
m&p-Xylene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
o-Xylene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
Toluene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
Metals													
Arsenic	mg/L	ND (0.005)	-	ND (0.005)	ND (0.005)	-	-	0.017	0.019	-	-	ND (0.005)	-
Barium	mg/L	0.137	-	0.125	0.119	-	-	0.256	0.287	-	-	0.174	-
Cadmium	mg/L	0.0012	-	ND (0.001)	ND (0.001)	-	-	0.003	0.0034	-	-	ND (0.001)	-
Chromium	mg/L	ND (0.002)	-	ND (0.002)	ND (0.002)	-	-	0.01	0.011	-	-	ND (0.002)	-
Lead	mg/L	0.0011	-	0.0012	0.0011	-	-	0.03	0.038	-	-	0.0029	-
Mercury	mg/L	ND (0.0002)	-	ND (0.0002)	ND (0.0002)	-	-	ND (0.0002)	ND (0.0002)	-	-	ND (0.0002)	-
Selenium	mg/L	ND (0.005)	-	ND (0.005)	ND (0.005)	-	-	ND (0.005)	ND (0.005)	-	-	ND (0.005)	-
Silver	mg/L	ND (0.0005)	-	ND (0.0005)	ND (0.0005)	-	-	ND (0.0005)	ND (0.0005)	-	-	ND (0.0005)	-
PAH													
Benzo(a)anthracene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(a)pyrene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(b)fluoranthene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(g,h,i)perylene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(k)fluoranthene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
Chrysene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
Dibenz(a,h)anthracene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
Fluoranthene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
Fluorene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
Phenanthrene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
Pyrene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
PCBs													
Aroclor-1016	mg/L	-	-	ND (0.0002)	ND (0.0002)	-	-	-	-	-	-	ND (0.0002)	-
Aroclor-1221	mg/L	-	-	ND (0.0002)	ND (0.0002)	-	-	-	-	-	-	ND (0.0002)	-
Aroclor-1232	mg/L	-	-	ND (0.0002)	ND (0.0002)	-	-	-	-	-	-	ND (0.0002)	-
Aroclor-1242	mg/L	-	-	ND (0.0002)	ND (0.0002)	-	-	-	-	-	-	ND (0.0002)	-
Aroclor-1248	mg/L	-	-	ND (0.0002)	ND (0.0002)	-	-	-	-	-	-	ND (0.0002)	-
Aroclor-1254	mg/L	-	-	ND (0.0002)	ND (0.0002)	-	-	-	-	-	-	ND (0.0002)	-
Aroclor-1260	mg/L	-	-	ND (0.0002)	ND (0.0002)	-	-	-	-	-	-	ND (0.0002)	-
Semi-Volatiles													
1,2,4-Trichlorobenzene	ug/L	ND (10)	-	-	-	-	-	ND (10)	ND (10)	-	-	-	-
1,2-Dichlorobenzene	ug/L	ND (10)	-	-	-	-	-	ND (10)	ND (10)	-	-	-	-
1,2-Diphenylhydrazine	ug/L	ND (15)	-	-	-	-	-	ND (15)	ND (15)	-	-	-	-
1,3-Dichlorobenzene	ug/L	ND (10)	-	-	-	-	-	ND (10)	ND (10)	-	-	-	-
1,4-Dichlorobenzene	ug/L	ND (10)	-	-	-	-	-	ND (10)	ND (10)	-	-	-	-
2,4,5-Trichlorophenol	ug/L	ND (10)	-	-	-	-	-	ND (10)	ND (10)	-	-	-	-
2,4,6-Trichlorophenol	ug/L	ND (10)	-	-	-	-	-	ND (10)	ND (10)	-	-	-	-
2,4-Dichlorophenol	ug/L	ND (10)	-	-	-	-	-	ND (10)	ND (10)	-	-	-	-
2,4-Dimethylphenol	ug/L	ND (10)	-	-	-	-	-	ND (10)	ND (10)	-	-	-	-

TABLE G.1

HISTORICAL GROUNDWATER SAMPLE RESULTS
AOI 1 - SOLVENT RELEASE AREA WEST OF BUILDING 12
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*HD-8*	*HD-8*	*HD-8*	*HD-8*	*HD-9*	*HD-9*	*HD-9*	*HD-9*	*HD-9*	*HD-9*	*HD-9*	*Tank 20*
Sample Name:		*HD-8*	*HD-8-DL-DL*	*HD-8*	*HD-8 Duplicate*	*HD-9*	*HD-9*	*HD-9*	*HD-9 Dup*	*HD-9 Dup-DL*	*HD-9-DL*	*HD-9*	*GW UNDER TANK*
Sample Date:		*5/12/00*	*5/12/00*	*6/15/00*	*6/15/00*	*3/19/99*	*6/10/99*	*5/12/00*	*5/12/00*	*5/12/00*	*5/12/00*	*6/14/00*	*12/30/88*
					Duplicate				*Duplicate*	*Duplicate*			
Parameter	*Unit*												
2,4-Dinitrophenol	ug/L	ND (10)	-	-	-	-	-	ND (10)	ND (10)	-	-	-	-
2,4-Dinitrotoluene	ug/L	ND (10)	-	-	-	-	-	ND (10)	ND (10)	-	-	-	-
2,6-Dinitrotoluene	ug/L	ND (10)	-	-	-	-	-	ND (10)	ND (10)	-	-	-	-
2-Chloronaphthalene	ug/L	ND (10)	-	-	-	-	-	ND (10)	ND (10)	-	-	-	-
2-Chlorophenol	ug/L	ND (10)	-	-	-	-	-	ND (10)	ND (10)	-	-	-	-
2-Methylphenol	ug/L	ND (10)	-	-	-	-	-	ND (10)	ND (10)	-	-	-	-
2-Nitroaniline	ug/L	ND (15)	-	-	-	-	-	ND (15)	ND (15)	-	-	-	-
2-Nitrophenol	ug/L	ND (10)	-	-	-	-	-	ND (10)	ND (10)	-	-	-	-
3&4-Methylphenol	ug/L	ND (10)	-	-	-	-	-	ND (10)	ND (10)	-	-	-	-
3,3'-Dichlorobenzidine	ug/L	ND (50)	-	-	-	-	-	ND (50)	ND (50)	-	-	-	-
3-Nitroaniline	ug/L	ND (15)	-	-	-	-	-	ND (15)	ND (15)	-	-	-	-
4,6-Dinitro-2-methylphenol	ug/L	ND (10)	-	-	-	-	-	ND (10)	ND (10)	-	-	-	-
4-Bromophenyl phenyl ether	ug/L	ND (10)	-	-	-	-	-	ND (10)	ND (10)	-	-	-	-
4-Chloro-3-methylphenol	ug/L	ND (10)	-	-	-	-	-	ND (10)	ND (10)	-	-	-	-
4-Chloroaniline	ug/L	ND (10)	-	-	-	-	-	ND (10)	ND (10)	-	-	-	-
4-Chlorophenyl phenyl ether	ug/L	ND (10)	-	-	-	-	-	ND (10)	ND (10)	-	-	-	-
4-Nitroaniline	ug/L	ND (15)	-	-	-	-	-	ND (15)	ND (15)	-	-	-	-
4-Nitrophenol	ug/L	ND (10)	-	-	-	-	-	ND (10)	ND (10)	-	-	-	-
Acenaphthene	ug/L	ND (10)	-	-	-	-	-	ND (10)	ND (10)	-	-	-	-
Acenaphthylene	ug/L	ND (10)	-	-	-	-	-	ND (10)	ND (10)	-	-	-	-
Aniline	ug/L	ND (5)	-	-	-	-	-	ND (5)	ND (5)	-	-	-	-
Anthracene	ug/L	ND (10)	-	-	-	-	-	ND (10)	ND (10)	-	-	-	-
Benzidine	ug/L	ND (50)	-	-	-	-	-	ND (50)	ND (50)	-	-	-	-
Benzo(a)anthracene	ug/L	ND (10)	-	-	-	-	-	ND (10)	ND (10)	-	-	-	-
Benzo(a)pyrene	ug/L	ND (10)	-	-	-	-	-	ND (10)	ND (10)	-	-	-	-
Benzo(b)fluoranthene	ug/L	ND (10)	-	-	-	-	-	ND (10)	ND (10)	-	-	-	-
Benzo(g,h,i)perylene	ug/L	ND (10)	-	-	-	-	-	ND (10)	ND (10)	-	-	-	-
Benzo(k)fluoranthene	ug/L	ND (10)	-	-	-	-	-	ND (10)	ND (10)	-	-	-	-
Benzoic acid	ug/L	ND (50)	-	-	-	-	-	ND (50)	ND (50)	-	-	-	-
Benzyl Alcohol	ug/L	ND (10)	-	-	-	-	-	ND (10)	ND (10)	-	-	-	-
bis(2-Chloroethoxy)methane	ug/L	ND (10)	-	-	-	-	-	ND (10)	ND (10)	-	-	-	-
bis(2-Chloroethyl)ether	ug/L	ND (10)	-	-	-	-	-	ND (10)	ND (10)	-	-	-	-
bis(2-Chloroisopropyl)ether	ug/L	ND (5)	ND (10)	-	-	-	-	ND (5)	ND (5)	ND (10)	ND (10)	-	-
bis(2-Ethylhexyl)phthalate	ug/L	ND (10)	-	-	-	-	-	ND (10)	ND (10)	-	-	-	-
Butyl benzylphthalate	ug/L	ND (10)	-	-	-	-	-	ND (10)	ND (10)	-	-	-	-
Chrysene	ug/L	ND (10)	-	-	-	-	-	ND (10)	ND (10)	-	-	-	-
Dibenz(a,h)anthracene	ug/L	ND (10)	-	-	-	-	-	ND (10)	ND (10)	-	-	-	-
Dibenzofuran	ug/L	ND (10)	-	-	-	-	-	ND (10)	ND (10)	-	-	-	-
Diethyl phthalate	ug/L	ND (10)	-	-	-	-	-	ND (10)	ND (10)	-	-	-	-
Dimethyl phthalate	ug/L	ND (10)	-	-	-	-	-	ND (10)	ND (10)	-	-	-	-
Di-n-butylphthalate	ug/L	ND (10)	-	-	-	-	-	ND (10)	ND (10)	-	-	-	-
Di-n-octyl phthalate	ug/L	ND (10)	-	-	-	-	-	ND (10)	ND (10)	-	-	-	-
Fluoranthene	ug/L	ND (10)	-	-	-	-	-	ND (10)	ND (10)	-	-	-	-
Fluorene	ug/L	ND (10)	-	-	-	-	-	ND (10)	ND (10)	-	-	-	-
Hexachlorobenzene	ug/L	ND (10)	-	-	-	-	-	ND (10)	ND (10)	-	-	-	-
Hexachlorobutadiene	ug/L	ND (10)	-	-	-	-	-	ND (10)	ND (10)	-	-	-	-
Hexachlorocyclopentadiene	ug/L	ND (20)	-	-	-	-	-	ND (20)	ND (20)	-	-	-	-
Hexachloroethane	ug/L	ND (10)	-	-	-	-	-	ND (10)	ND (10)	-	-	-	-
Indeno(1,2,3-cd)pyrene	ug/L	ND (10)	-	-	-	-	-	ND (10)	ND (10)	-	-	-	-
Isophorone	ug/L	ND (10)	-	-	-	-	-	ND (10)	ND (10)	-	-	-	-
Naphthalene	ug/L	ND (10)	-	-	-	-	-	ND (10)	ND (10)	-	-	-	-
Nitrobenzene	ug/L	ND (10)	-	-	-	-	-	ND (10)	ND (10)	-	-	-	-
N-Nitrosodimethylamine	ug/L	ND (10)	-	-	-	-	-	ND (10)	ND (10)	-	-	-	-
N-Nitrosodi-n-propylamine	ug/L	ND (10)	-	-	-	-	-	ND (10)	ND (10)	-	-	-	-
N-Nitrosodiphenylamine	ug/L	ND (10)	-	-	-		-	ND (10)	ND (10)	-	-	-	-

HISTORICAL GROUNDWATER SAMPLE RESULTS
AOI 1 - SOLVENT RELEASE AREA WEST OF BUILDING 12
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*HD-8*	*HD-8*	*HD-8*	*HD-8*	*HD-9*	*HD-9*	*HD-9*	*HD-9*	*HD-9*	*HD-9*	*HD-9*	*Tank 20*
Sample Name:		*HD-8*	*HD-8-DL-DL*	*HD-8*	*HD-8 Duplicate*	*HD-9*	*HD-9*	*HD-9*	*HD-9 Dup*	*HD-9 Dup-DL*	*HD-9-DL*	*HD-9*	*GW UNDER TANK*
Sample Date:		*5/12/00*	*5/12/00*	*6/15/00*	*6/15/00*	*3/19/99*	*6/10/99*	*5/12/00*	*5/12/00*	*5/12/00*	*5/12/00*	*6/14/00*	*12/30/88*
					Duplicate				*Duplicate*	*Duplicate*			
Parameter	*Unit*												
Pentachlorophenol	ug/L	ND (10)	-	-	-	-	-	ND (10)	ND (10)	-	-	-	-
Phenanthrene	ug/L	ND (10)	-	-	-	-	-	ND (10)	ND (10)	-	-	-	-
Phenol	ug/L	ND (10)	-	-	-	-	-	ND (10)	ND (10)	-	-	-	-
Pyrene	ug/L	ND (10)	-	-	-	-	-	ND (10)	ND (10)	-	-	-	-
Volatiles													
1,1,1,2-Tetrachloroethane	ug/L	ND (5)	-	ND (5)	ND (5)	ND (2)	ND (2)	ND (5)	ND (5)	-	-	ND (5)	-
1,1,1-Trichloroethane	ug/L	ND (5)	-	ND (5)	ND (5)	ND (2)	ND (2)	ND (5)	ND (5)	-	-	ND (5)	-
1,1,2,2-Tetrachloroethane	ug/L	ND (5)	-	ND (5)	ND (5)	ND (2)	ND (2)	ND (5)	ND (5)	-	-	ND (5)	-
1,1,2-Trichloroethane	ug/L	ND (5)	-	ND (5)	ND (5)	ND (2)	ND (2)	ND (5)	ND (5)	-	-	ND (5)	-
1,1-Dichloroethane	ug/L	ND (5)	-	ND (5)	ND (5)	ND (2)	ND (2)	ND (5)	ND (5)	-	-	ND (5)	-
1,1-Dichloroethene	ug/L	ND (5)	-	ND (5)	ND (5)	ND (2)	ND (2)	ND (5)	ND (5)	-	-	ND (5)	-
1,1-Dichloropropene	ug/L	ND (5)	-	ND (5)	ND (5)	ND (2)	ND (2)	ND (5)	ND (5)	-	-	ND (5)	-
1,2,3-Trichlorobenzene	ug/L	-	-	-	-	ND (2)	ND (2)	-	-	-	-	-	-
1,2,3-Trichloropropane	ug/L	ND (5)	-	ND (5)	ND (5)	ND (2)	ND (2)	ND (5)	ND (5)	-	-	ND (5)	-
1,2,4-Trichlorobenzene	ug/L	ND (5)	-	ND (5)	ND (5)	ND (2)	ND (2)	ND (5)	ND (5)	-	-	ND (5)	-
1,2,4-Trimethylbenzene	ug/L	ND (5)	-	ND (5)	ND (5)	ND (2)	ND (2)	ND (5)	ND (5)	-	-	ND (5)	-
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	ND (5)	-	ND (5)	ND (5)	ND (10)	ND (10)	ND (5)	ND (5)	-	-	ND (5)	-
1,2-Dibromoethane (EDB)	ug/L	-	-	-	-	ND (2)	ND (2)	-	-	-	-	-	-
1,2-Dichlorobenzene	ug/L	ND (5)	-	ND (5)	ND (5)	ND (2)	ND (2)	ND (5)	ND (5)	-	-	ND (5)	-
1,2-Dichloroethane	ug/L	ND (5)	-	ND (5)	ND (5)	ND (2)	ND (2)	ND (5)	ND (5)	-	-	ND (5)	-
1,2-Dichloropropane	ug/L	ND (5)	-	ND (5)	ND (5)	ND (2)	ND (2)	ND (5)	ND (5)	-	-	ND (5)	-
1,3,5-Trimethylbenzene	ug/L	ND (5)	-	ND (5)	ND (5)	ND (2)	ND (2)	ND (5)	ND (5)	-	-	ND (5)	-
1,3-Dichlorobenzene	ug/L	ND (5)	-	ND (5)	ND (5)	ND (2)	ND (2)	ND (5)	ND (5)	-	-	ND (5)	-
1,3-Dichloropropane	ug/L	ND (5)	-	ND (5)	ND (5)	ND (2)	ND (2)	ND (5)	ND (5)	-	-	ND (5)	-
1,4-Dichlorobenzene	ug/L	ND (5)	-	ND (5)	ND (5)	ND (2)	ND (2)	ND (5)	ND (5)	-	-	ND (5)	-
2,2-Dichloropropane	ug/L	ND (5)	-	ND (5)	ND (5)	ND (2)	ND (2)	ND (5)	ND (5)	-	-	ND (5)	-
2-Butanone	ug/L	ND (100)	-	ND (100)	ND (100)	ND (10)	ND (10)	ND (100)	ND (100)	-	-	ND (100)	-
2-Chloroethyl vinyl ether	ug/L	-	-	-	-	ND (2)	ND (2)	-	-	-	-	-	-
2-Chlorotoluene	ug/L	ND (5)	-	ND (5)	ND (5)	ND (2)	ND (2)	ND (5)	ND (5)	-	-	ND (5)	-
2-Hexanone	ug/L	ND (50)	-	ND (50)	ND (50)	ND (10)	ND (10)	ND (50)	ND (50)	-	-	ND (50)	-
2-Phenylbutane	ug/L	ND (5)	-	ND (5)	ND (5)	ND (2)	ND (2)	ND (5)	ND (5)	-	-	ND (5)	-
4-Chlorotoluene	ug/L	ND (5)	-	ND (5)	ND (5)	ND (2)	ND (2)	ND (5)	ND (5)	-	-	ND (5)	-
4-Methyl-2-pentanone	ug/L	ND (50)	-	-	-	ND (10)	ND (10)	ND (50)	ND (50)	-	-	-	-
Acetone	ug/L	ND (100)	-	ND (100)	ND (100)	ND (10)	ND (10)	ND (100)	ND (100)	-	-	ND (100)	-
Benzene	ug/L	ND (5)	-	ND (5)	ND (5)	ND (2)	ND (2)	ND (5)	ND (5)	-	-	ND (5)	-
Benzene, butyl	ug/L	ND (5)	-	ND (5)	ND (5)	ND (2)	ND (2)	ND (5)	ND (5)	-	-	ND (5)	-
Benzene, isopropyl	ug/L	ND (5)	-	ND (5)	ND (5)	ND (2)	ND (2)	ND (5)	ND (5)	-	-	ND (5)	-
Benzene, tert-butyl	ug/L	ND (5)	-	ND (5)	ND (5)	ND (2)	ND (2)	ND (5)	ND (5)	-	-	ND (5)	-
Bromobenzene	ug/L	ND (5)	-	ND (5)	ND (5)	ND (2)	ND (2)	ND (5)	ND (5)	-	-	ND (5)	-
Bromodichloromethane	ug/L	ND (5)	-	ND (5)	ND (5)	ND (2)	ND (2)	ND (5)	ND (5)	-	-	ND (5)	-
Bromoform	ug/L	ND (5)	-	ND (5)	ND (5)	ND (2)	ND (2)	ND (5)	ND (5)	-	-	ND (5)	-
Bromomethane	ug/L	ND (10)	-	ND (10)	ND (10)	ND (2)	ND (2)	ND (10)	ND (10)	-	-	ND (10)	-
Carbon disulfide	ug/L	ND (5)	-	ND (5)	ND (5)	ND (2)	ND (2)	ND (5)	ND (5)	-	-	ND (5)	-
Carbon tetrachloride	ug/L	ND (5)	-	ND (5)	ND (5)	ND (2)	ND (2)	ND (5)	ND (5)	-	-	ND (5)	-
Chlorobenzene	ug/L	ND (5)	-	ND (5)	ND (5)	ND (2)	ND (2)	ND (5)	ND (5)	-	-	ND (5)	-
Chlorobromomethane	ug/L	ND (5)	-	ND (5)	ND (5)	ND (2)	ND (2)	ND (5)	ND (5)	-	-	ND (5)	-
Chloroethane	ug/L	ND (10)	-	ND (10)	ND (10)	ND (2)	ND (2)	ND (10)	ND (10)	-	-	ND (10)	-
Chloroform	ug/L	ND (5)	-	ND (5)	ND (5)	ND (2.0)	ND (2)	ND (5)	ND (5)	-	-	ND (5)	-
Chloromethane	ug/L	ND (10)	-	ND (10)	ND (10)	ND (2)	ND (2)	ND (10)	ND (10)	-	-	ND (10)	-
cis-1,2-Dichloroethene	ug/L	6.6	-	9.8	9.1	27.0	17.7	14.4	15	-	-	13	33.8
cis-1,3-Dichloropropene	ug/L	ND (5)	-	ND (5)	ND (5)	ND (2)	ND (2)	ND (5)	ND (5)	-	-	ND (5)	-
Cymene	ug/L	ND (5)	-	ND (5)	ND (5)	ND (2)	ND (2)	ND (5)	ND (5)	-	-	ND (5)	-
Dibromochloromethane	ug/L	ND (5)	-	ND (5)	ND (5)	ND (2)	ND (2)	ND (5)	ND (5)	-	-	ND (5)	-

TABLE G.1

HISTORICAL GROUNDWATER SAMPLE RESULTS
AOI 1 - SOLVENT RELEASE AREA WEST OF BUILDING 12
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*HD-8*	*HD-8*	*HD-8*	*HD-8*	*HD-9*	*HD-9*	*HD-9*	*HD-9*	*HD-9*	*HD-9*	*HD-9*	*Tank 20*
Sample Name:		*HD-8*	*HD-8-DL-DL*	*HD-8*	*HD-8 Duplicate*	*HD-9*	*HD-9*	*HD-9*	*HD-9 Dup*	*HD-9 Dup-DL*	*HD-9-DL*	*HD-9*	*GW UNDER TANK*
Sample Date:		*5/12/00*	*5/12/00*	*6/15/00*	*6/15/00*	*3/19/99*	*6/10/99*	*5/12/00*	*5/12/00*	*5/12/00*	*5/12/00*	*6/14/00*	*12/30/88*
					Duplicate				*Duplicate*	*Duplicate*			
Parameter	*Unit*												
Dibromomethane	ug/L	ND (5)	-	ND (5)	ND (5)	ND (2)	ND (2)	ND (5)	ND (5)	-	-	ND (5)	-
Dichlorodifluoromethane (CFC-12)	ug/L	ND (5)	-	ND (5)	ND (5)	ND (2)	ND (2)	ND (5)	ND (5)	-	-	ND (5)	-
Ethylbenzene	ug/L	ND (5)	-	ND (5)	ND (5)	ND (2)	ND (2)	ND (5)	ND (5)	-	-	ND (5)	-
Hexachlorobutadiene	ug/L	ND (5)	-	ND (5)	ND (5)	ND (2)	ND (2)	ND (5)	ND (5)	-	-	ND (5)	-
Hexane	ug/L	ND (5)	-	ND (5)	ND (5)	-	-	ND (5)	ND (5)	-	-	ND (5)	-
Methylene chloride	ug/L	ND (5)	-	ND (5)	ND (5)	ND (10)	ND (10)	ND (5)	ND (5)	-	-	ND (5)	-
Naphthalene	ug/L	ND (5)	-	ND (5)	ND (5)	ND (2)	ND (2)	ND (5)	ND (5)	-	-	ND (5)	-
n-Propylbenzene	ug/L	ND (5)	-	ND (5)	ND (5)	ND (2)	ND (2)	ND (5)	ND (5)	-	-	ND (5)	-
Styrene	ug/L	ND (5)	-	ND (5)	ND (5)	ND (2)	ND (2)	ND (5)	ND (5)	-	-	ND (5)	-
Tetrachloroethene	ug/L	66.5	-	53	49.5	28.8	23.1	19.8	19.7	-	-	17.1	60000.0
Toluene	ug/L	ND (5)	-	ND (5)	ND (5)	ND (2)	ND (2)	ND (5)	ND (5)	-	-	ND (5)	-
trans-1,2-Dichloroethene	ug/L	ND (5)	-	ND (5)	ND (5)	ND (2)	ND (2)	ND (5)	ND (5)	-	-	ND (5)	-
trans-1,3-Dichloropropene	ug/L	ND (5)	-	ND (5)	ND (5)	ND (2)	ND (2)	ND (5)	ND (5)	-	-	ND (5)	-
Trichloroethene	ug/L	51.2	-	48.7	46.6	69.8	45.1	49.7	49.6	-	-	44.8	63.0
Trichlorofluoromethane (CFC-11)	ug/L	ND (5)	-	ND (5)	ND (5)	ND (2)	ND (2)	ND (5)	ND (5)	-	-	ND (5)	-
Vinyl acetate	ug/L	ND (5)	-	ND (5)	ND (5)	-	-	ND (5)	ND (5)	-	-	ND (5)	-
Vinyl chloride	ug/L	ND (2)	-	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	-	-	ND (2)	-
Xylene (total)	ug/L	ND (5)	-	ND (5)	ND (5)	ND (2)	ND (2)	ND (5)	ND (5)	-	-	ND (5)	-
General Chemistry													
Total Dissolved Solids (TDS)	ug/L	-	-	-	-	-	573000	-	-	-	-	-	-

Notes:
ND - Non-detect at associated value.
M - Results from UV and fluorescence detectors have greater than 100% difference.
- -Not applicable.

TABLE G.8

HISTORICAL SOIL SAMPLE RESULTS
AOI 17 - REFRIGERANT USTs SOUTH OF BUILDING 1A
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*Dispensor Line*	*East Pile # 1*	*Fill Pipe Run*	*Fill Port*	*GP-53*	*GP-53*	*GP-54*	*UST-BF*	*West Pile #1*
Sample Name:		*Dispensor line*	*East pile #1*	*Fill pipe run*	*Fill port*	*GP-53 G-1*	*GP-53 G-1*	*GP-54 G-2*	*UST-BF*	*West pile #1*
Depth:						*(0-4)*	*(0-4)*	*(4-8)*		
Sample Date:		*9/22/93*	*9/17/93*	*9/17/93*	*9/17/93*	*4/29/97*	*4/29/97 Duplicate*	*4/29/97*	*9/22/93*	*9/21/93*
Parameter	*Units*									
BTEX										
Benzene	ug/Kg	-	-	-	-	ND (0.58)	-	ND (0.54)	-	-
Ethylbenzene	ug/Kg	-	-	-	-	ND (0.58)	-	ND (0.54)	-	-
m&p-Xylene	ug/Kg	-	-	-	-	ND (1.2)	-	ND (1.1)	-	-
o-Xylene	ug/Kg	-	-	-	-	ND (0.58)	-	ND (0.54)	-	-
Toluene	ug/Kg	-	-	-	-	ND (0.58)	-	ND (0.54)	-	-
Petroleum Products										
Total Recoverable Petroleum Hydrocarbons	mg/Kg	311	215	105	878	1190	-	127	49	1410
Semi-Volatiles										
1,2,4-Trichlorobenzene	ug/Kg	-	-	-	-	ND (5.8)	ND (5.8)	ND (5.3)	-	-
1,2-Dichlorobenzene	ug/Kg	-	-	-	-	ND (5.8)	ND (5.8)	ND (5.3)	-	-
1,3-Dichlorobenzene	ug/Kg	-	-	-	-	ND (5.8)	ND (5.8)	ND (5.3)	-	-
1,4-Dichlorobenzene	ug/Kg	-	-	-	-	ND (5.8)	ND (5.8)	ND (5.3)	-	-
Benzene, isopropyl	ug/Kg	-	-	-	-	ND (5.8)	-	ND (5.3)	-	-
Hexachlorobutadiene	ug/Kg	-	-	-	-	ND (5.8)	ND (5.8)	ND (5.3)	-	-
Naphthalene	ug/Kg	-	-	-	-	ND (5.8)	-	ND (5.3)	-	-
Volatiles										
1,1,1,2-Tetrachloroethane	ug/Kg	-	-	-	-	ND (5.8)	ND (5.8)	ND (5.3)	-	-
1,1,1-Trichloroethane	ug/Kg	-	-	-	-	ND (5.8)	ND (5.8)	ND (5.3)	-	-
1,1,2,2-Tetrachloroethane	ug/Kg	-	-	-	-	ND (5.8)	ND (5.8)	ND (5.3)	-	-
1,1,2-Trichloroethane	ug/Kg	-	-	-	-	ND (5.8)	ND (5.8)	ND (5.3)	-	-
1,1-Dichloroethane	ug/Kg	-	-	-	-	ND (5.8)	ND (5.8)	ND (5.3)	-	-
1,1-Dichloroethene	ug/Kg	-	-	-	-	ND (0.58)	ND (5.8)	ND (5.3)	-	-
1,2,3-Trichloropropane	ug/Kg	-	-	-	-	ND (5.8)	ND (5.8)	ND (5.3)	-	-
1,2-Dibromo-3-chloropropane (DBCP)	ug/Kg	-	-	-	-	ND (12)	ND (12)	ND (11)	-	-
1,2-Dibromoethane (EDB)	ug/Kg	-	-	-	-	ND (5.8)	ND (5.8)	ND (5.3)	-	-
1,2-Dichloroethane	ug/Kg	-	-	-	-	ND (5.8)	ND (5.8)	ND (5.3)	-	-
1,2-Dichloroethene (total)	ug/Kg	-	-	-	-	1.2 J	ND (5.8)	31	-	-
1,2-Dichloropropane	ug/Kg	-	-	-	-	ND (5.8)	ND (5.8)	ND (5.3)	-	-
1,4-Dioxane	ug/Kg	-	-	-	-	ND (290)	ND (290)	ND (260)	-	-
2-Butanone	ug/Kg	-	-	-	-	7.7 J	ND (12)	8.3 J	-	-
2-Chloroethyl vinyl ether	ug/Kg	-	-	-	-	ND (12)	ND (12)	ND (11)	-	-
2-Hexanone	ug/Kg	-	-	-	-	ND (12)	ND (12)	ND (11)	-	-
4-Methyl-2-pentanone	ug/Kg	-	-	-	-	ND (12)	ND (12)	ND (11)	-	-
Acetone	ug/Kg	-	-	-	-	52	19	48	-	-
Acrolein	ug/Kg	-	-	-	-	ND (12)	ND (12)	ND (11)	-	-
Acrylonitrile	ug/Kg	-	-	-	-	ND (12)	ND (12)	ND (11)	-	-
Allyl chloride	ug/Kg	-	-	-	-	ND (12)	ND (12)	ND (11)	-	-
Bromodichloromethane	ug/Kg	-	-	-	-	ND (5.8)	ND (5.8)	ND (5.3)	-	-
Bromoform	ug/Kg	-	-	-	-	ND (5.8)	ND (5.8)	ND (5.3)	-	-
Bromomethane	ug/Kg	-	-	-	-	ND (5.8)	ND (5.8)	ND (5.3)	-	-
Carbon disulfide	ug/Kg	-	-	-	-	2.8 J	1.5 J	ND (5.3)	-	-
Carbon tetrachloride	ug/Kg	-	-	-	-	ND (5.8)	ND (5.8)	ND (5.3)	-	-
Chlorobenzene	ug/Kg	-	-	-	-	ND (5.8)	ND (5.8)	ND (5.3)	-	-
Chlorobromomethane	ug/Kg	-	-	-	-	ND (5.8)	ND (5.8)	ND (5.3)	-	-
Chloroethane	ug/Kg	-	-	-	-	ND (5.8)	ND (5.8)	ND (5.3)	-	-

HISTORICAL SOIL SAMPLE RESULTS
AOI 17 - REFRIGERANT USTs SOUTH OF BUILDING 1A
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*Dispensor Line*	*East Pile # 1*	*Fill Pipe Run*	*Fill Port*	*GP-53*	*GP-53*	*GP-54*	*UST-BF*	*West Pile #1*
Sample Name:		*Dispensor line*	*East pile #1*	*Fill pipe run*	*Fill port*	*GP-53 G-1*	*GP-53 G-1*	*GP-54 G-2*	*UST-BF*	*West pile #1*
Depth:						*(0-4)*	*(0-4)*	*(4-8)*		
Sample Date:		*9/22/93*	*9/17/93*	*9/17/93*	*9/17/93*	*4/29/97*	*4/29/97* *Duplicate*	*4/29/97*	*9/22/93*	*9/21/93*
Parameter	*Units*									
Chloroform	ug/Kg	-	-	-	-	ND (5.8)	ND (5.8)	ND (5.3)	-	-
Chloromethane	ug/Kg	-	-	-	-	ND (5.8)	ND (5.8)	ND (5.3)	-	-
Chloroprene	ug/Kg	-	-	-	-	ND (12)	ND (12)	ND (11)	-	-
cis-1,2-Dichloroethene	ug/Kg	-	-	-	-	1.2 J	ND (5.8)	30	-	-
cis-1,3-Dichloropropene	ug/Kg	-	-	-	-	ND (5.8)	ND (5.8)	ND (5.3)	-	-
cis-1,4-Dichloro-2-butene	ug/Kg	-	-	-	-	ND (5.8)	ND (5.8)	ND (5.3)	-	-
Dibromochloromethane	ug/Kg	-	-	-	-	ND (5.8)	ND (5.8)	ND (5.3)	-	-
Dibromomethane	ug/Kg	-	-	-	-	ND (5.8)	ND (5.8)	ND (5.3)	-	-
Dichlorodifluoromethane (CFC-12)	ug/Kg	-	-	-	-	ND (5.8)	ND (5.8)	ND (5.3)	-	-
Ethyl methacrylate	ug/Kg	-	-	-	-	ND (12)	ND (12)	ND (11)	-	-
Iodomethane	ug/Kg	-	-	-	-	ND (12)	ND (12)	ND (11)	-	-
Isobutyl alcohol	ug/Kg	-	-	-	-	ND (290)	ND (290)	ND (260)	-	-
Methyl acrylonitrile	ug/Kg	-	-	-	-	ND (5.8)	ND (5.8)	ND (5.3)	-	-
Methyl methacrylate	ug/Kg	-	-	-	-	ND (5.8)	ND (5.8)	ND (5.3)	-	-
Methyl Tert Butyl Ether	ug/Kg	-	-	-	-	ND (5.8)	ND (5.8)	ND (5.3)	-	-
Methylene chloride	ug/Kg	-	-	-	-	ND (5.8)	ND (5.8)	ND (5.3)	-	-
Propionitrile (Ethyl cyanide)	ug/Kg	-	-	-	-	ND (12)	ND (12)	ND (11)	-	-
Styrene	ug/Kg	-	-	-	-	ND (5.8)	ND (5.8)	ND (5.3)	-	-
Tetrachloroethene	ug/Kg	-	-	-	-	56	31	19	-	-
Tetrahydrofuran	ug/Kg	-	-	-	-	39 J	30 J	ND (260)	-	-
Toluene	ug/Kg	-	-	-	-	2.8 J	1.6 J	ND (5.3)	-	-
trans-1,2-Dichloroethene	ug/Kg	-	-	-	-	ND (5.8)	ND (5.8)	ND (5.3)	-	-
trans-1,3-Dichloropropene	ug/Kg	-	-	-	-	ND (5.8)	ND (5.8)	ND (5.3)	-	-
trans-1,4-Dichloro-2-butene	ug/Kg	-	-	-	-	ND (5.8)	ND (5.8)	ND (5.3)	-	-
Trichloroethene	ug/Kg	-	-	-	-	6.3	3.5 J	42	-	-
Trichlorofluoromethane (CFC-11)	ug/Kg	-	-	-	-	ND (5.8)	ND (5.8)	ND (5.3)	-	-
Trifluorotrichloroethane (Freon 113)	ug/Kg	-	-	-	-	ND (5.8)	ND (5.8)	ND (5.3)	-	-
Vinyl acetate	ug/Kg	-	-	-	-	ND (12)	ND (12)	ND (11)	-	-
Vinyl chloride	ug/Kg	-	-	-	-	ND (5.8)	ND (5.8)	ND (5.3)	-	-
Xylene (total)	ug/Kg	-	-	-	-	ND (5.8)	ND (5.8)	ND (5.3)	-	-
General Chemistry										
Percent Solids	%	-	-	-	-	86.2	-	93.1	-	-

Notes:
ND - Non-detect at associated value.
J - Estimated.
- - Not applicable.

TABLE G.9

HISTORICAL SEDIMENT SAMPLE RESULTS
AOI 18 - STORM SEWERS
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*410288 Vault Sump - 3*	*410347 East Sump - 1*	*410427 East Sump - 1*	*410444 South Sump - 3*	*410471 Vault Sump2 South Sump3*	*410527 South Sump - 3*
Sample name:		*410288*	*410347*	*410427*	*410444*	*410471*	*410527*
Depth:		*N*					
Sample Date:		*2/24/00*	*2/24/00*	*2/24/00*	*2/23/00*	*2/24/00*	*2/24/00*
Parameter	*Unit*						
PCBs							
Aroclor-1016	mg/Kg	ND (0.54)	ND (0.54)	ND (0.67)	ND (0.59)	ND (0.57)	ND (0.61)
Aroclor-1221	mg/Kg	ND (0.54)	ND (0.54)	ND (0.67)	ND (0.59)	ND (0.57)	ND (0.61)
Aroclor-1232	mg/Kg	ND (0.54)	ND (0.54)	ND (0.67)	ND (0.59)	ND (0.57)	ND (0.61)
Aroclor-1242	mg/Kg	ND (0.54)	ND (0.54)	ND (0.67)	ND (0.59)	ND (0.57)	ND (0.61)
Aroclor-1248	mg/Kg	ND (0.54)	ND (0.54)	ND (0.67)	ND (0.59)	ND (0.57)	ND (0.61)
Aroclor-1254	mg/Kg	0.87	18.6	ND (0.67)	1.97	6.58	4.1
Aroclor-1260	mg/Kg	ND (0.54)	ND (0.54)	ND (0.67)	ND (0.59)	ND (0.57)	ND (0.61)
RCRA Characteristics							
Flash Point Closed Cup	deg f	-	-	-	-	-	-
Volatiles							
1,1,1-Trichloroethane	ug/Kg	-	-	-	-	-	-
Tetrachloroethene	ug/Kg	-	-	-	-	-	-
Trichloroethene	ug/Kg	-	-	-	-	-	-
General Chemistry							
Percent Solids	%	92.9	92.3	75.1	84.8	87.9	82.5
Reactive Cyanide	mg/Kg	-	-	-	-	-	-
Reactive Sulfide	mg/Kg	-	-	-	-	-	-

TABLE G.9

HISTORICAL SEDIMENT SAMPLE RESULTS
AOI 18 - STORM SEWERS
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*410582 East Sump - 1*	*410734 South Sump - 3*	*410821 Vault Sump - 2*	*410847 East Sump - 1*	*410869 South Sump - 3*	*410919 East Sump - 1*
Sample name:		*410582*	*410734*	*410821*	*410847*	*410869*	*410919*
Depth:							
Sample Date:		*2/24/00*	*2/23/00*	*2/24/00*	*2/24/00*	*2/23/00*	*2/24/00*
Parameter	*Unit*						
PCBs							
Aroclor-1016	mg/Kg	ND (0.66)	ND (0.56)	ND (0.53)	ND (0.6)	ND (0.63)	ND (0.59)
Aroclor-1221	mg/Kg	ND (0.66)	ND (0.56)	ND (0.53)	ND (0.6)	ND (0.63)	ND (0.59)
Aroclor-1232	mg/Kg	ND (0.66)	ND (0.56)	ND (0.53)	ND (0.6)	ND (0.63)	ND (0.59)
Aroclor-1242	mg/Kg	ND (0.66)	ND (0.56)	ND (0.53)	ND (0.6)	ND (0.63)	ND (0.59)
Aroclor-1248	mg/Kg	ND (0.66)	ND (0.56)	ND (0.53)	ND (0.6)	ND (0.63)	ND (0.59)
Aroclor-1254	mg/Kg	4.24	4.87	23.5	4.32	6.17	12.1
Aroclor-1260	mg/Kg	ND (0.66)	ND (0.56)	ND (0.53)	ND (0.6)	ND (0.63)	ND (0.59)
RCRA Characteristics							
Flash Point Closed Cup	deg f	-	-	-	-	-	-
Volatiles							
1,1,1-Trichloroethane	ug/Kg	-	-	-	-	-	-
Tetrachloroethene	ug/Kg	-	-	-	-	-	-
Trichloroethene	ug/Kg	-	-	-	-	-	-
General Chemistry							
Percent Solids	%	75.7	88.7	95	83.8	79.2	84.5
Reactive Cyanide	mg/Kg	-	-	-	-	-	-
Reactive Sulfide	mg/Kg	-	-	-	-	-	-

TABLE G.9

HISTORICAL SEDIMENT SAMPLE RESULTS
AOI 18 - STORM SEWERS
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*410951 South Sump - 3*	*410953 Vault Sump - 2*	*411008 East Sump - 1*	*411053 East Sump - 1*	*411145 Vault Sump2 East Sump1*	*411738 East Sump - 1*
Sample name:		*410951*	*410953*	*411008*	*411053*	*411145*	*411738*
Depth:							
Sample Date:		*2/24/00*	*2/24/00*	*2/23/00*	*2/23/00*	*2/24/00*	*2/24/00*
Parameter	*Unit*						
PCBs							
Aroclor-1016	mg/Kg	ND (0.6)	ND (0.57)	ND (0.61)	ND (0.59)	ND (0.65)	ND (0.58)
Aroclor-1221	mg/Kg	ND (0.6)	ND (0.57)	ND (0.61)	ND (0.59)	ND (0.65)	ND (0.58)
Aroclor-1232	mg/Kg	ND (0.6)	ND (0.57)	ND (0.61)	ND (0.59)	ND (0.65)	ND (0.58)
Aroclor-1242	mg/Kg	ND (0.6)	ND (0.57)	ND (0.61)	ND (0.59)	ND (0.65)	ND (0.58)
Aroclor-1248	mg/Kg	ND (0.6)	ND (0.57)	ND (0.61)	ND (0.59)	ND (0.65)	ND (0.58)
Aroclor-1254	mg/Kg	3.62	3.63	1.86	2.24	ND (0.65)	1.67
Aroclor-1260	mg/Kg	ND (0.6)	ND (0.57)	ND (0.61)	ND (0.59)	ND (0.65)	ND (0.58)
RCRA Characteristics							
Flash Point Closed Cup	deg f	-	-	-	-	-	-
Volatiles							
1,1,1-Trichloroethane	ug/Kg	-	-	-	-	-	-
Tetrachloroethene	ug/Kg	-	-	-	-	-	-
Trichloroethene	ug/Kg	-	-	-	-	-	-
General Chemistry							
Percent Solids	%	83.2	87.6	82.2	84.9	76.9	86
Reactive Cyanide	mg/Kg	-	-	-	-	-	-
Reactive Sulfide	mg/Kg	-	-	-	-	-	-

HISTORICAL SEDIMENT SAMPLE RESULTS
AOI 18 - STORM SEWERS
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*411754 South Sump - 3*	*411775 South Sump - 1*	*411826 South Sump - 3*	*411901 East Sump - 1*	*INT-1*	*INT-6*	*INT-7*	*MH-14*	*PT2*	*PTA*
Sample name:		*411754*	*411775*	*411826*	*411901*	*INT-1*	*INT-6*	*INT-7*	*MH-14*	*PT2*	*PTA*
Depth:											
Sample Date:		*2/24/00*	*2/23/00*	*2/23/00*	*2/23/00*	*1/27/99*	*1/27/99*	*1/27/99*	*1/27/99*	*6/25/93*	*6/25/93*
Parameter	*Unit*										
PCBs											
Aroclor-1016	mg/Kg	ND (0.61)	ND (0.65)	ND (0.55)	ND (0.57)	ND (0.0200)	ND (0.0200)	-	ND (0.0200)	-	-
Aroclor-1221	mg/Kg	ND (0.61)	ND (0.65)	ND (0.55)	ND (0.57)	ND (0.0200)	ND (0.0200)	-	ND (0.0200)	-	-
Aroclor-1232	mg/Kg	ND (0.61)	ND (0.65)	ND (0.55)	ND (0.57)	ND (0.0200)	ND (0.0200)	-	ND (0.0200)	-	-
Aroclor-1242	mg/Kg	ND (0.61)	ND (0.65)	ND (0.55)	ND (0.57)	ND (0.0200)	ND (0.0200)	-	ND (0.0200)	-	-
Aroclor-1248	mg/Kg	ND (0.61)	ND (0.65)	ND (0.55)	ND (0.57)	ND (0.0200)	ND (0.0200)	-	ND (0.0200)	-	-
Aroclor-1254	mg/Kg	ND (0.61)	4.28	7.11	2.18	1.67	ND (0.2)	0.30	0.3	-	-
Aroclor-1260	mg/Kg	ND (0.61)	ND (0.65)	ND (0.55)	ND (0.57)	ND (0.0200)	ND (0.0200)	-	ND (0.0200)	-	-
RCRA Characteristics											
Flash Point Closed Cup	deg f	-	-	-	-	200 >	200 >	-	200 >	-	-
Volatiles											
1,1,1-Trichloroethane	ug/Kg	-	-	-	-	-	-	-	-	ND (25)	ND (25)
Tetrachloroethene	ug/Kg	-	-	-	-	-	-	-	-	36	247
Trichloroethene	ug/Kg	-	-	-	-	-	-	-	-	ND (25)	ND (25)
General Chemistry											
Percent Solids	%	82.3	76.4	90.8	87.2	-	-	-	-	-	-
Reactive Cyanide	mg/Kg	-	-	-	-	ND (2.0)	ND (2.0)	-	ND (2.0)	-	-
Reactive Sulfide	mg/Kg	-	-	-	-	362.	80.0	-	ND (20.0)	-	-

TABLE G.9

HISTORICAL SEDIMENT SAMPLE RESULTS
AOI 18 - STORM SEWERS
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*PTB*	*PTC*	*PTE*	*PTF*	*Sump-1*
Sample name:		*PTB*	*PTC*	*PTE*	*PTF*	*SUMP #1*
Depth:						
Sample Date:		*6/25/93*	*6/25/93*	*6/25/93*	*6/25/93*	*1/27/99*
Parameter	*Unit*					
PCBs						
Aroclor-1016	mg/Kg	-	-	-	-	ND (0.0200)
Aroclor-1221	mg/Kg	-	-	-	-	ND (0.0200)
Aroclor-1232	mg/Kg	-	-	-	-	ND (0.0200)
Aroclor-1242	mg/Kg	-	-	-	-	ND (0.0200)
Aroclor-1248	mg/Kg	-	-	-	-	ND (0.0200)
Aroclor-1254	mg/Kg	-	-	-	-	0.67
Aroclor-1260	mg/Kg	-	-	-	-	ND (0.0200)
RCRA Characteristics						
Flash Point Closed Cup	deg f	-	-	-	-	200 >
Volatiles						
1,1,1-Trichloroethane	ug/Kg	ND (25)	ND (25)	ND (25)	ND (25)	-
Tetrachloroethene	ug/Kg	233	426	317	126	-
Trichloroethene	ug/Kg	ND (25)	ND (25)	26	ND (25)	-
General Chemistry						
Percent Solids	%	-	-	-	-	-
Reactive Cyanide	mg/Kg	-	-	-	-	ND (2.0)
Reactive Sulfide	mg/Kg	-	-	-	-	134.

Notes:
ND - Non-detect at associated value.
> - Result greater than value indicated.
- - Not applicable.

TABLE G.9

HISTORICAL STORM WATER SAMPLE RESULTS
AOI 18 - STORM SEWERS
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*BLDG 24*	*INT-1*	*INT-1*	*INT-1*	*INT-1*	*INT-5*	*INT-6*	*INT-7*	*INT-7*	*INT-7*	*INT-7*	*LOC1-1ST*	*LOC1-2ND*
Sample Name:		*B24-SUMP4*	*INT-1*	*INT1-1ST*	*INT1-2ND*	*INT1-3RD*	*INT-5*	*INT-6*	*INT-7*	*INT7-1ST*	*INT7-2ND*	*INT7-3RD*	*LOC1-1ST*	*LOC1-2ND*
Depth:			*N*											
Sample Date:		*4/7/00*	*1/27/99*	*5/27/93*	*5/27/93*	*5/27/93*	*1/27/99*	*1/27/99*	*1/27/99*	*5/27/93*	*5/27/93*	*5/27/93*	*5/27/93*	*5/27/93*
Parameter	*Unit*													
Volatiles														
1,1,1,2-Tetrachloroethane	ug/L	ND (2)	ND (2)	-	-	-	ND (2)	ND (2)	ND (2)	-	-	-	-	-
1,1,1-Trichloroethane	ug/L	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (2)	ND (2)	ND (2)	3.4	3.4	5.3	3.7	3.4
1,1,2,2-Tetrachloroethane	ug/L	ND (2)	ND (2)	-	-	-	ND (2)	ND (2)	ND (2)	-	-	-	-	-
1,1,2-Trichloroethane	ug/L	ND (2)	ND (2)	-	-	-	ND (2)	ND (2)	ND (2)	-	-	-	-	-
1,1-Dichloroethane	ug/L	ND (2)	ND (2)	-	-	-	ND (2)	ND (2)	ND (2)	-	-	-	-	-
1,1-Dichloroethene	ug/L	ND (2)	ND (2)	-	-	-	ND (2)	ND (2)	ND (2)	-	-	-	-	-
1,1-Dichloropropene	ug/L	ND (2)	ND (2)	-	-	-	ND (2)	ND (2)	ND (2)	-	-	-	-	-
1,2,3-Trichlorobenzene	ug/L	ND (2)	ND (2)	-	-	-	ND (2)	ND (2)	ND (2)	-	-	-	-	-
1,2,3-Trichloropropane	ug/L	ND (2)	ND (2)	-	-	-	ND (2)	ND (2)	ND (2)	-	-	-	-	-
1,2,4-Trichlorobenzene	ug/L	ND (2)	ND (2)	-	-	-	ND (2)	ND (2)	ND (2)	-	-	-	-	-
1,2,4-Trimethylbenzene	ug/L	ND (2)	ND (2)	-	-	-	ND (2)	ND (2)	ND (2)	-	-	-	-	-
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	ND (10)	ND (10)	-	-	-	ND (10)	ND (10)	ND (10)	-	-	-	-	-
1,2-Dibromoethane (EDB)	ug/L	ND (2)	ND (2)	-	-	-	ND (2)	ND (2)	ND (2)	-	-	-	-	-
1,2-Dichlorobenzene	ug/L	ND (2)	ND (2)	-	-	-	ND (2)	ND (2)	ND (2)	-	-	-	-	-
1,2-Dichloroethane	ug/L	ND (2)	ND (2)	-	-	-	ND (2)	ND (2)	ND (2)	-	-	-	-	-
1,2-Dichloropropane	ug/L	ND (2)	ND (2)	-	-	-	ND (2)	ND (2)	ND (2)	-	-	-	-	-
1,3,5-Trimethylbenzene	ug/L	ND (2)	ND (2)	-	-	-	ND (2)	ND (2)	ND (2)	-	-	-	-	-
1,3-Dichlorobenzene	ug/L	ND (2)	ND (2)	-	-	-	ND (2)	ND (2)	ND (2)	-	-	-	-	-
1,3-Dichloropropane	ug/L	ND (2)	ND (2)	-	-	-	ND (2)	ND (2)	ND (2)	-	-	-	-	-
1,4-Dichlorobenzene	ug/L	ND (2)	ND (2)	-	-	-	ND (2)	ND (2)	ND (2)	-	-	-	-	-
2,2-Dichloropropane	ug/L	ND (2)	ND (2)	-	-	-	ND (2)	ND (2)	ND (2)	-	-	-	-	-
2-Butanone	ug/L	ND (10)	ND (10)	-	-	-	ND (10)	ND (10)	ND (10)	-	-	-	-	-
2-Chloroethyl vinyl ether	ug/L	ND (5)	ND (2)	-	-	-	ND (2)	ND (2)	ND (2)	-	-	-	-	-
2-Chlorotoluene	ug/L	ND (2)	ND (2)	-	-	-	ND (2)	ND (2)	ND (2)	-	-	-	-	-
2-Hexanone	ug/L	ND (10)	ND (10)	-	-	-	ND (10)	ND (10)	ND (10)	-	-	-	-	-
2-Phenylbutane	ug/L	ND (2)	ND (2)	-	-	-	ND (2)	ND (2)	ND (2)	-	-	-	-	-
4-Chlorotoluene	ug/L	ND (2)	ND (2)	-	-	-	ND (2)	ND (2)	ND (2)	-	-	-	-	-
4-Methyl-2-pentanone	ug/L	ND (10)	ND (10)	-	-	-	ND (10)	ND (10)	ND (10)	-	-	-	-	-
Acetone	ug/L	ND (10)	ND (10)	-	-	-	ND (10)	ND (10)	ND (10)	-	-	-	-	-
Benzene	ug/L	ND (2)	ND (2)	-	-	-	ND (2)	ND (2)	ND (2)	-	-	-	-	-
Benzene, butyl	ug/L	ND (2)	ND (2)	-	-	-	ND (2)	ND (2)	ND (2)	-	-	-	-	-
Benzene, isopropyl	ug/L	ND (2)	ND (2)	-	-	-	ND (2)	ND (2)	ND (2)	-	-	-	-	-
Benzene, tert-butyl	ug/L	ND (2)	ND (2)	-	-	-	ND (2)	ND (2)	ND (2)	-	-	-	-	-
Bromobenzene	ug/L	ND (2)	ND (2)	-	-	-	ND (2)	ND (2)	ND (2)	-	-	-	-	-
Bromodichloromethane	ug/L	ND (2)	ND (2)	-	-	-	ND (2)	ND (2)	ND (2)	-	-	-	-	-
Bromoform	ug/L	ND (2)	ND (2)	-	-	-	ND (2)	ND (2)	ND (2)	-	-	-	-	-
Bromomethane	ug/L	ND (2)	ND (2)	-	-	-	ND (2)	ND (2)	ND (2)	-	-	-	-	-
Carbon disulfide	ug/L	ND (2)	ND (2)	-	-	-	ND (2)	ND (2)	ND (2)	-	-	-	-	-
Carbon tetrachloride	ug/L	ND (2)	ND (2)	-	-	-	ND (2)	ND (2)	ND (2)	-	-	-	-	-
Chlorobenzene	ug/L	ND (2)	ND (2)	-	-	-	ND (2)	ND (2)	ND (2)	-	-	-	-	-
Chlorobromomethane	ug/L	ND (2)	ND (2)	-	-	-	ND (2)	ND (2)	ND (2)	-	-	-	-	-
Chloroethane	ug/L	ND (2)	ND (2)	-	-	-	ND (2)	ND (2)	ND (2)	-	-	-	-	-
Chloroform	ug/L	3.4	ND (2.0)	-	-	-	ND (2.0)	ND (2.0)	2.4	-	-	-	-	-
Chloromethane	ug/L	ND (2)	ND (2)	-	-	-	ND (2)	ND (2)	ND (2)	-	-	-	-	-
cis-1,2-Dichloroethene	ug/L	4.7	ND (2.0)	-	-	-	ND (2.0)	ND (2.0)	3.4	-	-	-	-	-
cis-1,3-Dichloropropene	ug/L	ND (2)	ND (2)	-	-	-	ND (2)	ND (2)	ND (2)	-	-	-	-	-
Cymene	ug/L	ND (2)	ND (2)	-	-	-	ND (2)	ND (2)	ND (2)	-	-	-	-	-
Dibromochloromethane	ug/L	ND (2)	ND (2)	-	-	-	ND (2)	ND (2)	ND (2)	-	-	-	-	-
Dibromomethane	ug/L	ND (2)	ND (2)	-	-	-	ND (2)	ND (2)	ND (2)	-	-	-	-	-
Dichlorodifluoromethane (CFC-12)	ug/L	ND (2)	ND (2)	-	-	-	ND (2)	ND (2)	ND (2)	-	-	-	-	-
Ethylbenzene	ug/L	ND (2)	ND (2)	-	-	-	ND (2)	ND (2)	ND (2)	-	-	-	-	-
Hexachlorobutadiene	ug/L	ND (2)	ND (2)	-	-	-	ND (2)	ND (2)	ND (2)	-	-	-	-	-
Methylene chloride	ug/L	ND (5)	ND (10)	-	-	-	ND (10)	ND (10)	ND (10)	-	-	-	-	-
Naphthalene	ug/L	ND (2)	ND (2)	-	-	-	ND (2)	ND (2)	ND (2)	-	-	-	-	-

HISTORICAL STORM .TER SAMPLE RESULTS
AOI 18 - STORM SEWERS
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*BLDG 24*	*INT-1*	*INT-1*	*INT-1*	*INT-1*	*INT-5*	*INT-6*	*INT-7*	*INT-7*	*INT-7*	*INT-7*	*LOC1-1ST*	*LOC1-2ND*
Sample Name:		*B24-SUMP4*	*INT-1*	*INT1-1ST*	*INT1-2ND*	*INT1-3RD*	*INT-5*	*INT-6*	*INT-7*	*INT7-1ST*	*INT7-2ND*	*INT7-3RD*	*LOC1-1ST*	*LOC1-2ND*
Depth:			*N*											
Sample Date:		*4/7/00*	*1/27/99*	*5/27/93*	*5/27/93*	*5/27/93*	*1/27/99*	*1/27/99*	*1/27/99*	*5/27/93*	*5/27/93*	*5/27/93*	*5/27/93*	*5/27/93*
Parameter	*Unit*													
Volatiles														
n-Propylbenzene	ug/L	ND (2)	ND (2)	-	-	-	ND (2)	ND (2)	ND (2)	-	-	-	-	-
Styrene	ug/L	ND (2)	ND (2)	-	-	-	ND (2)	ND (2)	ND (2)	-	-	-	-	-
Tetrachloroethene	ug/L	111	3.7	10.5	9.4	10.6	ND (2.0)	ND (2.0)	34.4	84.5	88.1	88.7	92.6	90.3
Toluene	ug/L	ND (2)	ND (2)	-	-	-	ND (2)	ND (2)	ND (2)	-	-	-	-	-
trans-1,2-Dichloroethene	ug/L	ND (2)	ND (2)	-	-	-	ND (2)	ND (2)	ND (2)	-	-	-	-	-
trans-1,3-Dichloropropene	ug/L	ND (2)	ND (2)	-	-	-	ND (2)	ND (2)	ND (2)	-	-	-	-	-
Trichloroethene	ug/L	7.5	ND (2.0)	15.3	13.8	15.6	ND (2.0)	ND (2.0)	5.2	18.7	19	4.2	20.5	19
Trichlorofluoromethane (CFC-11)	ug/L	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (2)	ND (2)	ND (2)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
Vinyl chloride	ug/L	ND (2)	ND (2)	-	-	-	ND (2)	ND (2)	ND (2)	-	-	-	-	-
Xylene (total)	ug/L	ND (2)	ND (2)	-	-	-	ND (2)	ND (2)	ND (2)	-	-	-	-	-

TABLE G.9

HISTORICAL STORM WATER SAMPLE RESULTS
AOI 18 - STORM SEWERS
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*LOC1-3RD*	*LOC2-1ST*	*LOC2-2ND*	*LOC2-3RD*	*LOC3-1ST*	*LOC3-2ND*	*LOC3-3RD*	*LOC4-1ST*	*LOC4-2ND*	*LOC4-3RD*	*LOC5-1ST*	*LOC5-2ND*
Sample Name:		*LOC1-3RD*	*LOC2-1ST*	*LOC2-2ND*	*LOC2-3RD*	*LOC3-1ST*	*LOC3-2ND*	*LOC3-3RD*	*LOC4-1ST*	*LOC4-2ND*	*LOC4-3RD*	*LOC5-1ST*	*LOC5-2ND*
Depth:													
Sample Date:		*5/27/93*	*5/27/93*	*5/27/93*	*5/27/93*	*5/27/93*	*5/27/93*	*5/27/93*	*5/27/93*	*5/27/93*	*5/27/93*	*5/27/93*	*5/27/93*
Parameter	*Unit*												
Volatiles													
1,1,1,2-Tetrachloroethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
1,1,1-Trichloroethane	ug/L	4.3	4.5	4.7	5.1	1.1	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
1,1,2,2-Tetrachloroethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
1,1,2-Trichloroethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
1,1-Dichloropropene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
1,2,3-Trichlorobenzene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
1,2,3-Trichloropropane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
1,2,4-Trichlorobenzene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
1,2,4-Trimethylbenzene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dibromoethane (EDB)	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichlorobenzene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichloroethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichloropropane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
1,3,5-Trimethylbenzene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
1,3-Dichlorobenzene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
1,3-Dichloropropane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
1,4-Dichlorobenzene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
2,2-Dichloropropane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
2-Butanone	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
2-Chloroethyl vinyl ether	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
2-Chlorotoluene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
2-Hexanone	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
2-Phenylbutane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
4-Chlorotoluene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
4-Methyl-2-pentanone	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
Acetone	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
Benzene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, butyl	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, isopropyl	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
Benzene, tert-butyl	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
Bromobenzene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
Bromodichloromethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
Bromoform	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
Bromomethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
Carbon disulfide	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
Carbon tetrachloride	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
Chlorobenzene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
Chlorobromomethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
Chloroethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
Chloroform	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
Chloromethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
cis-1,2-Dichloroethene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
cis-1,3-Dichloropropene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
Cymene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
Dibromochloromethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
Dibromomethane	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
Dichlorodifluoromethane (CFC-12)	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
Ethylbenzene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
Hexachlorobutadiene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
Methylene chloride	ug/L	-	-	-	-		-	-	-	-	-		-
Naphthalene	ug/L	-	-	-	-		-	-	-	-	-		-

TABLE G.9

HISTORICAL STORM TER SAMPLE RESULTS
AOI 18 - STORM SEWERS
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*LOC1-3RD*	*LOC2-1ST*	*LOC2-2ND*	*LOC2-3RD*	*LOC3-1ST*	*LOC3-2ND*	*LOC3-3RD*	*LOC4-1ST*	*LOC4-2ND*	*LOC4-3RD*	*LOC5-1ST*	*LOC5-2ND*
Sample Name:		*LOC1-3RD*	*LOC2-1ST*	*LOC2-2ND*	*LOC2-3RD*	*LOC3-1ST*	*LOC3-2ND*	*LOC3-3RD*	*LOC4-1ST*	*LOC4-2ND*	*LOC4-3RD*	*LOC5-1ST*	*LOC5-2ND*
Depth:													
Sample Date:		5/27/93	5/27/93	5/27/93	5/27/93	5/27/93	5/27/93	5/27/93	5/27/93	5/27/93	5/27/93	5/27/93	5/27/93
Parameter	*Unit*												
Volatiles													
n-Propylbenzene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
Styrene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
Tetrachloroethene	ug/L	102	109	115	119	15.3	15.5	16.7	12.7	11.9	12.4	ND (1)	ND (1)
Toluene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
trans-1,2-Dichloroethene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
trans-1,3-Dichloropropene	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
Trichloroethene	ug/L	22.2	23.9	24.2	26.4	21.2	22.4	22.9	ND (1)	17.7	18.8	ND (1)	ND (1)
Trichlorofluoromethane (CFC-11)	ug/L	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
Vinyl chloride	ug/L	-	-	-	-	-	-	-	-	-	-	-	-
Xylene (total)	ug/L	-	-	-	-	-	-	-	-	-	-	-	-

TABLE G.9

HISTORICAL STORM WATER SAMPLE RESULTS
AOI 18 - STORM SEWERS
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*LOC5-3RD*	*LOC6-1ST*	*LOC6-2ND*	*LOC6-3RD*	*LOC7-1ST*	*LOC7-2ND*	*LOC7-3RD*	***MH-10***	***MH-11***	***MH-13***	***MH-14***	*MH-2*	*MH-7*
Sample Name:		*LOC5-3RD*	*LOC6-1ST*	*LOC6-2ND*	*LOC6-3RD*	*LOC7-1ST*	*LOC7-2ND*	*LOC7-3RD*	***MH-10***	***MH-11***	***MH-13***	***MH-14***	*MH-2*	*MH-7*
Depth:														
Sample Date:		*5/27/93*	*5/27/93*	*5/27/93*	*5/27/93*	*5/27/93*	*5/27/93*	*5/27/93*	***1/26/99***	***1/26/99***	***1/26/99***	***1/26/99***	*1/27/99*	*1/26/99*
Parameter	***Unit***													
Volatiles														
1,1,1,2-Tetrachloroethane	ug/L	-	-	-	-	-	-	-	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
1,1,1-Trichloroethane	ug/L	ND (1)	ND (1)	ND (1)	ND (1)	16.4	21.6	22.9	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
1,1,2,2-Tetrachloroethane	ug/L	-	-	-	-	-	-	-	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
1,1,2-Trichloroethane	ug/L	-	-	-	-	-	-	-	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
1,1-Dichloroethane	ug/L	-	-	-	-	-	-	-	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
1,1-Dichloroethene	ug/L	-	-	-	-	-	-	-	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
1,1-Dichloropropene	ug/L	-	-	-	-	-	-	-	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
1,2,3-Trichlorobenzene	ug/L	-	-	-	-	-	-	-	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
1,2,3-Trichloropropane	ug/L	-	-	-	-	-	-	-	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
1,2,4-Trichlorobenzene	ug/L	-	-	-	-	-	-	-	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
1,2,4-Trimethylbenzene	ug/L	-	-	-	-	-	-	-	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	-	-	-	-	-	-	-	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
1,2-Dibromoethane (EDB)	ug/L	-	-	-	-	-	-	-	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
1,2-Dichlorobenzene	ug/L	-	-	-	-	-	-	-	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
1,2-Dichloroethane	ug/L	-	-	-	-	-	-	-	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
1,2-Dichloropropane	ug/L	-	-	-	-	-	-	-	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
1,3,5-Trimethylbenzene	ug/L	-	-	-	-	-	-	-	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
1,3-Dichlorobenzene	ug/L	-	-	-	-	-	-	-	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
1,3-Dichloropropane	ug/L	-	-	-	-	-	-	-	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
1,4-Dichlorobenzene	ug/L	-	-	-	-	-	-	-	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
2,2-Dichloropropane	ug/L	-	-	-	-	-	-	-	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
2-Butanone	ug/L	-	-	-	-	-	-	-	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
2-Chloroethyl vinyl ether	ug/L	-	-	-	-	-	-	-	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
2-Chlorotoluene	ug/L	-	-	-	-	-	-	-	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
2-Hexanone	ug/L	-	-	-	-	-	-	-	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
2-Phenylbutane	ug/L	-	-	-	-	-	-	-	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
4-Chlorotoluene	ug/L	-	-	-	-	-	-	-	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
4-Methyl-2-pentanone	ug/L	-	-	-	-	-	-	-	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
Acetone	ug/L	-	-	-	-	-	-	-	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
Benzene	ug/L	-	-	-	-	-	-	-	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
Benzene, butyl	ug/L	-	-	-	-	-	-	-	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
Benzene, isopropyl	ug/L	-	-	-	-	-	-	-	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
Benzene, tert-butyl	ug/L	-	-	-	-	-	-	-	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
Bromobenzene	ug/L	-	-	-	-	-	-	-	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
Bromodichloromethane	ug/L	-	-	-	-	-	-	-	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
Bromoform	ug/L	-	-	-	-	-	-	-	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
Bromomethane	ug/L	-	-	-	-	-	-	-	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
Carbon disulfide	ug/L	-	-	-	-	-	-	-	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
Carbon tetrachloride	ug/L	-	-	-	-	-	-	-	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
Chlorobenzene	ug/L	-	-	-	-	-	-	-	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
Chlorobromomethane	ug/L	-	-	-	-	-	-	-	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
Chloroethane	ug/L	-	-	-	-	-	-	-	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
Chloroform	ug/L	-	-	-	-	-	-	-	2.8	2.9	2	ND (2.0)	ND (2.0)	ND (2.0)
Chloromethane	ug/L	-	-	-	-	-	-	-	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
cis-1,2-Dichloroethene	ug/L	-	-	-	-	-	-	-	16.5	5.4	8.1	ND (2.0)	ND (2.0)	2.4
cis-1,3-Dichloropropene	ug/L	-	-	-	-	-	-	-	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
Cymene	ug/L	-	-	-	-	-	-	-	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
Dibromochloromethane	ug/L	-	-	-	-	-	-	-	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
Dibromomethane	ug/L	-	-	-	-	-	-	-	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
Dichlorodifluoromethane (CFC-12)	ug/L	-	-	-	-	-	-	-	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
Ethylbenzene	ug/L	-	-	-	-	-	-	-	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
Hexachlorobutadiene	ug/L	-	-	-	-	-	-	-	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
Methylene chloride	ug/L	-	-	-	-		-	-	ND (10)	ND (10)	ND (10)	ND (10)	0)	ND (10)
Naphthalene	ug/L	-	-	-	-		-	-	ND (2)	ND (2)	ND (2)	ND (2)	)	ND (2)

HISTORICAL STORM TER SAMPLE RESULTS
AOI 18 - STORM SEWERS
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*LOC5-3RD*	*LOC6-1ST*	*LOC6-2ND*	*LOC6-3RD*	*LOC7-1ST*	*LOC7-2ND*	*LOC7-3RD*	*MH-10*	*MH-11*	*MH-13*	*MH-14*	*MH-2*	*MH-7*
Sample Name:		*LOC5-3RD*	*LOC6-1ST*	*LOC6-2ND*	*LOC6-3RD*	*LOC7-1ST*	*LOC7-2ND*	*LOC7-3RD*	*MH-10*	*MH-11*	*MH-13*	*MH-14*	*MH-2*	*MH-7*
Depth:														
Sample Date:		*5/27/93*	*5/27/93*	*5/27/93*	*5/27/93*	*5/27/93*	*5/27/93*	*5/27/93*	*1/26/99*	*1/26/99*	*1/26/99*	*1/26/99*	*1/27/99*	*1/26/99*
Parameter	*Unit*													
Volatiles														
n-Propylbenzene	ug/L	-	-	-	-	-	-	-	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
Styrene	ug/L	-	-	-	-	-	-	-	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
Tetrachloroethene	ug/L	ND (1)	17.4	24.3	27.6	ND (1)	ND (1)	ND (1)	47.8	46.3	39	23.6	5.0	26.2
Toluene	ug/L	-	-	-	-	-	-	-	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
trans-1,2-Dichloroethene	ug/L	-	-	-	-	-	-	-	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
trans-1,3-Dichloropropene	ug/L	-	-	-	-	-	-	-	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
Trichloroethene	ug/L	ND (1)	2.2	3.5	4	ND (1)	ND (1)	ND (1)	11.2	6.5	4.5	3.0	3.3	3.6
Trichlorofluoromethane (CFC-11)	ug/L	ND (1)	ND (1)	ND (1)	ND (1)	99.9	120	146	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
Vinyl chloride	ug/L	-	-	-	-	-	-	-	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
Xylene (total)	ug/L	-	-	-	-	-	-	-	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)

TABLE G.9

HISTORICAL STORM WATER SAMPLE RESULTS
AOI 18 - STORM SEWERS
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*Sump-1*
Sample Name:		*SUMP #1*
Depth:		
Sample Date:		*1/27/99*
Parameter	*Unit*	
Volatiles		
1,1,1,2-Tetrachloroethane	ug/L	ND (2)
1,1,1-Trichloroethane	ug/L	9.3
1,1,2,2-Tetrachloroethane	ug/L	ND (2)
1,1,2-Trichloroethane	ug/L	ND (2)
1,1-Dichloroethane	ug/L	ND (2)
1,1-Dichloroethene	ug/L	ND (2)
1,1-Dichloropropene	ug/L	ND (2)
1,2,3-Trichlorobenzene	ug/L	ND (2)
1,2,3-Trichloropropane	ug/L	ND (2)
1,2,4-Trichlorobenzene	ug/L	ND (2)
1,2,4-Trimethylbenzene	ug/L	ND (2)
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	ND (10)
1,2-Dibromoethane (EDB)	ug/L	ND (2)
1,2-Dichlorobenzene	ug/L	ND (2)
1,2-Dichloroethane	ug/L	ND (2)
1,2-Dichloropropane	ug/L	ND (2)
1,3,5-Trimethylbenzene	ug/L	ND (2)
1,3-Dichlorobenzene	ug/L	ND (2)
1,3-Dichloropropane	ug/L	ND (2)
1,4-Dichlorobenzene	ug/L	ND (2)
2,2-Dichloropropane	ug/L	ND (2)
2-Butanone	ug/L	ND (10)
2-Chloroethyl vinyl ether	ug/L	ND (2)
2-Chlorotoluene	ug/L	ND (2)
2-Hexanone	ug/L	ND (10)
2-Phenylbutane	ug/L	ND (2)
4-Chlorotoluene	ug/L	ND (2)
4-Methyl-2-pentanone	ug/L	ND (10)
Acetone	ug/L	ND (10)
Benzene	ug/L	ND (2)
Benzene, butyl	ug/L	ND (2)
Benzene, isopropyl	ug/L	ND (2)
Benzene, tert-butyl	ug/L	ND (2)
Bromobenzene	ug/L	ND (2)
Bromodichloromethane	ug/L	ND (2)
Bromoform	ug/L	ND (2)
Bromomethane	ug/L	ND (2)
Carbon disulfide	ug/L	ND (2)
Carbon tetrachloride	ug/L	ND (2)
Chlorobenzene	ug/L	ND (2)
Chlorobromomethane	ug/L	ND (2)
Chloroethane	ug/L	ND (2)
Chloroform	ug/L	ND (2.0)
Chloromethane	ug/L	ND (2)
cis-1,2-Dichloroethene	ug/L	ND (2.0)
cis-1,3-Dichloropropene	ug/L	ND (2)
Cymene	ug/L	ND (2)
Dibromochloromethane	ug/L	ND (2)
Dibromomethane	ug/L	ND (2)
Dichlorodifluoromethane (CFC-12)	ug/L	ND (2)
Ethylbenzene	ug/L	ND (2)
Hexachlorobutadiene	ug/L	ND (2)
Methylene chloride	ug/L	ND (10)
Naphthalene	ug/L	ND (2)

HISTORICAL STORM ER SAMPLE RESULTS
AOI 18 - STORM SEWERS
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*Sump-1*
Sample Name:		*SUMP #1*
Depth:		
Sample Date:		*1/27/99*
Parameter	*Unit*	
Volatiles		
n-Propylbenzene	ug/L	ND (2)
Styrene	ug/L	ND (2)
Tetrachloroethene	ug/L	19.4
Toluene	ug/L	ND (2)
trans-1,2-Dichloroethene	ug/L	ND (2)
trans-1,3-Dichloropropene	ug/L	ND (2)
Trichloroethene	ug/L	9.3
Trichlorofluoromethane (CFC-11)	ug/L	ND (2)
Vinyl chloride	ug/L	ND (2)
Xylene (total)	ug/L	ND (2)

Notes:
ND - Non-detect at associated value.
- - Not applicable.

TABLE G.10

HISTORICAL SOIL SAMPLE RESULTS
AOI 21 - HYDROMATION PIT IN BUILDING 7
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*Bldg. 10*	*B-SA27*	*GP-20*	*GP-21*	*GP-26*	*GP-26*	*GP-30*	*GP-31*	*GP-323*	*GP-323*	*GP-324*
Sample Name:		*B-E S-5*	*B-SA27*	*GP-20 G-3*	*GP-21 G-2*	*GP-26 G-2*	*GP-26 G-3*	*GP-30 G-3*	*GP-31 G-1*	*GP-323 S3*	*GP-323 S4*	*GP-324 S3*
Depth:				*(8-12)*	*(4-8)*	*(4-8)*	*(8-12)*	*(8-12)*	*(0-4)*	*(8-12)*	*(12-16)*	*(8-12)*
Sample Date:		*6/20/96*	*6/18/99*	*9/24/96*	*9/24/96*	*9/25/96*	*9/25/96*	*9/26/96*	*9/26/96*	*6/17/99*	*6/17/99*	*6/17/99*
Parameter	*Units*											
Metals												
Arsenic	mg/Kg	-	7.05	-	-	-	-	-	-	-	-	-
Barium	mg/Kg	-	9.35	-	-	-	-	-	-	-	-	-
Cadmium	mg/Kg	-	ND (0.51)	-	-	-	-	-	-	-	-	-
Chromium	mg/Kg	-	118	-	-	-	-	-	-	-	-	-
Lead	mg/Kg	-	ND (0.51)	-	-	-	-	-	-	-	-	-
Mercury	mg/Kg	-	ND (0.1)	-	-	-	-	-	-	-	-	-
Selenium	mg/Kg	-	ND (0.51)	-	-	-	-	-	-	-	-	-
Silver	mg/Kg	-	ND (0.5)	-	-	-	-	-	-	-	-	-
Miscellaneous												
Ignitability	deg f	-	140 >	-	-	-	-	-	-	-	-	-
PCBs												
Aroclor-1016	mg/Kg	-	ND (5)	-	-	-	-	-	-	ND (0.1)	ND (0.1)	ND (0.1)
Aroclor-1221	mg/Kg	-	ND (5)	-	-	-	-	-	-	ND (0.1)	ND (0.1)	ND (0.1)
Aroclor-1232	mg/Kg	-	ND (5)	-	-	-	-	-	-	ND (0.1)	ND (0.1)	ND (0.1)
Aroclor-1242	mg/Kg	-	ND (5)	-	-	-	-	-	-	ND (0.1)	ND (0.1)	ND (0.1)
Aroclor-1248	mg/Kg	-	ND (5)	-	-	-	-	-	-	ND (0.1)	ND (0.1)	ND (0.1)
Aroclor-1254	mg/Kg	-	ND (5)	-	-	-	-	-	-	ND (0.1)	ND (0.1)	ND (0.1)
Aroclor-1260	mg/Kg	-	ND (5)	-	-	-	-	-	-	ND (0.1)	ND (0.1)	ND (0.1)
Petroleum Products												
Petroleum hydrocarbons	mg/Kg	10400	-	-	-	-	38.8	-	-	-	-	-
Total Petroleum Hydrocarbons, Field	mg/Kg	-	-	4975	625	237	-	539	383	-	-	-
Total Recoverable Petroleum Hydrocarbons	mg/Kg	10400	-	23000	1930	38.8	-	319	1400	-	-	-
Semi-Volatiles												
1,2,4-Trichlorobenzene	ug/Kg	ND (3800)	-	ND (1500)	ND (430)	ND (400)	-	ND (360)	ND (400)	ND (8060)	ND (7920)	ND (3080)
1,2-Dichlorobenzene	ug/Kg	ND (3800)	-	ND (1500)	ND (430)	ND (400)	-	ND (360)	ND (400)	ND (8060)	ND (7920)	ND (3080)
1,2-Diphenylhydrazine	ug/Kg	-	-	-	-	-	-	-	-	ND (8060)	ND (7920)	ND (3080)
1,3-Dichlorobenzene	ug/Kg	ND (3800)	-	ND (1500)	ND (430)	ND (400)	-	ND (360)	ND (400)	ND (8060)	ND (7920)	ND (3080)
1,4-Dichlorobenzene	ug/Kg	ND (3800)	-	ND (1500)	ND (430)	ND (400)	-	ND (360)	ND (400)	ND (8060)	ND (7920)	ND (3080)
2,4,6-Trichlorophenol	ug/Kg	-	-	-	-	-	-	-	-	ND (8060)	ND (7920)	ND (3080)
2,4-Dichlorophenol	ug/Kg	-	-	-	-	-	-	-	-	ND (8060)	ND (7920)	ND (3080)
2,4-Dimethylphenol	ug/Kg	-	-	-	-	-	-	-	-	ND (8060)	ND (7920)	ND (3080)
2,4-Dinitrophenol	ug/Kg	-	-	-	-	-	-	-	-	ND (8060)	ND (7920)	ND (3080)
2,4-Dinitrotoluene	ug/Kg	ND (3800)	-	ND (1500)	ND (430)	ND (400)	-	ND (360)	ND (400)	ND (8060)	ND (7920)	ND (3080)
2,6-Dinitrotoluene	ug/Kg	ND (3800)	-	ND (1500)	ND (430)	ND (400)	-	ND (360)	ND (400)	ND (8060)	ND (7920)	ND (3080)
2-Chloronaphthalene	ug/Kg	ND (3800)	-	ND (1500)	ND (430)	ND (400)	-	ND (360)	ND (400)	ND (8060)	ND (7920)	ND (3080)
2-Chlorophenol	ug/Kg	-	-	-	-	-	-	-	-	ND (8060)	ND (7920)	ND (3080)
2-Methyl naphthalene	ug/Kg	ND (3800)	-	240 J	100 J	ND (400)	-	ND (360)	260 J	-	-	-
2-Nitroaniline	ug/Kg	ND (18000)	-	ND (7000)	ND (2100)	ND (1900)	-	ND (1800)	ND (1900)	-	-	-
2-Nitrophenol	ug/Kg	-	-	-	-	-	-	-	-	ND (8060)	ND (7920)	ND (3080)
3,3'-Dichlorobenzidine	ug/Kg	ND (7600)	-	ND (2900)	ND (860)	ND (790)	-	ND (730)	ND (790)	ND (8060)	ND (7920)	ND (3080)
3-Nitroaniline	ug/Kg	ND (18000)	-	ND (7000)	ND (2100)	ND (1900)	-	ND (1800)	ND (1900)	-	-	-
4,6-Dinitro-2-methylphenol	ug/Kg	-	-	-	-	-	-	-	-	ND (32200)	ND (31700)	ND (12300)
4-Bromophenyl phenyl ether	ug/Kg	ND (3800)	-	ND (1500)	ND (430)	ND (400)	-	ND (360)	ND (400)	ND (8060)	ND (7920)	ND (3080)
4-Chloro-3-methylphenol	ug/Kg	-	-	-	-	-	-	-	-	ND (8060)	ND (7920)	ND (3080)

HISTORICAL SOIL SAMPLE RESULTS
AOI 21 - HYDROMATION PIT IN BUILDING 7
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*Bldg. 10*	*B-SA27*	*GP-20*	*GP-21*	*GP-26*	*GP-26*	*GP-30*	*GP-31*	*GP-323*	*GP-323*	*GP-324*
Sample Name:		*B-E S-5*	*B-SA27*	*GP-20 G-3*	*GP-21 G-2*	*GP-26 G-2*	*GP-26 G-3*	*GP-30 G-3*	*GP-31 G-1*	*GP-323 S3*	*GP-323 S4*	*GP-324 S3*
Depth:				*(8-12)*	*(4-8)*	*(4-8)*	*(8-12)*	*(8-12)*	*(0-4)*	*(8-12)*	*(12-16)*	*(8-12)*
Sample Date:		*6/20/96*	*6/18/99*	*9/24/96*	*9/24/96*	*9/25/96*	*9/25/96*	*9/26/96*	*9/26/96*	*6/17/99*	*6/17/99*	*6/17/99*
Parameter	*Units*											
4-Chloroaniline	ug/Kg	ND (3800)	-	ND (1500)	ND (430)	ND (400)	-	ND (360)	ND (400)	-	-	-
4-Chlorophenyl phenyl ether	ug/Kg	ND (3800)	-	ND (1500)	ND (430)	ND (400)	-	ND (360)	ND (400)	ND (8060)	ND (7920)	ND (3080)
4-Nitroaniline	ug/Kg	ND (18000)	-	ND (7000)	ND (2100)	ND (1900)	-	ND (1800)	ND (1900)	-	-	-
4-Nitrophenol	ug/Kg	-	-	-	-	-	-	-	-	ND (16100)	ND (15800)	ND (6150)
Acenaphthene	ug/Kg	ND (3800)	-	ND (1500)	62 J	ND (400)	-	ND (360)	ND (400)	ND (8060)	ND (7920)	ND (3080)
Acenaphthylene	ug/Kg	ND (3800)	-	ND (1500)	40 J	ND (400)	-	ND (360)	ND (400)	ND (8060)	ND (7920)	ND (3080)
Anthracene	ug/Kg	ND (3800)	-	1600	260 J	ND (400)	-	ND (360)	ND (400)	ND (8060)	ND (7920)	ND (3080)
Benzo(a)anthracene	ug/Kg	1200 J	-	1100 J	620	170 J	-	ND (360)	62 J	ND (8060)	ND (7920)	ND (3080)
Benzo(a)pyrene	ug/Kg	1400 J	-	690 J	690	190 J	-	ND (360)	79 J	ND (8060)	ND (7920)	ND (3080)
Benzo(b)fluoranthene	ug/Kg	1300 J	-	1100 J	600	190 J	-	ND (360)	73 J	ND (8060)	ND (7920)	ND (3080)
Benzo(g,h,i)perylene	ug/Kg	ND (3800)	-	440 J	510	160 J	-	ND (360)	90 J	ND (8060)	ND (7920)	ND (3080)
Benzo(k)fluoranthene	ug/Kg	910 J	-	ND (1500)	490	160 J	-	ND (360)	75 J	ND (8060)	ND (7920)	ND (3080)
Benzyl Alcohol	ug/Kg	ND (3800)	-	ND (1500)	ND (430)	ND (400)	-	ND (360)	ND (400)	-	-	-
bis(2-Chloroethoxy)methane	ug/Kg	ND (3800)	-	ND (1500)	ND (430)	ND (400)	-	ND (360)	ND (400)	ND (8060)	ND (7920)	ND (3080)
bis(2-Chloroethyl)ether	ug/Kg	ND (3800)	-	ND (1500)	ND (430)	ND (400)	-	ND (360)	ND (400)	ND (8060)	ND (7920)	ND (3080)
bis(2-Chloroisopropyl)ether	ug/Kg	ND (3800)	-	ND (1500)	ND (430)	ND (400)	-	ND (360)	ND (400)	ND (8060)	ND (7920)	ND (3080)
bis(2-Ethylhexyl)phthalate	ug/Kg	ND (3800)	-	ND (1500)	ND (430)	ND (400)	-	35 J	140 J	ND (8060)	ND (7920)	ND (3080)
Butyl benzylphthalate	ug/Kg	ND (3800)	-	ND (1500)	ND (430)	ND (400)	-	ND (360)	ND (400)	ND (8060)	ND (7920)	ND (3080)
Chrysene	ug/Kg	1300 J	-	690 J	650	210 J	-	ND (360)	73 J	ND (8060)	ND (7920)	ND (3080)
Dibenz(a,h)anthracene	ug/Kg	ND (3800)	-	370 J	190 J	78 J	-	ND (360)	ND (400)	ND (8060)	ND (7920)	ND (3080)
Dibenzofuran	ug/Kg	ND (3800)	-	ND (1500)	74 J	ND (400)	-	ND (360)	ND (400)	-	-	-
Diethyl phthalate	ug/Kg	400 J	-	1300 J	ND (430)	ND (400)	-	ND (360)	ND (400)	ND (8060)	ND (7920)	ND (3080)
Dimethyl phthalate	ug/Kg	ND (3800)	-	ND (1500)	ND (430)	ND (400)	-	ND (360)	ND (400)	ND (8060)	ND (7920)	ND (3080)
Di-n-butylphthalate	ug/Kg	ND (3800)	-	ND (1500)	ND (430)	ND (400)	-	ND (360)	ND (400)	ND (8060)	ND (7920)	ND (3080)
Di-n-octyl phthalate	ug/Kg	ND (3800)	-	ND (1500)	ND (430)	120 J	-	100 J	120 J	ND (8060)	ND (7920)	ND (3080)
Fluoranthene	ug/Kg	1800 J	-	2200	1300	220 J	-	ND (360)	78 J	ND (8060)	ND (7920)	ND (3080)
Fluorene	ug/Kg	ND (3800)	-	ND (1500)	92 J	ND (400)	-	ND (360)	ND (400)	ND (8060)	ND (7920)	ND (3080)
Hexachlorobenzene	ug/Kg	ND (3800)	-	ND (1500)	ND (430)	ND (400)	-	ND (360)	ND (400)	ND (8060)	ND (7920)	ND (3080)
Hexachlorobutadiene	ug/Kg	ND (3800)	-	ND (1500)	ND (430)	ND (400)	-	ND (360)	ND (400)	ND (8060)	ND (7920)	ND (3080)
Hexachlorocyclopentadiene	ug/Kg	ND (3800)	-	ND (1500)	ND (430)	ND (400)	-	ND (360)	ND (400)	ND (8060)	ND (7920)	ND (3080)
Hexachloroethane	ug/Kg	ND (3800)	-	ND (1500)	ND (430)	ND (400)	-	ND (360)	ND (400)	ND (8060)	ND (7920)	ND (3080)
Indeno(1,2,3-cd)pyrene	ug/Kg	590 J	-	530 J	430	130 J	-	ND (360)	68 J	ND (8060)	ND (7920)	ND (3080)
Isophorone	ug/Kg	ND (3800)	-	ND (1500)	ND (430)	ND (400)	-	ND (360)	ND (400)	ND (8060)	ND (7920)	ND (3080)
Naphthalene	ug/Kg	ND (3800)	-	390 J	120 J	ND (400)	-	ND (360)	180 J	ND (8060)	ND (7920)	ND (3080)
Nitrobenzene	ug/Kg	ND (3800)	-	ND (1500)	ND (430)	ND (400)	-	ND (360)	ND (400)	ND (8060)	ND (7920)	ND (3080)
N-Nitrosodimethylamine	ug/Kg	-	-	-	-	-	-	-	-	ND (8060)	ND (7920)	ND (3080)
N-Nitrosodi-n-propylamine	ug/Kg	ND (3800)	-	ND (1500)	ND (430)	ND (400)	-	ND (360)	ND (400)	ND (8060)	ND (7920)	ND (3080)
N-Nitrosodiphenylamine	ug/Kg	ND (3800)	-	ND (1500)	ND (430)	ND (400)	-	ND (360)	ND (400)	ND (8060)	ND (7920)	ND (3080)
Pentachlorophenol	ug/Kg	-	-	-	-	-	-	-	-	ND (8060)	ND (7920)	ND (3080)
Phenanthrene	ug/Kg	790 J	-	2000	820	120 J	-	ND (360)	80 J	ND (8060)	ND (7920)	ND (3080)
Phenol	ug/Kg	-	-	-	-	-	-	-	-	ND (8060)	ND (7920)	ND (3080)
Pyrene	ug/Kg	1600 J	-	1900	1100	240 J	-	ND (360)	98 J	ND (8060)	ND (7920)	ND (3080)
Volatiles												
1,1,1-Trichloroethane	ug/Kg	ND (6)	-	-	-	-	-	-	-	-	-	-
1,1,2,2-Tetrachloroethane	ug/Kg	ND (6)	-	-	-	-	-	-	-	-	-	-
1,1,2-Trichloroethane	ug/Kg	ND (6)	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethane	ug/Kg	ND (6)	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethene	ug/Kg	ND (6)	-	-	-	-	-	-	-	-	-	-
1,2-Dichloroethane	ug/Kg	ND (6)	-	-	-	-	-	-	-	-	-	-
1,2-Dichloropropane	ug/Kg	ND (6)	-	-	-	-	-	-	-	-	-	-
2-Butanone	ug/Kg	ND (11)	-	-	-	-	-	-	-	-	-	-
2-Hexanone	ug/Kg	ND (11)	-	-	-	-	-	-	-	-	-	-

TABLE G.10

HISTORICAL SOIL SAMPLE RESULTS
AOI 21 - HYDROMATION PIT IN BUILDING 7
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*Bldg. 10*	*B-SA27*	*GP-20*	*GP-21*	*GP-26*	*GP-26*	*GP-30*	*GP-31*	*GP-323*	*GP-323*	*GP-324*
Sample Name:		*B-E S-5*	*B-SA27*	*GP-20 G-3*	*GP-21 G-2*	*GP-26 G-2*	*GP-26 G-3*	*GP-30 G-3*	*GP-31 G-1*	*GP-323 S3*	*GP-323 S4*	*GP-324 S3*
Depth:				*(8-12)*	*(4-8)*	*(4-8)*	*(8-12)*	*(8-12)*	*(0-4)*	*(8-12)*	*(12-16)*	*(8-12)*
Sample Date:		*6/20/96*	*6/18/99*	*9/24/96*	*9/24/96*	*9/25/96*	*9/25/96*	*9/26/96*	*9/26/96*	*6/17/99*	*6/17/99*	*6/17/99*
Parameter	*Units*											
4-Methyl-2-pentanone	ug/Kg	ND (11)	-	-	-	-	-	-	-	-	-	-
Acetone	ug/Kg	10 JB	-	-	-	-	-	-	-	-	-	-
Benzene	ug/Kg	ND (6)	-	-	-	-	-	-	-	-	-	-
Bromodichloromethane	ug/Kg	ND (6)	-	-	-	-	-	-	-	-	-	-
Bromoform	ug/Kg	ND (6)	-	-	-	-	-	-	-	-	-	-
Bromomethane	ug/Kg	ND (11)	-	-	-	-	-	-	-	-	-	-
Carbon disulfide	ug/Kg	ND (6)	-	-	-	-	-	-	-	-	-	-
Carbon tetrachloride	ug/Kg	ND (6)	-	-	-	-	-	-	-	-	-	-
Chlorobenzene	ug/Kg	ND (6)	-	-	-	-	-	-	-	-	-	-
Chloroethane	ug/Kg	ND (11)	-	-	-	-	-	-	-	-	-	-
Chloroform	ug/Kg	ND (6)	-	-	-	-	-	-	-	-	-	-
Chloromethane	ug/Kg	ND (11)	-	-	-	-	-	-	-	-	-	-
cis-1,2-Dichloroethene	ug/Kg	ND (6)	-	-	-	-	-	-	-	-	-	-
cis-1,3-Dichloropropene	ug/Kg	ND (6)	-	-	-	-	-	-	-	-	-	-
Dibromochloromethane	ug/Kg	ND (6)	-	-	-	-	-	-	-	-	-	-
Ethylbenzene	ug/Kg	ND (6)	-	-	-	-	-	-	-	-	-	-
Methylene chloride	ug/Kg	ND (6)	-	-	-	-	-	-	-	-	-	-
Styrene	ug/Kg	ND (6)	-	-	-	-	-	-	-	-	-	-
Tetrachloroethene	ug/Kg	2 J	-	-	-	-	-	-	-	-	-	-
Toluene	ug/Kg	ND (6)	-	-	-	-	-	-	-	-	-	-
trans-1,2-Dichloroethene	ug/Kg	ND (6)	-	-	-	-	-	-	-	-	-	-
trans-1,3-Dichloropropene	ug/Kg	ND (6)	-	-	-	-	-	-	-	-	-	-
Trichloroethene	ug/Kg	2 J	-	-	-	-	-	-	-	-	-	-
Vinyl acetate	ug/Kg	ND (11)	-	-	-	-	-	-	-	-	-	-
Vinyl chloride	ug/Kg	ND (11)	-	-	-	-	-	-	-	-	-	-
Xylene (total)	ug/Kg	ND (6)	-	-	-	-	-	-	-	-	-	-
General Chemistry												
Percent Solids	%	86.5	-	-	77.0	-	85.4	91.6	84.5	87	90	92

HISTORICAL SOIL SAMPLE RESULTS
AOI 21 - HYDROMATION PIT IN BUILDING 7
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*GP-324*	*GP-33*	*GP-34*	*GP-35*	*GP-36*	*GP-37*
Sample Name:		*GP-324 S4*	*GP-33 G-1*	*GP-34 G-1*	*GP-35 G-3*	*GP-36 G-3*	*GP-37 G-3*
Depth:		*(12-16)*	*(0-4)*	*(0-4)*	*(8-12)*	*(8-12)*	*(8-12)*
Sample Date:		*6/17/99*	*4/21/97*	*4/21/97*	*4/21/97*	*4/21/97*	*4/22/97*
Parameter	*Units*						
Metals							
Arsenic	mg/Kg	-	-	-	-	-	-
Barium	mg/Kg	-	-	-	-	-	-
Cadmium	mg/Kg	-	-	-	-	-	-
Chromium	mg/Kg	-	-	-	-	-	-
Lead	mg/Kg	-	-	-	-	-	-
Mercury	mg/Kg	-	-	-	-	-	-
Selenium	mg/Kg	-	-	-	-	-	-
Silver	mg/Kg	-	-	-	-	-	-
Miscellaneous							
Ignitability	deg f	-	-	-	-	-	-
PCBs							
Aroclor-1016	mg/Kg	ND (0.1)	-	-	-	-	-
Aroclor-1221	mg/Kg	ND (0.1)	-	-	-	-	-
Aroclor-1232	mg/Kg	ND (0.1)	-	-	-	-	-
Aroclor-1242	mg/Kg	ND (0.1)	-	-	-	-	-
Aroclor-1248	mg/Kg	ND (0.1)	-	-	-	-	-
Aroclor-1254	mg/Kg	ND (0.1)	-	-	-	-	-
Aroclor-1260	mg/Kg	ND (0.1)	-	-	-	-	-
Petroleum Products							
Petroleum hydrocarbons	mg/Kg	-	-	-	-	-	-
Total Petroleum Hydrocarbons, Field	mg/Kg	-	-	-	-	-	-
Total Recoverable Petroleum Hydrocarbons	mg/Kg	-	611	62.6	490	24700	393
Semi-Volatiles							
1,2,4-Trichlorobenzene	ug/Kg	ND (1730)	-	-	-	-	-
1,2-Dichlorobenzene	ug/Kg	ND (1730)	-	-	-	-	-
1,2-Diphenylhydrazine	ug/Kg	ND (1730)	-	-	-	-	-
1,3-Dichlorobenzene	ug/Kg	ND (1730)	-	-	-	-	-
1,4-Dichlorobenzene	ug/Kg	ND (1730)	-	-	-	-	-
2,4,6-Trichlorophenol	ug/Kg	ND (1730)	-	-	-	-	-
2,4-Dichlorophenol	ug/Kg	ND (1730)	-	-	-	-	-
2,4-Dimethylphenol	ug/Kg	ND (1730)	-	-	-	-	-
2,4-Dinitrophenol	ug/Kg	ND (1730)	-	-	-	-	-
2,4-Dinitrotoluene	ug/Kg	ND (1730)	-	-	-	-	-
2,6-Dinitrotoluene	ug/Kg	ND (1730)	-	-	-	-	-
2-Chloronaphthalene	ug/Kg	ND (1730)	-	-	-	-	-
2-Chlorophenol	ug/Kg	ND (1730)	-	-	-	-	-
2-Methyl naphthalene	ug/Kg	-	-	-	-	-	-
2-Nitroaniline	ug/Kg	-	-	-	-	-	-
2-Nitrophenol	ug/Kg	ND (1730)	-	-	-	-	-
3,3'-Dichlorobenzidine	ug/Kg	ND (1730)	-	-	-	-	-
3-Nitroaniline	ug/Kg	-	-	-	-	-	-
4,6-Dinitro-2-methylphenol	ug/Kg	ND (6910)	-	-	-	-	-
4-Bromophenyl phenyl ether	ug/Kg	ND (1730)	-	-	-	-	-
4-Chloro-3-methylphenol	ug/Kg	ND (1730)	-	-	-	-	-

TABLE G.10

HISTORICAL SOIL SAMPLE RESULTS
AOI 21 - HYDROMATION PIT IN BUILDING 7
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*GP-324*	*GP-33*	*GP-34*	*GP-35*	*GP-36*	*GP-37*
Sample Name:		*GP-324 S4*	*GP-33 G-1*	*GP-34 G-1*	*GP-35 G-3*	*GP-36 G-3*	*GP-37 G-3*
Depth:		*(12-16)*	*(0-4)*	*(0-4)*	*(8-12)*	*(8-12)*	*(8-12)*
Sample Date:		*6/17/99*	*4/21/97*	*4/21/97*	*4/21/97*	*4/21/97*	*4/22/97*
Parameter	*Units*						
4-Chloroaniline	ug/Kg	-	-	-	-	-	-
4-Chlorophenyl phenyl ether	ug/Kg	ND (1730)	-	-	-	-	-
4-Nitroaniline	ug/Kg	-	-	-	-	-	-
4-Nitrophenol	ug/Kg	ND (3450)	-	-	-	-	-
Acenaphthene	ug/Kg	ND (1730)	-	-	-	-	-
Acenaphthylene	ug/Kg	ND (1730)	-	-	-	-	-
Anthracene	ug/Kg	ND (1730)	-	-	-	-	-
Benzo(a)anthracene	ug/Kg	ND (1730)	-	-	-	-	-
Benzo(a)pyrene	ug/Kg	ND (8630)	-	-	-	-	-
Benzo(b)fluoranthene	ug/Kg	ND (8630)	-	-	-	-	-
Benzo(g,h,i)perylene	ug/Kg	ND (8630)	-	-	-	-	-
Benzo(k)fluoranthene	ug/Kg	ND (8630)	-	-	-	-	-
Benzyl Alcohol	ug/Kg	-	-	-	-	-	-
bis(2-Chloroethoxy)methane	ug/Kg	ND (1730)	-	-	-	-	-
bis(2-Chloroethyl)ether	ug/Kg	ND (1730)	-	-	-	-	-
bis(2-Chloroisopropyl)ether	ug/Kg	ND (1730)	-	-	-	-	-
bis(2-Ethylhexyl)phthalate	ug/Kg	ND (1730)	-	-	-	-	-
Butyl benzylphthalate	ug/Kg	ND (1730)	-	-	-	-	-
Chrysene	ug/Kg	ND (1730)	-	-	-	-	-
Dibenz(a,h)anthracene	ug/Kg	ND (8630)	-	-	-	-	-
Dibenzofuran	ug/Kg	-	-	-	-	-	-
Diethyl phthalate	ug/Kg	2240	-	-	-	-	-
Dimethyl phthalate	ug/Kg	ND (1730)	-	-	-	-	-
Di-n-butylphthalate	ug/Kg	ND (1730)	-	-	-	-	-
Di-n-octyl phthalate	ug/Kg	ND (8630)	-	-	-	-	-
Fluoranthene	ug/Kg	ND (1730)	-	-	-	-	-
Fluorene	ug/Kg	ND (1730)	-	-	-	-	-
Hexachlorobenzene	ug/Kg	ND (1730)	-	-	-	-	-
Hexachlorobutadiene	ug/Kg	ND (1730)	-	-	-	-	-
Hexachlorocyclopentadiene	ug/Kg	ND (1730)	-	-	-	-	-
Hexachloroethane	ug/Kg	ND (1730)	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	ug/Kg	ND (8630)	-	-	-	-	-
Isophorone	ug/Kg	ND (1730)	-	-	-	-	-
Naphthalene	ug/Kg	ND (1730)	-	-	-	-	-
Nitrobenzene	ug/Kg	ND (1730)	-	-	-	-	-
N-Nitrosodimethylamine	ug/Kg	ND (1730)	-	-	-	-	-
N-Nitrosodi-n-propylamine	ug/Kg	ND (1730)	-	-	-	-	-
N-Nitrosodiphenylamine	ug/Kg	ND (1730)	-	-	-	-	-
Pentachlorophenol	ug/Kg	ND (1730)	-	-	-	-	-
Phenanthrene	ug/Kg	2090	-	-	-	-	-
Phenol	ug/Kg	ND (1730)	-	-	-	-	-
Pyrene	ug/Kg	ND (1730)	-	-	-	-	-
Volatiles							
1,1,1-Trichloroethane	ug/Kg	-	-	-	-	-	-
1,1,2,2-Tetrachloroethane	ug/Kg	-	-	-	-	-	-
1,1,2-Trichloroethane	ug/Kg	-	-	-	-	-	-
1,1-Dichloroethane	ug/Kg	-	-	-	-	-	-
1,1-Dichloroethene	ug/Kg	-	-	-	-	-	-
1,2-Dichloroethane	ug/Kg	-	-	-	-	-	-
1,2-Dichloropropane	ug/Kg	-	-	-	-	-	-
2-Butanone	ug/Kg	-	-	-	-	-	-
2-Hexanone	ug/Kg	-	-	-	-	-	-

HISTORICAL SOIL SAMPLE RESULTS
AOI 21 - HYDROMATION PIT IN BUILDING 7
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*GP-324*	*GP-33*	*GP-34*	*GP-35*	*GP-36*	*GP-37*
Sample Name:		*GP-324 S4*	*GP-33 G-1*	*GP-34 G-1*	*GP-35 G-3*	*GP-36 G-3*	*GP-37 G-3*
Depth:		*(12-16)*	*(0-4)*	*(0-4)*	*(8-12)*	*(8-12)*	*(8-12)*
Sample Date:		*6/17/99*	*4/21/97*	*4/21/97*	*4/21/97*	*4/21/97*	*4/22/97*
Parameter	*Units*						
4-Methyl-2-pentanone	ug/Kg	-	-	-	-	-	-
Acetone	ug/Kg	-	-	-	-	-	-
Benzene	ug/Kg	-	-	-	-	-	-
Bromodichloromethane	ug/Kg	-	-	-	-	-	-
Bromoform	ug/Kg	-	-	-	-	-	-
Bromomethane	ug/Kg	-	-	-	-	-	-
Carbon disulfide	ug/Kg	-	-	-	-	-	-
Carbon tetrachloride	ug/Kg	-	-	-	-	-	-
Chlorobenzene	ug/Kg	-	-	-	-	-	-
Chloroethane	ug/Kg	-	-	-	-	-	-
Chloroform	ug/Kg	-	-	-	-	-	-
Chloromethane	ug/Kg	-	-	-	-	-	-
cis-1,2-Dichloroethene	ug/Kg	-	-	-	-	-	-
cis-1,3-Dichloropropene	ug/Kg	-	-	-	-	-	-
Dibromochloromethane	ug/Kg	-	-	-	-	-	-
Ethylbenzene	ug/Kg	-	-	-	-	-	-
Methylene chloride	ug/Kg	-	-	-	-	-	-
Styrene	ug/Kg	-	-	-	-	-	-
Tetrachloroethene	ug/Kg	-	-	-	-	-	-
Toluene	ug/Kg	-	-	-	-	-	-
trans-1,2-Dichloroethene	ug/Kg	-	-	-	-	-	-
trans-1,3-Dichloropropene	ug/Kg	-	-	-	-	-	-
Trichloroethene	ug/Kg	-	-	-	-	-	-
Vinyl acetate	ug/Kg	-	-	-	-	-	-
Vinyl chloride	ug/Kg	-	-	-	-	-	-
Xylene (total)	ug/Kg	-	-	-	-	-	-
General Chemistry							
Percent Solids	%	82	66.1	79.0	92.9	92.7	71.1

Notes:
ND - Non-detect at associated value.
J - Estimated.
> - Result greater than value indicated.
B - The reported analyte was detected in the associated method blank as well as the sample.
- - Not applicable.

TABLE G.10

HISTORICAL GROUNDWATER SAMPLE RESULTS
AOI 21 - HYDROMATION PIT IN BUILDING 7
FORMER DELPI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*HD-18*
Sample Name:		*HD-18*
Sample Date:		*6/11/99*
Parameter	*Units*	
Volatiles		
1,1,1,2-Tetrachloroethane	ug/L	ND (2)
1,1,1-Trichloroethane	ug/L	ND (2)
1,1,2,2-Tetrachloroethane	ug/L	ND (2)
1,1,2-Trichloroethane	ug/L	ND (2)
1,1-Dichloroethane	ug/L	ND (2)
1,1-Dichloroethene	ug/L	ND (2)
1,1-Dichloropropene	ug/L	ND (2)
1,2,3-Trichlorobenzene	ug/L	ND (2)
1,2,3-Trichloropropane	ug/L	ND (2)
1,2,4-Trichlorobenzene	ug/L	ND (2)
1,2,4-Trimethylbenzene	ug/L	ND (2)
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	ND (10)
1,2-Dibromoethane (EDB)	ug/L	ND (2)
1,2-Dichlorobenzene	ug/L	ND (2)
1,2-Dichloroethane	ug/L	ND (2)
1,2-Dichloropropane	ug/L	ND (2)
1,3,5-Trimethylbenzene	ug/L	ND (2)
1,3-Dichlorobenzene	ug/L	ND (2)
1,3-Dichloropropane	ug/L	ND (2)
1,4-Dichlorobenzene	ug/L	ND (2)
2,2-Dichloropropane	ug/L	ND (2)
2-Butanone	ug/L	ND (10)
2-Chloroethyl vinyl ether	ug/L	ND (2)
2-Chlorotoluene	ug/L	ND (2)
2-Hexanone	ug/L	ND (10)
2-Phenylbutane	ug/L	ND (2)
4-Chlorotoluene	ug/L	ND (2)
4-Methyl-2-pentanone	ug/L	ND (10)
Acetone	ug/L	ND (10)
Benzene	ug/L	ND (2)
Benzene, butyl	ug/L	ND (2)
Benzene, isopropyl	ug/L	ND (2)
Benzene, tert-butyl	ug/L	ND (2)
Bromobenzene	ug/L	ND (2)
Bromodichloromethane	ug/L	ND (2)
Bromoform	ug/L	ND (2)
Bromomethane	ug/L	ND (2)
Carbon disulfide	ug/L	ND (2)
Carbon tetrachloride	ug/L	ND (2)
Chlorobenzene	ug/L	ND (2)
Chlorobromomethane	ug/L	ND (2)
Chloroethane	ug/L	ND (2)
Chloroform	ug/L	6.6
Chloromethane	ug/L	ND (2)
cis-1,2-Dichloroethene	ug/L	14.1
cis-1,3-Dichloropropene	ug/L	ND (2)
Cymene	ug/L	ND (2)
Dibromochloromethane	ug/L	ND (2)
Dibromomethane	ug/L	ND (2)
Dichlorodifluoromethane (CFC-12)	ug/L	ND (2)
Ethylbenzene	ug/L	ND (2)
Hexachlorobutadiene	ug/L	ND (2)

HISTORICAL GROUNDWATER SAMPLE RESULTS
AOI 21 - HYDROMATION PIT IN BUILDING 7
FORMER DELPI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*HD-18*
Sample Name:		*HD-18*
Sample Date:		*6/11/99*
Parameter	*Units*	
Methylene chloride	ug/L	ND (10)
Naphthalene	ug/L	ND (2)
n-Propylbenzene	ug/L	ND (2)
Styrene	ug/L	ND (2)
Tetrachloroethene	ug/L	24.7
Toluene	ug/L	4.1
trans-1,2-Dichloroethene	ug/L	ND (2)
trans-1,3-Dichloropropene	ug/L	ND (2)
Trichloroethene	ug/L	9.2
Trichlorofluoromethane (CFC-11)	ug/L	ND (2)
Vinyl chloride	ug/L	ND (2)
Xylene (total)	ug/L	ND (2)
General Chemistry		
Total Dissolved Solids (TDS)	ug/L	353000

Notes:
ND - Non-detect at associated value.

HISTORICAL OIL SAMPLE RESULTS
AOI 21 - HYDROMATION PIT IN BUILDING 7
FORMER DEPLPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*B-SA27*
Sample Name:		*BSA-27 OIL*
Depth:		
Sample Date:		*5/6/98*
Parameter	*Unit*	
Misc		
Specific gravity	no unit	0.912
PCBs		
Aroclor-1016	mg/Kg	ND (1)
Aroclor-1221	mg/Kg	ND (1)
Aroclor-1232	mg/Kg	ND (1)
Aroclor-1242	mg/Kg	ND (1)
Aroclor-1248	mg/Kg	ND (1)
Aroclor-1254	mg/Kg	ND (1)
Aroclor-1260	mg/Kg	ND (1)
General Chemistry		
Viscosity	cP	83.6

Notes:
ND - Non-detect at associated value.

HISTORICAL SOIL SAMPLE RESULTS
AOI 2 - STILL ROOM IN BASEMENT OF BUILDING 24
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*East wall, 3' level-Tank 16*	*floor, North end-Tank 16*	*floor, South end-Tank 16*	*North Wall 3'-Tank 16*	*South wall, 3' level-Tank 16*	*UST-10-12*
Sample Name:		*SO4*	*SO5*	*SO6*	*SO1*	*SO3*	*UST-10-12*
Depth:							*(10-12)*
Sample Date:		*10/16/91*	*10/16/91*	*10/16/91*	*10/16/91*	*10/16/91*	*4/6/88*
Parameter	*Units*						
BTEX							
Benzene	ug/Kg	ND (5)	ND (6)	ND (5)	ND (5)	-	-
Ethylbenzene	ug/Kg	ND (5)	ND (6)	ND (5)	ND (5)	-	-
Toluene	ug/Kg	ND (5)	11	5	12	8	-
Xylene (total)	ug/Kg	ND (10)	ND (12)	ND (11)	ND (11)	-	-
Metals							
Chromium	mg/Kg	1.93	64.5	55.2	7.28	5.01	-
Miscellaneous							
Extractable Organic Halogens	mg/Kg	-	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	-
Petroleum Products							
Total Recoverable Petroleum Hydrocarbons	mg/Kg	403	388	1110	288	666	-
Semi- Volatiles							
1,2,4-Trichlorobenzene	ug/Kg	ND (400)	ND (500)	ND (4500)	ND (3300)	-	-
1,2-Dichlorobenzene	ug/Kg	-	ND (500)	ND (4500)	ND (3300)	ND (400)	-
1,3-Dichlorobenzene	ug/Kg	-	ND (500)	ND (4500)	ND (3300)	ND (400)	-
1,4-Dichlorobenzene	ug/Kg	-	ND (500)	ND (4500)	ND (3300)	ND (400)	-
2,4-Dinitrotoluene	ug/Kg	-	ND (500)	ND (4500)	ND (3300)	ND (400)	-
2,6-Dinitrotoluene	ug/Kg	-	ND (500)	ND (4500)	ND (3300)	ND (400)	-
2-Chloronaphthalene	ug/Kg	-	ND (500)	ND (4500)	ND (3300)	ND (400)	-
3,3'-Dichlorobenzidine	ug/Kg	-	ND (1900)	ND (17000)	ND (12000)	ND (1500)	-
4-Bromophenyl phenyl ether	ug/Kg	-	ND (1900)	ND (17000)	ND (12000)	ND (1500)	-
4-Chloroaniline	ug/Kg	-	ND (500)	ND (4500)	ND (3300)	ND (400)	-
4-Chlorophenyl phenyl ether	ug/Kg	-	ND (1900)	ND (17000)	ND (12000)	ND (1500)	-
Acenaphthene	ug/Kg	-	ND (500)	ND (4500)	ND (3300)	ND (400)	-
Acenaphthylene	ug/Kg	-	ND (500)	ND (4500)	ND (3300)	ND (400)	-
Anthracene	ug/Kg	-	ND (500)	ND (4500)	ND (3300)	ND (400)	-
Benzo(a)anthracene	ug/Kg	-	ND (500)	ND (4500)	ND (3300)	ND (400)	-
Benzo(a)pyrene	ug/Kg	-	ND (500)	ND (4500)	ND (3300)	ND (400)	-
Benzo(b)fluoranthene	ug/Kg	-	ND (500)	ND (4500)	ND (3300)	ND (400)	-
Benzo(g,h,i)perylene	ug/Kg	-	ND (500)	ND (4500)	ND (3300)	ND (400)	-
Benzo(k)fluoranthene	ug/Kg	-	ND (500)	ND (4500)	ND (3300)	ND (400)	-
Benzyl Alcohol	ug/Kg	-	ND (5000)	ND (45000)	ND (33000)	ND (4000)	-
bis(2-Chloroethoxy)methane	ug/Kg	-	ND (1900)	ND (17000)	ND (12000)	ND (1500)	-
bis(2-Chloroethyl)ether	ug/Kg	-	ND (1900)	ND (17000)	ND (12000)	ND (1500)	-
bis(2-Chloroisopropyl)ether	ug/Kg	-	ND (1900)	ND (17000)	ND (12000)	ND (1500)	-
bis(2-Ethylhexyl)phthalate	ug/Kg	ND (400)	1100	ND (4500)	ND (3300)	ND (400)	-
Butyl benzylphthalate	ug/Kg	ND (1500)	900	ND (17000)	ND (12000)	ND (1500)	-
Chrysene	ug/Kg	-	ND (500)	ND (4500)	ND (3300)	ND (400)	-
Dibenz(a,h)anthracene	ug/Kg	-	ND (500)	ND (4500)	ND (3300)	ND (400)	-
Dibenzofuran	ug/Kg	-	ND (500)	ND (4500)	ND (3300)	ND (400)	-
Diethyl phthalate	ug/Kg	-	ND (1900)	ND (17000)	ND (12000)	ND (1500)	-
Dimethyl phthalate	ug/Kg	-	ND (500)	ND (4500)	ND (3300)	ND (400)	-
Di-n-butylphthalate	ug/Kg	-	ND (500)	ND (4500)	ND (3300)	ND (400)	-
Di-n-octyl phthalate	ug/Kg	-	ND (500)	ND (4500)	ND (3300)	ND (400)	-
Fluoranthene	ug/Kg	-	ND (500)	ND (4500)	ND (3300)	ND (400)	-
Fluorene	ug/Kg	-	ND (500)	ND (4500)	ND (3300)	ND (400)	-

TABLE G.2

HISTORICAL SOIL SAMPLE RESULTS
AOI 2 - STILL ROOM IN BASEMENT OF BUILDING 24
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*East wall, 3' level-Tank 16*	*floor, North end-Tank 16*	*floor, South end-Tank 16*	*North Wall 3'-Tank 16*	*South wall, 3' level-Tank 16*	*UST-10-12*
Sample Name:		*SO4*	*SO5*	*SO6*	*SO1*	*SO3*	*UST-10-12*
Depth:							*(10-12)*
Sample Date:		*10/16/91*	*10/16/91*	*10/16/91*	*10/16/91*	*10/16/91*	*4/6/88*
Parameter	*Units*						
Hexachlorobenzene	ug/Kg	-	ND (500)	ND (4500)	ND (3300)	ND (400)	-
Hexachlorobutadiene	ug/Kg	ND (400)	ND (500)	ND (4500)	ND (3300)	-	-
Hexachlorocyclopentadiene	ug/Kg	ND (400)	ND (500)	ND (4500)	ND (3300)	-	-
Hexachloroethane	ug/Kg	ND (400)	ND (500)	ND (4500)	ND (3300)	-	-
Indeno(1,2,3-cd)pyrene	ug/Kg	ND (400)	ND (500)	ND (4500)	ND (3300)	-	-
Isophorone	ug/Kg	ND (400)	ND (500)	ND (4500)	ND (3300)	-	-
Naphthalene	ug/Kg	ND (400)	ND (500)	ND (4500)	ND (3300)	-	-
Nitrobenzene	ug/Kg	ND (400)	ND (500)	ND (4500)	ND (3300)	-	-
N-Nitrosodi-n-propylamine	ug/Kg	ND (400)	ND (500)	ND (4500)	ND (3300)	-	-
Phenanthrene	ug/Kg	ND (400)	ND (500)	ND (4500)	ND (3300)	-	-
Pyrene	ug/Kg	ND (400)	ND (500)	ND (4500)	3700	-	-
Volatiles							
1,1,1-Trichloroethane	ug/Kg	ND (110)	ND (140)	ND (110)	ND (110)	ND (110)	4900
1,1,2,2-Tetrachloroethane	ug/Kg	ND (110)	ND (140)	ND (110)	ND (110)	ND (110)	-
1,1,2-Trichloroethane	ug/Kg	ND (110)	ND (140)	ND (110)	ND (110)	ND (110)	-
1,1-Dichloroethane	ug/Kg	ND (110)	ND (140)	ND (110)	ND (110)	ND (110)	-
1,1-Dichloroethene	ug/Kg	ND (110)	ND (140)	ND (110)	ND (110)	ND (110)	-
1,2-Dichloroethane	ug/Kg	ND (110)	ND (140)	ND (110)	ND (110)	ND (110)	-
1,2-Dichloropropane	ug/Kg	ND (110)	ND (140)	ND (110)	ND (110)	ND (110)	-
2-Butanone	ug/Kg	ND (220)	ND (280)	ND (220)	ND (220)	ND (220)	-
2-Chloroethyl vinyl ether	ug/Kg	ND (1100)	ND (1400)	ND (1100)	ND (1100)	ND (1100)	-
2-Hexanone	ug/Kg	ND (220)	ND (280)	ND (220)	ND (220)	ND (220)	-
4-Methyl-2-pentanone	ug/Kg	ND (220)	ND (280)	ND (220)	ND (220)	ND (220)	-
Acetone	ug/Kg	ND (220)	ND (280)	ND (220)	ND (220)	ND (220)	-
Acrolein	ug/Kg	ND (2200)	ND (2800)	ND (2200)	ND (2200)	ND (2200)	-
Acrylonitrile	ug/Kg	ND (2200)	ND (2800)	ND (2200)	ND (2200)	ND (2200)	-
Benzene	ug/Kg	ND (110)	ND (140)	ND (110)	ND (110)	ND (110)	-
Bromodichloromethane	ug/Kg	ND (110)	ND (140)	ND (110)	ND (110)	ND (110)	-
Bromoform	ug/Kg	ND (110)	ND (140)	ND (110)	ND (110)	ND (110)	-
Bromomethane	ug/Kg	ND (110)	ND (140)	ND (110)	ND (110)	ND (110)	-
Carbon disulfide	ug/Kg	ND (110)	ND (140)	ND (110)	ND (110)	ND (110)	-
Carbon tetrachloride	ug/Kg	ND (110)	ND (140)	ND (110)	ND (110)	ND (110)	-
Chlorobenzene	ug/Kg	ND (110)	ND (140)	ND (110)	ND (110)	ND (110)	-
Chloroethane	ug/Kg	ND (110)	ND (140)	ND (110)	ND (110)	ND (110)	-
Chloroform	ug/Kg	ND (110)	ND (140)	ND (110)	ND (110)	ND (110)	-
Chloromethane	ug/Kg	ND (110)	ND (140)	ND (110)	ND (110)	ND (110)	-
cis-1,2-Dichloroethene	ug/Kg	ND (110)	ND (140)	ND (110)	ND (110)	ND (110)	200
cis-1,3-Dichloropropene	ug/Kg	ND (110)	ND (140)	ND (110)	ND (110)	ND (110)	-
Dibromochloromethane	ug/Kg	ND (110)	ND (140)	ND (110)	ND (110)	ND (110)	-
Ethylbenzene	ug/Kg	ND (110)	ND (140)	ND (110)	ND (110)	ND (110)	-
Methylene chloride	ug/Kg	ND (110)	ND (140)	ND (110)	ND (110)	ND (110)	-
Naphtha	ug/Kg	-	-	-	-	-	-
Pyrene	ug/Kg	-	-	-	-	ND (400)	-
Styrene	ug/Kg	ND (110)	ND (140)	ND (110)	ND (110)	ND (110)	-
Tetrachloroethene	ug/Kg	ND (110)	ND (140)	ND (110)	ND (110)	700	2000
Toluene	ug/Kg	ND (110)	ND (140)	ND (110)	ND (110)	ND (110)	-
trans-1,2-Dichloroethene	ug/Kg	ND (110)	ND (140)	ND (110)	ND (110)	ND (110)	-
trans-1,3-Dichloropropene	ug/Kg	ND (110)	ND (140)	ND (110)	ND (110)	ND (110)	-
Trichloroethene	ug/Kg	ND (110)	ND (140)	ND (110)	ND (110)	ND (110)	-
Vinyl acetate	ug/Kg	ND (220)	ND (280)	ND (220)	ND (220)	ND (220)	-
Vinyl chloride	ug/Kg	ND (110)	ND (140)	ND (110)	ND (110)	ND (110)	-
Volatile Mineral Oils	ug/Kg	-	-	-	-	-	102000
Xylene (total)	ug/Kg	ND (110)	ND (140)	ND (110)	ND (110)	ND (110)	-

HISTORICAL SOIL SAMPLE RESULTS
AOI 2 - STILL ROOM IN BASEMENT OF BUILDING 24
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*East wall, 3' level-Tank 16*	*floor, North end-Tank 16*	*floor, South end-Tank 16*	*North Wall 3'-Tank 16*	*South wall, 3' level-Tank 16*	*UST-10-12*
Sample Name:		*SO4*	*SO5*	*SO6*	*SO1*	*SO3*	*UST-10-12*
Depth:							*(10-12)*
Sample Date:		*10/16/91*	*10/16/91*	*10/16/91*	*10/16/91*	*10/16/91*	*4/6/88*
Parameter	*Units*						
General Chemistry							
Total Organic Carbon (TOC)	mg/Kg	83800	54800	71400	69100	9310	-

TABLE G.2

HISTORICAL SOIL SAMPLE RESULTS
AOI 2 - STILL ROOM IN BASEMENT OF BUILDING 24
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*UST-2-4*	*UST-6-8*	*UST-8-10*	*West wall, 3' level-Tank 16*
Sample Name:		*UST-2-4*	*UST-6-8*	*UST-8-10*	*SO2*
Depth:		*(2-4)*	*(6-8)*	*(8-10)*	
Sample Date:		*4/6/88*	*4/6/88*	*4/6/88*	*10/16/91*
Parameter	*Units*				
BTEX					
Benzene	ug/Kg	-	-	-	ND (5)
Ethylbenzene	ug/Kg	-	-	-	ND (5)
Toluene	ug/Kg	-	-	-	5
Xylene (total)	ug/Kg	-	-	-	ND (11)
Metals					
Chromium	mg/Kg	-	-	-	5.37
Miscellaneous					
Extractable Organic Halogens	mg/Kg	-	-	-	0.09
Petroleum Products					
Total Recoverable Petroleum Hydrocarbons	mg/Kg	-	-	-	680
Semi- Volatiles					
1,2,4-Trichlorobenzene	ug/Kg	-	-	-	ND (4400)
1,2-Dichlorobenzene	ug/Kg	-	-	-	ND (4400)
1,3-Dichlorobenzene	ug/Kg	-	-	-	ND (4400)
1,4-Dichlorobenzene	ug/Kg	-	-	-	ND (4400)
2,4-Dinitrotoluene	ug/Kg	-	-	-	ND (4400)
2,6-Dinitrotoluene	ug/Kg	-	-	-	ND (4400)
2-Chloronaphthalene	ug/Kg	-	-	-	ND (4400)
3,3'-Dichlorobenzidine	ug/Kg	-	-	-	ND (17000)
4-Bromophenyl phenyl ether	ug/Kg	-	-	-	ND (17000)
4-Chloroaniline	ug/Kg	-	-	-	ND (4400)
4-Chlorophenyl phenyl ether	ug/Kg	-	-	-	ND (17000)
Acenaphthene	ug/Kg	-	-	-	ND (4400)
Acenaphthylene	ug/Kg	-	-	-	ND (4400)
Anthracene	ug/Kg	-	-	-	ND (4400)
Benzo(a)anthracene	ug/Kg	-	-	-	ND (4400)
Benzo(a)pyrene	ug/Kg	-	-	-	ND (4400)
Benzo(b)fluoranthene	ug/Kg	-	-	-	ND (4400)
Benzo(g,h,i)perylene	ug/Kg	-	-	-	ND (4400)
Benzo(k)fluoranthene	ug/Kg	-	-	-	ND (4400)
Benzyl Alcohol	ug/Kg	-	-	-	ND (44000)
bis(2-Chloroethoxy)methane	ug/Kg	-	-	-	ND (17000)
bis(2-Chloroethyl)ether	ug/Kg	-	-	-	ND (17000)
bis(2-Chloroisopropyl)ether	ug/Kg	-	-	-	ND (17000)
bis(2-Ethylhexyl)phthalate	ug/Kg	-	-	-	ND (4400)
Butyl benzylphthalate	ug/Kg	-	-	-	ND (17000)
Chrysene	ug/Kg	-	-	-	ND (4400)
Dibenz(a,h)anthracene	ug/Kg	-	-	-	ND (4400)
Dibenzofuran	ug/Kg	-	-	-	ND (4400)
Diethyl phthalate	ug/Kg	-	-	-	ND (17000)
Dimethyl phthalate	ug/Kg	-	-	-	ND (4400)
Di-n-butylphthalate	ug/Kg	-	-	-	ND (4400)
Di-n-octyl phthalate	ug/Kg	-	-	-	ND (4400)
Fluoranthene	ug/Kg	-	-	-	ND (4400)
Fluorene	ug/Kg	-	-	-	ND (4400)

HISTORICAL SOIL SAMPLE RESULTS
AOI 2 - STILL ROOM IN BASEMENT OF BUILDING 24
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*UST-2-4*	*UST-6-8*	*UST-8-10*	*West wall, 3' level-Tank 16*
Sample Name:		*UST-2-4*	*UST-6-8*	*UST-8-10*	*SO2*
Depth:		*(2-4)*	*(6-8)*	*(8-10)*	
Sample Date:		*4/6/88*	*4/6/88*	*4/6/88*	*10/16/91*
Parameter	*Units*				
Hexachlorobenzene	ug/Kg	-	-	-	ND (4400)
Hexachlorobutadiene	ug/Kg	-	-	-	ND (4400)
Hexachlorocyclopentadiene	ug/Kg	-	-	-	ND (4400)
Hexachloroethane	ug/Kg	-	-	-	ND (4400)
Indeno(1,2,3-cd)pyrene	ug/Kg	-	-	-	ND (4400)
Isophorone	ug/Kg	-	-	-	ND (4400)
Naphthalene	ug/Kg	-	-	-	ND (4400)
Nitrobenzene	ug/Kg	-	-	-	ND (4400)
N-Nitrosodi-n-propylamine	ug/Kg	-	-	-	ND (4400)
Phenanthrene	ug/Kg	-	-	-	ND (4400)
Pyrene	ug/Kg	-	-	-	ND (4400)
Volatiles					
1,1,1-Trichloroethane	ug/Kg	-	280000	9600	ND (110)
1,1,2,2-Tetrachloroethane	ug/Kg	-	-	-	ND (110)
1,1,2-Trichloroethane	ug/Kg	-	-	-	ND (110)
1,1-Dichloroethane	ug/Kg	-	20500	-	ND (110)
1,1-Dichloroethene	ug/Kg	-	-	-	ND (110)
1,2-Dichloroethane	ug/Kg	-	-	-	ND (110)
1,2-Dichloropropane	ug/Kg	-	-	-	ND (110)
2-Butanone	ug/Kg	-	-	-	ND (220)
2-Chloroethyl vinyl ether	ug/Kg	-	-	-	ND (1100)
2-Hexanone	ug/Kg	-	-	-	ND (220)
4-Methyl-2-pentanone	ug/Kg	-	-	-	ND (220)
Acetone	ug/Kg	-	-	-	ND (220)
Acrolein	ug/Kg	-	-	-	ND (2200)
Acrylonitrile	ug/Kg	-	-	-	ND (2200)
Benzene	ug/Kg	-	-	-	ND (110)
Bromodichloromethane	ug/Kg	-	-	-	ND (110)
Bromoform	ug/Kg	-	-	-	ND (110)
Bromomethane	ug/Kg	-	-	-	ND (110)
Carbon disulfide	ug/Kg	-	-	-	ND (110)
Carbon tetrachloride	ug/Kg	-	-	-	ND (110)
Chlorobenzene	ug/Kg	-	-	-	ND (110)
Chloroethane	ug/Kg	-	-	-	ND (110)
Chloroform	ug/Kg	-	-	-	ND (110)
Chloromethane	ug/Kg	-	-	-	ND (110)
cis-1,2-Dichloroethene	ug/Kg	-	20000	3600	ND (110)
cis-1,3-Dichloropropene	ug/Kg	-	-	-	ND (110)
Dibromochloromethane	ug/Kg	-	-	-	ND (110)
Ethylbenzene	ug/Kg	-	-	-	ND (110)
Methylene chloride	ug/Kg	-	-	-	ND (110)
Naphtha	ug/Kg	ND (25000)	-	-	-
Pyrene	ug/Kg	-	-	-	-
Styrene	ug/Kg	-	-	-	ND (110)
Tetrachloroethene	ug/Kg	-	100000	1200	290
Toluene	ug/Kg	-	-	-	ND (110)
trans-1,2-Dichloroethene	ug/Kg	-	-	-	ND (110)
trans-1,3-Dichloropropene	ug/Kg	-	-	-	ND (110)
Trichloroethene	ug/Kg	-	8500	200	ND (110)
Vinyl acetate	ug/Kg	-	-	-	ND (220)
Vinyl chloride	ug/Kg	-	-	-	ND (110)
Volatile Mineral Oils	ug/Kg	-	3550000	78100	-
Xylene (total)	ug/Kg	-	-	-	ND (110)

TABLE G.2

HISTORICAL SOIL SAMPLE RESULTS
AOI 2 - STILL ROOM IN BASEMENT OF BUILDING 24
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*UST-2-4*	*UST-6-8*	*UST-8-10*	*West wall, 3' level-Tank 16*
Sample Name:		*UST-2-4*	*UST-6-8*	*UST-8-10*	*SO2*
Depth:		*(2-4)*	*(6-8)*	*(8-10)*	
Sample Date:		*4/6/88*	*4/6/88*	*4/6/88*	*10/16/91*
Parameter	*Units*				
General Chemistry					
Total Organic Carbon (TOC)	mg/Kg	-	-	-	91400

Notes:
ND - Non-detect at associated value.
- - Not applicable.

HISTORICAL GROUNDWATER SAMPLE RESULTS
AOI 2 - STILL ROOM IN BASEMENT OF BUILDING 24
FORMER DELPI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*UST-H20*
Sample Name:		*UST-H20*
Sample Date:		*4/6/88*
Parameter	*Units*	
Volatiles		
1,1,1-Trichloroethane	ug/L	33200
1,1-Dichloroethane	ug/L	5900
cis-1,2-Dichloroethene	ug/L	290000
Tetrachloroethene	ug/L	4200
Volatile Mineral Oils	ug/L	3500000

Notes:
ND - Non-detect at associated value.

TABLE G.3

HISTORICAL SOIL SAMPLE RESULTS
AOI 4 - HAZARDOUS WASTE STAGING AND STORAGE AREAS IN BUILDINGS 5 AND 24
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*B-1*	*B-1*	*B-10*	*B-10*	*B-11*	*B-11*	*B-11*	*B-11*	*B-12*	*B-12*	*B-13*	*B-13*	*B-14*	*B-14*
Sample Name:		*B-1 S-1*	*B-1 S-2*	*B-10 S-1*	*B-10 S-2*	*B-11 S-1*	*B-11 S-2*	*B-11 S-5*	*B-11 S-6*	*B-12 S-1*	*B-12 S-2*	*B-13 S-1*	*B-13 S-2*	*B-14 S-1*	*B-14 S-2*
Depth:		*(1-2)*	*(2-2.5)*	*(1-2)*	*(2-3)*	*(1-2)*	*(2-3)*	*(5-6)*	*(6-7)*	*(1-2)*	*(2-3)*	*(1-2)*	*(2-3)*	*(1-2)*	*(2-3)*
Sample Date:		*1/9/97*	*1/9/97*	*9/10/97*	*9/10/97*	*9/10/97*	*9/10/97*	*9/10/97*	*9/10/97*	*9/10/97*	*9/10/97*	*9/10/97*	*9/10/97*	*9/10/97*	*9/10/97*
Parameter	*Units*														
Metals															
Barium	mg/Kg	18.3	26.4	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium	mg/Kg	ND (1.00)	1.37	-	-	-	-	-	-	-	-	-	-	-	-
Chromium	mg/Kg	20.7	72.5	4.98	2.74	5.43	5.25	1.58	2.62	4.39	1.98	4.42	2.92	8.35	11.2
Mercury	mg/Kg	ND (0.10)	ND (0.10)	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	mg/Kg	ND (1.00)	ND (0.98)	-	-	-	-	-	-	-	-	-	-	-	-
Volatiles															
Toluene	ug/Kg	ND (25)	ND (25)	-	-	-	-	-	-	-	-	-	-	-	-

HISTORICAL SOIL SAMPLE RESULTS
AOI 4 - HAZARDOUS WASTE STAGING AND STORAGE AREAS IN BUILDINGS 5 AND 24
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

B-14	*B-14*	*B-14*	*B-14*	*B-2*	*B-2*	*B-3*	*B-4*	*B-5*	*B-5*	*B-6*	*B-6*	*B-6*	*B-6*	*B-6*	*B-6*	*B-6*
B-14 S-3	*B-14 S-4*	*B-14 S-5*	*B-14 S-6*	*B-2 S-1*	*B-2 S-2*	*B-3 S-1*	*B-4 S-1*	*B-5 S-1*	*B-5 S-2*	*B-6 S-1*	*B-6 S-2*	*B-6 S-3*	*B-6 S-4*	*B-6 S-5*	*B-6 S-6*	*B-6 S-7*
(3-4)	*(4-5)*	*(6-6)*	*(6-7)*	*(1-2)*	*(2-2.5)*	*(1-2)*	*(1-2)*	*(1-2)*	*(2-2.5)*	*(1-2)*	*(2-3)*	*(3-4)*	*(4-5)*	*(5-6)*	*(6-7)*	*(7-8)*
9/10/97	*9/10/97*	*9/10/97*	*9/10/97*	*1/9/97*	*1/9/97*	*1/9/97*	*1/9/97*	*1/9/97*	*1/9/97*	*9/10/97*	*9/10/97*	*9/10/97*	*9/10/97*	*9/10/97*	*9/10/97*	*9/10/97*
-	-	-	-	24.2	20.9	26.4	31.1	20.6	19.2	-	-	-	-	-	-	-
-	-	-	-	ND (0.98)	ND (0.97)	ND (0.99)	2.41	ND (0.99)	1.81	-	-	-	-	-	-	-
5.11	2.02	3.96	5.50	24.2	53.8	6.75	14.5	7.33	7.66	32.5	22.4	3.55	21.9	5.37	6.72	8.74
-	-	-	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	0.18	-	-	-	-	-	-	-
-	-	-	-	ND (0.98)	ND (0.97)	ND (0.99)	ND (1.00)	ND (0.99)	ND (1.01)	-	-	-	-	-	-	-
-	-	-	-	ND (5)	ND (5)	ND (5)	ND (250)	ND (250)	ND (250)	-	-	-	-	-	-	-

TABLE G.3

HISTORICAL SOIL SAMPLE RESULTS
AOI 4 - HAZARDOUS WASTE STAGING AND STORAGE AREAS IN BUILDINGS 5 AND 24
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

B-6 *B-6 S-8* *(8-9)* *9/10/97*	*B-6* *B-6 S-9* *(9-10)* *9/10/97*	*B-7* *B-7 S-1* *(1-2)* *9/10/97*	*B-7* *B-7 S-2* *(2-3)* *9/10/97*	*B-8* *B-8 S-1* *(1-2)* *9/10/97*	*B-8* *B-8 S-2* *(2-3)* *9/10/97*	*B-9* *B-9 S-1* *(1-2)* *9/10/97*	*B-9* *B-9 S-2* *(2-3)* *9/10/97*	*B-9* *B-9 S-3* *(3-4)* *9/10/97*	*B-9* *B-9 S-4* *(4-5)* *9/10/97*	*Backfill* *BACKFILL* *11/19/97*	*BG-1* *BG-1 S-1* *(0.9-1.9)* *1/8/97*	*BG-1* *BG-1 S-2* *(1.9-2.9)* *1/8/97*	*BG-2* *BG-2 S-1* *(0.9-1.9)* *1/8/97*	*BG-2* *BG-2 S-2* *(1.9-2.9)* *1/8/97*	*BG-3* *BG-3 S-1* *(1.5-2)* *1/8/97*
-	-	-	-	-	-	-	-	-	-	-	46.9	61.9	40.9	42.8	28.4
-	-	-	-	-	-	-	-	-	-	-	2.02	3.24	ND (0.99)	ND (0.99)	ND (0.99)
3.64	1.75	1.76	3.05	4.67	4.02	2.73	8.10	5.51	8.01	ND (0.99)	7.68	11.7	7.11	7.33	6.96
-	-	-	-	-	-	-	-	-	-	-	ND (0.10)	0.11	0.11	ND (0.10)	ND (0.10)
-	-	-	-	-	-	-	-	-	-	-	ND (1.01)	ND (1.01)	ND (0.99)	ND (0.99)	ND (0.99)
-	-	-	-	-	-	-	-	-	-	-	8	6	6	ND (5)	ND (250)

HISTORICAL SOIL SAMPLE RESULTS
AOI 4 - HAZARDOUS WASTE STAGING AND STORAGE AREAS IN BUILDINGS 5 AND 24
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

BG-3 *BG-3 S-2* *(2-3)* *1/8/97*	*BG-4* *BG-4 S-1* *(1.2-2.2)* *1/8/97*	*BG-5* *BG-5 S-1* *(0.9-1.9)* *1/8/97*	*BG-5* *BG-5 S-2* *(1.9-2.9)* *1/8/97*	*BG-6* *BG-6 S-1* *(0.8-1.8)* *1/8/97*	*BG-6* *BG-6 S-2* *(1.8-2.8)* *1/8/97*	*EX1-East* *EX 1 EAST* *11/19/97*	*EX1-North* *EX 1 NORTH* *11/19/97*	*EX1-South* *EX 1 SOUTH* *11/19/97*	*EX1-West* *EX 1 WEST* *11/19/97*	*EX2-Middle* *EX 2 MIDDLE* *11/18/97*	*EX2-North* *EX 2 NORTH* *11/18/97*	*EX2-South* *EX 2 SOUTH* *11/18/97*
23.2	68.5	29.9	24.1	64.2	88.4	-	-	-	-	-	-	-
ND (1.01)	ND (0.97)	ND (0.97)	ND (0.97)	1.40	1.15	-	-	-	-	-	-	-
7.66	6.37	7.38	5.83	11.6	8.59	5.47	6.85	4.85	4.11	5.45	15.0	8.46
ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	0.22	0.26	-	-	-	-	-	-	-
ND (1.01)	ND (0.97)	ND (0.97)	ND (0.97)	ND (1.00)	ND (0.95)	-	-	-	-	-	-	-
8	ND (5)	ND (25)	ND (250)	6	6	-	-	-	-	-	-	-

HISTORICAL SOIL SAMPLE RESULTS
AOI 4 - HAZARDOUS WASTE STAGING AND STORAGE AREAS IN BUILDINGS 5 AND 24
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

EX3-Northeast *EX 3 NORTH EAST*	*EX3-Southwest* *EX 3 SOUTH WEST*	*EX4-North* *EX 4 NORTH*
11/18/97	*11/18/97*	*11/18/97*
-	-	-
-	-	-
3.26	4.19	1.81
-	-	-
-	-	-
-	-	-

Notes:
ND - Non-detect at associated value.
- - Not applicable.

HISTORICAL SOIL SAMPLE RESULTS
AOI 5 - ELECTROPLATING IN BUILDINGS 7, 9 AND G-3
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*E-6A*	*E-6B*
Sample Name:		*E-6A*	*E-6B*
Depth:		*(3-5)*	*(11-13)*
Sample Date:		*10/19/95*	*10/19/95*
Parameter	*Units*		
Metals			
Arsenic	mg/Kg	ND	ND
Barium	mg/Kg	0.0482	0.0963
Cadmium	mg/Kg	0.00123	0.00067
Chromium	mg/Kg	0.0086	0.0185
Cyanide (total)	mg/Kg	ND	ND
Lead	mg/Kg	0.0167	ND
Mercury	mg/Kg	0.00008	ND
Selenium	mg/Kg	ND	ND
Silver	mg/Kg	ND	ND

Notes:
ND - Non-detect.

TABLE G.5

HISTORICAL SOIL SAMPLE RESULTS
AOI 11 TO 14 - CHIP HANDLING AREAS AND NEARBY USTs
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*B-301*	*B-301*	*B-301*	*B-302*	*B-303*	*B-306*	*B-SA10*	*B-SA11*	*B-SA12*	*B-SA13*
Sample Name:		*B-301 S-1*	*B-301 S-2*	*B-301 S-4*	*B-302 S-1*	*B-303 S-4*	*B-306 S-3*	*B-SA10 S-2*	*B-SA11 S-5*	*B-SA12 S-1*	*B-SA13 S-8*
Sample Depth:		*(1-3)*	*(3-5)*	*(7-9)*	*(1-3)*	*(7-9)*	*(6-8)*	*(3-5)*	*(9-11)*	*(1-3)*	*(15-17)*
Sample Date:		*6/4/96*	*6/4/96*	*6/4/96*	*6/4/96*	*6/4/96*	*4/29/97*	*6/4/96*	*6/4/96*	*6/4/96*	*5/29/96*
Parameter	*Units*										
BTEX											
Benzene	ug/Kg	-	-	-	-	-	-	-	-	-	-
Ethylbenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-
Toluene	ug/Kg	-	-	-	-	-	-	-	-	-	-
Xylene (total)	ug/Kg	-	-	-	-	-	-	-	-	-	-
Metals											
Arsenic	mg/Kg	-	-	-	-	-	-	-	-	-	-
Barium	mg/Kg	-	-	-	-	-	-	-	-	-	-
Cadmium	mg/Kg	-	-	-	-	-	-	-	-	-	-
Chromium	mg/Kg	-	-	-	-	-	-	-	-	-	-
Cyanide (total)	mg/Kg	-	-	-	-	-	-	-	-	-	-
Lead	mg/Kg	-	-	-	-	-	-	-	-	-	-
Mercury	mg/Kg	-	-	-	-	-	-	-	-	-	-
Selenium	mg/Kg	-	-	-	-	-	-	-	-	-	-
Silver	mg/Kg	-	-	-	-	-	-	-	-	-	-
Sulfide	mg/Kg	-	-	-	-	-	-	-	-	-	-
Miscellaneous											
Ignitability	deg f	-	-	-	-	-	-	-	-	-	-
Percent Moisture	%	-	-	-	-	-	-	-	-	-	-
pH (soil)	s.u.	-	-	-	-	-	-	-	-	-	-
pH Corrosivity	s.u.	-	-	-	-	-	-	-	-	-	-
Reactive Cyanide	mg/kg	-	-	-	-	-	-	-	-	-	-
Reactive Sulfide	mg/Kg	-	-	-	-	-	-	-	-	-	-
PCBs											
Aroclor-1016	mg/Kg	-	-	-	-	-	-	-	-	-	-
Aroclor-1221	mg/Kg	-	-	-	-	-	-	-	-	-	-
Aroclor-1232	mg/Kg	-	-	-	-	-	-	-	-	-	-
Aroclor-1242	mg/Kg	-	-	-	-	-	-	-	-	-	-
Aroclor-1248	mg/Kg	-	-	-	-	-	-	-	-	-	-
Aroclor-1254	mg/Kg	-	-	-	-	-	-	-	-	-	-
Aroclor-1260	mg/Kg	-	-	-	-	-	-	-	-	-	-
Petroleum Products											
Total Petroleum Hydrocarbons	mg/Kg	23900	-	97000	-	-	-	-	-	-	-
Total Petroleum Hydrocarbons - extractable (DRO)	mg/Kg	-	-	-	-	-	-	-	-	-	-
Total Petroleum Hydrocarbons, Field	mg/Kg	-	-	-	-	-	-	-	-	-	-
Total Recoverable Petroleum Hydrocarbons	mg/Kg	-	22700	-	23900	97000	136	17000	42400	3150	1530
Semi-Volatiles											
1,2,4-Trichlorobenzene	ug/Kg	-	ND (4600)	-	ND (2100)	ND (25000)	-	ND (3600)	ND (18000)	ND (560)	ND (2000)
1,2-Dichlorobenzene	ug/Kg	-	ND (4600)	-	ND (2100)	ND (25000)	-	ND (3600)	ND (18000)	ND (560)	ND (2000)
1,2-Diphenylhydrazine	ug/Kg	-	-	-	-	-	-	-	-	-	-
1,3-Dichlorobenzene	ug/Kg	-	ND (4600)	-	ND (2100)	ND (25000)	-	ND (3600)	ND (18000)	ND (560)	ND (2000)
1,4-Dichlorobenzene	ug/Kg	-	ND (4600)	-	ND (2100)	ND (25000)	-	ND (3600)	ND (18000)	ND (560)	ND (2000)
2,4,5-Trichlorophenol	ug/Kg	-	-	-	-	-	-	-	-	-	-
2,4,6-Trichlorophenol	ug/Kg	-	-	-	-	-	-	-	-	-	-

HISTORICAL SOIL SAMPLE RESULTS
AOI 11 TO 14 - CHIP HANDLING AREAS AND NEARBY USTs
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*B-301*	*B-301*	*B-301*	*B-302*	*B-303*	*B-306*	*B-SA10*	*B-SA11*	*B-SA12*	*B-SA13*
Sample Name:		*B-301 S-1*	*B-301 S-2*	*B-301 S-4*	*B-302 S-1*	*B-303 S-4*	*B-306 S-3*	*B-SA10 S-2*	*B-SA11 S-5*	*B-SA12 S-1*	*B-SA13 S-8*
Sample Depth:		*(1-3)*	*(3-5)*	*(7-9)*	*(1-3)*	*(7-9)*	*(6-8)*	*(3-5)*	*(9-11)*	*(1-3)*	*(15-17)*
Sample Date:		*6/4/96*	*6/4/96*	*6/4/96*	*6/4/96*	*6/4/96*	*4/29/97*	*6/4/96*	*6/4/96*	*6/4/96*	*5/29/96*
Parameter	*Units*										
2,4-Dichlorophenol	ug/Kg	-	-	-	-	-	-	-	-	-	-
2,4-Dimethylphenol	ug/Kg	-	-	-	-	-	-	-	-	-	-
2,4-Dinitrophenol	ug/Kg	-	-	-	-	-	-	-	-	-	-
2,4-Dinitrotoluene	ug/Kg	-	ND (4600)	-	ND (2100)	ND (25000)	-	ND (3600)	ND (18000)	ND (560)	ND (2000)
2,6-Dinitrotoluene	ug/Kg	-	ND (4600)	-	ND (2100)	ND (25000)	-	ND (3600)	ND (18000)	ND (560)	ND (2000)
2-Chloronaphthalene	ug/Kg	-	ND (4600)	-	ND (2100)	ND (25000)	-	ND (3600)	ND (18000)	ND (560)	ND (2000)
2-Chlorophenol	ug/Kg	-	-	-	-	-	-	-	-	-	-
2-Methyl naphthalene	ug/Kg	-	480 J	-	ND (2100)	4800 J	-	ND (3600)	3300 J	ND (560)	ND (2000)
2-Methylphenol	ug/Kg	-	-	-	-	-	-	-	-	-	-
2-Nitroaniline	ug/Kg	-	ND (22000)	-	ND (10000)	ND (120000)	-	ND (180000)	ND (88000)	ND (2700)	ND (9900)
2-Nitrophenol	ug/Kg	-	-	-	-	-	-	-	-	-	-
3&4-Methylphenol	ug/Kg	-	-	-	-	-	-	-	-	-	-
3,3'-Dichlorobenzidine	ug/Kg	-	ND (9200)	-	ND (4200)	ND (51000)	-	ND (7300)	ND (36000)	ND (1100)	ND (4100)
3-Nitroaniline	ug/Kg	-	ND (22000)	-	ND (10000)	ND (120000)	-	ND (180000)	ND (88000)	ND (2700)	ND (9900)
4,6-Dinitro-2-methylphenol	ug/Kg	-	-	-	-	-	-	-	-	-	-
4-Bromophenyl phenyl ether	ug/Kg	-	ND (4600)	-	ND (2100)	ND (25000)	-	ND (3600)	ND (18000)	ND (560)	ND (2000)
4-Chloro-3-methylphenol	ug/Kg	-	-	-	-	-	-	-	-	-	-
4-Chloroaniline	ug/Kg	-	ND (4600)	-	ND (2100)	ND (25000)	-	ND (3600)	ND (18000)	ND (560)	ND (2000)
4-Chlorophenyl phenyl ether	ug/Kg	-	ND (4600)	-	ND (2100)	ND (25000)	-	ND (3600)	ND (18000)	ND (560)	ND (2000)
4-Nitroaniline	ug/Kg	-	ND (22000)	-	ND (10000)	ND (120000)	-	ND (180000)	ND (88000)	ND (2700)	ND (9900)
4-Nitrophenol	ug/Kg	-	-	-	-	-	-	-	-	-	-
Acenaphthene	ug/Kg	-	ND (4600)	-	ND (2100)	ND (25000)	-	ND (3600)	ND (18000)	ND (560)	ND (2000)
Acenaphthylene	ug/Kg	-	ND (4600)	-	ND (2100)	ND (25000)	-	ND (3600)	ND (18000)	ND (560)	ND (2000)
Anthracene	ug/Kg	-	ND (4600)	-	ND (2100)	ND (25000)	-	ND (3600)	ND (18000)	ND (560)	ND (2000)
Benzo(a)anthracene	ug/Kg	-	ND (4600)	-	ND (2100)	ND (25000)	-	ND (3600)	ND (18000)	260 J	ND (2000)
Benzo(a)pyrene	ug/Kg	-	ND (4600)	-	ND (2100)	ND (25000)	-	ND (3600)	ND (18000)	200 J	ND (2000)
Benzo(b)fluoranthene	ug/Kg	-	ND (4600)	-	ND (2100)	ND (25000)	-	ND (3600)	ND (18000)	520 J	ND (2000)
Benzo(g,h,i)perylene	ug/Kg	-	ND (4600)	-	ND (2100)	ND (25000)	-	ND (3600)	ND (18000)	200 J	ND (2000)
Benzo(k)fluoranthene	ug/Kg	-	ND (4600)	-	ND (2100)	ND (25000)	-	ND (3600)	ND (18000)	ND (560)	ND (2000)
Benzoic acid	ug/Kg	-	-	-	-	-	-	-	-	-	-
Benzyl Alcohol	ug/Kg	-	ND (4600)	-	ND (2100)	ND (25000)	-	ND (3600)	ND (18000)	ND (560)	ND (2000)
bis(2-Chloroethoxy)methane	ug/Kg	-	ND (4600)	-	ND (2100)	ND (25000)	-	ND (3600)	ND (18000)	ND (560)	ND (2000)
bis(2-Chloroethyl)ether	ug/Kg	-	ND (4600)	-	ND (2100)	ND (25000)	-	ND (3600)	ND (18000)	ND (560)	ND (2000)
bis(2-Chloroisopropyl)ether	ug/Kg	-	ND (4600)	-	ND (2100)	ND (25000)	-	ND (3600)	ND (18000)	ND (560)	ND (2000)
bis(2-Ethylhexyl)phthalate	ug/Kg	-	ND (4600)	-	ND (2100)	ND (25000)	-	ND (3600)	ND (18000)	ND (560)	ND (2000)
Butyl benzylphthalate	ug/Kg	-	ND (4600)	-	ND (2100)	ND (25000)	-	ND (3600)	ND (18000)	ND (560)	ND (2000)
Chrysene	ug/Kg	-	1400 J	-	450 J	10000	-	550 J	5200 J	210 J	340 J
Dibenz(a,h)anthracene	ug/Kg	-	ND (4600)	-	ND (2100)	ND (25000)	-	ND (3600)	ND (18000)	ND (560)	ND (2000)
Dibenzofuran	ug/Kg	-	ND (4600)	-	ND (2100)	ND (25000)	-	ND (3600)	ND (18000)	ND (560)	ND (2000)
Diethyl phthalate	ug/Kg	-	ND (4600)	-	ND (2100)	ND (25000)	-	ND (3600)	ND (18000)	ND (560)	ND (2000)
Dimethyl phthalate	ug/Kg	-	ND (4600)	-	ND (2100)	ND (25000)	-	ND (3600)	ND (18000)	ND (560)	ND (2000)
Di-n-butylphthalate	ug/Kg	-	ND (4600)	-	ND (2100)	ND (25000)	-	ND (3600)	ND (18000)	ND (560)	ND (2000)
Di-n-octyl phthalate	ug/Kg	-	ND (4600)	-	ND (2100)	ND (25000)	-	ND (3600)	ND (18000)	ND (560)	ND (2000)
Fluoranthene	ug/Kg	-	ND (4600)	-	ND (2100)	ND (25000)	-	680 J	ND (18000)	340 J	ND (2000)
Fluorene	ug/Kg	-	ND (4600)	-	ND (2100)	6400 J	-	ND (3600)	5000 J	ND (560)	320 J
Hexachlorobenzene	ug/Kg	-	ND (4600)	-	ND (2100)	ND (25000)	-	ND (3600)	ND (18000)	ND (560)	ND (2000)
Hexachlorobutadiene	ug/Kg	-	ND (4600)	-	ND (2100)	ND (25000)	-	ND (3600)	ND (18000)	ND (560)	ND (2000)
Hexachlorocyclopentadiene	ug/Kg	-	ND (4600)	-	ND (2100)	ND (25000)	-	ND (3600)	ND (18000)	ND (560)	ND (2000)
Hexachloroethane	ug/Kg	-	ND (4600)	-	ND (2100)	ND (25000)	-	ND (3600)	ND (18000)	ND (560)	ND (2000)
Indeno(1,2,3-cd)pyrene	ug/Kg	-	ND (4600)	-	ND (2100)	ND (25000)	-	ND (3600)	ND (18000)	120 J	ND (2000)
Isophorone	ug/Kg	-	ND (4600)	-	ND (2100)	ND (25000)	-	ND (3600)	ND (18000)	ND (560)	ND (2000)
Naphthalene	ug/Kg	-	2800 J	-	370 J	ND (25000)	-	ND (3600)	ND (18000)	ND (560)	ND (2000)
Nitrobenzene	ug/Kg	-	ND (4600)	-	ND (2100)	ND (25000)	-	ND (3600)	ND (18000)	ND (560)	ND (2000)
N-Nitrosodimethylamine	ug/Kg	-	-	-	-	-	-	-	-	-	-
N-Nitrosodi-n-propylamine	ug/Kg	-	ND (4600)	-	ND (2100)	ND (25000)	-	ND (3600)	ND (18000)	ND (560)	ND (2000)

TABLE G.5

HISTORICAL SOIL SAMPLE RESULTS
AOI 11 TO 14 - CHIP HANDLING AREAS AND NEARBY USTs
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*B-301*	*B-301*	*B-301*	*B-302*	*B-303*	*B-306*	*B-SA10*	*B-SA11*	*B-SA12*	*B-SA13*
Sample Name:		*B-301 S-1*	*B-301 S-2*	*B-301 S-4*	*B-302 S-1*	*B-303 S-4*	*B-306 S-3*	*B-SA10 S-2*	*B-SA11 S-5*	*B-SA12 S-1*	*B-SA13 S-8*
Sample Depth:		*(1-3)*	*(3-5)*	*(7-9)*	*(1-3)*	*(7-9)*	*(6-8)*	*(3-5)*	*(9-11)*	*(1-3)*	*(15-17)*
Sample Date:		*6/4/96*	*6/4/96*	*6/4/96*	*6/4/96*	*6/4/96*	*4/29/97*	*6/4/96*	*6/4/96*	*6/4/96*	*5/29/96*
Parameter	*Units*										
N-Nitrosodiphenylamine	ug/Kg	-	ND (4600)	-	ND (2100)	ND (25000)	-	ND (3600)	ND (18000)	ND (560)	ND (2000)
Pentachlorophenol	ug/Kg	-	-	-	-	-	-	-	-	-	-
Phenanthrene	ug/Kg	-	1500 J	-	ND (2100)	28000	-	2000 J	20000	200 J	ND (2000)
Phenol	ug/Kg	-	-	-	-	-	-	-	-	-	-
Pyrene	ug/Kg	-	ND (4600)	-	ND (2100)	7400 J	-	730 J	5600 J	280 J	ND (2000)
Volatiles											
1,1,1,2-Tetrachloroethane	ug/Kg	-	-	-	-	-	-	-	-	-	-
1,1,1-Trichloroethane	ug/Kg	-	-	-	-	-	-	-	-	-	ND (8)
1,1,2,2-Tetrachloroethane	ug/Kg	-	-	-	-	-	-	-	-	-	ND (8)
1,1,2-Trichloroethane	ug/Kg	-	-	-	-	-	-	-	-	-	ND (8)
1,1-Dichloroethane	ug/Kg	-	-	-	-	-	-	-	-	-	ND (8)
1,1-Dichloroethene	ug/Kg	-	-	-	-	-	-	-	-	-	ND (8)
1,1-Dichloropropene	ug/Kg	-	-	-	-	-	-	-	-	-	-
1,2,3-Trichloropropane	ug/Kg	-	-	-	-	-	-	-	-	-	-
1,2,4-Trichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-
1,2,4-Trimethylbenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-
1,2-Dibromo-3-chloropropane (DBCP)	ug/Kg	-	-	-	-	-	-	-	-	-	-
1,2-Dibromoethane (EDB)	ug/Kg	-	-	-	-	-	-	-	-	-	-
1,2-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-
1,2-Dichloroethane	ug/Kg	-	-	-	-	-	-	-	-	-	ND (8)
1,2-Dichloroethene (total)	ug/Kg	-	-	-	-	-	-	-	-	-	-
1,2-Dichloropropane	ug/Kg	-	-	-	-	-	-	-	-	-	ND (8)
1,3,5-Trimethylbenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-
1,3-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-
1,3-Dichloropropane	ug/Kg	-	-	-	-	-	-	-	-	-	-
1,4-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-
1,4-Dioxane	ug/Kg	-	-	-	-	-	-	-	-	-	-
2,2-Dichloropropane	ug/Kg	-	-	-	-	-	-	-	-	-	-
2-Butanone	ug/Kg	-	-	-	-	-	-	-	-	-	10 J
2-Chloroethyl vinyl ether	ug/Kg	-	-	-	-	-	-	-	-	-	-
2-Chlorotoluene	ug/Kg	-	-	-	-	-	-	-	-	-	-
2-Hexanone	ug/Kg	-	-	-	-	-	-	-	-	-	ND (17)
2-Phenylbutane	ug/Kg	-	-	-	-	-	-	-	-	-	-
4-Chlorotoluene	ug/Kg	-	-	-	-	-	-	-	-	-	-
4-Methyl-2-pentanone	ug/Kg	-	-	-	-	-	-	-	-	-	ND (17)
Acetone	ug/Kg	-	-	-	-	-	-	-	-	-	39 B
Acrolein	ug/Kg	-	-	-	-	-	-	-	-	-	-
Acrylonitrile	ug/Kg	-	-	-	-	-	-	-	-	-	-
Allyl chloride	ug/Kg	-	-	-	-	-	-	-	-	-	-
Benzene	ug/Kg	-	-	-	-	-	-	-	-	-	ND (8)
Benzene, butyl	ug/Kg	-	-	-	-	-	-	-	-	-	-
Benzene, isopropyl	ug/Kg	-	-	-	-	-	-	-	-	-	-
Benzene, tert-butyl	ug/Kg	-	-	-	-	-	-	-	-	-	-
Bromobenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-
Bromodichloromethane	ug/Kg	-	-	-	-	-	-	-	-	-	ND (8)
Bromoform	ug/Kg	-	-	-	-	-	-	-	-	-	ND (8)
Bromomethane	ug/Kg	-	-	-	-	-	-	-	-	-	ND (17)
Carbon disulfide	ug/Kg	-	-	-	-	-	-	-	-	-	2 J
Carbon tetrachloride	ug/Kg	-	-	-	-	-	-	-	-	-	ND (8)
Chlorobenzene	ug/Kg	-	-	-	-	-	-	-	-	-	ND (8)
Chlorobromomethane	ug/Kg	-	-	-	-	-	-	-	-	-	-
Chloroethane	ug/Kg	-	-	-	-	-	-	-	-	-	ND (17)
Chloroform	ug/Kg	-	-	-	-	-	-	-	-	-	9)

HISTORICAL SOIL SAMPLE RESULTS
AOI 11 TO 14 - CHIP HANDLING AREAS AND NEARBY USTs
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*B-301*	*B-301*	*B-301*	*B-302*	*B-303*	*B-306*	*B-SA10*	*B-SA11*	*B-SA12*	*B-SA13*
Sample Name:		*B-301 S-1*	*B-301 S-2*	*B-301 S-4*	*B-302 S-1*	*B-303 S-4*	*B-306 S-3*	*B-SA10 S-2*	*B-SA11 S-5*	*B-SA12 S-1*	*B-SA13 S-8*
Sample Depth:		*(1-3)*	*(3-5)*	*(7-9)*	*(1-3)*	*(7-9)*	*(6-8)*	*(3-5)*	*(9-11)*	*(1-3)*	*(15-17)*
Sample Date:		*6/4/96*	*6/4/96*	*6/4/96*	*6/4/96*	*6/4/96*	*4/29/97*	*6/4/96*	*6/4/96*	*6/4/96*	*5/29/96*
Parameter	*Units*										
Chloromethane	ug/Kg	-	-	-	-	-	-	-	-	-	ND (17)
Chloroprene	ug/Kg	-	-	-	-	-	-	-	-	-	-
cis-1,2-Dichloroethene	ug/Kg	-	-	-	-	-	-	-	-	-	ND (8)
cis-1,3-Dichloropropene	ug/Kg	-	-	-	-	-	-	-	-	-	ND (8)
cis-1,4-Dichloro-2-butene	ug/Kg	-	-	-	-	-	-	-	-	-	-
Cymene	ug/Kg	-	-	-	-	-	-	-	-	-	-
Dibromochloromethane	ug/Kg	-	-	-	-	-	-	-	-	-	ND (8)
Dibromomethane	ug/Kg	-	-	-	-	-	-	-	-	-	-
Dichlorodifluoromethane (CFC-12)	ug/Kg	-	-	-	-	-	-	-	-	-	-
Ethyl methacrylate	ug/Kg	-	-	-	-	-	-	-	-	-	-
Ethylbenzene	ug/Kg	-	-	-	-	-	-	-	-	-	ND (8)
Hexachlorobutadiene	ug/Kg	-	-	-	-	-	-	-	-	-	-
Hexane	ug/Kg	-	-	-	-	-	-	-	-	-	-
Iodomethane	ug/Kg	-	-	-	-	-	-	-	-	-	-
Isobutyl alcohol	ug/Kg	-	-	-	-	-	-	-	-	-	-
Methyl acrylonitrile	ug/Kg	-	-	-	-	-	-	-	-	-	-
Methyl methacrylate	ug/Kg	-	-	-	-	-	-	-	-	-	-
Methyl Tert Butyl Ether	ug/Kg	-	-	-	-	-	-	-	-	-	-
Methylene chloride	ug/Kg	-	-	-	-	-	-	-	-	-	ND (8)
Naphthalene	ug/Kg	-	-	-	-	-	-	-	-	-	-
n-Propylbenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-
Propionitrile (Ethyl cyanide)	ug/Kg	-	-	-	-	-	-	-	-	-	-
Styrene	ug/Kg	-	-	-	-	-	-	-	-	-	ND (8)
Tetrachloroethene	ug/Kg	-	-	-	-	-	-	-	-	-	ND (8)
Tetrahydrofuran	ug/Kg	-	-	-	-	-	-	-	-	-	-
Toluene	ug/Kg	-	-	-	-	-	-	-	-	-	ND (8)
trans-1,2-Dichloroethene	ug/Kg	-	-	-	-	-	-	-	-	-	ND (8)
trans-1,3-Dichloropropene	ug/Kg	-	-	-	-	-	-	-	-	-	ND (8)
trans-1,4-Dichloro-2-butene	ug/Kg	-	-	-	-	-	-	-	-	-	-
Trichloroethene	ug/Kg	-	-	-	-	-	-	-	-	-	ND (8)
Trichlorofluoromethane (CFC-11)	ug/Kg	-	-	-	-	-	-	-	-	-	-
Trifluorotrichloroethane (Freon 113)	ug/Kg	-	-	-	-	-	-	-	-	-	-
Vinyl acetate	ug/Kg	-	-	-	-	-	-	-	-	-	ND (17)
Vinyl chloride	ug/Kg	-	-	-	-	-	-	-	-	-	ND (17)
Xylene (total)	ug/Kg	-	-	-	-	-	-	-	-	-	ND (8)
General Chemistry											
Flash Point Closed Cup	deg f	-	-	-	-	-	-	-	-	-	-
Percent Solids	%	-	69.8	-	79.1	87.9	78.2	88.7	91.3	81.7	-
pH Corrosivity	s.u.	-	-	-	-	-	-	-	-	-	-

TABLE G.5

HISTORICAL SOIL SAMPLE RESULTS
AOI 11 TO 14 - CHIP HANDLING AREAS AND NEARBY USTs
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*B-SA14*	*B-SA15*	*B-SA15*	*B-SA16*	*B-SA16*	*B-SA17*	*B-SA18*	*B-SA9*	*CA-GP-1*
Sample Name:		*B-SA14 S-4*	*B-SA15 S-7*	*B-SA15 S-7*	*B-SA16 S-2*	*B-SA16 S-2-DL*	*B-SA17 S-7*	*B-SA18 S-4*	*B-SA9 S-1*	*CA-GP-1 G-1*
Sample Depth:		*(7-9)*	*(13-15)*	*(13-15)*	*(3-5)*	*(3-5)*	*(13-15)*	*(7-9)*	*(1-3)*	*(0-4)*
Sample Date:		*5/29/96*	*5/30/97*	*5/30/97*	*5/31/97*	*5/31/97*	*5/30/96*	*5/31/96*	*6/4/96*	*6/30/98*
				Duplicate						
Parameter	*Units*									
BTEX										
Benzene	ug/Kg	-	-	-	-	-	-	-	-	-
Ethylbenzene	ug/Kg	-	-	-	-	-	-	-	-	-
Toluene	ug/Kg	-	-	-	-	-	-	-	-	-
Xylene (total)	ug/Kg	-	-	-	-	-	-	-	-	-
Metals										
Arsenic	mg/Kg	-	-	-	-	-	-	-	-	-
Barium	mg/Kg	-	-	-	-	-	-	-	-	-
Cadmium	mg/Kg	-	-	-	-	-	-	-	-	-
Chromium	mg/Kg	-	-	-	-	-	-	-	-	-
Cyanide (total)	mg/Kg	-	-	-	-	-	-	-	-	-
Lead	mg/Kg	-	-	-	-	-	-	-	-	-
Mercury	mg/Kg	-	-	-	-	-	-	-	-	-
Selenium	mg/Kg	-	-	-	-	-	-	-	-	-
Silver	mg/Kg	-	-	-	-	-	-	-	-	-
Sulfide	mg/Kg	-	-	-	-	-	-	-	-	-
Miscellaneous										
Ignitability	deg f	-	-	-	-	-	-	-	-	-
Percent Moisture	%	-	-	-	-	-	-	-	-	-
pH (soil)	s.u.	-	-	-	-	-	-	-	-	-
pH Corrosivity	s.u.	-	-	-	-	-	-	-	-	-
Reactive Cyanide	mg/kg	-	-	-	-	-	-	-	-	-
Reactive Sulfide	mg/Kg	-	-	-	-	-	-	-	-	-
PCBs										
Aroclor-1016	mg/Kg	-	-	-	-	-	-	-	-	ND (0.01)
Aroclor-1221	mg/Kg	-	-	-	-	-	-	-	-	ND (0.02)
Aroclor-1232	mg/Kg	-	-	-	-	-	-	-	-	ND (0.01)
Aroclor-1242	mg/Kg	-	-	-	-	-	-	-	-	ND (0.01)
Aroclor-1248	mg/Kg	-	-	-	-	-	-	-	-	ND (0.01)
Aroclor-1254	mg/Kg	-	-	-	-	-	-	-	-	ND (0.01)
Aroclor-1260	mg/Kg	-	-	-	-	-	-	-	-	ND (0.01)
Petroleum Products										
Total Petroleum Hydrocarbons	mg/Kg	-	-	-	-	-	-	-	-	-
Total Petroleum Hydrocarbons - extractable (DRO)	mg/Kg	-	-	-	-	-	-	-	-	-
Total Petroleum Hydrocarbons, Field	mg/Kg	-	-	-	-	-	-	-	-	-
Total Recoverable Petroleum Hydrocarbons	mg/Kg	736	9080	-	12000	-	5990	190	7770	-
Semi-Volatiles										
1,2,4-Trichlorobenzene	ug/Kg	ND (330)	ND (4000)	-	ND (7900)	-	ND (2000)	ND (330)	ND (33000)	-
1,2-Dichlorobenzene	ug/Kg	ND (330)	ND (4000)	-	ND (7900)	-	ND (2000)	ND (330)	ND (33000)	-
1,2-Diphenylhydrazine	ug/Kg	-	-	-	-	-	-	-	-	-
1,3-Dichlorobenzene	ug/Kg	ND (330)	ND (4000)	-	ND (7900)	-	ND (2000)	ND (330)	ND (33000)	-
1,4-Dichlorobenzene	ug/Kg	ND (330)	ND (4000)	-	ND (7900)	-	ND (2000)	ND (330)	ND (33000)	-
2,4,5-Trichlorophenol	ug/Kg	-	-	-	-	-	-	-	-	-
2,4,6-Trichlorophenol	ug/Kg	-	-	-		-	-	-	-	

HISTORICAL SOIL SAMPLE RESULTS
AOI 11 TO 14 - CHIP HANDLING AREAS AND NEARBY USTs
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*B-SA14*	*B-SA15*	*B-SA15*	*B-SA16*	*B-SA16*	*B-SA17*	*B-SA18*	*B-SA9*	*CA-GP-1*
Sample Name:		*B-SA14 S-4*	*B-SA15 S-7*	*B-SA15 S-7*	*B-SA16 S-2*	*B-SA16 S-2-DL*	*B-SA17 S-7*	*B-SA18 S-4*	*B-SA9 S-1*	*CA-GP-1 G-1*
Sample Depth:		*(7-9)*	*(13-15)*	*(13-15)*	*(3-5)*	*(3-5)*	*(13-15)*	*(7-9)*	*(1-3)*	*(0-4)*
Sample Date:		*5/29/96*	*5/30/97*	*5/30/97*	*5/31/97*	*5/31/97*	*5/30/96*	*5/31/96*	*6/4/96*	*6/30/98*
				Duplicate						
Parameter	*Units*									
2,4-Dichlorophenol	ug/Kg	-	-	-	-	-	-	-	-	-
2,4-Dimethylphenol	ug/Kg	-	-	-	-	-	-	-	-	-
2,4-Dinitrophenol	ug/Kg	-	-	-	-	-	-	-	-	-
2,4-Dinitrotoluene	ug/Kg	ND (330)	ND (4000)	-	ND (7900)	-	ND (2000)	ND (330)	ND (33000)	-
2,6-Dinitrotoluene	ug/Kg	ND (330)	ND (4000)	-	ND (7900)	-	ND (2000)	ND (330)	ND (33000)	-
2-Chloronaphthalene	ug/Kg	ND (330)	ND (4000)	-	ND (7900)	-	ND (2000)	ND (330)	ND (33000)	-
2-Chlorophenol	ug/Kg	-	-	-	-	-	-	-	-	-
2-Methyl naphthalene	ug/Kg	ND (330)	ND (4000)	-	2800 J	-	ND (2000)	ND (330)	ND (33000)	-
2-Methylphenol	ug/Kg	-	-	-	-	-	-	-	-	-
2-Nitroaniline	ug/Kg	ND (1600)	ND (19000)	-	ND (38000)	-	ND (9900)	ND (1600)	ND (160000)	-
2-Nitrophenol	ug/Kg	-	-	-	-	-	-	-	-	-
3&4-Methylphenol	ug/Kg	-	-	-	-	-	-	-	-	-
3,3'-Dichlorobenzidine	ug/Kg	ND (660)	ND (7900)	-	ND (16000)	-	ND (4100)	ND (660)	ND (66000)	-
3-Nitroaniline	ug/Kg	ND (1600)	ND (19000)	-	ND (38000)	-	ND (9900)	ND (1600)	ND (160000)	-
4,6-Dinitro-2-methylphenol	ug/Kg	-	-	-	-	-	-	-	-	-
4-Bromophenyl phenyl ether	ug/Kg	ND (330)	ND (4000)	-	ND (7900)	-	ND (2000)	ND (330)	ND (33000)	-
4-Chloro-3-methylphenol	ug/Kg	-	-	-	-	-	-	-	-	-
4-Chloroaniline	ug/Kg	ND (330)	ND (4000)	-	ND (7900)	-	ND (2000)	ND (330)	ND (33000)	-
4-Chlorophenyl phenyl ether	ug/Kg	ND (330)	ND (4000)	-	ND (7900)	-	ND (2000)	ND (330)	ND (33000)	-
4-Nitroaniline	ug/Kg	ND (1600)	ND (19000)	-	ND (38000)	-	ND (9900)	ND (1600)	ND (160000)	-
4-Nitrophenol	ug/Kg	-	-	-	-	-	-	-	-	-
Acenaphthene	ug/Kg	ND (330)	ND (4000)	-	ND (7900)	720 J	ND (2000)	ND (330)	ND (33000)	-
Acenaphthylene	ug/Kg	ND (330)	ND (4000)	-	ND (7900)	-	ND (2000)	ND (330)	ND (33000)	-
Anthracene	ug/Kg	ND (330)	ND (4000)	-	860 J	-	ND (2000)	ND (330)	ND (33000)	-
Benzo(a)anthracene	ug/Kg	ND (330)	600 J	-	1900 J	-	ND (2000)	ND (330)	ND (33000)	-
Benzo(a)pyrene	ug/Kg	ND (330)	ND (4000)	-	1900 J	-	ND (2000)	ND (330)	ND (33000)	-
Benzo(b)fluoranthene	ug/Kg	ND (330)	ND (4000)	-	1800 J	-	ND (2000)	ND (330)	ND (33000)	-
Benzo(g,h,i)perylene	ug/Kg	ND (330)	ND (4000)	-	2100 J	-	ND (2000)	ND (330)	ND (33000)	-
Benzo(k)fluoranthene	ug/Kg	ND (330)	ND (4000)	-	1400 J	-	ND (2000)	ND (330)	ND (33000)	-
Benzoic acid	ug/Kg	-	-	-	-	-	-	-	-	-
Benzyl Alcohol	ug/Kg	ND (330)	ND (4000)	-	ND (7900)	-	ND (2000)	ND (330)	ND (33000)	-
bis(2-Chloroethoxy)methane	ug/Kg	ND (330)	ND (4000)	ND (4000)	ND (7900)	-	ND (2000)	ND (330)	ND (33000)	-
bis(2-Chloroethyl)ether	ug/Kg	ND (330)	-	-	-	-	ND (2000)	ND (330)	ND (33000)	-
bis(2-Chloroisopropyl)ether	ug/Kg	ND (330)	ND (4000)	-	ND (7900)	-	ND (2000)	ND (330)	ND (33000)	-
bis(2-Ethylhexyl)phthalate	ug/Kg	ND (330)	ND (4000)	-	ND (7900)	-	ND (2000)	85 J	ND (33000)	-
Butyl benzylphthalate	ug/Kg	ND (330)	ND (4000)	-	ND (7900)	-	ND (2000)	ND (330)	ND (33000)	-
Chrysene	ug/Kg	ND (330)	1200 J	-	2100 J	-	ND (2000)	ND (330)	ND (33000)	-
Dibenz(a,h)anthracene	ug/Kg	ND (330)	ND (4000)	-	ND (7900)	-	ND (2000)	ND (330)	ND (33000)	-
Dibenzofuran	ug/Kg	ND (330)	ND (4000)	-	ND (7900)	-	ND (2000)	ND (330)	ND (33000)	-
Diethyl phthalate	ug/Kg	ND (330)	ND (4000)	-	ND (7900)	-	ND (2000)	ND (330)	ND (33000)	-
Dimethyl phthalate	ug/Kg	ND (330)	ND (4000)	-	ND (7900)	-	ND (2000)	ND (330)	ND (33000)	-
Di-n-butylphthalate	ug/Kg	ND (330)	ND (4000)	-	ND (7900)	-	ND (2000)	ND (330)	ND (33000)	-
Di-n-octyl phthalate	ug/Kg	720	ND (4000)	-	ND (7900)	-	ND (2000)	76 J	ND (33000)	-
Fluoranthene	ug/Kg	ND (330)	ND (4000)	-	4200 J	-	ND (2000)	ND (330)	ND (33000)	-
Fluorene	ug/Kg	ND (330)	ND (4000)	-	770 J	-	ND (2000)	ND (330)	ND (33000)	-
Hexachlorobenzene	ug/Kg	ND (330)	ND (4000)	-	ND (7900)	-	ND (2000)	ND (330)	ND (33000)	-
Hexachlorobutadiene	ug/Kg	ND (330)	ND (4000)	-	ND (7900)	-	ND (2000)	ND (330)	ND (33000)	-
Hexachlorocyclopentadiene	ug/Kg	ND (330)	ND (4000)	-	ND (7900)	-	ND (2000)	ND (330)	ND (33000)	-
Hexachloroethane	ug/Kg	ND (330)	ND (4000)	-	ND (7900)	-	ND (2000)	ND (330)	ND (33000)	-
Indeno(1,2,3-cd)pyrene	ug/Kg	ND (330)	ND (4000)	-	1800 J	-	ND (2000)	ND (330)	ND (33000)	-
Isophorone	ug/Kg	ND (330)	ND (4000)	-	ND (7900)	-	ND (2000)	ND (330)	ND (33000)	-
Naphthalene	ug/Kg	ND (330)	ND (4000)	-	3300 J	-	ND (2000)	ND (330)	ND (33000)	-
Nitrobenzene	ug/Kg	ND (330)	ND (4000)	-	ND (7900)	-	ND (2000)	ND (330)	ND (33000)	-
N-Nitrosodimethylamine	ug/Kg	-	-	-	-	-	-	-	-	-
N-Nitrosodi-n-propylamine	ug/Kg	ND (330)	ND (4000)	-	ND (7900)	-	ND (2000)	ND (330)	ND (33000)	-

TABLE G.5

HISTORICAL SOIL SAMPLE RESULTS
AOI 11 TO 14 - CHIP HANDLING AREAS AND NEARBY USTs
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*B-SA14*	*B-SA15*	*B-SA15*	*B-SA16*	*B-SA16*	*B-SA17*	*B-SA18*	*B-SA9*	*CA-GP-1*
Sample Name:		*B-SA14 S-4*	*B-SA15 S-7*	*B-SA15 S-7*	*B-SA16 S-2*	*B-SA16 S-2-DL*	*B-SA17 S-7*	*B-SA18 S-4*	*B-SA9 S-1*	*CA-GP-1 G-1*
Sample Depth:		*(7-9)*	*(13-15)*	*(13-15)*	*(3-5)*	*(3-5)*	*(13-15)*	*(7-9)*	*(1-3)*	*(0-4)*
Sample Date:		*5/29/96*	*5/30/97*	*5/30/97*	*5/31/97*	*5/31/97*	*5/30/96*	*5/31/96*	*6/4/96*	*6/30/98*
				Duplicate						
Parameter	*Units*									
N-Nitrosodiphenylamine	ug/Kg	ND (330)	ND (4000)	-	ND (7900)	-	ND (2000)	ND (330)	ND (33000)	-
Pentachlorophenol	ug/Kg	-	-	-	-	-	-	-	-	-
Phenanthrene	ug/Kg	ND (330)	ND (4000)	-	3800 J	-	ND (2000)	ND (330)	ND (33000)	-
Phenol	ug/Kg	-	-	-	-	-	-	-	-	-
Pyrene	ug/Kg	ND (330)	ND (4000)	-	3000 J	-	ND (2000)	ND (330)	ND (33000)	-
Volatiles										
1,1,1,2-Tetrachloroethane	ug/Kg	-	-	-	-	-	-	-	-	-
1,1,1-Trichloroethane	ug/Kg	ND (6)	ND (1400)	-	ND (800)	-	ND (750)	ND (6)	-	-
1,1,2,2-Tetrachloroethane	ug/Kg	ND (6)	ND (1400)	-	ND (800)	-	ND (750)	ND (6)	-	-
1,1,2-Trichloroethane	ug/Kg	ND (6)	ND (1400)	-	ND (800)	-	ND (750)	ND (6)	-	-
1,1-Dichloroethane	ug/Kg	ND (6)	ND (1400)	-	ND (800)	-	ND (750)	ND (6)	-	-
1,1-Dichloroethene	ug/Kg	ND (6)	ND (1400)	-	ND (800)	-	ND (750)	ND (6)	-	-
1,1-Dichloropropene	ug/Kg	-	-	-	-	-	-	-	-	-
1,2,3-Trichloropropane	ug/Kg	-	-	-	-	-	-	-	-	-
1,2,4-Trichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-	-
1,2,4-Trimethylbenzene	ug/Kg	-	-	-	-	-	-	-	-	-
1,2-Dibromo-3-chloropropane (DBCP)	ug/Kg	-	-	-	-	-	-	-	-	-
1,2-Dibromoethane (EDB)	ug/Kg	-	-	-	-	-	-	-	-	-
1,2-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-	-
1,2-Dichloroethane	ug/Kg	ND (6)	ND (1400)	-	ND (800)	-	ND (750)	ND (6)	-	-
1,2-Dichloroethene (total)	ug/Kg	-	-	-	-	-	-	-	-	-
1,2-Dichloropropane	ug/Kg	ND (6)	ND (1400)	-	410 J	-	ND (750)	ND (6)	-	-
1,3,5-Trimethylbenzene	ug/Kg	-	-	-	-	-	-	-	-	-
1,3-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-	-
1,3-Dichloropropane	ug/Kg	-	-	-	-	-	-	-	-	-
1,4-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-	-
1,4-Dioxane	ug/Kg	-	-	-	-	-	-	-	-	-
2,2-Dichloropropane	ug/Kg	-	-	-	-	-	-	-	-	-
2-Butanone	ug/Kg	ND (11)	ND (2900)	-	ND (1600)	-	850 JB	6 J	-	-
2-Chloroethyl vinyl ether	ug/Kg	-	-	-	-	-	-	-	-	-
2-Chlorotoluene	ug/Kg	-	-	-	-	-	-	-	-	-
2-Hexanone	ug/Kg	ND (11)	ND (2900)	-	ND (1600)	-	ND (1500)	ND (11)	-	-
2-Phenylbutane	ug/Kg	-	-	-	-	-	-	-	-	-
4-Chlorotoluene	ug/Kg	-	-	-	-	-	-	-	-	-
4-Methyl-2-pentanone	ug/Kg	ND (11)	ND (2900)	-	ND (1600)	-	ND (1500)	ND (11)	-	-
Acetone	ug/Kg	1 JB	ND (2900)	-	ND (1600)	-	610 J	18 B	-	-
Acrolein	ug/Kg	-	-	-	-	-	-	-	-	-
Acrylonitrile	ug/Kg	-	-	-	-	-	-	-	-	-
Allyl chloride	ug/Kg	-	-	-	-	-	-	-	-	-
Benzene	ug/Kg	ND (6)	ND (1400)	-	2600	-	ND (750)	ND (6)	-	-
Benzene, butyl	ug/Kg	-	-	-	-	-	-	-	-	-
Benzene, isopropyl	ug/Kg	-	-	-	-	-	-	-	-	-
Benzene, tert-butyl	ug/Kg	-	-	-	-	-	-	-	-	-
Bromobenzene	ug/Kg	-	-	-	-	-	-	-	-	-
Bromodichloromethane	ug/Kg	ND (6)	ND (1400)	-	ND (800)	-	ND (750)	ND (6)	-	-
Bromoform	ug/Kg	ND (6)	ND (1400)	-	ND (800)	-	ND (750)	ND (6)	-	-
Bromomethane	ug/Kg	ND (11)	ND (2900)	-	ND (1600)	-	ND (1500)	ND (11)	-	-
Carbon disulfide	ug/Kg	ND (6)	ND (1400)	-	ND (800)	-	ND (750)	ND (6)	-	-
Carbon tetrachloride	ug/Kg	ND (6)	ND (1400)	-	ND (800)	-	ND (750)	ND (6)	-	-
Chlorobenzene	ug/Kg	ND (6)	ND (1400)	-	ND (800)	-	ND (750)	ND (6)	-	-
Chlorobromomethane	ug/Kg	-	-	-	-	-	-	-	-	-
Chloroethane	ug/Kg	ND (11)	ND (2900)	-	ND (1600)	-	ND (1500)	ND (11)	-	-
Chloroform	ug/Kg	ND (6)	ND (1400)	-	)	-	ND (750)	ND (6)	-	

HISTORICAL SOIL SAMPLE RESULTS
AOI 11 TO 14 - CHIP HANDLING AREAS AND NEARBY USTs
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*B-SA14*	*B-SA15*	*B-SA15*	*B-SA16*	*B-SA16*	*B-SA17*	*B-SA18*	*B-SA9*	*CA-GP-1*
Sample Name:		*B-SA14 S-4*	*B-SA15 S-7*	*B-SA15 S-7*	*B-SA16 S-2*	*B-SA16 S-2-DL*	*B-SA17 S-7*	*B-SA18 S-4*	*B-SA9 S-1*	*CA-GP-1 G-1*
Sample Depth:		*(7-9)*	*(13-15)*	*(13-15)*	*(3-5)*	*(3-5)*	*(13-15)*	*(7-9)*	*(1-3)*	*(0-4)*
Sample Date:		*5/29/96*	*5/30/97*	*5/30/97*	*5/31/97*	*5/31/97*	*5/30/96*	*5/31/96*	*6/4/96*	*6/30/98*
				Duplicate						
Parameter	*Units*									
Chloromethane	ug/Kg	ND (11)	ND (2900)	-	ND (1600)	-	ND (1500)	ND (11)	-	-
Chloroprene	ug/Kg	-	-	-	-	-	-	-	-	-
cis-1,2-Dichloroethene	ug/Kg	1 J	2100	-	ND (800)	-	ND (750)	ND (6)	-	-
cis-1,3-Dichloropropene	ug/Kg	ND (6)	ND (1400)	-	ND (800)	-	ND (750)	ND (6)	-	-
cis-1,4-Dichloro-2-butene	ug/Kg	-	-	-	-	-	-	-	-	-
Cymene	ug/Kg	-	-	-	-	-	-	-	-	-
Dibromochloromethane	ug/Kg	ND (6)	ND (1400)	-	ND (800)	-	ND (750)	ND (6)	-	-
Dibromomethane	ug/Kg	-	-	-	-	-	-	-	-	-
Dichlorodifluoromethane (CFC-12)	ug/Kg	-	-	-	-	-	-	-	-	-
Ethyl methacrylate	ug/Kg	-	-	-	-	-	-	-	-	-
Ethylbenzene	ug/Kg	ND (6)	ND (1400)	-	4800	-	ND (750)	ND (6)	-	-
Hexachlorobutadiene	ug/Kg	-	-	-	-	-	-	-	-	-
Hexane	ug/Kg	-	-	-	-	-	-	-	-	-
Iodomethane	ug/Kg	-	-	-	-	-	-	-	-	-
Isobutyl alcohol	ug/Kg	-	-	-	-	-	-	-	-	-
Methyl acrylonitrile	ug/Kg	-	-	-	-	-	-	-	-	-
Methyl methacrylate	ug/Kg	-	-	-	-	-	-	-	-	-
Methyl Tert Butyl Ether	ug/Kg	-	-	-	-	-	-	-	-	-
Methylene chloride	ug/Kg	ND (6)	ND (1400)	-	ND (800)	-	ND (750)	ND (6)	-	-
Naphthalene	ug/Kg	-	-	-	-	-	-	-	-	-
n-Propylbenzene	ug/Kg	-	-	-	-	-	-	-	-	-
Propionitrile (Ethyl cyanide)	ug/Kg	-	-	-	-	-	-	-	-	-
Styrene	ug/Kg	ND (6)	ND (1400)	-	ND (800)	-	ND (750)	ND (6)	-	-
Tetrachloroethene	ug/Kg	ND (6)	45000	-	ND (800)	-	310 J	ND (6)	-	-
Tetrahydrofuran	ug/Kg	-	-	-	-	-	-	-	-	-
Toluene	ug/Kg	ND (6)	ND (1400)	-	2400	-	ND (750)	ND (6)	-	-
trans-1,2-Dichloroethene	ug/Kg	ND (6)	ND (1400)	-	ND (800)	-	ND (750)	ND (6)	-	-
trans-1,3-Dichloropropene	ug/Kg	ND (6)	ND (1400)	-	ND (800)	-	ND (750)	ND (6)	-	-
trans-1,4-Dichloro-2-butene	ug/Kg	-	-	-	-	-	-	-	-	-
Trichloroethene	ug/Kg	18	30000	-	ND (800)	-	200 J	ND (6)	-	-
Trichlorofluoromethane (CFC-11)	ug/Kg	-	-	-	-	-	-	-	-	-
Trifluorotrichloroethane (Freon 113)	ug/Kg	-	-	-	-	-	-	-	-	-
Vinyl acetate	ug/Kg	ND (11)	ND (2900)	-	ND (1600)	-	ND (1500)	ND (11)	-	-
Vinyl chloride	ug/Kg	ND (11)	ND (2900)	-	ND (1600)	-	ND (1500)	ND (11)	-	-
Xylene (total)	ug/Kg	ND (6)	3700 J	-	28000	-	ND (750)	ND (6)	-	-
General Chemistry										
Flash Point Closed Cup	deg f	-	-	-	-	-	-	-	-	-
Percent Solids	%	-	-	-	-	-	80.7	95.6	73.5	-
pH Corrosivity	s.u.	-	-	-	-	-	-	-	-	-

TABLE G.5

HISTORICAL SOIL SAMPLE RESULTS
AOI 11 TO 14 - CHIP HANDLING AREAS AND NEARBY USTs
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*CA-GP-1*	*CA-GP-10*	*CA-GP-10*	*CA-GP-11*	*CA-GP-12*	*CA-GP-12*	*CA-GP-12*	*CA-GP-13*
Sample Name:		*CA-GP-1 G-4*	*CA-GP-10 G-1*	*CA-GP-10 G-4*	*CA-GP-11 G-1*	*CA-GP-12 G-1*	*CA-GP-12 G-3*	*CA-GP-12 G-4*	*CA-GP-13 G-1*
Sample Depth:		*(12-16)*	*(0-4)*	*(12-16)*	*(0-4)*	*(0-4)*	*(8-12)*	*(12-16)*	*(0-4)*
Sample Date:		*6/30/98*	*7/1/98*	*7/1/98*	*7/1/98*	*7/1/98*	*7/1/98*	*7/1/98*	*7/1/98*
Parameter	*Units*								
BTEX									
Benzene	ug/Kg	-	-	-	-	-	-	-	-
Ethylbenzene	ug/Kg	-	-	-	-	-	-	-	-
Toluene	ug/Kg	-	-	-	-	-	-	-	-
Xylene (total)	ug/Kg	-	-	-	-	-	-	-	-
Metals									
Arsenic	mg/Kg	-	-	-	-	-	-	-	-
Barium	mg/Kg	-	-	-	-	-	-	-	-
Cadmium	mg/Kg	-	-	-	-	-	-	-	-
Chromium	mg/Kg	-	-	-	-	-	-	-	-
Cyanide (total)	mg/Kg	-	-	-	-	-	-	-	-
Lead	mg/Kg	-	-	-	-	-	-	-	-
Mercury	mg/Kg	-	-	-	-	-	-	-	-
Selenium	mg/Kg	-	-	-	-	-	-	-	-
Silver	mg/Kg	-	-	-	-	-	-	-	-
Sulfide	mg/Kg	-	-	-	-	-	-	-	-
Miscellaneous									
Ignitability	deg f	-	-	-	-	-	-	-	-
Percent Moisture	%	-	-	-	-	-	-	-	-
pH (soil)	s.u.	-	-	-	-	-	-	-	-
pH Corrosivity	s.u.	-	-	-	-	-	-	-	-
Reactive Cyanide	mg/kg	-	-	-	-	-	-	-	-
Reactive Sulfide	mg/Kg	-	-	-	-	-	-	-	-
PCBs									
Aroclor-1016	mg/Kg	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	-	ND (0.01)	ND (0.01)
Aroclor-1221	mg/Kg	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	-	ND (0.02)	ND (0.02)
Aroclor-1232	mg/Kg	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	-	ND (0.01)	ND (0.01)
Aroclor-1242	mg/Kg	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	-	ND (0.01)	ND (0.01)
Aroclor-1248	mg/Kg	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	-	ND (0.01)	ND (0.01)
Aroclor-1254	mg/Kg	0.46	35	2.4	ND (0.01)	0.25	3.1	0.8	1.2
Aroclor-1260	mg/Kg	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	-	ND (0.01)	ND (0.01)
Petroleum Products									
Total Petroleum Hydrocarbons	mg/Kg	-	-	-	-	-	-	-	-
Total Petroleum Hydrocarbons - extractable (DRO)	mg/Kg	-	-	-	-	-	-	-	-
Total Petroleum Hydrocarbons, Field	mg/Kg	-	-	-	-	-	-	-	-
Total Recoverable Petroleum Hydrocarbons	mg/Kg	-	-	-	-	-	-	-	-
Semi-Volatiles									
1,2,4-Trichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-
1,2-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-
1,2-Diphenylhydrazine	ug/Kg	-	-	-	-	-	-	-	-
1,3-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-
1,4-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-
2,4,5-Trichlorophenol	ug/Kg	-	-	-	-	-	-	-	-
2,4,6-Trichlorophenol	ug/Kg	-	-	-	-	-	-	-	

HISTORICAL SOIL SAMPLE RESULTS
AOI 11 TO 14 - CHIP HANDLING AREAS AND NEARBY USTs
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*CA-GP-1*	*CA-GP-10*	*CA-GP-10*	*CA-GP-11*	*CA-GP-12*	*CA-GP-12*	*CA-GP-12*	*CA-GP-13*
Sample Name:		*CA-GP-1 G-4*	*CA-GP-10 G-1*	*CA-GP-10 G-4*	*CA-GP-11 G-1*	*CA-GP-12 G-1*	*CA-GP-12 G-3*	*CA-GP-12 G-4*	*CA-GP-13 G-1*
Sample Depth:		*(12-16)*	*(0-4)*	*(12-16)*	*(0-4)*	*(0-4)*	*(8-12)*	*(12-16)*	*(0-4)*
Sample Date:		*6/30/98*	*7/1/98*	*7/1/98*	*7/1/98*	*7/1/98*	*7/1/98*	*7/1/98*	*7/1/98*
Parameter	*Units*								
2,4-Dichlorophenol	ug/Kg	-	-	-	-	-	-	-	-
2,4-Dimethylphenol	ug/Kg	-	-	-	-	-	-	-	-
2,4-Dinitrophenol	ug/Kg	-	-	-	-	-	-	-	-
2,4-Dinitrotoluene	ug/Kg	-	-	-	-	-	-	-	-
2,6-Dinitrotoluene	ug/Kg	-	-	-	-	-	-	-	-
2-Chloronaphthalene	ug/Kg	-	-	-	-	-	-	-	-
2-Chlorophenol	ug/Kg	-	-	-	-	-	-	-	-
2-Methyl naphthalene	ug/Kg	-	-	-	-	-	-	-	-
2-Methylphenol	ug/Kg	-	-	-	-	-	-	-	-
2-Nitroaniline	ug/Kg	-	-	-	-	-	-	-	-
2-Nitrophenol	ug/Kg	-	-	-	-	-	-	-	-
3&4-Methylphenol	ug/Kg	-	-	-	-	-	-	-	-
3,3'-Dichlorobenzidine	ug/Kg	-	-	-	-	-	-	-	-
3-Nitroaniline	ug/Kg	-	-	-	-	-	-	-	-
4,6-Dinitro-2-methylphenol	ug/Kg	-	-	-	-	-	-	-	-
4-Bromophenyl phenyl ether	ug/Kg	-	-	-	-	-	-	-	-
4-Chloro-3-methylphenol	ug/Kg	-	-	-	-	-	-	-	-
4-Chloroaniline	ug/Kg	-	-	-	-	-	-	-	-
4-Chlorophenyl phenyl ether	ug/Kg	-	-	-	-	-	-	-	-
4-Nitroaniline	ug/Kg	-	-	-	-	-	-	-	-
4-Nitrophenol	ug/Kg	-	-	-	-	-	-	-	-
Acenaphthene	ug/Kg	-	-	-	-	-	-	-	-
Acenaphthylene	ug/Kg	-	-	-	-	-	-	-	-
Anthracene	ug/Kg	-	-	-	-	-	-	-	-
Benzo(a)anthracene	ug/Kg	-	-	-	-	-	-	-	-
Benzo(a)pyrene	ug/Kg	-	-	-	-	-	-	-	-
Benzo(b)fluoranthene	ug/Kg	-	-	-	-	-	-	-	-
Benzo(g,h,i)perylene	ug/Kg	-	-	-	-	-	-	-	-
Benzo(k)fluoranthene	ug/Kg	-	-	-	-	-	-	-	-
Benzoic acid	ug/Kg	-	-	-	-	-	-	-	-
Benzyl Alcohol	ug/Kg	-	-	-	-	-	-	-	-
bis(2-Chloroethoxy)methane	ug/Kg	-	-	-	-	-	-	-	-
bis(2-Chloroethyl)ether	ug/Kg	-	-	-	-	-	-	-	-
bis(2-Chloroisopropyl)ether	ug/Kg	-	-	-	-	-	-	-	-
bis(2-Ethylhexyl)phthalate	ug/Kg	-	-	-	-	-	-	-	-
Butyl benzylphthalate	ug/Kg	-	-	-	-	-	-	-	-
Chrysene	ug/Kg	-	-	-	-	-	-	-	-
Dibenz(a,h)anthracene	ug/Kg	-	-	-	-	-	-	-	-
Dibenzofuran	ug/Kg	-	-	-	-	-	-	-	-
Diethyl phthalate	ug/Kg	-	-	-	-	-	-	-	-
Dimethyl phthalate	ug/Kg	-	-	-	-	-	-	-	-
Di-n-butylphthalate	ug/Kg	-	-	-	-	-	-	-	-
Di-n-octyl phthalate	ug/Kg	-	-	-	-	-	-	-	-
Fluoranthene	ug/Kg	-	-	-	-	-	-	-	-
Fluorene	ug/Kg	-	-	-	-	-	-	-	-
Hexachlorobenzene	ug/Kg	-	-	-	-	-	-	-	-
Hexachlorobutadiene	ug/Kg	-	-	-	-	-	-	-	-
Hexachlorocyclopentadiene	ug/Kg	-	-	-	-	-	-	-	-
Hexachloroethane	ug/Kg	-	-	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	ug/Kg	-	-	-	-	-	-	-	-
Isophorone	ug/Kg	-	-	-	-	-	-	-	-
Naphthalene	ug/Kg	-	-	-	-	-	-	-	-
Nitrobenzene	ug/Kg	-	-	-	-	-	-	-	-
N-Nitrosodimethylamine	ug/Kg	-	-	-	-	-	-	-	-
N-Nitrosodi-n-propylamine	ug/Kg	-	-	-	-	-	-	-	-

TABLE G.5

HISTORICAL SOIL SAMPLE RESULTS
AOI 11 TO 14 - CHIP HANDLING AREAS AND NEARBY USTs
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*CA-GP-1*	*CA-GP-10*	*CA-GP-10*	*CA-GP-11*	*CA-GP-12*	*CA-GP-12*	*CA-GP-12*	*CA-GP-13*
Sample Name:		*CA-GP-1 G-4*	*CA-GP-10 G-1*	*CA-GP-10 G-4*	*CA-GP-11 G-1*	*CA-GP-12 G-1*	*CA-GP-12 G-3*	*CA-GP-12 G-4*	*CA-GP-13 G-1*
Sample Depth:		*(12-16)*	*(0-4)*	*(12-16)*	*(0-4)*	*(0-4)*	*(8-12)*	*(12-16)*	*(0-4)*
Sample Date:		*6/30/98*	*7/1/98*	*7/1/98*	*7/1/98*	*7/1/98*	*7/1/98*	*7/1/98*	*7/1/98*
Parameter	*Units*								
N-Nitrosodiphenylamine	ug/Kg	-	-	-	-	-	-	-	-
Pentachlorophenol	ug/Kg	-	-	-	-	-	-	-	-
Phenanthrene	ug/Kg	-	-	-	-	-	-	-	-
Phenol	ug/Kg	-	-	-	-	-	-	-	-
Pyrene	ug/Kg	-	-	-	-	-	-	-	-
Volatiles									
1,1,1,2-Tetrachloroethane	ug/Kg	-	-	-	-	-	-	-	-
1,1,1-Trichloroethane	ug/Kg	-	-	-	-	-	-	-	-
1,1,2,2-Tetrachloroethane	ug/Kg	-	-	-	-	-	-	-	-
1,1,2-Trichloroethane	ug/Kg	-	-	-	-	-	-	-	-
1,1-Dichloroethane	ug/Kg	-	-	-	-	-	-	-	-
1,1-Dichloroethene	ug/Kg	-	-	-	-	-	-	-	-
1,1-Dichloropropene	ug/Kg	-	-	-	-	-	-	-	-
1,2,3-Trichloropropane	ug/Kg	-	-	-	-	-	-	-	-
1,2,4-Trichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-
1,2,4-Trimethylbenzene	ug/Kg	-	-	-	-	-	-	-	-
1,2-Dibromo-3-chloropropane (DBCP)	ug/Kg	-	-	-	-	-	-	-	-
1,2-Dibromoethane (EDB)	ug/Kg	-	-	-	-	-	-	-	-
1,2-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-
1,2-Dichloroethane	ug/Kg	-	-	-	-	-	-	-	-
1,2-Dichloroethene (total)	ug/Kg	-	-	-	-	-	-	-	-
1,2-Dichloropropane	ug/Kg	-	-	-	-	-	-	-	-
1,3,5-Trimethylbenzene	ug/Kg	-	-	-	-	-	-	-	-
1,3-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-
1,3-Dichloropropane	ug/Kg	-	-	-	-	-	-	-	-
1,4-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-
1,4-Dioxane	ug/Kg	-	-	-	-	-	-	-	-
2,2-Dichloropropane	ug/Kg	-	-	-	-	-	-	-	-
2-Butanone	ug/Kg	-	-	-	-	-	-	-	-
2-Chloroethyl vinyl ether	ug/Kg	-	-	-	-	-	-	-	-
2-Chlorotoluene	ug/Kg	-	-	-	-	-	-	-	-
2-Hexanone	ug/Kg	-	-	-	-	-	-	-	-
2-Phenylbutane	ug/Kg	-	-	-	-	-	-	-	-
4-Chlorotoluene	ug/Kg	-	-	-	-	-	-	-	-
4-Methyl-2-pentanone	ug/Kg	-	-	-	-	-	-	-	-
Acetone	ug/Kg	-	-	-	-	-	-	-	-
Acrolein	ug/Kg	-	-	-	-	-	-	-	-
Acrylonitrile	ug/Kg	-	-	-	-	-	-	-	-
Allyl chloride	ug/Kg	-	-	-	-	-	-	-	-
Benzene	ug/Kg	-	-	-	-	-	-	-	-
Benzene, butyl	ug/Kg	-	-	-	-	-	-	-	-
Benzene, isopropyl	ug/Kg	-	-	-	-	-	-	-	-
Benzene, tert-butyl	ug/Kg	-	-	-	-	-	-	-	-
Bromobenzene	ug/Kg	-	-	-	-	-	-	-	-
Bromodichloromethane	ug/Kg	-	-	-	-	-	-	-	-
Bromoform	ug/Kg	-	-	-	-	-	-	-	-
Bromomethane	ug/Kg	-	-	-	-	-	-	-	-
Carbon disulfide	ug/Kg	-	-	-	-	-	-	-	-
Carbon tetrachloride	ug/Kg	-	-	-	-	-	-	-	-
Chlorobenzene	ug/Kg	-	-	-	-	-	-	-	-
Chlorobromomethane	ug/Kg	-	-	-	-	-	-	-	-
Chloroethane	ug/Kg	-	-	-	-	-	-	-	-
Chloroform	ug/Kg	-	-	-	-	-	-	-	-

HISTORICAL SOIL SAMPLE RESULTS
AOI 11 TO 14 - CHIP HANDLING AREAS AND NEARBY USTs
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*CA-GP-1*	*CA-GP-10*	*CA-GP-10*	*CA-GP-11*	*CA-GP-12*	*CA-GP-12*	*CA-GP-12*	*CA-GP-13*
Sample Name:		*CA-GP-1 G-4*	*CA-GP-10 G-1*	*CA-GP-10 G-4*	*CA-GP-11 G-1*	*CA-GP-12 G-1*	*CA-GP-12 G-3*	*CA-GP-12 G-4*	*CA-GP-13 G-1*
Sample Depth:		*(12-16)*	*(0-4)*	*(12-16)*	*(0-4)*	*(0-4)*	*(8-12)*	*(12-16)*	*(0-4)*
Sample Date:		*6/30/98*	*7/1/98*	*7/1/98*	*7/1/98*	*7/1/98*	*7/1/98*	*7/1/98*	*7/1/98*
Parameter	*Units*								
Chloromethane	ug/Kg	-	-	-	-	-	-	-	-
Chloroprene	ug/Kg	-	-	-	-	-	-	-	-
cis-1,2-Dichloroethene	ug/Kg	-	-	-	-	-	-	-	-
cis-1,3-Dichloropropene	ug/Kg	-	-	-	-	-	-	-	-
cis-1,4-Dichloro-2-butene	ug/Kg	-	-	-	-	-	-	-	-
Cymene	ug/Kg	-	-	-	-	-	-	-	-
Dibromochloromethane	ug/Kg	-	-	-	-	-	-	-	-
Dibromomethane	ug/Kg	-	-	-	-	-	-	-	-
Dichlorodifluoromethane (CFC-12)	ug/Kg	-	-	-	-	-	-	-	-
Ethyl methacrylate	ug/Kg	-	-	-	-	-	-	-	-
Ethylbenzene	ug/Kg	-	-	-	-	-	-	-	-
Hexachlorobutadiene	ug/Kg	-	-	-	-	-	-	-	-
Hexane	ug/Kg	-	-	-	-	-	-	-	-
Iodomethane	ug/Kg	-	-	-	-	-	-	-	-
Isobutyl alcohol	ug/Kg	-	-	-	-	-	-	-	-
Methyl acrylonitrile	ug/Kg	-	-	-	-	-	-	-	-
Methyl methacrylate	ug/Kg	-	-	-	-	-	-	-	-
Methyl Tert Butyl Ether	ug/Kg	-	-	-	-	-	-	-	-
Methylene chloride	ug/Kg	-	-	-	-	-	-	-	-
Naphthalene	ug/Kg	-	-	-	-	-	-	-	-
n-Propylbenzene	ug/Kg	-	-	-	-	-	-	-	-
Propionitrile (Ethyl cyanide)	ug/Kg	-	-	-	-	-	-	-	-
Styrene	ug/Kg	-	-	-	-	-	-	-	-
Tetrachloroethene	ug/Kg	-	-	-	-	-	-	-	-
Tetrahydrofuran	ug/Kg	-	-	-	-	-	-	-	-
Toluene	ug/Kg	-	-	-	-	-	-	-	-
trans-1,2-Dichloroethene	ug/Kg	-	-	-	-	-	-	-	-
trans-1,3-Dichloropropene	ug/Kg	-	-	-	-	-	-	-	-
trans-1,4-Dichloro-2-butene	ug/Kg	-	-	-	-	-	-	-	-
Trichloroethene	ug/Kg	-	-	-	-	-	-	-	-
Trichlorofluoromethane (CFC-11)	ug/Kg	-	-	-	-	-	-	-	-
Trifluorotrichloroethane (Freon 113)	ug/Kg	-	-	-	-	-	-	-	-
Vinyl acetate	ug/Kg	-	-	-	-	-	-	-	-
Vinyl chloride	ug/Kg	-	-	-	-	-	-	-	-
Xylene (total)	ug/Kg	-	-	-	-	-	-	-	-
General Chemistry									
Flash Point Closed Cup	deg f	-	-	-	-	-	-	-	-
Percent Solids	%	-	-	-	-	-	-	-	-
pH Corrosivity	s.u.	-	-	-	-	-	-	-	-

TABLE G.5

HISTORICAL SOIL SAMPLE RESULTS
AOI 11 TO 14 - CHIP HANDLING AREAS AND NEARBY USTs
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*CA-GP-13*	*CA-GP-13*	*CA-GP-2*	*CA-GP-2*	*CA-GP-3*	*CA-GP-3*	*CA-GP-3*	*CA-GP-4*	*CA-GP-4*
Sample Name:		*CA-GP-13 G-2*	*CA-GP-13 G-3*	*CA-GP-2 G-1*	*CA-GP-2 G-2*	*CA-GP-3 G-1*	*CA-GP-3 G-3*	*CA-GP-3 G-4*	*CA-GP-4 G-1*	*CA-GP-4 G-3*
Sample Depth:		*(4-8)*	*(8-12)*	*(0-4)*	*(4-8)*	*(0-4)*	*(8-12)*	*(12-16)*	*(0-4)*	*(8-12)*
Sample Date:		*7/1/98*	*7/1/98*	*6/30/98*	*6/30/98*	*7/1/98*	*7/1/98*	*7/1/98*	*6/30/98*	*6/30/98*
Parameter	*Units*									
BTEX										
Benzene	ug/Kg	-	-	-	-	-	-	-	-	-
Ethylbenzene	ug/Kg	-	-	-	-	-	-	-	-	-
Toluene	ug/Kg	-	-	-	-	-	-	-	-	-
Xylene (total)	ug/Kg	-	-	-	-	-	-	-	-	-
Metals										
Arsenic	mg/Kg	-	-	-	-	-	-	-	-	-
Barium	mg/Kg	-	-	-	-	-	-	-	-	-
Cadmium	mg/Kg	-	-	-	-	-	-	-	-	-
Chromium	mg/Kg	-	-	-	-	-	-	-	-	-
Cyanide (total)	mg/Kg	-	-	-	-	-	-	-	-	-
Lead	mg/Kg	-	-	-	-	-	-	-	-	-
Mercury	mg/Kg	-	-	-	-	-	-	-	-	-
Selenium	mg/Kg	-	-	-	-	-	-	-	-	-
Silver	mg/Kg	-	-	-	-	-	-	-	-	-
Sulfide	mg/Kg	-	-	-	-	-	-	-	-	-
Miscellaneous										
Ignitability	deg f	-	-	-	-	-	-	-	-	-
Percent Moisture	%	-	-	-	-	-	-	-	-	-
pH (soil)	s.u.	-	-	-	-	-	-	-	-	-
pH Corrosivity	s.u.	-	-	-	-	-	-	-	-	-
Reactive Cyanide	mg/kg	-	-	-	-	-	-	-	-	-
Reactive Sulfide	mg/Kg	-	-	-	-	-	-	-	-	-
PCBs										
Aroclor-1016	mg/Kg	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Aroclor-1221	mg/Kg	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)
Aroclor-1232	mg/Kg	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Aroclor-1242	mg/Kg	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Aroclor-1248	mg/Kg	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Aroclor-1254	mg/Kg	ND (0.01)	3.1	0.056	ND (0.01)	ND (0.01)	0.51	1.3	2.8	0.31
Aroclor-1260	mg/Kg	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Petroleum Products										
Total Petroleum Hydrocarbons	mg/Kg	-	-	-	-	-	-	-	-	-
Total Petroleum Hydrocarbons - extractable (DRO)	mg/Kg	-	-	-	-	-	-	-	-	-
Total Petroleum Hydrocarbons, Field	mg/Kg	-	-	-	-	-	-	-	-	-
Total Recoverable Petroleum Hydrocarbons	mg/Kg	-	-	-	-	-	-	-	-	-
Semi-Volatiles										
1,2,4-Trichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-	-
1,2-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-	-
1,2-Diphenylhydrazine	ug/Kg	-	-	-	-	-	-	-	-	-
1,3-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-	-
1,4-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-	-
2,4,5-Trichlorophenol	ug/Kg	-	-	-	-	-	-	-	-	-
2,4,6-Trichlorophenol	ug/Kg	-	-	-	-	-	-	-	-	-

HISTORICAL SOIL SAMPLE RESULTS
AOI 11 TO 14 - CHIP HANDLING AREAS AND NEARBY USTs
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*CA-GP-13*	*CA-GP-13*	*CA-GP-2*	*CA-GP-2*	*CA-GP-3*	*CA-GP-3*	*CA-GP-3*	*CA-GP-4*	*CA-GP-4*
Sample Name:		*CA-GP-13 G-2*	*CA-GP-13 G-3*	*CA-GP-2 G-1*	*CA-GP-2 G-2*	*CA-GP-3 G-1*	*CA-GP-3 G-3*	*CA-GP-3 G-4*	*CA-GP-4 G-1*	*CA-GP-4 G-3*
Sample Depth:		*(4-8)*	*(8-12)*	*(0-4)*	*(4-8)*	*(0-4)*	*(8-12)*	*(12-16)*	*(0-4)*	*(8-12)*
Sample Date:		*7/1/98*	*7/1/98*	*6/30/98*	*6/30/98*	*7/1/98*	*7/1/98*	*7/1/98*	*6/30/98*	*6/30/98*
Parameter	*Units*									
2,4-Dichlorophenol	ug/Kg	-	-	-	-	-	-	-	-	-
2,4-Dimethylphenol	ug/Kg	-	-	-	-	-	-	-	-	-
2,4-Dinitrophenol	ug/Kg	-	-	-	-	-	-	-	-	-
2,4-Dinitrotoluene	ug/Kg	-	-	-	-	-	-	-	-	-
2,6-Dinitrotoluene	ug/Kg	-	-	-	-	-	-	-	-	-
2-Chloronaphthalene	ug/Kg	-	-	-	-	-	-	-	-	-
2-Chlorophenol	ug/Kg	-	-	-	-	-	-	-	-	-
2-Methyl naphthalene	ug/Kg	-	-	-	-	-	-	-	-	-
2-Methylphenol	ug/Kg	-	-	-	-	-	-	-	-	-
2-Nitroaniline	ug/Kg	-	-	-	-	-	-	-	-	-
2-Nitrophenol	ug/Kg	-	-	-	-	-	-	-	-	-
3&4-Methylphenol	ug/Kg	-	-	-	-	-	-	-	-	-
3,3'-Dichlorobenzidine	ug/Kg	-	-	-	-	-	-	-	-	-
3-Nitroaniline	ug/Kg	-	-	-	-	-	-	-	-	-
4,6-Dinitro-2-methylphenol	ug/Kg	-	-	-	-	-	-	-	-	-
4-Bromophenyl phenyl ether	ug/Kg	-	-	-	-	-	-	-	-	-
4-Chloro-3-methylphenol	ug/Kg	-	-	-	-	-	-	-	-	-
4-Chloroaniline	ug/Kg	-	-	-	-	-	-	-	-	-
4-Chlorophenyl phenyl ether	ug/Kg	-	-	-	-	-	-	-	-	-
4-Nitroaniline	ug/Kg	-	-	-	-	-	-	-	-	-
4-Nitrophenol	ug/Kg	-	-	-	-	-	-	-	-	-
Acenaphthene	ug/Kg	-	-	-	-	-	-	-	-	-
Acenaphthylene	ug/Kg	-	-	-	-	-	-	-	-	-
Anthracene	ug/Kg	-	-	-	-	-	-	-	-	-
Benzo(a)anthracene	ug/Kg	-	-	-	-	-	-	-	-	-
Benzo(a)pyrene	ug/Kg	-	-	-	-	-	-	-	-	-
Benzo(b)fluoranthene	ug/Kg	-	-	-	-	-	-	-	-	-
Benzo(g,h,i)perylene	ug/Kg	-	-	-	-	-	-	-	-	-
Benzo(k)fluoranthene	ug/Kg	-	-	-	-	-	-	-	-	-
Benzoic acid	ug/Kg	-	-	-	-	-	-	-	-	-
Benzyl Alcohol	ug/Kg	-	-	-	-	-	-	-	-	-
bis(2-Chloroethoxy)methane	ug/Kg	-	-	-	-	-	-	-	-	-
bis(2-Chloroethyl)ether	ug/Kg	-	-	-	-	-	-	-	-	-
bis(2-Chloroisopropyl)ether	ug/Kg	-	-	-	-	-	-	-	-	-
bis(2-Ethylhexyl)phthalate	ug/Kg	-	-	-	-	-	-	-	-	-
Butyl benzylphthalate	ug/Kg	-	-	-	-	-	-	-	-	-
Chrysene	ug/Kg	-	-	-	-	-	-	-	-	-
Dibenz(a,h)anthracene	ug/Kg	-	-	-	-	-	-	-	-	-
Dibenzofuran	ug/Kg	-	-	-	-	-	-	-	-	-
Diethyl phthalate	ug/Kg	-	-	-	-	-	-	-	-	-
Dimethyl phthalate	ug/Kg	-	-	-	-	-	-	-	-	-
Di-n-butylphthalate	ug/Kg	-	-	-	-	-	-	-	-	-
Di-n-octyl phthalate	ug/Kg	-	-	-	-	-	-	-	-	-
Fluoranthene	ug/Kg	-	-	-	-	-	-	-	-	-
Fluorene	ug/Kg	-	-	-	-	-	-	-	-	-
Hexachlorobenzene	ug/Kg	-	-	-	-	-	-	-	-	-
Hexachlorobutadiene	ug/Kg	-	-	-	-	-	-	-	-	-
Hexachlorocyclopentadiene	ug/Kg	-	-	-	-	-	-	-	-	-
Hexachloroethane	ug/Kg	-	-	-	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	ug/Kg	-	-	-	-	-	-	-	-	-
Isophorone	ug/Kg	-	-	-	-	-	-	-	-	-
Naphthalene	ug/Kg	-	-	-	-	-	-	-	-	-
Nitrobenzene	ug/Kg	-	-	-	-	-	-	-	-	-
N-Nitrosodimethylamine	ug/Kg	-	-	-	-	-	-	-	-	-
N-Nitrosodi-n-propylamine	ug/Kg	-	-	-	-	-	-	-	-	-

HISTORICAL SOIL SAMPLE RESULTS
AOI 11 TO 14 - CHIP HANDLING AREAS AND NEARBY USTs
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*CA-GP-13*	*CA-GP-13*	*CA-GP-2*	*CA-GP-2*	*CA-GP-3*	*CA-GP-3*	*CA-GP-3*	*CA-GP-4*	*CA-GP-4*
Sample Name:		*CA-GP-13 G-2*	*CA-GP-13 G-3*	*CA-GP-2 G-1*	*CA-GP-2 G-2*	*CA-GP-3 G-1*	*CA-GP-3 G-3*	*CA-GP-3 G-4*	*CA-GP-4 G-1*	*CA-GP-4 G-3*
Sample Depth:		*(4-8)*	*(8-12)*	*(0-4)*	*(4-8)*	*(0-4)*	*(8-12)*	*(12-16)*	*(0-4)*	*(8-12)*
Sample Date:		*7/1/98*	*7/1/98*	*6/30/98*	*6/30/98*	*7/1/98*	*7/1/98*	*7/1/98*	*6/30/98*	*6/30/98*
Parameter	*Units*									
N-Nitrosodiphenylamine	ug/Kg	-	-	-	-	-	-	-	-	-
Pentachlorophenol	ug/Kg	-	-	-	-	-	-	-	-	-
Phenanthrene	ug/Kg	-	-	-	-	-	-	-	-	-
Phenol	ug/Kg	-	-	-	-	-	-	-	-	-
Pyrene	ug/Kg	-	-	-	-	-	-	-	-	-
Volatiles										
1,1,1,2-Tetrachloroethane	ug/Kg	-	-	-	-	-	-	-	-	-
1,1,1-Trichloroethane	ug/Kg	-	-	-	-	-	-	-	-	-
1,1,2,2-Tetrachloroethane	ug/Kg	-	-	-	-	-	-	-	-	-
1,1,2-Trichloroethane	ug/Kg	-	-	-	-	-	-	-	-	-
1,1-Dichloroethane	ug/Kg	-	-	-	-	-	-	-	-	-
1,1-Dichloroethene	ug/Kg	-	-	-	-	-	-	-	-	-
1,1-Dichloropropene	ug/Kg	-	-	-	-	-	-	-	-	-
1,2,3-Trichloropropane	ug/Kg	-	-	-	-	-	-	-	-	-
1,2,4-Trichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-	-
1,2,4-Trimethylbenzene	ug/Kg	-	-	-	-	-	-	-	-	-
1,2-Dibromo-3-chloropropane (DBCP)	ug/Kg	-	-	-	-	-	-	-	-	-
1,2-Dibromoethane (EDB)	ug/Kg	-	-	-	-	-	-	-	-	-
1,2-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-	-
1,2-Dichloroethane	ug/Kg	-	-	-	-	-	-	-	-	-
1,2-Dichloroethene (total)	ug/Kg	-	-	-	-	-	-	-	-	-
1,2-Dichloropropane	ug/Kg	-	-	-	-	-	-	-	-	-
1,3,5-Trimethylbenzene	ug/Kg	-	-	-	-	-	-	-	-	-
1,3-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-	-
1,3-Dichloropropane	ug/Kg	-	-	-	-	-	-	-	-	-
1,4-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-	-
1,4-Dioxane	ug/Kg	-	-	-	-	-	-	-	-	-
2,2-Dichloropropane	ug/Kg	-	-	-	-	-	-	-	-	-
2-Butanone	ug/Kg	-	-	-	-	-	-	-	-	-
2-Chloroethyl vinyl ether	ug/Kg	-	-	-	-	-	-	-	-	-
2-Chlorotoluene	ug/Kg	-	-	-	-	-	-	-	-	-
2-Hexanone	ug/Kg	-	-	-	-	-	-	-	-	-
2-Phenylbutane	ug/Kg	-	-	-	-	-	-	-	-	-
4-Chlorotoluene	ug/Kg	-	-	-	-	-	-	-	-	-
4-Methyl-2-pentanone	ug/Kg	-	-	-	-	-	-	-	-	-
Acetone	ug/Kg	-	-	-	-	-	-	-	-	-
Acrolein	ug/Kg	-	-	-	-	-	-	-	-	-
Acrylonitrile	ug/Kg	-	-	-	-	-	-	-	-	-
Allyl chloride	ug/Kg	-	-	-	-	-	-	-	-	-
Benzene	ug/Kg	-	-	-	-	-	-	-	-	-
Benzene, butyl	ug/Kg	-	-	-	-	-	-	-	-	-
Benzene, isopropyl	ug/Kg	-	-	-	-	-	-	-	-	-
Benzene, tert-butyl	ug/Kg	-	-	-	-	-	-	-	-	-
Bromobenzene	ug/Kg	-	-	-	-	-	-	-	-	-
Bromodichloromethane	ug/Kg	-	-	-	-	-	-	-	-	-
Bromoform	ug/Kg	-	-	-	-	-	-	-	-	-
Bromomethane	ug/Kg	-	-	-	-	-	-	-	-	-
Carbon disulfide	ug/Kg	-	-	-	-	-	-	-	-	-
Carbon tetrachloride	ug/Kg	-	-	-	-	-	-	-	-	-
Chlorobenzene	ug/Kg	-	-	-	-	-	-	-	-	-
Chlorobromomethane	ug/Kg	-	-	-	-	-	-	-	-	-
Chloroethane	ug/Kg	-	-	-	-	-	-	-	-	-
Chloroform	ug/Kg	-	-	-	-	-	-	-	-	-

HISTORICAL SOIL SAMPLE RESULTS
AOI 11 TO 14 - CHIP HANDLING AREAS AND NEARBY USTs
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*CA-GP-13*	*CA-GP-13*	*CA-GP-2*	*CA-GP-2*	*CA-GP-3*	*CA-GP-3*	*CA-GP-3*	*CA-GP-4*	*CA-GP-4*
Sample Name:		*CA-GP-13 G-2*	*CA-GP-13 G-3*	*CA-GP-2 G-1*	*CA-GP-2 G-2*	*CA-GP-3 G-1*	*CA-GP-3 G-3*	*CA-GP-3 G-4*	*CA-GP-4 G-1*	*CA-GP-4 G-3*
Sample Depth:		*(4-8)*	*(8-12)*	*(0-4)*	*(4-8)*	*(0-4)*	*(8-12)*	*(12-16)*	*(0-4)*	*(8-12)*
Sample Date:		*7/1/98*	*7/1/98*	*6/30/98*	*6/30/98*	*7/1/98*	*7/1/98*	*7/1/98*	*6/30/98*	*6/30/98*
Parameter	*Units*									
Chloromethane	ug/Kg	-	-	-	-	-	-	-	-	-
Chloroprene	ug/Kg	-	-	-	-	-	-	-	-	-
cis-1,2-Dichloroethene	ug/Kg	-	-	-	-	-	-	-	-	-
cis-1,3-Dichloropropene	ug/Kg	-	-	-	-	-	-	-	-	-
cis-1,4-Dichloro-2-butene	ug/Kg	-	-	-	-	-	-	-	-	-
Cymene	ug/Kg	-	-	-	-	-	-	-	-	-
Dibromochloromethane	ug/Kg	-	-	-	-	-	-	-	-	-
Dibromomethane	ug/Kg	-	-	-	-	-	-	-	-	-
Dichlorodifluoromethane (CFC-12)	ug/Kg	-	-	-	-	-	-	-	-	-
Ethyl methacrylate	ug/Kg	-	-	-	-	-	-	-	-	-
Ethylbenzene	ug/Kg	-	-	-	-	-	-	-	-	-
Hexachlorobutadiene	ug/Kg	-	-	-	-	-	-	-	-	-
Hexane	ug/Kg	-	-	-	-	-	-	-	-	-
Iodomethane	ug/Kg	-	-	-	-	-	-	-	-	-
Isobutyl alcohol	ug/Kg	-	-	-	-	-	-	-	-	-
Methyl acrylonitrile	ug/Kg	-	-	-	-	-	-	-	-	-
Methyl methacrylate	ug/Kg	-	-	-	-	-	-	-	-	-
Methyl Tert Butyl Ether	ug/Kg	-	-	-	-	-	-	-	-	-
Methylene chloride	ug/Kg	-	-	-	-	-	-	-	-	-
Naphthalene	ug/Kg	-	-	-	-	-	-	-	-	-
n-Propylbenzene	ug/Kg	-	-	-	-	-	-	-	-	-
Propionitrile (Ethyl cyanide)	ug/Kg	-	-	-	-	-	-	-	-	-
Styrene	ug/Kg	-	-	-	-	-	-	-	-	-
Tetrachloroethene	ug/Kg	-	-	-	-	-	-	-	-	-
Tetrahydrofuran	ug/Kg	-	-	-	-	-	-	-	-	-
Toluene	ug/Kg	-	-	-	-	-	-	-	-	-
trans-1,2-Dichloroethene	ug/Kg	-	-	-	-	-	-	-	-	-
trans-1,3-Dichloropropene	ug/Kg	-	-	-	-	-	-	-	-	-
trans-1,4-Dichloro-2-butene	ug/Kg	-	-	-	-	-	-	-	-	-
Trichloroethene	ug/Kg	-	-	-	-	-	-	-	-	-
Trichlorofluoromethane (CFC-11)	ug/Kg	-	-	-	-	-	-	-	-	-
Trifluorotrichloroethane (Freon 113)	ug/Kg	-	-	-	-	-	-	-	-	-
Vinyl acetate	ug/Kg	-	-	-	-	-	-	-	-	-
Vinyl chloride	ug/Kg	-	-	-	-	-	-	-	-	-
Xylene (total)	ug/Kg	-	-	-	-	-	-	-	-	-
General Chemistry										
Flash Point Closed Cup	deg f	-	-	-	-	-	-	-	-	-
Percent Solids	%	-	-	-	-	-	-	-	-	-
pH Corrosivity	s.u.	-	-	-	-	-	-	-	-	-

TABLE G.5

HISTORICAL SOIL SAMPLE RESULTS
AOI 11 TO 14 - CHIP HANDLING AREAS AND NEARBY USTs
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*CA-GP-5*	*CA-GP-5*	*CA-GP-6*	*CA-GP-6*	*CA-GP-7*	*CA-GP-7*	*CA-GP-8*	*CA-GP-8*	*CA-GP-9*
Sample Name:		*CA-GP-5 G-1*	*CA-GP-5 G-4*	*CA-GP-6 G-1*	*CA-GP-6 G-3*	*CA-GP-7 G-1*	*CA-GP-7 G-3*	*CA-GP-8 G-1*	*CA-GP-8 G-4*	*CA-GP-9 G-1*
Sample Depth:		*(0-4)*	*(12-16)*	*(0-4)*	*(8-12)*	*(0-4)*	*(8-12)*	*(0-4)*	*(12-16)*	*(0-4)*
Sample Date:		*6/30/98*	*6/30/98*	*6/30/98*	*6/30/98*	*7/1/98*	*7/1/98*	*7/1/98*	*7/1/98*	*7/1/98*
Parameter	*Units*									
BTEX										
Benzene	ug/Kg	-	-	-	-	-	-	-	-	-
Ethylbenzene	ug/Kg	-	-	-	-	-	-	-	-	-
Toluene	ug/Kg	-	-	-	-	-	-	-	-	-
Xylene (total)	ug/Kg	-	-	-	-	-	-	-	-	-
Metals										
Arsenic	mg/Kg	-	-	-	-	-	-	-	-	-
Barium	mg/Kg	-	-	-	-	-	-	-	-	-
Cadmium	mg/Kg	-	-	-	-	-	-	-	-	-
Chromium	mg/Kg	-	-	-	-	-	-	-	-	-
Cyanide (total)	mg/Kg	-	-	-	-	-	-	-	-	-
Lead	mg/Kg	-	-	-	-	-	-	-	-	-
Mercury	mg/Kg	-	-	-	-	-	-	-	-	-
Selenium	mg/Kg	-	-	-	-	-	-	-	-	-
Silver	mg/Kg	-	-	-	-	-	-	-	-	-
Sulfide	mg/Kg	-	-	-	-	-	-	-	-	-
Miscellaneous										
Ignitability	deg f	-	-	-	-	-	-	-	-	-
Percent Moisture	%	-	-	-	-	-	-	-	-	-
pH (soil)	s.u.	-	-	-	-	-	-	-	-	-
pH Corrosivity	s.u.	-	-	-	-	-	-	-	-	-
Reactive Cyanide	mg/kg	-	-	-	-	-	-	-	-	-
Reactive Sulfide	mg/Kg	-	-	-	-	-	-	-	-	-
PCBs										
Aroclor-1016	mg/Kg	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Aroclor-1221	mg/Kg	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)
Aroclor-1232	mg/Kg	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Aroclor-1242	mg/Kg	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Aroclor-1248	mg/Kg	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Aroclor-1254	mg/Kg	ND (0.01)	0.97	1.2	0.59	10	1.3	ND (0.01)	0.22	0.26
Aroclor-1260	mg/Kg	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Petroleum Products										
Total Petroleum Hydrocarbons	mg/Kg	-	-	-	-	-	-	-	-	-
Total Petroleum Hydrocarbons - extractable (DRO)	mg/Kg	-	-	-	-	-	-	-	-	-
Total Petroleum Hydrocarbons, Field	mg/Kg	-	-	-	-	-	-	-	-	-
Total Recoverable Petroleum Hydrocarbons	mg/Kg	-	-	-	-	-	-	-	-	-
Semi-Volatiles										
1,2,4-Trichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-	-
1,2-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-	-
1,2-Diphenylhydrazine	ug/Kg	-	-	-	-	-	-	-	-	-
1,3-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-	-
1,4-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-	-
2,4,5-Trichlorophenol	ug/Kg	-	-	-	-	-	-	-	-	-
2,4,6-Trichlorophenol	ug/Kg	-	-	-	-	-	-	-	-	-

HISTORICAL SOIL SAMPLE RESULTS
AOI 11 TO 14 - CHIP HANDLING AREAS AND NEARBY USTs
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*CA-GP-5*	*CA-GP-5*	*CA-GP-6*	*CA-GP-6*	*CA-GP-7*	*CA-GP-7*	*CA-GP-8*	*CA-GP-8*	*CA-GP-9*
Sample Name:		*CA-GP-5 G-1*	*CA-GP-5 G-4*	*CA-GP-6 G-1*	*CA-GP-6 G-3*	*CA-GP-7 G-1*	*CA-GP-7 G-3*	*CA-GP-8 G-1*	*CA-GP-8 G-4*	*CA-GP-9 G-1*
Sample Depth:		*(0-4)*	*(12-16)*	*(0-4)*	*(8-12)*	*(0-4)*	*(8-12)*	*(0-4)*	*(12-16)*	*(0-4)*
Sample Date:		*6/30/98*	*6/30/98*	*6/30/98*	*6/30/98*	*7/1/98*	*7/1/98*	*7/1/98*	*7/1/98*	*7/1/98*
Parameter	*Units*									
2,4-Dichlorophenol	ug/Kg	-	-	-	-	-	-	-	-	-
2,4-Dimethylphenol	ug/Kg	-	-	-	-	-	-	-	-	-
2,4-Dinitrophenol	ug/Kg	-	-	-	-	-	-	-	-	-
2,4-Dinitrotoluene	ug/Kg	-	-	-	-	-	-	-	-	-
2,6-Dinitrotoluene	ug/Kg	-	-	-	-	-	-	-	-	-
2-Chloronaphthalene	ug/Kg	-	-	-	-	-	-	-	-	-
2-Chlorophenol	ug/Kg	-	-	-	-	-	-	-	-	-
2-Methyl naphthalene	ug/Kg	-	-	-	-	-	-	-	-	-
2-Methylphenol	ug/Kg	-	-	-	-	-	-	-	-	-
2-Nitroaniline	ug/Kg	-	-	-	-	-	-	-	-	-
2-Nitrophenol	ug/Kg	-	-	-	-	-	-	-	-	-
3&4-Methylphenol	ug/Kg	-	-	-	-	-	-	-	-	-
3,3'-Dichlorobenzidine	ug/Kg	-	-	-	-	-	-	-	-	-
3-Nitroaniline	ug/Kg	-	-	-	-	-	-	-	-	-
4,6-Dinitro-2-methylphenol	ug/Kg	-	-	-	-	-	-	-	-	-
4-Bromophenyl phenyl ether	ug/Kg	-	-	-	-	-	-	-	-	-
4-Chloro-3-methylphenol	ug/Kg	-	-	-	-	-	-	-	-	-
4-Chloroaniline	ug/Kg	-	-	-	-	-	-	-	-	-
4-Chlorophenyl phenyl ether	ug/Kg	-	-	-	-	-	-	-	-	-
4-Nitroaniline	ug/Kg	-	-	-	-	-	-	-	-	-
4-Nitrophenol	ug/Kg	-	-	-	-	-	-	-	-	-
Acenaphthene	ug/Kg	-	-	-	-	-	-	-	-	-
Acenaphthylene	ug/Kg	-	-	-	-	-	-	-	-	-
Anthracene	ug/Kg	-	-	-	-	-	-	-	-	-
Benzo(a)anthracene	ug/Kg	-	-	-	-	-	-	-	-	-
Benzo(a)pyrene	ug/Kg	-	-	-	-	-	-	-	-	-
Benzo(b)fluoranthene	ug/Kg	-	-	-	-	-	-	-	-	-
Benzo(g,h,i)perylene	ug/Kg	-	-	-	-	-	-	-	-	-
Benzo(k)fluoranthene	ug/Kg	-	-	-	-	-	-	-	-	-
Benzoic acid	ug/Kg	-	-	-	-	-	-	-	-	-
Benzyl Alcohol	ug/Kg	-	-	-	-	-	-	-	-	-
bis(2-Chloroethoxy)methane	ug/Kg	-	-	-	-	-	-	-	-	-
bis(2-Chloroethyl)ether	ug/Kg	-	-	-	-	-	-	-	-	-
bis(2-Chloroisopropyl)ether	ug/Kg	-	-	-	-	-	-	-	-	-
bis(2-Ethylhexyl)phthalate	ug/Kg	-	-	-	-	-	-	-	-	-
Butyl benzylphthalate	ug/Kg	-	-	-	-	-	-	-	-	-
Chrysene	ug/Kg	-	-	-	-	-	-	-	-	-
Dibenz(a,h)anthracene	ug/Kg	-	-	-	-	-	-	-	-	-
Dibenzofuran	ug/Kg	-	-	-	-	-	-	-	-	-
Diethyl phthalate	ug/Kg	-	-	-	-	-	-	-	-	-
Dimethyl phthalate	ug/Kg	-	-	-	-	-	-	-	-	-
Di-n-butylphthalate	ug/Kg	-	-	-	-	-	-	-	-	-
Di-n-octyl phthalate	ug/Kg	-	-	-	-	-	-	-	-	-
Fluoranthene	ug/Kg	-	-	-	-	-	-	-	-	-
Fluorene	ug/Kg	-	-	-	-	-	-	-	-	-
Hexachlorobenzene	ug/Kg	-	-	-	-	-	-	-	-	-
Hexachlorobutadiene	ug/Kg	-	-	-	-	-	-	-	-	-
Hexachlorocyclopentadiene	ug/Kg	-	-	-	-	-	-	-	-	-
Hexachloroethane	ug/Kg	-	-	-	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	ug/Kg	-	-	-	-	-	-	-	-	-
Isophorone	ug/Kg	-	-	-	-	-	-	-	-	-
Naphthalene	ug/Kg	-	-	-	-	-	-	-	-	-
Nitrobenzene	ug/Kg	-	-	-	-	-	-	-	-	-
N-Nitrosodimethylamine	ug/Kg	-	-	-	-	-	-	-	-	-
N-Nitrosodi-n-propylamine	ug/Kg	-	-	-	-	-	-	-	-	-

TABLE G.5

HISTORICAL SOIL SAMPLE RESULTS
AOI 11 TO 14 - CHIP HANDLING AREAS AND NEARBY USTs
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*CA-GP-5*	*CA-GP-5*	*CA-GP-6*	*CA-GP-6*	*CA-GP-7*	***CA-GP-7***	*CA-GP-8*	***CA-GP-8***	*CA-GP-9*
Sample Name:		*CA-GP-5 G-1*	*CA-GP-5 G-4*	*CA-GP-6 G-1*	*CA-GP-6 G-3*	*CA-GP-7 G-1*	***CA-GP-7 G-3***	*CA-GP-8 G-1*	***CA-GP-8 G-4***	*CA-GP-9 G-1*
Sample Depth:		*(0-4)*	*(12-16)*	*(0-4)*	*(8-12)*	*(0-4)*	***(8-12)***	*(0-4)*	***(12-16)***	*(0-4)*
Sample Date:		*6/30/98*	*6/30/98*	*6/30/98*	*6/30/98*	*7/1/98*	***7/1/98***	*7/1/98*	***7/1/98***	*7/1/98*
Parameter	*Units*									
N-Nitrosodiphenylamine	ug/Kg	-	-	-	-	-	-	-	-	-
Pentachlorophenol	ug/Kg	-	-	-	-	-	-	-	-	-
Phenanthrene	ug/Kg	-	-	-	-	-	-	-	-	-
Phenol	ug/Kg	-	-	-	-	-	-	-	-	-
Pyrene	ug/Kg	-	-	-	-	-	-	-	-	-
Volatiles										
1,1,1,2-Tetrachloroethane	ug/Kg	-	-	-	-	-	-	-	-	-
1,1,1-Trichloroethane	ug/Kg	-	-	-	-	-	-	-	-	-
1,1,2,2-Tetrachloroethane	ug/Kg	-	-	-	-	-	-	-	-	-
1,1,2-Trichloroethane	ug/Kg	-	-	-	-	-	-	-	-	-
1,1-Dichloroethane	ug/Kg	-	-	-	-	-	-	-	-	-
1,1-Dichloroethene	ug/Kg	-	-	-	-	-	-	-	-	-
1,1-Dichloropropene	ug/Kg	-	-	-	-	-	-	-	-	-
1,2,3-Trichloropropane	ug/Kg	-	-	-	-	-	-	-	-	-
1,2,4-Trichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-	-
1,2,4-Trimethylbenzene	ug/Kg	-	-	-	-	-	-	-	-	-
1,2-Dibromo-3-chloropropane (DBCP)	ug/Kg	-	-	-	-	-	-	-	-	-
1,2-Dibromoethane (EDB)	ug/Kg	-	-	-	-	-	-	-	-	-
1,2-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-	-
1,2-Dichloroethane	ug/Kg	-	-	-	-	-	-	-	-	-
1,2-Dichloroethene (total)	ug/Kg	-	-	-	-	-	-	-	-	-
1,2-Dichloropropane	ug/Kg	-	-	-	-	-	-	-	-	-
1,3,5-Trimethylbenzene	ug/Kg	-	-	-	-	-	-	-	-	-
1,3-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-	-
1,3-Dichloropropane	ug/Kg	-	-	-	-	-	-	-	-	-
1,4-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-	-
1,4-Dioxane	ug/Kg	-	-	-	-	-	-	-	-	-
2,2-Dichloropropane	ug/Kg	-	-	-	-	-	-	-	-	-
2-Butanone	ug/Kg	-	-	-	-	-	-	-	-	-
2-Chloroethyl vinyl ether	ug/Kg	-	-	-	-	-	-	-	-	-
2-Chlorotoluene	ug/Kg	-	-	-	-	-	-	-	-	-
2-Hexanone	ug/Kg	-	-	-	-	-	-	-	-	-
2-Phenylbutane	ug/Kg	-	-	-	-	-	-	-	-	-
4-Chlorotoluene	ug/Kg	-	-	-	-	-	-	-	-	-
4-Methyl-2-pentanone	ug/Kg	-	-	-	-	-	-	-	-	-
Acetone	ug/Kg	-	-	-	-	-	-	-	-	-
Acrolein	ug/Kg	-	-	-	-	-	-	-	-	-
Acrylonitrile	ug/Kg	-	-	-	-	-	-	-	-	-
Allyl chloride	ug/Kg	-	-	-	-	-	-	-	-	-
Benzene	ug/Kg	-	-	-	-	-	-	-	-	-
Benzene, butyl	ug/Kg	-	-	-	-	-	-	-	-	-
Benzene, isopropyl	ug/Kg	-	-	-	-	-	-	-	-	-
Benzene, tert-butyl	ug/Kg	-	-	-	-	-	-	-	-	-
Bromobenzene	ug/Kg	-	-	-	-	-	-	-	-	-
Bromodichloromethane	ug/Kg	-	-	-	-	-	-	-	-	-
Bromoform	ug/Kg	-	-	-	-	-	-	-	-	-
Bromomethane	ug/Kg	-	-	-	-	-	-	-	-	-
Carbon disulfide	ug/Kg	-	-	-	-	-	-	-	-	-
Carbon tetrachloride	ug/Kg	-	-	-	-	-	-	-	-	-
Chlorobenzene	ug/Kg	-	-	-	-	-	-	-	-	-
Chlorobromomethane	ug/Kg	-	-	-	-	-	-	-	-	-
Chloroethane	ug/Kg	-	-	-	-	-	-	-	-	-
Chloroform	ug/Kg	-	-	-	-	-	-	-	-	-

HISTORICAL SOIL SAMPLE RESULTS
AOI 11 TO 14 - CHIP HANDLING AREAS AND NEARBY USTs
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*CA-GP-5*	*CA-GP-5*	*CA-GP-6*	*CA-GP-6*	*CA-GP-7*	*CA-GP-7*	*CA-GP-8*	*CA-GP-8*	*CA-GP-9*
Sample Name:		*CA-GP-5 G-1*	*CA-GP-5 G-4*	*CA-GP-6 G-1*	*CA-GP-6 G-3*	*CA-GP-7 G-1*	*CA-GP-7 G-3*	*CA-GP-8 G-1*	*CA-GP-8 G-4*	*CA-GP-9 G-1*
Sample Depth:		*(0-4)*	*(12-16)*	*(0-4)*	*(8-12)*	*(0-4)*	*(8-12)*	*(0-4)*	*(12-16)*	*(0-4)*
Sample Date:		*6/30/98*	*6/30/98*	*6/30/98*	*6/30/98*	*7/1/98*	*7/1/98*	*7/1/98*	*7/1/98*	*7/1/98*
Parameter	*Units*									
Chloromethane	ug/Kg	-	-	-	-	-	-	-	-	-
Chloroprene	ug/Kg	-	-	-	-	-	-	-	-	-
cis-1,2-Dichloroethene	ug/Kg	-	-	-	-	-	-	-	-	-
cis-1,3-Dichloropropene	ug/Kg	-	-	-	-	-	-	-	-	-
cis-1,4-Dichloro-2-butene	ug/Kg	-	-	-	-	-	-	-	-	-
Cymene	ug/Kg	-	-	-	-	-	-	-	-	-
Dibromochloromethane	ug/Kg	-	-	-	-	-	-	-	-	-
Dibromomethane	ug/Kg	-	-	-	-	-	-	-	-	-
Dichlorodifluoromethane (CFC-12)	ug/Kg	-	-	-	-	-	-	-	-	-
Ethyl methacrylate	ug/Kg	-	-	-	-	-	-	-	-	-
Ethylbenzene	ug/Kg	-	-	-	-	-	-	-	-	-
Hexachlorobutadiene	ug/Kg	-	-	-	-	-	-	-	-	-
Hexane	ug/Kg	-	-	-	-	-	-	-	-	-
Iodomethane	ug/Kg	-	-	-	-	-	-	-	-	-
Isobutyl alcohol	ug/Kg	-	-	-	-	-	-	-	-	-
Methyl acrylonitrile	ug/Kg	-	-	-	-	-	-	-	-	-
Methyl methacrylate	ug/Kg	-	-	-	-	-	-	-	-	-
Methyl Tert Butyl Ether	ug/Kg	-	-	-	-	-	-	-	-	-
Methylene chloride	ug/Kg	-	-	-	-	-	-	-	-	-
Naphthalene	ug/Kg	-	-	-	-	-	-	-	-	-
n-Propylbenzene	ug/Kg	-	-	-	-	-	-	-	-	-
Propionitrile (Ethyl cyanide)	ug/Kg	-	-	-	-	-	-	-	-	-
Styrene	ug/Kg	-	-	-	-	-	-	-	-	-
Tetrachloroethene	ug/Kg	-	-	-	-	-	-	-	-	-
Tetrahydrofuran	ug/Kg	-	-	-	-	-	-	-	-	-
Toluene	ug/Kg	-	-	-	-	-	-	-	-	-
trans-1,2-Dichloroethene	ug/Kg	-	-	-	-	-	-	-	-	-
trans-1,3-Dichloropropene	ug/Kg	-	-	-	-	-	-	-	-	-
trans-1,4-Dichloro-2-butene	ug/Kg	-	-	-	-	-	-	-	-	-
Trichloroethene	ug/Kg	-	-	-	-	-	-	-	-	-
Trichlorofluoromethane (CFC-11)	ug/Kg	-	-	-	-	-	-	-	-	-
Trifluorotrichloroethane (Freon 113)	ug/Kg	-	-	-	-	-	-	-	-	-
Vinyl acetate	ug/Kg	-	-	-	-	-	-	-	-	-
Vinyl chloride	ug/Kg	-	-	-	-	-	-	-	-	-
Xylene (total)	ug/Kg	-	-	-	-	-	-	-	-	-
General Chemistry										
Flash Point Closed Cup	deg f	-	-	-	-	-	-	-	-	-
Percent Solids	%	-	-	-	-	-	-	-	-	-
pH Corrosivity	s.u.	-	-	-	-	-	-	-	-	-

TABLE G.5

HISTORICAL SOIL SAMPLE RESULTS
AOI 11 TO 14 - CHIP HANDLING AREAS AND NEARBY USTs
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*CA-GP-9*	*ChipAreaComp*	*Dayton-T10E*	*Dayton-T10W*	*Dayton-T11E*	*Dayton-T11W*	*Dayton-T6A*	*Dayton-T6B*
Sample Name:		*CA-GP-9 G-4*	*G. Lot (2)*	*Dayton-T10E*	*Dayton-T10W*	*Dayton-T11E*	*Dayton-T11W*	*Dayton-T6A-13'bgs*	*Dayton-T6B-13'bgs*
Sample Depth:		*(12-16)*						*(13-)*	*(13-)*
Sample Date:		*7/1/98*	*1/6/00*	*12/2/89*	*12/2/89*	*12/2/89*	*12/2/89*	*11/30/89*	*11/30/89*
Parameter	*Units*								
BTEX									
Benzene	ug/Kg	-	-	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (10)
Ethylbenzene	ug/Kg	-	-	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (10)
Toluene	ug/Kg	-	-	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (10)
Xylene (total)	ug/Kg	-	-	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (10)
Metals									
Arsenic	mg/Kg	-	-	-	-	-	-	-	-
Barium	mg/Kg	-	-	-	-	-	-	-	-
Cadmium	mg/Kg	-	-	-	-	-	-	-	-
Chromium	mg/Kg	-	-	-	-	-	-	-	-
Cyanide (total)	mg/Kg	-	-	-	-	-	-	-	-
Lead	mg/Kg	-	-	-	-	-	-	-	-
Mercury	mg/Kg	-	-	-	-	-	-	-	-
Selenium	mg/Kg	-	-	-	-	-	-	-	-
Silver	mg/Kg	-	-	-	-	-	-	-	-
Sulfide	mg/Kg	-	-	-	-	-	-	-	-
Miscellaneous									
Ignitability	deg f	-	161.6	-	-	-	-	-	-
Percent Moisture	%	-	-	-	-	-	-	-	-
pH (soil)	s.u.	-	-	-	-	-	-	-	-
pH Corrosivity	s.u.	-	-	-	-	-	-	-	-
Reactive Cyanide	mg/kg	-	-	-	-	-	-	-	-
Reactive Sulfide	mg/Kg	-	-	-	-	-	-	-	-
PCBs									
Aroclor-1016	mg/Kg	ND (0.01)	-	-	-	-	-	-	-
Aroclor-1221	mg/Kg	ND (0.02)	-	-	-	-	-	-	-
Aroclor-1232	mg/Kg	ND (0.01)	-	-	-	-	-	-	-
Aroclor-1242	mg/Kg	ND (0.01)	-	-	-	-	-	-	-
Aroclor-1248	mg/Kg	ND (0.01)	-	-	-	-	-	-	-
Aroclor-1254	mg/Kg	1.2	-	-	-	-	-	-	-
Aroclor-1260	mg/Kg	ND (0.01)	-	-	-	-	-	-	-
Petroleum Products									
Total Petroleum Hydrocarbons	mg/Kg	-	-	-	-	-	-	-	-
Total Petroleum Hydrocarbons - extractable (DRO)	mg/Kg	-	-	-	-	-	-	-	-
Total Petroleum Hydrocarbons, Field	mg/Kg	-	-	-	-	-	-	-	-
Total Recoverable Petroleum Hydrocarbons	mg/Kg	-	-	3700	10000	670	11700	10000	130000
Semi-Volatiles									
1,2,4-Trichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-
1,2-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-
1,2-Diphenylhydrazine	ug/Kg	-	-	-	-	-	-	-	-
1,3-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-
1,4-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-
2,4,5-Trichlorophenol	ug/Kg	-	-	-	-	-	-	-	-
2,4,6-Trichlorophenol	ug/Kg	-	-	-	-	-	-	-	

HISTORICAL SOIL SAMPLE RESULTS
AOI 11 TO 14 - CHIP HANDLING AREAS AND NEARBY USTs
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*CA-GP-9*	*ChipAreaComp*	*Dayton-T10E*	*Dayton-T10W*	*Dayton-T11E*	*Dayton-T11W*	*Dayton-T6A*	*Dayton-T6B*
Sample Name:		*CA-GP-9 G-4*	*G. Lot (2)*	*Dayton-T10E*	*Dayton-T10W*	*Dayton-T11E*	*Dayton-T11W*	*Dayton-T6A-13'bgs*	*Dayton-T6B-13'bgs*
Sample Depth:		*(12-16)*						*(13-)*	*(13-)*
Sample Date:		*7/1/98*	*1/6/00*	*12/2/89*	*12/2/89*	*12/2/89*	*12/2/89*	*11/30/89*	*11/30/89*
Parameter	*Units*								
2,4-Dichlorophenol	ug/Kg	-	-	-	-	-	-	-	-
2,4-Dimethylphenol	ug/Kg	-	-	-	-	-	-	-	-
2,4-Dinitrophenol	ug/Kg	-	-	-	-	-	-	-	-
2,4-Dinitrotoluene	ug/Kg	-	-	-	-	-	-	-	-
2,6-Dinitrotoluene	ug/Kg	-	-	-	-	-	-	-	-
2-Chloronaphthalene	ug/Kg	-	-	-	-	-	-	-	-
2-Chlorophenol	ug/Kg	-	-	-	-	-	-	-	-
2-Methyl naphthalene	ug/Kg	-	-	-	-	-	-	-	-
2-Methylphenol	ug/Kg	-	-	-	-	-	-	-	-
2-Nitroaniline	ug/Kg	-	-	-	-	-	-	-	-
2-Nitrophenol	ug/Kg	-	-	-	-	-	-	-	-
3&4-Methylphenol	ug/Kg	-	-	-	-	-	-	-	-
3,3'-Dichlorobenzidine	ug/Kg	-	-	-	-	-	-	-	-
3-Nitroaniline	ug/Kg	-	-	-	-	-	-	-	-
4,6-Dinitro-2-methylphenol	ug/Kg	-	-	-	-	-	-	-	-
4-Bromophenyl phenyl ether	ug/Kg	-	-	-	-	-	-	-	-
4-Chloro-3-methylphenol	ug/Kg	-	-	-	-	-	-	-	-
4-Chloroaniline	ug/Kg	-	-	-	-	-	-	-	-
4-Chlorophenyl phenyl ether	ug/Kg	-	-	-	-	-	-	-	-
4-Nitroaniline	ug/Kg	-	-	-	-	-	-	-	-
4-Nitrophenol	ug/Kg	-	-	-	-	-	-	-	-
Acenaphthene	ug/Kg	-	-	-	-	-	-	-	-
Acenaphthylene	ug/Kg	-	-	-	-	-	-	-	-
Anthracene	ug/Kg	-	-	-	-	-	-	-	-
Benzo(a)anthracene	ug/Kg	-	-	-	-	-	-	-	-
Benzo(a)pyrene	ug/Kg	-	-	-	-	-	-	-	-
Benzo(b)fluoranthene	ug/Kg	-	-	-	-	-	-	-	-
Benzo(g,h,i)perylene	ug/Kg	-	-	-	-	-	-	-	-
Benzo(k)fluoranthene	ug/Kg	-	-	-	-	-	-	-	-
Benzoic acid	ug/Kg	-	-	-	-	-	-	-	-
Benzyl Alcohol	ug/Kg	-	-	-	-	-	-	-	-
bis(2-Chloroethoxy)methane	ug/Kg	-	-	-	-	-	-	-	-
bis(2-Chloroethyl)ether	ug/Kg	-	-	-	-	-	-	-	-
bis(2-Chloroisopropyl)ether	ug/Kg	-	-	-	-	-	-	-	-
bis(2-Ethylhexyl)phthalate	ug/Kg	-	-	-	-	-	-	-	-
Butyl benzylphthalate	ug/Kg	-	-	-	-	-	-	-	-
Chrysene	ug/Kg	-	-	-	-	-	-	-	-
Dibenz(a,h)anthracene	ug/Kg	-	-	-	-	-	-	-	-
Dibenzofuran	ug/Kg	-	-	-	-	-	-	-	-
Diethyl phthalate	ug/Kg	-	-	-	-	-	-	-	-
Dimethyl phthalate	ug/Kg	-	-	-	-	-	-	-	-
Di-n-butylphthalate	ug/Kg	-	-	-	-	-	-	-	-
Di-n-octyl phthalate	ug/Kg	-	-	-	-	-	-	-	-
Fluoranthene	ug/Kg	-	-	-	-	-	-	-	-
Fluorene	ug/Kg	-	-	-	-	-	-	-	-
Hexachlorobenzene	ug/Kg	-	-	-	-	-	-	-	-
Hexachlorobutadiene	ug/Kg	-	-	-	-	-	-	-	-
Hexachlorocyclopentadiene	ug/Kg	-	-	-	-	-	-	-	-
Hexachloroethane	ug/Kg	-	-	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	ug/Kg	-	-	-	-	-	-	-	-
Isophorone	ug/Kg	-	-	-	-	-	-	-	-
Naphthalene	ug/Kg	-	-	-	-	-	-	-	-
Nitrobenzene	ug/Kg	-	-	-	-	-	-	-	-
N-Nitrosodimethylamine	ug/Kg	-	-	-	-	-	-	-	-
N-Nitrosodi-n-propylamine	ug/Kg	-	-	-	-	-	-	-	-

HISTORICAL SOIL SAMPLE RESULTS
AOI 11 TO 14 - CHIP HANDLING AREAS AND NEARBY USTs
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*CA-GP-9*	*ChipAreaComp*	*Dayton-T10E*	*Dayton-T10W*	*Dayton-T11E*	*Dayton-T11W*	*Dayton-T6A*	*Dayton-T6B*
Sample Name:		*CA-GP-9 G-4*	*G. Lot (2)*	*Dayton-T10E*	*Dayton-T10W*	*Dayton-T11E*	*Dayton-T11W*	*Dayton-T6A-13'bgs*	*Dayton-T6B-13'bgs*
Sample Depth:		*(12-16)*						*(13-)*	*(13-)*
Sample Date:		*7/1/98*	*1/6/00*	*12/2/89*	*12/2/89*	*12/2/89*	*12/2/89*	*11/30/89*	*11/30/89*
Parameter	*Units*								
N-Nitrosodiphenylamine	ug/Kg	-	-	-	-	-	-	-	-
Pentachlorophenol	ug/Kg	-	-	-	-	-	-	-	-
Phenanthrene	ug/Kg	-	-	-	-	-	-	-	-
Phenol	ug/Kg	-	-	-	-	-	-	-	-
Pyrene	ug/Kg	-	-	-	-	-	-	-	-
Volatiles									
1,1,1,2-Tetrachloroethane	ug/Kg	-	-	-	-	-	-	-	-
1,1,1-Trichloroethane	ug/Kg	-	-	-	-	-	-	-	-
1,1,2,2-Tetrachloroethane	ug/Kg	-	-	-	-	-	-	-	-
1,1,2-Trichloroethane	ug/Kg	-	-	-	-	-	-	-	-
1,1-Dichloroethane	ug/Kg	-	-	-	-	-	-	-	-
1,1-Dichloroethene	ug/Kg	-	-	-	-	-	-	-	-
1,1-Dichloropropene	ug/Kg	-	-	-	-	-	-	-	-
1,2,3-Trichloropropane	ug/Kg	-	-	-	-	-	-	-	-
1,2,4-Trichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-
1,2,4-Trimethylbenzene	ug/Kg	-	-	-	-	-	-	-	-
1,2-Dibromo-3-chloropropane (DBCP)	ug/Kg	-	-	-	-	-	-	-	-
1,2-Dibromoethane (EDB)	ug/Kg	-	-	-	-	-	-	-	-
1,2-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-
1,2-Dichloroethane	ug/Kg	-	-	-	-	-	-	-	-
1,2-Dichloroethene (total)	ug/Kg	-	-	-	-	-	-	-	-
1,2-Dichloropropane	ug/Kg	-	-	-	-	-	-	-	-
1,3,5-Trimethylbenzene	ug/Kg	-	-	-	-	-	-	-	-
1,3-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-
1,3-Dichloropropane	ug/Kg	-	-	-	-	-	-	-	-
1,4-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-
1,4-Dioxane	ug/Kg	-	-	-	-	-	-	-	-
2,2-Dichloropropane	ug/Kg	-	-	-	-	-	-	-	-
2-Butanone	ug/Kg	-	-	-	-	-	-	-	-
2-Chloroethyl vinyl ether	ug/Kg	-	-	-	-	-	-	-	-
2-Chlorotoluene	ug/Kg	-	-	-	-	-	-	-	-
2-Hexanone	ug/Kg	-	-	-	-	-	-	-	-
2-Phenylbutane	ug/Kg	-	-	-	-	-	-	-	-
4-Chlorotoluene	ug/Kg	-	-	-	-	-	-	-	-
4-Methyl-2-pentanone	ug/Kg	-	-	-	-	-	-	-	-
Acetone	ug/Kg	-	-	-	-	-	-	-	-
Acrolein	ug/Kg	-	-	-	-	-	-	-	-
Acrylonitrile	ug/Kg	-	-	-	-	-	-	-	-
Allyl chloride	ug/Kg	-	-	-	-	-	-	-	-
Benzene	ug/Kg	-	-	-	-	-	-	-	-
Benzene, butyl	ug/Kg	-	-	-	-	-	-	-	-
Benzene, isopropyl	ug/Kg	-	-	-	-	-	-	-	-
Benzene, tert-butyl	ug/Kg	-	-	-	-	-	-	-	-
Bromobenzene	ug/Kg	-	-	-	-	-	-	-	-
Bromodichloromethane	ug/Kg	-	-	-	-	-	-	-	-
Bromoform	ug/Kg	-	-	-	-	-	-	-	-
Bromomethane	ug/Kg	-	-	-	-	-	-	-	-
Carbon disulfide	ug/Kg	-	-	-	-	-	-	-	-
Carbon tetrachloride	ug/Kg	-	-	-	-	-	-	-	-
Chlorobenzene	ug/Kg	-	-	-	-	-	-	-	-
Chlorobromomethane	ug/Kg	-	-	-	-	-	-	-	-
Chloroethane	ug/Kg	-	-	-	-	-	-	-	-
Chloroform	ug/Kg	-	-	-	-	-	-	-	-

HISTORICAL SOIL SAMPLE RESULTS
AOI 11 TO 14 - CHIP HANDLING AREAS AND NEARBY USTs
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*CA-GP-9*	*ChipAreaComp*	*Dayton-T10E*	*Dayton-T10W*	*Dayton-T11E*	*Dayton-T11W*	*Dayton-T6A*	*Dayton-T6B*
Sample Name:		*CA-GP-9 G-4*	*G. Lot (2)*	*Dayton-T10E*	*Dayton-T10W*	*Dayton-T11E*	*Dayton-T11W*	*Dayton-T6A-13'bgs*	*Dayton-T6B-13'bgs*
Sample Depth:		*(12-16)*						*(13-)*	*(13-)*
Sample Date:		*7/1/98*	*1/6/00*	*12/2/89*	*12/2/89*	*12/2/89*	*12/2/89*	*11/30/89*	*11/30/89*
Parameter	*Units*								
Chloromethane	ug/Kg	-	-	-	-	-	-	-	-
Chloroprene	ug/Kg	-	-	-	-	-	-	-	-
cis-1,2-Dichloroethene	ug/Kg	-	-	-	-	-	-	-	-
cis-1,3-Dichloropropene	ug/Kg	-	-	-	-	-	-	-	-
cis-1,4-Dichloro-2-butene	ug/Kg	-	-	-	-	-	-	-	-
Cymene	ug/Kg	-	-	-	-	-	-	-	-
Dibromochloromethane	ug/Kg	-	-	-	-	-	-	-	-
Dibromomethane	ug/Kg	-	-	-	-	-	-	-	-
Dichlorodifluoromethane (CFC-12)	ug/Kg	-	-	-	-	-	-	-	-
Ethyl methacrylate	ug/Kg	-	-	-	-	-	-	-	-
Ethylbenzene	ug/Kg	-	-	-	-	-	-	-	-
Hexachlorobutadiene	ug/Kg	-	-	-	-	-	-	-	-
Hexane	ug/Kg	-	-	-	-	-	-	-	-
Iodomethane	ug/Kg	-	-	-	-	-	-	-	-
Isobutyl alcohol	ug/Kg	-	-	-	-	-	-	-	-
Methyl acrylonitrile	ug/Kg	-	-	-	-	-	-	-	-
Methyl methacrylate	ug/Kg	-	-	-	-	-	-	-	-
Methyl Tert Butyl Ether	ug/Kg	-	-	-	-	-	-	-	-
Methylene chloride	ug/Kg	-	-	-	-	-	-	-	-
Naphthalene	ug/Kg	-	-	-	-	-	-	-	-
n-Propylbenzene	ug/Kg	-	-	-	-	-	-	-	-
Propionitrile (Ethyl cyanide)	ug/Kg	-	-	-	-	-	-	-	-
Styrene	ug/Kg	-	-	-	-	-	-	-	-
Tetrachloroethene	ug/Kg	-	-	-	-	-	-	-	-
Tetrahydrofuran	ug/Kg	-	-	-	-	-	-	-	-
Toluene	ug/Kg	-	-	-	-	-	-	-	-
trans-1,2-Dichloroethene	ug/Kg	-	-	-	-	-	-	-	-
trans-1,3-Dichloropropene	ug/Kg	-	-	-	-	-	-	-	-
trans-1,4-Dichloro-2-butene	ug/Kg	-	-	-	-	-	-	-	-
Trichloroethene	ug/Kg	-	-	-	-	-	-	-	-
Trichlorofluoromethane (CFC-11)	ug/Kg	-	-	-	-	-	-	-	-
Trifluorotrichloroethane (Freon 113)	ug/Kg	-	-	-	-	-	-	-	-
Vinyl acetate	ug/Kg	-	-	-	-	-	-	-	-
Vinyl chloride	ug/Kg	-	-	-	-	-	-	-	-
Xylene (total)	ug/Kg	-	-	-	-	-	-	-	-
General Chemistry									
Flash Point Closed Cup	deg f	-	-	-	-	-	-	-	-
Percent Solids	%	-	-	-	-	-	-	-	-
pH Corrosivity	s.u.	-	-	-	-	-	-	-	-

TABLE G.5

HISTORICAL SOIL SAMPLE RESULTS
AOI 11 TO 14 - CHIP HANDLING AREAS AND NEARBY USTs
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*Dayton-T6C*	*Dayton-T6F*	*Dayton-T8E*	*Dayton-T8W*	*Dayton-T9E*	*Dayton-T9W*	*Disposal Drum*	*E-1A*	*E-1B*
Sample Name:		*Dayton-T6C-9'bgs*	*Dayton-T6F-9'bgs*	*Dayton-T8E*	*Dayton-T8W*	*Dayton-T9E*	*Dayton-T9W*	*G. Lot*	*E-1A*	*E-1B*
Sample Depth:		*(9-)*	*(9-)*						*(4-6)*	*(12-13.5)*
Sample Date:		*11/30/89*	*11/30/89*	*12/2/89*	*12/2/89*	*12/2/89*	*12/2/89*	*12/21/99*	*10/18/95*	*10/18/95*
Parameter	*Units*									
BTEX										
Benzene	ug/Kg	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	-	-	-
Ethylbenzene	ug/Kg	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	-	-	-
Toluene	ug/Kg	72	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	-	-	-
Xylene (total)	ug/Kg	ND (5)	ND (5)	100	20	ND (5)	ND (5)	-	-	-
Metals										
Arsenic	mg/Kg	-	-	-	-	-	-	17.11	-	-
Barium	mg/Kg	-	-	-	-	-	-	3.8	-	-
Cadmium	mg/Kg	-	-	-	-	-	-	ND (0.03)	-	-
Chromium	mg/Kg	-	-	-	-	-	-	5.58	-	-
Cyanide (total)	mg/Kg	-	-	-	-	-	-	-	-	-
Lead	mg/Kg	-	-	-	-	-	-	ND (0.08)	-	-
Mercury	mg/Kg	-	-	-	-	-	-	ND (0.01)	-	-
Selenium	mg/Kg	-	-	-	-	-	-	ND (0.17)	-	-
Silver	mg/Kg	-	-	-	-	-	-	ND (0.04)	-	-
Sulfide	mg/Kg	-	-	-	-	-	-	-	-	-
Miscellaneous										
Ignitability	deg f	-	-	-	-	-	-	149	-	-
Percent Moisture	%	-	-	-	-	-	-	-	-	-
pH (soil)	s.u.	-	-	-	-	-	-	-	-	-
pH Corrosivity	s.u.	-	-	-	-	-	-	-	-	-
Reactive Cyanide	mg/kg	-	-	-	-	-	-	ND (25)	-	-
Reactive Sulfide	mg/Kg	-	-	-	-	-	-	ND (50)	-	-
PCBs										
Aroclor-1016	mg/Kg	-	-	-	-	-	-	ND (5)	-	-
Aroclor-1221	mg/Kg	-	-	-	-	-	-	ND (5)	-	-
Aroclor-1232	mg/Kg	-	-	-	-	-	-	ND (5)	-	-
Aroclor-1242	mg/Kg	-	-	-	-	-	-	ND (5)	-	-
Aroclor-1248	mg/Kg	-	-	-	-	-	-	ND (5)	-	-
Aroclor-1254	mg/Kg	-	-	-	-	-	-	283	-	-
Aroclor-1260	mg/Kg	-	-	-	-	-	-	ND (5)	-	-
Petroleum Products										
Total Petroleum Hydrocarbons	mg/Kg	-	-	-	-	-	-	-	-	-
Total Petroleum Hydrocarbons - extractable (DRO)	mg/Kg	-	-	-	-	-	-	-	7.5	10
Total Petroleum Hydrocarbons, Field	mg/Kg	-	-	-	-	-	-	-	-	-
Total Recoverable Petroleum Hydrocarbons	mg/Kg	24000	2900	490	1300	45	1100	-	-	-
Semi-Volatiles										
1,2,4-Trichlorobenzene	ug/Kg	-	-	-	-	-	-	ND (991990)	-	-
1,2-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	ND (991990)	-	-
1,2-Diphenylhydrazine	ug/Kg	-	-	-	-	-	-	-	-	-
1,3-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	ND (991990)	-	-
1,4-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	ND (991990)	-	-
2,4,5-Trichlorophenol	ug/Kg	-	-	-	-	-	-	ND (992000)	-	-
2,4,6-Trichlorophenol	ug/Kg	-	-	-	-	-	-	ND (992000)	-	-

HISTORICAL SOIL SAMPLE RESULTS
AOI 11 TO 14 - CHIP HANDLING AREAS AND NEARBY USTs
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*Dayton-T6C*	*Dayton-T6F*	*Dayton-T8E*	*Dayton-T8W*	*Dayton-T9E*	*Dayton-T9W*	*Disposal Drum*	*E-1A*	*E-1B*
Sample Name:		*Dayton-T6C-9'bgs*	*Dayton-T6F-9'bgs*	*Dayton-T8E*	*Dayton-T8W*	*Dayton-T9E*	*Dayton-T9W*	*G. Lot*	*E-1A*	*E-1B*
Sample Depth:		*(9-)*	*(9-)*						*(4-6)*	*(12-13.5)*
Sample Date:		*11/30/89*	*11/30/89*	*12/2/89*	*12/2/89*	*12/2/89*	*12/2/89*	*12/21/99*	*10/18/95*	*10/18/95*
Parameter	*Units*									
2,4-Dichlorophenol	ug/Kg	-	-	-	-	-	-	ND (992000)	-	-
2,4-Dimethylphenol	ug/Kg	-	-	-	-	-	-	ND (992000)	-	-
2,4-Dinitrophenol	ug/Kg	-	-	-	-	-	-	ND (992000)	-	-
2,4-Dinitrotoluene	ug/Kg	-	-	-	-	-	-	ND (991990)	-	-
2,6-Dinitrotoluene	ug/Kg	-	-	-	-	-	-	ND (991990)	-	-
2-Chloronaphthalene	ug/Kg	-	-	-	-	-	-	ND (991990)	-	-
2-Chlorophenol	ug/Kg	-	-	-	-	-	-	ND (992000)	-	-
2-Methyl naphthalene	ug/Kg	-	-	-	-	-	-	-	-	-
2-Methylphenol	ug/Kg	-	-	-	-	-	-	ND (992000)	-	-
2-Nitroaniline	ug/Kg	-	-	-	-	-	-	-	-	-
2-Nitrophenol	ug/Kg	-	-	-	-	-	-	ND (992000)	-	-
3&4-Methylphenol	ug/Kg	-	-	-	-	-	-	ND (992000)	-	-
3,3'-Dichlorobenzidine	ug/Kg	-	-	-	-	-	-	ND (1987)	-	-
3-Nitroaniline	ug/Kg	-	-	-	-	-	-	-	-	-
4,6-Dinitro-2-methylphenol	ug/Kg	-	-	-	-	-	-	ND (992000)	-	-
4-Bromophenyl phenyl ether	ug/Kg	-	-	-	-	-	-	ND (991990)	-	-
4-Chloro-3-methylphenol	ug/Kg	-	-	-	-	-	-	ND (992000)	-	-
4-Chloroaniline	ug/Kg	-	-	-	-	-	-	ND (991990)	-	-
4-Chlorophenyl phenyl ether	ug/Kg	-	-	-	-	-	-	ND (991990)	-	-
4-Nitroaniline	ug/Kg	-	-	-	-	-	-	-	-	-
4-Nitrophenol	ug/Kg	-	-	-	-	-	-	ND (992000)	-	-
Acenaphthene	ug/Kg	-	-	-	-	-	-	ND (991990)	-	-
Acenaphthylene	ug/Kg	-	-	-	-	-	-	ND (991990)	-	-
Anthracene	ug/Kg	-	-	-	-	-	-	ND (991990)	-	-
Benzo(a)anthracene	ug/Kg	-	-	-	-	-	-	ND (991990)	-	-
Benzo(a)pyrene	ug/Kg	-	-	-	-	-	-	ND (497510)	-	-
Benzo(b)fluoranthene	ug/Kg	-	-	-	-	-	-	ND (991990)	-	-
Benzo(g,h,i)perylene	ug/Kg	-	-	-	-	-	-	ND (991990)	-	-
Benzo(k)fluoranthene	ug/Kg	-	-	-	-	-	-	ND (991990)	-	-
Benzoic acid	ug/Kg	-	-	-	-	-	-	ND (4960)	-	-
Benzyl Alcohol	ug/Kg	-	-	-	-	-	-	ND (991990)	-	-
bis(2-Chloroethoxy)methane	ug/Kg	-	-	-	-	-	-	ND (991990)	-	-
bis(2-Chloroethyl)ether	ug/Kg	-	-	-	-	-	-	ND (991990)	-	-
bis(2-Chloroisopropyl)ether	ug/Kg	-	-	-	-	-	-	ND (991990)	-	-
bis(2-Ethylhexyl)phthalate	ug/Kg	-	-	-	-	-	-	ND (991990)	-	-
Butyl benzylphthalate	ug/Kg	-	-	-	-	-	-	ND (991990)	-	-
Chrysene	ug/Kg	-	-	-	-	-	-	ND (991990)	-	-
Dibenz(a,h)anthracene	ug/Kg	-	-	-	-	-	-	ND (497510)	-	-
Dibenzofuran	ug/Kg	-	-	-	-	-	-	ND (991990)	-	-
Diethyl phthalate	ug/Kg	-	-	-	-	-	-	ND (991990)	-	-
Dimethyl phthalate	ug/Kg	-	-	-	-	-	-	ND (991990)	-	-
Di-n-butylphthalate	ug/Kg	-	-	-	-	-	-	ND (991990)	-	-
Di-n-octyl phthalate	ug/Kg	-	-	-	-	-	-	ND (991990)	-	-
Fluoranthene	ug/Kg	-	-	-	-	-	-	ND (991990)	-	-
Fluorene	ug/Kg	-	-	-	-	-	-	ND (991990)	-	-
Hexachlorobenzene	ug/Kg	-	-	-	-	-	-	ND (991990)	-	-
Hexachlorobutadiene	ug/Kg	-	-	-	-	-	-	ND (991990)	-	-
Hexachlorocyclopentadiene	ug/Kg	-	-	-	-	-	-	ND (1987)	-	-
Hexachloroethane	ug/Kg	-	-	-	-	-	-	ND (991990)	-	-
Indeno(1,2,3-cd)pyrene	ug/Kg	-	-	-	-	-	-	ND (991990)	-	-
Isophorone	ug/Kg	-	-	-	-	-	-	ND (991990)	-	-
Naphthalene	ug/Kg	-	-	-	-	-	-	ND (991990)	-	-
Nitrobenzene	ug/Kg	-	-	-	-	-	-	ND (991990)	-	-
N-Nitrosodimethylamine	ug/Kg	-	-	-	-	-	-	-	-	-
N-Nitrosodi-n-propylamine	ug/Kg	-	-	-	-	-	-	ND (991990)	-	-

TABLE G.5

HISTORICAL SOIL SAMPLE RESULTS
AOI 11 TO 14 - CHIP HANDLING AREAS AND NEARBY USTs
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*Dayton-T6C*	*Dayton-T6F*	*Dayton-T8E*	*Dayton-T8W*	*Dayton-T9E*	*Dayton-T9W*	*Disposal Drum*	*E-1A*	*E-1B*
Sample Name:		*Dayton-T6C-9'bgs*	*Dayton-T6F-9'bgs*	*Dayton-T8E*	*Dayton-T8W*	*Dayton-T9E*	*Dayton-T9W*	*G. Lot*	*E-1A*	*E-1B*
Sample Depth:		*(9-)*	*(9-)*						*(4-6)*	*(12-13.5)*
Sample Date:		*11/30/89*	*11/30/89*	*12/2/89*	*12/2/89*	*12/2/89*	*12/2/89*	*12/21/99*	*10/18/95*	*10/18/95*
Parameter	*Units*									
N-Nitrosodiphenylamine	ug/Kg	-	-	-	-	-	-	-	-	-
Pentachlorophenol	ug/Kg	-	-	-	-	-	-	ND (992000)	-	-
Phenanthrene	ug/Kg	-	-	-	-	-	-	ND (991990)	-	-
Phenol	ug/Kg	-	-	-	-	-	-	ND (992000)	-	-
Pyrene	ug/Kg	-	-	-	-	-	-	ND (991990)	-	-
Volatiles										
1,1,1,2-Tetrachloroethane	ug/Kg	-	-	-	-	-	-	ND (250)	-	-
1,1,1-Trichloroethane	ug/Kg	-	-	-	-	-	-	ND (250)	-	-
1,1,2,2-Tetrachloroethane	ug/Kg	-	-	-	-	-	-	ND (250)	-	-
1,1,2-Trichloroethane	ug/Kg	-	-	-	-	-	-	ND (250)	-	-
1,1-Dichloroethane	ug/Kg	-	-	-	-	-	-	ND (250)	-	-
1,1-Dichloroethene	ug/Kg	-	-	-	-	-	-	ND (250)	-	-
1,1-Dichloropropene	ug/Kg	-	-	-	-	-	-	ND (250)	-	-
1,2,3-Trichloropropane	ug/Kg	-	-	-	-	-	-	ND (250)	-	-
1,2,4-Trichlorobenzene	ug/Kg	-	-	-	-	-	-	ND (250)	-	-
1,2,4-Trimethylbenzene	ug/Kg	-	-	-	-	-	-	1010	-	-
1,2-Dibromo-3-chloropropane (DBCP)	ug/Kg	-	-	-	-	-	-	ND (250)	-	-
1,2-Dibromoethane (EDB)	ug/Kg	-	-	-	-	-	-	-	-	-
1,2-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	ND (250)	-	-
1,2-Dichloroethane	ug/Kg	-	-	-	-	-	-	ND (250)	-	-
1,2-Dichloroethene (total)	ug/Kg	-	-	-	-	-	-	-	-	-
1,2-Dichloropropane	ug/Kg	-	-	-	-	-	-	ND (250)	-	-
1,3,5-Trimethylbenzene	ug/Kg	-	-	-	-	-	-	348	-	-
1,3-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	ND (250)	-	-
1,3-Dichloropropane	ug/Kg	-	-	-	-	-	-	ND (250)	-	-
1,4-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	ND (250)	-	-
1,4-Dioxane	ug/Kg	-	-	-	-	-	-	-	-	-
2,2-Dichloropropane	ug/Kg	-	-	-	-	-	-	ND (250)	-	-
2-Butanone	ug/Kg	-	-	-	-	-	-	ND (5000)	-	-
2-Chloroethyl vinyl ether	ug/Kg	-	-	-	-	-	-	-	-	-
2-Chlorotoluene	ug/Kg	-	-	-	-	-	-	ND (250)	-	-
2-Hexanone	ug/Kg	-	-	-	-	-	-	ND (2500)	-	-
2-Phenylbutane	ug/Kg	-	-	-	-	-	-	728	-	-
4-Chlorotoluene	ug/Kg	-	-	-	-	-	-	ND (250)	-	-
4-Methyl-2-pentanone	ug/Kg	-	-	-	-	-	-	ND (2500)	-	-
Acetone	ug/Kg	-	-	-	-	-	-	1450000	-	-
Acrolein	ug/Kg	-	-	-	-	-	-	-	-	-
Acrylonitrile	ug/Kg	-	-	-	-	-	-	-	-	-
Allyl chloride	ug/Kg	-	-	-	-	-	-	-	-	-
Benzene	ug/Kg	-	-	-	-	-	-	ND (250)	-	-
Benzene, butyl	ug/Kg	-	-	-	-	-	-	1230	-	-
Benzene, isopropyl	ug/Kg	-	-	-	-	-	-	255	-	-
Benzene, tert-butyl	ug/Kg	-	-	-	-	-	-	ND (250)	-	-
Bromobenzene	ug/Kg	-	-	-	-	-	-	ND (250)	-	-
Bromodichloromethane	ug/Kg	-	-	-	-	-	-	ND (250)	-	-
Bromoform	ug/Kg	-	-	-	-	-	-	ND (250)	-	-
Bromomethane	ug/Kg	-	-	-	-	-	-	ND (500)	-	-
Carbon disulfide	ug/Kg	-	-	-	-	-	-	ND (250)	-	-
Carbon tetrachloride	ug/Kg	-	-	-	-	-	-	ND (250)	-	-
Chlorobenzene	ug/Kg	-	-	-	-	-	-	ND (250)	-	-
Chlorobromomethane	ug/Kg	-	-	-	-	-	-	ND (250)	-	-
Chloroethane	ug/Kg	-	-	-	-	-	-	ND (500)	-	-
Chloroform	ug/Kg	-	-	-	-	-	-	ND (250)	-	-

HISTORICAL SOIL SAMPLE RESULTS
AOI 11 TO 14 - CHIP HANDLING AREAS AND NEARBY USTs
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*Dayton-T6C*	*Dayton-T6F*	*Dayton-T8E*	*Dayton-T8W*	*Dayton-T9E*	*Dayton-T9W*	*Disposal Drum*	*E-1A*	*E-1B*
Sample Name:		*Dayton-T6C-9'bgs*	*Dayton-T6F-9'bgs*	*Dayton-T8E*	*Dayton-T8W*	*Dayton-T9E*	*Dayton-T9W*	*G. Lot*	*E-1A*	*E-1B*
Sample Depth:		*(9-)*	*(9-)*						*(4-6)*	*(12-13.5)*
Sample Date:		*11/30/89*	*11/30/89*	*12/2/89*	*12/2/89*	*12/2/89*	*12/2/89*	*12/21/99*	*10/18/95*	*10/18/95*
Parameter	*Units*									
Chloromethane	ug/Kg	-	-	-	-	-	-	ND (500)	-	-
Chloroprene	ug/Kg	-	-	-	-	-	-	-	-	-
cis-1,2-Dichloroethene	ug/Kg	-	-	-	-	-	-	ND (250)	-	-
cis-1,3-Dichloropropene	ug/Kg	-	-	-	-	-	-	ND (250)	-	-
cis-1,4-Dichloro-2-butene	ug/Kg	-	-	-	-	-	-	-	-	-
Cymene	ug/Kg	-	-	-	-	-	-	260	-	-
Dibromochloromethane	ug/Kg	-	-	-	-	-	-	ND (250)	-	-
Dibromomethane	ug/Kg	-	-	-	-	-	-	ND (250)	-	-
Dichlorodifluoromethane (CFC-12)	ug/Kg	-	-	-	-	-	-	ND (250)	-	-
Ethyl methacrylate	ug/Kg	-	-	-	-	-	-	-	-	-
Ethylbenzene	ug/Kg	-	-	-	-	-	-	ND (250)	-	-
Hexachlorobutadiene	ug/Kg	-	-	-	-	-	-	ND (250)	-	-
Hexane	ug/Kg	-	-	-	-	-	-	ND (500)	-	-
Iodomethane	ug/Kg	-	-	-	-	-	-	-	-	-
Isobutyl alcohol	ug/Kg	-	-	-	-	-	-	-	-	-
Methyl acrylonitrile	ug/Kg	-	-	-	-	-	-	-	-	-
Methyl methacrylate	ug/Kg	-	-	-	-	-	-	-	-	-
Methyl Tert Butyl Ether	ug/Kg	-	-	-	-	-	-	-	-	-
Methylene chloride	ug/Kg	-	-	-	-	-	-	ND (500)	-	-
Naphthalene	ug/Kg	-	-	-	-	-	-	ND (250)	-	-
n-Propylbenzene	ug/Kg	-	-	-	-	-	-	ND (250)	-	-
Propionitrile (Ethyl cyanide)	ug/Kg	-	-	-	-	-	-	-	-	-
Styrene	ug/Kg	-	-	-	-	-	-	ND (250)	-	-
Tetrachloroethene	ug/Kg	-	-	-	-	-	-	ND (250)	-	-
Tetrahydrofuran	ug/Kg	-	-	-	-	-	-	-	-	-
Toluene	ug/Kg	-	-	-	-	-	-	ND (250)	-	-
trans-1,2-Dichloroethene	ug/Kg	-	-	-	-	-	-	ND (250)	-	-
trans-1,3-Dichloropropene	ug/Kg	-	-	-	-	-	-	ND (250)	-	-
trans-1,4-Dichloro-2-butene	ug/Kg	-	-	-	-	-	-	-	-	-
Trichloroethene	ug/Kg	-	-	-	-	-	-	ND (250)	-	-
Trichlorofluoromethane (CFC-11)	ug/Kg	-	-	-	-	-	-	ND (250)	-	-
Trifluorotrichloroethane (Freon 113)	ug/Kg	-	-	-	-	-	-	-	-	-
Vinyl acetate	ug/Kg	-	-	-	-	-	-	ND (250)	-	-
Vinyl chloride	ug/Kg	-	-	-	-	-	-	ND (100)	-	-
Xylene (total)	ug/Kg	-	-	-	-	-	-	258	-	-
General Chemistry										
Flash Point Closed Cup	deg f	-	-	-	-	-	-	-	-	-
Percent Solids	%	-	-	-	-	-	-	-	-	-
pH Corrosivity	s.u.	-	-	-	-	-	-	7.5	-	-

TABLE G.5

HISTORICAL SOIL SAMPLE RESULTS
AOI 11 TO 14 - CHIP HANDLING AREAS AND NEARBY USTs
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*E-3A*	*E-3B*	*GP-11*	*GP-12*	*GP-14*	*GP-14*	*GP-15*	*GP-24*	*GP-25*	*GP-29*	*GP-301*
Sample Name:		*E-3A*	*E-3B*	*GP-11 G-1*	*GP-12 G-1*	*GP-14 G-3*	*GP-14 G-3*	*GP-15 G-1*	*GP-24 G-3*	*GP-25 G-3*	*GP-29 G-3*	*GP-301 S2*
Sample Depth:		*(0-2)*	*(10-12)*	*(0-4)*	*(0-4)*	*(8-12)*	*(8-12)*	*(0-4)*	*(8-12)*	*(8-12)*	*(8-12)*	*(4-8)*
Sample Date:		*10/18/95*	*10/18/95*	*9/20/96*	*9/20/96*	*9/23/96*	*9/24/96*	*9/23/96*	*9/25/96*	*9/25/96*	*9/26/96*	*6/17/99*
Parameter	*Units*											
BTEX												
Benzene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Ethylbenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Toluene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Xylene (total)	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Metals												
Arsenic	mg/Kg	-	-	-	-	-	-	-	-	-	-	ND
Barium	mg/Kg	-	-	-	-	-	-	-	-	-	-	ND
Cadmium	mg/Kg	-	-	-	-	-	-	-	-	-	-	ND
Chromium	mg/Kg	-	-	-	-	-	-	-	-	-	-	ND
Cyanide (total)	mg/Kg	ND	ND	-	-	-	-	-	-	-	-	-
Lead	mg/Kg	-	-	-	-	-	-	-	-	-	-	ND
Mercury	mg/Kg	-	-	-	-	-	-	-	-	-	-	ND
Selenium	mg/Kg	-	-	-	-	-	-	-	-	-	-	ND
Silver	mg/Kg	-	-	-	-	-	-	-	-	-	-	ND
Sulfide	mg/Kg	-	-	-	-	-	-	-	-	-	-	-
Miscellaneous												
Ignitability	deg f	-	-	-	-	-	-	-	-	-	-	140 >
Percent Moisture	%	-	-	-	-	-	-	-	-	-	-	-
pH (soil)	s.u.	-	-	-	-	-	-	-	-	-	-	-
pH Corrosivity	s.u.	-	-	-	-	-	-	-	-	-	-	-
Reactive Cyanide	mg/kg	-	-	-	-	-	-	-	-	-	-	-
Reactive Sulfide	mg/Kg	-	-	-	-	-	-	-	-	-	-	-
PCBs												
Aroclor-1016	mg/Kg	-	-	-	-	-	-	-	-	-	-	ND (0.1)
Aroclor-1221	mg/Kg	-	-	-	-	-	-	-	-	-	-	ND (0.1)
Aroclor-1232	mg/Kg	-	-	-	-	-	-	-	-	-	-	ND (0.1)
Aroclor-1242	mg/Kg	-	-	-	-	-	-	-	-	-	-	ND (0.1)
Aroclor-1248	mg/Kg	-	-	-	-	-	-	-	-	-	-	ND (0.1)
Aroclor-1254	mg/Kg	-	-	-	-	-	-	-	-	-	-	ND (0.1)
Aroclor-1260	mg/Kg	-	-	-	-	-	-	-	-	-	-	ND (0.1)
Petroleum Products												
Total Petroleum Hydrocarbons	mg/Kg	-	-	-	-	-	-	-	-	-	-	-
Total Petroleum Hydrocarbons - extractable (DRO)	mg/Kg	0.13	7.2	-	-	-	-	-	-	-	-	-
Total Petroleum Hydrocarbons, Field	mg/Kg	-	-	733	1333	2200	-	475	945	1025	67	-
Total Recoverable Petroleum Hydrocarbons	mg/Kg	-	-	2170	2780	3710	-	-	1310	3990	ND (27.6)	-
Semi-Volatiles												
1,2,4-Trichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-	ND (330)
1,2-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-	ND (330)
1,2-Diphenylhydrazine	ug/Kg	-	-	-	-	-	-	-	-	-	-	ND (330)
1,3-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-	ND (330)
1,4-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-	ND (330)
2,4,5-Trichlorophenol	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
2,4,6-Trichlorophenol	ug/Kg	-	-	-	-	-	-	-	-	-	-	ND (330)

HISTORICAL SOIL SAMPLE RESULTS
AOI 11 TO 14 - CHIP HANDLING AREAS AND NEARBY USTs
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*E-3A*	*E-3B*	*GP-11*	*GP-12*	*GP-14*	*GP-14*	*GP-15*	*GP-24*	*GP-25*	*GP-29*	*GP-301*
Sample Name:		*E-3A*	*E-3B*	*GP-11 G-1*	*GP-12 G-1*	*GP-14 G-3*	*GP-14 G-3*	*GP-15 G-1*	*GP-24 G-3*	*GP-25 G-3*	*GP-29 G-3*	*GP-301 S2*
Sample Depth:		*(0-2)*	*(10-12)*	*(0-4)*	*(0-4)*	*(8-12)*	*(8-12)*	*(0-4)*	*(8-12)*	*(8-12)*	*(8-12)*	*(4-8)*
Sample Date:		*10/18/95*	*10/18/95*	*9/20/96*	*9/20/96*	*9/23/96*	*9/24/96*	*9/23/96*	*9/25/96*	*9/25/96*	*9/26/96*	*6/17/99*
Parameter	*Units*											
2,4-Dichlorophenol	ug/Kg	-	-	-	-	-	-	-	-	-	-	ND (330)
2,4-Dimethylphenol	ug/Kg	-	-	-	-	-	-	-	-	-	-	ND (330)
2,4-Dinitrophenol	ug/Kg	-	-	-	-	-	-	-	-	-	-	ND (1700)
2,4-Dinitrotoluene	ug/Kg	-	-	-	-	-	-	-	-	-	-	ND (330)
2,6-Dinitrotoluene	ug/Kg	-	-	-	-	-	-	-	-	-	-	ND (330)
2-Chloronaphthalene	ug/Kg	-	-	-	-	-	-	-	-	-	-	ND (330)
2-Chlorophenol	ug/Kg	-	-	-	-	-	-	-	-	-	-	ND (330)
2-Methyl naphthalene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
2-Methylphenol	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
2-Nitroaniline	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
2-Nitrophenol	ug/Kg	-	-	-	-	-	-	-	-	-	-	ND (330)
3&4-Methylphenol	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
3,3'-Dichlorobenzidine	ug/Kg	-	-	-	-	-	-	-	-	-	-	ND (660)
3-Nitroaniline	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
4,6-Dinitro-2-methylphenol	ug/Kg	-	-	-	-	-	-	-	-	-	-	ND (1700)
4-Bromophenyl phenyl ether	ug/Kg	-	-	-	-	-	-	-	-	-	-	ND (330)
4-Chloro-3-methylphenol	ug/Kg	-	-	-	-	-	-	-	-	-	-	ND (660)
4-Chloroaniline	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
4-Chlorophenyl phenyl ether	ug/Kg	-	-	-	-	-	-	-	-	-	-	ND (330)
4-Nitroaniline	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
4-Nitrophenol	ug/Kg	-	-	-	-	-	-	-	-	-	-	ND (1700)
Acenaphthene	ug/Kg	-	-	-	-	-	-	-	-	-	-	ND (330)
Acenaphthylene	ug/Kg	-	-	-	-	-	-	-	-	-	-	ND (330)
Anthracene	ug/Kg	-	-	-	-	-	-	-	-	-	-	ND (330)
Benzo(a)anthracene	ug/Kg	-	-	-	-	-	-	-	-	-	-	ND (330)
Benzo(a)pyrene	ug/Kg	-	-	-	-	-	-	-	-	-	-	ND (330)
Benzo(b)fluoranthene	ug/Kg	-	-	-	-	-	-	-	-	-	-	ND (330)
Benzo(g,h,i)perylene	ug/Kg	-	-	-	-	-	-	-	-	-	-	ND (330)
Benzo(k)fluoranthene	ug/Kg	-	-	-	-	-	-	-	-	-	-	ND (330)
Benzoic acid	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Benzyl Alcohol	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
bis(2-Chloroethoxy)methane	ug/Kg	-	-	-	-	-	-	-	-	-	-	ND (330)
bis(2-Chloroethyl)ether	ug/Kg	-	-	-	-	-	-	-	-	-	-	ND (330)
bis(2-Chloroisopropyl)ether	ug/Kg	-	-	-	-	-	-	-	-	-	-	ND (330)
bis(2-Ethylhexyl)phthalate	ug/Kg	-	-	-	-	-	-	-	-	-	-	1080
Butyl benzylphthalate	ug/Kg	-	-	-	-	-	-	-	-	-	-	ND (330)
Chrysene	ug/Kg	-	-	-	-	-	-	-	-	-	-	ND
Dibenz(a,h)anthracene	ug/Kg	-	-	-	-	-	-	-	-	-	-	ND (330)
Dibenzofuran	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Diethyl phthalate	ug/Kg	-	-	-	-	-	-	-	-	-	-	ND (330)
Dimethyl phthalate	ug/Kg	-	-	-	-	-	-	-	-	-	-	ND (330)
Di-n-butylphthalate	ug/Kg	-	-	-	-	-	-	-	-	-	-	ND (330)
Di-n-octyl phthalate	ug/Kg	-	-	-	-	-	-	-	-	-	-	ND (330)
Fluoranthene	ug/Kg	-	-	-	-	-	-	-	-	-	-	ND (330)
Fluorene	ug/Kg	-	-	-	-	-	-	-	-	-	-	ND (330)
Hexachlorobenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-	ND (330)
Hexachlorobutadiene	ug/Kg	-	-	-	-	-	-	-	-	-	-	ND (330)
Hexachlorocyclopentadiene	ug/Kg	-	-	-	-	-	-	-	-	-	-	ND (330)
Hexachloroethane	ug/Kg	-	-	-	-	-	-	-	-	-	-	ND (330)
Indeno(1,2,3-cd)pyrene	ug/Kg	-	-	-	-	-	-	-	-	-	-	ND (330)
Isophorone	ug/Kg	-	-	-	-	-	-	-	-	-	-	ND (330)
Naphthalene	ug/Kg	-	-	-	-	-	-	-	-	-	-	ND
Nitrobenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-	ND (330)
N-Nitrosodimethylamine	ug/Kg	-	-	-	-	-	-	-	-	-	-	ND (1700)
N-Nitrosodi-n-propylamine	ug/Kg	-	-	-	-	-	-	-	-	-	-	ND (330)

TABLE G.5

HISTORICAL SOIL SAMPLE RESULTS
AOI 11 TO 14 - CHIP HANDLING AREAS AND NEARBY USTs
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*E-3A*	*E-3B*	*GP-11*	*GP-12*	*GP-14*	*GP-14*	*GP-15*	*GP-24*	*GP-25*	*GP-29*	*GP-301*
Sample Name:		*E-3A*	*E-3B*	*GP-11 G-1*	*GP-12 G-1*	*GP-14 G-3*	*GP-14 G-3*	*GP-15 G-1*	*GP-24 G-3*	*GP-25 G-3*	*GP-29 G-3*	*GP-301 S2*
Sample Depth:		*(0-2)*	*(10-12)*	*(0-4)*	*(0-4)*	*(8-12)*	*(8-12)*	*(0-4)*	*(8-12)*	*(8-12)*	*(8-12)*	*(4-8)*
Sample Date:		*10/18/95*	*10/18/95*	*9/20/96*	*9/20/96*	*9/23/96*	*9/24/96*	*9/23/96*	*9/25/96*	*9/25/96*	*9/26/96*	*6/17/99*
Parameter	*Units*											
N-Nitrosodiphenylamine	ug/Kg	-	-	-	-	-	-	-	-	-	-	ND (330)
Pentachlorophenol	ug/Kg	-	-	-	-	-	-	-	-	-	-	ND (1700)
Phenanthrene	ug/Kg	-	-	-	-	-	-	-	-	-	-	ND (330)
Phenol	ug/Kg	-	-	-	-	-	-	-	-	-	-	ND (330)
Pyrene	ug/Kg	-	-	-	-	-	-	-	-	-	-	ND (330)
Volatiles												
1,1,1,2-Tetrachloroethane	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
1,1,1-Trichloroethane	ug/Kg	-	-	ND (28)	ND (5)	ND (30)	-	-	ND (15)	ND (14)	ND (6)	-
1,1,2,2-Tetrachloroethane	ug/Kg	-	-	ND (28)	ND (5)	ND (30)	-	-	ND (15)	ND (14.0)	ND (6)	-
1,1,2-Trichloroethane	ug/Kg	-	-	ND (28)	ND (5)	ND (30)	-	-	ND (15)	ND (14)	ND (6)	-
1,1-Dichloroethane	ug/Kg	-	-	ND (28)	ND (5)	ND (30)	-	-	ND (15)	ND (14)	ND (6)	-
1,1-Dichloroethene	ug/Kg	-	-	ND (28)	ND (5)	ND (30)	-	-	6 J	ND (14)	ND (6)	-
1,1-Dichloropropene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
1,2,3-Trichloropropane	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
1,2,4-Trichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
1,2,4-Trimethylbenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
1,2-Dibromo-3-chloropropane (DBCP)	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
1,2-Dibromoethane (EDB)	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichloroethane	ug/Kg	-	-	ND (28)	ND (5)	ND (30)	-	-	ND (15)	ND (14)	ND (6)	-
1,2-Dichloroethene (total)	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichloropropane	ug/Kg	-	-	ND (28)	ND (5)	ND (30)	-	-	ND (15)	ND (14)	ND (6)	-
1,3,5-Trimethylbenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
1,3-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
1,3-Dichloropropane	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
1,4-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
1,4-Dioxane	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
2,2-Dichloropropane	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
2-Butanone	ug/Kg	-	-	41 J	2 J	ND (60)	-	-	12 J	ND (27)	ND (11)	-
2-Chloroethyl vinyl ether	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
2-Chlorotoluene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
2-Hexanone	ug/Kg	-	-	ND (55)	ND (10)	ND (60)	-	-	ND (30)	ND (27)	ND (11)	-
2-Phenylbutane	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
4-Chlorotoluene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
4-Methyl-2-pentanone	ug/Kg	-	-	ND (55)	ND (10)	ND (60)	-	-	ND (30)	ND (27)	ND (11)	-
Acetone	ug/Kg	-	-	140	21 B	100 B	-	-	44 B	92 B	6 J	-
Acrolein	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Acrylonitrile	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Allyl chloride	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Benzene	ug/Kg	-	-	ND (28)	1 J	ND (30)	-	-	6 J	ND (14)	ND (6)	-
Benzene, butyl	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Benzene, isopropyl	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Benzene, tert-butyl	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Bromobenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Bromodichloromethane	ug/Kg	-	-	ND (28)	ND (5)	ND (30)	-	-	ND (15)	ND (14)	ND (6)	-
Bromoform	ug/Kg	-	-	ND (28)	ND (5)	ND (30)	-	-	ND (15)	ND (14)	ND (6)	-
Bromomethane	ug/Kg	-	-	ND (55)	ND (10)	ND (60)	-	-	ND (30)	ND (27)	ND (11)	-
Carbon disulfide	ug/Kg	-	-	ND (28)	2 J	13 J	-	-	ND (15)	ND (14)	ND (6)	-
Carbon tetrachloride	ug/Kg	-	-	ND (28)	ND (5)	ND (30)	-	-	ND (15)	ND (14)	ND (6)	-
Chlorobenzene	ug/Kg	-	-	ND (28)	ND (5)	ND (30)	-	-	5 J	ND (14)	ND (6)	-
Chlorobromomethane	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Chloroethane	ug/Kg	-	-	ND (55)	ND (10)	ND (60)	-	-	ND (30)	ND (27)	ND (11)	-
Chloroform	ug/Kg	-	-	ND (28)	ND (5)	ND (30)	-	-	ND (15)	ND (14)	ND	-

HISTORICAL SOIL SAMPLE RESULTS
AOI 11 TO 14 - CHIP HANDLING AREAS AND NEARBY USTs
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*E-3A*	*E-3B*	*GP-11*	*GP-12*	*GP-14*	*GP-14*	*GP-15*	*GP-24*	*GP-25*	*GP-29*	*GP-301*
Sample Name:		*E-3A*	*E-3B*	*GP-11 G-1*	*GP-12 G-1*	*GP-14 G-3*	*GP-14 G-3*	*GP-15 G-1*	*GP-24 G-3*	*GP-25 G-3*	*GP-29 G-3*	*GP-301 S2*
Sample Depth:		*(0-2)*	*(10-12)*	*(0-4)*	*(0-4)*	*(8-12)*	*(8-12)*	*(0-4)*	*(8-12)*	*(8-12)*	*(8-12)*	*(4-8)*
Sample Date:		*10/18/95*	*10/18/95*	*9/20/96*	*9/20/96*	*9/23/96*	*9/24/96*	*9/23/96*	*9/25/96*	*9/25/96*	*9/26/96*	*6/17/99*
Parameter	*Units*											
Chloromethane	ug/Kg	-	-	ND (55)	ND (10)	ND (60)	-	-	ND (30)	ND (27)	ND (11)	-
Chloroprene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
cis-1,2-Dichloroethene	ug/Kg	-	-	100	ND (5)	130	-	-	ND (15)	ND (14)	ND (6)	-
cis-1,3-Dichloropropene	ug/Kg	-	-	ND (28)	ND (5)	ND (30)	-	-	ND (15)	ND (14)	ND (6)	-
cis-1,4-Dichloro-2-butene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Cymene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Dibromochloromethane	ug/Kg	-	-	ND (28)	ND (5)	ND (30)	-	-	ND (15)	ND (14)	ND (6)	-
Dibromomethane	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Dichlorodifluoromethane (CFC-12)	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Ethyl methacrylate	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Ethylbenzene	ug/Kg	-	-	ND (28)	ND (5)	ND (30)	-	-	ND (15)	3 J	ND (6)	-
Hexachlorobutadiene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Hexane	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Iodomethane	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Isobutyl alcohol	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Methyl acrylonitrile	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Methyl methacrylate	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Methyl Tert Butyl Ether	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Methylene chloride	ug/Kg	-	-	ND (28)	ND (5)	ND (30)	-	-	ND (15)	ND (14)	ND (6)	-
Naphthalene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
n-Propylbenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Propionitrile (Ethyl cyanide)	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Styrene	ug/Kg	-	-	ND (28)	ND (5)	ND (30)	-	-	ND (15)	ND (14)	ND (6)	-
Tetrachloroethene	ug/Kg	-	-	290	6	ND (30)	-	-	3 J	ND (14)	ND (6)	-
Tetrahydrofuran	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Toluene	ug/Kg	-	-	ND (28)	3 J	ND (30)	-	-	6 J	3 J	ND (6)	-
trans-1,2-Dichloroethene	ug/Kg	-	-	ND (28)	ND (5)	ND (30)	-	-	ND (15)	ND (14)	ND (6)	-
trans-1,3-Dichloropropene	ug/Kg	-	-	ND (28)	ND (5)	ND (30)	-	-	ND (15)	ND (14)	ND (6)	-
trans-1,4-Dichloro-2-butene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Trichloroethene	ug/Kg	-	-	880	11	1500	-	-	8 J	17	ND (6)	-
Trichlorofluoromethane (CFC-11)	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Trifluorotrichloroethane (Freon 113)	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Vinyl acetate	ug/Kg	-	-	ND (55)	ND (10)	ND (60)	-	-	ND (30)	ND (27)	ND (11)	-
Vinyl chloride	ug/Kg	-	-	ND (55)	ND (10)	8 J	-	-	ND (30)	ND (27)	ND (11)	-
Xylene (total)	ug/Kg	-	-	ND (28)	4 J	ND (30)	-	-	ND (15)	13 J	ND (6)	-
General Chemistry												
Flash Point Closed Cup	deg f	-	-	-	-	-	-	-	-	-	-	-
Percent Solids	%	-	-	91.2	-	83.9	90.4	-	82.2	93.4	94.4	79
pH Corrosivity	s.u.	-	-	-	-	-	-	-	-	-	-	-

TABLE G.5

HISTORICAL SOIL SAMPLE RESULTS
AOI 11 TO 14 - CHIP HANDLING AREAS AND NEARBY USTs
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*GP-301*	*GP-302*	*GP-303*	*GP-303*	*GP-304*	*GP-304*	*GP-305*	*GP-305*	*GP-306*	*GP-306*	*GP-307*
Sample Name:		*GP-301 S4*	*GP-302 S1*	*GP-303 S2*	*GP-303 S4*	*GP-304 S2*	*GP-304 S4*	*GP-305 S2*	*GP-305 S4*	*GP-306 S2*	*GP-306 S4*	*GP-307 S2*
Sample Depth:		*(12-16)*	*(0-4)*	*(4-8)*	*(12-16)*	*(4-8)*	*(12-16)*	*(4-8)*	*(12-16)*	*(4-8)*	*(12-16)*	*(4-8)*
Sample Date:		*6/17/99*	*6/16/99*	*6/16/99*	*6/16/99*	*6/16/99*	*6/16/99*	*6/16/99*	*6/16/99*	*6/17/99*	*6/17/99*	*6/17/99*
Parameter	*Units*											
BTEX												
Benzene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Ethylbenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Toluene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Xylene (total)	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Metals												
Arsenic	mg/Kg	ND	ND	-	ND	-	-	-	-	ND	-	ND
Barium	mg/Kg	ND	ND	-	ND	-	-	-	-	ND	-	ND
Cadmium	mg/Kg	ND	ND	-	ND	-	-	-	-	ND	-	ND
Chromium	mg/Kg	ND	ND	-	ND	-	-	-	-	ND	-	ND
Cyanide (total)	mg/Kg	-	-	-	-	-	-	-	-	-	-	-
Lead	mg/Kg	ND	ND	-	ND	-	-	-	-	ND	-	ND
Mercury	mg/Kg	ND	ND	-	ND	-	-	-	-	ND	-	ND
Selenium	mg/Kg	ND	ND	-	ND	-	-	-	-	ND	-	ND
Silver	mg/Kg	ND	ND	-	ND	-	-	-	-	ND	-	ND
Sulfide	mg/Kg	-	-	-	-	-	-	-	-	-	-	-
Miscellaneous												
Ignitability	deg f	140 >	140 >	-	140 >	-	-	-	-	140 >	-	140 >
Percent Moisture	%	-	-	-	-	-	-	-	-	-	-	-
pH (soil)	s.u.	-	-	-	-	-	-	-	-	-	-	-
pH Corrosivity	s.u.	-	-	-	-	-	-	-	-	-	-	-
Reactive Cyanide	mg/kg	-	-	-	-	-	-	-	-	-	-	-
Reactive Sulfide	mg/Kg	-	-	-	-	-	-	-	-	-	-	-
PCBs												
Aroclor-1016	mg/Kg	ND (1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (500)
Aroclor-1221	mg/Kg	ND (1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (500)
Aroclor-1232	mg/Kg	ND (1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (500)
Aroclor-1242	mg/Kg	ND (1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (500)
Aroclor-1248	mg/Kg	ND (1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (500)
Aroclor-1254	mg/Kg	5.6	1.2	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	3250
Aroclor-1260	mg/Kg	ND (1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (500)
Petroleum Products												
Total Petroleum Hydrocarbons	mg/Kg	-	-	-	-	-	-	-	-	-	-	-
Total Petroleum Hydrocarbons - extractable (DRO)	mg/Kg	-	-	-	-	-	-	-	-	-	-	-
Total Petroleum Hydrocarbons, Field	mg/Kg	-	-	-	-	-	-	-	-	-	-	-
Total Recoverable Petroleum Hydrocarbons	mg/Kg	-	-	-	-	-	-	-	-	-	-	-
Semi-Volatiles												
1,2,4-Trichlorobenzene	ug/Kg	ND (7770)	ND (1830)	ND (1650)	ND (1040)	ND (330)	ND (330)	ND (945)	ND (1030)	ND (9320)	ND (330)	ND (35900)
1,2-Dichlorobenzene	ug/Kg	ND (7770)	ND (1830)	ND (1650)	ND (1040)	ND (330)	ND (330)	ND (945)	ND (1030)	ND (9320)	ND (330)	ND (35900)
1,2-Diphenylhydrazine	ug/Kg	ND (7770)	ND (1830)	ND (1650)	ND (1040)	ND (330)	ND (330)	ND (945)	ND (1030)	ND (9320)	ND (330)	ND (35900)
1,3-Dichlorobenzene	ug/Kg	ND (7770)	ND (1830)	ND (1650)	ND (1040)	ND (330)	ND (330)	ND (945)	ND (1030)	ND (9320)	ND (330)	ND (35900)
1,4-Dichlorobenzene	ug/Kg	ND (7770)	ND (1830)	ND (1650)	ND (1040)	ND (330)	ND (330)	ND (945)	ND (1030)	ND (9320)	ND (330)	ND (35900)
2,4,5-Trichlorophenol	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
2,4,6-Trichlorophenol	ug/Kg	ND (7770)	ND (1830)	ND (1650)	ND (1(	ND (330)	ND (330)	ND (945)	ND (1030)	ND (9320)	)	ND (35900)

HISTORICAL SOIL SAMPLE RESULTS
AOI 11 TO 14 - CHIP HANDLING AREAS AND NEARBY USTs
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*GP-301*	*GP-302*	*GP-303*	*GP-303*	*GP-304*	*GP-304*	*GP-305*	*GP-305*	*GP-306*	*GP-306*	*GP-307*
Sample Name:		*GP-301 S4*	*GP-302 S1*	*GP-303 S2*	*GP-303 S4*	*GP-304 S2*	*GP-304 S4*	*GP-305 S2*	*GP-305 S4*	*GP-306 S2*	*GP-306 S4*	*GP-307 S2*
Sample Depth:		*(12-16)*	*(0-4)*	*(4-8)*	*(12-16)*	*(4-8)*	*(12-16)*	*(4-8)*	*(12-16)*	*(4-8)*	*(12-16)*	*(4-8)*
Sample Date:		*6/17/99*	*6/16/99*	*6/16/99*	*6/16/99*	*6/16/99*	*6/16/99*	*6/16/99*	*6/16/99*	*6/17/99*	*6/17/99*	*6/17/99*
Parameter	*Units*											
2,4-Dichlorophenol	ug/Kg	ND (7770)	ND (1830)	ND (1650)	ND (1040)	ND (330)	ND (330)	ND (945)	ND (1030)	ND (9320)	ND (330)	ND (35900)
2,4-Dimethylphenol	ug/Kg	ND (7770)	ND (1830)	ND (1650)	ND (1040)	ND (330)	ND (330)	ND (945)	ND (1030)	ND (9320)	ND (330)	ND (35900)
2,4-Dinitrophenol	ug/Kg	ND (31100)	ND (7320)	ND (6610)	ND (4160)	ND (1700)	ND (1700)	ND (3780)	ND (4120)	ND (37300)	ND (1700)	ND (144000)
2,4-Dinitrotoluene	ug/Kg	ND (7770)	ND (1830)	ND (1650)	ND (1040)	ND (330)	ND (330)	ND (945)	ND (1030)	ND (9320)	ND (330)	ND (35900)
2,6-Dinitrotoluene	ug/Kg	ND (7770)	ND (1830)	ND (1650)	ND (1040)	ND (330)	ND (330)	ND (945)	ND (1030)	ND (9320)	ND (330)	ND (35900)
2-Chloronaphthalene	ug/Kg	ND (7770)	ND (1830)	ND (1650)	ND (1040)	ND (330)	ND (330)	ND (945)	ND (1030)	ND (9320)	ND (330)	ND (35900)
2-Chlorophenol	ug/Kg	ND (7770)	ND (1830)	ND (1650)	ND (1040)	ND (330)	ND (330)	ND (945)	ND (1030)	ND (9320)	ND (330)	ND (35900)
2-Methyl naphthalene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
2-Methylphenol	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
2-Nitroaniline	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
2-Nitrophenol	ug/Kg	ND (7770)	ND (1830)	ND (1650)	ND (1040)	ND (330)	ND (330)	ND (945)	ND (1030)	ND (9320)	ND (330)	ND (35900)
3&4-Methylphenol	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
3,3'-Dichlorobenzidine	ug/Kg	ND (7770)	ND (1830)	ND (1650)	ND (1040)	ND (660)	ND (660)	ND (945)	ND (1030)	ND (9320)	ND (660)	ND (35900)
3-Nitroaniline	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
4,6-Dinitro-2-methylphenol	ug/Kg	ND (15500)	ND (3660)	ND (3310)	ND (2080)	ND (1700)	ND (1700)	ND (1890)	ND (2060)	ND (18600)	ND (1700)	ND (144000)
4-Bromophenyl phenyl ether	ug/Kg	ND (7770)	ND (1830)	ND (1650)	ND (1040)	ND (330)	ND (330)	ND (945)	ND (1030)	ND (9320)	ND (330)	ND (35900)
4-Chloro-3-methylphenol	ug/Kg	ND (7770)	ND (1830)	ND (1650)	ND (1040)	ND (660)	ND (660)	ND (945)	ND (1030)	ND (9320)	ND (660)	ND (35900)
4-Chloroaniline	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
4-Chlorophenyl phenyl ether	ug/Kg	ND (7770)	ND (1830)	ND (1650)	ND (1040)	ND (330)	ND (330)	ND (945)	ND (1030)	ND (9320)	ND (330)	ND (35900)
4-Nitroaniline	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
4-Nitrophenol	ug/Kg	ND (15500)	ND (3660)	ND (3310)	ND (2080)	ND (1700)	ND (1700)	ND (1890)	ND (2060)	ND (18600)	ND (1700)	ND (71900)
Acenaphthene	ug/Kg	ND (7770)	ND (1830)	ND (1650)	ND (1040)	ND (330)	ND (330)	ND (945)	ND (1030)	ND (9320)	ND (330)	ND (35900)
Acenaphthylene	ug/Kg	ND (7770)	ND (1830)	ND (1650)	ND (1040)	ND (330)	ND (330)	ND (945)	ND (1030)	ND (9320)	ND (330)	ND (35900)
Anthracene	ug/Kg	ND (7770)	ND (1830)	ND (1650)	1120	ND (330)	ND (330)	ND (945)	ND (1030)	10200	ND (330)	ND (35900)
Benzo(a)anthracene	ug/Kg	ND (7770)	2030	ND (1650)	ND (1040)	ND (330)	ND (330)	ND (945)	ND (1030)	19200	ND (330)	ND (35900)
Benzo(a)pyrene	ug/Kg	ND (7770)	ND (1830)	ND (8270)	ND (1040)	ND (330)	ND (330)	ND (945)	ND (1030)	12400	ND (1720)	ND (35900)
Benzo(b)fluoranthene	ug/Kg	ND (7770)	ND (1830)	ND (8270)	ND (1040)	ND (330)	ND (330)	ND (945)	ND (1030)	9500	ND (1720)	ND (35900)
Benzo(g,h,i)perylene	ug/Kg	ND (7770)	ND (18300)	ND (8270)	ND (10400)	ND (330)	ND (330)	ND (945)	ND (1030)	ND (9320)	ND (1720)	ND (35900)
Benzo(k)fluoranthene	ug/Kg	ND (7770)	ND (1830)	ND (8270)	ND (1040)	ND (330)	ND (330)	ND (945)	ND (1030)	12600	ND (1720)	ND (35900)
Benzoic acid	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Benzyl Alcohol	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
bis(2-Chloroethoxy)methane	ug/Kg	ND (7770)	ND (1830)	ND (1650)	ND (1040)	ND (330)	ND (330)	ND (945)	ND (1030)	ND (9320)	ND (330)	ND (35900)
bis(2-Chloroethyl)ether	ug/Kg	ND (7770)	ND (1830)	ND (1650)	ND (1040)	ND (330)	ND (330)	ND (945)	ND (1030)	ND (9320)	ND (330)	ND (35900)
bis(2-Chloroisopropyl)ether	ug/Kg	ND (7770)	ND (1830)	ND (1650)	ND (1040)	ND (330)	ND (330)	ND (945)	ND (1030)	ND (9320)	ND (330)	ND (35900)
bis(2-Ethylhexyl)phthalate	ug/Kg	ND (7770)	ND (1830)	ND (1650)	ND (1040)	ND (330)	ND (330)	ND (945)	ND (1030)	ND (9320)	ND (330)	ND (35900)
Butyl benzylphthalate	ug/Kg	ND (7770)	ND (1830)	ND (1650)	ND (1040)	ND (330)	ND (330)	ND (945)	ND (1030)	ND (9320)	ND (330)	ND (35900)
Chrysene	ug/Kg	ND (7770)	2620	ND (1650)	ND	ND (330)	ND (330)	ND (945)	ND (1030)	16200	ND (330)	ND (35900)
Dibenz(a,h)anthracene	ug/Kg	ND (7770)	ND (18300)	ND (8270)	ND (10400)	ND (330)	ND (330)	ND (945)	ND (1030)	ND (9320)	ND (1720)	ND (35900)
Dibenzofuran	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Diethyl phthalate	ug/Kg	ND (7770)	ND (1830)	ND (1650)	ND (1040)	ND (330)	ND (330)	ND (945)	ND (1030)	ND (9320)	ND (330)	ND (35900)
Dimethyl phthalate	ug/Kg	ND (7770)	ND (1830)	ND (1650)	ND (1040)	ND (330)	ND (330)	ND (945)	ND (1030)	ND (9320)	ND (330)	ND (35900)
Di-n-butylphthalate	ug/Kg	ND (7770)	ND (1830)	ND (1650)	ND (1040)	ND (330)	ND (330)	ND (945)	ND (1030)	ND (9320)	ND (330)	ND (35900)
Di-n-octyl phthalate	ug/Kg	ND (7770)	ND (18300)	ND (8270)	ND (10400)	ND (330)	ND (330)	ND (945)	ND (1030)	ND (9320)	ND (1720)	ND (35900)
Fluoranthene	ug/Kg	ND (7770)	6140	ND (1650)	ND (1040)	ND (330)	ND (330)	ND (945)	ND (1030)	32300	ND (330)	ND (35900)
Fluorene	ug/Kg	ND (7770)	ND (1830)	ND (1650)	3460	ND (330)	ND (330)	ND (945)	ND (1030)	ND (9320)	ND (330)	ND (35900)
Hexachlorobenzene	ug/Kg	ND (7770)	ND (1830)	ND (1650)	ND (1040)	ND (330)	ND (330)	ND (945)	ND (1030)	ND (9320)	ND (330)	ND (35900)
Hexachlorobutadiene	ug/Kg	ND (7770)	ND (1830)	ND (1650)	ND (1040)	ND (330)	ND (330)	ND (945)	ND (1030)	ND (9320)	ND (330)	ND (35900)
Hexachlorocyclopentadiene	ug/Kg	ND (7770)	ND (1830)	ND (1650)	ND (1040)	ND (330)	ND (330)	ND (945)	ND (1030)	ND (9320)	ND (330)	ND (35900)
Hexachloroethane	ug/Kg	ND (7770)	ND (1830)	ND (1650)	ND (1040)	ND (330)	ND (330)	ND (945)	ND (1030)	ND (9320)	ND (330)	ND (35900)
Indeno(1,2,3-cd)pyrene	ug/Kg	ND (7770)	ND (18300)	ND (8270)	ND (10400)	ND (330)	ND (330)	ND (945)	ND (1030)	ND (9320)	ND (1720)	ND (35900)
Isophorone	ug/Kg	ND (7770)	ND (1830)	ND (1650)	ND (1040)	ND (330)	ND (330)	ND (945)	ND (1030)	ND (9320)	ND (330)	ND (35900)
Naphthalene	ug/Kg	ND	ND (1830)	ND (1650)	2160	ND (330)	ND (330)	ND (945)	ND (1030)	ND (9320)	ND (330)	ND (35900)
Nitrobenzene	ug/Kg	ND (7770)	ND (1830)	ND (1650)	ND (1040)	ND (330)	ND (330)	ND (945)	ND (1030)	ND (9320)	ND (330)	ND (35900)
N-Nitrosodimethylamine	ug/Kg	ND (7770)	ND (1830)	ND (1700)	ND (1700)	ND (1700)	ND (1700)	ND (1700)	ND (1700)	ND (9320)	ND (1700)	ND (35900)
N-Nitrosodi-n-propylamine	ug/Kg	ND (7770)	ND (1830)	ND (1650)	ND (1040)	ND (330)	ND (330)	ND (945)	ND (1030)	ND (9320)	ND (330)	ND (35900)

TABLE G.5

HISTORICAL SOIL SAMPLE RESULTS
AOI 11 TO 14 - CHIP HANDLING AREAS AND NEARBY USTs
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*GP-301*	*GP-302*	*GP-303*	*GP-303*	*GP-304*	*GP-304*	*GP-305*	*GP-305*	*GP-306*	*GP-306*	*GP-307*
Sample Name:		*GP-301 S4*	*GP-302 S1*	*GP-303 S2*	*GP-303 S4*	*GP-304 S2*	*GP-304 S4*	*GP-305 S2*	*GP-305 S4*	*GP-306 S2*	*GP-306 S4*	*GP-307 S2*
Sample Depth:		*(12-16)*	*(0-4)*	*(4-8)*	*(12-16)*	*(4-8)*	*(12-16)*	*(4-8)*	*(12-16)*	*(4-8)*	*(12-16)*	*(4-8)*
Sample Date:		*6/17/99*	*6/16/99*	*6/16/99*	*6/16/99*	*6/16/99*	*6/16/99*	*6/16/99*	*6/16/99*	*6/17/99*	*6/17/99*	*6/17/99*
Parameter	*Units*											
N-Nitrosodiphenylamine	ug/Kg	ND (7770)	ND (1830)	ND (1650)	ND (1040)	ND (330)	ND (330)	ND (945)	ND (1030)	ND (9320)	ND (330)	ND (35900)
Pentachlorophenol	ug/Kg	ND (7770)	ND (1830)	ND (1700)	ND (1700)	ND (1700)	ND (1700)	ND (1700)	ND (1700)	ND (9320)	ND (1700)	ND (35900)
Phenanthrene	ug/Kg	ND (7770)	2220	ND (1650)	7960	ND (330)	ND (330)	ND (945)	ND (1030)	24300	ND (330)	ND (35900)
Phenol	ug/Kg	ND (7770)	ND (1830)	ND (1650)	ND (1040)	ND (330)	ND (330)	ND (945)	ND (1030)	ND (9320)	ND (330)	ND (35900)
Pyrene	ug/Kg	ND (7770)	4950	ND (1650)	1300	ND (330)	ND (330)	ND (945)	ND (1030)	26100	ND (330)	ND (35900)
Volatiles												
1,1,1,2-Tetrachloroethane	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
1,1,1-Trichloroethane	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
1,1,2,2-Tetrachloroethane	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
1,1,2-Trichloroethane	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethane	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
1,1-Dichloropropene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
1,2,3-Trichloropropane	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
1,2,4-Trichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
1,2,4-Trimethylbenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
1,2-Dibromo-3-chloropropane (DBCP)	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
1,2-Dibromoethane (EDB)	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichloroethane	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichloroethene (total)	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichloropropane	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
1,3,5-Trimethylbenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
1,3-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
1,3-Dichloropropane	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
1,4-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
1,4-Dioxane	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
2,2-Dichloropropane	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
2-Butanone	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
2-Chloroethyl vinyl ether	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
2-Chlorotoluene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
2-Hexanone	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
2-Phenylbutane	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
4-Chlorotoluene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
4-Methyl-2-pentanone	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Acetone	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Acrolein	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Acrylonitrile	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Allyl chloride	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Benzene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Benzene, butyl	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Benzene, isopropyl	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Benzene, tert-butyl	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Bromobenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Bromodichloromethane	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Bromoform	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Bromomethane	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Carbon disulfide	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Carbon tetrachloride	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Chlorobenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Chlorobromomethane	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Chloroethane	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Chloroform	ug/Kg	-	-	-	-	-	-	-	-	-	-	-

HISTORICAL SOIL SAMPLE RESULTS
AOI 11 TO 14 - CHIP HANDLING AREAS AND NEARBY USTs
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*GP-301*	*GP-302*	*GP-303*	*GP-303*	*GP-304*	*GP-304*	*GP-305*	*GP-305*	*GP-306*	*GP-306*	*GP-307*
Sample Name:		*GP-301 S4*	*GP-302 S1*	*GP-303 S2*	*GP-303 S4*	*GP-304 S2*	*GP-304 S4*	*GP-305 S2*	*GP-305 S4*	*GP-306 S2*	*GP-306 S4*	*GP-307 S2*
Sample Depth:		*(12-16)*	*(0-4)*	*(4-8)*	*(12-16)*	*(4-8)*	*(12-16)*	*(4-8)*	*(12-16)*	*(4-8)*	*(12-16)*	*(4-8)*
Sample Date:		*6/17/99*	*6/16/99*	*6/16/99*	*6/16/99*	*6/16/99*	*6/16/99*	*6/16/99*	*6/16/99*	*6/17/99*	*6/17/99*	*6/17/99*
Parameter	*Units*											
Chloromethane	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Chloroprene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
cis-1,2-Dichloroethene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
cis-1,3-Dichloropropene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
cis-1,4-Dichloro-2-butene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Cymene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Dibromochloromethane	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Dibromomethane	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Dichlorodifluoromethane (CFC-12)	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Ethyl methacrylate	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Ethylbenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Hexachlorobutadiene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Hexane	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Iodomethane	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Isobutyl alcohol	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Methyl acrylonitrile	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Methyl methacrylate	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Methyl Tert Butyl Ether	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Methylene chloride	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Naphthalene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
n-Propylbenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Propionitrile (Ethyl cyanide)	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Styrene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Tetrachloroethene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Tetrahydrofuran	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Toluene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
trans-1,2-Dichloroethene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
trans-1,3-Dichloropropene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
trans-1,4-Dichloro-2-butene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Trichloroethene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Trichlorofluoromethane (CFC-11)	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Trifluorotrichloroethane (Freon 113)	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Vinyl acetate	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Vinyl chloride	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Xylene (total)	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
General Chemistry												
Flash Point Closed Cup	deg f	-	-	-	-	-	-	-	-	-	-	-
Percent Solids	%	92	79	87	69	84	92	76	70	76	82	81
pH Corrosivity	s.u.	-	-	-	-	-	-	-	-	-	-	-

TABLE G.5

HISTORICAL SOIL SAMPLE RESULTS
AOI 11 TO 14 - CHIP HANDLING AREAS AND NEARBY USTs
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*GP-307*	*GP-308*	*GP-311*	*GP-311*	*GP-311*	*GP-312*	*GP-312*	*GP-312*	*GP-314*	*GP-314*
Sample Name:		*GP-307 S4*	*GP-308 S4*	*GP-311 S1*	*GP-311 S2*	*GP-311 S4*	*GP-312 S3*	*GP-312 S3-DL*	*GP-312 S4*	*GP-314 S1*	*GP-314 S4*
Sample Depth:		*(12-16)*	*(12-16)*	*(0-4)*	*(4-8)*	*(12-16)*	*(8-12)*	*(8-12)*	*(12-16)*	*(0-4)*	*(12-16)*
Sample Date:		*6/17/99*	*6/17/99*	*6/16/99*	*6/16/99*	*6/16/99*	*6/16/99*	*6/16/99*	*6/16/99*	*6/16/99*	*6/16/99*
Parameter	*Units*										
BTEX											
Benzene	ug/Kg	-	-	-	-	-	-	-	-	-	-
Ethylbenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-
Toluene	ug/Kg	-	-	-	-	-	-	-	-	-	-
Xylene (total)	ug/Kg	-	-	-	-	-	-	-	-	-	-
Metals											
Arsenic	mg/Kg	ND	ND	-	ND	ND	ND	-	ND	-	-
Barium	mg/Kg	ND	ND	-	ND	ND	ND	-	ND	-	-
Cadmium	mg/Kg	ND	ND	-	ND	ND	ND	-	ND	-	-
Chromium	mg/Kg	ND	ND	-	ND	ND	ND	-	ND	-	-
Cyanide (total)	mg/Kg	-	-	-	-	-	-	-	-	-	-
Lead	mg/Kg	ND	ND	-	ND	ND	ND	-	ND	-	-
Mercury	mg/Kg	ND	ND	-	ND	ND	ND	-	ND	-	-
Selenium	mg/Kg	ND	ND	-	ND	ND	ND	-	ND	-	-
Silver	mg/Kg	ND	ND	-	ND	ND	ND	-	ND	-	-
Sulfide	mg/Kg	-	-	-	-	-	-	-	-	-	-
Miscellaneous											
Ignitability	deg f	140 >	140 >	-	140 >	140 >	140 >	-	140 >	-	-
Percent Moisture	%	-	-	-	-	-	-	-	-	-	-
pH (soil)	s.u.	-	-	-	-	-	-	-	-	-	-
pH Corrosivity	s.u.	-	-	-	-	-	-	-	-	-	-
Reactive Cyanide	mg/kg	-	-	-	-	-	-	-	-	-	-
Reactive Sulfide	mg/Kg	-	-	-	-	-	-	-	-	-	-
PCBs											
Aroclor-1016	mg/Kg	ND (1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (1)	ND (0.1)	ND (0.1)
Aroclor-1221	mg/Kg	ND (1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (1)	ND (0.1)	ND (0.1)
Aroclor-1232	mg/Kg	ND (1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (1)	ND (0.1)	ND (0.1)
Aroclor-1242	mg/Kg	ND (1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (1)	ND (0.1)	ND (0.1)
Aroclor-1248	mg/Kg	ND (1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (1)	ND (0.1)	ND (0.1)
Aroclor-1254	mg/Kg	9	0.3	ND (0.1)	ND (0.1)	0.7	0.3	-	4.4	ND (0.1)	ND (0.1)
Aroclor-1260	mg/Kg	ND (1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (1)	ND (0.1)	ND (0.1)
Petroleum Products											
Total Petroleum Hydrocarbons	mg/Kg	-	-	-	-	-	-	-	-	-	-
Total Petroleum Hydrocarbons - extractable (DRO)	mg/Kg	-	-	-	-	-	-	-	-	-	-
Total Petroleum Hydrocarbons, Field	mg/Kg	-	-	-	-	-	-	-	-	-	-
Total Recoverable Petroleum Hydrocarbons	mg/Kg	-	-	-	-	-	-	-	-	-	-
Semi-Volatiles											
1,2,4-Trichlorobenzene	ug/Kg	ND (330)	ND (1070)	ND (330)	ND (1650)	ND (16000)	ND (330)	ND (330)	ND (7820)	ND (1670)	ND (15100)
1,2-Dichlorobenzene	ug/Kg	ND (330)	ND (1070)	ND (330)	ND (1650)	ND (16000)	ND (330)	ND (330)	ND (7820)	ND (1670)	ND (15100)
1,2-Diphenylhydrazine	ug/Kg	ND (330)	ND (1070)	ND (330)	ND (1650)	ND (16000)	ND (330)	ND (330)	ND (7820)	ND (1670)	ND (15100)
1,3-Dichlorobenzene	ug/Kg	ND (330)	ND (1070)	ND (330)	ND (1650)	ND (16000)	ND (330)	ND (330)	ND (7820)	ND (1670)	ND (15100)
1,4-Dichlorobenzene	ug/Kg	ND (330)	ND (1070)	ND (330)	ND (1650)	ND (16000)	ND (330)	ND (330)	ND (7820)	ND (1670)	ND (15100)
2,4,5-Trichlorophenol	ug/Kg	-	-	-	-	-	-	-	-	-	-
2,4,6-Trichlorophenol	ug/Kg	ND (330)	ND (1070)	ND (330)	ND (1	ND (16000)	ND (330)	ND (330)	ND (7820)	ND (1670)	(15100)

HISTORICAL SOIL SAMPLE RESULTS
AOI 11 TO 14 - CHIP HANDLING AREAS AND NEARBY USTs
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*GP-307*	*GP-308*	*GP-311*	*GP-311*	*GP-311*	*GP-312*	*GP-312*	*GP-312*	*GP-314*	*GP-314*
Sample Name:		*GP-307 S4*	*GP-308 S4*	*GP-311 S1*	*GP-311 S2*	*GP-311 S4*	*GP-312 S3*	*GP-312 S3-DL*	*GP-312 S4*	*GP-314 S1*	*GP-314 S4*
Sample Depth:		*(12-16)*	*(12-16)*	*(0-4)*	*(4-8)*	*(12-16)*	*(8-12)*	*(8-12)*	*(12-16)*	*(0-4)*	*(12-16)*
Sample Date:		*6/17/99*	*6/17/99*	*6/16/99*	*6/16/99*	*6/16/99*	*6/16/99*	*6/16/99*	*6/16/99*	*6/16/99*	*6/16/99*
Parameter	*Units*										
2,4-Dichlorophenol	ug/Kg	ND (330)	ND (1070)	ND (330)	ND (1650)	ND (16000)	ND (330)	ND (330)	ND (7820)	ND (1670)	ND (15100)
2,4-Dimethylphenol	ug/Kg	ND (330)	ND (1070)	ND (330)	ND (1650)	ND (16000)	ND (330)	ND (330)	ND (7820)	ND (1670)	ND (15100)
2,4-Dinitrophenol	ug/Kg	ND (1700)	ND (4280)	ND (1700)	ND (6590)	ND (64100)	ND (1700)	ND (1700)	ND (31300)	ND (6680)	ND (60400)
2,4-Dinitrotoluene	ug/Kg	ND (330)	ND (1070)	ND (330)	ND (1650)	ND (16000)	ND (330)	ND (330)	ND (7820)	ND (1670)	ND (15100)
2,6-Dinitrotoluene	ug/Kg	ND (330)	ND (1070)	ND (330)	ND (1650)	ND (16000)	ND (330)	ND (330)	ND (7820)	ND (1670)	ND (15100)
2-Chloronaphthalene	ug/Kg	ND (330)	ND (1070)	ND (330)	ND (1650)	ND (16000)	ND (330)	ND (330)	ND (7820)	ND (1670)	ND (15100)
2-Chlorophenol	ug/Kg	ND (330)	ND (1070)	ND (330)	ND (1650)	ND (16000)	ND (330)	ND (330)	ND (7820)	ND (1670)	ND (15100)
2-Methyl naphthalene	ug/Kg	-	-	-	-	-	-	-	-	-	-
2-Methylphenol	ug/Kg	-	-	-	-	-	-	-	-	-	-
2-Nitroaniline	ug/Kg	-	-	-	-	-	-	-	-	-	-
2-Nitrophenol	ug/Kg	ND (330)	ND (1070)	ND (330)	ND (1650)	ND (16000)	ND (330)	ND (330)	ND (7820)	ND (1670)	ND (15100)
3&4-Methylphenol	ug/Kg	-	-	-	-	-	-	-	-	-	-
3,3'-Dichlorobenzidine	ug/Kg	ND (660)	ND (1070)	ND (660)	ND (1650)	ND (16000)	ND (660)	-	ND (7820)	ND (1670)	ND (15100)
3-Nitroaniline	ug/Kg	-	-	-	-	-	-	-	-	-	-
4,6-Dinitro-2-methylphenol	ug/Kg	ND (1700)	ND (2140)	ND (1700)	ND (3300)	ND (32000)	ND (1700)	ND (1700)	ND (15600)	ND (3340)	ND (30200)
4-Bromophenyl phenyl ether	ug/Kg	ND (330)	ND (1070)	ND (330)	ND (1650)	ND (16000)	ND (330)	ND (330)	ND (7820)	ND (1670)	ND (15100)
4-Chloro-3-methylphenol	ug/Kg	ND (660)	ND (1070)	ND (660)	ND (1650)	ND (16000)	ND (660)	ND (660)	ND (7820)	ND (1670)	ND (15100)
4-Chloroaniline	ug/Kg	-	-	-	-	-	-	-	-	-	-
4-Chlorophenyl phenyl ether	ug/Kg	ND (330)	ND (1070)	ND (330)	ND (1650)	ND (16000)	ND (330)	ND (330)	ND (7820)	ND (1670)	ND (15100)
4-Nitroaniline	ug/Kg	-	-	-	-	-	-	-	-	-	-
4-Nitrophenol	ug/Kg	ND (1700)	ND (2140)	ND (1700)	ND (3300)	ND (32000)	ND (1700)	ND (1700)	ND (15600)	ND (3340)	ND (30200)
Acenaphthene	ug/Kg	ND (330)	ND (1070)	ND (330)	ND (1650)	ND (16000)	ND (330)	ND (330)	ND (7820)	ND (1670)	ND (15100)
Acenaphthylene	ug/Kg	ND (330)	ND (1070)	ND (330)	ND (1650)	ND (16000)	ND (330)	ND (330)	ND (7820)	ND (1670)	ND (15100)
Anthracene	ug/Kg	ND (330)	ND (1070)	ND (330)	ND (1650)	ND (16000)	ND (330)	-	ND (7820)	ND (1670)	ND (15100)
Benzo(a)anthracene	ug/Kg	ND (330)	ND (1070)	ND (330)	ND (1650)	ND (16000)	ND (330)	-	ND (7820)	ND (1670)	ND (15100)
Benzo(a)pyrene	ug/Kg	ND (330)	ND (1070)	ND (330)	ND (1650)	ND (16000)	ND (7670)	-	ND (78200)	ND (1670)	ND (15100)
Benzo(b)fluoranthene	ug/Kg	ND (330)	ND (1070)	ND (330)	ND (1650)	ND (16000)	ND (7670)	-	ND (78200)	ND (1670)	ND (15100)
Benzo(g,h,i)perylene	ug/Kg	ND (330)	ND (1070)	ND (330)	ND (1650)	ND (16000)	ND (7670)	-	ND (78200)	ND (1670)	ND (15100)
Benzo(k)fluoranthene	ug/Kg	ND (330)	ND (1070)	ND (330)	ND (1650)	ND (16000)	ND (7670)	-	ND (78200)	ND (1670)	ND (15100)
Benzoic acid	ug/Kg	-	-	-	-	-	-	-	-	-	-
Benzyl Alcohol	ug/Kg	-	-	-	-	-	-	-	-	-	-
bis(2-Chloroethoxy)methane	ug/Kg	ND (330)	ND (1070)	ND (330)	ND (1650)	ND (16000)	ND (330)	ND (330)	ND (7820)	ND (1670)	ND (15100)
bis(2-Chloroethyl)ether	ug/Kg	ND (330)	ND (1070)	ND (330)	ND (1650)	ND (16000)	ND (330)	ND (330)	ND (7820)	ND (1670)	ND (15100)
bis(2-Chloroisopropyl)ether	ug/Kg	ND (330)	ND (1070)	ND (330)	ND (1650)	ND (16000)	ND (330)	ND (330)	ND (7820)	ND (1670)	ND (15100)
bis(2-Ethylhexyl)phthalate	ug/Kg	ND (330)	ND (1070)	ND (330)	ND (1650)	ND (16000)	ND (330)	-	ND (7820)	ND (1670)	ND (15100)
Butyl benzylphthalate	ug/Kg	ND (330)	ND (1070)	ND (330)	ND (1650)	ND (16000)	ND (330)	-	ND (7820)	ND (1670)	ND (15100)
Chrysene	ug/Kg	ND (330)	ND (1070)	ND (330)	ND (1650)	ND (16000)	ND (330)	-	ND (7820)	ND (1670)	ND (15100)
Dibenz(a,h)anthracene	ug/Kg	ND (330)	ND (1070)	ND (330)	ND (1650)	ND (16000)	ND (7670)	-	ND (78200)	ND (1670)	ND (15100)
Dibenzofuran	ug/Kg	-	-	-	-	-	-	-	-	-	-
Diethyl phthalate	ug/Kg	ND (330)	ND (1070)	ND (330)	ND (1650)	ND (16000)	ND (330)	ND (330)	ND (7820)	ND (1670)	ND (15100)
Dimethyl phthalate	ug/Kg	ND (330)	ND (1070)	ND (330)	ND (1650)	ND (16000)	ND (330)	ND (330)	ND (7820)	ND (1670)	ND (15100)
Di-n-butylphthalate	ug/Kg	ND (330)	ND (1070)	ND (330)	ND (1650)	ND (16000)	ND (330)	ND (330)	ND (7820)	ND (1670)	ND (15100)
Di-n-octyl phthalate	ug/Kg	ND (330)	ND (1070)	ND (330)	ND (1650)	ND (16000)	ND (7670)	-	ND (78200)	ND (1670)	ND (15100)
Fluoranthene	ug/Kg	ND (330)	ND (1070)	ND (330)	2090	ND (16000)	ND (330)	-	ND (7820)	ND (1670)	ND (15100)
Fluorene	ug/Kg	ND (330)	ND (1070)	ND (330)	ND (1650)	ND (16000)	ND (330)	-	ND (7820)	ND (1670)	ND (15100)
Hexachlorobenzene	ug/Kg	ND (330)	ND (1070)	ND (330)	ND (1650)	ND (16000)	ND (330)	ND (330)	ND (7820)	ND (1670)	ND (15100)
Hexachlorobutadiene	ug/Kg	ND (330)	ND (1070)	ND (330)	ND (1650)	ND (16000)	ND (330)	ND (330)	ND (7820)	ND (1670)	ND (15100)
Hexachlorocyclopentadiene	ug/Kg	ND (330)	ND (1070)	ND (330)	ND (1650)	ND (16000)	ND (330)	ND (330)	ND (7820)	ND (1670)	ND (15100)
Hexachloroethane	ug/Kg	ND (330)	ND (1070)	ND (330)	ND (1650)	ND (16000)	ND (330)	ND (330)	ND (7820)	ND (1670)	ND (15100)
Indeno(1,2,3-cd)pyrene	ug/Kg	ND (330)	ND (1070)	ND (330)	ND (1650)	ND (16000)	ND (7670)	-	ND (78200)	ND (1670)	ND (15100)
Isophorone	ug/Kg	ND (330)	ND (1070)	ND (330)	ND (1650)	ND (16000)	ND (330)	ND (330)	ND (7820)	ND (1670)	ND (15100)
Naphthalene	ug/Kg	ND (330)	ND (1070)	ND (330)	ND (1650)	ND (16000)	ND (330)	ND (330)	ND (7820)	ND (1670)	ND (15100)
Nitrobenzene	ug/Kg	ND (330)	ND (1070)	ND (330)	ND (1650)	ND (16000)	ND (330)	ND (330)	ND (7820)	ND (1670)	ND (15100)
N-Nitrosodimethylamine	ug/Kg	ND (1700)	ND (1700)	ND (1700)	ND (1700)	ND (16000)	ND (1700)	ND (1700)	ND (7820)	ND (1700)	ND (15100)
N-Nitrosodi-n-propylamine	ug/Kg	ND (330)	ND (1070)	ND (330)	ND (1650)	ND (16000)	ND (330)	ND (330)	ND (7820)	ND (1670)	ND (15100)

TABLE G.5

HISTORICAL SOIL SAMPLE RESULTS
AOI 11 TO 14 - CHIP HANDLING AREAS AND NEARBY USTs
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*GP-307*	*GP-308*	*GP-311*	*GP-311*	*GP-311*	*GP-312*	*GP-312*	*GP-312*	*GP-314*	*GP-314*
Sample Name:		*GP-307 S4*	*GP-308 S4*	*GP-311 S1*	*GP-311 S2*	*GP-311 S4*	*GP-312 S3*	*GP-312 S3-DL*	*GP-312 S4*	*GP-314 S1*	*GP-314 S4*
Sample Depth:		*(12-16)*	*(12-16)*	*(0-4)*	*(4-8)*	*(12-16)*	*(8-12)*	*(8-12)*	*(12-16)*	*(0-4)*	*(12-16)*
Sample Date:		*6/17/99*	*6/17/99*	*6/16/99*	*6/16/99*	*6/16/99*	*6/16/99*	*6/16/99*	*6/16/99*	*6/16/99*	*6/16/99*
Parameter	*Units*										
N-Nitrosodiphenylamine	ug/Kg	ND (330)	ND (1070)	ND (330)	ND (1650)	ND (16000)	ND (330)	ND (330)	ND (7820)	ND (1670)	ND (15100)
Pentachlorophenol	ug/Kg	ND (1700)	ND (1700)	ND (1700)	ND (1700)	ND (16000)	ND (1700)	ND (1700)	ND (7820)	ND (1700)	ND (15100)
Phenanthrene	ug/Kg	ND (330)	ND (1070)	ND (330)	ND (1650)	ND (16000)	ND	-	ND (7820)	ND (1670)	ND (15100)
Phenol	ug/Kg	ND (330)	ND (1070)	ND (330)	ND (1650)	ND (16000)	ND (330)	ND (330)	ND (7820)	ND (1670)	ND (15100)
Pyrene	ug/Kg	ND (330)	ND (1070)	ND (330)	1810	ND (16000)	ND (330)	-	ND (7820)	ND (1670)	ND (15100)
Volatiles											
1,1,1,2-Tetrachloroethane	ug/Kg	-	-	-	-	-	-	-	-	-	-
1,1,1-Trichloroethane	ug/Kg	-	-	-	-	-	-	-	-	-	-
1,1,2,2-Tetrachloroethane	ug/Kg	-	-	-	-	-	-	-	-	-	-
1,1,2-Trichloroethane	ug/Kg	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethane	ug/Kg	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethene	ug/Kg	-	-	-	-	-	-	-	-	-	-
1,1-Dichloropropene	ug/Kg	-	-	-	-	-	-	-	-	-	-
1,2,3-Trichloropropane	ug/Kg	-	-	-	-	-	-	-	-	-	-
1,2,4-Trichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-
1,2,4-Trimethylbenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-
1,2-Dibromo-3-chloropropane (DBCP)	ug/Kg	-	-	-	-	-	-	-	-	-	-
1,2-Dibromoethane (EDB)	ug/Kg	-	-	-	-	-	-	-	-	-	-
1,2-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-
1,2-Dichloroethane	ug/Kg	-	-	-	-	-	-	-	-	-	-
1,2-Dichloroethene (total)	ug/Kg	-	-	-	-	-	-	-	-	-	-
1,2-Dichloropropane	ug/Kg	-	-	-	-	-	-	-	-	-	-
1,3,5-Trimethylbenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-
1,3-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-
1,3-Dichloropropane	ug/Kg	-	-	-	-	-	-	-	-	-	-
1,4-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-
1,4-Dioxane	ug/Kg	-	-	-	-	-	-	-	-	-	-
2,2-Dichloropropane	ug/Kg	-	-	-	-	-	-	-	-	-	-
2-Butanone	ug/Kg	-	-	-	-	-	-	-	-	-	-
2-Chloroethyl vinyl ether	ug/Kg	-	-	-	-	-	-	-	-	-	-
2-Chlorotoluene	ug/Kg	-	-	-	-	-	-	-	-	-	-
2-Hexanone	ug/Kg	-	-	-	-	-	-	-	-	-	-
2-Phenylbutane	ug/Kg	-	-	-	-	-	-	-	-	-	-
4-Chlorotoluene	ug/Kg	-	-	-	-	-	-	-	-	-	-
4-Methyl-2-pentanone	ug/Kg	-	-	-	-	-	-	-	-	-	-
Acetone	ug/Kg	-	-	-	-	-	-	-	-	-	-
Acrolein	ug/Kg	-	-	-	-	-	-	-	-	-	-
Acrylonitrile	ug/Kg	-	-	-	-	-	-	-	-	-	-
Allyl chloride	ug/Kg	-	-	-	-	-	-	-	-	-	-
Benzene	ug/Kg	-	-	-	-	-	-	-	-	-	-
Benzene, butyl	ug/Kg	-	-	-	-	-	-	-	-	-	-
Benzene, isopropyl	ug/Kg	-	-	-	-	-	-	-	-	-	-
Benzene, tert-butyl	ug/Kg	-	-	-	-	-	-	-	-	-	-
Bromobenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-
Bromodichloromethane	ug/Kg	-	-	-	-	-	-	-	-	-	-
Bromoform	ug/Kg	-	-	-	-	-	-	-	-	-	-
Bromomethane	ug/Kg	-	-	-	-	-	-	-	-	-	-
Carbon disulfide	ug/Kg	-	-	-	-	-	-	-	-	-	-
Carbon tetrachloride	ug/Kg	-	-	-	-	-	-	-	-	-	-
Chlorobenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-
Chlorobromomethane	ug/Kg	-	-	-	-	-	-	-	-	-	-
Chloroethane	ug/Kg	-	-	-	-	-	-	-	-	-	-
Chloroform	ug/Kg	-	-	-	-	-	-	-	-	-	-

HISTORICAL SOIL SAMPLE RESULTS
AOI 11 TO 14 - CHIP HANDLING AREAS AND NEARBY USTs
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*GP-307*	*GP-308*	*GP-311*	*GP-311*	*GP-311*	*GP-312*	*GP-312*	*GP-312*	*GP-314*	*GP-314*
Sample Name:		*GP-307 S4*	*GP-308 S4*	*GP-311 S1*	*GP-311 S2*	*GP-311 S4*	*GP-312 S3*	*GP-312 S3-DL*	*GP-312 S4*	*GP-314 S1*	*GP-314 S4*
Sample Depth:		*(12-16)*	*(12-16)*	*(0-4)*	*(4-8)*	*(12-16)*	*(8-12)*	*(8-12)*	*(12-16)*	*(0-4)*	*(12-16)*
Sample Date:		*6/17/99*	*6/17/99*	*6/16/99*	*6/16/99*	*6/16/99*	*6/16/99*	*6/16/99*	*6/16/99*	*6/16/99*	*6/16/99*
Parameter	*Units*										
Chloromethane	ug/Kg	-	-	-	-	-	-	-	-	-	-
Chloroprene	ug/Kg	-	-	-	-	-	-	-	-	-	-
cis-1,2-Dichloroethene	ug/Kg	-	-	-	-	-	-	-	-	-	-
cis-1,3-Dichloropropene	ug/Kg	-	-	-	-	-	-	-	-	-	-
cis-1,4-Dichloro-2-butene	ug/Kg	-	-	-	-	-	-	-	-	-	-
Cymene	ug/Kg	-	-	-	-	-	-	-	-	-	-
Dibromochloromethane	ug/Kg	-	-	-	-	-	-	-	-	-	-
Dibromomethane	ug/Kg	-	-	-	-	-	-	-	-	-	-
Dichlorodifluoromethane (CFC-12)	ug/Kg	-	-	-	-	-	-	-	-	-	-
Ethyl methacrylate	ug/Kg	-	-	-	-	-	-	-	-	-	-
Ethylbenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-
Hexachlorobutadiene	ug/Kg	-	-	-	-	-	-	-	-	-	-
Hexane	ug/Kg	-	-	-	-	-	-	-	-	-	-
Iodomethane	ug/Kg	-	-	-	-	-	-	-	-	-	-
Isobutyl alcohol	ug/Kg	-	-	-	-	-	-	-	-	-	-
Methyl acrylonitrile	ug/Kg	-	-	-	-	-	-	-	-	-	-
Methyl methacrylate	ug/Kg	-	-	-	-	-	-	-	-	-	-
Methyl Tert Butyl Ether	ug/Kg	-	-	-	-	-	-	-	-	-	-
Methylene chloride	ug/Kg	-	-	-	-	-	-	-	-	-	-
Naphthalene	ug/Kg	-	-	-	-	-	-	-	-	-	-
n-Propylbenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-
Propionitrile (Ethyl cyanide)	ug/Kg	-	-	-	-	-	-	-	-	-	-
Styrene	ug/Kg	-	-	-	-	-	-	-	-	-	-
Tetrachloroethene	ug/Kg	-	-	-	-	-	-	-	-	-	-
Tetrahydrofuran	ug/Kg	-	-	-	-	-	-	-	-	-	-
Toluene	ug/Kg	-	-	-	-	-	-	-	-	-	-
trans-1,2-Dichloroethene	ug/Kg	-	-	-	-	-	-	-	-	-	-
trans-1,3-Dichloropropene	ug/Kg	-	-	-	-	-	-	-	-	-	-
trans-1,4-Dichloro-2-butene	ug/Kg	-	-	-	-	-	-	-	-	-	-
Trichloroethene	ug/Kg	-	-	-	-	-	-	-	-	-	-
Trichlorofluoromethane (CFC-11)	ug/Kg	-	-	-	-	-	-	-	-	-	-
Trifluorotrichloroethane (Freon 113)	ug/Kg	-	-	-	-	-	-	-	-	-	-
Vinyl acetate	ug/Kg	-	-	-	-	-	-	-	-	-	-
Vinyl chloride	ug/Kg	-	-	-	-	-	-	-	-	-	-
Xylene (total)	ug/Kg	-	-	-	-	-	-	-	-	-	-
General Chemistry											
Flash Point Closed Cup	deg f	-	-	-	-	-	-	-	-	-	-
Percent Solids	%	91	66	85	87	89	92	92	92	85	94
pH Corrosivity	s.u.	-	-	-	-	-	-	-	-	-	-

TABLE G.5

HISTORICAL SOIL SAMPLE RESULTS
AOI 11 TO 14 - CHIP HANDLING AREAS AND NEARBY USTs
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*GP-315*	*GP-315*	*GP-315*	*GP-316A*	*GP-316A*	*GP-317*	*GP-317*	*GP-318B*	*GP-318B*	*GP-319*
Sample Name:		*GP-315 S1*	*GP-315 S4*	*GP-315 S4-DL*	*GP-316a S1*	*GP-316a S2*	*GP-317 S1*	*GP-317 S4*	*GP-318B S3*	*GP-318B S4*	*GP-319 S2*
Sample Depth:		*(0-4)*	*(12-16)*	*(12-16)*	*(0-4)*	*(4-8)*	*(0-4)*	*(12-16)*	*(8-12)*	*(12-16)*	*(4-8)*
Sample Date:		*6/16/99*	*6/16/99*	*6/16/99*	*6/16/99*	*6/16/99*	*6/16/99*	*6/16/99*	*6/16/99*	*6/16/99*	*6/16/99*
Parameter	*Units*										
BTEX											
Benzene	ug/Kg	-	-	-	-	-	-	-	-	-	-
Ethylbenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-
Toluene	ug/Kg	-	-	-	-	-	-	-	-	-	-
Xylene (total)	ug/Kg	-	-	-	-	-	-	-	-	-	-
Metals											
Arsenic	mg/Kg	ND	ND	-	ND	ND	ND	ND	-	-	ND
Barium	mg/Kg	ND	ND	-	ND	ND	ND	ND	-	-	ND
Cadmium	mg/Kg	ND	ND	-	ND	ND	ND	ND	-	-	ND
Chromium	mg/Kg	ND	ND	-	ND	ND	ND	ND	-	-	ND
Cyanide (total)	mg/Kg	-	-	-	-	-	-	-	-	-	-
Lead	mg/Kg	ND	ND	-	ND	ND	ND	ND	-	-	ND
Mercury	mg/Kg	ND	ND	-	ND	ND	ND	ND	-	-	ND
Selenium	mg/Kg	ND	ND	-	ND	ND	ND	ND	-	-	ND
Silver	mg/Kg	ND	ND	-	ND	ND	ND	ND	-	-	ND
Sulfide	mg/Kg	-	-	-	-	-	-	-	-	-	-
Miscellaneous											
Ignitability	deg f	140 >	140 >	-	140 >	140 >	140 >	140 >	-	-	140 >
Percent Moisture	%	-	-	-	-	-	-	-	-	-	-
pH (soil)	s.u.	-	-	-	-	-	-	-	-	-	-
pH Corrosivity	s.u.	-	-	-	-	-	-	-	-	-	-
Reactive Cyanide	mg/kg	-	-	-	-	-	-	-	-	-	-
Reactive Sulfide	mg/Kg	-	-	-	-	-	-	-	-	-	-
PCBs											
Aroclor-1016	mg/Kg	ND (0.1)	ND (0.1)	ND (0.1)	ND (2)	ND (10)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (5)
Aroclor-1221	mg/Kg	ND (0.1)	ND (0.1)	ND (0.1)	ND (2)	ND (10)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (5)
Aroclor-1232	mg/Kg	ND (0.1)	ND (0.1)	ND (0.1)	ND (2)	ND (10)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (5)
Aroclor-1242	mg/Kg	ND (0.1)	ND (0.1)	ND (0.1)	ND (2)	ND (10)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (5)
Aroclor-1248	mg/Kg	ND (0.1)	ND (0.1)	ND (0.1)	ND (2)	ND (10)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (5)
Aroclor-1254	mg/Kg	0.1	1.0	-	0.0178	ND	ND (0.1)	0.5	ND (0.1)	ND (0.1)	ND (5.0)
Aroclor-1260	mg/Kg	ND (0.1)	ND (0.1)	ND (0.1)	ND (2)	ND (10)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (5)
Petroleum Products											
Total Petroleum Hydrocarbons	mg/Kg	-	-	-	-	-	-	-	-	-	-
Total Petroleum Hydrocarbons - extractable (DRO)	mg/Kg	-	-	-	-	-	-	-	-	-	-
Total Petroleum Hydrocarbons, Field	mg/Kg	-	-	-	-	-	-	-	-	-	-
Total Recoverable Petroleum Hydrocarbons	mg/Kg	-	-	-	-	-	-	-	-	-	-
Semi-Volatiles											
1,2,4-Trichlorobenzene	ug/Kg	ND (8510)	ND (330)	ND (330)	ND (16900)	ND (45900)	ND (9760)	ND (3500)	ND (782)	ND (1530)	ND (1530)
1,2-Dichlorobenzene	ug/Kg	ND (8510)	ND (330)	ND (330)	ND (16900)	ND (45900)	ND (9760)	ND (3500)	ND (782)	ND (1530)	ND (1530)
1,2-Diphenylhydrazine	ug/Kg	ND (8510)	ND (330)	ND (330)	ND (16900)	ND (45900)	ND (9760)	ND (3500)	ND (782)	ND (1530)	ND (1530)
1,3-Dichlorobenzene	ug/Kg	ND (8510)	ND (330)	ND (330)	ND (16900)	ND (45900)	ND (9760)	ND (3500)	ND (782)	ND (1530)	ND (1530)
1,4-Dichlorobenzene	ug/Kg	ND (8510)	ND (330)	ND (330)	ND (16900)	ND (45900)	ND (9760)	ND (3500)	ND (782)	ND (1530)	ND (1530)
2,4,5-Trichlorophenol	ug/Kg	-	-	-	-	-	-	-	-	-	-
2,4,6-Trichlorophenol	ug/Kg	ND (8510)	ND (330)	ND (330)	N 0)	ND (45900)	ND (9760)	ND (3500)	ND (782)	ND (1530)	ND (1530)

HISTORICAL SOIL SAMPLE RESULTS
AOI 11 TO 14 - CHIP HANDLING AREAS AND NEARBY USTs
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*GP-315*	*GP-315*	*GP-315*	*GP-316A*	*GP-316A*	*GP-317*	*GP-317*	*GP-318B*	*GP-318B*	*GP-319*
Sample Name:		*GP-315 S1*	*GP-315 S4*	*GP-315 S4-DL*	*GP-316a S1*	*GP-316a S2*	*GP-317 S1*	*GP-317 S4*	*GP-318B S3*	*GP-318B S4*	*GP-319 S2*
Sample Depth:		*(0-4)*	*(12-16)*	*(12-16)*	*(0-4)*	*(4-8)*	*(0-4)*	*(12-16)*	*(8-12)*	*(12-16)*	*(4-8)*
Sample Date:		*6/16/99*	*6/16/99*	*6/16/99*	*6/16/99*	*6/16/99*	*6/16/99*	*6/16/99*	*6/16/99*	*6/16/99*	*6/16/99*
Parameter	*Units*										
2,4-Dichlorophenol	ug/Kg	ND (8510)	ND (330)	ND (330)	ND (16900)	ND (45900)	ND (9760)	ND (3500)	ND (782)	ND (1530)	ND (1530)
2,4-Dimethylphenol	ug/Kg	ND (8510)	ND (330)	ND (330)	ND (16900)	ND (45900)	ND (9760)	ND (3500)	ND (782)	ND (1530)	ND (1530)
2,4-Dinitrophenol	ug/Kg	ND (34000)	ND (1700)	ND (1700)	ND (67400)	ND (184000)	ND (39000)	ND (14000)	ND (3130)	ND (6130)	ND (6120)
2,4-Dinitrotoluene	ug/Kg	ND (8510)	ND (330)	ND (330)	ND (16900)	ND (45900)	ND (9760)	ND (3500)	ND (782)	ND (1530)	ND (1530)
2,6-Dinitrotoluene	ug/Kg	ND (8510)	ND (330)	ND (330)	ND (16900)	ND (45900)	ND (9760)	ND (3500)	ND (782)	ND (1530)	ND (1530)
2-Chloronaphthalene	ug/Kg	ND (8510)	ND (330)	ND (330)	ND (16900)	ND (45900)	ND (9760)	ND (3500)	ND (782)	ND (1530)	ND (1530)
2-Chlorophenol	ug/Kg	ND (8510)	ND (330)	ND (330)	ND (16900)	ND (45900)	ND (9760)	ND (3500)	ND (782)	ND (1530)	ND (1530)
2-Methyl naphthalene	ug/Kg	-	-	-	-	-	-	-	-	-	-
2-Methylphenol	ug/Kg	-	-	-	-	-	-	-	-	-	-
2-Nitroaniline	ug/Kg	-	-	-	-	-	-	-	-	-	-
2-Nitrophenol	ug/Kg	ND (8510)	ND (330)	ND (330)	ND (16900)	ND (45900)	ND (9760)	ND (3500)	ND (782)	ND (1530)	ND (1530)
3&4-Methylphenol	ug/Kg	-	-	-	-	-	-	-	-	-	-
3,3'-Dichlorobenzidine	ug/Kg	ND (8510)	ND (660)	ND (660)	ND (16900)	ND (45900)	ND (9760)	ND (3500)	ND (782)	ND (1530)	ND (1530)
3-Nitroaniline	ug/Kg	-	-	-	-	-	-	-	-	-	-
4,6-Dinitro-2-methylphenol	ug/Kg	ND (17000)	ND (1700)	ND (1700)	ND (33700)	ND (91900)	ND (19500)	ND (6990)	ND (1700)	ND (3070)	ND (3060)
4-Bromophenyl phenyl ether	ug/Kg	ND (8510)	ND (330)	ND (330)	ND (16900)	ND (45900)	ND (9760)	ND (3500)	ND (782)	ND (1530)	ND (1530)
4-Chloro-3-methylphenol	ug/Kg	ND (8510)	ND (660)	ND (660)	ND (16900)	ND (45900)	ND (9760)	ND (3500)	ND (782)	ND (1530)	ND (1530)
4-Chloroaniline	ug/Kg	-	-	-	-	-	-	-	-	-	-
4-Chlorophenyl phenyl ether	ug/Kg	ND (8510)	ND (330)	ND (330)	ND (16900)	ND (45900)	ND (9760)	ND (3500)	ND (782)	ND (1530)	ND (1530)
4-Nitroaniline	ug/Kg	-	-	-	-	-	-	-	-	-	-
4-Nitrophenol	ug/Kg	ND (17000)	ND (1700)	ND (1700)	ND (33700)	ND (91900)	ND (19500)	ND (6990)	ND (1700)	ND (3070)	ND (3060)
Acenaphthene	ug/Kg	ND (8510)	ND (330)	ND (330)	ND (16900)	ND (45900)	ND (9760)	ND (3500)	ND (782)	ND (1530)	ND (1530)
Acenaphthylene	ug/Kg	ND (8510)	ND (330)	ND (330)	ND (16900)	ND (45900)	ND (9760)	ND (3500)	ND (782)	ND (1530)	ND (1530)
Anthracene	ug/Kg	ND (8510)	ND (330)	-	36000	ND	ND (9760)	ND (3500)	ND (782)	ND (1530)	ND (1530)
Benzo(a)anthracene	ug/Kg	ND (8510)	ND (330)	-	45600	ND	ND (9760)	ND (3500)	ND (782)	ND (1530)	1600
Benzo(a)pyrene	ug/Kg	ND (8510)	ND (330)	-	30800	ND	ND (9760)	ND (3500)	ND (7820)	ND (7560)	ND (1530)
Benzo(b)fluoranthene	ug/Kg	ND (8510)	ND (330)	-	31600	ND	ND (9760)	ND (3500)	ND (7820)	ND (7560)	ND (1530)
Benzo(g,h,i)perylene	ug/Kg	ND (8510)	ND (330)	ND (330)	ND (16900)	ND (115000)	ND (9760)	ND (3500)	ND (7820)	ND (7560)	ND (7650)
Benzo(k)fluoranthene	ug/Kg	ND (8510)	ND (330)	-	32300	ND	ND (9760)	ND (3500)	ND (7820)	ND (7560)	ND (1530)
Benzoic acid	ug/Kg	-	-	-	-	-	-	-	-	-	-
Benzyl Alcohol	ug/Kg	-	-	-	-	-	-	-	-	-	-
bis(2-Chloroethoxy)methane	ug/Kg	ND (8510)	ND (330)	ND (330)	ND (16900)	ND (45900)	ND (9760)	ND (3500)	ND (782)	ND (1530)	ND (1530)
bis(2-Chloroethyl)ether	ug/Kg	ND (8510)	ND (330)	ND (330)	ND (16900)	ND (45900)	ND (9760)	ND (3500)	ND (782)	ND (1530)	ND (1530)
bis(2-Chloroisopropyl)ether	ug/Kg	ND (8510)	ND (330)	ND (330)	ND (16900)	ND (45900)	ND (9760)	ND (3500)	ND (782)	ND (1530)	ND (1530)
bis(2-Ethylhexyl)phthalate	ug/Kg	ND (8510)	ND (330)	ND (330)	ND (16900)	ND (45900)	ND (9760)	ND (3500)	ND (782)	ND (1530)	ND (1530)
Butyl benzylphthalate	ug/Kg	ND (8510)	ND (330)	ND (330)	ND (16900)	ND (45900)	ND (9760)	ND (3500)	ND (782)	ND (1530)	ND (1530)
Chrysene	ug/Kg	ND (8510)	ND	-	46100	ND	ND (9760)	ND (3500)	ND (782)	ND (1530)	1690
Dibenz(a,h)anthracene	ug/Kg	ND (8510)	ND (330)	ND (330)	ND (16900)	ND (115000)	ND (9760)	ND (3500)	ND (7820)	ND (7560)	ND (7650)
Dibenzofuran	ug/Kg	-	-	-	-	-	-	-	-	-	-
Diethyl phthalate	ug/Kg	ND (8510)	ND (330)	ND (330)	ND (16900)	ND (45900)	ND (9760)	ND (3500)	ND (782)	ND (1530)	ND (1530)
Dimethyl phthalate	ug/Kg	ND (8510)	ND (330)	ND (330)	ND (16900)	ND (45900)	ND (9760)	ND (3500)	ND (782)	ND (1530)	ND (1530)
Di-n-butylphthalate	ug/Kg	ND (8510)	ND (330)	ND (330)	ND (16900)	ND (45900)	ND (9760)	ND (3500)	ND (782)	ND (1530)	ND (1530)
Di-n-octyl phthalate	ug/Kg	ND (8510)	ND (330)	ND (330)	ND (16900)	ND (115000)	ND (9760)	ND (3500)	ND (7820)	ND (7560)	ND (7650)
Fluoranthene	ug/Kg	ND (8510)	ND (330)	-	123000	53000	29600	ND (3500)	ND (782)	ND (1530)	7760
Fluorene	ug/Kg	ND (8510)	ND (330)	-	21500	ND	ND (9760)	ND (3500)	ND (782)	ND (1530)	ND (1530)
Hexachlorobenzene	ug/Kg	ND (8510)	ND (330)	ND (330)	ND (16900)	ND (45900)	ND (9760)	ND (3500)	ND (782)	ND (1530)	ND (1530)
Hexachlorobutadiene	ug/Kg	ND (8510)	ND (330)	ND (330)	ND (16900)	ND (45900)	ND (9760)	ND (3500)	ND (782)	ND (1530)	ND (1530)
Hexachlorocyclopentadiene	ug/Kg	ND (8510)	ND (330)	ND (330)	ND (16900)	ND (45900)	ND (9760)	ND (3500)	ND (782)	ND (1530)	ND (1530)
Hexachloroethane	ug/Kg	ND (8510)	ND (330)	ND (330)	ND (16900)	ND (45900)	ND (9760)	ND (3500)	ND (782)	ND (1530)	ND (1530)
Indeno(1,2,3-cd)pyrene	ug/Kg	ND (8510)	ND (330)	ND (330)	ND (16900)	ND (115000)	ND (9760)	ND (3500)	ND (7820)	ND (7560)	ND (7650)
Isophorone	ug/Kg	ND (8510)	ND (330)	ND (330)	ND (16900)	ND (45900)	ND (9760)	ND (3500)	ND (782)	ND (1530)	ND (1530)
Naphthalene	ug/Kg	ND (8510)	ND (330)	ND (330)	ND (16900)	ND (45900)	ND (9760)	ND (3500)	ND (782)	ND (1530)	ND (1530)
Nitrobenzene	ug/Kg	ND (8510)	ND (330)	ND (330)	ND (16900)	ND (45900)	ND (9760)	ND (3500)	ND (782)	ND (1530)	ND (1530)
N-Nitrosodimethylamine	ug/Kg	ND (8510)	ND (1700)	ND (1700)	ND (16900)	ND (45900)	ND (9760)	ND (3500)	ND (1700)	ND (1700)	ND (1700)
N-Nitrosodi-n-propylamine	ug/Kg	ND (8510)	ND (330)	ND (330)	ND (16900)	ND (45900)	ND (9760)	ND (3500)	ND (782)	ND (1530)	ND (1530)

TABLE G.5

HISTORICAL SOIL SAMPLE RESULTS
AOI 11 TO 14 - CHIP HANDLING AREAS AND NEARBY USTs
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*GP-315*	*GP-315*	*GP-315*	*GP-316A*	*GP-316A*	*GP-317*	*GP-317*	*GP-318B*	*GP-318B*	*GP-319*
Sample Name:		*GP-315 S1*	*GP-315 S4*	*GP-315 S4-DL*	*GP-316a S1*	*GP-316a S2*	*GP-317 S1*	*GP-317 S4*	*GP-318B S3*	*GP-318B S4*	*GP-319 S2*
Sample Depth:		*(0-4)*	*(12-16)*	*(12-16)*	*(0-4)*	*(4-8)*	*(0-4)*	*(12-16)*	*(8-12)*	*(12-16)*	*(4-8)*
Sample Date:		*6/16/99*	*6/16/99*	*6/16/99*	*6/16/99*	*6/16/99*	*6/16/99*	*6/16/99*	*6/16/99*	*6/16/99*	*6/16/99*
Parameter	*Units*										
N-Nitrosodiphenylamine	ug/Kg	ND (8510)	ND (330)	ND (330)	ND (16900)	ND (45900)	ND (9760)	ND (3500)	ND (782)	ND (1530)	ND (1530)
Pentachlorophenol	ug/Kg	ND (8510)	ND (1700)	ND (1700)	ND (16900)	ND (45900)	ND (9760)	ND (3500)	ND (1700)	ND (1700)	ND (1700)
Phenanthrene	ug/Kg	ND (8510)	ND	-	120000	50100	ND (9760)	ND (3500)	ND (782)	ND (1530)	4390
Phenol	ug/Kg	ND (8510)	ND (330)	ND (330)	ND (16900)	ND (45900)	ND (9760)	ND (3500)	ND (782)	ND (1530)	ND (1530)
Pyrene	ug/Kg	ND (8510)	ND	-	89300	ND	28400	ND (3500)	ND (782)	ND (1530)	5470
Volatiles											
1,1,1,2-Tetrachloroethane	ug/Kg	-	-	-	-	-	-	-	-	-	-
1,1,1-Trichloroethane	ug/Kg	-	-	-	-	-	-	-	-	-	-
1,1,2,2-Tetrachloroethane	ug/Kg	-	-	-	-	-	-	-	-	-	-
1,1,2-Trichloroethane	ug/Kg	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethane	ug/Kg	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethene	ug/Kg	-	-	-	-	-	-	-	-	-	-
1,1-Dichloropropene	ug/Kg	-	-	-	-	-	-	-	-	-	-
1,2,3-Trichloropropane	ug/Kg	-	-	-	-	-	-	-	-	-	-
1,2,4-Trichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-
1,2,4-Trimethylbenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-
1,2-Dibromo-3-chloropropane (DBCP)	ug/Kg	-	-	-	-	-	-	-	-	-	-
1,2-Dibromoethane (EDB)	ug/Kg	-	-	-	-	-	-	-	-	-	-
1,2-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-
1,2-Dichloroethane	ug/Kg	-	-	-	-	-	-	-	-	-	-
1,2-Dichloroethene (total)	ug/Kg	-	-	-	-	-	-	-	-	-	-
1,2-Dichloropropane	ug/Kg	-	-	-	-	-	-	-	-	-	-
1,3,5-Trimethylbenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-
1,3-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-
1,3-Dichloropropane	ug/Kg	-	-	-	-	-	-	-	-	-	-
1,4-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-
1,4-Dioxane	ug/Kg	-	-	-	-	-	-	-	-	-	-
2,2-Dichloropropane	ug/Kg	-	-	-	-	-	-	-	-	-	-
2-Butanone	ug/Kg	-	-	-	-	-	-	-	-	-	-
2-Chloroethyl vinyl ether	ug/Kg	-	-	-	-	-	-	-	-	-	-
2-Chlorotoluene	ug/Kg	-	-	-	-	-	-	-	-	-	-
2-Hexanone	ug/Kg	-	-	-	-	-	-	-	-	-	-
2-Phenylbutane	ug/Kg	-	-	-	-	-	-	-	-	-	-
4-Chlorotoluene	ug/Kg	-	-	-	-	-	-	-	-	-	-
4-Methyl-2-pentanone	ug/Kg	-	-	-	-	-	-	-	-	-	-
Acetone	ug/Kg	-	-	-	-	-	-	-	-	-	-
Acrolein	ug/Kg	-	-	-	-	-	-	-	-	-	-
Acrylonitrile	ug/Kg	-	-	-	-	-	-	-	-	-	-
Allyl chloride	ug/Kg	-	-	-	-	-	-	-	-	-	-
Benzene	ug/Kg	-	-	-	-	-	-	-	-	-	-
Benzene, butyl	ug/Kg	-	-	-	-	-	-	-	-	-	-
Benzene, isopropyl	ug/Kg	-	-	-	-	-	-	-	-	-	-
Benzene, tert-butyl	ug/Kg	-	-	-	-	-	-	-	-	-	-
Bromobenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-
Bromodichloromethane	ug/Kg	-	-	-	-	-	-	-	-	-	-
Bromoform	ug/Kg	-	-	-	-	-	-	-	-	-	-
Bromomethane	ug/Kg	-	-	-	-	-	-	-	-	-	-
Carbon disulfide	ug/Kg	-	-	-	-	-	-	-	-	-	-
Carbon tetrachloride	ug/Kg	-	-	-	-	-	-	-	-	-	-
Chlorobenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-
Chlorobromomethane	ug/Kg	-	-	-	-	-	-	-	-	-	-
Chloroethane	ug/Kg	-	-	-		-	-	-	-	-	-
Chloroform	ug/Kg	-	-	-		-	-	-	-	-	-

HISTORICAL SOIL SAMPLE RESULTS
AOI 11 TO 14 - CHIP HANDLING AREAS AND NEARBY USTs
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*GP-315*	*GP-315*	*GP-315*	*GP-316A*	*GP-316A*	*GP-317*	*GP-317*	*GP-318B*	*GP-318B*	*GP-319*
Sample Name:		*GP-315 S1*	*GP-315 S4*	*GP-315 S4-DL*	*GP-316a S1*	*GP-316a S2*	*GP-317 S1*	*GP-317 S4*	*GP-318B S3*	*GP-318B S4*	*GP-319 S2*
Sample Depth:		*(0-4)*	*(12-16)*	*(12-16)*	*(0-4)*	*(4-8)*	*(0-4)*	*(12-16)*	*(8-12)*	*(12-16)*	*(4-8)*
Sample Date:		*6/16/99*	*6/16/99*	*6/16/99*	*6/16/99*	*6/16/99*	*6/16/99*	*6/16/99*	*6/16/99*	*6/16/99*	*6/16/99*
Parameter	*Units*										
Chloromethane	ug/Kg	-	-	-	-	-	-	-	-	-	-
Chloroprene	ug/Kg	-	-	-	-	-	-	-	-	-	-
cis-1,2-Dichloroethene	ug/Kg	-	-	-	-	-	-	-	-	-	-
cis-1,3-Dichloropropene	ug/Kg	-	-	-	-	-	-	-	-	-	-
cis-1,4-Dichloro-2-butene	ug/Kg	-	-	-	-	-	-	-	-	-	-
Cymene	ug/Kg	-	-	-	-	-	-	-	-	-	-
Dibromochloromethane	ug/Kg	-	-	-	-	-	-	-	-	-	-
Dibromomethane	ug/Kg	-	-	-	-	-	-	-	-	-	-
Dichlorodifluoromethane (CFC-12)	ug/Kg	-	-	-	-	-	-	-	-	-	-
Ethyl methacrylate	ug/Kg	-	-	-	-	-	-	-	-	-	-
Ethylbenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-
Hexachlorobutadiene	ug/Kg	-	-	-	-	-	-	-	-	-	-
Hexane	ug/Kg	-	-	-	-	-	-	-	-	-	-
Iodomethane	ug/Kg	-	-	-	-	-	-	-	-	-	-
Isobutyl alcohol	ug/Kg	-	-	-	-	-	-	-	-	-	-
Methyl acrylonitrile	ug/Kg	-	-	-	-	-	-	-	-	-	-
Methyl methacrylate	ug/Kg	-	-	-	-	-	-	-	-	-	-
Methyl Tert Butyl Ether	ug/Kg	-	-	-	-	-	-	-	-	-	-
Methylene chloride	ug/Kg	-	-	-	-	-	-	-	-	-	-
Naphthalene	ug/Kg	-	-	-	-	-	-	-	-	-	-
n-Propylbenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-
Propionitrile (Ethyl cyanide)	ug/Kg	-	-	-	-	-	-	-	-	-	-
Styrene	ug/Kg	-	-	-	-	-	-	-	-	-	-
Tetrachloroethene	ug/Kg	-	-	-	-	-	-	-	-	-	-
Tetrahydrofuran	ug/Kg	-	-	-	-	-	-	-	-	-	-
Toluene	ug/Kg	-	-	-	-	-	-	-	-	-	-
trans-1,2-Dichloroethene	ug/Kg	-	-	-	-	-	-	-	-	-	-
trans-1,3-Dichloropropene	ug/Kg	-	-	-	-	-	-	-	-	-	-
trans-1,4-Dichloro-2-butene	ug/Kg	-	-	-	-	-	-	-	-	-	-
Trichloroethene	ug/Kg	-	-	-	-	-	-	-	-	-	-
Trichlorofluoromethane (CFC-11)	ug/Kg	-	-	-	-	-	-	-	-	-	-
Trifluorotrichloroethane (Freon 113)	ug/Kg	-	-	-	-	-	-	-	-	-	-
Vinyl acetate	ug/Kg	-	-	-	-	-	-	-	-	-	-
Vinyl chloride	ug/Kg	-	-	-	-	-	-	-	-	-	-
Xylene (total)	ug/Kg	-	-	-	-	-	-	-	-	-	-
General Chemistry											
Flash Point Closed Cup	deg f	-	-	-	-	-	-	-	-	-	-
Percent Solids	%	85	94	94	86	63	75	83	92	93	91
pH Corrosivity	s.u.	-	-	-	-	-	-	-	-	-	-

TABLE G.5

HISTORICAL SOIL SAMPLE RESULTS
AOI 11 TO 14 - CHIP HANDLING AREAS AND NEARBY USTs
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*GP-319*	*GP-320*	*GP-320*	*GP-38*	*GP-38*	*GP-39*	*GP-40*	*GP-41*	*GP-42*	*GP-42*
Sample Name:		*GP-319 S4*	*GP-320 S1*	*GP-320 S4*	*GP-38 G-4*	*GP-38 G-4*	*GP-39 G-4*	*GP-40 G-4*	*GP-41 G-4*	*GP-42 G-2*	*GP-42 G-2-DL*
Sample Depth:		*(12-16)*	*(0-4)*	*(12-16)*	*(12-16)*	*(12-16)*	*(12-16)*	*(12-16)*	*(12-16)*	*(4-8)*	*(4-8)*
Sample Date:		*6/16/99*	*6/16/99*	*6/16/99*	*4/22/97*	*4/22/97*	*4/22/97*	*4/22/97*	*4/23/97*	*4/23/97*	*4/23/97*
						Duplicate					
Parameter	*Units*										
BTEX											
Benzene	ug/Kg	-	-	-	-	-	-	-	-	-	-
Ethylbenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-
Toluene	ug/Kg	-	-	-	-	-	-	-	-	-	-
Xylene (total)	ug/Kg	-	-	-	-	-	-	-	-	-	-
Metals											
Arsenic	mg/Kg	ND	ND	ND	-	-	-	-	-	-	-
Barium	mg/Kg	ND	ND	ND	-	-	-	-	-	-	-
Cadmium	mg/Kg	ND	ND	ND	-	-	-	-	-	-	-
Chromium	mg/Kg	ND	ND	ND	-	-	-	-	-	-	-
Cyanide (total)	mg/Kg	-	-	-	-	-	-	-	-	-	-
Lead	mg/Kg	ND	ND	ND	-	-	-	-	-	-	-
Mercury	mg/Kg	ND	ND	ND	-	-	-	-	-	-	-
Selenium	mg/Kg	ND	ND	ND	-	-	-	-	-	-	-
Silver	mg/Kg	ND	ND	ND	-	-	-	-	-	-	-
Sulfide	mg/Kg	-	-	-	-	-	-	-	-	-	-
Miscellaneous											
Ignitability	deg f	140 >	140 >	140 >	-	-	-	-	-	-	-
Percent Moisture	%	-	-	-	-	-	-	-	-	-	-
pH (soil)	s.u.	-	-	-	-	-	-	-	-	-	-
pH Corrosivity	s.u.	-	-	-	-	-	-	-	-	-	-
Reactive Cyanide	mg/kg	-	-	-	-	-	-	-	-	-	-
Reactive Sulfide	mg/Kg	-	-	-	-	-	-	-	-	-	-
PCBs											
Aroclor-1016	mg/Kg	ND (0.1)	ND (50)	ND (5)	-	-	-	-	-	-	-
Aroclor-1221	mg/Kg	ND (0.1)	ND (50)	ND (5)	-	-	-	-	-	-	-
Aroclor-1232	mg/Kg	ND (0.1)	ND (50)	ND (5)	-	-	-	-	-	-	-
Aroclor-1242	mg/Kg	ND (0.1)	ND (50)	ND (5)	-	-	-	-	-	-	-
Aroclor-1248	mg/Kg	ND (0.1)	ND (50)	ND (5)	-	-	-	-	-	-	-
Aroclor-1254	mg/Kg	0.6	662	25.2	-	-	-	-	-	-	-
Aroclor-1260	mg/Kg	ND (0.1)	ND (50)	ND (5)	-	-	-	-	-	-	-
Petroleum Products											
Total Petroleum Hydrocarbons	mg/Kg	-	-	-	-	-	-	-	-	-	-
Total Petroleum Hydrocarbons - extractable (DRO)	mg/Kg	-	-	-	-	-	-	-	-	-	-
Total Petroleum Hydrocarbons, Field	mg/Kg	-	-	-	-	-	-	-	-	-	-
Total Recoverable Petroleum Hydrocarbons	mg/Kg	-	-	-	13000	-	5760	32100	7260	1230	-
Semi-Volatiles											
1,2,4-Trichlorobenzene	ug/Kg	ND (792)	ND (126000)	ND (3220)	ND (6.8)	ND (5.4)	ND (28)	ND (670)	ND (670)	ND (6.9)	ND (5.6)
1,2-Dichlorobenzene	ug/Kg	ND (792)	ND (126000)	ND (3220)	ND (6.8)	ND (5.4)	ND (28)	ND (670)	ND (670)	ND (6.9)	ND (5.6)
1,2-Diphenylhydrazine	ug/Kg	ND (792)	ND (126000)	ND (3220)	-	-	-	-	-	-	-
1,3-Dichlorobenzene	ug/Kg	ND (792)	ND (126000)	ND (3220)	ND (6.8)	ND (5.4)	ND (28)	ND (670)	ND (670)	ND (6.9)	ND (5.6)
1,4-Dichlorobenzene	ug/Kg	ND (792)	ND (126000)	ND (3220)	ND (6.8)	ND (5.4)	ND (28)	ND (670)	ND (670)	ND (6.9)	ND (5.6)
2,4,5-Trichlorophenol	ug/Kg	-	-	-	-	-	-	-	-	-	
2,4,6-Trichlorophenol	ug/Kg	ND (792)	ND (126000)	ND (3220)	-	-	-	-	-	-	

HISTORICAL SOIL SAMPLE RESULTS
AOI 11 TO 14 - CHIP HANDLING AREAS AND NEARBY USTs
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*GP-319*	*GP-320*	*GP-320*	*GP-38*	*GP-38*	*GP-39*	*GP-40*	***GP-41***	*GP-42*	*GP-42*
Sample Name:		*GP-319 S4*	*GP-320 S1*	*GP-320 S4*	*GP-38 G-4*	*GP-38 G-4*	*GP-39 G-4*	*GP-40 G-4*	***GP-41 G-4***	*GP-42 G-2*	*GP-42 G-2-DL*
Sample Depth:		*(12-16)*	*(0-4)*	*(12-16)*	*(12-16)*	*(12-16)*	*(12-16)*	*(12-16)*	***(12-16)***	*(4-8)*	*(4-8)*
Sample Date:		*6/16/99*	*6/16/99*	*6/16/99*	*4/22/97*	*4/22/97*	*4/22/97*	*4/22/97*	***4/23/97***	*4/23/97*	*4/23/97*
						Duplicate					
Parameter	*Units*										
2,4-Dichlorophenol	ug/Kg	ND (792)	ND (126000)	ND (3220)	-	-	-	-	-	-	-
2,4-Dimethylphenol	ug/Kg	ND (792)	ND (126000)	ND (3220)	-	-	-	-	-	-	-
2,4-Dinitrophenol	ug/Kg	ND (3170)	ND (505000)	ND (12900)	-	-	-	-	-	-	-
2,4-Dinitrotoluene	ug/Kg	ND (792)	ND (126000)	ND (3220)	-	-	-	-	-	-	-
2,6-Dinitrotoluene	ug/Kg	ND (792)	ND (126000)	ND (3220)	-	-	-	-	-	-	-
2-Chloronaphthalene	ug/Kg	ND (792)	ND (126000)	ND (3220)	-	-	-	-	-	-	-
2-Chlorophenol	ug/Kg	ND (792)	ND (126000)	ND (3220)	-	-	-	-	-	-	-
2-Methyl naphthalene	ug/Kg	-	-	-	-	-	-	-	-	-	-
2-Methylphenol	ug/Kg	-	-	-	-	-	-	-	-	-	-
2-Nitroaniline	ug/Kg	-	-	-	-	-	-	-	-	-	-
2-Nitrophenol	ug/Kg	ND (792)	ND (126000)	ND (3220)	-	-	-	-	-	-	-
3&4-Methylphenol	ug/Kg	-	-	-	-	-	-	-	-	-	-
3,3'-Dichlorobenzidine	ug/Kg	ND (792)	ND (126000)	ND (3220)	-	-	-	-	-	-	-
3-Nitroaniline	ug/Kg	-	-	-	-	-	-	-	-	-	-
4,6-Dinitro-2-methylphenol	ug/Kg	ND (1700)	ND (252000)	ND (6440)	-	-	-	-	-	-	-
4-Bromophenyl phenyl ether	ug/Kg	ND (792)	ND (126000)	ND (3220)	-	-	-	-	-	-	-
4-Chloro-3-methylphenol	ug/Kg	ND (792)	ND (126000)	ND (3220)	-	-	-	-	-	-	-
4-Chloroaniline	ug/Kg	-	-	-	-	-	-	-	-	-	-
4-Chlorophenyl phenyl ether	ug/Kg	ND (792)	ND (126000)	ND (3220)	-	-	-	-	-	-	-
4-Nitroaniline	ug/Kg	-	-	-	-	-	-	-	-	-	-
4-Nitrophenol	ug/Kg	ND (1580)	ND (252000)	ND (6440)	-	-	-	-	-	-	-
Acenaphthene	ug/Kg	ND (792)	ND (126000)	ND (3220)	-	-	-	-	-	-	-
Acenaphthylene	ug/Kg	ND (792)	ND (126000)	ND (3220)	-	-	-	-	-	-	-
Anthracene	ug/Kg	ND (792)	ND (126000)	ND (3220)	-	-	-	-	-	-	-
Benzo(a)anthracene	ug/Kg	ND (792)	ND (126000)	ND (3220)	-	-	-	-	-	-	-
Benzo(a)pyrene	ug/Kg	ND (792)	ND (126000)	ND (3220)	-	-	-	-	-	-	-
Benzo(b)fluoranthene	ug/Kg	ND (792)	ND (126000)	ND (3220)	-	-	-	-	-	-	-
Benzo(g,h,i)perylene	ug/Kg	ND (792)	ND (126000)	ND (3220)	-	-	-	-	-	-	-
Benzo(k)fluoranthene	ug/Kg	ND (792)	ND (126000)	ND (3220)	-	-	-	-	-	-	-
Benzoic acid	ug/Kg	-	-	-	-	-	-	-	-	-	-
Benzyl Alcohol	ug/Kg	-	-	-	-	-	-	-	-	-	-
bis(2-Chloroethoxy)methane	ug/Kg	ND (792)	ND (126000)	ND (3220)	-	-	-	-	-	-	-
bis(2-Chloroethyl)ether	ug/Kg	ND (792)	ND (126000)	ND (3220)	-	-	-	-	-	-	-
bis(2-Chloroisopropyl)ether	ug/Kg	ND (792)	ND (126000)	ND (3220)	-	-	-	-	-	-	-
bis(2-Ethylhexyl)phthalate	ug/Kg	ND (792)	ND (126000)	ND (3220)	-	-	-	-	-	-	-
Butyl benzylphthalate	ug/Kg	ND (792)	ND (126000)	ND (3220)	-	-	-	-	-	-	-
Chrysene	ug/Kg	ND	ND	ND (3220)	-	-	-	-	-	-	-
Dibenz(a,h)anthracene	ug/Kg	ND (792)	ND (126000)	ND (3220)	-	-	-	-	-	-	-
Dibenzofuran	ug/Kg	-	-	-	-	-	-	-	-	-	-
Diethyl phthalate	ug/Kg	ND (792)	ND (126000)	ND (3220)	-	-	-	-	-	-	-
Dimethyl phthalate	ug/Kg	ND (792)	ND (126000)	ND (3220)	-	-	-	-	-	-	-
Di-n-butylphthalate	ug/Kg	ND (792)	ND (126000)	ND (3220)	-	-	-	-	-	-	-
Di-n-octyl phthalate	ug/Kg	ND (792)	ND (126000)	ND (3220)	-	-	-	-	-	-	-
Fluoranthene	ug/Kg	ND (792)	ND (126000)	ND (3220)	-	-	-	-	-	-	-
Fluorene	ug/Kg	ND (792)	ND (126000)	ND (3220)	-	-	-	-	-	-	-
Hexachlorobenzene	ug/Kg	ND (792)	ND (126000)	ND (3220)	-	-	-	-	-	-	-
Hexachlorobutadiene	ug/Kg	ND (792)	ND (126000)	ND (3220)	ND (6.8)	ND (5.4)	ND (28)	ND (670)	ND (670)	ND (6.9)	ND (5.6)
Hexachlorocyclopentadiene	ug/Kg	ND (792)	ND (126000)	ND (3220)	-	-	-	-	-	-	-
Hexachloroethane	ug/Kg	ND (792)	ND (126000)	ND (3220)	-	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	ug/Kg	ND (792)	ND (126000)	ND (3220)	-	-	-	-	-	-	-
Isophorone	ug/Kg	ND (792)	ND (126000)	ND (3220)	-	-	-	-	-	-	-
Naphthalene	ug/Kg	ND (792)	ND (126000)	ND (3220)	ND (6.8)	-	ND (28)	1200	ND (670)	ND (6.9)	ND (5.6)
Nitrobenzene	ug/Kg	ND (792)	ND (126000)	ND (3220)	-	-	-	-	-	-	-
N-Nitrosodimethylamine	ug/Kg	ND (1700)	ND (126000)	ND (3220)	-	-	-	-	-	-	-
N-Nitrosodi-n-propylamine	ug/Kg	ND (792)	ND (126000)	ND (3220)	-	-	-	-	-	-	-

TABLE G.5

HISTORICAL SOIL SAMPLE RESULTS
AOI 11 TO 14 - CHIP HANDLING AREAS AND NEARBY USTs
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*GP-319*	*GP-320*	*GP-320*	*GP-38*	*GP-38*	*GP-39*	*GP-40*	*GP-41*	*GP-42*	*GP-42*
Sample Name:		*GP-319 S4*	*GP-320 S1*	*GP-320 S4*	*GP-38 G-4*	*GP-38 G-4*	*GP-39 G-4*	*GP-40 G-4*	*GP-41 G-4*	*GP-42 G-2*	*GP-42 G-2-DL*
Sample Depth:		*(12-16)*	*(0-4)*	*(12-16)*	*(12-16)*	*(12-16)*	*(12-16)*	*(12-16)*	*(12-16)*	*(4-8)*	*(4-8)*
Sample Date:		*6/16/99*	*6/16/99*	*6/16/99*	*4/22/97*	*4/22/97*	*4/22/97*	*4/22/97*	*4/23/97*	*4/23/97*	*4/23/97*
						Duplicate					
Parameter	*Units*										
N-Nitrosodiphenylamine	ug/Kg	ND (792)	ND (126000)	ND (3220)	-	-	-	-	-	-	-
Pentachlorophenol	ug/Kg	ND (1700)	ND (126000)	ND (3220)	-	-	-	-	-	-	-
Phenanthrene	ug/Kg	ND (792)	ND (126000)	ND (3220)	-	-	-	-	-	-	-
Phenol	ug/Kg	ND (792)	ND (126000)	ND (3220)	-	-	-	-	-	-	-
Pyrene	ug/Kg	ND (792)	ND (126000)	ND (3220)	-	-	-	-	-	-	-
Volatiles											
1,1,1,2-Tetrachloroethane	ug/Kg	-	-	-	ND (6.8)	ND (5.4)	ND (28)	ND (670)	ND (670)	ND (6.9)	ND (5.6)
1,1,1-Trichloroethane	ug/Kg	-	-	-	ND (6.8)	ND (5.4)	ND (28)	ND (670)	ND (670)	ND (6.9)	ND (5.6)
1,1,2,2-Tetrachloroethane	ug/Kg	-	-	-	ND (6.8)	ND (5.4)	ND (28)	ND (670)	ND (670)	ND (6.9)	ND (5.6)
1,1,2-Trichloroethane	ug/Kg	-	-	-	ND (6.8)	ND (5.4)	ND (28)	ND (670)	ND (670)	ND (6.9)	ND (5.6)
1,1-Dichloroethane	ug/Kg	-	-	-	ND (6.8)	ND (5.4)	ND (28)	ND (670)	ND (670)	ND (6.9)	ND (5.6)
1,1-Dichloroethene	ug/Kg	-	-	-	ND (6.8)	ND (5.4)	ND (28)	250 J	ND (670)	ND (6.9)	ND (5.6)
1,1-Dichloropropene	ug/Kg	-	-	-	-	-	-	-	-	-	-
1,2,3-Trichloropropane	ug/Kg	-	-	-	ND (6.8)	ND (5.4)	ND (28)	ND (670)	ND (670)	ND (6.9)	ND (5.6)
1,2,4-Trichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-
1,2,4-Trimethylbenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-
1,2-Dibromo-3-chloropropane (DBCP)	ug/Kg	-	-	-	ND (14)	ND (11)	ND (56)	ND (1300)	ND (1300)	ND (14)	ND (11)
1,2-Dibromoethane (EDB)	ug/Kg	-	-	-	ND (6.8)	ND (5.4)	ND (28)	ND (670)	ND (670)	ND (6.9)	ND (5.6)
1,2-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-
1,2-Dichloroethane	ug/Kg	-	-	-	ND (6.8)	ND (5.4)	ND (28)	ND (670)	ND (670)	ND (6.9)	ND (5.6)
1,2-Dichloroethene (total)	ug/Kg	-	-	-	15	5.3 DJ	28	2100	ND (670)	ND (6.9)	ND (5.6)
1,2-Dichloropropane	ug/Kg	-	-	-	ND (6.8)	-	ND (28)	ND (670)	ND (670)	ND (6.9)	ND (5.6)
1,3,5-Trimethylbenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-
1,3-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-
1,3-Dichloropropane	ug/Kg	-	-	-	-	-	-	-	-	-	-
1,4-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-
1,4-Dioxane	ug/Kg	-	-	-	ND (340)	ND (270)	ND (1400)	ND (34000)	ND (34000)	ND (350)	ND (280)
2,2-Dichloropropane	ug/Kg	-	-	-	-	-	-	-	-	-	-
2-Butanone	ug/Kg	-	-	-	ND (14)	ND (11)	ND (56)	ND (1300)	ND (670)	ND (14)	ND (11)
2-Chloroethyl vinyl ether	ug/Kg	-	-	-	ND (14)	ND (11)	ND (56)	ND (1300)	ND (1300)	ND (14)	ND (11)
2-Chlorotoluene	ug/Kg	-	-	-	-	-	-	-	-	-	-
2-Hexanone	ug/Kg	-	-	-	ND (14)	ND (11)	ND (56)	ND (1300)	ND (1300)	ND (14)	ND (11)
2-Phenylbutane	ug/Kg	-	-	-	-	-	-	-	-	-	-
4-Chlorotoluene	ug/Kg	-	-	-	-	-	-	-	-	-	-
4-Methyl-2-pentanone	ug/Kg	-	-	-	ND (14)	ND (11)	ND (56)	ND (1300)	ND (1300)	ND (14)	ND (11)
Acetone	ug/Kg	-	-	-	14 B	ND (11)	74 B	ND (1300)	ND (1300)	19 B	5.1 DJB
Acrolein	ug/Kg	-	-	-	ND (14)	ND (11)	ND (56)	ND (1300)	ND (1300)	ND (14)	ND (11)
Acrylonitrile	ug/Kg	-	-	-	ND (14)	ND (11)	ND (56)	ND (1300)	ND (1300)	ND (14)	ND (11)
Allyl chloride	ug/Kg	-	-	-	ND (14)	ND (11)	ND (56)	ND (1300)	ND (1300)	ND (14)	ND (11)
Benzene	ug/Kg	-	-	-	ND (6.8)	ND (5.4)	ND (28)	ND (670)	ND (1300)	ND (6.9)	ND (5.6)
Benzene, butyl	ug/Kg	-	-	-	-	-	-	-	-	-	-
Benzene, isopropyl	ug/Kg	-	-	-	ND (6.8)	ND (5.4)	120	ND (670)	ND (670)	31	3.9 DJ
Benzene, tert-butyl	ug/Kg	-	-	-	-	-	-	-	-	-	-
Bromobenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-
Bromodichloromethane	ug/Kg	-	-	-	ND (6.8)	ND (5.4)	ND (28)	ND (670)	ND (670)	ND (6.9)	ND (5.6)
Bromoform	ug/Kg	-	-	-	ND (6.8)	ND (5.4)	ND (28)	ND (670)	ND (670)	ND (6.9)	ND (5.6)
Bromomethane	ug/Kg	-	-	-	ND (6.8)	ND (5.4)	ND (28)	ND (670)	ND (670)	ND (6.9)	ND (5.6)
Carbon disulfide	ug/Kg	-	-	-	ND (6.8)	-	ND (28)	ND (670)	ND (670)	ND (6.9)	ND (5.6)
Carbon tetrachloride	ug/Kg	-	-	-	ND (6.8)	ND (5.4)	ND (28)	ND (670)	ND (670)	ND (6.9)	ND (5.6)
Chlorobenzene	ug/Kg	-	-	-	ND (6.8)	-	ND (28)	ND (670)	ND (670)	ND (6.9)	ND (5.6)
Chlorobromomethane	ug/Kg	-	-	-	ND (6.8)	ND (5.4)	ND (28)	ND (670)	ND (670)	ND (6.9)	ND (5.6)
Chloroethane	ug/Kg	-	-	-	ND (6.8)	ND (5.4)	ND (28)	ND (670)	ND (670)	ND (6.9)	ND (5.6)
Chloroform	ug/Kg	-	-	-	ND (	ND (5.4)	ND (28)	ND (670)	ND (670)	ND (6.9)	)

HISTORICAL SOIL SAMPLE RESULTS
AOI 11 TO 14 - CHIP HANDLING AREAS AND NEARBY USTs
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*GP-319*	*GP-320*	*GP-320*	*GP-38*	*GP-38*	*GP-39*	*GP-40*	***GP-41***	***GP-42***	*GP-42*
Sample Name:		*GP-319 S4*	*GP-320 S1*	*GP-320 S4*	*GP-38 G-4*	*GP-38 G-4*	*GP-39 G-4*	*GP-40 G-4*	***GP-41 G-4***	***GP-42 G-2***	*GP-42 G-2-DL*
Sample Depth:		*(12-16)*	*(0-4)*	*(12-16)*	*(12-16)*	*(12-16)*	*(12-16)*	*(12-16)*	***(12-16)***	***(4-8)***	*(4-8)*
Sample Date:		*6/16/99*	*6/16/99*	*6/16/99*	*4/22/97*	*4/22/97*	*4/22/97*	*4/22/97*	***4/23/97***	***4/23/97***	*4/23/97*
						Duplicate					
Parameter	*Units*										
Chloromethane	ug/Kg	-	-	-	ND (6.8)	ND (5.4)	ND (28)	ND (670)	ND (670)	ND (6.9)	ND (5.6)
Chloroprene	ug/Kg	-	-	-	ND (14)	ND (11)	ND (56)	ND (1300)	ND (1300)	ND (14)	ND (11)
cis-1,2-Dichloroethene	ug/Kg	-	-	-	15	5.3 DJ	28	1800	ND (670)	ND (6.9)	ND (5.6)
cis-1,3-Dichloropropene	ug/Kg	-	-	-	ND (6.8)	ND (5.4)	ND (28)	ND (670)	ND (670)	ND (6.9)	ND (5.6)
cis-1,4-Dichloro-2-butene	ug/Kg	-	-	-	ND (6.8)	ND (5.4)	ND (28)	ND (670)	ND (670)	ND (6.9)	ND (5.6)
Cymene	ug/Kg	-	-	-	-	-	-	-	-	-	-
Dibromochloromethane	ug/Kg	-	-	-	ND (6.8)	ND (5.4)	ND (28)	ND (670)	ND (670)	ND (6.9)	ND (5.6)
Dibromomethane	ug/Kg	-	-	-	ND (6.8)	ND (5.4)	ND (28)	ND (670)	ND (670)	ND (6.9)	ND (5.6)
Dichlorodifluoromethane (CFC-12)	ug/Kg	-	-	-	ND (6.8)	ND (5.4)	ND (28)	ND (670)	ND (670)	ND (6.9)	ND (5.6)
Ethyl methacrylate	ug/Kg	-	-	-	ND (14)	ND (11)	ND (56)	ND (1300)	ND (1300)	ND (14)	ND (11)
Ethylbenzene	ug/Kg	-	-	-	ND (6.8)	ND (5.4)	ND (28)	ND (670)	ND (670)	ND (6.9)	ND (5.6)
Hexachlorobutadiene	ug/Kg	-	-	-	-	-	-	-	-	-	-
Hexane	ug/Kg	-	-	-	-	-	-	-	-	-	-
Iodomethane	ug/Kg	-	-	-	ND (14)	ND (11)	ND (56)	ND (1300)	ND (1300)	ND (14)	ND (11)
Isobutyl alcohol	ug/Kg	-	-	-	ND (340)	ND (270)	ND (1400)	ND (34000)	ND (34000)	ND (350)	ND (280)
Methyl acrylonitrile	ug/Kg	-	-	-	ND (6.8)	ND (5.4)	ND (28)	ND (670)	ND (670)	ND (6.9)	ND (5.6)
Methyl methacrylate	ug/Kg	-	-	-	ND (6.8)	ND (5.4)	ND (28)	ND (670)	ND (670)	ND (6.9)	ND (5.6)
Methyl Tert Butyl Ether	ug/Kg	-	-	-	ND (6.8)	ND (5.4)	ND (28)	ND (670)	ND (670)	ND (6.9)	ND (5.6)
Methylene chloride	ug/Kg	-	-	-	ND (6.8)	ND (5.4)	ND (28)	ND (670)	ND (670)	ND (5.6)	ND (6.9)
Naphthalene	ug/Kg	-	-	-	-	ND (5.4)	-	-	-	-	-
n-Propylbenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-
Propionitrile (Ethyl cyanide)	ug/Kg	-	-	-	ND (14)	ND (11)	ND (56)	ND (1300)	ND (1300)	ND (14)	ND (11)
Styrene	ug/Kg	-	-	-	ND (6.8)	ND (5.4)	ND (28)	ND (670)	ND (670)	ND (6.9)	ND (5.6)
Tetrachloroethene	ug/Kg	-	-	-	4.4 J	1.9 DJ	ND (28)	ND (670)	ND (670)	97	14 D
Tetrahydrofuran	ug/Kg	-	-	-	ND (340)	ND (270)	ND (1400)	ND (34000)	ND (34000)	ND (350)	ND (280)
Toluene	ug/Kg	-	-	-	ND (6.8)	ND (5.4)	ND (28)	ND (670)	ND (670)	ND (6.9)	ND (5.6)
trans-1,2-Dichloroethene	ug/Kg	-	-	-	ND (6.8)	ND (5.4)	ND (28)	230 J	ND (670)	ND (6.9)	ND (5.6)
trans-1,3-Dichloropropene	ug/Kg	-	-	-	ND (6.8)	ND (5.4)	ND (28)	ND (670)	ND (670)	ND (6.9)	ND (5.6)
trans-1,4-Dichloro-2-butene	ug/Kg	-	-	-	ND (6.8)	ND (5.4)	ND (28)	ND (670)	ND (670)	ND (6.9)	ND (5.6)
Trichloroethene	ug/Kg	-	-	-	4.2 J	1.8 DJ	230	1600	930	140	22 D
Trichlorofluoromethane (CFC-11)	ug/Kg	-	-	-	ND (6.8)	ND (5.4)	ND (28)	ND (670)	ND (670)	ND (6.9)	ND (5.6)
Trifluorotrichloroethane (Freon 113)	ug/Kg	-	-	-	ND (6.8)	ND (5.4)	ND (28)	ND (670)	ND (670)	ND (6.9)	ND (5.6)
Vinyl acetate	ug/Kg	-	-	-	ND (14)	ND (11)	ND (56)	ND (1300)	ND (1300)	ND (14)	ND (11)
Vinyl chloride	ug/Kg	-	-	-	ND (6.8)	-	ND (28)	ND (670)	ND (670)	ND (6.9)	ND (5.6)
Xylene (total)	ug/Kg	-	-	-	ND (6.8)	ND (5.4)	ND (28)	ND (670)	ND (670)	ND (6.9)	ND (5.6)
General Chemistry											
Flash Point Closed Cup	deg f	-	-	-	-	-	-	-	-	-	-
Percent Solids	%	92	58	91	-	93.3	-	-	-	-	-
pH Corrosivity	s.u.	-	-	-	-	-	-	-	-	-	-

TABLE G.5

HISTORICAL SOIL SAMPLE RESULTS
AOI 11 TO 14 - CHIP HANDLING AREAS AND NEARBY USTs
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*GP-43*	*GP-43*	*GP-44*	*GP-44*	*GP-45*	*GP-45*	*GP-47*	*GP-55*	*GP-56*	*GP-57*	*GP-7*
Sample Name:		*GP-43 G-4*	*GP-43 G-4-DL*	*GP-44 G-2*	*GP-44 G-2*	*GP-45 G-2*	*GP-45 G-2*	*GP-47 G-3*	*GP-55 G-2*	*GP-56 G-3*	*GP-57 G-2*	*GP-7 G-1*
Sample Depth:		*(12-16)*	*(12-16)*	*(4-8)*	*(4-8)*	*(4-8)*	*(4-8)*	*(8-12)*	*(4-8)*	*(8-12)*	*(4-8)*	*(0-4)*
Sample Date:		*4/23/97*	*4/23/97*	*4/23/97*	*4/23/97*	*4/23/97*	*4/23/97*	*4/24/97*	*4/30/97*	*4/30/97*	*4/30/97*	*9/19/96*
					Duplicate		*Duplicate*					
Parameter	*Units*											
BTEX												
Benzene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Ethylbenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Toluene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Xylene (total)	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Metals												
Arsenic	mg/Kg	-	-	-	-	-	-	-	-	-	-	-
Barium	mg/Kg	-	-	-	-	-	-	-	-	-	-	-
Cadmium	mg/Kg	-	-	-	-	-	-	-	-	-	-	-
Chromium	mg/Kg	-	-	-	-	-	-	-	-	-	-	-
Cyanide (total)	mg/Kg	-	-	-	-	-	-	-	-	-	-	-
Lead	mg/Kg	-	-	-	-	-	-	-	-	-	-	-
Mercury	mg/Kg	-	-	-	-	-	-	-	-	-	-	-
Selenium	mg/Kg	-	-	-	-	-	-	-	-	-	-	-
Silver	mg/Kg	-	-	-	-	-	-	-	-	-	-	-
Sulfide	mg/Kg	-	-	-	-	-	-	-	-	-	-	-
Miscellaneous												
Ignitability	deg f	-	-	-	-	-	-	-	-	-	-	-
Percent Moisture	%	-	-	-	-	-	-	-	-	-	-	-
pH (soil)	s.u.	-	-	-	-	-	-	-	-	-	-	-
pH Corrosivity	s.u.	-	-	-	-	-	-	-	-	-	-	-
Reactive Cyanide	mg/kg	-	-	-	-	-	-	-	-	-	-	-
Reactive Sulfide	mg/Kg	-	-	-	-	-	-	-	-	-	-	-
PCBs												
Aroclor-1016	mg/Kg	-	-	-	-	-	-	ND (0.02)	-	-	-	-
Aroclor-1221	mg/Kg	-	-	-	-	-	-	ND (0.02)	-	-	-	-
Aroclor-1232	mg/Kg	-	-	-	-	-	-	ND (0.02)	-	-	-	-
Aroclor-1242	mg/Kg	-	-	-	-	-	-	ND (0.02)	-	-	-	-
Aroclor-1248	mg/Kg	-	-	-	-	-	-	ND (0.02)	-	-	-	-
Aroclor-1254	mg/Kg	-	-	-	-	-	-	ND (20)	-	-	-	-
Aroclor-1260	mg/Kg	-	-	-	-	-	-	ND (0.02)	-	-	-	-
Petroleum Products												
Total Petroleum Hydrocarbons	mg/Kg	-	-	-	-	-	-	-	-	-	-	-
Total Petroleum Hydrocarbons - extractable (DRO)	mg/Kg	-	-	-	-	-	-	-	-	-	-	-
Total Petroleum Hydrocarbons, Field	mg/Kg	-	-	-	-	-	-	-	-	-	-	603
Total Recoverable Petroleum Hydrocarbons	mg/Kg	1350	-	105	-	107	-	-	146	228	2890	3730
Semi-Volatiles												
1,2,4-Trichlorobenzene	ug/Kg	ND (6.6)	ND (5.3)	ND (6.2)	ND (6.2)	2.5 J	ND (5.7)	-	-	-	-	-
1,2-Dichlorobenzene	ug/Kg	ND (6.6)	ND (5.3)	ND (6.2)	ND (6.2)	ND (5.7)	ND (5.7)	-	-	-	-	-
1,2-Diphenylhydrazine	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
1,3-Dichlorobenzene	ug/Kg	ND (6.6)	ND (5.3)	ND (6.2)	ND (6.2)	ND (5.7)	ND (5.7)	-	-	-	-	-
1,4-Dichlorobenzene	ug/Kg	ND (6.6)	ND (5.3)	ND (6.2)	ND (6.2)	ND (5.7)	ND (5.7)	-	-	-	-	-
2,4,5-Trichlorophenol	ug/Kg	-	-	-		-	-	-	-	-	-	-
2,4,6-Trichlorophenol	ug/Kg	-	-	-		-	-	-	-	-	-	-

HISTORICAL SOIL SAMPLE RESULTS
AOI 11 TO 14 - CHIP HANDLING AREAS AND NEARBY USTs
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*GP-43*	*GP-43*	*GP-44*	*GP-44*	*GP-45*	*GP-45*	*GP-47*	*GP-55*	*GP-56*	*GP-57*	*GP-7*
Sample Name:		*GP-43 G-4*	*GP-43 G-4-DL*	*GP-44 G-2*	*GP-44 G-2*	*GP-45 G-2*	*GP-45 G-2*	*GP-47 G-3*	*GP-55 G-2*	*GP-56 G-3*	*GP-57 G-2*	*GP-7 G-1*
Sample Depth:		*(12-16)*	*(12-16)*	*(4-8)*	*(4-8)*	*(4-8)*	*(4-8)*	*(8-12)*	*(4-8)*	*(8-12)*	*(4-8)*	*(0-4)*
Sample Date:		*4/23/97*	*4/23/97*	*4/23/97*	*4/23/97*	*4/23/97*	*4/23/97*	*4/24/97*	*4/30/97*	*4/30/97*	*4/30/97*	*9/19/96*
					Duplicate		*Duplicate*					
Parameter	*Units*											
2,4-Dichlorophenol	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
2,4-Dimethylphenol	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
2,4-Dinitrophenol	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
2,4-Dinitrotoluene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
2,6-Dinitrotoluene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
2-Chloronaphthalene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
2-Chlorophenol	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
2-Methyl naphthalene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
2-Methylphenol	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
2-Nitroaniline	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
2-Nitrophenol	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
3&4-Methylphenol	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
3,3'-Dichlorobenzidine	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
3-Nitroaniline	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
4,6-Dinitro-2-methylphenol	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
4-Bromophenyl phenyl ether	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
4-Chloro-3-methylphenol	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
4-Chloroaniline	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
4-Chlorophenyl phenyl ether	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
4-Nitroaniline	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
4-Nitrophenol	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Acenaphthene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Acenaphthylene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Anthracene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Benzo(a)anthracene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Benzo(a)pyrene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Benzo(b)fluoranthene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Benzo(g,h,i)perylene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Benzo(k)fluoranthene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Benzoic acid	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Benzyl Alcohol	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
bis(2-Chloroethoxy)methane	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
bis(2-Chloroethyl)ether	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
bis(2-Chloroisopropyl)ether	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
bis(2-Ethylhexyl)phthalate	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Butyl benzylphthalate	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Chrysene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Dibenz(a,h)anthracene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Dibenzofuran	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Diethyl phthalate	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Dimethyl phthalate	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Di-n-butylphthalate	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Di-n-octyl phthalate	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Fluoranthene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Fluorene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Hexachlorobenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Hexachlorobutadiene	ug/Kg	ND (6.6)	ND (5.3)	ND (6.2)	ND (6.2)	ND (5.7)	ND (5.7)	-	-	-	-	-
Hexachlorocyclopentadiene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Hexachloroethane	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Isophorone	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Naphthalene	ug/Kg	ND (6.6)	ND (5.3)	ND (6.2)	ND (6.2)	5.3 J	ND (5.7)	-	-	-	-	-
Nitrobenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
N-Nitrosodimethylamine	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
N-Nitrosodi-n-propylamine	ug/Kg	-	-	-	-	-	-	-	-	-	-	-

TABLE G.5

HISTORICAL SOIL SAMPLE RESULTS
AOI 11 TO 14 - CHIP HANDLING AREAS AND NEARBY USTs
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*GP-43*	*GP-43*	*GP-44*	*GP-44*	*GP-45*	*GP-45*	*GP-47*	*GP-55*	*GP-56*	*GP-57*	*GP-7*
Sample Name:		*GP-43 G-4*	*GP-43 G-4-DL*	*GP-44 G-2*	*GP-44 G-2*	*GP-45 G-2*	*GP-45 G-2*	*GP-47 G-3*	*GP-55 G-2*	*GP-56 G-3*	*GP-57 G-2*	*GP-7 G-1*
Sample Depth:		*(12-16)*	*(12-16)*	*(4-8)*	*(4-8)*	*(4-8)*	*(4-8)*	*(8-12)*	*(4-8)*	*(8-12)*	*(4-8)*	*(0-4)*
Sample Date:		*4/23/97*	*4/23/97*	*4/23/97*	*4/23/97*	*4/23/97*	*4/23/97*	*4/24/97*	*4/30/97*	*4/30/97*	*4/30/97*	*9/19/96*
					Duplicate		*Duplicate*					
Parameter	*Units*											
N-Nitrosodiphenylamine	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Pentachlorophenol	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Phenanthrene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Phenol	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Pyrene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Volatiles												
1,1,1,2-Tetrachloroethane	ug/Kg	ND (6.6)	ND (5.3)	ND (6.2)	ND (6.2)	ND (5.7)	ND (5.7)	-	-	-	-	-
1,1,1-Trichloroethane	ug/Kg	ND (6.6)	ND (5.3)	ND (6.2)	ND (6.2)	ND (5.7)	ND (5.7)	-	-	-	-	ND (30)
1,1,2,2-Tetrachloroethane	ug/Kg	ND (6.6)	ND (5.3)	ND (6.2)	ND (6.2)	ND (5.7)	ND (5.7)	-	-	-	-	ND (30)
1,1,2-Trichloroethane	ug/Kg	ND (6.6)	ND (5.3)	ND (6.2)	ND (6.2)	ND (5.7)	ND (5.7)	-	-	-	-	ND (30)
1,1-Dichloroethane	ug/Kg	ND (6.6)	ND (5.3)	ND (6.2)	ND (6.2)	ND (5.7)	ND (5.7)	-	-	-	-	ND (30)
1,1-Dichloroethene	ug/Kg	ND (6.6)	ND (5.3)	ND (6.2)	ND (6.2)	ND (5.7)	ND (5.7)	-	-	-	-	ND (30)
1,1-Dichloropropene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
1,2,3-Trichloropropane	ug/Kg	ND (6.6)	ND (5.3)	ND (6.2)	ND (6.2)	ND (5.7)	ND (5.7)	-	-	-	-	-
1,2,4-Trichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
1,2,4-Trimethylbenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
1,2-Dibromo-3-chloropropane (DBCP)	ug/Kg	ND (13)	ND (11)	ND (12)	ND (12)	ND (11)	ND (11)	-	-	-	-	-
1,2-Dibromoethane (EDB)	ug/Kg	ND (6.6)	ND (5.3)	ND (6.2)	ND (6.2)	ND (5.7)	ND (5.7)	-	-	-	-	-
1,2-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichloroethane	ug/Kg	ND (6.6)	ND (5.3)	ND (6.2)	ND (6.2)	ND (5.7)	ND (5.7)	-	-	-	-	ND (30)
1,2-Dichloroethene (total)	ug/Kg	3.8 J	ND (5.3)	ND (6.2)	ND (6.2)	ND (5.7)	ND (5.7)	-	-	-	-	-
1,2-Dichloropropane	ug/Kg	ND (6.6)	ND (5.3)	ND (6.2)	ND (6.2)	ND (5.7)	ND (5.7)	-	-	-	-	ND (30)
1,3,5-Trimethylbenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
1,3-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
1,3-Dichloropropane	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
1,4-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
1,4-Dioxane	ug/Kg	ND (330)	ND (260)	ND (310)	ND (310)	ND (290)	ND (290)	-	-	-	-	-
2,2-Dichloropropane	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
2-Butanone	ug/Kg	5.2 J	ND (11)	ND (12)	ND (12)	ND (11)	ND (11)	-	-	-	-	ND (59)
2-Chloroethyl vinyl ether	ug/Kg	ND (13)	ND (11)	ND (12)	ND (12)	ND (11)	ND (11)	-	-	-	-	-
2-Chlorotoluene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
2-Hexanone	ug/Kg	ND (13)	ND (11)	ND (12)	ND (12)	ND (11)	ND (11)	-	-	-	-	ND (59)
2-Phenylbutane	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
4-Chlorotoluene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
4-Methyl-2-pentanone	ug/Kg	ND (13)	ND (11)	ND (12)	ND (12)	ND (11)	ND (11)	-	-	-	-	ND (59)
Acetone	ug/Kg	43 B	11 DB	10 JB	ND (12)	12 B	ND (11)	-	-	-	-	ND (59)
Acrolein	ug/Kg	ND (13)	ND (11)	ND (12)	ND (12)	ND (11)	ND (11)	-	-	-	-	-
Acrylonitrile	ug/Kg	ND (13)	ND (11)	ND (12)	ND (12)	ND (11)	ND (11)	-	-	-	-	-
Allyl chloride	ug/Kg	ND (13)	ND (11)	ND (12)	ND (12)	ND (11)	ND (11)	-	-	-	-	-
Benzene	ug/Kg	ND (6.6)	ND (5.3)	ND (6.2)	ND (6.2)	ND (5.7)	ND (5.7)	-	-	-	-	ND (30)
Benzene, butyl	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Benzene, isopropyl	ug/Kg	16	2.2 DJ	ND (6.2)	ND (6.2)	ND (5.7)	ND (5.7)	-	-	-	-	-
Benzene, tert-butyl	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Bromobenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Bromodichloromethane	ug/Kg	ND (6.6)	ND (5.3)	ND (6.2)	ND (6.2)	ND (5.7)	ND (5.7)	-	-	-	-	ND (30)
Bromoform	ug/Kg	ND (6.6)	ND (5.3)	ND (6.2)	ND (6.2)	ND (5.7)	ND (5.7)	-	-	-	-	ND (30)
Bromomethane	ug/Kg	ND (6.6)	ND (5.3)	ND (6.2)	ND (6.2)	ND (5.7)	ND (5.7)	-	-	-	-	ND (59)
Carbon disulfide	ug/Kg	ND (6.6)	ND (5.3)	ND (6.2)	ND (6.2)	1.2 J	ND (5.7)	-	-	-	-	ND (30)
Carbon tetrachloride	ug/Kg	ND (6.6)	ND (5.3)	ND (6.2)	ND (6.2)	ND (5.7)	ND (5.7)	-	-	-	-	ND (30)
Chlorobenzene	ug/Kg	ND (6.6)	ND (5.3)	ND (6.2)	ND (6.2)	ND (5.7)	ND (5.7)	-	-	-	-	ND (30)
Chlorobromomethane	ug/Kg	ND (6.6)	ND (5.3)	ND (6.2)	ND (6.2)	ND (5.7)	ND (5.7)	-	-	-	-	-
Chloroethane	ug/Kg	ND (6.6)	ND (5.3)	ND (6.2)	ND (6.2)	ND (5.7)	ND (5.7)	-	-	-	-	ND (59)
Chloroform	ug/Kg	ND (6.6)	ND (5.3)	ND (6.2)	ND (6.2)	ND (5.7)	ND (5.7)	-	-	-	-	ND (30)

HISTORICAL SOIL SAMPLE RESULTS
AOI 11 TO 14 - CHIP HANDLING AREAS AND NEARBY USTs
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*GP-43*	*GP-43*	*GP-44*	*GP-44*	*GP-45*	*GP-45*	*GP-47*	*GP-55*	*GP-56*	*GP-57*	*GP-7*
Sample Name:		*GP-43 G-4*	*GP-43 G-4-DL*	*GP-44 G-2*	*GP-44 G-2*	*GP-45 G-2*	*GP-45 G-2*	*GP-47 G-3*	*GP-55 G-2*	*GP-56 G-3*	*GP-57 G-2*	*GP-7 G-1*
Sample Depth:		*(12-16)*	*(12-16)*	*(4-8)*	*(4-8)*	*(4-8)*	*(4-8)*	*(8-12)*	*(4-8)*	*(8-12)*	*(4-8)*	*(0-4)*
Sample Date:		*4/23/97*	*4/23/97*	*4/23/97*	*4/23/97*	*4/23/97*	*4/23/97*	*4/24/97*	*4/30/97*	*4/30/97*	*4/30/97*	*9/19/96*
					Duplicate		*Duplicate*					
Parameter	*Units*											
Chloromethane	ug/Kg	ND (6.6)	ND (5.3)	ND (6.2)	ND (6.2)	ND (5.7)	ND (5.7)	-	-	-	-	ND (59)
Chloroprene	ug/Kg	ND (13)	ND (11)	ND (12)	ND (12)	ND (11)	ND (11)	-	-	-	-	-
cis-1,2-Dichloroethene	ug/Kg	3.8 J	ND (5.3)	ND (6.2)	ND (6.2)	ND (5.7)	ND (5.7)	-	-	-	-	ND (30)
cis-1,3-Dichloropropene	ug/Kg	ND (6.6)	ND (5.3)	ND (6.2)	ND (6.2)	ND (5.7)	ND (5.7)	-	-	-	-	ND (30)
cis-1,4-Dichloro-2-butene	ug/Kg	ND (6.6)	ND (5.3)	ND (6.2)	ND (6.2)	ND (5.7)	ND (5.7)	-	-	-	-	-
Cymene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Dibromochloromethane	ug/Kg	ND (6.6)	ND (5.3)	ND (6.2)	ND (6.2)	ND (5.7)	ND (5.7)	-	-	-	-	ND (30)
Dibromomethane	ug/Kg	ND (6.6)	ND (5.3)	ND (6.2)	ND (6.2)	ND (5.7)	ND (5.7)	-	-	-	-	-
Dichlorodifluoromethane (CFC-12)	ug/Kg	ND (6.6)	ND (5.3)	ND (6.2)	ND (6.2)	ND (5.7)	ND (5.7)	-	-	-	-	-
Ethyl methacrylate	ug/Kg	ND (13)	ND (11)	ND (12)	ND (12)	ND (11)	ND (11)	-	-	-	-	-
Ethylbenzene	ug/Kg	ND (6.6)	ND (5.3)	ND (6.2)	ND (6.2)	ND (5.7)	ND (5.7)	-	-	-	-	ND (30)
Hexachlorobutadiene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Hexane	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Iodomethane	ug/Kg	ND (13)	ND (11)	ND (12)	ND (12)	ND (11)	ND (11)	-	-	-	-	-
Isobutyl alcohol	ug/Kg	ND (330)	ND (260)	ND (310)	ND (310)	ND (290)	ND (290)	-	-	-	-	-
Methyl acrylonitrile	ug/Kg	ND (6.6)	ND (5.3)	ND (6.2)	ND (6.2)	ND (5.7)	ND (5.7)	-	-	-	-	-
Methyl methacrylate	ug/Kg	ND (6.6)	ND (5.3)	ND (6.2)	ND (6.2)	ND (5.7)	ND (5.7)	-	-	-	-	-
Methyl Tert Butyl Ether	ug/Kg	ND (6.6)	ND (5.3)	ND (6.2)	ND (6.2)	ND (5.7)	ND (5.7)	-	-	-	-	-
Methylene chloride	ug/Kg	ND (6.6)	ND (5.3)	ND (6.2)	ND (6.2)	ND (5.7)	ND (5.7)	-	-	-	-	ND (30)
Naphthalene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
n-Propylbenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Propionitrile (Ethyl cyanide)	ug/Kg	ND (13)	ND (11)	ND (12)	ND (12)	ND (11)	ND (11)	-	-	-	-	-
Styrene	ug/Kg	ND (6.6)	ND (5.3)	ND (6.2)	ND (6.2)	ND (5.7)	ND (5.7)	-	-	-	-	ND (30)
Tetrachloroethene	ug/Kg	73	9.6 D	ND (6.2)	ND (6.2)	88	51	-	-	-	-	ND (30)
Tetrahydrofuran	ug/Kg	ND (330)	ND (260)	ND (310)	ND (310)	ND (290)	ND (290)	-	-	-	-	-
Toluene	ug/Kg	ND (6.6)	ND (5.3)	ND (6.2)	ND (6.2)	2.6 J	1.7 J	-	-	-	-	ND (30)
trans-1,2-Dichloroethene	ug/Kg	ND (6.6)	ND (5.3)	ND (6.2)	ND (6.2)	ND (5.7)	ND (5.7)	-	-	-	-	ND (30)
trans-1,3-Dichloropropene	ug/Kg	ND (6.6)	ND (5.3)	ND (6.2)	ND (6.2)	ND (5.7)	ND (5.7)	-	-	-	-	ND (30)
trans-1,4-Dichloro-2-butene	ug/Kg	ND (6.6)	ND (5.3)	ND (6.2)	ND (6.2)	ND (5.7)	ND (5.7)	-	-	-	-	-
Trichloroethene	ug/Kg	45	5.3 DJ	2.4 J	1.3 J	36	27	-	-	-	-	ND (30)
Trichlorofluoromethane (CFC-11)	ug/Kg	ND (6.6)	ND (5.3)	ND (6.2)	ND (6.2)	ND (5.7)	ND (5.7)	-	-	-	-	-
Trifluorotrichloroethane (Freon 113)	ug/Kg	ND (6.6)	ND (5.3)	ND (6.2)	ND (6.2)	ND (5.7)	ND (5.7)	-	-	-	-	-
Vinyl acetate	ug/Kg	ND (13)	ND (11)	ND (12)	ND (12)	ND (11)	ND (11)	-	-	-	-	ND (59)
Vinyl chloride	ug/Kg	ND (6.6)	ND (5.3)	ND (6.2)	ND (6.2)	ND (5.7)	ND (5.7)	-	-	-	-	ND (59)
Xylene (total)	ug/Kg	ND (6.6)	ND (5.3)	ND (6.2)	ND (6.2)	ND (5.7)	ND (5.7)	-	-	-	-	ND (30)
General Chemistry												
Flash Point Closed Cup	deg f	-	-	-	-	-	-	-	-	-	-	-
Percent Solids	%	-	-	-	-	-	-	81.2	91.5	92.2	72.9	89.4
pH Corrosivity	s.u.	-	-	-	-	-	-	-	-	-	-	-

TABLE G.5

HISTORICAL SOIL SAMPLE RESULTS
AOI 11 TO 14 - CHIP HANDLING AREAS AND NEARBY USTs
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*GP-8*	*GP-9*	*GP-9*	*HA-1*	*HA-1*	*HA-10*	*HA-10*	*HA-2*	*HA-4*	*HA-4*	*HA-5*	*HA-5*
Sample Name:		*GP-8 G-2*	*GP-9 G-2*	*GP-9 G-2*	*HA-1 S-1*	*HA-1 S-2*	*HA-10 S-1*	*HA-10 S-2*	*HA-2 S-1*	*HA-4 S-1*	*HA-4 S-2*	*HA-5 S-1*	*HA-5 S-2*
Sample Depth:		*(4-8)*	*(4-8)*	*(7-9)*	*(20-22)*	*(22-24)*	*(8-10)*	*(10-12)*	*(24-26)*	*(22-24)*	*(24-26)*	*(6-8)*	*(10-12)*
Sample Date:		*9/19/96*	*9/19/96*	*9/19/96*	*12/3/99*	*12/3/99*	*12/9/99*	*12/9/99*	*12/3/99*	*12/7/99*	*12/7/99*	*12/7/99*	*12/7/99*
Parameter	*Units*												
BTEX													
Benzene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-	-
Ethylbenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-	-
Toluene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-	-
Xylene (total)	ug/Kg	-	-	-	-	-	-	-	-	-	-	-	-
Metals													
Arsenic	mg/Kg	-	-	-	-	-	-	-	-	-	-	-	-
Barium	mg/Kg	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium	mg/Kg	-	-	-	-	-	-	-	-	-	-	-	-
Chromium	mg/Kg	-	-	-	-	-	-	-	-	-	-	-	-
Cyanide (total)	mg/Kg	-	-	-	-	-	-	-	-	-	-	-	-
Lead	mg/Kg	-	-	-	-	-	-	-	-	-	-	-	-
Mercury	mg/Kg	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	mg/Kg	-	-	-	-	-	-	-	-	-	-	-	-
Silver	mg/Kg	-	-	-	-	-	-	-	-	-	-	-	-
Sulfide	mg/Kg	-	-	-	-	-	-	-	-	-	-	-	-
Miscellaneous													
Ignitability	deg f	-	-	-	-	-	-	-	-	-	-	-	-
Percent Moisture	%	-	-	-	-	-	-	-	-	-	-	-	-
pH (soil)	s.u.	-	-	-	-	-	-	-	-	-	-	-	-
pH Corrosivity	s.u.	-	-	-	-	-	-	-	-	-	-	-	-
Reactive Cyanide	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-
Reactive Sulfide	mg/Kg	-	-	-	-	-	-	-	-	-	-	-	-
PCBs													
Aroclor-1016	mg/Kg	-	-	-	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Aroclor-1221	mg/Kg	-	-	-	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Aroclor-1232	mg/Kg	-	-	-	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Aroclor-1242	mg/Kg	-	-	-	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Aroclor-1248	mg/Kg	-	-	-	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Aroclor-1254	mg/Kg	-	-	-	19.1	9.22	72.4	61.2	2.05	3.8	4.17	ND (0.5)	ND (0.5)
Aroclor-1260	mg/Kg	-	-	-	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Petroleum Products													
Total Petroleum Hydrocarbons	mg/Kg	-	-	-	17500	22800	19200	51000	2380	11200	23200	13	ND (10)
Total Petroleum Hydrocarbons - extractable (DRO)	mg/Kg	-	-	-	-	-	-	-	-	-	-	-	-
Total Petroleum Hydrocarbons, Field	mg/Kg	1025	690	-	-	-	-	-	-	-	-	-	-
Total Recoverable Petroleum Hydrocarbons	mg/Kg	1240	-	1060	-	-	-	-	-	-	-	-	-
Semi-Volatiles													
1,2,4-Trichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Diphenylhydrazine	ug/Kg	-	-	-	-	-	-	-	-	-	-	-	-
1,3-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-	-
1,4-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-	-
2,4,5-Trichlorophenol	ug/Kg	-	-	-	-	-	-	-	-	-	-	-	-
2,4,6-Trichlorophenol	ug/Kg	-	-	-	-	-	-	-	-	-	-	-	-

HISTORICAL SOIL SAMPLE RESULTS
AOI 11 TO 14 - CHIP HANDLING AREAS AND NEARBY USTs
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*GP-8*	*GP-9*	*GP-9*	*HA-1*	*HA-1*	*HA-10*	*HA-10*	*HA-2*	*HA-4*	*HA-4*	*HA-5*	*HA-5*
Sample Name:		*GP-8 G-2*	*GP-9 G-2*	*GP-9 G-2*	*HA-1 S-1*	*HA-1 S-2*	*HA-10 S-1*	*HA-10 S-2*	*HA-2 S-1*	*HA-4 S-1*	*HA-4 S-2*	*HA-5 S-1*	*HA-5 S-2*
Sample Depth:		*(4-8)*	*(4-8)*	*(7-9)*	*(20-22)*	*(22-24)*	*(8-10)*	*(10-12)*	*(24-26)*	*(22-24)*	*(24-26)*	*(6-8)*	*(10-12)*
Sample Date:		*9/19/96*	*9/19/96*	*9/19/96*	*12/3/99*	*12/3/99*	*12/9/99*	*12/9/99*	*12/3/99*	*12/7/99*	*12/7/99*	*12/7/99*	*12/7/99*
Parameter	*Units*												
2,4-Dichlorophenol	ug/Kg	-	-	-	-	-	-	-	-	-	-	-	-
2,4-Dimethylphenol	ug/Kg	-	-	-	-	-	-	-	-	-	-	-	-
2,4-Dinitrophenol	ug/Kg	-	-	-	-	-	-	-	-	-	-	-	-
2,4-Dinitrotoluene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-	-
2,6-Dinitrotoluene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-	-
2-Chloronaphthalene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-	-
2-Chlorophenol	ug/Kg	-	-	-	-	-	-	-	-	-	-	-	-
2-Methyl naphthalene	ug/Kg	-	-	-	ND (3300)	ND (3300)	-	-	ND (150)	ND (3300)	ND (3300)	ND (150)	ND (150)
2-Methylphenol	ug/Kg	-	-	-	-	-	-	-	-	-	-	-	-
2-Nitroaniline	ug/Kg	-	-	-	-	-	-	-	-	-	-	-	-
2-Nitrophenol	ug/Kg	-	-	-	-	-	-	-	-	-	-	-	-
3&4-Methylphenol	ug/Kg	-	-	-	-	-	-	-	-	-	-	-	-
3,3'-Dichlorobenzidine	ug/Kg	-	-	-	-	-	-	-	-	-	-	-	-
3-Nitroaniline	ug/Kg	-	-	-	-	-	-	-	-	-	-	-	-
4,6-Dinitro-2-methylphenol	ug/Kg	-	-	-	-	-	-	-	-	-	-	-	-
4-Bromophenyl phenyl ether	ug/Kg	-	-	-	-	-	-	-	-	-	-	-	-
4-Chloro-3-methylphenol	ug/Kg	-	-	-	-	-	-	-	-	-	-	-	-
4-Chloroaniline	ug/Kg	-	-	-	-	-	-	-	-	-	-	-	-
4-Chlorophenyl phenyl ether	ug/Kg	-	-	-	-	-	-	-	-	-	-	-	-
4-Nitroaniline	ug/Kg	-	-	-	-	-	-	-	-	-	-	-	-
4-Nitrophenol	ug/Kg	-	-	-	-	-	-	-	-	-	-	-	-
Acenaphthene	ug/Kg	-	-	-	ND (3300)	ND (3300)	-	-	ND (150)	ND (3300)	ND (3300)	ND (150)	ND (150)
Acenaphthylene	ug/Kg	-	-	-	ND (3300)	ND (3300)	-	-	ND (150)	ND (3300)	ND (3300)	ND (150)	ND (150)
Anthracene	ug/Kg	-	-	-	ND (3300)	ND (3300)	-	-	ND (150)	ND (3300)	ND (3300)	ND (150)	ND (150)
Benzo(a)anthracene	ug/Kg	-	-	-	ND (3300)	ND (3300)	-	-	ND (150)	ND (3300)	ND (3300)	ND (150)	ND (150)
Benzo(a)pyrene	ug/Kg	-	-	-	ND (3300)	ND (3300)	-	-	ND (150)	ND (3300)	ND (3300)	ND (150)	ND (150)
Benzo(b)fluoranthene	ug/Kg	-	-	-	ND (3300)	ND (3300)	-	-	ND (150)	ND (3300)	ND (3300)	ND (150)	ND (150)
Benzo(g,h,i)perylene	ug/Kg	-	-	-	ND (3300)	ND (3300)	-	-	ND (150)	ND (3300)	ND (3300)	ND (150)	ND (150)
Benzo(k)fluoranthene	ug/Kg	-	-	-	ND (3300)	ND (3300)	-	-	ND (150)	ND (3300)	ND (3300)	ND (150)	ND (150)
Benzoic acid	ug/Kg	-	-	-	-	-	-	-	-	-	-	-	-
Benzyl Alcohol	ug/Kg	-	-	-	-	-	-	-	-	-	-	-	-
bis(2-Chloroethoxy)methane	ug/Kg	-	-	-	-	-	-	-	-	-	-	-	-
bis(2-Chloroethyl)ether	ug/Kg	-	-	-	-	-	-	-	-	-	-	-	-
bis(2-Chloroisopropyl)ether	ug/Kg	-	-	-	-	-	-	-	-	-	-	-	-
bis(2-Ethylhexyl)phthalate	ug/Kg	-	-	-	-	-	-	-	-	-	-	-	-
Butyl benzylphthalate	ug/Kg	-	-	-	-	-	-	-	-	-	-	-	-
Chrysene	ug/Kg	-	-	-	ND (3300)	ND (3300)	-	-	ND (150)	ND (3300)	ND (3300)	ND (150)	ND (150)
Dibenz(a,h)anthracene	ug/Kg	-	-	-	ND (3300)	ND (3300)	-	-	ND (150)	ND (3300)	ND (3300)	ND (150)	ND (150)
Dibenzofuran	ug/Kg	-	-	-	-	-	-	-	-	-	-	-	-
Diethyl phthalate	ug/Kg	-	-	-	-	-	-	-	-	-	-	-	-
Dimethyl phthalate	ug/Kg	-	-	-	-	-	-	-	-	-	-	-	-
Di-n-butylphthalate	ug/Kg	-	-	-	-	-	-	-	-	-	-	-	-
Di-n-octyl phthalate	ug/Kg	-	-	-	-	-	-	-	-	-	-	-	-
Fluoranthene	ug/Kg	-	-	-	ND (3300)	ND (3300)	-	-	ND (150)	ND (3300)	ND (3300)	ND (150)	ND (150)
Fluorene	ug/Kg	-	-	-	ND (3300)	ND (3300)	-	-	ND (150)	ND (3300)	ND (3300)	ND (150)	ND (150)
Hexachlorobenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-	-
Hexachlorobutadiene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-	-
Hexachlorocyclopentadiene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-	-
Hexachloroethane	ug/Kg	-	-	-	-	-	-	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	ug/Kg	-	-	-	ND (3300)	ND (3300)	-	-	ND (150)	ND (3300)	ND (3300)	ND (150)	ND (150)
Isophorone	ug/Kg	-	-	-	-	-	-	-	-	-	-	-	-
Naphthalene	ug/Kg	-	-	-	ND (3300)	ND (3300)	-	-	ND (150)	ND (3300)	ND (3300)	ND (150)	ND (150)
Nitrobenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-	-
N-Nitrosodimethylamine	ug/Kg	-	-	-	-	-	-	-	-	-	-	-	-
N-Nitrosodi-n-propylamine	ug/Kg	-	-	-	-	-	-	-	-	-	-	-	-

TABLE G.5

HISTORICAL SOIL SAMPLE RESULTS
AOI 11 TO 14 - CHIP HANDLING AREAS AND NEARBY USTs
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*GP-8*	*GP-9*	*GP-9*	*HA-1*	*HA-1*	*HA-10*	*HA-10*	*HA-2*	*HA-4*	*HA-4*	*HA-5*	*HA-5*
Sample Name:		*GP-8 G-2*	*GP-9 G-2*	*GP-9 G-2*	*HA-1 S-1*	*HA-1 S-2*	*HA-10 S-1*	*HA-10 S-2*	*HA-2 S-1*	*HA-4 S-1*	*HA-4 S-2*	*HA-5 S-1*	*HA-5 S-2*
Sample Depth:		*(4-8)*	*(4-8)*	*(7-9)*	*(20-22)*	*(22-24)*	*(8-10)*	*(10-12)*	*(24-26)*	*(22-24)*	*(24-26)*	*(6-8)*	*(10-12)*
Sample Date:		*9/19/96*	*9/19/96*	*9/19/96*	*12/3/99*	*12/3/99*	*12/9/99*	*12/9/99*	*12/3/99*	*12/7/99*	*12/7/99*	*12/7/99*	*12/7/99*
Parameter	*Units*												
N-Nitrosodiphenylamine	ug/Kg	-	-	-	-	-	-	-	-	-	-	-	-
Pentachlorophenol	ug/Kg	-	-	-	-	-	-	-	-	-	-	-	-
Phenanthrene	ug/Kg	-	-	-	ND (3300)	ND (3300)	-	-	ND (150)	ND (3300)	ND (3300)	ND (150)	ND (150)
Phenol	ug/Kg	-	-	-	-	-	-	-	-	-	-	-	-
Pyrene	ug/Kg	-	-	-	ND (3300)	ND (3300)	-	-	ND (150)	ND (3300)	ND (3300)	ND (150)	ND (150)
Volatiles													
1,1,1,2-Tetrachloroethane	ug/Kg	-	-	-	ND (25)	ND (25)	-	-	ND (25)	ND (25)	ND (25)	ND (5)	ND (5)
1,1,1-Trichloroethane	ug/Kg	ND (12)	ND (28)	-	ND (25)	ND (25)	-	-	ND (25)	ND (25)	ND (25)	ND (5)	ND (5)
1,1,2,2-Tetrachloroethane	ug/Kg	ND (12)	ND (28)	-	ND (25)	ND (25)	-	-	ND (25)	ND (25)	ND (25)	ND (5)	ND (5)
1,1,2-Trichloroethane	ug/Kg	ND (12)	ND (28)	-	ND (25)	ND (25)	-	-	ND (25)	ND (25)	ND (25)	ND (5)	ND (5)
1,1-Dichloroethane	ug/Kg	ND (12)	ND (28)	-	ND (25)	ND (25)	-	-	ND (25)	ND (25)	ND (25)	ND (5)	ND (5)
1,1-Dichloroethene	ug/Kg	ND (12)	ND (28)	-	ND (25)	ND (25)	-	-	ND (25)	ND (25)	ND (25)	ND (5)	ND (5)
1,1-Dichloropropene	ug/Kg	-	-	-	ND (25)	ND (25)	-	-	ND (25)	ND (25)	ND (25)	ND (5)	ND (5)
1,2,3-Trichloropropane	ug/Kg	-	-	-	ND (25)	ND (25)	-	-	ND (25)	ND (25)	ND (25)	ND (5)	ND (5)
1,2,4-Trichlorobenzene	ug/Kg	-	-	-	ND (25)	ND (25)	-	-	ND (25)	ND (25)	ND (25)	ND (5)	ND (5)
1,2,4-Trimethylbenzene	ug/Kg	-	-	-	ND (25)	ND (25)	-	-	ND (25)	ND (25)	ND (25)	ND (5)	ND (5)
1,2-Dibromo-3-chloropropane (DBCP)	ug/Kg	-	-	-	ND (25)	ND (25)	-	-	ND (25)	ND (25)	ND (25)	ND (5)	ND (5)
1,2-Dibromoethane (EDB)	ug/Kg	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichlorobenzene	ug/Kg	-	-	-	ND (25)	ND (25)	-	-	ND (25)	ND (25)	ND (25)	ND (5)	ND (5)
1,2-Dichloroethane	ug/Kg	ND (12)	ND (28)	-	ND (25)	ND (25)	-	-	ND (25)	ND (25)	ND (25)	ND (5)	ND (5)
1,2-Dichloroethene (total)	ug/Kg	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichloropropane	ug/Kg	ND (12)	ND (28)	-	ND (25)	ND (25)	-	-	ND (25)	ND (25)	ND (25)	ND (5)	ND (5)
1,3,5-Trimethylbenzene	ug/Kg	-	-	-	ND (25)	ND (25)	-	-	ND (25)	ND (25)	ND (25)	ND (5)	ND (5)
1,3-Dichlorobenzene	ug/Kg	-	-	-	ND (25)	ND (25)	-	-	ND (25)	ND (25)	ND (25)	ND (5)	ND (5)
1,3-Dichloropropane	ug/Kg	-	-	-	ND (25)	ND (25)	-	-	ND (25)	ND (25)	ND (25)	ND (5)	ND (5)
1,4-Dichlorobenzene	ug/Kg	-	-	-	ND (25)	ND (25)	-	-	ND (25)	ND (25)	ND (25)	ND (5)	ND (5)
1,4-Dioxane	ug/Kg	-	-	-	-	-	-	-	-	-	-	-	-
2,2-Dichloropropane	ug/Kg	-	-	-	ND (25)	ND (25)	-	-	ND (25)	ND (25)	ND (25)	ND (5)	ND (5)
2-Butanone	ug/Kg	ND (25)	ND (56)	-	ND (500)	ND (500)	-	-	ND (500)	ND (500)	ND (500)	ND (100)	ND (100)
2-Chloroethyl vinyl ether	ug/Kg	-	-	-	-	-	-	-	-	-	-	-	-
2-Chlorotoluene	ug/Kg	-	-	-	ND (25)	ND (25)	-	-	ND (25)	ND (25)	ND (25)	ND (5)	ND (5)
2-Hexanone	ug/Kg	ND (25)	ND (56)	-	ND (250)	ND (250)	-	-	ND (250)	ND (250)	ND (250)	ND (50)	ND (50)
2-Phenylbutane	ug/Kg	-	-	-	ND (25)	ND (25)	-	-	ND (25)	ND (25)	ND (25)	ND (5)	ND (5)
4-Chlorotoluene	ug/Kg	-	-	-	ND (25)	ND (25)	-	-	ND (25)	ND (25)	ND (25)	ND (5)	ND (5)
4-Methyl-2-pentanone	ug/Kg	ND (25)	ND (56)	-	ND (250)	ND (250)	-	-	ND (250)	ND (250)	ND (250)	ND (50)	ND (50)
Acetone	ug/Kg	29	33 J	-	ND (500)	ND (500)	-	-	ND (500)	ND (500)	ND (500)	ND (100)	ND (100)
Acrolein	ug/Kg	-	-	-	-	-	-	-	-	-	-	-	-
Acrylonitrile	ug/Kg	-	-	-	-	-	-	-	-	-	-	-	-
Allyl chloride	ug/Kg	-	-	-	-	-	-	-	-	-	-	-	-
Benzene	ug/Kg	ND (12)	ND (28)	-	ND (25)	ND (25)	-	-	ND (25)	ND (25)	ND (25)	ND (5)	ND (5)
Benzene, butyl	ug/Kg	-	-	-	ND (25)	ND (25)	-	-	ND (25)	ND (25)	ND (25)	ND (5)	ND (5)
Benzene, isopropyl	ug/Kg	-	-	-	ND (25)	ND (25)	-	-	ND (25)	ND (25)	ND (25)	ND (5)	ND (5)
Benzene, tert-butyl	ug/Kg	-	-	-	ND (25)	ND (25)	-	-	ND (25)	ND (25)	ND (25)	ND (5)	ND (5)
Bromobenzene	ug/Kg	-	-	-	ND (25)	ND (25)	-	-	ND (25)	ND (25)	ND (25)	ND (5)	ND (5)
Bromodichloromethane	ug/Kg	ND (12)	ND (28)	-	ND (25)	ND (25)	-	-	ND (25)	ND (25)	ND (25)	ND (5)	ND (5)
Bromoform	ug/Kg	ND (12)	ND (28)	-	ND (25)	ND (25)	-	-	ND (25)	ND (25)	ND (25)	ND (5)	ND (5)
Bromomethane	ug/Kg	ND (25)	ND (56)	-	ND (50)	ND (50)	-	-	ND (50)	ND (50)	ND (50)	ND (10)	ND (10)
Carbon disulfide	ug/Kg	ND (12)	ND (28)	-	ND (25)	ND (25)	-	-	ND (25)	ND (25)	ND (25)	ND (5)	ND (5)
Carbon tetrachloride	ug/Kg	ND (12)	ND (28)	-	ND (25)	ND (25)	-	-	ND (25)	ND (25)	ND (25)	ND (5)	ND (5)
Chlorobenzene	ug/Kg	ND (12)	ND (28)	-	ND (25)	ND (25)	-	-	ND (25)	ND (25)	ND (25)	ND (5)	ND (5)
Chlorobromomethane	ug/Kg	-	-	-	ND (25)	ND (25)	-	-	ND (25)	ND (25)	ND (25)	ND (5)	ND (5)
Chloroethane	ug/Kg	ND (25)	ND (56)	-	ND (50)	ND (50)	-	-	ND (50)	ND (50)	ND (50)	ND (10)	ND (10)
Chloroform	ug/Kg	ND (12)	ND (28)	-	ND (25)	ND (25)	-	-	ND (25)	ND (25)	ND (25)	ND (5)	ND (5)

HISTORICAL SOIL SAMPLE RESULTS
AOI 11 TO 14 - CHIP HANDLING AREAS AND NEARBY USTs
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*GP-8*	*GP-9*	*GP-9*	*HA-1*	*HA-1*	*HA-10*	*HA-10*	*HA-2*	*HA-4*	*HA-4*	*HA-5*	*HA-5*
Sample Name:		*GP-8 G-2*	*GP-9 G-2*	*GP-9 G-2*	*HA-1 S-1*	*HA-1 S-2*	*HA-10 S-1*	*HA-10 S-2*	*HA-2 S-1*	*HA-4 S-1*	*HA-4 S-2*	*HA-5 S-1*	*HA-5 S-2*
Sample Depth:		*(4-8)*	*(4-8)*	*(7-9)*	*(20-22)*	*(22-24)*	*(8-10)*	*(10-12)*	*(24-26)*	*(22-24)*	*(24-26)*	*(6-8)*	*(10-12)*
Sample Date:		*9/19/96*	*9/19/96*	*9/19/96*	*12/3/99*	*12/3/99*	*12/9/99*	*12/9/99*	*12/3/99*	*12/7/99*	*12/7/99*	*12/7/99*	*12/7/99*
Parameter	*Units*												
Chloromethane	ug/Kg	ND (25)	ND (56)	-	ND (50)	ND (50)	-	-	ND (50)	ND (50)	ND (50)	ND (10)	ND (10)
Chloroprene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-	-
cis-1,2-Dichloroethene	ug/Kg	ND (12)	10 J	-	ND (25)	ND (25)	-	-	ND (25)	ND (25)	ND (25)	ND (5)	ND (5)
cis-1,3-Dichloropropene	ug/Kg	ND (12)	ND (28)	-	ND (25)	ND (25)	-	-	ND (25)	ND (25)	ND (25)	ND (5)	ND (5)
cis-1,4-Dichloro-2-butene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-	-
Cymene	ug/Kg	-	-	-	ND (25)	ND (25)	-	-	ND (25)	ND (25)	ND (25)	ND (5)	ND (5)
Dibromochloromethane	ug/Kg	ND (12)	ND (28)	-	ND (25)	ND (25)	-	-	ND (25)	ND (25)	ND (25)	ND (5)	ND (5)
Dibromomethane	ug/Kg	-	-	-	ND (25)	ND (25)	-	-	ND (25)	ND (25)	ND (25)	ND (5)	ND (5)
Dichlorodifluoromethane (CFC-12)	ug/Kg	-	-	-	ND (25)	ND (25)	-	-	ND (25)	ND (25)	ND (25)	ND (5)	ND (5)
Ethyl methacrylate	ug/Kg	-	-	-	-	-	-	-	-	-	-	-	-
Ethylbenzene	ug/Kg	ND (12)	ND (28)	-	ND (25)	ND (25)	-	-	ND (25)	ND (25)	ND (25)	ND (5)	ND (5)
Hexachlorobutadiene	ug/Kg	-	-	-	ND (25)	ND (25)	-	-	ND (25)	ND (25)	ND (25)	ND (5)	ND (5)
Hexane	ug/Kg	-	-	-	ND (50)	ND (50)	-	-	ND (50)	ND (50)	ND (50)	ND (10)	ND (10)
Iodomethane	ug/Kg	-	-	-	-	-	-	-	-	-	-	-	-
Isobutyl alcohol	ug/Kg	-	-	-	-	-	-	-	-	-	-	-	-
Methyl acrylonitrile	ug/Kg	-	-	-	-	-	-	-	-	-	-	-	-
Methyl methacrylate	ug/Kg	-	-	-	-	-	-	-	-	-	-	-	-
Methyl Tert Butyl Ether	ug/Kg	-	-	-	-	-	-	-	-	-	-	-	-
Methylene chloride	ug/Kg	ND (12)	ND (28)	-	ND (50)	ND (50)	-	-	ND (50)	ND (50)	ND (50)	ND (10)	ND (10)
Naphthalene	ug/Kg	-	-	-	ND (25)	ND (25)	-	-	ND (25)	ND (25)	ND (25)	ND (5)	ND (5)
n-Propylbenzene	ug/Kg	-	-	-	ND (25)	ND (25)	-	-	ND (25)	ND (25)	ND (25)	ND (5)	ND (5)
Propionitrile (Ethyl cyanide)	ug/Kg	-	-	-	-	-	-	-	-	-	-	-	-
Styrene	ug/Kg	ND (12)	ND (28)	-	ND (25)	ND (25)	-	-	ND (25)	ND (25)	ND (25)	ND (5)	ND (5)
Tetrachloroethene	ug/Kg	ND (12)	14 J	-	ND (25)	ND (25)	-	-	ND (25)	ND (25)	ND (25)	ND (5)	ND (5)
Tetrahydrofuran	ug/Kg	-	-	-	-	-	-	-	-	-	-	-	-
Toluene	ug/Kg	ND (12)	ND (28)	-	6.3 J	ND (25)	-	-	ND (25)	ND (25)	ND (25)	ND (5)	ND (5)
trans-1,2-Dichloroethene	ug/Kg	ND (12)	ND (28)	-	ND (25)	ND (25)	-	-	ND (25)	ND (25)	ND (25)	ND (5)	ND (5)
trans-1,3-Dichloropropene	ug/Kg	ND (12)	ND (28)	-	ND (25)	ND (25)	-	-	ND (25)	ND (25)	ND (25)	ND (5)	ND (5)
trans-1,4-Dichloro-2-butene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-	-
Trichloroethene	ug/Kg	ND (12)	1200	-	ND (25)	ND (25)	-	-	ND (25)	ND (25)	ND (25)	ND (5)	ND (5)
Trichlorofluoromethane (CFC-11)	ug/Kg	-	-	-	ND (25)	ND (25)	-	-	ND (25)	ND (25)	ND (25)	ND (5)	ND (5)
Trifluorotrichloroethane (Freon 113)	ug/Kg	-	-	-	-	-	-	-	-	-	-	-	-
Vinyl acetate	ug/Kg	ND (25)	ND (56)	-	ND (25)	ND (25)	-	-	ND (25)	ND (25)	ND (25)	ND (5)	ND (5)
Vinyl chloride	ug/Kg	ND (25)	ND (56)	-	ND (10)	ND (10)	-	-	ND (10)	ND (10)	ND (10)	ND (2)	ND (2)
Xylene (total)	ug/Kg	ND (12)	ND (28)	-	ND (25)	ND (25)	-	-	ND (25)	ND (25)	ND (25)	ND (5)	ND (5)
General Chemistry													
Flash Point Closed Cup	deg f	-	-	-	-	-	-	-	-	-	-	-	-
Percent Solids	%	80.5	-	84.8	-	-	-	-	-	-	-	-	-
pH Corrosivity	s.u.	-	-	-	-	-	-	-	-	-	-	-	-

TABLE G.5

HISTORICAL SOIL SAMPLE RESULTS
AOI 11 TO 14 - CHIP HANDLING AREAS AND NEARBY USTs
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*HRD6 Backfill-UST6*	*HRD6 Backfill-UST6*	*SP-A*	*SP-B*	*SP-C*	*SP-D*	*SP-DD*	*SP-E*	*SP-F*	*SP-G*	*SP-H*
Sample Name:		*HRD6 BACKFILL-UST6*	*HRD6 BACKFILL-UST6*	*SP-A*	*SP-B*	*SP-C*	*SP-D*	*SP-DD*	*SP-E*	*SP-F*	*SP-G*	*SP-H*
Sample Depth:												
Sample Date:		*2/16/90*	*2/20/90*	*2/27/91*	*2/27/91*	*2/27/91*	*2/27/91*	*2/27/91*	*2/27/91*	*2/27/91*	*2/27/91*	*2/27/91*
Parameter	*Units*											
BTEX												
Benzene	ug/Kg	-	ND (2.0)	-	-	-	-	-	-	-	-	-
Ethylbenzene	ug/Kg	-	ND (4.0)	-	-	-	-	-	-	-	-	-
Toluene	ug/Kg	-	ND (3.0)	-	-	-	-	-	-	-	-	-
Xylene (total)	ug/Kg	-	20.3	-	-	-	-	-	-	-	-	-
Metals												
Arsenic	mg/Kg	-	-	-	-	-	-	-	-	-	-	-
Barium	mg/Kg	-	-	-	-	-	-	-	-	-	-	-
Cadmium	mg/Kg	-	-	-	-	-	-	-	-	-	-	-
Chromium	mg/Kg	-	-	-	-	-	-	-	-	-	-	-
Cyanide (total)	mg/Kg	-	-	-	-	-	-	-	-	-	-	-
Lead	mg/Kg	-	-	-	-	-	-	-	-	-	-	-
Mercury	mg/Kg	-	-	-	-	-	-	-	-	-	-	-
Selenium	mg/Kg	-	-	-	-	-	-	-	-	-	-	-
Silver	mg/Kg	-	-	-	-	-	-	-	-	-	-	-
Sulfide	mg/Kg	-	-	-	-	-	-	-	-	-	-	-
Miscellaneous												
Ignitability	deg f	-	-	-	-	-	-	-	-	-	-	-
Percent Moisture	%	-	-	-	-	-	-	-	-	-	-	-
pH (soil)	s.u.	-	-	-	-	-	-	-	-	-	-	-
pH Corrosivity	s.u.	-	-	-	-	-	-	-	-	-	-	-
Reactive Cyanide	mg/kg	-	-	-	-	-	-	-	-	-	-	-
Reactive Sulfide	mg/Kg	-	-	-	-	-	-	-	-	-	-	-
PCBs												
Aroclor-1016	mg/Kg	-	-	ND (10)	ND (2.5)	ND (10)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)
Aroclor-1221	mg/Kg	-	-	ND (10)	ND (2.5)	ND (10)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)
Aroclor-1232	mg/Kg	-	-	ND (10)	ND (2.5)	ND (10)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)
Aroclor-1242	mg/Kg	-	-	ND (10)	ND (2.5)	ND (10)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)
Aroclor-1248	mg/Kg	-	-	ND (10)	ND (2.5)	ND (10)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)
Aroclor-1254	mg/Kg	-	-	187	18	155	39.3	38.6	25.5	33.2	26.6	25.7
Aroclor-1260	mg/Kg	-	-	ND (10)	ND (2.5)	ND (10)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)
Petroleum Products												
Total Petroleum Hydrocarbons	mg/Kg	ND (100)	ND (5000)	-	-	-	-	-	-	-	-	-
Total Petroleum Hydrocarbons - extractable (DRO)	mg/Kg	-	-	-	-	-	-	-	-	-	-	-
Total Petroleum Hydrocarbons, Field	mg/Kg	-	-	-	-	-	-	-	-	-	-	-
Total Recoverable Petroleum Hydrocarbons	mg/Kg	-	-	-	-	-	-	-	-	-	-	-
Semi-Volatiles												
1,2,4-Trichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
1,2-Diphenylhydrazine	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
1,3-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
1,4-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
2,4,5-Trichlorophenol	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
2,4,6-Trichlorophenol	ug/Kg	-	-	-	-	-	-	-	-	-	-	-

HISTORICAL SOIL SAMPLE RESULTS
AOI 11 TO 14 - CHIP HANDLING AREAS AND NEARBY USTs
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*HRD6 Backfill-UST6*	*HRD6 Backfill-UST6*	*SP-A*	*SP-B*	*SP-C*	*SP-D*	*SP-DD*	*SP-E*	*SP-F*	*SP-G*	*SP-H*
Sample Name:		*HRD6 BACKFILL-UST6*	*HRD6 BACKFILL-UST6*	*SP-A*	*SP-B*	*SP-C*	*SP-D*	*SP-DD*	*SP-E*	*SP-F*	*SP-G*	*SP-H*
Sample Depth:												
Sample Date:		*2/16/90*	*2/20/90*	*2/27/91*	*2/27/91*	*2/27/91*	*2/27/91*	*2/27/91*	*2/27/91*	*2/27/91*	*2/27/91*	*2/27/91*
Parameter	*Units*											
2,4-Dichlorophenol	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
2,4-Dimethylphenol	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
2,4-Dinitrophenol	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
2,4-Dinitrotoluene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
2,6-Dinitrotoluene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
2-Chloronaphthalene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
2-Chlorophenol	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
2-Methyl naphthalene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
2-Methylphenol	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
2-Nitroaniline	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
2-Nitrophenol	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
3&4-Methylphenol	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
3,3'-Dichlorobenzidine	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
3-Nitroaniline	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
4,6-Dinitro-2-methylphenol	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
4-Bromophenyl phenyl ether	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
4-Chloro-3-methylphenol	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
4-Chloroaniline	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
4-Chlorophenyl phenyl ether	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
4-Nitroaniline	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
4-Nitrophenol	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Acenaphthene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Acenaphthylene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Anthracene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Benzo(a)anthracene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Benzo(a)pyrene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Benzo(b)fluoranthene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Benzo(g,h,i)perylene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Benzo(k)fluoranthene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Benzoic acid	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Benzyl Alcohol	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
bis(2-Chloroethoxy)methane	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
bis(2-Chloroethyl)ether	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
bis(2-Chloroisopropyl)ether	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
bis(2-Ethylhexyl)phthalate	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Butyl benzylphthalate	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Chrysene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Dibenz(a,h)anthracene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Dibenzofuran	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Diethyl phthalate	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Dimethyl phthalate	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Di-n-butylphthalate	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Di-n-octyl phthalate	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Fluoranthene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Fluorene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Hexachlorobenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Hexachlorobutadiene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Hexachlorocyclopentadiene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Hexachloroethane	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Isophorone	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Naphthalene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Nitrobenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
N-Nitrosodimethylamine	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
N-Nitrosodi-n-propylamine	ug/Kg	-	-	-	-	-	-	-	-	-	-	-

TABLE G.5

HISTORICAL SOIL SAMPLE RESULTS
AOI 11 TO 14 - CHIP HANDLING AREAS AND NEARBY USTs
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*HRD6 Backfill-UST6*	*HRD6 Backfill-UST6*	*SP-A*	*SP-B*	*SP-C*	*SP-D*	*SP-DD*	*SP-E*	*SP-F*	*SP-G*	*SP-H*
Sample Name:		*HRD6 BACKFILL-UST6*	*HRD6 BACKFILL-UST6*	*SP-A*	*SP-B*	*SP-C*	*SP-D*	*SP-DD*	*SP-E*	*SP-F*	*SP-G*	*SP-H*
Sample Depth:												
Sample Date:		*2/16/90*	*2/20/90*	*2/27/91*	*2/27/91*	*2/27/91*	*2/27/91*	*2/27/91*	*2/27/91*	*2/27/91*	*2/27/91*	*2/27/91*
Parameter	*Units*											
N-Nitrosodiphenylamine	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Pentachlorophenol	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Phenanthrene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Phenol	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Pyrene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Volatiles												
1,1,1,2-Tetrachloroethane	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
1,1,1-Trichloroethane	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
1,1,2,2-Tetrachloroethane	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
1,1,2-Trichloroethane	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethane	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
1,1-Dichloroethene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
1,1-Dichloropropene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
1,2,3-Trichloropropane	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
1,2,4-Trichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
1,2,4-Trimethylbenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
1,2-Dibromo-3-chloropropane (DBCP)	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
1,2-Dibromoethane (EDB)	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichloroethane	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichloroethene (total)	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichloropropane	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
1,3,5-Trimethylbenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
1,3-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
1,3-Dichloropropane	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
1,4-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
1,4-Dioxane	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
2,2-Dichloropropane	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
2-Butanone	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
2-Chloroethyl vinyl ether	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
2-Chlorotoluene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
2-Hexanone	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
2-Phenylbutane	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
4-Chlorotoluene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
4-Methyl-2-pentanone	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Acetone	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Acrolein	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Acrylonitrile	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Allyl chloride	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Benzene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Benzene, butyl	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Benzene, isopropyl	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Benzene, tert-butyl	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Bromobenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Bromodichloromethane	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Bromoform	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Bromomethane	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Carbon disulfide	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Carbon tetrachloride	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Chlorobenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Chlorobromomethane	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Chloroethane	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Chloroform	ug/Kg	-	-	-	-	-	-	-	-	-	-	-

HISTORICAL SOIL SAMPLE RESULTS
AOI 11 TO 14 - CHIP HANDLING AREAS AND NEARBY USTs
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*HRD6 Backfill-UST6*	*HRD6 Backfill-UST6*	*SP-A*	*SP-B*	*SP-C*	*SP-D*	*SP-DD*	*SP-E*	*SP-F*	*SP-G*	*SP-H*
Sample Name:		*HRD6 BACKFILL-UST6*	*HRD6 BACKFILL-UST6*	*SP-A*	*SP-B*	*SP-C*	*SP-D*	*SP-DD*	*SP-E*	*SP-F*	*SP-G*	*SP-H*
Sample Depth:												
Sample Date:		*2/16/90*	*2/20/90*	*2/27/91*	*2/27/91*	*2/27/91*	*2/27/91*	*2/27/91*	*2/27/91*	*2/27/91*	*2/27/91*	*2/27/91*
Parameter	*Units*											
Chloromethane	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Chloroprene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
cis-1,2-Dichloroethene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
cis-1,3-Dichloropropene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
cis-1,4-Dichloro-2-butene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Cymene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Dibromochloromethane	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Dibromomethane	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Dichlorodifluoromethane (CFC-12)	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Ethyl methacrylate	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Ethylbenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Hexachlorobutadiene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Hexane	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Iodomethane	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Isobutyl alcohol	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Methyl acrylonitrile	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Methyl methacrylate	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Methyl Tert Butyl Ether	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Methylene chloride	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Naphthalene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
n-Propylbenzene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Propionitrile (Ethyl cyanide)	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Styrene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Tetrachloroethene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Tetrahydrofuran	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Toluene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
trans-1,2-Dichloroethene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
trans-1,3-Dichloropropene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
trans-1,4-Dichloro-2-butene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Trichloroethene	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Trichlorofluoromethane (CFC-11)	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Trifluorotrichloroethane (Freon 113)	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Vinyl acetate	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Vinyl chloride	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
Xylene (total)	ug/Kg	-	-	-	-	-	-	-	-	-	-	-
General Chemistry												
Flash Point Closed Cup	deg f	-	-	-	-	-	-	-	-	-	-	-
Percent Solids	%	-	-	-	-	-	-	-	-	-	-	-
pH Corrosivity	s.u.	-	-	-	-	-	-	-	-	-	-	-

TABLE G.5

HISTORICAL SOIL SAMPLE RESULTS
AOI 11 TO 14 - CHIP HANDLING AREAS AND NEARBY USTs
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*SP-I*	*SP-J*	*SP-K*	*SP-L*	*Tank 22/Tank 23- Excavation*	*Tank 5*	*Tank 5*
Sample Name:		*SP-I*	*SP-J*	*SP-K*	*SP-L*	*E-end 1 pile multicore*	*#1 UST 5 Suct Pipe/Fenceline*	*#2 UST 5 Suction Pipe/Vent*
Sample Depth:								
Sample Date:		*2/27/91*	*2/27/91*	*2/27/91*	*2/27/91*	*1/9/89*	*1/5/93*	*1/5/93*
Parameter	*Units*							
BTEX								
Benzene	ug/Kg	-	-	-	-	-	-	-
Ethylbenzene	ug/Kg	-	-	-	-	-	-	-
Toluene	ug/Kg	-	-	-	-	-	-	-
Xylene (total)	ug/Kg	-	-	-	-	-	-	-
Metals								
Arsenic	mg/Kg	-	-	-	-	4.350	-	-
Barium	mg/Kg	-	-	-	-	189.000	-	-
Cadmium	mg/Kg	-	-	-	-	0.448	-	-
Chromium	mg/Kg	-	-	-	-	13.100	-	-
Cyanide (total)	mg/Kg	-	-	-	-	ND (0.304)	-	-
Lead	mg/Kg	-	-	-	-	84.200	-	-
Mercury	mg/Kg	-	-	-	-	2.1900	-	-
Selenium	mg/Kg	-	-	-	-	ND (0.949)	-	-
Silver	mg/Kg	-	-	-	-	ND (0.077)	-	-
Sulfide	mg/Kg	-	-	-	-	ND (37.1)	-	-
Miscellaneous								
Ignitability	deg f	-	-	-	-	-	-	-
Percent Moisture	%	-	-	-	-	-	-	-
pH (soil)	s.u.	-	-	-	-	8.24	-	-
pH Corrosivity	s.u.	-	-	-	-	-	-	-
Reactive Cyanide	mg/kg	-	-	-	-	-	-	-
Reactive Sulfide	mg/Kg	-	-	-	-	-	-	-
PCBs								
Aroclor-1016	mg/Kg	ND (10)	ND (10)	ND (0.5)	ND (10)	-	-	-
Aroclor-1221	mg/Kg	ND (10)	ND (10)	ND (0.5)	ND (10)	-	-	-
Aroclor-1232	mg/Kg	ND (10)	ND (10)	ND (0.5)	ND (10)	-	-	-
Aroclor-1242	mg/Kg	ND (10)	ND (10)	ND (0.5)	ND (10)	-	-	-
Aroclor-1248	mg/Kg	ND (10)	ND (10)	ND (0.5)	ND (10)	-	-	-
Aroclor-1254	mg/Kg	78.3	77.2	7.42	207	-	-	-
Aroclor-1260	mg/Kg	ND (10)	ND (10)	ND (0.5)	ND (10)	-	-	-
Petroleum Products								
Total Petroleum Hydrocarbons	mg/Kg	-	-	-	-	708.0	-	-
Total Petroleum Hydrocarbons - extractable (DRO)	mg/Kg	-	-	-	-	-	-	-
Total Petroleum Hydrocarbons, Field	mg/Kg	-	-	-	-	-	-	-
Total Recoverable Petroleum Hydrocarbons	mg/Kg	-	-	-	-	-	35	143
Semi-Volatiles								
1,2,4-Trichlorobenzene	ug/Kg	-	-	-	-	-	-	-
1,2-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	-
1,2-Diphenylhydrazine	ug/Kg	-	-	-	-	-	-	-
1,3-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	-
1,4-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	-
2,4,5-Trichlorophenol	ug/Kg	-	-	-	-	-	-	-
2,4,6-Trichlorophenol	ug/Kg	-	-	-	-	-	-	-

HISTORICAL SOIL SAMPLE RESULTS
AOI 11 TO 14 - CHIP HANDLING AREAS AND NEARBY USTs
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*SP-I*	*SP-J*	*SP-K*	*SP-L*	*Tank 22/Tank 23- Excavation*	*Tank 5*	*Tank 5*
Sample Name:		*SP-I*	*SP-J*	*SP-K*	*SP-L*	*E-end 1 pile multicore*	*#1 UST 5 Suct Pipe/Fenceline*	*#2 UST 5 Suction Pipe/Vent*
Sample Depth:								
Sample Date:		*2/27/91*	*2/27/91*	*2/27/91*	*2/27/91*	*1/9/89*	*1/5/93*	*1/5/93*
Parameter	*Units*							
2,4-Dichlorophenol	ug/Kg	-	-	-	-	-	-	-
2,4-Dimethylphenol	ug/Kg	-	-	-	-	-	-	-
2,4-Dinitrophenol	ug/Kg	-	-	-	-	-	-	-
2,4-Dinitrotoluene	ug/Kg	-	-	-	-	-	-	-
2,6-Dinitrotoluene	ug/Kg	-	-	-	-	-	-	-
2-Chloronaphthalene	ug/Kg	-	-	-	-	-	-	-
2-Chlorophenol	ug/Kg	-	-	-	-	-	-	-
2-Methyl naphthalene	ug/Kg	-	-	-	-	-	-	-
2-Methylphenol	ug/Kg	-	-	-	-	-	-	-
2-Nitroaniline	ug/Kg	-	-	-	-	-	-	-
2-Nitrophenol	ug/Kg	-	-	-	-	-	-	-
3&4-Methylphenol	ug/Kg	-	-	-	-	-	-	-
3,3'-Dichlorobenzidine	ug/Kg	-	-	-	-	-	-	-
3-Nitroaniline	ug/Kg	-	-	-	-	-	-	-
4,6-Dinitro-2-methylphenol	ug/Kg	-	-	-	-	-	-	-
4-Bromophenyl phenyl ether	ug/Kg	-	-	-	-	-	-	-
4-Chloro-3-methylphenol	ug/Kg	-	-	-	-	-	-	-
4-Chloroaniline	ug/Kg	-	-	-	-	-	-	-
4-Chlorophenyl phenyl ether	ug/Kg	-	-	-	-	-	-	-
4-Nitroaniline	ug/Kg	-	-	-	-	-	-	-
4-Nitrophenol	ug/Kg	-	-	-	-	-	-	-
Acenaphthene	ug/Kg	-	-	-	-	-	-	-
Acenaphthylene	ug/Kg	-	-	-	-	-	-	-
Anthracene	ug/Kg	-	-	-	-	-	-	-
Benzo(a)anthracene	ug/Kg	-	-	-	-	-	-	-
Benzo(a)pyrene	ug/Kg	-	-	-	-	-	-	-
Benzo(b)fluoranthene	ug/Kg	-	-	-	-	-	-	-
Benzo(g,h,i)perylene	ug/Kg	-	-	-	-	-	-	-
Benzo(k)fluoranthene	ug/Kg	-	-	-	-	-	-	-
Benzoic acid	ug/Kg	-	-	-	-	-	-	-
Benzyl Alcohol	ug/Kg	-	-	-	-	-	-	-
bis(2-Chloroethoxy)methane	ug/Kg	-	-	-	-	-	-	-
bis(2-Chloroethyl)ether	ug/Kg	-	-	-	-	-	-	-
bis(2-Chloroisopropyl)ether	ug/Kg	-	-	-	-	-	-	-
bis(2-Ethylhexyl)phthalate	ug/Kg	-	-	-	-	-	-	-
Butyl benzylphthalate	ug/Kg	-	-	-	-	-	-	-
Chrysene	ug/Kg	-	-	-	-	-	-	-
Dibenz(a,h)anthracene	ug/Kg	-	-	-	-	-	-	-
Dibenzofuran	ug/Kg	-	-	-	-	-	-	-
Diethyl phthalate	ug/Kg	-	-	-	-	-	-	-
Dimethyl phthalate	ug/Kg	-	-	-	-	-	-	-
Di-n-butylphthalate	ug/Kg	-	-	-	-	-	-	-
Di-n-octyl phthalate	ug/Kg	-	-	-	-	-	-	-
Fluoranthene	ug/Kg	-	-	-	-	-	-	-
Fluorene	ug/Kg	-	-	-	-	-	-	-
Hexachlorobenzene	ug/Kg	-	-	-	-	-	-	-
Hexachlorobutadiene	ug/Kg	-	-	-	-	-	-	-
Hexachlorocyclopentadiene	ug/Kg	-	-	-	-	-	-	-
Hexachloroethane	ug/Kg	-	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	ug/Kg	-	-	-	-	-	-	-
Isophorone	ug/Kg	-	-	-	-	-	-	-
Naphthalene	ug/Kg	-	-	-	-	-	-	-
Nitrobenzene	ug/Kg	-	-	-	-	-	-	-
N-Nitrosodimethylamine	ug/Kg	-	-	-	-	-	-	-
N-Nitrosodi-n-propylamine	ug/Kg	-	-	-	-	-	-	-

TABLE G.5

HISTORICAL SOIL SAMPLE RESULTS
AOI 11 TO 14 - CHIP HANDLING AREAS AND NEARBY USTs
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*SP-I*	*SP-J*	*SP-K*	*SP-L*	*Tank 22/Tank 23- Excavation*	*Tank 5*	*Tank 5*
Sample Name:		*SP-I*	*SP-J*	*SP-K*	*SP-L*	*E-end 1 pile multicore*	*#1 UST 5 Suct Pipe/Fenceline*	*#2 UST 5 Suction Pipe/Vent*
Sample Depth:								
Sample Date:		*2/27/91*	*2/27/91*	*2/27/91*	*2/27/91*	*1/9/89*	*1/5/93*	*1/5/93*
Parameter	*Units*							
N-Nitrosodiphenylamine	ug/Kg	-	-	-	-	-	-	-
Pentachlorophenol	ug/Kg	-	-	-	-	-	-	-
Phenanthrene	ug/Kg	-	-	-	-	-	-	-
Phenol	ug/Kg	-	-	-	-	-	-	-
Pyrene	ug/Kg	-	-	-	-	-	-	-
Volatiles								
1,1,1,2-Tetrachloroethane	ug/Kg	-	-	-	-	-	-	-
1,1,1-Trichloroethane	ug/Kg	-	-	-	-	-	-	-
1,1,2,2-Tetrachloroethane	ug/Kg	-	-	-	-	-	-	-
1,1,2-Trichloroethane	ug/Kg	-	-	-	-	-	-	-
1,1-Dichloroethane	ug/Kg	-	-	-	-	-	-	-
1,1-Dichloroethene	ug/Kg	-	-	-	-	-	-	-
1,1-Dichloropropene	ug/Kg	-	-	-	-	-	-	-
1,2,3-Trichloropropane	ug/Kg	-	-	-	-	-	-	-
1,2,4-Trichlorobenzene	ug/Kg	-	-	-	-	-	-	-
1,2,4-Trimethylbenzene	ug/Kg	-	-	-	-	-	-	-
1,2-Dibromo-3-chloropropane (DBCP)	ug/Kg	-	-	-	-	-	-	-
1,2-Dibromoethane (EDB)	ug/Kg	-	-	-	-	-	-	-
1,2-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	-
1,2-Dichloroethane	ug/Kg	-	-	-	-	-	-	-
1,2-Dichloroethene (total)	ug/Kg	-	-	-	-	-	-	-
1,2-Dichloropropane	ug/Kg	-	-	-	-	-	-	-
1,3,5-Trimethylbenzene	ug/Kg	-	-	-	-	-	-	-
1,3-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	-
1,3-Dichloropropane	ug/Kg	-	-	-	-	-	-	-
1,4-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	-
1,4-Dioxane	ug/Kg	-	-	-	-	-	-	-
2,2-Dichloropropane	ug/Kg	-	-	-	-	-	-	-
2-Butanone	ug/Kg	-	-	-	-	-	-	-
2-Chloroethyl vinyl ether	ug/Kg	-	-	-	-	-	-	-
2-Chlorotoluene	ug/Kg	-	-	-	-	-	-	-
2-Hexanone	ug/Kg	-	-	-	-	-	-	-
2-Phenylbutane	ug/Kg	-	-	-	-	-	-	-
4-Chlorotoluene	ug/Kg	-	-	-	-	-	-	-
4-Methyl-2-pentanone	ug/Kg	-	-	-	-	-	-	-
Acetone	ug/Kg	-	-	-	-	-	-	-
Acrolein	ug/Kg	-	-	-	-	-	-	-
Acrylonitrile	ug/Kg	-	-	-	-	-	-	-
Allyl chloride	ug/Kg	-	-	-	-	-	-	-
Benzene	ug/Kg	-	-	-	-	-	-	-
Benzene, butyl	ug/Kg	-	-	-	-	-	-	-
Benzene, isopropyl	ug/Kg	-	-	-	-	-	-	-
Benzene, tert-butyl	ug/Kg	-	-	-	-	-	-	-
Bromobenzene	ug/Kg	-	-	-	-	-	-	-
Bromodichloromethane	ug/Kg	-	-	-	-	-	-	-
Bromoform	ug/Kg	-	-	-	-	-	-	-
Bromomethane	ug/Kg	-	-	-	-	-	-	-
Carbon disulfide	ug/Kg	-	-	-	-	-	-	-
Carbon tetrachloride	ug/Kg	-	-	-	-	-	-	-
Chlorobenzene	ug/Kg	-	-	-	-	-	-	-
Chlorobromomethane	ug/Kg	-	-	-	-	-	-	-
Chloroethane	ug/Kg	-	-	-	-	-	-	-
Chloroform	ug/Kg	-	-	-	-	-	-	-

HISTORICAL SOIL SAMPLE RESULTS
AOI 11 TO 14 - CHIP HANDLING AREAS AND NEARBY USTs
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*SP-I*	*SP-J*	*SP-K*	*SP-L*	*Tank 22/Tank 23- Excavation*	*Tank 5*	*Tank 5*
Sample Name:		*SP-I*	*SP-J*	*SP-K*	*SP-L*	*E-end 1 pile multicore*	*#1 UST 5 Suct Pipe/Fenceline*	*#2 UST 5 Suction Pipe/Vent*
Sample Depth:								
Sample Date:		*2/27/91*	*2/27/91*	*2/27/91*	*2/27/91*	*1/9/89*	*1/5/93*	*1/5/93*
Parameter	*Units*							
Chloromethane	ug/Kg	-	-	-	-	-	-	-
Chloroprene	ug/Kg	-	-	-	-	-	-	-
cis-1,2-Dichloroethene	ug/Kg	-	-	-	-	-	-	-
cis-1,3-Dichloropropene	ug/Kg	-	-	-	-	-	-	-
cis-1,4-Dichloro-2-butene	ug/Kg	-	-	-	-	-	-	-
Cymene	ug/Kg	-	-	-	-	-	-	-
Dibromochloromethane	ug/Kg	-	-	-	-	-	-	-
Dibromomethane	ug/Kg	-	-	-	-	-	-	-
Dichlorodifluoromethane (CFC-12)	ug/Kg	-	-	-	-	-	-	-
Ethyl methacrylate	ug/Kg	-	-	-	-	-	-	-
Ethylbenzene	ug/Kg	-	-	-	-	-	-	-
Hexachlorobutadiene	ug/Kg	-	-	-	-	-	-	-
Hexane	ug/Kg	-	-	-	-	-	-	-
Iodomethane	ug/Kg	-	-	-	-	-	-	-
Isobutyl alcohol	ug/Kg	-	-	-	-	-	-	-
Methyl acrylonitrile	ug/Kg	-	-	-	-	-	-	-
Methyl methacrylate	ug/Kg	-	-	-	-	-	-	-
Methyl Tert Butyl Ether	ug/Kg	-	-	-	-	-	-	-
Methylene chloride	ug/Kg	-	-	-	-	-	-	-
Naphthalene	ug/Kg	-	-	-	-	-	-	-
n-Propylbenzene	ug/Kg	-	-	-	-	-	-	-
Propionitrile (Ethyl cyanide)	ug/Kg	-	-	-	-	-	-	-
Styrene	ug/Kg	-	-	-	-	-	-	-
Tetrachloroethene	ug/Kg	-	-	-	-	-	-	-
Tetrahydrofuran	ug/Kg	-	-	-	-	-	-	-
Toluene	ug/Kg	-	-	-	-	-	-	-
trans-1,2-Dichloroethene	ug/Kg	-	-	-	-	-	-	-
trans-1,3-Dichloropropene	ug/Kg	-	-	-	-	-	-	-
trans-1,4-Dichloro-2-butene	ug/Kg	-	-	-	-	-	-	-
Trichloroethene	ug/Kg	-	-	-	-	-	-	-
Trichlorofluoromethane (CFC-11)	ug/Kg	-	-	-	-	-	-	-
Trifluorotrichloroethane (Freon 113)	ug/Kg	-	-	-	-	-	-	-
Vinyl acetate	ug/Kg	-	-	-	-	-	-	-
Vinyl chloride	ug/Kg	-	-	-	-	-	-	-
Xylene (total)	ug/Kg	-	-	-	-	-	-	-
General Chemistry								
Flash Point Closed Cup	deg f	-	-	-	-	140 >	-	-
Percent Solids	%	-	-	-	-	79.5	-	-
pH Corrosivity	s.u.	-	-	-	-	-	-	-

TABLE G.5

HISTORICAL SOIL SAMPLE RESULTS
AOI 11 TO 14 - CHIP HANDLING AREAS AND NEARBY USTs
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location: / *Sample Name:* / *Sample Depth:* / *Sample Date:*		*Tank 5* *#4 UST 5 Fill Pipe Run* *1/5/93*	*Tank 5* *#5 UST 5 Fill Pipe Run/Junct* *1/5/93*	*Tank 5* *#6 UST 5 Fill Pipe Run/at Wall* *1/5/93*	*Tank 5* *E. Wall 14'-Tank 5-Grab* *12/18/92*	*Tank 5* *E. Wall 6'-Tank 5-Grab* *12/18/92*
Parameter	*Units*					
BTEX						
Benzene	ug/Kg	-	-	-	-	-
Ethylbenzene	ug/Kg	-	-	-	-	-
Toluene	ug/Kg	-	-	-	-	-
Xylene (total)	ug/Kg	-	-	-	-	-
Metals						
Arsenic	mg/Kg	-	-	-	-	-
Barium	mg/Kg	-	-	-	-	-
Cadmium	mg/Kg	-	-	-	-	-
Chromium	mg/Kg	-	-	-	-	-
Cyanide (total)	mg/Kg	-	-	-	-	-
Lead	mg/Kg	-	-	-	-	-
Mercury	mg/Kg	-	-	-	-	-
Selenium	mg/Kg	-	-	-	-	-
Silver	mg/Kg	-	-	-	-	-
Sulfide	mg/Kg	-	-	-	-	-
Miscellaneous						
Ignitability	deg f	-	-	-	-	-
Percent Moisture	%	-	-	-	-	-
pH (soil)	s.u.	-	-	-	-	-
pH Corrosivity	s.u.	-	-	-	-	-
Reactive Cyanide	mg/kg	-	-	-	-	-
Reactive Sulfide	mg/Kg	-	-	-	-	-
PCBs						
Aroclor-1016	mg/Kg	-	-	-	-	-
Aroclor-1221	mg/Kg	-	-	-	-	-
Aroclor-1232	mg/Kg	-	-	-	-	-
Aroclor-1242	mg/Kg	-	-	-	-	-
Aroclor-1248	mg/Kg	-	-	-	-	-
Aroclor-1254	mg/Kg	-	-	-	-	-
Aroclor-1260	mg/Kg	-	-	-	-	-
Petroleum Products						
Total Petroleum Hydrocarbons	mg/Kg	-	-	-	-	-
Total Petroleum Hydrocarbons - extractable (DRO)	mg/Kg	-	-	-	-	-
Total Petroleum Hydrocarbons, Field	mg/Kg	-	-	-	-	-
Total Recoverable Petroleum Hydrocarbons	mg/Kg	144	17700	811	40000	6
Semi-Volatiles						
1,2,4-Trichlorobenzene	ug/Kg	-	-	-	-	-
1,2-Dichlorobenzene	ug/Kg	-	-	-	-	-
1,2-Diphenylhydrazine	ug/Kg	-	-	-	-	-
1,3-Dichlorobenzene	ug/Kg	-	-	-	-	-
1,4-Dichlorobenzene	ug/Kg	-	-	-	-	-
2,4,5-Trichlorophenol	ug/Kg	-	-	-	-	-
2,4,6-Trichlorophenol	ug/Kg	-	-	-	-	-

HISTORICAL SOIL SAMPLE RESULTS
AOI 11 TO 14 - CHIP HANDLING AREAS AND NEARBY USTs
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*Tank 5*	*Tank 5*	*Tank 5*	*Tank 5*	*Tank 5*
Sample Name:		*#4 UST 5 Fill Pipe Run*	*#5 UST 5 Fill Pipe Run/Junct*	*#6 UST 5 Fill Pipe Run/at Wall*	*E. Wall 14'-Tank 5-Grab*	*E. Wall 6'-Tank 5-Grab*
Sample Depth:						
Sample Date:		*1/5/93*	*1/5/93*	*1/5/93*	*12/18/92*	*12/18/92*
Parameter	*Units*					
2,4-Dichlorophenol	ug/Kg	-	-	-	-	-
2,4-Dimethylphenol	ug/Kg	-	-	-	-	-
2,4-Dinitrophenol	ug/Kg	-	-	-	-	-
2,4-Dinitrotoluene	ug/Kg	-	-	-	-	-
2,6-Dinitrotoluene	ug/Kg	-	-	-	-	-
2-Chloronaphthalene	ug/Kg	-	-	-	-	-
2-Chlorophenol	ug/Kg	-	-	-	-	-
2-Methyl naphthalene	ug/Kg	-	-	-	-	-
2-Methylphenol	ug/Kg	-	-	-	-	-
2-Nitroaniline	ug/Kg	-	-	-	-	-
2-Nitrophenol	ug/Kg	-	-	-	-	-
3&4-Methylphenol	ug/Kg	-	-	-	-	-
3,3'-Dichlorobenzidine	ug/Kg	-	-	-	-	-
3-Nitroaniline	ug/Kg	-	-	-	-	-
4,6-Dinitro-2-methylphenol	ug/Kg	-	-	-	-	-
4-Bromophenyl phenyl ether	ug/Kg	-	-	-	-	-
4-Chloro-3-methylphenol	ug/Kg	-	-	-	-	-
4-Chloroaniline	ug/Kg	-	-	-	-	-
4-Chlorophenyl phenyl ether	ug/Kg	-	-	-	-	-
4-Nitroaniline	ug/Kg	-	-	-	-	-
4-Nitrophenol	ug/Kg	-	-	-	-	-
Acenaphthene	ug/Kg	-	-	-	-	-
Acenaphthylene	ug/Kg	-	-	-	-	-
Anthracene	ug/Kg	-	-	-	-	-
Benzo(a)anthracene	ug/Kg	-	-	-	-	-
Benzo(a)pyrene	ug/Kg	-	-	-	-	-
Benzo(b)fluoranthene	ug/Kg	-	-	-	-	-
Benzo(g,h,i)perylene	ug/Kg	-	-	-	-	-
Benzo(k)fluoranthene	ug/Kg	-	-	-	-	-
Benzoic acid	ug/Kg	-	-	-	-	-
Benzyl Alcohol	ug/Kg	-	-	-	-	-
bis(2-Chloroethoxy)methane	ug/Kg	-	-	-	-	-
bis(2-Chloroethyl)ether	ug/Kg	-	-	-	-	-
bis(2-Chloroisopropyl)ether	ug/Kg	-	-	-	-	-
bis(2-Ethylhexyl)phthalate	ug/Kg	-	-	-	-	-
Butyl benzylphthalate	ug/Kg	-	-	-	-	-
Chrysene	ug/Kg	-	-	-	-	-
Dibenz(a,h)anthracene	ug/Kg	-	-	-	-	-
Dibenzofuran	ug/Kg	-	-	-	-	-
Diethyl phthalate	ug/Kg	-	-	-	-	-
Dimethyl phthalate	ug/Kg	-	-	-	-	-
Di-n-butylphthalate	ug/Kg	-	-	-	-	-
Di-n-octyl phthalate	ug/Kg	-	-	-	-	-
Fluoranthene	ug/Kg	-	-	-	-	-
Fluorene	ug/Kg	-	-	-	-	-
Hexachlorobenzene	ug/Kg	-	-	-	-	-
Hexachlorobutadiene	ug/Kg	-	-	-	-	-
Hexachlorocyclopentadiene	ug/Kg	-	-	-	-	-
Hexachloroethane	ug/Kg	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	ug/Kg	-	-	-	-	-
Isophorone	ug/Kg	-	-	-	-	-
Naphthalene	ug/Kg	-	-	-	-	-
Nitrobenzene	ug/Kg	-	-	-	-	-
N-Nitrosodimethylamine	ug/Kg	-	-	-	-	-
N-Nitrosodi-n-propylamine	ug/Kg	-	-	-	-	-

TABLE G.5

HISTORICAL SOIL SAMPLE RESULTS
AOI 11 TO 14 - CHIP HANDLING AREAS AND NEARBY USTs
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*Tank 5*	*Tank 5*	*Tank 5*	*Tank 5*	*Tank 5*
Sample Name:		*#4 UST 5 Fill Pipe Run*	*#5 UST 5 Fill Pipe Run/Junct*	*#6 UST 5 Fill Pipe Run/at Wall*	*E. Wall 14'-Tank 5-Grab*	*E. Wall 6'-Tank 5-Grab*
Sample Depth:						
Sample Date:		*1/5/93*	*1/5/93*	*1/5/93*	*12/18/92*	*12/18/92*
Parameter	*Units*					
N-Nitrosodiphenylamine	ug/Kg	-	-	-	-	-
Pentachlorophenol	ug/Kg	-	-	-	-	-
Phenanthrene	ug/Kg	-	-	-	-	-
Phenol	ug/Kg	-	-	-	-	-
Pyrene	ug/Kg	-	-	-	-	-
Volatiles						
1,1,1,2-Tetrachloroethane	ug/Kg	-	-	-	-	-
1,1,1-Trichloroethane	ug/Kg	-	-	-	-	-
1,1,2,2-Tetrachloroethane	ug/Kg	-	-	-	-	-
1,1,2-Trichloroethane	ug/Kg	-	-	-	-	-
1,1-Dichloroethane	ug/Kg	-	-	-	-	-
1,1-Dichloroethene	ug/Kg	-	-	-	-	-
1,1-Dichloropropene	ug/Kg	-	-	-	-	-
1,2,3-Trichloropropane	ug/Kg	-	-	-	-	-
1,2,4-Trichlorobenzene	ug/Kg	-	-	-	-	-
1,2,4-Trimethylbenzene	ug/Kg	-	-	-	-	-
1,2-Dibromo-3-chloropropane (DBCP)	ug/Kg	-	-	-	-	-
1,2-Dibromoethane (EDB)	ug/Kg	-	-	-	-	-
1,2-Dichlorobenzene	ug/Kg	-	-	-	-	-
1,2-Dichloroethane	ug/Kg	-	-	-	-	-
1,2-Dichloroethene (total)	ug/Kg	-	-	-	-	-
1,2-Dichloropropane	ug/Kg	-	-	-	-	-
1,3,5-Trimethylbenzene	ug/Kg	-	-	-	-	-
1,3-Dichlorobenzene	ug/Kg	-	-	-	-	-
1,3-Dichloropropane	ug/Kg	-	-	-	-	-
1,4-Dichlorobenzene	ug/Kg	-	-	-	-	-
1,4-Dioxane	ug/Kg	-	-	-	-	-
2,2-Dichloropropane	ug/Kg	-	-	-	-	-
2-Butanone	ug/Kg	-	-	-	-	-
2-Chloroethyl vinyl ether	ug/Kg	-	-	-	-	-
2-Chlorotoluene	ug/Kg	-	-	-	-	-
2-Hexanone	ug/Kg	-	-	-	-	-
2-Phenylbutane	ug/Kg	-	-	-	-	-
4-Chlorotoluene	ug/Kg	-	-	-	-	-
4-Methyl-2-pentanone	ug/Kg	-	-	-	-	-
Acetone	ug/Kg	-	-	-	-	-
Acrolein	ug/Kg	-	-	-	-	-
Acrylonitrile	ug/Kg	-	-	-	-	-
Allyl chloride	ug/Kg	-	-	-	-	-
Benzene	ug/Kg	-	-	-	-	-
Benzene, butyl	ug/Kg	-	-	-	-	-
Benzene, isopropyl	ug/Kg	-	-	-	-	-
Benzene, tert-butyl	ug/Kg	-	-	-	-	-
Bromobenzene	ug/Kg	-	-	-	-	-
Bromodichloromethane	ug/Kg	-	-	-	-	-
Bromoform	ug/Kg	-	-	-	-	-
Bromomethane	ug/Kg	-	-	-	-	-
Carbon disulfide	ug/Kg	-	-	-	-	-
Carbon tetrachloride	ug/Kg	-	-	-	-	-
Chlorobenzene	ug/Kg	-	-	-	-	-
Chlorobromomethane	ug/Kg	-	-	-	-	-
Chloroethane	ug/Kg	-	-	-	-	-
Chloroform	ug/Kg	-	-	-	-	-

HISTORICAL SOIL SAMPLE RESULTS
AOI 11 TO 14 - CHIP HANDLING AREAS AND NEARBY USTs
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*Tank 5*	*Tank 5*	*Tank 5*	*Tank 5*	*Tank 5*
Sample Name:		*#4 UST 5 Fill Pipe Run*	*#5 UST 5 Fill Pipe Run/Junct*	*#6 UST 5 Fill Pipe Run/at Wall*	*E. Wall 14'-Tank 5-Grab*	*E. Wall 6'-Tank 5-Grab*
Sample Depth:						
Sample Date:		*1/5/93*	*1/5/93*	*1/5/93*	*12/18/92*	*12/18/92*
Parameter	*Units*					
Chloromethane	ug/Kg	-	-	-	-	-
Chloroprene	ug/Kg	-	-	-	-	-
cis-1,2-Dichloroethene	ug/Kg	-	-	-	-	-
cis-1,3-Dichloropropene	ug/Kg	-	-	-	-	-
cis-1,4-Dichloro-2-butene	ug/Kg	-	-	-	-	-
Cymene	ug/Kg	-	-	-	-	-
Dibromochloromethane	ug/Kg	-	-	-	-	-
Dibromomethane	ug/Kg	-	-	-	-	-
Dichlorodifluoromethane (CFC-12)	ug/Kg	-	-	-	-	-
Ethyl methacrylate	ug/Kg	-	-	-	-	-
Ethylbenzene	ug/Kg	-	-	-	-	-
Hexachlorobutadiene	ug/Kg	-	-	-	-	-
Hexane	ug/Kg	-	-	-	-	-
Iodomethane	ug/Kg	-	-	-	-	-
Isobutyl alcohol	ug/Kg	-	-	-	-	-
Methyl acrylonitrile	ug/Kg	-	-	-	-	-
Methyl methacrylate	ug/Kg	-	-	-	-	-
Methyl Tert Butyl Ether	ug/Kg	-	-	-	-	-
Methylene chloride	ug/Kg	-	-	-	-	-
Naphthalene	ug/Kg	-	-	-	-	-
n-Propylbenzene	ug/Kg	-	-	-	-	-
Propionitrile (Ethyl cyanide)	ug/Kg	-	-	-	-	-
Styrene	ug/Kg	-	-	-	-	-
Tetrachloroethene	ug/Kg	-	-	-	-	-
Tetrahydrofuran	ug/Kg	-	-	-	-	-
Toluene	ug/Kg	-	-	-	-	-
trans-1,2-Dichloroethene	ug/Kg	-	-	-	-	-
trans-1,3-Dichloropropene	ug/Kg	-	-	-	-	-
trans-1,4-Dichloro-2-butene	ug/Kg	-	-	-	-	-
Trichloroethene	ug/Kg	-	-	-	-	-
Trichlorofluoromethane (CFC-11)	ug/Kg	-	-	-	-	-
Trifluorotrichloroethane (Freon 113)	ug/Kg	-	-	-	-	-
Vinyl acetate	ug/Kg	-	-	-	-	-
Vinyl chloride	ug/Kg	-	-	-	-	-
Xylene (total)	ug/Kg	-	-	-	-	-
General Chemistry						
Flash Point Closed Cup	deg f	-	-	-	-	-
Percent Solids	%	-	-	-	-	-
pH Corrosivity	s.u.	-	-	-	-	-

TABLE G.5

HISTORICAL SOIL SAMPLE RESULTS
AOI 11 TO 14 - CHIP HANDLING AREAS AND NEARBY USTs
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*Tank 5*	*Tank 5*	*Tank 5*	*Tank 5*	*Tank 5*
Sample Name:		*N. Floor Tank 15'-Tank 5-Grab*	*S. Fl Tank15'-5""-Tank 5-Grab*	*W. Wall 14'-Tank 5-Grab*	*W. Wall 6'-Tank 5-Grab*	*Waste Comp. Tank 5-Comp.*
Sample Depth:						
Sample Date:		*12/23/92*	*12/18/92*	*12/18/92*	*12/18/92*	*12/23/92*
Parameter	*Units*					
BTEX						
Benzene	ug/Kg	-	-	-	-	-
Ethylbenzene	ug/Kg	-	-	-	-	-
Toluene	ug/Kg	-	-	-	-	-
Xylene (total)	ug/Kg	-	-	-	-	-
Metals						
Arsenic	mg/Kg	-	-	-	-	-
Barium	mg/Kg	-	-	-	-	-
Cadmium	mg/Kg	-	-	-	-	-
Chromium	mg/Kg	-	-	-	-	-
Cyanide (total)	mg/Kg	-	-	-	-	-
Lead	mg/Kg	-	-	-	-	-
Mercury	mg/Kg	-	-	-	-	-
Selenium	mg/Kg	-	-	-	-	-
Silver	mg/Kg	-	-	-	-	-
Sulfide	mg/Kg	-	-	-	-	-
Miscellaneous						
Ignitability	deg f	-	-	-	-	212 >
Percent Moisture	%	-	-	-	-	9.70
pH (soil)	s.u.	-	-	-	-	-
pH Corrosivity	s.u.	-	-	-	-	8.93
Reactive Cyanide	mg/kg	-	-	-	-	ND (0.099)
Reactive Sulfide	mg/Kg	-	-	-	-	206
PCBs						
Aroclor-1016	mg/Kg	-	-	-	-	ND (0.5)
Aroclor-1221	mg/Kg	-	-	-	-	ND (0.5)
Aroclor-1232	mg/Kg	-	-	-	-	ND (0.5)
Aroclor-1242	mg/Kg	-	-	-	-	ND (0.5)
Aroclor-1248	mg/Kg	-	-	-	-	ND (0.5)
Aroclor-1254	mg/Kg	-	-	-	-	ND (0.5)
Aroclor-1260	mg/Kg	-	-	-	-	ND (0.5)
Petroleum Products						
Total Petroleum Hydrocarbons	mg/Kg	-	-	-	-	-
Total Petroleum Hydrocarbons - extractable (DRO)	mg/Kg	-	-	-	-	-
Total Petroleum Hydrocarbons, Field	mg/Kg	-	-	-	-	-
Total Recoverable Petroleum Hydrocarbons	mg/Kg	49200	6130	339	611	1730
Semi-Volatiles						
1,2,4-Trichlorobenzene	ug/Kg	-	-	-	-	-
1,2-Dichlorobenzene	ug/Kg	-	-	-	-	-
1,2-Diphenylhydrazine	ug/Kg	-	-	-	-	-
1,3-Dichlorobenzene	ug/Kg	-	-	-	-	-
1,4-Dichlorobenzene	ug/Kg	-	-	-	-	-
2,4,5-Trichlorophenol	ug/Kg	-	-	-	-	-
2,4,6-Trichlorophenol	ug/Kg	-	-	-	-	-

HISTORICAL SOIL SAMPLE RESULTS
AOI 11 TO 14 - CHIP HANDLING AREAS AND NEARBY USTs
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*Tank 5*	*Tank 5*	*Tank 5*	*Tank 5*	*Tank 5*
Sample Name:		*N. Floor Tank 15'-Tank 5-Grab*	*S. Fl Tank15'-5""-Tank 5-Grab*	*W. Wall 14'-Tank 5-Grab*	*W. Wall 6'-Tank 5-Grab*	*Waste Comp, Tank 5-Comp.*
Sample Depth:						
Sample Date:		*12/23/92*	*12/18/92*	*12/18/92*	*12/18/92*	*12/23/92*
Parameter	*Units*					
2,4-Dichlorophenol	ug/Kg	-	-	-	-	-
2,4-Dimethylphenol	ug/Kg	-	-	-	-	-
2,4-Dinitrophenol	ug/Kg	-	-	-	-	-
2,4-Dinitrotoluene	ug/Kg	-	-	-	-	-
2,6-Dinitrotoluene	ug/Kg	-	-	-	-	-
2-Chloronaphthalene	ug/Kg	-	-	-	-	-
2-Chlorophenol	ug/Kg	-	-	-	-	-
2-Methyl naphthalene	ug/Kg	-	-	-	-	-
2-Methylphenol	ug/Kg	-	-	-	-	-
2-Nitroaniline	ug/Kg	-	-	-	-	-
2-Nitrophenol	ug/Kg	-	-	-	-	-
3&4-Methylphenol	ug/Kg	-	-	-	-	-
3,3'-Dichlorobenzidine	ug/Kg	-	-	-	-	-
3-Nitroaniline	ug/Kg	-	-	-	-	-
4,6-Dinitro-2-methylphenol	ug/Kg	-	-	-	-	-
4-Bromophenyl phenyl ether	ug/Kg	-	-	-	-	-
4-Chloro-3-methylphenol	ug/Kg	-	-	-	-	-
4-Chloroaniline	ug/Kg	-	-	-	-	-
4-Chlorophenyl phenyl ether	ug/Kg	-	-	-	-	-
4-Nitroaniline	ug/Kg	-	-	-	-	-
4-Nitrophenol	ug/Kg	-	-	-	-	-
Acenaphthene	ug/Kg	-	-	-	-	-
Acenaphthylene	ug/Kg	-	-	-	-	-
Anthracene	ug/Kg	-	-	-	-	-
Benzo(a)anthracene	ug/Kg	-	-	-	-	-
Benzo(a)pyrene	ug/Kg	-	-	-	-	-
Benzo(b)fluoranthene	ug/Kg	-	-	-	-	-
Benzo(g,h,i)perylene	ug/Kg	-	-	-	-	-
Benzo(k)fluoranthene	ug/Kg	-	-	-	-	-
Benzoic acid	ug/Kg	-	-	-	-	-
Benzyl Alcohol	ug/Kg	-	-	-	-	-
bis(2-Chloroethoxy)methane	ug/Kg	-	-	-	-	-
bis(2-Chloroethyl)ether	ug/Kg	-	-	-	-	-
bis(2-Chloroisopropyl)ether	ug/Kg	-	-	-	-	-
bis(2-Ethylhexyl)phthalate	ug/Kg	-	-	-	-	-
Butyl benzylphthalate	ug/Kg	-	-	-	-	-
Chrysene	ug/Kg	-	-	-	-	-
Dibenz(a,h)anthracene	ug/Kg	-	-	-	-	-
Dibenzofuran	ug/Kg	-	-	-	-	-
Diethyl phthalate	ug/Kg	-	-	-	-	-
Dimethyl phthalate	ug/Kg	-	-	-	-	-
Di-n-butylphthalate	ug/Kg	-	-	-	-	-
Di-n-octyl phthalate	ug/Kg	-	-	-	-	-
Fluoranthene	ug/Kg	-	-	-	-	-
Fluorene	ug/Kg	-	-	-	-	-
Hexachlorobenzene	ug/Kg	-	-	-	-	-
Hexachlorobutadiene	ug/Kg	-	-	-	-	-
Hexachlorocyclopentadiene	ug/Kg	-	-	-	-	-
Hexachloroethane	ug/Kg	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	ug/Kg	-	-	-	-	-
Isophorone	ug/Kg	-	-	-	-	-
Naphthalene	ug/Kg	-	-	-	-	-
Nitrobenzene	ug/Kg	-	-	-	-	-
N-Nitrosodimethylamine	ug/Kg	-	-	-	-	-
N-Nitrosodi-n-propylamine	ug/Kg	-	-	-	-	-

TABLE G.5

HISTORICAL SOIL SAMPLE RESULTS
AOI 11 TO 14 - CHIP HANDLING AREAS AND NEARBY USTs
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*Tank 5*	*Tank 5*	*Tank 5*	*Tank 5*	*Tank 5*
Sample Name:		*N. Floor Tank 15'-Tank 5-Grab*	*S. Fl Tank15'-5""-Tank 5-Grab*	*W. Wall 14'-Tank 5-Grab*	*W. Wall 6'-Tank 5-Grab*	*Waste Comp. Tank 5-Comp.*
Sample Depth:						
Sample Date:		*12/23/92*	*12/18/92*	*12/18/92*	*12/18/92*	*12/23/92*
Parameter	*Units*					
N-Nitrosodiphenylamine	ug/Kg	-	-	-	-	-
Pentachlorophenol	ug/Kg	-	-	-	-	-
Phenanthrene	ug/Kg	-	-	-	-	-
Phenol	ug/Kg	-	-	-	-	-
Pyrene	ug/Kg	-	-	-	-	-
Volatiles						
1,1,1,2-Tetrachloroethane	ug/Kg	-	-	-	-	-
1,1,1-Trichloroethane	ug/Kg	-	-	-	-	-
1,1,2,2-Tetrachloroethane	ug/Kg	-	-	-	-	-
1,1,2-Trichloroethane	ug/Kg	-	-	-	-	-
1,1-Dichloroethane	ug/Kg	-	-	-	-	-
1,1-Dichloroethene	ug/Kg	-	-	-	-	-
1,1-Dichloropropene	ug/Kg	-	-	-	-	-
1,2,3-Trichloropropane	ug/Kg	-	-	-	-	-
1,2,4-Trichlorobenzene	ug/Kg	-	-	-	-	-
1,2,4-Trimethylbenzene	ug/Kg	-	-	-	-	-
1,2-Dibromo-3-chloropropane (DBCP)	ug/Kg	-	-	-	-	-
1,2-Dibromoethane (EDB)	ug/Kg	-	-	-	-	-
1,2-Dichlorobenzene	ug/Kg	-	-	-	-	-
1,2-Dichloroethane	ug/Kg	-	-	-	-	-
1,2-Dichloroethene (total)	ug/Kg	-	-	-	-	-
1,2-Dichloropropane	ug/Kg	-	-	-	-	-
1,3,5-Trimethylbenzene	ug/Kg	-	-	-	-	-
1,3-Dichlorobenzene	ug/Kg	-	-	-	-	-
1,3-Dichloropropane	ug/Kg	-	-	-	-	-
1,4-Dichlorobenzene	ug/Kg	-	-	-	-	-
1,4-Dioxane	ug/Kg	-	-	-	-	-
2,2-Dichloropropane	ug/Kg	-	-	-	-	-
2-Butanone	ug/Kg	-	-	-	-	-
2-Chloroethyl vinyl ether	ug/Kg	-	-	-	-	-
2-Chlorotoluene	ug/Kg	-	-	-	-	-
2-Hexanone	ug/Kg	-	-	-	-	-
2-Phenylbutane	ug/Kg	-	-	-	-	-
4-Chlorotoluene	ug/Kg	-	-	-	-	-
4-Methyl-2-pentanone	ug/Kg	-	-	-	-	-
Acetone	ug/Kg	-	-	-	-	-
Acrolein	ug/Kg	-	-	-	-	-
Acrylonitrile	ug/Kg	-	-	-	-	-
Allyl chloride	ug/Kg	-	-	-	-	-
Benzene	ug/Kg	-	-	-	-	-
Benzene, butyl	ug/Kg	-	-	-	-	-
Benzene, isopropyl	ug/Kg	-	-	-	-	-
Benzene, tert-butyl	ug/Kg	-	-	-	-	-
Bromobenzene	ug/Kg	-	-	-	-	-
Bromodichloromethane	ug/Kg	-	-	-	-	-
Bromoform	ug/Kg	-	-	-	-	-
Bromomethane	ug/Kg	-	-	-	-	-
Carbon disulfide	ug/Kg	-	-	-	-	-
Carbon tetrachloride	ug/Kg	-	-	-	-	-
Chlorobenzene	ug/Kg	-	-	-	-	-
Chlorobromomethane	ug/Kg	-	-	-	-	-
Chloroethane	ug/Kg	-	-	-	-	-
Chloroform	ug/Kg	-	-	-	-	-

HISTORICAL SOIL SAMPLE RESULTS
AOI 11 TO 14 - CHIP HANDLING AREAS AND NEARBY USTs
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*Tank 5*	*Tank 5*	*Tank 5*	*Tank 5*	*Tank 5*
Sample Name:		*N. Floor Tank 15'-Tank 5-Grab*	*S. Fl Tank15'-5""-Tank 5-Grab*	*W. Wall 14'-Tank 5-Grab*	*W. Wall 6'-Tank 5-Grab*	*Waste Comp. Tank 5-Comp.*
Sample Depth:						
Sample Date:		*12/23/92*	*12/18/92*	*12/18/92*	*12/18/92*	*12/23/92*
Parameter	*Units*					
Chloromethane	ug/Kg	-	-	-	-	-
Chloroprene	ug/Kg	-	-	-	-	-
cis-1,2-Dichloroethene	ug/Kg	-	-	-	-	-
cis-1,3-Dichloropropene	ug/Kg	-	-	-	-	-
cis-1,4-Dichloro-2-butene	ug/Kg	-	-	-	-	-
Cymene	ug/Kg	-	-	-	-	-
Dibromochloromethane	ug/Kg	-	-	-	-	-
Dibromomethane	ug/Kg	-	-	-	-	-
Dichlorodifluoromethane (CFC-12)	ug/Kg	-	-	-	-	-
Ethyl methacrylate	ug/Kg	-	-	-	-	-
Ethylbenzene	ug/Kg	-	-	-	-	-
Hexachlorobutadiene	ug/Kg	-	-	-	-	-
Hexane	ug/Kg	-	-	-	-	-
Iodomethane	ug/Kg	-	-	-	-	-
Isobutyl alcohol	ug/Kg	-	-	-	-	-
Methyl acrylonitrile	ug/Kg	-	-	-	-	-
Methyl methacrylate	ug/Kg	-	-	-	-	-
Methyl Tert Butyl Ether	ug/Kg	-	-	-	-	-
Methylene chloride	ug/Kg	-	-	-	-	-
Naphthalene	ug/Kg	-	-	-	-	-
n-Propylbenzene	ug/Kg	-	-	-	-	-
Propionitrile (Ethyl cyanide)	ug/Kg	-	-	-	-	-
Styrene	ug/Kg	-	-	-	-	-
Tetrachloroethene	ug/Kg	-	-	-	-	-
Tetrahydrofuran	ug/Kg	-	-	-	-	-
Toluene	ug/Kg	-	-	-	-	-
trans-1,2-Dichloroethene	ug/Kg	-	-	-	-	-
trans-1,3-Dichloropropene	ug/Kg	-	-	-	-	-
trans-1,4-Dichloro-2-butene	ug/Kg	-	-	-	-	-
Trichloroethene	ug/Kg	-	-	-	-	-
Trichlorofluoromethane (CFC-11)	ug/Kg	-	-	-	-	-
Trifluorotrichloroethane (Freon 113)	ug/Kg	-	-	-	-	-
Vinyl acetate	ug/Kg	-	-	-	-	-
Vinyl chloride	ug/Kg	-	-	-	-	-
Xylene (total)	ug/Kg	-	-	-	-	-
General Chemistry						
Flash Point Closed Cup	deg f	-	-	-	-	-
Percent Solids	%	-	-	-	-	-
pH Corrosivity	s.u.	-	-	-	-	-

TABLE G.5

HISTORICAL SOIL SAMPLE RESULTS
AOI 11 TO 14 - CHIP HANDLING AREAS AND NEARBY USTs
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location: / *Sample Name:* / *Sample Depth:* / *Sample Date:*		*Tank 7* *#3 UST 7 Suct Pipe/At Limits* *1/5/93*	*Tank 7* *N. Floor Tank 15'-Tank 7* *12/18/92*	*Tank 7* *NW Wall 8'-Tank 7* *12/18/92*	*Tank 7* *S. Floor Tank 16'-Tank 7* *12/18/92*	*Tank 7* *Waste Comp. Tank 7-Comp.* *12/18/92*
Parameter	*Units*					
BTEX						
Benzene	ug/Kg	-	-	-	-	-
Ethylbenzene	ug/Kg	-	-	-	-	-
Toluene	ug/Kg	-	-	-	-	-
Xylene (total)	ug/Kg	-	-	-	-	-
Metals						
Arsenic	mg/Kg	-	-	-	-	-
Barium	mg/Kg	-	-	-	-	-
Cadmium	mg/Kg	-	-	-	-	-
Chromium	mg/Kg	-	-	-	-	-
Cyanide (total)	mg/Kg	-	-	-	-	-
Lead	mg/Kg	-	-	-	-	-
Mercury	mg/Kg	-	-	-	-	-
Selenium	mg/Kg	-	-	-	-	-
Silver	mg/Kg	-	-	-	-	-
Sulfide	mg/Kg	-	-	-	-	-
Miscellaneous						
Ignitability	deg f	-	-	-	-	212 >
Percent Moisture	%	-	-	-	-	-
pH (soil)	s.u.	-	-	-	-	-
pH Corrosivity	s.u.	-	-	-	-	8.07
Reactive Cyanide	mg/kg	-	-	-	-	ND (0.093)
Reactive Sulfide	mg/Kg	-	-	-	-	ND (7.46)
PCBs						
Aroclor-1016	mg/Kg	-	-	-	-	ND (0.5)
Aroclor-1221	mg/Kg	-	-	-	-	ND (0.5)
Aroclor-1232	mg/Kg	-	-	-	-	ND (0.5)
Aroclor-1242	mg/Kg	-	-	-	-	ND (0.5)
Aroclor-1248	mg/Kg	-	-	-	-	ND (0.5)
Aroclor-1254	mg/Kg	-	-	-	-	ND (0.5)
Aroclor-1260	mg/Kg	-	-	-	-	2.98
Petroleum Products						
Total Petroleum Hydrocarbons	mg/Kg	-	-	-	-	-
Total Petroleum Hydrocarbons - extractable (DRO)	mg/Kg	-	-	-	-	-
Total Petroleum Hydrocarbons, Field	mg/Kg	-	-	-	-	-
Total Recoverable Petroleum Hydrocarbons	mg/Kg	900	27900	63800	22300	1840
Semi-Volatiles						
1,2,4-Trichlorobenzene	ug/Kg	-	-	-	-	-
1,2-Dichlorobenzene	ug/Kg	-	-	-	-	-
1,2-Diphenylhydrazine	ug/Kg	-	-	-	-	-
1,3-Dichlorobenzene	ug/Kg	-	-	-	-	-
1,4-Dichlorobenzene	ug/Kg	-	-	-	-	-
2,4,5-Trichlorophenol	ug/Kg	-	-	-	-	-
2,4,6-Trichlorophenol	ug/Kg	-	-	-	-	-

HISTORICAL SOIL SAMPLE RESULTS
AOI 11 TO 14 - CHIP HANDLING AREAS AND NEARBY USTs
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*Tank 7*	*Tank 7*	*Tank 7*	*Tank 7*	*Tank 7*
Sample Name:		*#3 UST 7 Suct Pipe/At Limits*	*N. Floor Tank 15'-Tank 7*	*NW Wall 8'-Tank 7*	*S. Floor Tank 16'-Tank 7*	*Waste Comp. Tank 7-Comp.*
Sample Depth:						
Sample Date:		*1/5/93*	*12/18/92*	*12/18/92*	*12/18/92*	*12/18/92*
Parameter	*Units*					
2,4-Dichlorophenol	ug/Kg	-	-	-	-	-
2,4-Dimethylphenol	ug/Kg	-	-	-	-	-
2,4-Dinitrophenol	ug/Kg	-	-	-	-	-
2,4-Dinitrotoluene	ug/Kg	-	-	-	-	-
2,6-Dinitrotoluene	ug/Kg	-	-	-	-	-
2-Chloronaphthalene	ug/Kg	-	-	-	-	-
2-Chlorophenol	ug/Kg	-	-	-	-	-
2-Methyl naphthalene	ug/Kg	-	-	-	-	-
2-Methylphenol	ug/Kg	-	-	-	-	-
2-Nitroaniline	ug/Kg	-	-	-	-	-
2-Nitrophenol	ug/Kg	-	-	-	-	-
3&4-Methylphenol	ug/Kg	-	-	-	-	-
3,3'-Dichlorobenzidine	ug/Kg	-	-	-	-	-
3-Nitroaniline	ug/Kg	-	-	-	-	-
4,6-Dinitro-2-methylphenol	ug/Kg	-	-	-	-	-
4-Bromophenyl phenyl ether	ug/Kg	-	-	-	-	-
4-Chloro-3-methylphenol	ug/Kg	-	-	-	-	-
4-Chloroaniline	ug/Kg	-	-	-	-	-
4-Chlorophenyl phenyl ether	ug/Kg	-	-	-	-	-
4-Nitroaniline	ug/Kg	-	-	-	-	-
4-Nitrophenol	ug/Kg	-	-	-	-	-
Acenaphthene	ug/Kg	-	-	-	-	-
Acenaphthylene	ug/Kg	-	-	-	-	-
Anthracene	ug/Kg	-	-	-	-	-
Benzo(a)anthracene	ug/Kg	-	-	-	-	-
Benzo(a)pyrene	ug/Kg	-	-	-	-	-
Benzo(b)fluoranthene	ug/Kg	-	-	-	-	-
Benzo(g,h,i)perylene	ug/Kg	-	-	-	-	-
Benzo(k)fluoranthene	ug/Kg	-	-	-	-	-
Benzoic acid	ug/Kg	-	-	-	-	-
Benzyl Alcohol	ug/Kg	-	-	-	-	-
bis(2-Chloroethoxy)methane	ug/Kg	-	-	-	-	-
bis(2-Chloroethyl)ether	ug/Kg	-	-	-	-	-
bis(2-Chloroisopropyl)ether	ug/Kg	-	-	-	-	-
bis(2-Ethylhexyl)phthalate	ug/Kg	-	-	-	-	-
Butyl benzylphthalate	ug/Kg	-	-	-	-	-
Chrysene	ug/Kg	-	-	-	-	-
Dibenz(a,h)anthracene	ug/Kg	-	-	-	-	-
Dibenzofuran	ug/Kg	-	-	-	-	-
Diethyl phthalate	ug/Kg	-	-	-	-	-
Dimethyl phthalate	ug/Kg	-	-	-	-	-
Di-n-butylphthalate	ug/Kg	-	-	-	-	-
Di-n-octyl phthalate	ug/Kg	-	-	-	-	-
Fluoranthene	ug/Kg	-	-	-	-	-
Fluorene	ug/Kg	-	-	-	-	-
Hexachlorobenzene	ug/Kg	-	-	-	-	-
Hexachlorobutadiene	ug/Kg	-	-	-	-	-
Hexachlorocyclopentadiene	ug/Kg	-	-	-	-	-
Hexachloroethane	ug/Kg	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	ug/Kg	-	-	-	-	-
Isophorone	ug/Kg	-	-	-	-	-
Naphthalene	ug/Kg	-	-	-	-	-
Nitrobenzene	ug/Kg	-	-	-	-	-
N-Nitrosodimethylamine	ug/Kg	-	-	-	-	-
N-Nitrosodi-n-propylamine	ug/Kg	-	-	-	-	-

TABLE G.5

HISTORICAL SOIL SAMPLE RESULTS
AOI 11 TO 14 - CHIP HANDLING AREAS AND NEARBY USTs
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*Tank 7*	*Tank 7*	*Tank 7*	*Tank 7*	*Tank 7*
Sample Name:		*#3 UST 7 Suct Pipe/At Limits*	*N. Floor Tank 15'-Tank 7*	*NW Wall 8'-Tank 7*	*S. Floor Tank 16'-Tank 7*	*Waste Comp. Tank 7-Comp.*
Sample Depth:						
Sample Date:		*1/5/93*	*12/18/92*	*12/18/92*	*12/18/92*	*12/18/92*
Parameter	*Units*					
N-Nitrosodiphenylamine	ug/Kg	-	-	-	-	-
Pentachlorophenol	ug/Kg	-	-	-	-	-
Phenanthrene	ug/Kg	-	-	-	-	-
Phenol	ug/Kg	-	-	-	-	-
Pyrene	ug/Kg	-	-	-	-	-
Volatiles						
1,1,1,2-Tetrachloroethane	ug/Kg	-	-	-	-	-
1,1,1-Trichloroethane	ug/Kg	-	-	-	-	-
1,1,2,2-Tetrachloroethane	ug/Kg	-	-	-	-	-
1,1,2-Trichloroethane	ug/Kg	-	-	-	-	-
1,1-Dichloroethane	ug/Kg	-	-	-	-	-
1,1-Dichloroethene	ug/Kg	-	-	-	-	-
1,1-Dichloropropene	ug/Kg	-	-	-	-	-
1,2,3-Trichloropropane	ug/Kg	-	-	-	-	-
1,2,4-Trichlorobenzene	ug/Kg	-	-	-	-	-
1,2,4-Trimethylbenzene	ug/Kg	-	-	-	-	-
1,2-Dibromo-3-chloropropane (DBCP)	ug/Kg	-	-	-	-	-
1,2-Dibromoethane (EDB)	ug/Kg	-	-	-	-	-
1,2-Dichlorobenzene	ug/Kg	-	-	-	-	-
1,2-Dichloroethane	ug/Kg	-	-	-	-	-
1,2-Dichloroethene (total)	ug/Kg	-	-	-	-	-
1,2-Dichloropropane	ug/Kg	-	-	-	-	-
1,3,5-Trimethylbenzene	ug/Kg	-	-	-	-	-
1,3-Dichlorobenzene	ug/Kg	-	-	-	-	-
1,3-Dichloropropane	ug/Kg	-	-	-	-	-
1,4-Dichlorobenzene	ug/Kg	-	-	-	-	-
1,4-Dioxane	ug/Kg	-	-	-	-	-
2,2-Dichloropropane	ug/Kg	-	-	-	-	-
2-Butanone	ug/Kg	-	-	-	-	-
2-Chloroethyl vinyl ether	ug/Kg	-	-	-	-	-
2-Chlorotoluene	ug/Kg	-	-	-	-	-
2-Hexanone	ug/Kg	-	-	-	-	-
2-Phenylbutane	ug/Kg	-	-	-	-	-
4-Chlorotoluene	ug/Kg	-	-	-	-	-
4-Methyl-2-pentanone	ug/Kg	-	-	-	-	-
Acetone	ug/Kg	-	-	-	-	-
Acrolein	ug/Kg	-	-	-	-	-
Acrylonitrile	ug/Kg	-	-	-	-	-
Allyl chloride	ug/Kg	-	-	-	-	-
Benzene	ug/Kg	-	-	-	-	-
Benzene, butyl	ug/Kg	-	-	-	-	-
Benzene, isopropyl	ug/Kg	-	-	-	-	-
Benzene, tert-butyl	ug/Kg	-	-	-	-	-
Bromobenzene	ug/Kg	-	-	-	-	-
Bromodichloromethane	ug/Kg	-	-	-	-	-
Bromoform	ug/Kg	-	-	-	-	-
Bromomethane	ug/Kg	-	-	-	-	-
Carbon disulfide	ug/Kg	-	-	-	-	-
Carbon tetrachloride	ug/Kg	-	-	-	-	-
Chlorobenzene	ug/Kg	-	-	-	-	-
Chlorobromomethane	ug/Kg	-	-	-	-	-
Chloroethane	ug/Kg	-	-	-	-	-
Chloroform	ug/Kg	-	-	-	-	-

HISTORICAL SOIL SAMPLE RESULTS
AOI 11 TO 14 - CHIP HANDLING AREAS AND NEARBY USTs
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*Tank 7*	*Tank 7*	*Tank 7*	*Tank 7*	*Tank 7*
Sample Name:		*#3 UST 7 Suct Pipe/At Limits*	*N. Floor Tank 15'-Tank 7*	*NW Wall 8'-Tank 7*	*S. Floor Tank 16'-Tank 7*	*Waste Comp. Tank 7-Comp.*
Sample Depth:						
Sample Date:		*1/5/93*	*12/18/92*	*12/18/92*	*12/18/92*	*12/18/92*
Parameter	*Units*					
Chloromethane	ug/Kg	-	-	-	-	-
Chloroprene	ug/Kg	-	-	-	-	-
cis-1,2-Dichloroethene	ug/Kg	-	-	-	-	-
cis-1,3-Dichloropropene	ug/Kg	-	-	-	-	-
cis-1,4-Dichloro-2-butene	ug/Kg	-	-	-	-	-
Cymene	ug/Kg	-	-	-	-	-
Dibromochloromethane	ug/Kg	-	-	-	-	-
Dibromomethane	ug/Kg	-	-	-	-	-
Dichlorodifluoromethane (CFC-12)	ug/Kg	-	-	-	-	-
Ethyl methacrylate	ug/Kg	-	-	-	-	-
Ethylbenzene	ug/Kg	-	-	-	-	-
Hexachlorobutadiene	ug/Kg	-	-	-	-	-
Hexane	ug/Kg	-	-	-	-	-
Iodomethane	ug/Kg	-	-	-	-	-
Isobutyl alcohol	ug/Kg	-	-	-	-	-
Methyl acrylonitrile	ug/Kg	-	-	-	-	-
Methyl methacrylate	ug/Kg	-	-	-	-	-
Methyl Tert Butyl Ether	ug/Kg	-	-	-	-	-
Methylene chloride	ug/Kg	-	-	-	-	-
Naphthalene	ug/Kg	-	-	-	-	-
n-Propylbenzene	ug/Kg	-	-	-	-	-
Propionitrile (Ethyl cyanide)	ug/Kg	-	-	-	-	-
Styrene	ug/Kg	-	-	-	-	-
Tetrachloroethene	ug/Kg	-	-	-	-	-
Tetrahydrofuran	ug/Kg	-	-	-	-	-
Toluene	ug/Kg	-	-	-	-	-
trans-1,2-Dichloroethene	ug/Kg	-	-	-	-	-
trans-1,3-Dichloropropene	ug/Kg	-	-	-	-	-
trans-1,4-Dichloro-2-butene	ug/Kg	-	-	-	-	-
Trichloroethene	ug/Kg	-	-	-	-	-
Trichlorofluoromethane (CFC-11)	ug/Kg	-	-	-	-	-
Trifluorotrichloroethane (Freon 113)	ug/Kg	-	-	-	-	-
Vinyl acetate	ug/Kg	-	-	-	-	-
Vinyl chloride	ug/Kg	-	-	-	-	-
Xylene (total)	ug/Kg	-	-	-	-	-
General Chemistry						
Flash Point Closed Cup	deg f	-	-	-	-	-
Percent Solids	%	-	-	-	-	-
pH Corrosivity	s.u.	-	-	-	-	-

HISTORICAL SOIL SAMPLE RESULTS
AOI 11 TO 14 - CHIP HANDLING AREAS AND NEARBY USTs
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*Waste Composite Rolloff*	*Waste Composite Rolloff*
Sample Name:		*WasteComp1-Rolloff1to10*	*WasteComp2-Rolloff11-14&Pit*
Sample Depth:			
Sample Date:		*12/14/92*	*12/14/92*
Parameter	*Units*		
BTEX			
Benzene	ug/Kg	-	-
Ethylbenzene	ug/Kg	-	-
Toluene	ug/Kg	-	-
Xylene (total)	ug/Kg	-	-
Metals			
Arsenic	mg/Kg	-	-
Barium	mg/Kg	-	-
Cadmium	mg/Kg	-	-
Chromium	mg/Kg	-	-
Cyanide (total)	mg/Kg	-	-
Lead	mg/Kg	-	-
Mercury	mg/Kg	-	-
Selenium	mg/Kg	-	-
Silver	mg/Kg	-	-
Sulfide	mg/Kg	-	-
Miscellaneous			
Ignitability	deg f	212 >	212 >
Percent Moisture	%	-	-
pH (soil)	s.u.	-	-
pH Corrosivity	s.u.	-	-
Reactive Cyanide	mg/kg	7.71	-
Reactive Sulfide	mg/Kg	-	-
PCBs			
Aroclor-1016	mg/Kg	-	-
Aroclor-1221	mg/Kg	-	-
Aroclor-1232	mg/Kg	-	-
Aroclor-1242	mg/Kg	-	-
Aroclor-1248	mg/Kg	-	-
Aroclor-1254	mg/Kg	-	-
Aroclor-1260	mg/Kg	-	-
Petroleum Products			
Total Petroleum Hydrocarbons	mg/Kg	-	-
Total Petroleum Hydrocarbons - extractable (DRO)	mg/Kg	-	-
Total Petroleum Hydrocarbons, Field	mg/Kg	-	-
Total Recoverable Petroleum Hydrocarbons	mg/Kg	424	2220
Semi-Volatiles			
1,2,4-Trichlorobenzene	ug/Kg	-	-
1,2-Dichlorobenzene	ug/Kg	-	-
1,2-Diphenylhydrazine	ug/Kg	-	-
1,3-Dichlorobenzene	ug/Kg	-	-
1,4-Dichlorobenzene	ug/Kg	-	-
2,4,5-Trichlorophenol	ug/Kg	-	-
2,4,6-Trichlorophenol	ug/Kg	-	-

HISTORICAL SOIL SAMPLE RESULTS
AOI 11 TO 14 - CHIP HANDLING AREAS AND NEARBY USTs
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*Waste Composite Rolloff*	*Waste Composite Rolloff*
Sample Name:		*WasteComp1-Rolloff1to10*	*WasteComp2-Rolloff11-14&Pit*
Sample Depth:			
Sample Date:		*12/14/92*	*12/14/92*
Parameter	*Units*		
2,4-Dichlorophenol	ug/Kg	-	-
2,4-Dimethylphenol	ug/Kg	-	-
2,4-Dinitrophenol	ug/Kg	-	-
2,4-Dinitrotoluene	ug/Kg	-	-
2,6-Dinitrotoluene	ug/Kg	-	-
2-Chloronaphthalene	ug/Kg	-	-
2-Chlorophenol	ug/Kg	-	-
2-Methyl naphthalene	ug/Kg	-	-
2-Methylphenol	ug/Kg	-	-
2-Nitroaniline	ug/Kg	-	-
2-Nitrophenol	ug/Kg	-	-
3&4-Methylphenol	ug/Kg	-	-
3,3'-Dichlorobenzidine	ug/Kg	-	-
3-Nitroaniline	ug/Kg	-	-
4,6-Dinitro-2-methylphenol	ug/Kg	-	-
4-Bromophenyl phenyl ether	ug/Kg	-	-
4-Chloro-3-methylphenol	ug/Kg	-	-
4-Chloroaniline	ug/Kg	-	-
4-Chlorophenyl phenyl ether	ug/Kg	-	-
4-Nitroaniline	ug/Kg	-	-
4-Nitrophenol	ug/Kg	-	-
Acenaphthene	ug/Kg	-	-
Acenaphthylene	ug/Kg	-	-
Anthracene	ug/Kg	-	-
Benzo(a)anthracene	ug/Kg	-	-
Benzo(a)pyrene	ug/Kg	-	-
Benzo(b)fluoranthene	ug/Kg	-	-
Benzo(g,h,i)perylene	ug/Kg	-	-
Benzo(k)fluoranthene	ug/Kg	-	-
Benzoic acid	ug/Kg	-	-
Benzyl Alcohol	ug/Kg	-	-
bis(2-Chloroethoxy)methane	ug/Kg	-	-
bis(2-Chloroethyl)ether	ug/Kg	-	-
bis(2-Chloroisopropyl)ether	ug/Kg	-	-
bis(2-Ethylhexyl)phthalate	ug/Kg	-	-
Butyl benzylphthalate	ug/Kg	-	-
Chrysene	ug/Kg	-	-
Dibenz(a,h)anthracene	ug/Kg	-	-
Dibenzofuran	ug/Kg	-	-
Diethyl phthalate	ug/Kg	-	-
Dimethyl phthalate	ug/Kg	-	-
Di-n-butylphthalate	ug/Kg	-	-
Di-n-octyl phthalate	ug/Kg	-	-
Fluoranthene	ug/Kg	-	-
Fluorene	ug/Kg	-	-
Hexachlorobenzene	ug/Kg	-	-
Hexachlorobutadiene	ug/Kg	-	-
Hexachlorocyclopentadiene	ug/Kg	-	-
Hexachloroethane	ug/Kg	-	-
Indeno(1,2,3-cd)pyrene	ug/Kg	-	-
Isophorone	ug/Kg	-	-
Naphthalene	ug/Kg	-	-
Nitrobenzene	ug/Kg	-	-
N-Nitrosodimethylamine	ug/Kg	-	-
N-Nitrosodi-n-propylamine	ug/Kg	-	-

TABLE G.5

HISTORICAL SOIL SAMPLE RESULTS
AOI 11 TO 14 - CHIP HANDLING AREAS AND NEARBY USTs
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*Waste Composite Rolloff*	*Waste Composite Rolloff*
Sample Name:		*WasteComp1-Rolloff1to10*	*WasteComp2-Rolloff11-14&Pit*
Sample Depth:			
Sample Date:		*12/14/92*	*12/14/92*
Parameter	*Units*		
N-Nitrosodiphenylamine	ug/Kg	-	-
Pentachlorophenol	ug/Kg	-	-
Phenanthrene	ug/Kg	-	-
Phenol	ug/Kg	-	-
Pyrene	ug/Kg	-	-
Volatiles			
1,1,1,2-Tetrachloroethane	ug/Kg	-	-
1,1,1-Trichloroethane	ug/Kg	-	-
1,1,2,2-Tetrachloroethane	ug/Kg	-	-
1,1,2-Trichloroethane	ug/Kg	-	-
1,1-Dichloroethane	ug/Kg	-	-
1,1-Dichloroethene	ug/Kg	-	-
1,1-Dichloropropene	ug/Kg	-	-
1,2,3-Trichloropropane	ug/Kg	-	-
1,2,4-Trichlorobenzene	ug/Kg	-	-
1,2,4-Trimethylbenzene	ug/Kg	-	-
1,2-Dibromo-3-chloropropane (DBCP)	ug/Kg	-	-
1,2-Dibromoethane (EDB)	ug/Kg	-	-
1,2-Dichlorobenzene	ug/Kg	-	-
1,2-Dichloroethane	ug/Kg	-	-
1,2-Dichloroethene (total)	ug/Kg	-	-
1,2-Dichloropropane	ug/Kg	-	-
1,3,5-Trimethylbenzene	ug/Kg	-	-
1,3-Dichlorobenzene	ug/Kg	-	-
1,3-Dichloropropane	ug/Kg	-	-
1,4-Dichlorobenzene	ug/Kg	-	-
1,4-Dioxane	ug/Kg	-	-
2,2-Dichloropropane	ug/Kg	-	-
2-Butanone	ug/Kg	-	-
2-Chloroethyl vinyl ether	ug/Kg	-	-
2-Chlorotoluene	ug/Kg	-	-
2-Hexanone	ug/Kg	-	-
2-Phenylbutane	ug/Kg	-	-
4-Chlorotoluene	ug/Kg	-	-
4-Methyl-2-pentanone	ug/Kg	-	-
Acetone	ug/Kg	-	-
Acrolein	ug/Kg	-	-
Acrylonitrile	ug/Kg	-	-
Allyl chloride	ug/Kg	-	-
Benzene	ug/Kg	-	-
Benzene, butyl	ug/Kg	-	-
Benzene, isopropyl	ug/Kg	-	-
Benzene, tert-butyl	ug/Kg	-	-
Bromobenzene	ug/Kg	-	-
Bromodichloromethane	ug/Kg	-	-
Bromoform	ug/Kg	-	-
Bromomethane	ug/Kg	-	-
Carbon disulfide	ug/Kg	-	-
Carbon tetrachloride	ug/Kg	-	-
Chlorobenzene	ug/Kg	-	-
Chlorobromomethane	ug/Kg	-	-
Chloroethane	ug/Kg	-	-
Chloroform	ug/Kg	-	-

HISTORICAL SOIL SAMPLE RESULTS
AOI 11 TO 14 - CHIP HANDLING AREAS AND NEARBY USTs
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*Waste Composite Rolloff*	*Waste Composite Rolloff*
Sample Name:		*WasteComp1-Rolloff1to10*	*WasteComp2-Rolloff11-14&Pit*
Sample Depth:			
Sample Date:		*12/14/92*	*12/14/92*
Parameter	*Units*		
Chloromethane	ug/Kg	-	-
Chloroprene	ug/Kg	-	-
cis-1,2-Dichloroethene	ug/Kg	-	-
cis-1,3-Dichloropropene	ug/Kg	-	-
cis-1,4-Dichloro-2-butene	ug/Kg	-	-
Cymene	ug/Kg	-	-
Dibromochloromethane	ug/Kg	-	-
Dibromomethane	ug/Kg	-	-
Dichlorodifluoromethane (CFC-12)	ug/Kg	-	-
Ethyl methacrylate	ug/Kg	-	-
Ethylbenzene	ug/Kg	-	-
Hexachlorobutadiene	ug/Kg	-	-
Hexane	ug/Kg	-	-
Iodomethane	ug/Kg	-	-
Isobutyl alcohol	ug/Kg	-	-
Methyl acrylonitrile	ug/Kg	-	-
Methyl methacrylate	ug/Kg	-	-
Methyl Tert Butyl Ether	ug/Kg	-	-
Methylene chloride	ug/Kg	-	-
Naphthalene	ug/Kg	-	-
n-Propylbenzene	ug/Kg	-	-
Propionitrile (Ethyl cyanide)	ug/Kg	-	-
Styrene	ug/Kg	-	-
Tetrachloroethene	ug/Kg	-	-
Tetrahydrofuran	ug/Kg	-	-
Toluene	ug/Kg	-	-
trans-1,2-Dichloroethene	ug/Kg	-	-
trans-1,3-Dichloropropene	ug/Kg	-	-
trans-1,4-Dichloro-2-butene	ug/Kg	-	-
Trichloroethene	ug/Kg	-	-
Trichlorofluoromethane (CFC-11)	ug/Kg	-	-
Trifluorotrichloroethane (Freon 113)	ug/Kg	-	-
Vinyl acetate	ug/Kg	-	-
Vinyl chloride	ug/Kg	-	-
Xylene (total)	ug/Kg	-	-
General Chemistry			
Flash Point Closed Cup	deg f	-	-
Percent Solids	%	-	-
pH Corrosivity	s.u.	-	-

Notes:
ND - Non-detect at associated value.
J - Estimated.
D - Compounds at secondary dilution factor.
> - Result greater than value indicated.
B - The reported analyte was detected in the associated method blank as well as the sample.
- - Not applicable.

TABLE G.5

HISTORICAL GROUNDWATER SAMPLE RESULTS
AOIs 11 TO 14 - CHIP HANDLING AREAS AND NEARBY USTs
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*B-301*	*B-301*	*B-302*	*B-302*	*B-303*	*B-303*	*B-SA13*	*B-SA15*	***B-SA16***	*B-SA17*	*B-SA18*	***E-1VaultA(N)***
Sample Name:		*B-301*	*B-301*	*B-302*	*B-302*	*B-303*	*B-303*	*B-SA13*	*B-SA15*	***B-SA16***	*B-SA17*	*B-SA18*	***E-1 Vault A (North)***
Sample Date:		*6/14/96*	*7/25/96*	*6/14/96*	*7/25/96*	*6/13/96*	*7/26/96*	*6/13/96*	*6/13/96*	***6/13/96***	*6/13/96*	*6/13/96*	***10/18/95***
Parameter	***Unit***												
PCBs													
Aroclor-1016	mg/L	-	-	-	-	-	-	-	-	-	-	-	ND (0.0005)
Aroclor-1221	mg/L	-	-	-	-	-	-	-	-	-	-	-	ND (0.001)
Aroclor-1232	mg/L	-	-	-	-	-	-	-	-	-	-	-	ND (0.0005)
Aroclor-1242	mg/L	-	-	-	-	-	-	-	-	-	-	-	ND (0.0005)
Aroclor-1248	mg/L	-	-	-	-	-	-	-	-	-	-	-	ND (0.0005)
Aroclor-1254	mg/L	-	-	-	-	-	-	-	-	-	-	-	ND (0.0005)
Aroclor-1260	mg/L	-	-	-	-	-	-	-	-	-	-	-	ND (0.0005)
Semi-Volatiles													
1,2,4-Trichlorobenzene	ug/L	ND (51)	ND (200)	ND (520)	ND (200)	ND (520)	ND (200)	-	-	-	-	-	-
1,2-Dichlorobenzene	ug/L	ND (51)	ND (200)	ND (520)	ND (200)	ND (520)	ND (200)	-	-	-	-	-	-
1,3-Dichlorobenzene	ug/L	ND (51)	ND (200)	ND (520)	ND (200)	ND (520)	ND (200)	-	-	-	-	-	-
1,4-Dichlorobenzene	ug/L	ND (51)	ND (200)	ND (520)	ND (200)	ND (520)	ND (200)	-	-	-	-	-	-
2,4-Dinitrotoluene	ug/L	ND (51)	ND (200)	ND (520)	ND (200)	ND (520)	ND (200)	-	-	-	-	-	-
2,6-Dinitrotoluene	ug/L	ND (51)	ND (200)	ND (520)	ND (200)	ND (520)	ND (200)	-	-	-	-	-	-
2-Chloronaphthalene	ug/L	ND (51)	ND (200)	ND (520)	ND (200)	ND (520)	ND (200)	-	-	-	-	-	-
2-Methyl naphthalene	ug/L	ND (51)	ND (200)	ND (520)	ND (200)	ND (520)	13 J	-	-	-	-	-	-
2-Nitroaniline	ug/L	ND (260)	ND (1000)	ND (2600)	ND (1000)	ND (2600)	ND (1000)	-	-	-	-	-	-
3,3'-Dichlorobenzidine	ug/L	ND (100)	ND (400)	ND (1000)	ND (400)	ND (1000)	ND (400)	-	-	-	-	-	-
3-Nitroaniline	ug/L	ND (260)	ND (1000)	ND (2600)	ND (1000)	ND (2600)	ND (1000)	-	-	-	-	-	-
4-Bromophenyl phenyl ether	ug/L	ND (51)	ND (200)	ND (520)	ND (200)	ND (520)	ND (200)	-	-	-	-	-	-
4-Chloroaniline	ug/L	ND (51)	ND (200)	ND (520)	ND (200)	ND (520)	ND (200)	-	-	-	-	-	-
4-Chlorophenyl phenyl ether	ug/L	ND (51)	ND (200)	ND (520)	ND (200)	ND (520)	ND (200)	-	-	-	-	-	-
4-Nitroaniline	ug/L	ND (260)	ND (1000)	ND (2600)	ND (1000)	ND (2600)	ND (1000)	-	-	-	-	-	-
Acenaphthene	ug/L	ND (51)	ND (200)	ND (520)	ND (200)	ND (520)	ND (200)	-	-	-	-	-	-
Acenaphthylene	ug/L	ND (51)	ND (200)	ND (520)	ND (200)	ND (520)	ND (200)	-	-	-	-	-	-
Anthracene	ug/L	ND (51)	ND (200)	ND (520)	ND (200)	ND (520)	ND (200)	-	-	-	-	-	-
Benzo(a)anthracene	ug/L	ND (51)	14 J	ND (520)	ND (200)	ND (520)	ND (200)	-	-	-	-	-	-
Benzo(a)pyrene	ug/L	ND (51)	ND (200)	ND (520)	ND (200)	ND (520)	ND (200)	-	-	-	-	-	-
Benzo(b)fluoranthene	ug/L	ND (51)	ND (200)	ND (520)	ND (200)	ND (520)	ND (200)	-	-	-	-	-	-
Benzo(g,h,i)perylene	ug/L	ND (51)	ND (200)	ND (520)	ND (200)	ND (520)	ND (200)	-	-	-	-	-	-
Benzo(k)fluoranthene	ug/L	ND (51)	ND (200)	ND (520)	ND (200)	ND (520)	ND (200)	-	-	-	-	-	-
Benzyl Alcohol	ug/L	ND (51)	ND (200)	ND (520)	ND (200)	ND (520)	ND (200)	-	-	-	-	-	-
bis(2-Chloroethoxy)methane	ug/L	ND (51)	ND (200)	ND (520)	ND (200)	ND (520)	ND (200)	-	-	-	-	-	-
bis(2-Chloroethyl)ether	ug/L	ND (51)	ND (200)	ND (520)	ND (200)	ND (520)	ND (200)	-	-	-	-	-	-
bis(2-Chloroisopropyl)ether	ug/L	ND (51)	ND (200)	ND (520)	ND (200)	ND (520)	ND (200)	-	-	-	-	-	-
bis(2-Ethylhexyl)phthalate	ug/L	ND (51)	ND (200)	ND (520)	ND (200)	ND (520)	ND (200)	-	-	-	-	-	-
Butyl benzylphthalate	ug/L	ND (51)	ND (200)	ND (520)	ND (200)	ND (520)	ND (200)	-	-	-	-	-	-
Chrysene	ug/L	5 J	14 J	ND (520)	18 J	ND (520)	40 J	-	-	-	-	-	-
Dibenz(a,h)anthracene	ug/L	ND (51)	ND (200)	ND (520)	ND (200)	ND (520)	ND (200)	-	-	-	-	-	-
Dibenzofuran	ug/L	ND (51)	ND (200)	ND (520)	ND (200)	ND (520)	ND (200)	-	-	-	-	-	-
Diethyl phthalate	ug/L	ND (51)	ND (200)	ND (520)	ND (200)	ND (520)	ND (200)	-	-	-	-	-	-
Dimethyl phthalate	ug/L	ND (51)	ND (200)	ND (520)	ND (200)	ND (520)	ND (200)	-	-	-	-	-	-
Di-n-butylphthalate	ug/L	ND (51)	ND (200)	ND (520)	ND (200)	ND (520)	ND (200)	-	-	-	-	-	-
Di-n-octyl phthalate	ug/L	ND (51)	ND (200)	ND (520)	ND (200)	ND (520)	ND (200)	-	-	-	-	-	-
Fluoranthene	ug/L	ND (51)	14 J	ND (520)	12 J	ND (520)	ND (200)	-	-	-	-	-	-
Fluorene	ug/L	ND (51)	ND (200)	ND (520)	ND (200)	ND (520)	ND (200)	-	-	-	-	-	-
Hexachlorobenzene	ug/L	ND (51)	ND (200)	ND (520)	ND (200)	ND (520)	ND (200)	-	-	-	-	-	-
Hexachlorobutadiene	ug/L	ND (51)	ND (200)	ND (520)	ND (200)	ND (520)	ND (200)	-	-	-	-	-	-
Hexachlorocyclopentadiene	ug/L	ND (51)	ND (200)	ND (520)	ND (200)	ND (520)	ND (200)	-	-	-	-	-	-
Hexachloroethane	ug/L	ND (51)	ND (200)	ND (520)	ND (200)	ND (520)	ND (200)	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	ug/L	ND (51)	ND (200)	ND (520)	ND (200)	ND (520)	ND (200)	-	-	-	-	-	-
Isophorone	ug/L	ND (51)	ND (200)	ND (520)	ND (200)	ND (520)	ND (200)	-	-	-	-	-	-

TABLE G.5

HISTORICAL GROUND. .ATER SAMPLE RESULTS
AOIs 11 TO 14 - CHIP HANDLING AREAS AND NEARBY USTs
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*B-301*	*B-301*	*B-302*	*B-302*	*B-303*	*B-303*	*B-SA13*	*B-SA15*	*B-SA16*	*B-SA17*	*B-SA18*	*E-1VaultA(N)*
Sample Name:		*B-301*	*B-301*	*B-302*	*B-302*	*B-303*	*B-303*	*B-SA13*	*B-SA15*	*B-SA16*	*B-SA17*	*B-SA18*	*E-1 Vault A (North)*
Sample Date:		*6/14/96*	*7/25/96*	*6/14/96*	*7/25/96*	*6/13/96*	*7/26/96*	*6/13/96*	*6/13/96*	*6/13/96*	*6/13/96*	*6/13/96*	*10/18/95*
Parameter	*Unit*												
Naphthalene	ug/L	ND (51)	-	ND (520)	-	ND (520)	-	-	-	-	-	-	-
Nitrobenzene	ug/L	ND (51)	ND (200)	ND (520)	ND (200)	ND (520)	ND (200)	-	-	-	-	-	-
N-Nitrosodi-n-propylamine	ug/L	ND (51)	ND (200)	ND (520)	ND (200)	ND (520)	ND (200)	-	-	-	-	-	-
N-Nitrosodiphenylamine	ug/L	ND (51)	ND (200)	ND (520)	ND (200)	ND (520)	ND (200)	-	-	-	-	-	-
Phenanthrene	ug/L	6 J	ND (200)	ND (520)	18 J	70 J	79 J	-	-	-	-	-	-
Pyrene	ug/L	ND (51)	11 J	ND (520)	16 J	ND (520)	23 J	-	-	-	-	-	-
Volatiles													
1,1,1-Trichloroethane	ug/L	ND (5)	ND (5)	ND (5)	ND (10)	ND (5)	ND (10)	ND (5)	ND (16)	ND (10)	ND (20)	ND (10)	-
1,1,2,2-Tetrachloroethane	ug/L	ND (5)	ND (5)	ND (5)	ND (10)	ND (5)	ND (10)	ND (5)	ND (16)	ND (10)	ND (20)	ND (10)	-
1,1,2-Trichloroethane	ug/L	ND (5)	ND (5)	ND (5)	ND (10)	ND (5)	ND (10)	ND (5)	ND (16)	ND (10)	ND (20)	ND (10)	-
1,1-Dichloroethane	ug/L	5	ND (5)	7	7	22	23	ND (5)	ND (16)	ND (10)	ND (20)	ND (10)	-
1,1-Dichloroethene	ug/L	ND (5)	ND (5)	ND (5)	ND (10)	ND (5)	ND (10)	ND (5)	ND (16)	ND (10)	ND (20)	ND (10)	-
1,2-Dichloroethane	ug/L	ND (5)	ND (5)	ND (5)	ND (10)	ND (5)	ND (10)	ND (5)	ND (16)	ND (10)	ND (20)	ND (10)	-
1,2-Dichloropropane	ug/L	ND (5)	ND (5)	ND (5)	ND (10)	ND (5)	ND (10)	ND (5)	ND (16)	ND (10)	ND (20)	ND (10)	-
2-Butanone	ug/L	ND (10)	ND (10)	ND (10)	ND (20)	9 J	ND (20)	2 J	ND (33)	ND (20)	ND (40)	ND (20)	-
2-Hexanone	ug/L	ND (10)	ND (10)	ND (10)	ND (20)	ND (10)	ND (20)	ND (10)	ND (33)	ND (20)	ND (40)	ND (20)	-
4-Methyl-2-pentanone	ug/L	ND (10)	ND (10)	ND (10)	ND (20)	23	ND (20)	ND (10)	ND (33)	ND (20)	ND (40)	ND (20)	-
Acetone	ug/L	ND (10)	14 J	ND (10)	14	36	15 J	14	ND (33)	ND (20)	ND (40)	ND (20)	-
Benzene	ug/L	ND (5)	ND (5)	ND (5)	ND (10)	ND (5)	ND (10)	ND (5)	ND (16)	ND (10)	ND (20)	ND (10)	-
Bromodichloromethane	ug/L	ND (5)	ND (5)	ND (5)	ND (10)	ND (5)	ND (10)	ND (5)	ND (16)	ND (10)	ND (20)	ND (10)	-
Bromoform	ug/L	ND (5)	ND (5)	ND (5)	ND (10)	ND (5)	ND (10)	ND (5)	ND (16)	ND (10)	ND (20)	ND (10)	-
Bromomethane	ug/L	ND (10)	ND (10)	ND (10)	ND (20)	ND (10)	ND (20)	ND (10)	ND (33)	ND (20)	ND (40)	ND (20)	-
Carbon disulfide	ug/L	ND (5)	ND (5)	ND (5)	ND (10)	ND (5)	ND (10)	ND (5)	ND (16)	ND (10)	ND (20)	ND (10)	-
Carbon tetrachloride	ug/L	ND (5)	ND (5)	ND (5)	ND (10)	ND (5)	ND (10)	ND (5)	ND (16)	ND (10)	ND (20)	ND (10)	-
Chlorobenzene	ug/L	ND (5)	ND (5)	ND (5)	ND (10)	ND (5)	ND (10)	ND (5)	ND (16)	ND (10)	ND (20)	ND (10)	-
Chloroethane	ug/L	ND (10)	ND (10)	ND (10)	ND (20)	8 J	9 J	ND (10)	ND (33)	ND (20)	ND (40)	ND (20)	-
Chloroform	ug/L	ND (5)	ND (5)	ND (5)	ND (10)	ND (5)	2 J	ND (5)	ND (16)	ND (10)	ND (20)	ND (10)	-
Chloromethane	ug/L	ND (10)	ND (10)	ND (10)	ND (20)	ND (10)	ND (20)	ND (10)	ND (33)	ND (20)	ND (40)	ND (20)	-
cis-1,2-Dichloroethene	ug/L	6	20 J	11	18	17	23	ND (5)	6 J	76	5 J	ND (10)	-
cis-1,3-Dichloropropene	ug/L	ND (5)	ND (5)	ND (5)	ND (10)	ND (5)	ND (10)	ND (5)	ND (16)	ND (10)	ND (20)	ND (10)	-
Dibromochloromethane	ug/L	ND (5)	ND (5)	ND (5)	ND (10)	ND (5)	ND (10)	ND (5)	ND (16)	ND (10)	ND (20)	ND (10)	-
Ethylbenzene	ug/L	ND (5)	ND (5)	ND (5)	ND (10)	ND (5)	ND (10)	ND (5)	ND (16)	ND (10)	ND (20)	3 J	-
Methylene chloride	ug/L	ND (5)	ND (5)	ND (5)	ND (10)	ND (5)	ND (10)	ND (5)	ND (16)	ND (10)	ND (20)	ND (10)	-
Naphthalene	ug/L	-	ND (200)	-	ND (200)	-	13 J	-	-	-	-	-	-
Styrene	ug/L	ND (5)	ND (5)	ND (5)	ND (10)	ND (5)	ND (10)	ND (5)	ND (16)	ND (10)	ND (20)	ND (10)	-
Tetrachloroethene	ug/L	ND (5)	2 J	ND (5)	ND (10)	2 J	ND (10)	ND (5)	9 J	ND (10)	ND (20)	ND (10)	-
Toluene	ug/L	1 J	1 J	2 J	ND (10)	2 J	ND (10)	ND (5)	ND (16)	ND (10)	ND (20)	ND (10)	-
trans-1,2-Dichloroethene	ug/L	ND (5)	ND (5)	ND (5)	ND (10)	ND (5)	ND (10)	ND (5)	ND (16)	ND (10)	ND (20)	ND (10)	-
trans-1,3-Dichloropropene	ug/L	ND (5)	ND (5)	ND (5)	ND (10)	ND (5)	ND (10)	ND (5)	ND (16)	ND (10)	ND (20)	ND (10)	-
Trichloroethene	ug/L	ND (5)	ND (5)	ND (5)	2 J	2 J	12	ND (5)	23	ND (10)	ND (20)	ND (10)	-
Vinyl acetate	ug/L	ND (10)	ND (10)	ND (10)	ND (20)	ND (10)	ND (20)	ND (10)	ND (33)	ND (20)	ND (40)	ND (20)	-
Vinyl chloride	ug/L	1 J	3 J	1 J	2 J	2 J	3 J	ND (10)	ND (33)	4 J	ND (40)	ND (20)	-
Xylene (total)	ug/L	1 J	4 J	1 J	ND (10)	2 J	4 J	ND (5)	ND (16)	ND (10)	ND (20)	21	-

Notes:
ND - Non-detect at associated value.
J - Estimated.
- - Not applicable.

HISTORICAL GROUNDWATER SAMPLE RESULTS
AOIs 11 TO 14 - CHIP HANDLING AREAS AND NEARBY USTs
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*E-1VaultB(S)*
Sample Name:		*E-1 Vault B (South)*
Sample Date:		*10/18/95*
Parameter	*Unit*	
PCBs		
Aroclor-1016	mg/L	ND (0.0005)
Aroclor-1221	mg/L	ND (0.001)
Aroclor-1232	mg/L	ND (0.0005)
Aroclor-1242	mg/L	ND (0.0005)
Aroclor-1248	mg/L	ND (0.0005)
Aroclor-1254	mg/L	ND (0.0005)
Aroclor-1260	mg/L	ND (0.0005)
Semi-Volatiles		
1,2,4-Trichlorobenzene	ug/L	-
1,2-Dichlorobenzene	ug/L	-
1,3-Dichlorobenzene	ug/L	-
1,4-Dichlorobenzene	ug/L	-
2,4-Dinitrotoluene	ug/L	-
2,6-Dinitrotoluene	ug/L	-
2-Chloronaphthalene	ug/L	-
2-Methyl naphthalene	ug/L	-
2-Nitroaniline	ug/L	-
3,3'-Dichlorobenzidine	ug/L	-
3-Nitroaniline	ug/L	-
4-Bromophenyl phenyl ether	ug/L	-
4-Chloroaniline	ug/L	-
4-Chlorophenyl phenyl ether	ug/L	-
4-Nitroaniline	ug/L	-
Acenaphthene	ug/L	-
Acenaphthylene	ug/L	-
Anthracene	ug/L	-
Benzo(a)anthracene	ug/L	-
Benzo(a)pyrene	ug/L	-
Benzo(b)fluoranthene	ug/L	-
Benzo(g,h,i)perylene	ug/L	-
Benzo(k)fluoranthene	ug/L	-
Benzyl Alcohol	ug/L	-
bis(2-Chloroethoxy)methane	ug/L	-
bis(2-Chloroethyl)ether	ug/L	-
bis(2-Chloroisopropyl)ether	ug/L	-
bis(2-Ethylhexyl)phthalate	ug/L	-
Butyl benzylphthalate	ug/L	-
Chrysene	ug/L	-
Dibenz(a,h)anthracene	ug/L	-
Dibenzofuran	ug/L	-
Diethyl phthalate	ug/L	-
Dimethyl phthalate	ug/L	-
Di-n-butylphthalate	ug/L	-
Di-n-octyl phthalate	ug/L	-
Fluoranthene	ug/L	-
Fluorene	ug/L	-
Hexachlorobenzene	ug/L	-
Hexachlorobutadiene	ug/L	-
Hexachlorocyclopentadiene	ug/L	-
Hexachloroethane	ug/L	-
Indeno(1,2,3-cd)pyrene	ug/L	-
Isophorone	ug/L	-

HISTORICAL GROUNDWATER SAMPLE RESULTS
AOIs 11 TO 14 - CHIP HANDLING AREAS AND NEARBY USTs
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*E-1VaultB(S)*
Sample Name:		*E-1 Vault B (South)*
Sample Date:		*10/18/95*
Parameter	*Unit*	
Naphthalene	ug/L	-
Nitrobenzene	ug/L	-
N-Nitrosodi-n-propylamine	ug/L	-
N-Nitrosodiphenylamine	ug/L	-
Phenanthrene	ug/L	-
Pyrene	ug/L	-
Volatiles		
1,1,1-Trichloroethane	ug/L	-
1,1,2,2-Tetrachloroethane	ug/L	-
1,1,2-Trichloroethane	ug/L	-
1,1-Dichloroethane	ug/L	-
1,1-Dichloroethene	ug/L	-
1,2-Dichloroethane	ug/L	-
1,2-Dichloropropane	ug/L	-
2-Butanone	ug/L	-
2-Hexanone	ug/L	-
4-Methyl-2-pentanone	ug/L	-
Acetone	ug/L	-
Benzene	ug/L	-
Bromodichloromethane	ug/L	-
Bromoform	ug/L	-
Bromomethane	ug/L	-
Carbon disulfide	ug/L	-
Carbon tetrachloride	ug/L	-
Chlorobenzene	ug/L	-
Chloroethane	ug/L	-
Chloroform	ug/L	-
Chloromethane	ug/L	-
cis-1,2-Dichloroethene	ug/L	-
cis-1,3-Dichloropropene	ug/L	-
Dibromochloromethane	ug/L	-
Ethylbenzene	ug/L	-
Methylene chloride	ug/L	-
Naphthalene	ug/L	-
Styrene	ug/L	-
Tetrachloroethene	ug/L	-
Toluene	ug/L	-
trans-1,2-Dichloroethene	ug/L	-
trans-1,3-Dichloropropene	ug/L	-
Trichloroethene	ug/L	-
Vinyl acetate	ug/L	-
Vinyl chloride	ug/L	-
Xylene (total)	ug/L	-

TABLE G.5

HISTORICAL OIL SAMPLE RESULTS
AOIs 11 TO 14 - CHIP HANDLING AREAS AND NEARBY USTs
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*B-301*	*B-302*	*B-303*	*B-306*	*B-SA13*	*B-SA15*	*B-SA16*
Sample Name:		*B-301 OIL*	*B-302 OIL*	*B-303 OIL*	*B-306 OIL*	*BSA-13 OIL*	*BSA-15 OIL*	*BSA-16 OIL*
Depth:								
Sample Date:		*6/18/1999*	*6/18/1999*	*6/18/1999*	*7/1/1998*	*6/18/1999*	*6/18/1999*	*6/18/1999*
Parameter	*Unit*							
Metals								
Arsenic	mg/Kg	9.64	11.9	9.73	-	ND (0.50)	2.64	0.75
Barium	mg/Kg	3.13	4.16	3.83	-	ND (0.50)	0.78	ND (0.50)
Cadmium	mg/Kg	ND (0.5)	ND (0.5)	ND (0.51)	-	ND (0.50)	ND (0.51)	0.5
Chromium	mg/Kg	1.58	4.12	2.94	-	ND (1.53)	ND (1.51)	ND (1.52)
Lead	mg/Kg	ND (0.5)	0.71	1.55	-	2.31	2.25	1.58
Mercury	mg/Kg	ND (0.1)	ND (0.1)	ND (0.10)	-	ND (0.10)	ND (0.10)	ND (0.10)
Selenium	mg/Kg	ND (0.5)	ND (0.5)	ND (0.51)	-	ND (0.50)	ND (0.51)	ND (0.50)
Silver	mg/Kg	ND (0.51)	ND (0.5)	ND (0.50)	-	ND (0.51)	ND (0.50)	ND (0.51)
Miscellaneous								
Specific gravity	no unit	-	-	-	-	-	-	-
PCBs								
Aroclor-1016	mg/Kg	ND (100)	ND (100)	ND (100)	ND (3)	ND (10)	ND (100)	ND (20)
Aroclor-1221	mg/Kg	ND (100)	ND (100)	ND (100)	ND (5)	ND (10)	ND (100)	ND (20)
Aroclor-1232	mg/Kg	ND (100)	ND (100)	ND (100)	ND (3)	ND (10)	ND (100)	ND (20)
Aroclor-1242	mg/Kg	ND (100)	ND (100)	ND (100)	ND (3)	ND (10)	ND (100)	ND (20)
Aroclor-1248	mg/Kg	ND (100)	ND (100)	ND (100)	ND (3)	ND (10)	ND (100)	ND (20)
Aroclor-1254	mg/Kg	466	475	646	300	174	411	169
Aroclor-1260	mg/Kg	ND (100)	ND (100)	ND (100)	ND (3)	ND (10)	ND (100)	ND (20)
Pesticides								
Aroclor-1016	mg/Kg	-	-	-	-	-	-	-
Aroclor-1221	mg/Kg	-	-	-	-	-	-	-
Aroclor-1232	mg/Kg	-	-	-	-	-	-	-
Aroclor-1242	mg/Kg	-	-	-	-	-	-	-
Aroclor-1248	mg/Kg	-	-	-	-	-	-	-
Aroclor-1254	mg/Kg	-	-	-	-	-	-	-
Aroclor-1260	mg/Kg	-	-	-	-	-	-	-
RCRA Characteristics								
Ignitability	deg f	-	140 >	140 >	-	140 >	140 >	140 >
Semi-Volatiles								
1,2,4-Trichlorobenzene	ug/Kg	-	-	-	-	-	-	-
1,2-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	-
1,3-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	-
1,4-Dichlorobenzene	ug/Kg	-	-	-	-	-	-	-
2,4,5-Trichlorophenol	ug/Kg	-	-	-	-	-	-	-
2,4,6-Trichlorophenol	ug/Kg	-	-	-	-	-	-	-
2,4-Dichlorophenol	ug/Kg	-	-	-	-	-	-	-
2,4-Dimethylphenol	ug/Kg	-	-	-	-	-	-	-
2,4-Dinitrophenol	ug/Kg	-	-	-	-	-	-	-
2,4-Dinitrotoluene	ug/Kg	-	-	-	-	-	-	-
2,6-Dinitrotoluene	ug/Kg	-	-	-	-	-	-	-
2-Chloronaphthalene	ug/Kg	-	-	-	-	-	-	-
2-Chlorophenol	ug/Kg	-	-	-	-	-	-	-
2-Methylphenol	ug/Kg	-	-	-	-	-	-	-
2-Nitrophenol	ug/Kg	-	-	-	-	-	-	-
3&4-Methylphenol	ug/Kg	-	-	-	-	-	-	-
3,3'-Dichlorobenzidine	ug/Kg	-	-	-	-	-	-	-
4,6-Dinitro-2-methylphenol	ug/Kg	-	-	-	-	-	-	-
4-Bromophenyl ether	ug/Kg	-	-	-	-	-	-	-

TABLE G.5

HISTORICAL O\. ,AMPLE RESULTS
AOIs 11 TO 14 - CHIP HANDLING AREAS AND NEARBY USTs
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*B-301*	*B-302*	*B-303*	*B-306*	*B-SA13*	*B-SA15*	*B-SA16*
Sample Name:		*B-301 OIL*	*B-302 OIL*	*B-303 OIL*	*B-306 OIL*	*BSA-13 OIL*	*BSA-15 OIL*	*BSA-16 OIL*
Depth:								
Sample Date:		*6/18/1999*	*6/18/1999*	*6/18/1999*	*7/1/1998*	*6/18/1999*	*6/18/1999*	*6/18/1999*
4-Chloro-3-methylphenol	ug/Kg	-	-	-	-	-	-	-
4-Chloroaniline	ug/Kg	-	-	-	-	-	-	-
4-Chlorophenyl phenyl ether	ug/Kg	-	-	-	-	-	-	-
4-Nitrophenol	ug/Kg	-	-	-	-	-	-	-
Acenaphthene	ug/Kg	-	-	-	-	-	-	-
Acenaphthylene	ug/Kg	-	-	-	-	-	-	-
Anthracene	ug/Kg	ND	ND	ND	-	ND	ND	ND
Benzo(a)anthracene	ug/Kg	ND	ND	ND	-	ND	ND	ND
Benzo(a)pyrene	ug/Kg	ND	ND	ND	-	ND	ND	ND
Benzo(b)fluoranthene	ug/Kg	ND	ND	ND	-	ND	ND	ND
Benzo(g,h,i)perylene	ug/Kg	-	-	-	-	-	-	-
Benzo(k)fluoranthene	ug/Kg	ND	ND	ND	-	ND	ND	ND
Benzoic acid	ug/Kg	-	-	-	-	-	-	-
Benzyl Alcohol	ug/Kg	-	-	-	-	-	-	-
bis(2-Chloroethoxy)methane	ug/Kg	-	-	-	-	-	-	-
bis(2-Chloroethyl)ether	ug/Kg	-	-	-	-	-	-	-
bis(2-Chloroisopropyl)ether	ug/Kg	-	-	-	-	-	-	-
bis(2-Ethylhexyl)phthalate	ug/Kg	-	-	-	-	ND	ND	ND
Butyl benzylphthalate	ug/Kg	-	-	-	-	-	-	-
Chrysene	ug/Kg	ND	ND	ND	-	ND	ND	ND
Dibenz(a,h)anthracene	ug/Kg	-	-	-	-	-	-	-
Dibenzofuran	ug/Kg	-	-	-	-	-	-	-
Diethyl phthalate	ug/Kg	-	-	-	-	-	-	-
Dimethyl phthalate	ug/Kg	-	-	-	-	-	-	-
Di-n-butylphthalate	ug/Kg	-	-	-	-	-	-	-
Di-n-octyl phthalate	ug/Kg	-	-	-	-	-	-	-
Fluoranthene	ug/Kg	ND	ND	ND	-	ND	ND	ND
Fluorene	ug/Kg	ND	ND	ND	-	ND	ND	ND
Hexachlorobenzene	ug/Kg	-	-	-	-	-	-	-
Hexachlorobutadiene	ug/Kg	-	-	-	-	-	-	-
Hexachlorocyclopentadiene	ug/Kg	-	-	-	-	-	-	-
Hexachloroethane	ug/Kg	-	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	ug/Kg	-	-	-	-	-	-	-
Isophorone	ug/Kg	-	-	-	-	-	-	-
Naphthalene	ug/Kg	-	-	-	-	ND	ND	ND
Nitrobenzene	ug/Kg	-	-	-	-	-	-	-
N-Nitrosodi-n-propylamine	ug/Kg	-	-	-	-	-	-	-
Pentachlorophenol	ug/Kg	-	-	-	-	-	-	-
Phenanthrene	ug/Kg	ND	ND	ND	-	ND	ND	ND
Phenol	ug/Kg	-	-	-	-	-	-	-
Pyrene	ug/Kg	ND	ND	ND	-	ND	ND	ND
Total Org. Halogens, TOX (Sub)	ug/Kg	-	-	-	-	-	-	-
General Chemistry								
pH (solid)	s.u.	-	-	-	-	-	-	-
Viscosity	cP	-	73.6	-	-	-	-	-

HISTORICAL OIL SAMPLE RESULTS
AOIs 11 TO 14 - CHIP HANDLING AREAS AND NEARBY USTs
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*B-SA17*	*B-SA18*	*Chip Area*	*FRAC Tank*
Sample Name:		*BSA-17 OIL*	*BSA-18 OIL*	*Chip Area Composite*	*Frac OIL*
Depth:					
Sample Date:		*6/18/1999*	*6/18/1999*	*5/6/1998*	*4/12/2000*
Parameter	*Unit*				
Metals					
Arsenic	mg/Kg	3.75	3.91	-	-
Barium	mg/Kg	0.78	1.59	-	-
Cadmium	mg/Kg	ND (0.50)	ND (0.51)	-	-
Chromium	mg/Kg	ND (1.46)	ND (1.50)	-	-
Lead	mg/Kg	1.85	ND (0.51)	-	-
Mercury	mg/Kg	ND (0.10)	ND (0.10)	-	-
Selenium	mg/Kg	ND (0.50)	ND (0.51)	-	-
Silver	mg/Kg	ND (0.50)	ND (0.50)	-	-
Miscellaneous					
Specific gravity	no unit	-	-	0.904	-
PCBs					
Aroclor-1016	mg/Kg	ND (20)	ND (100)	ND (1)	-
Aroclor-1221	mg/Kg	ND (20)	ND (100)	ND (1)	-
Aroclor-1232	mg/Kg	ND (20)	ND (100)	ND (1)	-
Aroclor-1242	mg/Kg	ND (20)	ND (100)	ND (1)	-
Aroclor-1248	mg/Kg	ND (20)	ND (100)	ND (1)	-
Aroclor-1254	mg/Kg	197	1330	240	-
Aroclor-1260	mg/Kg	ND (20)	ND (100)	ND (1)	-
Pesticides					
Aroclor-1016	mg/Kg	-	-	-	ND
Aroclor-1221	mg/Kg	-	-	-	ND
Aroclor-1232	mg/Kg	-	-	-	ND
Aroclor-1242	mg/Kg	-	-	-	ND
Aroclor-1248	mg/Kg	-	-	-	ND
Aroclor-1254	mg/Kg	-	-	-	420
Aroclor-1260	mg/Kg	-	-	-	ND
RCRA Characteristics					
Ignitability	deg f	140 >	-	-	212 >
Semi-Volatiles					
1,2,4-Trichlorobenzene	ug/Kg	-	-	-	ND (100000)
1,2-Dichlorobenzene	ug/Kg	-	-	-	ND (100000)
1,3-Dichlorobenzene	ug/Kg	-	-	-	ND (100000)
1,4-Dichlorobenzene	ug/Kg	-	-	-	ND (100000)
2,4,5-Trichlorophenol	ug/Kg	-	-	-	ND (100000)
2,4,6-Trichlorophenol	ug/Kg	-	-	-	ND (100000)
2,4-Dichlorophenol	ug/Kg	-	-	-	ND (100000)
2,4-Dimethylphenol	ug/Kg	-	-	-	ND (100000)
2,4-Dinitrophenol	ug/Kg	-	-	-	ND (100000)
2,4-Dinitrotoluene	ug/Kg	-	-	-	ND (100000)
2,6-Dinitrotoluene	ug/Kg	-	-	-	ND (100000)
2-Chloronaphthalene	ug/Kg	-	-	-	ND (100000)
2-Chlorophenol	ug/Kg	-	-	-	ND (100000)
2-Methylphenol	ug/Kg	-	-	-	ND (100000)
2-Nitrophenol	ug/Kg	-	-	-	ND (100000)
3&4-Methylphenol	ug/Kg	-	-	-	ND (100000)
3,3'-Dichlorobenzidine	ug/Kg	-	-	-	ND (200000)
4,6-Dinitro-2-methylphenol	ug/Kg	-	-	-	ND (100000)
4-Bromophenyl phenyl ether	ug/Kg	-	-	-	ND (100000)

HISTORICAL O[illegible] AMPLE RESULTS
AOIs 11 TO 14 - CHIP HANDLING AREAS AND NEARBY USTs
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*B-SA17*	*B-SA18*	*Chip Area*	*FRAC Tank*
Sample Name:		*BSA-17 OIL*	*BSA-18 OIL*	*Chip Area Composite*	*Frac OIL*
Depth:					
Sample Date:		*6/18/1999*	*6/18/1999*	*5/6/1998*	*4/12/2000*
4-Chloro-3-methylphenol	ug/Kg	-	-	-	ND (100000)
4-Chloroaniline	ug/Kg	-	-	-	ND (100000)
4-Chlorophenyl phenyl ether	ug/Kg	-	-	-	ND (100000)
4-Nitrophenol	ug/Kg	-	-	-	ND (100000)
Acenaphthene	ug/Kg	-	-	-	ND (100000)
Acenaphthylene	ug/Kg	-	-	-	ND (100000)
Anthracene	ug/Kg	ND	ND	-	ND (100000)
Benzo(a)anthracene	ug/Kg	ND	ND	-	ND (100000)
Benzo(a)pyrene	ug/Kg	ND	ND	-	ND (50000)
Benzo(b)fluoranthene	ug/Kg	ND	ND	-	ND (100000)
Benzo(g,h,i)perylene	ug/Kg	-	-	-	ND (100000)
Benzo(k)fluoranthene	ug/Kg	ND	ND	-	ND (100000)
Benzoic acid	ug/Kg	-	-	-	ND (500000)
Benzyl Alcohol	ug/Kg	-	-	-	ND (100000)
bis(2-Chloroethoxy)methane	ug/Kg	-	-	-	ND (100000)
bis(2-Chloroethyl)ether	ug/Kg	-	-	-	ND (100000)
bis(2-Chloroisopropyl)ether	ug/Kg	-	-	-	ND (100000)
bis(2-Ethylhexyl)phthalate	ug/Kg	ND	ND	-	ND (100000)
Butyl benzylphthalate	ug/Kg	-	-	-	ND (100000)
Chrysene	ug/Kg	ND	ND	-	ND (100000)
Dibenz(a,h)anthracene	ug/Kg	-	-	-	ND (50000)
Dibenzofuran	ug/Kg	-	-	-	ND (100000)
Diethyl phthalate	ug/Kg	-	-	-	ND (100000)
Dimethyl phthalate	ug/Kg	-	-	-	ND (100000)
Di-n-butylphthalate	ug/Kg	-	-	-	ND (100000)
Di-n-octyl phthalate	ug/Kg	-	-	-	ND (100000)
Fluoranthene	ug/Kg	ND	ND	-	ND (100000)
Fluorene	ug/Kg	ND	ND	-	ND (100000)
Hexachlorobenzene	ug/Kg	-	-	-	ND (100000)
Hexachlorobutadiene	ug/Kg	-	-	-	ND (100000)
Hexachlorocyclopentadiene	ug/Kg	-	-	-	ND (200000)
Hexachloroethane	ug/Kg	-	-	-	ND (100000)
Indeno(1,2,3-cd)pyrene	ug/Kg	-	-	-	ND (100000)
Isophorone	ug/Kg	-	-	-	ND (100000)
Naphthalene	ug/Kg	ND	ND	-	ND (100000)
Nitrobenzene	ug/Kg	-	-	-	ND (100000)
N-Nitrosodi-n-propylamine	ug/Kg	-	-	-	ND (100000)
Pentachlorophenol	ug/Kg	-	-	-	ND (100000)
Phenanthrene	ug/Kg	ND	ND	-	ND (100000)
Phenol	ug/Kg	-	-	-	ND (100000)
Pyrene	ug/Kg	ND	ND	-	ND (100000)
Total Org. Halogens, TOX (Sub)	ug/Kg	-	-	-	1060000
General Chemistry					
pH (solid)	s.u.	-	-	-	7
Viscosity	cP	-	-	39.0	-

Notes:
ND - Non-detect at associated value.
> - Result greater than value indicated.
- - Not applicable.

TABLE G.6

HISTORICAL SOIL SAMPLE RESULTS
AOI 15 - HYDRAULIC OIL UST SOUTH OF BUILDING 9
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*B-SA5*	*B-SA6*	*B-SA7*	*B-SA8*	*Dayton-T4A*	*Dayton-T4B*	*Dayton-T4C*	*Dayton-T4D*	*GP-1*
Sample Name:		*B-SA5 S-2*	*B-SA6 S-5*	*B-SA7 S-4*	*B-SA8 S-2*	*Dayton-T4A-12'bgs*	*Dayton-T4B-12'bgs*	*Dayton-T4C-6'bgs*	*Dayton-T4D-6'bgs*	*GP-1 G-2*
Depth:		*(3-5)*	*(9-11)*	*(8-10)*	*(3-5)*	*(12-)*	*(12-)*	*(6-)*	*(6-)*	*(4-8)*
Sample Date:		*5/30/96*	*6/3/96*	*6/3/96*	*6/3/96*	*12/4/89*	*12/4/89*	*12/4/89*	*12/4/89*	*9/18/96*
Parameter	*Units*									
BTEX										
Benzene	ug/Kg	-	-	-	-	ND (5)	ND (5)	ND (5)	ND (5)	-
Ethylbenzene	ug/Kg	-	-	-	-	ND (5)	ND (5)	ND (5)	ND (5)	-
Toluene	ug/Kg	-	-	-	-	ND (5)	ND (5)	ND (5)	ND (5)	-
Xylene (total)	ug/Kg	-	-	-	-	ND (5)	ND (5)	ND (5)	ND (5)	-
Petroleum Products										
Total Petroleum Hydrocarbons	mg/Kg	-	-	-	-	-	-	-	-	-
Total Petroleum Hydrocarbons, Field	mg/Kg	-	-	-	-	-	-	-	-	184
Total Recoverable Petroleum Hydrocarbons	mg/Kg	553	100	267	141	1100	430	580	120	33.0
Semi-Volatiles										
1,2,4-Trichlorobenzene	ug/Kg	ND (430)	ND (360)	ND (430)	ND (430)	-	-	-	-	-
1,2-Dichlorobenzene	ug/Kg	ND (430)	ND (360)	ND (430)	ND (430)	-	-	-	-	-
1,3-Dichlorobenzene	ug/Kg	ND (430)	ND (360)	ND (430)	ND (430)	-	-	-	-	-
1,4-Dichlorobenzene	ug/Kg	ND (430)	ND (360)	ND (430)	ND (430)	-	-	-	-	-
2,4-Dinitrotoluene	ug/Kg	ND (430)	ND (360)	ND (430)	ND (430)	-	-	-	-	-
2,6-Dinitrotoluene	ug/Kg	ND (430)	ND (360)	ND (430)	ND (430)	-	-	-	-	-
2-Chloronaphthalene	ug/Kg	ND (430)	ND (360)	ND (430)	ND (430)	-	-	-	-	-
2-Methyl naphthalene	ug/Kg	ND (430)	ND (360)	ND (430)	110 J	-	-	-	-	-
2-Nitroaniline	ug/Kg	ND (2100)	ND (1800)	ND (2100)	ND (2100)	-	-	-	-	-
3,3'-Dichlorobenzidine	ug/Kg	ND (430)	ND (730)	ND (860)	ND (860)	-	-	-	-	-
3-Nitroaniline	ug/Kg	ND (2100)	ND (1800)	ND (2100)	ND (2100)	-	-	-	-	-
4-Bromophenyl phenyl ether	ug/Kg	ND (430)	ND (360)	ND (430)	ND (430)	-	-	-	-	-
4-Chloroaniline	ug/Kg	ND (430)	ND (360)	ND (430)	ND (430)	-	-	-	-	-
4-Chlorophenyl phenyl ether	ug/Kg	ND (430)	ND (360)	ND (430)	ND (430)	-	-	-	-	-
4-Nitroaniline	ug/Kg	ND (2100)	ND (1800)	ND (2100)	ND (2100)	-	-	-	-	-
Acenaphthene	ug/Kg	ND (430)	ND (360)	ND (430)	76 J	-	-	-	-	-
Acenaphthylene	ug/Kg	ND (430)	ND (360)	ND (430)	ND (430)	-	-	-	-	-
Anthracene	ug/Kg	77 J	ND (360)	ND (430)	100 J	-	-	-	-	-
Benzo(a)anthracene	ug/Kg	320 J	120 J	ND (430)	560	-	-	-	-	-
Benzo(a)pyrene	ug/Kg	ND (430)	ND (360)	ND (430)	720	-	-	-	-	-
Benzo(b)fluoranthene	ug/Kg	370 J	150 J	ND (430)	730	-	-	-	-	-
Benzo(g,h,i)perylene	ug/Kg	420 J	91 J	ND (430)	490	-	-	-	-	-
Benzo(k)fluoranthene	ug/Kg	220 J	130 J	ND (430)	ND (430)	-	-	-	-	-
Benzyl Alcohol	ug/Kg	ND (430)	ND (360)	ND (430)	ND (430)	-	-	-	-	-
bis(2-Chloroethoxy)methane	ug/Kg	ND (430)	ND (360)	ND (430)	ND (430)	-	-	-	-	-
bis(2-Chloroethyl)ether	ug/Kg	ND (430)	ND (360)	ND (430)	ND (430)	-	-	-	-	-
bis(2-Chloroisopropyl)ether	ug/Kg	ND (430)	ND (360)	ND (430)	ND (430)	-	-	-	-	-
bis(2-Ethylhexyl)phthalate	ug/Kg	130 J	ND (360)	60 J	ND (430)	-	-	-	-	-
Butyl benzylphthalate	ug/Kg	ND (430)	ND (360)	ND (430)	ND (430)	-	-	-	-	-
Chrysene	ug/Kg	360 J	140 J	ND (430)	820	-	-	-	-	-
Dibenz(a,h)anthracene	ug/Kg	190 J	ND (360)	ND (430)	ND (430)	-	-	-	-	-
Dibenzofuran	ug/Kg	ND (430)	ND (360)	ND (430)	140 J	-	-	-	-	-
Diethyl phthalate	ug/Kg	ND (430)	ND (360)	ND (430)	ND (430)	-	-	-	-	-
Dimethyl phthalate	ug/Kg	ND (430)	ND (360)	ND (430)	ND (430)	-	-	-	-	-
Di-n-butylphthalate	ug/Kg	ND (430)	ND (360)	ND (430)	ND (430)	-	-	-	-	-
Di-n-octyl phthalate	ug/Kg	130 J	ND (360)	ND (430)	ND (430)	-	-	-	-	-
Fluoranthene	ug/Kg	580	190 J	ND (430)	1600	-	-	-	-	-
Fluorene	ug/Kg	ND (430)	ND (360)	ND (430)	83 J	-	-	-	-	-

HISTORICAL SOIL SAMPLE RESULTS
AOI 15 - HYDRAULIC OIL UST SOUTH OF BUILDING 9
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*B-SA5*	*B-SA6*	*B-SA7*	*B-SA8*	*Dayton-T4A*	*Dayton-T4B*	*Dayton-T4C*	*Dayton-T4D*	*GP-1*
Sample Name:		*B-SA5 S-2*	*B-SA6 S-5*	*B-SA7 S-4*	*B-SA8 S-2*	*Dayton-T4A-12'bgs*	*Dayton-T4B-12'bgs*	*Dayton-T4C-6'bgs*	*Dayton-T4D-6'bgs*	*GP-1 G-2*
Depth:		*(3-5)*	*(9-11)*	*(8-10)*	*(3-5)*	*(12-)*	*(12-)*	*(6-)*	*(6-)*	*(4-8)*
Sample Date:		*5/30/96*	*6/3/96*	*6/3/96*	*6/3/96*	*12/4/89*	*12/4/89*	*12/4/89*	*12/4/89*	*9/18/96*
Parameter	*Units*									
Hexachlorobenzene	ug/Kg	ND (430)	ND (360)	ND (430)	ND (430)	-	-	-	-	-
Hexachlorobutadiene	ug/Kg	ND (430)	ND (360)	ND (430)	ND (430)	-	-	-	-	-
Hexachlorocyclopentadiene	ug/Kg	ND (430)	ND (360)	ND (430)	ND (430)	-	-	-	-	-
Hexachloroethane	ug/Kg	ND (430)	ND (360)	ND (430)	ND (430)	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	ug/Kg	340 J	75 J	ND (430)	420 J	-	-	-	-	-
Isophorone	ug/Kg	ND (430)	ND (360)	ND (430)	ND (430)	-	-	-	-	-
Naphthalene	ug/Kg	ND (430)	ND (360)	ND (430)	200 J	-	-	-	-	-
Nitrobenzene	ug/Kg	ND (430)	ND (360)	ND (430)	ND (430)	-	-	-	-	-
N-Nitrosodi-n-propylamine	ug/Kg	ND (430)	ND (360)	ND (430)	ND (430)	-	-	-	-	-
N-Nitrosodiphenylamine	ug/Kg	ND (430)	ND (360)	ND (430)	ND (430)	-	-	-	-	-
Phenanthrene	ug/Kg	260 J	110 J	ND (430)	1800	-	-	-	-	-
Pyrene	ug/Kg	620	240 J	ND (430)	2000	-	-	-	-	-
Volatiles										
bis(2-Chloroisopropyl)ether	ug/Kg	-	-	-	-	-	-	-	-	-
General Chemisty										
Percent Solids	%	78.7	91.5	75.4	76.4	-	-	-	-	73.0

TABLE G.6

HISTORICAL SOIL SAMPLE RESULTS
AOI 15 - HYDRAULIC OIL UST SOUTH OF BUILDING 9
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*GP-10*	*GP-13*	*GP-2*	*GP-3*	*GP-4*	*GP-5*	*GP-6*	*GP-6*	*HRD4 Backfill-UST4*	*HRD4 Backfill-UST4*
Sample Name:		*GP-10 G-1*	*GP-13 G-1*	*GP-2 G-1*	*GP-3 G-1*	*GP-4 G-1*	*GP-5 G-1*	*GP-6 G-1*	*GP-6 G-2*	*HRD4 BACKFILL-UST4*	*HRD4 BACKFILL-UST4*
Depth:		*(3-5)*	*(0-4)*	*(0-4)*	*(0-4)*	*(9-11)*	*(8-10)*	*(3-5)*	*(4-8)*		
Sample Date:		*9/19/96*	*9/20/96*	*9/18/96*	*9/18/96*	*9/18/96*	*9/19/96*	*9/19/96*	*9/19/96*	*2/16/90*	*2/20/90*
Parameter	*Units*										
BTEX											
Benzene	ug/Kg	-	-	-	-	-	-	-	-	-	ND (2.0)
Ethylbenzene	ug/Kg	-	-	-	-	-	-	-	-	-	ND (4.0)
Toluene	ug/Kg	-	-	-	-	-	-	-	-	-	ND (3.0)
Xylene (total)	ug/Kg	-	-	-	-	-	-	-	-	-	ND (10.0)
Petroleum Products											
Total Petroleum Hydrocarbons	mg/Kg	-	-	-	-	-	-	-	-	ND (100)	ND (5000)
Total Petroleum Hydrocarbons, Field	mg/Kg	118	200	300	84	385	1089	-	285	-	-
Total Recoverable Petroleum Hydrocarbons	mg/Kg	570	432	79.1	186	915	3790	1180	1180	-	-
Semi-Volatiles											
1,2,4-Trichlorobenzene	ug/Kg	-	ND (390)	ND (420)	-	-	-	-	ND (440)	-	-
1,2-Dichlorobenzene	ug/Kg	-	ND (390)	ND (420)	-	-	-	-	ND (440)	-	-
1,3-Dichlorobenzene	ug/Kg	-	ND (390)	ND (420)	-	-	-	-	ND (440)	-	-
1,4-Dichlorobenzene	ug/Kg	-	ND (390)	ND (420)	-	-	-	-	ND (440)	-	-
2,4-Dinitrotoluene	ug/Kg	-	ND (390)	ND (420)	-	-	-	-	ND (440)	-	-
2,6-Dinitrotoluene	ug/Kg	-	ND (390)	ND (420)	-	-	-	-	ND (440)	-	-
2-Chloronaphthalene	ug/Kg	-	ND (390)	ND (420)	-	-	-	-	ND (440)	-	-
2-Methyl naphthalene	ug/Kg	-	62 J	120 J	-	-	-	-	ND (440)	-	-
2-Nitroaniline	ug/Kg	-	ND (950)	ND (1000)	-	-	-	-	ND (1100)	-	-
3,3'-Dichlorobenzidine	ug/Kg	-	ND (390)	ND (420)	-	-	-	-	ND (440)	-	-
3-Nitroaniline	ug/Kg	-	ND (950)	ND (1000)	-	-	-	-	ND (1100)	-	-
4-Bromophenyl phenyl ether	ug/Kg	-	ND (390)	ND (420)	-	-	-	-	ND (440)	-	-
4-Chloroaniline	ug/Kg	-	ND (390)	ND (420)	-	-	-	-	ND (440)	-	-
4-Chlorophenyl phenyl ether	ug/Kg	-	ND (390)	ND (420)	-	-	-	-	ND (440)	-	-
4-Nitroaniline	ug/Kg	-	ND (950)	ND (1000)	-	-	-	-	ND (1100)	-	-
Acenaphthene	ug/Kg	-	ND (390)	ND (420)	-	-	-	-	ND (440)	-	-
Acenaphthylene	ug/Kg	-	ND (390)	ND (420)	-	-	-	-	ND (440)	-	-
Anthracene	ug/Kg	-	110 J	60 J	-	-	-	-	ND (440)	-	-
Benzo(a)anthracene	ug/Kg	-	660	240 J	-	-	-	-	ND (440)	-	-
Benzo(a)pyrene	ug/Kg	-	850	260 J	-	-	-	-	ND (440)	-	-
Benzo(b)fluoranthene	ug/Kg	-	830	210 J	-	-	-	-	ND (440)	-	-
Benzo(g,h,i)perylene	ug/Kg	-	840	190 J	-	-	-	-	ND (440)	-	-
Benzo(k)fluoranthene	ug/Kg	-	700	320 J	-	-	-	-	ND (440)	-	-
Benzyl Alcohol	ug/Kg	-	ND (390)	ND (420)	-	-	-	-	ND (440)	-	-
bis(2-Chloroethoxy)methane	ug/Kg	-	ND (390)	ND (420)	-	-	-	-	ND (440)	-	-
bis(2-Chloroethyl)ether	ug/Kg	-	ND (390)	ND (420)	-	-	-	-	ND (440)	-	-
bis(2-Chloroisopropyl)ether	ug/Kg	-	ND (390)	ND (420)	-	-	-	-	ND (440)	-	-
bis(2-Ethylhexyl)phthalate	ug/Kg	-	ND (390)	ND (420)	-	-	-	-	ND (440)	-	-
Butyl benzylphthalate	ug/Kg	-	ND (390)	ND (420)	-	-	-	-	ND (440)	-	-
Chrysene	ug/Kg	-	800	300 J	-	-	-	-	ND (440)	-	-
Dibenz(a,h)anthracene	ug/Kg	-	370 J	420 J	-	-	-	-	ND (440)	-	-
Dibenzofuran	ug/Kg	-	37 J	51 J	-	-	-	-	ND (440)	-	-
Diethyl phthalate	ug/Kg	-	59 JB	76 BJ	-	-	-	-	89 J	-	-
Dimethyl phthalate	ug/Kg	-	ND (390)	ND (420)	-	-	-	-	ND (440)	-	-
Di-n-butylphthalate	ug/Kg	-	ND (390)	ND (420)	-	-	-	-	ND (440)	-	-
Di-n-octyl phthalate	ug/Kg	-	ND (390)	ND (420)	-	-	-	-	ND (440)	-	-
Fluoranthene	ug/Kg	-	1200	460	-	-	-	-	ND (440)	-	-
Fluorene	ug/Kg	-	ND (390)	ND (420)	-	-	-	-	ND (440)	-	-

HISTORICAL SOIL SAMPLE RESULTS
AOI 15 - HYDRAULIC OIL UST SOUTH OF BUILDING 9
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*GP-10*	*GP-13*	*GP-2*	*GP-3*	*GP-4*	*GP-5*	*GP-6*	*GP-6*	*HRD4 Backfill-UST4*	*HRD4 Backfill-UST4*
Sample Name:		*GP-10 G-1*	*GP-13 G-1*	*GP-2 G-1*	*GP-3 G-1*	*GP-4 G-1*	*GP-5 G-1*	*GP-6 G-1*	*GP-6 G-2*	*HRD4 BACKFILL-UST4*	*HRD4 BACKFILL-UST4*
Depth:		*(3-5)*	*(0-4)*	*(0-4)*	*(0-4)*	*(9-11)*	*(8-10)*	*(3-5)*	*(4-8)*		
Sample Date:		*9/19/96*	*9/20/96*	*9/18/96*	*9/18/96*	*9/18/96*	*9/19/96*	*9/19/96*	*9/19/96*	*2/16/90*	*2/20/90*
Parameter	*Units*										
Hexachlorobenzene	ug/Kg	-	ND (390)	ND (420)	-	-	-	-	ND (440)	-	-
Hexachlorobutadiene	ug/Kg	-	ND (390)	ND (420)	-	-	-	-	ND (440)	-	-
Hexachlorocyclopentadiene	ug/Kg	-	ND (390)	ND (420)	-	-	-	-	ND (440)	-	-
Hexachloroethane	ug/Kg	-	ND (390)	ND (420)	-	-	-	-	ND (440)	-	-
Indeno(1,2,3-cd)pyrene	ug/Kg	-	610	150 J	-	-	-	-	ND (440)	-	-
Isophorone	ug/Kg	-	ND (390)	ND (420)	-	-	-	-	ND (440)	-	-
Naphthalene	ug/Kg	-	57 J	93 J	-	-	-	-	ND (440)	-	-
Nitrobenzene	ug/Kg	-	ND (390)	ND (420)	-	-	-	-	ND (440)	-	-
N-Nitrosodi-n-propylamine	ug/Kg	-	ND (390)	ND (420)	-	-	-	-	ND (440)	-	-
N-Nitrosodiphenylamine	ug/Kg	-	ND (390)	ND (420)	-	-	-	-	ND (440)	-	-
Phenanthrene	ug/Kg	-	550	350 J	-	-	-	-	ND (440)	-	-
Pyrene	ug/Kg	-	1500	420	-	-	-	-	ND (440)	-	-
Volatiles											
bis(2-Chloroisopropyl)ether	ug/Kg	-	ND (390)	-	-	-	-	-	-	-	-
General Chemisty											
Percent Solids	%	82.8	84.3	79.0	81.3	87.6	88.6	75.2	-	-	-

Notes:
ND - Non-detect at associated value.
J -Estimated.
B - The reported analyte was detected in the associated metheod blank as well as the sample.
- - Not applicable.

TABLE G.7

HISTORICAL SOIL SAMPLE RESULTS
AOI 16 - FUEL USTs NEAR BUILDING 4
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*Comp of Tank 12&13*	*Dayton8081-1*	*Dayton8081-2*	*Dayton8081-3*	*East End of Pipe Trench*	*North End of Tank 14*
Sample Name:		*Pipe 1 -Trench for Tank 12&13*	*Dayton8081-1*	*Dayton8081-2*	*Dayton8081-3*	*E. end of pipe trench tank 14*	*North end of tank 14*
Depth:							
Sample Date:		*12/14/92*	*12/11/89*	*12/11/89*	*12/11/89*	*11/21/89*	*11/21/89*
Parameter	*Units*						
BTEX							
Benzene	ug/Kg	2.0	ND (5.0)	ND (5.0)	ND (5.0)	ND (111.0)	ND (105.0)
Ethylbenzene	ug/Kg	ND (2)	ND (5.0)	ND (5.0)	ND (5.0)	ND (111.0)	ND (105.0)
Toluene	ug/Kg	5.8	ND (5.0)	ND (5.0)	ND (5.0)	ND (111.0)	ND (105.0)
Xylene (total)	ug/Kg	9.8	ND (5.0)	ND (5.0)	ND (5.0)	ND (111.0)	ND (105.0)
Petroleum Products							
Total Petroleum Hydrocarbons	mg/Kg	ND (5)	-	-	-	-	-
Total Petroleum Hydrocarbons-Semi Volatiles	mg/Kg	-	-	-	-	21.7	26.3
Total Recoverable Petroleum Hydrocarbons	mg/Kg	39	ND (20)	ND (20)	ND (20)	-	-
Semi-Volatiles							
Acenaphthene	ug/Kg	ND (1000)	-	-	-	-	-
Acenaphthylene	ug/Kg	ND (1000)	-	-	-	-	-
Anthracene	ug/Kg	ND (1000)	-	-	-	-	-
Benzo(a)anthracene	ug/Kg	ND (2000)	-	-	-	-	-
Benzo(a)pyrene	ug/Kg	ND (2000)	-	-	-	-	-
Benzo(b)fluoranthene	ug/Kg	ND (2000)	-	-	-	-	-
Benzo(g,h,i)perylene	ug/Kg	ND (5000)	-	-	-	-	-
Benzo(k)fluoranthene	ug/Kg	ND (2000)	-	-	-	-	-
Chrysene	ug/Kg	ND (2000)	-	-	-	-	-
Dibenz(a,h)anthracene	ug/Kg	ND (5000)	-	-	-	-	-
Fluoranthene	ug/Kg	ND (1000)	-	-	-	-	-
Fluorene	ug/Kg	ND (1000)	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	ug/Kg	ND (5000)	-	-	-	-	-
Naphthalene	ug/Kg	ND (1000)	-	-	-	-	-
Phenanthrene	ug/Kg	ND (1000)	-	-	-	-	-
Pyrene	ug/Kg	ND (1000)	-	-	-	-	-

HISTORICAL SOIL SAMPLE RESULTS
AOI 16 - FUEL USTs NEAR BUILDING 4
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*South End of Tank 14*	*Tank 12*	*Tank 12*	*Tank 12*	*Tank 13*
Sample Name:		*South end of tank 14*	*E. Wall 11-Tank 12-Grab*	*Pump Pad #12-Under Pump Pad*	*S. Wall 10-7-Tank 12-Grab*	*Pump Pad #13-Under Pump Pad*
Depth:						
Sample Date:		*11/21/89*	*12/22/92*	*12/14/92*	*12/22/92*	*12/14/92*
Parameter	*Units*					
BTEX						
Benzene	ug/Kg	ND (98.0)	ND (24900)	196	ND (25700)	ND (2)
Ethylbenzene	ug/Kg	ND (98.0)	ND (24900)	220	ND (25700)	ND (2)
Toluene	ug/Kg	ND (98.0)	ND (24900)	210	ND (25700)	ND (2)
Xylene (total)	ug/Kg	ND (98.0)	ND (24900)	1580	ND (25700)	2.4
Petroleum Products						
Total Petroleum Hydrocarbons	mg/Kg	-	7.0	ND (5)	14.0	106
Total Petroleum Hydrocarbons-Semi Volatiles	mg/Kg	1400	-	-	-	-
Total Recoverable Petroleum Hydrocarbons	mg/Kg	-	-	-	-	162
Semi-Volatiles						
Acenaphthene	ug/Kg	-	-	-	-	ND (1000)
Acenaphthylene	ug/Kg	-	-	-	-	ND (1000)
Anthracene	ug/Kg	-	-	-	-	ND (1000)
Benzo(a)anthracene	ug/Kg	-	-	-	-	ND (2000)
Benzo(a)pyrene	ug/Kg	-	-	-	-	ND (2000)
Benzo(b)fluoranthene	ug/Kg	-	-	-	-	ND (2000)
Benzo(g,h,i)perylene	ug/Kg	-	-	-	-	ND (5000)
Benzo(k)fluoranthene	ug/Kg	-	-	-	-	ND (2000)
Chrysene	ug/Kg	-	-	-	-	ND (2000)
Dibenz(a,h)anthracene	ug/Kg	-	-	-	-	ND (5000)
Fluoranthene	ug/Kg	-	-	-	-	ND (1000)
Fluorene	ug/Kg	-	-	-	-	ND (1000)
Indeno(1,2,3-cd)pyrene	ug/Kg	-	-	-	-	ND (5000)
Naphthalene	ug/Kg	-	-	-	-	ND (1000)
Phenanthrene	ug/Kg	-	-	-	-	ND (1000)
Pyrene	ug/Kg	-	-	-	-	ND (1000)

Notes:
ND - Non-detect at associated value.
- - Not applicable.

TABLE G.7

HISTORICAL GROUNDWATER SAMPLE RESULTS
AOI 16 - FUEL USTs NEAR BUILDING 4
FORMER DELPHI HARRISON THERMAL SYSTEMS IN DAYTON, OHIO

Sample Location:		*Comp of Tank 12&13*
Sample Name:		*Water1-Center of Pit Tank12&13*
Sample Date:		*12/14/92*
Parameter	*Unit*	
BTEX		
Benzene	ug/L	ND (2000)
Ethylbenzene	ug/L	2350
Toluene	ug/L	2050
Xylene (total)	ug/L	13420
Petroleum Products		
Total Petroleum Hydrocarbons	mg/L	0.107
Semi-Volatiles		
Acenaphthene	ug/L	ND (10)
Acenaphthylene	ug/L	ND (10)
Anthracene	ug/L	ND (10)
Benzo(a)anthracene	ug/L	ND (20)
Benzo(a)pyrene	ug/L	ND (20)
Benzo(b)fluoranthene	ug/L	ND (20)
Benzo(g,h,i)perylene	ug/L	ND (50)
Benzo(k)fluoranthene	ug/L	ND (20)
Chrysene	ug/L	ND (20)
Dibenz(a,h)anthracene	ug/L	ND (50)
Fluoranthene	ug/L	ND (10)
Fluorene	ug/L	ND (10)
Indeno(1,2,3-cd)pyrene	ug/L	ND (50)
Naphthalene	ug/L	110
Phenanthrene	ug/L	32
Pyrene	ug/L	ND (10)

Notes:
ND - Non-detect at associated value.

APPENDIX E

RFI REPORT AND ADDENDA EXCERPTS

BOW ENVIRONMENTAL SOLUTIONS INC.

March 30, 2006

Ms. Patricia J. Polston
Waste, Pesticides and Toxics Division
U.S. EPA Region 5
77 W. Jackson Blvd., DRE-9J
Chicago, IL 60604-3590

Re: RCRA Facility Investigation Report
Performance-Based RCRA Corrective Action
Former Delphi Harrison Thermal Systems
USEPA ID No. OHD 017 958 604

Dear Ms. Polston:

Please find the attached four (4) copies of the RCRA Facility Investigation (RFI) Report for the Former Delphi Harrison Thermal Systems Site located at 300 Taylor Street, Dayton, Ohio. The RFI Report was completed by Conestoga-Rovers & Associates, Haley& Aldrich, Inc. and Environ International Corporation on behalf of the General Motors Corporation (GM) and in accordance with the Performance-Based Corrective Action Agreement for the site. Please call (937) 455-2636 if you have any questions concerning this information.

Sincerely,

Pamela L. Barnett

Pamela L. Barnett, P.G.
Project Manager
BOW Environmental Solutions, Inc. on behalf of GM

attachment.
c.c.: Jean Caufield, GM Remediation
Pamela Hull, OEPA
Carl Bridges, Peerless
Gwen Eberly/Chris Lipson, City of Dayton

RESOURCE CONSERVATION AND RECOVERY ACT (RCRA) FACILITY INVESTIGATION REPORT

GENERAL MOTORS CORPORATION
FORMER DELPHI HARRISON THERMAL SYSTEMS
DAYTON, OHIO
OHD017958604

VOLUME I OF III - TEXT

Prepared For:

General Motors Corporation
Remediation and Liability Management Company, Inc.

Prepared By:
Conestoga-Rovers & Associates

DISCLAIMER:
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MARCH 30, 2006
REF. NO. 12638 (11)

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March 30, 2006

RESOURCE CONSERVATION AND RECOVERY ACT (RCRA)
FACILITY INVESTIGATION REPORT

GENERAL MOTORS CORPORATION
FORMER DELPHI HARRISON THERMAL SYSTEMS
DAYTON, OHIO
OHD017958604

VOLUME 1 – (TEXT, FIGURES, AND TABLES)

Prepared for

General Motors
Remediation and Liability Management

Prepared by

Conestoga-Rovers & Associates

March 30, 2006

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LIST OF ACRONYMS AND SHORT FORMS

Agreement	-	Performance-Based Corrective Action Agreement dated May 22, 2001
AMSL	-	Above Mean Sea Level
AOI	-	Area of Interest
AST	-	Aboveground Storage Tank
bgs	-	Below Ground Surface
Brand	-	Brand Precision Services
BT	-	Below Till
BTEX	-	Benzene, Toluene, Ethylbenzene, and Xylenes
BUSTR	-	Bureau of Underground Storage Tank Regulations
Career Academy	-	Dayton Public Schools Career Academy
cfs	-	Cubic Feet per Second
cis-1,2-DCE	-	cis-1,2-dichloroethene
CRA	-	Conestoga-Rovers & Associates
CSXT	-	CSX Transportation Inc.
CVOCs	-	Chlorinated Volatile Organic Compounds
Delphi	-	Delphi Harrison Thermal Systems
DO	-	Dissolved Oxygen
DMP	-	Data Management Plan
EDD	-	Electronic Data Deliverable
EI	-	Environmental Indicator
ENVIRON	-	ENVIRON International Corporation
Exponent	-	Exponent Inc.
EQ	-	Environmental Quality Management Inc.
Fountain Wells	-	Wells for RiverScape Metropark's Five Rivers Fountain of Lights
Fryman-Kuck	-	Fryman-Kuck General Contractors
Geothermal Well	-	Dayton Public Schools Career Academy Geothermal Well
GIS	-	Geographic Information System
GM	-	General Motors Corporation
G&M	-	Geraghty & Miller (now ARCADIS G&M)
gpm	-	U.S. Gallons per Minute
H&A	-	Haley & Aldrich
HQ	-	Hazard Quotient
HRC®	-	Hydrogen-Releasing Compound®
HRE	-	Heritage Remediation/Engineering
IM	-	Interim Measures
IT	-	International Technology Corporation
LA	-	Lower Aquifer
LNAPL	-	Light Non-Aqueous Phase Liquid
MCD	-	Miami Conservancy District
MCL	-	Maximum Contaminant Level

LIST OF ACRONYMS AND SHORT FORMS

MGD	- Million U.S. Gallons per Day
mi^2	- Square Mile
MNA	- Monitored Natural Attenuation
mph	- Miles per Hour
NOAA	- National Oceanic and Atmospheric Administration
ODNR	- Ohio Department of Natural Resources
Ohio EPA	- Ohio Environmental Protection Agency
OHM	- O.H. Materials
PAHs	- Polycyclic Aromatic Hydrocarbons
PA/VSI	- Preliminary Assessment/Visual Site Inspection conducted by U.S. EPA in 1990
PCE	- Tetrachloroethene
PCBs	- Polychlorinated Biphenyls
Peerless	- Peerless Realty Group Ltd.
PID	- Photo-Ionization Detector
POTW	- Publicly Owned Treatment Works
PRGs	- Preliminary Remediation Goals
QAPP	- Quality Assurance Project Plan
QC	- Quality Control
RCRA	- Resource Conservation and Recovery Act
Regenesis	- Regenesis Bioremediation Products
Reliable	- Reliable Construction Services
RFI	- RCRA Facility Investigation
RM	- River Mile
Stadium Well	- Irrigation Well for Dayton Dragons' Fifth Third Field
SVOCs	- Semi-Volatile Organic Compounds
SWMU	- Solid Waste Management Unit
TCA	- 1,1,1-Trichloroethane
TCE	- Trichloroethylene or Trichloroethene
TPH	- Total Petroleum Hydrocarbons
TR	- Till-Rich Zone
TT	- Top of Till
UA	- Upper Aquifer
U.S. EPA	- United States Environmental Protection Agency
USGS	- Unites States Geological Survey
UST	- Underground Storage Tank
VC	- Vinyl Chloride
VOCs	- Volatile Organic Compounds
WPAFB	- Wright Patterson Air Force Base
WT	- Water Table
WWTP	- Wastewater Treatment Plant

1.0 INTRODUCTION

1.1 PURPOSE

This Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) Report was prepared to fulfill the requirements of the performance-based Corrective Action Agreement (Agreement) issued for the main manufacturing area of the former Delphi Harrison Thermal Systems (Delphi) Facility, which was formerly owned and operated by General Motors Corporation (GM), located at 300 Taylor Street in Dayton, Ohio (hereafter referred to as the Site). The Site is currently owned by Peerless Realty Group Ltd. (Peerless), also known as the Peerless Transportation Company, and a portion is controlled by the City of Dayton via a real property options agreement. The Delphi Facility has United States Environmental Protection Agency (U.S. EPA) permit OHD0179586054.

The Site lies immediately south of the Mad River and is bounded by Webster Street to the west, Pitts Street to the south, and Keowee Street to the east. The Site also includes a portion of the block bounded by Webster Street (west), Monument Avenue (south), Taylor Street (east), and Pitts Street (north), as presented on Figure 1.1. A Site plan is presented on Figure 1.2. The Site is the main manufacturing area of the former Delphi Facility that is addressed in the Agreement. The entire former Delphi Facility is presented on Figure 1.3, with the current property owners indicated. The portions of the former Delphi Facility excluded from the Agreement, were generally used for parking and wastewater treatment. The Site boundary, as defined in the Agreement, is presented on Figure 1.4.

GM conducted a RFI to determine whether the areas of interest (AOIs) identified in the "Current Conditions Report" (CRA, June 8, 2001) and subsequently identified based on the 1943 Insurance Map (see Appendix A) have released hazardous waste or hazardous constituents that pose a significant risk to human health or the environment. As part of the RFI, GM developed information to support the RCRA corrective action Environmental Indicator (EI) determinations of whether current human exposures are under control (CA725) and migration of contaminated groundwater is under control (CA750). The RFI was conducted in accordance with the "RFI Work Plan" (CRA, February 4, 2002) and subsequent amendments for additional stages of investigation (CRA, January 20, 2003; CRA, May 26, 2003; CRA, October 15, 2003; CRA, December 7, 2004; CRA, April 26, 2005; and CRA, June 24, 2005). The findings from the RFI will be used to support decisions regarding whether any interim or final corrective measures are warranted and, if so, the goals of such measures.

During the RFI, GM also implemented interim measures to address groundwater contamination adjacent to Webster Street, the presence of light non-aqueous phase liquid (LNAPL) in the Chip Area LNAPL plume, the presence of concrete with polychlorinated biphenyl (PCB) concentrations above 50 parts per million (ppm) in the G-Lot Transformer Pad, and sewer sediments present in storm sewers located between Webster and Taylor Street. These areas of the Site were identified through field investigations conducted prior to and during the RFI. The interim measures were implemented as part of the Corrective Action Program in accordance with the "Interim Measures Work Plan AOI 1 (Solvent Release Area West of Building 12)" (CRA, September 5, 2002), "Construction Monitoring Summary and As-Built Report, Barrier Wall Installation" (H&A, October 28, 2002), "Interim Measures Work Plan for G-Lot Transformer Pad Removal" (CRA, December 7, 2004), and "Proposed Storm Sewer Abandonment Work Plan (Revision 2)" (CRA, January 6, 2006). GM also plans to conduct interim measures associated with the presence of concrete with PCB wipe concentrations above 100 μg/100 cm^2.

The information in this RFI Report describes the procedures, methods, and results of the field investigations conducted during the RFI, including those related to the evaluation of effectiveness of the interim measures. The information includes a comparison of the RFI data with risk-based screening criteria to identify whether there is a potentially significant release of hazardous waste or hazardous constituents from the AOIs. Where a potentially significant release is identified, the nature and extent of hazardous constituents in the environmental media characterized during the RFI are discussed. A human health risk assessment is included in this RFI Report to provide a basis for determining whether the presence of these hazardous constituents poses a significant risk to human health and the environment that would warrant corrective measures. An ecological risk evaluation is also included in this RFI Report to provide a basis for determining whether the presence of these hazardous constituents poses a significant risk to ecological receptors that warrants corrective measures.

1.2 REPORT ORGANIZATION

The RFI Final Report is organized as follows:

- Section 2.0 - Overview of the RFI;
- Section 3.0 - Environmental Setting;
- Section 4.0 - Investigation Results and Discussion;
- Section 5.0 - Human Health Risk Assessment;
- Section 6.0 - Ecological Risk Evaluation;
- Section 7.0 - Summary and Conclusions; and
- Section 8.0 - References.

2.0 OVERVIEW OF THE RFI

2.1 SITE DESCRIPTION

2.1.1 SITE LOCATION

The Site is located in the City of Dayton, Montgomery County, Ohio at 300 Taylor Street. The Site lies immediately south of a levee for the Mad River and is bounded by Webster Street to the west, Pitts Street to the south, and Keowee Street to the east. The Site also includes a portion of the block bounded by Webster Street, Monument Avenue, Taylor Street, and Pitts Street. Both Webster and Keowee Streets are heavily traveled four lane roads with minimal pedestrian traffic. The Site is crossed in a north-south direction by Taylor Street (east of Webster Street), Meigs Street (east of Taylor Street), and the railway owned by CSX Transportation, Inc. (CSXT) (east of Meigs Street). The Site is crossed in an east-west direction by Amelia Street (north of Pitts Street). Taylor, Meigs, and Amelia Streets have been vacated within the boundaries of the Site.

The F.A. Requarth property, located across Webster Street from the Site, is occasionally used for parking for the Dayton Dragons' Fifth Third Field. Across Webster Street to the west are the Requarth Lumber Yard and the Dayton Public Schools Career Academy (Career Academy). Across Pitts Street to the south are parking lots and across Monument Avenue to the south are a used automobile dealer, Litho-Print, a vacant building, the City of Dayton Business Incubator Building, the Hallowell building, a parking lot, and Dayton Builder Supply. Across Keowee Street to the east are the City of Dayton Water Department facility and Ottawa Street Yard.

The Site consists of manufacturing buildings, driveways, railroad spurs, and some open space (primarily east of the railway, in the vicinity of the former "G" (Government) Buildings). The City of Dayton has demolished all buildings between Webster and Taylor Streets as part of the Tech Town redevelopment plans for the Site. Figure 1.2 presents the Site plan.

2.1.2 HISTORICAL OPERATIONS

2.1.2.1 PROPERTY OWNERSHIP HISTORY

In 1887, S. Stompers and Company Lumber Yard, J.B. Hoglen's Log Yard, Barney & Smith Lumber Yard and Manufacturing Company, Gem City Stove Company, and John

Stengel and Company Furniture Manufacturing occupied the area between Webster Street and Keowee Street (The Sanborn Library, 1887, 1889).

In 1911, the Mutual Manufacturing Furniture Company, SH Rothenberg Leaf Tobacco, the Dayton Biscuit Company, the Stumps Burkart Lumber Company, the M.J. Gibbons Plumbing Supply Company, agricultural implement sales, and domestic properties occupied the area between Webster Street and Taylor Street; the Barney & Smith Car Company and residential properties occupied the area between Taylor Street and the Baltimore & Ohio Railroad (currently CSXT); and the Dayton Car Works Annex occupied the area between the Baltimore & Ohio Railroad (currently CSXT) and Keowee Street. The flood of 1913 destroyed a number of these structures.

In 1918, the Mutual Manufacturing Furniture Company, the Dayton Biscuit Company, and the M.J. Gibbons Plumbing Supply Company occupied the area between Webster Street and Taylor Street; the Dayton Metal Products Company and the Domestic Engineering Company occupied the area between Taylor Street and the Baltimore and Ohio Railroad (currently CSXT); and the Barney & Smith Car Company West Plant Annex occupied the area between the Baltimore & Ohio Railroad (currently CSXT) and Keowee Street (The Sanborn Library, 1918).

The Site was acquired by GM in 1919 after GM purchased the Domestic Engineering Company and changed the name of this company to the Delco Light Company. The Site has been operated by the Delco Light Company (1919 to 1928), the Frigidaire Corporation (1928 to 1936), the Frigidaire Division of General Motors Corporation (1936 to 1975), the Delco Air Conditioning Division (1975 to 1981), the Harrison Radiator Division (1981 to 1994), and Delphi (1994 to 1996) (Delco Products, Its History, Its Heritage, Jerry T. Emrick, July 1983).

The Site was sold to Peerless on May 1, 1996 and was used as a warehousing operation. Various materials (including furniture, cardboard, and manufacturing equipment) have been observed at the Site since the property was purchased by Peerless. No evidence of a release of hazardous materials by Peerless has been observed. Frank Miller, the Peerless site supervisor, identified on April 5, 2001 that he is not aware of any releases of hazardous substances at the Site as a result of Peerless' activities.

2.1.2.2 FORMER GM OPERATIONS

Past GM operations at the Site have included metal machining, grinding, and heat treatment; electroplating, coating, and painting; assembly and packaging; and product

and materials testing. Products manufactured have included automotive air conditioning compressors and related components, electric refrigerators, household appliances, and machine guns (during World War II). Between 1995 and 1997, plant decommissioning was performed by GM in preparation for sale of the Site.

The following historical operations have been performed in buildings at the Site. (The dates refer to the construction/renovation and demolition dates and the square footage refers to the final building size.)

Former Building 1 (1914/1941 - 2005) 45,620 ft²	Former Building 1 was a one-story brick building. Operations included manufacturing (primarily machining), equipment storage, a garage, and testing facilities. A 1943 plan also identified spray booths in this building.
Former Building 1A (1964 - 2005)	Former Building 1A was a one-story metal building. Operations included a shipping dock, a railway siding, a phosphate washer, equipment storage, and raw material storage.
Building 2 (1908/1924/1941 - present) 99,708 ft²	Building 2 is a seven-story concrete building. Operations included manufacturing and engineering (first three floors) and material storage (upper four floors). A tool crib was also located in this building and a battery-charging station was located between Buildings 2 and 3.
Building 3 (1913/1932/1936/ 1963 - present) 17,460 ft²	Building 3 is a two-story concrete building. Operations included administration, research, and maintenance (the "tinners shop"). A 1943 plan also identified a transformer at the southeast corner of this building. A battery-charging station was located between Buildings 2 and 3.
Building 4 (1914 - present) 11,810 ft²	Building 4 is a one-story brick building. It was used as a heavy-truck repair garage. A hydraulic hoist was located on the eastern side of the building.
Building 5 (1919 - present) 182,565 ft²	Building 5 is a six-story brick building, with a partial basement. Operations included compressed air, steam lines, sanitary lift station, and main electrical vault (basement) and offices, shipping, manufacturing and storage (upper floors). A 1943 plan also identified a machine shop on the sixth floor.

Building 7 (1907/1950/1975/ 1977 - present) 109,971 ft²	Building 7 is a one-story brick and metal building, with a partial basement. Operations included metal machining, centerless grinding, inspection, and miscellaneous machining. Three large coolant systems were located in this building. In addition, prior to the early 1970s, cadmium, chromium, zinc, and tin plating occurred in the northern end of the building, and cadmium plating occurred in the central portion of the building. A 1943 plan identified spray booths in the northeast corner, and paint and enamel storage in the northwest corner.
Former Building 8 (1927 - 1966)	Former Building 8 was a storage area and was replaced by Building 24 in approximately 1966. A 1943 plan identified a sludge well along the north side of this building; underground storage tanks (USTs) were subsequently located in this area.
Structure Southwest of Former Building 8 (unknown – 1966)	This structure was a former laundry area. The portion closest to Former Building 8 was a still for reclaiming Stoddard solvent. This structure was replaced by Former Building 24 in approximately 1966.
Building 9 (1918/1945/1969/ 1970 - present) 152,201 ft²	Building 9 is a one-story concrete, brick, and metal building. Operations included steam-cleaning, heat-treating and case hardening, air compressors, polishing, metal machining, metal grinding, screw machines, punch presses, oil reclamation, zinc and tin plating, and equipment storage. A 1943 plan also identified parts grinding in the west-central portion of the building.
Building 10 (1917 - present) 77,508 ft²	Building 10 is a two-story brick and concrete building. Operations included stock receiving and storage, metal stamping, new product drum storage, metallurgy laboratories, heat-treating, maintenance, paint booths, tool cribs, and chip handling. Raw material and waste storage was located east of this building.
Former Building 12 (1920/1949/1964/ 1966 - present) 78,589 ft²	Former Building 12 was a one-story concrete and brick building with a partial basement. Operations included manufacturing (primarily assembly), equipment storage, and paint booths (on the second floor). An electrical vault was located in the basement. A skid-mounted air drying unit was formerly located on the west side of the building. A 1943 plan also identified a still in the northwest corner of the building.

Building 13 (1917 - 1989) 500 ft²	Building 13 is a concrete building, with a basement. It was used for oil storage and as a pumphouse to store and move bulk liquids to their usage points throughout the Site. Although the building has been demolished, the basement is still in place.
Former Building 15 (1870/1917/1947 - 2005) 40,533 ft²	Former Building 15 was a two-story frame building. Operations included manufacturing and equipment storage, paint sludge collection, security, and offices.
Former Building 16 (1870 - 1966)	Former Building 16 was a maintenance area that housed a tin shop, a welding shop, and a plumbers' work area. It was replaced by Former Building 24 in approximately 1966.
Former Building 20 (1908 - 1966)	Former Building 20 was a maintenance area and was replaced by Former Building 24 in approximately 1966. A 1943 plan identified experimental air conditioning was conducted in this building.
Former Building 22 (1910/1914/1919 - 2005) 58,827 ft²	Former Building 22 was a three- and five-story concrete building. Operations included manufacturing and maintenance (first floor), and maintenance and storage areas (upper two and four floors).
Former Building 24 (1967 - 2005) 183,076 ft²	Former Building 24 was a two-story brick, concrete block, and metal building, with a partial basement. Operations included manufacturing (primarily machining), recovery, equipment storage, compressed-gas cylinder storage, and oil storage. A still room for solvent recovery was located in the northwest corner in the basement.
Former Building 27 (1968 - 2005) 2,420 ft²	Former Building 27 was a one-story, unheated, metal storage enclosure.
Former Building G-1 (1929/1941 - 1996) 21,304 ft²	Former Building G-1 was a four-story brick building. Operations included personnel and administration offices.
Former Building G-2 (1941 - 1996) 184,493 ft²	Former Building G-2 was a five-story brick and concrete building, with a partial basement. Operations included maintenance and product engineering and testing. The maintenance area on the first floor contained hydraulic systems and a tool room area on the eastern side. Testing laboratories were located on the upper floors.

Former Building G-3 (1870-1991) 22,837 ft²	Operations in Former Building G-3 included machining and repair (first floor), pattern shop and repair (second floor), and performance testing of refrigerators (third floor). A small chrome plating operation was also located on the first floor, above a basement, prior to 1965. A 1943 plan identified ammunition storage at the east end of the building. This building burned down in 1991.
Former Building G-4 (1925-1990) 42,298 ft²	Operations in Former Building G-4 included machining. Sumps and trenches collected metal chips, oil, and water and routed these materials to Building G-5. This building also contained a hydraulic lift station.
Former Building G-5 (1900-1988) 8,370 ft²	Operations in Former Building G-5 included oil reclamation and chip processing. Four sumps and associated piping and trenches directed oil to USTs for reclamation. A small-scale cyanide heat treating process operated until 1978. Machine gun testing was conducted in this building during World War II; a 1943 plan identified a range with sand fill at the eastern end of the building.

Solvent use was also associated with many manufacturing operations throughout the Site. Specifically, the following solvents were used:

1. Bulk chlorinated and Stoddard solvents were used in degreasers between 1971 and 1987. Chlorinated solvents included trichloroethylene, or trichloroethene (TCE) between 1971 and 1973, tetrachloroethylene (PCE) between 1973 and 1982, and 1,1,1-trichloroethane (TCA) between 1982 and 1987. Between 1971 and 1981, bulk solvents were unloaded from a tank truck in the Former Building 12 unloading area and routed to 10,000-gallon USTs west of Former Building 12. Between 1981 and 1987, bulk solvents were unloaded from a tank truck in the Former Building 24 unloading area and routed to 10,000-gallon USTs in the Former Building 24 basement. After distillation, the solvent was pumped directly from the Former Building 24 basement to the degreasers in various locations across the Site via closed overhead piping. Stoddard solvents were also used prior to construction of Former Building 24 in 1967. A Stoddard solvent still was reportedly located near Former Building 8.
2. Freon TMC was also used in degreasers in various locations across the Site. This material was stored in drums at the oil house (Building 13) and transported in drums to the specific degreaser, where it was transferred manually with a drum

pump. Waste materials were manually removed from the degreasers into drums and hauled to the hazardous waste storage cage in Building 5.

3. Satellite cleaning units were located throughout the Site. These units were small and mobile and were located in various locations throughout the Site. According to U.S. EPA's 1990 Preliminary Assessment/Visual Site Inspection (PA/VSI), they contained Stoddard solvent, TCA (until 1990), Solvo-Clean (a non-chlorinated solvent), or Safety-Kleen's petroleum naphtha.

4. Paint thinner was used to adjust the viscosity of paint, as well as for cleaning solvent to flush paint lines and guns. This material was stored in drums at the oil house (Building 13) and transported in drums to the Former Building 24 still room for paint thinning, to the Former Building 12 paint room for production system cleaning operations, or to the Building 10 maintenance paint shop. In the still room, paint thinner was manually pumped into the 10,000-gallon paint storage tank. During production system cleaning operations in the paint room, paint thinner was manually pumped into the paint feed lines and recirculated in a closed system using the paint feed pumps; the used paint thinner was collected in drums for disposal. In the maintenance paint shop, paint thinner was used directly from drums and collected in drums for disposal. Used paint thinner was transported to the hazardous waste storage cage in Building 5 prior to transportation off Site for disposal.

2.1.3 INFORMATION PRESENTED IN RFI WORK PLAN

2.1.3.1 RAW MATERIAL AND WASTE STORAGE AND HANDLING AREAS

Section 2.4 of the "RFI Work Plan" (CRA, February 4, 2002) summarizes information regarding raw material and waste storage and handling areas used historically at the Site.

Various USTs have historically been located at the Site, and used for storage of raw materials and wastes. Tanks have been regulated under Bureau of Underground Storage Tank Regulations (BUSTR) and RCRA under the Ohio Environmental Protection Agency (Ohio EPA), or have been unregulated because they predated BUSTR and RCRA. Table 2.1 presents a summary of the USTs at the Site. Figure 2.1 presents the UST locations.

2.1.3.2 HISTORICAL WASTE MANAGEMENT PRACTICES

Section 2.5 of the "RFI Work Plan" (CRA, February 4, 2002) summarizes information regarding historical waste management practices at the Site. Storm and process sewers are identified on Figures 2.2a and 2.2b.

2.1.3.3 REGULATORY HISTORY

Section 2.6 of the "RFI Work Plan" (CRA, February 4, 2002) summarizes information regarding the regulatory history of the Site, including hazardous waste closures.

2.2 FIELD INVESTIGATIONS

2.2.1 AREAS INVESTIGATED

The AOIs were identified in several stages as follows:

- nineteen Solid Waste Management Units (SWMUs) were identified by the U.S. EPA in the 1990 PA/VSI, including SWMU 11, the wastewater treatment plant (WWTP) southwest of the Site;
- thirteen areas were identified by GM prior to sale of the property in 1996;
- additional AOIs were identified by GM during a review of historical information for the Site during preparation of the "Current Conditions Report" (CRA, June 8, 2001); and
- additional AOIs were identified by GM based on an insurance map prepared by Johnson and Higgins in February 1943 (see Appendix A), which was discovered after the RFI Work Plan had been submitted.

Some of the SWMUs identified by U.S. EPA overlapped with the areas identified by GM in 1996. In addition, some of the SWMUs were combined into a single AOI due to proximity and/or similarity of materials managed. A total of 35 AOIs were identified at the Site, as summarized in Table 2.2. The only SWMU that was not included as an AOI is SWMU 11, the WWTP, because it is outside of the Site as defined in the Agreement. The AOI locations are presented on Plans 1A and 1B (west and east, respectively). The "Current Conditions Report" (CRA, June 8, 2001) presents a detailed description of AOIs 1 through 28. AOIs 29 through 35 were subsequently identified based on the 1943 insurance map, and information regarding operations conducted in these areas is limited.

In general, the following investigation(s) have been conducted at the AOIs identified in Table 2.2:

- pre-RFI samples were collected associated with many of the AOIs, and the results of these investigations are summarized in the "Current Conditions Report" (CRA, June 8, 2001); and
- during the RFI, samples were collected as part of the RFI field investigation and IMs for all of the AOIs, except as follows:
  - RCRA closure was complete at AOIs 2, 3 (waste tank north of Building 4), 4, and 6 (spill interceptor north of Building 4),
  - BUSTR closure was complete at AOIs 7, 15, and 17,
  - AOI 5 (electroplating in Former Building G-3) had been removed, and
  - there was no release to the environment based on pre-RFI sampling or the nature of the operations at AOIs 5 (electroplating in Building 9), 9, and 22 (paint hanger incinerator).

2.2.1.1 AOI 1 - WEBSTER STREET PCE RELEASE (WEST OF FORMER BUILDING 12)

The Webster Street PCE release (AOI 1) west of Former Building 12, is presented on Plan 1A. A 10,000-gallon chlorinated solvent storage UST was located west of Former Building 12 between approximately 1971 and December 1989, and an accidental overfill of this UST with PCE occurred in 1975. Three other USTs and an air drying unit were located in this area.

Historical Operations

A 10,000-gallon new solvent UST (Tank 18) was located west of Former Building 12. This UST was identified as Unit 1 on the Part A permit. This UST was used to store naphthalite until approximately 1973, and PCE between 1973 and 1981. Bulk solvent storage in underground tanks was discontinued in 1981, and Tank 18 was emptied and permanently removed from service on October 23, 1981. Tank 18 was removed in December 1989. An accidental 1,000-gallon overfill of the tank with PCE occurred on July 31, 1975.

A 10,000-gallon refrigerant oil UST (Tank 3) was located west of Former Building 12, north of Tank 18. This UST was used to store refrigerant oil between 1966 and 1981. Refrigerant oil is a petroleum hydrocarbon mineral oil used as a heat transfer medium for the cooling of equipment. Tank 3 was emptied and permanently removed from service in 1981, and the tank was removed in December 1989. An accidental overfill of approximately 10 to 15 gallons of refrigerant oil occurred on September 5, 1975.

Two 10,000-gallon USTs (Tanks 20 and 21) were located west of Former Building 12, south of Tank 18. Tank 20 was used to store Stoddard solvent (between 1965 and 1981) and Tank 21 was used to store kerosene (between 1965 and 1981). Bulk solvent storage in underground tanks was discontinued in 1981. Both tanks were removed in December 1988.

An air drying unit was located on the west side of Former Building 12. Oil staining of the underlying gravel surface and the nearby building wall was observed during an inspection of this area by GM in 1994.

Previous Investigations and Remedial Actions

Subsequent to the spills in 1975, a curb was installed on the ground around Tanks 3 and 18, to contain any potential future spills due to overfilling.

Petro-Tite testing was performed by O.H. Materials (OHM) on all chlorinated solvent USTs. Tank 18 was tested December 3, 1987 and was found to be certifiable.

Tanks 20 and 21 were removed between December 21 and 22, 1988. No evidence of contamination was observed in the Tank 21 excavation; one soil sample was collected from the bottom of the excavation. An "organic odor" was observed in the Tank 20 excavation; soil and groundwater samples were collected from the sides and bottom of the excavation. BUSTR was notified of a suspected release on December 22, 1988. Petroleum hydrocarbons, which would be associated with the former tank contents, were not detected. However, PCE was reported in the samples at concentrations ranging from 0.494 to 50.8 milligrams per kilogram (mg/kg) in soil and 60 milligrams per liter (mg/L) in groundwater.

The following activities were performed by Heritage Remediation/Engineering (HRE) in 1989:

1. Tanks 3 and 18 were cleaned on December 1, 1989. No evidence of leaking was observed. Washwaters were discharged to the WWTP.

2. The concrete structures covering Tanks 3 and 18 were removed and the tanks were excavated between December 8 and 9, 1989. It was necessary to cut Tank 3 into pieces to remove it from beneath Former Building 12; approximately 20 percent of this tank was located beneath the building. The tanks appeared to be moderately rusted but no perforations were observed. Tanks 3 and 18 were cut into small segments using hydraulic shears on December 12 and 13, 1989, and transported off Site for recycling via smelting.
3. The tank cavity was over excavated to the extent possible without damaging the Former Building 12 foundation or Webster Street. Approximately 180 cubic yards of material was removed on December 8 and 9, 1989, and an additional 90 cubic yards of material was removed on December 20, 1989. All material was disposed of off Site as hazardous waste.
4. The tank cavities were filled with backfill material. Analytical results of a sample of the backfill material placed in the excavation indicated total petroleum hydrocarbons (TPH) were not detected (below 5 mg/kg); and benzene, toluene, and xylenes were detected at 0.00344, 0.00489, and 0.0129 mg/kg, respectively.

The following activities were performed by PEI in 1989:

1. Soil samples were collected in September 1989 in the vicinity of Tank 18 and indicated PCE contamination.
2. Soil samples SO-1 through SO-9 were collected on December 8 and 12, 1989 from the excavation (for removal of Tanks 3 and 18) north of the abandoned concrete utility tunnel. Sample results indicated TPH concentrations from 270 to 15,000 mg/kg and PCE concentrations from 0.96 to 1,680 mg/kg; benzene, toluene, ethylbenzene, and xylenes (BTEX) was not detected.
3. Soil samples from the east wall, bottom, and west wall were collected on December 20, 1989 from the excavation south of the abandoned concrete utility tunnel. Sample results indicated PCE concentrations from 0.32 to 10.4 mg/kg.

A shallow soil boring was installed adjacent to the air drying unit on October 19, 1995, under the supervision of Haley & Aldrich (H&A). TPH concentrations in soil samples ranged from 46 to 580 mg/kg.

The following activities were performed by H&A in 1996 and 1997:

1. Five monitoring wells were installed in May 1996, eight soil borings were installed in September 1996, and seven soil borings were installed in April 1997. Soil samples were collected from these borings and analyzed for TPH, BTEX,

polycyclic aromatic hydrocarbons (PAHs), and volatile organic compounds (VOCs). TPH (33.4 to 12,700 mg/kg), benzene [ND(0.0005) to 0.37 mg/kg], toluene [ND(0.0005) to 7.5 mg/kg], PCE [ND(0.006) to 140 mg/kg], and TCE [ND(0.005) to 20 mg/kg] were detected above the action levels identified for this investigation in one or more of the soil samples.

2. Groundwater samples were collected from monitoring wells B-SA21, B-SA22, B-SA23, B-SA24, B-SA26, and HD-3 in June 1996 and analyzed for BTEX, PAHs, and VOCs. Benzo(a)pyrene [ND (0.00001) to 0.00088 mg/L], PCE (0.008 to 50 mg/L), TCE (0.004 to 9.4 mg/L), cis-1,2-dichloroethene (cis-1,2-DCE) (0.005 to 4.2 mg/L), and vinyl chloride (VC) [ND(0.01) to 0.67 mg/L] were detected above the action levels identified for this investigation in one or more of the groundwater samples.

Current Status

A Release Notification (578530-02) was filed on December 22, 1988, when evidence of contamination was observed during the removal of Tanks 20 and 21. The Release Notification (578530-02) was amended on December 8, 1989, when the source of contamination was identified as being associated with Tank 18. Contaminated soil has been removed to the greatest extent possible, but excavation was limited by the proximity of Former Building 12 and Webster Street.

IMs in this area have consisted of an air and ozone sparging pilot test conducted between March 2000 and March 2001, full-scale ozone sparging conducted between April 2003 and June 2003 and again between February 2004 and March 2005, installation of a Hydrogen-Releasing Compound® (HRC®) barrier west of Webster Street in January 2003, and re-injection of HRC® in February 2005.

RFI sampling was conducted in this area as part of the Site-wide groundwater sampling. In addition, IM sampling was conducted as part of the IM activities for this area.

2.2.1.2 AOI 2 - STILL ROOM (FORMER BUILDING 24 BASEMENT)

The Still Room (AOI 2) in the Former Building 24 basement, is presented on Plan 1A. Six USTs were located in this area. In addition, eight small aboveground storage tanks (ASTs) used for sampling material in the USTs were also located in this area.

Historical Operations

Between 1971 and 1987, a bulk storage and reclaim system was operated for chlorinated solvents used in parts degreasing operations. These solvents included TCE (1971 to 1973), PCE (1973 to 1982), and TCA (1982 to 1987). Used chlorinated solvent from the parts Degreasing Units (AOI 8) was routed to the 10,000-gallon dirty chlorinated solvent storage UST located beneath the still room floor in the basement of Former Building 24. This UST was identified as Unit 2 in the Part A permit. The used solvent was processed through the chlorinated solvent stills and the clean solvent was routed to the 3,000-gallon clean chlorinated solvent storage UST (Tank 19), also located beneath the still room floor. The USTs were located within a concrete vault and the void surrounding the USTs was backfilled with sand. Four 200-gallon ASTs were also used for sampling the clean chlorinated solvent, and to store the solvent prior to reuse between 1981 and 1987 (bulk solvent storage in underground tanks was discontinued in 1981). The clean chlorinated solvent storage tanks were identified as Unit 3 in the original Part A permit. Additional clean chlorinated solvent was delivered in trucks to the 10,000-gallon new chlorinated solvent UST (Tank 18) located west of Former Building 12 (AOI 1), as necessary to make up for product lost during the distillation process. The clean chlorinated solvent was redistributed throughout the plant via overhead piping to the parts degreasers (AOI 8).

Between 1967 and 1987, a bulk storage and reclaim system was operated for Stoddard solvents used in parts degreasing and cleaning operations. Used Stoddard solvent from the satellite cleaning units (AOI 9) and parts degreasers (AOI 8) was routed to the 10,000-gallon dirty Stoddard solvent storage UST located beneath the still room floor in the basement of Former Building 24. In some cases, dirty Stoddard solvent was first routed to a 10,000-gallon below grade tank located south of Building 7 (AOI 7), and subsequently routed to the UST in Former Building 24. The used solvent was processed through the Stoddard solvent stills and the clean solvent was routed to the 3,000-gallon clean Stoddard solvent storage UST (Tank 15) located beneath the still room floor. The USTs were located within the same concrete vault as the chlorinated solvent USTs mentioned above. Four 200-gallon ASTs were also used for sampling the clean Stoddard solvent, and to store the solvent prior to reuse between 1981 and 1987 (bulk solvent storage in underground tanks was discontinued in 1981). Additional clean Stoddard solvent was delivered in trucks to the 10,000-gallon new Stoddard solvent storage UST (Tank 20) located west of Former Building 12 (AOI 1), as necessary to make up for product lost during the distillation process. The clean Stoddard solvent was redistributed to the satellite cleaning units (AOI 9) and parts degreasers (AOI 8) via overhead piping.

The chlorinated solvent and Stoddard solvent still bottoms were routed to the 3,000-gallon still bottom scrap UST (Tank 29) located beneath the still room floor in the basement of Former Building 24, along with waste oils. This UST was identified as Unit 4 in the Part A permit. The UST was located within the same concrete vault as the chlorinated solvent USTs mentioned above. The mixture of waste solvent and waste oil was routed to the 1,000-gallon waste UST (AOI 3), located between Buildings 4 and 7, until approximately 1978. The waste mixture was then routed to the 2,000-gallon waste AST (AOI 3), located under a canopy north of Building 4. The waste mixture was also briefly stored in the 10,000-gallon spill interceptor tank north of Building 4 (AOI 6) to reduce the frequency of waste shipments. The waste mixture was sent off Site for reclamation and/or disposal.

A 10,000-gallon paint tank (Tank 16) was also located beneath the still room floor, but was not related to solvent reclaim operations. This rectangular reinforced concrete storage vault had dimensions of 17 feet x 10 feet x 8 feet, with a bottom and wall thickness of 15 inches and a top thickness of 6 inches. Tank 16 was used to contain black production paint, the primary components of which were solvents, naphtha, and zinc chromate. Tank 16 was emptied, cleaned, and taken out of service in 1990, and replaced with two ASTs located in Former Building 1A.

Previous Investigations and Remedial Actions

The following activities were performed by OHM in 1987:

1. Petro-Tite testing was performed on the 3,000-gallon clean chlorinated solvent UST (Tank 19) on December 2, 1987. This tank was found to be non-certifiable.
2. Petro-Tite testing was performed on the 3,000-gallon still bottom scrap UST on December 3, 1987. This tank was found to be certifiable.
3. Petro-Tite testing was performed on the 10,000-gallon dirty chlorinated solvent UST on December 3, 1987. The test was inconclusive.

The following activities were performed by Geraghty & Miller (G&M) in 1987 and 1988:

1. The 10,000-gallon dirty chlorinated solvent UST was emptied on February 17, 1987; an additional 2,000 gallons of water were removed on November 23, 1987 and 9 to 10 inches of sludge were removed on December 2, 1987. This material was disposed of off Site. The 3,000-gallon clean chlorinated solvent UST (Tank 19) and the 3,000-gallon still bottom scrap UST were cleaned and emptied on July 16, 1987 and November 20, 1987.

2. An indoor soil boring was installed approximately 2 feet south of the 10,000-gallon dirty chlorinated solvent UST, within the secondary containment vault, on April 6, 1988. Four soil samples (UST 2-4, UST 6-8, UST 8-10, and UST 10-12) were collected from this soil boring. A water sample was also collected from within the hollow stem augers. Compounds associated with chlorinated solvents and Stoddard solvents were reported in soil and water. The water level in the vault was approximately 20 feet above the groundwater level measured in a nearby monitoring well and is believed to have accumulated in the vault after a burst water pipe flooded this room.
3. Four monitoring wells (HD-1 to HD-4) were installed during May 1988. One soil sample (HD-3-1) was collected from 24.5 to 26.5 feet below ground surface (bgs) at HD-3 and all results were non-detect. Groundwater samples were collected from the four wells and compounds associated with chlorinated solvents were reported.

The following activities were performed by HRE in 1989:

1. The 3,000-gallon clean solvent USTs (Tanks 15 and 19) were cleaned on November 30, 1989. Tank 15 was slightly rusted and Tank 19 was deeply rusted; no holes were observed in either tank. Washwaters were discharged to the WWTP.
2. All piping to the tanks was disconnected and risers from the tanks were capped. The manway cover plates incorporated a vent riser, which was left open.

Six soil samples were collected by International Technology Corporation (IT) in 1991 by coring through the concrete paint vault (Tank 16) from the inside, one on each side and two on the bottom, and analyzed for TPH, BTEX, chromium, total organic carbon, total organic halides, chlorinated volatile organic compounds (CVOCs), and semi-volatile organic compounds (SVOCs). Soil sample results indicated the presence of some paint constituents, but mainly VOCs related to other sources.

The majority of the piping associated with the still room had been removed prior to the 1995 to 1997 decommissioning activities. The piping associated with the USTs and stills in this area had been removed in 1992, and the distribution piping had been removed in 1991. The aboveground equipment was removed as part of closure activities. The solvent storage USTs were left in place. The paint storage vault had been previously cleaned and a handrail had been installed around the vault.

Additional distribution lines were removed during demolition of Former Building 24 by the City of Dayton in July 2005. The historical use of this piping is unknown. The lines were drained, the contents were characterized, and the material was disposed off Site by GM in accordance with applicable regulations.

Current Status

GM submitted a RCRA closure plan to Ohio EPA on November 10, 1999 to close the 3,000-gallon still bottom scrap UST. The remaining USTs located in the Former Building 24 still room are regulated by, and were closed in accordance with, BUSTR requirements. All tanks within the same concrete vault as the 3,000-gallon still bottom scrap UST were closed in accordance with RCRA and consistent with BUSTR requirements. A Partial Stipulation and Settlement Agreement was reached by GM and Ohio EPA on November 1, 2000. Final Findings & Orders of the Director were filed by Ohio EPA on November 8, 2000 indicating the November 10, 1999 closure plan was approved.

Closure of the RCRA units in this area was completed in accordance with the November 10, 1999 Closure Plan. The remainder of the USTs in this area were closed concurrently, in accordance with BUSTR requirements. The "RCRA Closure Certification Report" (H&A, June 2001) was submitted to Ohio EPA on June 25, 2001, and closure was approved in a letter dated January 24, 2002. The "BUSTR Closure Assessment Report" (H&A, June 2001) was submitted to Ohio EPA on June 11, 2001, and the U.S. EPA will address the remaining tanks under the One Cleanup Approach and will seek concurrence from the State at the end of the corrective action process.

RFI sampling was not conducted in this area because the area was clean closed. However, RFI sampling associated with other AOIs was conducted nearby.

2.2.1.3 AOI 3 - WASTE TANK (EAST OF BUILDING 4)

AOI 3, the Waste Tank east of Building 4, is presented on Plan 1B. The 1,000-gallon Waste Tank (UST) between Buildings 4 and 7 was used from approximately 1966 until 1978.

Historical Operations

Chlorinated solvent and Stoddard solvent still bottoms were routed to the 3,000-gallon still bottom scrap UST located beneath the basement of Former Building 24, along with

waste oils. The mixture of waste solvent still bottoms and waste oil was then routed to a 1,000-gallon Waste Tank (UST), located between Buildings 4 and 7, and sent off Site for reclamation or disposal. Other wastes discharged to the 1,000-gallon Waste Tank (UST) included scrap oil from the garage in Building 4 and scrap kerosene from Former Building 12.

Previous Investigations and Remedial Actions

On June 30, 1971, a mixture of scrap oil and solvent overflowed from the 1,000-gallon Waste Tank (UST) between Buildings 4 and 7 and entered the storm sewer via an open grate. The oil and solvent mixture on the ground was dammed and removed.

The 1,000-gallon Waste Tank (UST) was removed in approximately 1978.

In December 1986, the 2,000-gallon Waste Tank (AST) north of Building 4 was decontaminated in accordance with the proposed Partial Closure Plan dated December 15, 1986. This involved removing residual waste oil and solvent for off-Site disposal, soaking the tank with a detergent solution for 24 hours, removing the detergent solution and discharging it to the WWTP, and double rinsing the tank with clean water.

Current Status

GM submitted a RCRA closure plan to Ohio EPA on November 10, 1999 to close the 2,000-gallon Waste Tank (AST), a 200-gallon sump, and a 10,000-gallon spill interceptor tank north of Building 4. A Partial Stipulation and Settlement Agreement was reached by GM and Ohio EPA on November 1, 2000. Final Findings & Orders of the Director were filed by Ohio EPA on November 8, 2000 recommending that the November 10, 1999 closure plan be approved. The closure plan was approved on November 30, 2000.

Closure of the RCRA units in this area was completed in accordance with the November 10, 1999 Closure Plan. The "RCRA Closure Certification Report" (H&A, June 2001) was submitted to Ohio EPA on June 25, 2001, and closure was approved in a letter dated January 24, 2002.

RFI sampling was not conducted associated with the 2,000-gallon waste tank (AST) and sump because these units were closed. However, RFI sampling was conducted associated with the 1,000-gallon waste tank (UST).

2.2.1.4 AOI 4 - HAZARDOUS WASTE STAGING AND STORAGE AREAS (BUILDING 5 AND FORMER BUILDING 24)

AOI 4, the Hazardous Waste Staging and Storage Areas in Building 5 and Former Building 24, is presented on Plans 1A and 1B. Only drum staging areas where hazardous waste was managed are included in AOI 4.

Historical Operations

The following hazardous waste storage area was located in Building 5:

1. Between 1980 and 1989, the hazardous waste storage cage in the southeast corner of Building 5 was used as a storage area for miscellaneous drummed liquid and solid hazardous waste. This area was listed as Unit 7 on the Part A permit application for the Site. The cage was approximately 19.5 feet x 18 feet in size and had a listed capacity of forty-eight 55-gallon drums (2,640 gallons total). A 4 feet x 4 feet opening in the concrete floor was located within this area, and covered by a metal plate. The cage had a poured concrete floor and was located above a basement area; no exposed soil was located beneath this area. Concrete walls were located on two sides and a floor to ceiling locked steel chain link cage formed the other two sides. There were no reported releases from this area, and an inspection of the basement ceiling did not show any evidence of a release. The perimeter of the storage cage was surrounded by a 6-inch high concrete berm on two sides, a 3-inch high metal plate on one side, and a combination of a 3-inch high metal plate and concrete wall on the fourth side. There was also a poured concrete dike around the opening in the floor.

The following hazardous waste staging/storage areas were located in Former Building 24:

1. Between 1988 and 1989, the hazardous waste storage cage near the west wall on the second floor of Former Building 24 was used for storage of drummed waste paint sludge and paint filters (D007 waste) prior to shipment for off-Site disposal. This area was listed as Unit 8A on the Part A permit for the Site. Paint wastes, containing hexavalent chromium, were collected from the paint booth and the auxiliary paint booth and transferred to 55-gallon drums. The area was approximately 63 feet x 12 feet in size and had a listed capacity of eighty-four 55-gallon drums (4,620 gallons total). The area had a poured concrete floor and several 3-foot x 3-foot openings with metal plate covers were located in this area. The area was surrounded by a steel chain link cage on three sides. The fourth

side was a concrete block wall. There were no reported releases from this area, and an inspection of the underlying first floor ceiling did not show any evidence of a release.

2. Between 1988 and 1989, the hazardous waste staging area on the first floor in the northeastern corner of Former Building 24 was used to stage drummed hazardous waste paint sludge and paint filters (D007 waste) and decant liquid prior to shipment off Site for disposal. This area was listed as Unit 8B on the Part A permit for the Site. Paint wastes, containing hexavalent chromium, were taken to the decanting area, where all free liquids were poured off and routed into the floor drain leading to the WWTP. The solid materials were shipped off Site for disposal. The area was approximately 75 x 18.5 feet in size and had a listed capacity of eighty-four 55-gallon drums (4,620 gallons total). The decanting area (approximately 30 x 14 feet) was located on the east side and had poured concrete walls on three sides and a poured concrete floor that was sloped toward a trench that was part of the WWTP collection system. The staging area (approximately 45 x 18.5 feet) was located on the west side and had a poured concrete floor. There were no reported releases from this area.

3. Between 1989 and 1995, the hazardous waste accumulation cage along the south wall on the second floor of Former Building 24 was used for less than 90-day accumulation of all drummed hazardous waste prior to shipment off Site for disposal. The area was surrounded by an 8-foot steel chain link fence. Four 20- x 30-foot cells were built on a PVC sealed single slab of concrete (that had been water leak tested), and surrounded by a 2.5-foot high steel guard rail. Paint sludges, alkalines, chlorinated solvents, and ignitables were segregated and stored in the independently locked cells. The area had a listed capacity of 17,600 gallons. There were no reported releases from this area.

Previous Investigations and Remedial Actions

In December 1996 and November 1997, the following RCRA closure activities were conducted in Units 7, 8A, and 8B consistent with the July 26, 1996 closure plan:

1. All three areas were surrounded with plastic sheeting, swept/scraped, washed with tri-sodium phosphate (TSP) and water using a stiff-bristle broom, and triple-rinsed with a high-pressure washer. Floor scrapings, washwater, rinse water, plastic sheeting, and personal protective equipment were contained in 55-gallon drums. A sample of the final rinse water was collected to verify decontamination.

2. Unit 7 was decontaminated on December 24, 1996, as described above. Based on water sampling and analysis, the final rinse water met the closure performance standard.
3. Unit 8A was decontaminated on December 19 and 20, 1996, as described above. Based on water sampling and analysis, the final rinse water met the closure performance standard.
4. Unit 8B was decontaminated on December 20 and 23, 1996, as described above. Prior to decontamination, approximately 1,500 gallons of water were observed in the truck well from stormwater and a leaking fire main. A sample of this water was collected on December 18, 1996 and was found to be non-detect for chromium. Based on water sampling and analysis, the final rinse water from the staging pad and truck well met the closure performance standard.
5. Eight soil samples were collected from five soil borings beneath Unit 8B in January 1997. Soil samples from three of the soil borings slightly exceeded the site-specific background concentration for chromium (95% upper confidence limit based on six background soil samples collected in January 1997) and therefore additional sampling activities were proposed to perform a risk assessment.
6. Sixteen soil samples were collected from eight supplemental soil borings beneath Unit 8B in September 1997. The extent of soil above site-specific background concentrations was found to be limited to four areas immediately below cracks in the concrete pad.
7. Soil that exceeded the site-specific background concentration for chromium was excavated in November 1997. Ten verification samples were collected and the 95% upper confidence limit of the verification samples did not exceed the site-specific background concentration. These results were also below the background concentration calculated for the RFI. The excavations were backfilled with clean soil.

Current Status

On January 30, 1997, the Director of the Ohio EPA approved a partial closure plan for three container storage units at the Site (Units 7, 8A, and 8B). Ohio EPA conducted a post closure inspection of all three of the former RCRA container storage units on June 19, 1997. A closure certification report for two of the units (Units 7 and 8A) was submitted to Ohio EPA on July 18, 1997. Ohio EPA acknowledged the certification for these two units in a letter dated October 30, 1997. A closure certification report for the

third unit (Unit 8B) was submitted to Ohio EPA on September 28, 1998. Ohio EPA acknowledged the certification for this unit in a letter dated December 29, 1998.

Closure of the hazardous waste accumulation area along the south wall of the second floor of Former Building 24 consisted of scrubbing and triple rinsing on March 15, 2001, and rerinsing on April 3, 2001 due to an exceedance of performance standards. Sample results for the April 3, 2001 rinse sample indicated that closure performance standards were met. Closure of this area was conducted under generator closure.

RFI sampling was not conducted associated with this AOI because the area was closed.

2.2.1.5 AOI 5 – ELECTROPLATING

AOI 5, Electroplating in Buildings 7, 9, and Former Building G-3, is presented on Plan 1B. Plating operations were conducted in Building 7 until the early 1970s, when these operations were moved to Building 9. Chrome plating was conducted briefly in Former Building G-3.

Historical Operations

Between 1928 and the early 1970s, plating operations were located in the northwestern portion of Building 7. The plating operation consisted of a series of aboveground tanks and trenches surrounding the tanks. Wastewater from the plating area was discharged to the process/sanitary sewers and then to the City of Dayton Publicly Owned Treatment Works (POTW). The tanks were removed and the trenches cemented shut when the operation was moved to Building 9. The only known chemical release from the Building 7 plating area occurred in October and December 1971, when several hundred pounds of plating solution were discharged to the process/sanitary sewer.

In the early 1970s, the plating area was relocated to the northwestern portion of Building 9. Nine electroplating lines were used in Building 9: Line 1 consisted of zinc, cadmium, copper or tin barrel plating of steel parts; Line 2 consisted of chrome electroplating of cast iron cylinders; Line 3 consisted of sulfuric acid anodizing of aluminum pistons; Line 4 consisted of cadmium electroplating of cast iron heads; Lines 5, 6, and 7 consisted of electrocleaning steel shells and cast iron heads; Line 8 consisted of tin plating brass valve assemblies; and Line 9 consisted of cadmium plating steel parts. Lines 8 and 9 were discontinued in July 1977. Chemicals used in this area included degreasing solvents, electrocleaning solution, muriatic acid, zinc electroplate (zinc chloride, ammonium chloride, and Kenvert), chromate, cadmium electroplate

(cadmium oxide, sodium cyanide, and caustic soda), copper electroplate (copper cyanide, sodium cyanide, and caustic soda), tin electroplate (sodium stannate and caustic soda), chromium electroplate (chromic acid and sulfuric acid), rustproof (Immunol), sulfuric acid, and dye. The lines consisted of a series of plating tanks and trenches surrounding each set of tanks. Tanks were generally constructed of plastic or of metal lined with rubber. Municipal water was used for the hot and cold water rinses. A sump functioned as the primary waste collection system, and was identified as Unit 9 in the Part A permit for the Site. Wastes were initially discharged to the POTW via the process/sanitary sewer system. Beginning in 1980, all liquid wastes from the plating area were transferred to the WWTP.

A small chrome plating operation was also located in Former Building G-3 prior to 1964, on the first floor (above a basement).

A plating operation was also identified in the southeastern portion of Building 7, as shown on the 1943 map in Appendix A. No further information is available regarding historical operations in this area.

Previous Investigations and Remedial Actions

A soil boring was completed in the Building 9 electroplating area on October 19, 1995, under the supervision of H&A. Various RCRA metals were detected (at levels below the action levels identified for this investigation) and cyanide was not detected.

The following repairs have been completed in the Building 9 electroplating area:

1. In 1979, it was discovered that the original basin membrane under the #3 electrocleaner basin in Building 9 had been partially dissolved. The brick, membrane, and tank piers were removed, the basin was scarified, and new acid-proofing was installed.
2. A release occurred from a plating tank in 1980, which was repaired.
3. Ongoing sump overflow problems during August and September 1988 caused the sump to be shut down. The bypass between the plating wastewater and the general oily wastewater was removed.
4. A small leak in the plating trench was repaired between March 24 to 27, 1989. The plating waste sump was also repaired at this time.

Six samples of wooden flooring material on all three floors of Former Building G-3 were collected on November 1, 1990. Two of the samples (from the first floor) were RCRA

hazardous for chromium, and PCBs were detected in all samples between 22.4 mg/kg (first floor west) and 2.25 mg/kg (third floor). The chromium contamination was removed by shaving/sanding off the contaminated portion of the wooden flooring prior to demolition of the building, and the flooring materials were removed.

All plating baths and unused chemicals had been removed from the Building 9 plating area prior to 1995. The Building 9 plating area was dismantled and cleaned during building decommissioning. The process tanks were turned on their sides and washed inside and out using pressurized hot water. Exhaust ducts and scrubbers were dismantled and sent off Site with all solid residues (which were determined to contain chromium) for landfill disposal. All of the floors and overflow trenches were cleaned using pressurized hot water. All waters generated during cleaning were collected and sent to the WWTP.

Current Status

A soil boring was completed in the Building 9 electroplating area in 1995 and no hazardous constituents were identified above action levels identified for this investigation. The Building 7 electroplating area was investigated prior to the RFI. Both areas have been cleaned and decommissioned.

RFI sampling was not conducted associated with the plating operation in Former Building G-3 because of its small size, the limited nature of the release from this operation to the floor, the lack of any evidence of a release to the environment (based on samples collected at different depths through the wooden floor, chromium contamination did not extend through the wooden floor, and the area was underlain with a basement), and the subsequent removal of this area. RFI sampling was not conducted in the plating area in Building 9 because RCRA metals identified in the 1995 sample were below action levels. RFI sampling was performed associated with the electroplating areas in Building 7.

2.2.1.6 AOI 6 - SPILL INTERCEPTORS

The locations of the five spill interceptors are presented on Plans 1A and 1B.

Historical Operations

The following spill interceptors were located at the Site:

1. A chip loading area was located at the steel dock in the northeast corner of Building 10. The spill interceptor located south of this area was installed in 1977 to contain spills of Quaker 568 coolant. A trench and sump, located outside of the steel dock truck doors, could be drained by valves to the storm sewer or the 1,000-gallon spill interceptor tank. During normal operations, both valves were closed and nothing drained from this area. In the event of a spill, the valve to the spill interceptor was opened. After a rainfall event, the valve to the storm sewer was opened. Overflow from the spill interceptor was routed to a contained area in the Building 13 basement.
2. A truck unloading area was located southeast of Building 9. Hydraulic oil and Quaker 568 coolant were unloaded in this area and routed to a 10,000-gallon AST south of Building 9, and a 10,000-gallon AST northeast of Building 10, respectively. The concrete truck unloading area was sloped towards two trench drains that could be drained by valves to the storm sewer or the 10,000-gallon spill interceptor tank, which was installed in 1977. The valve to the storm sewer was normally open. During truck unloading operations, the valve to the storm sewer was closed and the valve to the spill interceptor was opened. In the event of a spill, the trenches were flushed with water to the spill interceptor prior to returning the valves to the storm sewer position.
3. Three ASTs (2,250-gallon paint, 1,200-gallon paint, and 11,000-gallon Freon R-12) were located between Former Buildings 12 and 27, beneath a canopy. In addition, fill pipes for the solvent and refrigerant oil USTs located west and south of Former Building 12 were also located in this area. The 10,000-gallon spill interceptor was constructed in 1977 for emergency containment of spills during truck unloading. A curb was located around the area and the concrete was sloped toward a trench drain that could be drained by valves to the storm sewer or the spill interceptor tank. The valve to the storm sewer was normally open. During truck unloading operations, the valve to the storm sewer was closed and the valve to the spill interceptor was opened. This spill interceptor tank was identified as Unit 25 in the Part A permit. However, a July 14, 1987 request for revision to the Part A permit indicated that solvent had never been spilled to this spill interceptor, and that since solvent would no longer be unloaded in this area the spill interceptor should not be considered a hazardous waste tank.

4. Liquid wastes were normally dumped to the process sewer in the alley between Former Buildings G-4 and G-2. Accidental spills in this area were intercepted by the spill containment pipe and sumps, which had a combined 2,000-gallon capacity. This spill interceptor was constructed by plugging a portion of the storm sewer that was no longer in use.
5. Fill pipes for USTs (10,000-gallon paint, 3,000-gallon Stoddard solvent, and 3,000-gallon chlorinated solvent) in the Still Room (AOI 2) were located northeast of Former Building 24. The discharge pipe for the 3,000-gallon still bottom UST was also located in this area. The 600-gallon spill interceptor trench was constructed in 1977 for emergency containment of spills during truck unloading. A curb was located around the area and the concrete was sloped toward the trench drain, which could be drained by a valve to the storm sewer. The valve to the storm sewer was normally open, but was closed during truck unloading operations. The trench would have overflowed to the contained window well if the capacity was exceeded.

The spill interceptor tanks were checked on a weekly basis by the maintenance department. When a tank was observed to be more than one third full, the contents were pumped out by a contractor to an external treatment plant for proper disposal.

Previous Investigation and Remedial Activities

The spill interceptor tank north of Building 4 was cleaned and inspected on April 15, 1998. No visible cracks were observed in the concrete walls or base. The tank appeared to contain accumulated stormwater.

Current Status

GM submitted a RCRA closure plan to Ohio EPA on November 10, 1999 to close the 10,000-gallon spill interceptor tank north of Building 4 (Unit 26). A Partial Stipulation and Settlement Agreement was reached by GM and Ohio EPA on November 1, 2000. Final Findings & Orders of the Director were filed by Ohio EPA on November 8, 2000 indicating that the November 10, 1999 closure plan was approved.

Closure of the 10,000-gallon spill interceptor tank north of Building 4 (Unit 26) was completed in accordance with the November 10, 1999 Closure Plan. The "RCRA Closure Certification Report" (H&A, June 2001) was submitted to Ohio EPA on June 25, 2001, and closure was approved in a letter dated January 24, 2002. Therefore, RFI sampling

was not performed associated with this unit. RFI sampling was conducted associated with the other spill interceptors.

2.2.1.7 AOI 7 - SOLVENT STORAGE TANK (SOUTH OF BUILDING 7)

AOI 7, the Solvent Storage Tank, located south of Building 7, is presented on Plan 1B. This 10,000-gallon below grade tank was used for storage of dirty Stoddard solvent as part of a closed-loop recycling process.

Historical Operations

Between approximately 1965 and 1987, this 10,000-gallon below grade tank was used for storage of dirty Stoddard solvent as part of a closed loop recycling process. Beginning in approximately 1967, the dirty Stoddard solvent was routed from this tank (south of Building 7) to a 10,000-gallon dirty Stoddard solvent UST beneath the floor of the still room (AOI 2) in the basement of Former Building 24 for distillation and recycling. The north end of this tank was located beneath Building 7.

Previous Investigations and Remedial Actions

This tank was previously cleaned and removed from service in 1987.

Current Status

In February 1996, a RCRA closure plan for this area was prepared. This closure plan was amended and submitted to Ohio EPA on April 28, 1997. However, upon further review it was determined that this tank was part of a closed loop recycling process and should be regulated under BUSTR, not RCRA. GM submitted a letter stating this position on June 30, 1997.

The UST in this area was closed in accordance with BUSTR requirements. Therefore, RFI sampling was not conducted associated with this unit. The "BUSTR Closure Assessment Report" (H&A, June 2001) was submitted to Ohio EPA on June 11, 2001, and the U.S. EPA will address this tank under the One Cleanup Approach and will seek concurrence from the State at the end of the corrective action process.

2.2.1.8 AOI 8 - DEGREASING UNITS

AOI 8, the Degreasing Units, is presented on Plan 1A/B. These degreasing units were used between approximately 1971 and 1991 and contained chlorinated and non-chlorinated solvents.

Historical Operations

Degreasing units were formerly used at the Site between approximately 1971 and 1991. Degreasing solvents used at the Site included Stoddard solvent, chlorinated solvents (TCE in 1971 to 1973, PCE in 1973 to 1982, and TCA in 1982 to 1991), and Freon. A bulk storage and reclaim system was operated in Former Building 24 for chlorinated solvents and Stoddard solvents (AOI 2) until 1987. TCA continued to be used until July 1991. The degreasing units were phased out between 1988 and 1991 and replaced with smaller portable satellite cleaning units maintained by Safety-Kleen.

Previous Investigations and Remedial Actions

As part of decommissioning activities between 1995 and 1997, overhead lines that carried solvent-based material were cut down and sent off Site for disposal along with any remaining residues.

Current Status

Degreasing units have not been located at the Site since approximately 1991. All overhead piping related to the solvent recycling system has been removed. The degreasing units were investigated as part of the RFI.

2.2.1.9 AOI 9 - SATELLITE CLEANING UNITS

AOI 9, the Satellite Cleaning Units, consisted of small satellite cleaning units that were used throughout the Site and contained Stoddard solvent and/or petroleum naphtha.

Historical Operations

Small satellite parts cleaning units were historically used throughout the Site. Stoddard solvent was distributed to these units via overhead piping. Prior to construction of Former Building 24 in 1966, a Stoddard solvent reclaim still was operated in a structure

at the southwest corner of Former Building 8 (AOI 23). Solvent reclaim operations were later conducted in the basement of Former Building 24 (AOI 2).

Between approximately 1988 and 1995, small satellite parts cleaning units from Safety-Kleen were used throughout the Site. The units contained petroleum naphtha, a combination of mineral spirits and Stoddard solvents.

Previous Investigations and Remedial Actions

No investigation or remedial actions have been completed for the satellite cleaning units.

Current Status

The Stoddard solvent cleaning units were replaced by Safety-Kleen units beginning in approximately 1988. All overhead piping related to the solvent recycling system has been removed.

RFI sampling was not performed associated with this AOI. The satellite cleaning units were small and above ground. There is no knowledge of a release from these units and the potential for release would be low due to the small volume of solvent used in the units.

2.2.1.10 AOI 10 - PAINT WASTE ACCUMULATION AREAS (BUILDINGS 9, 10, AND FORMER BUILDING 12)

AOI 10, the Paint Waste Accumulation Areas in Buildings 9, 10, and Former Building 12, is presented on Plans 1A and 1B. Paint wastes were accumulated in these areas since the early 1970s.

Historical Operations

Since the early 1970s, there were three areas where paint waste was accumulated prior to eventual transfer to the hazardous waste staging/storage areas:

1. Paint buildup was stripped from parts hooks by soaking the hooks in a caustic solution in an unused plating tank in Building 9. The caustic solution was periodically drained to the wastewater sump in this area, and subsequently treated at the WWTP. The paint sludge was drummed and moved to the hazardous waste staging area on the first floor of Former Building 24 (Unit 8A in

the Part A permit; AOI 4). Free liquids were decanted from the drums in the hazardous waste staging area and the drums were subsequently moved to the hazardous waste storage cage on the second floor of Former Building 24 (Unit 8B in the Part A permit; AOI 4).

2. Waste paint thinner and paint filters from the maintenance paint room in Building 10 were accumulated in a drum in this area. When full, the drum was moved to the hazardous waste storage cage in Building 5 (Unit 7 in the Part A permit; AOI 4).
3. Waste paint sludge was periodically removed from the production paint room on the second floor of Former Building 12. The paint sludge was transferred into a drum on the first floor of Former Building 12 via a chute. The drums of paint sludge were moved to the hazardous waste staging area on the first floor of Former Building 24 (Unit 8A in the Part A permit; AOI 4). Free liquids were decanted from the drums in the hazardous waste staging area and the drums were subsequently moved to the hazardous waste storage cage on the second floor of Former Building 24 (Unit 8B in the Part A permit; AOI 4).

Paints historically contained solvent and chromium. In 1990 this material was replaced with a water-based paint.

Previous Investigations and Remedial Activities

Two large paint booths were removed from the paint shop located on the second floor of Former Building 12, during decommissioning activities between 1995 and 1997. All sheet metal and structural steel including the paint booth piping was sent off Site for microencapsulation and landfill disposal. Paint residues were drummed and sent off Site for landfill disposal.

Current Status

All paint systems and associated paint waste accumulation areas have been cleaned and/or removed from the Site.

The paint waste accumulation areas were investigated as part of the RFI.

2.2.1.11 AOI 11 - CHIP HANDLING AREAS

AOI 11 consists of the Chip Handling Areas in Building 9, Former Buildings G-4 and G-5 and southeast of Building 10 presented on Plan 1B. In Former Building G-4, cutting oil was used in screw machines and metal chips (steel) were generated in the machining process. This cutting oil was segregated from metal chips and reclaimed in Former Building G-5, and the chips were loaded into gondolas or rail cars for transportation off Site. A tunnel (approximately 8 x 8 feet) is located beneath the railway. Beginning in 1986, oil reclaim was conducted in Building 9 and metal chips (aluminum, cast iron and steel) were loaded into trucks in the northeast corner of Building 10 for transportation off Site. In a small building to the southeast of Building 10, gondolas filled with grinding sludges generated from aluminum, cast iron, and steel machining operations were staged to allow liquids and machine coolants to drain.

Historical Operations

Two rows of screw machines were formerly located within Former Building G-4, oriented in a north-south direction, and used cutting oil. The cutting oil (trade name Polar Kut 300 and Ashland Promax H-1130) was also known as "black oil", and had a specific gravity of approximately 0.94 and a low sulphur content. Metal chips were collected from this operation and routed to Former Building G-5 for cutting oil reclamation beginning in the 1950s. In Former Building G-5, two centrifuges separated oil from the metal chips. The dirty oil was filtered and sent to the 5,000-gallon dirty oil tank (Tank 23). The oil was then sent to the sterilizer (to remove water) and separators (to remove solids), and finally routed to the 2,000-gallon clean oil tank (Tank 22). New oil was added as necessary to make up for oil lost in the reclamation process. The reclaimed oil was sent to the 1,200-gallon service tank (Tank 17) prior to the 1970s, the 1,800-gallon service tanks (Tanks 25 and 26), and to the 8,000-gallon reserve tank (Tank 27) as necessary. After cutting oil reclaim, the metal chips were routinely loaded into rail cars on the railway siding west of Former Building G-5. The elevation of the railway siding is approximately 8 feet above the elevation of the Former Building G-5 floor. A train derailment in 1986 caused serious damage to Former Building G-4 and operations in this area were shut down.

After 1986, cutting oil reclaim operations were moved to Building 9. In the northeast corner of Building 10, metal chips (aluminum, cast iron, and steel) were loaded into trucks for transportation off Site.

In a small building to the southeast of Building 10, gondolas filled with grinding sludges generated from aluminum, cast iron, and steel machining operations were staged to

allow liquids and machine coolants to drain. Between approximately 1977 and 1980, the liquids drained to the spill interceptor tank located beneath the concrete pad. After the WWTP began operations, the liquids were drained to the general oily waste lines and pumped to the WWTP for treatment.

Previous Investigations and Remedial Actions

Soil in the vicinity of the Former Building G-5 railway siding has been observed to be saturated with oil, which was weeping from adjacent block walls. Oil has also been observed leaching into the tunnel beneath the railway. A portion of the floor in Former Building G-4 consisted of wooden floor blocks, which were also observed to be saturated with oil. In addition, stained soils were observed during removal of two of the four sumps associated with the chip conveying system in Former Building G-5.

Soil borings were completed on October 18, 1995, under the supervision of H&A. TPH concentrations in soil samples ranged from 130 to 10,000 mg/kg, and cyanide was not detected.

In 1996 and 1997, the following investigation activities were conducted:

1. Seven soil borings (B-SA9 through B-SA12, and B-301 through B-303) were drilled on June 4, 1996, and three (B-301 through B-303) were completed as monitoring wells. Soil samples were selected for TPH and SVOC analysis based on photoionization detector (PID) screening and vertical distribution. Groundwater samples were collected on June 13 and 14, 1996 from B-301 through B-303 for VOC and SVOC analysis, and approximately 1.5 feet of free product was observed in these wells in November 1996. Free product was identified in these wells again in February 1998.
2. To evaluate the extent of free product, three soil borings (B-304 through B-306) were drilled on April 21, 1997, and two (B-304 and B-305) were completed as monitoring wells. Free product was not observed in these wells. Soil samples were selected from B-306 for TPH analysis based on PID screening and vertical distribution.
3. To evaluate the extent of soil containing TPH above the action levels identified for this investigation, three Geoprobe soil borings (GP-55, GP-56, and GP-57) were drilled on April 30, 1997. Soil samples were selected for TPH analysis based on PID screening and vertical distribution.

4. TPH concentrations in soil ranged from 136 to 97,000 mg/kg. The presence of free product coincided with TPH concentrations in soil above soil saturation levels.
5. A composite sample of free product from the three wells was collected and found to contain 240 mg/kg of Aroclor 1254. The viscosity of the oil was 182 centistokes/sec at 100°F.

In 1998, the following activities were conducted consistent with a June 15, 1998 work plan:

1. Thirteen Geoprobe soil borings (GP-1 to GP-13) were completed on June 30 and July 1, 1998. Soil samples were selected for PCB analysis based on visual observation of oil and oil staining.
2. PCB concentrations in soil ranged from non-detect (below 0.01 mg/kg) to 35 mg/kg. The highest PCB concentrations coincided with a 1-inch layer of black resinous material at approximately 3.5 to 4 feet bgs in GP-7 and GP-10, within Former Building G-4.
3. The thickness of free product was measured on several occasions in 1998 at wells B-301 through B-303. Free product thickness ranged from approximately 0.3 (B-301) to 2.5 (B-302) feet. Free product was identified in well B-306 for the first time, and a sample of the free product was collected and analyzed for PCBs. The oil contained 300 mg/kg of PCBs.

In December 1999, the following activities were conducted:

1. Twelve soil borings (HA-1 to HA-12) were completed on December 3 and 9, 1999. Visible evidence of free product was identified in borings HA-1, HA-4, HA-7, and HA-10. Visual, olfactory, and/or PID field screening evidence of residual petroleum hydrocarbons were identified in borings HA-2, HA-6 and HA-8. No evidence of petroleum hydrocarbons was observed in borings HA-3, HA-5, HA-9, HA-11, and HA-12.
2. The dissolved oxygen (DO) was measured in groundwater. The aquifer is naturally oxygenated, but DO concentrations in areas where free product has been detected are depressed, suggesting natural aerobic biodegradation.

GM began removing free product in September 1999. Between September 1999 and September 2000, approximately 15.5 gallons of free product was removed from monitoring wells. This method of oil recovery was discontinued in September 2000 due

to the low recovery volume but was re-introduced in 2003 for sampling and removal purposes.

An Interim Measures Recovery System was installed in January 2000 at the northeast corner of the Site near Keowee Street and the Mad River. Two oil recovery sumps (Sump No. 1 and Sump No. 3) were constructed of 24-inch diameter, slotted PVC pipe and extend to approximately 17 feet bgs. The system was originally designed with three oil recovery sumps. Near the railway, a concrete tank with dimensions of approximately 6 x 8 feet was discovered when Sump No. 2 was being excavated. Oily sludge was observed in this tank, so the tank was cleaned and backfilled. Material removed was transported off Site for disposal. Sump No. 2 was not constructed. Oil skimmers collected free product, which was pumped to a 560-gallon storage tank located in the recovery building and subsequently disposed of off Site. The oil recovery system began operation on May 19, 2000. The high viscosity of the oil limited the recovery rate. Based on the limited oil recovery from the automated skimming system [as described in the "Delineation of Area of LNAPL Monitoring Plan – Former Chip Handling Areas and Hydromation Pit Area" (H&A February 18, 2005)] and with concurrence from the U.S. EPA, GM shut down the automated Free Product Recovery on July 19, 2005. Between May 2000 and July 2005, approximately 384 gallons of free product was removed using sumps connected to the free product recovery system and manual recovery efforts.

GM installed a barrier wall between November 2001 and January 2002 in accordance with the "Construction Monitoring Summary and As-Built Report, Barrier Wall Installation" (H&A, October 28, 2002) to prevent any possible migration of free product toward the Mad River.

Current Status

LNAPL delineation investigation and modeling was conducted as part of the RFI. The findings of this investigation are summarized in the documents "Delineation of Area of LNAPL & LNAPL Monitoring Plan – Former Chip Handling Areas and Hydromation Pit Area" (H&A, February 18, 2005) and "LNAPL API Investigation Model Results" (H&A, July 28, 2005).

2.2.1.12 AOI 12 - CUTTING OIL USTs (BENEATH FORMER BUILDING G-4)

AOI 12, the Cutting Oil USTs below Former Building G-4, is presented on Plan 1B. Six USTs, ranging in capacity from 1,200 to 8,000 gallons, were located beneath the G-4 floor and were used to store cutting oil used in the machining process.

Historical Operations

A 2,000-gallon UST (Tank 22) and a 5,000-gallon UST (Tank 23) that contained black cutting oil from the reclaim system were located along the northern wall of Former Building G-4 and were removed in December 1988. Tank 23 was used for storage of dirty cutting oil after use in manufacturing operations. Tank 22 was used for storage of clean cutting oil from the reclaim system prior to reuse.

One 1,200-gallon UST (Tank 17) was located on the west side of Former Building G-4 and was abandoned in place in 1977. One 8,000-gallon UST (Tank 24) and two 1,800-gallon USTs (Tanks 25 and 26) were also located on the west side of Former Building G-4, in a concrete vault with pipe/chase openings to a small basement area. These three USTs were removed in December 1988.

Previous Investigations and Remedial Actions

Tanks 24, 25, and 26 were not used after December 1986, when manufacturing operations were relocated from the Former G-Buildings. Tanks 24, 25, and 26 were enclosed within a concrete vault and no evidence of a release to the concrete vault was observed during removal of the tanks in December 1988. The sand bedding material within the concrete secondary containment vault was clean and dry.

Tanks 22 and 23 were permanently taken out of service in December 1986, when manufacturing operations were relocated from the Former G-Buildings. On December 16, 1988, approximately 50 gallons of oily sludge and rainwater were removed from the surface of the backfill adjacent to the tanks and pumped to the WWTP. The tanks and associated black, discolored soil were excavated between December 17 and 20, 1988. Although it was originally believed that these tanks had been contained within a concrete vault, no secondary containment was identified during excavation. Notifications were made of a release on December 21, 1988. A composite sample of the excavated soil had a TPH concentration of 708 mg/kg. An inadvertent transfer of cutting oil to the tanks recontaminated the excavation, which was re-cleaned by flushing with water.

Historical soil and groundwater sampling was conducted by H&A as discussed in Section 2.2.1.11.

Current Status

Tank 17 was closed in place in 1977. There is no documentation of a release from this UST.

Tanks 24, 25, and 26 were enclosed within a concrete vault and no evidence of a release was observed during removal of the tanks.

A Release Notification (578530-01) was filed on December 21, 1988 regarding Tanks 22 and 23. Soil contamination in this area may be due to a release from the USTs and/or a release associated with the Chip Handling Areas (AOI 11).

IMs in this area were conducted as discussed in Section 2.2.1.11. LNAPL delineation investigation and modeling was conducted as part of the RFI. The findings of this investigation are summarized in the documents "Delineation of Area of LNAPL & LNAPL Monitoring Plan – Former Chip Handling Areas and Hydromation Pit Area" (H&A, February 18, 2005) and "LNAPL API Investigation Model Results" (H&A, July 28, 2005).

2.2.1.13 AOI 13 - OIL HOUSE (BUILDING 13)

AOI 13, the Oil House (Building 13), is presented on Plan 1B. This building was used as a pump house for distribution of bulk liquids throughout the Site.

Historical Operations

Building 13 was used as a pump house to store and move certain bulk liquids to their usage points throughout the Site. A sump and trench system in the basement of Building 13 was previously observed to contain oily product and oil staining has been observed on the brick basement walls.

One 10,000-gallon UST (Tank 7) was located beneath Building 10, immediately adjacent to Building 13. Tank 7 contained Quaker 568 coolant. This UST was removed in December 1992.

Four 10,000-gallon USTs (Tanks 8 to 11) were located beneath Building 13. Tank 8 contained Stoddard solvent, Tank 9 contained S-9 blending oil, Tank 10 contained mineral oil (until 1980), and Tank 11 contained cutting oil. These USTs were removed in December 1989.

Two kerosene USTs, 500-gallon (Tank 27) and 1,000-gallon (Tank 28), were located south of Building 13. Tank 28 was removed by May 8, 1986, but Tank 27 could not be located during this excavation. It was believed that this tank was removed during earlier building renovations in 1979.

Previous Investigations and Remedial Actions

The following activities were performed by HRE in 1989:

1. Tanks 8 to 11 were cleaned on November 28 and 29, 1988. Tank 11 was recleaned on December 5, 1989, due to a heavy residual asphalt-like petroleum cake on the interior of the tank. Washwaters were discharged to the WWTP.
2. The concrete covering Tanks 8 to 11 was removed and the tanks were excavated between December 1 and 2, 1989. The tanks appeared to be moderately rusted and pitted but no perforations were observed. No evidence of soil contamination was observed. Tanks 8 to 11 were cut into small segments using hydraulic shears on December 12 and 13, 1989, and transported off Site for recycling via smelting.
3. Two samples were collected from backfill beneath each tank impression on December 2, 1989. Sample results were received on January 18, 1990; TPH concentrations ranged from 45 to 11,700 mg/kg and xylenes were detected in one sample at 0.02 mg/kg.
4. An exploratory trench was excavated through the backfill beneath the tank impressions. The backfill in the vicinity of the tanks did not appear to be contaminated, but approximately 4 feet below the level of the tank bottoms, the backfill became darker and petroleum odors were observed. This suggested that the TPH contamination was unrelated to Tanks 8 to 11. The tank cavity was not backfilled because it was undecided whether a new tank farm would be located in this area.

The following activities were performed by Environmental Quality Management, Inc. (EQ) and their tank removal subcontractor, Reliable Construction Services (Reliable), in 1992 and 1993:

1. After Tank 7 was last used in January 1992, GM transferred the remaining product into containers for use at the plant. The tank was cleaned by Brand Precision Services of Dayton (Brand) in December 1992 and all washwaters were transferred to the WWTP.
2. The concrete floor covering Tank 7 was removed and the tank was excavated in December 1992. A hole was observed on the top of the tank, apparently above the high level of the tank when full. Slight staining and a petroleum odor were observed on the floor of the excavation. Tank 7 was cut into small segments and transported off Site for recycling via smelting.
3. Three samples were collected from the Tank 7 excavation, and one sample was collected from the suction pipe run on December 18, 1992. Samples were analyzed for TPH and results were received on January 6, 1993; TPH concentrations ranged from 900 to 63,800 mg/kg. In addition, two of the four samples from the excavation were fingerprinted against samples of the Quaker 568 coolant product that had been stored in the tank; the coolant product was not identified in one of the soil samples and the second fingerprint analysis was inconclusive.
4. Twenty-five samples were collected from the excavated soil stockpile and composited into a single sample for waste characterization. The waste was found to be non-hazardous and approved for landfill disposal. The waste sample had a TPH concentration of 1,840 mg/kg.

Water had accumulated in the basement near the sump and trench system, and grab samples were collected. No volatiles were detected, but PCBs were detected at 1.09 mg/L. All water was collected and sent off Site for disposal as part of decommissioning in 1995 to 1997.

Historical soil and groundwater sampling was conducted by H&A as discussed in Section 2.2.1.11.

Current Status

A Release Notification (578530-02) was amended on January 18, 1990 after receiving sample results from the excavation associated with Tanks 8 to 11. No evidence of contamination associated with the tanks was observed during tank removal. Soil

contamination in this area may not be due to a release from the USTs. The soil immediately beneath the tanks showed less evidence of contamination than that approximately 4 feet below the tanks.

A Release Notification (578530-04) was submitted on December 18, 1992 because evidence of contamination was observed during removal of Tank 7. Soil contamination in this area may not be due to a release from the UST. The soil immediately surrounding the tank showed less evidence of contamination than that further from the tank. Similarly, TPH and VOC concentrations in soil samples within the tank area were lower than concentrations in soil samples to the south and west. In addition, fingerprint analyses were performed comparing the constituents in the soil to the former tank contents; one of the soil sample results did not correspond to the product sample results, and the second test was inconclusive.

IMs in this area were conducted as discussed in Section 2.2.1.11. LNAPL delineation investigation and modeling was conducted as part of the RFI. The findings of this investigation are summarized in the documents "Delineation of Area of LNAPL & LNAPL Monitoring Plan – Former Chip Handling Areas and Hydromation Pit Area" (H&A, February 18, 2005) and "LNAPL API Investigation Model Results" (H&A, July 28, 2005).

2.2.1.14 AOI 14 - HYDRAULIC OIL AND COOLANT USTs (EAST OF BUILDING 10)

AOI 14, the hydraulic oil and coolant USTs east of Building 10, is presented on Plan 1. Tank 5 was a 10,000-gallon hydraulic oil UST and Tank 6 was a 10,000-gallon coolant UST.

Historical Operations

Tank 5 was a 10,000-gallon UST used to store hydraulic oil. This UST was installed in 1972, last used in January 1992, and removed in December 1992.

Tank 6 was a 10,000-gallon UST used to store Cimcool coolant. This UST was installed in 1972, last used in December 1988, and removed in December 1989.

Previous Investigations and Remedial Actions

The following activities were performed by HRE in 1989:

1. Tank 6 was cleaned on November 28, 1989. Washwaters were discharged to the WWTP. An opening was cut in the bottom of the tank to collect a preliminary soil sample, but oily water began to enter the tank and therefore the opening was plugged.
2. The asphalt pavement covering Tank 6 was removed and the tank was excavated between November 28 and 30, 1989. The tank appeared to be in good condition, but the soil surrounding the tank was stained and petroleum odors were observed. Oily water was also observed in the bottom of the excavation and was removed and discharged to the WWTP. The soil staining and the appearance of the oils in the tank cavity did not match the former Tank 6 contents. Tank 6 was cut into small segments using hydraulic shears on December 12 and 13, 1989, and transported off Site for recycling via smelting.
3. Six samples were collected from the Tank 6 excavation on November 30, 1989, and four representative samples were selected for analysis. Sample results were received on January 18, 1990; TPH concentrations ranged from 2,900 to 130,000 mg/kg and toluene was detected in one sample at 0.072 mg/kg. In addition, analytical results for two soil samples were compared to analytical results for one coolant sample and, while both contained petroleum hydrocarbons, none of the compounds identified in the coolant sample were identified in the soil samples.
4. Because Tank 6 was not believed to be the source of the observed soil contamination, the open tank cavity presented a safety hazard, and the adjacent Tank 5 was still in use, the tank cavity was backfilled after the samples had been collected. Analytical results of a sample of the backfill material placed in the excavation indicated TPH was not detected (below 5 mg/kg), and xylenes were detected at 0.0203 mg/kg.
5. Six samples were collected from the stockpiled soil from the excavation and composited into a single sample for waste characterization. Analytical results indicated a PCB concentration of 27 mg/kg.

The following activities were performed by IT in 1991:

1. Twelve composite samples (one from each approximately 10 cubic yard pile) were collected from the soil pile excavated during removal of Tank 6 on February 27, 1991. PCB concentrations ranged from 7.42 to 207 mg/kg.
2. A statistical evaluation of the PCB sample results was performed, and the results were not significantly different from 50 mg/kg. Therefore segregation and further sampling of the soil stockpile was recommended to evaluate whether disposal as a TSCA waste would be required.

The following activities were performed by EQ and their tank removal subcontractor, Reliable, in 1992 and 1993:

1. After Tank 5 was last used in January 1992, GM transferred the remaining product into containers for use at the plant. The tank was cleaned by Brand in December 1992 and all washwaters were transferred to the WWTP.
2. The asphalt pavement covering Tank 5 was removed and the tank was excavated in December 1992. The tank appeared to be in fair condition, with some corrosion and pitting. No evidence of contamination was observed in the tank excavation. Tank 5 was cut into small segments and transported off Site for recycling via smelting.
3. Six samples were collected from the Tank 5 excavation, two samples were collected from the suction pipe run, and three samples were collected from the fill pipe run on December 22, 1992. Samples were analyzed for TPH and results were received on January 6, 1993; TPH concentrations ranged from 6 to 49,200 mg/kg. In addition, four of the six samples from the excavation were fingerprinted against samples of the Polar H0215A hydraulic oil product that had been stored in the tank; the hydraulic oil product was not identified in the soil samples.
4. Five samples were collected from the excavated soil in the rolloff box and composited into a single sample for waste characterization. The waste was found to be non-hazardous and approved for landfill disposal. The waste sample had a TPH concentration of 1,730 mg/kg.

Historical soil and groundwater sampling was conducted by H&A as discussed in Section 2.2.1.11.

Current Status

Soil contamination in this area may not be due to a release from the USTs. The soil immediately surrounding the tanks showed less evidence of contamination than that further from the tanks. In addition, fingerprint analyses were performed comparing the constituents in the soil to the former tank contents; the soil sample results did not appear to correspond to the product sample results.

IMs in this area were conducted as discussed in Section 2.2.1.11. LNAPL delineation investigation and modeling was conducted as part of the RFI. The findings of this investigation are summarized in the documents "Delineation of Area of LNAPL & LNAPL Monitoring Plan – Former Chip Handling Areas and Hydromation Pit Area" (H&A, February 18, 2005) and "LNAPL API Investigation Model Results" (H&A, July 28, 2005).

2.2.1.15 AOI 15 - HYDRAULIC OIL UST (SOUTH OF BUILDING 9)

AOI 15, the hydraulic oil UST south of Building 9, is presented on Plan 1B. Tank 4 was a 10,000-gallon UST used to store hydraulic oil.

Historical Operations

One 10,000-gallon UST, Tank 4, was removed from the southeast corner of Building 9. Tank 4 was used to store hydraulic oil between approximately 1971 and 1982, and was removed in December 1989.

Previous Investigations and Remedial Actions

The following activities were performed by HRE in 1989:

1. Tank 4 was cleaned on November 29, 1988. No evidence of leaking was observed. Washwaters were discharged to the WWTP.
2. The concrete pad covering Tank 4 was removed and the tank was excavated between December 2 and 4, 1989. The tank appeared to be in good condition. Tank 4 was cut into small segments using hydraulic shears on December 12 and 13, 1989, and transported off Site for recycling via smelting.
3. Four samples were collected from the Tank 4 excavation on December 4, 1989. Because further excavation was limited by the Building 9 foundation and the

acid tank, the open tank cavity presented a safety hazard, and no evidence of contamination had been observed during excavation, the tank cavity was backfilled after the samples had been collected. Sample results were received on January 18, 1990; TPH concentrations ranged from 120 to 1,100 mg/kg and BTEX was not detected (below 0.005 mg/kg).

4. The tank cavity was filled with clean backfill material. BTEX and TPH were not detected in a sample taken of the backfill material.

Four soil borings were completed by H&A in June 1996 and an additional eight soil borings were completed in September 1996. Soil samples were collected from these borings and analyzed for TPH and SVOCs. TPH concentrations ranged from 33 to 3,790 mg/kg and various PAHs were reported.

Current Status

A Release Notification (578530-02) was amended on January 18, 1990 after receiving sample results from the excavation associated with Tank 4. Soil contamination in this area may not be due to a release from the UST. No evidence of contamination was observed during tank removal, and sample results from the tank area did not exceed action levels identified for this investigation. Elevated levels of TPH in soil in this area are attributed to another source, possibly process sewers located south of Tank 4.

RFI sampling was conducted associated with the process sewers (AOI 19) in this area.

2.2.1.16 AOI 16 - FUEL USTs (NEAR BUILDING 4)

AOI 16, the fuel USTs near Building 4, is presented on Plan 1B.

Historical Operations

Three USTs were installed to the north and west of Building 4 in approximately 1974. The 10,000-gallon UST (Tank 12) was used for the storage of unleaded gasoline until January 1992. The 5,500-gallon UST (Tank 13) was used for the storage of regular gasoline until approximately 1989, when diesel fuel storage originally in Tank 14 was transferred to this tank. Diesel fuel was stored in Tank 13 until February 1992. The 2,000-gallon UST (Tank 14) was used for the storage of diesel fuel between approximately 1977 and 1989, when it was removed. The fill ports and fuel pumps associated with these USTs were located beneath a canopy to the north of Building 4.

Any spills within the area under the canopy were collected in the trench drains and routed to a 10,000-gallon spill interceptor tank (AOI 6), which has undergone RCRA closure under Ohio EPA (approved in a letter dated January 24, 2002).

Previous Investigations and Remedial Activities

The integrity of the fuel USTs was checked on a monthly basis by measuring the actual fuel level change over the month (by sticking at the beginning and end of each month) and comparing this to the inventory change over the month (by subtracting amount dispensed from amount purchased). A leak, if any, would be signified by a consistent negative variance in this comparison. No leaks were identified between installation and June 1982.

Removal of Tank 14

The following activities were performed by OHM in 1989:

1. Tank 14 was removed between November 20 and 22, 1989. No evidence of contamination was observed.
2. One sample was collected from each end of the Tank 14 excavation and one sample was collected from the pipe trench on November 21, 1989. Sample results were received on December 7, 1989; TPH concentrations ranged from 21.7 to 1,400 mg/kg and BTEX was not detected.
3. Additional soil was excavated and one sample was collected from each end of the Tank 14 excavation and one sample was collected from the pipe trench on December 11, 1989. Sample results were received on January 15, 1990; TPH and BTEX were not detected.

Based on these results, GM notified the Division of State Fire Marshal of a release on December 7, 1989. A follow-up letter was sent on January 25, 1990 (with the January 22, 1990 OHM report attached), indicating that all residual contamination had been removed and that GM believed that no further remediation was necessary.

Removal of Tanks 12 and 13

The Miami Conservancy District (MCD) completed a soil boring on the Mad River levee adjacent to the Site on June 14, 1982. This boring was located downgradient (north) of Tank 12. An odor similar to diesel fuel was encountered at approximately 728 feet (immediately above the water table).

The following activities were performed by EQ and their tank removal subcontractor, Reliable, in 1992 and 1993:

1. After Tanks 12 and 13 were last used in January and February 1992, GM transferred the remaining product into containers for use at the plant. Tank 12 was cleaned by Brand and Tank 13 was cleaned by Reliable in December 1992; all washwaters were transferred to 55-gallon drums for off-Site disposal.
2. The pavement covering Tanks 12 and 13 was removed and the tanks were excavated in December 1992. Tanks 12 and 13 were observed to be in good condition, with moderate corrosion. Backfill surrounding the tanks was visibly clean and no odors were observed. However, groundwater was encountered at approximately 11 feet bgs; the soil was observed to be stained at the water table and petroleum odors were observed. The tanks were cut into small segments and transported off Site for recycling via smelting.
3. Two soil samples were collected from the excavation for Tanks 12 and 13 (sampling was limited by sheet piling installed to protect building foundations), one soil sample was collected from the suction pipe run, two soil samples were collected from the pump pad, and one water sample was collected from the bottom of the excavation on December 14, 1992. Samples were analyzed for TPH, BTEX, and/or PAHs and results were received on January 6, 1993. In soil samples TPH concentrations ranged from non-detect (below 5 mg/kg) to 162 mg/kg. Elevated detection limits for BTEX were reported in soil samples from the excavation due to non-target organics and the highest detected BTEX concentrations in soil were 0.196, 0.21, 0.22, and 1.58 mg/kg, respectively. In the water sample, toluene was reported at 2.050 mg/kg, ethylbenzene was reported at 2.35 mg/kg, xylenes were reported at 13.42 mg/kg, naphthalene was reported at 0.11 mg/kg, and phenanthrene was reported at 0.032 mg/kg.
4. Five samples were collected from each of the two rolloff boxes and composited into a single sample from each rolloff box for waste characterization. The waste was found to be non-hazardous and disposed of off Site. The waste sample had a TPH concentration of 424 to 2,220 mg/kg.

Current Status

A Release Notification (578530-02) was amended on December 7, 1989 after receiving sample results from the excavation associated with Tank 14. Additional soil was excavated to remove residual contamination, and a "No Further Action" letter dated August 2, 1993 was received from BUSTR for Tank 14.

A Release Notification (578530-03) was submitted on December 14, 1992 because evidence of contamination was observed during removal of Tanks 12 and 13. Soil contamination in this area may not be due to a release from the USTs. The soil immediately surrounding the tanks showed less evidence of contamination than soil further from the tanks. In addition, non-target organics caused elevated detection limits for BTEX.

RFI sampling was conducted in this area.

2.2.1.17 AOI 17 - REFRIGERANT OIL USTs (SOUTH OF FORMER BUILDING 1A)

AOI 17, the refrigerant oil USTs south of Former Building 1A, is presented on Plan 1A. Two 20,000-gallon USTs were located south of Former Building 1A (and Former Building 12).

Historical Operations

Two 15,000-gallon USTs were installed south of Former Building 1A (and Former Building 12) in February 1974. The tanks were encased in a concrete vault backfilled with sand. During installation of these tanks, a storm sewer line was encountered and was rerouted to the east to allow installation of the tanks. These tanks were used for storing refrigerant oil, which contains no hazardous constituents.

Two 20,000-gallon USTs (Tanks 1 and 2) were installed in the former location of the two 15,000-gallon USTs in approximately 1979. These USTs were used for storing refrigerant oil. The original USTs were replaced because water had been identified in the tanks and a leak was suspected.

Previous Investigations and Remedial Actions

The following activities were performed by G&M and their subcontractor, Fryman-Kuck General Contractors Inc. (Fryman-Kuck), in September 1993:

1. Tanks 1 and 2 were cleaned by Brand. All washwaters were transferred to the WWTP.
2. Concrete overlying Tanks 1 and 2 was removed, and the tanks were excavated. Some corrosion was observed at the bottom of the tanks, but no evidence of a

release was observed. The tanks were cut into pieces and transported off Site for recycling via smelting. The soil was excavated into two stock piles, the west pile being the upper 6 feet of soil and the east pile being the lower 9 feet of soil, and seven random grab samples from each pile were collected and composited. The samples were analyzed for TPH, which was reported at 1,410 mg/kg in the west pile and 215 mg/kg in the east pile. The lower soil was below the action level identified for this investigation (380 mg/kg) for TPH and therefore, no further action was necessary at this location.

3. Two 2-inch diameter dispenser pipes were removed between the tanks and the outer wall of Former Building 12 by cutting the pipes where they ran under Former Building 12 and pulling the pipes into the tank excavation. Two fill pipes and two vent pipes were removed in the same manner. No corrosion, pitting, or holes were observed on the pipes. One soil sample was collected along the fill and dispenser pipe runs and at the fill port by cutting the overlying concrete and collecting the soil sample with a trowel. The samples were analyzed for TPH, which was reported at 311, 105, and 878 mg/kg along the dispenser lines, the fill lines, and at the fill port, respectively. The only sample that exceeded the action level identified for this investigation (380 mg/kg) for TPH was collected adjacent to the fill port.
4. Groundwater encountered during the excavation was pumped out and transferred to the WWTP. BUSTR staff indicated that collection of a groundwater sample was not necessary due to the tank contents. No evidence of contamination was observed during tank removal activities, so the excavation was backfilled with gravel (to the water table) and a sand and gravel mix (to within 1 foot of the surface). The sample collected of the backfill material placed in the excavation had a TPH concentration of 49 mg/kg. Following compaction, the concrete paving in the area was repaired by installing 12 inches of reinforced concrete.

Current Status

A Release Notification (578530-05) was submitted on September 24, 1993 after receiving sample results from the excavation associated with Tanks 1 and 2. A "No Further Action" letter dated March 9, 1998 was received from BUSTR.

These USTs have been closed under BUSTR and no hazardous constituents were stored in the tanks. Therefore, RFI sampling was not be performed associated with this AOI.

2.2.1.18 AOI 18 - STORM SEWERS

AOI 18, the storm sewers, is presented on Plan 1A/B, Figure 2.2a, and Figure 2.2b. Historical outfall and storm sewer interceptor locations are also presented on this plan.

Historical Operations

Non-contact cooling water and stormwater runoff were historically discharged to the Mad River via Outfalls 001 through 010. Outfall 011 replaced Outfalls 005 through 010 for monitoring purposes in the late 1980s, although no change occurred to the storm sewer network. Storm sewer interceptors were installed upstream of the outfall locations in approximately 1977. Outfalls 001, 002, and 003 were equipped with valves to ensure that during high water levels in the Mad River a backup of river water onto the Site could be prevented. In particular, Outfall 001 could be shut off and water from the basement sumps in Former Building 24 would then be routed to storm sewers on Taylor Street.

Basement dewatering sumps were used throughout the Site. These sumps generally consisted of a concrete sump equipped with a float switch and sump pump that discharged to the storm sewer. A few of the basement dewatering sumps discharged to the process sewer system, which is described in Section 2.2.1.19. In the Building 13 basement, two sumps were connected via a trench and one sump pump was used for both.

In addition to non-contact cooling water and stormwater runoff, various processes have historically discharged to the storm sewers. In 1971, Delphi identified various connections allowing discharges of process wastewater to the storm sewers. These connections were eliminated and process wastewater was routed to the process or sanitary sewers in approximately 1971. Washwaters were also historically discharged to the storm sewer, notably from the "buggy" cleaning area north of Building 7.

The following releases have occurred, or are suspected to have occurred, to the storm sewers:

1. On June 30, 1971, a mixture of scrap oil and solvent overflowed from the waste tank in the north alley (between Buildings 4 and 7) and entered the storm sewer via an open grate. The oil and solvent mixture on the ground was dammed and removed.
2. On July 31, 1975, approximately 1,000 gallons of PCE overflowed from Tank 18, located east of Webster Street. A portion of the PCE saturated the ground

surrounding the vent pipe, and the remainder entered the storm sewer at Outfall 004 and a catchbasin on Webster Street approximately 80 feet to the south. The outfall from the 72-inch City of Dayton storm sewer to the Mad River was observed and no evidence of contamination (e.g., color, oil, odor) was identified.

3. On September 5, 1975, approximately 10 to 15 gallons of refrigerant oil overflowed from Tank 3, located east of Webster Street. A portion of the oil entered the storm sewer at Outfall 004. A smaller portion entered a catchbasin on Webster Street approximately 80 feet to the south. The outfall from the 72-inch City of Dayton storm sewer to the Mad River was observed and no evidence of oil was identified.
4. On May 24, 1990, a white discoloration was observed in the Webster Street 72-inch storm sewer to the Mad River. The source of the release was identified as a rotofinish process within the manufacturing plant. It was estimated that a maximum of 200 gallons could have been discharged.
5. On October 15, 1990 a sump backed up causing a release of process wastewater (including coolant, tramp oil, and rotofinish process water). Process drains in the area were cleaned and a sump was disconnected.
6. On July 1, 1992 a process sewer leaked in the vicinity of a storm sewer manhole located near the southwest corner of Building 5, causing a periodic discharge of oily process wastewater (including coolant, tramp oil, and parts cleaning solution). The sewer was repaired and other lines in the area were assessed for damage.
7. On October 23, 1992 a plug between the storm and process sewer lines near Interceptor 9 failed. Approximately 20 gallons of cutting and/or machining oil was discharged to the City storm sewer outfall. The plug was repaired.
8. On March 4, 1993 a catastrophic failure of an 8-inch fire line in Former Building 24 resulted in flooding of a water soluble oil recirculation system. A portion of this oil may have entered the storm sewer.
9. The concrete pad for the battery charging station between Buildings 2 and 3 was observed to have deteriorated. This may have allowed a release to the storm sewer in this area.

Previous Investigations and Remedial Actions

The following investigations have been performed in the storm sewers:

1. Sewer lines were dye-tested in the late 1970s to identify and eliminate cross-connections between storm and process/sanitary sewers.
2. Sediment and water in storm sewers along Taylor Street were sampled in May and June 1993. PCE was detected at 0.036 to 0.426 mg/kg in sediment and <0.001 to 0.119 mg/L in water; TCE was detected in one sediment sample at 0.026 mg/kg and in water samples at <0.001 to 0.0264 mg/L; and TCA was not detected in sediment (below 0.025 mg/kg) but was detected at <0.001 to 0.0229 mg/L in water. The storm sewer interceptors in this area were cleaned of sediment in May 1993, and composite TCLP sample results indicated a PCE concentration of 3.96 mg/kg.
3. A sewer was excavated in Building 2 in July 1992. PCBs were detected in excavated soil at 1.59 mg/kg.
4. Wooden sewers were identified along Amelia Street near Buildings 5 and 7 during repair work.
5. Sediment from sumps in Former Building 24 was sampled in February 2000. PCB concentrations ranged from non-detect (at 0.65 mg/kg) to 23.5 mg/kg.

The following remedial actions have been performed in the storm sewers:

1. Storm sewer interceptors were installed in approximately 1977 to prevent oil discharges to the City storm sewer and the Mad River. The locations of these interceptors are shown in Figures 2.2a and 2.2b.
2. Between September 6 and 18, 2000 the storm sewer interceptor near Outfall 001 (Interceptor 1) was cleaned, plugged, and filled with grout. Outfall 001 is no longer operational. Due to the presence of PCBs and VOCs in sediment in storm sewers at the Site, a rinse sample was collected after cleaning the interceptor and before plugging the pipe. No VOCs were detected, and PCBs were reported at 0.0308 mg/L in rinse water.
3. A portion of the storm sewers along Webster Street was cleaned in August 2004 and the storm sewers located between Webster and Taylor Street were cleaned and abandoned in January 2006 as discussed in "Storm Sewer Abandonment" (CRA, 2006), and as summarized in Section 2.3.1.

Current Status

Storm sewers at the Site were not cleaned or abandoned as part of GM's 1996 building decommissioning. The basement sumps are not currently operating. The storm sewers between Webster and Taylor Streets were cleaned and abandoned. The storm sewers along Taylor Street were cleaned. The storm sewers along Taylor Street and to the east remain in operation.

RFI sampling was performed associated with this AOI.

2.2.1.19 AOI 19 - PROCESS SEWERS

AOI 19, the process sewers, is presented on Plan 1A/B.

Historical Operations

Historically, sanitary and process sewers were combined and discharged to the City of Dayton POTW. In 1981, the WWTP began treating process waste prior to discharging this wastewater to the City of Dayton POTW. To allow operation of the WWTP, process sewer lines were divided into plating waste (from the plating waste sump in Building 9) and general oily waste (including waste coolant, drainage from grinding sludge, and mop water) from the remaining locations at the Site. These waste streams were routed separately to the WWTP. Overhead sanitary sewers were installed, and sanitary waste was segregated and discharged directly to the City of Dayton POTW.

Previous Investigations and Remedial Actions

Process sewers east of Taylor Street were cleaned between October 1995 and January 1996, as part of decommissioning. The sewers were generally cleaned from upstream to downstream using a wash truck fitted with a jet nozzle (small diameter sewers), or a sewer jet truck (large diameter sewers). Water generated was decanted from the vacuum trucks to the WWTP, and sludge was disposed of off Site.

Process sewer cleaning west of Taylor Street was initiated on February 1, 1996, using the same methods as were employed east of Taylor Street. On February 2, 1996, three of the manholes near the still room in Former Building 24 were found to contain up to 10 feet of sludge. As the sludge was being removed, using pressurized hot water and a vacuum truck, a solvent odor was encountered. A grab sample of sludge from each manhole was collected and composited prior to analysis. Sample results indicated concentrations of

TCE (11,200 mg/kg), cis-1,2-DCE (737 mg/kg), and PCE (7,980 mg/kg). Process Manhole #4 did not have a solid bottom. Shortly thereafter, solvents and PCBs were detected in the WWTP, and the sewer cleaning procedure was modified as follows:

1. All remaining process sewer manholes were sampled for PCBs, VOCs, SVOCs, and metals. The solid sludges were collected directly into drums for off-Site disposal.
2. After the solid sludges were collected from manholes, the sewers were cleaned using pressurized water.
3. The sewers were sampled using a "trickle testing" method, which involved passing clean potable water through the sewers and analyzing the water discharged. Ten of the 18 sewer lines tested exhibited detectable levels of PCBs in the "trickle test" sample.

On June 27, 1996, it was identified that Manhole #27 in Former Building 1A did not have a solid bottom. Soils at the bottom of the manhole were sampled and results indicated the presence of the PCB Aroclor 1254 at 67.8 mg/kg. A temporary concrete bottom was placed in this manhole to allow sewer cleaning to proceed.

A section of abandoned process sewer projected from the wall in the basement of Former Building 12. The floor was covered with approximately 1 inch of oily sludge adjacent to this sewer. A grab sample was collected, and found to contain non-hazardous levels of VOCs, hazardous levels of metals (arsenic, cadmium, chromium, and lead), and PCBs at a concentration of 18.6 mg/kg. The floor was washed with pressurized hot water, and the solids collected were sent off Site for incineration. This sewer line was cut and plugged.

Soil samples collected as part of investigations associated with AOI 15 (Tank 4), south of Building 9, indicated elevated TPH levels. The TPH did not appear to be related to Tank 4 but may have been related to nearby process sewers. No Further Action has been requested for Tank 4. Additional detail is presented in the "Current Conditions Report" (CRA, June 8, 2001).

Current Status

All gravity process sewers were cleaned and abandoned during decommissioning between 1995 and 1997. All aboveground force main process sewers were removed and disposed of off Site. All process manholes, sewer pits and sumps Site-wide were filled with concrete at or near grade. The process sewer lines located along Webster Street and

Amelia Street were cleaned and returned to the City of Dayton for future use as sanitary sewers.

RFI sampling was completed associated with the process sewer manholes near the still room in Former Building 24 (AOI 2), and Manhole #27 in Former Building 1A. In addition, RFI sampling was completed associated with the sewers south of Tank 4 (AOI 15) due to elevated TPH concentrations and PAH concentrations that may be associated with process sewers.

2.2.1.20 AOI 20 - PCB RELEASES FROM ELECTRICAL EQUIPMENT

PCBs were used at the Site in electrical systems (capacitors and transformers). The locations of electrical equipment are presented on Plan 1A/B.

Historical Operations

Releases from transformers occurred, or are suspected to have occurred, in the following areas:

1. The Main Electrical Switch Vault, in the basement of Building 5, formerly contained PCB equipment. This area was replaced by a switch room on the Building 9 roof during the 1970s. A sooty residue was observed on the basement ceiling during a Site inspection in 1994 and the vault is currently flooded.
2. Electrical Vault 1, in the basement of Building 5, formerly contained six transformers. Samples of dielectric fluid were collected from transformers in Vault 1 on January 9, 1984. The fluid in two of the transformers had a PCB content that exceeded 50 ppm and was, therefore, replaced. Subsequent PCB sample results ranged from 34 to 37 ppm PCBs. A small leak from a bushing was identified on March 17, 1989. An oily residue was observed in the vault during a Site inspection in 1994. The transformers were drained in 1994.
3. Electrical Vault 4, in the basement of Former Building 12, formerly contained 11 PCB transformers. The fluid in one of the transformers contained 45.9 ppm PCBs and the fluid in this transformer was replaced in March 1984. The transformers were observed to leak in a later inspection.
4. Electrical Vault 6, in the basement of Former Building G-2, housed 12 transformers and associated switch gear. On December 27, 1983, a current transformer (on a lighting transformer) and the south transformer oil circuit breaker failed. The oil switch and the secondary volt cables on the south

transformer were found to have deteriorated due to oil leakage. The oil was tested and found to contain 210 ppm PCBs. The oil was removed in February 1984. Approximately 40,000 gallons of standing water were observed in Vault 6 in the basement of Former Building G-2, in 1994. A sample of this water was collected on August 30, 1994 and was found to contain Aroclor 1254 at a concentration of 0.41 µg/L. This water was removed and filtered with carbon during building decommissioning between 1995 to 1997. Solids from the floor also contained PCBs and were sent off Site with the carbon for incineration.

5. Electrical Vault 13/14, on the roof of Former Building 24, formerly housed two PCB transformers. Small leaks from valves and/or bushings were identified on July 24, 1981, November 11, 1981, August 9, 1984, and March 17, 1989. The valves and/or bushings were cleaned and tightened.

6. Electrical Vault 16, on the roof of Former Building 24, formerly housed two PCB transformers. Small leaks from valves and/or bushings were identified on August 6, 1981, November 11, 1981, and March 17, 1989. The valves and/or bushings were cleaned and tightened.

7. Electrical Vault 18, on the roof of Former Building 24, formerly housed three PCB transformers. Small leaks from valves and/or bushings were identified on July 24, 1981, May 5, 1982, and January 27, 1994. The valves and/or bushings were cleaned and tightened.

8. Electrical Vault 22, on the roof of Former Building 12, formerly housed three PCB transformers. Small leaks from valves and/or bushings were identified on October 18, 1983. A pan was placed to catch any leakage.

9. Electrical Vault 23, on the roof of Former Building 12, formerly housed two PCB transformers. A small leak from a bushing was identified on January 27, 1987.

10. Electrical Vault 33, on the roof of Building 9, formerly housed two PCB transformers. Small leaks from valves and/or bushings were identified on October 18, 1983 and January 3, 1995. A pan was placed to catch any leakage in 1983 and all valves were repaired in 1995.

11. A PCB transformer had been installed in Electrical Vault 51, at the south end of Former Building G-4, in March 1978 and was equipped with a containment pad with a blind sump. On October 10, 1978, approximately 30 to 45 gallons of fluid leaked from a broken ceramic bushing on this transformer. The release was contained and was cleaned by triple rinsing with trichlorobenzene. Approximately two drums of material were disposed of off Site. The PCB transformer was immediately taken out of service and replaced with a non-PCB transformer.

Vaults 1, 4, and 6 were cleaned during GM's plant decommissioning during 1995 to 1997. The liquid filled electric transformers were disconnected and removed. The dielectric fluid, from any transformer which was labeled as PCB-containing, was drained and the oil was sent off Site for incineration. The remaining carcasses were landfilled off Site. After the electrical equipment was removed, the vaults were power washed. Because water and solids from Vault 6 were found to contain PCBs, wipe samples were collected in this vault after power washing. Wipe sample results ranged from 0.39 to 1.27 μg/100 cm^2.

Approximately 300 PCB capacitors were formerly located at the Site in the east and west capacitor banks. These capacitors were removed in 1986.

Previous Investigations and Remedial Actions

The following investigations and remedial actions have occurred related to electrical equipment at the Site:

1. As discussed in the previous section, a release occurred from a PCB transformer in Vault 51, at the south end of Former Building G-4, in October 1978. The release was contained and was cleaned by triple rinsing with trichlorobenzene. Approximately two drums of material were disposed of off Site. The PCB transformer was immediately taken out of service and replaced with a non-PCB transformer.
2. As discussed in the previous section, a release of PCB oil occurred on December 27, 1983 in Vault 6. A current transformer (on a lighting transformer) and the south transformer oil circuit breaker had failed. The oil switch and the secondary volt cables on the south transformer were found to have deteriorated due to oil leakage. The oil was tested and found to contain 210 ppm PCBs. The oil was removed in February 1984.
3. Samples of dielectric fluid were collected from transformers in Vaults 1, 4, and 6 on January 9, 1984. Sample results ranged from 1 to 604 ppm PCBs. Only two sample results (both in Vault 1) exceeded 50 ppm PCBs. The fluid in the two transformers exceeding 50 ppm was replaced and subsequent PCB sample results ranged from 34 to 37 ppm PCBs. The fluid in a third transformer in Vault 4 was 45.9 ppm PCBs and the fluid in this transformer was also replaced in March 1984.
4. Approximately 40,000 gallons of standing water were observed in Vault 6 in the basement of Former Building G-2, in 1994. A sample of this water was collected on August 30, 1994 and was found to contain Aroclor 1254 at a concentration of

0.41 µg/L. This water was removed and filtered with carbon during building decommissioning between 1995 to 1997. Solids from the floor also contained PCBs and were sent off Site with the carbon for incineration.

5. Vaults 1, 4, and 6 were cleaned during plant decommissioning during 1995 to 1997. The liquid filled electric transformers were disconnected and removed. The dielectric fluid, from any transformer which was labeled as PCB-containing, was drained and the oil was sent off Site for incineration. The remaining carcasses were landfilled off Site. After the electrical equipment was removed, the vaults were power washed. Because water and solids from Vault 6 were found to contain PCBs, wipe samples were collected in this vault after power washing. Wipe sample results ranged from 0.39 to 1.27 µg/100 cm^2.
6. The rooftop transformer rooms were remediated as part of GM's decommissioning activities in September/October 1996. Vaults 13/14, 15, 16, 18, 22, 23, and 33 were remediated by removing/replacing concrete, scarification, solvent washing, and/or encapsulation. Additional information regarding these activities is presented in "Summary of Additional Information on Rooftop Transformers" (CRA, January 12, 2005).
7. The transformer pad associated with Vault 51 was removed in February 2005. The concrete was disposed of off Site. U.S. EPA was notified of this activity in the "Interim Measures Performed for G-Lot Transformer Pad Removal" (CRA, July 14, 2005).

Current Status

No PCB equipment is currently located at the Site. Former Vault 6 in Former Building G-2 has been backfilled to grade, and Vault 51 and the associated transformer pad have been removed.

RFI sampling was performed associated with this AOI. RFI samples were collected from Vaults 1 and 4, because these vaults had the greatest potential for release to the environment and because these vaults contained the highest identified PCB concentrations in electrical equipment.

2.2.1.21 AOI 21 - HYDROMATION PIT (BUILDING 7)

AOI 21, the Hydromation Pit in Building 7, is presented on Plan 1B.

Historical Operations

The Hydromation Pit is of concrete construction and has an integral basement area to the south and east. The basement was apparently constructed first, and the concrete pit was added at a later date. A 1- x 8-foot portion of the basement floor was left unsealed. The oil used in the Hydromation Pit was Quaker Microcut 568-55-BD, a soluble mineral oil with specific gravity of 0.98.

Previous Investigations and Remedial Actions

In 1996, a small amount of oil was observed on the surface of the soil under the basement floor.

In 1996 and 1997, the following investigation activities were conducted consistent with the 1996 sampling and analysis plan:

1. One soil boring was drilled on June 11, 1996. A soil sample was selected for TPH, VOC and SVOC analysis based on PID screening.
2. To evaluate the extent of soil containing TPH above screening criteria and identify associated VOC concentrations, five Geoprobe soil borings (GP-20, GP-21, GP-26, GP-30, and GP-31) were drilled on September 24 to 26, 1996. Soil samples were selected for TPH and SVOC analysis based on PID screening.
3. Five Geoprobe soil borings (GP-33 through GP-37) and one soil boring (B-SA27) were drilled on April 22, 28, and 29, 1997. Soil boring B-SA27 was completed as a monitoring well. Soil samples were selected for TPH analysis based on PID screening. Approximately 2.4 feet of free product was identified at B-SA27. PCBs were not detected in the free product at this time, although PCBs have been detected at low levels in RFI samples. It should be noted that the thickness of free product may be overestimated due to capillary forces.
4. TPH concentrations in soil ranged from 38.8 to 24,700 mg/kg. PAHs were also detected.

Current Status

The hydromation pit has been backfilled nearly to floor level with miscellaneous fill, including calcium carbonate, and is believed to be approximately 10 to 14 feet deep.

LNAPL delineation investigation was conducted as part of the RFI. The findings of this investigation are summarized in "Delineation of Area of LNAPL & LNAPL Monitoring

Plan – Former Chip Handling Areas and Hydromation Pit Area" (H&A, February 18, 2005). Recent LNAPL monitoring on March 3, 2006 identified LNAPL thickness of 0.1 foot, which is significantly less than historic measurements.

2.2.1.22 AOI 22 - INCINERATOR NEAR FORMER BUILDING 16

AOI 22, the incinerator near Former Building 16, is presented on Plan 1A.

Historical Operations

A 1,000-gallon incinerator for dirty liquids was formerly located south of Former Building 16. This incinerator was also used to burn various trash and plant debris. The incinerator was removed during construction of Former Building 24 in 1966.

Another incinerator was used to burn off paint from hangers used on the paint lines. The location is unknown. However, the paint associated with these hangers would have been a small quantity and would have been dried. No significant release to the environment would have been associated with this operation.

Current Status

Both incinerators have been removed.

RFI sampling was performed associated with the incinerator near Former Building 16. No RFI sampling was performed associated with the incinerator used to remove paint from hangers because no significant release to the environment would have been associated with this operation.

2.2.1.23 AOI 23 - USTs AND FORMER STILL NEAR FORMER BUILDING 8

AOI 23, the USTs and former still near Former Building 8, is presented on Plan 1A.

Historical Operations

Eight USTs were located north of Former Building 8. This included four 1,500-gallon refrigerant oil USTs, one 1,500-gallon dirty Stoddard solvent UST, one 1,500-gallon dirty naphtholite UST, one clean naphtholite UST (for fire), and a 1,260-gallon still dump UST.

The Stoddard solvent still was located to the southwest of Former Building 8. These operations were removed in approximately 1967 during construction of Former Building 24.

Current Status

The still and USTs have reportedly been removed, and the area is currently covered by the concrete slab associated with Former Building 24.

RFI sampling was performed associated with this AOI.

2.2.1.24 AOI 24 - FORMER MACHINE GUN TESTING AREA (FORMER BUILDING G-5)

AOI 24, the former machine gun testing area, is presented on Plan 1B.

Historical Operations

The government, or Former "G" Buildings were used during WWII for machine gun production. Former Building G-5 was used for testing the machine guns during this time period. The 1943 plan presented in Appendix A identifies a range at the eastern end of Former Building G-5.

Previous Investigation and Remedial Actions

During installation of the Free Product Removal System, machine gun shell casings were encountered.

Current Status

This area has not been used for machine gun testing for more than 50 years, and is covered with a concrete slab.

RFI sampling was performed associated with this AOI.

2.2.1.25 AOI 25 - HYDROCHLORIC ACID SPILLS (SOUTH OF BUILDING 9)

AOI 25, the hydrochloric acid spill locations, is shown on Plan 1B. Hydrochloric acid was stored in ASTs south of Building 9.

Historical Operations

Releases occurred from the hydrochloric acid AST south of Building 9 on December 4, 1975 (400-500 gallons), May 26, 1981 (1,500 gallons), May 4, 1987 (100 gallons), September 3, 1988 (875 gallons), and October 3, 1988. After each release, the spill containment measures were improved.

Previous Investigation and Remedial Actions

No investigations were performed in this area prior to the RFI. The spill containment measures were improved after each release.

Current Status

Residual constituents would not be expected due to the nature of the chemicals managed in this area. Hydrochloric acid is not persistent and does not form hazardous degradation products. However, the acid releases may have increased the pH of soil and groundwater, thereby increasing the potential for metals to leach into groundwater. Therefore, RFI sampling was performed in this area.

2.2.1.26 AOI 26 - POTENTIAL PCB RELEASES FROM PROCESS EQUIPMENT

AOI 26, the potential PCB releases from process equipment, is shown on Plan 1B. PCBs have been used at the Site in hydraulic systems and coolants. There is no documented or observed evidence of a PCB release associated with hydraulic systems or coolants. In addition, PCBs were identified during decommissioning activities in various materials at the Site. An oily residue has also been identified on the lower walls of the tunnel beneath the CSXT railway.

Historical Operations

Numerous hydraulic systems have been used at the Site. These systems were routinely tested in the late 1970s (1,046 samples were collected in 1980). PCB contamination was not found, with the exception of samples of oil collected from the No. 2 Vaill machine Tanks 3 and 4 (located in Building 9 near column V-39 on January 31, 1979, which had PCB concentrations of 17.73 and 8.86 mg/kg, respectively. There is no evidence of a release from the No. 2 Vaill machine.

Process equipment containing PCBs was identified during decommissioning between 1995 and 1997. A grinder found in the Tool Grind Room in Building 7 contained cooling oil with PCBs at a concentration of 409.8 mg/kg. PCBs were also identified in gearboxes located on the 6th floor of Building 2 and in Former Building 12. The oil was removed and sent off Site for incineration. The remaining carcasses and gearboxes were shipped off Site for landfill disposal.

Plant air was exhausted through the roof at various locations through the ductwork and exhaust fans. All process venting ductwork was removed during decommissioning in 1995 to 1997 and placed into roll off boxes for disposal off Site. Oily residues had accumulated on the surfaces of the exhaust fans and ductwork. The residue was sampled and found to contain PCBs ranging from 0.332 to 13.456 mg/kg. All residues collected were drummed and sent off Site for landfill disposal. When the ductwork was removed, residues on the inside of the exhaust fans were dripping back into the plant at some locations. Stainless steel drip pans were installed to contain these drippings.

The tunnel beneath the CSXT railway may have been used to transport materials or equipment between the Former "G" buildings and the remainder of the Site. An oily residue was observed on the lower portion of the wall, which may be related to LNAPL in this area. Similarly, apparent oil seepage has been observed on the retaining wall east of the railway tracks.

Previous Investigation and Remedial Action

All equipment, process duct work, and flooring materials containing PCBs identified during decommissioning have been removed from the Site as part of decommissioning activities.

On July 29, 1996, there was a spill in the Former Building 1A loading dock from a drum containing PCB contaminated sludge and liquid from sewer decommissioning. The spill was immediately wiped up with polyester spill pads. On July 31, 1996, three wipe

samples were taken from the spill area, and the results were 68.0 µg/100 cm^2, 43.8 µg/100 cm^2, and 15.6 µg/100 cm^2. On August 16, 1996, the area was cleaned up using a solvent-based PCB extracting chemical (Capsur), which was scrubbed into the concrete, and recovered with a drum vacuum. The spent solvent, and PCB contaminated liquid was sent off Site for incineration.

Current Status

As discussed above, all PCB-containing materials identified during decommissioning activities have been removed from the Site.

RFI sampling was performed in areas where oil may have dripped to the floor if a spill had occurred from the No. 2 Vaill machine, the grinder in the Tool Grind Room, the PCB-contaminated gearboxes, or the process venting ductwork that contained PCBs. In addition, RFI sampling conducted for other AOIs included PCB analysis, to provide Site-wide information on potential PCB contamination.

2.2.1.27 AOI 27 - BATTERY CHARGING STATION IN BUILDING 2

AOI 27, the battery charging station in Building 2 is presented on Plan 1B. No evidence of former battery charging station(s) was observed in Buildings 3 or 5.

Historical Operations

Two battery charging stations were identified in historical documents - one in Building 2 and one in Building 5. Only the battery charging station in Building 2 was identified during employee interviews, and no evidence of a former battery charging station in Building 5 was observed during the course of RFI activities. The location of the battery charging station in Building 5, if it existed, is unknown.

Previous Investigation and Remedial Action

A Site inspection in October 1993 identified an area where the floor had deteriorated in the battery charging station in Building 5. However, recent employee interviews could not confirm the location of a battery charging station in Building 5. The concrete pad for the battery charging station in Building 2 was also observed to be deteriorated during a Site inspection in 1994. No samples were collected in either area prior to the RFI.

Current Status

These areas have not been used for battery charging since prior to 1995.

RFI sampling was conducted associated with the battery charging station in Building 2. No evidence of a former battery charging station was identified in Building 5.

2.2.1.28 AOI 28 - FORMER MIAMI CANAL EXTENSION

AOI 28, the former Miami Canal Extension, is presented on Plan 1A/B.

Historical Operations

The former Miami Canal Extension was located between the current locations of Pitts Street and Amelia Street in the southernmost portion of the Site. This feature appears in Sanborn maps dated 1887, 1898, 1918, and 1950. By 1950, some filling had occurred near Keowee Street, and the 1955 Sanborn map shows the entire former canal had been filled at the Site.

Previous Investigations and Remedial Actions

No investigation or remedial actions were completed associated with the former Miami Canal Extension prior to the RFI. The only boring/monitoring well installed in a location that would be expected to penetrate the fill material placed in the former canal is HD-12. No evidence of contamination was identified on the borehole log.

Current Status

The former Miami Canal Extension has been filled in and the area is currently paved. RFI sampling was performed associated with this area.

2.2.1.29 AOI 29 - FORMER BUILDING 12 STILL

AOI 29, the former still, is presented on Plan 1A. The still was located in the northwestern corner of Former Building 12 as shown on the 1943 map in Appendix A. No further information is available regarding historical operations associated with this AOI. RFI sampling was performed associated with this area.

2.2.1.30 AOI 30 - EXPERIMENTAL AIR CONDITION

AOI 30, the experimental air conditioning area, is presented on Plan 1A. The experimental air conditioning area was located along the eastern wall of Former Building 20, as shown on the 1943 map in Appendix A. No further information is available regarding historical operations associated with this AOI. RFI sampling was performed associated with this area.

2.2.1.31 AOI 31 - FORMER BUILDING 1 SPRAY BOOTHS

AOI 31, the spray booths, is presented on Plan 1A. The spray booths were located in near the southwestern corner of Former Building 1, as shown on the 1943 map in Appendix A. No further information is available regarding historical operations associated with this AOI. RFI sampling was performed associated with this area.

2.2.1.32 AOI 32 - BUILDING 3 TRANSFORMER (GROUND LEVEL)

AOI 32, the Building 3 transformer, is presented on Plan 1B. The Building 3 transformer was located on the ground level in Building 3, as shown on the 1943 map in Appendix A. No further information is available regarding historical operations associated with this AOI. RFI sampling was performed associated with this area.

2.2.1.33 AOI 33 - PAINT AND ENAMEL STORAGE

AOI 33, the paint and enamel storage area, is presented on Plan 1B. The paint and enamel storage area was located outside the northwest corner of Building 7, as shown on the 1943 map in Appendix A. No further information is available regarding historical operations associated with this AOI. RFI sampling was performed associated with this area.

2.2.1.34 AOI 34 - PARTS GRINDING

AOI 34, the parts grinding area, is presented on Plan 1B. The parts grinding area was located inside Building 9, as shown on the 1943 map in Appendix A. No further

information is available regarding historical operations associated with this AOI. RFI sampling was performed associated with this area.

2.2.1.35 AOI 35 - STORAGE TANKS

AOI 35, the storage tanks, is presented on Plan 1B. The storage tanks were located inside Building 9, as shown on the 1943 map in Appendix A. No further information is available regarding historical operations associated with this AOI. RFI sampling was performed associated with this area.

2.2.2 OVERVIEW OF RFI SAMPLING

The first stage of RFI sampling was conducted as identified in the RFI Work Plan (CRA, February 4, 2002), between April 2002 and June 2002. This event included soil, concrete, storm sewer (water and sediment), and groundwater sampling to characterize AOIs. This event also included Site-wide groundwater and LNAPL sampling.

The second stage of RFI sampling was conducted consistent with the RFI Work Plan at the locations identified in "Proposed Stage 2 RFI Sampling" (CRA, January 20, 2003), between January 2003 and May 2003. This event included soil, concrete, groundwater and LNAPL sampling to delineate the Stage 1 RFI sample results.

The third stage of RFI sampling was conducted consistent with the RFI Work Plan at the locations identified in "Proposed Stage 3 RFI Sampling " (CRA, October 15, 2003), between January 2004 and April 2004. This event included soil sampling to delineate the Stage 2 RFI sample results, characterize additional AOIs identified based on the 1943 insurance map, and provide additional sample coverage across the Site. This event also included concrete sampling to characterize stained areas along the levee and railway retaining walls and within the tunnel beneath the railway. This event also included groundwater sampling to provide additional sample coverage across the Site and to characterize lower aquifer hydrogeology. Additional LNAPL sampling was also conducted in this event to provide additional sample coverage across the Site and in the vicinity of the railway (see Section 2.2.5 for LNAPL Investigations).

The fourth stage of RFI sampling was conducted consistent with the RFI Work Plan at the locations identified in "Proposed Stage 4 RFI Sampling - Revised" (CRA, December 7, 2004), between October 2004 and November 2004. This event included soil sampling to ensure sufficient samples to complete the human health risk assessment, including the

collection of an additional background sample. This event also included groundwater sampling to provide information on current conditions to support the EI determinations and to further characterize ground water quality conditions in the lower aquifer. The second stage of RFI storm sewer sampling (water and sediment) was conducted concurrent with Stage 4 RFI sampling, in October 2004, at the locations identified in "Proposed Stage 2 RFI Sewer Sampling Strategy" (CRA, May 26, 2004). This event provided sample results under flowing conditions, and additional upstream sampling to delineate Stage 1 RFI sewer sampling.

The fifth stage of RFI sampling was conducted as identified in "Stage 5 Hydrogeology Work Plan" (CRA and H&A, April 26, 2005), in May 2005. This event included groundwater sampling to characterize lower aquifer hydrogeology.

The sixth stage of RFI sampling was conducted as identified in "Stage 6 Hydrogeology Work Plan" (CRA and H&A, June 24, 2005), in June and July 2005. This event included groundwater sampling and water level monitoring to assess whether the Site could be affecting groundwater quality in water-bearing units below the upper-most unit, characterize hydrologic interactions between the water-bearing units, and characterize groundwater flow directions in the water-bearing units.

Additional RFI samples were collected from MH-29 as part of storm sewer cleaning and abandonment activities, and from MW-14B-04 as a result of the discovery of LNAPL, in January 2006. Additional monitoring wells were installed north of the Mad River in January 2006 and groundwater elevation measurements were conducted in January and February 2006 to confirm groundwater discharge to the Mad River.

2.2.3 GROUNDWATER SAMPLING ASSOCIATED WITH WEBSTER STREET INTERIM MEASURES

As described in Section 2.3.1, GM conducted a pilot study and an IM to remediate chlorinated VOCs in groundwater associated with the Webster Street PCE release located west of Former Building 12, identified as AOI 1 in the "Current Conditions Report" (CRA, June 8, 2001). Pre-RFI investigations indicated that groundwater contamination occurs throughout the entire saturated thickness of the water table aquifer in this area, but is most concentrated in the shallow portion of the aquifer near the release location. The principal chemicals in the groundwater in this area are PCE and its degradation products TCE, cis-1,2-DCE, and VC.

IMs in this area consisted of ozone sparging and injection of HRC®. An ozone sparging pilot study was conducted at OS-1A, OS-1B, and MW-2B between March 2000 and March 2001. The first stage of full-scale ozone sparging was conducted at OS-1A, OS-1B, OS-2B, OS-2C, OS-3B, OS-3C, OS-4B, OS-4C, OS-5B, OS-5C, OS-6B, OS-6C, OS-7B, OS-7C, and MW-2B between April 2003 and June 2003. The second stage of full-scale ozone sparging was conducted at the same locations between February 2004 and March 2005. An HRC® barrier wall was installed along the west side of Webster Street in January 2003 and was reinjected in February 2005.

Groundwater sampling has been conducted in the vicinity and downgradient of Webster Street to verify the effectiveness of the IMs.

2.2.4 LNAPL INVESTIGATIONS

2.2.4.1 PRE-RFI LNAPL INVESTIGATIONS

LNAPL investigations were conducted between 1996 and 2002. From 1996 to 1998, H&A conducted an LNAPL investigation to determine the extent of LNAPL and TPH contamination associated with the chip handling areas adjacent to the railway (AOIs 11, 12, 13, and 14) and the Hydromation Pit (AOI 21). The investigation was conducted in iterative stages over which 38 soil borings and 6 shallow groundwater monitoring wells B-301 through B-306) were installed and 11 LNAPL samples were collected for chemical characterization.

The monitoring wells were installed to assess potential accumulation of LNAPL. The soil was sampled for TPH, VOCs, SVOCs and/or PCBs. TPH concentrations in soil ranged from 38.8 to 97,000 mg/kg and various VOCs and PAHs were detected. PCBs were reported at concentrations ranging from non-detect to 3,250 mg/kg.

Groundwater was also collected from three monitoring wells (B-301, B302, and B-303) and analyzed for VOCs and SVOCs.

A composite LNAPL sample was taken from wells in the Chip Area that had accumulated LNAPL (B-301, B-302, and B-303) and analyzed for chemical and physical characteristics, yielding the PCB Aroclor 1254 at 240 mg/kg and a viscosity of 182 centistokes/sec at 100°F. Individual LNAPL samples were subsequently collected from B-301, B-302, B-303, and B-306 in 1999 and PCB concentrations ranged from 300 to 646 mg/kg. Groundwater level and LNAPL thickness were measured several times between 1996 and 2002.

2.2.4.2 SUPPLEMENTAL LNAPL INVESTIGATIONS DURING RFI SAMPLING EVENTS

In monitoring wells that exhibited the presence of LNAPL (B-301, B-302, B-303, Day-17, B-SA13, B-5A15, B-SA16, B-SA17, B-SA18, and B-SA27) the LNAPL was sampled and analyzed for physical parameters, VOCs, SVOCs, metals, and PCBs between April 2002 and June 2002 as part of the Stage 1 RFI Sampling.

In conjunction with the Stage 3 RFI Sampling, an investigation to delineate the extent of LNAPL in the former Chip Handling Area (AOIs 11,12, 13, and 14) took place between May and November 2004. These results are summarized in the "Delineation of Area of LNAPL and LNAPL Monitoring Plan – Former Chip Handling Areas and Hydromation Pit Area" (H&A, February 18, 2005). In summary, 12 soil borings were installed to further delineate the extent of LNAPL in these areas. Soils were field-screened using a PID, Oil-In-Soil™ Sudan IV detection kits (to identify TPH greater than 500 mg/kg), and visually for staining and/or sheen. Soil was analyzed as part of the Stage 3 RFI Sampling event for VOCs, SVOCs, metals, and PCBs.

Following the soil boring investigation, nine monitoring wells were installed along the perimeters of the delineated LNAPL. Additionally, due to site access constraints, one 1-inch piezometer was installed in the elevated railroad abutment. Groundwater was sampled and analyzed for VOCs, SVOCs, metals, and PCBs as part of the Stage 3 RFI Sampling event if there was no evidence of LNAPL detected in the completed monitoring well.

2.2.4.3 FIELD INVESTIGATION TO SUPPORT MOBILITY AND RECOVERABILITY ASSESSMENT

A field investigation outside of the RFI took place in April 2005 to gather additional site-specific data to support the American Petroleum Institute (API) Burdine analytical model (2004). Two soil borings were installed and Site LNAPL and groundwater samples were collected for laboratory analysis. The objectives of the model and investigation were to assess the potential for LNAPL mobility in soils in the vicinity of the former Chip Handling Areas (AOIs 11, 12, 13, and 14) based on LNAPL thickness measurements, LNAPL and soil properties, LNAPL pore saturation conditions, and laboratory measurements of residual saturation of LNAPL. The results of the API model support laboratory data that LNAPL pore fluid saturation are less than the residual

saturation required for mobility indicating that LNAPL at the Site has very little potential for mobility. The findings of this investigation are summarized in the "LNAPL API Investigation Model Results" (H&A, July 28, 2005).

2.2.5 FIELD INVESTIGATIONS TO SUPPORT HYDROGEOLOGIC CONCEPTUAL MODEL

The following field investigations were conducted as part of the RFI and used to support development of the hydrogeologic conceptual model:

- In May 2005, soil samples were collected from lower-permeability units to analyze hydraulic conductivity in these layers. Results of this investigation are summarized in detail in Section 3.5.2 and Appendix B-1.
- Groundwater elevation measurement was conducted concurrent with groundwater quality monitoring at all stages of RFI sampling. Data from the four most recent rounds of groundwater elevation measurement, June 1, 2005 (Stage 5 RFI), July 15, 2005 (Stage 6 RFI), January 16, 2006, and February 27, 2006) was used to determine groundwater flow direction because these events include the most complete monitoring well network.
- Continuous data logging of groundwater elevations at select monitoring wells was conducted as identified in "Stage 5 Hydrogeology Work Plan" (CRA and H&A, April 26, 2005), and "Stage 6 Hydrogeology Work Plan" (CRA and H&A, June 24, 2005). In addition, to better quantify the influence of two pumping systems in the lower aquifer in the vicinity of the Site, groundwater elevations at 42 wells were monitored using data loggers in September 2005. The data from this investigation were used to characterize hydrologic interactions between the water-bearing units and to characterize groundwater flow directions.
- In support of the Site hydrogeologic conceptual model and CA 750 Environmental Indicator determination of groundwater discharge from the upper aquifer into the Mad River, GM generated a more extensive Mad River surface measurement network, installed two upper aquifer top of till wells north of the Mad River and completed a subsequent groundwater monitoring event to support this determination. These activities took place in January and February 2006.

Results of these investigations are discussed in Section 3.5.

2.2.6 RFI OBJECTIVES AND APPROACH

As discussed in the "RFI Work Plan" (CRA, February 4 2002), the field investigations were conducted as necessary to support the following objectives:

- characterize the nature and extent of any releases of hazardous waste and/or hazardous constituents in environmental media at the Site;
- assess potential risk to human health and the environment associated with any releases of hazardous waste and/or hazardous constituents;
- provide sufficient data to support the EI determinations;
- determine whether interim measures are necessary to control current human exposures; and
- determine whether a corrective measures evaluation is necessary to mitigate significant risks, if any, to human health and the environment under current and reasonably expected future land use at and downgradient of the Site.

These objectives were described in further detail in the Quality Assurance Project Plan (QAPP), which is Appendix C of the "RFI Work Plan" (CRA, February 4, 2002).

2.2.6.1 SOIL SAMPLING

Soil sample locations were selected consistent with the purpose of the investigation for each AOI. Sample locations were biased to where a significant release would most likely be detected, based on historical process information (e.g., historical drain, tank, or equipment locations), Site-specific physical parameters (e.g., downgradient), observed potential evidence of contamination (e.g., surficial stains), or observed potential evidence of preferential pathways (e.g., cracked concrete). If no information on particular locations of potential contamination was available, then random sample locations were selected. Exact sample locations were modified if necessary to accommodate field conditions (e.g., limited access).

Soil samples were generally collected to provide data to enable evaluation of risks to potentially exposed populations as listed below. For example, surficial soil data were used for assessing potential exposures to workers during routine activities , while data from deeper samples were used for assessing potential exposure to workers during excavation activities. Additional sample intervals were selected in the field if evidence of contamination was observed during sample collection.

1. The 0- to 2-foot bgs interval represents the soil horizon most likely to be impacted by a release from an AOI to the ground surface. The 0- to 2-foot bgs interval also represents the surface soil likely to be encountered by human and ecological receptors during the course of normal activities. If the soil was overlain by concrete, asphalt, railway ballast, or other material, the "surface" sample was collected from the first soil interval. This interval also represents the area most likely to be impacted by a release to the ground surface.
2. At UST or spill interceptor locations, or adjacent to sewers, surface soil may not be representative of potentially impacted soil. Therefore, an additional sample was collected at a comparable elevation to the bottom of the subsurface feature. This ensured that the most likely areas of contamination were sampled.
3. Construction activities are expected to extend to a depth of 10 feet bgs. The 2-foot interval with the greatest potential evidence of contamination (e.g., staining, odor, or PID readings) was selected for analysis. If no potential evidence of contamination was observed, the default interval from 8 to 10 feet bgs was selected. However, this default interval varied if the water table was encountered within 2 feet below this interval (i.e., the water table was 12 feet bgs or shallower), in which case the sample was collected instead from the 2 foot interval immediately above the water table.

Soil sample results were evaluated after each stage of the RFI, as discussed in Section 2.2.6.6, to determine if further sampling was warranted.

2.2.6.2 STORM SEWER WATER AND SEDIMENT SAMPLING

Sediment and water sample locations were selected consistent with the purpose of the investigation for AOI 18 (Storm Sewers). Water samples were collected prior to sediment samples to represent normal undisturbed conditions. Sediment samples were collected of the fine-grained sediment, if possible, from the 0- to 1-foot interval or the total sediment thickness, whichever was less. In general, sediment thickness was less than 1 foot. Samples were collected in a downstream to upstream direction. Sample locations were selected based on the sewer network.

Sediment and water sample results were evaluated after each stage of the RFI, as discussed in Section 2.2.6.6, to determine if further sampling was warranted.

2.2.6.3 CONCRETE SAMPLING

PCB wipe and concrete core sample locations were selected consistent with the purpose of the investigation for AOIs 20 (PCB Releases from Electrical Equipment) and 26 (Potential Releases from Process Equipment). A conservatively biased sampling scheme was employed, and exact sample locations were modified due to field conditions. Samples were collected to provide PCB data for assessing potential exposure via the direct contact scenario and for evaluating the extent of contamination, if any.

1. A wipe sample was collected from concrete surfaces, and a concrete core sample was collected from the upper 3 inches.
2. A lower concrete core sample from the 3- to 9-inch depth interval was collected concurrently and held pending analysis of the upper sample. If the upper concrete core sample indicated surficial contamination, the lower sample was analyzed to define the vertical extent of contamination. In a few areas, the lower sample was analyzed prior to receipt of upper sample results due to a miscommunication at the laboratory.

PCB wipe and/or concrete core sample results were compared to cleanup levels for low occupancy areas defined in 40 CFR §761.61. PCB wipe and concrete core sample results were also evaluated after each stage of the RFI, as discussed in Section 2.2.6.6, to determine if further concrete sampling was warranted.

2.2.6.4 GROUNDWATER AND LNAPL SAMPLING

Groundwater and LNAPL sampling was generally conducted as part of the Site-wide groundwater monitoring. However, groundwater and LNAPL sampling locations were also selected downgradient of soil sample locations that indicated potential migration of contaminants from the soil to the groundwater or potential presence of LNAPL (e.g., positive oil-in-soil results). Groundwater samples were not collected from wells where LNAPL was present. However, LNAPL was intermittent at certain wells, and therefore both groundwater and LNAPL samples were collected at certain locations.

Groundwater and LNAPL sample results were also evaluated after each stage of the RFI, as discussed in Section 2.2.6.6, to determine if further sampling was warranted.

2.2.6.5 DATA ASSESSMENT

Sample Tracking and Data Management

Sample tracking and data management were performed as discussed in the QAPP (Appendix C of the RFI Work Plan) and Data Management Plan (DMP) (Appendix D of the RFI Work Plan) to ensure that the sampling program was completed properly and that the sample turnaround times and requested analyses were appropriate.

Communication between field sampling crews and the laboratory was provided by the project chemist. The sample tracking and management activities included:

- coordinating the delivery of sample containers, shipping coolers, and sampling supplies from the laboratory to the Site;
- ensuring that sample shipments from the field arrived at the laboratory properly preserved;
- resolving sample documentation issues;
- identifying samples with unique turnaround time requirements or special analyses;
- maintaining the integrity of field data (e.g., water levels, pH, conductivity) and sample identification information (e.g., field duplicates, MS/MSD samples) through the use of standardized spreadsheet templates that were completed by field sampling crews and electronically transferred to the database management team;
- arranging for recollection of samples (if necessary) before the field sampling crew demobilizes from the Site; and
- distributing preliminary and final data packages to the data users in a timely manner.

The EQuIS database format was used for storing and managing monitoring data. EQuIS is designed to include all tabular data including sampling and chemistry information for various media, groundwater elevations, well completion and lithology, and other information.

Laboratory Data and Data Validation

A standardized electronic data deliverable (EDD) was required to ensure that laboratory data were received in a format most efficient for import into an EQuIS database. The data were validated as discussed in the QAPP (Appendix C of the RFI Work Plan) to check the precision, accuracy, representativeness, completeness, and comparability of

the data. The output from the data validation process was provided in a memorandum format. In addition, the database created for the project included the data qualifiers and the reason for data qualification.

Cross-checking between various data sets was performed to ensure that the data were consistent and correct. This included comparison between RFI sample results in the same area, comparison between RFI and historical sample results in the same area, and concurrent evaluation of chemical and physical data (for example, groundwater quality data was ensured to be consistent with measured groundwater flow directions and velocities).

Site Maps/Geographic Information Systems (GIS)

A geographical information system (GIS) based data management system was employed to facilitate data presentation and identification of data trends. The electronic data deliverable in this case was CRA's e:DAT™, which can provide electronic links to maps, aerials, borehole logs, reports, photographs, visualizations, and the chemistry and water level databases.

2.2.6.6 EVALUATION OF NEED FOR FURTHER SAMPLING

The primary purpose of data collection during the investigation was to provide sufficient characterization of the nature and extent of any releases of constituents to allow a reliable quantification of potential exposures. That is, the analytical data collected during the investigation was required to be adequate for:

- determining whether the concentration of a constituent in soil at an AOI was significantly above background levels (i.e., levels not attributable to the Site's operations) in the medium;
- estimating the exposure concentration of a constituent in the medium in which the constituent was measured; and
- estimating the exposure concentration of a constituent in a medium to which the constituent may migrate (e.g., volatilization of a soil constituent into ambient air).

To ensure adequacy for these intended uses, the analytical data was evaluated following the procedures for health-based evaluation of data to streamline RFIs at GM facilities (ENVIRON, 2003).

One element in the evaluation of the analytical data was a qualitative review of the data with respect to adequacy of the samples in characterizing the average concentrations of constituents for each exposure pathway identified as potentially relevant during the investigation. The qualitative review, using professional judgment, included an examination of the following:

- consistency in the types of constituents found in all sampled media at each AOI or in Site-wide groundwater vis-à-vis expectations based on history of operations and chemical properties of the constituents, which may indicate potential for false negative or false positive identification of constituents;
- lateral and vertical distribution of constituent concentrations to detect any obvious spatial trends, which may indicate that concentrations significantly higher than the measured concentrations may be likely in unsampled areas of depths; and
- presence of unusually high constituent concentrations, which may indicate the presence of non-aqueous phase liquids (NAPLs).

If the qualitative review identified inconsistent results or the potential to have missed higher concentrations, then further sampling or other actions (e.g., checking for laboratory errors) were taken to address such conditions.

In conjunction with the qualitative review, the data were evaluated using appropriate, conservative human health risk-based screening levels to identify potentially significant concentrations. The screening was conducted on each sample generated during the investigation. The presence of concentrations higher than screening levels did not necessarily mean that additional investigation was warranted. Similarly, the absence of concentrations higher than screening levels did not necessarily mean that additional investigation is unnecessary. Rather, decisions regarding the need for further investigation were made based on professional judgment, considering the screening results and results of the qualitative review discussed above, including the magnitude of the concentrations, their spatial distribution, and other factors (e.g., background levels, as discussed below).

The data evaluation procedures included quantification of site-specific background and site-related concentrations of metals in soil.

2.3 INTERIM MEASURES COMPLETED

2.3.1 WEBSTER STREET PCE RELEASE (AOI 1)

GM conducted a pilot study between March 2000 and March 2001 on the feasibility of air sparging and ozone sparging to oxidize VOCs in groundwater associated with the Webster Street PCE release (AOI 1). AOI 1 is located along the east side of Webster Street at the western edge of the Site.

The pilot study was conducted at sparge points OS-1A, OS-1B, and MW-2B, and showed that ozone sparging effectively destroyed the CVOCs, PCE, TCE, and cis-1,2-DCE in groundwater in this area.

The full-scale interim measure treated groundwater contamination at the solvent release area and treated the off-Site groundwater plume. Treatment in the solvent release area consisted of ozone sparging at an expanded network of sparge points, since the technology was demonstrated to be effective during the pilot study. The first stage of full-scale ozone sparging was conducted at OS-1A, OS-1B, OS-2B, OS-2C, OS-3B, OS-3C, OS-4B, OS-4C, OS-5B, OS-5C, OS-6B, OS-6C, OS-7B, OS-7C, and MW-2B between April 2003 and June 2003. The second stage of full-scale ozone sparging was conducted at the same locations between February 2004 and March 2005. The off-Site treatment consisted of a barrier of HRC® across the groundwater plume. The HRC® barrier wall was installed along the west side of Webster Street in January 2003 and a mixture of HRC® and HRC-X® was reinjected in February 2005. Ozone sparging was not used off Site due to health and safety concerns related to using ozone in an unsecured area.

Ozone Sparging

In ozone sparging, an air/ozone mixture is injected into the top of a sealed well casing, decreasing the water level in the well, and forcing the air/ozone mixture in the casing into the formation through a screened section. When the water level is below the screen, air will move through the screen and sand pack, entering the formation in small bubbles. The air/ozone mixture must be pre-filtered to prevent plugging of the screen. The bubbles ideally flow to the top of the water table at a 45-degree angle, but the actual flowpath of the bubbles may vary depending on aquifer heterogeneity, groundwater flow conditions, and sparge pressure.

The ozone sparging treatment process consists of a combination of in situ air stripping and contaminant destruction. The air increases the partitioning of dissolved and adsorbed phase halogenated solvents to the vapor phase and into the micron-sized

bubbles. The extracted solvents react with the encapsulated ozone to form a carboxyl oxide. This reacts with water as it exits the bubble to yield the reaction end products of very dilute hydrochloric acid, water and carbon dioxide. This process focuses the ozone reaction to air-strippable compounds that invade the bubbles. The reaction in groundwater is affected by factors such as pH (pH range from 7.5 to 8.5 ideal for PCE degradation by ozone), concentration of metals, concentration of natural organic carbon, and suspended solids.

Enhanced Bioremediation with HRC®

HRC® is used to stimulate rapid degradation of chlorinated solvent contaminants often found in groundwater and soil. This product was developed and is manufactured by Regenesis Bioremediation Products (Regenesis). It has been applied to treat compounds such as PCE, TCE, and their degradation products in groundwater on sites across the United States.

HRC® is proprietary, environmentally safe, food quality, polylactate ester specially formulated for slow release of lactic acid upon hydration. The HRC® can be applied to the subsurface via push-point injection or within dedicated wells. The preferred method for delivering HRC® into the subsurface, which was used at this Site, is to inject the material through direct push rods using hydraulic equipment. This approach increases the spreading and mixing of HRC® into the aquifer. The installation of HRC® can span the entire vertical thickness of the aquifer, or target specific zones of contamination.

The applied HRC® is left in place where it passively operates to stimulate rapid contaminant degradation via a series of chemical and biologically mediated reactions. Initially, when in contact with subsurface moisture, the HRC® slowly releases lactic acid. Indigenous anaerobic microbes (such as acetogens) metabolize the lactic acid producing consistent low concentrations of dissolved hydrogen. The resulting hydrogen is then used by other subsurface microbes (reductive dehalogenators) to strip the solvent molecules of their chlorine atoms and allow for further biological degradation. When in the subsurface, HRC® continues to operate in this fashion for approximately 1 to 2 years. HRC-X® is a longer-lasting formula that releases lactic acid for approximately 3 to 5 years.

The initial effect of lactic acid release from the HRC® is the reduction of redox potential in response to the consumption of dissolved oxygen and subsequent biochemical reactions. Over time, pyruvic and acetic acid concentrations increase as the lactic acid undergoes metabolism by indigenous microorganisms. At the same time, electron acceptors (nitrate and sulfate) are reduced. These initial processes are collectively called

"driving the aquifer anaerobic". Once the aquifer is driven to a reduced, anaerobic state, reductive dechlorination can and generally does begin within a few weeks to a few months of injection, depending on the initial aquifer conditions.

2.3.2 CHIP AREA LNAPL PLUME (AOIs 11-14)

Investigations completed prior to the RFI activities identified an area of a light non-aqueous phase liquid (LNAPL) on the eastern side of the Site. Under the Agreement, GM decided to design, construct, and operate an interim measure to prevent potential off-Site migration of LNAPL.

The interim measure included the installation of an automated Free Product Recovery System between January and May 2000. The system recovered LNAPL from two 24-inch sumps and stored the LNAPL in a 560-gallon tank. The LNAPL was disposed of off Site. Between May 2000 and July 2005, approximately 384 gallons of LNAPL was removed using sumps connected to the free product recovery system and manual recovery efforts. The high viscosity of the LNAPL has limited the recovery rate. Based on the limited LNAPL recovery from the automated skimming system [as described in the "Delineation of Area of LNAPL Monitoring Plan – Former Chip Handling Areas and Hydromation Pit Area" (H&A February 18, 2005)] and with concurrence from the U.S. EPA, GM shut down the automated Free Product Recovery on July 19, 2005, and is continuing to manually remove LNAPL from observation wells behind the barrier wall.

The interim measure also included the installation of a 300-foot long sheet-pile barrier wall between November 2001 and January 2002. The barrier wall was installed below and adjacent to CSX Pier No. 1, to eliminate the potential for LNAPL migrating into the Mad River. The barrier wall was constructed by CRA Services in accordance with the project specifications prepared by H&A.

The sheet piling used for the barrier wall consisted of 0.375-inch thick x 18-inch long x 12-inch wide ASTM A572 Grade 50 steel. The sheet pile was installed in average lengths of 25.3 feet [tip elevations ranging from 708.7 to 710 feet above mean sea level (AMSL)] and ADEKA seal was applied to the interlocks of the sheet pile approximately 24 hours prior to driving operations. A cement-bentonite grout was required to form a continuous seal between adjacent interlocks of the sheet pile that was weld-spliced due to the low overhead clearance beneath the CSX railroad bridge abutment.

The barrier wall was constructed in accordance with "Barrier Wall Construction Monitoring Summary & As-built Report" (H&A, October 28, 2002) submitted to the

U.S. EPA on October 28, 2005. Observations wells OW-1 through OW-7 were installed from October 14 to 16, 2002 to monitor groundwater elevations and to evaluate the potential presence and/or thickness of LNAPL upgradient of the barrier wall. Presence of LNAPL was observed in OW-2, OW-3 and OW-4 on October 23, November 14, and October 17 2002, respectively. LNAPL has not been detected in OW-1, OW-5, OW-6 and OW-7. Monitoring well MW-4-02 was installed on the down gradient (river-side) of the barrier wall on June 25, 2002. In October 2004, observation well OW-1A was installed between OW-1 and OW-2 to monitor the potential migration of LNAPL along the wall. Absence of LNAPL in MW-4-02, OW-1, and OW-1A, indicate that the barrier wall is effective in preventing LNAPL migration to the Mad River. These observations are consistent with the findings reported in the "LNAPL API Investigation Model Results" (H&A, July 28, 2005).

2.3.3 REMOVAL OF G-LOT TRANSFORMER PAD

In March 1978 a PCB transformer was installed in Electrical Vault 51 at the south end of Former Building G-4, and was equipped with a containment pad with a blind sump. In October 1978 approximately 30 to 45 gallons of fluid leaked from a broken ceramic bushing on this transformer. The release was contained and was cleaned by triple rinsing with trichlorobenzene. Approximately two drums of material were disposed of off Site. The PCB transformer was immediately taken out of service and replaced with a non-PCB transformer.

As part of the RFI Work Plan two wipe and two concrete samples were collected in April 2002 and were analyzed for TCL PCBs. Results indicated levels of PCBs greater than 50 ppm in one of the concrete samples. To determine the extent of the PCB contamination, two surface soil samples were collected adjacent to the transformer pad. Soil sample results were non-detect for PCBs.

The concrete was broken up as necessary to facilitate handling and disposal (approximately 2 to 3 feet in diameter) and loaded onto roll off boxes, which were placed in the vicinity of the transformer pad. Oversight for the concrete removal was preformed by CRA, the concrete removal was contracted out to Zeigler Environmental Services, Inc., and Haley & Aldrich coordinated with Waste Management for the transportation and disposal of the material to a licensed landfill site in accordance with applicable regulations.

After the transformer pad was removed, a second concrete pad was observed at ground surface elevation. Two concrete samples were collected from this pad in February 2005

and analyzed for TCL PCBs. Results indicated low levels of PCBs. Therefore, further removal of concrete and/or soil was not warranted.

2.3.4 STORM SEWER CLEANING AND ABANDONMENT BETWEEN WEBSTER AND TAYLOR STREETS

A section of the storm sewer along Taylor St. between MH-11 and MH-19 was cleaned in August 2004. The sediment removed from this portion of the storm sewer was characterized for off-Site disposal and was found to be hazardous for PCE and TCE.

Storm sewer cleaning and abandonment was conducted between January 16, 2006 and February 2, 2006, as identified in "Proposed Storm Sewer Abandonment Work Plan (Revision 2)" (CRA, January 6, 2005), to eliminate the potential for release of sediment from the storm sewers between Webster and Taylor Streets to the City storm sewer along Pitt Street and subsequently to the Mad River.

Sewer and manhole cleaning was conducted in an upstream to downstream direction. The downstream end of the sewer was plugged during cleaning and all sediment, water, and debris was removed and containerized. Sewer lines and their associated manholes were cleaned in order based on the associated sediment type, from least contaminated to most contaminated. Designated sewers were videotaped following cleaning to verify that the cleaning was effective.

All sediment, water, and debris that resulted from the cleaning was containerized. Material was segregated based on maximum recorded concentrations of PCE, TCE and/or PCBs in sediment as shown on Figure 2.3. Type 1, 2, and 4 sediment was placed into drums, Type 3 sediment was placed into a vac box, and water was placed into a frac tank. Sediment that had settled to the bottom of the frac tank was placed into drums following removal of the water. Each waste stream was characterized and disposed of in accordance with applicable regulations.

3.0 ENVIRONMENTAL SETTING

3.1 LOCATION AND PHYSIOGRAPHY

The Dayton area is located within the Central Glaciated Plains Physiographic Province of southwestern Ohio. This area consists of unconsolidated deposits that unconformably overlie sedimentary bedrock. The Great Miami River Valley is bounded by bedrock highs and contains various glacial features. The valley is approximately 2.5 miles wide in the Dayton area. The upland regions, occurring at elevations of greater than 800 feet AMSL, are characterized by gently rolling topography developed on ground moraine. The valley floor is relatively flat, ranging in elevation from 740 to 770 feet AMSL.

An earthen flood control levee extends along the Mad River along the north edge of the Site. The south side of the levee is bounded by a concrete wall. The elevation of the wall is approximately 750 to 753 feet AMSL, approximately 25 feet above the normal elevation of the Mad River. The earthen levee is fairly steep on the north side. The land slopes south from the levee to an elevation of approximately 737 feet AMSL at the south edge of the Site. From the south edge of the Site, the land is flat to gently rising, reaching an elevation of 750 feet AMSL approximately 1 mile from the Site.

Site topography is shown on Figure 3.1.

3.2 CLIMATE

The Dayton area experiences a humid-continental type climate characterized by large annual and daily temperature changes. Climatological data were obtained from the National Oceanic and Atmospheric Administration (NOAA) for the period of 1971 to 2000 (NOAA, 2004) and are summarized as follows:

	Jan	*Feb*	*Mar*	*Apr*	*May*	*Jun*	*Jul*	*Aug*	*Sep*	*Oct*	*Nov*	*Dec*	*Year*
Normal Daily Mean Temp (°F)	26.3	30.3	40.2	50.6	61.2	70.2	74.3	72.3	65.1	53.5	42.2	31.4	51.5
Normal Daily Max. Temp. (°F)	33.7	38.2	49.3	60.7	71.2	80.1	84.2	82.3	75.6	63.5	50.1	38.5	60.6
Normal Daily Min. Temp. (°F)	19	22.4	31.2	40.4	51.1	60.2	64.4	62.2	54.6	43.5	34.3	24.4	42.3
Normal Rainfall (inches)	2.6	2.29	3.29	4.03	4.17	4.21	3.75	3.49	2.65	2.72	3.3	3.08	39.58

The normal daily prevailing wind speed is 9.9 miles per hour (mph) from the southwest. In the winter months the daily wind speed increases to about 11.5 mph, while in the summer months the wind speed is approximately 8 mph. The prevailing wind direction is fairly constant over the year ranging from 180 to 270 degrees (i.e., from the south to west).

3.3 HYDROLOGY

Surface water flow in the Dayton area is towards the major surface water bodies. The Great Miami River is the culmination point of four rivers/streams: the Mad River, the Great Miami River, the Stillwater River, and Wolf Creek (see Figure 3.2). The Great Miami River flows generally south through Dayton towards the Ohio River. The Mad River flows generally southwest through the Dayton area, emptying into the Great Miami River around river mile (RM) 80, approximately 0.4 mile downstream of the Site (see Figure 3.3).

The nearest river gauge for either river is the Great Miami River gauge at RM 80, 0.8 mile downstream from the confluence of the two rivers. The normal stage for the Great Miami River at this gauge is approximately 725 feet AMSL. The normal elevation of the Mad River next to the Site is approximately 735 feet AMSL, giving about 10 feet of fall between the Site and the gauge at RM 80.

The United States Geological Survey (USGS) collects stream flow data for the Dayton area from two gauging stations: the Mad River at Dayton, Ohio, which is located upstream of the Site, and the Great Miami River at Dayton, Ohio, which is located downstream of the Site (USGS, 2000). The average annual stream flow for the period of October 1914 to September 1997 for the Mad River near Dayton is approximately 639 cubic feet per second (cfs) [or approximately 413 million U.S gallons per day (MGD)], and the harmonic mean stream flow is approximately 378 cfs (or approximately 244 MGD) (USGS, 2000). The average annual stream flow for the period of April 1913 to September 1997 for the Great Miami River near Dayton, Ohio stream gauge is approximately 2,290 cfs (or approximately 1,480 MDG), and the harmonic mean stream flow is approximately 745 cfs (or approximately 482 MGD) (USGS, 2000).

Yearly peak flows for the Great Miami River are presented on Figure 3.4. The 1913 peak river elevation was 753 feet AMSL (USGS, November 3, 2005). In response to the damage caused by the 1913 flood, flood control was implemented. This involved the placement of flood control dams at five locations, including Huffman Dam on the Mad River. Earthen flood control levees were also constructed along the Great Miami

River and Mad River, beginning in approximately 1915. The peak elevation of the Great Miami River was 740 feet AMSL in 1920, and the highest level recorded since has been 735 feet AMSL in 1928 and 1959. The flood stage is currently 741 feet AMSL.

3.4 GEOLOGY

3.4.1 REGIONAL GEOLOGY

Regionally, the Dayton area overburden is predominantly comprised of "buried valley" deposits consisting of sand and gravel with multiple units of till (see Figures 3.5 and 3.6). The Ohio Department of Natural Resources (ODNR) Division of Water identified two primary aquifers the immediate area of the Site. These include the Great Miami Buried Valley Aquifer and the Mad River Buried Valley Aquifer (see Figure 3.7).

ODNR Division of Water collected aquifer data during the State Aquifer Mapping Program conducted between March 1997 and March 2000. The Great Miami Valley Buried Aquifer is comprised of glacial outwash (sand and gravel deposits) with inter-bedded alluvium deposits. The aquifer is typically 150 to 250 feet thick.

Adjacent to and topographically upgradient of the Great Miami Valley Buried Aquifer, the Mad River Buried Valley Aquifer has a thickness that ranges from 25 to greater than 150 feet in the center of the valley. The thicker portions of the aquifer are predominantly comprised of sand and gravel.

Studies indicate a widespread presence of glacial till separating the buried valley aquifers into two distinct aquifers: an upper aquifer above the till and a lower aquifer below the till. Regionally, the till-rich zone is predominantly 10 to 30 feet thick and in some places extends to as much as 80 feet thick (Norris & Spieker, 1966).

While not encountered during exploration at the Site, USGS and ODNR well records indicate top of bedrock in the vicinity of the Site is approximately 205 feet bgs (see Figure 3.8). Bedrock in the area consists of Ordovician shale interbedded with dolomite and limestone.

3.4.2 SITE GEOLOGY

The Site is predominantly underlain by the Mad River Buried Valley Aquifer and sits within the Mad River Watershed. The ODNR State Aquifer Mapping Program

identified multiple till, or semi-confining, units within proximity of the Site separating the aquifers into "upper" and "lower" systems. In addition to water well records within a 1-mile radius of the Site submitted to ODNR, on-Site RFI borings confirm the presence of these laterally continuous till units, and indicate they are comprised of interbedded clays, silty sands, and sands.

Representative stratigraphy, which varies depending on the specific location at the Site, includes approximately 5 feet of fill, underlain by sand and gravel unit that ranges in thickness from approximately 25 to 50 feet in the vicinity of the Site, together these make up the unconfined upper aquifer.

The upper aquifer is underlain by the till-rich zone that contains lower permeability strata that represent the transition between the upper and lower aquifers. It is comprised of variable strata including very low permeability clays, silty sands and sands. Boring logs in the vicinity of the western portion of the Site identify the till-rich zone to be approximately 10 to 45 feet thick; while on the east to approximately 60 to 80 feet thick (MW-35-05 and MW-38-05). According to water well logs registered with ODNR and exploration logs from the RFI Investigation, the till-rich zone in the vicinity of the Site is comprised of up to three or more different layers (lenses) of clay rich till. For the RFI, clay rich till included strata containing more than 50 percent fine grains (as defined by the USCS soil classification system) including silt, elastic silt, clays or organic soils. In general, the low permeability till encountered at the Site includes 80 to 85 percent fine grained material, 15 to 20 percent coarse grained material.

Underlying the till-rich zone is the lower aquifer, comprised of sand and gravel to depths of approximately 200 feet bgs. Figures 3.10, 3.11, and 3.12 are cross sectional interpretations of the overburden in the Mad River Buried Valley Aquifer in the vicinity of the Site. The locations of these section lines are illustrated in map view on the Site plan, Figure 3.9.

3.5 SITE HYDROGEOLOGY AND HYDROGEOLOGIC CONCEPTUAL MODEL

The Site hydrogeologic conceptual model is based on information collected during the RFI Investigations and information from the Ohio Department of Natural Resources (ODNR) Division of Water, the Miami Valley Conservancy District (MCD), and the US Geological Survey (USGS).

Groundwater flow in the two main highly permeable aquifers at the Site, the upper and the lower aquifers, is dominated by horizontal flow, while flow in the till rich zone is predominantly vertically downward (at a low velocity due to the low hydraulic conductivity materials that comprise this unit), likely the result of pumping of the lower aquifer. Upward gradients have been identified within the upper aquifer along the Mad River.

3.5.1 UPPER AQUIFER

The upper aquifer is an unconfined unit that ranges in thickness from approximately 25 to 50 feet in the vicinity of the Site. Based on data gathered from Site investigations and review of ODNR well logs, hydraulic conductivity in the upper aquifer is estimated to range from approximately 100 to 400 feet per day (ft/day) or 3.5×10^{-2} to 1.4×10^{-1} cm/s (see Appendix B).

While low-permeability clay-rich beds are interspersed throughout this system, flow is dominated by highly conductive, laterally continuous sand and gravel deposits. Local gradients across the Site consistently trend from east to west-northwest toward the Mad River, which borders the Site to the north (see Figures 3.13, 3.14, 3.15, and 3.16). A more robust river elevation network was established in January 2006 and is noted on Figures 3.13 and 3.14.

As depicted on potentiometric surface maps (Figures 3.13 through 3.16), local gradients in the upper aquifer across the Site vary within a narrow range, with a geometric mean of 0.0011 ft/ft, ranging from 0.0009 to 0.0012 ft/ft. The January 16, 2006 groundwater elevation event, as depicted on Figure 3.14, was taken after 0.5 inch of rain within 10 days prior, while the February 27, 2006, on Figure 3.13, event took place with no rain within the 10 prior days (MCD Website). The upper aquifer gradients varied only 0.0001 ft/ft and direction of flow was consistent from the east to the west-northwest.

As discussed previously, potentiometric surface mapping of the upper aquifer demonstrates flow toward and discharge to the Mad River. This is based upon both the lateral and upward vertical hydraulic gradients adjacent to the river. The vertical flow regime in the upper aquifer is illustrated with flow nets based upon water level measurements from February 27, 2006 on Figures 3.18, 3.19, and 3.20. The orientation of these section lines are illustrated in map view on the Site plan, Figure 3.17. These flow nets illustrate vertical flow in the vicinity of the river from the lower portion of the upper aquifer upward into the Mad River. This flow is driven by higher potentiometric

heads measured in deeper upper aquifer wells screened at the base of this unit relative to lower heads observed in shallower wells and the Mad River.

3.5.2 TILL-RICH ZONE

Regional studies have shown a widespread presence of relatively impermeable layers of till separating the upper and lower aquifer (Norris and Spieker, 1966). A till-rich zone is consistently observed across the Site and contains significantly lower permeability strata that separate the upper and lower aquifers. Boring logs in the vicinity of the Site identify the till-rich zone to be varying in thickness from approximately 10 to 45 feet thick in the west to 80 feet thick in the east. Although the till-rich zone varies in thickness, it is consistently present across the Site. Figure 3.21 illustrates a contour plan of the uppermost clay layer that comprises the upper portion of the till-rich zone.

Hydraulic conductivities in the till-rich zone vary widely depending on the relative composition of clays, silts and fine-grained sands. Values of lower permeability layers, as measured in the laboratory, range from 1.7×10^{-4} to 5.0×10^{-4} ft/day or 6.1×10^{-8} to 1.8×10^{-7} cm/s. Based on data gathered from Site investigations and review of ODNR well logs, hydraulic conductivity for the more conductive layers is estimated to range from approximately 60 to 130 ft/day or 2.0×10^{-2} to 4.5×10^{-2} cm/s. The composite vertical hydraulic conductivity is controlled by the lower-permeability layers, and is thus not likely to significantly differ from the upper value for hydraulic conductivity of the lower permeability layers derived in the laboratory, 5.0×10^{-4} ft/day or 1.8×10^{-7} cm/s (see Appendix B).

The primary direction of groundwater flow in the till-rich zone is vertically downward and results from two factors: nearby pumping and lower permeability strata. First, continual pumping in the lower aquifer from multiple high-yield production wells, the closest of which, Dayton Public Schools Career Academy Geothermal Well (Geothermal Well) is located approximately 650 feet west of the western boundary of the Site (see Section 3.8.2), has set up a very strong vertical gradient between the upper and lower aquifers. Secondly, lower permeability strata generally tend to refract equipotential lines, because of the permeability contrast, to create a vertically dominated flow system.

The combination of reduced head in the lower aquifer, resulting from continuous high-yield pumping, and low permeability create a flow regime that is predominantly vertically downward through the till-rich zone (see Table 3.1). Connection of the till-rich zone to the lower aquifer is substantiated by immediate, though attenuated, response of till-rich zone wells to pumping in the lower aquifer (see Section 3.5.4.1). Figure 3.22

presents the maximum drawdown observed in individual wells during the September 2005 datalogger event. Again, the highest drawdown (greatest response to pumping) occurred in lower aquifer wells closest to pumping centers. This drawdown was observed in till-rich zone wells. No significant drawdown was recorded in upper aquifer wells.

3.5.3 LOWER AQUIFER

The lower aquifer is a confined system with a saturated thickness that is approximately 110 feet thick in the vicinity of the Site. Based on data gathered from Site investigations and ODNR well logs, hydraulic conductivity in the lower aquifer is estimated to range from approximately 170 to 430 ft/day or 6.0×10^{-2} to 1.5×10^{-1} cm/s (see Appendix B for detail).

Regionally, flow in the lower aquifer trends to the southwest, following the general trend of the Great Miami Buried Valley Aquifer (Figure 3.8). However, the lower aquifer is widely tapped by regional water production wells and these wells create localized capture zones that change flow conditions (see Section 3.8.2). For example, the Geothermal Well located approximately 650 feet west of the Site, continuously extracts lower aquifer groundwater and creates a capture zone in the lower aquifer that encompasses the Site (see Figures 3.23, 3.24, and 3.25).

Two monitoring wells, MW-35-05 and Day 22 screened at depths similar to other lower aquifer wells, do not appear to be hydraulically connected to the rest of the flow system described above. The wells are upgradient and located south and east of the Site, are screened below approximately 80 feet of till-rich zone. Groundwater monitoring and data logger measurements in these wells indicate that groundwater elevations are consistently higher (greater than 10 feet) than other lower aquifer wells in the vicinity. Additionally, the data logger measurements indicate that these wells do not respond as other lower aquifer wells do to pumping in the lower aquifer. It appears that these wells are hydrogeologically separated from the other lower aquifer wells. As such, they are not included in lower aquifer groundwater elevation contour maps.

3.5.4 AQUIFER RECHARGE

The Dayton area typically receives approximately 40 inches of precipitation annually based on data from 1971 to 2000 (NOAA, 2004). The majority of recharge enters the aquifer to the east and south of the Site in the upper elevations of the Mad River at

Mouth and Great Miami River at Stewart Street. Eberts and George (2000) indicate recharge rates of 12 inches per year (in/yr) through outwash deposits and 8 in/yr through glacial till on uplands of the Great Miami River Basin.

Recharge to groundwater enters the regional aquifer systems at higher topographic elevations in non-paved areas and contributes to both the upper and the lower aquifers. Within the upper aquifers, the uplands are the driving head for the systems as groundwater flow is from the upper topographic elevations towards topographic low discharge points where the river systems are located (Eberts and George, 2000).

Recharge to the aquifers in the vicinity of the Site is principally through induced infiltration, which results from the large-scale groundwater development in the Dayton area. The valley-fill deposits are recharged via infiltration through riverbeds, which are fed themselves from precipitation run-off or seepage above the Dayton area, where the water table in the buried valleys beneath the rivers has been sufficiently lowered by pumping to reverse its natural horizontal hydraulic gradient (Norris and Spieker, 1966).

3.5.4.1 AQUIFER INTERACTION

Two pumping systems that appear to exert a strong influence on the lower aquifer at the Site include: the Geothermal Well and the seven wells for RiverScape Metropark's Five Rivers Fountain of Lights (Fountain Wells). The systems are described in more detail in Section 3.8.2. Impact from these pumping influences on the upper aquifer, till-rich zone, and the lower aquifer were evaluated using data loggers.

In September 2005, 42 wells were monitored using data loggers to provide information on groundwater interaction between the upper aquifer, the till-rich zone, and the lower aquifer in response to nearby pumping wells. Data loggers were placed in monitoring wells, test wells associated with the Fountain Wells and in the former Geothermal Well. In 2004, the Dayton Public Schools Career Academy installed a second replacement Geothermal Well located approximately 10 feet from the former Geothermal Well. The former Geothermal Well still exists but is no longer pumped.

Response to lower aquifer pumping is greatest in test wells (TW) closest to the Fountain Wells (FW) and decreases with distance from the Fountain wells. Response also decreases up-section from the lower aquifer, to the till-rich zone. No response is observed in the upper aquifer. Maximum groundwater elevation changes due to combined pumping are approximately 15 feet in TW-5 and 4 feet in the former Geothermal Well. In the till-rich zone, maximum changes are approximately 1.5 feet in

MW-45-05. Negligible (less than 0.1 ft) drawdown was observed in upper aquifer wells (see Figure 3.22*).* The lack of response to pumping in the upper aquifer supports the conclusion that the till-rich zone provides a substantial barrier to downward flow.

Figure 3.26 illustrates groundwater elevations measured by the data loggers in monitoring wells screened in the upper aquifer, till-rich zone, and lower aquifer for the full duration of the September 2005 monitoring event. The responses of groundwater elevations to pumping can be generally classified into three types that correspond to the well screen intervals in the upper aquifer, till-rich zone and lower aquifer. Exceptions to this classification include MW-35-05 and Day 22 in the lower aquifer and MW-36-05 in the till-rich zone (see Section 3.5.3 for further description).

Drawdown and recovery patterns in till-rich zone wells are identical in periodicity to lower aquifer wells with no discernable lag in response time. This observation indicates a strong hydraulic connection between the lower aquifer and the till-rich zone and is consistent with the understanding that groundwater flow in the till-rich zone is vertically downward.

Daily 15-minute periodicity associated with the Fountain Wellsis evident in water level responses in the lower aquifer (see Figure 3.26) and, to a lesser degree, in the till-rich zone. This periodicity is a result of the Fountain Wells pumping schedule (see Section 3.9.2).

Tracking the pumping influences using data loggers provided unique opportunities to evaluate groundwater elevations and drawdown under varying pumping scenarios. On September 20, 2005, it appears that only the Geothermal Well was pumping. Figure 3.24, lower aquifer groundwater elevation contour map from September 20, 2005 at 17:00 indicates aquifer response to the Geothermal Well pumping alone. Under this scenario, lower aquifer groundwater from underneath the Site is captured by the Geothermal Well.

On September 25, 2005, it appears that all Fountain Wells and the Geothermal Well operated for the full day without interruption. Lower aquifer groundwater elevation map (Figure 3.25), and drawdown cross section (Figure 3.22) on September 25, 2005 at 21:00 illustrate aquifer response to uninterrupted sustained aquifer draws from all of the Fountain Wells and the Geothermal Well. Under this scenario, lower aquifer groundwater underneath the Site is also captured by the Geothermal Well.

In summary, this data logger monitoring event corroborates the hydrogeologic conceptual model regarding hydrological interactions between the three units, as

represented in Section 3.5. The negligible response in the upper aquifer demonstrates that it is hydraulically isolated from the lower aquifer and the till-rich zones. The attenuated but immediate response to pumping observed in the till-rich zone demonstrates its hydraulic connection to the lower aquifer. The attenuated response in the till-rich zone verifies that this zone has a significantly lower hydraulic conductivity than the lower aquifer. Additionally, the Geothermal Well captures lower aquifer and till-rich zone flow from underneath the Site, even while the Fountain Wells were pumping.

3.6 BACKGROUND SOIL CHARACTERIZATION

Seven background soil samples were collected by CRA on July 24, 2001. An additional background soil sample was requested by U.S. EPA and was collected by CRA on November 29, 2004. The sampled locations were selected such that they were not near streets or other areas of regular vehicular traffic. Surveyed background soil sampling locations are identified on Figure 3.27. Detailed illustrations of the eight background soil sampling locations are presented on Figures 3.28 through 3.35.

Samples were collected over either the 0- to 2-foot or 2- to 4-foot bgs interval using a 2-inch diameter split-spoon sampler which was advanced into the ground using a jack-hammer. Samples were analyzed for TCL/TAL parameters (i.e., TCL VOCs, TCL SVOCs, TCL pesticides/PCBs, TAL metals, and cyanide) and herbicides. Analytical data are presented in Appendix G.

The background soil data were discussed and presented in a technical memorandum in April 2005 (ENVIRON, 2005). In summary, toluene, SVOCs and pesticides were detected in one or more background soil samples, but at levels believed to be within expected anthropogenic background levels. Consequently, there is no evidence of Site-related contamination that should preclude the use of these samples for assessing background levels of metals in soil in Dayton, Ohio. The sample concentrations of metals and selected concentration statistics are presented in Table 3.2.

3.7 LAND USE

3.7.1 CURRENT SITE ZONING AND LAND USE

The Site is currently zoned as a Heavy Industrial District as shown on Figure 3.36, and the City of Dayton has proposed to rezone the area as an Urban Business District as

shown on Figure 3.37. An excerpt of the proposed city of Dayton zoning code is presented in Appendix C.

The Site was used as a warehouse by Peerless until 2005 and is currently undergoing redevelopment by the City of Dayton as discussed in Section 3.7.3.

3.7.2 SURROUNDING LAND USE

The Site is located in the City of Dayton, Montgomery County, a large industrial city located in southwestern Ohio. The Site is located south of and adjacent to the Mad River, in an area of manufacturing, commercial, and residential land use (see Figures 3.36 and 3.37). A large military complex, WPAFB, is located upstream from the Site along the Mad River. The Site is located less than 1/2 mile east of downtown Dayton businesses and government centers.

The areas south, west, and east of and adjacent to the Site are industrial and commercial. The Dayton Dragons Fifth Third Field, a minor league baseball stadium, was recently constructed near the Site. Interstate I-75 is located west of the Site, along with a number of interchanges and bridges spanning the Great Miami River and Mad River. The nearest residential land is located approximately 1/4 mile north of the Site across the Mad River; the closest residential property west of the Site is approximately 1/2 mile across the Mad and Great Miami Rivers, and the closest residential property south of the Site is approximately 1/2 mile. No hospitals are located within 1/2 mile of the Site. Patterson High School is located approximately 1/2 mile southwest of the Site, Webster School is located approximately 1/2 mile northeast of the Site, ISUS Trade and Technology Prep is located one city block southeast of the Site (southeast corner of Monument Avenue and Keowee Street) and the Career Academy is located one city block west of the Site (River Corridor Drive).

The properties surrounding the Site were historically used for a variety of industrial purposes including:

- manufacturing (Duro Company galvanizing and lacquer spraying, Daytrol Corporation electrical manufacturing, Barantine Brothers machine shop, Dayton Motor Truck Company machine shop, and Dayton Screw Company machine shop);
- leather treatment (E. Raum & Sons Hides Company);
- foundry operations (Barney & Smith Manufacturing Company);
- coal storage (Murphy Coal Storage);

- asphalt and paving (Trinidad Asphalt and Paving Company);
- filling station; and
- railway siding.

3.7.3 PROPOSED REDEVELOPMENT

The City of Dayton has proposed to construct commercial/industrial buildings, parking areas and green space on the Site as part of Tech Town as shown on the City of Dayton Redevelopment Plan (Figure 3.38). The land use plan includes 16 buildings that will provide 574,650 square feet, two parking structures and surface parking to allow 1,263 parking spaces, and a central park area. The Site is proposed to accommodate a worker population of approximately 1,150 people.

Phase 1 of the redevelopment, which includes the area between Webster and Taylor Streets, has been initiated. Aboveground demolition is complete, and Site regrading began in March 2006. As part of Site regrading, the Building 12 basement is being filled and the Building 24 basement has been made permanently inaccessible by blocking the access points with concrete floors. Phase 2 of the redevelopment is anticipated to include the area between Taylor Street and the railway. Peerless has vacated this area and asbestos abatement activities are anticipated to begin in 2006. Aboveground demolition is anticipated to begin in 2007, depending on the asbestos abatement schedule. The central park feature will be a permanent part of the redevelopment, as required by the Clean Ohio Fund. Phase 3 of the redevelopment is anticipated to include the area between the railway and Keowee Street.

3.7.4 DEMOGRAPHICS

The 2000 census population for the City of Dayton was 166,179. The 2000 census population for all of Montgomery County was 559,062 and the population estimate for 2003 was 552,187. There are approximately 229,229 households in the county (U.S. Census Bureau, November 2, 2000).

3.8 GROUNDWATER USE

3.8.1 WATER USE RECONNAISSANCE

Interviews with OEPA and the City of Dayton, Department of Water confirm that no public drinking water systems exist within a 1-mile radius of the Site. Therefore, it is not reasonably expected that there are any unregistered users of groundwater as drinking water in the vicinity of the Site. To provide greater certainty, however, ODNR water well records were researched and neighborhood reconnaissance was conducted to identify potential private users or points of groundwater extraction in the vicinity of the Site.

Based on review of water well records registered with ODNR, the following is a summary of potential or known aquifer draws within a 1-mile radius of the Site. Wells that are known or have the potential to be pumping in the upper and lower aquifers are illustrated on Figures D.3 and D.4 in Appendix D of this document. A complete summary of this review including tables and logs is also located in Appendix D. While the ODNR records review was focused on the area within 1 mile of the Site, additional information outside this area was noted and is also provided in Appendix D.

To identify potential groundwater users, records of unknown use ONDR wells known or suspected to be pumping within a 1-mile radius of the Site were cross-referenced against active water billing accounts by the City of Dayton Water Engineering Department. In the upper aquifer, three ODNR wells (166031, 183365, and 267364) were identified to be potentially pumping wells of unknown use that, upon review, were not confirmed to have active water billing accounts. Field reconnaissance indicates the associated parcels are abandoned or demolished. None of these well locations exist down gradient of the Site.

In the lower aquifer, two ODNR wells were identified to be potentially pumping that, upon review, did not have active water billing accounts. These wells are identified to exist down gradient of the Site, 374388 and 471162 at H.R. Rieck & Son, Inc, a business that no longer exists. Field reconnaissance identified a demolished building slab associated with well 374388. Two corners of the intersection associated with well 471162 were demolished, buildings at the other two corners have active water billing accounts. Therefore, there are no known users of lower aquifer groundwater for potable use in this area.

In addition, neighboring addresses within a 1/2- mile radius of the Site, south of the Mad River and west of Keowee Street, have been compiled and reviewed against active

water billing accounts. Of the 125 addresses identified, all but 7 addresses were confirmed to have active water billing accounts. Field reconnaissance identified these 7 addresses as having no building or a vacant building on Site.

3.8.2 UPPER AQUIFER

As indicated by the potentiometric surface map (see Figures 3.13 to 3.16), and as discussed in Section 3.5.1, groundwater in the upper aquifer groundwater flows to the west-northwest toward the Mad River where it discharges. No ODNR-registered wells exists upgradient of the Site and south of the Mad River, the point of upper aquifer discharge.

Three non potable dewatering wells were identified within close proximity of the Site, as a result of the ODNR records review. The City of Dayton operates two upper aquifer dewatering pumps (ODNR 571202 and 571203) at the St. Rte. 4 and Keowee St. underpass located east-northeast of the Site. The Improved Solutions for Urban Systems (ISUS) building operates an upper aquifer dewatering well at the southeast corner of Monument and Keowee St. (ODNR 966154). While groundwater withdrawal rates are not known, groundwater level logger data indicate that these pumping influences do not extend to nearby upper aquifer wells. Additionally, the wells are either up gradient of the Site or north of the point of discharge.

3.8.3 LOWER AQUIFER

As indicated by the USGS, groundwater in the lower aquifer in the region flows to the south-southwest following the trend of the buried glacial valley (1966). Deviations in the regional groundwater flow trend are attributed to pumping wells screened in the unit. Underneath the Site, lower aquifer groundwater flow is from east to west, toward the Geothermal Well. While no potable use wells are known to exist down gradient, several non-potable use wells have been identified within a half mile of the Site. Known aquifer draws in the lower aquifer include the Geothermal Well, the Fountain Wells, and the irrigation well for the Dayton Dragons Fifth Third Field (Stadium Well).

There are two pumping systems that appear to influence the lower aquifer at the Site: the Geothermal Well and, to a lesser extent, the seven Fountain Wells.

DAYTON PUBLIC SCHOOLS CAREER ACADEMY GEOTHERMAL WELL

The Dayton Public Schools Career Academy, located due west of the Site, continually pumps from a single lower aquifer production well (ODNR 966160) as part of their HVAC system. The well is screened from 130 to 150 feet bgs (ODNR). The current Geothermal Well is pumped, at approximately 340 to 410 gallons per minute (gpm), unless shut down due to system maintenance. While data logger information from September 2005 indicate this pump may have periodically operated on 15-minute cycles, the system currently operates continuously. GM and Dayton Public Schools are in the process of formalizing an agreement regarding Geothermal Well pumping. Return water is discharged to the storm sewer (personal correspondence, Ernie Blouch, November 2005).

WELLS FOR RIVERSCAPE METROPARK'S FIVE RIVERS FOUNTAIN OF LIGHTS

Seven production wells (ODNR 874320, 874321, 874322, 874323, 874324, and two unregistered) are periodically operated to feed RiverScape Metropark's Five Rivers Fountain of Lights. These wells are screened to approximately 200 and 235 feet bgs and reportedly pump groundwater at rates as high as 3,000 gpm. Fountain operation is variable. During summer months, the Fountain Wells run for 2 minutes at 15-minute intervals; unless the high-wind sensor shuts the system down. In addition, during special events, Fountain Wells may operate for longer periods.

Normal operation schedule of the Fountain Wells in 2005 is from April 1 through October 31, every 15 minutes at :01, :16, :31, and :46 for approximately 2 minutes. Posted hours of operation are: Monday through Friday, 0700 to 2200 and weekends 1100 to 2200 except on evenings of laser light displays.

Laser, Light and Music Shows are presented on Friday and Saturday evenings through Labor Day weekend and on nights when the local baseball team, the Dayton Dragons, play home games. Shows last approximately 15 minutes and are weather dependent. On evenings when wind conditions do not permit use of the water screen, one of two all laser beam shows are presented at Festival Plaza. On nights when Dayton Dragons home games run later than the laser show starting time, an additional laser show is shown approximately fifteen minutes after the game ends (www.riverscape.org).

Wind sensors situated on Fountain Well jet-towers automatically shut off Fountain Wells: Fountain Wells 1, 2, 3, 4, and 5 with wind speeds at 8 mph from any direction except southwest, and Fountain Wells 6 and 7 will shut off with speeds in excess of

14 mph from any direction. Wind sensors were placed on Fountain Well towers to avoid overspray of groundwater on nearby roads, highways, buildings, and other structures.

IRRIGATION WELL FOR DAYTON DRAGONS FIFTH THIRD FIELD

Located southwest of the Site, the Dayton Dragons Fifth Third Field operates an irrigation well (ODNR 879102) screened in the lower aquifer, approximately 128 to 148 feet bgs. This well has a pump capacity of 150 gpm and operates during the spring and summer months when the ball field has not received 1.5 to 1.75 inches of rainfall in a week. Based on average rainfall data from NOAA for the period of January 1996 to April 2005, the ball field may require operation of the irrigation well on a weekly basis for 12 weeks during the summer months. The pump operates intermittently over a 5- to 6-hour period, generally at night, delivering groundwater via 70 sprinkler heads over eleven zones.

3.8.4 FUTURE GROUNDWATER USE

Personal communication with Jeff Kangas of the City of Dayton Water Engineering Department confirmed that properties within in the City are to use municipal water supply for potable use. However, given the prolific nature of the aquifer, wells used for groundwater extraction for dewatering, irrigation and geothermal uses are unrestricted, but would require a permit from ODNR.

3.9 ECOLOGY

3.9.1 HABITAT CHARACTERIZATION

This habitat characterization is based on observations made by Exponent during ecological reconnaissance of the Site in June 2001 and March 2005. Ecological features and habitats were noted, and ecological communities that may be present were identified. An EPA Region 5 ecological risk assessor was present during the 2005 reconnaissance, and also visited the Site in May 2003.

The Site comprises the following areas:

- former manufacturing buildings and warehouses in the parcels east of Webster Street and west of the CSX railway;
- the "G Lot" parcel east of the railway and west of Keowee Street; and
- the Mad River levee, adjacent to the Site to the north.

Generally speaking, the two parcels east and west of the railway are fully developed, with little unpaved surface or natural vegetation, and no surface-water impoundments or streams. There are therefore no significant terrestrial or aquatic ecological habitats present on the developed portion of the Site. Ecological habitats that are potentially affected by Site-related activities and chemicals are limited to the banks of the Mad River outside of the fenced perimeter and the Mad River itself.

3.9.2 MAD RIVER

The Mad River forms the northern boundary of the Site, which is located at approximately RM 0.4, within urban Dayton. The Mad River is a 60-mile-long tributary of the Great Miami River in southwestern Ohio, draining an area of approximately 657 square miles. The upper Mad River is one of the few Ohio watersheds that provides coldwater habitat for aquatic life, and it supports a stocked trout fishery. The lower reach of the Mad River in the vicinity of Dayton is designated as warm-water aquatic habitat (Ohio Administrative Code 3745-1-21). This reach attained a "good" rating of biological health from the Miami Conservancy Watershed Initiative, despite impairment by point sources of pollution, bank and channel modifications, polluted runoff (non-point sources), and urban development (Miami Conservancy, 2002).

The Mad River within urban Dayton has been highly altered by human activity. Habitat is degraded as the result of channelization and human activity, as is typical of urban rivers. The channel is actively managed as a floodway, with flow being regulated by Huffman Dam at RM 6. Riparian habitat is completely absent in the lower reach, due to the presence of earthen flood control levees on each bank and regular mowing of the banks and levee sides to facilitate flow during flood events. The levees are the major topographic feature defining the surface drainage patterns of the Site and surroundings. The confluence with the Great Miami River, which has been similarly modified, is within the urban center of Dayton. More natural stream and bank habitats, including a more natural riparian corridor along the banks, exist upstream of the Site, outside the Dayton city limits. The riverbed and floodbanks within the levees are subject to seasonal flooding and sediment scour.

3.9.2.1 CITY OF DAYTON STORMWATER ASSESSMENT

In 2000, a team of scientists from the Institute of Environmental Quality at Wright State University conducted an assessment of the effects of municipal stormwater on the

Lower Mad River for the City of Dayton. The study area for this assessment included the reach where the Site is located. The work was conducted from May to October 2000 to encompass low to high flow conditions. Burton et al. (2001) conducted toxicity studies, habitat evaluations, studies on macroinvertebrate communities, and four rounds of water and one round of sediment chemical analysis at the following stations:

- Deeds, near the mouth (RM 0.02), downstream of the Site;
- GHR Foundry (RM 0.7);
- Ottawa Yard (RM 1.0);
- Wellfield, below first major City of Dayton outfall (RM 1.7);
- Huffman Dam, below the dam and upstream of the first City outfall, reference site (RM 6.0); and
- Paris, St. Paris Pike, above the City of Springfield, reference site (RM 29.5).

Invertebrate toxicity of sediments and water were assessed using both *in situ* exposures and laboratory bioassays. The amphipods *Daphnia magna* and *Hyalella azteca*, were placed in open cells in the river and exposed to sediment and overlying surface water for two to seven days during the five exposure periods for each station. Some toxicity was observed at sites upstream of Dayton (Huffman Dam and Paris) during certain exposure periods. During the high-flow period, the Paris reference site had the poorest survival rate. This suggests that stressors causing the observed toxicity are due to influences that originate upstream of the City of Springfield, and that water quality is improved by the time it reaches the City of Dayton. The study authors hypothesized that agricultural inputs and pesticide runoff may be issues of concern upstream of Dayton. The *in situ* toxicity that was observed at some locations did not correlate with the grab sample chemistry.

The habitat and benthic macroinvertebrate community assessments concluded that habitat ranged from good to fair at the study sites. The lower portion of the river in the vicinity of the Site was reported to be subject to seasonal extreme flows and sediment scour, with degraded habitat conditions as a result of extreme channelization and the absence of a riparian zone between the two flood-control levees. This poor habitat likely prevents the establishment of many desirable aquatic communities (Burton et al., 2001). However, upstream sites (Huffman and Paris) show acceptable benthic communities despite some toxicity apparent during certain exposure periods.

The weight of evidence from the City of Dayton stormwater studies suggests that storm sewer discharges in the City are not significantly affecting aquatic communities in the

Mad River (Burton et al., 2001). Metals bioavailability is likely low due to the presence of acid-volatile sulfides (AVS) and high water hardness. The *in situ* toxicity observed at some locations did not correlate with the sample chemistry generated by the study. City of Dayton stormwater runoff (including runoff in the vicinity of the Site) did not appear to contribute significantly to any adverse effects that were observed during the toxicity testing. Although the study was not conducted specifically at the Site, the study data suggest that no contaminant-related impacts are occurring within the reach that is influenced by the Site, whether from stormwater or groundwater discharges. The major limitation on aquatic communities in the lower Mad River is likely to be reduced-quality habitat, due to channelization and active management of the river as a floodway.

3.9.2.2 OEPA INVESTIGATIONS OF MAD RIVER

The Ohio EPA conducted a study of the lower reaches of the Mad River in 1992 (OEPA 1994). Their report stated that the lower section of the Mad River had attained the Warmwater Habitat (WWH) criteria for aquatic life. The fish community was found to be fair to exceptional in the study region, with the reach from RM 3.8 to RM 1.6 (upstream of the Site) meeting the Exceptional Warmwater Habitat (EWWH) criteria. Rivers and streams meeting the EWWH criteria support unusual and exceptional assemblages of aquatic organisms with a high diversity of species, including those that are highly sensitive to water quality.

Elevated mercury (0.1 ppm) was found in Mad River sediment during the 1992 study at RM 7.4, in the region of Hebble Creek. Elevated levels of mercury, lead, and polyaromatic hydrocarbons (PAHs), including benzo(a)athracene, benzo(b)fluoranthene, and chrysene, were found in an impounded portion of Hebble Creek.

In 2003, biological and habitat assessments were conducted by the OEPA at eight sites along the Mad River from Donnels Creek (RM 17.5) to the Great Miami confluence. This work included assessing the fish and invertebrate communities, and evaluating habitat attributes, fish tissue chemistry, and sediment and surface-water chemistry. The four sites in the lower reach of the Mad River were found to support fish and macroinvertebrate communities that were indicative of good water quality and acceptable habitat. One of these sites, at RM 0.3, is located just downstream of the Site, near the Webster Street bridge and storm sewer outfall.

As part of the same study, OEPA also collected fish tissue for chemical analysis at two locations upstream of the Site:

- Downstream of the Huffman Dam (RM 5.9); and
- Findley Street (RM 1.6).

Cadmium, mercury, selenium, some pesticides, and PCBs were detected at low concentrations in fish collected from both of these stations. One channel catfish collected at Findley Street contained approximately 3 ppm PCB, reported as Aroclor® 1254. However, all other chemicals were detected at concentrations below 1 ppm.

3.9.3 PROTECTED SPECIES AND HABITATS

The Ohio Natural Heritage Database and the U.S. Fish and Wildlife Service (U.S. FWS) Field Office in Reynoldsburg, Ohio, were consulted to obtain a list of state and federal protected fish, wildlife, and plants, or special natural areas in the Site vicinity. The Ohio Department of Natural Resources, Division of Natural Areas and Preserves identified one fish species of concern, burbot (*Lota lota*), and one threatened mussel, pondhorn (*Unimerus tetralasmus*), as occurring in the Great Miami River upstream of the Mad River confluence. One fish species of concern, river redhorse (*Moxostoma carinatum*), has been reported to occur in the lowest reach of the Mad River. There are no existing or proposed state nature preserves, or habitats with special legal protection in the Site vicinity.

4.0 INVESTIGATION RESULTS AND DISCUSSION

The scope and rationale for the RFI and IM investigations are detailed in the following documents:

- "RFI Work Plan" (CRA, February 4, 2002);
- "Proposed Stage 2 RFI Sampling" (CRA, January 20, 2003);
- "Proposed Stage 2 RFI Sewer Sampling Strategy" (CRA, May 26, 2003);
- "Proposed Stage 3 RFI Sampling" (CRA, October 15, 2003);
- "Proposed Stage 4 RFI Sampling - Revised" (CRA, December 7, 2004);
- "Stage 5 Hydrogeology Work Plan" (CRA and H&A, April 22, 2005);
- "Stage 6 Hydrogeology Work Plan" (CRA and H&A, June 24, 2005);
- "Interim Measures Work Plan" (CRA, September 5, 2002);
- "Interim Measures Monitoring Results for AOI 1 (Revised)" (CRA, May 10, 2004); and
- "Field Event for API LNAPL Modeling" (BOW, April 11, 2005).

The results of the field investigations conducted during the RFI are discussed in this section.

Concrete core and wipe, soil, and storm sewer sediment and water results are discussed in Sections 4.1 through 4.5 based on the following five presentation areas (see Plan 1A/B), which are based on the overall layout of the Site:

1. **Webster to Taylor:** bounded by Webster Street on the west, Taylor Street on the east, Pitts Street on the south, and the Mad River levee on the north corresponding to Phase 1 of the City of Dayton's Tech Town redevelopment;
2. **Taylor to Railway:** bounded by Taylor Street on the west, the CSXT railway on the east, Pitts Street on the south, and the Mad River on the north corresponding to Phase 2 of the City of Dayton's Tech Town redevelopment, and including off-Site soil samples on the Mad River levee;
3. **CSXT Railway to Keowee:** bounded by the CSXT railway on the west, Keowee Street on the east, Pitts Street on the south, and the Mad River on the north currently slated for future development by the City of Dayton, and including off-Site soil samples on the Mad River levee;
4. **Off Site South:** bounded by Webster Street on the west, Pitts Street on the north, and includes all southern off-Site samples; and

5. **Off Site West:** bounded by Webster Street on the east and includes all western off-Site samples.

Each subsection includes a description of the AOI(s) located in the area investigated, the scope of the field investigations, a summary of the results, and discussion of the results with respect to whether a potentially significant release of hazardous constituents has been identified and if so, the nature and extent of the release.

Groundwater sample results are discussed on a Site-wide basis in Section 4.6. For the purpose of figure presentation, the groundwater figures are divided into three areas. Groundwater Area A includes monitoring wells located east of Webster Street, Groundwater Area B includes monitoring wells located in the vicinity of the Webster Street PCE release (AOI 1), and Groundwater Area C includes monitoring wells located west of Webster Street. Groundwater Area B includes a portion of Soil Area 1, Groundwater Area A includes Soil Areas 2 through 4 and a portion of Soil Area 1, and Groundwater Area C corresponds with Soil Area 5.

LNAPL sample results are discussed and presented on a Site-wide basis in Section 4.7.

4.0.1 SOIL SCREENING CRITERIA

The soil characterization data were compared with the following two types of soil screening criteria: 1) criteria based on direct contact with soil; and 2) criteria based on vapor intrusion.

DIRECT CONTACT

The primary set of direct contact soil screening criteria used to guide the field sampling during the RFI was derived from the U.S. EPA Region 9 risk-based, preliminary remediation goals (PRGs) for industrial soil (U.S. EPA, 2004). U.S. EPA Region 9 calculated these PRGs using conservative exposure factors for estimating high-end exposure of workers via incidental ingestion, dermal contact, and inhalation of airborne soil constituents in commercial/industrial settings. The risk-based PRGs published by U.S. EPA Region 9 are based on a target cancer risk of 10^{-6} and a target hazard quotient (HQ) of 1.

These PRGs were chosen as the basis for deriving the primary set of direct contact soil screening criteria because they are based on an exposure scenario that is consistent with or conservative for the current and reasonably expected future land use at the Site (see

discussion in Section 3.7). The exposure factors used in these U.S. EPA Region 9 PRGs are highly conservative assumptions about the magnitude, frequency, and duration of exposures, which in combination are expected to provide estimates of exposures that are higher than actual exposures to a large portion (90 to 99 percent) of worker populations. For example, the U.S. EPA Region 9 PRGs include the use of an assumed soil ingestion rate of 100 mg/day, which is twice as high as U.S. EPA's standard default ingestion rate of 50 mg/day (U.S. EPA, 1991).

The target cancer risk of 10^{-6} used in the U.S. EPA Region 9 cancer-based PRGs is based on the assumption that workers at a site would be exposed to a large number of carcinogenic chemicals in soil. According to U.S. EPA, a target risk of 10^{-6} can be used to develop soil screening criteria (like the PRGs) to ensure that cumulative cancer risk from exposure to multiple human carcinogens in soil at a particular site would not exceed the acceptable cumulative risk limit of 10^{-4} (61 *Federal Register* 19432, May 1, 1996; U.S. EPA, 1996; U.S. EPA, 1991). Using a target cancer risk of 10^{-6} actually means that an individual can be simultaneously exposed to as many as 100 human carcinogens at concentrations equal to the PRGs, and the cumulative cancer risk estimate for the exposure would not exceed 10^{-4}.

At many sites, including at this Site, workers are potentially exposed to far fewer human carcinogens in soil (i.e., closer to 10 than 100) so that the PRGs calculated using a target cancer risk of 10^{-6} are far more conservative than necessary to protect for simultaneous exposures to multiple carcinogens in soil. As such, the cancer-based PRGs were adjusted to a target cancer risk of 10^{-5} before they were used as screening criteria to guide the field sampling during the RFI at this Site. The appropriateness of making this adjustment was verified by calculations of cumulative cancer risks based on actual RFI soil characterization data, which are discussed in Section 5.0.

In addition to the PRGs, which are based on industrial/commercial operations, the soil data collected during the RFI were screened against a set of direct contact criteria that are based on worker contact during short-term redevelopment (construction) activities, since the City of Dayton is currently redeveloping a portion of the Site for commercial/industrial reuse (see Section 3.7.3). Redevelopment worker criteria were derived by ENVIRON to identify soil conditions that might result in potentially significant exposure to redevelopment workers via incidental ingestion, dermal contact, and inhalation. These soil screening criteria were calculated using U.S. EPA-derived cancer toxicity values and noncancer toxicity values (subchronic values if available), and were based on a target cancer risk of 10^{-5} and a target HQ of 1. Derivation of these criteria is discussed further in Appendix E.

VAPOR INTRUSION

The vapor intrusion soil screening criteria were derived to identify soil conditions that might result in potentially significant exposure of workers to indoor air concentrations if constituents in the soil were to volatilize and migrate through building foundation cracks into indoor air. These criteria were derived using a vapor intrusion modeling approach recommended by U.S. EPA (2003) for screening-level analysis. The model parameters related to soil properties were based on site-specific soil conditions. The model parameters related to building characteristics were generally based on conservative regulatory default assumptions for a hypothetical commercial/industrial building, except that the vapor intrusion criteria were based on the smallest footprint for any building proposed as part of the City of Dayton's current redevelopment plan (Figure 3.38). The derivation also included a mass balance check to ensure that the mass of a chemical assumed to infiltrate into the building over the exposure period does not exceed an upper-bound estimate of the chemical's mass in the vadose zone underlying the building. These criteria were calculated using U.S. EPA-derived inhalation unit risk factors (URFs) and inhalation reference concentrations (RfCs). Like the direct contact criteria, these criteria are also based on a target cancer risk of 10^{-5} and a target HQ of 1. Derivation of these screening criteria is discussed further in Appendix E.

4.0.2 GROUNDWATER SCREENING CRITERIA

The groundwater characterization data collected from monitoring wells were compared with the following three types of groundwater screening criteria: 1) criteria based on drinking water consumption; 2) criteria based on vapor intrusion, and 3) criteria based on direct contact by maintenance workers with groundwater.

DRINKING WATER

The primary set of groundwater screening criteria used to guide the groundwater investigation during the RFI is based on maximum contaminant levels (MCLs) promulgated under the Safe Drinking Water Act, and similarly-derived concentration limits for chemicals that lack MCLs. The equivalent drinking water concentrations are generic risk-based drinking water limits calculated using conservative standard default exposure factors for estimating high-end exposures via daily drinking water consumption (U.S. EPA, 1991), and target cancer risk and target HQ of 10^{-5} and 1, respectively. Derivation of drinking water limits for chemicals that lack MCLs is discussed further in Appendix E.

As discussed in Section 3.8, groundwater at and down-gradient of the Site is not a current or reasonably expected future drinking water supply. No active water supply well exists at the Site and an extensive review of water use records during the RFI has identified no water supply well within a half-mile of the Site. Potable water at and around the Site is supplied by the City of Dayton. Therefore, use of the drinking water criteria to guide groundwater sampling during the RFI was highly conservative.

VAPOR INTRUSION

Groundwater screening criteria based on vapor intrusion were derived to identify groundwater conditions that might result in potentially significant indoor air exposures if constituents in shallow groundwater were to volatilize and migrate through cracks in building foundations into indoor air. The groundwater screening criteria for evaluating vapor intrusion into future on-Site buildings were derived using the same modeling approach that was used for deriving the soil vapor intrusion criteria. The screening criteria for evaluating vapor intrusion at off-Site locations down-gradient of the Site were derived similarly, except they were conservatively based on assumed vapor intrusion into a small hypothetical commercial/industrial building rather than the smallest future on-Site building in the Site redevelopment plan. Derivation of these criteria is discussed in Appendix E.

MAINTENANCE WORKER CONTACT

Groundwater screening criteria based on maintenance worker contact were derived to identify conditions in shallow groundwater that might result in potentially significant exposure of construction workers during occasional excavations that extend into the water table. These criteria were derived using conservative exposure factors for incidental ingestion, dermal contact, and inhalation of vapors from groundwater. They were calculated using a target cancer risk of 10^{-5} and a target HQ of 1. Derivation of these screening criteria is discussed further in Appendix E.

4.0.3 STORM SEWER SEDIMENT SCREENING CRITERIA

Sediment samples were collected during the RFI from the Site's storm sewers, as discussed in Section 2.2.6.2. Generic risk-based screening criteria for evaluating the significance of potential human exposure to storm sewer sediments are not available. Therefore, as a conservative approach to the identification of a potentially significant release to sediment, the sediment characterization data collected from storm sewers during the RFI were compared with the PRG-based soil screening criteria, which are

described above for evaluating long-term exposures of workers to soil. Use of these soil screening criteria for evaluating potential exposures to sediments in storm sewers is highly conservative, because potential exposures to storm sewer sediments are expected to be much lower than potential worker exposures to soil.

4.0.4 STORM SEWER WATER SCREENING CRITERIA

Water samples were collected during the RFI from the Site's storm sewers, as discussed in Section 2.2.6.2. Generic risk-based screening criteria for evaluating the significance of potential exposure to sewer water are not available. Therefore, the storm water characterization data were compared with the groundwater screening criteria that are based on maintenance worker contact with groundwater. Use of these groundwater screening criteria for evaluating potential exposures to storm sewer water is based on the expectation that potential exposure of maintenance workers to storm sewer water would be similar to exposure of maintenance workers to groundwater.

4.0.5 CONCRETE SCREENING CRITERIA

Bulk and surface-wipe samples of concrete were collected during the RFI from various buildings and analyzed for PCBs, as discussed in Section 2.2.6.3. These concentration data were compared to the low occupancy criteria set forth under TSCA [40 CFR 761.61(b)(4)(iii)] for porous surfaces (25 mg PCBs/Kg) and non-porous surfaces (100 μg PCBs/100 cm^2), respectively. The low-occupancy criteria are appropriate because the remaining buildings are not in use and are scheduled for demolition in later phases of Site redevelopment.

4.0.6 INTERPRETATION AND PRESENTATION OF SCREENING RESULTS

As discussed in Section 2.2.6.6, the PRG-based soil screening criteria, drinking water criteria, and TSCA criteria were used during the RFI field investigation to guide data collection. Soil, groundwater, storm sewer sediment, storm sewer water, and concrete data collected from each phase of the field investigation were compared with the respective screening criteria to facilitate judgment regarding whether sufficient characterization data have been collected to support a risk-based determination of whether interim measures or corrective measures are warranted.

As such, the comparison results were used during the RFI to distinguish constituents, media, and areas where further data collection should be considered from those where further data collection is not necessary. The comparison results were not used to eliminate constituents, media, or areas from a baseline risk assessment. All constituents positively identified in soil, groundwater, sediment, and surface water at the Site and all investigated areas are included in the baseline risk assessment discussed in Section 5.0.

The comparison results are presented in both screening summary tables and on databox figures. The comparison results for each matrix are presented on a separate screening summary table, which lists all the target constituents and the respective screening criteria and for each presentation area lists the number of analyses for each constituent, the number of detections, the range of detected concentrations, and the ratios of the highest detected concentration for each constituent to the screening criteria. A presentation area is identified to have a potentially significant release if it has at least one ratio that exceeds 1.

To facilitate judgment regarding whether the lateral and vertical extent of a potentially significant release has been adequately characterized, the data for certain constituents were selected for display on databox figures. The constituents chosen for databox display included all constituents with at least one concentration that exceeds any screening criterion in any matrix anywhere at the Site. Every concentration of these constituents at every sample location are shown on the databox figures, and each concentration that exceeds a screening criterion is coded (i.e., marked with one or more codes to indicate the specific criteria it exceeds) to facilitate spatial assessment of concentration distributions.

4.1 WEBSTER STREET TO TAYLOR STREET

This area is located in the western portion of the Site, bounded by Webster Street to the west, the Mad River levee to the north, Taylor Street to the east and Pitts Street to the south.

4.1.1 AOIS LOCATED IN THIS AREA

The AOIs located in the area between Webster and Taylor Street are shown on Plan 1A as follows:

- AOI 1 - Webster Street PCE release located west of Former Building 12;

- AOI 2 - Still Room located in Former Building 24;
- AOI 4 - Hazardous Waste Staging and Storage Areas located in Former Building 24;
- AOI 6 - Spill Interceptors located near Former Buildings 12 and 24;
- AOI 8 - Degreasing Units located in Former Buildings 12 and 24;
- AOI 10 - Paint Waste Accumulation Area located in Former Building 12;
- AOI 17 - Refrigerant USTs located south of Former Building 1A;
- AOI 18 - Storm Sewers located throughout the Site;
- AOI 19 - Process Sewers located throughout the Site;
- AOI 20 - Transformer Room located in the basement of Former Building 24;
- AOI 22 - Incinerator located near Former Building 16;
- AOI 23 - USTs and Former Still located north of Former Building 8;
- AOI 28 - Former Miami Canal Extension located between Pitts Street and Amelia Street;
- AOI 29 - Former Building 12 Still;
- AOI 30 - Experimental Air Conditioning area located in Former Building 20; and
- AOI 31 - Spray Booths located in Former Building 1.

4.1.2 SCOPE AND RESULTS

The scope of the RFI and IM field investigations in the area between Webster and Taylor Street involved collection of concrete core and wipe, soil, and storm sewer sediment and water samples to determine whether a potentially significant release of hazardous constituents had occurred as a result of the former operations in this area.

The samples collected during the RFI field investigations included analysis for TCL VOCs, TCL SVOCs, TCL PCBs, and TAL inorganics (except for aluminum, calcium, iron, magnesium, potassium, and sodium). The initial RFI samples associated with each AOI (i.e., Stage 1 RFI samples and certain Stage 3 RFI samples associated with newly identified AOIs) were analyzed for TCL VOCs, TCL SVOCs, TCL PCBs, and TAL inorganics, with the exception of the concrete samples, which were analyzed for PCBs only based on previous operation history. The parameter list for subsequent RFI samples was based on the results of preceding RFI samples.

The RFI and IM samples collected in this area are summarized in Tables 4.1 (concrete), 4.2A (soil), 4.4A (storm sewer sediment), and 4.5A (storm sewer water). The number of locations from which samples were collected for each medium during the RFI, and the number of samples analyzed for each analyte group (excluding QC samples such as field blanks or duplicates) are as follows:

Media	*Locations*	*Samples*	*TCL VOCs*	*TCL SVOCs*	*TCL PCBs*	*TAL Metals*
Soil	77	209	195	127	182	109
Concrete Core	2	2	-	-	2	-
Concrete Wipe	2	2	-	-	2	-
Storm Sewer Sediment	22	27	27	27	27	27
Storm Sewer Water	11	18	18	17	18	18

The following deviations from the work plan(s) occurred:

- Manhole MH-11 did not contain sufficient sediment in April 2002 to analyze for all parameters. Therefore, only VOCs and metals were analyzed;
- Manhole MH-12 did not contain sufficient water on October 13, 2004 to analyze for all parameters. Therefore, SVOCs were not analyzed in this sample. A second sample was recollected from this manhole on October 15, 2004, and sufficient sample was available to analyze for all parameters; and
- Soil samples from SB-113-04 were inadvertently analyzed for SVOCs and metals instead of SB-112-04. However, concentrations of these constituents at SB-122-04, located immediately adjacent to SB-112-04, were below screening criteria, and therefore further investigation at SB-112-04 was unnecessary.

4.1.3 DISCUSSION OF RESULTS

The sample results for the constituents of interest are presented on Figures 4.1 (concrete); 4.2A(i), 4.2A(ii), and 4.2A(iii) (soil); and 4.3A and 4.3B (storm sewer water, sediment, and oil). The soil boring and monitoring well logs are presented in Appendix F. The sample results for all constituents are presented in Appendix G. Laboratory analytical reports and data validation memoranda are presented in Appendix H.

CONCRETE SAMPLES

PCBs exceeded screening criteria in both wipe samples, but did not exceed screening criteria in core samples. Therefore, the concrete was not investigated further in this area.

SOIL SAMPLES

Chlorinated VOCs (PCE and TCE) exceeded screening criteria. The TCE concentrations were generally found to be within the same order of magnitude as the PCE concentrations in any particular sample. The highest concentrations were identified in the sample collected from 9 to 11 ft bgs at SB-3-02, which is located adjacent to former process sewer manhole #4, a bottomless manhole found to contain elevated concentrations of PCE and TCE in sludge during plant decommissioning, as discussed in Section 2.2.1.19. The degradation product cis-1,2-DCE also exceeded screening criteria in this sample, but at a lower concentration. Concentrations of PCE and TCE above screening criteria were also identified in the vicinity of the Webster Street PCE release (AOI 1), the central area, and the southwestern corner. The highest concentrations have been characterized and delineated.

The PAHs benzo(a)pyrene and dibenz(a,h)anthracene exceeded screening in isolated locations in the southeast, southwest, and northwest corners of this area, and adjacent to Webster Street. These locations have been delineated.

PCBs exceeded screening criteria southwest of Former Building 12, within Former Buildings 12 and 15, and in one location in Former Building 24 adjacent to a former bottomless process manhole. This is consistent with the elevated concentrations of PCBs found in process sewers (AOI 19) between Webster and Taylor Streets during decommissioning activities. The highest concentrations have been characterized and delineated.

Mercury exceeded screening criteria in an isolated location in the northeast corner of this area in Former Building 8, which has been delineated. Arsenic exceeded screening criteria in an isolated location adjacent to Webster Street, which has been delineated.

STORM SEWER SEDIMENT AND WATER SAMPLES

No VOCs exceeded screening criteria in sediment or water samples.

PAHs, primarily benzo(a)pyrene, exceeded screening criteria in sediment samples in 16 of the 24 manholes and interceptors sampled in this area. These results are consistent

with industrial runoff. The SVOC bis(2-ethylhexyl)phthalate was detected above screening criteria in two sediment samples.

PCBs exceeded screening criteria in storm sewer sediment and water samples. The highest concentrations in sediment were identified in one sample collected from MH-37 in the northeast corner of Former Building 12, and from samples collected from manholes within Former Building 12, at the south end of Taylor Street, and in the northwest corner. This is generally consistent with the locations of elevated concentrations in soil, although the sediment concentration in the northeast corner of Former Building 12 is significantly higher than the soil concentration. Based on the location of MH-37 relative to former process sewers, this manhole is believed to have been a process manhole that was inadvertently not abandoned as part of decommissioning activities between 1995 and 1997. Concentrations of PCBs in sediment collected from the south end of Taylor Street did not decrease following cleaning of the manholes in August 2004, likely because the elevated PCB concentrations in the Former Buildings 12 and 15 sewers were identified later, and these sewers were not cleaned in August 2004.

Concentrations of lead and mercury exceeded screening criteria in sediment.

4.1.4 CONCLUSIONS

RFI sample results identified exceedances of screening criteria for the following hazardous constituents:

- PCE, TCE, and cis-1,2-DCE: The concentrations of chlorinated VOCs in soil are mainly attributable to the Webster Street PCE release (AOI 1) and a former bottomless process manhole (AOI 19). Interim measures have been conducted in the vicinity of the Webster Street PCE release (AOI 1). The process sewers (AOI 19) were abandoned during decommissioning in 1996;
- PAHs: The concentrations of benzo(a)pyrene and dibenz(a,h)anthracene are associated with isolated soil samples and are consistent with industrial runoff in storm sewers. These do not appear to be attributable to specific historical operations;
- PCBs: The concentrations of PCBs are consistent between soil and storm sewer samples and may be attributable to former process sewers (AOI 19). The process sewers were abandoned as part of decommissioning in 1996 and storm sewers in this area were cleaned and abandoned in January 2006; and

- Metals: The concentrations of mercury and arsenic in soil are associated with isolated soil samples and do not appear to be attributable to specific historical operations. The sediment containing lead, cadmium, and mercury above screening criteria was removed as part of storm sewer cleaning and abandonment.

4.2 TAYLOR STREET TO CSXT RAILWAY

This area is located in the central portion of the Site, bounded by the CSXT railway to the east, the Mad River levee to the north, Taylor Street to the west and Pitts Street to the south.

4.2.1 AOIS LOCATED IN THIS AREA

The AOIs located in the area between Taylor Street and the railway tracks are shown on Plan 1B as follows:

- AOI 3 - Waste Tank located between Buildings 4 and 7;
- AOI 4 - Hazardous Waste Staging and Storage Area located in Building 5;
- AOI 5 - Electroplating Areas located in Buildings 7 and 9;
- AOI 6 - Spill Interceptor located east of Building 10;
- AOI 7 - Solvent Storage Tank located south of Building 7;
- AOI 8 - Degreasing Units located within Buildings 7 and 9;
- AOI 10 - Paint Waste Accumulation Areas located in Buildings 9 and 10;
- AOI 11 - Chip Handling Areas located in Building 9 and southeast of Building 10;
- AOI 13 - Oil House (Building 13);
- AOI 14 - Hydraulic Oil and Coolant USTs located east of Building 10;
- AOI 15 - Hydraulic Oil UST located south of Building 9;
- AOI 16 - Fuel USTS located north and west of Building 4;
- AOI 18 - Storm Sewers located throughout the Site;
- AOI 19 - Process Sewers located throughout the Site;
- AOI 20 - Transformer Vault located in the Building 5 basement;
- AOI 21 - Hydromation Pit located in Building 7;
- AOI 25 - Hydrochloric Acid Spill located south of Building 9;

- AOI 26 - Potential PCB Releases from Process Equipment located in Buildings 3, 7, 9, and 10;
- AOI 27 - Battery Charging Station located in Building 3;
- AOI 28 - Former Miami Canal Extension located between Pitts Street and Amelia Street;
- AOI 32 - Ground Level Transformer located adjacent to Building 3;
- AOI 33 - Paint and Enamel Storage area located northwest of Building 7;
- AOI 34 - Parts Grinding area located in Building 9; and
- AOI 35 - Storage Tanks located in Building 9.

4.2.2 SCOPE OF INVESTIGATION

The scope of the RFI field investigations in this area involved collection of concrete core and wipe, soil, and storm sewer sediment, water and oil samples to determine whether a potentially significant release of hazardous constituents had occurred as a result of the former operations in this area.

The samples were analyzed for TCL VOCs, TCL SVOCs, TCL PCBs, and TAL inorganics (except for aluminum, calcium, iron, magnesium, potassium, and sodium). The initial RFI samples associated with each AOI (i.e., Stage 1 RFI samples and certain Stage 3 RFI samples associated with newly identified AOIs) were analyzed for TCL VOCs, TCL SVOCs, TCL PCBs, and TAL inorganics, with the exception of the concrete samples, which were analyzed for PCBs only based on previous operation history, and the soil samples associated with AOI 25, which were analyzed for TCL PCBs and TAL inorganics only based on previous operation history. The parameter list for subsequent RFI samples was based on the results of preceding RFI samples.

The RFI samples collected in this area are summarized in Tables 4.1 (concrete), 4.2A and 4.2B (soil), 4.4A (storm sewer sediment), 4.5A (storm sewer water), and 4.6 (oil in basement sump). The number of locations from which samples were collected for each medium during the RFI, and the number of samples analyzed for each analyte group (excluding QC samples such as field blanks or duplicates) are as follows:

Media	*Locations*	*Samples*	*TCL VOCs*	*TCL SVOCs*	*TCL PCBs*	*TAL Metals*
Soil	117	285	262	206	192	227
Concrete Core	17	21	-	-	21	-
Concrete Wipe	12	12	-	-	12	-
Storm Sewer Sediment	15	23	22	22	22	23
Storm Sewer Water	17	30	30	30	30	30
Oil in Basement Sump	1	1	1	1	1	1

The following deviations from the work plan(s) for collection of concrete core and wipe, soil, and storm sewer sediment, water and oil samples in this area occurred:

- Soil samples from SB-22-02, SB-23-02, SB-24-02, and SB-25-02 were not analyzed for SVOCs, so the respective locations SB-87-03, SB-94-03, SB-95-03, and SB-96-03 were subsequently drilled and analyzed for SVOCs;
- Soil boring locations SB-159-04, SB-160-04, SB-161-04, SB-162-04, and SB-165-04 were added to ensure sufficient samples were collected for the risk assessment;
- Soil samples from SB-75-03 were inadvertently not analyzed for PCBs;
- Soil samples were not collected from MW-14A-03 because the water table was encountered higher than expected and was perched on top of clay. Soil samples were collected and analyzed from the subsequent well MW-14B-04; and
- Concrete samples were collected at only one location in the tunnel as part of Stage 1 sampling because at the time of sampling, most of the tunnel floor was under water. A second sample was subsequently collected from the tunnel as part of Stage 3 sampling, and two additional verification samples were collected.

4.2.3 DISCUSSION OF RESULTS

The sample results for the constituents of interest are presented on Figures 4.1 (concrete); 4.2B(i), 4.2B(ii), and 4.2B(iii) (soil); and 4.3A and 4.3B (storm sewer water, sediment, and oily debris). The soil boring and monitoring well logs are presented in Appendix F. The sample results for all constituents are presented in Appendix G. Laboratory analytical reports and data validation memoranda are presented in Appendix H.

CONCRETE SAMPLES

PCBs exceeded screening criteria in the core sample, but were not detected in the wipe sample, in one location within the tunnel beneath the CSXT railway. Two additional core samples were collected to delineate this result, and the additional results were below screening criteria.

PCBs exceeded screening criteria in the 0- to 3-inch core sample within the Building 7 Tool Grind Room. Oil within the tool grinder had been found to contain 409.8 mg/kg PCBs during decommissioning activities conducted between 1995 and 1997. The wipe sample and the 3- to 6-inch core sample PCB concentrations did not exceed screening

criteria. Three additional 0- to 3-inch core samples were collected surrounding the original sample location within the Tool Grind Room and PCB concentrations did not exceed screening criteria. This area has been delineated.

SOIL SAMPLES

Chlorinated VOCs (PCE and TCE) exceeded screening criteria. These constituents were generally found at concentrations within the same order of magnitude. The degradation products cis-1,2-DCE and VC also exceeded screening criteria but in fewer locations and at lower concentrations. The concentrations of these parameters were generally highest in surface soil and decreased with depth. The highest concentrations were identified in four general locations: the northern portion of Building 10, the northern portion of Building 9, the southeastern portion of Building 7, and the western portion of Building 7. Somewhat lower concentrations were identified south of Building 9 and in the northern portion of Building 7. The concentrations identified in the northern portion of Building 7 may be associated with a former waste tank (AOI 3). The most elevated concentrations of these constituents have been characterized and delineated.

The PAH benzo(a)pyrene exceeded screening criteria in surficial and/or subsurface soil samples in isolated locations, which have been delineated.

PCBs exceeded screening criteria in two locations northeast of Building 4, which may be associated with a former waste tank (AOI 3). PCBs also exceeded screening criteria in two isolated locations within Building 9. PCBs also exceeded screening criteria southeast of Building 9, mainly in subsurface soil. These concentrations are believed to be associated with former process sewers (AOI 19) in this area. Process sewers were cleaned and abandoned as part of decommissioning activities conducted between 1995 and 1997. PCBs also exceeded screening criteria in subsurface soil samples adjacent to the Mad River, north of Building 10. These concentrations are believed to be associated with the Chip Area LNAPL plume (AOIs 11, 12, 13, and 14) containing PCBs in this area. A barrier wall was installed to control migration of this plume. These locations have been delineated.

Metals exceeded screening criteria in the following locations, which have been delineated:

- Arsenic in one subsurface soil sample southeast of Building 9;
- Manganese in surface and subsurface soil samples southeast of Building 9;
- Manganese in one surface soil sample in the north of Building 10;

- Manganese in one subsurface soil sample in the northwest of Building 9;
- Lead in one surface soil sample in the northeast of Building 10;
- Lead in one surface soil sample northwest of Building 7;
- Cadmium in two subsurface samples in the north of Building 7 in the vicinity of former electroplating areas (AOI 5); and
- Mercury in one surface soil sample in the south of Building 7 in the vicinity of former electroplating areas (AOI 5).

STORM SEWER SEDIMENT, WATER AND OIL SAMPLES

No VOCs exceeded screening criteria in sediment or water samples.

The PAH benzo(a)pyrene exceeded screening criteria in sediment at two locations south of Building 5. PAHs may have been present in runoff from this area, which is paved.

PCBs exceeded screening criteria in one sediment sample collected from a basement sump in Building 5 as part of Stage 2. PCBs exceeded screening criteria in one sediment sample collected from the manhole south of Building 5 as part of Stage 2 activities. Sediment in this manhole was removed as part of storm sewer cleaning activities in January 2006.

Concentrations of cadmium and lead exceeded screening criteria in sediment.

OIL IN BUILDING 5

A small amount of oily debris was identified in a basement sump (BS-7) in the former Building 5 area. This material is not associated with an LNAPL plume nor was any evidence of oil observed in the storm sewers on the Site. Although a slight sheen was observed in MH 75, no hazardous constituents were detected. The oil found in Building 5 may be associated with equipment formerly located in the basement area.

4.2.4 CONCLUSIONS

RFI sample results identified exceedances of screening criteria for the following hazardous constituents:

- PCE, TCE and VC: PCE and/or TCE exceeded screening criteria in some surficial and/or subsurface soil samples, at concentrations that generally decrease with

depth. The degradation product VC also exceeded screening criteria in one soil sample. The concentrations north of Building 7 may be associated with a former waste tank (AOI 3);

- Benzo(a)pyrene exceeded screening criteria in surficial and subsurface soil samples, and in two storm sewer sediment samples;
- PCBs: PCBs exceeded screening criteria in several areas:
  - Concrete core samples in AOI 26, the former Tool Grind Room (the tool grinder contained oil with a PCB concentration of 409.8 mg/kg during decommissioning activities conducted between 1995 and 1997),
  - Concrete core samples in the tunnel beneath the CSXT railway, subsurface soil samples adjacent to the Mad River, and water from the Building 13 basement dewatering sump are located in the vicinity of the Chip Area LNAPL plume (AOIs 11, 12, 13, and 14). A barrier wall has been installed to control LNAPL migration in this area,
  - Two soil samples northeast of Building 4, which may be associated with the former waste tank (AOI 3),
  - Two isolated soil samples within Building 9, that are not believed to be associated with a significant historical release,
  - Subsurface soil samples southeast of Building 9, which are believed to be associated with former process sewers (AOI 19) in this area. Process sewers were cleaned and abandoned as part of decommissioning activities conducted between 1995 and 1997, and
  - Sediment in the manhole south of Building 5, which has been removed; and
- Metals: Metals exceeded screening criteria in several areas:
  - Arsenic, manganese and lead in isolated samples are not believed to be associated with significant releases,
  - Manganese in surface and subsurface soil southeast of Building 9,
  - Lead in one surface soil sample in the northeast of Building 10,
  - Cadmium in the north of Building 7, and
  - Mercury in the south of Building 7.

4.3 CSXT RAILWAY TO KEOWEE STREET

This area is located in the eastern portion of the Site, bounded by Keowee Street to the east, the Mad River levee to the north, the CSXT railway to the west and Pitts Street to the south.

4.3.1 AOIS LOCATED IN THIS AREA

The AOIs located in the area between the railway tracks and Keowee Street are shown on Plan 1A/B as follows:

- AOI 5 - Electroplating Area located in Former Building G-3;
- AOI 6 - Spill Interceptor located between Former Buildings G-2 and G-4;
- AOI 11 - Chip Handling area located in Former Buildings G-4 and G-5;
- AOI 12 - Cutting Oil USTs located in Former Building G-4;
- AOI 20 - PCB Releases from Electrical Equipment (Vault 51 located southwest of Former Building G-4);
- AOI 24 - Former Machine Gun Testing area located in Former Building G-5; and
- AOI 28 - Former Miami Canal Extension located between Pitts Street and Amelia Street.

4.3.2 SCOPE OF INVESTIGATION

The scope of the RFI and IM field investigations in this area involved collection of concrete core and wipe, soil, and storm sewer sediment and water samples to determine whether a potentially significant release of hazardous constituents had occurred as a result of the former operations in this area.

The samples were analyzed for TCL VOCs, TCL SVOCs, TCL PCBs, and TAL inorganics (except for aluminum, calcium, iron, magnesium, potassium, and sodium). The initial RFI samples associated with each AOI (i.e., Stage 1 RFI samples and certain Stage 3 RFI samples associated with newly identified AOIs) were analyzed for TCL VOCs, TCL SVOCs, TCL PCBs, and TAL inorganics (except for aluminum, calcium, iron, magnesium, potassium, and sodium), with the exception of the concrete samples, which were analyzed for PCBs only based on previous operation history, and the soil samples in AOI 24, which were analyzed for TCL PCBs and lead only based on previous

operation history. The parameter list for subsequent RFI samples was based on the results of preceding RFI samples.

The RFI and IM samples collected in this area are summarized in Tables 4.1 (concrete), 4.2A and B (soil), 4.4A (storm sewer sediment), and 4.5A (storm sewer water). The number of locations from which samples were collected for each medium during the RFI, and the number of samples analyzed for each analyte group (excluding quality control (QC) samples such as field blanks or duplicates) are as follows:

Media	*Locations*	*Samples*	*TCL VOCs*	*TCL SVOCs*	*TCL PCBs*	*TAL Metals*
Soil	25	42	25	25	40	38
Concrete Core	8	8	-	-	8	-
Concrete Wipe	4	4	-	-	4	-
Storm Sewer Sediment	1	2	2	2	2	2
Storm Sewer Water	1	1	1	1	1	1

4.3.3 DISCUSSION OF RESULTS

The sample results for the constituents of interest are presented on Figures 4.1 (concrete), 4.2C (soil), and 4.3A and 4.3B (storm sewer water and sediment). The soil boring and monitoring well logs are presented in Appendix F. The sample results for all constituents are presented in Appendix G. Laboratory analytical reports and data validation memoranda are presented in Appendix H.

CONCRETE SAMPLES

The PCB concentration in the concrete core and wipe samples from the retaining wall associated with the railway tracks, located adjacent to Former Building G-5 was marginally greater than the screening criteria. This location is in AOI 11 and the elevated concentrations are consistent with historic chip handling operations that occurred in this area. This area has been characterized.

PCBs exceeded screening criteria in both wipe and core samples in two locations on the transformer pad southwest of Former Building G-4. The transformer pad was removed, and two subsequent sample locations from concrete beneath the pad did not exceed the screening criteria. A report summarizing the interim measure completed was submitted to U.S. EPA on September 15, 2005. This area does not require further evaluation.

SOIL SAMPLES

No chlorinated VOCs exceeded screening criteria in this area. The PAH benzo(a)pyrene exceeded screening criteria in the surficial soil samples collected at two locations adjacent to the western wall of Former Building G-2. These locations have been delineated.

PCBs exceeded screening criteria in both surficial and subsurface samples in the northwestern portion of this area. The elevated concentrations are consistent with historic chip handling operations that occurred in Former Buildings G-4 and G-5 (AOI 11) and with the Chip Area LNAPL plume. The soil sample results are also consistent with concrete sample results collected from the retaining wall adjacent to Former Building G-4. This area has been delineated to the south and east, and the barrier wall to the north prevents further subsurface migration.

Lead concentrations exceeded screening criteria in surficial samples in the vicinity of Former Building G-5, and are associated with operations in the former machine gun testing area (AOI 24). Lead concentrations also exceeded screening criteria at one isolated location in the southern portion of the area in Former Building G-4. These locations have been delineated and are overlain by the former building foundation slabs.

STORM SEWER SEDIMENT AND WATER SAMPLES

No sediment was observed in the manhole located south of Former Building G-1 during Stage 1 sampling, and the PAH benzo(a)pyrene exceeded screening in the sediment sample collected from this manhole during Stage 2 sampling. This result is consistent with surface soil sample results in this area, some of which contain benzo(a)pyrene above screening criteria, which could have run off into storm sewers.

4.3.4 CONCLUSIONS

RFI sample results identified exceedances of screening criteria for the following hazardous constituents:

- Benzo(a)pyrene: Benzo(a)pyrene in surficial soil adjacent to the western wall of Former Building G-2 has been delineated, but runoff appears to intermittently deposit soil containing with elevated benzo(a)pyrene concentrations into storm sewers;

- PCBs: PCBs in surficial and subsurface soil and concrete have been delineated. The PCB concentrations are associated with historical chip handling operations in AOI 11, which have resulted in the Chip Area LNAPL plume containing PCBs in this area. Laboratory and API model results indicate that the LNAPL containing PCBs has very little potential for mobility, and a barrier wall provides additional protection to eliminate the potential for migration of PCBs to the Mad River; and
- Lead: Lead in surficial soil in the vicinity of the former machine gun testing area (AOI 24), and at one isolated location in the middle of the area, have been delineated. Soil in these areas is overlain with a concrete slab at least 12 inches thick, associated with former buildings. Water in the storm sewers may also intermittently contain lead above screening criteria.

4.4 OFF SITE SOUTH

This area is located to the south of the Site. The area is bounded by Webster Street to the west, Keowee Street to the east, and Pitts Street to the north.

4.4.1 SCOPE AND RESULTS

There are no AOIs located in this area, which is off Site. Plan 1A/B shows the area with respect to the Site. The City of Dayton collected soil samples in this area concurrent with monitoring well installation. These sample results were incorporated into the RFI database to provide information upgradient of the Site.

The soil samples collected in this area are summarized in Table 4.2B. The number of locations from which samples were collected for soil, and the number of samples analyzed for each analyte group are as follows:

Media	*Locations*	*Samples*	*TCL VOCs*	*TCL SVOCs*	*TCL PCBs*	*TAL Metals*
Soil	2	6	6	6	6	6

4.4.2 DISCUSSION OF RESULTS AND CONCLUSIONS

The soil sample results for the constituents of interest (those constituents having at least are presented on Figure 4.2D. The soil boring and monitoring well logs are presented in Appendix F. The sample results for all constituents are presented in Appendix G. These

samples were collected by the City of Dayton and laboratory analytical reports and data validation memoranda are not presented.

None of the soil samples contained concentrations that exceeded screening criteria.

4.5 OFF SITE WEST

This area is located to the west of the Site, bounded by the Mad River levee to the north, and Webster Street to the east.

4.5.1 RATIONALE FOR SAMPLING WEST OF THE SITE

There are no AOIs located in this area, which is off Site. Plan 1A shows the area with respect to the Site. Soil samples were collected in this area if evidence of potential contamination was observed in the field during monitoring well installation.

4.5.2 SCOPE AND RESULTS

The scope of the RFI and IM field investigations in this area involved collection of soil samples to determine whether a potentially significant release of hazardous constituents had occurred downgradient of the Site.

The samples were analyzed for TCL VOCs, TCL SVOCs, TCL PCBs, and/or TAL inorganics (except for aluminum, calcium, iron, magnesium, potassium, and sodium). Soil samples were analyzed for TCL VOCs due to the presence of these constituents in groundwater, TCL SVOCs only in certain samples where potential evidence of petroleum contamination was observed, TCL PCBs only in samples collected immediately west of Webster Street to delineate PCBs, and TAL inorganics based on previous operational history.

The RFI and IM soil samples collected in this area are summarized in Table 4.2B. The number of locations from which samples were collected for soil during the RFI, and the number of samples analyzed for each analyte group (excluding QC samples such as field blanks or duplicates) are as follows:

Media	*Locations*	*Samples*	*TCL VOCs*	*TCL SVOCs*	*TCL PCBs*	*TAL Metals*
Soil	14	35	29	5	22	28

4.5.3 DISCUSSION OF RESULTS

The sample results for the constituents of interest are presented on Figure 4.2E. The soil boring and monitoring well logs are presented in Appendix F. The sample results for all constituents are presented in Appendix G. Laboratory analytical reports and data validation memoranda are presented in Appendix H.

SOIL SAMPLES

PAHs [benzo(a)pyrene, benzo(b)fluoranthene and dibenz(a,h)anthracene] exceeded screening criteria in one subsurface soil sample collected approximately 200 feet west of Webster Street on Requarth property, and are unrelated to the Site. Benzo(a)pyrene exceeded screening criteria in surface and subsurface soil samples collected approximately 1,200 feet west of Webster Street on City of Dayton property, and is unrelated to the Site.

Lead exceeded screening criteria in one subsurface soil sample collected approximately 1,200 feet west of Webster Street on City of Dayton property, and is unrelated to the Site.

4.5.4 CONCLUSIONS

The isolated exceedances of screening criteria for benzo(a)pyrene, benzo(b)fluoranthene, dibenz(a,h)anthracene, and lead are unrelated to the Site.

4.6 GROUNDWATER

Groundwater is discussed in this section on a Site-wide basis. The results will be discussed in an east to west direction, which is the direction of groundwater flow.

4.6.1 RATIONALE FOR GROUNDWATER SAMPLING

Groundwater sampling was conducted to characterize the concentrations of any hazardous constituents in groundwater so that risk-based decisions on the need for corrective measures can be made. Plan 1A/B shows the soil and groundwater presentation areas.

4.6.2 SCOPE AND RESULTS

The scope of the RFI and IM field investigations for groundwater involved collection of samples to determine whether a potentially significant release of hazardous constituents had occurred as a result of the former operations at the Site.

The RFI samples were analyzed for TCL VOCs, TCL SVOCs, TCL PCBs, and TAL inorganics (except for aluminum, calcium, iron, magnesium, potassium, and sodium) and/or MNA parameters. Samples collected during later stages of the RFI to delineate particular constituents were not necessarily analyzed for the full suite of parameters.

The IM samples collected in the vicinity of the Webster Street PCE release (AOI 1) were to evaluate the effectiveness of ozone sparging activities at reducing the concentrations of chlorinated VOCs in the groundwater, and therefore these samples were analyzed for TCL VOCs and/or MNA parameters only.

The IM samples collected to the west of the Site were to evaluate the effectiveness of the HRC® barrier at reducing the concentrations of chlorinated VOCs in the groundwater associated with the Webster Street PCE release (AOI 1), and therefore these samples were analyzed for TCL VOCs and/or MNA parameters only.

Monitoring wells were completed in the following aquifer units:

- Upper Aquifer (UA), including water table (WT), top of till (TT), or other (O);
- Till-rich zone (TR); or
- Lower Aquifer (LA).

The RFI and IM samples collected for groundwater are summarized in Tables 4.3A through 4.3D. The number of locations from which samples were collected for each presentation during the RFI, and the number of samples analyzed for each analyte group (excluding QC samples such as field blanks or duplicates) have been summarized as follows:

	Locations	*Samples*	*TCL VOCs*	*TCL SVOCs*	*TCL PCBs*	*TAL Metals*	*MNA*
Groundwater	117	350	348	131	188	215	79

The deviations from the work plan(s) associated with groundwater monitoring are summarized as follows:

- Pumps for low flow sampling were placed less than 24 hours in advance at on-Site locations that were not fenced in, due to security concerns;
- Groundwater samples from MW-22-04, MW-23-04, MW-24-04, MW-25-04, and MW-26-04 were not analyzed for SVOCs because these constituents were not detected in groundwater samples from other monitoring wells in this area;
- Locations of proposed Stage 3 monitoring wells were altered based on further evaluation of hydrogeologic conditions:
  - The proposed water table well locations west of B-SA27 and SB-15-02 were combined into a single well location (MW-23-04), downgradient of both areas, and
  - The proposed water table well was not installed south of Building 9, because it was determined that the groundwater flow direction in the upper aquifer was northwest and therefore existing well nest MW-13 was more directly downgradient;
- Groundwater samples from MW-2A-00, B-SA22, and B-SA23 were not analyzed for PCBs during Stage 4 RFI Sampling, however, all three locations had previously been analyzed for PCBs;
- After installation it was observed that monitoring well MW-16-03 was dry. A second monitoring well MW-16R-04 was installed and groundwater samples successfully collected at this location;
- A water table and top of till well were originally proposed at MW-21-04. However, the stratigraphy at this location showed a clay unit very close to the water table and therefore one well was installed serving both purposes; and
- The location HD-10 could not be sampled because the field personnel did not have access to it.

4.6.3 DISCUSSION OF RESULTS

The sample results for the constituents of interest are presented on Figures 4.4A(i) and 4.4A(ii) (samples east of Webster Street), 4.4B(i) and 4.4B(ii) (samples in the Webster Street solvent release area), and 4.4C(i) and 4.4C(ii) (samples west of Webster Street). The monitoring well logs are presented in Appendix F. The sample results for all constituents are presented in Appendix G. Laboratory analytical reports and data validation memoranda are presented in Appendix H.

GROUNDWATER SAMPLES – VOCs

Upgradient (i.e., southeast of the Site), the chlorinated VOC TCE exceeds screening criteria, however, those concentrations are unrelated to Site operations.

The chlorinated VOC(s) PCE and/or TCE exceeded screening criteria at almost all sampling locations on Site, in all aquifer units. In addition, the degradation products cis-1,2-DCE and/or VC exceeded screening criteria in some on-Site wells. Concentrations generally decrease with depth. These constituents appear to be associated with the following source areas:

- At MW-23 and the surrounding area, PCE, TCE, and cis-1,2-DCE exceed screening criteria. These results may be associated with a former waste tank (AOI 3);
- West-northwest at the Site, PCE and TCE exceed screening criteria; and
- In the vicinity of the Webster Street PCE release (AOI 1), PCE, TCE, cis-1,2-DCE, and/or VC concentrations are generally above screening criteria. Ozone sparging has been implemented as an interim measure in the upper aquifer (see Section 2.3). Concentrations of chlorinated VOCs have generally decreased as a result of ozone sparging; however, concentrations remain above screening criteria.

Off Site to the west, PCE, TCE, cis-1,2-DCE, and/or VC concentrations are generally above screening criteria. The HRC® barrier was installed as an interim measure in the upper aquifer (see Section 2.3). Concentrations of PCE and TCE in downgradient wells have decreased as a result of the HRC® barrier, sometimes to non-detect. Concentrations of cis-1,2-DCE and VC showed an initial increase in concentrations due to degradation of the PCE and TCE, but concentrations of these constituents have since decreased. Concentrations further to the west and northwest remain unchanged, but it is anticipated that these concentrations will also decrease in time.

Off Site to the southwest in the upper aquifer and to the west in the lower aquifer and till-rich zone, concentrations of the VOCs TCE and cis-1,2-DCE exceed screening criteria. Unlike groundwater concentrations on Site, where PCE and TCE are present at concentrations generally within the same order of magnitude, PCE concentrations are very low or not detected in the lower aquifer or till-rich zone west of the Site.

Methylene chloride exceeded screening criteria at ten locations (five on-Site and five off-Site) in the upper aquifer. However, at most locations subsequent resampling indicated that methylene chloride was not detected. Therefore, this chemical is not

believed to be associated with a significant release associated or with historic Site operations.

GROUNDWATER SAMPLES – SVOCs

The SVOC bis(2-ethylhexyl)phthalate exceeded screening criteria in one groundwater sample at the water table, in an isolated off-Site location, and was not detected in subsequent resampling.

GROUNDWATER SAMPLES – PCBs

PCBs exceeded screening criteria at six locations, all of which were sampled at the water table.

Three of the locations were located on the edge of the Chip Area LNAPL plume (AOIs 11, 12, 13 and 14).

One location is southeast of Building 9, which coincides with elevated concentrations of PCBs in soil (see Section 4.2.3), and is believed to be associated with former process sewers in this area. Process sewers were cleaned and abandoned as part of decommissioning activities conducted between 1995 and 1997.

One location is southwest of Former Building 12, and the location is consistent with elevated concentrations of PCBs found in the same area in process sewers (AOI 19) between Webster and Taylor Streets during decommissioning activities, and with elevated concentrations of PCBs in soil (see Section 4.3.3). This location has been delineated.

One location is in the Webster Street PCE release (AOI 1). The exceedance is a qualified result at the detection limit. Other samples at this location have not detected PCBs.

GROUNDWATER SAMPLES - INORGANICS

Arsenic exceeded screening criteria at seven locations. Two of these locations are on Site, in the northern portion of Buildings 9 and 10. The other five locations are off Site. These results are marginally above screening criteria (concentrations up to 0.02 mg/L compared to criteria of 0.01 mg/L) and are not believed to be associated with former Site operations. Natural arsenic concentrations in groundwater in unconsolidated glacial/alluvial aquifers in Ohio range from non-detect to 0.029 mg/L (Burgess & Niple, June 1991), and Ohio EPA has approved a background concentration

for arsenic of 0.026 mg/L in the upper aquifer in the vicinity of the Site (CRA, February 9, 2006).

Cadmium exceeded screening criteria at one location southwest of Former Building 12 in the upper aquifer. Subsequent sampling indicated that cadmium did not exceed the screening criteria.

Lead exceeded screening criteria at one location in the upper aquifer. However, lead was not detected in other samples at the same location.

4.6.4 GROUNDWATER IMPACTS

As discussed in Section 4.6, monitoring wells were installed to provide good overall coverage of the Site to determine groundwater impacts, and also installed in specific locations downgradient of identified soil impact and LNAPL. Monitoring wells were installed in the three hydrogeologic units identified in Section 3.5: the upper aquifer that flows primarily northwest across the Site and discharges to the Mad River; the lower-permeability, till-rich zone that provides a substantial hydraulic barrier between the upper and lower aquifer and discharges into the lower aquifer; and the lower aquifer that is currently captured by the Geothermal Well in the vicinity of the Site.

4.6.4.1 UPPER AQUIFER GROUNDWATER IMPACTS

The primary release at the Site was the approximately 1,000 gallon Webster Street PCE release (AOI 1) (see Section 2.2.1.1). In 1989, soil was excavated to the water table in this area, but excavation was limited by the location of Webster Street and building foundations. Concentrations of chlorinated VOCs in the vicinity of Webster Street and to the northwest (i.e., downgradient) are associated with of the Webster Street PCE release (AOI 1) that has degraded to TCE, cis-1,2-DCE, and VC due to the combined effects of interim remedial measures in this area (see Section 2.3) and natural attenuation processes. As shown on Figure 4.6, groundwater samples in this area initially contained concentrations of chlorinated VOCs up to 64 mg/L (total of PCE, TCE, cis-1,2-DCE and VC) at B-SA23, primarily PCE. As shown on Figures 4.7 and 4.8, chlorinated VOC concentrations in this area have decreased significantly over the past 10 years due to natural degradation, the ozone sparging pilot test conducted in 2000 at OS-1A/B, the full-scale ozone sparging conducted between 2003 and 2005, and the HRC injection in 2003 and 2005. For example, the chlorinated VOC concentration at B-SA23 is currently 9 mg/L (total of PCE, TCE, cis-1,2-DCE and VC).

The approximate area of contaminated groundwater in the upper aquifer associated with AOI 1 extends from AOI 1 to the northwest along the direction of groundwater flow to the Mad River. As described in Section 3.5.1 and illustrated on Figures 3.13 through 3.23, locally, the upper aquifer is an unconfined system that discharges to the Mad River northwest of the Site.

The western edge of the AOI 1 plume overlaps with contaminated groundwater that is likely unrelated to the Site. Monitoring wells MW-11, MW-46, HD-4, and DAY-8 are in the area of overlap with plumes from other sites that extend from the west, south, and southwest to this area. This overlap precludes the use of monitoring data to delineate the western edge of the AOI 1 plume. Instead, the western edge is interpreted based on:

- the direction of groundwater flow in the upper aquifer, which is towards the Mad River to the northwest;
- clear differences in the proportions of PCE and TCE in groundwater downgradient of AOI 1 as compared with groundwater to the southwest and west which is predominantly contaminated by TCE; and
- the absence of evidence of a mechanism that could transport PCE (either dissolved or free phase) from the Webster Street PCE release (AOI 1) to the south and southwest, which would be counter to the direction of groundwater flow in the upper aquifer.

In particular, there is no evidence that DNAPL is present in the Webster Street PCE release area and the available data suggest that it is unlikely that any such DNAPL could have migrated towards the southwest and causes the pattern of dissolved-phase contamination that is present southwest and west of the Site. The vertical distribution of PCE in groundwater in the Webster Street PCE release area is contrary to what would be expected if DNAPL were present. Chlorinated CVOC concentrations are highest at the water table in this area, and generally decrease with depth, as shown on Figure 4.9, whereas higher or similar PCE concentrations would be expected along the top of the till if DNAPL were present. Additionally, of the 67 soil boring and well installations, DNAPL was not observed in any soil or groundwater samples in this area. Even if DNAPL had been present in the Webster Street area (a hypothesis that is not supported by field observations or by concentrations of chlorinated VOCs in groundwater), due to the surface morphology of the underlying clay unit, it would not have migrated away from this area. As shown on Figures 4.10 through 4.12, there is a low area in the uppermost clay layer of the till-rich zone that is located directly beneath this release area.

TCE concentrations southwest of the Site (primarily at MW-48-05) are likely unrelated to the Site. As shown on Figure 4.7, TCE is the dominant constituent observed to the west, whereas PCE dominates in the Webster Street area. Furthermore, MW-48-05 is not immediately downgradient of the Site, the groundwater flow direction in the upper aquifer being to the west-northwest as discussed in Section 3.5. Regardless of groundwater flow direction, concentrations decrease between the Site and then increase at MW-48-05. Lastly, MW-48-05 is a shallow well with a screen interval that is higher in elevation than any potential DNAPL migration pathways from the Site. Therefore, even if DNAPL had been present at the Site (a hypothesis that is not supported by field observations or by concentrations of chlorinated VOCs in groundwater), VOCs detected in groundwater samples from MW-48 could not have resulted from DNAPL migration from the Site.

Concentrations of chlorinated VOCs in the vicinity of MW-23-04 may be associated with a former waste tank (AOI 3), which historically contained a mixture of solvent still bottoms and waste oil, and was removed in 1978. In this area, the total VOC concentration (total of PCE, TCE, cis-1,2-DCE, and VC) at the water table is currently 37 mg/L at MW-23-04 and the concentration at the top of till is 5 mg/L at MW-37-05. The source of concentrations of chlorinated VOCs (primarily cis-1,2-DCE) in the vicinity of MW-23 may be associated with a former waste tank (AOI 3).

While low-permeability clay-rich beds are interspersed throughout this system, flow in the upper aquifer is dominated by horizontal flow through highly conductive, laterally continuous sand and gravel deposits. As described in Section 3.5.1 and illustrated on Figures 3.13 through 3.23, locally, the upper aquifer is an unconfined system that discharges to the Mad River northwest of the Site.

4.6.4.2 TILL-RICH ZONE GROUNDWATER IMPACTS

As discussed in Section 3.5.2, regional studies as well as boring logs in the vicinity of the Site show the till-rich zone to be heterogeneous, but laterally continuous, at and downgradient of the Site with a thickness that ranges up to approximately 50 feet. Extensive testing of hydraulic response in monitoring wells in the upper aquifer, till-rich zone, and lower aquifer to changes in pumping conditions in the lower aquifer has demonstrated that the till-rich zone provides an effective hydraulic barrier between the upper and lower aquifers. As discussed in Section 3.5.4.1, none of the 19 upper aquifer monitoring wells that were tested for hydraulic response to lower aquifer pumping showed significant response. By contrast, the till-rich zone monitoring wells in the

vicinity of groundwater pumping that were tested showed clear hydraulic responses, although the responses were attenuated.

As discussed in Section 3.5.2, the vertical hydraulic gradient across the till-rich zone is downward, which is a result of significant pumping in the lower aquifer regionally and in the vicinity of the Site. However, the rate of groundwater flow (and dissolved phase contaminant transport) through the till-rich zone to the lower aquifer is low as a result of the low vertical hydraulic conductivity in this zone, as discussed in Section 3.5.2. To the extent that Site-related constituents can migrate through the till-rich zone, their concentrations would be expected to be significantly reduced as a result of mixing into the much higher groundwater flow rates in the lower aquifer.

Among on-Site monitoring wells in the till-rich zone, the only constituents with recent concentrations higher than drinking water criteria are PCE and TCE [at MW-36-05 and MW-40-05, as shown in Tables 4.3C(i) and 4.3C(ii)], and their concentrations are much lower than those in the upper aquifer on Site. The latest PCE concentrations at Among on-Site monitoring wells in the lower aquifer, the only constituents with concentrations higher than the drinking water criteria are cis-1,2-DCE (at MW-33-04) and vinyl chloride (at MW-33-04 and MW-39-05), and their concentrations are only somewhat higher than the criteria. Noting that MW-36-05 and MW-39-05 are a clustered pair and MW-40-05 and MW-33-04 also are a clustered pair, the differences in occurrence and distribution of PCE, TCE, cis-1,2-DCE, and vinyl chloride in these well pairs across the till-rich zone and the lower aquifer suggest that transport of site-related concentrations to the lower aquifer is very limited.

This interpretation is also supported by groundwater data from monitoring wells in the till-rich zone downgradient of the Site. Among off-site monitoring wells in the till-rich zone to the west of the Site and within the interpreted extent of the AOI 1 plume in the upper aquifer (e.g., MW-41-05 and MW-45-05), concentrations higher than the drinking water criteria occur sporadically. As shown in Table 4.3D(ii), PCE concentrations exceed the drinking water criterion at MW-45-05, but not at MW-41-05; TCE and vinyl chloride exceed their respective drinking water criteria at MW-41-05, but not at MW-45-05.

In contrast, off-site monitoring wells in the till-rich zone to the west of the Site that are located along and beyond the interpreted extent of the AOI 1 plume in the upper aquifer (i.e., MW-44-05, MW-42-05, DAY-7, DAY-24, and MW-20-04) consistently have TCE concentrations that exceed the drinking water standard, are substantially higher than TCE concentrations along the western edge of the AOI 1 plume in the upper aquifer, and have TCE as the predominant groundwater contaminant (unlike the AOI 1 plume, in which PCE was the predominant constituent prior to the AOI 1 interim measures and

cis-1,2-DCE is now the predominant constituent). The presence of the TCE concentrations at these off-site monitoring wells is likely unrelated to the Site.

4.6.4.3 LOWER AQUIFER GROUNDWATER IMPACTS

Among on-Site monitoring wells in the lower aquifer, the only constituents with concentrations higher than the drinking water criteria are cis-1,2-DCE (at MW-33-04) and vinyl chloride (at MW-33-04 and MW-39-05), and their concentrations are only somewhat higher than the criteria. Among off-Site monitoring wells in the lower aquifer west of the Site, only TCE, cis-1,2-DCE, and vinyl chloride have concentrations that are higher than drinking water standards. PCE does not have any concentration that is higher than its drinking water standard. The highest concentrations of TCE in groundwater samples from off-site wells in the lower aquifer are from the Geothermal Well. Given the absence of similar concentrations of TCE in the lower aquifer beneath the Site and the significantly lower concentrations in lower aquifer wells located to the west between the Site and the Geothermal Well, the elevated TCE concentrations in the Geothermal Well are likely unrelated to the Site. The absence of PCE in groundwater samples from the Geothermal Well also suggests that the TCE contamination at the Geothermal Well is not site-related.

Groundwater flow in the highly permeable lower aquifer is dominated by horizontal flow. The lower aquifer is strongly influenced by area water production wells (see Section 3.8.2). Flow in the lower aquifer in the vicinity of the Site is dominated by two pumping systems: the Geothermal Well and the seven Fountain Wells. These production wells create a localized capture zone that changes flow conditions. When the Fountain Wells are operated in the normal mode, all lower aquifer groundwater from beneath the Site is captured by the Geothermal Well. This capture is supported by interpretation of groundwater flow from directly measured water levels (see Figures 3.23 through 3.25).

4.7 LNAPL

4.7.1 RATIONALE FOR LNAPL MONITORING AND SAMPLING

LNAPL monitoring was conducted to identify and delineate the extent of LNAPL. The scope of the RFI field investigations for LNAPL also involved collection of samples to chemically and physically characterize the LNAPL associated with the Site.

4.7.2 SCOPE AND RESULTS

The scope of the RFI field investigations for LNAPL involved collection of samples to characterize the nature and extent of LNAPL associated with the Site which is located in the vicinity of the Chip Area (AOIs 11, 12, 13, and 14) and the Hydromation Pit (AOI 21). The investigation included soil borings and oil-in-soil testing to delineate the LNAPL and LNAPL sampling for characterization. The samples were analyzed for TCL VOCs, TCL SVOCs, TCL PCBs, and TAL inorganics (except for aluminum, calcium, iron, magnesium, potassium, and sodium).

As part of the Stage 3 RFI sampling event, an LNAPL investigation was completed. A total of 12 soil borings were advanced to an average depth of 15 feet below ground surface in the vicinity of the former Chip Handling and Hydromation Pit areas. Field screening for the presence of LNAPL was performed at borings, excluding the Hydromation Pit area, using Oil-In-Soil™ Sudan IV detection kits. In addition, observations relating the presence of staining, sheen and LNAPL saturation were recorded on the test boring reports. Field screening for the presence of LNAPL using Oil-In-Soil™ Sudan IV detection kits and visual observations was performed in the Hydromation Pit area during the installation of monitoring wells.

Following the initial LNAPL investigation, five monitoring wells were installed along the perimeter of the delineated Chip Area LNAPL plume (MW-27-04, MW-28-04, MW-29-04, MW-30-04, and MW-31-04). A one-inch observation piezometer, MW-32-04, was installed at the location of SB-118-04 due to site access constraints associated with the elevated railroad abutment. Additionally, two wells, MW-23-04 and MW-24-04, installed in the vicinity of the Hydromation Pit serve dual purpose as RFI groundwater sample locations and LNAPL delineation. These well installations were completed in March 2004. Groundwater analytical results and well logs were submitted as part of the Stage 3 RFI Sample Results package on June 23, 2004). Furthermore, groundwater was not sampled as part of the Stage 3 sampling event if evidence of LNAPL was detected in a monitoring well.

Upon completion, samples of LNAPL were collected from five wells within the delineated LNAPL plumes. LNAPL samples were collected from wells using a peristaltic pump with dedicated tubing. Due to generally low LNAPL volumes in the wells, it was necessary to resample each well at least twice in order to collect a sufficient volume required by the laboratory. A minimum volume of 300 mL of sample was required for analysis of the following parameters: molecular weight, fingerprinting,

specific gravity, viscosity, interfacial tension, flammability, corrosivity, VOCs, SVOCs, metals, and PCBs.

Four efforts to collect LNAPL at monitoring well B-SA 27, located near the Hydromation Pit, did not produce a sufficient volume of sample to complete the above listed analyses. Based on the available sample volume, the analytical parameters were prioritized for the following analyses: VOC, SVOC, PCB, metals, molecular weight and fingerprinting.

Section 2.2.5 outlines additional LNAPL investigations to gather additional Site specific data to support the American Petroleum Institute (API) Burdine analytical model (2004) for LNAPL mobility in soils.

The RFI samples collected for chemical characterization of LNAPL are summarized in Table 4.6. The number of locations from which samples were collected for each presentation during the RFI, and the number of samples analyzed for each analyte group (excluding QC samples such as field blanks or duplicates) have been summarized as follows:

	Locations	*Samples*	*TCL VOCs*	*TCL SVOCs*	*TCL PCBs*	*TAL Metals*
Chip Area LNAPL	10	12	12	12	12	12
Hydromation Pit LNAPL	1	3	3	3	3	3
Day-17 LNAPL	1	1	1	1	1	1
MW-14B LNAPL	1	1	1	1	1	1

4.7.3 DISCUSSION OF RESULTS

4.7.3.1 IDENTIFICATION AND DELINEATION

Field observations during the LNAPL investigation revealed that the Chip Area LNAPL plume is trapped as residual below the water table. Black or gray staining was observed in most borings at or below the water table, ranging in thickness from several inches to feet. More than 50 percent of positive Sudan IV tests occurred below the water table (indicating presence of greater than 500 ppm total petroleum hydrocarbons). Field observations of product thickness indicate the presence of LNAPL below the water table.

In addition to water table fluctuations, LNAPL thicknesses differ within the Chip Area LNAPL plume. Greater thicknesses are measured near the CSX railroad tracks in monitoring wells B-SA 18, MW-28-04, OW-4, and B-303. LNAPL is detected at lesser thickness, and is not-detectable in some cases, in wells at the fringe or outer edge of the delineated Chip Area LNAPL plume: B-306, B-305, OW-2, and MW-12A-03. LNAPL is also detected at lesser thickness in the Hydromation Pit LNAPL plume: B-SA 27 and MW-24-04.

Analytical results and the physical description of the LNAPL indicate the Chip Area LNAPL plume and the Hydromation Pit LNAPL plume consist of different material. PCB concentrations detected in the LNAPL associated with the former Chip Handling Areas are up to four orders of magnitude greater than levels detected at B-SA 27, near the Hydromation Pit. Total chromium in the LNAPL at B-SA 27 is approximately ten times greater than other wells. VOCs identified in LNAPL varied significantly between the Chip Area LNAPL plume (xylene, isopropylbenzene, methyl cyclohexane, and methylene chloride), and the Hydromation Pit LNAPL plume (cis-1,2-DCE, and PCE).

The results of ongoing LNAPL observations and the Stage 3 LNAPL investigation have been used to delineate the extent of LNAPL. The delineated Chip Area LNAPL plume extends under the Mad River Levee, Building 13 and Building 10, and appears to include an area under Building 9. The barrier wall delineates the northern boundary. No discharge of LNAPL has been observed into the Mad River. The Hydromation Pit LNAPL plume extends under and just north of Building 7. Water table monitoring wells that do not exhibit presence of LNAPL exist downgradient of both areas.

4.7.3.2 CHEMICAL CHARACTERIZATION

The sample results for the constituents of interest are presented on Figure 4.5. The soil boring and monitoring well logs are presented in Appendix F. The sample results for all constituents are presented in Appendix G. Laboratory analytical reports and data validation memoranda are presented in Appendix H.

OFF-SITE LNAPL

LNAPL was identified in June 2002 in one City of Dayton well located off Site, northeast of the intersection of Keowee Street and Monument Avenue. No VOCs, SVOCs, or PCBs were detected. Various metals were detected at low concentrations. LNAPL has not been detected in the well since.

HYDROMATION PIT

Figures 4.5 and 4.13 show the location and apparent thickness of the Hydromation Pit LNAPL plume (AOI 21) located in Building 7. Chlorinated VOCs PCE, TCE, and cis-1,2-DCE were detected. Bis(2-ethylhexyl)phthalate was detected in two of three samples.

CHIP AREA LNAPL PLUME

Figures 4.5 and 4.13 show the location and apparent thickness of the Chip Area LNAPL plume, located in north portion of the CSXT Railway. This LNAPL plume was found to contain relatively low concentrations of chlorinated VOCs PCE, and TCE. The TCE concentrations were generally found to be within the same order of magnitude as the PCE concentrations in any particular sample and were from the borings located in the northern portion of the Former Building G-5 area. Cis-1,2-DCE was only found where TCE and PCE were located, at similar concentrations. Toluene was also identified where TCE and PCE were located.

In addition, methyl chloride and bis(2-ethylhexyl)phthalate was identified in an isolated location north of the Former Building 13.

PCBs were identified all LNAPL samples in the Chip Area LNAPL plume at concentrations ranging from 85 to 2,000 mg/kg. The detected concentrations are consistent with historic chip handling operations that occurred in Former Building G-5 (AOIs 11, 12, 13, and 14). This area has been delineated to the south, east, and west; the barrier wall to the north prevents further subsurface migration.

Concentrations of various metals were detected in the LNAPL, including arsenic, total chromium, copper, lead, manganese, nickel and zinc. The highest concentrations for the metals were identified in the northern samples located near AOI 11, with the exception of lead, which the highest concentrations occurring between the northeast portion of Building 10 and the Railway.

MW-14B LNAPL

LNAPL was identified in January 2006 in MW14B-04, located in Building 7. LNAPL had not been detected previously in this well. PCE, bis(2-ethylhexyl)phthalate, PCBs, and various metals were detected at low concentrations. LNAPL did not recover in this well.

4.7.3.3 PHYSICAL CHARACTERIZATION AND MIGRATION POTENTIAL

The LNAPL plumes associated with the Chip Area and Hydromation Pit were found to have very limited potential for mobility on the Site, based on field evidence, analytical data, and modeling results. The lack of significant increase in product thickness observed in the wells while groundwater levels and gradient have continued to cycle over time is the primary line of field evidence which demonstrates that the plumes are stable. In addition to field evidence, laboratory measurements of LNAPL and soil conditions support the conclusion that neither plume has significant potential for mobility. Further analysis of laboratory and field evidence using the API Model supports the finding that the Chip Area LNAPL plume has very limited potential for mobility. The complete findings of this investigation are summarized in the "LNAPL API Investigation Model Results" (H&A, July 28, 2005).

LNAPL data from the Hydromation Pit area was not specifically evaluated using the API model largely because a sufficient quantity of LNAPL could not be collected from this area to perform core saturation analysis. However, testing of Hydromation Pit LNAPL does reveal it to be more viscous than LNAPL from the Chip Area. The higher viscosity would result in less potential for mobility. This factor, combined with observations of similar soil type, permeability, porosity and hydraulic gradient, supports that conclusion that API analysis would indicate Hydromation Pit LNAPL also has very low potential for mobility - a conclusion that is supported by 8 years of field monitoring data.

4.7.4 CONCLUSIONS

LNAPL measurements, laboratory analysis, and API modeling concludes that the LNAPL plume located in the north portion of the CSXT Railway has very limited potential for mobility, and interim measures have been implemented to prevent possible migration into the Mad River. LNAPL measurements, laboratory analysis, and application of API modeling results also concluded that the Hydromation Pit LNAPL plume (AOI 21) has limited potential for mobility. Both plumes have been delineated. LNAPL located east of Keowee Street is not associated with an LNAPL plume and is an isolated occurrence. The findings of the LNAPL investigations are summarized in the documents "Delineation of Area of LNAPL & LNAPL Monitoring Plan – Former Chip Handling Areas and Hydromation Pit Area" (H&A, February 18, 2005) and "LNAPL API Investigation Model Results" (H&A, July 28, 2005).

5.0 HUMAN HEALTH RISK ASSESSMENT

5.1 INTRODUCTION

Section 4.0 discussed the scope of the RFI field investigation for each area that was investigated, and compared the Site characterization data that were collected during the RFI with conservative risk-based screening criteria to identify whether a potentially significant release of hazardous constituents to the environment may have occurred. The human health risk assessment discussed in this section evaluates the potential significance of reasonable maximum exposures to affected environmental media under current and reasonably expected future land use at and around the Site. The methods used in the risk assessment are based on U.S. EPA risk assessment guidance. The results of the risk assessment will be used to identify where a release of hazardous constituents from the Site may cause reasonable maximum exposures to be significant enough to warrant corrective measures.

The scope of the human health risk assessment is summarized in the conceptual site model (CSM) shown in Table 5.1. The CSM identifies the scenarios for potential human exposure under current and reasonably expected future conditions at and around the Site in terms of the potentially exposed populations, the environmental media to which they could be exposed, and the potential routes of exposure. The CSM was developed based on the Site information and data discussed in Sections 3.0 and 4.0, respectively. The scenarios for potential human exposure are further discussed in Section 5.4.
Discussion of the human health risk assessment is organized as follows:

- the preparation of data used in the risk assessment is discussed in Section 5.2 - Data Collection and Preparation;
- Section 5.3 - Potentially Significant Releases summarizes the areas and environmental media that have been affected by a potentially significant release, and the primary constituents found in these media;
- the scenarios for potential human exposure are discussed in Section 5.4 - Exposure Assessment, which also discusses the estimation of exposure concentrations and chemical intakes for each exposure scenario;
- toxicity information for the constituents included in the risk assessment is summarized in Section 5.5 - Toxicity Assessment;
- the risk estimates associated with the potential exposures discussed in Section 5.4 are quantified and their significance is discussed in Section 5.6 - Risk Characterization. Uncertainties associated with the risk estimates are also discussed in this section; and

- the findings and conclusions of the human health risk assessment are summarized in Section 5.7 - Summary and Conclusions.

5.2 DATA COLLECTION AND PREPARATION

5.2.1 DATA COLLECTION

The RFI soil, groundwater, storm sewer sediment, storm sewer water, and LNAPL data are used in the quantitative health risk assessment. The objectives of data collection during the RFI and strategies for determining when additional data collection is necessary were described in the RFI Work Plan (CRA, 2002) and addenda (CRA, 2003a, 2003b, 2003c, 2004a, 2004b, 2005a, 2005b). The scope of the RFI field investigation and a summary of the data collection activities are described in Section 2.0 of this report. The complete RFI data (including R-qualified data and separate results for each sample of a duplicate pair) are provided in Appendix G.

In addition to the RFI data, the health risk assessment considered certain groundwater and soil data that were independently collected by the City of Dayton (specifically, groundwater sampling data from monitoring wells DAY-22, DAY-23, and DAY-24 and soil data collected during the installation of those wells), because, as discussed in Section 4.6, those data provide additional information regarding off-Site groundwater conditions in upgradient (DAY-22 and DAY-23) and side-gradient (DAY-24) locations. The health risk assessment also considered the background soil data that were collected by CRA prior to the RFI, which are discussed in Section 3.6.

5.2.2 DATA PREPARATION

All RFI soil, groundwater, storm sewer sediment, storm sewer water, and LNAPL data included in the data summary tables for each area discussed in Section 4.0 and the background soil data collected by CRA were validated. Validation of data collected during the RFI was performed in accordance with the QAPP in the RFI Work Plan (CRA, 2002). Summaries of the data validation results are provided in Appendix H. GM did not validate the City of Dayton's groundwater and soil data from wells DAY-22, DAY-23, and DAY-24.

In addition, the following procedures were used to prepare the data in these summary tables to support quantitative risk assessment. These procedures, which are based on U.S. EPA guidance on human health risk assessment (U.S. EPA, 1989), are as follows:

- constituent concentrations qualified as not detected (i.e., U or UJ-qualified data) during data validation are evaluated as non-detects;
- constituent concentrations qualified as not usable (i.e., R-qualified data) during data validation are not included in the risk assessment;
- concentrations qualified as estimated (i.e., J-qualified data) are included for quantitative assessment;
- concentrations in duplicate field samples are averaged to obtain a representative concentration for the sample location. When a constituent was detected in only one sample of a duplicate pair, the average of the detected concentration and one-half the quantitation limit is used in further calculations;
- the concentrations of methylphenol (total) in a sample are the sums of the concentrations of the detected isomers and half the quantitation limits of isomers not detected in the sample but detected in the same matrix at the Site. If no isomer is detected in a sample, the constituent is considered to be not detected in the sample;
- similarly, the concentration of PCBs (total) in a sample is the sum of the concentrations of the detected Aroclors and half the quantitation limits of Aroclors not detected in the sample but detected in the same matrix at the Site. If no Aroclor is detected in a sample, PCBs are considered to be not detected in the sample;
- concentrations of metals in soil that are at or below background levels are considered to represent background conditions. The background levels used for this assessment are shown in Appendix E and summarized in Table 3.2. Metal concentrations in on-Site samples that are in excess of background levels are considered to be Site-related, and are used in the calculation of Site-related risks;
- as a conservative assumption, all concentrations of organic constituents detected in on-Site soil and groundwater are assumed to be Site-related; and
- Data for media that have been removed from the Site, for example as a result of interim measures, are not included in the risk assessment.

No constituent that was detected in on-Site soil, groundwater, storm sewer sediment, storm sewer water, or LNAPL is excluded from the risk assessment, except as noted above.

5.3 POTENTIALLY SIGNIFICANT RELEASES

5.3.1 SOIL AND LNAPL

The Section 4.0 tables summarize the soil characterization data for each on-Site and off-Site area, and show the ratios of the highest measured concentrations for each constituent at each area to the screening criteria. As discussed in Section 4.0, the screening criteria for on-Site soil include the U.S. EPA Region 9 risk-based, preliminary remediation goals (PRGs) for industrial soil based on direct contact and inhalation of soil vapor and particulates in ambient air (U.S. EPA, 2004). They also include conservative site-specific criteria that were developed for evaluating potential exposure of workers to constituents in soil if they were to volatilize and migrate through building foundation cracks into indoor air. These criteria were derived using a vapor intrusion modeling approach recommended by U.S. EPA (2003) for screening-level analysis. The model parameters related to soil properties were based on a conservative interpretation of the predominant soil conditions at the Site. In addition, the soil data were screened against a set of criteria that were developed for evaluating potential exposure of workers during short-term redevelopment (construction) activities, since the City of Dayton is currently redeveloping a portion of the Site for commercial/industrial reuse (See Section 3.7.3). These criteria were derived to address worker exposures via incidental ingestion, dermal contact, and inhalation during soil excavation activities. Details of the derivation of the vapor intrusion and redevelopment worker criteria are discussed in Appendix E. All three sets of screening criteria were derived using exposure assumptions that are highly conservative for the populations addressed by the criteria, and a target cancer risk of 10^{-5} and a target hazard quotient (HQ) of 1.

A potentially significant release to soil at an area is identified in the Section 4.0 tables by comparing the highest Site-related concentration of each constituent in surface and subsurface soil at the area to the screening criteria. Ratios of the highest Site-related concentrations in surface or subsurface soil to the screening criteria that exceed 1 are considered indications of a potentially significant release to soil. As shown in Tables 4.2A(i) and 4.2A(ii), the ratios for certain constituents exceed 1 at the following on-Site areas:

- Webster Street to Taylor Street [for PCE, TCE, cis-1,2-DCE, benzo(a)pyrene, dibenz(a,h)anthracene, PCBs, and mercury];
- Taylor Street to Railway [for PCE, TCE, cis-1,2-DCE, vinyl chloride, benzene, benzo(a)pyrene, PCBs, lead, cadmium, manganese, and mercury]; and
- Railway to Keowee Street [for benzo(a)pyrene, PCBs, and lead].

As shown in Tables 4.2B(i) and 4.2B(ii), the ratios for certain constituents exceed 1 at the following off-Site areas:

- Taylor Street to Railway north of Mad River levee (for PCBs); and
- Off-Site West [for benzo(a)pyrene, dibenz(a,h)anthracene, and lead].

The PCBs in subsurface soil north of the Mad River levee are believed to be associated with the Chip Area LNAPL plume (AOIs 11, 12, 13, and 14). As discussed in Section 4.0, none of the exceedances at the Off-Site West locations is believed to be attributable to the Site. There were no exceedances of criteria at either of the two soil boring locations considered in the Off-Site South area.

In addition to the soil data summarized in the Section 4.0 tables, chemical characterization data for LNAPL were collected from two plumes, one in the Chip Handling Area (AOIs 11, 12, 13, and 14), and one in the Hydromation Pit Area (AOI 21). LNAPL characterization data were also collected from on-Site monitoring well MW-14B where LNAPL was observed in January 2006. LNAPL from an upgradient, off-Site monitoring well DAY-17 was also sampled and analyzed during the RFI, although this LNAPL is not related to the Site. The characterization data for all four LNAPLs are summarized in Table 4.6 and shown on Figure 4.5.

The potential for human exposure to constituents in soil and LNAPL at all the areas where field investigations were conducted during the RFI, including the areas where a potentially significant release was identified, is discussed in Section 5.4. The significance of the potential exposure is discussed in Section 5.6.

5.3.2 GROUNDWATER

Groundwater quality data were collected from three hydrogeologic units (i.e., upper aquifer, till-rich zone, and lower aquifer) during the RFI from monitoring wells that are located both on Site and off Site, as discussed in Section 2.2.6.4. These data are summarized in the Section 4.0 summary tables.

The Section 4.0 summary tables for groundwater data show the ratios of the highest concentrations to the screening criteria. The groundwater characterization data collected from monitoring wells in the upper aquifer were compared with the following three types of groundwater screening criteria: 1) criteria based on drinking water

consumption; 2) criteria based on vapor intrusion, and 3) criteria based on direct contact by maintenance workers during excavations that extend into the water table. The groundwater characterization data collected from monitoring wells in the till-rich zone and the lower aquifer were compared only with the criteria based on drinking water consumption, because the other two sets of criteria are relevant only to shallow groundwater.

The drinking water criteria are primarily based on maximum contaminant levels (MCLs) promulgated under the Safe Drinking Water Act, but they also include similarly-derived concentration limits for chemicals that lack MCLs. Equivalent drinking water concentration limits were derived, as described in Appendix E, using exposure assumptions that are conservative for residential use of groundwater, and a target cancer risk of 10^{-5} and a target HQ of 1. Groundwater screening criteria based on vapor intrusion were derived to identify groundwater conditions that might result in potentially significant indoor air exposures if constituents in shallow groundwater were to volatilize and migrate through building foundation cracks into indoor air. The groundwater screening criteria for evaluating vapor intrusion into future on-Site buildings were derived using the same modeling approach that was used for deriving the soil vapor intrusion criteria. The screening criteria for evaluating vapor intrusion at off-Site locations downgradient of the Site were derived similarly, except they were conservatively based on assumed vapor intrusion into a small hypothetical commercial/industrial building (rather than the smallest future on-Site building in the Site redevelopment plan). Groundwater screening criteria based on maintenance worker contact were derived to identify conditions in shallow groundwater that might result in potentially significant exposure of construction workers during occasional excavations that extend into the water table. These criteria were derived using conservative exposure factors for incidental ingestion, dermal contact, and inhalation of vapors from groundwater. Details of the derivation of the vapor intrusion and maintenance worker contact criteria are discussed in Appendix E. They were derived using a target cancer risk of 10^{-5} and a target HQ of 1.

A potentially significant release to groundwater in a hydrogeologic unit is identified in the Section 4.0 tables by comparing the highest concentration for each constituent in groundwater in the unit to the screening criteria. Ratios of the highest groundwater concentrations to the screening criteria that exceed 1 are considered indications of a potentially significant release. The use of the drinking water criteria to identify potentially significant releases is highly conservative. As discussed in Section 3.8, groundwater at the Site and in the downgradient vicinity is not a current or reasonably expected future drinking water supply. No active water supply well exists at the Site and an extensive review of water use records during the RFI has identified no water

supply well within a 1/2 mile of the Site. Potable water at and around the Site is supplied by the City of Dayton.

As shown in Table 4.3A(i), the ratios for certain constituents exceed 1 at the following on-Site areas in the upper aquifer, when groundwater sample concentrations are compared to the drinking water criteria:

- Webster Street to Taylor Street (for PCE, TCE, cis-1,2-DCE, vinyl chloride, 1,1-DCE, benzene, methylene chloride, PCBs, cadmium, and lead);
- Taylor Street to Railway (for PCE, TCE, cis-1,2-DCE, vinyl chloride, PCBs, and arsenic); and
- Railway to Keowee Street (for TCE, vinyl chloride, and PCBs).

No groundwater concentration from on-Site locations in the upper aquifer exceeds the vapor intrusion screening criteria. As shown in Table 4.3A(ii), groundwater concentrations at two on-Site locations in the upper aquifer exceeded the screening criteria based on direct contact by maintenance workers (i.e., PCBs at monitoring well B-SA21, and cis-1,2-DCE and vinyl chloride at monitoring well MW-23).

As shown in Table 4.3B(i), the ratios for certain constituents exceed 1 at the following off-Site areas in the upper aquifer, when groundwater sample concentrations are compared to the drinking water criteria:

- Off-Site West (for PCE, TCE, cis-1,2-DCE, vinyl chloride, methylene chloride, and arsenic);
- Off-Site South, which is upgradient or sidegradient of the Site (for PCE, TCE, and bis-2-ethylhexylphthalate);
- Off-Site north of the Mad River levee between Webster and Taylor Streets (for PCE and TCE); and
- Off-Site north of the Mad River levee between Taylor Street and the railway (for TCE, vinyl chloride, and PCBs).

No groundwater concentration from off-Site locations in the upper aquifer exceeds the vapor intrusion or maintenance worker screening criteria.

As shown in Table 4.3C(i), the ratios for certain constituents exceed 1 at the following areas in the till-rich zone, when groundwater sample concentrations are compared to the drinking water criteria:

- On-Site between Webster and Taylor Streets at well MW-40 (for PCE and TCE);
- On-Site between Taylor Street and the Railway at well MW-36 (for PCE and TCE);
- Off-Site South at DAY-23, which is upgradient of the Site (for TCE); and
- Off-Site West (for PCE, TCE, cis-1,2-DCE, and vinyl chloride).

As shown in Table 4.3D(i), the ratios for certain constituents exceed 1 at the following areas in the lower aquifer, when groundwater sample concentrations are compared to the drinking water criteria:

- On-Site between Webster and Taylor Streets at well MW-33 (for cis-1,2-DCE and vinyl chloride);
- On-Site between Taylor Street and the Railway at well MW-39 (for vinyl chloride); and
- Off-Site West (for TCE, cis-1,2-DCE, and vinyl chloride).

The potential for human exposure to constituents in on-Site and off-Site groundwater is discussed in Section 5.4, and the significance of any potential exposure is discussed in Section 5.6.

5.3.3 STORM SEWER WATER AND STORM SEWER SEDIMENT

Water and sediment samples were collected from the storm sewers on and around the Site, as discussed in Section 2.2.6.2. These data are summarized in the Section 4.0 summary tables.

A potentially significant release to storm sewers is identified in the Section 4.0 summary tables for storm sewer water and storm sewer sediment by ratios of the sample concentrations to the screening criteria that exceed 1. The storm sewer water sampling data were compared with criteria based on direct contact by maintenance workers with groundwater. The storm sewer sediment sampling data were compared with U.S. EPA Region 9 risk-based PRGs for industrial soil based on direct contact and inhalation of soil vapor and particulates in ambient air (U.S. EPA, 2004). The use of the PRGs to identify potentially significant releases is highly conservative, because the PRGs assume

250 days of direct contact annually, whereas maintenance activities are reasonably expected to occur for a much shorter duration in any given year. The Section 4.0 summary tables for storm water data show the ratios of the highest concentrations to these screening criteria.

As shown in Table 4.5A(ii), the ratios for PCBs exceed 1 for only two storm sewer water samples, both collected in the area between Webster and Taylor Streets. Manhole 25 (MH-25) was cleaned and MH-12 was cleaned and permanently closed during the Interim Measure for storm sewers that was conducted during February and March 2006, as discussed further in Section 2.3.4. These sampling locations are shown in Figures 4.3A and 4.3B.

As shown in Table 4.4A(i), the ratios for certain constituents exceed 1 for storm sewer sediment samples collected in the following on-Site areas:

- Webster Street to Taylor Street (for four PAHs [benzo(a)pyrene, benzo(a)anthracene, benzo(b)fluoranthene, and dibenz(a,h)anthracene], bis(2-ethylhexyl)phthalate, lead, mercury, and PCBs);
- Taylor Street to Railway (for benzo(a)pyrene, cadmium, lead, mercury, and PCBs); and
- Railway to Keowee Street (for benzo(a)pyrene).

As shown in Table 4.4A(ii), all of the manholes between Webster and Taylor Streets that have sediment concentrations that exceed the respective PRG were cleaned and/or permanently closed as part of the Interim Measure that was conducted in February and March 2006, as discussed further in Section 2.3.4.

As shown in Table 4.5A(i) and Table 4.5A(ii), the only constituent in storm sewer water samples that had a concentration higher than the screening criteria was PCBs. However, both locations with such concentrations were either cleaned (MH-25), or cleaned and permanently closed (MH-12), and therefore, do not represent current conditions. It should be noted that manholes MH-25 and MH-69 collect sediment and water from not only the Site but also off-Site areas, so that the former concentrations at these locations are not necessarily related to the Site. However, for the purposes of this risk assessment, the former concentrations at these locations are conservatively assumed to be entirely Site-related.

The potential for human exposure to constituents in storm sewers in all three areas is discussed in Section 5.4 and the significance of the potential exposure is discussed in Section 5.6.

5.3.4 CONCRETE

Wipe and core samples of concrete surfaces were collected at various locations throughout the Site and analyzed for PCBs, as discussed in Section 2.2.6.3. These data are summarized in the Section 4.0 summary tables.

A potentially significant release to concrete is identified in Table 4.1 by ratios of the sample concentration to the screening criterion that exceed 1. The PCBs wipe and core sampling data were compared to criteria for low-occupancy areas, which were established by U.S. EPA under TSCA (40 CFR 761.61). The TSCA low-occupancy criteria are appropriate because the remaining buildings are not in use and are scheduled for demolition in later phases of Site redevelopment.

As shown in Table 4.1, the ratios for certain samples exceed 1, as follows:

- both wipe samples in the area between Webster and Taylor Streets exceed the low-occupancy criterion (100 µg per 100 cm^2), but the core samples from these same locations did not exceed their respective criterion;
- only 2 of 17 core samples in the area between Taylor Street and the Railway exceed the low-occupancy criterion (25 mg/kg), but the wipe samples from these same locations did not exceed their respective criterion; and
- three of eight core and wipe samples in the area between the Railway and Keowee Street exceeded the low-occupancy criterion. These ratios indicate potentially significant releases of PCBs to concrete in certain locations. Both the core and wipe samples from the railway retaining wall (sample location CC-20-04) exceed criteria. GM plans to cover this section of the wall with a new concrete face during spring or summer 2006. The G-Lot Transformer Pad (sample locations CON-14-02 and CON-15-02) was removed and the concrete was disposed off Site as described in the memorandum sent to U.S. EPA on September 15, 2005. Concrete samples CC-01-05 (1.28 mg/kg) and CC-02-05 (0.233 mg/kg), collected between 0- to 3-inch depth from the G-Lot transformer pad did not exceed low occupancy standards. Therefore, all concrete containing PCBs exceeding the TSCA low occupancy standards has been removed from this area.

The potential for human exposure to PCBs in concrete is discussed in Section 5.4.

5.4 EXPOSURE ASSESSMENT

This section discusses the potential exposures that are relevant under current and reasonably expected future land use at and around the Site. The exposure setting, potentially exposed populations, and exposure pathways are discussed below in Sections 5.4.1 to 5.4.3.

For the potential exposures via ingestion and dermal contact, as discussed in this section, exposure is quantified as a dose, which is defined as follows:

$$Dose = Concentration \cdot Intake$$

The dose for evaluating cancer risk is averaged over a lifetime and is called a lifetime average daily dose (LADD). For evaluating long-term (chronic) and shorter-term (subchronic) noncancer effects, the dose is averaged over the duration of potential exposure and is called an average daily dose (ADD). The concentration term in the dose equation refers to the concentration in an environmental medium to which a population is exposed over a specified duration. The intake term refers to the intake rate of the contaminated environmental medium, which is a function of the magnitude, frequency, and duration of exposure. The methods for estimating the concentration term are discussed in Section 5.4.4. The exposure factors that are used to quantify the magnitude, frequency, and duration of potential exposures are discussed in Section 5.4.5.

For the potential exposures via inhalation, as discussed in this section, exposure is quantified as an average daily concentration in air. The exposure concentration for evaluating cancer risk is averaged over a lifetime. For evaluating chronic and subchronic noncancer effects, the exposure concentration is averaged over the period of exposure. The methods for estimating the concentration term are discussed in Section 5.4.4.

5.4.1 EXPOSURE SETTING

The environmental setting at and around the Site, including climate, geology, hydrogeology, land cover, surface water bodies, water supply, and groundwater use, is discussed in Section 3.0, which is not repeated in this sub-section.

5.4.2 POTENTIALLY EXPOSED POPULATIONS

The Site is not currently being used but is being redeveloped for commercial/industrial reuse by the City of Dayton. As discussed in Section 3.7.3, the City of Dayton is redeveloping the Site in three phases, with the first phase currently in progress between Webster Street and Taylor Street. Demolition of above-ground structures in this part of the Site was completed in October 2005, and re-grading began in March 2006. The basements of the former buildings have been made permanently inaccessible. The portions of the Site between Taylor Street and the Railway and between the Railway and Keowee Street are scheduled for redevelopment in the second and third phases of the City's redevelopment plan, respectively. The City is currently planning construction activities for the portion of the Site between Taylor Street and the Railway.

Under current conditions at the Site, the only population with reasonably expected exposures of potential significance is the construction workers performing redevelopment between Webster Street and Taylor Street. These workers have the potential for exposure to soil between Webster Street and Taylor Street during removal of building floor slabs at certain locations and excavation of soil at certain locations and depths. According to the City's construction plans for this phase of work, slab removal and excavation activities are expected to be completed within 90 calendar days, or within approximately 64 work days. Current exposure to contaminated soil elsewhere at the Site, as well as current exposure to LNAPL, groundwater, and concrete at the Site, is not reasonably expected because the rest of the Site is not in use, redevelopment has not yet started, the buildings have been demolished or vacated, and controls to limit public access are in place. The City is currently planning the demolition activities for the portion of the Site between Taylor Street and the Railway, but specific redevelopment plans regarding building slab removal and soil excavation in the second and third phases are not yet available. Currently, public access is limited by fencing and warning signs. Fencing encompasses the portion of the Site from Webster Street to the Railway and warning signs are posted where fencing is not present at the portion of the Site from the Railway to Keowee Street.

As each phase of redevelopment is completed, potentially exposed populations in those parts of the Site would include workers and visitors. The largest receptor population is expected to consist of workers who would be engaged in routine activities in commercial/industrial settings. Most of these workers are expected to spend most of their work day indoors and a limited amount of time outdoors. A small fraction of the workers is expected to conduct occasional subsurface construction or maintenance that puts them in contact with both surface and subsurface soil in paved and unpaved areas

(e.g., during installation or repair of underground utilities, or during removal or repair of pavement). These types of subsurface activities are expected to be of limited size and duration. According to the redevelopment plans provided to GM by the City of Dayton, some redeveloped parts of the Site are expected to provide green-space or a park-like environment that could attract visitors to spend time outdoors at the Site engaged in occasional, low-intensity recreational activities such as walking or picnicking.

The off-Site areas within approximately a 1/2 mile of the Site consist of commercial/industrial land use, and current zoning is expected to remain unchanged, as discussed in Section 3.7. As such, the largest potentially exposed population around the Site is workers. Another potentially exposed population is recreational visitors at the RiverScape MetroPark's Five Rivers Fountain of Lights, which is located approximately a half-mile to the west of the Site along the Mad River and Great Miami River. As discussed further below, the Fountain uses groundwater from the lower aquifer and visitors to the Fountain have a potential to contact spray from the Fountain's water jets. Also within approximately a 1/2 mile of the Site are two other wells that use groundwater from the lower aquifer. These are the Stadium Well and the Geothermal Well. As discussed further below, maintenance workers (or groundskeepers) at the Stadium may have incidental contact with groundwater during irrigation of the baseball field, and workers at the Career Academy may have incidental contact with groundwater during occasional maintenance of the Geothermal Well.

In summary, the potentially exposed populations at and around the Site under current and reasonably expected future land use include the following:

On-Site:	Routine workers (future land use scenario only)
	Redevelopment workers
	Maintenance (or occasional construction) workers
	Trespassers
	Recreational visitors (future land use scenario only)
Off-Site:	Routine workers
	Maintenance (or occasional construction) workers
	Recreational visitors

5.4.3 EXPOSURE PATHWAYS

The exposure pathways evaluated in the risk assessment are summarized in the conceptual Site model shown in Table 5.1. Exposure pathways for on-Site receptors are

discussed in Section 5.4.3.1, and exposure pathways for off-Site receptors are discussed in Section 5.4.3.2.

5.4.3.1 POTENTIAL ON-SITE EXPOSURES

On-Site receptors include redevelopment workers, routine workers, maintenance workers, trespassers, and recreational visitors. The types of potential exposures for each receptor are discussed below.

Redevelopment Workers

During slab removal and excavation associated with redevelopment activities, construction workers could come in contact with surface and subsurface soil at the Site. These subsurface activities are expected to be of limited extent and duration. Potential routes of exposure would include incidental ingestion, dermal contact, and inhalation of soil vapor and airborne particulates. For the purposes of this assessment, redevelopment workers were conservatively assumed to spend the entire workday outdoors and to be exposed to soil at all sampled depths at locations where specific construction plans are not available. For the activities between Webster and Taylor Streets where specific construction plans have been provided by the City of Dayton, the assessment incorporated consideration of the planned duration and depths of excavation.

If construction plans for future phases of redevelopment between Taylor and Keowee Streets require excavation to the water table in the Chip Handling and Hydromation Pit areas (AOIs 11, 12, 13, 14, and 21), redevelopment workers also could be exposed to LNAPL and LNAPL-containing soil in the smear zone. However, such excavations, if to occur, are expected to be of limited extent and duration. The most potentially significant routes of exposure to LNAPL would be dermal contact and inhalation of vapor. Potential routes of exposure to LNAPL-containing smear zone soil would include incidental ingestion and dermal contact. To streamline this risk assessment, exposure of redevelopment workers to LNAPL and smear-zone soil are indirectly evaluated using risk estimates for exposure of maintenance workers to LNAPL and smear-zone soil, which are believed to be appropriate since excavations that extend to the water table would be expected to remain open during only a small portion of the overall construction activities and redevelopment workers would be in the excavation pit for only a small part of that time.

According to the construction plans provided to GM by the City of Dayton, construction activities in the first phase of redevelopment (between Webster and Taylor Streets) do not involve excavations that extend into the water table, which is typically found at about 8 ft bgs at and around the Site. The plans also do not include worker entry into the basements of the former buildings, which have been made permanently inaccessible as part of the redevelopment. If excavations that encounter groundwater are necessary in the future phases of redevelopment, workers could be exposed to shallow groundwater. Potential routes of exposure would include incidental ingestion, dermal contact, and inhalation of vapor. Subsurface activities that could lead to exposure of redevelopment workers to shallow groundwater are expected to be of limited extent and duration. To streamline this risk assessment, such exposures are indirectly evaluated using the health-based criteria derived for protection of maintenance workers, which are believed to be appropriate since excavations that extend to the water table would be expected to remain open during only a small portion of the overall construction activities and redevelopment workers would be in the excavation pit for only a small part of that time.

All on-Site buildings formerly located between Webster and Taylor Streets were demolished. As such, the potential for exposure of redevelopment workers to concrete surfaces during the first phase of redevelopment is limited to incidental contact during slab removal activities. In the future phases of redevelopment (between Taylor and Keowee Streets), incidental contact with concrete surfaces by redevelopment workers is possible during building demolition and slab removal. During such activities, redevelopment workers are expected to wear personal protective equipment that is typical for these types of construction work (such as gloves) which would tend to minimize such contact.

Routine Workers

In the future, routine workers are expected to be engaged in commercial activities that will generally take place indoors. These workers also could be exposed to constituents in subsurface soil if the constituents were to volatilize and migrate through cracks in the building foundation into indoor air. Similarly, these workers could be exposed to constituents in groundwater if the constituents volatilize and migrate through cracks in the building foundation. It should be noted that all existing buildings at the Site will be demolished, except for Building 5, according to the City's redevelopment plans provided to GM, and all existing basements, including the Building 5 basement, are expected to be made inaccessible and most will be filled as part of the redevelopment. As such, the potential for exposure via vapor intrusion was evaluated based on future buildings in the redevelopment plan, rather than existing buildings at the Site.

Exposure of routine workers via potable groundwater use is not expected because groundwater is not used as a drinking water supply at the Site or in the vicinity, and future potable use of groundwater at the Site is not reasonably expected, as discussed in Section 3.8.

During limited time outdoors, routine workers could contact surface soil in unpaved areas Potential routes of exposure to exposed surface soil would include incidental ingestion, dermal contact, and inhalation of soil vapor and airborne particulates. To assess these exposures, a population of routine workers, who spend the entire work day outdoors, is conservatively considered in this assessment.

The conceptual redevelopment plans for the Site entail placement of up to several feet of "clean fill" for grading and to attain specified ground elevations consistent with planned land uses. For purposes of the health risk assessment, potential exposures by future routine workers and maintenance workers conservatively assumed that the existing surface soil will remain surface soil, because specific plans for placement of clean fill are not yet available.

Many on-Site buildings have already been demolished, and all but one of the remaining on-Site buildings (Building 5) will be demolished as part of the City of Dayton's redevelopment plans. PCB concentrations in concrete samples from Building 5 did not exceed criteria, and were collected from the basement which is expected to be made inaccessible prior to reuse of the building, according to the City's redevelopment plan. Given these considerations, the potential for future exposure to on-Site concrete with PCBs at concentrations higher than the screening criteria is also not reasonably expected.

Maintenance (or Occasional Construction) Workers

After redevelopment of each part of the Site, certain workers at these parts of the Site could conduct occasional subsurface construction or maintenance, which could put them in contact with surface and subsurface soil in paved or unpaved areas. These subsurface activities are expected to be of limited size and duration. Potential routes of exposure would include incidental ingestion, dermal contact, and inhalation of soil vapor and airborne particulates. For the purposes of this assessment, maintenance workers are conservatively assumed to spend the entire workday outdoors and to be potentially exposed to soil at all sampled depths.

Maintenance workers also could be exposed to LNAPL and LNAPL-containing soil in the smear zone at either the Chip Handling or the Hydromation Pit area. The most

potentially significant routes of exposure to LNAPL are expected to include dermal contact and inhalation of vapor. Potential routes of exposure to LNAPL-containing smear zone soil would include incidental ingestion and dermal contact.

In excavations that encounter groundwater, which is typically found at about 8 ft below ground surface at and around the Site, maintenance workers could be exposed to shallow groundwater. Potential routes of exposure would include incidental ingestion, dermal contact, and inhalation of vapor.

Maintenance workers could be potentially exposed to on-Site storm sewer water and sediment during occasional maintenance activities that require entry into the storm sewers that still service the Site. Potential routes of exposure would include incidental ingestion, dermal contact, and inhalation of vapor.

Trespassers

Potential exposure of trespassers is possible currently and in the future, although fencing and warning signs deter trespassing. While on Site, trespassers could come into contact with soil in unpaved areas. Potential routes of exposure would include incidental ingestion, dermal contact, and inhalation of soil vapor and airborne particulates.

Trespasser exposures to soil in this risk assessment are indirectly and conservatively evaluated using exposure estimates for routine workers. Use of an indirect evaluation streamlines the risk assessment and is conservative because trespasser exposures to soil would be much lower than routine worker exposures to surface soil (ENVIRON, 2003).

Recreational Visitors

The City of Dayton's redevelopment plans include open, landscaped spaces to attract future visitors. While on Site in the future, visitors could come into contact with soil in unpaved areas. Potential routes of exposure would include incidental ingestion, dermal contact, and inhalation of soil vapor and airborne particulates.

Visitors' exposures to soil in this risk assessment are indirectly and conservatively evaluated using exposure estimates for routine workers while outdoors. Use of an indirect evaluation streamlines the risk assessment and is conservative because visitor exposures to soil would be much lower than exposures to surface soil of routine worker who are conservatively assumed to spend their entire work day outdoors (ENVIRON, 2003).

5.4.3.2 POTENTIAL OFF-SITE EXPOSURES

Off-Site receptors include routine workers, maintenance workers, and recreational visitors. The types of potential exposures for each receptor are discussed below. Site-related releases to off-Site surface soil were not identified in Section 4.0. Therefore, potential exposure of off-Site receptors to surface soil was not considered further in this assessment

Routine Workers

Theoretically, off-Site workers could be exposed to constituents in groundwater if the constituents volatilize and migrate through cracks in building foundations. These potential exposures are evaluated in this risk assessment in the same way as those for on-Site routine workers.

Exposure of workers via potable groundwater use is not expected because groundwater is not a current or reasonably expected future drinking water supply in the vicinity of the Site, as discussed previously.

Maintenance (Occasional Construction) Workers

Maintenance workers could be potentially exposed to off-Site storm sewer water and sediment during occasional maintenance activities that require entry into the storm sewers. Potential routes of exposure would include incidental ingestion, dermal contact, and inhalation of vapor. Off-Site workers performing construction that extends into the groundwater could be exposed to constituents in shallow groundwater, in areas where the groundwater is within typical excavation depths. Potential routes of exposure would include incidental ingestion, dermal contact, and inhalation of vapor. These potential exposures are evaluated in this risk assessment in the same way as those for on-Site maintenance workers.

Groundwater is used for nonpotable purposes at the Career Academy, which is located within a 1/2 mile to the west of the Site and extracts groundwater from the lower aquifer to supply a geothermal heating and cooling system. The Geothermal Well withdraws groundwater continuously at approximately 340 gallons per minute through a closed-loop system that discharges the groundwater to a storm water outfall. Workers who perform maintenance on the system could have incidental contact with groundwater during brief, occasional periods.

Groundwater from the lower aquifer is also used for nonpotable purposes at the Fifth Third Field, which is located within a 1/2 mile to the west of the Site. The stadium has one well that extracts groundwater from the lower aquifer for watering the ball field during the baseball season, which runs from April to early September. According to groundskeepers at the stadium, the well pumps groundwater as necessary so that the field receives a total of approximately 1.5 inches of water per week from groundwater and rainfall. Although watering typically occurs at night, groundskeepers at the stadium could have incidental contact with groundwater when the field is watered.

Recreational Visitors

Groundwater from the lower aquifer is used for nonpotable purposes by the RiverScape MetroPark's Five Rivers Fountain of Lights. The RiverScape Fountain has seven wells that extract groundwater from the lower aquifer intermittently during the day and evening from April through October, and which are located approximately a half-mile from the Site. The Fountain consists of five water jets that straddle the confluence of the Great Miami and Mad Rivers and shoot groundwater toward the center of the river where a central geyser of groundwater shoots 200 feet into the air. When the Fountain is operating, visitors could have incidental contact with groundwater from the Fountain's jets.

Off-Site receptors also could be exposed to Site-related constituents in groundwater that discharges to the Mad River via designated uses of this segment of the river. According to Ohio EPA regulations (cited in Ohio Administrative Code (OAC) 3745-1-07, -21, -34), the designated used for this segment of the Mad River are for recreational and agriculture or industrial water supply. In this risk assessment, the significance of these potential exposures is evaluated by estimating surface water concentrations in the Mad River that would be expected to result from groundwater discharge and comparing the estimated concentrations to applicable surface water quality criteria for this segment of the Mad River (OAC 3745-1-07, -21, -34).

Off-Site receptors also could be exposed to constituents in soil that are transported off Site by wind erosion or vapors that migrate off Site. In this risk assessment, potential airborne exposures of off-Site receptors are indirectly, but conservatively, evaluated using exposure estimates for on-Site routine workers. Use of this indirect evaluation streamlines the risk assessment and is highly conservative because airborne exposures off Site are expected to be much lower than exposure on Site, due to increased dispersion with increased distance from the source soil. It is also conservative because

the on-Site worker risk estimates include direct contact and ingestion exposure, which are not relevant for off-Site receptor exposure to on-Site soil.

5.4.4 SELECTION OF EXPOSURE CONCENTRATIONS

To assess potential exposures to groundwater under current and future conditions, the most recent concentration for each constituent from each on-Site and off-Site well were used in the risk assessment. Because groundwater data are not available from the Fountain's water jets, the exposure assessment conservatively assumed that groundwater from the water jets have VOCs at concentrations equal to the highest concentrations that were detected in the lower aquifer, based on the most recent concentration for each constituent among (on-Site and off-Site) lower aquifer wells during the RFI. It should be noted that these maximum concentrations are from locations that do not appear to be related to the Site. For PCE and methylene chloride, which were never found in groundwater in the lower aquifer during the RFI, the exposure assessment conservatively assumed that groundwater from the water jets would have a concentration equal to one-half the highest sample quantitation limit (SQL).

To assess potential exposures to storm sewer water and storm sewer sediments under current and future conditions, the concentrations for detected constituents from all manholes that still service the Site and were not cleaned subsequent to data collection were used (i.e., data designated "W" in Tables 4.4A and 4.5A). Sample concentrations from manholes that were cleaned in either 2004 or 2006 and still remain in service (i.e., designated "C" in Tables 4.4A and 4.5A) were conservatively considered in an uncertainty analysis that assumes concentrations eventually return to pre-cleaning levels (see Section 5.6.4).

To assess potential exposures to LNAPL, the maximum concentration among the ten samples of the Chip Area LNAPL and the constituent concentrations from the single sample of the Hydromation Pit LNAPL were used for all detected constituents. These LNAPL characterization data are summarized in Table 4.6.

Soil characterization data were collected at 214 boring locations at the Site during the RFI. Soil samples were collected from different depths and were analyzed for different chemicals, depending on the need to characterize the extent of potentially significant chemical concentrations at each location. For example, samples at a particular location would have been analyzed for only VOCs if VOCs were the only chemicals with potentially significant concentrations at the location. Decisions on characterization

needs followed the approach described in the document entitled *Health-Based Evaluation of Data to Streamline RCRA Facility Investigations (RFIs) at General Motors Facilities* (ENVIRON, 2003).

For the purposes of an initial health risk assessment for soil, the highest concentration of each chemical detected in soil that could be encountered by a receptor population at each location was selected for calculations. The calculations for routine worker exposure to surface soil used the highest concentration of each chemical detected in the surface soil sample (0 to 2 feet bgs) at each location. The calculations for the other exposure scenarios (i.e., vapor intrusion, maintenance worker, redevelopment worker) conservatively used the highest concentration of each chemical detected among all the samples (surface and subsurface) at each location.

If a chemical was analyzed but not detected in a particular soil sample but was detected in at least one other soil sample from the Site, one-half the sample quantitation limit (SQL) for that sample was assigned as the concentration for the chemical, unless (consistent with U.S. EPA risk assessment guidance) the SQL was unusually high and gave significant risk estimates. In that case, one-half the lowest SQL among the samples at that boring location was assigned as the concentration. Chemicals that were not detected in any soil sample at the Site were not included in the risk calculations for soil.

If a chemical was not analyzed in a soil sample at a particular location and it was detected in at least one soil sample from the Site, a surrogate concentration was conservatively assigned to the location if the chemical has concentrations at other locations that could contribute significantly to the cumulative cancer and/or noncancer risk estimates for any of the four exposure scenarios evaluated.[1] For chemicals that warrant assignment of surrogate concentrations, assignment was performed using measured concentrations from the nearest location or depth. For a chemical that was not

[1] The assignment of surrogate concentrations was performed only for chemicals that could contribute significantly to the cumulative cancer and/or noncancer risk estimates because the procedure for assigning surrogates (described below) is time-consuming and would not have enhanced the reliability of the risk assessment results for the other chemicals. The identification of chemicals for which surrogate assignment is unwarranted was based on an initial set of risk calculations for each exposure scenario that used the highest concentrations for all chemicals among all samples from the Site. From the calculations for a particular scenario, the estimates of cancer risk were ranked from low to high and the lowest estimates were summed until they reached 10^{-5}. Similarly, the lowest HQs were summed until they reach 0.1. The chemicals associated with the estimates that were included in both sums are those for which surrogate assignment is unwarranted for the given exposure scenario (since their highest concentrations across the entire Site, taken in combination, contribute to only a small fraction of the cumulative cancer risk limit of 10^{-4} and HI limit of 1).

analyzed in a surface sample, a surrogate concentration was assigned from the nearest location where the chemical was analyzed in a surface sample. For a chemical that was not analyzed in a subsurface sample (deeper than 2 feet bgs), the highest measured concentration of the chemical among the other samples at that location was assigned as the surrogate. If the chemical was not analyzed in another sample at the location, then the highest concentration among samples at the nearest boring location was used as the surrogate. Chemicals that received surrogate assignments include, among others, PCBs, PCE, TCE, cis-1,2-DCE, vinyl chloride, cadmium, and lead.

5.4.5 ESTIMATION OF EXPOSURE CONCENTRATIONS

The following fate-and-transport models are used to estimate exposure concentrations for the exposure scenarios discussed in Section 5.4.3. These models are used by U.S. EPA and state regulatory agencies for screening-level analysis. The following are brief descriptions of the models. Further details of these models are provided in Appendix E.

Vapor Intrusion into Buildings

Indoor air concentrations resulting from migration of vapors from soil or groundwater into a building are estimated using the model described by Johnson and Ettinger (1991), which U.S. EPA recommends for screening-level evaluations (U.S. EPA, 2003). The vapor intrusion scenario for on-Site routine workers is conservatively based on the smallest building footprint (approximately 8,000 ft^2) according to the latest redevelopment plans provided to GM by the City of Dayton (i.e., Building P). Because no other information about these future buildings are yet available, the other building parameters (e.g., air exchange rate) were assigned values used by the Michigan Department of Environmental Quality (MDEQ) for deriving generic vapor intrusion criteria for commercial/industrial buildings.[2] The vapor intrusion calculations for soil included a mass balance check to ensure that the assumed mass of a chemical infiltrating into the building over the assumed exposure period does not exceed an upper-bound estimate of the chemical's mass in the vadose zone soil underlying the building. The values used in this risk assessment for soil-related parameters are conservatively based on "sand" as the soil type, which is a conservative interpretation of the predominant soil type in the vadose zone at the Site. For off-Site areas downgradient of the Site, the

[2] The generic assumptions used by MDEQ are believed to be conservative for future buildings at the Site and current buildings off Site. Neither Ohio EPA nor USEPA has developed appropriate assumptions for evaluating vapor intrusion from soil or groundwater into generic commercial/industrial buildings.

significance of assumed vapor intrusion from shallow groundwater was assessed in the same way as for on-Site areas, except the calculations were based on a small hypothetical commercial/industrial building rather than the smallest future on-Site building in the Site redevelopment plan. A discussion of the model and the input parameters used in the assessment is provided in Appendix E.

Vapor Emission from Exposed Water

The model for estimating vapor emissions from exposed water surfaces in excavations is based on mass-transfer coefficients recommended in U.S. EPA guidance (U.S. EPA, 1995a). Discussions of the model and the input parameters used in the assessment for exposed subsurface water in excavations are provided in Appendix E.

Vapor and Particulate Emission from Soil into Ambient Air

The normalized average vapor flux J_v of a chemical from unsaturated soil is conservatively estimated using an unsteady-state model derived by Jury et al. (1983) that U.S. EPA has adapted for screening-level analysis (U.S. EPA, 1996). This model conservatively assumes that volatile chemicals are present in the soil to an infinite depth.

Particulate emission from soil due to wind erosion is estimated using the "unlimited reservoir" model recommended by U.S. EPA (1996). For the redevelopment construction scenario, the PM_{10} concentration in air is conservatively assumed to be at the annual-average National Ambient Air Quality Standard (NAAQS) of 50 $\mu g/m^3$, since airborne dust levels during construction can be reasonably expected not to exceed the NAAQS. Similarly, for the maintenance construction scenario, which is assumed to be of shorter duration than the redevelopment construction scenario, the PM_{10} concentration in air is conservatively assumed to be at the 24-hour-average NAAQS of 150 $\mu g/m^3$.

Air Dispersion of Vapors and Particulates

Air concentrations are conservatively estimated using U.S. EPA's empirical correlation for estimating annual-average, on-source, ground-level concentrations (U.S. EPA, 2002). The correlation was applied conservatively assuming a square source area of 30 acres and using the correlation coefficients for the Cleveland, Ohio meteorological area.

ENVIRON developed fate-and-transport models to estimate potential exposure concentrations for off-Site recreational visitors. The following are brief descriptions of the models.

Discharges into the Mad River

Mass loadings of Site-related constituents into the Mad River were calculated for discharges of shallow groundwater emanating from the Site, storm water from the Site, and lower aquifer groundwater from the Geothermal Well at the off-Site Career Academy. These loading estimates were combined with a conservative estimate of river flow to estimate total, average incremental concentrations of Site-related constituents in the Mad River. Appendix I provides further details regarding the mass loading calculations and the selection of concentration data for this assessment.

Vapor Emission and Dispersion from Fountains

An upper-bound estimate of potential emission of vapors from the Fountain jets was calculated by assuming that 100 percent of the mass of VOCs in the ejected groundwater volatilized instantaneously. These potential emissions were assumed to be well mixed by the turbulence of the jets in a zone 800 feet wide, 800 feet long, and 100 feet high, based on a description of the Fountain layout on the City's website. A low-end wind speed of 1 m/sec was conservatively used to characterize air moving through this zone. Note that the assessment of incidental ingestion and dermal contact yielded upper-bound estimates of exposure, because it conservatively neglected the effects of volatilization on the constituent concentrations in the ejected water.

The significance of incidental contact with lower aquifer groundwater from the Stadium Well, and the Geothermal Well is evaluated by direct assessment of the potential exposures at the Fountain Wells. This streamlines the risk assessment and is conservative because exposures at the Stadium Well and Geothermal Wells, if any, are expected to be much lower than at the Fountain Wells, as modeled in this risk assessment.

Uncertainties inherent in the models and assumptions used in estimating exposure concentrations are discussed in Section 5.6.

5.4.6 ESTIMATION OF INTAKES

The exposure factors for evaluating the exposure scenarios summarized in the CSM and discussed in Section 5.4.3 are discussed in this section. In this risk assessment, standard default exposure factors recommended by U.S. EPA for estimating reasonable maximum exposures are used where available and appropriate. Where standard default exposure

factors are not available or not appropriate for an exposure scenario, the evaluation is conducted using similarly conservative exposure factors that are based on Site-specific considerations and professional judgment. The standard default and similarly conservative exposure factors are summarized in Table 5.2 and discussed further below.

5.4.6.1 ROUTINE WORKERS

In this risk assessment, potential exposure of routine workers to soil is conservatively evaluated using the standard default exposure factors recommend by U.S. EPA (1991a) for estimating RME, including a soil ingestion rate of 50 mg/day. According to U.S. EPA, the standard default exposure factors are conservative assumptions about the magnitude, frequency, and duration of exposures, which in combination are intended to provide estimates of exposures that are higher than actual exposures to a large portion (90 to 99 percent) of a potentially exposed population.

For purposes of this assessment, a population of routine workers is assumed to spend the entire workday indoors and exposure of these routine workers while intermittently outdoors was conservatively assessed by assuming that routine worker spend the entire work day outdoors. (As such, the exposures and risk of routine workers while outdoors and indoors should not be added as a simple sum.) Although it is recognized that the use of these exposure factors, rather than Site-specific factors, results in overestimation of RME risks at the Site, this approach streamlines the risk assessment by allowing risk estimates to be calculated very efficiently.

The evaluation is also streamlined because the added conservatism in the risk estimates based on standard default exposure factors allows them to be used as conservative estimates for other receptors. In this risk assessment, the conservative risk estimates for on-Site routine workers while outdoors are used to evaluate potential exposures of on-Site recreational visitors and trespassers to surface soil, because the exposures to these receptors are expected to be lower (ENVIRON, 2003).

5.4.6.2 MAINTENANCE WORKERS

The exposure factors used for evaluating potential exposure of maintenance (occasional construction) workers to soil, smear zone soil, groundwater, and LNAPL during excavations associated with occasional maintenance or construction activities are as follows:

Smear Zone Soil Ingestion Rate

A soil ingestion rate of 200 mg/day is used for workers performing maintenance work that involves excavation into the soil. This rate is lower than the 480 mg/day that is often cited as U.S. EPA's recommended soil ingestion rate for excavation or construction scenarios (U.S. EPA, 1991a). However, the 480 mg/day rate is based on an assumption regarding soil adherence to hands that has been shown in U.S. EPA-funded field studies to overestimate (by 3- to 4-fold) soil adherence to hands during various excavation and construction activities. Replacing the earlier soil adherence assumption with soil adherence data from the U.S. EPA-funded studies (U.S. EPA, 1997b) would give a soil ingestion rate of approximately 120 to 160 mg/kg. Therefore, using a rate of 200 mg/kg is conservative.

Smear Zone Soil Dermal Contact Rate and Absorption

The dermal contact rate is the product of the exposed skin surface area and the soil-to-skin adherence factor. The exposed skin area of 3,300 cm^2 and the soil-to-skin adherence factor of 0.2 mg/cm^2 are the U.S. EPA-recommended skin area and adherence factor for evaluating high-end contact with soil by workers in industrial settings (U.S. EPA, 2004). The absorbed dose from dermal contact with soil is estimated by multiplying the dermal contact rate by U.S. EPA-recommended absorption factors for absorption from soil (U.S. EPA, 2001).

Groundwater Ingestion Rate

A rate of 0.005 L/hour is used for incidental ingestion of groundwater during construction work in excavations that extend into groundwater. This rate is 10 percent of the rate that U.S. EPA (1989) recommends for ingestion while swimming, and represents a very conservative estimate of incidental groundwater ingestion that could occur while workers are in an excavation pit.

Groundwater and LNAPL Dermal Contact Rates

The exposed skin surface area of 3,300 cm^2 is based on the U.S. EPA-recommended exposed skin surface area for evaluating high-end contact with soil by workers in industrial settings (U.S. EPA, 2001). Workers are conservatively assumed to be covered with groundwater or LNAPL over this exposed skin surface area for 2 hours per event. The absorbed dose for organic chemicals is estimated using a nonsteady-state approach (U.S. EPA, 2001), which is more conservative than the steady-state approach (U.S. EPA, 1989), particularly for hydrophobic chemicals. The permeability coefficient

(K_p) for dermal absorption from groundwater and LNAPL are estimated following U.S. EPA guidance (1992, 2001).

Exposure Frequency and Duration

The number of days of maintenance-related construction that involves actual excavation into the water table is assumed to be 50 days, which is assumed to occur at a frequency of 5 days/year for a period of 10 years. This combination of exposure frequency and exposure duration is expected to be conservative for the amount of time that workers are actually in contact with groundwater and LNAPL (as opposed to the total time for maintenance or construction, which typically includes time not associated with excavation). The assumption of 5 days/year can represent the excavation time for a few small repairs per year or one larger repair. The duration of 10 years is more than twice the length of time that workers typically work at one location (U.S. EPA, 1997b).

Body Weight

The body weight of 70 kg is the standard U.S. EPA-recommended body weight for assessing exposure to adults (U.S. EPA, 1989).

Averaging Time

The averaging time for evaluating cancer risk is equal to a lifetime of 70 years, and the averaging time for evaluating noncancer risk is equal to the exposure duration (U.S. EPA, 1989).

5.4.6.3 REDEVELOPMENT WORKERS

The exposure factors used for evaluating potential exposure of on-Site redevelopment workers to soil during excavations and sub-surface activities are the same as those used for maintenance workers, except for the following:

Exposure Frequency and Duration

The Site redevelopment worker scenario is initially based on an upper-bound, default exposure frequency of 250 days/year and an assumed exposure duration of 1 year.

The number of days of redevelopment that involves actual excavation is expected to be much fewer, in which case this combination of exposure frequency and exposure

duration is expected to be highly conservative for the amount of time that workers are actually in contact with soil and is expected to overestimate the RME.

The City of Dayton has completed demolition of the former buildings' above-ground structures in the area of the Site between Webster Street and Taylor Street, and has developed construction plans for the removal of the buildings' floor slabs at certain areas and the excavation/grading of soil at certain locations and depths to prepare the area for further redevelopment. GM received information from the City of Dayton's redevelopment contractor that it expects floor slab removal and soil excavation/grading in the Site area between Webster and Taylor Streets to be completed within a period of 90 calendar days. Based on this information, an exposure frequency of 64 work days (the number of work days in 90 calendar days) instead of 250 work days was used to refine the exposure assessment and risk characterization for construction workers in the first phase of the Site's redevelopment. Specific redevelopment plans regarding building slab removal and soil excavation in the second and third phases, between Taylor Street and the Railway and between the Railway and Keowee Street, respectively, are not yet available.

5.4.6.4 RECREATIONAL VISITORS

This section discusses the high-end exposure factors associated with the incidental exposure of recreational visitors to spray from the Fountain wells. These recreational visitors are assumed to consist primarily of nearby off-Site residents.

Exposure Frequency and Time

Average day-time high temperature in Dayton, Ohio exceeds 70°F approximately 5 months each year. Assuming two recreational visits during each such week during the year yields 43 days/year of potential exposure by recreational visitors to spray from the Fountain wells.

The assessment assumed a 1-hour exposure event, which is longer than the amount of time that U.S. EPA recommends for water contact during daily showering.

Incidental Water Ingestion

A rate of 0.005 L/hour is used for incidental ingestion of groundwater spray from the Fountain wells. This rate is 10 percent of the rate that U.S. EPA (1989) recommends for ingestion while swimming.

Dermal Contact Rate

For dermal exposures with chemicals in water, the dermal contact rate is the product of the exposed skin surface area, a chemical-specific K_p, and the exposure time. The exposed skin surface area of 6,880 cm^2 and 18,150 cm^2 are conservatively based on the median full-body skin areas for evaluating high-end contact with water by children and adults, respectively (U.S. EPA, 1997b). The absorbed dose for organic chemicals is estimated using the nonsteady-state approach (U.S. EPA, 2001). The K_p for dermal absorption of organic chemicals from groundwater is estimated following U.S. EPA guidance (U.S. EPA, 2001).

Body Weight

The body weight of 70 kg is the standard U.S. EPA-recommended body weight for assessing exposure to adults (U.S. EPA, 1989). The body weight of 15 kg is the standard U.S. EPA-recommended body weight for assessing exposure to children between the ages of 1 and 6 years old (U.S. EPA, 1989).

Averaging Time

The averaging time for evaluating cancer risk is equal to a lifetime of 70 years, and the averaging time for evaluating noncancer risk is equal to the exposure duration (U.S. EPA, 1989).

Uncertainties associated with the exposure factors used in estimating chemical intakes are discussed in Section 5.6.

5.5 TOXICITY ASSESSMENT

A toxicity assessment identifies potential adverse health effects that are associated with exposure to chemicals, and determines the dose-response relationship between exposure and the occurrence of adverse effects. The toxicity values used in deriving Site-specific soil and groundwater screening criteria, and the associated estimates of cumulative cancer and noncancer risks, were compiled from U.S. EPA's hierarchy of sources, as follows:

1. Integrated Risk Information System (IRIS);
2. Provisional Peer Reviewed Toxicity Values (PPRTV); and
3. Other Toxicity Values (e.g., historical HEAST and NCEA provisional values).

When a toxicity value was not available from the first two tiers of the hierarchy, other U.S. EPA and non-U.S. EPA sources of toxicity values were consulted. The toxicity values used in the risk assessment and their sources are summarized in Appendix E and are discussed below.

5.5.1 CANCER TOXICITY VALUES

U.S. EPA considers chemicals belonging to the following U.S. EPA cancer weight-of-evidence groups as human carcinogens:

Group A Known Human Carcinogen: Sufficient evidence of carcinogenicity in humans.

Group B1 Probable Human Carcinogen: Limited evidence of carcinogenicity in humans.

Group B2 Probable Human Carcinogen: Sufficient evidence of carcinogenicity in animals with inadequate or lack of evidence in humans.

Group C Possible Human Carcinogen: Limited evidence of carcinogenicity in animals and inadequate or lack of evidence in humans.

As shown in Appendix E, U.S. EPA has designated some of the constituents as Group B2 or Group C, which means that U.S. EPA acknowledges that there is either inadequate evidence or a lack of evidence that these constituents actually cause cancer in humans. Therefore, evaluating these constituents as human carcinogens in the risk assessment is conservative.

U.S. EPA-derived cancer slope factors (SFs) and inhalation unit risk factors (URFs) for these constituents and their sources are shown in Appendix E. The oral SFs and URFs represent 95 percent upper confidence bounds on the probability of getting cancer over a lifetime per unit dose. As recognized by U.S. EPA, there is significant scientific evidence that some of the SFs and URFs may be overly conservative and may ignore the potential existence of threshold doses. Nonetheless, they are used here as conservative assessment tools.

5.5.2 NONCANCER TOXICITY VALUES

U.S. EPA-derived chronic reference doses (RfDs) and chronic inhalation reference concentrations (RfCs) and their sources are shown in Appendix E. Subchronic RfDs and RfCs are also used in the risk assessment for evaluating the subchronic exposures associated with the redevelopment worker scenario. These values and their sources are included in Appendix E.

The oral RfDs and inhalation RfCs represent conservative estimates of the daily exposure to the human population, including sensitive subpopulations (e.g., children), which are likely to be without an appreciable risk of deleterious effects during a lifetime. These RfDs and RfCs typically incorporate several safety factors to account for uncertainties in their derivation, which in combination often result in overall uncertainty factors of 1,000 or more. Furthermore, for many constituents, there is significant scientific debate about the validity of these RfDs and RfCs, and the association of these doses and concentrations to potential adverse health consequences. Nonetheless, the RfDs and RfCs are used here as conservative assessment tools.

5.5.3 EXTRAPOLATION OF TOXICITY VALUES

The U.S. EPA sources of toxicity values listed above do not provide dermal toxicity values for any of the constituents. Therefore, oral toxicity values (i.e., oral SFs and RfDs) are used as dermal toxicity values in this risk assessment. Adjustments to the oral toxicity values, where appropriate, are made in this route-to-route extrapolation following U.S. EPA guidance (U.S. EPA, 2004).

The U.S. EPA sources of toxicity values listed above do not provide inhalation toxicity values (URFs and RfCs) for all of the constituents. For a constituent that has no inhalation toxicity values, the oral SF and/or RfD, if available, is converted to an URF and/or RfC using default U.S. EPA assumptions (U.S. EPA, 1997a).

Uncertainties introduced by using extrapolated toxicity values are discussed in Section 5.6.3.

5.6 RISK CHARACTERIZATION

The health significance of the potential exposures identified in Section 5.4 is discussed in the following subsections. Section 5.6.1 describes the methods for quantifying cancer

risks and noncancer hazard indices and for characterizing risks posed by exposure to lead in soil and to Site-related constituents in the Mad River. Section 5.6.2 discusses the risk estimates and the significance of the potential exposures. Uncertainties in the risk evaluation are discussed in Section 5.6.3.

5.6.1 METHODS AND APPROACHES

5.6.1.1 CANCER RISK AND NONCANCER HAZARD INDEX

The cancer risk associated with potential exposure to a carcinogenic chemical via ingestion and dermal contact is calculated by multiplying an estimate of the lifetime average daily dose (LADD) for a particular exposure scenario by the cancer slope factor (SF) for the chemical, as follows:

$$Risk = LADD \cdot SF$$

For the inhalation route, the inhalation cancer risk is calculated using the chemical concentration in air (C_{air}) during the period of exposure and the URF, as follows:

$$Risk = C_{air} \cdot URF \cdot \frac{EF \cdot ED}{AT}$$

Where EF is exposure frequency, ED is exposure duration, and AT is averaging time.

The noncancer hazard quotient (HQ) associated with potential exposure via ingestion and dermal contact to a chemical being evaluated for potential noncarcinogenic health effects is calculated by dividing an estimate of the average daily dose (ADD) for a particular exposure scenario by the reference dose (RfD) for the chemical, as follows:

$$HQ = \frac{ADD}{RfD}$$

For the inhalation route, the inhalation HQ is calculated using C_{air} and the RfC, as follows:

$$HQ = \frac{C_{air}}{RfC} \cdot \frac{EF \cdot ED}{AT}$$

The potential cancer risk and noncancer effects that may result from exposure to the combination of constituents at an area are estimated following U.S. EPA guidance (1989), as follows:

$$Cumulative\ Risk = \sum_i Risk_i$$

$$Hazard\ Index = \sum_i HQ_i$$

Where:

$Risk_i$ = estimated cancer risk for the *i*th constituent

HQ_i = hazard quotient for the *i*th constituent

This approach may result in estimates of cumulative cancer and noncancer risks that are more conservative than necessary. For example, different chemicals may cause different and unrelated noncancer health effects, so summing the HQs for their individual effects would overestimate the significance of their combined effects. Nonetheless, this approach is used here as a conservative assessment tool.

The cumulative cancer risk and HI estimates for each receptor population are compared with U.S. EPA's cancer risk limit of 10^{-4} and HI limit of 1, respectively, for determining whether a site warrants corrective measures (61 *Federal Register* 19432, May 1, 1996; U.S. EPA, 1991b). The risk estimates and results of the comparison to the U.S. EPA-established limits are discussed in the following sections.

5.6.1.2 RISK CHARACTERIZATION FOR WORKER EXPOSURE TO LEAD IN SOIL

The soil lead data were evaluated separately, since U.S. EPA guidance recommends evaluating lead exposures based on blood lead rather than cancer risk or HI. For risk characterization regarding potential worker exposures to lead in surface soil, the soil lead data collected during the RFI were compared to the U.S. EPA-recommended range of screening criteria for industrial workers, which is 750 to 1,750 mg/kg (U.S. EPA, 2003a). These soil criteria are intended to protect workers that include child-bearing age women, and are based upon an assumed exposure frequency of 219 days per year. No adjustment for background lead concentrations was made in this assessment.

5.6.1.3 RISK CHARACTERIZATION FOR DESIGNATED USES OF THE MAD RIVER

The Ohio Environmental Protection Agency (OEPA) has established surface water quality criteria for potential contaminants in the state's rivers to protect the rivers' designated uses. For the segment of the Mad River that is adjacent to the Site, the applicable criteria are based on agricultural or industrial water supply use, and recreational use (but not public water supply use) (OAC 3745-1-07, -21, -34). Where criteria are available for more than one of these designated non-potable uses, the most stringent value was chosen for this risk assessment. For compounds without surface water quality criteria for these designated uses, OEPA's surface water quality criteria based on drinking water uses were conservatively selected. For compounds without OEPA criteria, Federal health-based Ambient Water Quality Criteria for potable uses, adjusted to a cancer risk of 10^{-5}, were also conservatively selected. Estimates of concentrations in the Mad River from groundwater and storm sewer discharges were compared to the selected surface water quality criteria.

5.6.2 RISK CHARACTERIZATION FOR POTENTIALLY EXPOSED POPULATIONS

5.6.2.1 ON-SITE ROUTINE WORKERS

The significance of risks associated with potential exposure of routine workers to on-Site soil, groundwater, and NAPL is discussed below.

5.6.2.1.1 ROUTINE WORKER EXPOSURE TO SOIL

Potential Outdoor exposures

Site-related cumulative cancer risk and HI estimates were calculated for each boring location, using the exposure factors noted above, along with appropriate toxicity values and physical/chemical property values for the chemicals. The initial estimates of cumulative cancer and noncancer risks for each of the 214 soil boring locations are summarized in Table 5.3A; all estimates are shown with one significant digit per U.S. EPA convention. These calculations considered all detected constituents, except lead, which was evaluated separately, as discussed previously. These estimates are considered upper-bound estimates because the RME risks for any of the 214 sub-areas would be lower if Site-specific exposure factors were used to account for the magnitude, frequency, and duration of exposures appropriate for each sub-area. Further

information regarding the detailed basis for these calculations is provided in Appendix E.

The upper-bound estimates of Site-related cumulative cancer and noncancer risks for each of the 214 sub-areas were compared to U.S. EPA's cancer risk limit of 10^{-4} and HI limit of 1, respectively. For a boring location and its associated sub-area where the upper-bound estimate of either cancer risk or HI was higher than the U.S. EPA limits, refined calculations were conducted, as appropriate.

The results in Table 5.3A (column #3) show that there are no boring locations with potentially significant cumulative cancer risk estimates for routine workers, even if they were to spend the entire work day outdoors for 250 days/year. Only two boring locations have a HI estimate higher than 1 for routine workers (i.e., boring SB-118-04 and SB-43-02, as shown in column #4 of Table 5.3A), assuming they spend the entire work day outdoors for 250 days/year at each of these two locations; these two boring locations are highlighted on Figure 5.1. The detected concentration of PCBs in the surface soil samples accounted for the HI estimates at both of these boring locations.

The significance of potential exposure at these two areas was further evaluated, as follows:

- Boring SB-118-04 is located on an elevated railroad ramp and actually represents a narrow strip of elevated soil that is bounded on the east side by the railroad tracks and on the west side by a sheer drop of many feet to the ground below. This strip of soil is covered with 1 foot of concrete. Based on the location of the soil and the presence of the concrete pavement, routine workers are not expected to come in contact with the soil at this location and potential exposures are more appropriately evaluated under a maintenance worker scenario. As shown in Table 5.3A (columns #9 and #10), the cumulative cancer risk and HI estimates for maintenance worker exposure to soil at this location are 2×10^{-6} and 0.3, which are well below the limits of 10^{-4} and 1, respectively.
- The cumulative cancer risk and HI estimates for boring SB-43-02, shown in Table 5.3A, were based on the assumption that workers would spend the entire work day outdoors for 250 day/year at the 0.12-acre area associated with this boring location. Realistically, routine workers would not be reasonably expected to spend 250 days per year for 25 years in such a small area. To provide a more realistic but still highly conservative assessment of potential exposure, refined risk estimates were derived using a soil exposure area comprised of the ten nearest sub-areas surrounding boring SB-43-02, which totals to 0.46 acre. The refined exposure area

considered only the portions of each sub-area that are not underneath the footprint of any planned building, as shown in the figure in Appendix E. It is assumed, for practical purposes, that during the exposure period workers will have approximately the same chance of contact with the soil throughout this 0.46-acre exposure area. Based on this assumption, the area-weighted estimates of cumulative cancer risk and HI are 1×10^{-5} and 0.4, respectively, which are well within the U.S. EPA limits of 10^{-4} and 1. These estimates are still highly conservative because they do not consider that routine workers can be reasonably expected to have contact with surface soil in sub-areas beyond those representing this 0.46 acre and which have HI estimates less than 1.

As such, potential exposures to constituents in on-Site surface soils do not pose a significant risk to on-Site routine workers even if they were to spend their entire work day outdoors during every work day. Further information regarding the detailed basis for these refined calculations is provided in Appendix E.

Soil lead data were evaluated separately, since lead exposures are evaluated based on blood lead rather than cancer risk or HI. The soil lead data collected during the RFI were categorized relative to the U.S. EPA range of screening criteria for industrial workers, which is 750 to 1,750 mg/kg. The results are summarized in Table 5.3B, wherein the "Concentration Basis" column indicates whether a concentration is an actual measurement (detected concentration) at the respective location or is based on interpolation from actual measurements at nearby borings. The results show that only six boring locations have lead concentrations higher than 750 mg/kg, which is the low-end of U.S. EPA's range of screening criterion. These boring locations are highlighted on Figure 5-2. Each of the samples with lead concentrations higher than 750 mg/kg was collected within the top 3 feet below ground surface, as noted in Table 5.3B. The significance of potential exposure at these six locations was further evaluated, as follows:

- The soil lead screening criterion assumes that workers spend the entire work day outdoors for 219 days/year. The sub-areas associated with boring locations MW-23-04 and SB-51-02, shown on Figure 5.2, are 0.016 and 0.10 acre, respectively. Realistically, routine workers would not be reasonably expected to spend 219 days per year in such small areas. To provide a more realistic but still highly conservative assessment of potential soil lead exposure, routine workers were assumed to have exposure areas that comprise the nearest sub-areas surrounding boring locations MW-23-04 and SB-51-02. The larger exposure area for MW-23-04 consists of the six nearest surrounding sub-areas, which total to 0.63 acre, and the larger exposure area

for SB-51-02 consists of six nearest surrounding sub-areas, which total to 1.1 acres. It is assumed, for practical purposes, that during the exposure period routine workers will have approximately the same chance of contact with the soil throughout each of these exposure areas. Based on this assumption, the area-weighted estimates of soil lead concentrations in the exposure areas at MW-23-04 and SB-51-02 are 112 and 255 mg/kg, respectively, which are all well below the lower end of the U.S. EPA range of screening criteria for industrial workers of 750 mg/kg.

- The lead concentration in the surface soil (1 to 3 feet bgs) sample from boring SB-21-02 is 51,800 mg/kg. The lead concentration in the surface soil (1 to 3 feet bgs) sample from approximately 2 feet away at boring SB-83-03 is 686 mg/kg [see Figure 4.2B(iii)]. The proximity of SB-83-03 and the former building structures in this area suggest that the elevated lead concentration at SB-21-02 is limited in extent. However, the high lead concentration at SB-21-02 does not allow an analysis of the type discussed above for MW-23-04 and SB-51-02 to conclude that the area-weighted lead concentration within a reasonably small group of sub-areas would be within U.S. EPA's range of the soil lead screening criterion of 750 to 1,750 mg/kg. This area is currently covered with concrete so there is no potential for current exposure, but the potential for significant future exposure is possible if the concrete were removed and the underlying soil is left exposed.
- Similarly, the elevated soil lead concentrations at boring locations SB-29-02, SB-30-02, and SB-82-03 do not allow an analysis of the type discussed above for MW-23-04 and SB-51-02 to conclude that the area-weighted lead concentration within a reasonably small group of sub-areas around this group of locations would be within U.S. EPA's range of the soil lead screening criterion of 750 to 1,750 mg/kg. This area is currently covered with concrete so there is no potential for current exposure, but the potential for significant future exposure is possible if concrete were removed and the underlying soil is left exposed.

As such, lead concentrations in on-Site surface soil do not pose a health concern for routine workers, even if they were to spend their entire work day outdoors during every work day, except at boring locations SB-21-02, SB-29-02, SB-30-02, and SB-82-03 if pavement were removed and the surface soil in the areas is left exposed.

Potential Indoor Exposures

Upper-bound estimates of cumulative cancer risk and HI were also calculated for exposures to constituents in soil that are assumed to volatilize and migrate through foundation cracks into the indoor air of commercial/industrial buildings at the Site. Site-related cumulative cancer risk and HI estimates were calculated for each boring

location, using the exposure factors noted above, along with appropriate toxicity values and physical/chemical property values for the chemicals. The initial estimates of cumulative cancer and noncancer risks for each of the 214 soil borings are summarized in Table 5.3A; all estimates are shown with one significant digit per U.S. EPA convention. These calculations considered all detected volatile constituents. These estimates are considered upper-bound estimates because the RME risks for an area would be lower if Site-specific exposure factors were used to account for the magnitude, frequency, and duration of exposures appropriate for the area. Details of the vapor intrusion modeling calculations are provided in Appendix E.

The results in Table 5.3A show that there are 24 boring locations with potentially significant cumulative cancer risk estimates (column #5, Table 5.3A) and eight boring locations with potentially significant HI estimates (column #6, Table 5.3A) for routine workers due to vapor intrusion. These boring locations are highlighted on Figure 5.3. The detected concentrations of PCE, TCE, and/or vinyl chloride generally contributed most to the cumulative cancer risk estimates at these locations. The detected concentrations of cis-1,2-DCE and/or PCE generally contributed most to the HI estimates at these locations. Further information regarding the detailed basis for these calculations, including estimates of chemical-specific contribution to cancer risk and noncancer HI, is provided in Appendix E.

Several of the highlighted boring locations are not in locations where buildings are planned, according to the latest Site redevelopment plans that have been made available to GM (which is superimposed on the Site map on Figure 5.3). Boring locations with potentially significant cumulative cancer risk and HI that are also at least partially under planned buildings occur at buildings C, O, J, N, and Q, as shown on Figure 5.3. The significance of potential exposure at highlighted boring locations where buildings are anticipated to be constructed in the future was further evaluated, as follows:

- Since parking structures are not enclosed, risk from vapor intrusion at these structures is not a concern. Building J is planned to be built on top of a parking structure, therefore, vapor intrusion is not a concern for this planned building.
- The polygon for BH-184-02 is shown on Figure 5.3 as extending into a corner of Building C, but Building C is an existing building (Building 5) with a basement in this corner. This means the soil represented by BH-184-02 actually does not extend under the corner of Building C. Therefore, vapor intrusion from soil is not a concern for this building.
- For the remaining three planned buildings, O, N and Q, area-weighted estimates of cumulative cancer risk and HI were determined for each building by aggregating the

vapor intrusion risk estimates for each sub-area within the planned footprint of each respective building. It was conservatively assumed that a distinct population of routine workers would spend the entire exposure period of 250 days per year for 25 years in each of these buildings. For chemicals where the assumed mass of a chemical infiltrating into the building over the assumed exposure period equaled the upper-bound estimate of the chemical's mass in the vadose zone underlying the building (subsequently referred to as "mass-limited chemicals"), the boring-specific cancer risk and HQ estimates were scaled according to the portion of the boring's sub-area that is located under the proposed building footprint and these scaled risk estimates were then summed (among mass-limited chemicals and then among sub-areas) for the entire building. For lower-volatility chemicals that were not considered mass-limited, the chemical-specific risk estimates were conservatively aggregated taking into consideration the entire sub-area of each boring rather than only that portion each boring sub-area that is located under the proposed building footprint. These resulting cumulative risk estimates for mass-limited and non-mass-limited chemicals for each respective building were then added. This refined assessment resulted in a cumulative risk estimate and HI for Building O of 1×10^{-5} and 0.4, respectively and for Building N of 1×10^{-4} and 1, respectively, which are within the U.S. EPA limits of 10^{-4} and 1. The cumulative cancer risk estimate for Building Q is 2×10^{-4}, which exceeds the U.S. EPA limits of 10^{-4} with only the inclusion of PCE, TCE, and cis-1,2-DCE in the estimate, so the analysis was not continued for the remaining chemicals. The HI estimate for Building Q for these three chemicals was 0.7. If Building Q or another similar building eventually will be constructed in the proposed location, the design and construction of the building should take into account the potential for vapor intrusion from soil.

Further information regarding the detailed basis for these refined calculations is provided in Appendix E.

5.6.2.1.2 ROUTINE WORKER EXPOSURE TO GROUNDWATER

As discussed in Section 4.0.2, the groundwater characterization data collected from monitoring wells in the upper aquifer were compared to health-based criteria based on vapor intrusion. Groundwater screening criteria based on vapor intrusion were derived to identify groundwater conditions that might result in potentially significant indoor air exposures if constituents in shallow groundwater were to volatilize and migrate through building foundation cracks into indoor air. As summarized in Section 5.3.2 and Table 4.3A(i), no concentration in groundwater samples from the upper aquifer exceeds the criteria based on potential vapor intrusion. Consequently, potential exposures to

constituents in on-Site shallow groundwater do not pose a significant risk to on-Site routine workers via vapor intrusion.

Exposures of routine workers via potable groundwater use is not expected because groundwater is not currently used as a drinking water supply on the Site and future potable use of groundwater on the Site is not reasonably expected, as discussed in Section 3.8.

5.6.2.1.3 ROUTINE WORKER EXPOSURE TO LNAPL

The estimates of cumulative cancer risk and HI for potential exposure of routine workers to constituents in LNAPL via vapor intrusion are summarized in Table 5.4, which shows that neither the Chip Area LNAPL nor the Hydromation Pit LNAPL have estimates that exceed the cancer risk limit of 10^{-4} and the HI limit of 1. The maximum cumulative cancer risk estimate is 2×10^{-7}, and the maximum HI estimate is 0.02. Consequently, potential exposures to constituents in the on-Site LNAPLs do not pose a significant risk to on-Site routine workers via vapor intrusion. It should be noted that the City's redevelopment plan does not include the construction of any buildings at either of the LNAPL areas.

5.6.2.2 ON-SITE REDEVELOPMENT WORKERS

The significance of risks associated with potential exposure of redevelopment workers to on-Site soil, groundwater, and LNAPL is discussed below.

5.6.2.2.1 REDEVELOPMENT WORKER EXPOSURE TO SOIL

As discussed in Section 3.7.3, redevelopment is proceeding in three phases with the first phase currently in progress between Webster Street and Taylor Street. The portions of the Site between Taylor Street and the Railway and between the Railway and Keowee Street are scheduled for redevelopment in the second and third phases of the City's redevelopment plan, respectively.

To evaluate potential exposures to redevelopment workers, Site-related cumulative cancer risk and HI estimates were calculated for each boring location, using the exposure factors noted above, along with appropriate toxicity values and physical/chemical property values for the chemicals. The initial estimates of cumulative

cancer and noncancer risks for each of the 214 soil borings are summarized in Table 5.3A; all estimates are shown with one significant digit per U.S. EPA convention. These calculations considered all detected constituents, except lead, which was evaluated separately, as discussed in the following section. These estimates are considered upper-bound estimates because the RME risks for an area would be lower if Site-specific exposure factors were used to account for the magnitude, frequency, and duration of exposures appropriate for the area assigned to each boring.

A boring location and its associated sub-area are considered to not have soil conditions that warrant corrective measures if its upper-bound, cumulative cancer risk and HI estimates do not exceed 10^{-4} and 1, respectively (U.S. EPA, 1991).

The results in Table 5.3A show that there is one boring location with a potentially significant cumulative cancer risk estimate (i.e., boring SB-3-02; see column #7) and 25 boring locations with potentially significant HI estimates (e.g., boring SB-118-04; see column #8) for Site redevelopment workers. These boring locations are highlighted on Figure 5-4. These risk estimates assume worker contact with soil at any depth. The detected concentrations of PCE and TCE contributed to the cumulative cancer risk estimates for location SB-3-02. The detected concentrations of PCBs, cis-1,2-DCE, PCE, and/or cadmium generally contributed most to the HI estimates at the highlighted locations. Based on GM's understanding that the City of Dayton will leave certain existing building slabs intact as part of its redevelopment, some of the locations with potentially significant risk estimates for the Site redevelopment worker scenario are not located where soil excavation will occur during Site redevelopment.

As discussed in Section 2.3.1, the only reasonably expected current exposure to contaminated soil at the Site is associated with the redevelopment activities between Webster Street and Taylor Street that involve removing sections of the buildings' floor slabs and excavating soil at certain locations and depths to prepare the area for redevelopment. The significance of this exposure was evaluated by combining the City's specific construction plans for floor slab removal and excavation with the boring-specific risk estimates for this portion of the Site. Based on this information, the initial risk estimates were first reduced to account for the expectation that workers will not contact soil for more than 64 work days (the number of work days in 90 calendar days) instead of 250 work days. The adjusted risk estimates, which still assume workers contact soil at any depth, show that no sub-area between Webster Street and Taylor Street has a cumulative cancer risk estimate that exceeds 10^{-4}, and only three sub-areas (for borings SB-3-02, SB-71-03, and SB-109-04) have HI estimates that exceed 1, if the workers were to spend 64 work days within each sub-area. The sub-areas for these three soil borings are shaded in green on Figure 5.5.

Of the three green-shaded sub-areas, only those for borings SB-71-03 and SB-109-04 have any portion where redevelopment workers have a potential for contact with soil during floor slab removal or soil excavation/grading. The sub-area for boring SB-3-02 is entirely under floor slab that will not be removed. From Figure 5-5, one can see that the portions of the sub-areas for SB-71-03 and SB-109-04 where soil is or will be accessible are very small (less than 0.02 acre) and account for a very small percent (less than 0.5 percent) of the approximately 4-acre area where redevelopment workers have a potential to contact soil (the area shaded in yellow). Clearly, the workers must spend much less than 64 work days engaged in slab removal and soil excavation activities at these two individual sub-areas, or any other individual sub-area, if they are to complete Site preparation activities for the entire Site area between Webster and Taylor Streets within 64 work days as planned.

To provide a more realistic but still conservative assessment of potential soil contact between Webster and Taylor Streets during the 64-day exposure period, the risk estimates for the individual sub-areas where soil is or will be accessible were used to calculate area-weighted estimates of cumulative cancer risk and HI. This assumes for practical purposes that workers will have approximately the same chance of contact with all accessible areas of soil during the 64-day period, since the workers will be performing essentially the same types of work across the whole area. The area-weighted estimates of cumulative cancer risk and HI are 5×10^{-7} and 0.08, respectively, which are well within the U.S. EPA limits of 10^{-4} and 1.

Specific plans for sub-surface activity that could determine potential exposures to redevelopment workers (e.g., plans for concrete slab removal and soil excavation) are not yet available to GM for the second and third phases of the City's redevelopment plan. Hence, it is not yet possible to conduct a refined risk assessment based on Site-specific information regarding exposure areas and exposure duration for these two Site areas, as was conducted for the area between Webster and Taylor Streets. A refined assessment based on aggregating boring-specific HI estimates within each respective area was conducted, however. No individual soil boring in either of these two areas had a cancer risk greater than 10^{-4}; hence, a refined cancer risk assessment is not necessary to conclude that potential exposures to constituents in soil in either of these areas do not pose a significant cancer risk to redevelopment workers.

To assess potential exposure to redevelopment workers during the second phase located between Taylor Street and the Railway, the accessible area south of the fence along the Mad River was used to calculate an area-weighted estimate of HI. It is assumed, for purposes of this preliminary refinement, that redevelopment workers will have

approximately the same chance of contact with the soil throughout the on-Site area, since there is no reason to believe at this time that sub-surface activities will be concentrated in particular sub-areas. For 250 days of exposure per year, the area-weighted HI estimate for this part of the Site is 0.6, which is well within the U.S. EPA limit of 1.

For the third phase of the redevelopment to be undertaken between the Railway and Keowee Street, the potential of redevelopment worker exposure was calculated using an area-weighted estimate of the HI for the accessible area south of the fence along the Mad River. For 250 days of exposure per year, the area-weighted HI estimate for this part of the Site is 0.5, which is well within the U.S. EPA limit of 1. This estimate assumes for practical purposes that redevelopment workers will have approximately the same chance of contact with all accessible areas of soil during this period, since there is no reason to believe at this time that sub-surface activities will be concentrated in particular sub-areas.

These refined cumulative cancer risk and HI estimates are still highly conservative in that they are calculated using the highest concentrations detected at any depth in a boring when some of these concentrations are at depths that are greater than the maximum excavation depth in the City of Dayton's construction plans. For example, the concentrations that contribute most significantly to the HI estimates for locations SB-109-04 and SB-71-03 are both at a depth of 8 to 10 feet, which is far deeper than the planned excavation depths at these locations. In fact, the HI estimate for SB-109-04, which is based on the PCBs concentration at 8 to 10 feet bgs, is the largest component of the area-weighted HI. In the vicinity of boring location SB-109-04, the City's construction plan actually indicates that soil excavation will not extend beyond the top 2 feet, whereas PCBs were not detected in the top 2 feet.

In summary, the soil conditions between Webster and Taylor Streets do not pose a health concern for redevelopment workers in terms of cumulative cancer risk or HI during slab removal and soil excavation, as currently planned by the City and its contractors. The soil conditions between Taylor Street and the Railway and between the Railway and Keowee Street also do not pose a health concern for redevelopment workers. Further information regarding the detailed basis for these refined calculations is provided in Appendix E.

Soil lead data were evaluated separately, since lead exposures are evaluated based on blood lead rather than cancer risk or HI. The soil lead data collected during the RFI were categorized relative to the U.S. EPA range of screening criteria for industrial workers, which is 750 mg/kg to 1,750 mg/kg. As summarized in Section 5.6.2.1.1, lead

concentrations in on-Site soil do not pose a health concern for routine workers, even if they were to spend their entire work day outdoors during every work day, except at boring locations SB-21-02, SB-29-02, SB-30-02, and SB-82-03 if pavement were removed and the surface soil in the areas is left exposed. None of these borings is located between Webster Street and Taylor Street, one (SB-21-02) is located between Taylor Street and the Railway, and the remaining three are located between the Railway and Keowee Street.

To assess potential exposure of redevelopment workers to soil lead during the second phase (between Taylor Street and the Railway) and third phase (between the Railway and Keowee Street), in the absence of specific plans for floor slab removal and excavation during these phases, the accessible area south of the fence along the Mad River was used to calculate area-weighted estimates of soil lead concentration in the respective areas. It is assumed, for purposes of this preliminary refinement, that redevelopment workers will excavate soil at the four boring locations with elevated soil lead concentrations, wear no personal protective equipment, spend 219 days/year in each of these areas, and have approximately the same chance of contact with the soil throughout the on-Site portions of each area, since there is no reason to believe at this time that sub-surface activities will be concentrated in particular sub-areas. The area-weighted soil lead concentrations are 612 mg/kg and 918 mg/kg, respectively, neither of which exceed U.S. EPA's range of 750 mg/kg to 1,750 mg/kg for the soil lead screening criterion. Based on these results, lead concentrations in on-Site soil are not expected to pose a health concern for redevelopment workers during construction in these areas.

5.6.2.2.2 REDEVELOPMENT WORKER EXPOSURE TO GROUNDWATER

As discussed in Section 4.0.2, the groundwater characterization data collected from monitoring wells in the upper aquifer were compared to health-based criteria based on direct contact by maintenance workers with groundwater. Groundwater screening criteria based on maintenance worker contact were derived to identify conditions in shallow groundwater that might result in potentially significant exposure of construction workers during occasional excavations that extend into the water table.

Based on the construction plans for floor slab removal and soil excavation/grading that the City of Dayton has provided, no excavations are expected to extend to the water table during the first phase of redevelopment between Webster and Taylor Streets. Consequently, potential exposures to constituents in on-Site shallow groundwater are not expected during the first phase of redevelopment between Webster and Taylor Streets.

As summarized in Section 5.3.2 and Table 4.3A(ii), groundwater concentrations in the upper aquifer exceed the screening criteria based on direct contact by maintenance workers at only one location east of Taylor Street (i.e., for cis-1,2-DCE and vinyl chloride at monitoring well MW-23). Well MW-23 is located in the northwestern portion of the on-Site area between Taylor Street and the Railway. Construction plans for floor slab removal and soil excavation/grading have not been provided by the City of Dayton for the second phase of redevelopment (between Taylor Street and the Railway). If planned excavation in the vicinity of MW-23 extends to the water table, then redevelopment workers should utilize appropriate protective equipment and work practices to mitigate potential exposures to constituents in shallow groundwater.

5.6.2.2.3 REDEVELOPMENT WORKER EXPOSURE TO LNAPL

To streamline this risk assessment, assumed future exposures of redevelopment workers to LNAPL and smear-zone soil are indirectly evaluated using exposure estimates for maintenance workers, which are believed to be appropriate based on the expectation that excavations extending to the water table would remain open during only a small portion of the overall construction activities and redevelopment workers would be in the excavation pit for only a small part of that time. Estimates of risks for potential exposure of maintenance workers to LNAPL and smear zone soil at the Chip Area and Hydromation Pit LNAPL plumes are calculated in Appendix E. These estimates are summarized in Table 5.4, which shows that the estimates of Site-related cumulative cancer risk and HI do not exceed the limits of 10^{-4} and 1, respectively. Given the above, potential exposures to constituents in on-Site LNAPL are not expected to pose a significant risk to redevelopment workers.

5.6.2.3 ON-SITE MAINTENANCE WORKERS

The significance of risks associated with potential exposure of construction workers to on-Site soil, on-Site and off-Site groundwater, and LNAPL is discussed below.

5.6.2.3.1 MAINTENANCE WORKER EXPOSURE TO SOIL

Site-related cumulative cancer risk and HI estimates were calculated for each boring location, using the exposure factors noted above, along with appropriate toxicity values and physical/chemical property values for the chemicals. The initial estimates of

cumulative cancer and noncancer risks for each of the 214 soil borings are summarized in Table 5.3A; all estimates are shown with one significant digit per U.S. EPA convention. These calculations considered all detected constituents, except lead, which was evaluated separately, as discussed in the following section. These estimates are considered upper-bound estimates because the RME risks for an area would be lower if Site-specific exposure factors were used to account for the magnitude, frequency, and duration of exposures appropriate for the area assigned to each boring. Further information regarding the detailed basis for these calculations is provided in Appendix E.

The upper-bound estimates of Site-related cumulative cancer and noncancer risks were compared to U.S. EPA's cancer risk limit of 10^{-4} and HI limit of 1, respectively. The results in Table 5.3A (column #9) show that there are no boring locations with a cumulative cancer risk estimate or HI estimate that exceeds 10^{-4} or 1, respectively. Consequently, potential exposures to constituents in on-Site soils do not pose a significant risk to on-Site maintenance workers.

Soil lead data were evaluated separately, since lead exposures are evaluated based on blood lead rather than cancer risk or HI. The soil lead data collected during the RFI were categorized relative to the U.S. EPA range of screening criteria for industrial workers, which is 750 to 1,750 mg/kg. These soil criteria are intended to protect workers that include child-bearing age women, and are based on an assumed exposure frequency of 219 days per year. Because maintenance workers are assumed to have less frequent exposure to on-Site soil, they can encounter higher lead concentrations in on-Site soil without a health concern during occasional sub-surface activities. Adjusting the low-end of the U.S. EPA range of screening criteria by the relative exposure frequency for these two populations (219 days versus 5 days per year), and conservatively using a soil ingestion rate of 200 mg/day instead of 50 mg/day, yields 8,200 mg/kg as a lead screening criterion for protection of (occasional) maintenance workers. As shown in Table 5.3B, lead concentrations in on-Site soil exceed this criterion at only boring locations SB-21-02, SB-30-02, and SB-82-03. If planned maintenance activities in these locations remove pavement and expose soil, then maintenance workers should utilize appropriate protective equipment and work practices to mitigate potential contact exposures to soil lead therein.

5.6.2.3.2 MAINTENANCE WORKER EXPOSURE TO LNAPL AND SMEAR ZONE SOIL

Estimates of risks for potential exposure of maintenance workers to LNAPL and smear zone soil at the Chip Area and Hydromation Pit LNAPL plumes are calculated in Appendix E. These estimates are summarized in Table 5.4, which shows that the estimates of Site-related cumulative cancer risk and HI do not exceed the limits of 10^{-4} and 1, respectively. Combining these estimates with risk estimates for potential exposures to soil at these areas would still give cancer risk and HI estimates that do not exceed the cancer risk limit of 10^{-4} and the HI limit of 1.

5.6.2.3.3 MAINTENANCE WORKER EXPOSURE TO GROUNDWATER

As discussed in Section 4.0.2, the groundwater characterization data collected from monitoring wells in the upper aquifer were compared to health-based criteria based on direct contact by maintenance workers with groundwater. Groundwater screening criteria based on maintenance worker contact were derived to identify conditions in shallow groundwater that might result in potentially significant exposure of construction workers during occasional excavations that extend into the water table. As summarized in Section 5.3.2 and in Table 4.3A(ii), groundwater concentrations in the upper aquifer exceed the screening criteria based on direct contact by maintenance workers at only one location east of Taylor Street (i.e., for cis-1,2-DCE and vinyl chloride at monitoring well MW-23). Well MW-23 is located in the northwestern portion of the on-Site area between Taylor Street and the Railway. If maintenance activities in the vicinity of MW-23 entail excavations that extend to the water table, then maintenance workers should utilize appropriate protective equipment and work practices to mitigate potential exposures to constituents in shallow groundwater.

As shown in Table 4.3A(ii), groundwater concentrations in the upper aquifer between Webster and Taylor Streets have historically exceeded the screening criteria based on direct contact by maintenance workers at monitoring well B-SA21 (for PCBs in samples collected in 2002 and 2003), but, as shown on Figure 4.4A(i), not in the most recent sample collected (in 2004) from this well. Well B-SA21 is located in AOI 1 along Webster Street, as shown on Figure 3.3. Based on the most current groundwater results, potential exposures to constituents in shallow groundwater in the on-Site area between Webster and Taylor Streets do not pose a significant risk to maintenance workers via direct contact.

5.6.2.3.4 MAINTENANCE WORKER EXPOSURE TO STORM SEWER WATER AND STORM SEWER SEDIMENTS

As shown in Table 4.5A, only two samples of storm sewer water collected during the RFI had any constituent concentrations with sample concentrations that exceeded the health-based criteria for direct contact by maintenance workers. These samples were collected from manhole MH-12 and MH-25, which are located between Webster and Taylor Streets. Sixteen other storm sewer water samples from locations between Webster and Taylor Streets and 31 storm sewer samples collected elsewhere on the Site did not have any sample concentrations that exceed the health-based criteria for any constituent. Only one constituent, PCBs, exhibited a sample concentration that exceeded the respective criterion. Manhole MH-12 was cleaned and permanently closed during February 2006 and MH-25 was cleaned during February 2006, as part of an Interim Measure for storm sewers. Consequently, these sample concentrations that exceeded the screening criteria do not represent current conditions, and are not included in the risk calculations discussed below. However, they were included in an uncertainty analysis which considered the possibility that concentrations eventually return to pre-cleaning levels. This analysis is discussed in Section 5.6.4.

As shown in Table 4.4.A, several samples of storm sewer sediment collected during the RFI had constituent concentrations with sample concentrations that exceeded the screening criteria that are based on the U.S. EPA Region 9 PRGs for soil contact by adult workers. Most of these samples were from manholes located between Webster and Taylor Streets. All the manholes between Webster and Taylor Streets that had sediment concentrations that exceed the screening criteria were cleaned and/or permanently closed as part of the Interim Measure that was conducted in February 2006, as discussed further in Section 2.3.4. Four of the manholes located between Taylor Streets and the Railway that have sediment concentrations that exceed the screening criteria were previously cleaned. Consequently, many of the sample concentrations that exceeded the screening criteria do not represent current conditions, and are not included in the risk calculations discussed below. However, they were included in an uncertainty analysis which considered the possibility that concentrations eventually return to pre-cleaning levels. This analysis is discussed in Section 5.6.4.

To assess the significance of potential exposure to storm sewer water in the portion of the storm sewer system that has not been cleaned and/or permanently closed, risk calculations were performed using the exposure factors for evaluating maintenance workers exposure to water which are discussed in Section 5.4.6.2. The assessment determined that the cumulative cancer risk and noncancer HI estimates for this scenario

are 4×10^{-7} and 0.07, respectively, which are well within USEPA's acceptable limits of 10^{-4} and 1, respectively.

To assess the significance of potential exposure to storm sewer sediment in the portion of the storm sewer system that has not been cleaned and/or permanently closed, risk calculations were performed using the exposure factors for evaluating maintenance workers exposure to soil which are discussed in Section 5.4.6.2. The use of these exposure factors for this purpose is believed to be conservative because exposure to storm sewer sediment is expected to be lower than exposure to soil. The assessment determined that the cumulative cancer risk and noncancer HI estimates for this scenario are 3×10^{-6} and 0.2, respectively, which are well within U.S. EPA's acceptable limits of 10^{-4} and 1, respectively.

5.6.2.4 ON-SITE TRESPASSERS

Potential exposure of trespassers to soil is evaluated indirectly using exposure estimates for routine workers, as explained in Section 5.4.3.1. Use of an indirect evaluation streamlines the risk assessment and is conservative because trespasser exposures would be lower than routine worker exposures. Given the conclusions of Section 5.6.2.1.1 regarding routine workers, potential exposures to constituents in on-Site surface soils do not pose a significant risk to on-Site trespassers, except possibly for lead in surface soil at boring locations SB-021-02, SB-29-02, SB-30-02, and SB-82-03 where a potential for significant exposure exists for routine workers if concrete were removed and the surface soil in the areas is left exposed.

5.6.2.5 ON-SITE RECREATIONAL VISITORS

Potential exposure of future recreational visitors to soil is evaluated indirectly using exposure estimates for routine workers, as explained in Section 5.4.3.1. Use of an indirect evaluation streamlines the risk assessment and is conservative because exposures to recreational visitors would be lower than routine worker exposures. Given the conclusions of Section 5.6.2.1.1 regarding routine workers, potential exposures to constituents in on-Site surface soils do not pose a significant risk to on-Site recreational visitors, except possibly for lead in surface soil at boring locations SB-021-02, SB-29-02, SB-30-02, and SB-82-03 where a potential for significant exposure exists for routine workers if concrete were removed and the surface soil in the areas is left exposed.

5.6.2.6 OFF-SITE ROUTINE WORKERS

As discussed in Section 4.0.2, the groundwater characterization data collected from monitoring wells in the upper aquifer were compared to health-based criteria based on vapor intrusion. Groundwater screening criteria based on vapor intrusion were derived to identify groundwater conditions that might result in potentially significant indoor air exposures if constituents in shallow groundwater were to volatilize and migrate through building foundation cracks into indoor air. As summarized in Section 5.3.2 and shown in Table 4.3A(i), there were no exceedances of groundwater criteria based upon potential vapor intrusion in any off-Site groundwater sample from the upper aquifer. Consequently, potential exposures to constituents in off-Site shallow groundwater do not pose a significant risk to off-Site routine workers via vapor intrusion.

Exposures of routine workers via potable groundwater use is not expected because groundwater is not currently used as a drinking water supply in the Site vicinity and future potable use of groundwater in the Site vicinity is not reasonably expected, as discussed in Section 3.8.

5.6.2.7 OFF-SITE RECREATIONAL VISITORS

Potential Exposure to Groundwater

The cumulative cancer risk and HI estimates for the assumed exposure of visitors to VOCs in groundwater from the Fountain's water jets is approximately 5×10^{-6} and 0.1, respectively, which are well within the U.S. EPA's acceptable limits of 10^{-4} and 1. These results also show that exposures to groundwater from the Stadium Well and Geothermal Well, if any, would likewise be insignificant.

It should be recognized that these risk estimates are meant to demonstrate that Site-related VOCs would not be reasonably expected to present an unacceptable current exposure at the Fountain Wells, the Stadium Well, and the Geothermal Well even if they were able to reach these wells. These risk estimates should not be interpreted to mean that Site-related VOCs have actually reached or will reach these wells. As discussed in Section 3.5.4.1, the Fountain Wells and the Stadium Well are believed to be beyond the influence of Site-related effects on groundwater quality in the lower aquifer. Results from the RFI groundwater investigation indicate that the migration of VOCs in the lower aquifer, to the extent their presence is related to the Site, would be limited by pumping of lower aquifer groundwater at the Geothermal Well, which captures lower aquifer groundwater from beneath the Site. Furthermore, the concentrations of TCE

found in the lower aquifer at the Geothermal Well, which are the highest among wells in the lower aquifer, are likely unrelated to the Site, as discussed in more detail in Section 4.6.4.

Potential Exposure to the Mad River

As described in Section 5.6.1.3, the OEPA has established surface water quality criteria based on designated, non-potable uses to protect the segment of the Mad River that is adjacent to the Site. Estimates of concentrations in the Mad River from discharges of storm water and shallow groundwater from the Site and discharge of lower aquifer groundwater from the Geothermal Well operated at the Career Academy were compared to these surface water quality criteria. As summarized in Table 5.5, no constituent has an estimated concentration in the River that is higher than its surface water quality criterion. Therefore, these discharges to the Mad River are not expected to have any significant effect on the designated uses for this segment of the Mad River.

It should be recognized that the mass loadings from the Geothermal Well are meant to demonstrate that Site-related VOCs would not be reasonably expected to be significant in the Mad River, even if they were able to reach the Geothermal Well. These mass loading estimates should not be interpreted to mean that Site-related VOCs have actually reached or will reach the Geothermal Well. As discussed in Section 4.6.4, the concentrations of TCE found in the lower aquifer at the Geothermal Well are likely unrelated to the Site.

5.6.2.8 OFF-SITE MAINTENANCE WORKERS

As discussed in Section 4.0.2, the groundwater characterization data collected from monitoring wells in the upper aquifer were compared to health-based criteria based on direct contact by maintenance workers with groundwater. Groundwater screening criteria based on maintenance worker contact were derived to identify conditions in shallow groundwater that might result in potentially significant exposure of construction workers during occasional excavations that extend into the water table. As summarized in Section 5.3.2 and Table 4.3B(i), there were no exceedances of groundwater criteria based upon direct contact by maintenance workers with groundwater in any off-Site groundwater sample from the upper aquifer. Consequently, potential exposures to constituents in off-Site shallow groundwater do not pose a significant risk to maintenance workers via direct contact.

Because constituent concentrations in the lower aquifer are similar to or lower than those observed in the upper aquifer, potential exposures to constituents in off-Site lower aquifer groundwater are not expected to pose a significant risk to maintenance workers via direct contact with groundwater from the Stadium Well and the Geothermal Well.

5.6.2.9 OFF-SITE EXPOSURE TO WIND-BLOWN DUST AND VAPORS

Off-Site receptors also could be exposed to constituents in soil that are transported off Site by wind erosion or vapors that migrate off Site. In this risk assessment, potential airborne exposures of off-Site receptors are indirectly, but conservatively, evaluated using exposure estimates for on-Site routine workers. Use of this indirect evaluation streamlines the risk assessment and is highly conservative because airborne exposures off Site are expected to be much lower than exposure on Site, due to increased dispersion with increased distance from the source soil. It is also conservative because the on-Site worker risk estimates include direct contact and ingestion exposure, which are not relevant for off-Site receptor exposure to on-Site soil. Given the conclusions of Section 5.6.2.1.1 regarding routine workers, potential off-Site exposures to wind-blown constituents derived from on-Site surface soils do not pose a significant risk to off-Site populations. Only lead in surface soil at boring locations SB-021-02, SB-29-02, SB-30-02, and SB-82-03 was identified as a potential exposure concern for routine workers. That conclusion was based on potential exposure via incidental ingestion of soil and would not occur unless concrete were removed and the surface soil in the areas is left exposed. In setting its screening criteria for soil lead for industrial workers, U.S. EPA concluded that inhalation exposures contribute negligibly to elevated blood lead. Because only inhalation exposures are relevant for off-Site receptor exposure to on-Site soil, there is no reason to expect that off-Site receptor exposure to on-Site soil lead could pose an exposure concern, even if concrete were removed and the surface soil at boring locations SB-021-02, SB-29-02, SB-30-02, and SB-82-03 is left exposed.

5.6.3 UNCERTAINTY ANALYSIS

5.6.3.1 EXPOSURE CONCENTRATIONS

As discussed in Section 5.4.4, most exposure concentrations for soil in this risk assessment are based on the highest concentrations detected in soil at each area. This approach inflates the cumulative cancer risk and HI estimates that would not otherwise exceed 10^{-4} and 1, respectively, when realistic exposure concentrations rather than maximum concentrations are considered. The use of maximum concentrations for all

constituents introduces more conservatism than necessary for RME estimates because it assumes simultaneous worst-case exposure to all constituents constantly, when the RME generally would not have all constituents at worst-case concentrations at all times. The inflation of these risk and HI estimates makes them closer to the cumulative cancer risk limit of 10^{-4} and the HI limit of 1 than they would be if 95% upper confidence limits were used.

Most exposure concentrations that are based on mathematical modeling of constituent transfer from soil or groundwater to air are conservative for the same reasons discussed above, since the model estimates are based on the use of maximum concentrations in soil or groundwater. In addition, the model estimates are conservative because they generally do not account for the reduction of constituent concentrations in the soil or groundwater as constituents transfer from these media. As a result, risk estimates that are based on the sum of risk estimates for multiple media are more conservative than necessary for RME estimates. These include almost all of the risk estimates discussed in Section 5.6.

The concentrations of constituents in storm sewer sediment and storm sewer water used in the risk assessment were based on data from sections of the storm sewer system that is still in service and was not cleaned subsequent to collection of sediment data. The data used in the risk calculations best represent the current conditions of the sewers, and reasonably represent future conditions since the Site will no longer be used for heavy manufacturing. However, to evaluate potential exposures under the hypothetical scenario wherein storm sewer sediment and water concentrations return eventually to pre-cleaning conditions, risk calculations were performed that included the pre-cleaning data from the sections of the storm sewer system that still service the Site. The resulting estimates of cumulative cancer and noncancer risk for maintenance workers for potential exposure to storm sewer sediments are 4×10^{-6} and 0.4, respectively and are 8×10^{-6} and 0.3, respectively, for potential exposure to storm sewer water. These estimates are somewhat higher than the risk estimates discussed in Section 5.6.2.3, but they are still well below the U.S. EPA limits of 10^{-4} and 1. Similarly, the estimated concentration in the Mad River from storm sewer and groundwater discharge change slightly, but no estimated surface water concentration exceeds the surface water quality criteria for the designated uses in this segment of the Mad River.

The risk assessment used a mercury concentration of 1 mg/kg for boring location SB-8, because it is the highest concentration from any depth in the boring. This concentration was from a replacement sample (SB-8R-03) that was collected from 10 to 12 feet bgs in 2003 to verify the initial concentration of 40.1 mg/kg collected from the same depth in 2002. Other samples collected from other depths at this boring had lower concentrations

[i.e., 0.013 mg/kg from 1 to 3 feet bgs, and 0.37 and 0.15 mg/kg in duplicates samples from 13 to 15 feet bgs (see Figure 4.2A)]. The concentration of 1 mg/kg from the replacement sample was used in the risk calculations because it is believed to be more representative of the concentration at 10 to 12 feet bgs, and is conservative for representing the concentration for the entire boring.

However, even if the concentration of 40.1 mg/kg were assumed to represent the mercury concentration at this location and depth, the conclusions of the risk assessment would not change for the following reasons. First, this concentration would not change the conclusions for routine workers because it is not in the surface soil (which has a concentration of 0.013 mg/kg). Second, this concentration would not change the conclusions for vapor intrusion because the City of Dayton's current redevelopment plan does not propose to construct a new building at this location. Third, this concentration would not change the conclusions for redevelopment workers because the City of Dayton's redevelopment plan does not include removal of the former building foundation slab at this location. Finally, this concentration would not change the conclusion for maintenance workers because inclusion of this concentration would increase the HI from 0.004 to 0.03, which still would be well below the limit of 1.

5.6.3.2 EXPOSURE FACTORS

As discussed in Section 5.4.5, most of the exposure factors used in the risk assessment are high-end (i.e., 90th to 95th percentile) estimates of the magnitude, frequency, and duration of potential exposures. When several such high-end factors are multiplied, the resulting estimates of dose will be higher than the 90th percentile of the distribution of exposures in the potentially exposed population and could be higher than the exposure to the maximally exposed individual, particularly when such exposure factors are combined with exposure concentrations that are based on maximum concentrations.

Also, the use of generic default exposure factors for evaluation of potential exposure of workers to soil is more conservative than necessary for RME estimates, which allow the use of Site-specific considerations (U.S. EPA, 1989). For example, the "fraction contacted" terms used in this evaluation assume that routine workers are exposed to soil for an entire work day at each area, but workers at commercial/industrial sites generally spend only a part of the work day at a particular part of the Site.

5.6.3.3 EXPOSURE DURATION AND AREA

Because construction plans for floor slab removal and soil excavation were provided to GM by the City of Dayton, it was possible to conduct a refined assessment of potential exposures to redevelopment workers for the first phase of the Site redevelopment located between Webster and Taylor Streets, based in part on 64 work days for these activities. Similar detailed plans are not yet available for the second and third phases of the redevelopment. As a result, the exposure assessment for redevelopment workers in these two phases was based on an upper-bound exposure frequency of 250 work days per year, and consideration of the entire accessible area south of the Mad River as a potential exposure area. This is believed to be a practical and highly conservative approach for addressing the uncertainties associated with the current lack of specific construction plans for these areas, for reasons discussed in Sections 5.6.3.1 and 5.6.3.2.

5.6.3.4 EXTRAPOLATED TOXICITY VALUES

As discussed in Section 5.5.3, the dermal toxicity values used in the risk assessment are oral toxicity values that were extrapolated to the dermal route without chemical-specific judgment regarding whether such extrapolation might be appropriate for a particular chemical. This is a conservative approach to ensure that potential risk via the dermal route is not overlooked. However, some constituents might exhibit different degrees of toxicity for the dermal route relative to the oral route. For such constituents, the extrapolation approach used in the risk evaluation could introduce uncertainty.

The conversion of an oral toxicity value to an inhalation toxicity value generally should be justified by consideration of a number of factors, including point of entry effects, pharmacokinetic data on the chemical's behavior in the different routes of exposure, and differences in the target organs affected. However, as a conservative measure for constituents without any inhalation toxicity values, oral SFs and RfDs were converted to inhalation URFs and RfCs in this risk assessment. Use of these extrapolated inhalation toxicity values reduces the potential for underestimating inhalation risks, but could introduce uncertainty.

5.6.3.5 RISK CHARACTERIZATION

The summation of cancer risks and HQs for multiple constituents, as described in Section 5.6.1, is based on U.S. EPA guidance (1989) to assume dose additivity, which means that constituents in a mixture are assumed to have no synergistic or antagonistic

interactions and each constituent has the same mode of action and elicits the same health effects. In general, this approach can introduce significant uncertainty. However, the majority of the cumulative cancer risk and HI estimates in this risk assessment are dominated by contributions from no more than a few constituents, so that the cumulative risk estimates are nearly the same as those for the few key constituents.

5.7 SUMMARY AND CONCLUSIONS

The significance of potential exposures to Site-related concentrations of constituents in on-Site soil, storm sewer sediment, storm sewer water, and LNAPL, and on-Site and off-Site groundwater is evaluated based on conservative estimates of reasonable maximum exposures under current and reasonably expected future land use. The evaluation uses the RFI data that were discussed in Section 4.0 and methods that are consistent with U.S. EPA risk assessment guidance. The significance of potential exposures is determined by comparing estimates of Site-related cumulative cancer and noncancer risks with a cancer risk limit of 10^{-4} and a HI limit of 1, respectively, which U.S. EPA has established as triggers for corrective measures under RCRA corrective action (U.S. EPA, 1991b).

Based on consideration of current and reasonably expected land use at and around the Site, the potentially exposed populations considered in this risk assessment include the following:

On-Site:	Routine workers (future land use scenario only)
	Redevelopment workers
	Maintenance (or occasional construction) workers
	Trespassers
	Recreational visitors (future land use scenario only)
Off-Site:	Routine workers
	Maintenance (or occasional construction) workers
	Recreational visitors

The potential exposures evaluated for these receptors are summarized in the conceptual Site model shown in Table 5.1. Results of the evaluation are summarized below for each receptor population.

On-Site Routine Workers

In the future, routine workers are expected to be engaged in commercial activities that will generally take place indoors. These workers could be exposed to constituents in subsurface soil if the constituents were to volatilize and migrate through cracks in the building foundation into indoor air. Similarly, these workers could be exposed to constituents in groundwater and LNAPL if the constituents volatilize and migrate through cracks in the building foundation. As summarized in Section 5.3.2 and Table 4.3A(i), no current concentrations in shallow, on-Site groundwater exceed the groundwater criteria based on potential vapor intrusion. Consequently, potential exposures to constituents in on-Site shallow groundwater do not pose a significant risk to on-Site routine workers via vapor intrusion. Neither the Chip Area LNAPL nor the Hydromation Pit Area LNAPL have risk estimates that exceed the cumulative cancer risk limit of 10^{-4} and the HI limit of 1. Consequently, potential exposures to constituents in on-Site LNAPL also do not pose a significant risk to on-Site routine workers via vapor intrusion. It should be noted that the City's redevelopment plan does not include construction of buildings in either of these areas.

The refined assessments of potential vapor intrusion from soil took into account the specific locations and sizes of buildings to be constructed on Site, according to the current Site redevelopment plan provided to GM by the City of Dayton. Based on the refined assessments, none of the planned building locations would have an unacceptable cumulative cancer risk or HI, except Building Q. If Building Q or another similar building eventually will be constructed in the proposed location, the design and construction of the building should take into account the potential for vapor intrusion from soil in this area.

The risk assessment evaluated potential exposures of routine workers to outdoor soil at the Site via incidental ingestion, dermal contact, and inhalation of vapors and particulates. Potential exposures to constituents in on-Site surface soils do not pose a significant risk to on-Site routine workers even if they were to spend their entire work day outdoors during every work day. Lead concentrations in on-Site surface soil also do not pose a health concern for routine workers, even if they were to spend their entire work day outdoors during every work day, except at boring locations SB-21-02, SB-29-02, SB-30-02, and SB-82-03 if concrete were removed and the surface soil in the areas is left exposed.

On-Site Redevelopment Workers

The risk assessment evaluated the significance of potential exposures to on-Site soil during redevelopment activities via direct contact (ingestion, dermal contact, inhalation of ambient air).

The soil conditions between Webster and Taylor Streets do not pose a health concern for redevelopment workers in terms of cumulative cancer risk or HI during slab removal and soil excavation, as currently planned by the City of Dayton and its contractors. Lead concentrations in on-Site soil also do not pose a health concern for redevelopment workers in this portion of the Site, because none of the soil borings located between Webster Street and Taylor Street had a soil lead concentration as high as 750 mg/kg, which is the low-end of U.S. EPA's range of screening criterion.

In the absence of specific redevelopment plans for floor slab removal and excavation during the second phase located between Taylor Street and the Railway and the third phase located between the Railway and Keowee Street, area-weighted estimates of cumulative cancer risk and HI, and soil lead concentrations in the respective areas were calculated based on the accessible area south of the fence along the Mad River. Based on these estimates, the soil conditions between Taylor Street and the Railway and between the Railway and Keowee Street also do not pose a health concern for redevelopment workers.

Current Site construction activities in the first phase of the redevelopment do not involve excavations that extend into the water table, which is typically found at about 8 ft below ground surface at and around the Site. Consequently, potential exposures to constituents in on-Site shallow groundwater are not expected during the first phase of redevelopment between Webster and Taylor Streets. If excavations that encounter groundwater are undertaken in the future, redevelopment workers could be exposed to shallow groundwater. Potential routes of exposure would include incidental ingestion, dermal contact, and inhalation of vapor. Subsurface activities leading to exposure of redevelopment workers to shallow groundwater are expected to be of limited extent and duration. Groundwater concentrations in the upper aquifer exceed the screening criteria derived for protection of maintenance workers at only one location east of Taylor Street (i.e., for cis-1,2-DCE and vinyl chloride at monitoring well MW-23). Well MW-23 is located in the northwestern portion of the on-Site area between Taylor Street and the Railway. Construction plans for floor slab removal and soil excavation/grading have not been provided by the City of Dayton for the second phase located between Taylor Street and the Railway. If planned excavations in the vicinity of MW-23 extend to the water table, then redevelopment workers should utilize appropriate protective

equipment and work practices to mitigate potential exposures to constituents in shallow groundwater.

Future redevelopment workers also could be exposed to LNAPL and LNAPL-containing soil in the smear zone at either the Chip Area or Hydromation Pit area, if construction plans require excavation to the water table in these areas. The most potentially significant routes of exposure to LNAPL would be expected to include dermal contact and inhalation of vapor. Potential routes of exposure to LNAPL-containing smear zone soil would be expected to include incidental ingestion and dermal contact. To streamline this risk assessment, exposures of future redevelopment workers to LNAPL and smear-zone soil are indirectly evaluated using exposure estimates for maintenance workers, which are believed to be appropriate based on the expectation that excavations extending to the water table would remain open during only a small portion of the overall construction activities and redevelopment workers would be in the excavation pit for only a small part of that time. Estimates of Site-related cumulative cancer risk and HI for potential exposure of maintenance workers to LNAPL and smear zone soil at the Chip Area and Hydromation Pit plumes do not exceed the limits of 10^{-4} and 1, respectively. Based on these estimates, potential exposures to constituents in on-Site LNAPL are not expected to pose a significant risk to redevelopment workers.

On-Site Maintenance (Occasional Construction) Workers

The risk assessment evaluated the significance of potential exposures to on-Site soil, LNAPL, groundwater, and storm sewer water and sediment during occasional construction/ maintenance activities.

Potential exposures to constituents in on-Site soils, except for lead, do not pose a significant risk to on-Site maintenance workers. Estimates of Site-related cumulative cancer risk and HI for potential exposure of maintenance workers to LNAPL and smear zone soil at the Chip Area and Hydromation Pit plumes do not exceed the limits of 10^{-4} and 1, respectively. Combining these estimates with risk estimates for potential exposures to soil at these areas would still give cumulative cancer risk and HI estimates that do not exceed the cancer risk limit of 10^{-4} and the HI limit of 1.

Lead concentrations in on-Site surface soil also do not pose a health concern for on-Site maintenance workers, except at boring locations SB-21-02, SB-30-02, and SB-82-03 if concrete were removed and the surface soil in the areas is left exposed. Based on the most current groundwater data, potential exposures to constituents in on-Site shallow groundwater do not pose a significant risk to maintenance workers via direct contact, except at monitoring well MW-23 and its immediate vicinity, which is located in the

northwestern portion of the on-Site area between Taylor Street and the Railway. If planned excavations in the vicinity of MW-23 extend to the water table, then maintenance workers should utilize appropriate protective equipment and work practices to mitigate potential exposure to constituents in shallow groundwater.

Potential exposure of maintenance workers to storm sewer water and storm sewer sediment was evaluated using conservative exposure factors for incidental ingestion and dermal contact in combination with exposure frequency of 5 days per year for 10 years. The assessment determined that the cumulative cancer risk and noncancer HI estimates for exposure to storm sewer sediment are 3×10^{-6} and 0.2, respectively, and the cumulative cancer risk and noncancer HI estimates for exposure to storm sewer water are 4×10^{-7} and 0.07, which are well within USEPA's acceptable limits of 10^{-4} and 1, respectively.

On-Site Trespassers and Recreational Visitors

The risk assessment evaluated the significance of potential exposures of trespassers and future recreational visitors to on-Site soil by using the direct contact risk estimates for routine workers, which is a conservative and streamlined approach. Since the constituents in on-Site soil, except for lead, do not pose a significant risk to routine workers, they do not pose a significant risk to trespassers and future recreational visitors. Lead concentrations in on-Site surface soil also do not pose a health concern for routine workers, except possibly at boring locations SB-21-02, SB-29-02, SB-30-02, and SB-82-03 where a potential for significant exposure exists for routine workers if concrete were removed and the surface soil in the areas is left exposed; on this basis, lead concentrations at these locations could potentially pose a health concern to trespassers and future recreational visitors.

Off-Site Routine Workers

Potential exposures of off-Site routine workers to constituents in groundwater via vapor intrusion were evaluated in this risk assessment in the same way as those for on-Site routine workers, except for consideration of building size. No current concentrations in shallow, off-Site groundwater exceed the groundwater criteria based on potential vapor intrusion. Consequently, potential exposures to constituents in off-Site shallow groundwater do not pose a significant risk to off-Site routine workers via vapor intrusion.

Off-Site Recreational Visitors

The risk assessment evaluated the significance of potential exposures of recreational visitors to lower aquifer groundwater. The cumulative cancer risk and HI estimates for the assumed exposure of visitors to VOCs in groundwater from the Fountain's water jets is approximately 5×10^{-6} and 0.1, respectively, which are well within the U.S. EPA's acceptable limits of 10^{-4} and 1. These results also show that exposures to groundwater from the Stadium well and Geothermal Well, if any, would likewise be insignificant.

Estimates of Site-related concentrations in the Mad River from discharges of storm water and shallow groundwater from the Site and discharge of lower aquifer groundwater from the Geothermal Well operated at the Career Academy were compared to the surface water quality criteria established by the OEPA to protect the segment of the Mad River that is adjacent to the Site. No constituent had an estimated concentration in the River that is higher than its surface water quality criterion. Therefore, these discharges to the Mad River are not expected to have any significant effect on the designated non-potable uses for this segment of the Mad River.

Off-Site Exposure to Wind-blown Dusts and Vapors

In this risk assessment, potential airborne exposures of off-Site receptors were indirectly, but conservatively, evaluated using exposure estimates for on-Site routine workers. Given the conclusions of the assessment regarding routine workers, potential off-Site exposures to wind-blown constituents derived from on-Site surface soils do not pose a significant risk to off-Site populations.

In conclusion, the risk assessment determined that potential exposures of current receptor populations to constituents in on-Site soil and LNAPL do not pose a significant risk, except for lead in surface soil at boring locations SB-021-02, SB-29-02, SB-30-02, and SB-82-03 if concrete were removed and the surface soil in the areas is left exposed. It also determined that potential exposures of future receptor populations would not pose a significant risk, except for potential vapor intrusion from soil for planned Building Q and for lead in surface soil at these same boring locations.

The risk assessment determined that potential exposures of routine workers to constituents in on-Site and off-Site groundwater in the upper aquifer via vapor intrusion do not pose a significant risk. Based on the most recent groundwater data, groundwater concentrations in the upper aquifer exceed the screening criteria derived for protection of maintenance workers at only one location, MW-23 east of Taylor Street (i.e., for cis-1,2-DCE and vinyl chloride). If planned excavations in the vicinity of MW-23 extend

to the water table, then maintenance workers should utilize appropriate protective equipment and work practices to mitigate potential exposure to constituents in shallow groundwater.

6.0 ECOLOGICAL RISK ASSESSMENT

An ecological risk assessment (ERA) Problem Formulation was developed in July 2005 to identify potential complete exposure pathways for ecological receptors at the Site (Exponent 2005; Appendix J). Exposure of aquatic receptors via storm water and shallow groundwater discharge was identified as the sole significant potential exposure pathway of concern. The following assessment and measurement endpoints were defined in the Problem Formulation:

Assessment Endpoint: Survival, growth, and reproduction of aquatic invertebrate and fish communities in the Mad River.

Measurement Endpoint: Quantitative incremental exposure evaluation for aquatic receptors in the Mad River to Site-related metals, PCBs, and PAHs.

An evaluation of these endpoints follows, consisting of a comparison of estimated incremental exposure levels for aquatic life in the Mad River to conservative screening-level benchmarks. Substances that exceed this initial screen are then evaluated further on a chemical-by-chemical basis. Conclusions concerning the likelihood of risk to aquatic exposure are drawn from this analysis.

6.1 CONTAMINANT LOADING TO MAD RIVER

The exposure point concentration for waterborne contaminants in this assessment is the predicted concentration experienced by aquatic organisms in the Mad River. Loading of all Site-related chemicals to the Mad River via storm water and shallow groundwater has been quantitatively estimated using a mass loading model (see Appendix I). This model accounts for both dissolved phase and suspended particulate phase contaminant loading. Estimated surface water concentrations of Site-related chemicals in the Mad River under harmonic mean flow conditions are compared to U.S. EPA Region 5 Ecological Screening Levels (ESLs; U.S. EPA, 2003) in Table 6.1. ESLs are conservative benchmarks for determining levels below which ecological risks would be expected to be negligible. They do not necessarily constitute toxicity thresholds, and are not intended to be action levels. The origins and basis of various ESLs vary, but are generally derived from a review of toxicity literature and state standards within Region 5 (including Ohio), with the most conservative available value selected. Exceedance of an ESL does not necessarily mean that the chemical poses significant or unacceptable risk, only that additional evaluation may be warranted. Concentrations below ESLs can safely be assumed to pose negligible risk to ecological receptors. All

modeled VOC and SVOC surface water concentrations are below applicable ESL values. Only copper, and total PCB concentrations were estimated to exceed ESLs in the Mad River due to Site-related storm water and shallow groundwater inputs.

The Ohio Environmental Protection Agency (OEPA) has promulgated surface water criteria for the protection of aquatic life outside the mixing zone for only eight substances: arsenic, cadmium, chromium, copper, lead, nickel, selenium, and zinc[3]. In all cases, Region 5 ESLs are more conservative than the OEPA criteria, and all modeled surface water concentrations are well below the OEPA criteria.

6.1.1 COPPER

Copper exerts toxicity to aquatic life primarily via direct contact. It does not bioaccumulate significantly. The estimated copper concentration in the Mad River, 1.9 µg/L, exceeds the ESL by a factor of 1.2. This default ESL value, 1.58 µg/L, is based on the Continuous Contact Criterion (CCC), which is the Federal chronic ambient water quality criterion (U.S. EPA, 2002), conservatively calculated at a water hardness of 50 mg/L. Mad River water hardness is much higher, and has been reported in the approximate range of 300 to 400 mg/L throughout the lower reaches of the River (Burton et al., 2001). When adjusted to the low end of this hardness range (300 mg/L), the CCC becomes 22.9 µg/L, a value well above the modeled concentration. This adjustment effectively rules out chronic toxicity to aquatic life from copper. The OEPA criterion for copper, 23 µg/L (average concentration outside mixing zone), is also well above the estimated concentration in the Mad River.

6.1.2 PCBs

Like mercury, PCBs are bioaccumulative, and risk to higher trophic level species, exposed via the aquatic food web, is the greatest potential concern. The estimated PCB concentration in the Mad River, 0.00043 µg/L, exceeds the ESL by a factor of 3.6. According to the method documentation, this ESL, 0.00012 µg/L, is a Tier 1 wildlife initial screening value, derived from Region 5 state standards, including Ohio (U.S. EPA, 2003). Tier 1 values are conservative food web based screening levels that are meant to reflect the worst case exposure scenario for a fish-eating wildlife receptor. Like all ESLs, they are to be used as initial screening values only. The federal CCC, an

[3] From Chapter 3745-1 of the Administrative Code.
See http://www.epa.state.oh.us/dsw/rules/3745-1.html

enforceable standard, is 0.014 µg/L, again much higher than the modeled Mad River concentration. The CCC for total PCBs is protective of bioaccumulation pathways. It is derived from a bioaccumulation model for mink, a species widely regarded as the most sensitive wildlife receptor to PCBs. As such, it should be protective of other higher tropic level receptors that occur in the Mad River.

6.2 CHARACTERIZATION OF ECOLOGICAL RISK

Based on the modeled contribution of Site-related storm water and groundwater to the Mad River, the net risk to ecological receptors appears to be negligible. Only two substances are predicted to exceed highly conservative screening level benchmarks in the River: copper and PCBs. Copper screens out when the applicable water quality criterion is adjusted for site-specific hardness. PCBs have extremely low generic screening criteria because of their bioaccumulative potential. The criteria are designed to protect top-level predators that derive their entire diet from aquatic prey in the impacted area. However, PCBs are predicted to occur in the Mad River at levels below the applicable federal chronic water quality criteria (the CCC), which protects against both direct aquatic life toxicity and food-web exposure. The modest exceedance of these two highly conservative ESLs and the limited utilization of the urban Dayton environment as forage habitat by high-level predators suggests limited potential for significant exposure via the aquatic food web. Source control measures, including groundwater interception and extraction systems and cleaning and partial decommissioning of the Site storm sewers, have been implemented to mitigate exposure and risk for the aquatic community.

Based on the analysis above, the assessment endpoints defined in the Problem Formulation are predicted to be adequately protected, and no significant risk to ecological receptors in the Mad River is predicted.

7.0 SUMMARY AND CONCLUSIONS

GM conducted a RFI to determine whether the AOIs identified in the "Current Conditions Report" (CRA, June 8, 2001) and subsequently identified based on the 1943 Insurance Map (see Appendix A) have released hazardous waste or hazardous constituents that pose a significant risk to human health or the environment. As part of the RFI, GM also developed information to support the RCRA corrective action EI determinations of whether current human exposures are under control (CA725) and migration of contaminated groundwater is under control (CA750), which is the subject of a separate report from GM.

As a result of the extensive, multi-phase RFI, potentially significant releases to on-Site soil, groundwater, storm sewer water, storm sewer sediment, and concrete were identified and delineated at the Site. The nature and extent of hazardous constituents in the environmental media characterized during the RFI are discussed in Section 4.0. GM does not contemplate any further on-Site investigations at this time, as the Site characterization data obtained during the RFI and discussed herein are judged to be adequate and appropriate for RCRA corrective action decision-making.

As discussed in Section 4.6, TCE exceeds screening criteria in upgradient (i.e., southeast of the Site) groundwater, however, those concentrations are unrelated to Site operations.

As discussed in Section 4.6, the RFI identified groundwater contamination on Site in all three hydrogeologic units (see Section 3.0), as follows, the highest concentrations being located near the water table in the upper aquifer:

- Contaminated groundwater is located in the vicinity of the Webster Street PCE release (AOI 1). Ozone sparging has been implemented as an interim measure in the upper aquifer (see Section 2.3). Concentrations of chlorinated VOCs have generally decreased as a result of ozone sparging; however, concentrations remain above screening criteria;
- The approximate area of contaminated groundwater in the upper aquifer in the vicinity of MW-23 extends from near a former waste tank (AOI 3) to the northwest along the direction of groundwater flow to the Mad River; and
- West-northwest at the Site, PCE and TCE exceed screening criteria.

As discussed in Section 4.6, the RFI identified groundwater contamination off Site to the west and southwest of the Site in all three hydrogeologic units that are described in Section 3.0, as follows:

- The approximate area of contaminated groundwater in the upper aquifer associated with the Webster Street PCE release (AOI 1) extends from AOI 1 to the northwest along the direction of groundwater flow to the Mad River. The western edge of the AOI 1 plume overlaps with contaminated groundwater that is likely unrelated to the Site. For example, monitoring wells MW-11, MW-46, HD-4, and DAY-8 are in the area of overlap.
- Off-Site monitoring wells in the till-rich zone to the west of the Site that are located along and beyond the interpreted extent of the AOI 1 plume in the upper aquifer (i.e., MW-44-05, MW-42-05, DAY-7, DAY-24, and MW-20-04) consistently have TCE concentrations that exceed the drinking water standard, are substantially higher than TCE concentrations along the western edge of the AOI 1 plume in the upper aquifer, and have TCE as the predominant groundwater contaminant (unlike the AOI 1 plume, in which PCE was the predominant constituent prior to the AOI 1 interim measures). The presence of the TCE concentrations at these off-Site monitoring wells in the till-rich zone is likely unrelated to the Site.
- Among off-Site monitoring wells in the lower aquifer west of the Site, only TCE, cis-1,2-DCE, and VC have concentrations that are higher than drinking water standards. PCE does not have any concentration that is higher than its drinking water standard in any lower aquifer groundwater sample. The highest concentrations of TCE in groundwater samples from off-Site wells in the lower aquifer are from the Geothermal Well. Given the absence of similar concentrations of TCE in the lower aquifer beneath the Site and the significantly lower concentrations in lower aquifer wells located to the west between the Site and the Geothermal Well, the elevated TCE concentrations in the Geothermal Well is likely unrelated to the Site.

During the RFI, GM also implemented interim measures to address groundwater contamination adjacent to Webster Street, the presence of LNAPL in the Chip Area LNAPL plume, the presence of concrete with PCB concentrations above 50 ppm in the G-Lot Transformer Pad, and sewer sediments present in storm sewers located between Webster and Taylor Streets. These areas of the Site were identified through field investigations conducted prior to and during the RFI. GM plans to continue LNAPL monitoring from observation wells upgradient of the barrier wall in the Chip Area. GM also plans an additional IM for Spring 2006 to address PCB concentrations in concrete in

the tunnel beneath the railway and on the wall east of the railway; a work plan for this IM will be submitted to U.S. EPA under separate cover.

A human health risk assessment is included in this RFI Report to provide a basis for determining whether the presence of hazardous constituents poses a significant risk to human health and the environment that would warrant further corrective measures. The significance of potential exposures to Site-related concentrations of constituents in on-Site soil, storm sewer sediment, storm sewer water, and LNAPL; and on-Site and off-Site groundwater is evaluated based on conservative estimates of reasonable maximum exposures to affected environmental media under current and reasonably expected future land use at and around the Site. The results of the human health risk assessment demonstrate that potential off-Site exposures do not pose a significant risk. Potential on-Site human exposures also do not pose a significant risk with the exception of the following scenarios and conditions:

- There is a potential in the future for significant exposure to routine workers via vapor intrusion from soil in one planned building location in the City of Dayton's redevelopment plan (Building Q).
- Lead concentrations in on-Site surface soils at certain boring locations could pose a health concern for routine workers and maintenance (occasional construction) workers, if concrete overlying these locations is removed and the surface soil in these areas is left exposed.
- If planned excavations in the vicinity of on-Site well MW-23 extend into the water table, then redevelopment and maintenance workers should utilize appropriate protective equipment and work practices to mitigate potential exposures to constituents in shallow groundwater.

GM will consider these results while developing a Corrective Measures Plan for the Site.

Use of groundwater in the upper aquifer or lower aquifer for drinking water purposes is not a reasonably expected exposure scenario in the future either on Site or off Site within the reasonably expected zone of potential site-related impacts on off-Site groundwater in the upper aquifer. Section 4.6 presents the results of a comparison of groundwater sample concentrations in these two aquifers with drinking water criteria. These results suggest that institutional controls precluding use of Site-impacted groundwater should also be considered as part of the Corrective Measures Plan for the Site.

An ecological risk evaluation is included in this RFI Report to provide a basis for determining whether the presence of these hazardous constituents poses a significant

risk to ecological receptors that warrants further corrective measures. Based upon the ecological problem formulation, which is provided in Appendix J, and further analysis summarized in Section 6.0, no significant risk to ecological receptors is reasonably expected as a result of Site-related constituents in the environment.

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RESOURCE CONSERVATION AND RECOVERY ACT (RCRA) FACILITY INVESTIGATION REPORT

GENERAL MOTORS CORPORATION
FORMER DELPHI HARRISON THERMAL SYSTEMS
DAYTON, OHIO
OHD017958604

VOLUME II OF III - FIGURES AND TABLES

Prepared For:

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MARCH 30, 2006
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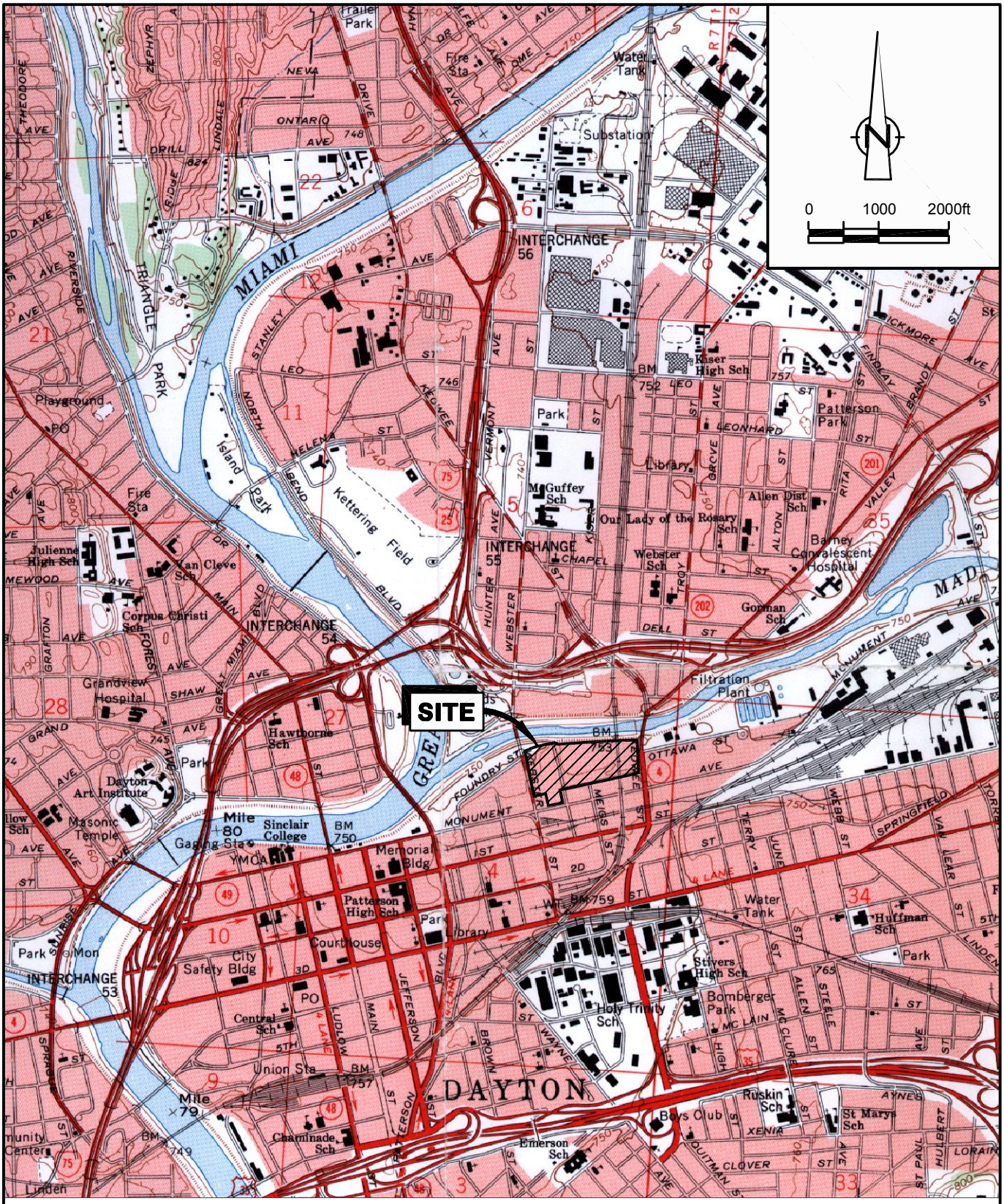

SOURCE: U.S.G.S., DAYTON NORTH, OHIO

figure 1.1

SITE LOCATION
FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY
Dayton, Ohio

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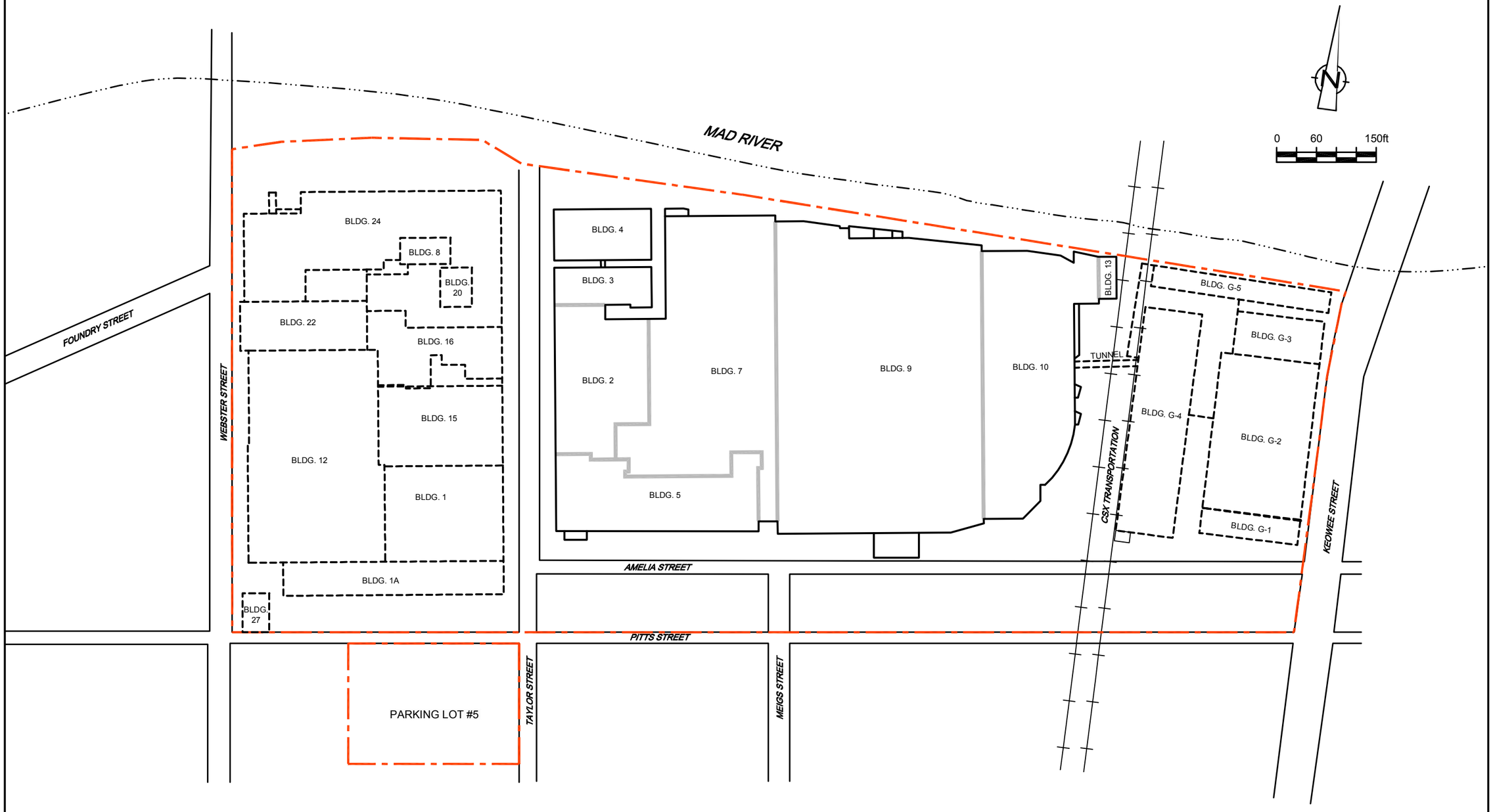

LEGEND

- BUILDING WALL
- BUILDING BOUNDARY
- FORMER BUILDING WALL
- SHORELINE
- RAILROAD
- SITE BOUNDARY

figure 1.2

SITE PLAN

FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY

Dayton, Ohio

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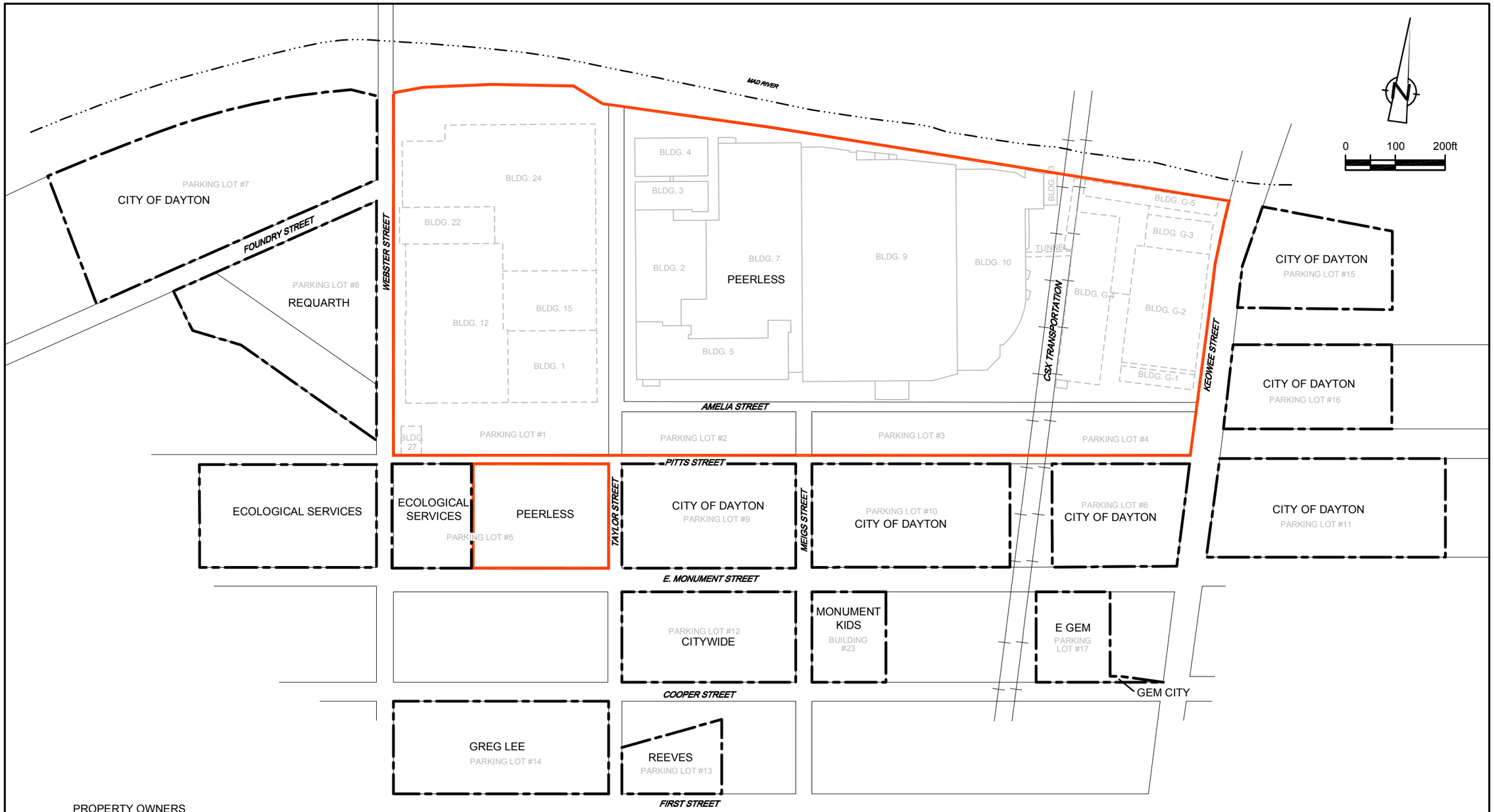


PROPERTY OWNERS

CITY OF DAYTON
GREG LEE - GREG LEE REALTY
REEVES - REEVES REALTY INC.
CITYWIDE - CITY WIDE DEVELOPMENT CORP.
MONUMENT KIDS - 804 MONUMENT PROPERTIES LLC
E GEM - 848 E. MONUMENT AVE LTD.
GEM CITY - GEM CITY ELEVATION CO. INC.
ECOLOGICAL SERVICES - ECOLOGICAL SERVICES OF AMERICA
REQUARTH - F.A. REQUARTH
PEERLESS - PEERLESS REALTY GROUP, LTD.

LEGEND

PROPERTY BOUNDARY IDENTIFIED IN NOVEMBER 1980 PART A PERMIT

SITE BOUNDARY AS DEFINED IN THE VOLUNTARY AGREEMENT

MAD RIVER SHORELINE

figure 1.3

ENTIRE FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY
FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY
Dayton, Ohio

12638-04(011)GN-WA020 NOV 24/2005

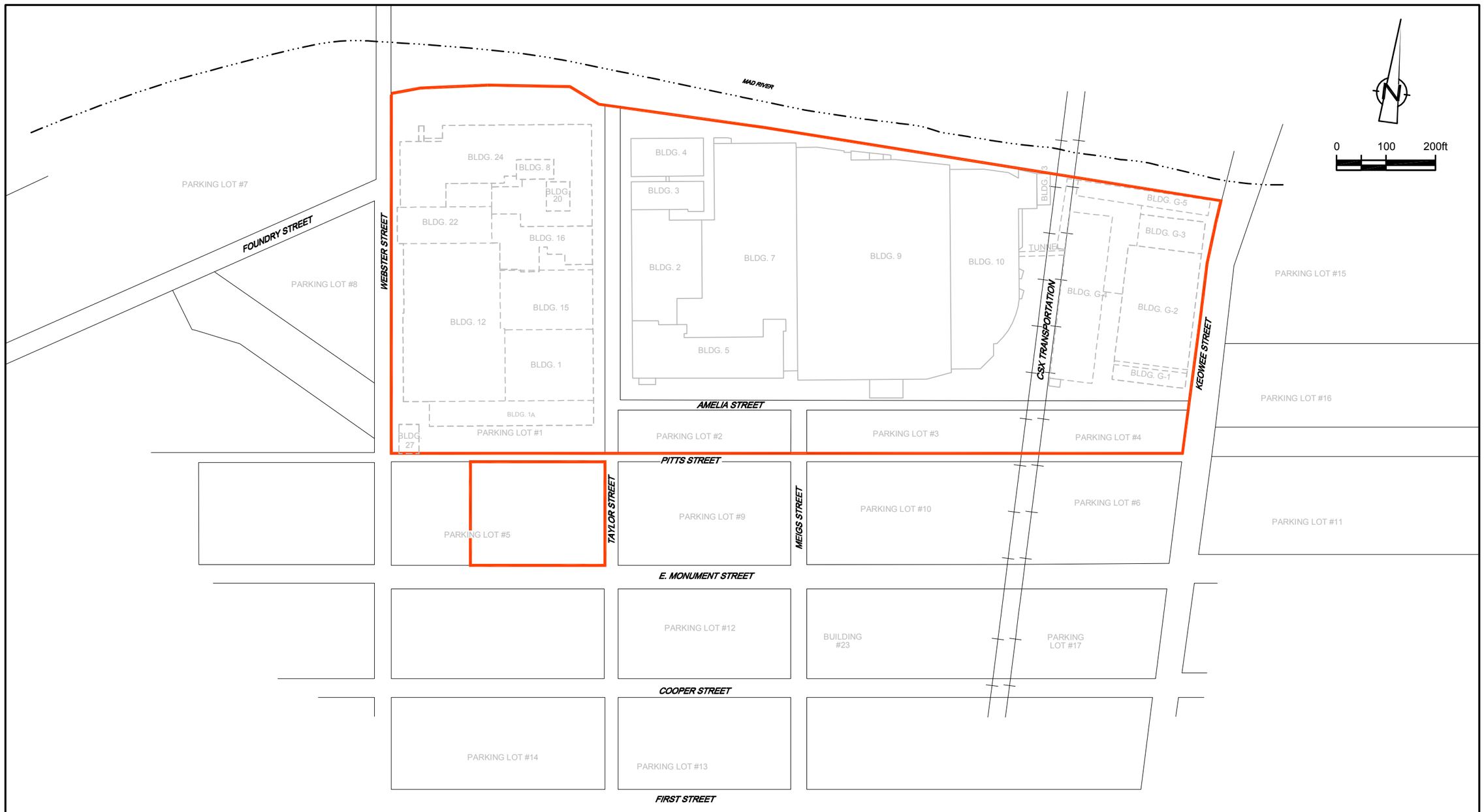
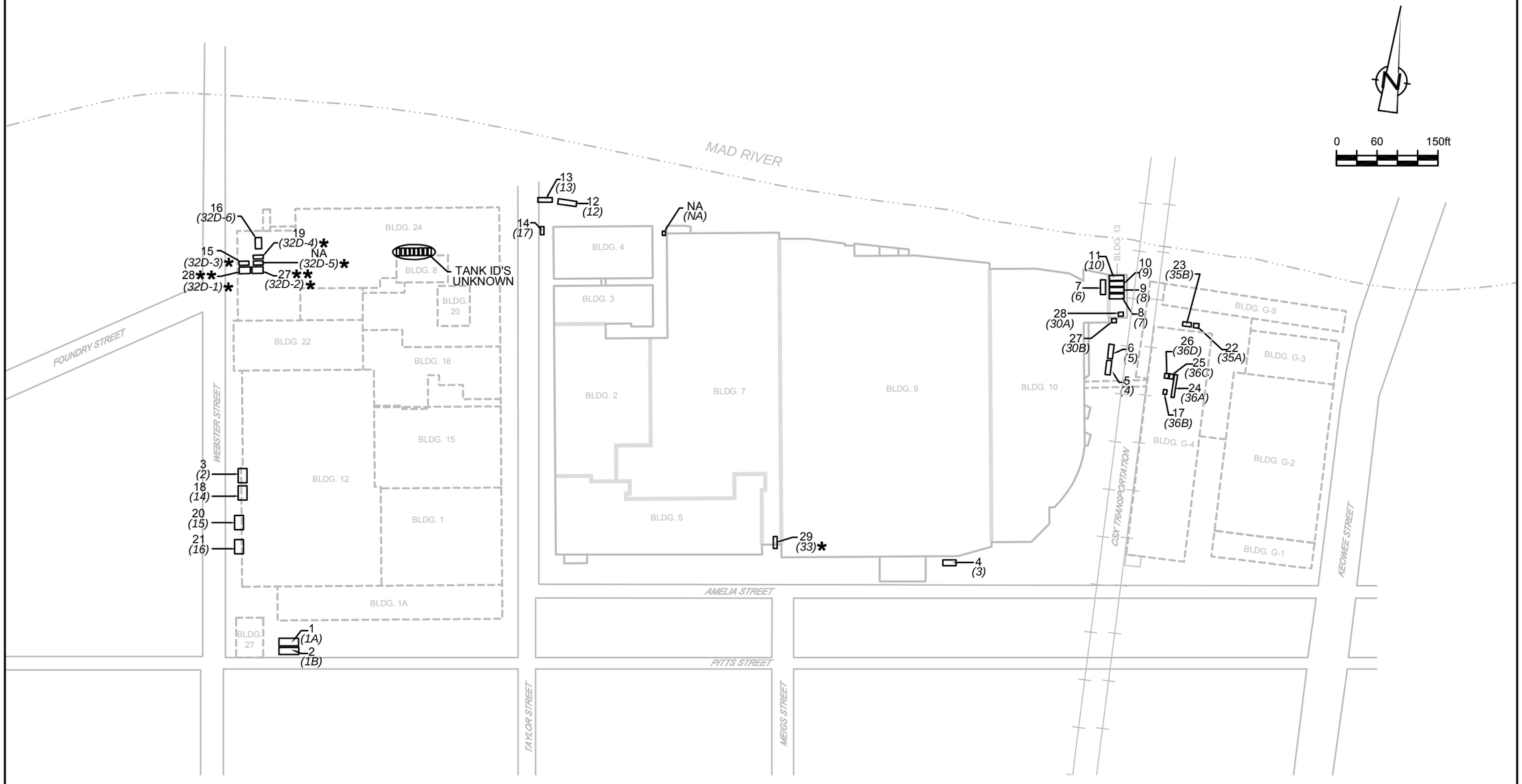


figure 1.4

SITE PLAN AS DEFINED IN PERFORMANCE-BASED AGREEMENT
FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY
Dayton, Ohio

12638-04(011)GN-WA021 NOV 02/2005

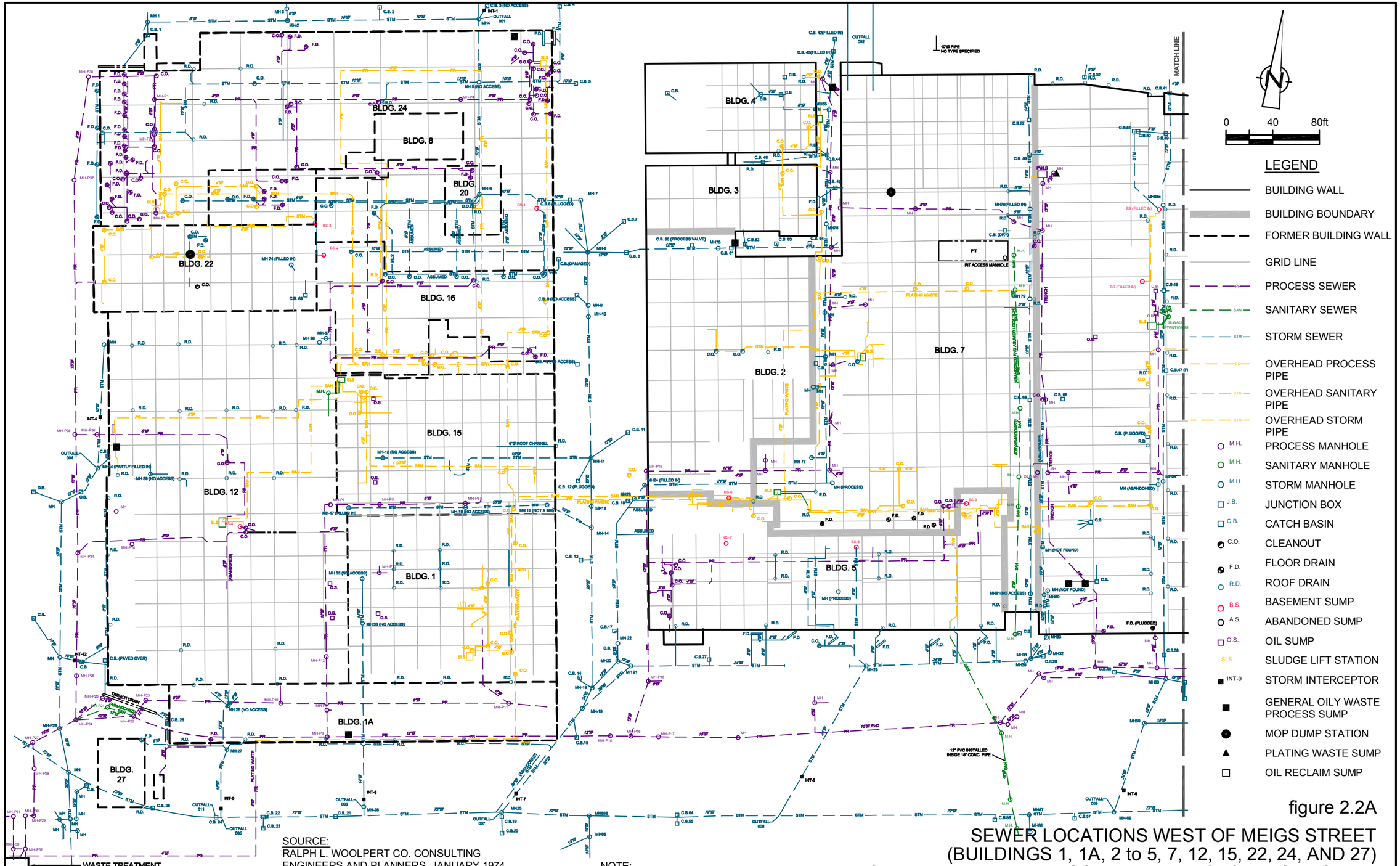


LEGEND

BUILDING WALL	14	BUSTR TANK DESIGNATION (TANKS WITHOUT BUSTR DESIGNATION ARE NOT SUBJECT TO BUSTR RULES)
BUILDING BOUNDARY		
FORMER BUILDING WALL	*(17)*	DELPHI TANK DESIGNATION
SHORELINE	*NA*	NO DESIGNATION
RAILROAD	*	PART OF CLOSED COOP RECYCLING
UST	**	1998 TANK DESIGNATION; TANKS 27 AND 28 NEAR BUILDING 13 ALREADY REMOVED

figure 2.1

UNDERGROUND STORAGE TANK LOCATIONS
FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY
Dayton, Ohio



SOURCE:
RALPH L. WOOLPERT CO. CONSULTING ENGINEERS AND PLANNERS. JANUARY 1974
REVISIONS BY:
HELMIG, LIENESCH, DOENCH AND ASSOCIATES. JULY 1980, JUNE 1981

NOTE:
PRIOR TO 1981 ALL PROCESS SEWERS WERE COMBINED PROCESS/SANITARY SEWERS. SEWER LOCATIONS ARE APPROXIMATE.

figure 2.2A

SEWER LOCATIONS WEST OF MEIGS STREET (BUILDINGS 1, 1A, 2 to 5, 7, 12, 15, 22, 24, AND 27) FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY

Dayton, Ohio

LEGEND

- BUILDING WALL
- BUILDING BOUNDARY
- FORMER BUILDING WALL
- GRID LINE
- PROCESS SEWER
- SANITARY SEWER
- STORM SEWER
- OVERHEAD PROCESS PIPE
- OVERHEAD SANITARY PIPE
- OVERHEAD STORM PIPE
- M.H. PROCESS MANHOLE
- M.H. SANITARY MANHOLE
- M.H. STORM MANHOLE
- J.B. JUNCTION BOX
- C.B. CATCH BASIN
- C.O. CLEANOUT
- F.D. FLOOR DRAIN
- R.D. ROOF DRAIN
- B.S. BASEMENT SUMP
- A.S. ABANDONED SUMP
- O.S. OIL SUMP
- INT-9 STORM INTERCEPTOR
- PWLS PROCESS WASTE LIFT STATION
- GENERAL OILY WASTE PROCESS SUMP
- MOP DUMP STATION
- PLATING WASTE SUMP
- OIL RECLAIM SUMP

NOTE:
PRIOR TO 1981 ALL PROCESS SEWERS WERE COMBINED PROCESS/SANITARY SEWERS.
SEWER LOCATIONS ARE APPROXIMATE.

SOURCE:
RALPH L. WOOLPERT CO. CONSULTING ENGINEERS AND PLANNERS.
JANUARY 1974
REVISIONS BY:
HELMIG, LIENESCH, DOENCH AND ASSOCIATES.
JULY 1980, JUNE 1981

figure 2.2B

SEWER LOCATIONS EAST OF MEIGS STREET (BUILDINGS 9, 10, 13, G-1, G-2, G-3, G-4, AND G-5) FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY

Dayton, Ohio

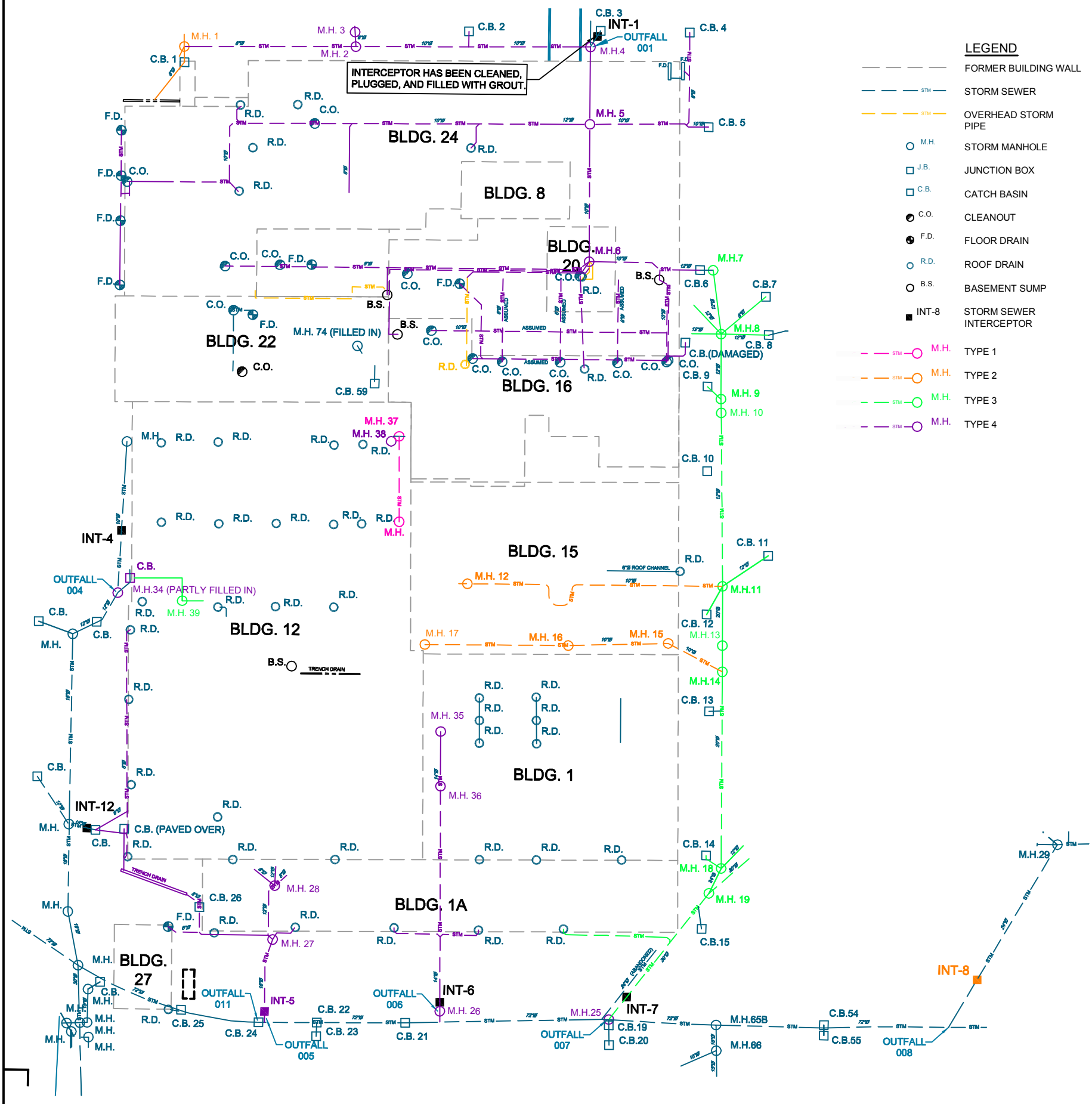
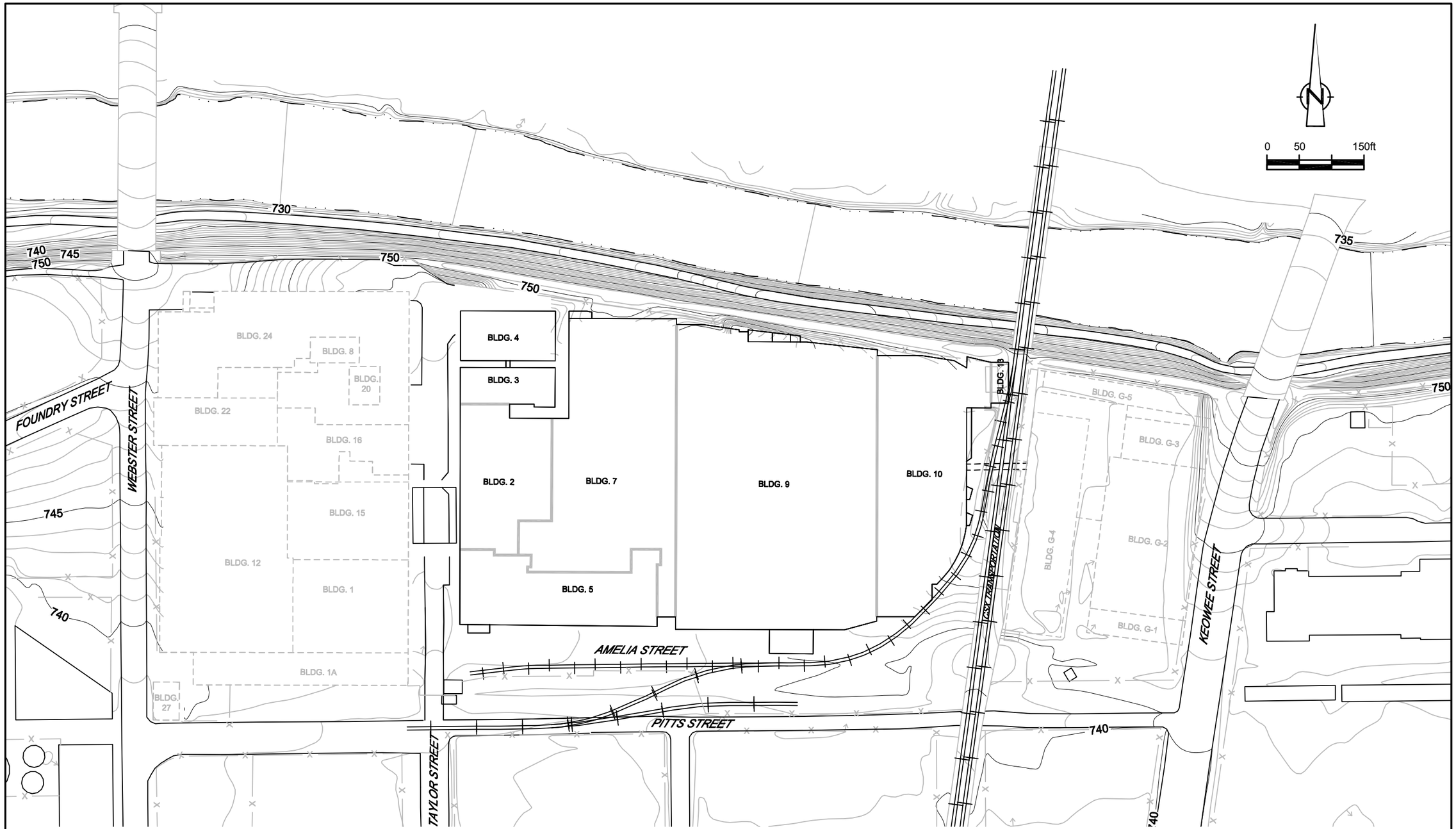


figure 2.3

STORM SEWER MATERIAL SEGREGATION
FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY
Dayton, Ohio

12638-04(011)GN-WA065 MAR 14/2006



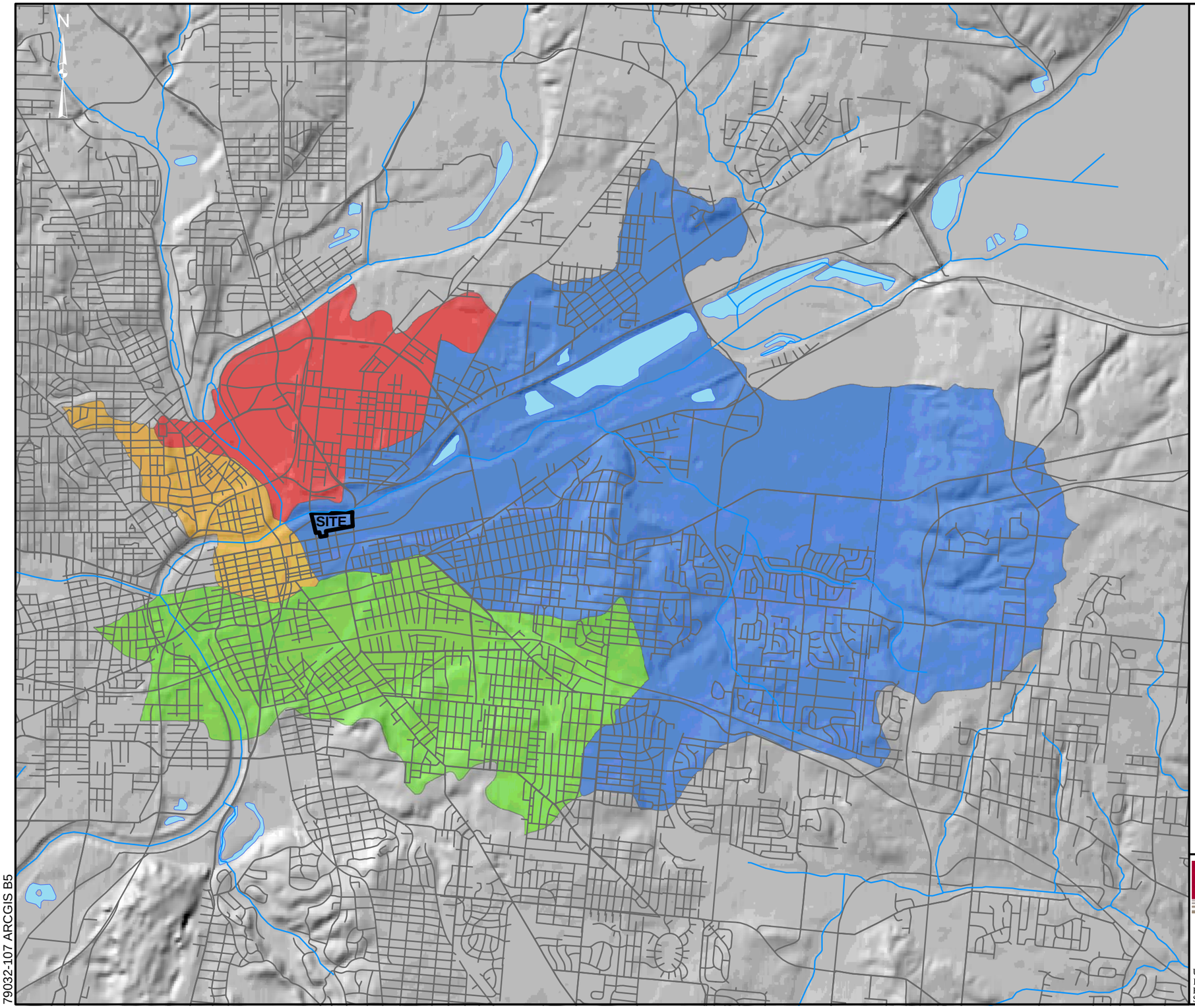
LEGEND

- BUILDING WALL
- BUILDING BOUNDARY
- FORMER BUILDING WALL
- SHORELINE
- RAILROAD
- 740 EXISTING CONTOUR

figure 3.1

SITE TOPOGRAPHY
FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY
Dayton, Ohio

12638-04(011)GN-WA059 MAR 27/2006



LEGEND:

- GREAT MIAMI RIVER ABOVE MAD RIVER
- GREAT MIAMI RIVER AT DAYTON
- GREAT MIAMI RIVER AT STEWART ST, DAYTON
- MAD RIVER AT MOUTH
- LAKES AND PONDS
- RIVERS AND STREAMS
- COUNTY_ROADS

NOTES:

1. USGS NATIONAL ELEVATION DATA SET FOR DAYTON, OHIO USED AS BACKGROUND.
2. DETAILED WATERSHEDS SHAPEFILE PROVIDED BY THE OHIO DEPARTMENT OF NATRURAL RESOURCES "DETAILED WATERSHEDS- MONTGOMERY COUNTY" AND "DETAILED WATERSHEDS- GREEN COUNTY."
3. COUNTY ROADS SHAPEFILE CREATED FROM DNG FILES PROVIDED BY THE OHIO DEPARTMENT OF TRANSPORTATION.
4. SURFACE WATER HYDROLOGY SHAPEFILES PROVIDED BY THE USGS NATIONAL HYDROLOGY DATABASE.

1:50,000

0 2,500 5,000 10,000

SCALE IN FEET

HALEY & ALDRICH

UNDERGROUND ENGINEERING & ENVIRONMENTAL SOLUTIONS

FORMER DELPHI THERMAL SYSTEMS FACILITY
300 TAYLOR STREET
DAYTON, OHIO

OHIO DEPARTMENT OF NATURAL RESOURCES WATERSHED DELINEATION

SCALE AS SHOWN

SEPTEMBER 2004

79032-107 ARCGIS B5

FIGURE 3.2

G:\79032\ACAD\Fence_Diagrams\Figures\NOVEMBER 2005\HARRISON_Aerial_r2.dwg

N

MAD RIVER

FOUNDRY STREET

WEBSTER STREET

AMELIA STREET

PITTS STREET

TAYLOR STREET

MEIER STREET

KEOWEE STREET

CENTENNIAL ROADWAY

MW-49-06
MW-50-06
MW-38-05
MAD R.at DAY-13
MAD R. at MW-38-05
DAY-13
DAY-1
HD-1
MAD R. WEBSTER ST. CULVERT
DAY-12
HD-11
MW-34-04
DAY-11
DAY-11D
DAY-5R
DAY-5
MW8-03
TW-5
PW-5
HD-3
HD-5
MW7A-03
MW7B-03
HD-19
MW6A-03
MW6B-03
MW5B-03
MW5A-03
DAY-6
MW-41-05
HD-8
HD-7
MW-45-05
MW17-04
MW22-04
OS2B-03
OS2C-03
OS3C-03
OS3B-03
B-SA24
OS4B-03
OS4C-03
MW2A-00
MW2B-00
OS1A-00
OS1B-00
MW1A-00
MW1B-00
B-SA23
OS5C-03
OS5B-03
HD-6
OS6C-03
OS6B-03
OS7C-03
OS7B-03
B-SA22
CAREER ACADEMY GEOTHERMAL WELL
FORMER CAREER ACADEMY GEOTHERMAL WELL
HD-4
DAY-8
MW21-04
DAY-24
MW16-03
MW16R-04
MW-48-05
MW19-04
MW20-04
MW-42-05
MW-46-05
MW-44-05
MW18-04
MW11-03
HD-9
B-SA26
B-SA21
MW-40-05
SB187-05
MW33-04
HD-12
HD-2
MW-43-05
MW-47-05
DAY-7
HD-10
STADIUM IRRIGATION WELL
DAY-21
DAY-19
DAY-18
DAY-20
DAY-4
HD-16
DAY-23
DAY-22
MW-35-05
HD-15
DAY-14
DAY-17
DAY-16
HD-17
MW3-02
MW10-03
MW13A-03
MW13B-03
MW15-03
MW9-03
MW-37-05
MW23-04
B-SA27
MW24-04
HD-18
DDNR-179356
MW26-04
DAY-3
OW-1
MW4-02
OW-3
OW-2
OW-4
OW-5
OW-6
OW-7
MW32-04
MW12A-03
MW12B-03
B-SA18
B-301
B-304
B-305
B-302
B-303
MW27-04
MW14-03
MW14B-04
HD-13
MW25-04
MW28-04
B-SA17
B-SA15
MW31-04
HD-14
MW-39-05
MW-36-05
B-SA16
B-306
MW29-04
B-SA13
MW30-04
DAY-15
MAD R. KEOWEE CULVERT
MAD R. KEOWEE ST. EAST
BLDG. 24
BLDG. 8
BLDG. 4
BLDG. 3
BLDG. 20
BLDG. 22
BLDG. 16
BLDG. 15
BLDG. 2
BLDG. 7
BLDG. 9
BLDG. 10
BLDG. 12
BLDG. 1
BLDG. 5
BLDG. 19
BLDG. G-5
BLDG. G-3
BLDG. G-4
BLDG. G-2
BLDG. G-1
BLDG. 27

LEGEND

- MW19-04 - APPROXIMATE BORING LOCATION
- DAY-5 - ABANDONED WELL LOCATION
- SB187-05 - SOIL BORING LOCATION
- MAD R. - RIVER ELEVATION MONITORING POINT
- SITE BOUNDARY

WELL SCREEN LOCATION LEGEND

- DAY-1 UPPER AQUIFER - WATER TABLE
- DAY-11 UPPER AQUIFER - OTHER - INTERMEDIATE
- HD-1 UPPER AQUIFER - ABOVE TOP OF TILL
- MW19-04 TILL ZONE
- MW18-04 LOWER AQUIFER

500 250 0 250 500

HORIZONTAL SCALE IN FEET

HARDING ADUBOIS

UNDERGROUND ENGINEERING & ENVIRONMENTAL SOLUTIONS

FORMER DELPHI THERMAL SYSTEMS FACILITY
300 TAYLOR STREET
DAYTON, OHIO

SITE PLAN WITH WELL LOCATIONS

SCALE: AS SHOWN

MARCH 2006

FIGURE 3.3

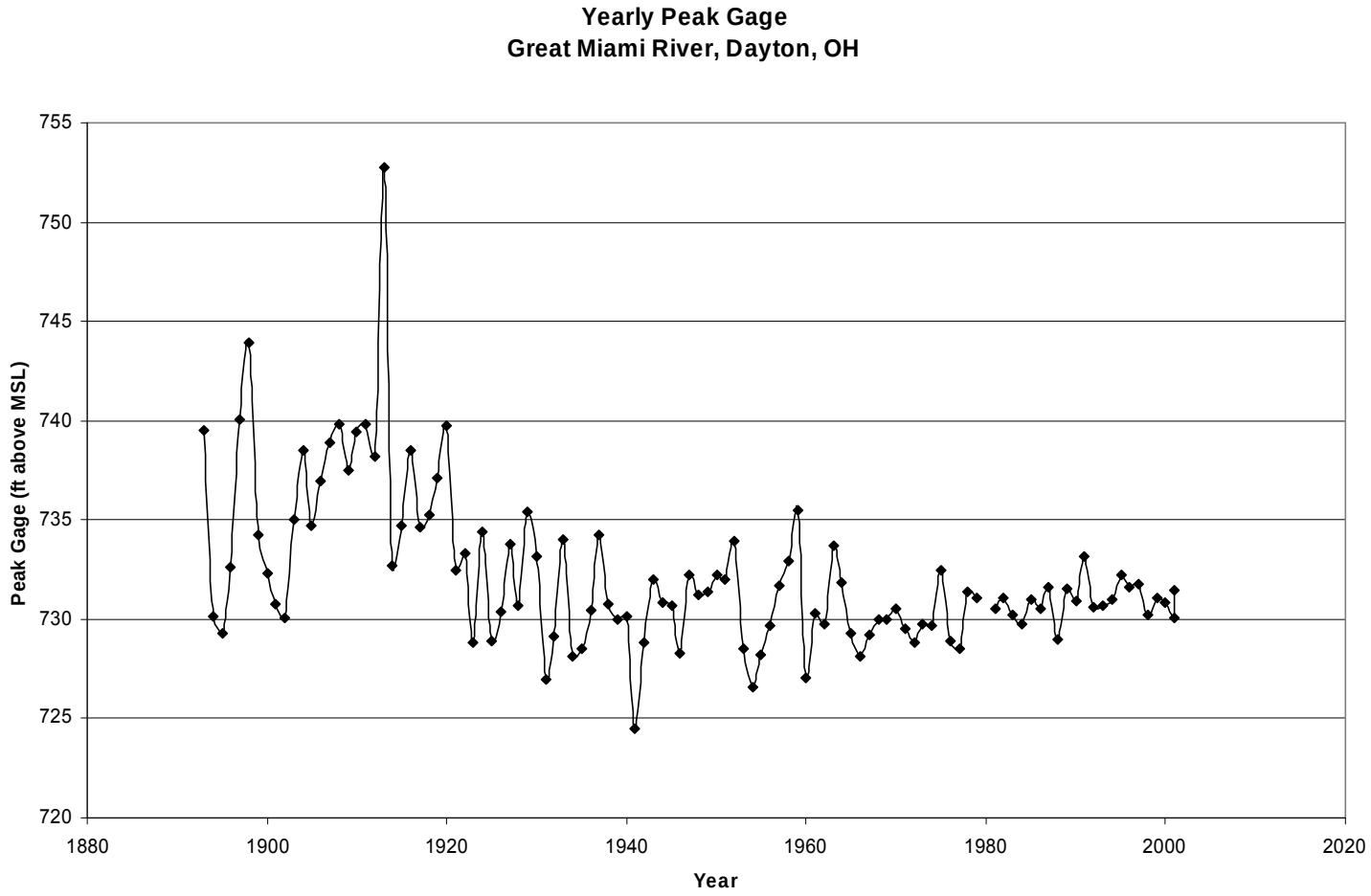
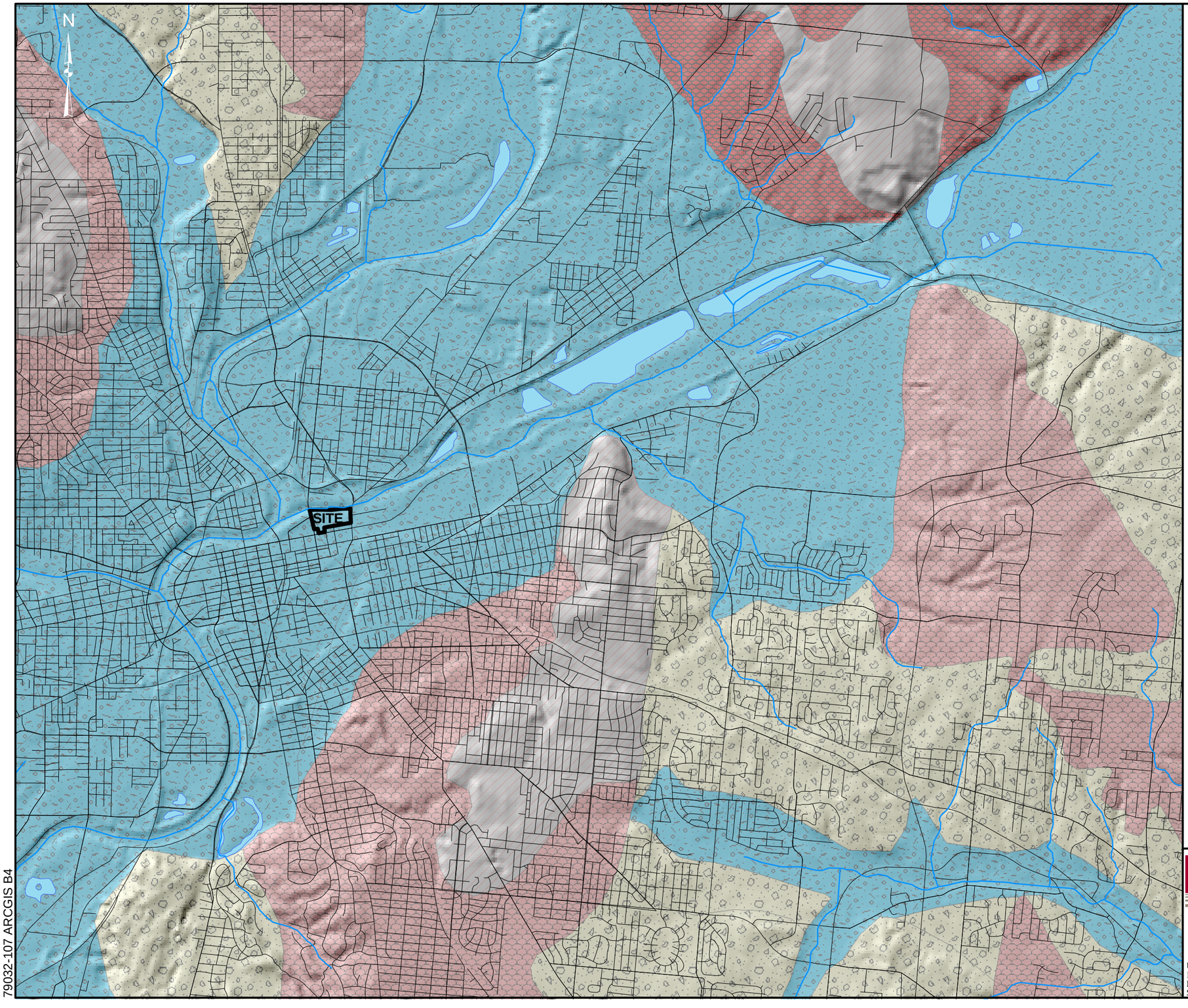


figure 3.4

GREAT MIAMI RIVER YEARLY PEAK FLOWS
FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY
Dayton, Ohio



LEGEND:

- LACUSTRINE DEPOSIT
- ALLUVIAL DEPOSIT
- BEACH RIDGE DEPOSIT
- BURIED VALLEY
- VALLEY FILL DEPOSIT
- OUTWASH
- OUTWASH/KAME DEPOSIT
- THIN UPLAND TILL DEPOSIT
- GROUND MORAINE
- END MORAINE
- LAKES AND PONDS
- RIVERS AND STREAMS
- COUNTY ROADS

NOTES:

1. USGS NATIONAL ELEVATION DATA SET FOR DAYTON, OHIO USED AS BACKGROUND.
2. GLACIAL GEOLOGY SHAPEFILE PROVIDED BY THE OHIO DEPARTMENT OF NATURAL RESOURCES DIVISION OF WATER STATE AQUIFER MAPPING PROGRAM (1997-2000).
3. COUNTY ROADS SHAPEFILE CREATED FROM DNG FILES PROVIDED BY THE OHIO DEPARTMENT OF TRANSPORTATION.
4. SURFACE WATER HYDROLOGY SHAPEFILES PROVIDED BY THE USGS NATIONAL HYDROLOGY DATABASE.

1:50,000

0 2,500 5,000 10,000

SCALE IN FEET

HALEY & ALDRICH

UNDERGROUND ENGINEERING & ENVIRONMENTAL SOLUTIONS

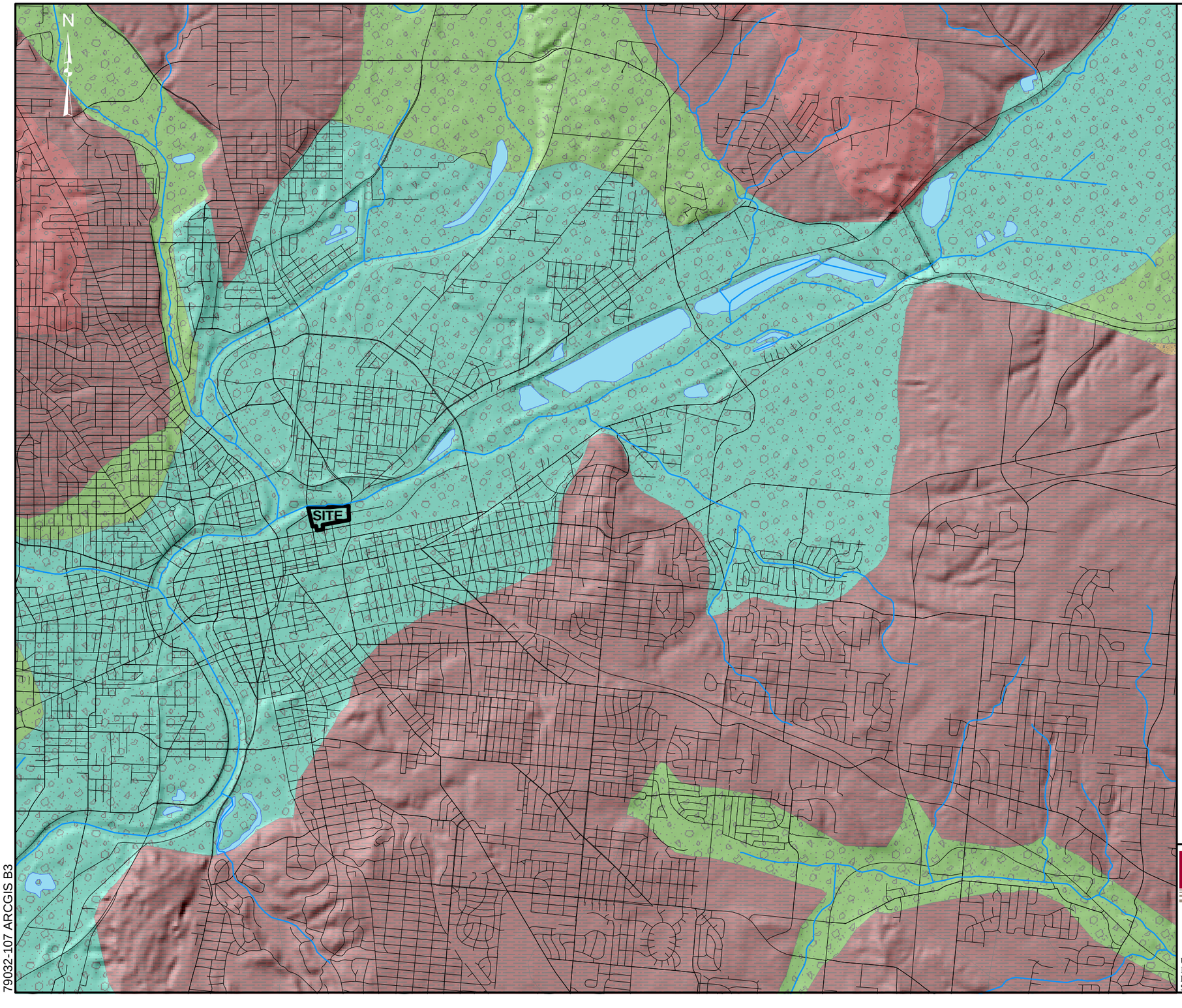
FORMER DELPHI THERMAL SYSTEMS FACILITY
300 TAYLOR STREET
DAYTON, OHIO

OHIO DEPARTMENT OF NATURAL RESOURCES GLACIAL GEOLOGY DELINEATION

SCALE AS SHOWN SEPTEMBER 2004

79032-107 ARCGIS B4

FIGURE 3.5



LEGEND:

- FINES (UNDIFFERENTIATED)
- FINES WITH SAND AND GRAVEL LENSES
- SAND AND GRAVEL
- SAND AND GRAVEL SPLIT BY CONFINING UNIT
- SAND AND GRAVEL WITH MINOR FINES
- SAND AND GRAVEL WITH INTERBEDDED TILL
- TILL
- TILL WITH SAND AND GRAVEL LENSES
- LAKES AND PONDS
- RIVERS AND STREAMS
- COUNTY ROADS

NOTES:

1. USGS NATIONAL ELEVATION DATA SET FOR DAYTON, OHIO USED AS BACKGROUND.
2. LITHOLOGY SHAPEFILE PROVIDED BY THE OHIO DEPARTMENT OF NATURAL RESOURCES DIVISION OF WATER STATE AQUIFER MAPPING PROGRAM (1997-2000).
3. COUNTY ROADS SHAPEFILE CREATED FROM DNG FILES PROVIDED BY THE OHIO DEPARTMENT OF TRANSPORTATION.
4. SURFACE WATER HYDROLOGY SHAPEFILES PROVIDED BY THE USGS NATIONAL HYDROLOGY DATABASE.

1:50,000

0 2,500 5,000 10,000

SCALE IN FEET

HALEY & ALDRICH

UNDERGROUND ENGINEERING & ENVIRONMENTAL SOLUTIONS

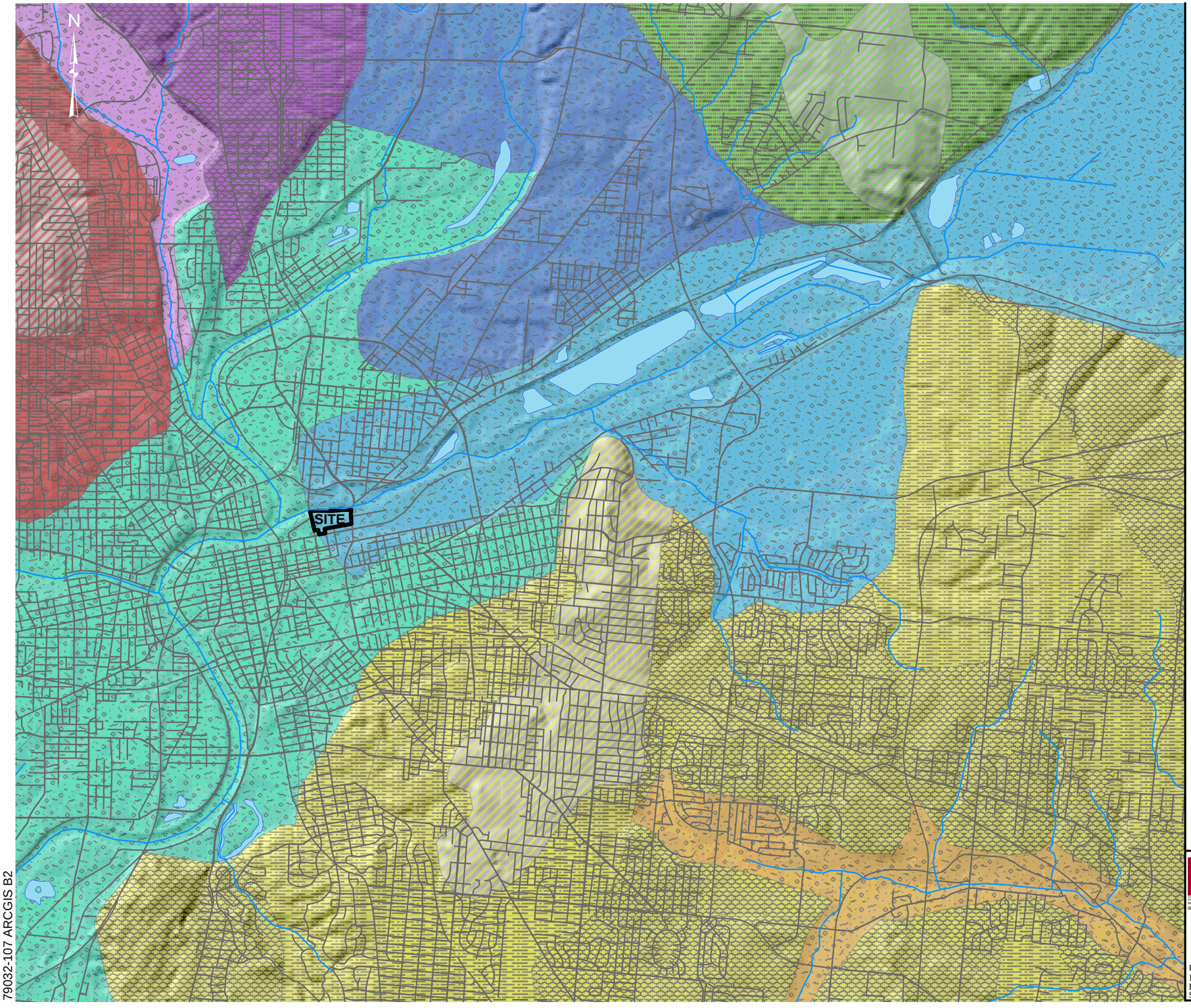
FORMER DELPHI THERMAL SYSTEMS FACILITY
300 TAYLOR STREET
DAYTON, OHIO

OHIO DEPARTMENT OF NATURAL RESOURCES LITHOLOGY DELINEATION

SCALE AS SHOWN SEPTEMBER 2004

79032-107 ARCGIS B3

FIGURE 3.6



LEGEND:

- ARCANUM BURIED VALLEY AQUIFER
- ARCANUM GROUND MORAINE AQUIFER
- ARCANUM THIN UPLAND AQUIFER
- BEAVERCREEK BURIED VALLEY AQUIFER
- FAIRBORN COMPLEX AQUIFER
- FAIRBORN GROUND MORAINE AQUIFER
- FAIRBORN THIN UPLAND AQUIFER
- FARMERSVILLE END MORAINE AQUIFER
- FARMERSVILLE THIN UPLAND AQUIFER
- GREAT MIAMI BURIED VALLEY AQUIFER
- MAD RIVER BURIED VALLEY AQUIFER
- MIAMI RIVER BURIED VALLEY AQUIFER
- STILLWATER RIVER BURIED VALLEY AQUIFER
- TROY COMPLEX AQUIFER
- TROY GROUND MORAINE AQUIFER
- LAKES AND PONDS
- RIVERS AND STREAMS
- COUNTY_ROADS

NOTES:

1. USGS NATIONAL ELEVATION DATA SET FOR DAYTON, OHIO USED AS BACKGROUND.
2. AQUIFER IDENTIFICATION SHAPEFILE PROVIDED BY THE OHIO DEPARTMENT OF NATURAL RESOURCES DIVISION OF WATER STATE AQUIFER MAPPING PROGRAM (1997-2000).
3. COUNTY ROADS SHAPEFILE CREATED FROM DNG FILES PROVIDED BY THE OHIO DEPARTMENT OF TRANSPORTATION.
4. SURFACE WATER HYDROLOGY SHAPEFILES PROVIDED BY THE USGS NATIONAL HYDROLOGY DATABASE.

1:50,000

0 2,500 5,000 10,000

SCALE IN FEET

79032-107 ARCGIS B2

HALEY & ALDRICH

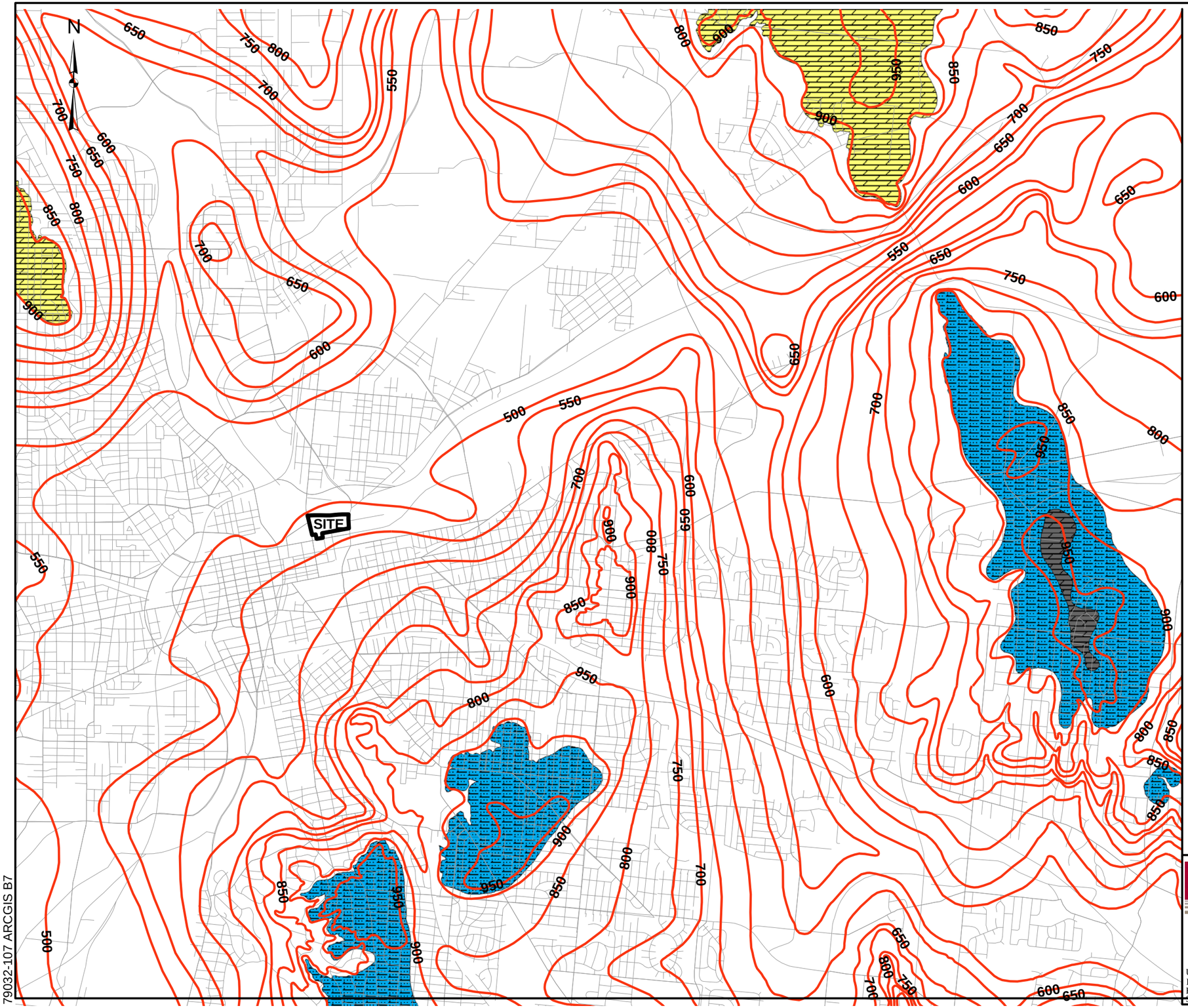
UNDERGROUND ENGINEERING & ENVIRONMENTAL SOLUTIONS

FORMER DELPHI THERMAL SYSTEMS FACILITY
300 TAYLOR STREET
DAYTON, OHIO

OHIO DEPARTMENT OF NATURAL RESOURCES AQUIFER DELINEATION

SCALE AS SHOWN SEPTEMBER 2004

FIGURE 3.7



LEGEND:

BEDROCK UNIT (POTENTIAL YIELD)

- SILURIAN- Ssg (5 TO 25 GPM)
- SILURIAN- Scse (25 TO 100 GPM)
- COUNTY ROADS
- SILURIAN- Sm-b (5 TO 25 GPM)
- SILURIAN- Sl (25 TO 100 GPM)
- ORDOVICIAN- Ou (0 TO 5 GPM)
- BEDROCK TOPOGRAPHY (CONTOUR INTERVAL IS 50-FT.)

NOTES:

1. USGS NATIONAL ELEVATION DATA SET FOR DAYTON, OHIO USED AS BACKGROUND.
2. BEDROCK GEOLOGY SHAPEFILE PROVIDED BY THE OHIO DEPARTMENT OF NATURAL RESOURCES DIVISION OF WATER STATE AQUIFER MAPPING PROGRAM (1997-2000).
3. BEDROCK TOPOGRAPHY PROVIDED BY THE OHIO DEPARTMENT OF NATURAL RESOURCES DIVISION OF GEOLOGICAL SURVEY (REVISED 2004).
4. COUNTY ROADS SHAPEFILE CREATED FROM DNG FILES PROVIDED BY THE OHIO DEPARTMENT OF TRANSPORTATION.
5. BEDROCK CONSISTS OF ORDOVICIAN SHALE INTERBEDDED WITH DOLOMITE AND LIMESTONE (ODNR).

1:50,000

0 2,500 5,000 10,000

SCALE IN FEET

HALEY & ALDRICH

UNDERGROUND ENGINEERING & ENVIRONMENTAL SOLUTIONS

FORMER DELPHI THERMAL SYSTEMS FACILITY
300 TAYLOR STREET
DAYTON, OHIO

OHIO DEPARTMENT OF NATURAL RESOURCES BEDROCK GEOLOGY DELINEATION

SCALE AS SHOWN SEPTEMBER 2004

79032-107 ARCGIS B7

FIGURE 3.8

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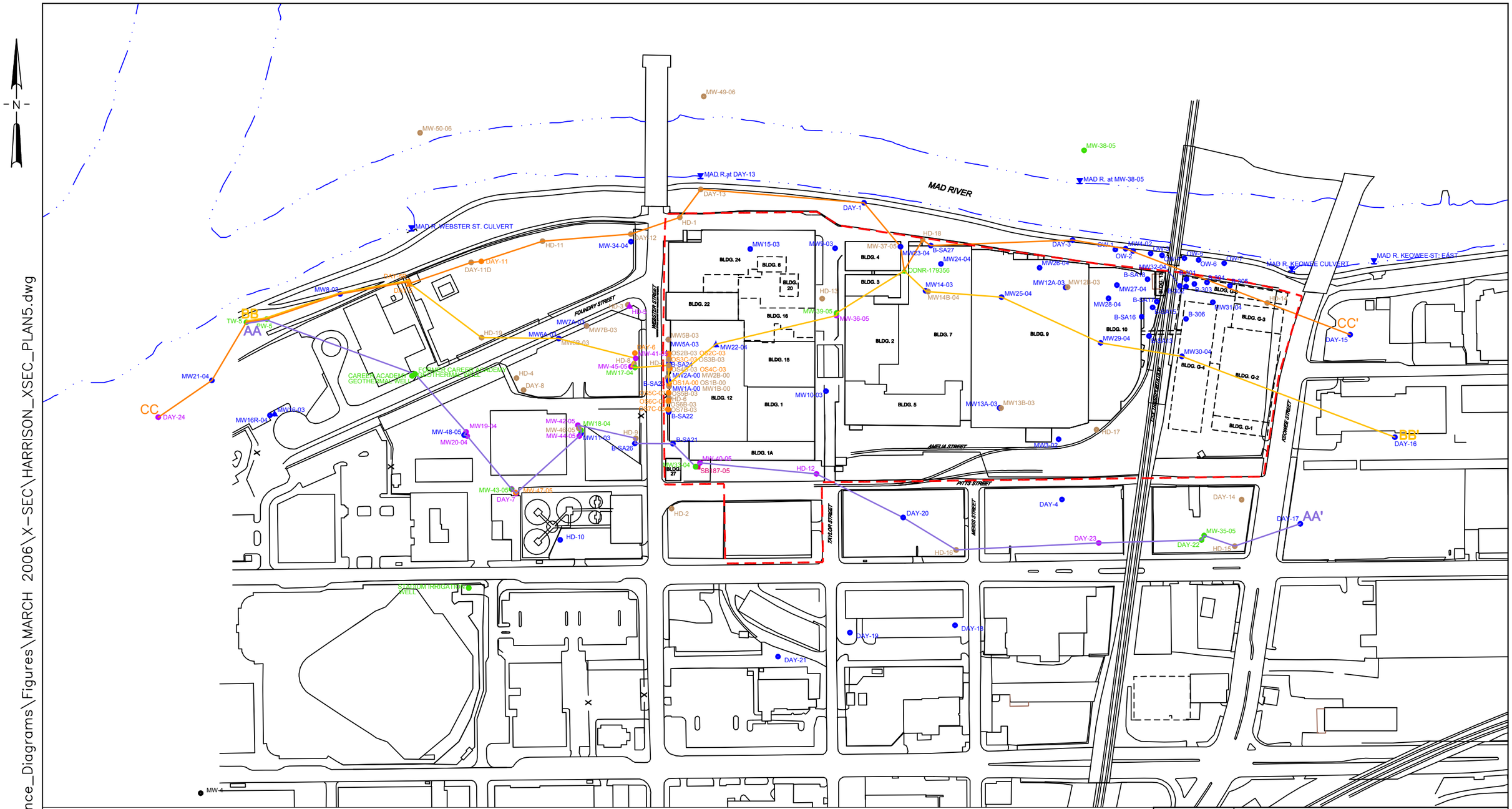

LEGEND

- MW19-04 - APPROXIMATE BORING LOCATION
- DAY-5 - ABANDONED WELL LOCATION
- SB187-05 - SOIL BORING LOCATION
- MAD R. - RIVER ELEVATION MONITORING POINT
- J — J' - CROSS-SECTION CUT LINE
- - APPROXIMATE SITE BOUNDARY
- - RAILROAD TRACKS
- - SHORE LINE

WELL SCREEN LOCATION LEGEND

- DAY-1 UPPER AQUIFER - WATER TABLE
- DAY-11 UPPER AQUIFER - OTHER - INTERMEDIATE
- HD-1 UPPER AQUIFER - ABOVE TOP OF TILL
- MW19-04 TILL ZONE
- MW18-04 LOWER AQUIFER

500 250 0 250 500

HORIZONTAL SCALE IN FEET

HALEY & ALDRICH

UNDERGROUND ENGINEERING & ENVIRONMENTAL SOLUTIONS

FORMER DELPHI THERMAL SYSTEMS FACILITY
300 TAYLOR STREET
DAYTON, OHIO

SITE PLAN WITH WELL LOCATIONS AND CROSS-SECTION LINES

SCALE: AS SHOWN

MARCH 2006

FIGURE 3.9

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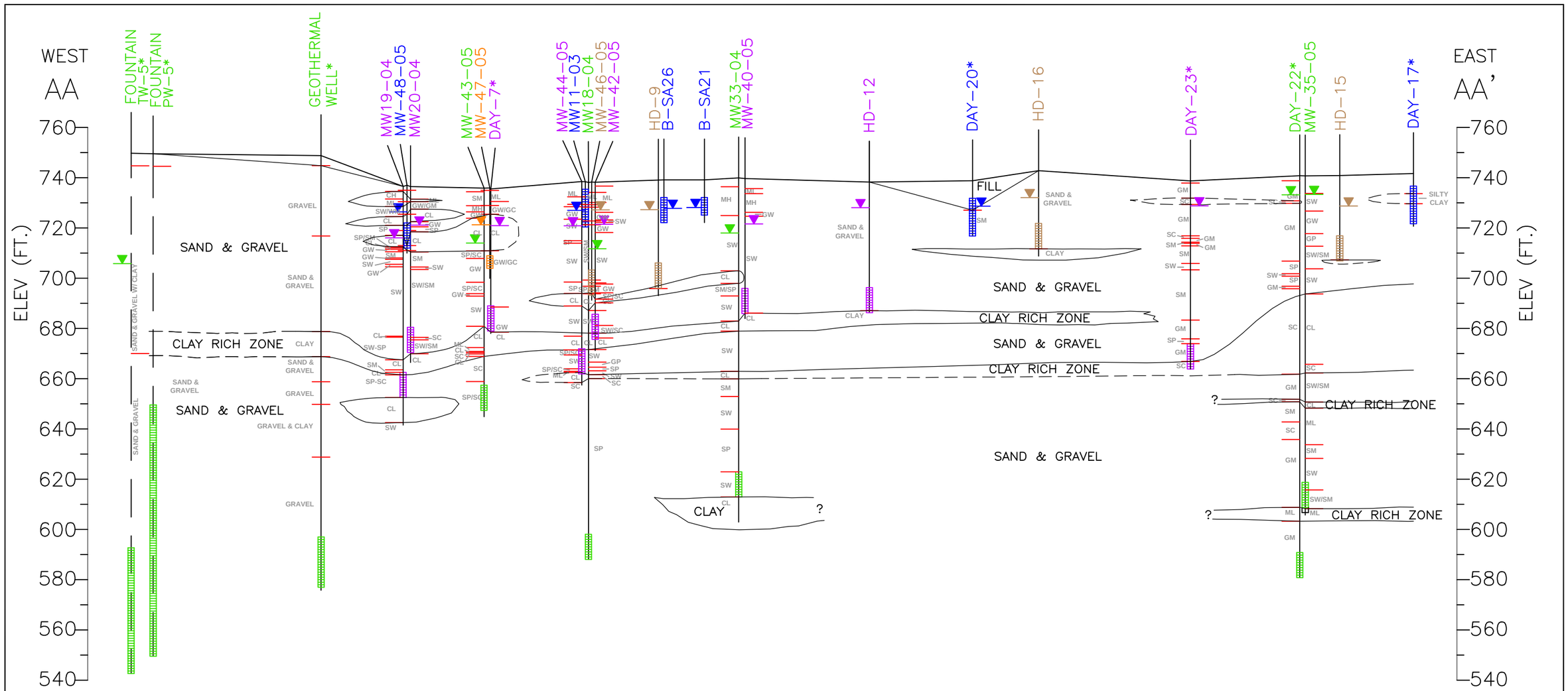
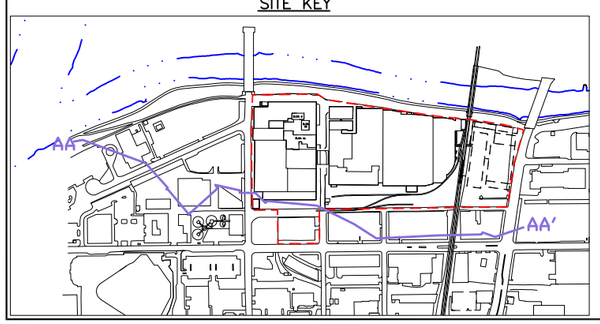
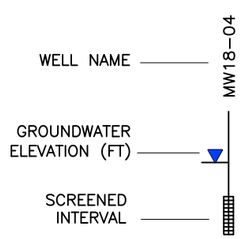


SITE KEY



BORING LEGEND



WELL SCREEN LOCATION LEGEND

- UPPER AQUIFER - WATER TABLE
- UPPER AQUIFER - OTHER - INTERMEDIATE
- UPPER AQUIFER - ABOVE TOP OF TILL
- TILL ZONE
- LOWER AQUIFER

SOIL CLASSIFICATION SYSTEM

GW – WELL-GRADED GRAVELS
GP – POORLY GRADED GRAVELS
GM – SILTY GRAVELS
GC – CLAYEY GRAVEL
SW – WELL-GRADED SANDS
SP – POORLY GRADED SANDS
SM – SILTY SANDS, SAND-CLAY MIXTURE
SC – CLAYEY SANDS, SAND-CLAY MIXTURE
ML – INORGANIC SILTS AND VERY FINE SANDS
CL – INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY
MH – ELASTIC SILTS
CH – INORGANIC CLAY OF HIGH PLASTICITY

NOTES:

1.) LOCATIONS AND GROUND SURFACE ELEVATIONS ARE APPROXIMATE.
2.) WELLS DENOTED BY AN "*" WERE INSTALLED BY ENTITIES OTHER THAN GM.
3.) THE STRATIGRAPHY SHOWN ARE GENERALIZED INTERPOLATIONS MADE BETWEEN BORING LOCATIONS AND BASED ON SUBSURFACE CONDITIONS ENCOUNTERED AT THE BORING LOCATIONS. THE STRATIGRAPHY SHOWN REPRESENTS AN INTERPRETATION OF THE SUBSURFACE CONDITIONS. ACTUAL STRATIGRAPHY MAY DIFFER FROM THE STRATIGRAPHY SHOWN ON THE PROFILE IN THIS DRAWING.
4.) WATER LEVELS COLLECTED ON JULY 15, 2005.

500 250 0 250 500

HORIZONTAL SCALE IN FEET

HALEY & ALDRICH
UNDERGROUND ENGINEERING & ENVIRONMENTAL SOLUTIONS

FORMER DELPHI THERMAL SYSTEMS FACILITY
300 TAYLOR STREET
DAYTON, OHIO

CROSS-SECTION AA-AA'

SCALE: AS SHOWN

FEBRUARY 2006

FIGURE 3.10

WEST

BB

EAST

BB'

FOUNTAIN TW-5*

FOUNTAIN PW-5*

MW8-03

DAY-5R*
DAY-5*
(ABANDONED)

HD-19

MW6A-03
MW6B-03

MW-41-05
MW-45-05
MW17-04

HD-7
B-SA23
OS1A-00
OS1B-00

MW22-04
(ABANDONED)

MW-36-05
MW-39-05

ODNR-179356*
(ABANDONED)

MW14-03
MW14B-04

MW25-04

MW29-04

MW30-04

DAY-16*

ELEV (FT.)

760
740
720
700
680
660
640
620
600
580
560
540

FILL

SILTY CLAY

SAND & GRAVEL

CLAY

SAND & GRAVEL WI CLAY

SAND & GRAVEL

CLAY RICH ZONE

SAND & GRAVEL

CLAY RICH ZONE

SAND & GRAVEL

CLAY

SAND & GRAVEL

SILT

CLAY

SAND & GRAVEL

CLAY RICH ZONE

SAND & GRAVEL

CLAY

SAND & GRAVEL

CLAY

SAND & GRAVEL

TILL

GRAVEL

SAND

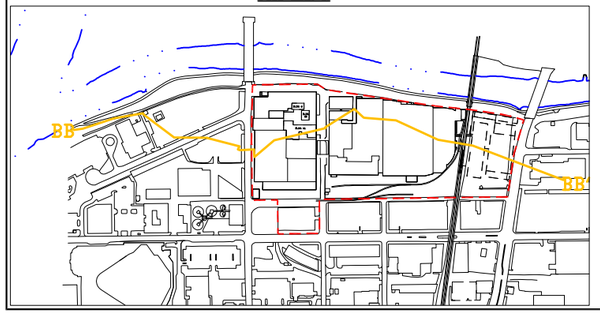
WELL SCREEN LOCATION LEGEND

- UPPER AQUIFER - WATER TABLE
- UPPER AQUIFER - OTHER - INTERMEDIATE
- UPPER AQUIFER - ABOVE TOP OF TILL
- TILL ZONE
- LOWER AQUIFER

SOIL CLASSIFICATION SYSTEM

GW - WELL-GRADED GRAVELS
GP - POORLY GRADED GRAVELS
GM - SILTY GRAVELS
GC - CLAYEY GRAVEL
SW - WELL-GRADED SANDS
SP - POORLY GRADED SANDS
SM - SILTY SANDS, SAND-CLAY MIXTURE
SC - CLAYEY SANDS, SAND-CLAY MIXTURE
ML - INORGANIC SILTS AND VERY FINE SANDS
CL - INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY
MH - ELASTIC SILTS
CH - INORGANIC CLAY OF HIGH PLASTICITY

SITE KEY



BORING LEGEND

WELL NAME — MW18-04

GROUNDWATER ELEVATION (FT)

SCREENED INTERVAL

500 250 0 250 500

HORIZONTAL SCALE IN FEET

NOTES:

1.) LOCATIONS AND GROUND SURFACE ELEVATIONS ARE APPROXIMATE.
2.) WELLS DENOTED BY AN "*" WERE INSTALLED BY ENTITIES OTHER THAN GM.
3.) THE STRATIGRAPHY SHOWN ARE GENERALIZED INTERPOLATIONS MADE BETWEEN BORING LOCATIONS AND BASED ON SUBSURFACE CONDITIONS ENCOUNTERED AT THE BORING LOCATIONS. THE STRATIGRAPHY SHOWN REPRESENTS AN INTERPRETATION OF THE SUBSURFACE CONDITIONS. ACTUAL STRATIGRAPHY MAY DIFFER FROM THE STRATIGRAPHY SHOWN ON THE PROFILE IN THIS DRAWING.
4.) WATER LEVELS COLLECTED ON JULY 15, 2005.

HALEY & ALDRICH

UNDERGROUND ENGINEERING & ENVIRONMENTAL SOLUTIONS

FORMER DELPHI THERMAL SYSTEMS FACILITY
300 TAYLOR STREET
DAYTON, OHIO

CROSS-SECTION BB-BB'

SCALE: AS SHOWN

MARCH 2006

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FIGURE 3.11

WEST

CC

EAST

CC'

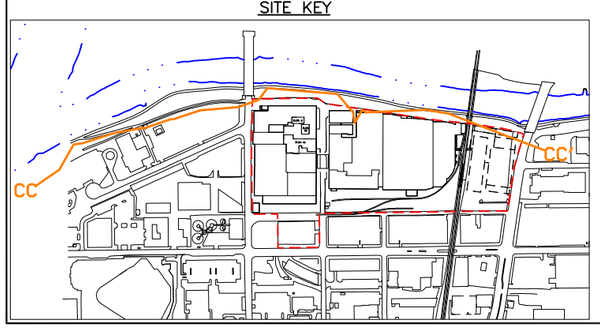
ELEV (FT.)

760
740
720
700
680
660
640
620
600
580
560
540

DAY-24*
MW21-04
FOUNTAIN TW-5*
FOUNTAIN PW-5*
MW8-03
DAY-5R*
DAY-5*
(ABANDONED)
DAY-11D*
DAY-11*
HD-11
DAY-12*
HD-1*
DAY-13*
DAY-1*
MW-37-05
MW23-04
ODNR-179356*
(ABANDONED)
HD-18
B-SA27
DAY-3*
MW4-02
HD-14
DAY-15*

FILL
SILTY CLAY
SAND & GRAVEL
CLAY
SAND & GRAVEL W/ CLAY
SAND & GRAVEL
SILT
GRAVEL
TILL
SAND & GRAVEL
SAND W/ GRAVEL
SANDS & GRAVELS
SAND
?

SITE KEY



BORING LEGEND

WELL NAME — MW18-04

GROUNDWATER ELEVATION (FT)

SCREENED INTERVAL

WELL SCREEN LOCATION LEGEND

- UPPER AQUIFER - WATER TABLE
- UPPER AQUIFER - OTHER - INTERMEDIATE
- UPPER AQUIFER - ABOVE TOP OF TILL
- TILL ZONE
- LOWER AQUIFER

SOIL CLASSIFICATION SYSTEM

GW - WELL-GRADED GRAVELS
GP - POORLY GRADED GRAVELS
GM - SILTY GRAVELS
GC - CLAYEY GRAVEL
SW - WELL-GRADED SANDS
SP - POORLY GRADED SANDS
SM - SILTY SANDS, SAND-CLAY MIXTURE
SC - CLAYEY SANDS, SAND-CLAY MIXTURE
ML - INORGANIC SILTS AND VERY FINE SANDS
CL - INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY
MH - ELASTIC SILTS
CH - INORGANIC CLAY OF HIGH PLASTICITY

NOTES:

1.) LOCATIONS AND GROUND SURFACE ELEVATIONS ARE APPROXIMATE.
2.) WELLS DENOTED BY AN "*" WERE INSTALLED BY ENTITIES OTHER THAN GM.
3.) THE STRATIGRAPHY SHOWN ARE GENERALIZED INTERPOLATIONS MADE BETWEEN BORING LOCATIONS AND BASED ON SUBSURFACE CONDITIONS ENCOUNTERED AT THE BORING LOCATIONS. THE STRATIGRAPHY SHOWN REPRESENTS AN INTERPRETATION OF THE SUBSURFACE CONDITIONS. ACTUAL STRATIGRAPHY MAY DIFFER FROM THE STRATIGRAPHY SHOWN ON THE PROFILE IN THIS DRAWING.
4.) WATER LEVELS COLLECTED ON JULY 15, 2005.

600 300 0 300 600

HORIZONTAL SCALE IN FEET

HALEY & ALDRICH

UNDERGROUND ENGINEERING & ENVIRONMENTAL SOLUTIONS

FORMER DELPHI THERMAL SYSTEMS FACILITY
300 TAYLOR STREET
DAYTON, OHIO

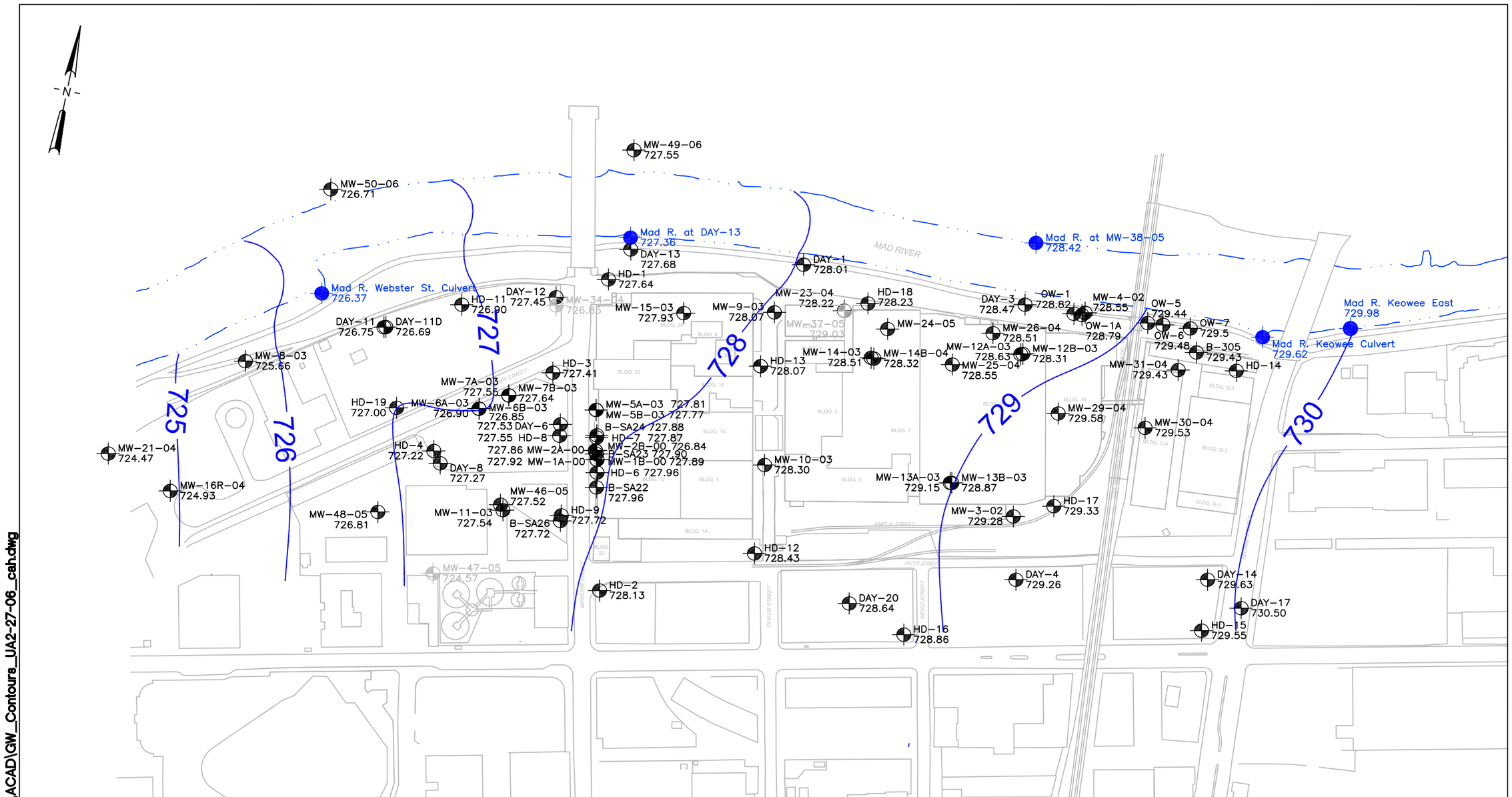
CROSS-SECTION CC-CC'

SCALE: AS SHOWN

MARCH 2006

FIGURE 3.12

G:\79032\ACAD\Fence_Diagrams\Figures\MARCH 2006\X-SEC\HARRISON_CC-CC'1.dwg



LEGEND:

- MW 16-03 / 727.24 — WELL ID, GROUNDWATER ELEVATION AT WATER TABLE OF UPPER AQUIFER (FT)
- Mad R. / 725.20 — LOCATION ID, SURFACE WATER ELEVATION (FT)
- MW 16-03 / 727.24 — WELL ID, GROUNDWATER ELEVATION AT WATER TABLE OF UPPER AQUIFER (FT) (NOT USED IN DEPICTION OF CONTOURS)
- 729 — GROUNDWATER ELEVATION CONTOUR

NOTES:

1) BASE SITE PLAN OBTAINED FROM GENERAL MOTORS
2) PLAN AND MONITORING WELL LOCATIONS APPROXIMATE

0 80 160 240 320
SCALE IN FEET

HALEY & ALDRICH
UNDERGROUND ENGINEERING & ENVIRONMENTAL SOLUTIONS

GENERAL MOTORS CORP.
DELPHI HARRISON THERMAL SYSTEMS
DAYTON, OHIO

POTENTIOMETRIC SURFACE SHALLOW GROUNDWATER TABLE FEBRUARY 27, 2006

SCALE: AS SHOWN

FEBRUARY 2006

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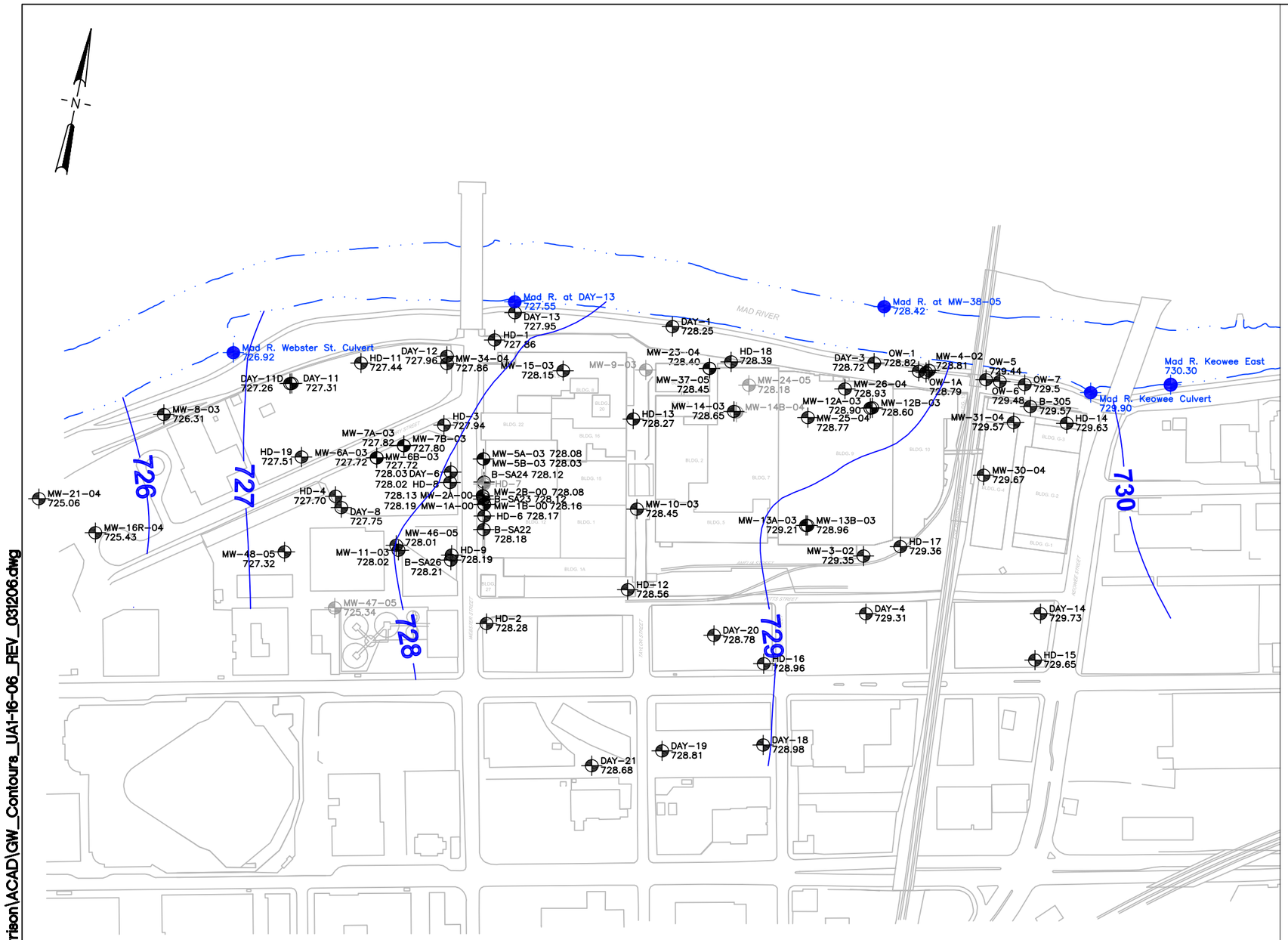
FIGURE 3.13



LEGEND:

- MW 16-03 727.24 — WELL ID, GROUNDWATER ELEVATION AT WATER TABLE OF UPPER AQUIFER (FT)
- Mad R. 725.20 — LOCATION ID, SURFACE WATER ELEVATION (FT)
- MW 16-03 727.24 — WELL ID, GROUNDWATER ELEVATION AT WATER TABLE OF UPPER AQUIFER (FT) (NOT USED IN DEPICTION OF CONTOURS)
- GROUNDWATER CONTOUR

NOTES:

1) BASE SITE PLAN OBTAINED FROM GENERAL MOTORS
2) PLAN AND MONITORING WELL LOCATIONS APPROXIMATE

0 80 160 240 320
SCALE IN FEET

HALEY & ALDRICH
UNDERGROUND ENGINEERING & ENVIRONMENTAL SOLUTIONS

GENERAL MOTORS CORP.
DELPHI HARRISON THERMAL SYSTEMS
DAYTON, OHIO

POTENTIOMETRIC SURFACE
SHALLOW GROUNDWATER TABLE
JANUARY 16, 2006

SCALE: AS SHOWN JANUARY 2006

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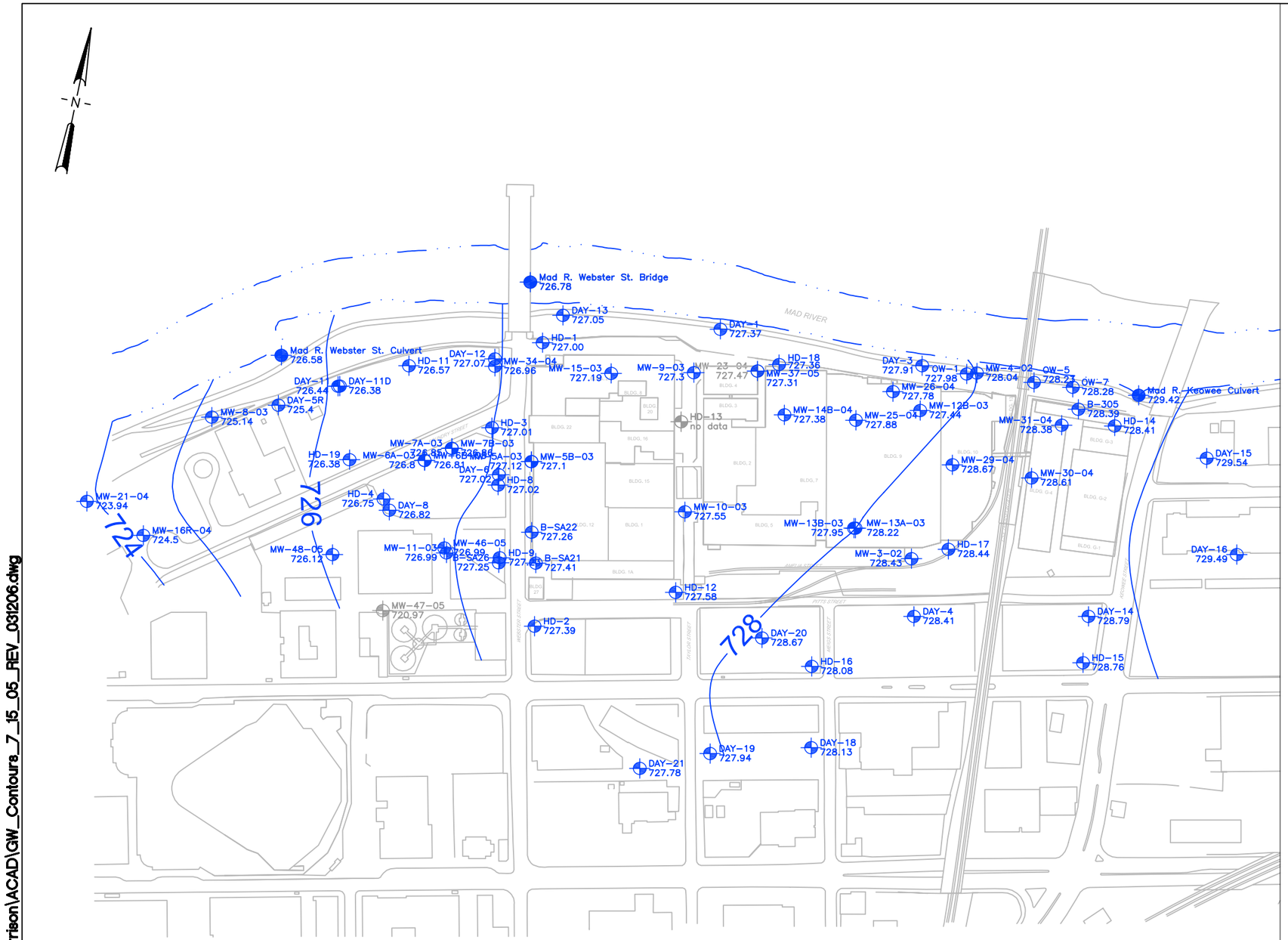
FIGURE 3.14



LEGEND:

- MW 16-03 / 727.24 — WELL ID, GROUNDWATER ELEVATION AT WATER TABLE OF UPPER AQUIFER (FT)
- Mad R. / 725.20 — LOCATION ID, SURFACE WATER ELEVATION (FT)
- MW 16-03 / 727.24 — WELL ID, GROUNDWATER ELEVATION AT WATER TABLE OF UPPER AQUIFER (FT) (NOT USED IN DEPICTION OF CONTOURS)
- GROUNDWATER CONTOUR

NOTES:

1) BASE SITE PLAN OBTAINED FROM GENERAL MOTORS
2) PLAN AND MONITORING WELL LOCATIONS APPROXIMATE

0 80 160 240 320
SCALE IN FEET

HALEY & ALDRICH
UNDERGROUND ENGINEERING & ENVIRONMENTAL SOLUTIONS

GENERAL MOTORS CORP.
DELPHI HARRISON THERMAL SYSTEMS
DAYTON, OHIO

POTENTIOMETRIC SURFACE SHALLOW GROUNDWATER TABLE JULY 15, 2005

SCALE: AS SHOWN

JULY 2005

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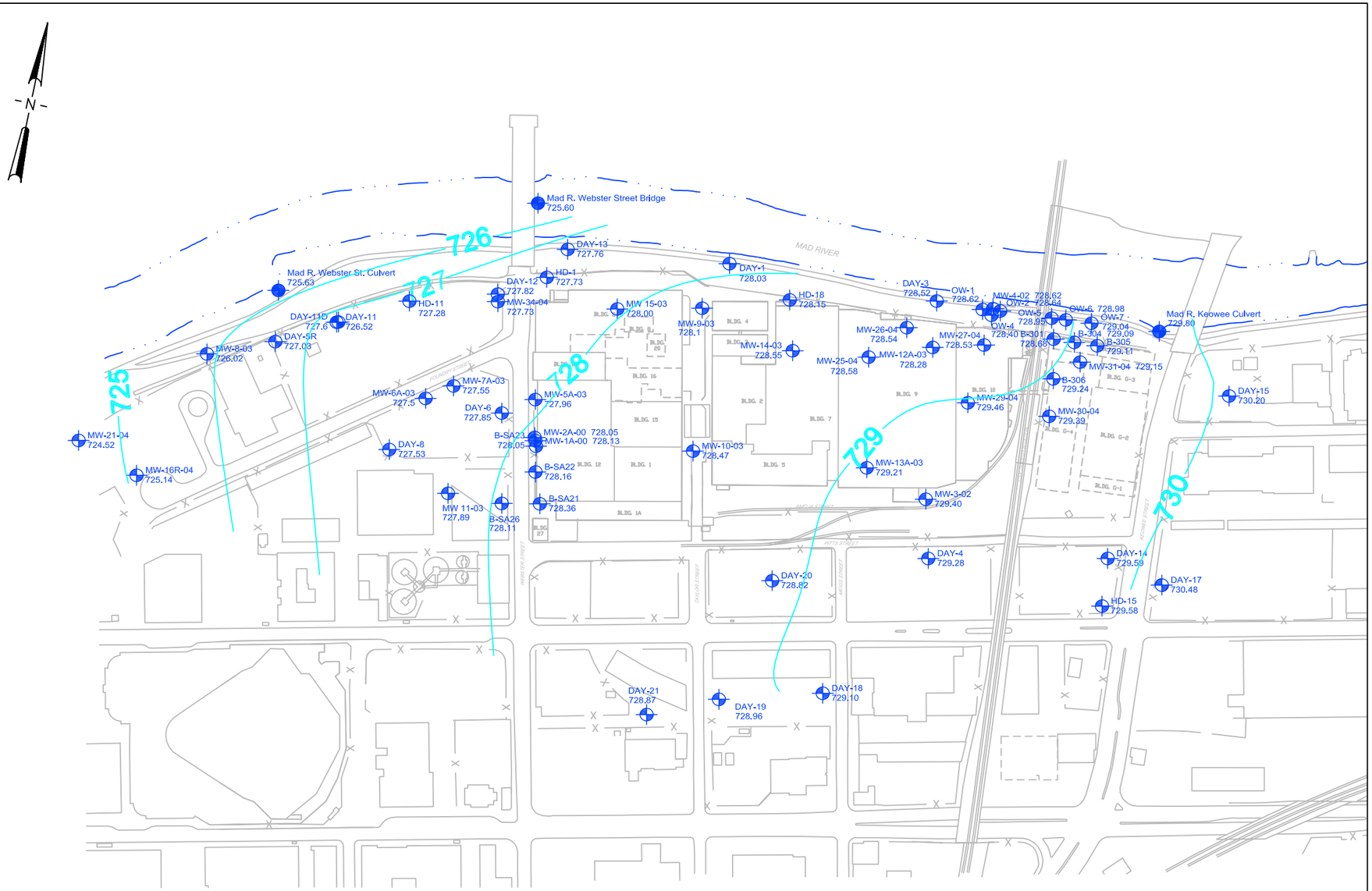
FIGURE 3.15



LEGEND:

DAY-18 728.16 — WELL ID, GROUNDWATER ELEVATION AT WATER TABLE OF UPPER AQUIFER (FT)

Mad R. 725.20 — LOCATION ID, SURFACE WATER ELEVATION (FT)

GROUNDWATER CONTOUR

NOTES:

1) BASE SITE PLAN OBTAINED FROM GENERAL MOTORS
2) PLAN AND MONITORING WELL LOCATIONS APPROXIMATE

0 80 160 240 320
SCALE IN FEET

HALEY & ALDRICH
UNDERGROUND ENGINEERING & ENVIRONMENTAL SOLUTIONS

GENERAL MOTORS CORP.
DELPHI HARRISON THERMAL SYSTEMS
DAYTON, OHIO

POTENTIOMETRIC SURFACE
SHALLOW GROUNDWATER TABLE
JUNE 1, 2005

SCALE: AS SHOWN

DECEMBER 2005

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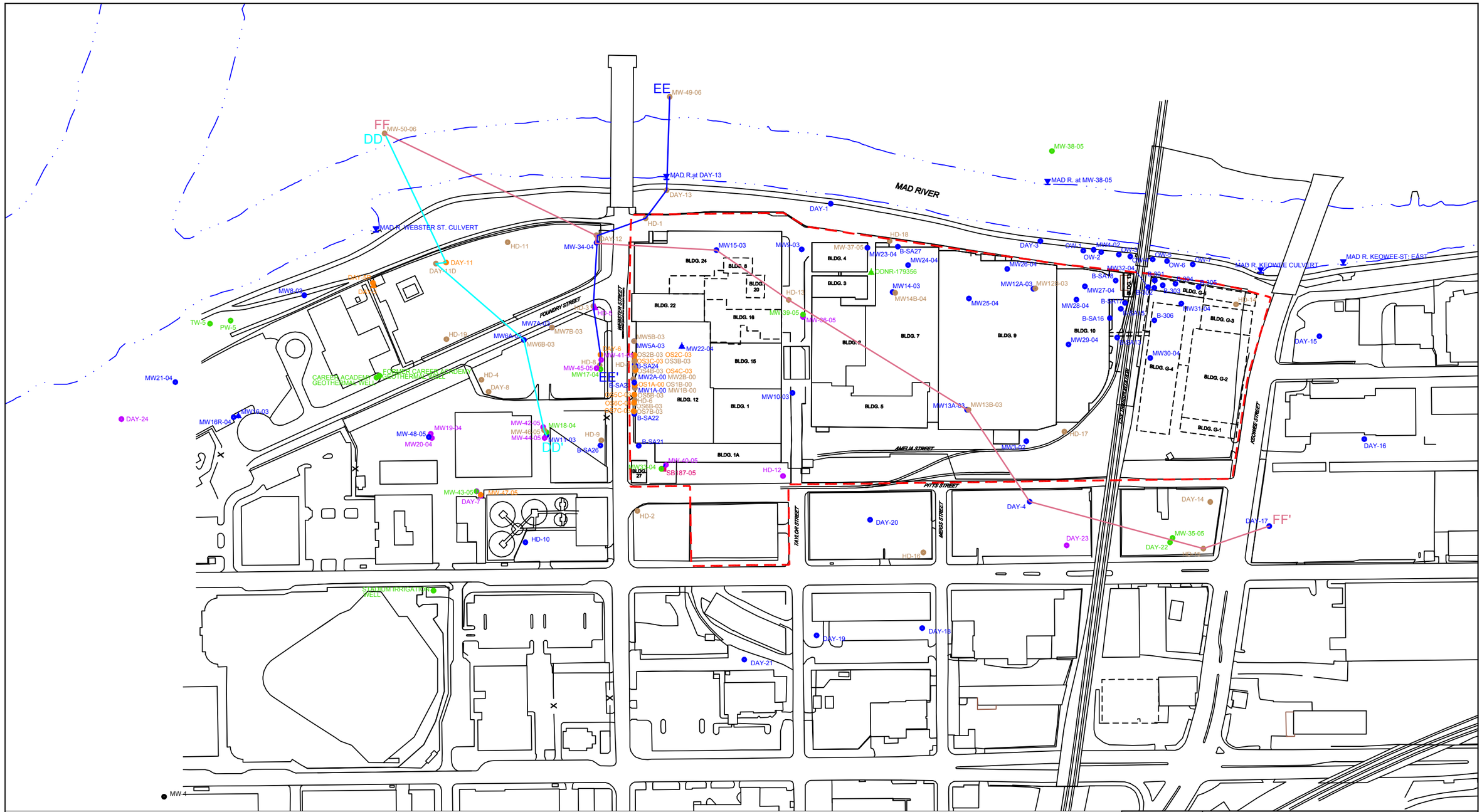
FIGURE 3.16

G:\79032\ACAD\Fence_Diagrams\Figures\MARCH 2006\FLOWNET\HARRISON_FLOWNET_PLAN6.dwg



LEGEND

- MW19-04 - APPROXIMATE BORING LOCATION
- DAY-5 - ABANDONED WELL LOCATION
- SB187-05 - SOIL BORING LOCATION
- MAD R. - RIVER ELEVATION MONITORING POINT
- J —— J' - CROSS-SECTION CUT LINE
- - APPROXIMATE SITE BOUNDARY
- - RAILROAD TRACKS
- - SHORE LINE

WELL SCREEN LOCATION LEGEND

- DAY-1 UPPER AQUIFER - WATER TABLE
- DAY-11 UPPER AQUIFER - OTHER - INTERMEDIATE
- HD-1 UPPER AQUIFER - ABOVE TOP OF TILL
- MW19-04 TILL ZONE
- MW18-04 LOWER AQUIFER

500 250 0 250 500

HORIZONTAL SCALE IN FEET

HALEY & ALDRICH

UNDERGROUND ENGINEERING & ENVIRONMENTAL SOLUTIONS

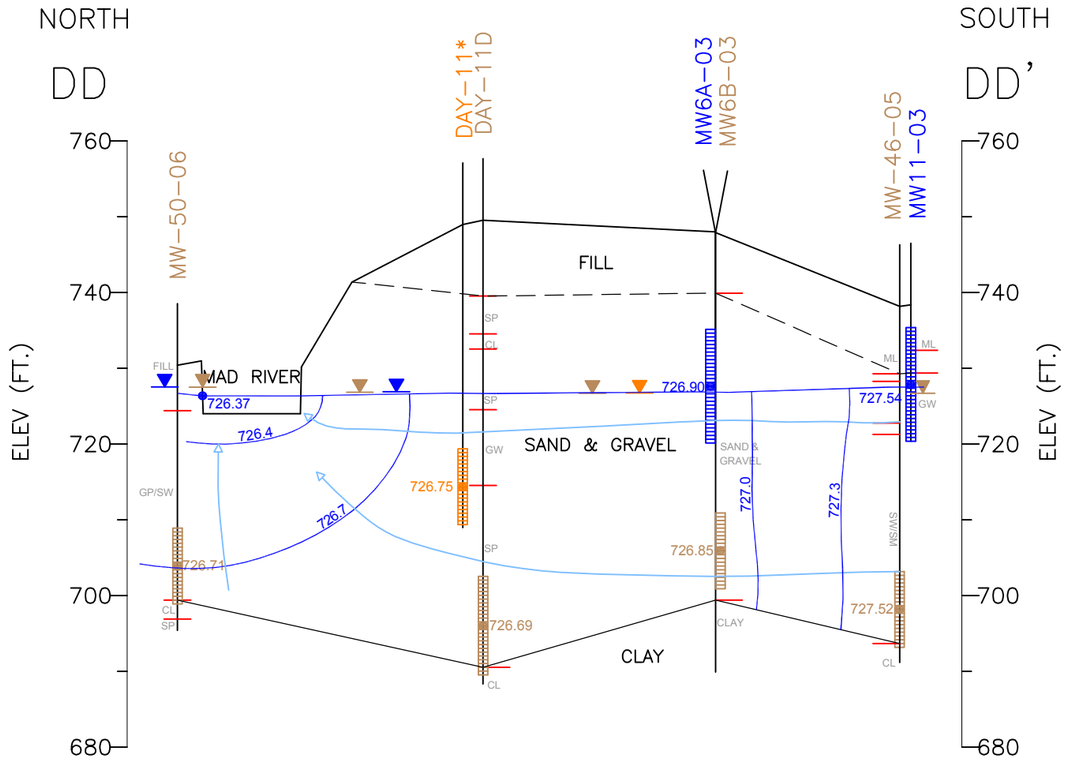
FORMER DELPHI THERMAL SYSTEMS FACILITY
300 TAYLOR STREET
DAYTON, OHIO

SITE PLAN WITH WELL LOCATIONS AND FLOWNET CROSS-SECTION LINES

SCALE: AS SHOWN

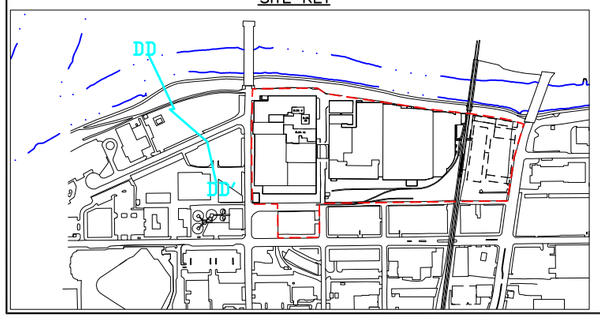
MARCH 2006

FIGURE 3.17

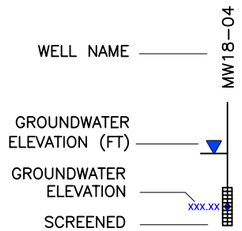


NOTES:
1.) LOCATIONS AND GROUND SURFACE ELEVATIONS ARE APPROXIMATE.
2.) WELLS DENOTED BY AN "*" WERE INSTALLED BY ENTITIES OTHER THAN GM.
3.) THE STRATIGRAPHY SHOWN ARE GENERALIZED INTERPOLATIONS MADE BETWEEN BORING LOCATIONS AND BASED ON SUBSURFACE CONDITIONS ENCOUNTERED AT THE BORING LOCATIONS. THE STRATIGRAPHY SHOWN REPRESENTS AN INTERPRETATION OF THE SUBSURFACE CONDITIONS. ACTUAL STRATIGRAPHY MAY DIFFER FROM THE STRATIGRAPHY SHOWN ON THE PROFILE IN THIS DRAWING.
4.) WATER LEVELS COLLECTED ON FEBRUARY 27, 2006.
5.) MAD RIVER BOTTOM ELEVATION DATA IS BASED ON USGS 1979 DATA.

SITE KEY



BORING LEGEND



WELL SCREEN LOCATION LEGEND
- UPPER AQUIFER - WATER TABLE
- UPPER AQUIFER - OTHER - INTERMEDIATE
- UPPER AQUIFER - ABOVE TOP OF TILL
- TILL ZONE
- LOWER AQUIFER

SOIL CLASSIFICATION SYSTEM
GW – WELL-GRADED GRAVELS
GP – POORLY GRADED GRAVELS
GM – SILTY GRAVELS
GC – CLAYEY GRAVEL
SW – WELL-GRADED SANDS
SP – POORLY GRADED SANDS
SM – SILTY SANDS, SAND-CLAY MIXTURE
SC – CLAYEY SANDS, SAND-CLAY MIXTURE
ML – INORGANIC SILTS AND VERY FINE SANDS
CL – INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY
MH – ELASTIC SILTS
CH – INORGANIC CLAY OF HIGH PLASTICITY

400 200 0 200 400
HORIZONTAL SCALE IN FEET

HALEY & ALDRICH
UNDERGROUND ENGINEERING & ENVIRONMENTAL SOLUTIONS

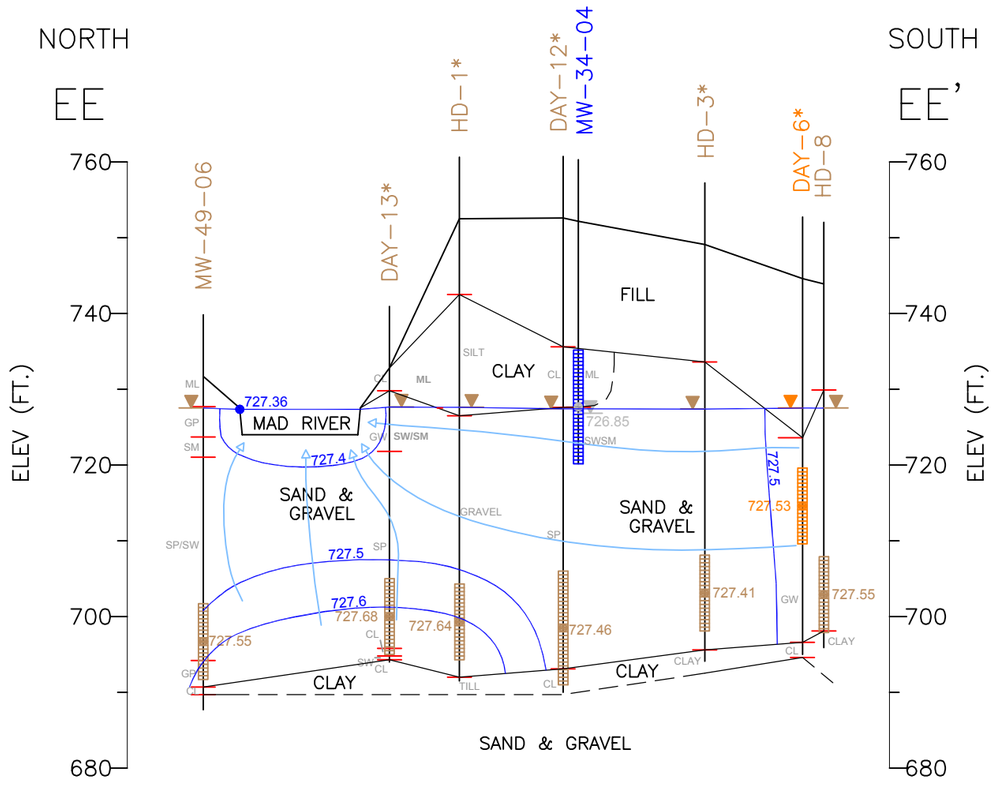
FORMER DELPHI THERMAL SYSTEMS FACILITY
300 TAYLOR STREET
DAYTON, OHIO

FLOWNET CROSS-SECTION DD-DD'
FEBRUARY 27, 2006

SCALE: AS SHOWN
MARCH 2006

FIGURE 3.18

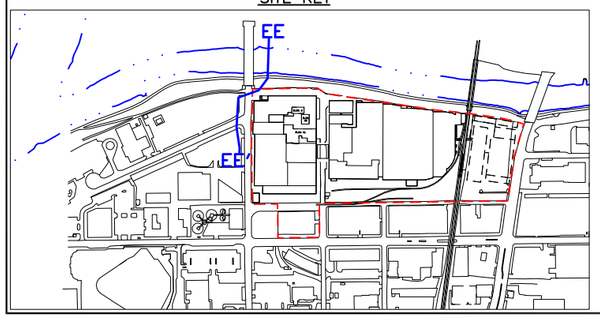
G:\79032\ACAD\Fence_Diagrams\Figures\MARCH 2006\FLOWNET\HARRISON_DD-DD'1_FLOWNET.dwg



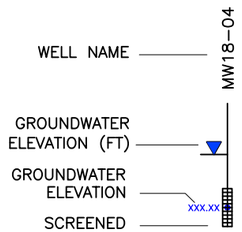
NOTES:

1.) LOCATIONS AND GROUND SURFACE ELEVATIONS ARE APPROXIMATE.
2.) WELLS DENOTED BY AN "*" WERE INSTALLED BY ENTITIES OTHER THAN GM.
3.) THE STRATIGRAPHY SHOWN ARE GENERALIZED INTERPOLATIONS MADE BETWEEN BORING LOCATIONS AND BASED ON SUBSURFACE CONDITIONS ENCOUNTERED AT THE BORING LOCATIONS. THE STRATIGRAPHY SHOWN REPRESENTS AN INTERPRETATION OF THE SUBSURFACE CONDITIONS. ACTUAL STRATIGRAPHY MAY DIFFER FROM THE STRATIGRAPHY SHOWN ON THE PROFILE IN THIS DRAWING.
4.) WATER LEVELS COLLECTED ON FEBRUARY 27, 2006.
5.) MAD RIVER BOTTOM ELEVATION DATA IS BASED ON USGS 1979 DATA.
6.) GROUNDWATER ELEVATION AT MW-34-04 WAS ELIMINATED FROM FLOW NET DUE TO APPARENT ANOMALY.

SITE KEY



BORING LEGEND



WELL SCREEN LOCATION LEGEND

- UPPER AQUIFER - WATER TABLE
- UPPER AQUIFER - OTHER - INTERMEDIATE
- UPPER AQUIFER - ABOVE TOP OF TILL
- TILL ZONE
- LOWER AQUIFER

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GP – POORLY GRADED GRAVELS
GM – SILTY GRAVELS
GC – CLAYEY GRAVEL
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MH – ELASTIC SILTS
CH – INORGANIC CLAY OF HIGH PLASTICITY

400 200 0 200 400

HORIZONTAL SCALE IN FEET

HALEY & ALDRICH

UNDERGROUND ENGINEERING & ENVIRONMENTAL SOLUTIONS

FORMER DELPHI THERMAL SYSTEMS FACILITY
300 TAYLOR STREET
DAYTON, OHIO

FLOWNET CROSS-SECTION EE-EE'
FEBRUARY 27, 2006

SCALE: AS SHOWN

MARCH 2006

FIGURE 3.19

G:\79032\ACAD\Fence_Diagrams\Figures\MARCH 2006\FLOWNET\HARRISON_EE-EE'1_FLOWNET.dwg

NORTH WEST

FF

SOUTH EAST

FF'

ELEV (FT.)

760
740
720
700
680

MW-50-06
DAY-12*
MW-34-04
MW15-03
HD-13
MW13A-03
MW13B-03
DAY-4*
HD-15
DAY-17*

FILL
SAND & GRAVEL
CLAY
MAD RIVER
SAND & GRAVEL
SAND
CLAY

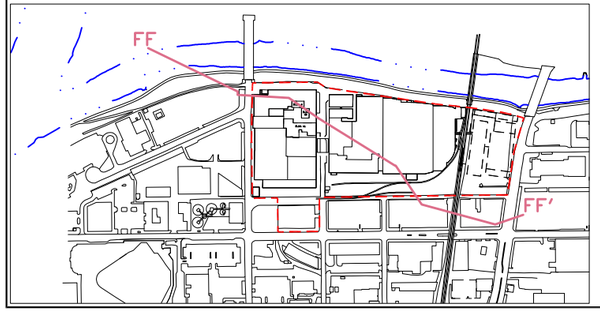
726.37
726.5
727.0
727.5
728.0
728.5
729.0
727.93
729.15
729.26
730.50
729.5
729.55
730.0
730.5
726.71
727.45
728.07
728.87

FILL
GP/SW
SP
CL
ML
SW/SM
SM
CLAY

NOTES:

1.) LOCATIONS AND GROUND SURFACE ELEVATIONS ARE APPROXIMATE.
2.) WELLS DENOTED BY AN "*" WERE INSTALLED BY ENTITIES OTHER THAN GM.
3.) THE STRATIGRAPHY SHOWN ARE GENERALIZED INTERPOLATIONS MADE BETWEEN BORING LOCATIONS AND BASED ON SUBSURFACE CONDITIONS ENCOUNTERED AT THE BORING LOCATIONS. THE STRATIGRAPHY SHOWN REPRESENTS AN INTERPRETATION OF THE SUBSURFACE CONDITIONS. ACTUAL STRATIGRAPHY MAY DIFFER FROM THE STRATIGRAPHY SHOWN ON THE PROFILE IN THIS DRAWING.
4.) WATER LEVELS COLLECTED ON FEBRUARY 27, 2006.
5.) MAD RIVER BOTTOM ELEVATION DATA IS BASED ON USGS 1979 DATA.

SITE KEY



BORING LEGEND

WELL NAME — MW18-04
GROUNDWATER ELEVATION (FT)
GROUNDWATER ELEVATION — xxx.xx
SCREENED INTERVAL

WELL SCREEN LOCATION LEGEND

- UPPER AQUIFER - WATER TABLE
- UPPER AQUIFER - OTHER - INTERMEDIATE
- UPPER AQUIFER - ABOVE TOP OF TILL
- TILL ZONE
- LOWER AQUIFER

SOIL CLASSIFICATION SYSTEM

GW – WELL-GRADED GRAVELS
GP – POORLY GRADED GRAVELS
GM – SILTY GRAVELS
GC – CLAYEY GRAVEL
SW – WELL-GRADED SANDS
SP – POORLY GRADED SANDS
SM – SILTY SANDS, SAND-CLAY MIXTURE
SC – CLAYEY SANDS, SAND-CLAY MIXTURE
ML – INORGANIC SILTS AND VERY FINE SANDS
CL – INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY
MH – ELASTIC SILTS
CH – INORGANIC CLAY OF HIGH PLASTICITY

400 200 0 200 400

HORIZONTAL SCALE IN FEET

HALEY & ALDRICH

UNDERGROUND ENGINEERING & ENVIRONMENTAL SOLUTIONS

FORMER DELPHI THERMAL SYSTEMS FACILITY
300 TAYLOR STREET
DAYTON, OHIO

FLOWNET CROSS-SECTION FF-FF'
FEBRUARY 27, 2006

SCALE: AS SHOWN

MARCH 2006

FIGURE 3.20

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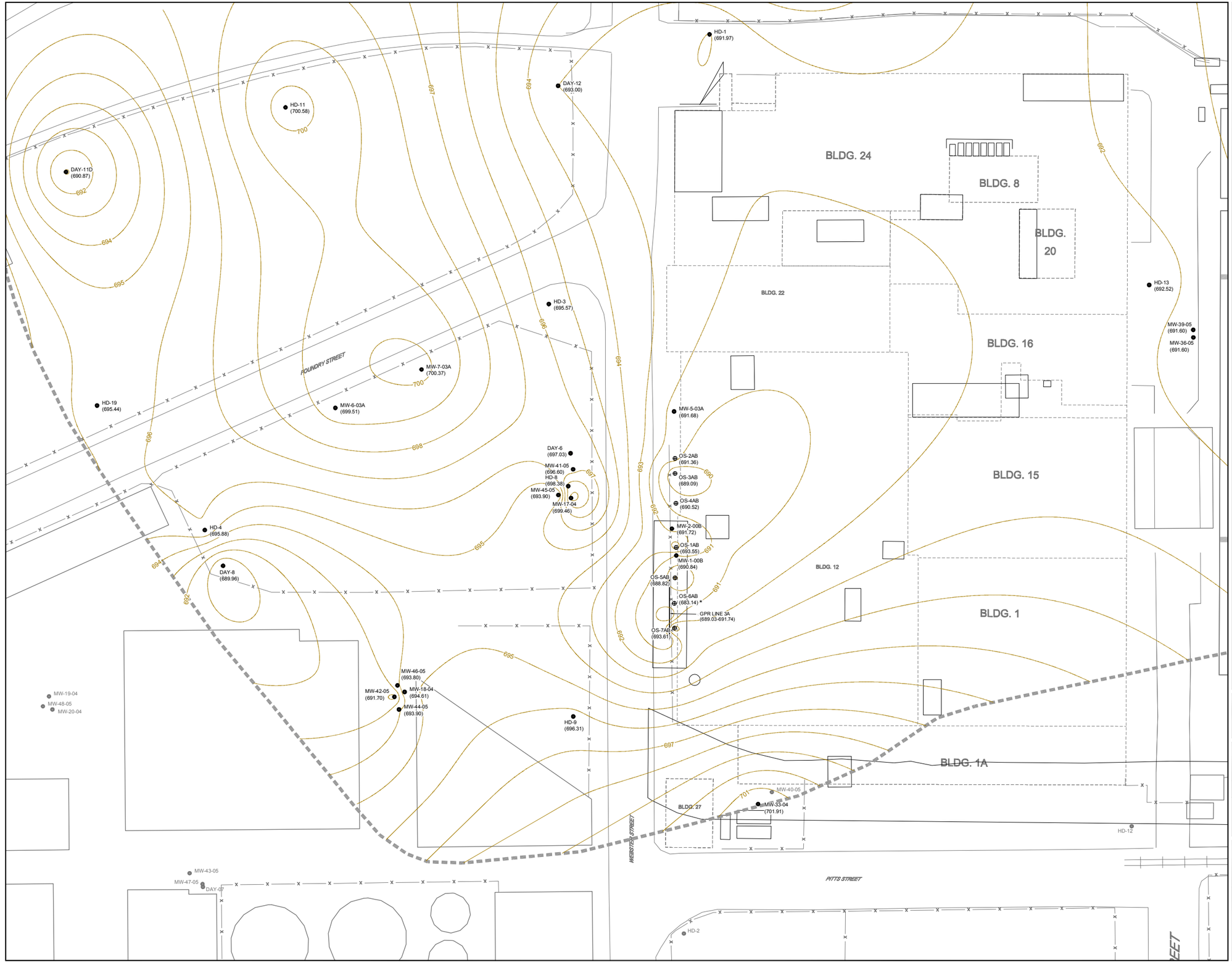


0 10 30ft

LEGEND

- BUILDING WALL
- BUILDING BOUNDARY
- FORMER BUILDING WALL
- SHORELINE
- RAILROAD
- MONITORING WELL LOCATION
- OZONE SPARGE WELL LOCATION
- (685.29) TOP OF TILL ELEVATION
- 705 TOP OF UPPER CLAY LAYER CONTOUR
- EDGE OF CLAY LAYER
- * SUSPECTED THAT UPPERMOST CLAY LAYER WAS MISSED AT THIS LOCATION, DATA NOT CONTOURED
- MONITORING WELL LOCATION THAT DOES NOT INTERCEPT TOP OF UPPER CLAY LAYER

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY

Dayton, Ohio

TOP OF UPPER CLAY LAYER CONTOURS WEBSTER STREET PCE RELEASE (AOI 1)

CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

Project Manager:	Reviewed By:	Date:	
IKR	SE	MARCH 2006	
Scale: 1"=30'	Project N#: 12638-04	Report N#: 011	Drawing N#: 3.21

12638-04(011)GN-WA069 MAR 27/2006

G:\79032\ACAD\Fence_Diagrams\Figures\MARCH 2006\X-SEC\HARRISON_AA-AA'DRAWDOWN_032806.dwg

WEST

AA

EAST

AA'

ELEV (FT.)

760
740
720
700
680
660
640
620
600
580
560
540

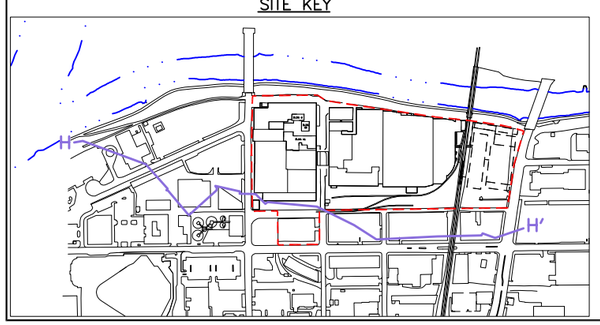
FOUNTAIN TW-5*
FOUNTAIN PW-5*
GEOTHERMAL WELL*
MW19-04
MW-48-05
MW20-04
MW-43-05
MW-47-05
DAY-7*
MW-44-05
MW11-03
MW18-04
MW-46-05
MW-42-05
HD-9
B-SA26
B-SA21
MW33-04
MW-40-05
HD-12
DAY-20*
HD-16
DAY-23*
DAY-22*
MW-35-05
HD-15
DAY-17*

SAND & GRAVEL
CLAY RICH ZONE
SAND & GRAVEL
FILL
SAND & GRAVEL
CLAY RICH ZONE
SAND & GRAVEL
CLAY RICH ZONE
SAND & GRAVEL
CLAY
CLAY

0.08
0
0
1.19
1.11
1.12
1.38
1.08
0
0
0
2.45
1.77
2.14
4.35
4.38
15.7
0
0

?
?

SITE KEY



BORING LEGEND

WELL NAME — MW18-04

GROUNDWATER ELEVATION (FT)

SCREENED INTERVAL

WELL SCREEN LOCATION LEGEND

- UPPER AQUIFER - WATER TABLE
- UPPER AQUIFER - OTHER - INTERMEDIATE
- UPPER AQUIFER - ABOVE TOP OF TILL
- TILL ZONE
- LOWER AQUIFER

500 250 0 250 500

HORIZONTAL SCALE IN FEET

NOTES:

1.) LOCATIONS AND GROUND SURFACE ELEVATIONS ARE APPROXIMATE.
2.) WELLS DENOTED BY AN "*" WERE INSTALLED BY ENTITIES OTHER THAN GM.
3.) THE STRATIGRAPHY SHOWN ARE GENERALIZED INTERPOLATIONS MADE BETWEEN BORING LOCATIONS AND BASED ON SUBSURFACE CONDITIONS ENCOUNTERED AT THE BORING LOCATIONS. THE STRATIGRAPHY SHOWN REPRESENTS AN INTERPRETATION OF THE SUBSURFACE CONDITIONS. ACTUAL STRATIGRAPHY MAY DIFFER FROM THE STRATIGRAPHY SHOWN ON THE PROFILE IN THIS DRAWING.
4.) WATER LEVELS COLLECTED ON JULY 15, 2005.
5.) GROUNDWATER DRAWDOWN DATA WAS OBTAINED FROM A DATA LOGGER EVENT ON SEPTEMBER 25, 2005 AT 21:00.

HALEY & ALDRICH
UNDERGROUND ENGINEERING & ENVIRONMENTAL SOLUTIONS

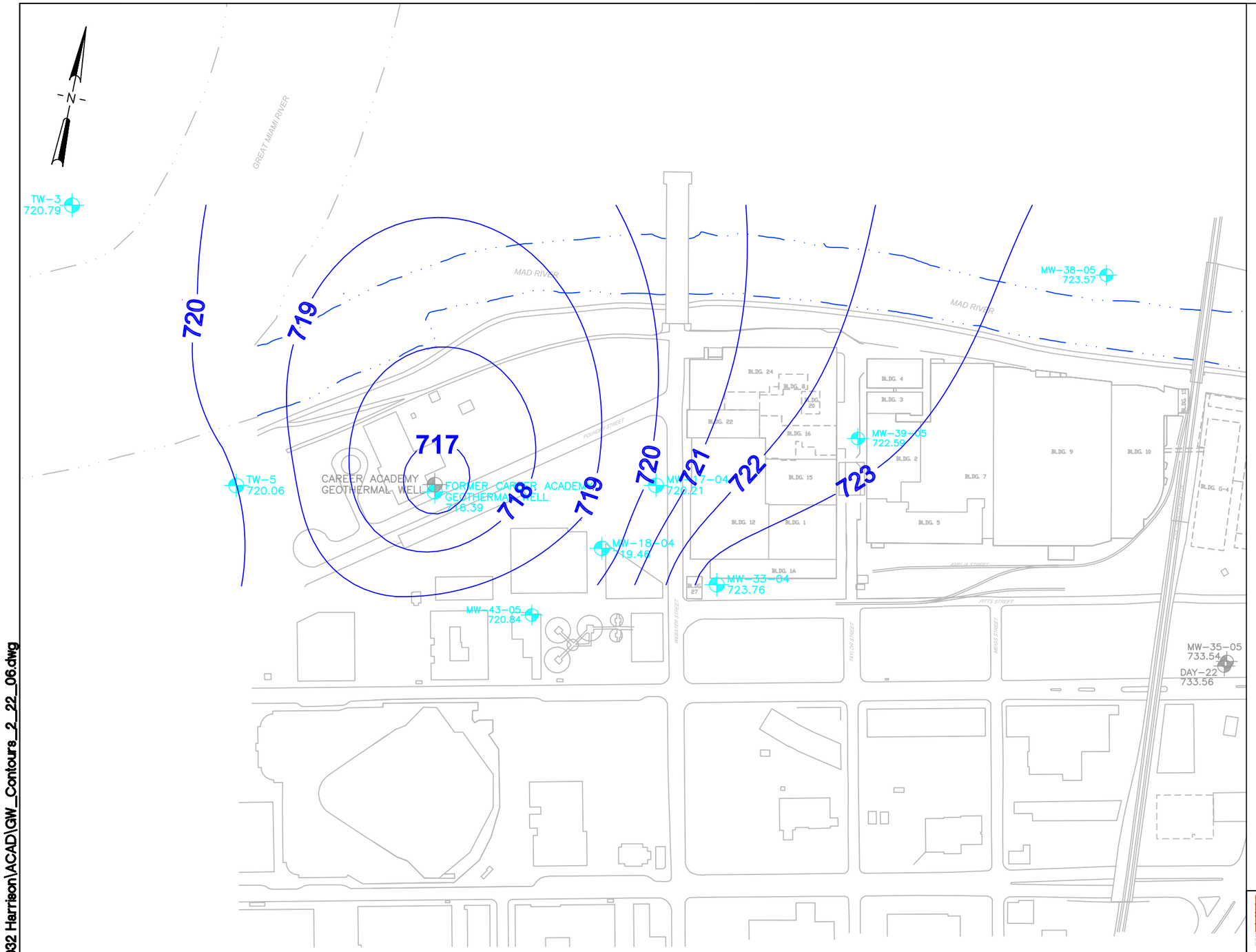
FORMER DELPHI THERMAL SYSTEMS FACILITY
300 TAYLOR STREET
DAYTON, OHIO

CROSS-SECTION AA-AA' GROUNDWATER DRAWDOWN SEPTEMBER 2005

SCALE: AS SHOWN

FEBRUARY 2006

FIGURE 3.22



LEGEND:

- GROUNDWATER CONTOUR
- TW-4 725.8 — WELL ID, GROUNDWATER ELEVATION (FT)
- TW-4 725.8 — WELL ID, GROUNDWATER ELEVATION (NOT USED IN DEPICTION OF CONTOURS)

NOTES:

1) BASE SITE PLAN OBTAINED FROM GENERAL MOTORS
2) PLAN AND MONITORING WELL LOCATIONS APPROXIMATE
3) IN 2004, THE CAREER ACADEMY INSTALLED A NEW GEOTHERMAL WELL. THE FORMER CAREER ACADEMY GEOTHERMAL WELL IS NO LONGER USED FOR PUMPING. THE DATALOGGER WAS PLACED IN THE FORMER CAREER ACADEMY GEOTHERMAL WELL.

0 80 160 240 320
SCALE IN FEET

HALEY & ALDRICH
UNDERGROUND ENGINEERING & ENTAL

GENERAL MOTORS CORP.
DELPHI HARRISON THERMAL SYSTEMS
DAYTON, OHIO

LOWER AQUIFER GROUNDWATER ELEVATION
February 22, 2006

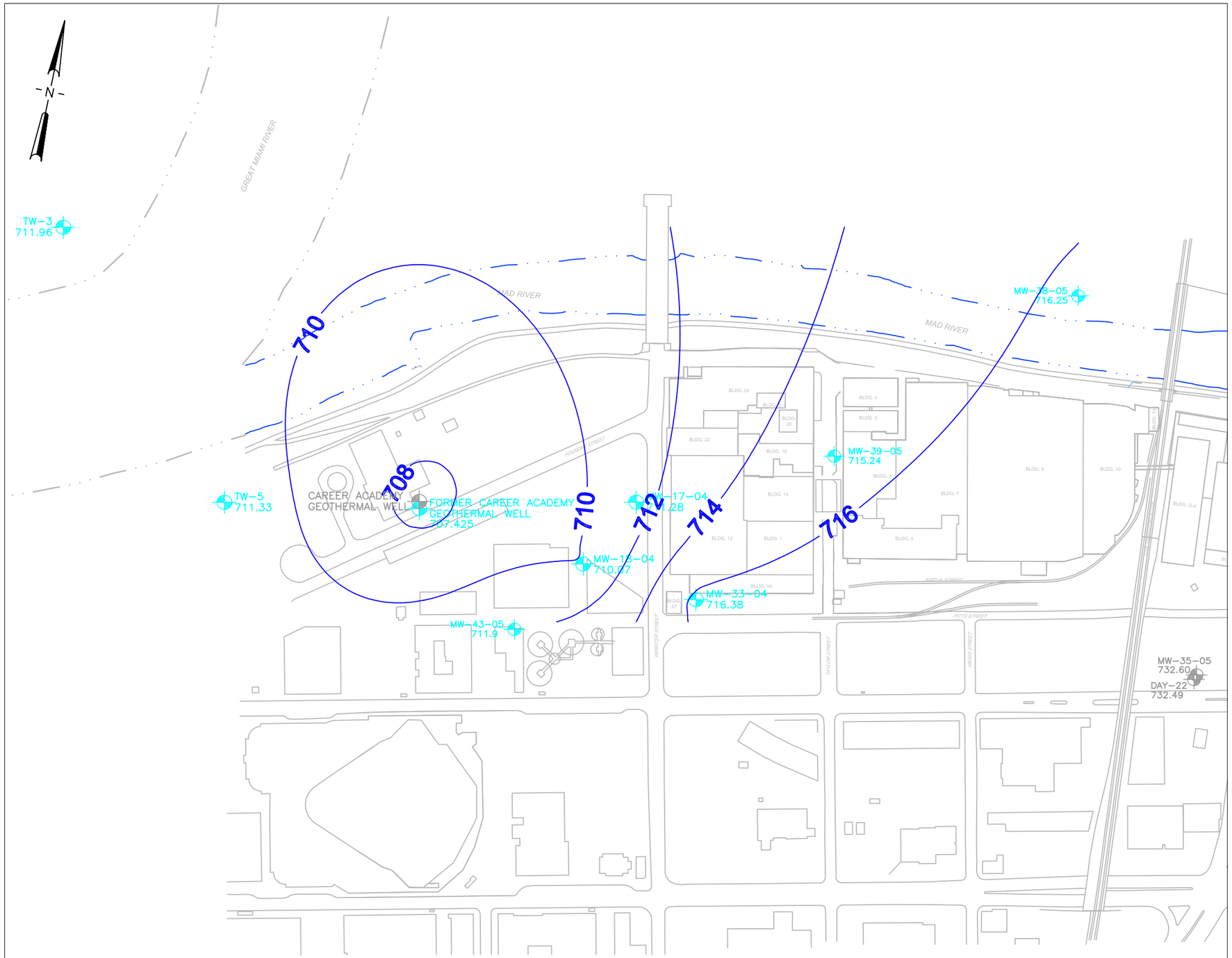
SCALE: AS SHOWN

FEBRUARY 2006

G:\Projects\79032 Harrison\ACAD\GW_Contours_2_22_06.dwg

FIGURE 3.23

G:\Projects\79032 Harrison\ACAD\Harrison GWelev_0905\GWcontours_09-05_REV_100405.dwg



LEGEND:

GROUNDWATER CONTOUR

TW-4
725.8
WELL ID
GROUNDWATER ELEVATION (FT)

TW-4
725.8
WELL ID
GROUNDWATER ELEVATION
(NOT USED IN DEPICTION OF CONTOURS)

NOTES:

1) BASE SITE PLAN OBTAINED FROM GENERAL MOTORS
2) PLAN AND MONITORING WELL LOCATIONS APPROXIMATE
3) IN 2004, THE CAREER ACADEMY INSTALLED A NEW GEOTHERMAL WELL. THE FORMER CAREER ACADEMY GEOTHERMAL WELL IS NO LONGER USED FOR PUMPING. THE DATALOGGER WAS PLACED IN THE FORMER CAREER ACADEMY GEOTHERMAL WELL.
4) GROUNDWATER ELEVATIONS WERE OBTAINED FROM A DATA LOGGER EVENT ON SEPTEMBER 20, 2005 AT 17:00 WHEN IT APPEARS THAT ONLY THE CAREER ACADEMY GEOTHERMAL WELL WAS PUMPING.

0 80 160 240 320
SCALE IN FEET

HALEY & ALDRICH
UNDERGROUND ENGINEERING & ENVIRONMENTAL SOLUTIONS

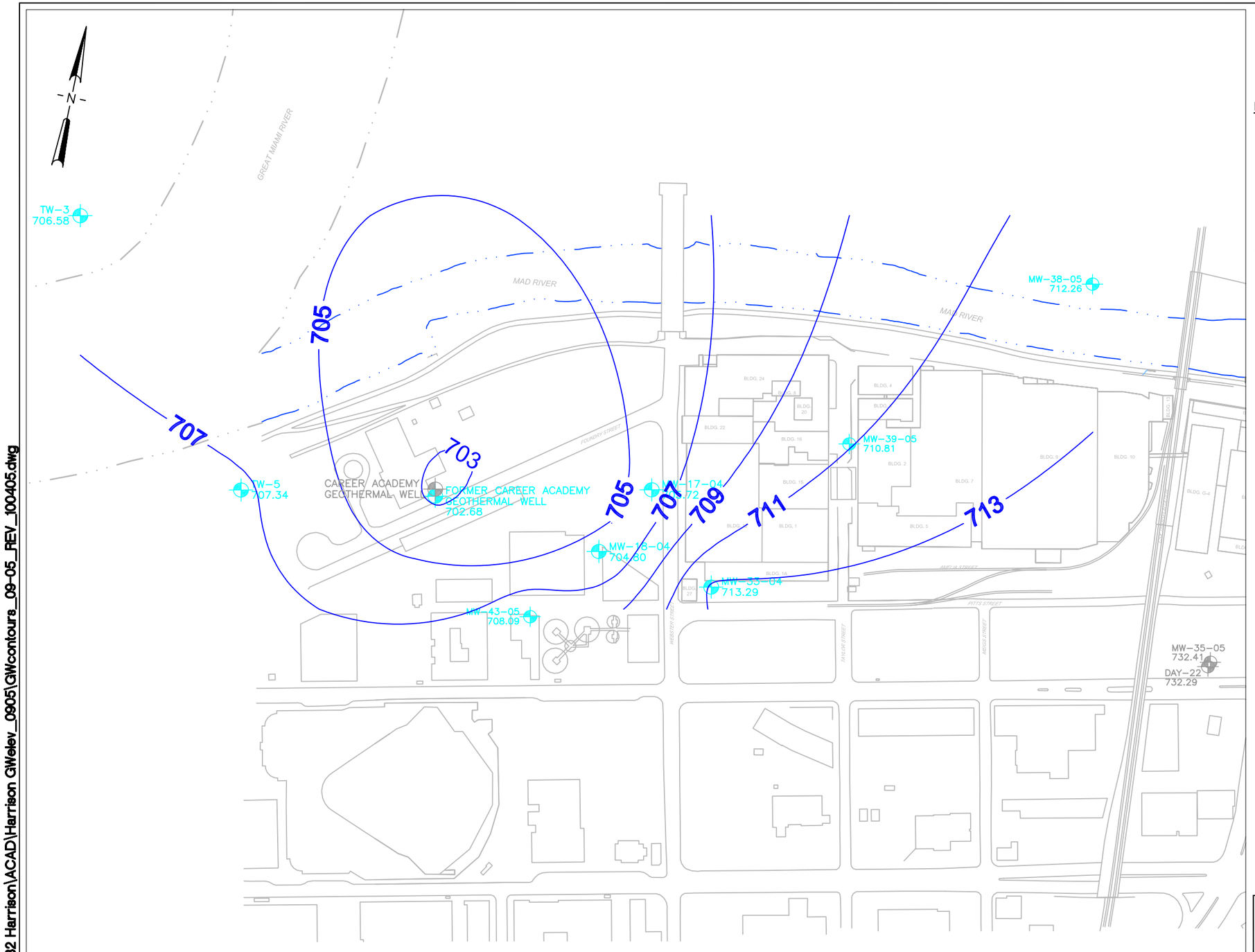
GENERAL MOTORS CORP.
DELPHI HARRISON THERMAL SYSTEMS
DAYTON, OHIO

LOWER AQUIFER GROUNDWATER ELEVATION
September 20, 2005

SCALE: AS SHOWN

DECEMBER 2005

FIGURE 3.24



G:\Projects\79032 Harrison\ACAD\Harrison GWelev_0905\GWcontours_09-05_REV_100405.dwg

LEGEND:

GROUNDWATER CONTOUR

TW-4
725.8
WELL ID
GROUNDWATER ELEVATION (FT)

TW-4
725.8
WELL ID
GROUNDWATER ELEVATION
(NOT USED IN DEPICTION OF CONTOURS)

NOTES:

1) BASE SITE PLAN OBTAINED FROM GENERAL MOTORS
2) PLAN AND MONITORING WELL LOCATIONS APPROXIMATE
3) IN 2004, THE CAREER ACADEMY INSTALLED A NEW GEOTHERMAL WELL. THE FORMER CAREER ACADEMY GEOTHERMAL WELL IS NO LONGER USED FOR PUMPING. THE DATALOGGER WAS PLACED IN THE FORMER CAREER ACADEMY GEOTHERMAL WELL.
4) GROUNDWATER ELEVATIONS WERE OBTAINED FROM A DATA LOGGER EVENT ON SEPTEMBER 25, 2005 AT 21:00 WHEN IT APPEARS THAT ONLY THE RIVERSCAPE FOUNTAIN WELLS AND THE CAREER ACADEMY GEOTHERMAL WELL WERE PUMPING.

0 80 160 240 320
SCALE IN FEET

HALEY & ALDRICH
UNDERGROUND ENGINEERING & ENVIRONMENTAL SOLUTIONS

GENERAL MOTORS CORP.
DELPHI HARRISON THERMAL SYSTEMS
DAYTON, OHIO

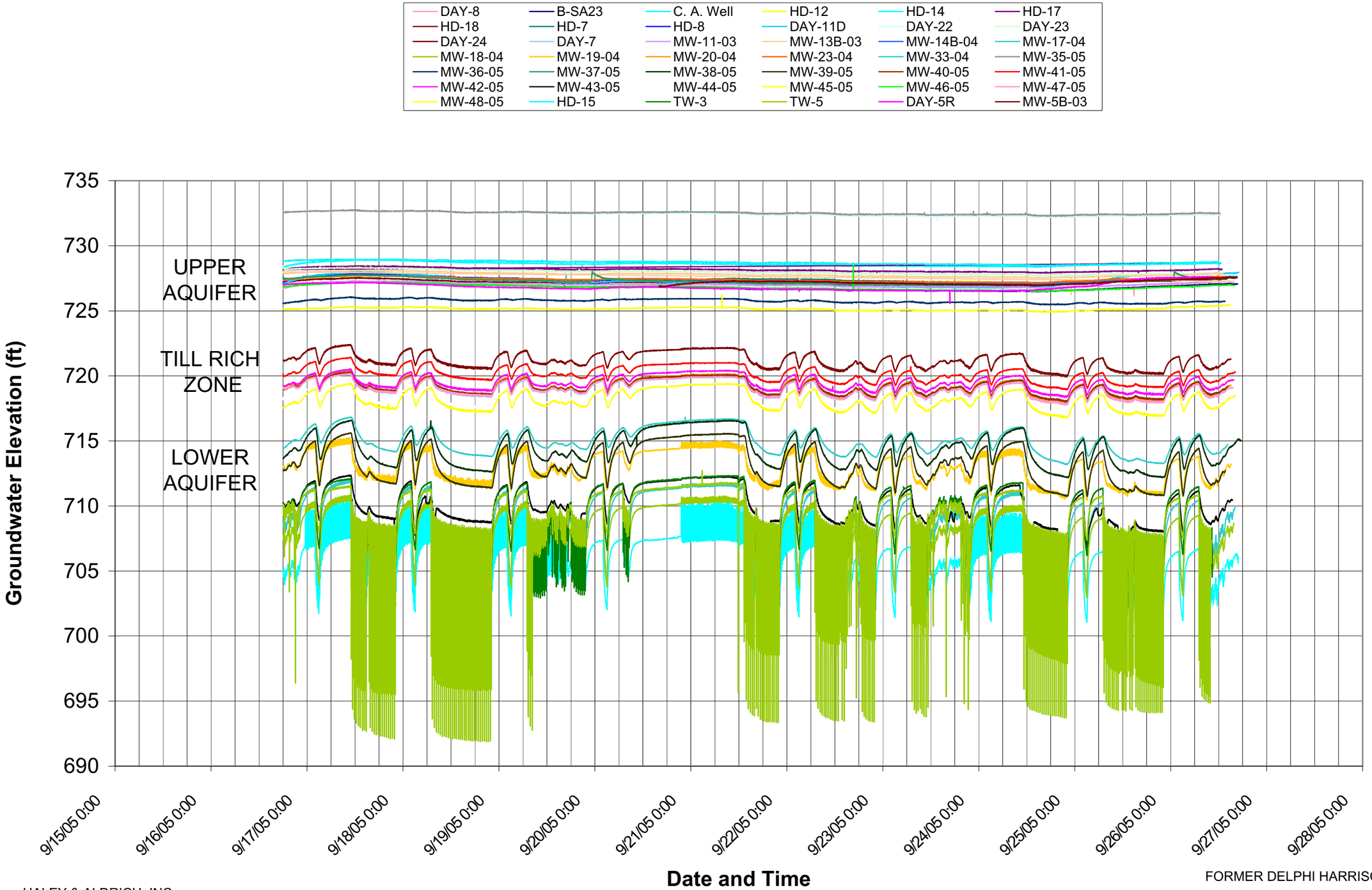
LOWER AQUIFER GROUNDWATER ELEVATION
September 25, 2005

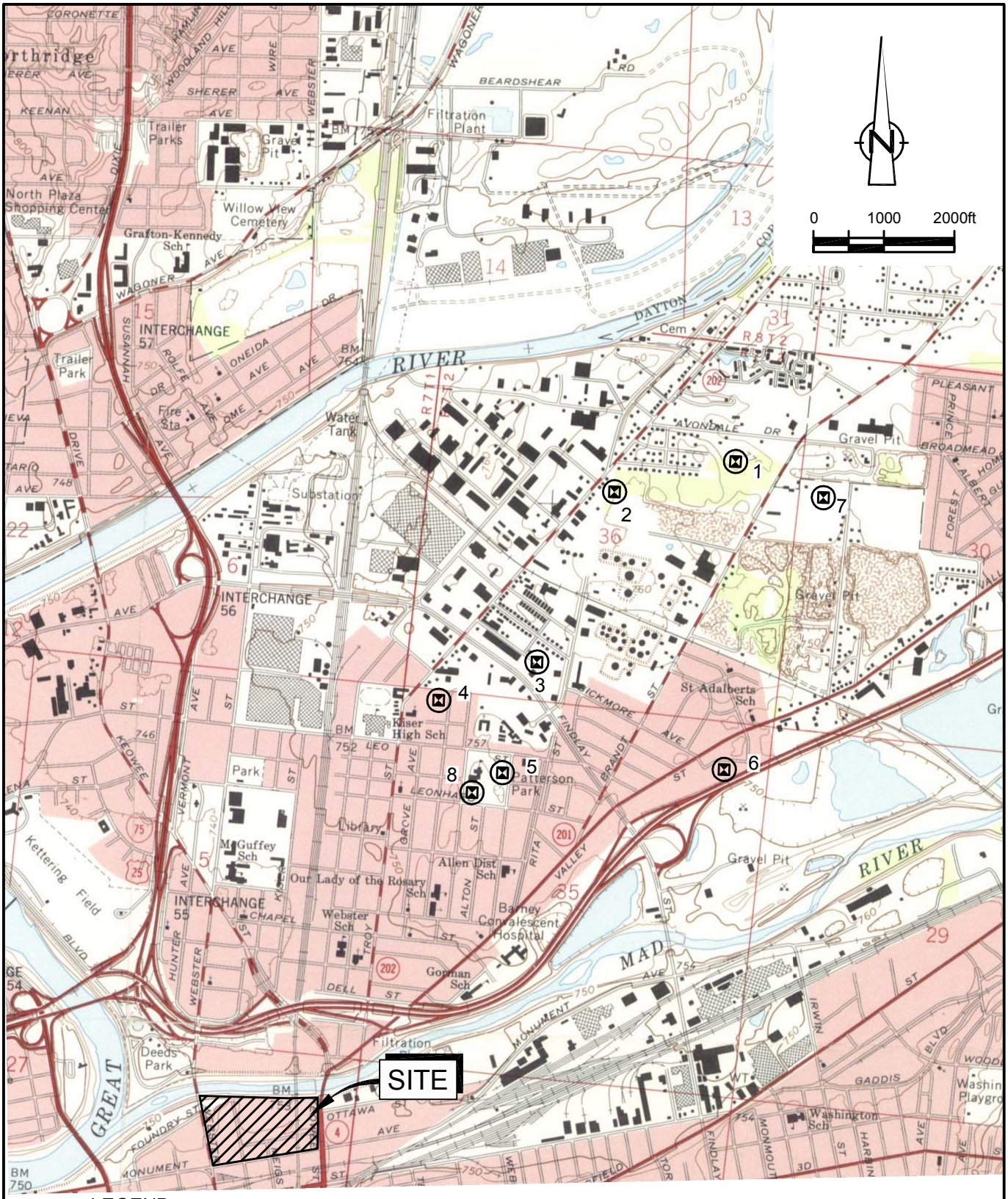
SCALE: AS SHOWN

DECEMBER 2005

FIGURE 3.25

Figure 3.26: Hydrograph of Data Logger Event September 2005





LEGEND

1 BACKGROUND SOIL SAMPLING LOCATION

figure 3.27

BACKGROUND SAMPLE LOCATIONS
FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY
Dayton, Ohio

BASE MAP SOURCE: USGS QUADRANGLE MAPS; DAYTON NORTH AND FAIRBORN, OHIO

12638-04(011)GN-WA025 MAR 27/2006

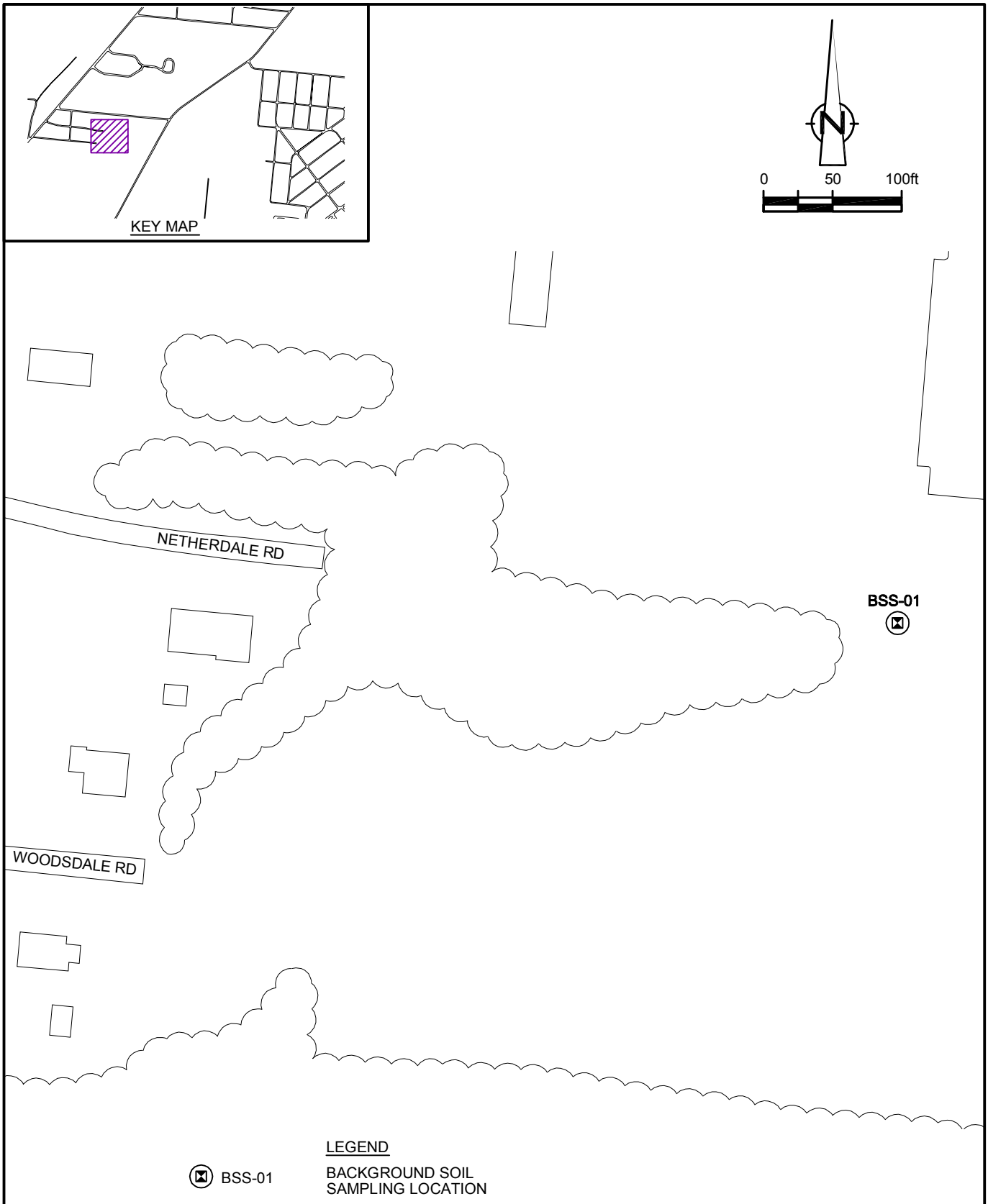


figure 3.28

BACKGROUND SAMPLE LOCATION - DETAIL 1
FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY
Dayton, Ohio

12638-04(011)GN-WA026 MAR 27/2006

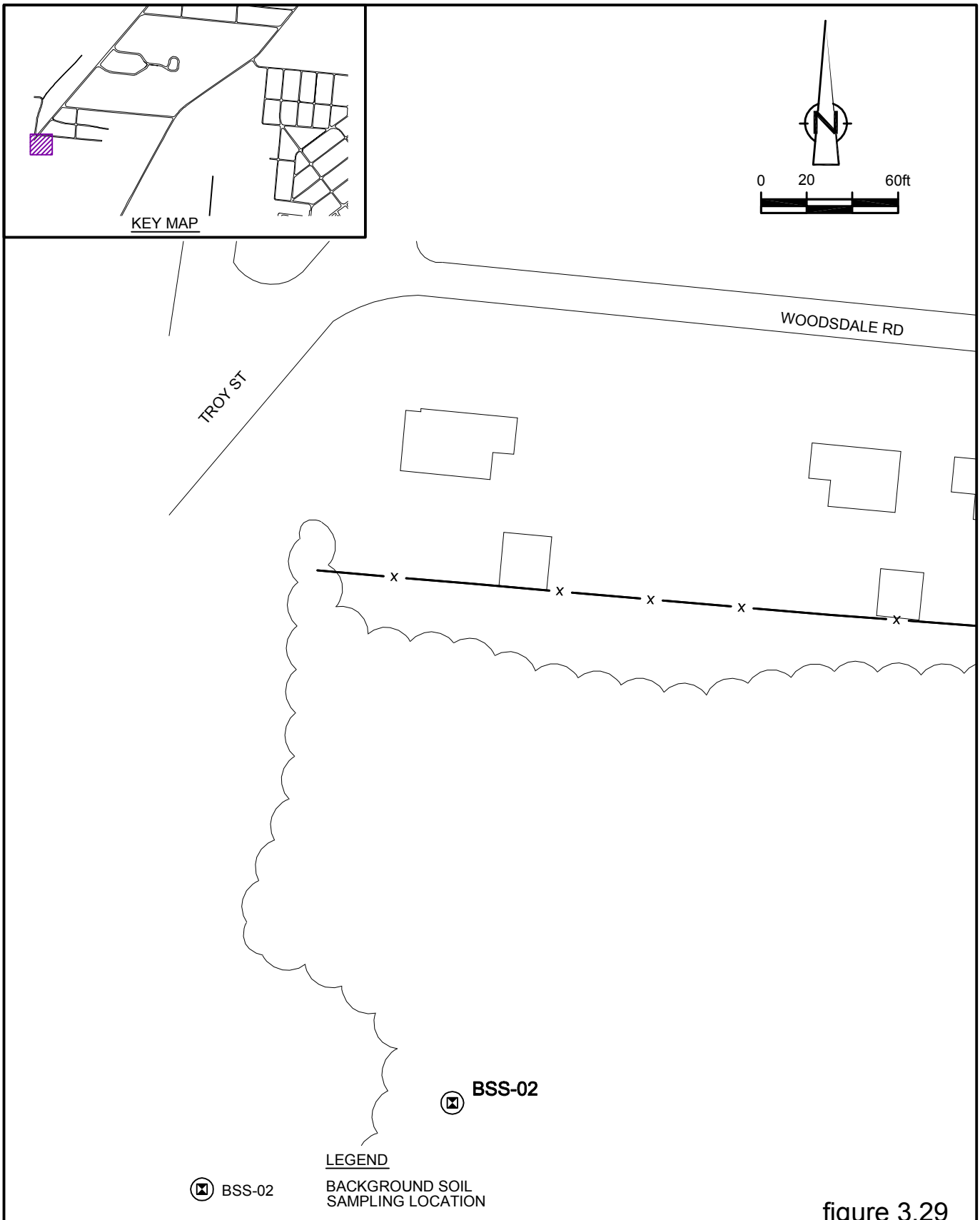


figure 3.29

BACKGROUND SAMPLE LOCATION - DETAIL 2
FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY
Dayton, Ohio

12638-04(011)GN-WA026 MAR 27/2006

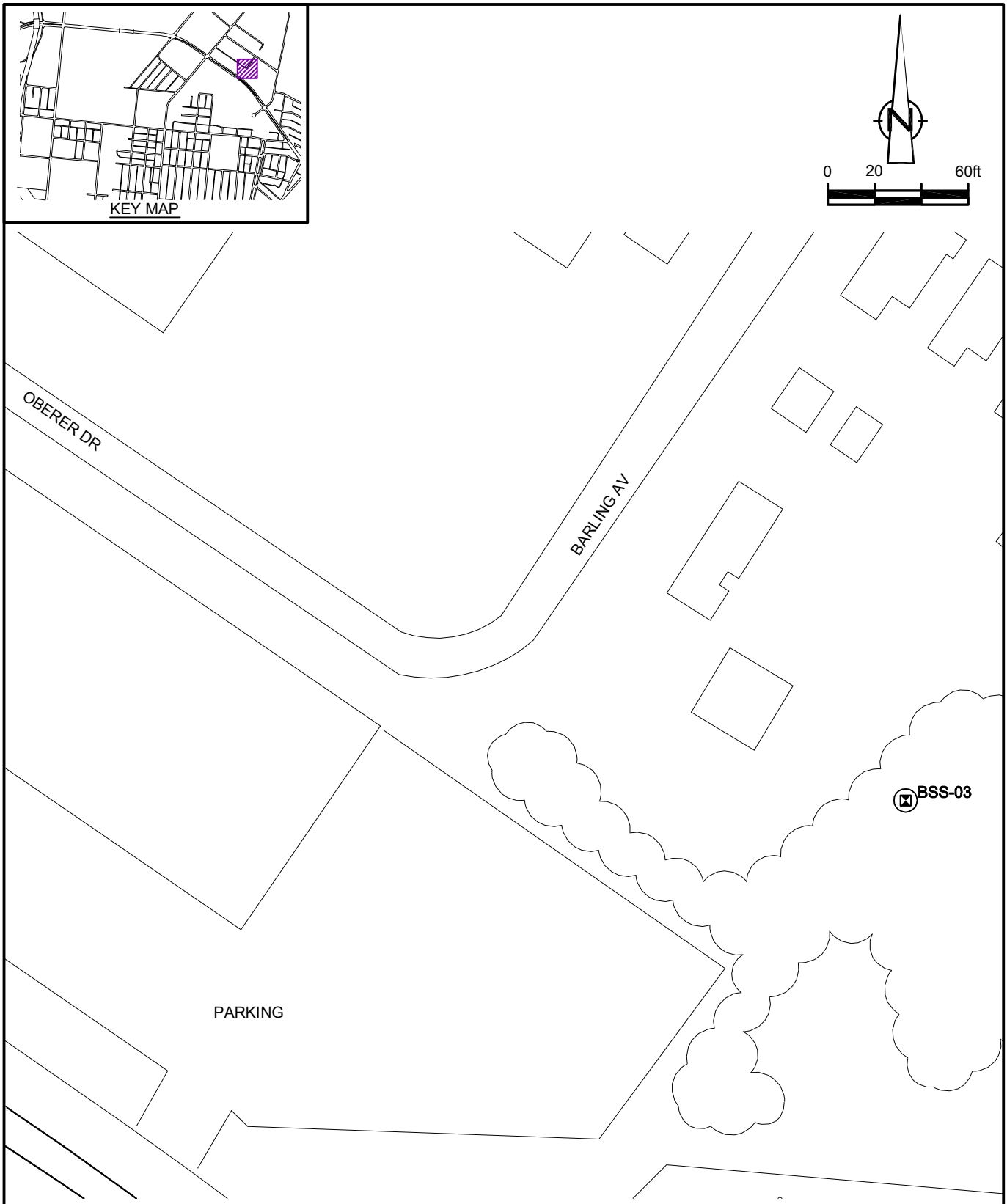


figure 3.30

BACKGROUND SAMPLE LOCATION - DETAIL 3
FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY
Dayton, Ohio

12638-04(011)GN-WA027 MAR 27/2006

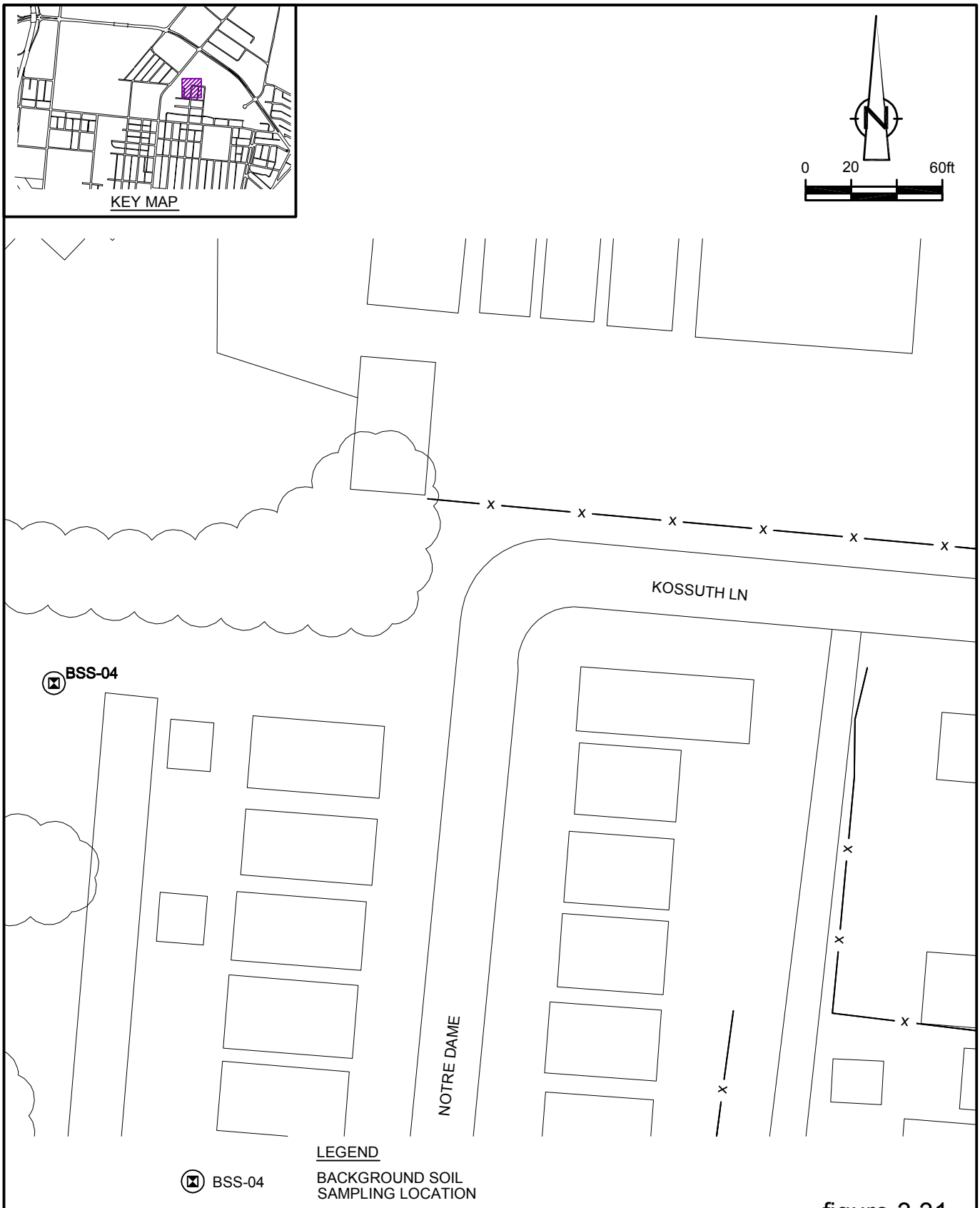


figure 3.31

BACKGROUND SAMPLE LOCATION - DETAIL 4
FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY
Dayton, Ohio

12638-04(011)GN-WA027 MAR 27/2006

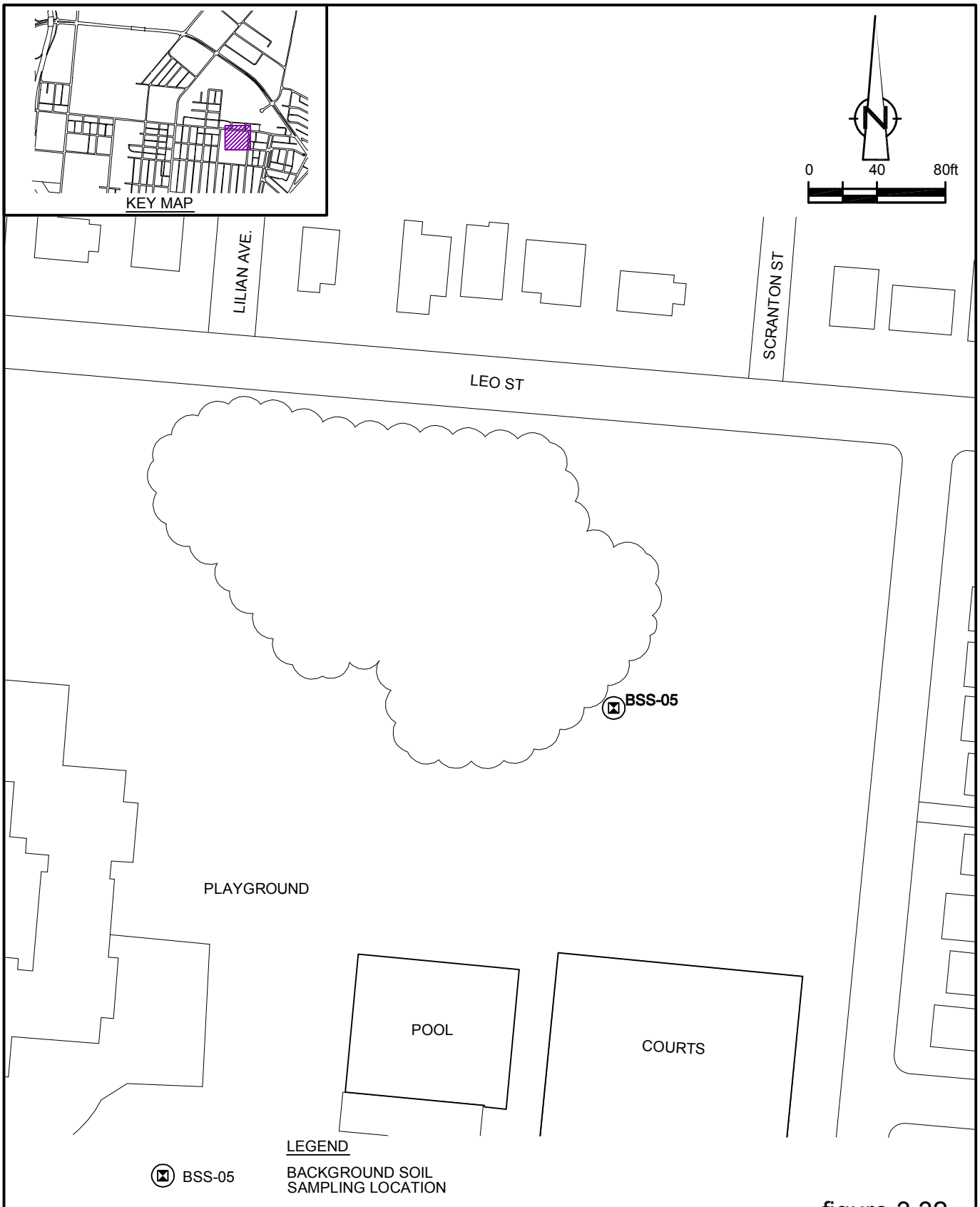


figure 3.32

BACKGROUND SAMPLE LOCATION - DETAIL 5
FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY
Dayton, Ohio

12638-04(011)GN-WA027 MAR 27/2006

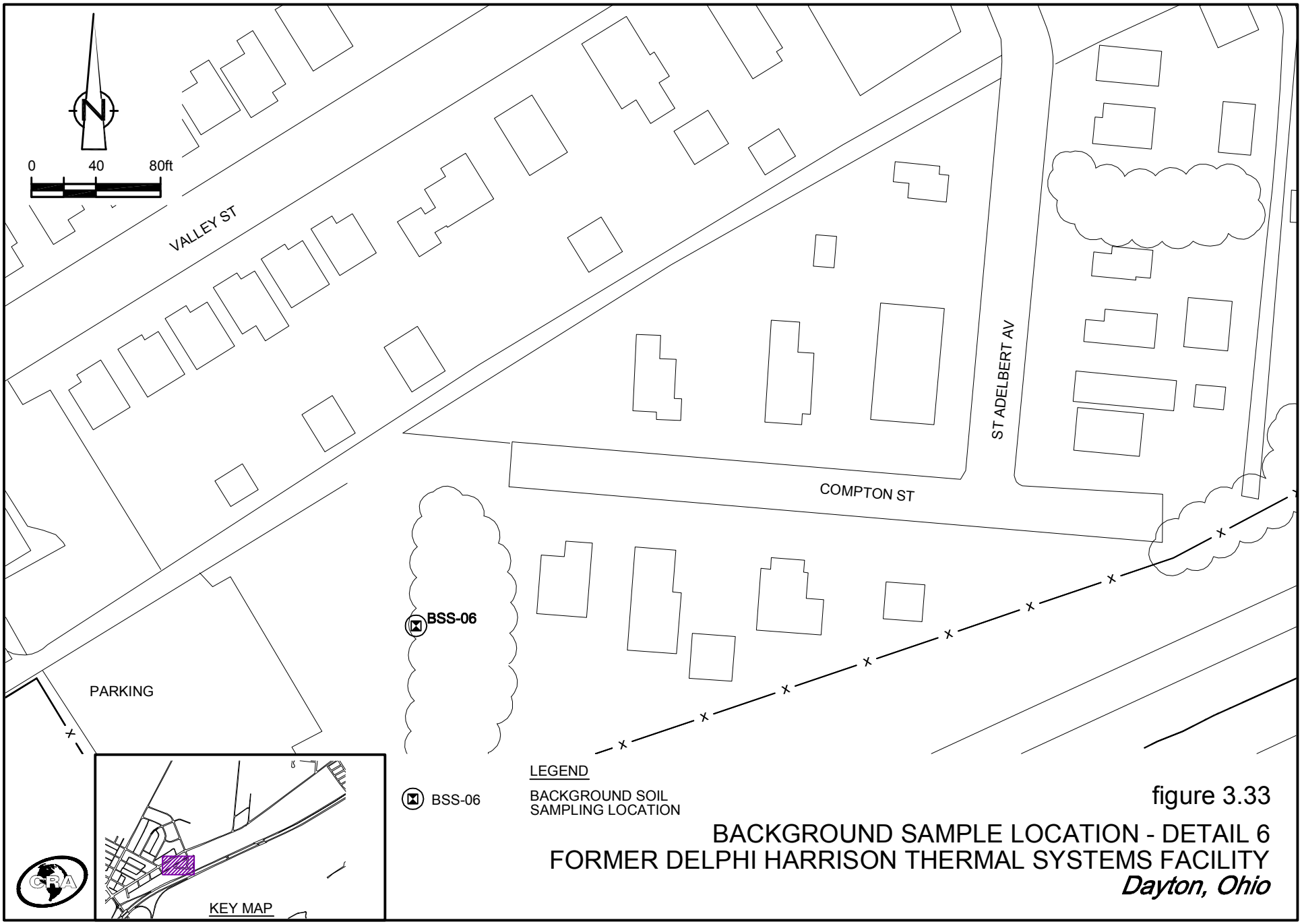


figure 3.33

BACKGROUND SAMPLE LOCATION - DETAIL 6
FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY
Dayton, Ohio

12638-04(011)GN-WA028 MAR 27/2006

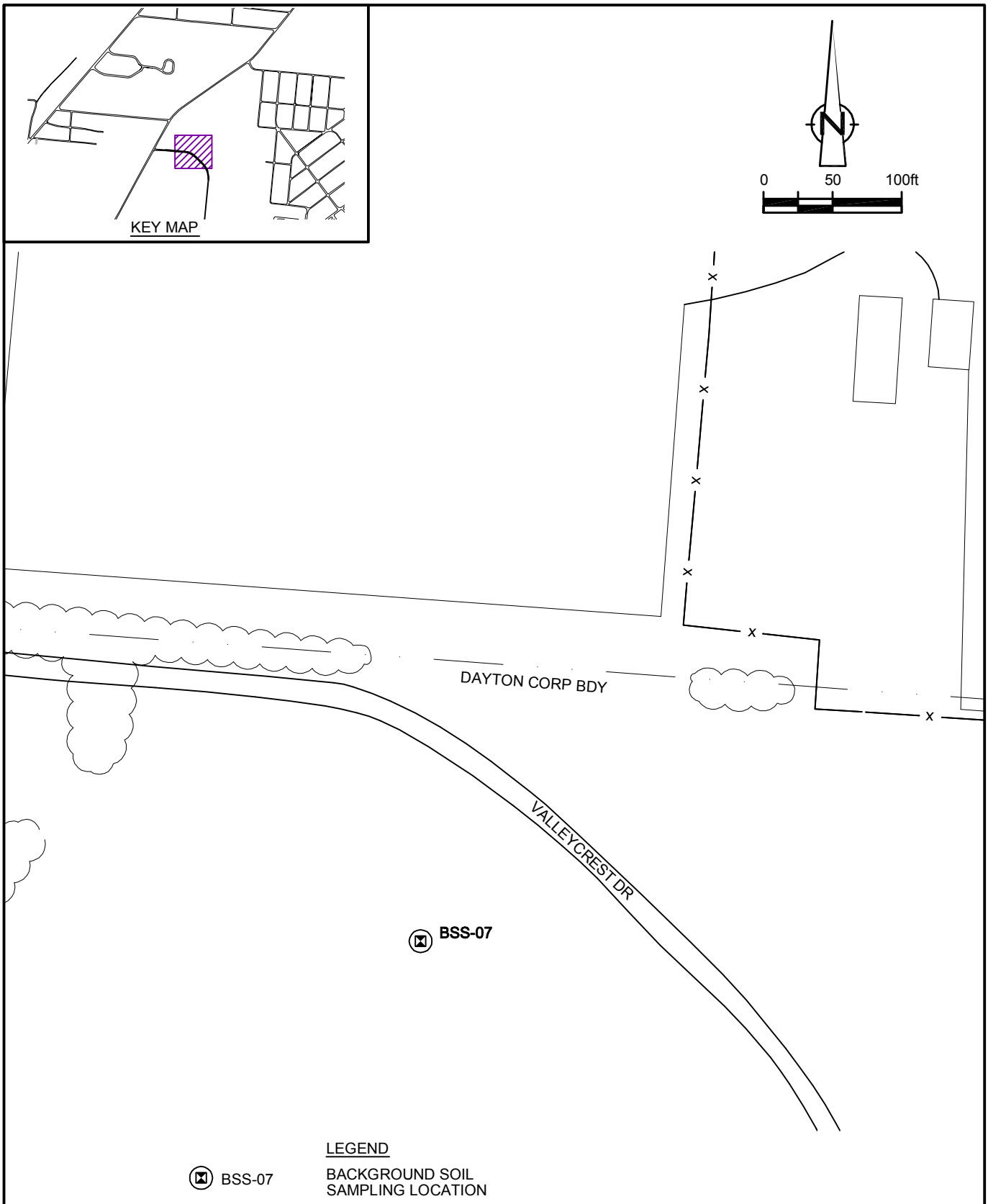


figure 3.34

BACKGROUND SAMPLE LOCATION - DETAIL 7
FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY
Dayton, Ohio

12638-04(011)GN-WA029 MAR 27/2006

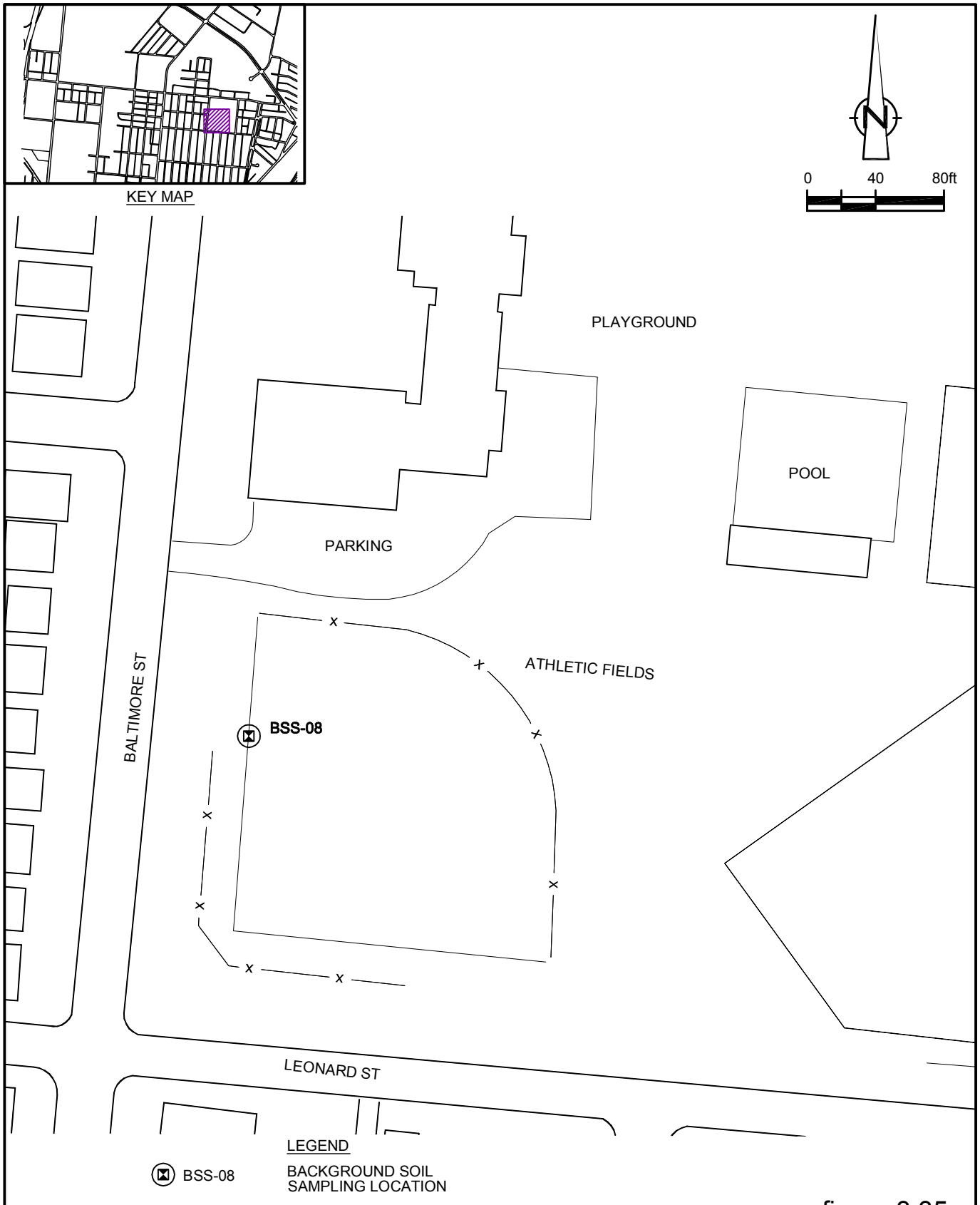
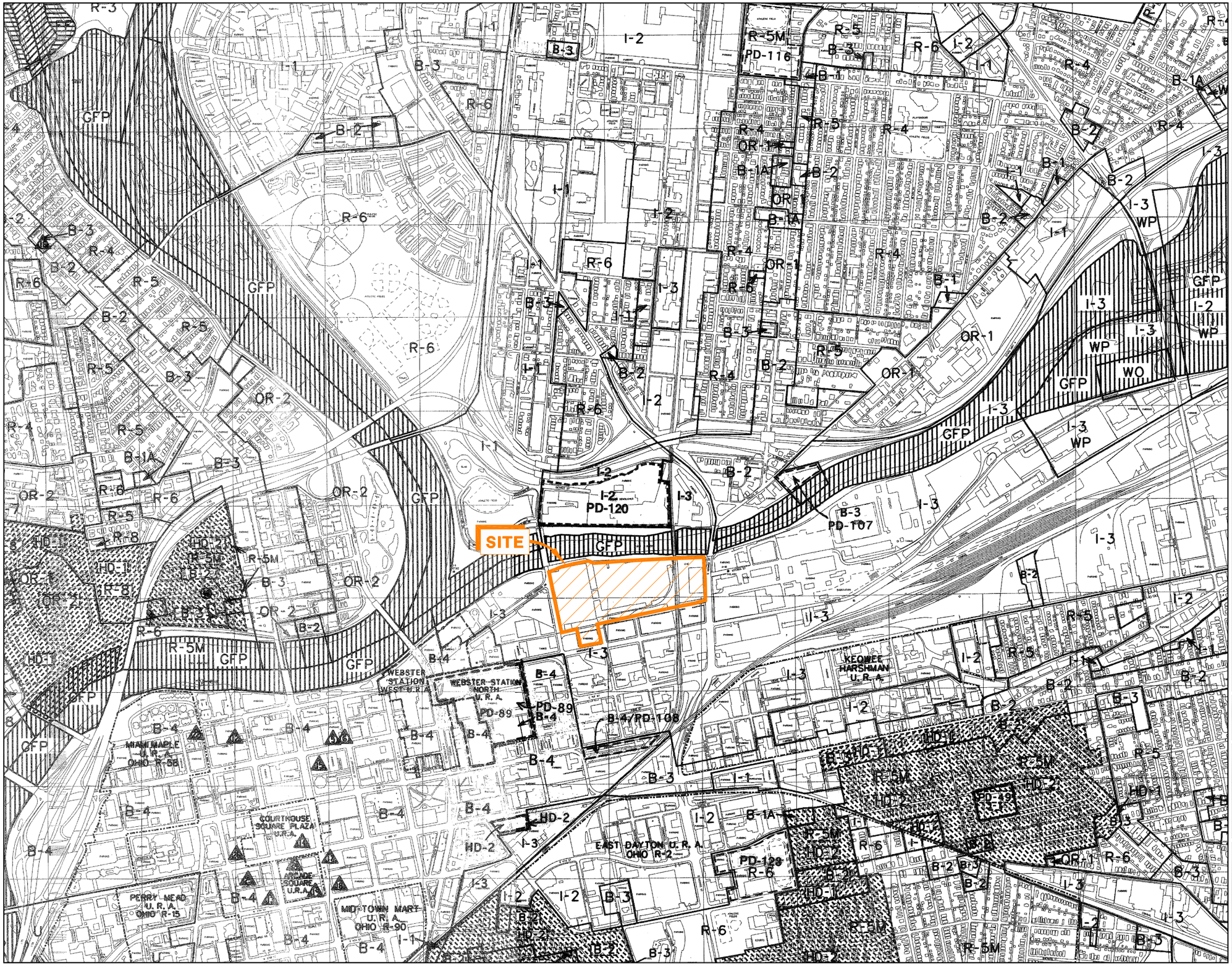


figure 3.35

BACKGROUND SAMPLE LOCATION - DETAIL 8
FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY
Dayton, Ohio

12638-04(011)GN-WA048 MAR 27/2006



LEGEND

ZONING DISTRICT BOUNDARY

INDICATES DIMENSIONED DISTANCES IN FEET

0 200 500ft

ZONING DISTRICTS

A	Agriculture-Residence District
AP	Aeronautical District
R-1	Single-Family Residence District
R-2	Single-Family Residence District
R-3	Single-Family Residence District
R-4	Single-Family Residence District
R-5	Two-Family Residence District
R-5M	Multiple-Family Residence District
R-6	Multiple-Family Residence District
R-7	Multiple-Family Residence District
R-8	Multiple-Family Residence District
OR-1	Office-Residence District
OR-2	Office-Residence District
U	University District
B-1	Local Business District
B-1A	Retail Business District
B-2	Community Business District
B-3	General Business District
B-4	Central Business District
I-1	Light Industrial District
I-2	General Industrial District
I-3	Heavy Industrial District

SPECIAL OVERLAY DISTRICTS

GFP	General Flood Plain District
FF	Flood Fringe District
FW	Floodway District
HD-2	Landmark Overlay District
HD-1	Presevation Overlay District (See Table 2.)
HD-L	Landmark Historic District (See Table 2.)
PD	Planned Development
	Urban Renewal Areas
OHIO R-2	East Dayton URP
OHIO R-15	Perry-Mead URP
OHIO R-54	Madden Hills URP
OHIO R-58	Miami-Maple URP
OHIO R-90	Mid-Town Mart URP
	Courthouse Square Plaza URP
	Arcade Square URP
	Inner West-Five Points URP
	Keowee-Harshman URP
	Rubicon URP
	Horace/Shannon URP
	Webster Station North URP
WO	Wellhead Operation District
WP	Well Field Protection Overlay District
	Unzoned Annexation Area
	Webster Station West URP

DISTRICT FILL PATTERNS

General Flood Plain District
Flood Fringe District
Floodway District
Historic District HD-1
Transitional Historic District HD-2
Unzoned Annexation Area

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY

Dayton, Ohio

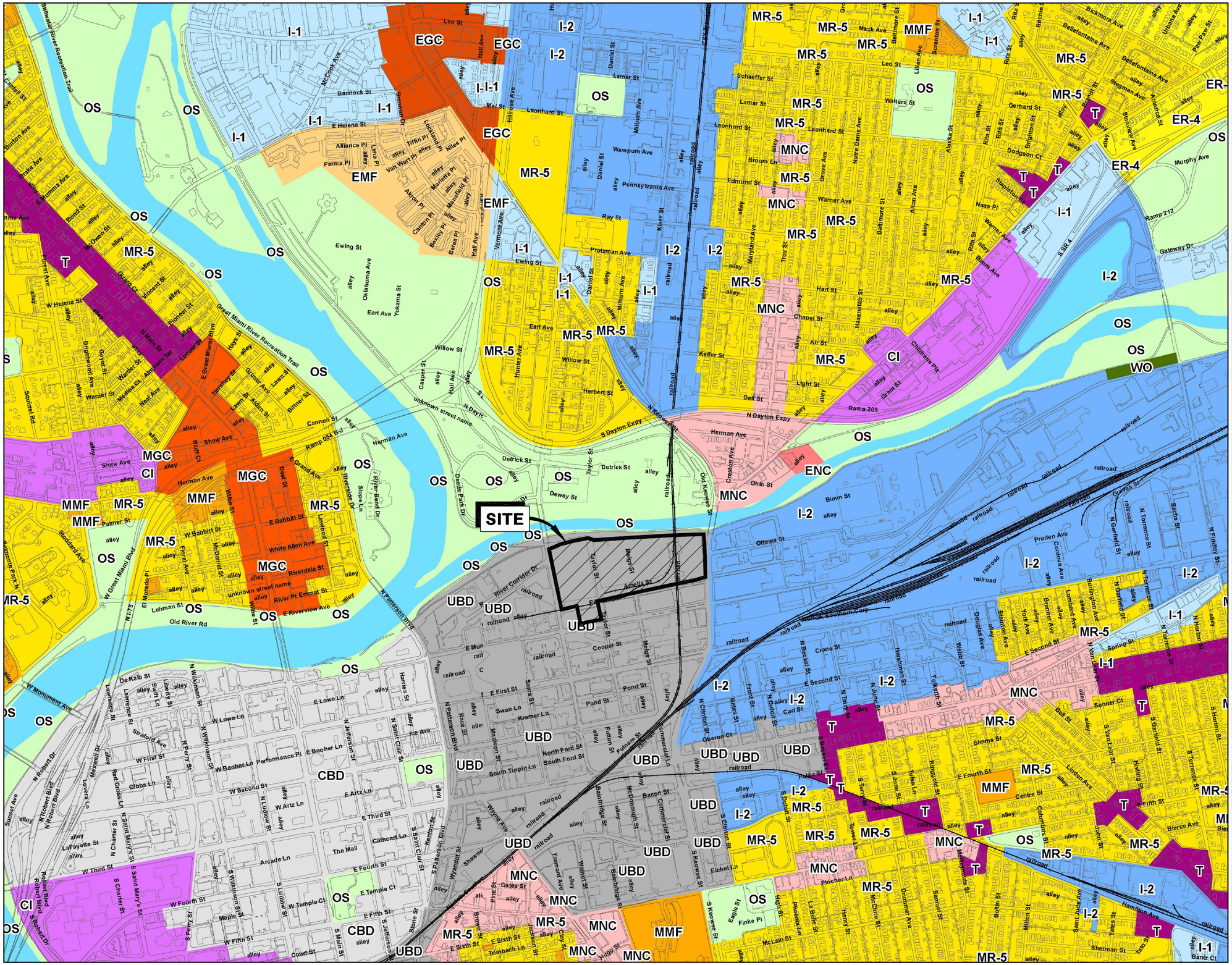
CITY OF DAYTON CURRENT ZONING

CONESTOGA-ROVERS & ASSOCIATES

Source Reference: CITY OF DAYTON ZONING MAPS, SHEETS 7 AND 13

Project Manager:	Reviewed By:	Date:	
IKR	SE	MARCH 2006	
Scale: 1"=500'	Project №: 12638-04	Report №: 011	Drawing №: 3.36

12638-04(011)GN-WA067 MAR 27/2006



N

0 200 500ft

LEGEND

(A) Residential Districts

SR-1	Suburban Single-Family District
SR-2	Suburban Single-Family District
ER-3	Eclectic Single-Family District
ER-4	Eclectic Single-Family District
MR-5	Mature Single-Family District
SMF	Suburban Multi-Family District
EMF	Eclectic Multi-Family District
MMF	Mature Multi-Family District
MH	Manufactured Home District

(B) Business Districts

UBD	Urban Business District
CBD	Central Business District
MNC	Mature Neighborhood Commercial District
ENC	Eclectic Neighborhood Commercial District
SNC	Suburban Neighborhood Commercial District
MGC	Mature General Commercial District
EGC	Eclectic General Commercial District
SGC	Suburban General Commercial District
T	Transitional District
MX	Mixed Use Hub District

(C) Industrial Districts

I-1	Light Industrial District
I-2	General Industrial District
BP	Business Park District

(D) Other Districts

CI	Campus-Institutional District
AP	Airport District
HD-1	Historic Overlay District
HD-2	Historic Overlay District
HD-3	Historic Overlay District
PD	Planned Development
UP	Urban Preservation Overlay District
WO	Well Head Operation District
WP	Well Field Protection Overlay District
OS	Park/Open Space District

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY

Dayton, Ohio

CITY OF DAYTON PROPOSED ZONING

CONESTOGA-ROVERS & ASSOCIATES

Source Reference:
CITY OF DAYTON DRAFT PROPOSED ZONING MAPS, SHEETS 7 AND 13

Project Manager:	Reviewed By:	Date:	
IKR	SE	MARCH 2006	
Scale: 1"=500'	Project N°: 12638-04	Report N°: 011	Drawing N°: 3.37

12638-04(011)GN-WA066 MAR 27/2006

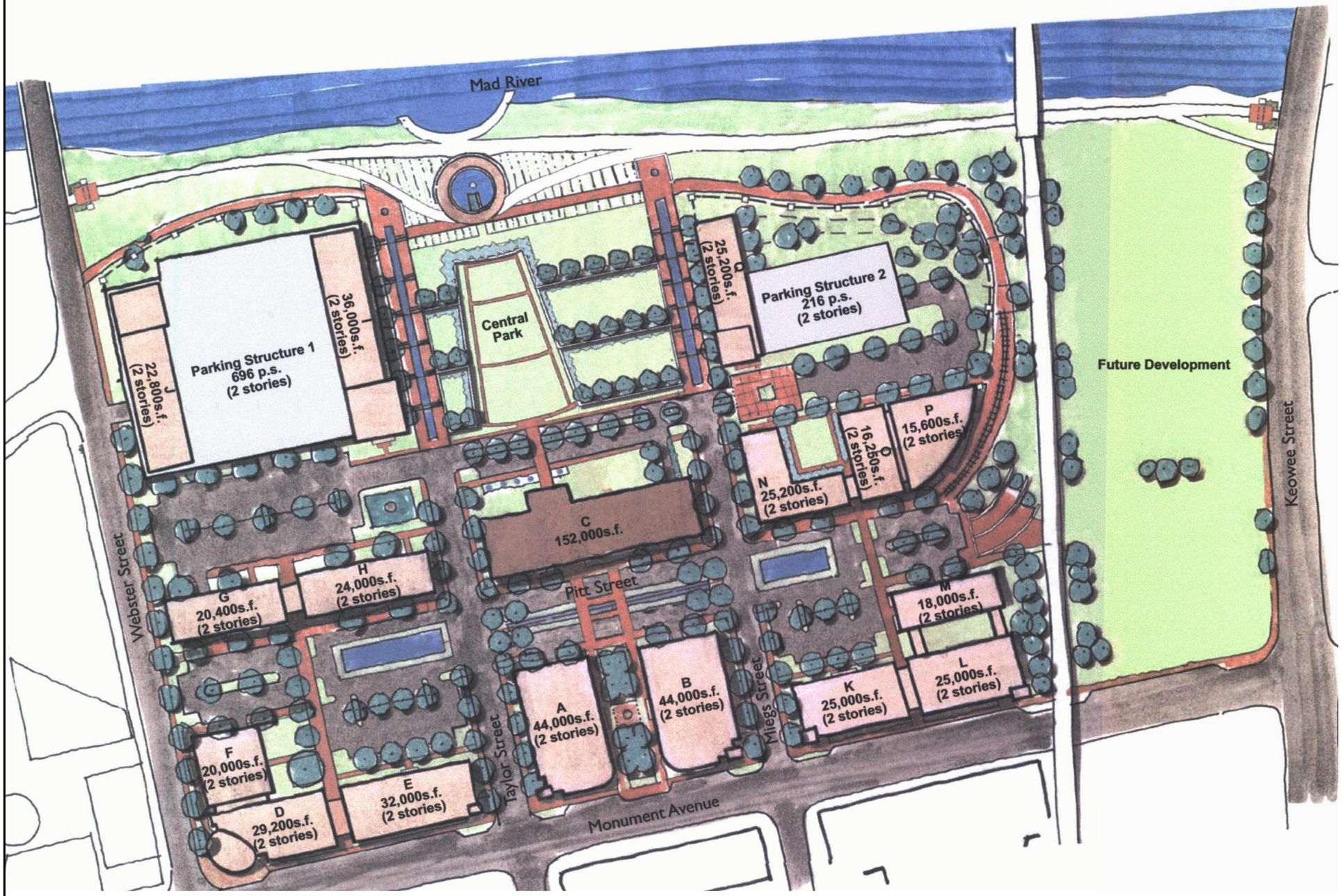
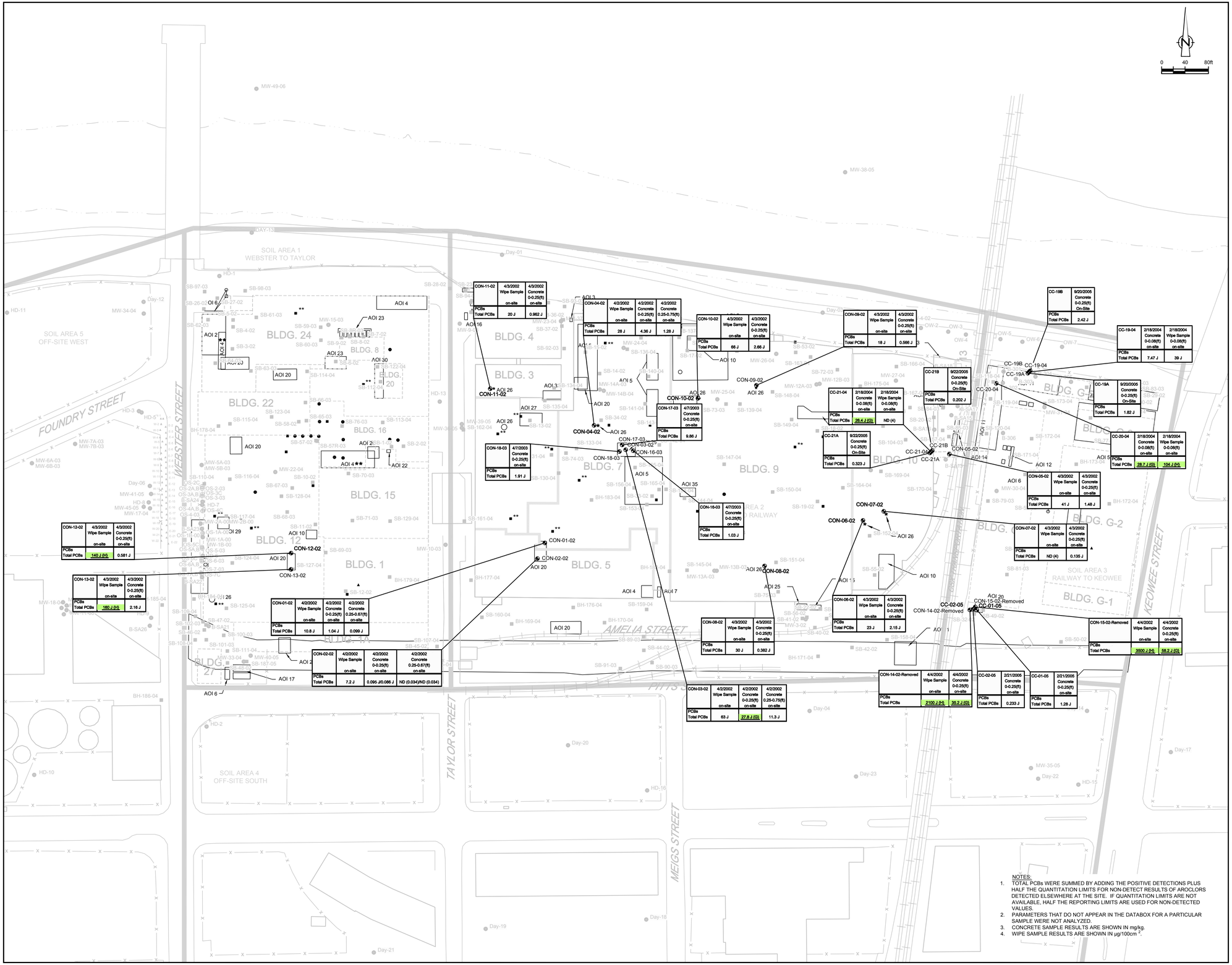


figure 3.38

CITY OF DAYTON REDEVELOPMENT PLAN
FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY
Dayton, Ohio

SOURCE: TECH TOWN CAMPUS MASTER PLAN
FEBRUARY 28, 2005 - DAYTON OHIO

12638-04(011)GN-WA031 MAR 27/2006



CON-11-02	4/3/2002 Wipe Sample	4/3/2002 Concrete 0-0.25(ft)
	on-site	on-site
PCBs Total PCBs	20 J	0.962 J

CON-04-02	4/2/2002 Wipe Sample	4/2/2002 Concrete 0-0.25(ft)	4/2/2002 Concrete 0.25-0.75(ft)
	on-site	on-site	on-site
PCBs Total PCBs	28 J	4.36 J	1.28 J

CON-10-02	4/3/2002 Wipe Sample	4/3/2002 Concrete 0-0.25(ft)
	on-site	on-site
PCBs Total PCBs	66 J	2.66 J

CON-09-02	4/3/2002 Wipe Sample	4/3/2002 Concrete 0-0.25(ft)
	on-site	on-site
PCBs Total PCBs	18 J	0.566 J

CC-19B	9/20/2005 Concrete 0-0.25(ft) On-Site
PCBs Total PCBs	2.42 J

CC-19-04	2/18/2004 Concrete 0-0.08(ft)	2/18/2004 Wipe Sample 0-0.08(ft)
	on-site	on-site
PCBs Total PCBs	7.47 J	39 J

CC-21B	9/22/2005 Concrete 0-0.25(ft) On-Site
PCBs Total PCBs	0.202 J

CC-19A	9/20/2005 Concrete 0-0.25(ft) On-Site
PCBs Total PCBs	1.82 J

CC-21-04	2/18/2004 Concrete 0-0.08(ft)	2/18/2004 Wipe Sample 0-0.08(ft)
	on-site	on-site
PCBs Total PCBs	28.4 J (G)	ND (4)

CC-20-04	2/18/2004 Concrete 0-0.08(ft)	2/18/2004 Wipe Sample 0-0.08(ft)
	on-site	on-site
PCBs Total PCBs	28.7 J (G)	104 J (H)

CC-21A	9/22/2005 Concrete 0-0.25(ft) On-Site
PCBs Total PCBs	0.323 J

CON-05-02	4/3/2002 Wipe Sample	4/3/2002 Concrete 0-0.25(ft)
	on-site	on-site
PCBs Total PCBs	41 J	1.48 J

CON-18-03	4/7/2003 Concrete 0-0.25(ft) On-site
PCBs Total PCBs	1.91 J

CON-17-03	4/7/2003 Concrete 0-0.25(ft) on-site
PCBs Total PCBs	9.86 J

CON-18-03	4/7/2003 Concrete 0-0.25(ft) On-site
PCBs Total PCBs	1.03 J

CON-07-02	4/3/2002 Wipe Sample	4/3/2002 Concrete 0-0.25(ft)
	on-site	on-site
PCBs Total PCBs	ND (4)	0.135 J

CON-13-02	4/3/2002 Wipe Sample	4/3/2002 Concrete 0-0.25(ft)
	on-site	on-site
PCBs Total PCBs	140 J (H)	0.581 J

CON-13-02	4/3/2002 Wipe Sample	4/3/2002 Concrete 0-0.25(ft)
	on-site	on-site
PCBs Total PCBs	160 J (H)	2.16 J

CON-01-02	4/2/2002 Wipe Sample	4/2/2002 Concrete 0-0.25(ft)	4/2/2002 Concrete 0.25-0.67(ft)
	on-site	on-site	on-site
PCBs Total PCBs	10.8 J	1.04 J	0.099 J

CON-08-02	4/3/2002 Wipe Sample	4/3/2002 Concrete 0-0.25(ft)
	on-site	on-site
PCBs Total PCBs	30 J	0.382 J

CON-06-02	4/3/2002 Wipe Sample	4/3/2002 Concrete 0-0.25(ft)
	on-site	on-site
PCBs Total PCBs	23 J	2.15 J

CON-15-02-Removed	4/4/2002 Wipe Sample	4/4/2002 Concrete 0-0.25(ft)
	on-site	on-site
PCBs Total PCBs	3500 J (H)	58.2 J (G)

CON-02-02	4/2/2002 Wipe Sample	4/2/2002 Concrete 0-0.25(ft)	4/2/2002 Concrete 0.25-0.67(ft)
	on-site	on-site	on-site
PCBs Total PCBs	7.2 J	0.095 J/0.086 J	ND (0.034)/ND (0.034)

CON-03-02	4/2/2002 Wipe Sample	4/2/2002 Concrete 0-0.25(ft)	4/2/2002 Concrete 0.25-0.75(ft)
	on-site	on-site	on-site
PCBs Total PCBs	63 J	27.8 J (G)	11.3 J

CON-14-02-Removed	4/4/2002 Wipe Sample	4/4/2002 Concrete 0-0.25(ft)
	on-site	on-site
PCBs Total PCBs	2100 J (H)	35.2 J (G)

CC-02-05	2/21/2005 Concrete 0-0.25(ft) on-site
PCBs Total PCBs	0.233 J

CC-01-05	2/21/2005 Concrete 0-0.25(ft) on-site
PCBs Total PCBs	1.28 J

LEGEND

- BUILDING WALL
- BUILDING BOUNDARY
- FORMER BUILDING WALL
- SHORELINE
- RAILROAD
- SOIL PRESENTATION AREA BOUNDARY
- SOIL BORING LOCATION
- MONITORING WELL LOCATION
- WIPE/CONCRETE CORE SAMPLE LOCATION
- OZONE SPARGE WELL LOCATION
- INJECTION BORING FOR HRC BARRIER
- BASEMENT SUMP LOCATION
- PROCESS SEWER MANHOLE LOCATION
- STORM SEWER MANHOLE LOCATION
- STORM SEWER INTERCEPTOR LOCATION
- PROCESS SEWER LINE
- STORM SEWER LINE

AOI 1 - SOLVENT RELEASE AREA
AOI 2 - STILL ROOM
AOI 3 - WASTE TANKS
AOI 4 - HAZARDOUS WASTE STAGING AND STORING AREAS
** ON UPPER FLOOR
AOI 5 - ELECTROPLATING
AOI 6 - SPILL INTERCEPTORS
AOI 7 - SOLVENT STORAGE TANK
AOI 8 - DEGREASING UNITS:
● STODDARD SOLVENT
■ TCE/PCE/TCA SOLVENT
▲ FREON SOLVENT
** ON UPPER FLOOR
AOI 9 - SATELLITE CLEANING AREA (VARIOUS LOCATIONS THROUGHOUT SITE)
AOI 10 - PAINT WASTE ACCUMULATION AREAS
AOI 11 - CHIP HANDLING AREAS
AOI 12 - CUTTING OIL USTS
AOI 13 - OIL HOUSE
AOI 14 - HYDRAULIC OIL AND COOLANT USTS
AOI 15 - HYDRAULIC OIL UST
AOI 16 - FUEL USTS
AOI 17 - REFRIGERANT USTS
AOI 18 - STORM SEWERS (VARIOUS LOCATIONS THROUGHOUT SITE)
AOI 19 - PROCESS SEWERS (VARIOUS LOCATIONS THROUGHOUT SITE)
AOI 20 - PCB RELEASES FROM ELECTRICAL EQUIPMENT
AOI 21 - HYDROMATION PIT
AOI 22 - INCINERATOR
AOI 23 - UST'S AND FORMER STILL
AOI 24 - FORMER MACHINE GUN TESTING AREA
AOI 25 - HYDROCHLORIC ACID SPILLS
AOI 26 - PCB RELEASES FORM PROCESS EQUIPMENT:
✱ PROCESS DUCT
△ No.2 VAILL MACHINE
▲ TOOL GRIND ROOM
○ GEAR BOX
AOI 27 - BATTERY CHARGING STATION (A SECOND STATION MAY HAVE BEEN LOCATED IN BLDG. 5)
AOI 28 - FORMER MIAMI CANAL EXTENSION
AOI 29 - BUILDING 12 STILL
AOI 30 - EXPERIMENTAL AIR CONDITIONING
AOI 31 - BUILDING 1 SPRAY BOOTHS
AOI 32 - BUILDING 3 TRANSFORMER (GROUND LEVEL)
AOI 33 - PAINT AND ENAMEL STORAGE
AOI 34 - PARTS GRINDING
AOI 36 - STORAGE TANKS

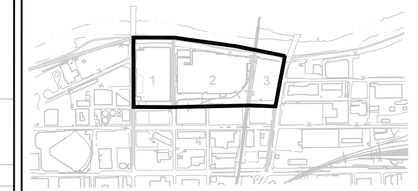
CC-19-04	2/18/04 Concrete 0-0.08(ft)	2/18/04 Wipe Sample 0-0.08(ft)
	on-site	on-site
PCBs Total PCBs (Total)	7.47 J	39 J

- SAMPLE LOCATION
- SAMPLE DATE
- MATRIX
- SAMPLE DEPTH
- ON-SITE/OFF-SITE INDICATOR
- CONCENTRATION
- PARAMETER
- EXCEEDS CRITERIA

39 J (G)

Chemical Name	G	H
Total PCBs	2.50E+01	1.00E+02

G TSCA Bulk
H TSCA Wipe



KEY PLAN

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY

Dayton Ohio

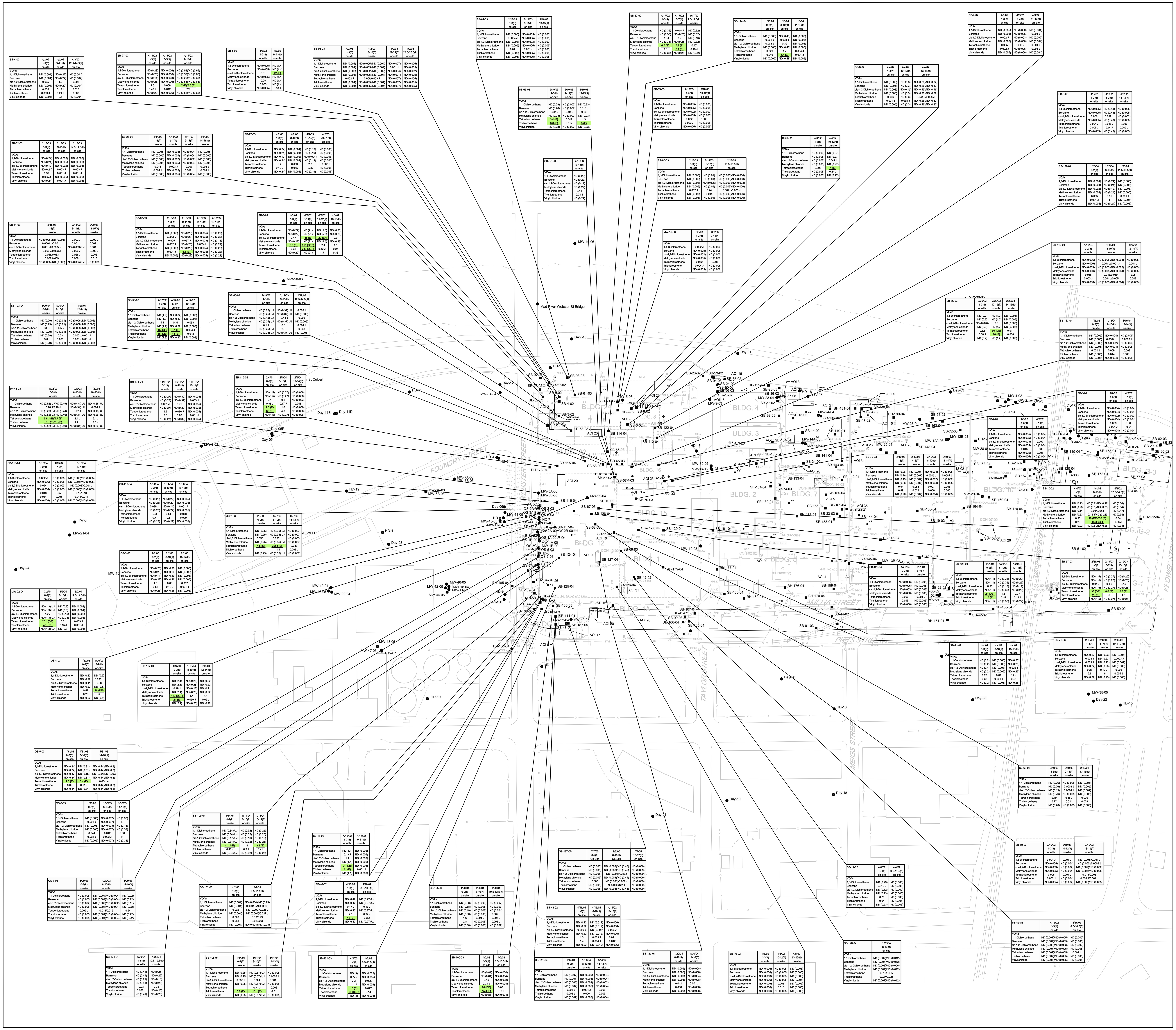
WIPE AND CONCRETE ANALYTICAL DATA SITE WIDE

NOTES:
1. TOTAL PCBs WERE SUMMED BY ADDING THE POSITIVE DETECTIONS PLUS HALF THE QUANTITATION LIMITS FOR NON-DETECT RESULTS OF AROCLORS DETECTED ELSEWHERE AT THE SITE. IF QUANTITATION LIMITS ARE NOT AVAILABLE, HALF THE REPORTING LIMITS ARE USED FOR NON-DETECTED VALUES.
2. PARAMETERS THAT DO NOT APPEAR IN THE DATABOX FOR A PARTICULAR SAMPLE WERE NOT ANALYZED.
3. CONCRETE SAMPLE RESULTS ARE SHOWN IN mg/kg.
4. WIPE SAMPLE RESULTS ARE SHOWN IN µg/100cm ^{2}.

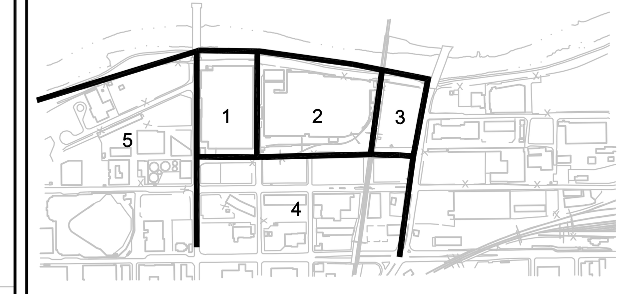
CONESTOGA-ROVERS & ASSOCIATES

Source Reference:			
Project Manager: IKR	Reviewed By: SE	Date: MARCH 2006	
Scale: 1"=80'	Project N^{o}: 12638-04	Report N^{o}: 011	Drawing N^{o}: 4.1

12638-04(011)GN-WA038 MAR 29/2006



NOTES:
1. SCREENING CRITERIA AND SAMPLE RESULTS ARE COMPARED TO TWO SIGNIFICANT DIGITS. RESULTS EQUAL TO SCREENING CRITERIA ARE NOT HIGHLIGHTED AS EXCEEDANCES.
2. PARAMETERS THAT DO NOT APPEAR IN THE DATABOX FOR A PARTICULAR SAMPLE WERE NOT ANALYZED.



KEY PLAN

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY

Dayton, Ohio

SOIL ANALYTICAL DATA - AREA 1 WEBSTER STREET TO TAYLOR STREET VOCs

CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

Project Manager:	Reviewed By:	Date:	
IKR	SE	MARCH 2006	
Scale: 1"=80'	Project Nº: 12638-04	Report Nº: 011	Drawing Nº: 4.2A(i)

12638-04(011)GN-WA034 MAR 29/2006

SB-3-02	4/3/02 1-3(ft) on-site	4/3/02 9-11(ft) on-site	4/3/02 11-12(ft) on-site	4/3/02 13-15(ft) on-site
SVOAs				
Benzo(a)anthracene	ND (0.35)	ND (0.37)	ND (0.36)	0.089 J
Benzo(a)pyrene	ND (0.35)	ND (0.37)	ND (0.36)	0.08 J
Benzo(b)fluoranthene	ND (0.35)	ND (0.37)	ND (0.36)	0.077 J
bis(2-Ethylhexyl)phthalate	ND (0.35)	0.36 J	ND (0.36)	ND (0.39)
Dibenz(a,h)anthracene	ND (0.35)	ND (0.37)	ND (0.36)	ND (0.39)
PCBs				
Total PCBs	14.8 J (D)	0.894 J	0.045 J	0.168 J

SB-97-03	4/2/03 1-3(ft) on-site	4/2/03 8-10(ft) on-site	4/2/03 13-15(ft) on-site	4/2/03 29-31(ft) on-site
SVOAs				
Benzo(a)anthracene	0.65	1.3	0.32 J	ND (0.51)
Benzo(a)pyrene	0.72	2	0.35	ND (0.51)
Benzo(b)fluoranthene	0.76	1.9	0.32 J	ND (0.51)
bis(2-Ethylhexyl)phthalate	ND (0.47)	ND (0.92)	ND (0.35)	0.044 J
Dibenz(a,h)anthracene	0.13 J	0.39 J	0.063 J	ND (0.51) UJ
PCBs				
Total PCBs	ND (0.035)	ND (0.037)	ND (0.035)	0.076 J

SB-5-02	4/3/02 1-3(ft) on-site	4/3/02 9-11(ft) on-site
SVOAs		
Benzo(a)anthracene	ND (0.36)	ND (0.37)
Benzo(a)pyrene	ND (0.36)	ND (0.37)
Benzo(b)fluoranthene	ND (0.36)	ND (0.37)
bis(2-Ethylhexyl)phthalate	ND (0.36)	ND (0.37)
Dibenz(a,h)anthracene	ND (0.36)	ND (0.37)
PCBs		
Total PCBs	ND (0.036)	ND (0.037)

SB-98-03	4/2/03 1-3(ft) on-site	4/2/03 8-10(ft) on-site	4/2/03 22-24(ft) on-site	4/2/03 24.5-26.5(ft) on-site
SVOAs				
Benzo(a)anthracene	0.65	0.16 J/0.083 J	0.42 J	ND (0.36)
Benzo(a)pyrene	0.62	0.12 J/0.021 J	0.27 J	ND (0.36)
Benzo(b)fluoranthene	0.67	0.13 J/ND (0.36)	0.27 J	ND (0.36)
bis(2-Ethylhexyl)phthalate	ND (0.48)	0.093 J/0.18 J	0.041 J	ND (0.36)
Dibenz(a,h)anthracene	0.11 J	ND (0.35) UJ/ND (0.36) UJ	ND (0.92) UJ	ND (0.36) UJ
PCBs				
Total PCBs	ND (0.036)	ND (0.035)/ND (0.036)	ND (0.046)	ND (0.036)

MW-15-03	3/6/03 1-3(ft) on-site	3/6/03 9-11(ft) on-site
SVOAs		
Benzo(a)anthracene	0.033 J	ND (0.35)
Benzo(a)pyrene	0.038 J	ND (0.35)
Benzo(b)fluoranthene	0.05 J	ND (0.35)
bis(2-Ethylhexyl)phthalate	ND (0.35)	ND (0.35)
Dibenz(a,h)anthracene	ND (0.35)	ND (0.35)
PCBs		
Total PCBs	ND (0.035)	ND (0.035)

SB-9-02	4/4/02 1-3(ft) on-site	4/4/02 10-12(ft) on-site
SVOAs		
Benzo(a)anthracene	ND (0.36)	0.25 J
Benzo(a)pyrene	ND (0.36)	0.36 J
Benzo(b)fluoranthene	ND (0.36)	0.46
bis(2-Ethylhexyl)phthalate	0.06 J	ND (0.39)
Dibenz(a,h)anthracene	ND (0.35)	0.068 J
PCBs		
Total PCBs	ND (0.035)	0.097 J

SB-114-04	1/15/04 0-2(ft) on-site	1/15/04 8-10(ft) on-site	1/15/04 11-13(ft) on-site
PCBs			
Total PCBs	0.254 J	ND (0.039)	0.02 J

SB-4-02	4/3/02 1-3(ft) on-site	4/3/02 9-11(ft) on-site	4/3/02 12.5-14.5(ft) on-site
SVOAs			
Benzo(a)anthracene	ND (0.34)	ND (0.35)	ND (0.35)
Benzo(a)pyrene	ND (0.34)	ND (0.35)	ND (0.35)
Benzo(b)fluoranthene	ND (0.34)	ND (0.35)	ND (0.35)
bis(2-Ethylhexyl)phthalate	ND (0.34)	ND (0.35)	0.066 J
Dibenz(a,h)anthracene	ND (0.34)	ND (0.35)	ND (0.35)
PCBs			
Total PCBs	ND (0.034)	ND (0.035)	0.082 J

SB-61-03	2/18/03 1-3(ft) on-site	2/18/03 9-11(ft) on-site	2/18/03 13-15(ft) on-site
SVOAs			
Benzo(a)anthracene	0.033 J	ND (0.35)	ND (0.35)
Benzo(a)pyrene	0.041 J	ND (0.35)	ND (0.35)
Benzo(b)fluoranthene	0.044 J	ND (0.35)	ND (0.35)
bis(2-Ethylhexyl)phthalate	ND (0.35)	ND (0.35)	0.044 J
Dibenz(a,h)anthracene	ND (0.35)	ND (0.35)	ND (0.35)
PCBs			
Total PCBs	1.32 J	ND (0.035)	0.09 J

SB-26-02	4/11/02 1-3(ft) on-site	4/11/02 5-7(ft) on-site	4/11/02 9-11(ft) on-site	4/11/02 14-16(ft) on-site
SVOAs				
Benzo(a)anthracene	0.063 J	0.37	ND (0.35)	ND (0.35)
Benzo(a)pyrene	ND (0.35)	0.29 J	ND (0.35)	ND (0.35)
Benzo(b)fluoranthene	0.067 J	0.32 J	ND (0.35)	ND (0.35)
bis(2-Ethylhexyl)phthalate	0.015 J	0.12 J	ND (0.38)	0.043 J
Dibenz(a,h)anthracene	ND (0.35)	ND (0.36)	ND (0.38)	ND (0.35)
PCBs				
Total PCBs	0.047 J	0.041 J	ND (0.038)	0.317 J

SB-62-03	2/18/03 1-3(ft) on-site	2/18/03 9-11(ft) on-site	2/18/03 12.5-14.5(ft) on-site
SVOAs			
Benzo(a)anthracene	ND (0.35)	0.029 J	0.032 J
Benzo(a)pyrene	ND (0.35)	0.027 J	0.047 J
Benzo(b)fluoranthene	ND (0.35)	0.03 J	0.046 J
bis(2-Ethylhexyl)phthalate	0.02 J	ND (0.37)	0.12 J
Dibenz(a,h)anthracene	ND (0.35)	ND (0.37)	ND (0.36)
PCBs			
Total PCBs	0.031 J	0.031 J	0.114 J

SB-64-03	2/18/03 1-3(ft) on-site	2/18/03 9-11(ft) on-site	2/20/03 13-15(ft) on-site
SVOAs			
Benzo(a)anthracene	ND (0.34)/ND (0.34)	ND (0.34)	ND (0.34)
Benzo(a)pyrene	ND (0.34)/ND (0.34)	ND (0.34)	ND (0.34)
Benzo(b)fluoranthene	ND (0.34)/ND (0.34)	ND (0.34)	ND (0.34)
bis(2-Ethylhexyl)phthalate	ND (0.34)/ND (0.34)	ND (0.34)	0.19 J
Dibenz(a,h)anthracene	ND (0.34)/ND (0.34)	ND (0.34)	ND (0.34)
PCBs			
Total PCBs	0.029 J/0.031 J	ND (0.034)	ND (0.034)

SB-66-03	2/19/03 1-3(ft) on-site	2/19/03 9-11(ft) on-site	2/19/03 13-15(ft) on-site
PCBs			
Total PCBs	ND (0.037)	ND (0.047)	0.144 J

SB-65-03	2/19/03 1-3(ft) on-site	2/19/03 9-11(ft) on-site	2/19/03 12.5-14.5(ft) on-site
PCBs			
Total PCBs	0.094 J	0.153 J	0.579 J

SB-56-02	4/17/02 1-3(ft) on-site	4/17/02 6-8(ft) on-site	4/17/02 10-12(ft) on-site
SVOAs			
Benzo(a)anthracene	1.4 J	0.1 J	ND (0.51)
Benzo(a)pyrene	ND (3.5)	0.2 J	ND (0.51)
Benzo(b)fluoranthene	1.5 J	0.14 J	ND (0.51)
bis(2-Ethylhexyl)phthalate	ND (3.5)	ND (0.41)	ND (0.51)
Dibenz(a,h)anthracene	ND (3.5)	ND (0.41)	ND (0.51)
PCBs			
Total PCBs	0.552 J	ND (0.041)	ND (0.051)

SB-123-04	1/20/04 0-2(ft) on-site	1/20/04 8-10(ft) on-site	1/20/04 12-14(ft) on-site
PCBs			
Total PCBs	ND (0.039)	ND (0.047)	0.283 J/0.154 J

SB-57-02	4/17/02 1-3(ft) on-site	4/17/02 5-7(ft) on-site	4/17/02 9.5-11.5(ft) on-site
SVOAs			
Benzo(a)anthracene	0.19 J	ND (0.38)	0.53 J
Benzo(a)pyrene	0.28 J	ND (0.38)	0.57 J
Benzo(b)fluoranthene	0.33 J	ND (0.38)	0.81 J
bis(2-Ethylhexyl)phthalate	ND (0.38)	ND (0.38)	ND (1.8)
Dibenz(a,h)anthracene	0.079 J	ND (0.38)	ND (1.8)
PCBs			
Total PCBs	0.044 J	ND (0.038)	54.7 J (DF)

SB-57R-03	2/19/03 13-15(ft) on-site
SVOAs	
Benzo(a)anthracene	ND (0.35)
Benzo(a)pyrene	ND (0.35)
Benzo(b)fluoranthene	ND (0.35)
bis(2-Ethylhexyl)phthalate	0.02 J
Dibenz(a,h)anthracene	ND (0.35)
PCBs	
Total PCBs	26.4 J (DF)

MW-5-03	1/22/03 0-2(ft) on-site	1/22/03 8-10(ft) on-site	1/22/03 18-20(ft) on-site
SVOAs			
Benzo(a)anthracene	0.49 J/0.42 J	0.031 J	0.11 J
Benzo(a)pyrene	0.6 J/0.47 J	0.036 J	0.13 J
Benzo(b)fluoranthene	0.73 J/0.56 J	0.041 J	0.14 J
bis(2-Ethylhexyl)phthalate	ND (0.9)/ND (0.72)	ND (0.37)	ND (0.97)
Dibenz(a,h)anthracene	ND (0.9)/0.077 J	ND (0.37)	ND (0.97)
PCBs			
Total PCBs	0.043 J/0.037 J	ND (0.037)	0.118 J

OS-2-03	1/27/03 0-2(ft) on-site	1/27/03 8-10(ft) on-site	1/27/03 16-18(ft) on-site
SVOAs			
Benzo(a)anthracene	6.5 J	0.083 J	ND (0.37)
Benzo(a)pyrene	7.4 J (D)	0.097 J	ND (0.37)
Benzo(b)fluoranthene	8.4 J	0.094 J	ND (0.37)
bis(2-Ethylhexyl)phthalate	ND (8.9)	ND (0.44)	ND (0.37)
Dibenz(a,h)anthracene	1 J	ND (0.44)	ND (0.37)
PCBs			
Total PCBs	0.622 J	0.038 J	ND (0.037)

SB-103-03	4/2/03 1-3(ft) on-site	4/2/03 9.5-11.5(ft) on-site
SVOAs		
Benzo(a)anthracene	0.68 J	0.11 J
Benzo(a)pyrene	0.59 J	0.058 J
Benzo(b)fluoranthene	0.62 J	0.061 J
bis(2-Ethylhexyl)phthalate	ND (1.5)	0.12 J
Dibenz(a,h)anthracene	0.12 J	ND (0.37)
PCBs		
Total PCBs	0.031 J	2.22 J

SB-100-03	4/2/03 1-3(ft) on-site	4/2/03 8.5-10.5(ft) on-site
SVOAs		
Benzo(a)anthracene	0.33 J	ND (0.9)
Benzo(a)pyrene	0.35 J	ND (0.9)
Benzo(b)fluoranthene	0.29 J	ND (0.9)
bis(2-Ethylhexyl)phthalate	0.044 J	0.043 J
Dibenz(a,h)anthracene	0.07 J	ND (0.9) UJ
PCBs		
Total PCBs	ND (0.039)	7.78 J

OS-3-03	2/2/03 0-2(ft) on-site	2/2/03 8-10(ft) on-site	2/2/03 15-17(ft) on-site
SVOAs			
Benzo(a)anthracene	1.4 J	0.038 J	ND (0.37)
Benzo(a)pyrene	1.3 J	0.038 J	ND (0.37)
Benzo(b)fluoranthene	1.5 J	0.044 J	ND (0.37)
bis(2-Ethylhexyl)phthalate	ND (1.6)	ND (0.39)	ND (0.37)
Dibenz(a,h)anthracene	0.43 J	0.05 J	ND (0.37)
PCBs			
Total PCBs	0.582 J	0.602 J	0.115 J

OS-4-03	1/20/03 0-2(ft) on-site	1/20/03 7-9(ft) on-site
SVOAs		
Benzo(a)anthracene	4.9	0.43
Benzo(a)pyrene	4.6 (D)	0.49
Benzo(b)fluoranthene	4.6	0.57
bis(2-Ethylhexyl)phthalate	ND (4.4)	ND (0.38)
Dibenz(a,h)anthracene	0.63 J	0.097 J
PCBs		
Total PCBs	2.06 J	0.136 J

SB-117-04	1/15/04 0-2(ft) on-site	1/15/04 8-10(ft) on-site	1/15/04 12-14(ft) on-site
SVOAs			
Benzo(a)anthracene	0.23 J	ND (0.35)	ND (0.35)
Benzo(a)pyrene	0.49	ND (0.35)	ND (0.35)
Benzo(b)fluoranthene	0.82	ND (0.35)	ND (0.35)
bis(2-Ethylhexyl)phthalate	ND (0.43)	ND (0.35)	ND (0.35)
Dibenz(a,h)anthracene	0.18 J	ND (0.35)	ND (0.35)
PCBs			
Total PCBs	0.077 J	ND (0.035)	0.07 J

OS-5-03	1/31/03 0-2(ft) on-site	1/31/03 8-10(ft) on-site	1/31/03 14-16(ft) on-site
SVOAs			
Benzo(a)anthracene	0.41	0.74	0.034 J/0.039 J
Benzo(a)pyrene	0.57	0.7	0.031 J/0.036 J
Benzo(b)fluoranthene	0.64	0.82	0.03 J/0.04 J
bis(2-Ethylhexyl)phthalate	0.025 J	0.037 J	0.038 J/ND (0.37)
Dibenz(a,h)anthracene	0.17 J	0.2 J	ND (0.37)/0.049 J
PCBs			
Total PCBs	1.17 J	ND (0.052)	0.04 J/0.034 J

OS-6-03	1/30/03 0-2(ft) on-site	1/30/03 8-10(ft) on-site	1/30/03 14-16(ft) on-site
SVOAs			
Benzo(a)anthracene	ND (0.34)	ND (0.38)	ND (0.35) UJ
Benzo(a)pyrene	ND (0.34)	ND (0.38)	ND (0.35)
Benzo(b)fluoranthene	ND (0.34)	ND (0.38)	ND (0.35)
bis(2-Ethylhexyl)phthalate	ND (0.34)	0.12 J	ND (0.35) UJ
Dibenz(a,h)anthracene	ND (0.34)	ND (0.38)	ND (0.35)
PCBs			
Total PCBs	ND (0.034)	ND (0.038)	0.194 J

OS-7-03	1/29/03 0-2(ft) on-site	1/29/03 8-10(ft) on-site	1/29/03 14-16(ft) on-site
SVOAs			
Benzo(a)anthracene	ND (0.34)	ND (0.35)/ND (0.35)	ND (0.35)
Benzo(a)pyrene	ND (0.34)	ND (0.35)/ND (0.35)	ND (0.35)
Benzo(b)fluoranthene	ND (0.34)	ND (0.35)/ND (0.35)	ND (0.35)
bis(2-Ethylhexyl)phthalate	ND (0.34)	0.11 J/0.12 J	ND (0.35)
Dibenz(a,h)anthracene	ND (0.34)	ND (0.35)/ND (0.35)	ND (0.35)
PCBs			
Total PCBs	ND (0.034)	ND (0.035)/ND (0.035)	ND (0.035)

BH-184-04	11/29/04 0-2(ft) on-site	11/29/04 8-10(ft) on-site	11/29/04 12-14(ft) on-site
PCBs			
Total PCBs	ND (0.04)	ND (0.039)	8.84 J (D)

SB-109-04	1/14/04 0-2(ft) on-site	1/14/04 8-10(ft) on-site	1/14/04 10-12(ft) on-site
PCBs			
Total PCBs	ND (0.04)	272 J (DF)	0.164 J

SB-102-03	4/2/03 1-3(ft) on-site	4/2/03 9.5-11.5(ft) on-site
SVOAs		
Benzo(a)anthracene	1.2	ND (1.4)/0.53
Benzo(a)pyrene	1.4	0.075 J/0.61
Benzo(b)fluoranthene	1.5	ND (1.4)/0.64
bis(2-Ethylhexyl)phthalate	ND (0.92)	0.16 J/0.046 J
Dibenz(a,h)anthracene	0.26 J	ND (1.4)/0.1 J
PCBs		
Total PCBs	0.038 J	56.4 J (DF)/25.2 J (DF)

SB-47-02	4/16/02 1-3(ft) on-site	4/16/02 9-11(ft) on-site
SVOAs		
Benzo(a)anthracene	0.77	ND (0.41)
Benzo(a)pyrene	0.88	ND (0.41)
Benzo(b)fluoranthene	1.4	ND (0.41)
bis(2-Ethylhexyl)phthalate	ND (0.35)	ND (0.41)
Dibenz(a,h)anthracene	0.12 J	ND (0.41)
PCBs		
Total PCBs	0.065 J	0.467 J

SB-46-02	4/16/02 1-3(ft) on-site	4/16/02 8.5-10.5(ft) on-site
SVOAs		
Benzo(a)anthracene	3.6	ND (0.35)
Benzo(a)pyrene	3.3 (D)	ND (0.35)
Benzo(b)fluoranthene	4.5	ND (0.35)
bis(2-Ethylhexyl)phthalate	ND (1.3)	ND (0.35)
Dibenz(a,h)anthracene	0.47 J	ND (0.35)
PCBs		
Total PCBs	0.054 J	0.86 J

SB-108-04	1/14/04 0-2(ft) on-site	1/14/04 8-10(ft) on-site	1/14/04 11-13(ft) on-site
PCBs			
Total PCBs	ND (0.036)	0.033 J	0.094 J

SB-125-04	1/20/04 0-2(ft) on-site	1/20/04 8-10(ft) on-site	1/20/04 10.5-12.5(ft) on-site
PCBs			
Total PCBs	ND (0.04)	ND (0.035)	ND (0.035)

SB-111-04	1/14/04 0-2(ft) on-site	1/14/04 8-10(ft) on-site	1/14/04 11-13(ft) on-site
PCBs			
Total PCBs	0.021 J	ND (0.035)	0.078 J

SB-48-02	4/16/02 1-3(ft) on-site	4/16/02 8-10(ft) on-site	4/16/02 11-13(ft) on-site
SVOAs			
Benzo(a)anthracene	0.2 J	0.28 J	1.7
Benzo(a)pyrene	0.21 J	0.3 J	1.6
Benzo(b)fluoranthene	0.26 J	0.34 J	2.2
bis(2-Ethylhexyl)phthalate	ND (0.34)	ND (0.35)	ND (0.71)
Dibenz(a,h)anthracene	ND (0.34)	ND (0.35)	0.21 J
PCBs			
Total PCBs	ND (0.034)	ND (0.035)	ND (0.035)

SB-127-04	1/20/04 8-10(ft) on-site	1/20/04 14-16(ft) on-site
PCBs		
Total PCBs	0.644 J	0.534 J

SB-187-05	7/7/05 0-2(ft) On-Site	7/7/05 8-10(ft) On-Site	7/7/05 15-17(ft) On-Site
SVOAs			
Benzo(a)anthracene	0.52	0.041 J/0.079 J	0.13 J
Benzo(a)pyrene	0.61	0.032 J/0.071 J	0.12 J
Benzo(b)fluoranthene	0.83	0.048 J/0.086 J	0.18 J
bis(2-Ethylhexyl)phthalate	ND (0.36)	ND (0.8)/ND (0.52)	ND (0.53)
Dibenz(a,h)anthracene	0.12 J	ND (0.5)/ND (0.52)	ND (0.53)
PCBs			
Total PCBs	0.034 J	ND (0.05)/ND (0.052)	ND (0.053)

SB-126-04	1/20/04 8-10(ft) on-site
SVOAs	
Benzo(a)anthracene	0.036 J/0.062 J
Benzo(a)pyrene	0.046 J/0.062 J
Benzo(b)fluoranthene	0.055 J/0.068 J
bis(2-Ethylhexyl)phthalate	ND (0.36)/ND (0.4)
Dibenz(a,h)anthracene	ND (0.36)/ND (0.4)
PCBs	
Total PCBs	0.264 J/0.858 J

SB-12-02	4/4/02 1-3(ft) on-site	4/4/02 9.5-11.5(ft) on-site
SVOAs		
Benzo(a)anthracene	0.29 J	ND (0.34)
Benzo(a)pyrene	0.27 J	ND (0.34)
Benzo(b)fluoranthene	0.37 J	ND (0.34)
bis(2-Ethylhexyl)phthalate	ND (0.39)	ND (0.34)
Dibenz(a,h)anthracene	ND (0.36)	ND (0.34)
PCBs		
Total PCBs	ND (0.039)	ND (0.034)

SB-105-04	1/14/04 0-2(ft) on-site
SVOAs	
Benzo(a)anthracene	0.15 J
Benzo(a)pyrene	0.2 J
Benzo(b)fluoranthene	0.23 J
bis(2-Ethylhexyl)phthalate	ND (0.35)
Dibenz(a,h)anthracene	0.039 J

SB-16-02	4/8/02 1-3(ft) on-site	4/8/02 10-12(ft) on-site	4/8/02 13-15(ft) on-site
SVOAs			
Benzo(a)anthracene	ND (0.35)	ND (0.36)	ND (0.35)
Benzo(a)pyrene	ND (0.35)	ND (0.36)	ND (0.35)
Benzo(b)fluoranthene	ND (0.35)	ND (0.36)	ND (0.35)
bis(2-Ethylhexyl)phthalate	ND (0.35)	ND (0.36)	ND (0.35)
Dibenz(a,h)anthracene	ND (0.35)	ND (0.36)	ND (0.35)
PCBs			
Total PCBs	0.034 J	ND (0.036)	0.049 J

SB-45-02	4/15/02 1-3(ft) on-site	4/15/02 8.5-10.5(ft) on-site
SVOAs		
Benzo(a)anthracene	ND (0.35)/12	0.73
Benzo(a)pyrene	ND (0.35)/13 (D)	0.65
Benzo(b)fluoranthene	ND (0.35)/18	0.9
bis(2-Ethylhexyl)phthalate	ND (0.35)/ND (3.9)	ND (0.38)
Dibenz(a,h)anthracene	ND (0.35)/1.8 J	0.073 J
PCBs		
Total PCBs	0.031 J/ND (0.039)	ND (0.038)

SB-99-03	4/2/03 1-3(ft) on-site
SVOAs	
Benzo(a)anthracene	3.2
Benzo(a)pyrene	4.3 (D)
Benzo(b)fluoranthene	4.4
bis(2-Ethylhexyl)phthalate	ND (2.5)
Dibenz(a,h)anthracene	0.64 J

SB-107-04	1/14/04 0-2(ft) on-site
SVOAs	
Benzo(a)anthracene	0.45
Benzo(a)pyrene	0.49
Benzo(b)fluoranthene	0.6
bis(2-Ethylhexyl)phthalate	ND (0.39)
Dibenz(a,h)anthracene	0.087 J

SB-122-04	1/20/04 0-2(ft) on-site	1/20/04 8-10(ft) on-site	1/20/04 11.5-13.5(ft) on-site
SVOAs			
Benzo(a)anthracene	0.021 J	0.9	0.37 J
Benzo(a)pyrene	0.023 J	1	0.31 J
Benzo(b)fluoranthene	0.028 J	1.1	0.33 J
bis(2-Ethylhexyl)phthalate	ND (0.36)	0.31 J	0.046 J
Dibenz(a,h)anthracene	ND (0.36)	0.19 J	0.052 J
PCBs			
Total PCBs	0.113 J	0.144 J	0.08 J

SB-112-04	1/15/04 0-2(ft) on-site	1/15/04 8-10(ft) on-site	1/15/04 12-14(ft) on-site
PCBs			
Total PCBs	ND (0.034)	ND (0.036)/ND (0.035)	0.018 J

SB-76-03	2/20/03 1-3(ft) on-site	2/20/03 10-12(ft) on-site	2/20/03 14-16(ft) on-site
PCBs			
Total PCBs	0.049 J	0.186 J	0.136 J

SB-113-04	1/15/04 0-2(ft) on-site	1/15/04 8-10(ft) on-site	1/15/04 12-14(ft) on-site
SVOAs			
Benzo(a)anthracene	0.046 J	ND (0.36)	ND (0.36)
Benzo(a)pyrene	0.071 J	ND (0.36)	ND (0.36)
Benzo(b)fluoranthene	0.099 J	ND (0.36)	ND (0.36)
bis(2-Ethylhexyl)phthalate	ND (0.34)	ND (0.36)	ND (0.36)
Dibenz(a,h)anthracene	ND (0.34)	ND (0.36)	ND (0.36)
PCBs			
Total PCBs	0.015 J	0.008 J	0.009 J

SB-1-02	4/2/02 1-3(ft) on-site	4/2/02 9-11(ft) on-site
SVOAs		
Benzo(a)anthracene	ND (0.35)	ND (0.35)
Benzo(a)pyrene	ND (0.35)	ND (0.35)
Benzo(b)fluoranthene	ND (0.35)	ND (0.35)
bis(2-Ethylhexyl)phthalate	ND (0.35)	0.072 J
Dibenz(a,h)anthracene	ND (0.35)	ND (0.35)
PCBs		
Total PCBs	0.126 J	0.089 J

SB-2-02	4/3/02 1-3(ft) on-site	4/3/02 9-11(ft) on-site
SVOAs		
Benzo(a)anthracene	ND (0.34)	ND (0.37)
Benzo(a)pyrene	ND (0.34)	ND (0.37)
Benzo(b)fluoranthene	ND (0.34)	0.069 J
bis(2-Ethylhexyl)phthalate	ND (0.34)	ND (0.37)
Dibenz(a,h)anthracene	ND (0.34)	ND (0.37)
PCBs		
Total PCBs	0.037 J	0.364 J

SB-70-03	2/19/03 1-3(ft) on-site	2/19/03 4-6(ft) on-site	2/19/03 8-10(ft) on-site	2/19/03 12-14(ft) on-site
PCBs				
Total PCBs	0.331 J	0.14 J	0.359 J	0.43 J

MW-22-04	3/2/04 0-2(ft) on-site	3/2/04 8-10(ft) on-site	3/2/04 12.5-14.5(ft) on-site
PCBs			
Total PCBs	ND (0.036)	ND (0.039)	ND (0.035)

SB-10-02	4/4/02 1-3(ft) on-site	4/4/02 8-10(ft) on-site	4/4/02 12.5-14.5(ft) on-site
SVOAs			
Benzo(a)anthracene	0.16 J	ND (0.46)/0.22 J	0.31 J
Benzo(a)pyrene	0.2 J	ND (0.46)/0.27 J	0.42 J
Benzo(b)fluoranthene	0.22 J	ND (0.46)/0.41 J	0.53
bis(2-Ethylhexyl)phthalate	ND (0.38)	ND (0.49)/ND (0.39)	0.071 J
Dibenz(a,h)anthracene	ND (0.38)	ND (0.49)/ND (0.39)	ND (0.43)
PCBs			
Total PCBs	0.102 J	0.204 J/0.091 J	0.092 J

SB-129-04	1/21/04 0-2(ft) on-site	1/21/04 8-10(ft) on-site
PCBs		
Total PCBs	0.016 J	0.021 J

SB-87-03	2/19/03 1-3(ft) on-site	2/19/03 5-7(ft) on-site	2/19/03 13-15(ft) on-site
PCBs			
Total PCBs	0.07 J	0.382 J	0.148 J

SB-71-03	2/19/03 1-3(ft) on-site	2/19/03 8-10(ft) on-site	2/19/03 10-11.7(ft) on-site
PCBs			
Total PCBs	0.048 J	134 J (DF)	64 J (DF)

SB-128-04	1/21/04 0-2(ft) on-site	1/21/04 8-10(ft) on-site	1/21/04 12-14(ft) on-site
PCBs			
Total PCBs	0.012 J	ND (0.043)	ND (0.037)

SB-11-02	4/4/02 1-3(ft) on-site	4/4/02 8-10(ft) on-site	4/4/02 13-16(ft) on-site
SVOAs			
Benzo(a)anthracene	0.099 J	ND (0.35)	ND (0.36)
Benzo(a)pyrene	0.2 J	ND (0.35)	ND (0.36)
Benzo(b)fluoranthene	0.26 J	ND (0.35)	ND (0.36)
bis(2-Ethylhexyl)phthalate	ND (0.38)	ND (0.35)	ND (0.36)
Dibenz(a,h)anthracene	ND (0.38)	ND (0.35)	ND (0.36)
PCBs			
Total PCBs	ND (0.038)	15.8 J (D)	34.8 J (DF)

SB-68-03	2/19/03 1-3(ft) on-site	2/19/03 9-11(ft) on-site	2/19/03 13-15(ft) on-site
PCBs			
Total PCBs	ND (0.038)	ND (0.036)	0.04 J

SB-69-03	2/19/03 1-3(ft) on-site	2/19/03 10-12(ft) on-site	2/19/03 13-15(ft) on-site
PCBs			
Total PCBs	0.112 J	ND (0.035)	0.55 J/0.144 J

BH-179-04	11/11/04 0-2(ft) on-site	11/11/04 8-10(ft) on-site	11/11/04 12-14(ft) on-site
SVOAs			
Benzo(a)anthracene	1	ND (0.36)	0.087 J
Benzo(a)pyrene	1	ND (0.36)	0.1 J
Benzo(b)fluoranthene	1.2	ND (0.36)	0.11 J
bis(2-Ethylhexyl)phthalate	ND (0.89)	ND (0.36)	ND (0.43)
Dibenz(a,h)anthracene	0.13 J	ND (0.36)	ND (0.43)
PCBs			
Total PCBs	ND (0.044)	ND (0.036)	0.053 J

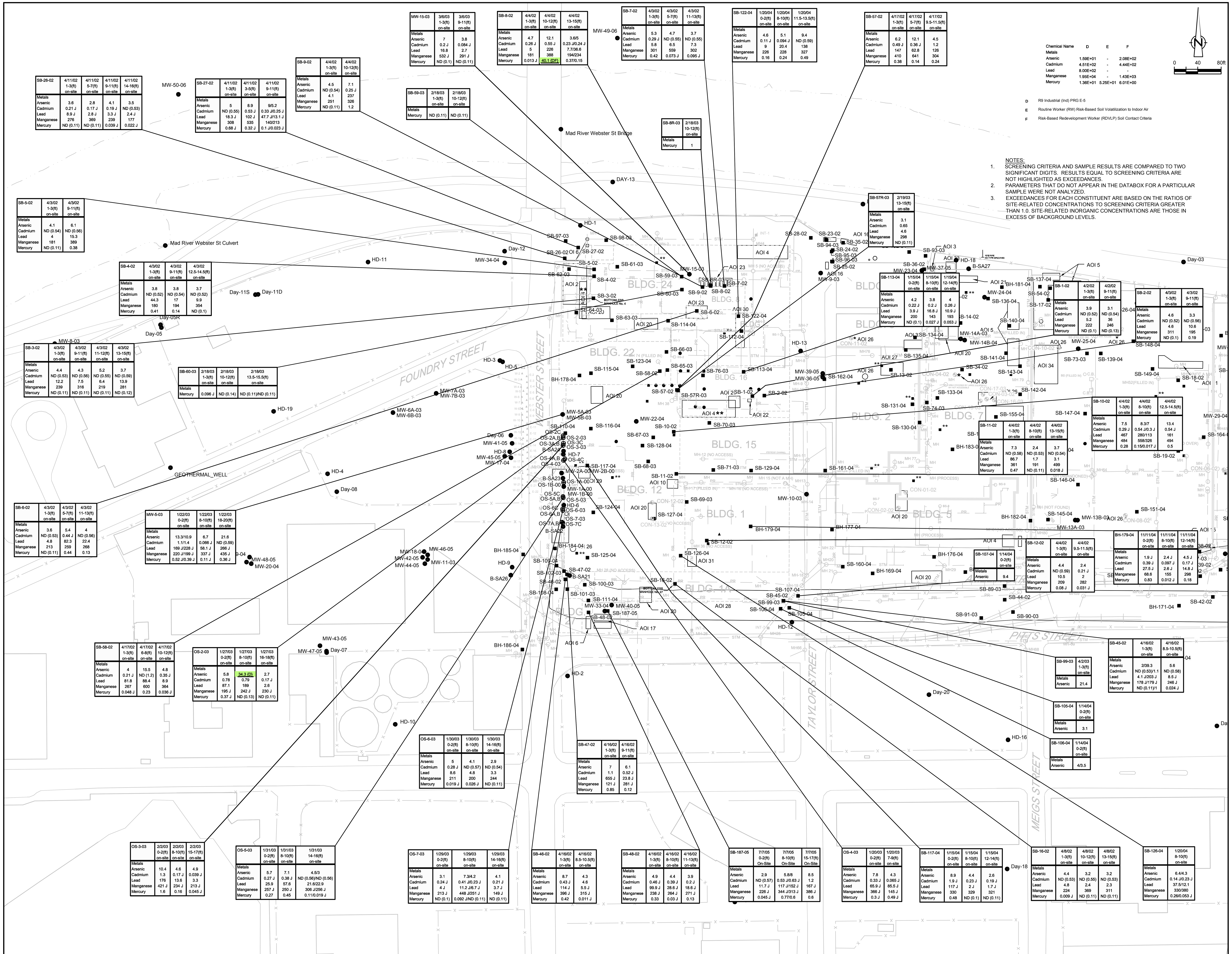
Chemical Name	D	E	F
SVOCs			
Benzo(a)anthracene	2.11E+01	9.32E+04	3.21E+02
Benzo(a)pyrene	2.11E+00	6.99E+04	3.35E+01
Benzo(b)fluoranthene	2.11E+01	8.86E+03	3.00E+02
bis(2-Ethylhexyl)phthalate	1.23E+03	2.54E+09	7.55E+03
Dibenz(a,h)anthracene	2.11E+00	1.98E+07	3.42E+01
PCBs			
Total PCBs	7.44E+00	1.51E+02	1.75E+01

D R9 Industrial (Ind) PRG E-5
E Routine Worker (RW) Risk-Based Soil Volatilization to Indoor Air
F Risk-Based Redevelopment Worker (RDVLP) Soil Contact Criteria

NOTES:
1. TOTAL PCBs WERE SUMMED BY ADDING THE POSITIVE DETECTIONS PLUS HALF THE QUANTITATION LIMITS FOR NON-DETECT RESULTS OF AROCLORS DETECTED ELSEWHERE AT THE SITE. IF QUANTITATION LIMITS ARE NOT AVAILABLE, HALF THE REPORTING LIMITS ARE USED FOR NON-DETECTED VALUES.
2. SCREENING CRITERIA AND SAMPLE RESULTS ARE COMPARED TO TWO SIGNIFICANT DIGITS. RESULTS EQUAL TO SCREENING CRITERIA ARE NOT HIGHLIGHTED AS EXCEEDANCES.
3. PARAMETERS THAT DO NOT APPEAR IN THE DATABOX FOR A PARTICULAR SAMPLE WERE NOT ANALYZED.

0 40 80ft

LEGEND



Chemical Name	D	E	F
Metals			
Arsenic	1.59E+01	-	2.08E+02
Cadmium	4.51E+02	-	4.44E+02
Lead	8.00E+02	-	-
Manganese	1.95E+04	-	1.43E+03
Mercury	1.36E+01	5.25E+01	6.01E+00

D R9 Industrial (Ind) PRG E-5

E Routine Worker (RW) Risk-Based Soil Volatilization to Indoor Air

F Risk-Based Redevelopment Worker (RDVLP) Soil Contact Criteria

NOTES:

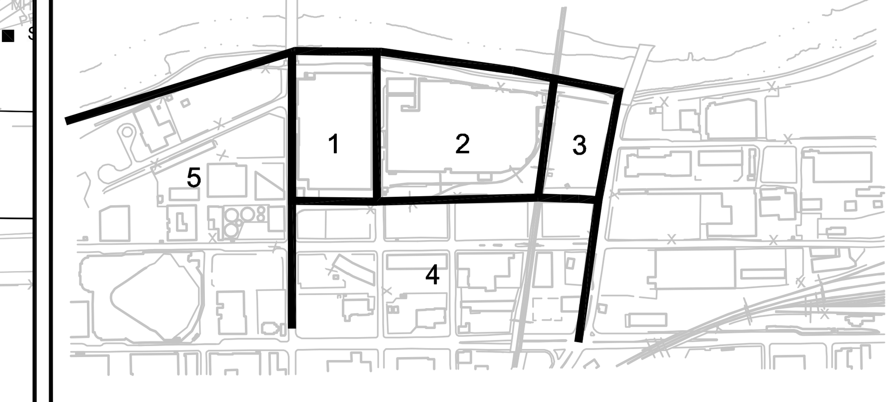
1. SCREENING CRITERIA AND SAMPLE RESULTS ARE COMPARED TO TWO SIGNIFICANT DIGITS. RESULTS EQUAL TO SCREENING CRITERIA ARE NOT HIGHLIGHTED AS EXCEEDANCES.
2. PARAMETERS THAT DO NOT APPEAR IN THE DATABOX FOR A PARTICULAR SAMPLE WERE NOT ANALYZED.
3. EXCEEDANCES FOR EACH CONSTITUENT ARE BASED ON THE RATIOS OF SITE-RELATED CONCENTRATIONS TO SCREENING CRITERIA GREATER THAN 1.0. SITE-RELATED INORGANIC CONCENTRATIONS ARE THOSE IN EXCESS OF BACKGROUND LEVELS.

LEGEND

BUILDING WALL
BUILDING BOUNDARY
FORMER BUILDING WALL
SHORELINE
RAILROAD
SOIL BORING LOCATION
MONITORING WELL LOCATION
WIPE/CONCRETE CORE SAMPLE LOCATION
OZONE SPARGE WELL LOCATION
INJECTION BORING FOR HRC BARRIER
BASEMENT SUMP LOCATION
PROCESS SEWER MANHOLE LOCATION
STORM SEWER MANHOLE LOCATION
STORM SEWER INTERCEPTOR LOCATION
PROCESS SEWER LINE
STORM SEWER LINE

AOI 1 - SOLVENT RELEASE AREA
AOI 2 - STILL ROOM
AOI 3 - WASTE TANKS
AOI 4 - HAZARDOUS WASTE STAGING AND STORING AREAS
** ON UPPER FLOOR
AOI 5 - ELECTROPLATING
AOI 6 - SPILL INTERCEPTORS
AOI 7 - SOLVENT STORAGE TANK
AOI 8 - DEGREASING UNITS:
STODDARD SOLVENT
TCE/PCE/TCA SOLVENT
FREON SOLVENT
** ON UPPER FLOOR
AOI 9 - SATELLITE CLEANING AREA (VARIOUS LOCATIONS THROUGHOUT SITE)
AOI 10 - PAINT WASTE ACCUMULATION AREAS
AOI 11 - CHIP HANDLING AREAS
AOI 12 - CUTTING OIL USTS
AOI 13 - OIL HOUSE
AOI 14 - HYDRAULIC OIL AND COOLANT USTS
AOI 15 - HYDRAULIC OIL UST
AOI 16 - FUEL USTS
AOI 17 - REFRIGERANT USTS
AOI 18 - STORM SEWERS (VARIOUS LOCATIONS THROUGHOUT SITE)
AOI 19 - PROCESS SEWERS (VARIOUS LOCATIONS THROUGHOUT SITE)
AOI 20 - PCB RELEASES FROM ELECTRICAL EQUIPMENT
AOI 21 - HYDROMATION PIT
AOI 22 - INCINERATOR
AOI 23 - USTS AND FORMER STILL
AOI 24 - FORMER MACHINE GUN TESTING AREA
AOI 25 - HYDROCHLORIC ACID SPILLS
AOI 26 - PCB RELEASES FORM PROCESS EQUIPMENT:
PROCESS DUCT
No.2 VAILL MACHINE
TOOL GRIND ROOM
GEAR BOX
AOI 27 - BATTERY CHARGING STATION (A SECOND STATION MAY HAVE BEEN LOCATED IN BLDG. 5)
AOI 28 - FORMER MIAMI CANAL EXTENSION
AOI 29 - BUILDING 12 STILL
AOI 30 - EXPERIMENTAL AIR CONDITIONING
AOI 31 - BUILDING 1 SPRAY BOOTHS
AOI 32 - BUILDING 3 TRANSFORMER (GROUND LEVEL)
AOI 33 - PAINT AND ENAMEL STORAGE
AOI 34 - PARTS GRINDING
AOI 35 - STORAGE TANKS

SAMPLE LOCATION
SAMPLE DATE
SAMPLE DEPTH
ON-SITE/OFF-SITE INDICATOR
CONCENTRATION (mg/kg)
PARAMETER
EXCEEDS CRITERIA



KEY PLAN

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

FORMER DELPHI HARRISION THERMAL SYSTEMS FACILITY

Dayton, Ohio

SOIL ANALYTICAL DATA - AREA 1 WEBSTER STREET TO TAYLOR STREET INORGANICS

CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

Project Manager:	Reviewed By:	Date:
IKR	SE	MARCH 2006

Scale:	Project №:	Report №:	Drawing №:
1"=80'	12638-04	011	4.2A(iii)

12638-04(011)GN-WA036 MAR 29/2006

MW-23-04	3/9/04 0-2(ft) on-site	3/9/04 8-10(ft) on-site
VOAs		
1,1-Dichloroethene	ND (0.88)ND (0.33)	ND (0.88)
Benzene	ND (0.88)ND (0.33)	ND (0.88)
cis-1,2-Dichloroethene	19 (0.5) J	3.5
Methylene chloride	ND (0.88)ND (0.33)	ND (0.88)
Tetrachloroethene	4.3 (0.5)4.6 (0)	21 (0.05)
Trichloroethene	30 (0.5)12 (0)	26 (0)
Vinyl chloride	0.14 (0.05)4 J	ND (0.88)

MW-37-05	5/13/05 3.5-4.5(ft) On-Site
VOAs	
1,1-Dichloroethene	ND (0.45)
Benzene	ND (0.45)
cis-1,2-Dichloroethene	0.85
Methylene chloride	ND (0.45)
Tetrachloroethene	ND (0.45)
Trichloroethene	0.39 J
Vinyl chloride	ND (0.45)

SB-36-02	4/15/02 1-3(ft) on-site	4/15/02 4-6(ft) on-site	4/15/02 8.5-10.5(ft) on-site
VOAs			
1,1-Dichloroethene	ND (0.42)	ND (0.31)	ND (0.006)
Benzene	ND (0.42)	ND (0.31)	ND (0.006)
cis-1,2-Dichloroethene	0.11 J	0.24	0.004
Methylene chloride	ND (0.42)	ND (0.31)	ND (0.006)
Tetrachloroethene	0.75	1.8	0.001
Trichloroethene	1.3	1.8	0.001
Vinyl chloride	ND (0.42)	ND (0.31)	ND (0.006)

SB-13-04	12/1/04 0-2(ft) on-site	12/1/04 8-10(ft) on-site
VOAs		
1,1-Dichloroethene	ND (0.3)	ND (0.007)
Benzene	ND (0.3)	ND (0.007)
cis-1,2-Dichloroethene	2.2	0.002 J
Methylene chloride	ND (0.3)	ND (0.007)
Tetrachloroethene	0.14	0.096 J
Trichloroethene	0.14	0.067
Vinyl chloride	ND (0.3)	ND (0.007)

SB-49-03	4/1/03 1-3(ft) on-site	4/1/03 8.5-10.5(ft) on-site
VOAs		
1,1-Dichloroethene	ND (0.23) UJ	ND (0.22)
Benzene	ND (0.23) UJ	ND (0.22)
cis-1,2-Dichloroethene	1.8 J	ND (0.11)
Methylene chloride	ND (0.23) UJ	ND (0.22)
Tetrachloroethene	0.21 J	1.3
Trichloroethene	0.99 J	0.57
Vinyl chloride	ND (0.23) UJ	ND (0.22)

SB-141-04	1/27/04 8-10(ft) on-site	1/27/04 12-14(ft) on-site
VOAs		
1,1-Dichloroethene	ND (0.36) UJND (0.41)	ND (0.005)
Benzene	ND (0.36) UJND (0.41)	ND (0.005)
cis-1,2-Dichloroethene	0.11 J ND (0.41) UJ	0.074
Methylene chloride	ND (0.36) UJND (0.41)	ND (0.005)
Tetrachloroethene	0.11 J ND (0.41) UJ	0.027
Trichloroethene	ND (0.36) UJND (0.41)	ND (0.005)
Vinyl chloride	0.11 J ND (0.41) UJ	ND (0.005)

SB-137-04	1/26/04 0-2(ft) on-site	1/26/04 8-10(ft) on-site	1/26/04 11-13(ft) on-site
VOAs			
1,1-Dichloroethene	ND (0.37)	ND (0.21)	ND (0.005)
Benzene	ND (0.37)	ND (0.21)	0.0004 J
cis-1,2-Dichloroethene	0.34 J	ND (0.21)	ND (0.005)
Methylene chloride	ND (0.37)	ND (0.21)	ND (0.024)
Tetrachloroethene	2.7	0.23	0.024
Trichloroethene	5.2 J	0.24	0.056
Vinyl chloride	ND (0.37)	ND (0.21)	ND (0.005)

SB-14-02	4/5/02 1-3(ft) on-site	4/5/02 4-6(ft) on-site	4/5/02 10-12(ft) on-site
VOAs			
1,1-Dichloroethene	ND (0.22)	ND (0.81)	ND (0.006)
Benzene	ND (0.22)	ND (0.81)	ND (0.006)
cis-1,2-Dichloroethene	ND (0.11)	3	ND (0.003)
Methylene chloride	ND (0.22)	ND (0.81)	ND (0.006)
Tetrachloroethene	2.5	21 (2J)	0.009 J
Trichloroethene	0.3	29 (5)	0.001 J
Vinyl chloride	ND (0.22)	ND (0.81)	ND (0.006)

SB-15-02	4/5/02 1-3(ft) on-site	4/5/02 3-5(ft) on-site	4/5/02 8-10(ft) on-site	4/5/02 11.5-13.5(ft) on-site
VOAs				
1,1-Dichloroethene	ND (0.005)	ND (0.005)	ND (0.004)	ND (0.22)
Benzene	ND (0.005)	ND (0.002)	0.002 J	ND (0.22)
cis-1,2-Dichloroethene	ND (0.005)	ND (0.003)	0.011	4.3
Methylene chloride	ND (0.005)	ND (0.005)	ND (0.004)	ND (0.22)
Tetrachloroethene	ND (0.005)	ND (0.005)	0.008	3.3 (E)
Trichloroethene	ND (0.005)	ND (0.005)	0.002 J	0.4
Vinyl chloride	ND (0.005)	ND (0.008)	ND (0.004)	ND (0.22)

SB-136-04	2/5/04 0-2(ft) on-site	2/5/04 8-10(ft) on-site	2/5/04 11.5-13.5(ft) on-site
VOAs			
1,1-Dichloroethene	ND (0.36)	ND (0.3)	ND (0.005)
Benzene	ND (0.36)	ND (0.3)	ND (0.005)
cis-1,2-Dichloroethene	0.18 J	0.16 J	0.004 J
Methylene chloride	2.1	0.098 J	0.011
Tetrachloroethene	5.4	0.12 J	0.092
Trichloroethene	ND (0.36)	ND (0.3)	ND (0.005)

SB-37-02	4/15/02 1-3(ft) on-site	4/15/02 9-11(ft) on-site
VOAs		
1,1-Dichloroethene	ND (0.004)	ND (0.005)
Benzene	ND (0.004)	ND (0.005)
cis-1,2-Dichloroethene	0.001 J	0.005
Methylene chloride	ND (0.004)	ND (0.005)
Tetrachloroethene	0.014	0.13
Trichloroethene	0.003 J	ND (0.005)
Vinyl chloride	ND (0.004)	ND (0.005)

BH-181-04	11/1/04 0-2(ft) on-site	11/1/04 8-10(ft) on-site	11/1/04 11.5-13.5(ft) on-site
VOAs			
1,1-Dichloroethene	ND (0.72)	ND (0.008)	ND (0.005)
Benzene	ND (0.72)	0.011	0.005 J
cis-1,2-Dichloroethene	ND (0.72)	ND (0.008)	ND (0.005)
Methylene chloride	9.8 (E)	0.06	0.002 J
Tetrachloroethene	33 (E)	ND (0.008)	ND (0.005)

SB-138-04	1/29/04 0-2(ft) on-site	1/29/04 8-10(ft) on-site	1/29/04 11-13(ft) on-site
VOAs			
1,1-Dichloroethene	ND (0.73)	ND (0.008)ND (0.008)	ND (0.29) UJ
Benzene	ND (0.73)	ND (0.008)ND (0.008)	0.084 J
cis-1,2-Dichloroethene	ND (0.36)	ND (0.008)ND (0.008)	ND (0.14) UJ
Methylene chloride	ND (0.73)	ND (0.008)ND (0.008)	ND (0.29) UJ
Tetrachloroethene	11 (D4)	0.003 J0.004 J	4.2 (E)
Trichloroethene	1.1	0.0080.007	0.44 J
Vinyl chloride	ND (0.73)	ND (0.008)ND (0.008)	ND (0.29) UJ

SB-148-04	1/28/04 0-2(ft) on-site	1/28/04 8-10(ft) on-site	1/28/04 11-13(ft) on-site
VOAs			
1,1-Dichloroethene	ND (0.54)	ND (0.008)	ND (0.005)
Benzene	ND (0.54)	ND (0.008)	ND (0.005)
cis-1,2-Dichloroethene	0.14 J	ND (0.008)	ND (0.005)
Methylene chloride	ND (0.54)	ND (0.008)	ND (0.005)
Tetrachloroethene	1.1	0.005	0.002 J
Trichloroethene	17 (E)	ND (0.008)	0.012
Vinyl chloride	ND (0.54)	ND (0.008)	ND (0.005)

SB-83-02	4/17/02 1-3(ft) on-site
VOAs	
1,1-Dichloroethene	ND (0.46)
Benzene	ND (0.46)
cis-1,2-Dichloroethene	0.72
Methylene chloride	ND (0.46)
Tetrachloroethene	18 (D4)
Trichloroethene	5
Vinyl chloride	ND (0.46)

SB-73-03	2/20/03 2-4(ft) on-site	2/20/03 8-10(ft) on-site	2/20/03 12-14(ft) on-site
VOAs			
1,1-Dichloroethene	ND (2.1)	ND (5.7)	ND (0.004)
Benzene	ND (2.1)	ND (5.7)	0.0003 J
cis-1,2-Dichloroethene	11	22 (E)	0.006
Methylene chloride	ND (2.1)	ND (5.7)	ND (0.004)
Tetrachloroethene	25 (D5)	29 (D5)	0.017
Trichloroethene	40 (E)	100 (D4)J	0.041
Vinyl chloride	ND (2.1)	ND (5.7)	ND (0.004)

SB-139-04	1/27/04 0-2(ft) on-site	1/27/04 8-10(ft) on-site	1/27/04 11.5-13.5(ft) on-site
VOAs			
1,1-Dichloroethene	ND (0.40)	ND (0.008)	ND (0.005)
Benzene	ND (0.40)	0.12 J	0.0005 J
cis-1,2-Dichloroethene	ND (0.40)	ND (0.008)	ND (0.005)
Methylene chloride	ND (0.40)	ND (0.008)	ND (0.005)
Tetrachloroethene	3.4 (E)	0.033 J	0.024
Trichloroethene	10 (E)	0.095 J	0.01
Vinyl chloride	ND (0.40)	ND (0.008)	ND (0.005)

SB-148-04	1/28/04 0-2(ft) on-site	1/28/04 8-10(ft) on-site	1/28/04 11-13(ft) on-site
VOAs			
1,1-Dichloroethene	ND (0.54)	ND (0.008)	ND (0.005)
Benzene	ND (0.54)	ND (0.008)	ND (0.005)
cis-1,2-Dichloroethene	0.14 J	ND (0.008)	ND (0.005)
Methylene chloride	ND (0.54)	ND (0.008)	ND (0.005)
Tetrachloroethene	1.1	0.005	0.002 J
Trichloroethene	17 (E)	ND (0.008)	0.012
Vinyl chloride	ND (0.54)	ND (0.008)	ND (0.005)

SB-163-04	2/5/04 0-2(ft) on-site	2/5/04 8-10(ft) on-site	2/5/04 11.5-13.5(ft) on-site
VOAs			
1,1-Dichloroethene	ND (0.98)	ND (0.98)	ND (0.28)
Benzene	ND (0.98)	ND (0.98)	ND (0.28)
cis-1,2-Dichloroethene	0.38 J	0.091 J	ND (0.14)
Methylene chloride	0.94 J	ND (0.98)	0.13 J
Tetrachloroethene	27 (D4)	0.363	0.94
Trichloroethene	14 (E)	0.099	0.04 J
Vinyl chloride	ND (0.98)	ND (0.98)	ND (0.28)

SB-169-04	1/28/04 0-2(ft) on-site	1/28/04 8-10(ft) on-site	1/28/04 11-13(ft) on-site
VOAs			
1,1-Dichloroethene	ND (0.005)	ND (0.004)	ND (0.005)
Benzene	ND (0.005)	ND (0.004)	ND (0.005)
cis-1,2-Dichloroethene	ND (0.005)	ND (0.19)	ND (0.12)
Methylene chloride	ND (0.005)	ND (0.004)	ND (0.005)
Tetrachloroethene	0.003 J	ND (0.30)	0.023 J
Trichloroethene	0.002 J	ND (0.004)	0.039 J
Vinyl chloride	ND (0.005)	ND (0.30)	ND (0.25)

SB-134-04	2/5/04 0-2(ft) on-site	2/5/04 8-10(ft) on-site
VOAs		
1,1-Dichloroethene	ND (0.006)ND (0.006)	ND (0.007)
Benzene	ND (0.006)ND (0.006)	ND (0.007)
cis-1,2-Dichloroethene	ND (0.006)ND (0.006)	ND (0.004)
Methylene chloride	ND (0.006)ND (0.006)	ND (0.007)
Tetrachloroethene	0.005 J0.004 J	0.023 J
Trichloroethene	0.001 J0.002 J	ND (0.007)
Vinyl chloride	ND (0.006)ND (0.006)	ND (0.007)

MW-149-04	3/8/04 0-2(ft) on-site	3/8/04 8-10(ft) on-site	3/8/04 11-13(ft) on-site
VOAs			
1,1-Dichloroethene	ND (0.004)ND (0.004)	ND (0.004)	ND (0.004)
Benzene	ND (1)	ND (0.004)ND (0.004)	ND (0.004)
Methylene chloride	13 (E)	0.003 J0.002 J	0.002 J
Tetrachloroethene	28 (E)	0.001 J0.002 J	0.001 J
Trichloroethene	1	ND (0.004)ND (0.004)	ND (0.004)
Vinyl chloride	ND (0.004)	ND (0.004)	ND (0.004)

SB-82-03	4/1/03 1-3(ft) on-site	4/1/03 3-5(ft) on-site	4/1/03 9-11(ft) on-site
VOAs			
1,1-Dichloroethene	ND (0.2)	ND (0.24)	ND (0.28)
Benzene	ND (0.2)	ND (0.24)	ND (0.28)
cis-1,2-Dichloroethene	ND (0.099)	ND (0.12)	0.94
Methylene chloride	ND (0.2)	ND (0.24)	ND (0.28)
Tetrachloroethene	1.2	1.1	5.6 (E)
Trichloroethene	0.14 J	0.1 J	0.96
Vinyl chloride	ND (0.2)	ND (0.24)	ND (0.28)

MW-24-04	3/3/04 0-2(ft) on-site	3/3/04 8-10(ft) on-site	3/3/04 13-15(ft) on-site
VOAs			
1,1-Dichloroethene	ND (1.2)	ND (0.23)	ND (0.008)
Benzene	ND (1.2)	ND (0.23)	0.0005 J
cis-1,2-Dichloroethene	5.8	0.54	0.003
Methylene chloride	ND (1.2)	ND (0.23)	0.002 J
Tetrachloroethene	9.7 (E)	1	0.0005 J
Trichloroethene	24 (E)	3.8	ND (0.005)
Vinyl chloride	ND (1.2)	ND (0.23)	ND (0.008)

SB-140-04	1/27/04 0-2(ft) on-site	1/27/04 8-10(ft) on-site	1/27/04 12-14(ft) on-site
VOAs			
1,1-Dichloroethene	ND (0.28)	ND (0.24)	ND (0.005)
Benzene	ND (0.28)	ND (0.24)	ND (0.005)
cis-1,2-Dichloroethene	ND (0.13)	ND (0.12)	ND (0.002)
Methylene chloride	ND (0.28)	ND (0.24)	ND (0.005)
Tetrachloroethene	0.51	0.34	0.033
Trichloroethene	0.26	0.078 J	0.014
Vinyl chloride	ND (0.28)	ND (0.24)	ND (0.005)

SB-17-02	4/8/02 1-3(ft) on-site	4/8/02 8-10(ft) on-site	4/8/02 10-12(ft) on-site
VOAs			
1,1-Dichloroethene	ND (0.23)	ND (0.007)	ND (0.005)
Benzene	ND (0.23)	ND (0.007)	ND (0.005)
cis-1,2-Dichloroethene	ND (0.11)	ND (0.003)	ND (0.003)
Methylene chloride	ND (0.23)	ND (0.007)	ND (0.005)
Tetrachloroethene	0.95	0.26	0.004 J
Trichloroethene	0.28	0.13	0.002 J
Vinyl chloride	ND (0.23)	ND (0.007)	ND (0.005)

MW-12-03	3/5/03 1-3(ft) on-site	3/5/03 3-5(ft) on-site
VOAs		
1,1-Dichloroethene	ND (0.29)	ND (0.47)
Benzene	ND (0.29)	ND (0.47)
cis-1,2-Dichloroethene	0.34	0.86
Methylene chloride	ND (0.29)	ND (0.47)
Tetrachloroethene	7.7 (E)	8.7 (E)
Trichloroethene	3.4 (E)	14 (E)
Vinyl chloride	ND (0.29)	ND (0.47)

SB-72-03	2/20/03 1-3(ft) on-site	2/20/03 9-11(ft) on-site	2/20/03 12.5-14.5(ft) on-site
VOAs			
1,1-Dichloroethene	ND (0.27)	ND (0.004)ND (0.005)	ND (0.94)
Benzene	ND (0.27)	0.0003 JND (0.005)	ND (0.94)
cis-1,2-Dichloroethene	0.02 J	ND (0.002)ND (0.003)	ND (0.47)
Methylene chloride	0.81	ND (0.004)ND (0.005)	0.3 J
Tetrachloroethene	6.8 (E)	0.007 J0.001 J	ND (0.94)
Trichloroethene	0.27	ND (0.004)ND (0.005)	ND (0.94)
Vinyl chloride	ND (0.27)	ND (0.004)ND (0.005)	ND (0.94)

OW-1	10/14/02 0-2(ft) off-site	10/14/02 11-13(ft) off-site
VOAs		
1,1-Dichloroethene	ND (0.004)	ND (0.004)
Benzene	ND (0.004)	0.001 J
cis-1,2-Dichloroethene	ND (0.003)	ND (0.002)
Methylene chloride	ND (0.004)	0.003 J
Tetrachloroethene	0.001 J	ND (0.004)
Trichloroethene	ND (0.004)	ND (0.004)
Vinyl chloride	ND (0.005)	ND (0.004)

MW-4-02	6/25/02 0-2(ft) off-site	6/25/02 8-10(ft) off-site	6/25/02 10-12(ft) off-site
VOAs			
1,1-Dichloroethene	ND (0.006)	ND (0.006)	ND (0.43)
Benzene	ND (0.006)	ND (0.003)	ND (0.43)
cis-1,2-Dichloroethene	ND (0.003)	ND (0.003)	ND (0.22)
Methylene chloride	ND (0.006)	ND (0.006)	ND (0.43)
Tetrachloroethene	ND (0.006)	ND (0.006)	ND (0.43)
Trichloroethene	ND (0.006)	ND (0.006)	ND (0.43)
Vinyl chloride	ND (0.006)	ND (0.006)	ND (0.43)

OW-2	10/14/02 0-2(ft) off-site
VOAs	
1,1-Dichloroethene	ND (0.005)
Benzene	ND (0.005)
cis-1,2-Dichloroethene	ND (0.005)
Methylene chloride	ND (0.005)
Tetrachloroethene	ND (0.005)
Trichloroethene	ND (0.005)
Vinyl chloride	ND (0.005)

OW-3	10/15/02 0-2(ft) off-site	10/15/02 11-13(ft) off-site
VOAs		
1,1-Dichloroethene	ND (0.006)	ND (0.23)
Benzene	ND (0.006)	ND (0.23)
cis-1,2-Dichloroethene	ND (0.003)	ND (0.12)
Methylene chloride	ND (0.006)	ND (0.23)
Tetrachloroethene	0.003 J	ND (0.23)
Trichloroethene	ND (0.006)	ND (0.23)
Vinyl chloride	ND (0.006)	ND (0.23)

OW-4	10/15/02 0-2(ft) off-site
VOAs	
1,1-Dichloroethene	ND (0.005)
Benzene	ND (0.005)
cis-1,2-Dichloroethene	ND (0.005)
Methylene chloride	ND (0.005)
Tetrachloroethene	ND (0.005)
Trichloroethene	ND (0.005)
Vinyl chloride	ND (0.005)

SB-28-02	4/11/02 1-3(ft) on-site	4/11/02 9-11(ft) on-site
VOAs		
1,1-Dichloroethene	ND (0.004)	ND (0.006)
Benzene	ND (0.004)	ND (0.006)
cis-1,2-Dichloroethene	ND (0.002)	ND (0.003)
Methylene chloride	ND (0.004)	ND (0.006)
Tetrachloroethene	ND (0.004)	ND (0.006)
Trichloroethene	ND (0.004)	ND (0.006)
Vinyl chloride	ND (0.004)	ND (0.006)

SB-23-02	4/10/02 1-3(ft) on-site	4/10/02 9-11(ft) on-site
VOAs		
1,1-Dichloroethene	ND (0.005)	ND (0.24)
Benzene	ND (0.005)	ND (0.24)
cis-1,2-Dichloroethene	ND (0.003)	ND (0.12)
Methylene chloride	ND (0.005)	ND (0.24)
Tetrachloroethene	0.003 J	0.45
Trichloroethene	ND (0.004)ND (0.004)	ND (0.24)
Vinyl chloride	ND (0.005)	ND (0.24)

SB-35-02	4/15/02 1-3(ft) on-site	4/15/02 9-11(ft) on-site
VOAs		
1,1-Dichloroethene	ND (0.007)	ND (0.006)
Benzene	ND (0.007)	ND (0.006)
cis-1,2-Dichloroethene	ND (0.004)	ND (0.002)
Methylene chloride	ND (0.007)	ND (0.006)
Tetrachloroethene	ND (0.007)	0.041
Trichloroethene	ND (0.007)	ND (0.006)
Vinyl chloride	ND (0.007)	ND (0.006)

SB-54-02	4/17/02 1-3(ft) on-site	4/17/02 9-11(ft) on-site
VOAs		
1,1-Dichloroethene	ND (0.27)	ND (0.27)
Benzene	ND (0.31)	ND (0.27)
cis-1,2-Dichloroethene	0.11 J	0.2
Methylene chloride	ND (0.31)	ND (0.27)
Tetrachloroethene	2.9	R
Trichloroethene	8.4 (E)	8.6 (E)
Vinyl chloride	ND (0.31)	ND (0.27)

SB-143-04	1/27/04 8-10(ft) on-site	1/27/04 12-14(ft) on-site
VOAs		
1,1-Dichloroethene	ND (0.006)	ND (0.006)
Benzene	ND (0.006)	ND (0.006)
cis-1,2-Dichloroethene	ND (0.003)	ND (0.003)
Methylene chloride	ND (0.006)	ND (0.006)
Tetrachloroethene	0.01	0.007
Trichloroethene	ND (0.006)	ND (0.006)
Vinyl chloride	ND (0.006)	ND (0.006)

SB-168-04	2/9/04 0-2(ft) on-site	2/9/04 8-10(ft) on-site	2/9/04 11-13(ft) on-site
VOAs			
1,1-Dichloroethene	ND (0.006)	ND (0.006)	ND (0.005)
Benzene	ND (0.006)	ND (0.003)	ND (0.002)
cis-1,2-Dichloroethene	ND (0.003)	ND (0.003)	0.002 J
Methylene chloride	ND (0.006)	ND (0.006)	ND (0.005)
Tetrachloroethene	ND (0.006)	0.001 J	ND (0.005)
Trichloroethene	0.003 J	ND (0.006)	ND (0.005)
Vinyl chloride	ND (0.006)	ND (0.006)	ND (0.005)

SB-27-04	3/5/04 0-2(ft) on-site	3/5/04 8-10(ft) on-site	3/5/04 11-13(ft) on-site
VOAs			
1,1-Dichloroethene	ND (0.27)	ND (0.005)	ND (0.19)
Benzene	ND (0.27)	ND (0.002)	ND (0.096)
cis-1,2-Dichloroethene	ND (0.14)	ND (0.002)	ND (0.096)
Methylene chloride	ND (0.27)	0.001 J	ND (0.19)
Tetrachloroethene	0.086 J	ND (0.005)	ND (0.19)
Trichloroethene	1.2	ND (0.005)	ND (0.19)
Vinyl chloride	ND (0.27)	ND (0.005)	ND (0.19)

SB-103-03	4/2/03 1-3(ft) on-site	4/2/03 9-11(ft) on-site	4/5/03 9-11(ft) on-site
VOAs			
1,1-Dichloroethene	ND (0.29)	ND (0.24)	ND (0.21)
Benzene	ND (0.29)ND (0.26)	ND (0.24)	ND (0.21)
cis-1,2-Dichloroethene	ND (0.15)	ND (0.11)	ND (0.11)
Methylene chloride	ND (0.29)	ND (0.24)	ND (0.21)
Tetrachloroethene	0.041 J	ND (0.24)	ND (0.21)
Trichloroethene	ND (0.29)	ND (0.24)	ND (0.21)
Vinyl chloride	ND (0.29)	ND (0.24)	ND (0.21)

SB-21-02	4/9/02 1-3(ft) on-site	4/9/02 9-11(ft) on-site	4/9/02 11-13(ft) on-site
VOAs			
1,1-Dichloroethene	ND (1.8)	ND (0.62)	ND (0.5)
Benzene	ND (1.8)	ND (0.62)	ND (0.5)
cis-1,2-Dichloroethene	1.8	0.21 J	0.17 J
Methylene chloride	11 (E)	ND (0.62)	ND (0.5)
Tetrachloroethene	83 (E)	ND (0.62)	ND (0.5)
Trichloroethene	49 (E)	ND (0.62)	ND (0.5)
Vinyl chloride	ND (1.8)	ND (0.62)	ND (0.5)

SB-84-03	3/31/03 1-3(ft) on-site	3/31/03 6.5-8.5(ft) on-site	3/31/03 10-12(ft) on-site
VOAs			
1,1-Dichloroethene	ND (2.2)	ND (1.8)	ND (0.007)
Benzene	ND (2.2)	ND (1.8)	0.011
cis-1,2-Dichloroethene	1.6	1.3	0.003 J
Methylene chloride	ND (2.2)	ND (1.8)	ND (0.007)
Tetrachloroethene	6.6 (E)	7.2 (E)	0.002 J
Trichloroethene	34 (E)	30 (E)	0.028
Vinyl chloride	ND (2.2)	ND (1.8)	ND (0.007)

SB-85-03	3/31/03 1-3(ft) on-site	3/31/03 6.5-8.5(ft) on-site	3/31/03 12.5-14.5(ft) on-site
VOAs			
1,1-Dichloroethene	0.36 J	ND (3.1)	ND (0.31) UJ
Benzene	ND (0.84)	ND (3.1)	ND (0.31) UJ
cis-1,2-Dichloroethene	21 (E)	19 (E)	27 J
Methylene chloride	ND (0.84)	ND (3.1)	ND (0.31) UJ
Tetrachloroethene	ND (0.84)	9.41 J	0.069 J
Trichloroethene	14 J (E)	39 (D5)	8.4 (E)
Vinyl chloride	0.42 J	ND (3.1)	0.18 J

SB-127-04	2/4/04 0-2(ft) on-site	2/4/04 8-10(ft) on-site	2/4/04 14.5-16(ft) on-site
VOAs			
1,1-Dichloroethene	ND (0.005)	ND (0.005)ND (0.007)	ND (0.006) UJ
Benzene	ND (0.005)	ND (0.003)ND (0.004)	0.001 J
cis-1,2-Dichloroethene	ND (0.003)	ND (0.002)ND (0.004)	0.0005 J
Methylene chloride	0.004 J	0.0095 0.005 J	ND (0.006) UJ
Tetrachloroethene	ND (0.005)	ND (0.005)ND (0.007)	ND (0.006) UJ
Trichloroethene	ND (0.005)	ND (0.005)	0.0007 J
Vinyl chloride	ND (0.005)	ND (0.005)ND (0.007)	ND (0.006) UJ

MW-28-04	3/5/04 0-2(ft) on-site	3/5/04 8-10(ft) on-site	3/5/04 13-15(ft) on-site
VOAs			
1,1-Dichloroethene	ND (6)	ND (0.004)	ND (0.21)
Benzene	ND (6)	ND (0.004)	ND (0.21)
cis-1,2-Dichloroethene	18 (E)	ND (0.002)	ND (0.11)
Methylene chloride	2.7 J	0.001 J	ND (0.21)
Tetrachloroethene	ND (6)	ND (0.004)	ND (0.21)
Trichloroethene	180 (D5)J	ND (0.004)	ND (0.21)
Vinyl chloride	ND (6)	ND (0.004)	ND (0.21)

SB-104-03	4/2/03 1-3(ft) on-site	4/2/03 6.5-8.5(ft) on-site
VOAs		
1,1-Dichloroethene	ND (0.005)	ND (0.004)
Benzene	ND (0.005)	ND (0.004)
cis-1,2-Dichloroethene	ND (0.005)	ND (0.004)
Methylene chloride	ND (0.005)	ND (0.004)
Tetrachloroethene	0.002 J	ND (0.004)
Trichloroethene	0.013	ND (0.004)
Vinyl chloride	ND (0.005)	ND (0.004)

SB-168-04	2/9/04 0-2(ft) on-site	2/9/04 8-10(ft) on-site	2/9/04 11-13(ft) on-site
VOAs			
1,1-Dichloroethene	ND (0.26)	ND (0.008)	ND (0.24)
Benzene	ND (0.26)ND (0.26)	ND (0.003)	ND (0.24)
cis-1,2-Dichloroethene	0.15	ND (0.008)	0.055 J
Methylene chloride	ND (0.26)	ND (0.008)	ND (0.24)
Tetrachloroethene	ND (0.26)	ND (0.008)	ND (0.24)
Trichloroethene	0.83	ND (0.008)	0.54
Vinyl chloride	ND (0.26)	ND (0.008)	ND (0.24)

SB-187-04	2/9/04 0-2(ft) on-site	2/9/04 8-10(ft) on-site	2/9/04 11-13(ft) on-site
VOAs			
1,1-Dichloroethene	ND (0.53)ND (0.51)	ND (0.005)	ND (0.26)
Benzene	ND (0.53)ND (0.51)	ND (0.005)	ND (0.26)
Methylene chloride	ND (0.26)ND (0.26)	ND (0.008)	ND (0.26)
Tetrachloroethene	ND (0.53)ND (0.51)	0.002 J	ND (0.26)
Trichloroethene	ND (0.53)2.66 J	ND (0.005)	ND (0.26)
Vinyl chloride	ND (0.53)ND (0.51)	ND (0.005)	ND (0.26)

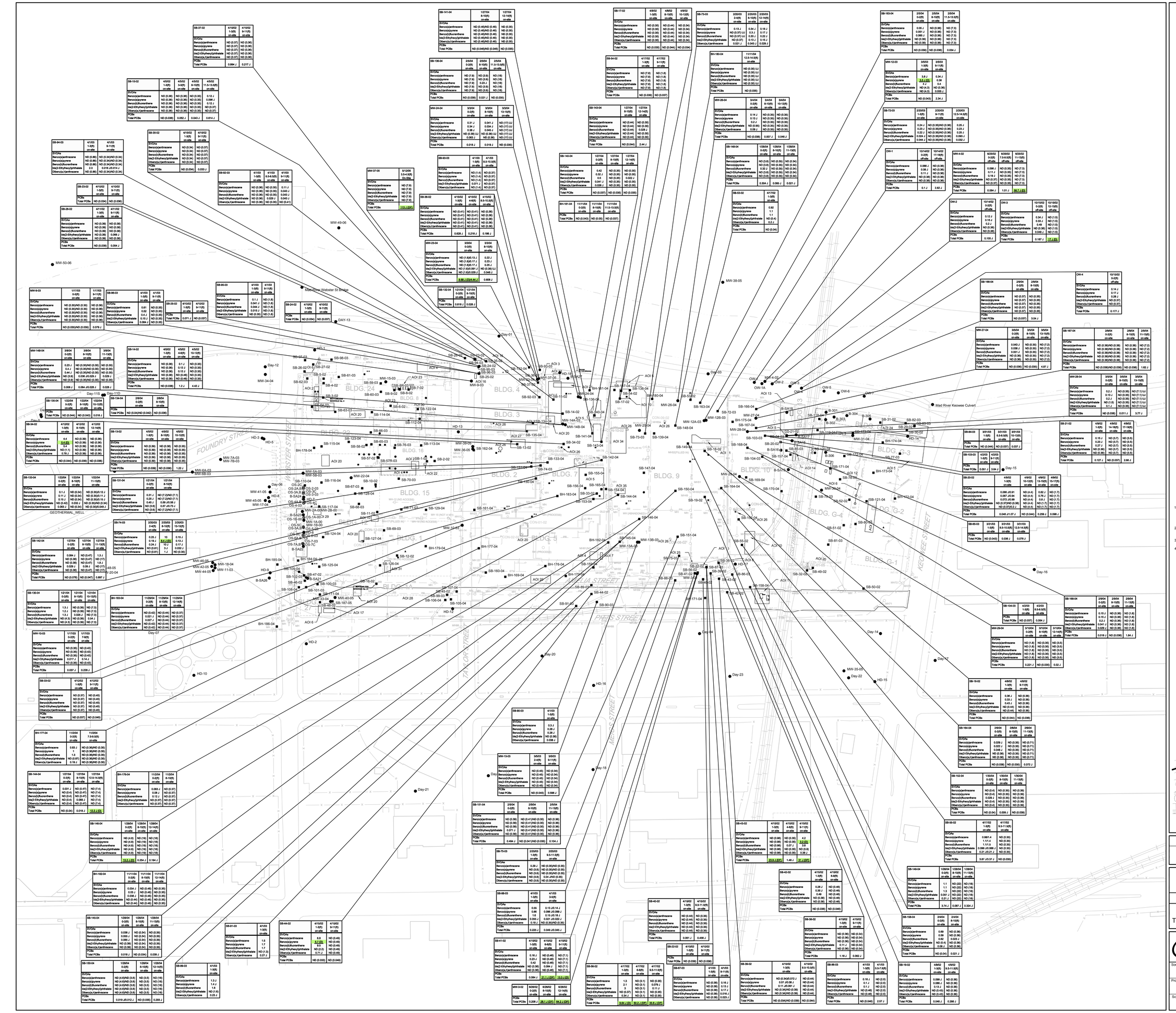
SB-18-02	4/8/02 1-3(ft) on-site	4/8/02 9-11(ft) on-site
VOAs		
1,1-Dichloroethene	ND (0.58)	ND (0.006)
Benzene	ND (0.58)	ND (0.006)
cis-1,2-Dichloroethene	0.59	0.011 J
Methylene chloride	0.21 J	ND (0.006)
Tetrachloroethene	8.1 (E)	0.025
Trichloroethene	20 (E)	0.018
Vinyl chloride	ND (0.58)	ND (0.006)

SB-103-04	4/2/02 1-3(ft) on-site	4/1/02 9-11(ft) on-site
VOAs		
1,1-Dichloroethene	ND (0.33)	ND (0.27)
Benzene	ND (0.33)	ND (0.27)
cis-1,2-Dichloroethene	ND (0.16)	ND (0.13)
Methylene chloride	ND (0.33)	ND (0.27)
Tetrachloroethene	1.2	0.21 J
Trichloroethene	0.33 J	ND (0.27)
Vinyl chloride	ND (0.33)	ND (0.27)

SB-147-04	1/28/04 0-2(ft) on-site	1/28/04 12.5-14.5(ft) on-site
VOAs		
1,1-Dichloroethene	ND (0.005)	ND (0.0003)ND (0.0005)
Benzene	ND (0.005)	ND (0.0003)ND (0.0005) J
cis-1,2-Dichloroethene	0.001 J	ND (0.0003)ND (0.0002)
Methylene chloride	ND (0.005)	ND (0.0003)ND (0.0005)
Tetrachloroethene	0.009	0.0320.03
Trichloroethene	0.011	0.004 J0.006
Vinyl chloride	ND (0.005)	ND (0.0003)ND (0.0005)

SB-145-04	1/28/04 0-2(ft) on-site	1/28/04 8-10(ft) on-site	1/28/04 11-13(ft) on-site
VOAs			
1,1-Dichloroethene	ND (2.8)	ND (0.005)	ND (0.005)
Benzene	ND (2.8)	ND (0.005)	ND (0.005)
cis-1,2-Dichloroethene	ND (1.4)	ND (0.002)	ND (0.003)
Methylene chloride	ND (2.9)	ND (0.005)	ND (0.005)
Tetrachloroethene	0.84 J	0.052 J	0.014
Trichloroethene	91 (D4E)	0.052 J	0.17
Vinyl chloride	ND (2.8)	ND (0.005)	ND (0.005)

SB-25-02	4/10/02 1-3(ft) on-site	4/10/02 9-11(ft) on-site
VOAs		
1,1-Dichloroethene	ND (0.24)	ND (0.005)
Benzene	R	ND (0.005)
cis-1,2-Dichloroethene	ND (0.11)	ND (0.002)
Methylene chloride	ND (0.24)	ND (0.005)
Tetrachloroethene	0.25	0.005 J
Trichloroethene	ND (0.24)	ND (0.005)
Vinyl ch



SB-37-02	4/15/02 1-3(ft) on-site	4/15/02 9-11(ft) on-site
SVOAs		
Benzo(a)anthracene	ND (0.37)	ND (0.36)
Benzo(a)pyrene	ND (0.37)	ND (0.36)
Benzo(b)fluoranthene	ND (0.37)	ND (0.36)
bis(2-Ethylhexyl)phthalate	ND (0.37)	ND (0.36)
Dibenz(a,h)anthracene	ND (0.37)	ND (0.36)
PCBs		
Total PCBs	0.994 J	0.217 J

SB-15-02	4/5/02 1-3(ft) on-site	4/5/02 3-5(ft) on-site	4/5/02 9-10(ft) on-site	4/5/02 11.5-13.5(ft) on-site
SVOAs				
Benzo(a)anthracene	ND (0.36)	ND (0.36)	ND (0.35)	0.12 J
Benzo(a)pyrene	ND (0.36)	ND (0.36)	ND (0.35)	0.098 J
Benzo(b)fluoranthene	ND (0.36)	ND (0.36)	ND (0.35)	0.12 J
bis(2-Ethylhexyl)phthalate	ND (0.36)	ND (0.36)	ND (0.35)	ND (0.37)
Dibenz(a,h)anthracene	ND (0.36)	ND (0.36)	ND (0.35)	ND (0.37)
PCBs				
Total PCBs	ND (0.036)	0.052 J	0.043 J	0.814 J

SB-35-02	4/15/02 1-3(ft) on-site	4/15/02 9-11(ft) on-site
SVOAs		
Benzo(a)anthracene	ND (0.34)	ND (0.37)
Benzo(a)pyrene	ND (0.34)	ND (0.37)
Benzo(b)fluoranthene	ND (0.34)	ND (0.37)
bis(2-Ethylhexyl)phthalate	ND (0.34)	ND (0.37)
Dibenz(a,h)anthracene	ND (0.34)	ND (0.37)
PCBs		
Total PCBs	ND (0.034)	0.033 J

SB-04-03	4/1/03 1-3(ft) on-site	4/1/03 9-11(ft) on-site
SVOAs		
Benzo(a)anthracene	ND (0.86)	ND (0.34)/ND (0.34)
Benzo(a)pyrene	ND (0.86)	ND (0.34)/ND (0.34)
Benzo(b)fluoranthene	ND (0.86)	ND (0.34)/ND (0.34)
bis(2-Ethylhexyl)phthalate	2.3	0.016 J/0.014 J
Dibenz(a,h)anthracene	ND (0.86)	ND (0.34)/ND (0.34)

SB-23-02	4/10/02 1-3(ft) on-site	4/10/02 9-11(ft) on-site
PCBs		
Total PCBs	ND (0.034)	ND (0.036)

SB-28-02	4/11/02 1-3(ft) on-site	4/11/02 9-11(ft) on-site
SVOAs		
Benzo(a)anthracene	ND (0.36)	ND (0.38)
Benzo(a)pyrene	ND (0.36)	ND (0.38)
Benzo(b)fluoranthene	ND (0.36)	ND (0.38)
bis(2-Ethylhexyl)phthalate	ND (0.36)	0.066 J
Dibenz(a,h)anthracene	ND (0.36)	ND (0.38)
PCBs		
Total PCBs	ND (0.039)	0.054 J

MW-9-03	1/17/03 0-2(ft) on-site	1/17/03 9-11(ft) on-site
SVOAs		
Benzo(a)anthracene	ND (3.35)/ND (0.35)	ND (0.36)
Benzo(a)pyrene	ND (3.35)/ND (0.35)	ND (0.36)
Benzo(b)fluoranthene	ND (3.35)/ND (0.35)	ND (0.36)
bis(2-Ethylhexyl)phthalate	ND (3.35)/ND (0.35)	ND (0.36)
Dibenz(a,h)anthracene	ND (3.35)/ND (0.35)	ND (0.36)
PCBs		
Total PCBs	ND (0.035)/ND (0.035)	0.079 J

SB-06-03	4/1/03 1-3(ft) on-site	4/1/03 9-11(ft) on-site
SVOAs		
Benzo(a)anthracene	0.61	ND (0.35)
Benzo(a)pyrene	0.62	ND (0.35)
Benzo(b)fluoranthene	0.4 J	ND (0.35)
bis(2-Ethylhexyl)phthalate	0.15 J	ND (0.35)
Dibenz(a,h)anthracene	0.084 J	ND (0.35)

SB-25-02	4/10/02 1-3(ft) on-site	4/10/02 9-11(ft) on-site
PCBs		
Total PCBs	0.071 J	ND (0.037)

SB-05-03	4/1/03 1-3(ft) on-site	4/1/03 9-11(ft) on-site
SVOAs		
Benzo(a)anthracene	0.1 J	ND (1.6)
Benzo(a)pyrene	0.041 J	ND (1.6)
Benzo(b)fluoranthene	0.044 J	ND (1.6)
bis(2-Ethylhexyl)phthalate	0.019 J	ND (1.6)
Dibenz(a,h)anthracene	ND (0.36)	ND (1.6)

SB-24-02	4/10/02 1-3(ft) on-site	4/10/02 9-11(ft) on-site
PCBs		
Total PCBs	ND (0.034)	ND (0.037)

MW-14B-04	3/8/04 0-2(ft) on-site	3/8/04 8-10(ft) on-site	3/8/04 11-13(ft) on-site
SVOAs			
Benzo(a)anthracene	0.23 J	ND (0.35)/ND (0.36)	ND (0.35)
Benzo(a)pyrene	0.4 J	ND (0.35)/ND (0.36)	ND (0.35)
Benzo(b)fluoranthene	0.44 J	ND (0.35)/ND (0.36)	ND (0.35)
bis(2-Ethylhexyl)phthalate	ND (5.9)	0.036 J/0.029 J	0.029 J
Dibenz(a,h)anthracene	ND (3.5)	ND (0.35)/ND (0.36)	ND (0.35)
PCBs			
Total PCBs	0.656 J	0.064 J/0.028 J	0.029 J

SB-14-02	4/5/02 1-3(ft) on-site	4/5/02 4-6(ft) on-site	4/5/02 10-12(ft) on-site
SVOAs			
Benzo(a)anthracene	ND (0.36)	0.1 J	ND (0.35)
Benzo(a)pyrene	ND (0.36)	0.12 J	ND (0.35)
Benzo(b)fluoranthene	ND (0.36)	0.14 J	ND (0.35)
bis(2-Ethylhexyl)phthalate	ND (0.36)	ND (0.44)	ND (0.35)
Dibenz(a,h)anthracene	ND (0.36)	ND (0.44)	ND (0.35)
PCBs			
Total PCBs	ND (0.036)	1.2 J	4.42 J

SB-13-02	4/5/02 1-3(ft) on-site	4/5/02 8-10(ft) on-site	4/5/02 10-12(ft) on-site
SVOAs			
Benzo(a)anthracene	ND (0.36)	ND (0.36)	ND (0.35)
Benzo(a)pyrene	ND (0.36)	ND (0.36)	ND (0.35)
Benzo(b)fluoranthene	ND (0.36)	ND (0.36)	ND (0.35)
bis(2-Ethylhexyl)phthalate	ND (0.36)	ND (0.36)	ND (0.35)
Dibenz(a,h)anthracene	ND (0.36)	ND (0.36)	ND (0.35)
PCBs			
Total PCBs	ND (0.036)	ND (0.036)	1.22 J

SB-34-02	4/12/02 1-3(ft) on-site	4/12/02 8-10(ft) on-site	4/12/02 13-14(ft) on-site
SVOAs			
Benzo(a)anthracene	4.4	ND (0.39)	ND (0.36)
Benzo(a)pyrene	4.4 J/5	ND (0.39)	ND (0.36)
Benzo(b)fluoranthene	3.6	ND (0.39)	ND (0.36)
bis(2-Ethylhexyl)phthalate	ND (1.1)	ND (0.39)	ND (0.36)
Dibenz(a,h)anthracene	0.78 J	ND (0.39)	ND (0.36)
PCBs			
Total PCBs	ND (0.044)	ND (0.039)	ND (0.036)

SB-135-04	1/22/04 0-2(ft) on-site	1/22/04 8-10(ft) on-site	1/22/04 10-12(ft) on-site
PCBs			
Total PCBs	ND (0.044)	ND (0.043)	0.018 J

SB-134-04	2/6/04 0-2(ft) on-site	2/6/04 8-10(ft) on-site
PCBs		
Total PCBs	ND (0.044)/ND (0.042)	ND (0.036)

SB-133-04	1/22/04 0-2(ft) on-site	1/22/04 8-10(ft) on-site	1/22/04 11-13(ft) on-site
SVOAs			
Benzo(a)anthracene	0.1 J	ND (0.34)	ND (0.35)/0.12 J
Benzo(a)pyrene	0.11 J	ND (0.34)	ND (0.35)/0.11 J
Benzo(b)fluoranthene	0.15 J	ND (0.34)	ND (0.35)/0.11 J
bis(2-Ethylhexyl)phthalate	ND (0.42)	0.032 J	ND (0.35)/ND (0.34)
Dibenz(a,h)anthracene	0.063 J	ND (0.34)	ND (0.35)/0.049 J

SB-131-04	1/21/04 0-2(ft) on-site	1/21/04 8-10(ft) on-site
SVOAs		
Benzo(a)anthracene	0.31 J	ND (7.2)/ND (7.1)
Benzo(a)pyrene	0.35 J	ND (7.2)/ND (7.1)
Benzo(b)fluoranthene	0.36 J	ND (7.2)/ND (7.1)
bis(2-Ethylhexyl)phthalate	ND (3.6)	0.57 J/0.79 J
Dibenz(a,h)anthracene	ND (3.6)	ND (7.2)/ND (7.1)

SB-74-03	2/25/03 2-4(ft) on-site	2/25/03 8-10(ft) on-site	2/25/03 13-15(ft) on-site
SVOAs			
Benzo(a)anthracene	0.25 J	10	0.15 J
Benzo(a)pyrene	0.19 J	8.4 J (DF)	0.13 J
Benzo(b)fluoranthene	0.44 J	10 J	0.17 J
bis(2-Ethylhexyl)phthalate	ND (0.81)	3 J	0.032 J
Dibenz(a,h)anthracene	ND (0.81)	1 J	ND (0.35)

SB-142-04	1/27/04 0-2(ft) on-site	1/27/04 8-10(ft) on-site	1/27/04 11-13(ft) on-site
SVOAs			
Benzo(a)anthracene	0.084 J	ND (0.47)	1.3 J
Benzo(a)pyrene	ND (0.36)	ND (0.47)	ND (17)
Benzo(b)fluoranthene	ND (0.39)	ND (0.47)	1.8 J
bis(2-Ethylhexyl)phthalate	0.028 J	0.06 J	ND (17)
Dibenz(a,h)anthracene	ND (0.39)	ND (0.47)	ND (17)
PCBs			
Total PCBs	ND (0.078)	ND (0.047)	0.897 J

SB-130-04	1/21/04 0-2(ft) on-site	1/21/04 8-10(ft) on-site	1/21/04 10-12(ft) on-site
SVOAs			
Benzo(a)anthracene	1.3 J	ND (0.39)	ND (7.3)
Benzo(a)pyrene	1.2 J	ND (0.39)	ND (7.3)
Benzo(b)fluoranthene	1.3 J	0.035 J	ND (7.3)
bis(2-Ethylhexyl)phthalate	ND (4.3)	ND (0.39)	0.94 J
Dibenz(a,h)anthracene	ND (4.3)	ND (0.39)	ND (7.3)

SB-183-04	11/29/04 0-2(ft) on-site	11/29/04 8-10(ft) on-site	11/29/04 13-14(ft) on-site
SVOAs			
Benzo(a)anthracene	ND (0.42)	ND (0.44)	ND (0.37)
Benzo(a)pyrene	0.021 J	ND (0.44)	ND (0.37)
Benzo(b)fluoranthene	0.027 J	ND (0.44)	ND (0.37)
bis(2-Ethylhexyl)phthalate	ND (0.42)	ND (0.44)	ND (0.37)
Dibenz(a,h)anthracene	ND (0.42)	ND (0.44)	ND (0.37)

MW-10-03	1/17/03 0-2(ft) on-site	1/17/03 7-9(ft) on-site
SVOAs		
Benzo(a)anthracene	ND (0.35)	ND (0.42)
Benzo(a)pyrene	ND (0.35)	ND (0.42)
Benzo(b)fluoranthene	ND (0.35)	ND (0.42)
bis(2-Ethylhexyl)phthalate	0.017 J	0.14 J
Dibenz(a,h)anthracene	ND (0.35)	ND (0.42)
PCBs		
Total PCBs	0.037 J	0.228 J

SB-33-02	4/12/02 1-3(ft) on-site	4/12/02 9-11(ft) on-site
SVOAs		
Benzo(a)anthracene	ND (0.37)	ND (0.45)
Benzo(a)pyrene	ND (0.37)	ND (0.45)
Benzo(b)fluoranthene	ND (0.37)	ND (0.45)
bis(2-Ethylhexyl)phthalate	ND (0.37)	ND (0.45)
Dibenz(a,h)anthracene	ND (0.37)	ND (0.45)
PCBs		
Total PCBs	ND (0.037)	ND (0.045)

SH-177-04	11/3/04 0-2(ft) on-site	11/2/04 7.5-9.5(ft) on-site
SVOAs		
Benzo(a)anthracene	0.83 J	ND (0.36)/ND (0.39)
Benzo(a)pyrene	1	ND (0.36)/ND (0.39)
Benzo(b)fluoranthene	1.3	ND (0.36)/ND (0.39)
bis(2-Ethylhexyl)phthalate	ND (0.87)	ND (0.36)/ND (0.39)
Dibenz(a,h)anthracene	0.19 J	ND (0.36)/ND (0.39)

SB-144-04	1/27/04 0-2(ft) on-site	1/27/04 8-10(ft) on-site	1/27/04 13.5-14.5(ft) on-site
SVOAs			
Benzo(a)anthracene	0.031 J	ND (0.47)	ND (7.4)
Benzo(a)pyrene	ND (0.4)	ND (0.47)	ND (7.4)
Benzo(b)fluoranthene	ND (0.4)	ND (0.47)	ND (7.4)
bis(2-Ethylhexyl)phthalate	0.089 J	ND (0.47)	ND (7.4)
Dibenz(a,h)anthracene	ND (0.4)	ND (0.47)	ND (7.4)
PCBs			
Total PCBs	ND (0.04)	0.018 J	12.2 J (DF)

SB-176-04	11/2/04 0-2(ft) on-site	11/2/04 8-10(ft) on-site
SVOAs		
Benzo(a)anthracene	0.063 J	ND (0.37)
Benzo(a)pyrene	0.08 J	ND (0.37)
Benzo(b)fluoranthene	0.12 J	ND (0.37)
bis(2-Ethylhexyl)phthalate	ND (0.37)	ND (0.37)
Dibenz(a,h)anthracene	ND (0.37)	ND (0.37)

SB-146-04	1/28/04 0-2(ft) on-site	1/28/04 8-10(ft) on-site	1/28/04 12-14(ft) on-site
SVOAs			
Benzo(a)anthracene	ND (4.6)	ND (19)	ND (19)
Benzo(a)pyrene	ND (4.6)	ND (19)	ND (19)
Benzo(b)fluoranthene	ND (4.6)	ND (19)	ND (19)
bis(2-Ethylhexyl)phthalate	ND (4.6)	ND (19)	ND (19)
Dibenz(a,h)anthracene	ND (4.6)	ND (19)	ND (19)
PCBs			
Total PCBs	33.2 J (DF)	0.254 J	0.194 J

BH-182-04	11/1/04 0-2(ft) on-site	11/1/04 8-10(ft) on-site	11/1/04 12-14(ft) on-site
SVOAs			
Benzo(a)anthracene	0.054 J	ND (0.46)	ND (0.38)
Benzo(a)pyrene	0.03 J	ND (0.46)	ND (0.38)
Benzo(b)fluoranthene	0.058 J	ND (0.46)	ND (0.38)
bis(2-Ethylhexyl)phthalate	ND (0.44)	ND (0.46)	ND (0.38)
Dibenz(a,h)anthracene	ND (0.44)	ND (0.46)	ND (0.38)

SB-145-04	1/28/04 0-2(ft) on-site	1/28/04 8-10(ft) on-site	1/28/04 11-13(ft) on-site
SVOAs			
Benzo(a)anthracene	0.038 J	ND (0.34)	ND (0.39)
Benzo(a)pyrene	0.056 J	ND (0.34)	ND (0.39)
Benzo(b)fluoranthene	0.066 J	ND (0.34)	ND (0.39)
bis(2-Ethylhexyl)phthalate	ND (0.39)	ND (0.34)	ND (0.39)
Dibenz(a,h)anthracene	ND (0.39)	ND (0.34)	ND (0.39)
PCBs			
Total PCBs	0.018 J	ND (0.034)	0.039 J

SB-150-04	1/28/04 0-2(ft) on-site	1/28/04 8-10(ft) on-site	1/28/04 12-14(ft) on-site
SVOAs			
Benzo(a)anthracene	ND (4.6)/ND (3.8)	ND (3.5)	ND (19)
Benzo(a)pyrene	ND (4.6)/ND (3.8)	ND (3.5)	ND (19)
Benzo(b)fluoranthene	ND (4.6)/ND (3.8)	ND (3.5)	ND (19)
bis(2-Ethylhexyl)phthalate	ND (4.6)/ND (3.8)	ND (3.5)	ND (19)
Dibenz(a,h)anthracene	ND (4.6)/ND (3.8)	ND (3.5)	ND (19)
PCBs			
Total PCBs	0.019 J/0.012 J	ND (0.035)	0.293 J

SB-89-03	4/1/03 1-3(ft) on-site
SVOAs	
Benzo(a)anthracene	1.3 J
Benzo(a)pyrene	1.4 J
Benzo(b)fluoranthene	1.6
bis(2-Ethylhexyl)phthalate	ND (1.6)
Dibenz(a,h)anthracene	0.23 J

SB-91-03	4/1/03 1-3(ft) on-site
SVOAs	
Benzo(a)anthracene	1.5
Benzo(a)pyrene	1.7
Benzo(b)fluoranthene	1.7
bis(2-Ethylhexyl)phthalate	ND (1.3)
Dibenz(a,h)anthracene	0.27 J

SB-44-02	4/15/02 1-3(ft) on-site	4/15/02 9-11(ft) on-site
SVOAs		
Benzo(a)anthracene	6.8	ND (0.49)
Benzo(a)pyrene	8.7 (DF)	ND (0.49)
Benzo(b)fluoranthene	9.5	ND (0.49)
bis(2-Ethylhexyl)phthalate	0.71 J	ND (0.49)
Dibenz(a,h)anthracene	2.2	ND (0.49)
PCBs		
Total PCBs	ND (0.033)	ND (0.049)

SB-41-02	4/15/02 1-3(ft) on-site	4/15/02 4-6(ft) on-site	4/15/02 9-11(ft) on-site
SVOAs			
Benzo(a)anthracene	0.16 J	ND (0.46)	ND (7.1)
Benzo(a)pyrene	0.22 J	ND (0.46)	ND (7.1)
Benzo(b)fluoranthene	0.42	ND (0.46)	ND (7.1)
bis(2-Ethylhexyl)phthalate	ND (0.36)	0.094 J	ND (7.1)
Dibenz(a,h)anthracene	ND (0.36)	ND (0.46)	ND (7.1)
PCBs			
Total PCBs	0.994 J	21.1 J (DF)	13.3 J (DF)

MW-3-02	6/26/02 1-3(ft)	6/26/02 4-6(ft)	6/26/02 9-11(ft)
PCBs			
Total PCBs	0.208 J	28.1 J (DF)	54.2 J (DF)

SB-58-02	4/17/02 1-3(ft) on-site	4/17/02 6-8(ft) on-site	4/17/02 9.5-11.5(ft) on-site
SVOAs			
Benzo(a)anthracene	1.3	ND (3.1)	ND (0.39)
Benzo(a)pyrene	2.1	ND (3.1)	0.076 J
Benzo(b)fluoranthene	3	ND (3.1)	0.11 J
bis(2-Ethylhexyl)phthalate	ND (3.37)	ND (3.1)	ND (0.39)
Dibenz(a,h)anthracene	0.34 J	ND (3.1)	ND (0.39)
PCBs			
Total PCBs	8.84 J (DF)	80.2 J (DF)	33.9 J (DF)

SB-87-03	4/1/03 1-3(ft) on-site	4/1/03 9-11(ft) on-site
SVOAs		
Benzo(a)anthracene	ND (0.39)	0.16 J
Benzo(a)pyrene	ND (0.39)	0.13 J
Benzo(b)fluoranthene	ND (0.39)	0.17 J
bis(2-Ethylhexyl)phthalate	ND (0.39)	0.016 J
Dibenz(a,h)anthracene	ND (0.39)	0.023 J
PCBs		
Total PCBs	ND (0.044)	0.557 J

SB-48-02	4/15/02 1-3(ft) on-site	4/15/02 9.5-11.5(ft) on-site
SVOAs		
Benzo(a)anthracene	ND (0.44)	ND (0.36)
Benzo(a)pyrene	ND (0.44)	ND (0.36)
Benzo(b)fluoranthene	ND (0.44)	ND (0.36)
bis(2-Ethylhexyl)phthalate	ND (0.44)	ND (0.36)
Dibenz(a,h)anthracene	ND (0.44)	ND (0.36)
PCBs		
Total PCBs	0.081 J	0.406 J

SB-22-02	4/10/02 1-3(ft) on-site	4/10/02 9-11(ft) on-site
PCBs		
Total PCBs	ND (0.039)	ND (0.036)

SB-17-02	4/8/02 1-3(ft) on-site	4/8/02 8-10(ft) on-site	4/8/02 10-12(ft) on-site
SVOAs			
Benzo(a)anthracene	ND (0.39)	ND (0.44)	ND (0.34)
Benzo(a)pyrene	ND (0.39)	ND (0.44)	ND (0.34)
Benzo(b)fluoranthene	ND (0.39)	ND (0.44)	ND (0.34)
bis(2-Ethylhexyl)phthalate	ND (0.39)	ND (0.44)	ND (0.34)
Dibenz(a,h)anthracene	ND (0.39)	ND (0.44)	ND (0.34)
PCBs			
Total PCBs	ND (0.035)	ND (0.044)	ND (0.034)

SB-54-02	4/17/02 1-3(ft) on-site	4/17/02 9-11(ft) on-site
SVOAs		
Benzo(a)anthracene	ND (7.8)	ND (1.8)
Benzo(a)pyrene	ND (7.8)	ND (1.8)
Benzo(b)fluoranthene	ND (7.8)	ND (1.8)
bis(2-Ethylhexyl)phthalate	ND (7.8)	ND (1.8)
Dibenz(a,h)anthracene	ND (7.8)	ND (1.8)
PCBs		
Total PCBs	ND (0.039)	ND (0.037)

SB-143-04	1/27/04 8-10(ft) on-site	1/27/04 12-14(ft) on-site
SVOAs		
Benzo(a)anthracene	ND (0.44)	ND (0.38)
Benzo(a)pyrene	ND (0.44)	ND (0.38)
Benzo(b)fluoranthene	ND (0.44)	ND (0.38)
bis(2-Ethylhexyl)phthalate	ND (0.44)	ND (0.38)
Dibenz(a,h)anthracene	ND (0.44)	ND (0.38)
PCBs		
Total PCBs	ND (0.044)	2.44 J

SB-140-04	1/27/04 0-2(ft) on-site	1/27/04 8-10(ft) on-site	1/27/04 12-14(ft) on-site
SVOAs			
Benzo(a)anthracene	0.42	ND (0.39)	ND (0.36)
Benzo(a)pyrene	0.32 J	ND (0.39)	ND (0.36)
Benzo(b)fluoranthene	0.5	ND (0.39)	0.022 J
bis(2-Ethylhexyl)phthalate	0.041 J	ND (0.39)	ND (0.36)
Dibenz(a,h)anthracene	0.026 J	ND (0.39)	ND (0.36)
PCBs			
Total PCBs	ND (0.037)	ND (0.036)	ND (0.036)

BH-181-04	11/1/04 0-2(ft) on-site	11/1/04 8-10(ft) on-site	11/1/04 11.5-13.5(ft) on-site
PCBs			
Total PCBs	ND (0.043)	ND (0.05)	ND (0.037)

SB-132-04	1/21/04 0-2(ft) on-site	1/21/04 8-10(ft) on-site
PCBs		
Total PCBs	0.018 J	0.029 J

SB-73-03	2/20/03 2-4(ft) on-site	2/20/03 8-10(ft) on-site	2/20/03 12-14(ft) on-site
SVOAs			
Benzo(a)anthracene	0.13 J	0.34 J	0.18 J
Benzo(a)pyrene	ND (0.37)/ U.J	0.3 J	0.17 J
Benzo(b)fluoranthene	ND (0.37)/ U.J	0.39 J	0.22 J
bis(2-Ethylhexyl)phthalate	ND (0.37)	0.13 J	0.15 J
Dibenz(a,h)anthracene	0.021 J	0.043 J	0.029 J
PCBs			
Total PCBs	ND (0.035)	ND (0.044)	ND (0.034)

BH-180-04	11/1/04 12.5-14.5(ft) on-site
SVOAs	
Benzo(a)anthracene	ND (0.35) U
Benzo(a)pyrene	ND (0.35) U
Benzo(b)fluoranthene	ND (0.35) U
bis(2-Ethylhexyl)phthalate	ND (0.35) U
Dibenz(a,h)anthracene	ND (0.35) U
PCBs	
Total PCBs	ND (0.039)

MW-26-04	3/4/04 0-2(ft) on-site	3/4/04 8-10(ft) on-site	3/4/04 10-12(ft) on-site
SVOAs			
Benzo(a)anthracene	0.14 J	ND (0.39)	ND (0.36)
Benzo(a)pyrene	0.13 J	ND (0.39)	ND (0.36)
Benzo(b)fluoranthene	0.2 J	ND (0.39)	ND (0.36)
bis(2-Ethylhexyl)phthalate	ND (0.66)	ND (0.39)	ND (0.36)
Dibenz(a,h)anthracene	0.09 J	ND (0.39)	ND (0.36)
PCBs			
Total PCBs	ND (0.038)	0.007 J	0.046 J

SB-148-04	1/28/04 0-2(ft) on-site	1/28/04 8-10(ft) on-site	1/28/04 11-13(ft) on-site
SVOAs			
Benzo(a)anthracene	ND (0.36)	ND (0.36)	ND (0.34)
Benzo(a)pyrene	ND (0.36)	ND (0.36)	ND (0.34)
Benzo(b)fluoranthene	0.32 J	ND (0.36)	ND (0.34)
bis(2-Ethylhexyl)phthalate	ND (3.6)	ND (0.36)	ND (0.34)
Dibenz(a,h)anthracene	ND (3.6)	ND (0.36)	ND (0.34)
PCBs			
Total PCBs	0.304 J	0.065 J	0.021 J

SB-53-02	4/17/02 1-3(ft) on-site
SVOAs	
Benzo(a)anthracene	0.92
Benzo(a)pyrene	1.1
Benzo(b)fluoranthene	1.1
bis(2-Ethylhexyl)phthalate	ND (0.4)
Dibenz(a,h)anthracene	0.2 J
PCBs	
Total PCBs	ND (0.04)

SB-163-04	2/5/04 0-2(ft) on-site	2/5/04 8-10(ft) on-site	3/9/04 11.5-13.5(ft) on-site
SVOAs			
Benzo(a)anthracene	0.06 J	ND (0.38)	ND (7.3)
Benzo(a)pyrene	0.051 J	ND (0.38)	ND (7.3)
Benzo(b)fluoranthene	0.066 J	ND (0.38)	ND (7.3)
bis(2-Ethylhexyl)phthalate	ND (0.38)	ND (0.38)	ND (7.3)
Dibenz(a,h)anthracene	ND (0.38)	ND (0.38)	ND (7.3)
PCBs			
Total PCBs	ND (0.039)	ND (0.038)	0.034 J

MW-12-03	3/5/03 1-3(ft) on-site	3/5/03 8-11(ft) on-site
SVOAs		
Benzo(a)anthracene	3.8 J	0.34 J
Benzo(a)pyrene	3.5 J (DF)	0.38
Benzo(b)fluoranthene	4 J	0.4
bis(2-Ethylhexyl)phthalate	ND (4.3)	ND (0.36)
Dibenz(a,h)anthracene	ND (4.3)	0.055 J
PCBs		
Total PCBs	ND (0.043)	2.34 J

SB-72-03	2/20/03 1-3(ft) on-site	2/20/03 9-11(ft) on-site	2/20/03 12.5-14.5(ft) on-site
SVOAs			
Benzo(a)anthracene	0.24 J	ND (0.35)	ND (0.36)
Benzo(a)pyrene	0.23 J	ND (0.35)	ND (0.36)
Benzo(b)fluoranthene	0.22 J	ND (0.35)	ND (0.36)
bis(2-Ethylhexyl)phthalate	0.024 J	ND (0.35)	ND (0.36)
Dibenz(a,h)anthracene	0.044 J	ND (0.35)	ND (0.36)
PCBs			
Total PCBs	0.994 J	0.107 J	0.032 J

OW-1	10/14/02 0-2(ft) off-site	10/14/02 17-19(ft) off-site
SVOAs		
Benzo(a)anthracene	0.068 J	ND (0.36)
Benzo(a)pyrene	0.06 J	ND (0.36)
Benzo(b)fluoranthene	0.11 J	ND (0.36)
bis(2-Ethylhexyl)phthalate	ND (0.36)	ND (0.36)
Dibenz(a,h)anthracene	ND (0.37)	ND (0.36)
PCBs		
Total PCBs	0.1 J	2.62 J

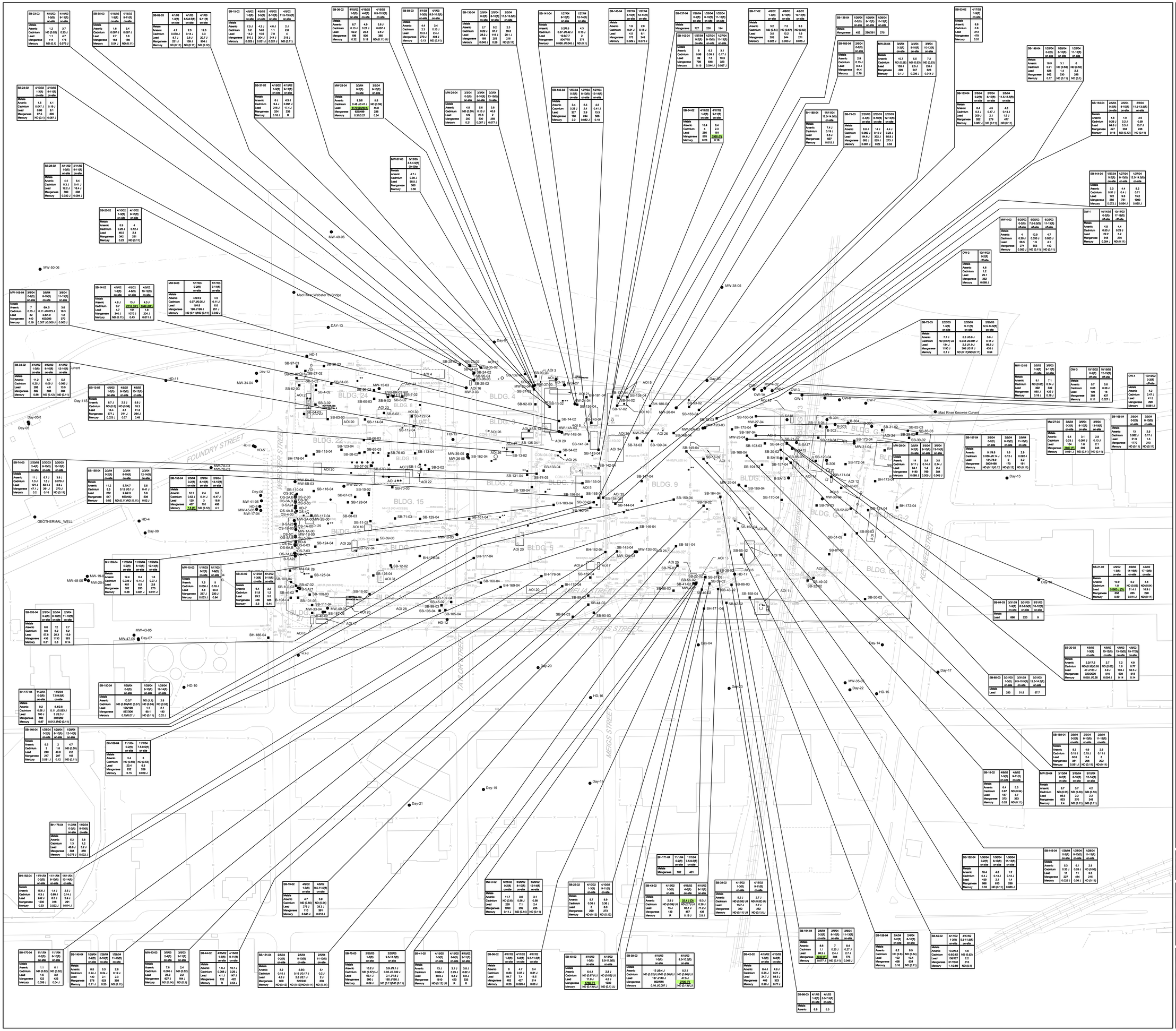
MW-4-02	8/25/02 0-2(ft) off-site	8/25/02 7.5-9.5(ft) off-site	8/25/02 11-13(ft) off-site
SVOAs			
Benzo(a)anthracene	0.098 J	ND (0.38)	ND (7.5)
Benzo(a)pyrene	0.11 J	ND (0.38)	ND (7.5)
Benzo(b)fluoranthene	0.16 J	ND (0.38)	ND (7.5)
bis(2-Ethylhexyl)phthalate	ND (0.38)	ND (0.38)	ND (7.5)
Dibenz(a,h)anthracene	ND (0.37)	ND (0.38)	ND (7.5)
PCBs			
Total PCBs	0.094 J	1.01 J	59.7 J (DF)

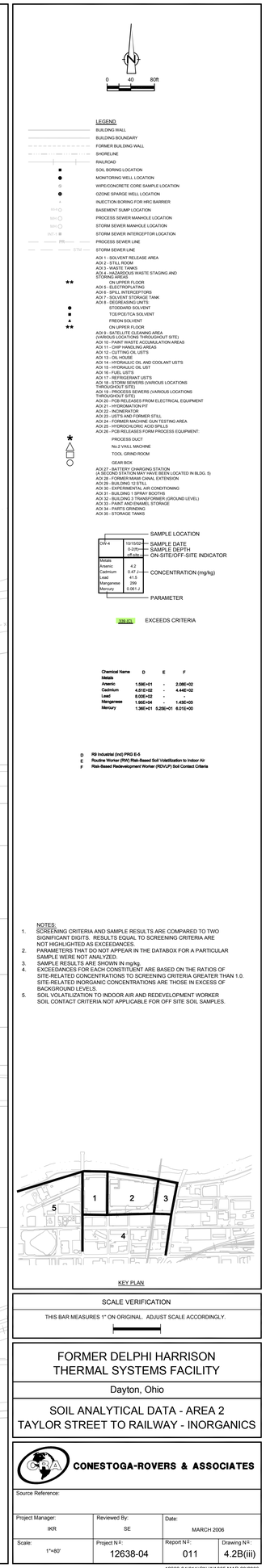
OW-2	10/14/02 0-2(ft) off-site
SVOAs	
Benzo(a)anthracene	0.12 J
Benzo(a)pyrene	0.15 J
Benzo(b)fluoranthene	0.2 J
bis(2-Ethylhexyl)phthalate	ND (0.36)
Dibenz(a,h)anthracene	ND (0.36)
PCBs	
Total PCBs	0.155 J

OW-3	10/15/02 0-2(ft) off-site	10/15/02 13-15(ft) off-site
SVOAs		
Benzo(a)anthracene	0.34 J	ND (1.5)
Benzo(a)pyrene	0.33 J	ND (1.5)
Benzo(b)fluoranthene	0.49	ND (1.5)
bis(2-Ethylhexyl)phthalate	ND (0.36)	ND (1.5)
Dibenz(a,h)anthracene	ND (0.36)	0.048 J
PCBs		
Total PCBs	0.187 J	37.4 J (DF)

MW-27-04	3/5/04 0-2(ft) on-site	3/5/04 8-10(ft) on-site	3/5/04 13-15(ft) on-site
SVOAs			
Benzo(a)anthracene	0.043 J	ND (0.35)	ND (7.2)
Benzo(a)pyrene	0.038 J	ND (0.35)	ND (7.2)
Benzo(b)fluoranthene	0.051 J	ND (0.35)	ND (7.2)
bis(2-Ethylhexyl)phthalate	ND (0.36)	ND (0.35)	ND (7.2)
Dibenz(a,h)anthracene	ND (0.36)	ND (0.35)	ND (7.2)
PCBs			
Total PCBs	ND (0.038)	ND (0.035)	4.87 J

SB-189-04	2/9/04 0-2(ft) on-site	2/9/04 8-10(ft) on-site
SVOAs		
Benzo(a)anthracene	ND (0.37)	ND (0.38)
Benzo(a)pyrene	ND (0.37)	ND (0.38)
Benzo(b)fluoranthene	ND (0.37)	ND (0.38)
bis(2-





SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY

Dayton, Ohio

SOIL ANALYTICAL DATA - AREA 2 TAYLOR STREET TO RAILWAY - INORGANICS

CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

Project Manager:	Reviewed By:	Date:	
IKR	SE	MARCH 2006	
Scale:	Project N°:	Report N°:	Drawing N°:
1"=80'	12638-04	011	4.2B(iii)

12638-04(011)GN-WA035 MAR 29/2006

SB-118-04	1/16/04 0-2(ft) on-site	1/16/04 8-10(ft) on-site	1/16/04 19-21(ft) on-site
VOAs			
1,1-Dichloroethene	ND (0.6) UJ	ND (0.28)	ND (0.28)
Benzene	0.071 J	ND (0.28)	ND (0.28)
cis-1,2-Dichloroethene	ND (0.3) UJ	ND (0.14)	ND (0.14)
Methylene chloride	ND (0.6) UJ	0.09 J	0.1 J
Tetrachloroethene	0.095 J	ND (0.28)	ND (0.28)
Trichloroethene	ND (0.6) UJ	ND (0.28)	ND (0.28)
Vinyl chloride	ND (0.6) UJ	ND (0.28)	ND (0.28)
SVOAs			
Benzo(a)anthracene	ND (20)	ND (7.5)	ND (7.6)
Benzo(a)pyrene	ND (20)	ND (7.5)	ND (7.6)
Benzo(b)fluoranthene	ND (20)	ND (7.5)	ND (7.6)
bis(2-Ethylhexyl)phthalate	ND (20)	ND (7.5)	ND (7.6)
Dibenz(a,h)anthracene	ND (20)	ND (7.5)	ND (7.6)
PCBs			
Total PCBs	97 J (DF)	15.2 J (D)	6.38 J
Metals			
Arsenic	7.5	2.9	2.6
Cadmium	2.6 J	0.32 J	0.24 J
Lead	185 J	12.5 J	4.8 J
Manganese	287	295	197
Mercury	0.61	0.029 J	0.051 J

SB-119-04	1/16/04 0-2(ft) on-site	1/16/04 8-10(ft) on-site	1/16/04 21-22(ft) on-site
VOAs			
1,1-Dichloroethene	ND (0.82) UJ	ND (0.22)	ND (0.42)
Benzene	0.16 J	ND (0.22)	ND (0.42)
cis-1,2-Dichloroethene	0.21 J	ND (0.11)	ND (0.21)
Methylene chloride	ND (0.82) UJ	0.087 J	0.13 J
Tetrachloroethene	0.82 J	ND (0.22)	ND (0.42)
Trichloroethene	ND (0.82) UJ	ND (0.22)	ND (0.42)
Vinyl chloride	ND (0.82) UJ	ND (0.22)	ND (0.42)
SVOAs			
Benzo(a)anthracene	ND (9.7)	ND (3.9)	ND (6.9)
Benzo(a)pyrene	ND (9.7)	ND (3.9)	ND (6.9)
Benzo(b)fluoranthene	ND (9.7)	ND (3.9)	ND (6.9)
bis(2-Ethylhexyl)phthalate	ND (9.7)	ND (3.9)	ND (6.9)
Dibenz(a,h)anthracene	ND (9.7)	ND (3.9)	ND (6.9)
PCBs			
Total PCBs	12.2 J (D)	3.74 J	3.03 J
Metals			
Arsenic	12.3	24.1	5.8
Cadmium	3.3 J	ND (1.2) UJ	0.17 J
Lead	204 J	355 J	1.9 J
Manganese	453	408	654
Mercury	1.7	0.74	ND (0.11)

SB-120-04	1/19/04 0-2(ft) on-site	1/19/04 8-10(ft) on-site	1/19/04 21-23(ft) on-site
VOAs			
1,1-Dichloroethene	ND (0.23)	ND (0.25)	ND (0.23)ND (0.24)
Benzene	ND (0.23)	ND (0.25)	ND (0.23)ND (0.24)
cis-1,2-Dichloroethene	0.069 J	ND (0.13)	ND (0.11)0.034 J
Methylene chloride	ND (0.23)	ND (0.25)	ND (0.23)ND (0.24)
Tetrachloroethene	ND (0.23)	ND (0.25)	ND (0.23)ND (0.24)
Trichloroethene	0.051	ND (0.25)	ND (0.23)ND (0.24)
Vinyl chloride	ND (0.23)	ND (0.25)	ND (0.23)ND (0.24)
SVOAs			
Benzo(a)anthracene	ND (0.4)	ND (0.41)	ND (0.38)ND (0.38)
Benzo(a)pyrene	ND (0.4)	ND (0.41)	ND (0.38)ND (0.38)
Benzo(b)fluoranthene	ND (0.4)	ND (0.41)	ND (0.38)ND (0.38)
bis(2-Ethylhexyl)phthalate	ND (0.4)	ND (0.41)	ND (0.38)ND (0.38)
Dibenz(a,h)anthracene	ND (0.4)	ND (0.41)	ND (0.38)ND (0.38)
PCBs			
Total PCBs	0.047 J	9.58 J (D)	13.2 J (D)11.1 J (D)
Metals			
Arsenic	7.9	7.9	3.6/5.9
Cadmium	0.29 J	ND (0.62)	0.16 J/0.34 J
Lead	91.4	23.4	14.4/45
Manganese	397	485	264/215
Mercury	0.57	0.26	0.062 J/0.34

OW-5	10/15/02 0-2(ft) off-site
VOAs	
1,1-Dichloroethene	ND (0.006)
Benzene	ND (0.006)
cis-1,2-Dichloroethene	ND (0.003)
Methylene chloride	ND (0.006)
Tetrachloroethene	ND (0.006)
Trichloroethene	ND (0.006)
Vinyl chloride	ND (0.006)
SVOAs	
Benzo(a)anthracene	0.41
Benzo(a)pyrene	0.49
Benzo(b)fluoranthene	0.95
bis(2-Ethylhexyl)phthalate	ND (0.41)
Benzo(b)fluoranthene	0.083 J
PCBs	
Total PCBs	0.268 J
Metals	
Arsenic	18.5
Cadmium	1.4
Lead	234
Manganese	456
Mercury	0.25

OW-6	10/16/02 0-2(ft) off-site
VOAs	
1,1-Dichloroethene	ND (0.006)
Benzene	ND (0.006)
cis-1,2-Dichloroethene	ND (0.003)
Methylene chloride	ND (0.006)
Tetrachloroethene	ND (0.006)
Trichloroethene	ND (0.006)
Vinyl chloride	ND (0.006)
SVOAs	
Benzo(a)anthracene	0.12 J
Benzo(a)pyrene	0.14 J
Benzo(b)fluoranthene	0.21 J
bis(2-Ethylhexyl)phthalate	ND (0.37)
Dibenz(a,h)anthracene	ND (0.37)
PCBs	
Total PCBs	0.091 J
Metals	
Arsenic	5.9
Cadmium	0.54 J
Lead	269
Manganese	355
Mercury	0.085 J

OW-7	10/16/02 0-2(ft) off-site
VOAs	
1,1-Dichloroethene	ND (0.005)
Benzene	ND (0.005)
cis-1,2-Dichloroethene	ND (0.003)
Methylene chloride	ND (0.005)
Tetrachloroethene	ND (0.005)
Trichloroethene	ND (0.005)
Vinyl chloride	ND (0.005)
SVOAs	
Benzo(a)anthracene	0.18 J
Benzo(a)pyrene	0.21 J
Benzo(b)fluoranthene	0.3 J
bis(2-Ethylhexyl)phthalate	0.053 J
Dibenz(a,h)anthracene	ND (0.39)
PCBs	
Total PCBs	0.208 J
Metals	
Arsenic	5.1
Cadmium	0.64
Lead	37.6
Manganese	334
Mercury	0.079 J

Chemical Name	D	E	F
VOCs			
1,1-Dichloroethene	4.13E+02	6.30E+01	2.40E+01
Benzene	1.41E+01	1.13E+00	1.15E+01
cis-1,2-Dichloroethene	1.46E+02	1.10E+01	7.25E+01
Methylene chloride	2.05E+02	1.88E+01	2.63E+02
Tetrachloroethene	1.31E+01	2.88E+00	4.26E+01
Trichloroethene	6.12E+01	5.19E+00	9.40E+01
Vinyl chloride	7.46E+00	1.00E+00	7.49E+00
SVOCs			
Benzo(a)anthracene	2.11E+01	9.32E+04	3.21E+02
Benzo(a)pyrene	2.11E+00	6.99E+04	3.35E+01
Benzo(b)fluoranthene	2.11E+01	8.86E+03	3.00E+02
bis(2-Ethylhexyl)phthalate	1.23E+03	2.54E+09	7.66E+03
Dibenz(a,h)anthracene	2.11E+00	1.98E+07	3.42E+01
PCBs			
Total PCBs	7.44E+00	1.51E+02	1.75E+01
Metals			
Mercury	1.38E+01	5.25E+01	8.01E+00
Manganese	1.95E+04	-	1.43E+03
Lead	8.00E+02	-	-
Cadmium	4.51E+02	-	4.44E+02
Arsenic	1.59E+01	-	2.08E+02

D RBI Industrial (Ind) PRG E-5
E Routine Worker (RW) Risk-Based Soil Volatilization to Indoor Air
F Risk-Based Redevelopment Worker (RDVLP) Soil Contact Criteria

NOTES:
1. TOTAL PCBs WERE SUMMED BY ADDING THE POSITIVE DETECTIONS PLUS HALF THE QUANTITATION LIMITS FOR NON-DETECT RESULTS OF AROCLORS DETECTED ELSEWHERE AT THE SITE. IF QUANTITATION LIMITS ARE NOT AVAILABLE, HALF THE REPORTING LIMITS ARE USED FOR NON-DETECTED VALUES.
2. SCREENING CRITERIA AND SAMPLE RESULTS ARE COMPARED TO TWO SIGNIFICANT DIGITS. RESULTS EQUAL TO SCREENING CRITERIA ARE NOT HIGHLIGHTED AS EXCEEDANCES.
3. PARAMETERS THAT DO NOT APPEAR IN THE DATABOX FOR A PARTICULAR SAMPLE WERE NOT ANALYZED.
4. EXCEEDANCES FOR EACH CONSTITUENT ARE BASED ON THE RATIOS OF SITE-RELATED CONCENTRATIONS TO SCREENING CRITERIA GREATER THAN 1.0. SITE-RELATED INORGANIC CONCENTRATIONS ARE THOSE IN EXCESS OF BACKGROUND LEVELS.
5. SOIL VOLATILIZATION TO INDOOR AIR AND REDEVELOPMENT WORKER SOIL CONTACT CRITERIA NOT APPLICABLE FOR OFF SITE SOIL SAMPLES.

SB-31-02	4/11/02 1-3(ft) on-site
PCBs	
Total PCBs	ND (0.041)
Metals	
Lead	21.4 J

SB-82-03	3/31/03 1-3(ft) on-site
PCBs	
Total PCBs	0.039 J
Metals	
Lead	86000 (D)

SB-83-03	3/31/03 1-3(ft) on-site
PCBs	
Total PCBs	ND (0.036)
Metals	
Lead	15.3

SB-29-02	4/11/02 1-3(ft) on-site
PCBs	
Total PCBs	0.051 J
Metals	
Lead	1170 J (D)

SB-30-02	4/11/02 1-3(ft) on-site
PCBs	
Total PCBs	0.123 J
Metals	
Lead	13600 J (D)

BH-174-04	11/1/04 0-2(ft) on-site	11/1/04 8-10(ft) on-site	11/1/04 12-14(ft) on-site
VOAs			
1,1-Dichloroethene	ND (0.004)	ND (0.004)	ND (0.005)
Benzene	0.006	0.006	0.008
cis-1,2-Dichloroethene	ND (0.004)	ND (0.004)	ND (0.005)
Methylene chloride	ND (0.011)	ND (0.015)	ND (0.01)
Tetrachloroethene	ND (0.004)	ND (0.004)	ND (0.005)
Trichloroethene	ND (0.004)	ND (0.004)	ND (0.005)
Vinyl chloride	ND (0.004)	ND (0.004)	ND (0.005)
PCBs			
Total PCBs	ND (0.035)	ND (0.036)	0.162 J
Metals			
Arsenic	4.6	5.4	2.3
Cadmium	ND (0.53)	ND (0.55)	ND (0.52)
Lead	5.1	8.2	1.7
Manganese	268	259	202
Mercury	0.011 J	0.014 J	0.009 J

SB-77-03	3/31/03 0-2(ft) on-site
PCBs	
Total PCBs	ND (0.035)
Metals	
Lead	5.7

BH-173-04	11/1/04 0-2(ft) on-site	11/1/04 8-10(ft) on-site
VOAs		
1,1-Dichloroethene	ND (0.007)	ND (0.21)
Benzene	0.011	ND (0.21)
cis-1,2-Dichloroethene	ND (0.007)	ND (0.21)
Methylene chloride	ND (0.014)	ND (0.21)
Tetrachloroethene	0.006 J	0.59
Trichloroethene	0.002 J	0.26
Vinyl chloride	ND (0.007)	ND (0.21)
PCBs		
Total PCBs	ND (0.034)	ND (0.036)
Metals		
Arsenic	2.7	4.5
Cadmium	ND (0.52)	ND (0.54)
Lead	2.9	15
Manganese	246	368
Mercury	0.013 J	0.3

SB-78-03	3/31/03 1-3(ft) on-site	3/31/03 10-12(ft) on-site
SVOAs		
Benzo(a)anthracene	ND (0.36)	ND (0.35)
Benzo(a)pyrene	ND (0.36)	ND (0.35)
Benzo(b)fluoranthene	ND (0.36)	ND (0.35)
bis(2-Ethylhexyl)phthalate	ND (0.36)	ND (0.35)
Dibenz(a,h)anthracene	ND (0.36)	ND (0.35)
PCBs		
Total PCBs	ND (0.036)	ND (0.035)

SB-121-04	1/15/04 0-2(ft) on-site
SVOAs	
Benzo(a)anthracene	4.4
Benzo(a)pyrene	3.9 (D)
Benzo(b)fluoranthene	4.3
bis(2-Ethylhexyl)phthalate	0.72 J
Dibenz(a,h)anthracene	0.68 J
Metals	
Lead	107

BH-172-04	11/1/04 0-2(ft) on-site	11/1/04 3-5(ft) on-site
VOAs		
1,1-Dichloroethene	ND (0.007)ND (0.005)	ND (0.005)
Benzene	0.009/0.006	0.01
cis-1,2-Dichloroethene	ND (0.007)ND (0.005)	ND (0.005)
Methylene chloride	ND (0.014)ND (0.008)	ND (0.011)
Tetrachloroethene	ND (0.007)ND (0.005)	0.004 J
Trichloroethene	ND (0.007)ND (0.005)	0.001 J
Vinyl chloride	ND (0.007)ND (0.005)	ND (0.005)
PCBs		
Total PCBs	ND (0.036)ND (0.036)	ND (0.037)
Metals		
Arsenic	3/3.8	2.2
Cadmium	ND (0.58)/ND (0.55)	ND (0.56)
Lead	15.5/24.6	4.9
Manganese	208/232	246
Mercury	0.11 J/0.078 J	0.033 J

SB-52-02	4/16/02 1-3(ft) on-site	4/16/02 5.5-7.5(ft) on-site
VOAs		
1,1-Dichloroethene	ND (0.006) UJ	ND (0.006) UJ
Benzene	ND (0.006) UJ	ND (0.006) UJ
cis-1,2-Dichloroethene	ND (0.003) UJ	ND (0.003) UJ
Methylene chloride	ND (0.006) UJ	ND (0.006) UJ
Tetrachloroethene	0.012 J	ND (0.006) UJ
Trichloroethene	0.001 J	ND (0.006) UJ
Vinyl chloride	ND (0.006) UJ	ND (0.006) UJ
SVOAs		
Benzo(a)anthracene	8.4	1.9
Benzo(a)pyrene	7.8 (D)	1.7
Benzo(b)fluoranthene	8	2.1
bis(2-Ethylhexyl)phthalate	0.62 J	0.087 J
Dibenz(a,h)anthracene	1.2 J	0.34 J
PCBs		
Total PCBs	1.28 J	-
Metals		
Arsenic	4.7	4.5
Cadmium	0.83	1.1
Lead	46.8	22.1 J
Manganese	228	223 J
Mercury	0.88	0.4

SB-50-02	4/16/02 1-3(ft) on-site	4/16/02 9-11(ft) on-site
VOAs		
1,1-Dichloroethene	ND (0.005)	ND (0.006)
Benzene	ND (0.005)	ND (0.006)
cis-1,2-Dichloroethene	ND (0.003)	ND (0.003)
Methylene chloride	ND (0.005)	ND (0.006)
Tetrachloroethene	ND (0.005)	ND (0.006)
Trichloroethene	ND (0.005)	ND (0.006)
Vinyl chloride	ND (0.005)	ND (0.006)
SVOAs		
Benzo(a)anthracene	ND (0.35)	0.67
Benzo(a)pyrene	ND (0.35)	0.52
Benzo(b)fluoranthene	ND (0.35)	0.67
bis(2-Ethylhexyl)phthalate	ND (0.35)	ND (0.35)
Dibenz(a,h)anthracene	ND (0.35)	ND (0.35)
PCBs		
Total PCBs	0.032 J	ND (0.035)
Metals		
Arsenic	4.4	5.1
Cadmium	0.24 J	0.37 J
Lead	47.3 J	144 J
Manganese	328 J	460 J
Mercury	0.051 J	0.091 J

SB-80-03	3/31/03 1-3(ft) on-site	3/31/03 8.5-10.5(ft) on-site
SVOAs		
Benzo(a)anthracene	ND (0.34)/ND (0.35)	0.055 J
Benzo(a)pyrene	ND (0.34)/ND (0.35)	0.062 J
Benzo(b)fluoranthene	ND (0.34)/ND (0.35)	0.072 J
bis(2-Ethylhexyl)phthalate	0.015 J/0.025 J	0.51
Dibenz(a,h)anthracene	ND (0.34)/ND (0.35)	0.024 J
PCBs		
Total PCBs	ND (0.034)/ND (0.035)	0.03 J
Metals		
Lead	3.6/4.9	37.8

SB-81-03	3/31/03 1-3(ft) on-site	3/31/03 9.5-11.5(ft) on-site
PCBs		
Total PCBs	ND (0.041)	ND (0.037)ND (0.036)
Metals		
Lead	122	2.1/2.4

SB-81-02	4/16/02 1-3(ft) on-site	4/16/02 8.5-10.5(ft) on-site
VOAs		
1,1-Dichloroethene	ND (0.29)	ND (0.008)
Benzene	ND (0.29)	ND (0.008)
cis-1,2-Dichloroethene	ND (0.14)	ND (0.004)
Methylene chloride	ND (0.29)	ND (0.008)
Tetrachloroethene	0.38	ND (0.008)
Trichloroethene	1.3	ND (0.008)
Vinyl chloride	ND (0.29)	ND (0.008)
SVOAs		
Benzo(a)anthracene	2.4 J	ND (0.4)
Benzo(a)pyrene	1.8 J	ND (0.4)
Benzo(b)fluoranthene	2.4 J	ND (0.4)
bis(2-Ethylhexyl)phthalate	ND (3.7)	ND (0.4)
Dibenz(a,h)anthracene	ND (3.7)	ND (0.4)
PCBs		
Total PCBs	0.057 J	ND (0.04)
Metals		
Arsenic	17.1	5.8
Cadmium	4.4 J	ND (0.6)
Lead	2090 J (D)	5.9 J
Manganese	982 J	536 J
Mercury	0.85	ND (0.12)

SB-79-03	3/31/03 1-3(ft) on-site	3/31/03 6-8(ft) on-site
SVOAs		
Benzo(a)anthracene	ND (0.37)	ND (0.37)
Benzo(a)pyrene	ND (0.37)	ND (0.37)
Benzo(b)fluoranthene	ND (0.37)	ND (0.37)
bis(2-Ethylhexyl)phthalate	0.029 J	ND (0.37)
Dibenz(a,h)anthracene	ND (0.37)	ND (0.37)
PCBs		
Total PCBs	0.048 J	ND (0.037)
Metals		
Lead	73.9	2.9

SB-32-02	4/11/02 1-3(ft) on-site
PCBs	
Total PCBs	ND (0.038)

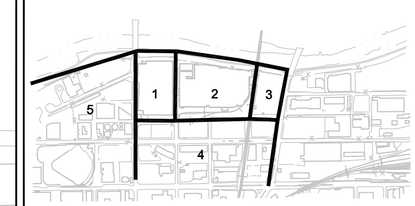
SB-49-02	4/15/02 0-2(ft) on-site
PCBs	
Total PCBs	ND (0.038)

LEGEND
- BUILDING WALL
- BUILDING BOUNDARY
- FORMER BUILDING WALL
- SHORELINE
- RAILROAD
- SOIL BORING LOCATION
- MONITORING WELL LOCATION
- WIPE/CONCRETE CORE SAMPLE LOCATION
- OZONE SPARGE WELL LOCATION
- INJECTION BORING FOR HRC BARRIER
- BASEMENT SUMP LOCATION
- MH — PROCESS SEWER MANHOLE LOCATION
- MH — STORM SEWER MANHOLE LOCATION
- INT-1 — STORM SEWER INTERCEPTOR LOCATION
- PR — PROCESS SEWER LINE
- STM — STORM SEWER LINE
- AOI 1 - SOLVENT RELEASE AREA
- AOI 2 - STILL ROOM
- AOI 3 - WASTE TANKS
- AOI 4 - HAZARDOUS WASTE STAGING AND STORING AREAS
  - ** ON UPPER FLOOR
- AOI 5 - ELECTROPLATING
- AOI 6 - SPILL INTERCEPTORS
- AOI 7 - SOLVENT STORAGE TANK
- AOI 8 - DEGREASING UNITS:
  - ● STODDARD SOLVENT
  - ■ TCE/PCE/TCA SOLVENT
  - ▲ FREON SOLVENT
  - ** ON UPPER FLOOR
- AOI 9 - SATELLITE CLEANING AREA (VARIOUS LOCATIONS THROUGHOUT SITE)
- AOI 10 - PAINT WASTE ACCUMULATION AREAS
- AOI 11 - CHIP HANDLING AREAS
- AOI 12 - CUTTING OIL UST'S
- AOI 13 - OIL HOUSE
- AOI 14 - HYDRAULIC OIL AND COOLANT UST'S
- AOI 15 - HYDRAULIC OIL UST
- AOI 16 - FUEL UST'S
- AOI 17 - REFRIGERANT UST'S
- AOI 18 - STORM SEWERS (VARIOUS LOCATIONS THROUGHOUT SITE)
- AOI 19 - PROCESS SEWERS (VARIOUS LOCATIONS THROUGHOUT SITE)
- AOI 20 - PCB RELEASES FROM ELECTRICAL EQUIPMENT
- AOI 21 - HYDROMATION PIT
- AOI 22 - INCINERATOR
- AOI 23 - UST'S AND FORMER STILL
- AOI 24 - FORMER MACHINE GUN TESTING AREA
- AOI 25 - HYDROCHLORIC ACID SPILLS
- AOI 26 - PCB RELEASES FORM PROCESS EQUIPMENT:
  - ✱ PROCESS DUCT
  - △ No.2 VAILL MACHINE
  - □ TOOL GRIND ROOM
  - ○ GEAR BOX
- AOI 27 - BATTERY CHARGING STATION (A SECOND STATION MAY HAVE BEEN LOCATED IN BLDG. 5)
- AOI 28 - FORMER MIAMI CANAL EXTENSION
- AOI 29 - BUILDING 12 STILL
- AOI 30 - EXPERIMENTAL AIR CONDITIONING
- AOI 31 - BUILDING 1 SPRAY BOOTHS
- AOI 32 - BUILDING 3 TRANSFORMER (GROUND LEVEL)
- AOI 33 - PAINT AND ENAMEL STORAGE
- AOI 34 - PARTS GRINDING
- AOI 35 - STORAGE TANKS

SB-121-04	1/19/04 0-2(ft) on-site
SVOAs	
Benzo(a)anthracene	4.4
Benzo(a)pyrene	3.9 (D)
Benzo(b)fluoranthene	4.3
bis(2-Ethylhexyl)phthalate	0.72 J
Dibenz(a,h)anthracene	0.68 J
Metals	
Lead	107

SAMPLE LOCATION
SAMPLE DATE
SAMPLE DEPTH
ON-SITE/OFF-SITE INDICATOR
CONCENTRATION (mg/kg)
PARAMETER
339 (C) EXCEEDS CRITERIA

KEY PLAN



SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY

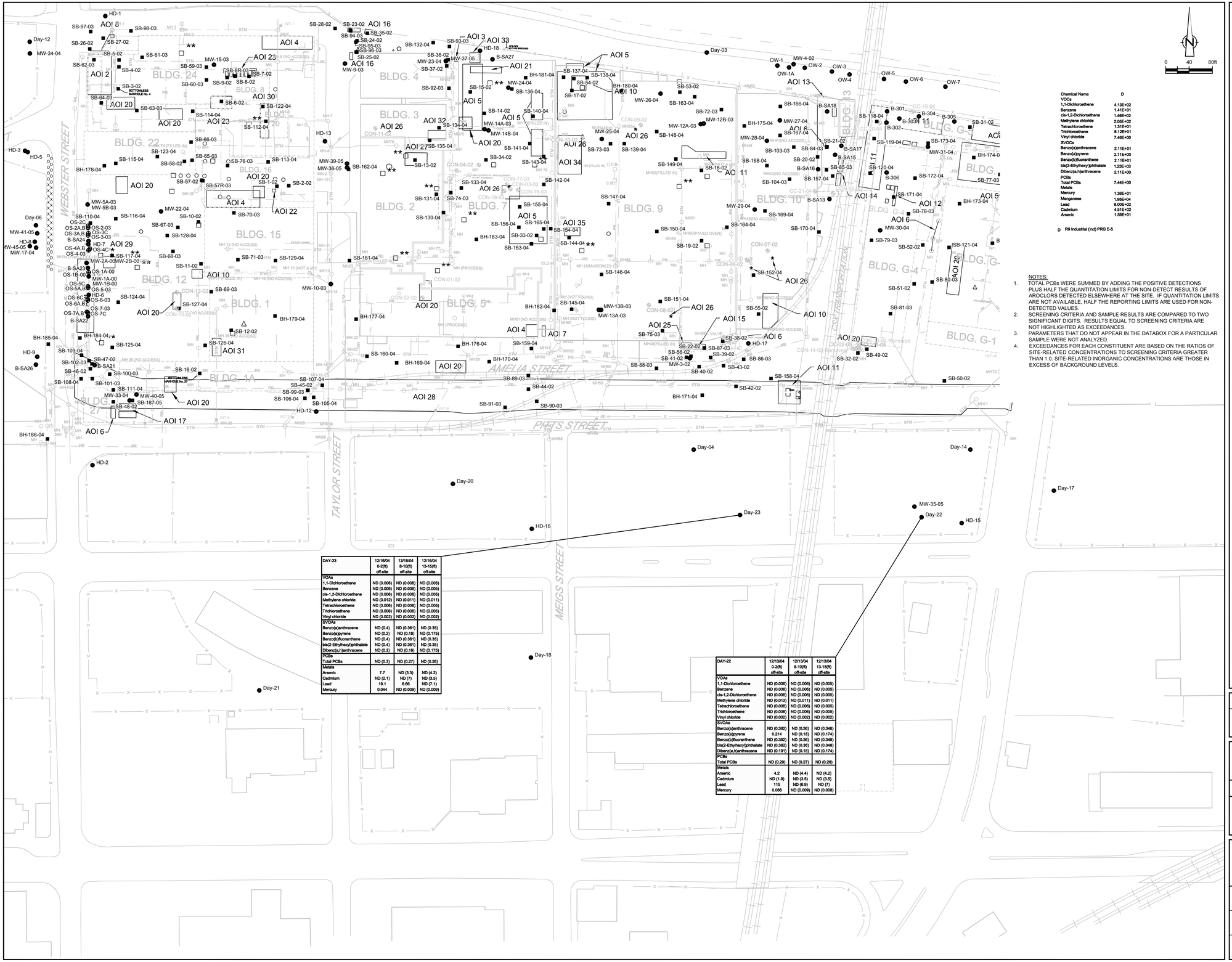
Dayton Ohio

SOIL ANALYTICAL DATA - AREA 3 RAILWAY TO KEOWEE STREET

CONESTOGA-ROVERS & ASSOCIATES

Source Reference:			
Project Manager: IKR	Reviewed By: SE	Date: MARCH 2006	
Scale: 1"=80'	Project No: 12638-04	Report No: 011	Drawing No: 4.2C

12638-04(011)GN-WA032 MAR 29/2006



Chemical Name	D
VOCs	
1,1-Dichloroethene	4.13E+02
Benzene	1.41E+01
cis-1,2-Dichloroethene	1.48E+02
Methylene chloride	2.05E+02
Tetrachloroethene	1.31E+01
Trichloroethene	8.12E+01
Vinyl chloride	7.48E+00
SVOAs	
Benzo(a)anthracene	2.11E+01
Benzo(a)pyrene	2.11E+00
Benzo(b)fluoranthene	2.11E+01
bis(2-Ethylhexyl)phthalate	1.23E+03
Dibenz(a,h)anthracene	2.11E+00
PCBs	
Total PCBs	7.44E+00
Metals	
Mercury	1.36E+01
Manganese	1.95E+04
Lead	8.00E+02
Cadmium	4.51E+02
Arsenic	1.58E+01

D R9 Industrial (ind) PRG E-5

NOTES:

1. TOTAL PCBs WERE SUMMED BY ADDING THE POSITIVE DETECTIONS PLUS HALF THE QUANTITATION LIMITS FOR NON-DETECT RESULTS OF AROCLORS DETECTED ELSEWHERE AT THE SITE. IF QUANTITATION LIMITS ARE NOT AVAILABLE, HALF THE REPORTING LIMITS ARE USED FOR NON-DETECTED VALUES.
2. SCREENING CRITERIA AND SAMPLE RESULTS ARE COMPARED TO TWO SIGNIFICANT DIGITS. RESULTS EQUAL TO SCREENING CRITERIA ARE NOT HIGHLIGHTED AS EXCEEDANCES.
3. PARAMETERS THAT DO NOT APPEAR IN THE DATABOX FOR A PARTICULAR SAMPLE WERE NOT ANALYZED.
4. EXCEEDANCES FOR EACH CONSTITUENT ARE BASED ON THE RATIOS OF SITE-RELATED CONCENTRATIONS TO SCREENING CRITERIA GREATER THAN 1.0. SITE-RELATED INORGANIC CONCENTRATIONS ARE THOSE IN EXCESS OF BACKGROUND LEVELS.

LEGEND

- BUILDING WALL
- BUILDING BOUNDARY
- FORMER BUILDING WALL
- SHORELINE
- RAILROAD
- SOIL BORING LOCATION
- MONITORING WELL LOCATION
- WIPE/CONCRETE CORE SAMPLE LOCATION
- OZONE SPARGE WELL LOCATION
- INJECTION BORING FOR HRC BARRIER
- BASEMENT SUMP LOCATION
- PROCESS SEWER MANHOLE LOCATION
- STORM SEWER MANHOLE LOCATION
- STORM SEWER INTERCEPTOR LOCATION
- PROCESS SEWER LINE
- STORM SEWER LINE

AOI 1 - SOLVENT RELEASE AREA
AOI 2 - STILL ROOM
AOI 3 - WASTE TANKS
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** ON UPPER FLOOR
AOI 5 - ELECTROPLATING
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AOI 7 - SOLVENT STORAGE TANK
AOI 8 - DEGREASING UNITS:
STODDARD SOLVENT
TCE/PCE/TCA SOLVENT
FREON SOLVENT
** ON UPPER FLOOR
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AOI 10 - PAINT WASTE ACCUMULATION AREAS
AOI 11 - CHIP HANDLING AREAS
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AOI 13 - OIL HOUSE
AOI 14 - HYDRAULIC OIL AND COOLANT UST'S
AOI 15 - HYDRAULIC OIL UST
AOI 16 - FUEL UST'S
AOI 17 - REFRIGERANT UST'S
AOI 18 - STORM SEWERS (VARIOUS LOCATIONS THROUGHOUT SITE)
AOI 19 - PROCESS SEWERS (VARIOUS LOCATIONS THROUGHOUT SITE)
AOI 20 - PCB RELEASES FROM ELECTRICAL EQUIPMENT
AOI 21 - HYDROMATION PIT
AOI 22 - INCINERATOR
AOI 23 - UST'S AND FORMER STILL
AOI 24 - FORMER MACHINE GUN TESTING AREA
AOI 25 - HYDROCHLORIC ACID SPILLS
AOI 26 - PCB RELEASES FROM PROCESS EQUIPMENT:
* PROCESS DUCT
△ No.2 VAILL MACHINE
TOOL GRIND ROOM
○ GEAR BOX
AOI 27 - BATTERY CHARGING STATION (A SECOND STATION MAY HAVE BEEN LOCATED IN BLDG. 5)
AOI 28 - FORMER MIAMI CANAL EXTENSION
AOI 29 - BUILDING 12 STILL
AOI 30 - EXPERIMENTAL AIR CONDITIONING
AOI 31 - BUILDING 1 SPRAY BOOTHS
AOI 32 - BUILDING 3 TRANSFORMER (GROUND LEVEL)
AOI 33 - PAINT AND ENAMEL STORAGE
AOI 34 - PARTS GRINDING
AOI 35 - STORAGE TANKS

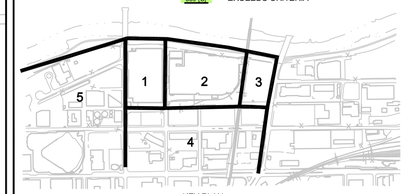
SAMPLE LOCATION

DAY-22	12/13/04 0-2(ft) off-site	12/13/04 8-10(ft) off-site	12/13/04 13-15(ft) off-site
VOAs			
1,1-Dichloroethene	ND (0.006)	ND (0.006)	ND (0.005)
Benzene	ND (0.006)	ND (0.006)	ND (0.005)
cis-1,2-Dichloroethene	ND (0.006)	ND (0.006)	ND (0.005)
Methylene chloride	ND (0.012)	ND (0.011)	ND (0.011)
Tetrachloroethene	ND (0.006)	ND (0.006)	ND (0.005)
Trichloroethene	ND (0.006)	ND (0.006)	ND (0.005)
Vinyl chloride	ND (0.002)	ND (0.002)	ND (0.002)
SVOAs			
Benzo(a)anthracene	ND (0.382)	ND (0.36)	ND (0.348)
Benzo(a)pyrene	0.214	ND (0.18)	ND (0.174)
Benzo(b)fluoranthene	ND (0.382)	ND (0.36)	ND (0.348)
bis(2-Ethylhexyl)phthalate	ND (0.382)	ND (0.36)	ND (0.348)
Dibenz(a,h)anthracene	ND (0.191)	ND (0.18)	ND (0.174)
PCBs			
Total PCBs	ND (0.29)	ND (0.27)	ND (0.26)
Metals			
Arsenic	4.2	ND (4.4)	ND (4.2)
Cadmium	ND (1.9)	ND (3.5)	ND (3.5)
Lead	115	ND (8.9)	ND (7)
Mercury	0.068	ND (0.009)	ND (0.008)

SAMPLE DATE
SAMPLE DEPTH
ON-SITE/OFF-SITE INDICATOR
CONCENTRATION (mg/kg)
PARAMETER

339 (C) EXCEEDS CRITERIA

DAY-23	12/15/04 0-2(ft) off-site	12/16/04 8-10(ft) off-site	12/16/04 13-15(ft) off-site
VOAs			
1,1-Dichloroethene	ND (0.006)	ND (0.006)	ND (0.005)
Benzene	ND (0.006)	ND (0.006)	ND (0.005)
cis-1,2-Dichloroethene	ND (0.006)	ND (0.006)	ND (0.005)
Methylene chloride	ND (0.012)	ND (0.011)	ND (0.011)
Tetrachloroethene	ND (0.006)	ND (0.006)	ND (0.005)
Trichloroethene	ND (0.006)	ND (0.006)	ND (0.005)
Vinyl chloride	ND (0.002)	ND (0.002)	ND (0.002)
SVOAs			
Benzo(a)anthracene	ND (0.4)	ND (0.361)	ND (0.35)
Benzo(a)pyrene	ND (0.2)	ND (0.18)	ND (0.175)
Benzo(b)fluoranthene	ND (0.4)	ND (0.361)	ND (0.35)
bis(2-Ethylhexyl)phthalate	ND (0.4)	ND (0.361)	ND (0.35)
Dibenz(a,h)anthracene	ND (0.2)	ND (0.18)	ND (0.175)
PCBs			
Total PCBs	ND (0.3)	ND (0.27)	ND (0.26)
Metals			
Arsenic	7.7	ND (3.3)	ND (4.2)
Cadmium	ND (2.1)	ND (7)	ND (3.5)
Lead	19.1	8.66	ND (7.1)
Mercury	0.044	ND (0.009)	ND (0.009)



KEY PLAN

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY

Dayton Ohio

SOIL ANALYTICAL DATA - AREA 4 OFF-SITE SOUTH

CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

Project Manager:	Reviewed By:	Date:	
IKR	SE	MARCH 2006	
Scale: 1"=80'	Project N°: 12638-04	Report N°: 011	Drawing N°: 4.2D

12638-04(011)GN-WA058 MAR 29/2006

MW-21-04	2/9/04 0-2(ft) off-site	2/9/04 8-10(ft) off-site	2/9/04 16-17(ft) off-site	2/9/04 24.8-26.8(ft) off-site
VOAs				
1,1-Dichloroethene	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Benzene	ND (0.005)	ND (0.005)	0.001 J	ND (0.005)
cis-1,2-Dichloroethene	ND (0.002)	ND (0.002)	ND (0.003)	ND (0.002)
Methylene chloride	0.002 J	0.003 J	0.002 J	0.003 J
Tetrachloroethene	ND (0.005)	0.001 J	0.002 J	0.001 J
Trichloroethene	ND (0.005)	ND (0.005)	0.001 J	0.001 J
Vinyl chloride	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Metals				
Arsenic	4.8	3.1	3.7	3.9
Cadmium	0.27 J	0.093 J	0.15 J	0.1 J
Lead	93.1	3.5	58.4	4.2
Manganese	204	325	256	198
Mercury	0.14	0.06 J	0.13	ND (0.11)

MW-8-03	1/16/03 0-2(ft) off-site	1/16/03 8-10(ft) off-site	1/16/03 16-18(ft) off-site
VOAs			
1,1-Dichloroethene	ND (0.004)	ND (0.004)	ND (0.004)
Benzene	0.0003 J	ND (0.004)	ND (0.004)
cis-1,2-Dichloroethene	0.0003 J	0.001 J	ND (0.002)
Methylene chloride	ND (0.004)	ND (0.004)	ND (0.004)
Tetrachloroethene	0.003 J	0.013	0.005
Trichloroethene	0.002 J	0.002 J	0.001 J
Vinyl chloride	ND (0.004)	ND (0.004)	ND (0.004)
PCBs			
Total PCBs	0.04 J	ND (0.036)	ND (0.035)
Metals			
Arsenic	1.9	2.6	4.1
Cadmium	0.056 J	0.069 J	0.025 J
Lead	4.8	5.5	3.6
Manganese	149 J	168 J	222 J
Mercury	ND (0.11)	0.028 J	0.035 J

MW-8-03	1/13/03 0-2(ft) off-site	1/13/03 8-10(ft) off-site	1/13/03 18-20(ft) off-site
VOAs			
1,1-Dichloroethene	ND (0.006)	ND (0.006)	ND (0.005)
Benzene	ND (0.006)	ND (0.006)	ND (0.005)
cis-1,2-Dichloroethene	ND (0.003)	ND (0.003)	ND (0.003)
Methylene chloride	ND (0.006)	ND (0.006)	ND (0.005)
Tetrachloroethene	0.001 J	0.004 J	0.005 J
Trichloroethene	ND (0.006)	ND (0.006)	ND (0.005)
Vinyl chloride	ND (0.006)	ND (0.006)	ND (0.005)
SVOAs			
Benzo(a)anthracene	-	-	ND (0.42)
Benzo(a)pyrene	-	-	ND (0.42)
Benzo(b)fluoranthene	-	-	ND (0.42)
bis(2-Ethylhexyl)phthalate	-	-	ND (0.42)
Dibenz(a,h)anthracene	-	-	ND (0.42)
PCBs			
Total PCBs	ND (0.056)	ND (0.042)	ND (0.042)
Metals			
Arsenic	9.2	7.3	6.9
Cadmium	0.3 J	0.093 J	0.17 J
Lead	50.5 J	8.8 J	16.8 J
Manganese	342 J	360 J	387 J
Mercury	0.47	0.031 J	0.027 J

MW-7-03	1/15/03 0-2(ft) off-site	1/15/03 8-10(ft) off-site	1/15/03 20-22(ft) off-site
VOAs			
1,1-Dichloroethene	0.001 J	ND (0.27)	ND (0.004)
Benzene	ND (0.005)	ND (0.27)	ND (0.004)
cis-1,2-Dichloroethene	ND (0.003)	ND (0.14)	ND (0.002)
Methylene chloride	ND (0.005)	ND (0.27)	ND (0.004)
Tetrachloroethene	0.022	0.73	0.001 J
Trichloroethene	0.003 J	0.059 J	ND (0.004)
Vinyl chloride	ND (0.005)	ND (0.27)	ND (0.004)
SVOAs			
Benzo(a)anthracene	-	-	ND (0.36)
Benzo(a)pyrene	-	-	ND (0.36)
Benzo(b)fluoranthene	-	-	ND (0.36)
bis(2-Ethylhexyl)phthalate	-	-	ND (0.36)
Dibenz(a,h)anthracene	-	-	ND (0.36)
PCBs			
Total PCBs	ND (0.039)	ND (0.041)	ND (0.036)
Metals			
Arsenic	7.4	9.8	3.5
Cadmium	0.23 J	0.39 J	0.12 J
Lead	68.8 J	159 J	4.4 J
Manganese	215 J	333 J	166 J
Mercury	1.5	0.75	0.069 J

Chemical Name	D
VOCs	
1,1-Dichloroethene	4.13E+02
Benzene	1.41E+01
cis-1,2-Dichloroethene	1.46E+02
Methylene chloride	2.05E+02
Tetrachloroethene	1.31E+01
Trichloroethene	6.12E+01
Vinyl chloride	7.46E+00
SVOCs	
Benzo(a)anthracene	2.11E+01
Benzo(a)pyrene	2.11E+00
Benzo(b)fluoranthene	2.11E+01
bis(2-Ethylhexyl)phthalate	1.23E+03
Dibenz(a,h)anthracene	2.11E+00
PCBs	
Total PCBs	7.44E+00
Metals	
Mercury	1.36E+01
Manganese	1.95E+04
Lead	8.00E+02
Cadmium	4.51E+02
Arsenic	1.59E+01

D R9 Industrial (Ind) PRG E-5

NOTES:

1. TOTAL PCBs WERE SUMMED BY ADDING THE POSITIVE DETECTIONS PLUS HALF THE QUANTITATION LIMITS FOR NON-DETECT RESULTS OF AROCLORS DETECTED ELSEWHERE AT THE SITE. IF QUANTITATION LIMITS ARE NOT AVAILABLE, HALF THE REPORTING LIMITS ARE USED FOR NON-DETECTED VALUES.
2. SCREENING CRITERIA AND SAMPLE RESULTS ARE COMPARED TO TWO SIGNIFICANT DIGITS. RESULTS EQUAL TO SCREENING CRITERIA ARE NOT HIGHLIGHTED AS EXCEEDANCES.
3. PARAMETERS THAT DO NOT APPEAR IN THE DATABOX FOR A PARTICULAR SAMPLE WERE NOT ANALYZED.
4. EXCEEDANCES FOR EACH CONSTITUENT ARE BASED ON THE RATIOS OF SITE-RELATED CONCENTRATIONS TO SCREENING CRITERIA GREATER THAN 1.0. SITE-RELATED INORGANIC CONCENTRATIONS ARE THOSE IN EXCESS OF BACKGROUND LEVELS.

DAY-24	12/17/04 0-2(ft) off-site	12/17/04 8-10(ft) off-site	12/17/04 13-15(ft) off-site
VOAs			
1,1-Dichloroethene	ND (0.006)	ND (0.006)	ND (0.006)
Benzene	ND (0.006)	ND (0.006)	ND (0.006)
cis-1,2-Dichloroethene	ND (0.006)	ND (0.006)	ND (0.006)
Methylene chloride	ND (0.011)	ND (0.011)	ND (0.012)
Tetrachloroethene	ND (0.006)	ND (0.006)	ND (0.006)
Trichloroethene	ND (0.006)	ND (0.006)	ND (0.006)
Vinyl chloride	ND (0.002)	ND (0.006)	ND (0.002)
SVOAs			
Benzo(a)anthracene	2.94	1.97	5.03
Benzo(a)pyrene	2.8 (D)	2.53 (D)	5.43 (D)
Benzo(b)fluoranthene	4.2	3.8	7.95
bis(2-Ethylhexyl)phthalate	ND (0.371)	ND (0.372)	ND (0.388)
Dibenz(a,h)anthracene	0.266	0.255	0.468
PCBs			
Total PCBs	ND (0.28)	ND (0.28)	ND (0.29)
Metals			
Arsenic	7.2	18.5	11
Cadmium	ND (1.6)	4.87	ND (1.9)
Lead	688	1250 (D)	20.1
Mercury	0.333	5.01	0.291

MW-16-03	5/1/03 0-2(ft) off-site	5/1/03 8-10(ft) off-site	5/1/03 10-12(ft) off-site
VOAs			
1,1-Dichloroethene	ND (0.005) UJ	ND (0.37) UJ	ND (0.01) UJ
Benzene	ND (0.005) UJ	0.024 J	ND (0.01) UJ
cis-1,2-Dichloroethene	ND (0.003) UJ	ND (0.19) UJ	ND (0.005) UJ
Methylene chloride	ND (0.005) UJ	ND (0.37) UJ	ND (0.01) UJ
Tetrachloroethene	ND (0.005) UJ	ND (0.37) UJ	ND (0.01) UJ
Trichloroethene	ND (0.005) UJ	ND (0.37) UJ	ND (0.01) UJ
Vinyl chloride	ND (0.005) UJ	ND (0.37) UJ	ND (0.01) UJ
PCBs			
Total PCBs	ND (0.045)	ND (0.05)	ND (0.054)
Metals			
Arsenic	8.4	18.2	12.2
Cadmium	0.69	0.18 J	0.56 J
Lead	198	846	85.1
Manganese	445 J	109 J	94.5 J
Mercury	0.16	0.24	0.73

MW-19-04	1/31/04 0-2(ft) off-site	1/31/04 8-10(ft) off-site
VOAs		
1,1-Dichloroethene	ND (0.007)	ND (0.005)
Benzene	0.001 J	ND (0.005)
cis-1,2-Dichloroethene	ND (0.004)	ND (0.002)
Methylene chloride	ND (0.007)	ND (0.006)
Tetrachloroethene	ND (0.007)	0.02
Trichloroethene	0.001 J	0.002 J
Vinyl chloride	ND (0.007)	ND (0.005)
Metals		
Arsenic	27	4.1
Cadmium	0.2 J	0.063 J
Lead	44.1	2
Manganese	206	187
Mercury	0.094 J	ND (0.11)

MW-47-05	7/8/05 7-9(ft) Off-Site
VOAs	
1,1-Dichloroethene	ND (0.006) UJ
Benzene	0.005 J
cis-1,2-Dichloroethene	ND (0.006) UJ
Methylene chloride	ND (0.006) UJ
Tetrachloroethene	0.001 J
Trichloroethene	0.001 J
Vinyl chloride	ND (0.006) UJ
Metals	
Arsenic	5.3 J
Cadmium	0.29 J
Lead	2.6 J
Manganese	263 J
Mercury	ND (0.12) UJ

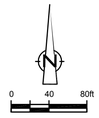
MW-18-04	1/24/04 0-2(ft) off-site	1/24/04 8-10(ft) off-site	1/24/04 10.5-12.5(ft) off-site
VOAs			
1,1-Dichloroethene	ND (0.008)	ND (0.009)	ND (0.008)
Benzene	ND (0.008)	ND (0.009)	ND (0.008)
cis-1,2-Dichloroethene	ND (0.004)	ND (0.004)	ND (0.004)
Methylene chloride	ND (0.008)	ND (0.009)	ND (0.008)
Tetrachloroethene	ND (0.008)	ND (0.009)	0.002 J
Trichloroethene	ND (0.008)	ND (0.009)	0.002 J
Vinyl chloride	ND (0.008)	ND (0.009)	ND (0.008)
Metals			
Arsenic	7.4	2.1	3.1
Cadmium	0.3 J	0.17 J	0.11 J
Lead	69.5 J	2.5 J	1.7 J
Manganese	526	297	145
Mercury	1.2	0.042 J	ND (0.12)

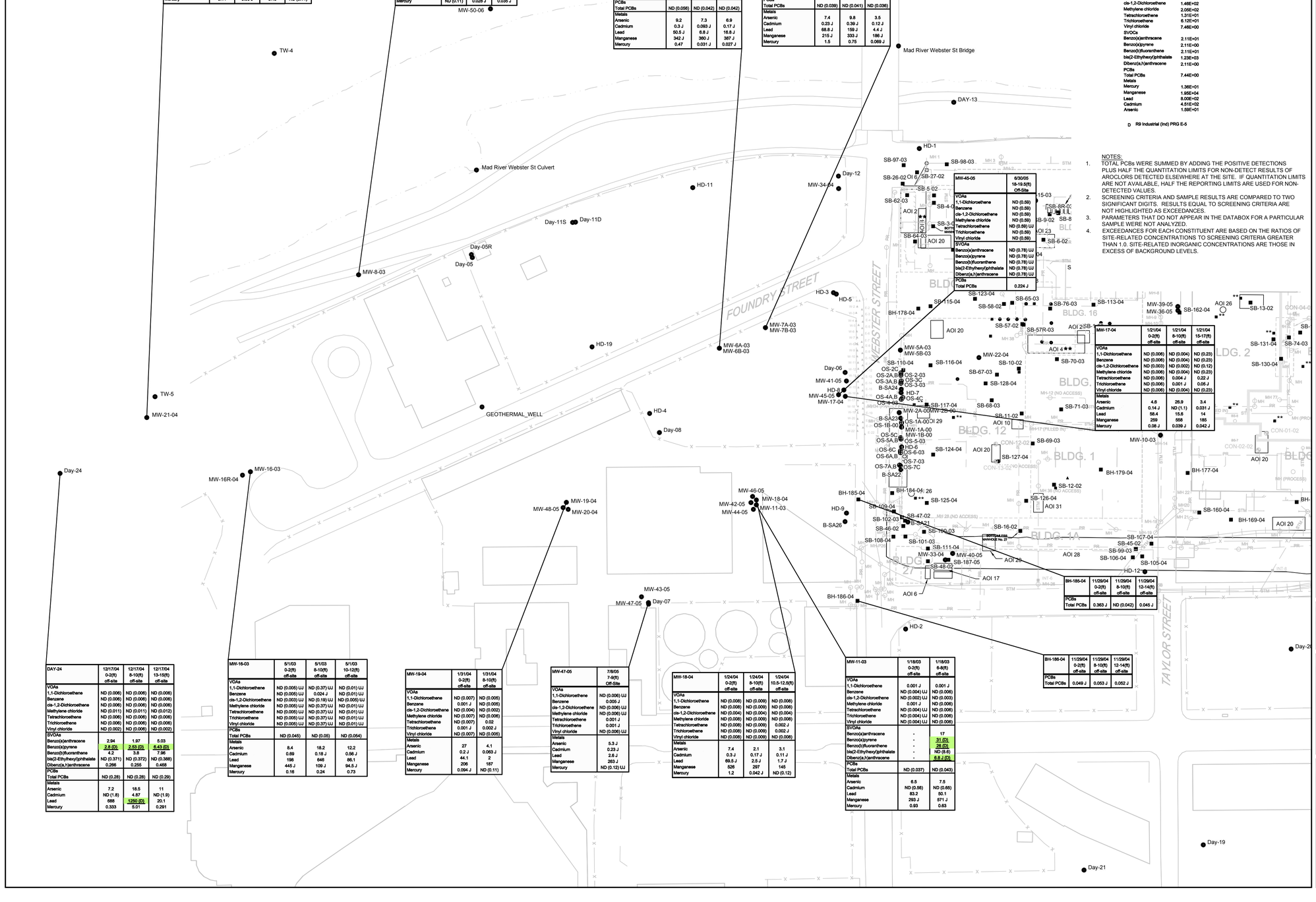
MW-11-03	1/18/03 0-2(ft) off-site	1/18/03 6-8(ft) off-site
VOAs		
1,1-Dichloroethene	0.001 J	0.001 J
Benzene	ND (0.004) UJ	ND (0.006)
cis-1,2-Dichloroethene	ND (0.002) UJ	ND (0.003)
Methylene chloride	0.001 J	ND (0.006)
Tetrachloroethene	ND (0.004) UJ	ND (0.006)
Trichloroethene	ND (0.004) UJ	ND (0.006)
Vinyl chloride	ND (0.004) UJ	ND (0.006)
SVOAs		
Benzo(a)anthracene	-	17
Benzo(a)pyrene	-	31 (D)
Benzo(b)fluoranthene	-	26 (D)
bis(2-Ethylhexyl)phthalate	-	ND (8.6)
Dibenz(a,h)anthracene	-	8.9 J (D)
PCBs		
Total PCBs	ND (0.037)	ND (0.043)
Metals		
Arsenic	6.5	7.5
Cadmium	ND (0.58)	ND (0.65)
Lead	83.2	50.1
Manganese	293 J	571 J
Mercury	0.93	0.63

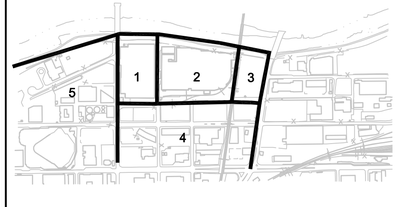
MW-17-04	1/21/04 0-2(ft) off-site	1/21/04 8-10(ft) off-site	1/21/04 15-17(ft) off-site
VOAs			
1,1-Dichloroethene	ND (0.006)	ND (0.004)	ND (0.23)
Benzene	ND (0.006)	ND (0.004)	ND (0.23)
cis-1,2-Dichloroethene	ND (0.003)	ND (0.002)	ND (0.12)
Methylene chloride	ND (0.006)	ND (0.004)	ND (0.23)
Tetrachloroethene	ND (0.006)	0.004 J	0.22 J
Trichloroethene	ND (0.006)	0.001 J	0.05 J
Vinyl chloride	ND (0.006)	ND (0.004)	ND (0.23)
Metals			
Arsenic	4.8	26.9	3.4
Cadmium	0.14 J	ND (1.1)	0.031 J
Lead	58.4	15.6	14
Manganese	259	558	185
Mercury	0.06 J	0.039 J	0.042 J

BH-185-04	11/29/04 0-2(ft) off-site	11/29/04 8-10(ft) off-site	11/29/04 12-14(ft) off-site
PCBs			
Total PCBs	0.363 J	ND (0.042)	0.045 J

BH-186-04	11/29/04 0-2(ft) off-site	11/29/04 8-10(ft) off-site	11/29/04 12-14(ft) off-site
PCBs			
Total PCBs	0.049 J	0.053 J	0.052 J







KEY PLAN

LEGEND

- BUILDING WALL
- BUILDING BOUNDARY
- FORMER BUILDING WALL
- SHORELINE
- RAILROAD
- SOIL BORING LOCATION
- MONITORING WELL LOCATION
- WIPE/CONCRETE CORE SAMPLE LOCATION
- OZONE SPARGE WELL LOCATION
- INJECTION BORING FOR HRC BARRIER
- BASEMENT SUMP LOCATION
- PROCESS SEWER MANHOLE LOCATION
- STORM SEWER MANHOLE LOCATION
- STORM SEWER INTERCEPTOR LOCATION
- PROCESS SEWER LINE
- STORM SEWER LINE

AOI 1 - SOLVENT RELEASE AREA
AOI 2 - STILL ROOM
AOI 3 - WASTE TANKS
AOI 4 - HAZARDOUS WASTE STAGING AND STORING AREAS
** ON UPPER FLOOR
AOI 5 - ELECTROPLATING
AOI 6 - SPILL INTERCEPTORS
AOI 7 - SOLVENT STORAGE TANK
AOI 8 - DEGREASING UNITS
● STODDARD SOLVENT
■ TCE/PCE/TCA SOLVENT
▲ FREON SOLVENT
** ON UPPER FLOOR
AOI 9 - SATELLITE CLEANING AREA (VARIOUS LOCATIONS THROUGHOUT SITE)
AOI 10 - PAINT WASTE ACCUMULATION AREAS
AOI 11 - CHIP HANDLING AREAS
AOI 12 - CUTTING OIL UST'S
AOI 13 - OIL HOUSE
AOI 14 - HYDRAULIC OIL AND COOLANT UST'S
AOI 15 - HYDRAULIC OIL UST
AOI 16 - FUEL UST'S
AOI 17 - REFRIGERANT UST'S
AOI 18 - STORM SEWERS (VARIOUS LOCATIONS THROUGHOUT SITE)
AOI 19 - PROCESS SEWERS (VARIOUS LOCATIONS THROUGHOUT SITE)
AOI 20 - PCB RELEASES FROM ELECTRICAL EQUIPMENT
AOI 21 - HYDROMATION PIT
AOI 22 - INCINERATOR
AOI 23 - UST'S AND FORMER STILL
AOI 24 - FORMER MACHINE GUN TESTING AREA
AOI 25 - HYDROCHLORIC ACID SPILLS
AOI 26 - PCB RELEASES FORM PROCESS EQUIPMENT:
✱ PROCESS DUCT
△ No.2 VAILL MACHINE
□ TOOL GRIND ROOM
○ GEAR BOX
AOI 27 - BATTERY CHARGING STATION (A SECOND STATION MAY HAVE BEEN LOCATED IN BLDG. 5)
AOI 28 - FORMER MIAMI CANAL EXTENSION
AOI 29 - BUILDING 12 STILL
AOI 30 - EXPERIMENTAL AIR CONDITIONING
AOI 31 - BUILDING 1 SPRAY BOOTHS
AOI 32 - BUILDING 3 TRANSFORMER (GROUND LEVEL)
AOI 33 - PAINT AND ENAMEL STORAGE
AOI 34 - PARTS GRINDING
AOI 35 - STORAGE TANKS

BH-186-04	11/29/04 0-2(ft) off-site	11/29/04 8-10(ft) off-site	11/29/04 12-14(ft) off-site
PCBs			
Total PCBs	0.049 J	0.053 J	0.052 J

SAMPLE LOCATION
SAMPLE DATE
SAMPLE DEPTH
ON-SITE/OFF-SITE INDICATOR
CONCENTRATION (mg/kg)
PARAMETER

339 (C) EXCEEDS CRITERIA

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY

Dayton Ohio

SOIL ANALYTICAL DATA - AREA 5 OFF-SITE WEST

CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

Project Manager:	Reviewed By:	Date:	
IKR	SE	MARCH 2006	
Scale: 1"=80'	Project N°: 12638-04	Report N°: 011	Drawing N°: 4.2E

12638-04(011)GN-WA037 MAR 29/2006

MH-2_Abandoned	10/10/05 Sediment on-site
VOAs	
1,1-Dichloroethene	ND (0.008)
Benzene	ND (0.008)
cis-1,2-Dichloroethene	ND (0.008)
Methylene chloride	0.004
Tetrachloroethene	ND (0.008)
Trichloroethene	0.007
Vinyl chloride	ND (0.008)
SVOAs	
Benzo(a)anthracene	7.7
Benzo(a)pyrene	9.5 (D)
Benzo(b)fluoranthene	7.6
bis(2-Ethylhexyl)phthalate	2.1
Dibenz(a,h)anthracene	0.84
PCBs	
Total PCBs	0.559 J

MH-3_Abandoned	10/10/05 Sediment on-site
VOAs	
1,1-Dichloroethene	ND (0.006)
Benzene	ND (0.006)
cis-1,2-Dichloroethene	ND (0.006)
Methylene chloride	ND (0.006)
Tetrachloroethene	ND (0.006)
Trichloroethene	ND (0.006)
Vinyl chloride	ND (0.006)
SVOAs	
Benzo(a)anthracene	1.6
Benzo(a)pyrene	1.6
Benzo(b)fluoranthene	2
bis(2-Ethylhexyl)phthalate	0.9
Dibenz(a,h)anthracene	0.25
PCBs	
Total PCBs	0.459 J

MH-6_Abandoned	10/13/04 Sediment on-site	10/13/04 Storm Sewer Water on-site
VOAs		
1,1-Dichloroethene	ND (0.006)	ND (0.001)
Benzene	ND (0.006)	ND (0.001)
cis-1,2-Dichloroethene	ND (0.006)	ND (0.001)
Methylene chloride	ND (0.006)	ND (0.001)
Tetrachloroethene	ND (0.006)	ND (0.001)
Trichloroethene	ND (0.006)	ND (0.001)
Vinyl chloride	ND (0.006)	ND (0.001)
SVOAs		
Benzo(a)anthracene	7 J	ND (0.01)
Benzo(a)pyrene	8.6 J (D)	ND (0.01)
Benzo(b)fluoranthene	ND (10)	ND (0.01)
bis(2-Ethylhexyl)phthalate	1.2 J	ND (0.01)
PCBs		
Total PCBs	0.204 J	ND (0.0002)

MH-5_Abandoned	10/13/04 Sediment on-site	10/13/04 Storm Sewer Water on-site
VOAs		
1,1-Dichloroethene	ND (0.012)	ND (0.001)
Benzene	ND (0.012)	ND (0.001)
cis-1,2-Dichloroethene	ND (0.012)	ND (0.001)
Methylene chloride	ND (0.012)	ND (0.001)
Tetrachloroethene	0.092	ND (0.001)
Trichloroethene	0.003 J	ND (0.001)
Vinyl chloride	ND (0.012)	ND (0.001)
SVOAs		
Benzo(a)anthracene	39 J (D)	ND (0.01)
Benzo(a)pyrene	37 J (D)	ND (0.01)
Benzo(b)fluoranthene	39 J (D)	ND (0.01)
bis(2-Ethylhexyl)phthalate	9.6 J	ND (0.01)
Dibenz(a,h)anthracene	2.4 (D)	ND (0.01)
PCBs		
Total PCBs	13.8 J (D)	ND (0.0002)

MH-4_Abandoned	10/10/05 Sediment on-site
VOAs	
1,1-Dichloroethene	ND (0.008)
Benzene	0.001
cis-1,2-Dichloroethene	0.006
Methylene chloride	0.005
Tetrachloroethene	0.008
Trichloroethene	0.004
Vinyl chloride	ND (0.008)
SVOAs	
Benzo(a)anthracene	7.9
Benzo(a)pyrene	8.9 (D)
Benzo(b)fluoranthene	7.8
bis(2-Ethylhexyl)phthalate	1400 (D)
Dibenz(a,h)anthracene	ND (100)
PCBs	
Total PCBs	0.491 J

BS-1	4/5/02 Storm Sewer Water on-site	10/13/04 Storm Sewer Water on-site
VOAs		
1,1-Dichloroethene	ND (0.002)	ND (0.002)
Benzene	ND (0.002)	ND (0.002)
cis-1,2-Dichloroethene	0.002/0.002	0.003
Methylene chloride	ND (0.002)/ND (0.002)	ND (0.002)
Tetrachloroethene	0.056/0.058	0.069
Trichloroethene	0.016/0.018	0.02
Vinyl chloride	ND (0.002)/ND (0.002)	ND (0.002)
SVOAs		
Benzo(a)anthracene	ND (0.01)/ND (0.01)	ND (0.01)
Benzo(a)pyrene	ND (0.01)/ND (0.01)	ND (0.01)
Benzo(b)fluoranthene	ND (0.01)/ND (0.01)	ND (0.01)
bis(2-Ethylhexyl)phthalate	ND (0.01)/ND (0.01)	ND (0.01)
Dibenz(a,h)anthracene	ND (0.01)/ND (0.01)	ND (0.01)
PCBs		
Total PCBs	0.001 J/0.0004 J	ND (0.0002)

MH-7_Cleaned	4/4/02 Sediment on-site	4/4/02 Storm Sewer Water on-site	10/13/04 Storm Sewer Water on-site	10/13/04 Storm Sewer Water on-site
VOAs				
1,1-Dichloroethene	ND (0.29)	ND (0.001)	ND (0.006)	- ND (0.001)
Benzene	ND (0.29)	ND (0.001)	ND (0.006)	- ND (0.001)
cis-1,2-Dichloroethene	ND (0.14)	ND (0.001)	ND (0.006)	- ND (0.001)
Methylene chloride	ND (0.29)	ND (0.001)	ND (0.006)	- ND (0.001)
Tetrachloroethene	0.43	0.001 J	ND (0.006)	- ND (0.001)
Trichloroethene	ND (0.29)	ND (0.001)	ND (0.006)	- ND (0.001)
Vinyl chloride	ND (0.29)	ND (0.001)	ND (0.006)	- ND (0.001)
SVOAs				
Benzo(a)anthracene	0.19 J	ND (0.01)	0.7 J	- ND (0.01)
Benzo(a)pyrene	0.19 J	ND (0.01)	0.79 J	- ND (0.01)
Benzo(b)fluoranthene	0.24 J	ND (0.01)	1.3 J	- ND (0.01)
bis(2-Ethylhexyl)phthalate	0.19 J	0.007 J	1.3 J	- ND (0.01)
Dibenz(a,h)anthracene	ND (0.4)	ND (0.01)	ND (3.5)	- ND (0.01)
PCBs				
Total PCBs	0.198 J	0.0004 J	0.283 J	R -

MH-8_Cleaned	4/4/02 Sediment on-site	4/4/02 Storm Sewer Water on-site	10/13/04 Sediment on-site	10/13/04 Storm Sewer Water on-site
VOAs				
1,1-Dichloroethene	ND (0.007)	ND (0.001)	ND (0.006)	ND (0.001)
Benzene	ND (0.007)	ND (0.001)	ND (0.006)	ND (0.001)
cis-1,2-Dichloroethene	ND (0.004)	ND (0.001)	ND (0.006)	ND (0.001)
Methylene chloride	ND (0.007)	ND (0.001)	ND (0.006)	ND (0.001)
Tetrachloroethene	0.006	0.003	0.006	ND (0.001)
Trichloroethene	ND (0.007)	ND (0.001)	ND (0.006)	ND (0.001)
Vinyl chloride	ND (0.007)	ND (0.001)	ND (0.006)	ND (0.001)
SVOAs				
Benzo(a)anthracene	1.3	ND (0.01)	1.6	ND (0.01)
Benzo(a)pyrene	1.2	ND (0.01)	1.6	ND (0.01)
Benzo(b)fluoranthene	1.7	ND (0.01)	3.1	ND (0.01)
bis(2-Ethylhexyl)phthalate	4.7	0.003 J	2.9	ND (0.01)
Dibenz(a,h)anthracene	0.15 J	ND (0.01)	0.29 J	ND (0.01)
PCBs				
Total PCBs	0.259 J	0.0003 J	0.947 J	0.0004 J

MH-9_Cleaned	4/5/02 Sediment on-site	4/5/02 Storm Sewer Water on-site	10/13/04 Sediment on-site	10/13/04 Storm Sewer Water on-site
VOAs				
1,1-Dichloroethene	ND (0.48)	ND (0.001)	ND (0.006)	ND (0.001)
Benzene	ND (0.48)	ND (0.001)	ND (0.006)	ND (0.001)
cis-1,2-Dichloroethene	ND (0.24)	ND (0.001)	0.007 J	ND (0.001)
Methylene chloride	ND (0.48)	ND (0.001)	0.006 J	ND (0.001)
Tetrachloroethene	3.7	0.001	0.13	0.0004 J
Trichloroethene	0.078 J	0.0002 J	0.012	ND (0.001)
Vinyl chloride	ND (0.48)	ND (0.001)	ND (0.006)	ND (0.001)
SVOAs				
Benzo(a)anthracene	0.68 J	ND (0.01)	ND (37)	ND (0.01)
Benzo(a)pyrene	0.87 J	ND (0.01)	ND (37)	ND (0.01)
Benzo(b)fluoranthene	1 J	ND (0.01)	2.1 J	ND (0.01)
bis(2-Ethylhexyl)phthalate	0.38 J	ND (0.01)	12 J	ND (0.01)
Dibenz(a,h)anthracene	ND (1.6)	ND (0.01)	ND (37)	ND (0.01)
PCBs				
Total PCBs	1.19 J	0.0004 J	6.1 J	0.002 J ND (0.0002)

MH-10_Cleaned	4/5/02 Sediment on-site	4/5/02 Storm Sewer Water on-site	10/13/04 Sediment on-site	10/13/04 Storm Sewer Water on-site
VOAs				
1,1-Dichloroethene	ND (0.48)	ND (0.001)	ND (0.006)	ND (0.001)
Benzene	ND (0.48)	ND (0.001)	ND (0.006)	ND (0.001)
cis-1,2-Dichloroethene	ND (0.24)	ND (0.001)	0.008 J	ND (0.001)
Methylene chloride	ND (0.48)	ND (0.001)	0.008 J	ND (0.001)
Tetrachloroethene	3.7	0.001	0.13	0.0004 J
Trichloroethene	0.079 J	0.0002 J	0.012	ND (0.001)
Vinyl chloride	ND (0.48)	ND (0.001)	ND (0.006)	ND (0.001)
SVOAs				
Benzo(a)anthracene	0.68 J	ND (0.01)	ND (37)	ND (0.01)
Benzo(a)pyrene	0.87 J	ND (0.01)	ND (37)	ND (0.01)
Benzo(b)fluoranthene	1 J	ND (0.01)	2.1 J	ND (0.01)
bis(2-Ethylhexyl)phthalate	0.38 J	ND (0.01)	12 J	ND (0.01)
Dibenz(a,h)anthracene	ND (1.6)	ND (0.01)	ND (37)	ND (0.01)
PCBs				
Total PCBs	1.19 J	0.0004 J	6.1 J	0.002 J ND (0.0002)

MH-12_Cleaned	10/04/05 Sediment on-site	10/04/05 Storm Sewer Water on-site
VOAs		
1,1-Dichloroethene	ND (0.007)/ND (0.006)	ND (0.001)
Benzene	ND (0.007)/ND (0.006)	ND (0.001)
cis-1,2-Dichloroethene	0.001/0.001	0.0003
Methylene chloride	0.007/0.007	ND (0.001)
Tetrachloroethene	0.007/0.006	0.0004 J
Trichloroethene	0.001/0.001	ND (0.001)
Vinyl chloride	ND (0.007)/ND (0.006)	ND (0.001)
SVOAs		
Benzo(a)anthracene	0.24 J/0.19 J	ND (0.01)
Benzo(a)pyrene	0.26 J/0.21 J	ND (0.01)
Benzo(b)fluoranthene	0.39 J/0.31 J	ND (0.01)
bis(2-Ethylhexyl)phthalate	ND (2.7)/ND (1.8)	ND (0.01)
Dibenz(a,h)anthracene	ND (1.4)/ND (1.3)	ND (0.01)
PCBs		
Total PCBs	0.879 J/0.839 J	0.0003 J

MH-15_Abandoned	10/13/04 Sediment on-site
VOAs	
1,1-Dichloroethene	ND (0.007)
Benzene	ND (0.007)
cis-1,2-Dichloroethene	ND (0.007)
Methylene chloride	0.002 J
Tetrachloroethene	ND (0.007)
Trichloroethene	ND (0.007)
Vinyl chloride	ND (0.007)
SVOAs	
Benzo(a)anthracene	4.2 J
Benzo(a)pyrene	3.9 J (D)
Benzo(b)fluoranthene	7.8 J
bis(2-Ethylhexyl)phthalate	220
Dibenz(a,h)anthracene	ND (52)
PCBs	
Total PCBs	264 J (D)

MH-75	4/12/02 Storm Sewer Water on-site
VOAs	
1,1-Dichloroethene	ND (0.001)
Benzene	ND (0.001)
cis-1,2-Dichloroethene	ND (0.001)
Methylene chloride	ND (0.001)
Tetrachloroethene	ND (0.001)
Trichloroethene	0.0002 J
Vinyl chloride	ND (0.001)
SVOAs	
Benzo(a)anthracene	ND (0.01)
Benzo(a)pyrene	ND (0.01)
Benzo(b)fluoranthene	ND (0.01)
bis(2-Ethylhexyl)phthalate	0.004 J
Dibenz(a,h)anthracene	ND (0.01)
PCBs	
Total PCBs	0.0003 J

MH-11_Cleaned	4/5/02 Sediment on-site	4/5/02 Storm Sewer Water on-site	10/13/04 Sediment on-site	10/13/04 Storm Sewer Water on-site	10/13/04 Storm Sewer Water on-site
VOAs					
1,1-Dichloroethene	ND (0.007)	ND (0.001)	ND (0.028)	ND (0.001)	ND (0.001)
Benzene	ND (0.007)	ND (0.001)	ND (0.028)	ND (0.001)	ND (0.001)
cis-1,2-Dichloroethene	0.003 J	0.027	0.23	0.003	0.003
Methylene chloride	ND (0.014)	ND (0.001)	ND (0.028)	ND (0.001)	ND (0.001)
Tetrachloroethene	0.02	0.011	0.55	0.001 J	0.0003 J
Trichloroethene	0.002 J	0.006	0.13	0.001 J	0.001 J
Vinyl chloride	ND (0.007)	0.001 J	ND (0.028)	ND (0.001)	ND (0.001)
SVOAs					
Benzo(a)anthracene	-	ND (0.01)	ND (19)	ND (0.04)	ND (0.01)
Benzo(a)pyrene	-	ND (0.01)	ND (19)	ND (0.04)	ND (0.01)
Benzo(b)fluoranthene	-	ND (0.01)	ND (19)	ND (0.04)	ND (0.01)
bis(2-Ethylhexyl)phthalate	-	ND (0.01)	7.5 J	ND (0.04)	ND (0.01)
Dibenz(a,h)anthracene	-	ND (0.01)	ND (19)	ND (0.04)	ND (0.01)
PCBs					
Total PCBs	-	0.0004 J	1.33 J	ND (0.0002)	ND (0.0002)

MH-13_Cleaned	10/04/05 Sediment on-site	10/04/05 Storm Sewer Water on-site
VOAs		
1,1-Dichloroethene	0.023	ND (0.001)/ND (0.001)
Benzene	ND (0.45)	ND (0.001)/ND (0.001)
cis-1,2-Dichloroethene	9.5	0.001/0.001
Methylene chloride	ND (0.45)	ND (0.001)/ND (0.009)
Tetrachloroethene	3.5	0.0003/0.0004
Trichloroethene	0.68	0.0004/0.0004
Vinyl chloride	2.9	ND (0.001)/ND (0.001)
SVOAs		
Benzo(a)anthracene	13	0.001/0.002
Benzo(a)pyrene	9.6 (D)	0.001/0.002
Benzo(b)fluoranthene	11	0.002/0.003
bis(2-Ethylhexyl)phthalate	20	ND (0.001)/ND (0.01)
Dibenz(a,h)anthracene	1.4	ND (0.01)/0.0004
PCBs		
Total PCBs	4.67 J	0.002 J/0.003 J

MH-14_Cleaned	4/5/02 Sediment on-site	4/5/02 Storm Sewer Water on-site	10/13/04 Storm Sewer Water on-site
VOAs			
1,1-Dichloroethene	ND (0.007)	ND (0.001)	ND (0.007)
Benzene	ND (0.007)	ND (0.001)	0.19
cis-1,2-Dichloroethene	1.37	0.007	0.034
Methylene chloride	ND (0.007)	ND (0.001)	0.014
Tetrachloroethene	1.37	0.007	0.034
Trichloroethene	ND (0.007)	0.0001 J	0.014
Vinyl chloride	0.83	ND (0.001)	ND (0.007)
SVOAs			
Benzo(a)anthracene	0.8	ND (0.01)	ND (0.01)
Benzo(a)pyrene	0.98	ND (0.01)	ND (0.01)
Benzo(b)fluoranthene	0.72	ND (0.01)	ND (0.01)
bis(2-Ethylhexyl)phthalate	0.17 J	ND (0.01)	ND (0.01)
Dibenz(a,h)anthracene			
PCBs			
Total PCBs	2.58 J	0.0004 J	ND (0.0003)

BS-5	4/11/02 Storm Sewer Water on-site
VOAs	
1,1-Dichloroethene	ND (0.002)
Benzene	ND (0.002)
cis-1,2-Dichloroethene	ND (0.001)
Methylene chloride	ND (0.002)
Tetrachloroethene	ND (0.002)
Trichloroethene	ND (0.002)
Vinyl chloride	ND (0.002)
SVOAs	
Benzo(a)anthracene	ND (0.01)
Benzo(a)pyrene	ND (0.01)
Benzo(b)fluoranthene	ND (0.01)
bis(2-Ethylhexyl)phthalate	ND (0.01)
Dibenz(a,h)anthracene	ND (0.01)
PCBs	
Total PCBs	ND (0.0002)

BS-7	4/11/02 OIL 1 on-site	4/11/02 Storm Sewer Water on-site	10/15/04 Sediment on-site	10/15/04 Storm Sewer Water on-site
VOAs				
1,1-Dichloroethene	ND (0.62)	ND (0.001)	ND (0.008)	ND (0.001)
Benzene	ND (0.62)	ND (0.001)	ND (0.008)	ND (0.001)
cis-1,2-Dichloroethene	ND (0.31)	ND (0.001)	ND (0.008)	ND (0.001)
Methylene chloride	ND (0.62)	ND (0.001)	ND (0.008)	ND (0.001)
Tetrachloroethene	ND (0.62)	ND (0.001)	ND (0.008)	ND (0.001)
Trichloroethene	ND (0.62)	ND (0.001)	ND (0.008)	ND (0.001)
Vinyl chloride	ND (1.2)	ND (0.001)	ND (0.008)	ND (0.001)
SVOAs				
Benzo(a)anthracene	ND (200)	ND (1)	0.4 J	ND (0.01)
Benzo(a)pyrene	ND (200)	ND (1)	0.42 J	ND (0.01)
Benzo(b)fluoranthene	ND (200)	ND (1)	0.81 J	ND (0.01)
bis(2-Ethylhexyl)phthalate	98 J	ND (1)	1.5 J	ND (0.01)
Dibenz(a,h)anthracene	ND (200)	ND (1)	ND (2)	ND (0.01)
PCBs				
Total PCBs	1.9 J	ND (0.0002)	1.47 J	ND (0.0002)

BS-6	4/9/02 Storm Sewer Water on-site
VOAs	
1,1-Dichloroethene	ND (0.001)
Benzene	ND (0.001)
cis-1,2-Dichloroethene	0.001
Methylene chloride	ND (0.001)
Tetrachloroethene	ND (0.001)
Trichloroethene	0.0004 J
Vinyl chloride	ND (0.001)
SVOAs	
Benzo(a)anthracene	ND (0.01)
Benzo(a)pyrene	ND (0.01)
Benzo(b)fluoranthene	ND (0.01)
bis(2-Ethylhexyl)phthalate	ND (0.01)
Dibenz(a,h)anthracene	ND (0.01)
PCBs	
Total PCBs	0.0004 J

BS-8	4/11/02 Sediment on-site	4/11/02 Storm Sewer Water on-site	10/15/04 Sediment on-site	10/15/04 Storm Sewer Water on-site
VOAs				
1,1-Dichloroethene	ND (0.012)	ND (0.001)	ND (0.009)	ND (0.001)
Benzene	ND (0.012)	ND (0.001)	ND (0.009)	ND (0.001)
cis-1,2-Dichloroethene	0.023	0.009	0.011 J	0.0003 J
Methylene chloride	ND (0.012)	ND (0.001)	0.002 J	ND (0.001)
Tetrachloroethene	0.22	0.029	0.006 J	0.006
Trichloroethene	0.014	0.002	0.01	0.0003 J
Vinyl chloride	ND (0.012)	ND (0.001)	ND (0.009)	ND (0.001)
SVOAs				
Benzo(a)anthracene	0.32 J	ND (0.01)	ND (2.3)	ND (0.01) UJ
Benzo(a)pyrene	ND (0.7)	ND (0.01)	ND (2.3)	ND (0.01) UJ
Benzo(b)fluoranthene	0.51 J	ND (0.01)	0.11 J	ND (0.01) UJ
bis(2-Ethylhexyl)phthalate	7 J	ND (0.01)	1.4 J	ND (0.01) UJ
Dibenz(a,h)anthracene	ND (0.7)	ND (0.01)	ND (2.3)	ND (0.01) UJ
PCBs				
Total PCBs	2.66 J	ND (0.0002)	3 J	ND (0.0002)

BS-4	4/12/02 Storm Sewer Water on-site
VOAs	
1,1-Dichloroethene	ND (0.001)
Benzene	ND (0.001)
cis-1,2-Dichloroethene	ND (0.001)
Methylene chloride	0.003
Tetrachloroethene	0.001 J
Trichloroethene	ND (0.001)
Vinyl chloride	
SVOAs	
Benzo(a)anthracene	ND (0.01)
Benzo(a)pyrene	ND (0.01)
Benzo(b)fluoranthene	ND (0.01)
bis(2-Ethylhexyl)phthalate	ND (0.01)
Dibenz(a,h)anthracene	ND (0.01)
PCBs	
Total PCBs	ND (0.0002)

MH-12_Abandoned	10/13/04 Sediment on-site	10/13/04 Storm Sewer Water on-site	10/15/04 Storm Sewer Water on-site
VOAs			
1,1-Dichloroethene	ND (0.008)	ND (0.001)	ND (0.001)
Benzene	ND (0.008)	ND (0.001)	ND (0.001)
cis-1,2-Dichloroethene	0.004 J	ND (0.001)	ND (0.001)
Methylene chloride	ND (0.008)	ND (0.001)	ND (0.001)
Tetrachloroethene	0.004 J	ND (0.001)	ND (0.001)
Trichloroethene	0.01	0.001 J	ND (0.001)
Vinyl chloride	ND (0.008)	ND (0.001)	ND (0.001)
SVOAs			
Benzo(a)anthracene	8.3	-	ND (0.01)
Benzo(a)pyrene	9 (D)	-	ND (0.01)
Benzo(b)fluoranthene	15	-	ND (0.01)
bis(2-Ethylhexyl)phthalate	3.1 J	-	ND (0.01)
Dibenz(a,h)anthracene	1.5 J	-	ND (0.01)
PCBs			
Total PCBs	35.9 J (D)	0.309 J (D)	ND (0.0002)

MH-28_Abandoned	10/20/05 Sediment on-site
VOAs	
1,1-Dichloroethene	ND (0.006)
Benzene	ND (0.006)
cis-1,2-Dichloroethene	ND (0.006)
Methylene chloride	ND (0.006)
Tetrachloroethene	0.002
Trichloroethene	0.001
Vinyl chloride	ND (0.006)
SVOAs	
Benzo(a)anthracene	13
Benzo(a)pyrene	13 (D)
Benzo(b)fluoranthene	19
bis(2-Ethylhexyl)phthalate	1.8
Dibenz(a,h)anthracene	1.8
PCBs	
Total PCBs	0.773 J

MH-17_Abandoned	6/27/05 Sediment on-site	10/20/05 Sediment on-site
VOAs		
1,1-Dichloroethene	ND (0.006)	ND (0.006)
Benzene	ND (0.006)	ND (0.006)
cis-1,2-Dichloroethene	ND (0.006)	ND (0.006)
Methylene chloride	ND (0.006)	ND (0.006)
Tetrachloroethene	ND (0.006)	0.002
Trichloroethene	0.0008 J	0.015
Vinyl chloride	ND (0.006)	ND (0.006)
SVOAs		
Benzo(a)anthracene	0.85 J	3.1
Benzo(a)pyrene	0.92	3 (D)
Benzo(b)fluoranthene	1.6	4.3
bis(2-Ethylhexyl)phthalate	0.53 J	2.1
Dibenz(a,h)anthracene	0.15 J	0.24
PCBs		
Total PCBs	1.96 J	7.04 J

MH-27_Abandoned	10/20/05 Sediment on-site
VOAs	
1,1-Dichloroethene	ND (0.006)
Benzene	ND (0.006)
cis-1,2-Dichloroethene	ND (0.006)
Methylene chloride	ND (0.006)
Tetrachloroethene	0.001
Trichloroethene	0.001
Vinyl chloride	ND (0.006)
SVOAs	
Benzo(a)anthracene	8.1
Benzo(a)pyrene	7.9 (D)
Benzo(b)fluoranthene	12
bis(2-Ethylhexyl)phthalate	0.66
Dibenz(a,h)anthracene	1
PCBs	
Total PCBs	0.224 J

MH-37_Abandoned	10/13/04 Sediment on-site
VOAs	
1,1-Dichloroethene	ND (0.98)
Benzene	ND (0.98)
cis-1,2-Dichloroethene	ND (0.98)
Methylene chloride	ND (0.98)
Tetrachloroethene	6.1
Trichloroethene	2.8
Vinyl chloride	ND (0.98)
SVOAs	
Benzo(a)anthracene	9.4
Benzo(a)pyrene	9.3 (D)
Benzo(b)fluoranthene	5.3
bis(2-Ethylhexyl)phthalate	1
Dibenz(a,h)anthracene	0.61
PCBs	
Total PCBs	1.79 J

MH-38_Abandoned	10/20/05 Sediment on-site
VOAs	
1,1-Dichloroethene	ND (0.005)
Benzene	ND (0.005)
cis-1,2-Dichloroethene	ND (0.005)
Methylene chloride	ND (0.005)
Tetrachloroethene	0.003
Trichloroethene	0.001
Vinyl chloride	ND (0.005)
SVOAs	
Benzo(a)anthracene	4.3
Benzo(a)pyrene	3.9 (D)
Benzo(b)fluoranthene	5.3
bis(2-Ethylhexyl)phthalate	1.3
Dibenz(a,h)anthracene	0.44
PCBs	
Total PCBs	5.03 J

MH-34_Cleaned	10/24/05 Sediment on-site
VOAs	
1,1-Dichloroethene	ND (0.007)
Benzene	ND (0.007)
cis-1,2-Dichloroethene	0.001
Methylene chloride	ND (0.007)
Tetrachloroethene	0.017
Trichloroethene	0.009
Vinyl chloride	ND (0.007)
SVOAs	
Benzo(a)anthracene	9.4
Benzo(a)pyrene	9.3 (D)
Benzo(b)fluoranthene	7.6
bis(2-Ethylhexyl)phthalate	1
Dibenz(a,h)anthracene	0.91
PCBs	
Total PCBs	1.79 J

MH-39_Abandoned	10/20/05 Sediment on-site
VOAs	
1,1-Dichloroethene	ND (0.32)
Benzene	ND (0.32)
cis-1,2-Dichloroethene	ND (0.32)
Methylene chloride	6.7
Tetrachloroethene	0.78
Trichloroethene	0.091 J
Vinyl chloride	ND (0.32)
SVOAs	
Benzo(a)anthracene	7.4
Benzo(a)pyrene	9.7 (D)
Benzo(b)fluoranthene	10
bis(2-Ethylhexyl)phthalate	0.76
Dibenz(a,h)anthracene	1.2
PCBs	
Total PCBs	4.64 J

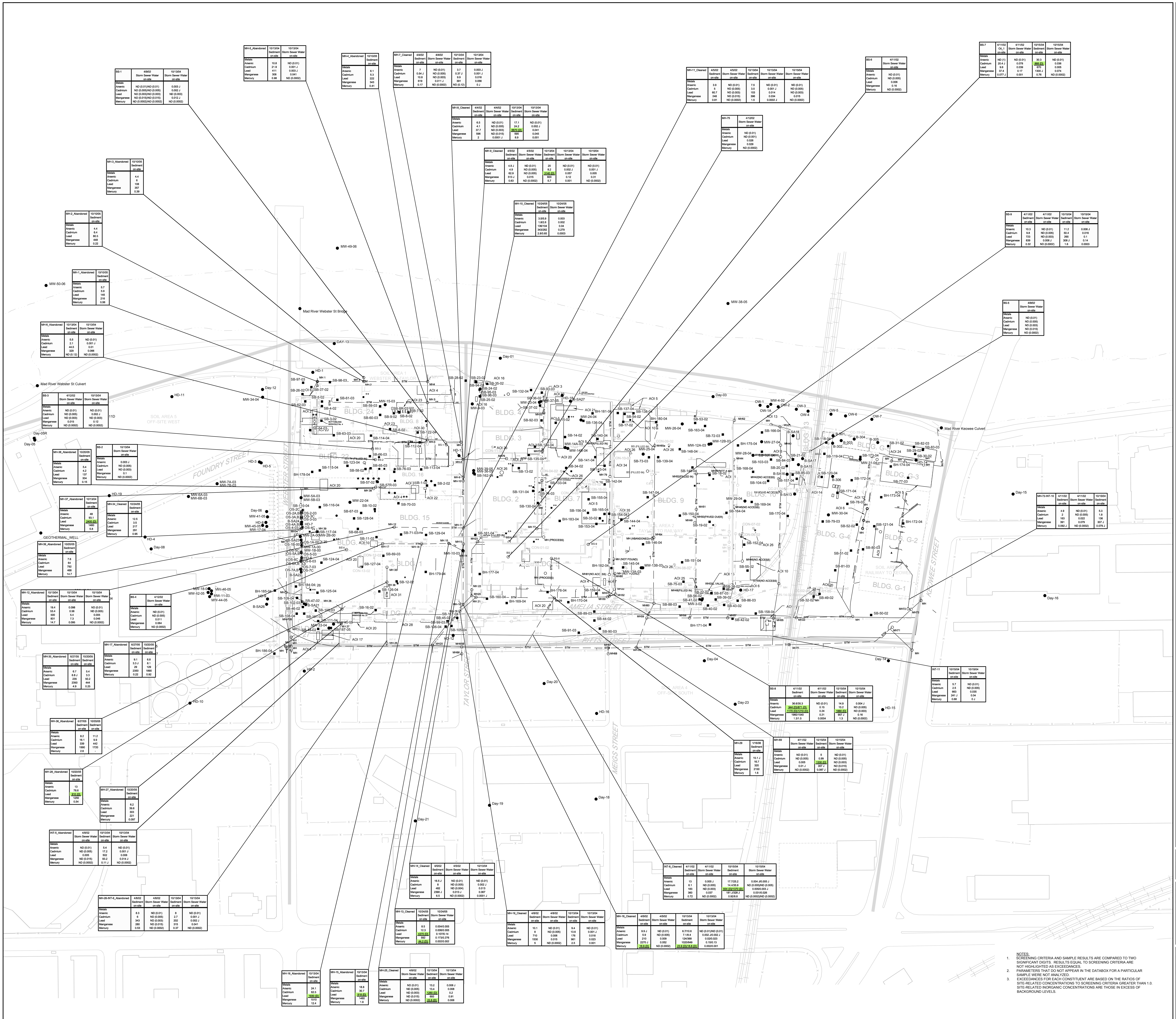
MH-43-05	10/13/04 Sediment on-site	10/13/04 Storm Sewer Water on-site	10/15/04 Storm Sewer Water on-site
VOAs			
1,1-Dichloroethene	ND (0.008)	ND (0.001)	ND (0.001)
Benzene	ND (0.008)	ND (0.001)	ND (0.001)
cis-1,2-Dichloroethene	0.004 J	ND (0.001)	ND (0.001)
Methylene chloride	ND (0.008)	ND (0.001)	ND (0.001)
Tetrachloroethene	0.004 J	ND (0.001)	ND (0.001)
Trichloroethene	0.01	0.001 J	ND (0.001)
Vinyl chloride	ND (0.008)	ND (0.001)	ND (0.001)
SVOAs			
Benzo(a)anthracene	8.3	-	ND (0.01)
Benzo(a)pyrene	9 (D)	-	ND (0.01)
Benzo(b)fluoranthene	15	-	ND (0.01)
bis(2-Ethylhexyl)phthalate	3.1 J	-	ND (0.01)
Dibenz(a,h)anthracene	1.5 J	-	ND (0.01)
PCBs			
Total PCBs	35.9 J (D)	0.309 J (D)	ND (0.0002)

INT-6_Abandoned	4/5/02 Storm Sewer Water on-site	10/13/04 Sediment on-site	10/13/04 Storm Sewer Water on-site
VOAs			
1,1-Dichloroethene	ND (0.001)	ND (0.012)	ND (0.001)
Benzene	ND (0.001)	ND (0.012)	ND (0.001)
cis-1,2-Dichloroethene	ND (0.001)	ND (0.012)	ND (0.001)
Methylene chloride	ND (0.001)	ND (0.012)	ND (0.001)
Tetrachloroethene	ND (0.001)	ND (0.012)	ND (0.001)
Trichloroethene	ND (0.001)	ND (0.012)	ND (0.001)
Vinyl chloride	ND (0.001)	ND (0.012)	ND (0.001)
SVOAs			
Benzo(a)anthracene	ND (0.01)	ND (130)	ND (0.01)
Benzo(a)pyrene	ND (0.01)	ND (130)	ND (0.01)
Benzo(b)fluoranthene	ND (0.01)	58 J	ND (0.01)
bis(2-Ethylhexyl)phthalate	ND (0.01)	ND (130)	ND (0.01)
Dibenz(a,h)anthracene	ND (0.01)	ND (130)	ND (0.01)
PCBs			
Total PCBs	ND (0.0002)	0.443 J	ND (0.0002)

MH-18_Abandoned	10/13/04 Sediment on-site
VOAs	
1,1-Dichloroethene	ND (0.006)
Benzene	ND (0.006)
cis-1,2-Dichloroethene	ND (0.006)
Methylene chloride	ND (0.006)
Tetrachloroethene	ND (0.006)
Trichloroethene	ND (0.006)
Vinyl chloride	ND (0.006)
SVOAs	
Benzo(a)anthracene	3.2 J
Benzo(a)pyrene	3.2 (D)
Benzo(b)fluoranthene	4.3 J
bis(2-Ethylhexyl)phthalate	13
Dibenz(a,h)anthracene	1 J
PCBs	
Total PCBs	347 J (D)

MH-19_Cleaned	4/8/02 Sediment on-site	4/8/02 Storm Sewer Water on-site	10/13/04 Sediment on-site	10/13/04 Storm Sewer Water on-site
VOAs				
1,1-Dichloroethene	ND (0.32)	ND (0.001)	ND (0.006)	ND (0.001)
Benzene	ND (0.32)	ND (0.001)	ND (0.006)	ND (0.001)
cis-1,2-Dichloroethene	0.24	ND (0.001)	ND (0.006)	0.0005 J
Methylene chloride	0.11 J	ND (0.001)	ND (0.006)	ND (0.001)
Tetrachloroethene	2.6	0.0003 J	0.01	0.0002 J
Trichloroethene	0.39	ND (0.001)	0.001 J	ND (0.001)
Vinyl chloride	ND (0.32)	ND (0.001)	ND (0.006)	ND (0.001)
SVOAs				
Benzo(a)anthracene	0.29 J	ND (0.01)	0.18 J	ND (0.01)
Benzo(a)pyrene	0.38 J	ND (0.01)	0.28 J	ND (0.01)
Benzo(b)fluoranthene	0.56 J	ND (0.01)	0.48 J	ND (0.01)
bis(2-Ethylhexyl)phthalate	7.8	ND (0.01)	3.8	ND (0.01)
Dibenz(a,h)anthracene	ND (0.85)	ND (0.01)	ND (1.6)	ND (0.01)
PCBs				
Total PCBs	5.27 J	0.0002 J	10.3 J (D)	0.001 J

MH-18_Cleaned	4/5/02 Sediment on-site	4/5/02 Storm Sewer Water on-site	10/13/04 Sediment on-site	10/13/04 Storm Sewer Water on-site
VOAs				
1,1-Dichloroethene	ND (0.67)	ND (0.001)	ND (0.006)/ND (0.006)	ND (0.007)/ND (0.006)
Benzene	ND (0.67)	ND (0.001)	ND (0.006)/ND (0.006)	ND (0.007)/ND (0.006)
cis-1,2-Dichloroethene	0.22 J	0.001	0.006 J/0.007	0.25/0.23
Methylene chloride	ND (0.67)	ND (0.001)	ND (0.006)/ND (0.006)



BS-1	4/9/02 Storm Sewer Water on-site	10/13/04 Storm Sewer Water on-site
Metals		
Arsenic	ND (0.01)/ND (0.01)	0.003 J
Cadmium	ND (0.005)/ND (0.005)	0.002 J
Lead	ND (0.003)/ND (0.003)	ND (0.003)
Manganese	ND (0.015)/ND (0.015)	0.012 J
Mercury	ND (0.0002)/ND (0.0002)	ND (0.0002)

MH-5_Abandoned	10/13/04 Sediment on-site	10/13/04 Storm Sewer Water on-site
Metals		
Arsenic	10.8	ND (0.01)
Cadmium	21.9	0.001 J
Lead	411	0.003 J
Manganese	308	0.041
Mercury	0.98	ND (0.0002)

MH-4_Abandoned	10/10/05 Sediment on-site
Metals	
Arsenic	6.1
Cadmium	5.3
Lead	222
Manganese	343
Mercury	0.41

MH-7_Cleaned	4/4/02 Sediment on-site	4/4/02 Storm Sewer Water on-site	10/13/04 Sediment on-site	10/13/04 Storm Sewer Water on-site
Metals				
Arsenic	7	ND (0.01)	3.7	0.003 J
Cadmium	0.54 J	ND (0.005)	0.37 J	0.001 J
Lead	10.8	ND (0.003)	9.9	0.016
Manganese	619	0.011 J	391	0.056
Mercury	0.17	ND (0.0002)	ND (0.12)	0 J

MH-8_Cleaned	4/4/02 Sediment on-site	4/4/02 Storm Sewer Water on-site	10/13/04 Sediment on-site	10/13/04 Storm Sewer Water on-site
Metals				
Arsenic	6.5	ND (0.01)	17.1	ND (0.01)
Cadmium	4.1	ND (0.005)	24.2	0.002 J
Lead	37.7	ND (0.003)	6670 {D}	0.041
Manganese	596	ND (0.015)	595	0.045
Mercury	2	0.0001 J	8.9	0.001

MH-9_Cleaned	4/5/02 Sediment on-site	4/5/02 Storm Sewer Water on-site	10/13/04 Sediment on-site	10/13/04 Storm Sewer Water on-site	10/15/04 Storm Sewer Water on-site
Metals					
Arsenic	4.9 J	ND (0.01)	20	ND (0.01)	ND (0.01)
Cadmium	4.9	ND (0.005)	8.2	0.002 J	0.001 J
Lead	62.9	ND (0.005)	3140 {D}	0.057	0.005
Manganese	513 J	0.015	600	0.12	0.31
Mercury	0.63	ND (0.0002)	5.7	0.001	ND (0.0002)

MH-10_Cleaned	10/24/05 Sediment on-site	10/24/05 Storm Sewer Water on-site
Metals		
Arsenic	3.5/5.9	0.003
Cadmium	1.8/2.6	0.002
Lead	136/104	0.04
Manganese	343/282	0.279
Mercury	2.8/0.65	0.0003

MH-11_Cleaned	4/5/02 Sediment on-site	4/5/02 Storm Sewer Water on-site	10/13/04 Sediment on-site	10/13/04 Storm Sewer Water on-site	10/15/04 Storm Sewer Water on-site
Metals					
Arsenic	3.9	ND (0.01)	7.5	ND (0.01)	ND (0.01)
Cadmium	5	ND (0.005)	3.5	0.001 J	ND (0.005)
Lead	60.7	ND (0.003)	153	0.014	ND (0.003)
Manganese	248	ND (0.015)	396	0.034	0.015
Mercury	0.81	ND (0.0002)	1.5	0.0002 J	ND (0.0002)

MH-75	4/12/02 Storm Sewer Water on-site
Metals	
Arsenic	ND (0.01)
Cadmium	ND (0.001)
Lead	0.026
Manganese	0.029
Mercury	ND (0.0002)

BS-6	4/11/02 Storm Sewer Water on-site
Metals	
Arsenic	ND (0.01)
Cadmium	ND (0.005)
Lead	0.006
Manganese	0.16
Mercury	ND (0.0002)

BS-7	4/11/02 Oil_1 on-site	4/11/02 Storm Sewer Water on-site	10/15/04 Sediment on-site	10/15/04 Storm Sewer Water on-site
Metals				
Arsenic	ND (1)	ND (0.01)	30.3	ND (0.01)
Cadmium	20.4 J	0.078	868 {D}	0.036
Lead	9.6	0.039	670	0.005
Manganese	37.4	0.17	1300 J	0.074
Mercury	0.077 J	0.001	0.76	ND (0.0002)

MH-3_Abandoned	10/10/05 Sediment on-site
Metals	
Arsenic	4.4
Cadmium	6
Lead	108
Manganese	357
Mercury	0.39

MH-2_Abandoned	10/10/05 Sediment on-site
Metals	
Arsenic	4.4
Cadmium	6.4
Lead	80.5
Manganese	448
Mercury	0.22

MH-1_Abandoned	10/10/05 Sediment on-site
Metals	
Arsenic	5.7
Cadmium	5.9
Lead	145
Manganese	216
Mercury	0.56

MH-6_Abandoned	10/13/04 Sediment on-site	10/13/04 Storm Sewer Water on-site
Metals		
Arsenic	5.5	ND (0.01)
Cadmium	2.1	0.001 J
Lead	44.5	0.01
Manganese	329	0.066
Mercury	ND (0.12)	ND (0.0002)

BS-9	4/11/02 Sediment on-site	4/11/02 Storm Sewer Water on-site	10/15/04 Sediment on-site	10/15/04 Storm Sewer Water on-site
Metals				
Arsenic	10.3	ND (0.01)	11.2	0.006 J
Cadmium	9.8	ND (0.005)	50.4	0.016
Lead	723	ND (0.003)	265	0.1
Manganese	839	0.006 J	308 J	0.14
Mercury	0.32	ND (0.0002)	1.6	0.0003

BS-5	4/9/02 Storm Sewer Water on-site
Metals	
Arsenic	ND (0.01)
Cadmium	ND (0.005)
Lead	ND (0.003)
Manganese	ND (0.015)
Mercury	ND (0.0002)

BS-3	4/12/02 Storm Sewer Water on-site	10/13/04 Storm Sewer Water on-site
Metals		
Arsenic	ND (0.01)	ND (0.01)
Cadmium	ND (0.005)	0.002 J
Lead	ND (0.003)	ND (0.003)
Manganese	0.015	0.12
Mercury	ND (0.0002)	ND (0.0002)

MH-38_Abandoned	10/20/05 Sediment on-site
Metals	
Arsenic	5.4
Cadmium	4.2
Lead	137
Manganese	304
Mercury	0.15

BS-2	10/13/04 Storm Sewer Water on-site
Metals	
Arsenic	0.003 J
Cadmium	ND (0.005)
Lead	ND (0.003)
Manganese	0.1
Mercury	ND (0.0002)

MH-37_Abandoned	10/13/04 Sediment on-site
Metals	
Arsenic	48
Cadmium	93.1
Lead	2400 {D}
Manganese	1460
Mercury	5.8

MH-34_Cleaned	10/24/05 Sediment on-site
Metals	
Arsenic	12.5
Cadmium	3.5
Lead	217
Manganese	291
Mercury	0.95

MH-39_Abandoned	10/20/05 Sediment on-site
Metals	
Arsenic	7.6
Cadmium	64
Lead	792
Manganese	468
Mercury	14.7

MH-12_Abandoned	10/13/04 Sediment on-site	10/13/04 Storm Sewer Water on-site	10/15/04 Storm Sewer Water on-site
Metals			
Arsenic	19.4	0.098	ND (0.01)
Cadmium	53.4	0.56	ND (0.005)
Lead	500	5.4	0.005
Manganese	831	7.3	0.046
Mercury	14.7	0.095	ND (0.0002)

BS-4	4/12/02 Storm Sewer Water on-site
Metals	
Arsenic	ND (0.01)
Cadmium	ND (0.005)
Lead	0.011
Manganese	0.064
Mercury	ND (0.0002)

MH-17_Abandoned	6/27/05 Sediment on-site	10/20/05 Sediment on-site
Metals		
Arsenic	9.1	6.8
Cadmium	3.3 J	8.1
Lead	29	129
Manganese	2350	1890
Mercury	0.22	0.92

MH-35_Abandoned	6/27/05 Sediment on-site	10/20/05 Sediment on-site
Metals		
Arsenic	6.7	5.4
Cadmium	6.8 J	3.3
Lead	235	50.2
Manganese	2350	444
Mercury	4.9	0.25

MH-36_Abandoned	6/27/05 Sediment on-site	10/20/05 Sediment on-site
Metals		
Arsenic	8.2	11.2
Cadmium	16.1	9.9
Lead	339	442
Manganese	1990	1720
Mercury	2.6	-

MH-28_Abandoned	10/20/05 Sediment on-site
Metals	
Arsenic	13
Cadmium	78.6
Lead	910 {D}
Manganese	1250
Mercury	0.54

MH-27_Abandoned	10/20/05 Sediment on-site
Metals	
Arsenic	6.2
Cadmium	39.6
Lead	303
Manganese	221
Mercury	0.097

INT-5_Abandoned	4/8/02 Storm Sewer Water on-site	10/13/04 Sediment on-site	10/13/04 Storm Sewer Water on-site
Metals			
Arsenic	ND (0.01)	5.4	ND (0.01)
Cadmium	ND (0.005)	17.2	0.001 J
Lead	0.005	502	0.006
Manganese	ND (0.015)	93.2	0.014 J
Mercury	ND (0.0002)	0.11 J	ND (0.0002)

MH-26-INT-6_Abandoned	4/8/02 Sediment on-site	4/8/02 Storm Sewer Water on-site	10/13/04 Sediment on-site	10/13/04 Storm Sewer Water on-site
Metals				
Arsenic	8.3	ND (0.01)	8	ND (0.01)
Cadmium	6	ND (0.005)	2.7	0.001 J
Lead	343	ND (0.003)	202	0.002 J
Manganese	280	ND (0.015)	315	0.041
Mercury	0.53	ND (0.0002)	0.37	ND (0.0002)

MH-14_Cleaned	4/5/02 Sediment on-site	4/5/02 Storm Sewer Water on-site	10/13/04 Storm Sewer Water on-site
Metals			
Arsenic	16.5 J	ND (0.01)	ND (0.01)
Cadmium	8	ND (0.005)	0.002 J
Lead	482	ND (0.004)	0.013
Manganese	2390 J	0.013 J	0.067
Mercury	6.5	ND (0.0002)	0.0001 J

MH-13_Cleaned	10/24/05 Sediment on-site	10/24/05 Storm Sewer Water on-site
Metals		
Arsenic	8.5	0.004/0.005
Cadmium	12.3	0.006/0.005
Lead	4370 {D}	0.107/0.14
Manganese	592	0.173/0.276
Mercury	44.2 {D}	0.002/0.002

MH-16_Abandoned	10/13/04 Sediment on-site
Metals	
Arsenic	24.1
Cadmium	62.5
Lead	1930 {D}
Manganese	1510
Mercury	12.4

MH-15_Abandoned	10/13/04 Sediment on-site
Metals	
Arsenic	18.8
Cadmium	30.7
Lead	918 {D}
Manganese	1460
Mercury	1.9

MH-25_Cleaned	4/8/02 Storm Sewer Water on-site	10/13/04 Sediment on-site	10/13/04 Storm Sewer Water on-site
Metals			
Arsenic	ND (0.01)	13.2	0.008 J
Cadmium	ND (0.005)	13.4	0.008
Lead	ND (0.003)	1260 {D}	0.2
Manganese	ND (0.015)	693	0.91
Mercury	ND (0.0002)	22.8 {D}	0.006

MH-19_Cleaned	4/8/02 Sediment on-site	4/8/02 Storm Sewer Water on-site	10/13/04 Sediment on-site	10/13/04 Storm Sewer Water on-site
Metals				
Arsenic	10.1	ND (0.01)	9.4	ND (0.01)
Cadmium	8	ND (0.005)	13.6	0.001 J
Lead	710	0.006	176	0.018
Manganese	1530	0.015	961	0.023
Mercury	5	ND (0.0002)	2.5	0.001

MH-18_Cleaned	4/5/02 Sediment on-site	4/5/02 Storm Sewer Water on-site	10/13/04 Sediment on-site	10/13/04 Storm Sewer Water on-site
Metals				
Arsenic	9.9 J	ND (0.01)	6.7/10.6	ND (0.01)/ND (0.01)
Cadmium	5.9	ND (0.005)	7.1/8.4	0.002 J/0.002 J
Lead	210	0.009	124/368	0.02/0.023
Manganese	2270 J	0.052	1020/649	0.15/0.13
Mercury	16.9 {D}	ND (0.0002)	23.9 {D}/18.8 {D}	0.002/0.001

INT-8_Cleaned	4/11/02 Sediment on-site	4/11/02 Storm Sewer Water on-site	10/15/04 Sediment on-site	10/15/04 Storm Sewer Water on-site
Metals				
Arsenic	13	0.005 J	17.7/25.2	0.004 J/0.005 J
Cadmium	6.1	ND (0.005)	14.4/35.9	ND (0.005)/ND (0.005)
Lead	183	ND (0.003)	934 {D}/1370 {D}	0.005/0.003 J
Manganese	360	0.037	181 J/328 J	0.031/0.026
Mercury	0.72	ND (0.0002)	0.92/8.8	ND (0.0002)/ND (0.0002)

BS-8	4/11/02 Sediment on-site	4/11/02 Storm Sewer Water on-site	10/15/04 Sediment on-site	10/15/04 Storm Sewer Water on-site
Metals				
Arsenic	36.6/35.3	ND (0.01)	14.9	0.004 J
Cadmium	944 {D}/871 {D}	0.15	15.2	ND (0.005)
Lead	1170 {D}/1210 {D}	0.24	1880 {D}	ND (0.003)
Manganese	1960/1540	0.21	957 J	0.16
Mercury	1.3/1.5	0.0004	1.3	ND (0.0002)

INT-11	10/15/04 Sediment on-site	10/15/04 Storm Sewer Water on-site
Metals		
Arsenic	5.7	ND (0.01)
Cadmium	2.5	ND (0.005)
Lead	663	0.035
Manganese	241 J	0.04
Mercury	0.68	0 J

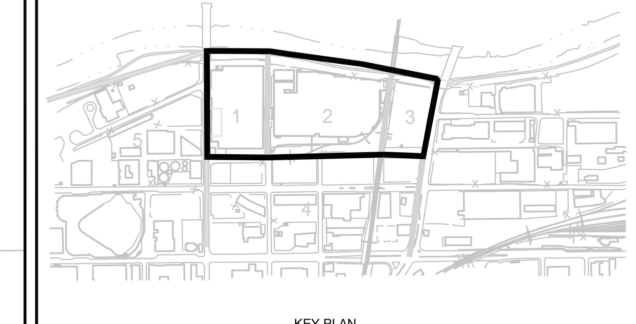
MH-72-INT-10	4/11/02 Sediment on-site	4/11/02 Storm Sewer Water on-site	10/15/04 Sediment on-site
Metals			
Arsenic	4.9	ND (0.01)	5.3
Cadmium	2	ND (0.005)	1.8
Lead	163	0.022	136
Manganese	391	0.079	307 J
Mercury	0.092 J	ND (0.0002)	0.079 J

MH-29	1/16/06 Sediment on-site
Metals	
Arsenic	15.1 J
Cadmium	16.7
Lead	320
Manganese	2150
Mercury	1.6

MH-69	4/11/02 Storm Sewer Water on-site	10/15/04 Sediment on-site	10/15/04 Storm Sewer Water on-site
Metals			
Arsenic	ND (0.01)	5	ND (0.01)
Cadmium	ND (0.005)	0.99	ND (0.005)
Lead	0.005	1330 {D}	ND (0.003)
Manganese	0.01 J	357 J	ND (0.015)
Mercury	ND (0.0002)	0.087 J	ND (0.0002)

NOTES:

1. SCREENING CRITERIA AND SAMPLE RESULTS ARE COMPARED TO TWO SIGNIFICANT DIGITS. RESULTS EQUAL TO SCREENING CRITERIA ARE NOT HIGHLIGHTED AS EXCEEDANCES.
2. PARAMETERS THAT DO NOT APPEAR IN THE DATABOX FOR A PARTICULAR SAMPLE WERE NOT ANALYZED.
3. EXCEEDANCES FOR EACH CONSTITUENT ARE BASED ON THE RATIOS OF SITE-RELATED CONCENTRATIONS TO SCREENING CRITERIA GREATER THAN 1.0. SITE-RELATED INORGANIC CONCENTRATIONS ARE THOSE IN EXCESS OF BACKGROUND LEVELS.



SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY

Dayton, Ohio

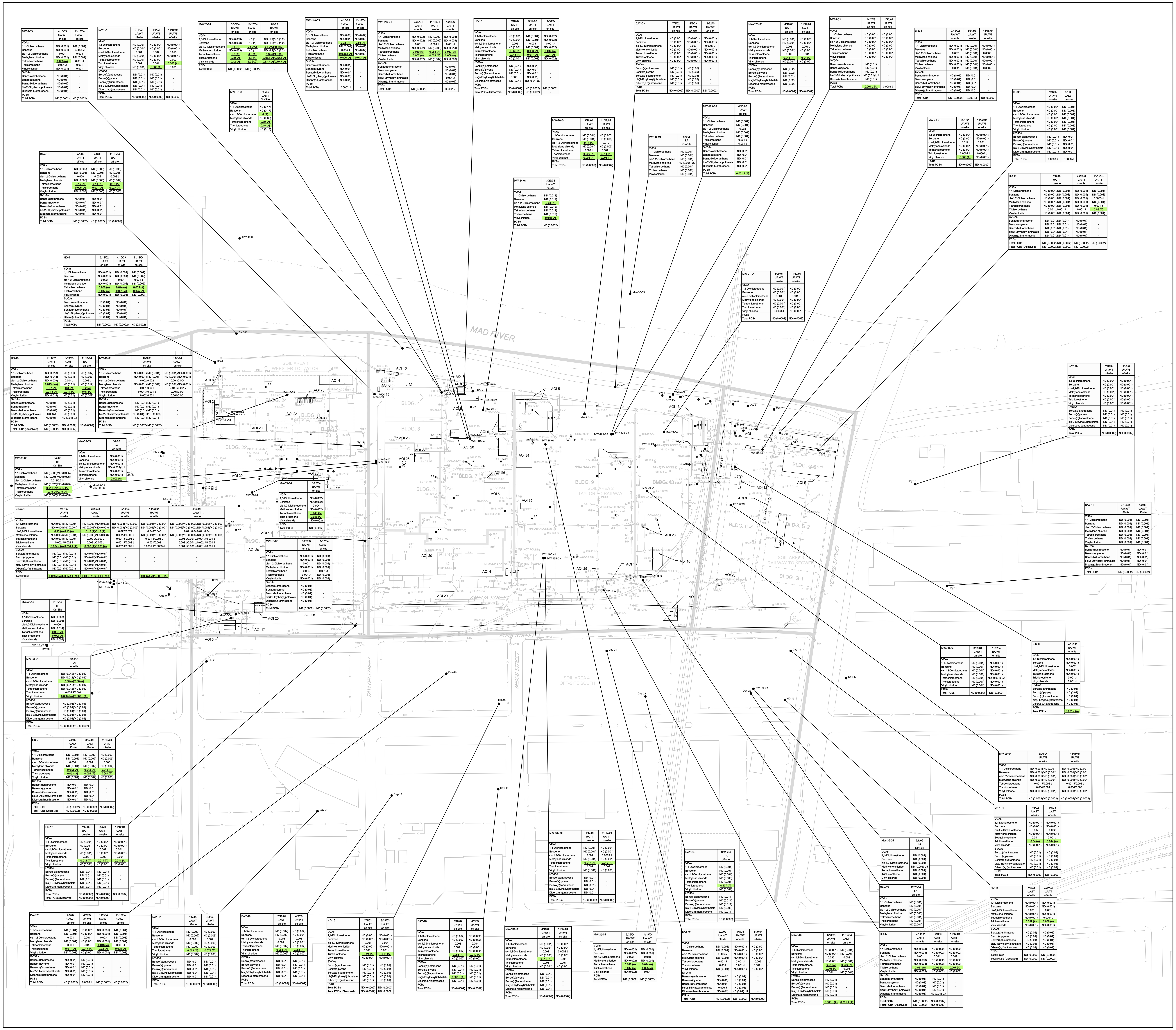
STORMWATER, SEDIMENT, AND OIL ANALYTICAL DATA - INORGANICS - SITE WIDE

CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

Project Manager: IKR	Reviewed By: SE	Date: MARCH 2006	
Scale: 1"=80'	Project Nº: 12638-04	Report Nº: 011	Drawing Nº: 4.3B

12638-04(011)GN-WA057 MAR 29/2006



SAMPLE EXCEEDANCE

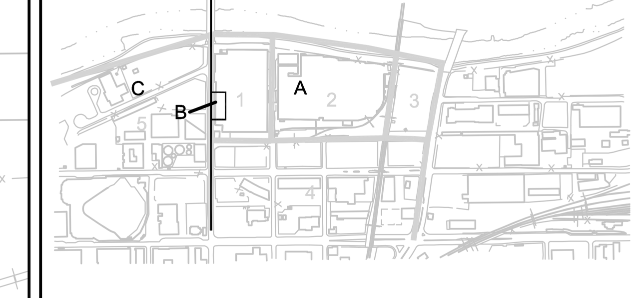
UA - UPPER AQUIFER
LA - LOWER AQUIFER
TR - TILL-RICH ZONE
WT - WATER TABLE
O - OTHER
TT - TOP OF TILL
BT - BELOW TILL

Chemical Name	A	B (On Site)	B (Off Site)	C
VOCs				
1,1-Dichloroethene	7.00E-03	2.44E+02	2.42E+02	1.25E+02
Benzene	5.00E-03	6.41E+00	6.19E+00	4.88E+00
cis-1,2-Dichloroethene	7.00E-02	6.38E+01	6.09E+01	2.29E+01
Methylene chloride	5.00E-03	1.27E+02	1.18E+02	8.94E+01
Tetrachloroethene	5.00E-03	1.49E+01	1.47E+01	1.41E+01
Trichloroethene	5.00E-03	2.73E+01	2.67E+01	2.68E+01
Vinyl chloride	2.00E-03	3.29E+00	3.25E+00	2.02E+00
SVOCs				
Benzo(a)anthracene	1.17E-03	1.43E+02	1.10E+02	6.17E-02
Benzo(a)pyrene	2.00E-04	4.20E+01	3.24E+01	4.35E-03
Benzo(b)fluoranthene	1.17E-03	7.70E+00	6.72E+00	3.71E-02
bis(2-Ethylhexyl)phthalate	6.00E-03	1.00E+05	7.69E+04	1.82E+00
Dibenz(a,h)anthracene	1.17E-04	2.81E+03	2.08E+03	2.78E-03
PCBs				
Total PCBs	5.00E-04	2.52E-01	2.43E-01	9.35E-03
Total PCBs (Dissolved)	5.00E-04	2.52E-01	2.43E-01	9.35E-03
Metals				
Arsenic	1.00E-02	-	-	1.44E+01
Arsenic (Dissolved)	1.00E-02	-	-	1.44E+01
Cadmium	5.00E-03	-	-	1.80E+01
Cadmium (Dissolved)	5.00E-03	-	-	1.80E+01
Lead	1.50E-02	-	-	7.40E+01
Lead (Dissolved)	1.50E-02	-	-	7.40E+01
Manganese	5.11E+00	-	-	5.96E+03
Manganese (Dissolved)	5.11E+00	-	-	5.96E+03
Mercury	2.00E-03	8.33E-01	8.19E-01	2.88E-01
Mercury (Dissolved)	2.00E-03	8.33E-01	8.19E-01	2.88E-01

A Drinking Water (DW)
B Onsite / Offsite Routine Worker (RW) Risk-Based GW Volatilization to Indoor Air
C Risk-Based Routine Construction Worker (Const) GW Contact Criteria

NOTES:

1. TOTAL PCBs WERE SUMMED BY ADDING THE POSITIVE DETECTIONS PLUS HALF THE QUANTITATION LIMITS FOR NON-DETECT RESULTS OFAROCLORS DETECTED ELSEWHERE AT THE SITE. IF QUANTITATION LIMITS ARE NOT AVAILABLE, HALF THE REPORTING LIMITS ARE USED FOR NON-DETECTED VALUES.
2. SCREENING CRITERIA AND SAMPLE RESULTS ARE COMPARED TO TWO SIGNIFICANT DIGITS. RESULTS EQUAL TO SCREENING CRITERIA ARE NOT HIGHLIGHTED AS EXCEEDANCES.
3. PARAMETERS THAT DO NOT APPEAR IN THE DATABOX FOR A PARTICULAR SAMPLE WERE NOT ANALYZED.



KEY PLAN

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY

Dayton, Ohio

GROUNDWATER ANALYTICAL DATA ORGANICS - AREA A

CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

Project Manager:	Reviewed By:	Date:	
IKR	SE	MARCH 2006	
Scale: 1"=80'	Project Nº: 12638-04	Report Nº: 011	Drawing Nº: 4.4A(i)

12638-04(011)GN-WA056 MAR 29/2006

DAY-01	7/1/02 UA:WT off-site	4/8/03 UA:WT off-site	11/10/04 UA:WT off-site
Metals			
Arsenic	ND (0.01)	ND (0.01)	-
Cadmium	ND (0.005)	ND (0.005)	-
Lead	ND (0.003)	ND (0.003)	-
Manganese	0.078	0.03	0.16
Mercury	ND (0.0002)	ND (0.0002)	-

DAY-03	7/1/02 UA:WT off-site	4/8/03 UA:WT off-site	11/22/04 UA:WT off-site
Metals			
Arsenic	0.003 J	ND (0.01)	-
Cadmium	ND (0.005)	ND (0.005)	-
Lead	ND (0.003)	ND (0.003)	-
Manganese	0.18	0.094	0.091
Mercury	ND (0.0002)	ND (0.0002)	-

HD-18	7/16/02 UA:TT on-site	3/19/03 UA:TT on-site	11/16/04 UA:TT on-site
Metals			
Arsenic	ND (0.01)	0.003 J	-
Arsenic (Dissolved)	ND (0.01)	0.003 J	-
Cadmium	0.0004 J	ND (0.005)	-
Cadmium (Dissolved)	0.0003 J	ND (0.005)	-
Lead	ND (0.003)	ND (0.003)	-
Lead (Dissolved)	ND (0.003)	ND (0.003)	-
Manganese	0.036	0.022	0.006 J
Manganese (Dissolved)	0.034	0.018	-
Mercury	ND (0.0002)	ND (0.0002)	-
Mercury (Dissolved)	ND (0.0002)	ND (0.0002)	-

MW-24-04	3/25/04 UA:WT on-site
Metals	
Arsenic	0.02 (A)
Cadmium	0.001 J
Lead	ND (0.003)
Manganese	0.59
Mercury	ND (0.0002)

MW-26-04	3/26/04 UA:WT on-site	11/17/04 UA:WT on-site
Metals		
Arsenic	0.011 (A)	-
Cadmium	ND (0.005)	-
Lead	ND (0.003)	-
Manganese	1.3 J	1
Mercury	ND (0.0002)	-

MW-12B-03	4/16/03 UA:TT on-site
Metals	
Arsenic	ND (0.01)
Cadmium	ND (0.005)
Lead	0.002 J
Manganese	0.21
Mercury	ND (0.0002)

DAY-13	7/1/02 UA:TT off-site	4/8/03 UA:TT off-site	11/16/04 UA:TT off-site
Metals			
Arsenic	ND (0.01)	ND (0.01)	-
Cadmium	ND (0.005)	ND (0.005)	-
Lead	ND (0.003)	ND (0.003)	-
Manganese	0.27	1.6	0.67
Mercury	ND (0.0002)	ND (0.0002)	-

HD-1	7/11/02 UA:TT on-site	4/10/03 UA:TT on-site	11/11/04 UA:TT on-site
Metals			
Arsenic	ND (0.01)	ND (0.01)	-
Cadmium	ND (0.005)	ND (0.005)	-
Lead	ND (0.003)	ND (0.003)	-
Manganese	0.23	0.24	0.21
Mercury	ND (0.0002)	ND (0.0002)	-

MW-9-03	4/10/03 UA:WT on-site
Metals	
Arsenic	ND (0.01)
Cadmium	ND (0.005)
Lead	ND (0.003)
Manganese	0.41
Mercury	ND (0.0002)

MW-14B-04	3/30/04 UA:TT on-site	1/23/06 UA:TT on-site
Metals		
Arsenic	0.003 J	0.002 J
Cadmium	ND (0.005)	ND (0.005)
Lead	ND (0.003)	0.001 J
Manganese	0.009 J	ND (0.015)
Mercury	ND (0.0002)	ND (0.0002)

MW-23-04	3/30/04 UA:WT on-site
Metals	
Arsenic	0.004 J
Cadmium	ND (0.005)
Lead	ND (0.003)
Manganese	0.3
Mercury	ND (0.0002)

MW-25-04	3/26/04 UA:WT on-site
Metals	
Arsenic	0.003 J
Cadmium	ND (0.005)
Lead	ND (0.003)
Manganese	1.4 J
Mercury	ND (0.0002)

MW-12A-03	4/15/03 UA:WT on-site
Metals	
Arsenic	0.003 J
Cadmium	ND (0.005)
Lead	ND (0.003)
Manganese	0.46
Mercury	ND (0.0002)

MW-4-02	4/17/03 UA:WT off-site	11/23/04 UA:WT off-site
Metals		
Arsenic	0.007 J	-
Cadmium	0.0003 J	-
Lead	ND (0.003)	-
Manganese	0.44	0.24
Mercury	0.0004	-

MW-27-04	3/29/04 UA:WT on-site
Metals	
Arsenic	ND (0.01)
Cadmium	ND (0.005)
Lead	ND (0.003)
Manganese	0.18
Mercury	ND (0.0002)

MW-29-04	3/29/04 UA:WT on-site
Metals	
Arsenic	ND (0.01)ND (0.01)
Cadmium	ND (0.005)ND (0.005)
Lead	ND (0.003)ND (0.003)
Manganese	ND (0.015)ND (0.015)
Mercury	ND (0.0002)ND (0.0002)

B-305	7/16/02 UA:WT on-site	4/1/03 UA:WT on-site
Metals		
Arsenic	ND (0.01)	ND (0.01)
Cadmium	ND (0.005)	ND (0.005)
Lead	ND (0.003)	ND (0.003)
Manganese	0.17	0.051
Mercury	ND (0.0002)	ND (0.0002)

HD-14	7/16/02 UA:TT on-site	3/26/03 UA:TT on-site
Metals		
Arsenic	ND (0.01)ND (0.01)	ND (0.01)
Arsenic (Dissolved)	ND (0.01)ND (0.01)	0.002 J
Cadmium	0.0003 JND (0.005)	ND (0.005)
Cadmium (Dissolved)	ND (0.005)ND (0.005)	ND (0.005)
Lead	ND (0.003)ND (0.003)	ND (0.003)
Lead (Dissolved)	ND (0.003)ND (0.003)	ND (0.003)
Manganese	ND (0.015)ND (0.015)	0.001 J
Manganese (Dissolved)	ND (0.015)ND (0.015)	0.001 J
Mercury	ND (0.0002)ND (0.0002)	ND (0.0002)
Mercury (Dissolved)	ND (0.0002)ND (0.0002)	ND (0.0002)

Chemical Name	A	B (On Site)	B (Off Site)	C
VOCs				
1,1-Dichloroethene	7.00E-03	2.44E+02	2.42E+02	1.25E+02
Benzene	5.00E-03	6.41E+00	6.19E+00	4.88E+00
cis-1,2-Dichloroethene	7.00E-02	8.38E+01	8.09E+01	2.29E+01
Methylene chloride	5.00E-03	1.27E+02	1.18E+02	8.94E+01
Tetrachloroethene	5.00E-03	1.49E+01	1.47E+01	1.41E+01
Trichloroethene	5.00E-03	2.73E+01	2.67E+01	2.68E+01
Vinyl chloride	2.00E-03	3.29E+00	3.25E+00	2.02E+00
SVOCs				
Benzo(a)anthracene	1.17E-03	1.43E+02	1.10E+02	6.17E-02
Benzo(a)pyrene	2.00E-04	4.20E+01	3.24E+01	4.35E-03
Benzo(b)fluoranthene	1.17E-03	7.70E+00	6.72E+00	3.71E-02
bis(2-Ethylhexyl)phthalate	6.00E-03	1.00E+05	7.69E+04	1.82E+00
Dibenz(a,h)anthracene	1.17E-04	2.81E+03	2.08E+03	2.78E-03
PCBs				
Total PCBs	5.00E-04	2.52E-01	2.43E-01	9.35E-03
Total PCBs (Dissolved)	5.00E-04	2.52E-01	2.43E-01	9.35E-03
Metals				
Arsenic	1.00E-02	-	-	1.44E+01
Arsenic (Dissolved)	1.00E-02	-	-	1.44E+01
Cadmium	5.00E-03	-	-	1.80E+01
Cadmium (Dissolved)	5.00E-03	-	-	1.80E+01
Lead	1.50E-02	-	-	7.40E+01
Lead (Dissolved)	1.50E-02	-	-	7.40E+01
Manganese	5.11E+00	-	-	5.96E+03
Manganese (Dissolved)	5.11E+00	-	-	5.96E+03
Mercury	2.00E-03	8.33E-01	8.19E-01	2.88E-01
Mercury (Dissolved)	2.00E-03	8.33E-01	8.19E-01	2.88E-01

A Drinking Water (DW)
B Onsite / Offsite Routine Worker (RW) Risk-Based GW Volatilization to Indoor Air
C Risk-Based Routine Construction Worker (Const) GW Contact Criteria

NOTES:
1. SCREENING CRITERIA AND SAMPLE RESULTS ARE COMPARED TO TWO SIGNIFICANT DIGITS. RESULTS EQUAL TO SCREENING CRITERIA ARE NOT HIGHLIGHTED AS EXCEEDANCES.
2. PARAMETERS THAT DO NOT APPEAR IN THE DATABOX FOR A PARTICULAR SAMPLE WERE NOT ANALYZED.

MW-15-03	4/29/03 UA:WT on-site
Metals	
Arsenic	0.003 J(ND (0.01)
Cadmium	ND (0.005)ND (0.005)
Lead	ND (0.003)ND (0.003)
Manganese	0.77/0.79
Mercury	ND (0.0002)ND (0.0002)

MW-14A-03	4/18/03 UA:WT on-site
Metals	
Arsenic	0.004 J
Cadmium	0.003 J
Lead	ND (0.003)
Manganese	1.5
Mercury	ND (0.0002)

HD-13	7/11/02 UA:TT on-site	3/19/03 UA:TT on-site
Metals		
Arsenic	0.002 J	ND (0.01)
Arsenic (Dissolved)	0.004 J	ND (0.01)
Cadmium	ND (0.005)	ND (0.005)
Cadmium (Dissolved)	ND (0.005)	ND (0.005)
Lead	0.003	ND (0.003)
Lead (Dissolved)	ND (0.003)	ND (0.003)
Manganese	0.018	0.017
Manganese (Dissolved)	0.003 J	0.002 J
Mercury	ND (0.0002)	ND (0.0002)
Mercury (Dissolved)	ND (0.0002)	ND (0.0002)

MW-22-04	3/25/04 UA:WT on-site
Metals	
Arsenic	ND (0.01)
Cadmium	ND (0.005)
Lead	ND (0.003)
Manganese	ND (0.015)
Mercury	ND (0.0002)

B-SA21	7/17/02 UA:WT on-site	3/20/03 UA:WT on-site
Metals		
Arsenic	ND (0.01)ND (0.01)	ND (0.01)ND (0.01)
Cadmium	0.007 (A)0.007 (A)	0.004 J/0.004 J
Lead	ND (0.003)ND (0.003)	ND (0.003)ND (0.003)
Manganese	0.13/0.13	0.17/0.17
Mercury	ND (0.0002)ND (0.0002)	ND (0.0002)ND (0.0002)

MW-33-04	12/8/04 LA on-site
Metals	
Arsenic	0.008 J/0.009 J
Cadmium	ND (0.005)ND (0.005)
Lead	ND (0.003)ND (0.003)
Manganese	0.049/0.043
Mercury	ND (0.0002)ND (0.0002)

MW-10-03	3/20/03 UA:WT on-site	11/17/04 UA:WT on-site
Metals		
Arsenic	ND (0.01)	-
Cadmium	ND (0.005)	-
Lead	ND (0.003)	-
Manganese	0.009 J	0.013 J
Mercury	ND (0.0002)	-

MW-13A-03	4/16/03 UA:WT on-site
Metals	
Arsenic	ND (0.01)
Cadmium	ND (0.005)
Lead	ND (0.003)
Manganese	0.031
Mercury	ND (0.0002)

MW-13B-03	4/17/03 UA:TT on-site
Metals	
Arsenic	0.003 J
Cadmium	ND (0.005)
Lead	ND (0.003)
Manganese	0.06
Mercury	ND (0.0002)

MW-3-02	4/18/03 UA:WT on-site
Metals	
Arsenic	ND (0.01)
Cadmium	0.0003 J
Lead	ND (0.003)
Manganese	0.13
Mercury	ND (0.0002)

MW-30-04	3/29/04 UA:WT on-site
Metals	
Arsenic	ND (0.01)
Cadmium	ND (0.005)
Lead	ND (0.003)
Manganese	0.24
Mercury	ND (0.0002)

B-306	7/16/02 UA:WT on-site
Metals	
Arsenic	ND (0.01)
Cadmium	ND (0.005)
Lead	ND (0.003)
Manganese	0.31
Mercury	ND (0.0002)

MW-31-04	3/31/04 UA:WT on-site
Metals	
Arsenic	ND (0.01)
Cadmium	ND (0.005)
Lead	ND (0.003)
Manganese	0.18
Mercury	ND (0.0002)

B-304	7/16/02 UA:WT on-site	3/31/03 UA:WT on-site
Metals		
Arsenic	ND (0.01)	ND (0.01)
Cadmium	ND (0.005)	ND (0.005)
Lead	ND (0.003)	ND (0.003)
Manganese	0.33	0.29
Mercury	ND (0.0002)	ND (0.0002)

DAY-15	7/10/02 UA:WT off-site	4/2/03 UA:WT off-site
Metals		
Arsenic	0.004 J	ND (0.01)
Cadmium	ND (0.005)	ND (0.005)
Lead	ND (0.003)	ND (0.003)
Manganese	0.053	0.14
Mercury	ND (0.0002)	ND (0.0002)

DAY-18	7/10/02 UA:WT off-site	4/2/03 UA:WT off-site
Metals		
Arsenic	ND (0.01)	ND (0.01)
Cadmium	0.0003 J	ND (0.005)
Lead	ND (0.003)	ND (0.003)
Manganese	ND (0.015)	ND (0.015)
Mercury	ND (0.0002)	ND (0.0002)

HD-12	7/17/02 UA:TT on-site	3/25/03 UA:TT on-site
Metals		
Arsenic	ND (0.01)	ND (0.01)
Arsenic (Dissolved)	ND (0.01)	0.002 J
Cadmium	ND (0.005)	ND (0.005)
Cadmium (Dissolved)	ND (0.005)	ND (0.005)
Lead	ND (0.003)	ND (0.003)
Lead (Dissolved)	ND (0.003)	ND (0.003)
Manganese	0.031	0.036
Manganese (Dissolved)	0.019	0.013 J
Mercury	ND (0.0002)	ND (0.0002)
Mercury (Dissolved)	ND (0.0002)	ND (0.0002)

DAY-21	7/17/02 UA:WT off-site	4/8/03 UA:WT off-site
Metals		
Arsenic	ND (0.01)	ND (0.01)
Cadmium	ND (0.005)	ND (0.005)
Lead	ND (0.003)	0.002 J
Manganese	0.005 J	0.023
Mercury	ND (0.0002)	ND (0.0002)

DAY-19	7/10/02 UA:WT off-site	4/3/03 UA:WT off-site
Metals		
Arsenic	ND (0.01)	ND (0.01)
Cadmium	ND (0.005)	ND (0.005)
Lead	ND (0.003)	ND (0.003)
Manganese	0.032	0.028
Mercury	ND (0.0002)	ND (0.0002)

HD-16	7/8/02 UA:TT off-site	3/28/03 UA:TT off-site
Metals		
Arsenic	0.004 J	ND (0.01)
Arsenic (Dissolved)	ND (0.01)	ND (0.01)
Cadmium	ND (0.005)	ND (0.005)
Cadmium (Dissolved)	ND (0.005)	ND (0.005)
Lead	ND (0.003)	ND (0.003)
Lead (Dissolved)	ND (0.003)	ND (0.003)
Manganese	ND (0.015)	ND (0.015)
Manganese (Dissolved)	ND (0.015)	ND (0.015)
Mercury	ND (0.0002)	ND (0.0002)
Mercury (Dissolved)	ND (0.0002)	ND (0.0002)

DAY-23	12/28/04 TR off-site
Metals	
Arsenic	ND (0.005)
Cadmium	ND (0.001)
Lead	ND (0.001)
Mercury	ND (0.0002)

HD-17	7/11/02 UA:TT on-site	3/19/03 UA:TT on-site
Metals		
Arsenic	ND (0.01)	ND (0.01)
Arsenic (Dissolved)	ND (0.01)	ND (0.01)
Cadmium	ND (0.005)	ND (0.005)
Cadmium (Dissolved)	ND (0.005)	ND (0.005)
Lead	ND (0.003)	ND (0.003)
Lead (Dissolved)	ND (0.003)	ND (0.003)
Manganese	0.12	0.1
Manganese (Dissolved)	0.12	0.092
Mercury	ND (0.0002)	ND (0.0002)
Mercury (Dissolved)	ND (0.0002)	ND (0.0002)

HD-15	7/8/02 UA:TT off-site	3/27/03 UA:TT off-site
Metals		
Arsenic	ND (0.01)	ND (0.01)
Arsenic (Dissolved)	ND (0.01)	ND (0.01)
Cadmium	ND (0.005)	ND (0.005)
Cadmium (Dissolved)	ND (0.005)	ND (0.005)
Lead	ND (0.003)	ND (0.003)
Lead (Dissolved)	ND (0.003)	ND (0.003)
Manganese	0.098	0.089
Manganese (Dissolved)	0.088	0.088
Mercury	ND (0.0002)	ND (0.0002)
Mercury (Dissolved)	ND (0.0002)	ND (0.0002)

DAY-22	12/28/04 LA off-site
Metals	
Arsenic	ND (0.005)
Cadmium	ND (0.001)
Lead	ND (0.001)
Mercury	ND (0.0002)

DAY-14	7/8/02 UA:TT off-site	4/7/03 UA:TT off-site
Metals		
Arsenic	ND (0.01)	ND (0.01)
Cadmium	ND (0.005)	ND (0.005)
Lead	ND (0.003)	ND (0.003)
Manganese	0.035	0.033
Mercury	ND (0.0002)	ND (0.0002)

HD-2	7/9/02 UA:O off-site	3/27/03 UA:O off-site
Metals		
Arsenic	ND (0.01)	ND (0.01)
Arsenic (Dissolved)	ND (0.01)	ND (0.01)
Cadmium	0.0003 J	0.0004 J
Cadmium (Dissolved)	ND (0.005)	ND (0.005)
Lead	ND (0.003)	ND (0.003)
Lead (Dissolved)	ND (0.003)	ND (0.003)
Manganese	0.19	0.85
Manganese (Dissolved)	0.027	0.039
Mercury	ND (0.0002)	ND (0.0002)
Mercury (Dissolved)	ND (0.0002)	ND (0.0002)

DAY-20	7/9/02 UA:WT off-site	4/7/03 UA:WT off-site	11/8/04 UA:WT off-site
Metals			
Arsenic	ND (0.01)	ND (0.01)	-
Cadmium	ND (0.005)	ND (0.005)	-
Lead	ND (0.003)	ND (0.003)	-
Manganese	0.008 J	0.027	0.3
Mercury	ND (0.0002)	ND (0.0002)	-

DAY-27	3/29/04 UA:WT on-site
Metals	
Arsenic	ND (0.01)
Cadmium	ND (0.005)
Lead	ND (0.003)
Manganese	0.053
Mercury	ND (0.0002)

DAY-04	7/2/02 UA:WT off-site	4/1/03 UA:WT off-site
Metals		
Arsenic	ND (0.01)	ND (0.01)
Cadmium	ND (0.005)	ND (0.005)
Lead	ND (0.003)	ND (0.003)
Manganese	0.005 J	0.012 J
Mercury	ND (0.0002)	ND (0.0002)

MW-35-05	12/28/04 TR off-site
Metals	
Arsenic	ND (0.005)
Cadmium	ND (0.001)
Lead	ND (0.001)
Mercury	ND (0.0002)

MW-37-05	12/28/04 TR off-site
Metals	
Arsenic	ND (0.005)
Cadmium	ND (0.001)
Lead	ND (0.001)
Mercury	ND (0.0002)

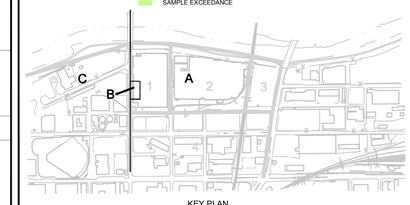
MW-38-05	12/28/04 TR off-site
Metals	
Arsenic	ND (0.005)
Cadmium	ND (0.001)
Lead	ND (0.001)
Mercury	ND (0.0002)

LEGEND
- BUILDING WALL
- BUILDING BOUNDARY
- FORMER BUILDING WALL
- SHORELINE
- RAILROAD
- SOIL PRESENTATION AREA BOUNDARY
- SOIL BORING LOCATION
- MONITORING WELL LOCATION
- WIPE/CONCRETE CORE SAMPLE LOCATION
- OZONE SPARGE WELL LOCATION
- INJECTION BORING FOR HRC BARRIER
- BASEMENT SUMP LOCATION
- PROCESS SEWER MANHOLE LOCATION
- STORM SEWER MANHOLE LOCATION
- STORM SEWER INTERCEPTOR LOCATION
- PROCESS SEWER LINE
- STORM SEWER LINE
- AOI 1 - SOLVENT RELEASE AREA
- AOI 2 - STILL ROOM
- AOI 3 - WASTE TANKS
- AOI 4 - HAZARDOUS WASTE STAGING AND STORING AREAS
  - ON UPPER FLOOR
- AOI 5 - ELECTROPLATING
- AOI 6 - SPILL INTERCEPTORS
- AOI 7 - SOLVENT STORAGE TANK
- AOI 8 - DEGREASING UNITS:
  - STODDARD SOLVENT
  - TCE/PCE/TCA SOLVENT
  - FREON SOLVENT
  - ON UPPER FLOOR
- AOI 9 - SATELLITE CLEANING AREA (VARIOUS LOCATIONS THROUGHOUT SITE)
- AOI 10 - PAINT WASTE ACCUMULATION AREAS
- AOI 11 - CHIP HANDLING AREAS
- AOI 12 - CUTTING OIL USTS
- AOI 13 - OIL HOUSE
- AOI 14 - HYDRAULIC OIL AND COOLANT UST'S
- AOI 15 - HYDRAULIC OIL UST
- AOI 16 - FUEL UST'S
- AOI 17 - REFRIGERANT UST'S
- AOI 18 - STORM SEWERS (VARIOUS LOCATIONS THROUGHOUT SITE)
- AOI 19 - PROCESS SEWERS (VARIOUS LOCATIONS THROUGHOUT SITE)
- AOI 20 - PCB RELEASES FROM ELECTRICAL EQUIPMENT
- AOI 21 - HYDROMATION PIT
- AOI 22 - INCINERATOR
- AOI 23 - UST'S AND FORMER STILL
- AOI 24 - FORMER MACHINE GUN TESTING AREA
- AOI 25 - HYDROCHLORIC ACID SPILLS
- AOI 26 - PCB RELEASES FORM PROCESS EQUIPMENT:
  - PROCESS DUCT
  - No.2 VAIL MACHINE
  - TOOL GRIND ROOM
  - GEAR BOX
- AOI 27 - BATTERY CHARGING STATION (A SECOND STATION MAY HAVE BEEN LOCATED IN BLDG. 5)
- AOI 28 - FORMER MIAMI CANAL EXTENSION
- AOI 29 - BUILDING 12 STILL
- AOI 30 - EXPERIMENTAL AIR CONDITIONING
- AOI 31 - BUILDING 1 SPRAY BOOTHS
- AOI 32 - BUILDING 3 TRANSFORMER (GROUND LEVEL)
- AOI 33 - PAINT AND ENAMEL STORAGE
- AOI 34 - PARTS GRINDING
- AOI 35 - STORAGE TANKS

SAMPLE LOCATION
MW-27-04 | 3/29/04 | UA:WT | on-site
SAMPLE DATE
WELL CODE
ON-SITE/OFF-SITE INDICATOR
Metals | Arsenic ND (0.01) | Cadmium ND (0.005) | Lead ND (0.003) | Manganese 0.18 | Mercury ND (0.0002)
CONCENTRATION (mg/L)
PARAMETER

UA - UPPER AQUIFER
LA - LOWER AQUIFER
TR - TILL-RICH ZONE
WT - WATER TABLE
O - OTHER
TT - TOP OF TILL
BT - BELOW TILL

SAMPLE EXCEEDANCE



KEY PLAN

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY

Dayton, Ohio

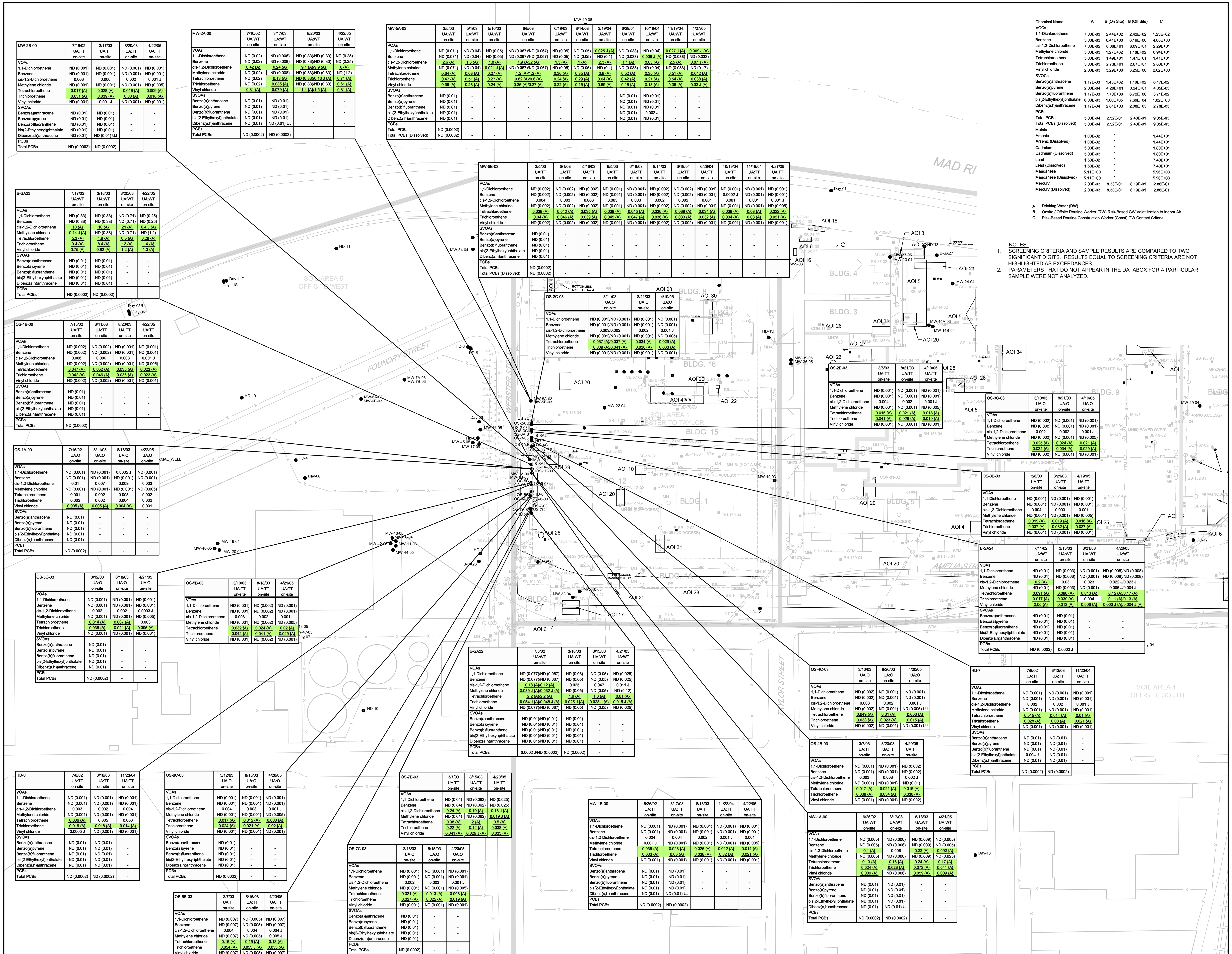
GROUNDWATER ANALYTICAL DATA AREA A - INORGANICS

CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

Project Manager:	Reviewed By:	Date:	
IKR	SE	MARCH 2006	
Scale: 1"=80'	Project No.: 12638-04	Report No.: 011	Drawing No.: 4.4A(ii)

12638-04(011)GN-WA055 MAR 29/2006



MW-2B-00	7/16/02 UA:TT on-site	3/17/03 UA:TT on-site	8/20/03 UA:TT on-site	4/22/05 UA:TT on-site
VOAs				
1,1-Dichloroethene	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Benzene	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
cis-1,2-Dichloroethene	0.003	0.006	0.002	0.001 J
Methylene chloride	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)
Tetrachloroethene	0.017 {A}	0.028 {A}	0.016 {A}	0.009 {A}
Trichloroethene	0.031 {A}	0.039 {A}	0.03 {A}	0.018 {A}
Vinyl chloride	ND (0.001)	0.001 J	ND (0.001)	ND (0.001)
SVOAs				
Benzo(a)anthracene	ND (0.01)	ND (0.01)	-	-
Benzo(a)pyrene	ND (0.01)	ND (0.01)	-	-
Benzo(b)fluoranthene	ND (0.01)	ND (0.01)	-	-
bis(2-Ethylhexyl)phthalate	ND (0.01)	ND (0.01)	-	-
Dibenz(a,h)anthracene	ND (0.01)	ND (0.01) UJ	-	-
PCBs				
Total PCBs	ND (0.0002)	ND (0.0002)	-	-

MW-2A-00	7/16/02 UA:WT on-site	3/17/03 UA:WT on-site	8/20/03 UA:WT on-site	4/22/05 UA:WT on-site
VOAs				
1,1-Dichloroethene	ND (0.02)	ND (0.008)	ND (0.33)/ND (0.33)	ND (0.25)
Benzene	ND (0.02)	ND (0.008)	ND (0.33)/ND (0.33)	ND (0.25)
cis-1,2-Dichloroethene	0.42 {A}	0.24 {A}	9.1 {A}/9.9 {A}	6 {A}
Methylene chloride	ND (0.02)	ND (0.008)	ND (0.33)/ND (0.33)	ND (1.2)
Tetrachloroethene	ND (0.02)	0.13 {A}	ND (0.33)/0.16 J {A}	0.71 {A}
Trichloroethene	ND (0.02)	0.035 {A}	ND (0.33)/ND (0.33)	0.61 {A}
Vinyl chloride	0.31 {A}	0.079 {A}	1.4 {A}/1.5 {A}	0.31 {A}
SVOAs				
Benzo(a)anthracene	ND (0.01)	ND (0.01)	-	-
Benzo(a)pyrene	ND (0.01)	ND (0.01)	-	-
Benzo(b)fluoranthene	ND (0.01)	ND (0.01)	-	-
bis(2-Ethylhexyl)phthalate	ND (0.01)	ND (0.01)	-	-
Dibenz(a,h)anthracene	ND (0.01)	ND (0.01) UJ	-	-
PCBs				
Total PCBs	ND (0.0002)	ND (0.0002)	-	-

MW-49-06

MW-5A-03	3/5/03 UA:WT on-site	5/1/03 UA:WT on-site	5/16/03 UA:WT on-site	6/5/03 UA:WT on-site	6/19/03 UA:WT on-site	8/14/03 UA:WT on-site	3/19/04 UA:WT on-site	6/29/04 UA:WT on-site	10/19/04 UA:WT on-site	11/19/04 UA:WT on-site	4/27/05 UA:WT on-site
VOAs											
1,1-Dichloroethene	ND (0.071)	ND (0.04)	ND (0.05)	ND (0.067)/ND (0.067)	ND (0.05)	ND (0.05)	0.025 J {A}	ND (0.033)	ND (0.04)	0.027 J {A}	0.009 J {A}
Benzene	ND (0.071)	ND (0.04)	ND (0.05)	ND (0.067)/ND (0.067)	ND (0.05)	ND (0.05)	ND (0.1)	ND (0.033)	0.009 J {A}	ND (0.083)	ND (0.033)
cis-1,2-Dichloroethene	2.6 {A}	1.3 {A}	1.8 {A}	1.9 {A}/2 {A}	1.5 {A}	1 {A}	2.3 {A}	1.1 {A}	0.83 {A}	2.5 {A}	0.87 J {A}
Methylene chloride	ND (0.071)	ND (0.04)	0.021 J {A}	ND (0.067)/ND (0.067)	ND (0.05)	ND (0.05)	ND (0.1)	ND (0.033)	ND (0.04)	ND (0.083)	ND (0.17)
Tetrachloroethene	0.64 {A}	0.63 {A}	0.27 {A}	1.2 {A}/1.2 {A}	0.36 {A}	0.35 {A}	0.8 {A}	0.52 {A}	0.35 {A}	0.51 {A}	0.042 {A}
Trichloroethene	0.47 {A}	0.51 {A}	0.27 {A}	0.82 {A}/0.8 {A}	0.24 {A}	0.29 {A}	0.64 {A}	0.42 {A}	0.27 {A}	0.54 {A}	0.038 {A}
Vinyl chloride	0.39 {A}	0.28 {A}	0.24 {A}	0.26 {A}/0.27 {A}	0.22 {A}	0.15 {A}	0.69 {A}	0.16 {A}	0.13 {A}	0.36 {A}	0.33 J {A}
SVOAs											
Benzo(a)anthracene	ND (0.01)	-	-	-	-	-	-	ND (0.01)	ND (0.01)	-	-
Benzo(a)pyrene	ND (0.01)	-	-	-	-	-	-	ND (0.01)	ND (0.01)	-	-
Benzo(b)fluoranthene	ND (0.01)	-	-	-	-	-	-	ND (0.01)	ND (0.01)	-	-
bis(2-Ethylhexyl)phthalate	ND (0.01)	-	-	-	-	-	-	ND (0.01)	0.002 J	-	-
Dibenz(a,h)anthracene	ND (0.01)	-	-	-	-	-	-	ND (0.01)	ND (0.01)	-	-
PCBs											
Total PCBs	ND (0.0002)	-	-	-	-	-	-	-	-	-	-
Total PCBs (Dissolved)	ND (0.0002)	-	-	-	-	-	-	-	-	-	-

MW-5B-03	3/5/03 UA:TT on-site	5/1/03 UA:TT on-site	5/16/03 UA:TT on-site	6/5/03 UA:TT on-site	6/19/03 UA:TT on-site	8/14/03 UA:TT on-site	3/19/04 UA:TT on-site	6/29/04 UA:TT on-site	10/19/04 UA:TT on-site	11/19/04 UA:TT on-site	4/27/05 UA:TT on-site
VOAs											
1,1-Dichloroethene	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.001)	ND (0.001)	ND (0.002)	ND (0.002)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Benzene	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.001)	ND (0.001)	ND (0.002)	ND (0.002)	ND (0.001)	0.0002 J	ND (0.001)	ND (0.001)
cis-1,2-Dichloroethene	0.004	0.003	0.003	0.003	0.003	0.002	0.002	0.001	0.001	0.001	0.001 J
Methylene chloride	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.001)	ND (0.001)	ND (0.002)	ND (0.002)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)
Tetrachloroethene	0.038 {A}	0.042 {A}	0.035 {A}	0.039 {A}	0.045 {A}	0.036 {A}	0.039 {A}	0.034 {A}	0.039 {A}	0.03 {A}	0.022 {A}
Trichloroethene	0.04 {A}	0.046 {A}	0.039 {A}	0.045 {A}	0.047 {A}	0.036 {A}	0.033 {A}	0.032 {A}	0.034 {A}	0.03 {A}	0.021 {A}
Vinyl chloride	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.001)	ND (0.001)	ND (0.002)	ND (0.002)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
SVOAs											
Benzo(a)anthracene	ND (0.01)	-	-	-	-	-	-	-	-	-	-
Benzo(a)pyrene	ND (0.01)	-	-	-	-	-	-	-	-	-	-
Benzo(b)fluoranthene	ND (0.01)	-	-	-	-	-	-	-	-	-	-
bis(2-Ethylhexyl)phthalate	ND (0.01)	-	-	-	-	-	-	-	-	-	-
Dibenz(a,h)anthracene	ND (0.01)	-	-	-	-	-	-	-	-	-	-
PCBs											
Total PCBs	ND (0.0002)	-	-	-	-	-	-	-	-	-	-
Total PCBs (Dissolved)	ND (0.0002)	-	-	-	-	-	-	-	-	-	-

B-SA23	7/17/02 UA:WT on-site	3/18/03 UA:WT on-site	8/20/03 UA:WT on-site	4/22/05 UA:WT on-site
VOAs				
1,1-Dichloroethene	ND (0.33)	ND (0.33)	ND (0.71)	ND (0.25)
Benzene	ND (0.33)	ND (0.33)	ND (0.71)	ND (0.25)
cis-1,2-Dichloroethene	10 {A}	10 {A}	21 {A}	6.4 J {A}
Methylene chloride	0.14 J {A}	ND (0.33)	ND (0.71)	ND (1.2)
Tetrachloroethene	5.3 {A}	4.9 {A}	6.5 {A}	0.29 {A}
Trichloroethene	9.4 {A}	8.4 {A}	12 {A}	1.4 {A}
Vinyl chloride	0.75 {A}	0.82 {A}	1.2 {A}	1.3 {A}
SVOAs				
Benzo(a)anthracene	ND (0.01)	ND (0.01)	-	-
Benzo(a)pyrene	ND (0.01)	ND (0.01)	-	-
Benzo(b)fluoranthene	ND (0.01)	ND (0.01)	-	-
bis(2-Ethylhexyl)phthalate	ND (0.01)	ND (0.01)	-	-
Dibenz(a,h)anthracene	ND (0.01)	ND (0.01)	-	-
PCBs				
Total PCBs	ND (0.0002)	ND (0.0002)	-	-

OS-1B-00	7/15/02 UA:TT on-site	3/11/03 UA:TT on-site	8/20/03 UA:TT on-site	4/22/05 UA:TT on-site
VOAs				
1,1-Dichloroethene	ND (0.002)	ND (0.002)	ND (0.001)	ND (0.001)
Benzene	ND (0.002)	ND (0.002)	ND (0.001)	ND (0.001)
cis-1,2-Dichloroethene	0.006	0.006	0.003	0.001 J
Methylene chloride	ND (0.002)	ND (0.002)	ND (0.001)	ND (0.005)
Tetrachloroethene	0.047 {A}	0.052 {A}	0.035 {A}	0.023 {A}
Trichloroethene	0.042 {A}	0.046 {A}	0.035 {A}	0.023 {A}
Vinyl chloride	ND (0.002)	ND (0.002)	ND (0.001)	ND (0.001)
SVOAs				
Benzo(a)anthracene	ND (0.01)	-	-	-
Benzo(a)pyrene	ND (0.01)	-	-	-
Benzo(b)fluoranthene	ND (0.01)	-	-	-
bis(2-Ethylhexyl)phthalate	ND (0.01)	-	-	-
Dibenz(a,h)anthracene	ND (0.01)	-	-	-
PCBs				
Total PCBs	ND (0.0002)	-	-	-

OS-1A-00	7/15/02 UA:O on-site	3/11/03 UA:O on-site	8/18/03 UA:O on-site	4/22/05 UA:O on-site
VOAs				
1,1-Dichloroethene	ND (0.001)	ND (0.001)	0.0005 J	ND (0.001)
Benzene	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
cis-1,2-Dichloroethene	0.01	0.007	0.009	0.003
Methylene chloride	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)
Tetrachloroethene	0.001	0.002	0.005	0.002
Trichloroethene	0.002	0.002	0.004	0.002
Vinyl chloride	0.005 {A}	0.005 {A}	0.004 {A}	0.001
SVOAs				
Benzo(a)anthracene	ND (0.01)	-	-	-
Benzo(a)pyrene	ND (0.01)	-	-	-
Benzo(b)fluoranthene	ND (0.01)	-	-	-
bis(2-Ethylhexyl)phthalate	ND (0.01)	-	-	-
Dibenz(a,h)anthracene	ND (0.01)	-	-	-
PCBs				
Total PCBs	ND (0.0002)	-	-	-

OS-5C-03	3/12/03 UA:O on-site	8/18/03 UA:O on-site	4/21/05 UA:O on-site
VOAs			
1,1-Dichloroethene	ND (0.001)	ND (0.001)	ND (0.001)
Benzene	ND (0.001)	ND (0.001)	ND (0.001)
cis-1,2-Dichloroethene	0.002	0.002	0.0003 J
Methylene chloride	ND (0.001)	ND (0.001)	ND (0.005)
Tetrachloroethene	0.014 {A}	0.007 {A}	0.003
Trichloroethene	0.035 {A}	0.021 {A}	0.006 {A}
Vinyl chloride	ND (0.001)	ND (0.001)	ND (0.001)
SVOAs			
Benzo(a)anthracene	ND (0.01)	-	-
Benzo(a)pyrene	ND (0.01)	-	-
Benzo(b)fluoranthene	ND (0.01)	-	-
bis(2-Ethylhexyl)phthalate	ND (0.01)	-	-
Dibenz(a,h)anthracene	ND (0.01)	-	-
PCBs			
Total PCBs	ND (0.0002)	-	-

OS-5B-03	3/10/03 UA:TT on-site	8/18/03 UA:TT on-site	4/21/05 UA:TT on-site
VOAs			
1,1-Dichloroethene	ND (0.001)	ND (0.002)	ND (0.001)
Benzene	ND (0.001)	ND (0.002)	ND (0.001)
cis-1,2-Dichloroethene	0.003	0.002	0.001 J
Methylene chloride	ND (0.001)	ND (0.002)	ND (0.005)
Tetrachloroethene	0.032 {A}	0.024 {A}	0.02 {A}
Trichloroethene	0.042 {A}	0.041 {A}	0.029 {A}
Vinyl chloride	ND (0.001)	ND (0.002)	ND (0.001)

OS-2C-03	3/11/03 UA:O on-site	8/21/03 UA:O on-site	4/19/05 UA:O on-site
VOAs			
1,1-Dichloroethene	ND (0.001)/ND (0.001)	ND (0.001)	ND (0.001)
Benzene	ND (0.001)/ND (0.001)	ND (0.001)	ND (0.001)
cis-1,2-Dichloroethene	0.003/0.002	0.002	0.001 J
Methylene chloride	ND (0.001)/ND (0.001)	ND (0.001)	ND (0.005)
Tetrachloroethene	0.037 {A}/0.037 {A}	0.034 {A}	0.029 {A}
Trichloroethene	0.039 {A}/0.041 {A}	0.038 {A}	0.033 {A}
Vinyl chloride	ND (0.001)/ND (0.001)	ND (0.001)	ND (0.001)

OS-2B-03	3/6/03 UA:TT on-site	8/21/03 UA:TT on-site	4/19/05 UA:TT on-site
VOAs			
1,1-Dichloroethene	ND (0.001)	ND (0.001)	ND (0.001)
Benzene	ND (0.001)	ND (0.001)	ND (0.001)
cis-1,2-Dichloroethene	0.004	0.002	0.001 J
Methylene chloride	ND (0.001)	ND (0.001)	ND (0.005)
Tetrachloroethene	0.015 {A}	0.021 {A}	0.018 {A}
Trichloroethene	0.041 {A}	0.029 {A}	0.019 {A}
Vinyl chloride	ND (0.001)	ND (0.001)	ND (0.001)

OS-3C-03	3/10/03 UA:O on-site	8/21/03 UA:O on-site	4/19/05 UA:O on-site
VOAs			
1,1-Dichloroethene	ND (0.002)	ND (0.001)	ND (0.001)
Benzene	ND (0.002)	ND (0.001)	ND (0.001)
cis-1,2-Dichloroethene	0.002	0.002	0.001 J
Methylene chloride	ND (0.002)	ND (0.001)	ND (0.005)
Tetrachloroethene	0.025 {A}	0.024 {A}	0.021 {A}
Trichloroethene	0.034 {A}	0.034 {A}	0.029 {A}
Vinyl chloride	ND (0.002)	ND (0.001)	ND (0.001)

OS-3B-03	3/6/03 UA:TT on-site	8/21/03 UA:TT on-site	4/19/05 UA:TT on-site
VOAs			
1,1-Dichloroethene	ND (0.001)	ND (0.001)	ND (0.001)
Benzene	ND (0.001)	ND (0.001)	ND (0.001)
cis-1,2-Dichloroethene	0.004	0.003	0.001
Methylene chloride	ND (0.001)	ND (0.001)	ND (0.005)
Tetrachloroethene	0.019 {A}	0.019 {A}	0.016 {A}
Trichloroethene	0.037 {A}	0.032 {A}	0.027 {A}
Vinyl chloride	ND (0.001)	ND (0.001)	ND (0.001)

B-SA24	7/11/02 UA:WT on-site	3/13/03 UA:WT on-site	8/21/03 UA:WT on-site	4/20/05 UA:WT on-site
VOAs				
1,1-Dichloroethene	ND (0.01)	ND (0.003)	ND (0.001)	ND (0.008)/ND (0.008)
Benzene	ND (0.01)	ND (0.003)	ND (0.001)	ND (0.008)/ND (0.008)
cis-1,2-Dichloroethene	0.2 {A}	0.03	0.023	0.022 J/0.023 J
Methylene chloride	ND (0.01)	ND (0.003)	ND (0.001)	0.005 J/0.004 J
Tetrachloroethene	0.091 {A}	0.088 {A}	0.013 {A}	0.15 {A}/0.17 {A}
Trichloroethene	0.017 {A}	0.039 {A}	0.004	0.11 {A}/0.13 {A}
Vinyl chloride	0.05 {A}	0.013 {A}	0.006 {A}	0.003 J {A}/0.004 J {A}
SVOAs				
Benzo(a)anthracene	ND (0.01)	ND (0.01)	-	-
Benzo(a)pyrene	ND (0.01)	ND (0.01)	-	-
Benzo(b)fluoranthene	ND (0.01)	ND (0.01)	-	-
bis(2-Ethylhexyl)phthalate	ND (0.01)	ND (0.01)	-	-
Dibenz(a,h)anthracene	ND (0.01)	ND (0.01)	-	-
PCBs				
Total PCBs	ND (0.0002)	0.0002 J	-	-

B-SA22	7/8/02 UA:WT on-site	3/18/03 UA:WT on-site	8/15/03 UA:WT on-site	4/21/05 UA:WT on-site
VOAs				
1,1-Dichloroethene	ND (0.077)/ND (0.067)	ND (0.05)	ND (0.05)	ND (0.025)
Benzene	ND (0.077)/ND (0.067)	ND (0.05)	ND (0.05)	ND (0.025)
cis-1,2-Dichloroethene	0.13 {A}/0.12 {A}	0.025	0.047	0.011 J
Methylene chloride	0.039 J {A}/0.032 J {A}	ND (0.05)	ND (0.05)	ND (0.12)
Tetrachloroethene	2.2 {A}/2.2 {A}	1.6 {A}	1.3 {A}	0.81 {A}
Trichloroethene	0.054 J {A}/0.048 J {A}	0.025 J {A}	0.023 J {A}	0.015 J {A}
Vinyl chloride	ND (0.077)/ND (0.067)	ND (0.05)	ND (0.05)	ND (0.025)
SVOAs				
Benzo(a)anthracene	ND (0.01)/ND (0.01)	ND (0.01)	-	-
Benzo(a)pyrene	ND (0.01)/ND (0.01)	ND (0.01)	-	-
Benzo(b)fluoranthene	ND (0.01)/ND (0.01)	ND (0.01)	-	-
bis(2-Ethylhexyl)phthalate	ND (0.01)/ND (0.01)	ND (0.01)	-	-
Dibenz(a,h)anthracene	ND (0.01)/ND (0.01)	ND (0.01)	-	-
PCBs				
Total PCBs	0.0002 J/ND (0.0002)	ND (0.0002)	-	-

OS-4C-03	3/10/03 UA:O on-site	8/20/03 UA:O on-site	4/20/05 UA:O on-site
VOAs			
1,1-Dichloroethene	ND (0.002)	ND (0.001)	ND (0.001)
Benzene	ND (0.002)	ND (0.001)	ND (0.001)
cis-1,2-Dichloroethene	0.003	0.002	0.001 J
Methylene chloride	ND (0.002)	ND (0.001)	ND (0.005) UJ
Tetrachloroethene	0.049 {A}	0.01 {A}	0.006 {A}
Trichloroethene	0.033 {A}	0.023 {A}	0.015 {A}
Vinyl chloride	ND (0.002)	ND (0.001)	ND (0.001) UJ

HD-7	7/8/02 UA:TT on-site	3/13/03 UA:TT on-site	11/23/04 UA:TT on-site
VOAs			
1,1-Dichloroethene	ND (0.001)	ND (0.001)	ND (0.001)
Benzene	ND (0.001)	ND (0.001)	ND (0.001)
cis-1,2-Dichloroethene	0.002	0.002	0.001 J
Methylene chloride	ND (0.001)	ND (0.001)	ND (0.001)
Tetrachloroethene	0.015 {A}	0.014 {A}	0.01 {A}
Trichloroethene	0.028 {A}	0.03 {A}	0.021 {A}
Vinyl chloride	ND (0.001)	ND (0.001)	ND (0.001)
SVOAs			
Benzo(a)anthracene	ND (0.01)	ND (0.01)	-
Benzo(a)pyrene	ND (0.01)	ND (0.01)	-
Benzo(b)fluoranthene	ND (0.01)	ND (0.01)	-
bis(2-Ethylhexyl)phthalate	0.004 J	ND (0.01)	-
Dibenz(a,h)anthracene	ND (0.01)	ND (0.01)	-
PCBs			
Total PCBs	ND (0.0002)	ND (0.0002)	-

OS-4B-03	3/7/03 UA:TT on-site	8/20/03 UA:TT on-site	4/20/05 UA:TT on-site
VOAs			
1,1-Dichloroethene	ND (0.001)	ND (0.001)	ND (0.002)
Benzene	ND (0.001)	ND (0.001)	ND (0.002)
cis-1,2-Dichloroethene	0.003	0.003	0.002 J
Methylene chloride	ND (0.001)	ND (0.001)	ND (0.01)
Tetrachloroethene	0.017 {A}	0.021 {A}	0.016 {A}
Trichloroethene	0.038 {A}	0.034 {A}	0.038 {A}
Vinyl chloride	ND (0.001)	ND (0.001)	ND (0.002)

HD-6	7/8/02 UA:TT on-site	3/18/03 UA:TT on-site	11/23/04 UA:TT on-site
VOAs			
1,1-Dichloroethene	ND (0.001)	ND (0.001)	ND (0.001)
Benzene	ND (0.001)	ND (0.001)	ND (0.001)
cis-1,2-Dichloroethene	0.003	0.002	0.004
Methylene chloride	ND (0.001)	ND (0.001)	ND (0.001)
Tetrachloroethene	0.006 {A}	0.005	0.003
Trichloroethene	0.016 {A}	0.018 {A}	0.014 {A}
Vinyl chloride	0.0005 J	ND (0.001)	ND (0.001)
SVOAs			
Benzo(a)anthracene	ND (0.01)	ND (0.01)	-
Benzo(a)pyrene	ND (0.01)	ND (0.01)	-
Benzo(b)fluoranthene	ND (0.01)	ND (0.01)	-
bis(2-Ethylhexyl)phthalate	ND (0.01)	ND (0.01)	-
Dibenz(a,h)anthracene	ND (0.01)	ND (0.01)	-
PCBs			
Total PCBs	ND (0.0002)	ND (0.0002)	-

OS-6C-03	3/12/03 UA:O on-site	8/15/03 UA:O on-site	4/20/05 UA:O on-site
VOAs			
1,1-Dichloroethene	ND (0.001)	ND (0.001)	ND (0.001)
Benzene	ND (0.001)	ND (0.001)	ND (0.001)
cis-1,2-Dichloroethene	0.004	0.003	0.001 J
Methylene chloride	ND (0.001)	ND (0.001)	ND (0.005)
Tetrachloroethene	0.017 {A}	0.012 {A}	0.008 {A}
Trichloroethene	0.024 {A}	0.021 {A}	0.02 {A}
Vinyl chloride	ND (0.001)	ND (0.001)	ND (0.001)
SVOAs			
Benzo(a)anthracene	ND (0.01)	-	-
Benzo(a)pyrene	ND (0.01)	-	-
Benzo(b)fluoranthene	ND (0.01)	-	-
bis(2-Ethylhexyl)phthalate	ND (0.01)	-	-
Dibenz(a,h)anthracene	ND (0.01)	-	-
PCBs			
Total PCBs	ND (0.0002)	-	-

OS-6B-03	3/7/03 UA:TT on-site	8/15/03 UA:TT on-site	4/20/05 UA:TT on-site
VOAs			
1,1-Dichloroethene	ND (0.007)	ND (0.005)	ND (0.007)
Benzene	ND (0.007)	ND (0.005)	ND (0.007)
cis-1,2-Dichloroethene	0.004	0.004	0.004 J
Methylene chloride	ND (0.007)	ND (0.005)	0.005 J
Tetrachloroethene	0.16 {A}	0.15 {A}	0.13 {A}
Trichloroethene	0.054 {A}	0.053 J {A}	0.053 {A}
Vinyl chloride	ND (0.007)	ND (0.005)	ND (0.007)

OS-7B-03	3/7/03 UA:TT on-site	8/15/03 UA:TT on-site	4/20/05 UA:TT on-site
VOAs			
1,1-Dichloroethene	ND (0.04)	ND (0.062)	ND (0.025)
Benzene	ND (0.04)	ND (0.062)	ND (0.025)
cis-1,2-Dichloroethene	0.24 {A}	0.19 {A}	0.16 J {A}
Methylene chloride	ND (0.04)	ND (0.062)	0.019 J {A}
Tetrachloroethene	0.98 {A}	2 {A}	0.5 {A}
Trichloroethene	0.22 {A}	0.12 {A}	0.038 {A}
Vinyl chloride	0.041 {A}	0.029 J {A}	0.033 {A}

OS-7C-03	3/13/03 UA:O on-site	8/15/03 UA:O on-site	4/20/05 UA:O on-site
VOAs			
1,1-Dichloroethene	ND (0.001)	ND (0.001)	ND (0.001)
Benzene	ND (0.001)	ND (0.001)	ND (0.001)
cis-1,2-Dichloroethene	0.002	0.003	0.001 J
Methylene chloride	ND (0.001)	ND (0.001)	ND (0.005)
Tetrachloroethene	0.021 {A}	0.013 {A}	0.008 {A}
Trichloroethene	0.027 {A}	0.025 {A}	0.019 {A}
Vinyl chloride	ND (0.001)	ND (0.001)	ND (0.001)
SVOAs			
Benzo(a)anthracene	ND (0.01)	-	-
Benzo(a)pyrene	ND (0.01)	-	-
Benzo(b)fluoranthene	ND (0.01)	-	-
bis(2-Ethylhexyl)phthalate	ND (0.01)	-	-
Dibenz(a,h)anthracene	ND (0.01)	-	-
PCBs			
Total PCBs	ND (0.0002)	-	-

MW-1B-00	6/26/02 UA:TT on-site	3/17/03 UA:TT on-site	8/18/03 UA:TT on-site	11/23/04 UA:TT on-site	4/22/05 UA:TT on-site
VOAs					
1,1-Dichloroethene	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Benzene	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
cis-1,2-Dichloroethene	0.004	0.004	0.002	0.001 J	0.001
Methylene chloride	0.001 J	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)
Tetrachloroethene	0.038 {A}	0.028 {A}	0.026 {A}	0.012 {A}	0.014 {A}
Trichloroethene	0.033 {A}	0.03 {A}	0.038 {A}	0.02 {A}	0.021 {A}
Vinyl chloride	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
SVOAs					
Benzo(a)anthracene	ND (0.01)	ND (0.01)	-	-	-
Benzo(a)pyrene	ND (0.01)	ND (0.01)	-	-	-
Benzo(b)fluoranthene	ND (0.01)	ND (0.01)	-	-	-
bis(2-Ethylhexyl)phthalate	ND (0.01)	ND (0.01)	-	-	-
Dibenz(a,h)anthracene	ND (0.01)	ND (0.01) UJ	-	-	-
PCBs					
Total PCBs	ND (0.0002)	ND (0.0002)	-	-	-

MW-1A-00	6/26/02 UA:WT on-site	3/17/03 UA:WT on-site	8/18/03 UA:WT on-site	4/21/05 UA:WT on-site
VOAs				
1,1-Dichloroethene	ND (0.005)	ND (0.006)	ND (0.009)	ND (0.005)
Benzene	ND (0.005)	ND (0.006)	ND (0.009)	ND (0.005)
cis-1,2-Dichloroethene	0.1 {A}	0.008	0.22 {A}	0.092 {A}
Methylene chloride	ND (0.005)	ND (0.006)	ND (0.009)	ND (0.025)
Tetrachloroethene	0.13 {A}	0.16 {A}	0.24 {A}	0.17 {A}
Trichloroethene	0.024 {A}	0.023 {A}	0.073 {A}	0.041 {A}
Vinyl chloride	0.009 {A}	ND (0.006)	0.059 {A}	0.009 {A}
SVOAs				
Benzo(a)anthracene	ND (0.01)	ND (0.01)	-	-
Benzo(a)pyrene	ND (0.01)	ND (0.01)	-	-
Benzo(b)fluoranthene	ND (0.01)	ND (0.01)	-	-
bis(2-Ethylhexyl)phthalate	ND (0.01)	ND (0.01)	-	-
Dibenz(a,h)anthracene	ND (0.01)	ND (0.01) UJ	-	-
PCBs				
Total PCBs	ND (0.0002)	ND (0.0002)	-	-

Chemical Name	A	B (On Site)	B (Off Site)	C
VOCs				
1,1-Dichloroethene	7.00E-03	2.44E+02	2.42E+02	1.25E+02
Benzene	5.00E-03	6.41E+00	6.19E+00	4.88E+00
cis-1,2-Dichloroethene	7.00E-02	6.38E+01	6.09E+01	2.29E+01
Methylene chloride	5.00E-03	1.27E+02	1.18E+02	8.94E+01
Tetrachloroethene	5.00E-03	1.49E+01	1.47E+01	1.41E+01
Trichloroethene	5.00E-03	2.73E+01	2.67E+01	2.68E+01
Vinyl chloride	2.00E-03	3.29E+00	3.25E+00	2.02E+00
SVOCs				
Benzo(a)anthracene	1.17E-03	1.43E+02	1.10E+02	6.17E-02
Benzo(a)pyrene	2.00E-04	4.20E+01	3.24E+01	4.35E-03
Benzo(b)fluoranthene	1.17E-03	7.70E+00	6.72E+00	3.71E-02
bis(2-Ethylhexyl)phthalate	6.00E-03	1.00E+05	7.69E+04	1.82E+00
Dibenz(a,h)anthracene	1.17E-04	2.81E+03	2.08E+03	2.78E-03
PCBs				
Total PCBs	5.00E-04	2.52E-01	2.43E-01	9.35E-03
Total PCBs (Dissolved)	5.00E-04	2.52E-01	2.43E-01	9.35E-03
Metals				
Arsenic	1.00E-02	-	-	1.44E+01
Arsenic (Dissolved)	1.00E-02	-	-	1.44E+01
Cadmium	5.00E-03	-	-	1.80E+01
Cadmium (Dissolved)	5.00E-03	-	-	1.80E+01
Lead	1.50E-02	-	-	7.40E+01
Lead (Dissolved)	1.50E-02	-	-	7.40E+01
Manganese	5.11E+00	-	-	5.96E+03
Manganese (Dissolved)	5.11E+00	-	-	5.96E+03
Mercury	2.00E-03	8.33E-01	8.19E-01	2.88E-01
Mercury (Dissolved)	2.00E-03	8.33E-01	8.19E-01	2.88E-01

A Drinking Water (DW)
B Onsite / Offsite Routine Worker (RW) Risk-Based GW Volatilization to Indoor Air
C Risk-Based Routine Construction Worker (Const) GW Contact Criteria

NOTES:
1. SCREENING CRITERIA AND SAMPLE RESULTS ARE COMPARED TO TWO SIGNIFICANT DIGITS. RESULTS EQUAL TO SCREENING CRITERIA ARE NOT HIGHLIGHTED AS EXCEEDANCES.
2. PARAMETERS THAT DO NOT APPEAR IN THE DATABOX FOR A PARTICULAR SAMPLE WERE NOT ANALYZED.

LEGEND
- BUILDING WALL
- BUILDING BOUNDARY
- FORMER BUILDING WALL
- SHORELINE
- RAILROAD
- SOIL PRESENTATION AREA BOUNDARY
- SOIL BORING LOCATION
- MONITORING WELL LOCATION
- WIPE/CONCRETE CORE SAMPLE LOCATION
- OZONE SPARGE WELL LOCATION
- INJECTION BORING FOR HRC BARRIER
- BS-8 BASEMENT SUMP LOCATION
- MH PROCESS SEWER MANHOLE LOCATION
- MH STORM SEWER MANHOLE LOCATION
- INT-1 STORM SEWER INTERCEPTOR LOCATION
- PR PROCESS SEWER LINE
- STM STORM SEWER LINE

AOI 1 - SOLVENT RELEASE AREA
AOI 2 - STILL ROOM
AOI 3 - WASTE TANKS
AOI 4 - HAZARDOUS WASTE STAGING AND STORING AREAS
** ON UPPER FLOOR
AOI 5 - ELECTROPLATING
AOI 6 - SPILL INTERCEPTORS
AOI 7 - SOLVENT STORAGE TANK
AOI 8 - DEGREASING UNITS:
● STODDARD SOLVENT
■ TCE/PCE/TCA SOLVENT
▲ FREON SOLVENT
** ON UPPER FLOOR
AOI 9 - SATELLITE CLEANING AREA (VARIOUS LOCATIONS THROUGHOUT SITE)
AOI 10 - PAINT WASTE ACCUMULATION AREAS
AOI 11 - CHIP HANDLING AREAS
AOI 12 - CUTTING OIL UST'S
AOI 13 - OIL HOUSE
AOI 14 - HYDRAULIC OIL AND COOLANT UST'S
AOI 15 - HYDRAULIC OIL UST
AOI 16 - FUEL UST'S
AOI 17 - REFRIGERANT UST'S
AOI 18 - STORM SEWERS (VARIOUS LOCATIONS THROUGHOUT SITE)
AOI 19 - PROCESS SEWERS (VARIOUS LOCATIONS THROUGHOUT SITE)
AOI 20 - PCB RELEASES FROM ELECTRICAL EQUIPMENT
AOI 21 - HYDROMATION PIT
AOI 22 - INCINERATOR
AOI 23 - UST'S AND FORMER STILL
AOI 24 - FORMER MACHINE GUN TESTING AREA
AOI 25 - HYDROCHLORIC ACID SPILLS
AOI 26 - PCB RELEASES FORM PROCESS EQUIPMENT:
* PROCESS DUCT
△ No.2 VAILL MACHINE
□ TOOL GRIND ROOM
○ GEAR BOX
AOI 27 - BATTERY CHARGING STATION (A SECOND STATION MAY HAVE BEEN LOCATED IN BLDG. 5)
AOI 28 - FORMER MIAMI CANAL EXTENSION
AOI 29 - BUILDING 12 STILL
AOI 30 - EXPERIMENTAL AIR CONDITIONING
AOI 31 - BUILDING 1 SPRAY BOOTHS
AOI 32 - BUILDING 3 TRANSFORMER (GROUND LEVEL)
AOI 33 - PAINT AND ENAMEL STORAGE
AOI 34 - PARTS GRINDING
AOI 35 - STORAGE TANKS

0 40 80ft

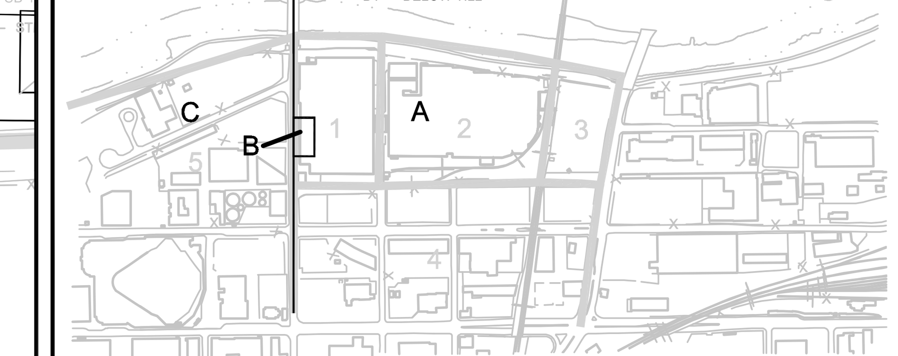
SAMPLE LOCATION

OS-2B-03	3/6/03 UA:TT on-site	8/21/03 UA:TT on-site	4/19/05 UA:TT on-site
VOAs			
1,1-Dichloroethene	ND (0.001)	ND (0.001)	ND (0.001)
Benzene	ND (0.001)	ND (0.001)	ND (0.001)
cis-1,2-Dichloroethene	0.004	0.002	0.001 J
Methylene chloride	ND (0.001)	ND (0.001)	ND (0.005)
Tetrachloroethene	0.015 {A}	0.021 {A}	0.018 {A}
Trichloroethene	0.041 {A}	0.029 {A}	0.019 {A}
Vinyl chloride	ND (0.001)	ND (0.001)	ND (0.001)

SAMPLE DATE
WELL CODE
ON-SITE/OFF-SITE INDICATOR
CONCENTRATION (mg/L)
PARAMETER

SAMPLE EXCEEDANCE

UA - UPPER AQUIFER
LA - LOWER AQUIFER
TR - TILL-RICH ZONE
WT - WATER TABLE
O - OTHER
TT - TOP OF TILL
BT - BELOW TILL



KEY PLAN

SCALE VERIFICATION
THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY
Dayton, Ohio
GROUNDWATER ANALYTICAL DATA ORGANICS - AREA B

CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

Project Manager: IKR	Reviewed By: SE	Date: MARCH 2006	
Scale: 1"=80'	Project Nº: 12638-04	Report Nº: 011	Drawing Nº: 4.4B(i)

12638-04(011)GN-WA054 MAR 29/2006

MW-5A-03	3/5/03 UA:WT on-site	3/19/04 UA:WT on-site	6/29/04 UA:WT on-site	10/19/04 UA:WT on-site	11/19/04 UA:WT on-site
Arsenic	0.01 J	-	0.005 J	-	-
Arsenic (Dissolved)	0.007 J	-	-	-	-
Cadmium	ND (0.005)	-	ND (0.005)	-	-
Cadmium (Dissolved)	ND (0.005)	-	-	-	-
Lead	0.049 (A)	-	ND (0.003)	-	0.003
Lead (Dissolved)	ND (0.003)	-	-	-	-
Manganese	0.41	0.27	0.32	0.25	-
Manganese (Dissolved)	0.37	0.27	-	-	-
Mercury	ND (0.0002)	-	ND (0.0002)	-	-
Mercury (Dissolved)	ND (0.0002)	-	-	-	-

MW-8B-03	3/5/03 UA:TT on-site	3/19/04 UA:TT on-site	6/29/04 UA:TT on-site	10/19/04 UA:TT on-site
Arsenic	0.003 J	-	0.006 J	-
Arsenic (Dissolved)	ND (0.01)	-	-	-
Cadmium	ND (0.005)	-	ND (0.005)	-
Cadmium (Dissolved)	ND (0.005)	-	-	-
Lead	ND (0.003)	-	ND (0.003)	-
Lead (Dissolved)	ND (0.003)	-	-	-
Manganese	0.21	0.22	0.38	0.16
Manganese (Dissolved)	0.18	0.15	-	-
Mercury	ND (0.0002)	-	ND (0.0002)	-
Mercury (Dissolved)	ND (0.0002)	-	-	-

MW-2A-00	7/16/02 UA:WT on-site	3/17/03 UA:WT on-site
Arsenic	ND (0.01)	0.002 J
Cadmium	ND (0.005)	0.0003 J
Lead	ND (0.003)	ND (0.003)
Manganese	0.29	0.22
Mercury	ND (0.0002)	ND (0.0002)

MW-2B-00	7/16/02 UA:TT on-site	3/17/03 UA:TT on-site
Arsenic	ND (0.01)	ND (0.01)
Cadmium	ND (0.005)	0.001 J
Lead	ND (0.003)	ND (0.003)
Manganese	0.08	0.12
Mercury	ND (0.0002)	ND (0.0002)

OS-1A-00	7/15/02 UA:O on-site
Arsenic	0.003 J
Cadmium	ND (0.005)
Lead	ND (0.003)
Manganese	0.11
Mercury	ND (0.0002)

OS-1B-00	7/15/02 UA:TT on-site
Arsenic	0.006 J
Cadmium	ND (0.005)
Lead	ND (0.003)
Manganese	0.069
Mercury	ND (0.0002)

B-SA24	7/11/02 UA:WT on-site	3/13/03 UA:WT on-site
Arsenic	0.002 J	0.004 J
Cadmium	0.001 J	0.002 J
Lead	ND (0.003)	0.015
Manganese	0.29	0.25
Mercury	ND (0.0002)	0.0002 J

HD-7	7/8/02 UA:TT on-site	3/13/03 UA:TT on-site
Arsenic	0.002 J	0.004 J
Cadmium	0.001 J	0.001 J
Lead	ND (0.003)	ND (0.003)
Manganese	0.01 J	0.007 J
Mercury	ND (0.0002)	ND (0.0002)

Chemical Name	A	B (On Site)	B (Off Site)	C
VOCs				
1,1-Dichloroethene	7.00E-03	2.44E+02	2.42E+02	1.25E+02
Benzene	5.00E-03	6.41E+00	6.19E+00	4.88E+00
cis-1,2-Dichloroethene	7.00E-02	6.38E+01	6.09E+01	2.29E+01
Methylene chloride	5.00E-03	1.27E+02	1.18E+02	8.94E+01
Tetrachloroethene	5.00E-03	1.49E+01	1.47E+01	1.41E+01
Trichloroethene	5.00E-03	2.73E+01	2.67E+01	2.68E+01
Vinyl chloride	2.00E-03	3.29E+00	3.25E+00	2.02E+00
SVOCs				
Benzo(a)anthracene	1.17E-03	1.43E+02	1.10E+02	6.17E-02
Benzo(a)pyrene	2.00E-04	4.20E+01	3.24E+01	4.35E-03
Benzo(b)fluoranthene	1.17E-03	7.70E+00	6.72E+00	3.71E-02
bis(2-Ethylhexyl)phthalate	6.00E-03	1.00E+05	7.69E+04	1.82E+00
Dibenz(a,h)anthracene	1.17E-04	2.81E+03	2.08E+03	2.78E-03
PCBs				
Total PCBs	5.00E-04	2.52E-01	2.43E-01	9.35E-03
Total PCBs (Dissolved)	5.00E-04	2.52E-01	2.43E-01	9.35E-03
Metals				
Arsenic	1.00E-02	-	-	1.44E+01
Arsenic (Dissolved)	1.00E-02	-	-	1.44E+01
Cadmium	5.00E-03	-	-	1.80E+01
Cadmium (Dissolved)	5.00E-03	-	-	1.80E+01
Lead	1.50E-02	-	-	7.40E+01
Lead (Dissolved)	1.50E-02	-	-	7.40E+01
Manganese	5.11E+00	-	-	5.96E+03
Manganese (Dissolved)	5.11E+00	-	-	5.96E+03
Mercury	2.00E-03	8.33E-01	8.19E-01	2.88E-01
Mercury (Dissolved)	2.00E-03	8.33E-01	8.19E-01	2.88E-01

A Drinking Water (DW)
B Onsite / Offsite Routine Worker (RW) Risk-Based GW Volatilization to Indoor Air
C Risk-Based Routine Construction Worker (Const) GW Contact Criteria

NOTES:
1. SCREENING CRITERIA AND SAMPLE RESULTS ARE COMPARED TO TWO SIGNIFICANT DIGITS. RESULTS EQUAL TO SCREENING CRITERIA ARE NOT HIGHLIGHTED AS EXCEEDANCES.
2. PARAMETERS THAT DO NOT APPEAR IN THE DATABOX FOR A PARTICULAR SAMPLE WERE NOT ANALYZED.

OS-5C-03	3/12/03 UA:O on-site
Arsenic	0.002 J
Cadmium	ND (0.005)
Lead	ND (0.003)
Manganese	0.17
Mercury	ND (0.0002)

HD-6	7/8/02 UA:TT on-site	3/18/03 UA:TT on-site
Arsenic	ND (0.01)	0.002 J
Cadmium	ND (0.005)	ND (0.005)
Lead	ND (0.003)	ND (0.003)
Manganese	0.018	0.006 J
Mercury	ND (0.0002)	0.0001 J

OS-6C-03	3/12/03 UA:O on-site
Arsenic	ND (0.01)
Cadmium	ND (0.005)
Lead	ND (0.003)
Manganese	0.076
Mercury	ND (0.0002)

OS-7C-03	3/13/03 UA:O on-site
Arsenic	0.004 J
Cadmium	ND (0.005)
Lead	ND (0.003)
Manganese	0.015
Mercury	ND (0.0002)

B-SA22	7/8/02 UA:WT on-site	3/18/03 UA:WT on-site
Arsenic	0.003 J/ND (0.01)	0.002 J
Cadmium	0.0003 J/0.0004 J	0.0003 J
Lead	ND (0.003)/ND (0.003)	ND (0.003)
Manganese	0.045/0.045	0.025
Mercury	ND (0.0002)/ND (0.0002)	ND (0.0002)

MW-1B-00	6/26/02 UA:TT on-site	3/17/03 UA:TT on-site
Arsenic	0.003 J	0.004 J
Cadmium	ND (0.005)	0.001 J
Lead	ND (0.003)	ND (0.003)
Manganese	0.029	0.009 J
Mercury	ND (0.0002)	ND (0.0002)

MW-1A-00	6/26/02 UA:WT on-site	3/17/03 UA:WT on-site
Arsenic	0.002 J	ND (0.01)
Cadmium	ND (0.005)	ND (0.005)
Lead	ND (0.003)	ND (0.003)
Manganese	0.079	0.011 J
Mercury	ND (0.0002)	ND (0.0002)

B-SA23	7/17/02 UA:WT on-site	3/18/03 UA:WT on-site
Arsenic	ND (0.01)	0.004 J
Cadmium	ND (0.005)	ND (0.005)
Lead	ND (0.003)	ND (0.003)
Manganese	0.49	0.42
Mercury	ND (0.0002)	ND (0.0002)

LEGEND

- BUILDING WALL
- BUILDING BOUNDARY
- FORMER BUILDING WALL
- SHORELINE
- RAILROAD
- SOIL PRESENTATION AREA BOUNDARY
- SOIL BORING LOCATION
- MONITORING WELL LOCATION
- WIPE/CONCRETE CORE SAMPLE LOCATION
- OZONE SPARGE WELL LOCATION
- INJECTION BORING FOR HRC BARRIER
- BASEMENT SUMP LOCATION
- PROCESS SEWER MANHOLE LOCATION
- STORM SEWER MANHOLE LOCATION
- STORM SEWER INTERCEPTOR LOCATION
- PROCESS SEWER LINE
- STORM SEWER LINE

AOI 1 - SOLVENT RELEASE AREA
AOI 2 - STILL ROOM
AOI 3 - WASTE TANKS
AOI 4 - HAZARDOUS WASTE STAGING AND STORING AREAS
** ON UPPER FLOOR
AOI 5 - ELECTROPLATING
AOI 6 - SPILL INTERCEPTORS
AOI 7 - SOLVENT STORAGE TANK
AOI 8 - DEGREASING UNITS:
● STODDARD SOLVENT
■ TCE/PCE/TCA SOLVENT
▲ FREON SOLVENT
** ON UPPER FLOOR
AOI 9 - SATELLITE CLEANING AREA (VARIOUS LOCATIONS THROUGHOUT SITE)
AOI 10 - PAINT WASTE ACCUMULATION AREAS
AOI 11 - CHIP HANDLING AREAS
AOI 12 - CUTTING OIL USTS
AOI 13 - OIL HOUSE
AOI 14 - HYDRAULIC OIL AND COOLANT UST'S
AOI 15 - HYDRAULIC OIL UST
AOI 16 - FUEL UST'S
AOI 17 - REFRIGERANT UST'S
AOI 18 - STORM SEWERS (VARIOUS LOCATIONS THROUGHOUT SITE)
AOI 19 - PROCESS SEWERS (VARIOUS LOCATIONS THROUGHOUT SITE)
AOI 20 - PCB RELEASES FROM ELECTRICAL EQUIPMENT
AOI 21 - HYDROMATION PIT
AOI 22 - INCINERATOR
AOI 23 - USTS AND FORMER STILL
AOI 24 - FORMER MACHINE GUN TESTING AREA
AOI 25 - HYDROCHLORIC ACID SPILLS
AOI 26 - PCB RELEASES FORM PROCESS EQUIPMENT:
✱ PROCESS DUCT
△ No.2 VAILL MACHINE
□ TOOL GRIND ROOM
○ GEAR BOX
AOI 27 - BATTERY CHARGING STATION (A SECOND STATION MAY HAVE BEEN LOCATED IN BLDG. 5)
AOI 28 - FORMER MIAMI CANAL EXTENSION
AOI 29 - BUILDING 12 STILL
AOI 30 - EXPERIMENTAL AIR CONDITIONING
AOI 31 - BUILDING 1 SPRAY BOOTHS
AOI 32 - BUILDING 3 TRANSFORMER (GROUND LEVEL)
AOI 33 - PAINT AND ENAMEL STORAGE
AOI 34 - PARTS GRINDING
AOI 35 - STORAGE TANKS

SAMPLE LOCATION
OS-6C-03 — 3/12/03 — SAMPLE DATE
UA:O — WELL CODE
on-site — ON-SITE/OFF-SITE INDICATOR
Metals
Arsenic ND (0.01)
Cadmium ND (0.005)
Lead ND (0.003)
Manganese 0.078 — CONCENTRATION (mg/L)
Mercury ND (0.0002)
PARAMETER

SAMPLE EXCEEDANCE

UA - UPPER AQUIFER
LA - LOWER AQUIFER
TR - TILL-RICH ZONE
WT - WATER TABLE
O - OTHER
TT - TOP OF TILL
BT - BELOW TILL

KEY PLAN

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY

Dayton, Ohio

GROUNDWATER ANALYTICAL DATA INORGANICS - AREA B

CONESTOGA-ROVERS & ASSOCIATES

Source Reference:			
Project Manager: IKR	Reviewed By: SE	Date: MARCH 2006	
Scale: 1"=80'	Project N°: 12638-04	Report N°: 011	Drawing N°: 4.4B(ii)

12638-04(011)GN-WA053 MAR 28/2006

HD-19	7/10/02 UA/TT off-site	3/26/03 UA/TT off-site	11/8/04 UA/TT off-site
VOAs			
1,1-Dichloroethene	ND (0.004)	ND (0.004)	ND (0.003)
Benzene	ND (0.004)	ND (0.004)	ND (0.004)
cis-1,2-Dichloroethene	0.11 (A)	0.089 (A)[0.092 (A)]	0.042
Methylene chloride	0.002 J	ND (0.004)	ND (0.003)
Tetrachloroethene	0.096 (A)	0.11 (A)[0.11 (A)]	0.096 (A)
Trichloroethene	0.057 (A)	0.059 (A)[0.059 (A)]	0.057 (A)
Vinyl chloride	ND (0.004)	ND (0.004)	ND (0.003)
SVOAs			
Benzo(a)anthracene	ND (0.01)	ND (0.01)[ND (0.01)	-
Benzo(a)pyrene	ND (0.01)	ND (0.01)[ND (0.01)	-
Benzo(b)fluoranthene	ND (0.01)	ND (0.01)[ND (0.01)	-
bis(2-Ethylhexyl)phthalate	ND (0.01)	ND (0.01)[ND (0.01)	-
Dibenz(a,h)anthracene	ND (0.01)	ND (0.01)[ND (0.01)	-
PCBs			
Total PCBs	ND (0.0002)	ND (0.0002)[ND (0.0002)	ND (0.0002)
Total PCBs (Dissolved)	ND (0.0002)	ND (0.0002)[ND (0.0002)	-

DAY-11S	6/25/02 UA/O off-site	3/20/03 UA/O off-site	11/9/04 UA/O off-site
VOAs			
1,1-Dichloroethene	ND (0.02)	ND (0.017)	ND (0.01)
Benzene	ND (0.02)	ND (0.017)	ND (0.01)
cis-1,2-Dichloroethene	0.42 (A)	0.36 (A)	0.27 (A)
Methylene chloride	0.009 J (A)	ND (0.017)	ND (0.017)
Tetrachloroethene	0.42 (A)	0.29 (A)	0.23 (A)
Trichloroethene	0.064 (A)	0.053 (A)	0.019 (A)
Vinyl chloride	0.048 (A)	0.014 (A)	0.19 (A)
SVOAs			
Benzo(a)anthracene	ND (0.01)	ND (0.01)	-
Benzo(a)pyrene	ND (0.01)	ND (0.01)	-
Benzo(b)fluoranthene	ND (0.01)	ND (0.01)	-
bis(2-Ethylhexyl)phthalate	ND (0.01)	ND (0.01)	-
Dibenz(a,h)anthracene	ND (0.01)	ND (0.01)	-
PCBs			
Total PCBs	ND (0.0002)	ND (0.0002)	ND (0.0002)

DAY-11D	6/24/02 UA/TT off-site	3/20/03 UA/TT off-site	11/8/04 UA/TT off-site
VOAs			
1,1-Dichloroethene	ND (0.01)	ND (0.01)	ND (0.005)
Benzene	ND (0.01)	ND (0.01)	ND (0.005)
cis-1,2-Dichloroethene	0.27 (A)	0.28 (A)	0.16 (A)
Methylene chloride	0.009 J (A)	ND (0.01)	ND (0.005)
Tetrachloroethene	0.69 (A)	0.55 (A)	0.19 (A)
Trichloroethene	0.089 (A)	0.09 (A)	0.051 (A)
Vinyl chloride	ND (0.01)	ND (0.01)	0.011 (A)
SVOAs			
Benzo(a)anthracene	ND (0.01)	ND (0.01)	-
Benzo(a)pyrene	ND (0.01)	ND (0.01)	-
Benzo(b)fluoranthene	ND (0.01)	ND (0.01)	-
bis(2-Ethylhexyl)phthalate	ND (0.01)	ND (0.01)	-
Dibenz(a,h)anthracene	ND (0.01)	ND (0.01)	-
PCBs			
Total PCBs	ND (0.0002)	ND (0.0002)	ND (0.0002)

HD-11	6/26/02 UA/TT off-site	3/25/03 UA/TT off-site	11/8/04 UA/TT off-site	4/28/05 UA/TT off-site
VOAs				
1,1-Dichloroethene	ND (0.002)	ND (0.003)	ND (0.002)	ND (0.003)
Benzene	ND (0.002)	ND (0.003)	ND (0.002)	ND (0.003)
cis-1,2-Dichloroethene	0.002	0.005	0.002 J	0.002 J
Methylene chloride	ND (0.002)	ND (0.003)	ND (0.002)	0.001 J
Tetrachloroethene	0.058 (A)	0.078 (A)	0.066 (A)	0.063 (A)
Trichloroethene	0.02 (A)	0.026 (A)	0.018 (A)	0.018 (A)
Vinyl chloride	ND (0.003)	ND (0.003)	ND (0.002)	ND (0.003)
SVOAs				
Benzo(a)anthracene	ND (0.01)	ND (0.01)	-	-
Benzo(a)pyrene	ND (0.01)	ND (0.01)	-	-
Benzo(b)fluoranthene	ND (0.01)	ND (0.01)	-	-
bis(2-Ethylhexyl)phthalate	ND (0.01)	ND (0.01)	-	-
Dibenz(a,h)anthracene	ND (0.01)	ND (0.01)	-	-
PCBs				
Total PCBs	ND (0.0002)	ND (0.0002)	ND (0.0002)	-
Total PCBs (Dissolved)	ND (0.0002)	ND (0.0002)	ND (0.0002)	-

MW-34-04	12/8/04 UA/WT off-site
VOAs	
1,1-Dichloroethene	ND (0.001)
Benzene	ND (0.001)
cis-1,2-Dichloroethene	ND (0.001)
Methylene chloride	ND (0.001)
Tetrachloroethene	ND (0.001)
Trichloroethene	ND (0.001)
Vinyl chloride	ND (0.001)
SVOAs	
Benzo(a)anthracene	ND (0.01)
Benzo(a)pyrene	ND (0.01)
Benzo(b)fluoranthene	ND (0.01)
bis(2-Ethylhexyl)phthalate	ND (0.01)
Dibenz(a,h)anthracene	ND (0.01)
PCBs	
Total PCBs	ND (0.0002)

DAY-12	6/27/02 UA/TT off-site	3/21/03 UA/TT off-site	4/28/05 UA/TT off-site
VOAs			
1,1-Dichloroethene	ND (0.003)[ND (0.002)	ND (0.003)	ND (0.002)
Benzene	ND (0.003)[ND (0.002)	ND (0.003)	ND (0.002)
cis-1,2-Dichloroethene	0.001[0.001	0.003	0.002 J
Methylene chloride	ND (0.003)[ND (0.002)	ND (0.003)	0.001 J
Tetrachloroethene	0.068 (A)[0.062 (A)	0.057 (A)	0.053 (A)
Trichloroethene	0.023 (A)[0.022 (A)	0.023 (A)	0.018 (A)
Vinyl chloride	ND (0.003)[ND (0.002)	ND (0.003)	ND (0.002)
SVOAs			
Benzo(a)anthracene	ND (0.01)[ND (0.01)	ND (0.01)	-
Benzo(a)pyrene	ND (0.01)[ND (0.01)	ND (0.01)	-
Benzo(b)fluoranthene	ND (0.01)[ND (0.01)	ND (0.01)	-
bis(2-Ethylhexyl)phthalate	ND (0.01)[ND (0.01)	ND (0.01)	-
Dibenz(a,h)anthracene	ND (0.01)[ND (0.01)	ND (0.01)	-
PCBs			
Total PCBs	ND (0.0002)[ND (0.0002)	ND (0.0002)	-

HD-3	6/25/02 UA/TT off-site	3/24/03 UA/TT off-site	5/1/03 UA/TT off-site	9/16/03 UA/TT off-site	6/5/03 UA/TT off-site	6/19/03 UA/TT off-site	8/13/03 UA/TT off-site	3/19/04 UA/TT off-site	6/28/04 UA/TT off-site	10/14/04 UA/TT off-site	11/17/04 UA/TT off-site	4/28/05 UA/TT off-site
VOAs												
1,1-Dichloroethene	ND (0.001)	ND (0.002)	ND (0.001)	ND (0.001)	ND (0.003)	ND (0.003)	ND (0.003)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.0002 J
Benzene	ND (0.001)	ND (0.002)	ND (0.001)	ND (0.001)	ND (0.003)	ND (0.003)	ND (0.003)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
cis-1,2-Dichloroethene	0.002	0.02	0.015	0.004	0.13 [V]	0.083 [V]	0.053	0.009	0.023	0.018	0.007	0.039
Methylene chloride	ND (0.001)	ND (0.002)	ND (0.001)	ND (0.001)	ND (0.003)	ND (0.003)	ND (0.003)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Tetrachloroethene	0.006 (A)	0.015 (A)	0.009 (A)	0.003 (A)	0.051 (A)	0.031 (A)	0.01 (A)	0.006 (A)	0.011 (A)	0.006 (A)	0.006 (A)	0.015 (A)
Trichloroethene	0.003 (A)	0.007 (A)	0.004 (A)	0.002 (A)	0.018 (A)	0.006	0.007 (A)	0.006	0.005 (A)	0.004 (A)	0.004 (A)	0.011 (A)
Vinyl chloride	ND (0.001)	ND (0.002)	ND (0.001)	ND (0.001)	ND (0.003)	ND (0.003)	ND (0.003)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.0004 J
SVOAs												
Benzo(a)anthracene	ND (0.01)	ND (0.01)	-	-	-	-	-	-	-	-	-	-
Benzo(a)pyrene	ND (0.01)	ND (0.01)	-	-	-	-	-	-	-	-	-	-
Benzo(b)fluoranthene	ND (0.01)	ND (0.01)	-	-	-	-	-	-	-	-	-	-
bis(2-Ethylhexyl)phthalate	ND (0.01)	ND (0.01)	-	-	-	-	-	-	-	-	-	-
Dibenz(a,h)anthracene	ND (0.01)	ND (0.01)	-	-	-	-	-	-	-	-	-	-
PCBs												
Total PCBs	ND (0.0002)	ND (0.0002)	-	-	-	-	-	-	-	-	-	-
Total PCBs (Dissolved)	ND (0.0002)	ND (0.0002)	-	-	-	-	-	-	-	-	-	-

DAY-05	7/7/02 UA/O off-site	3/19/04 UA/O off-site	6/28/04 UA/O off-site	11/19/04 UA/O off-site
VOAs				
1,1-Dichloroethene	ND (0.01)	ND (0.1)	ND (0.005)	ND (0.003)
Benzene	ND (0.01)	ND (0.1)	ND (0.005)	ND (0.003)
cis-1,2-Dichloroethene	0.31 (A)	0.1 (A)	0.05 (A)	0.061
Methylene chloride	ND (0.01)	ND (0.1)	ND (0.005)	ND (0.003)
Tetrachloroethene	0.35 (A)	ND (0.1)	0.001 J	0.003
Trichloroethene	0.17 (A)	ND (0.1)	0.009 J	0.006 (A)
Vinyl chloride	ND (0.01)	0.088 J (A)	0.013 (A)	0.006 (A)
SVOAs				
Benzo(a)anthracene	ND (0.01)	ND (0.01)	-	-
Benzo(a)pyrene	ND (0.01)	ND (0.01)	-	-
Benzo(b)fluoranthene	ND (0.01)	ND (0.01)	-	-
bis(2-Ethylhexyl)phthalate	ND (0.01)	ND (0.01)	-	-
Dibenz(a,h)anthracene	ND (0.01)	ND (0.01)	-	-
PCBs				
Total PCBs	ND (0.0002)	ND (0.0002)	-	-

MW-41-05	7/18/05 TR Off-Site
VOAs	
1,1-Dichloroethene	0.001 J
Benzene	ND (0.003)
cis-1,2-Dichloroethene	0.072
Methylene chloride	ND (0.014)
Tetrachloroethene	0.003
Trichloroethene	0.014 (A)
Vinyl chloride	0.018 [V]

HD-8	7/2/02 UA/TT off-site	3/18/03 UA/TT off-site	4/29/03 UA/TT off-site	8/13/03 UA/TT off-site	3/18/04 UA/TT off-site	6/28/04 UA/TT off-site	10/19/04 UA/TT off-site	11/23/04 UA/TT off-site	4/28/05 UA/TT off-site
VOAs									
1,1-Dichloroethene	ND (0.001)	ND (0.001)	ND (0.002)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Benzene	ND (0.001)	ND (0.001)	ND (0.002)	ND (0.001)	ND (0.001)	ND (0.001)	0.0003 J	ND (0.001)	ND (0.001)
cis-1,2-Dichloroethene	0.004	0.011	0.005	0.003	0.003	0.002	0.002	0.016 J	0.002 J
Methylene chloride	ND (0.001)	ND (0.001)	ND (0.002)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Tetrachloroethene	0.006 (A)	0.014 (A)	0.006 (A)	0.008 (A)	0.006 (A)	0.005 (A)	0.004 (A)	0.018 (A)	0.007 (A)
Trichloroethene	0.004 (A)	0.009 (A)	0.006 (A)	0.004 (A)	0.006 (A)	0.003 (A)	0.004 (A)	0.008 (A)	0.005 (A)
Vinyl chloride	ND (0.001)	ND (0.001)	ND (0.002)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
SVOAs									
Benzo(a)anthracene	ND (0.01)	ND (0.01)	-	-	-	-	-	-	-
Benzo(a)pyrene	ND (0.01)	ND (0.01)	-	-	-	-	-	-	-
Benzo(b)fluoranthene	ND (0.01)	ND (0.01)	-	-	-	-	-	-	-
bis(2-Ethylhexyl)phthalate	ND (0.01)	ND (0.01)	-	-	-	-	-	-	-
Dibenz(a,h)anthracene	ND (0.01)	ND (0.01)	-	-	-	-	-	-	-
PCBs									
Total PCBs	ND (0.0002)	ND (0.0002)	-	-	-	-	-	ND (0.0002)	-

MW-45-05	7/19/05 TR Off-Site
VOAs	
1,1-Dichloroethene	ND (0.003)
Benzene	ND (0.003)
cis-1,2-Dichloroethene	ND (0.003)
Methylene chloride	ND (0.012)
Tetrachloroethene	0.016 J
Trichloroethene	0.001 J
Vinyl chloride	ND (0.003)

MW-17-04	2/4/04 LA off-site	3/22/04 LA off-site
VOAs		
1,1-Dichloroethene	0.001 J	0.0004 J
Benzene	ND (0.001)	ND (0.001)
cis-1,2-Dichloroethene	0.011	0.01
Methylene chloride	ND (0.001)	ND (0.001)
Tetrachloroethene	ND (0.001)	ND (0.001)
Trichloroethene	0.002	0.001
Vinyl chloride	0.004 (A)	0.005 (A)
PCBs		
Total PCBs	ND (0.0002)	

HD-9	6/27/02 UA/TT off-site	3/19/03 UA/TT off-site	5/1/03 UA/TT off-site	8/13/03 UA/TT off-site	10/19/04 UA/TT off-site	11/16/04 UA/TT off-site	4/28/05 UA/TT off-site
VOAs							
1,1-Dichloroethene	ND (0.002)	ND (0.003)[ND (0.003)	ND (0.004)	ND (0.005)	ND (0.003)	ND (0.003)[ND (0.009)	
Benzene	ND (0.002)	ND (0.003)[ND (0.003)	ND (0.004)	ND (0.005)	ND (0.003)	ND (0.003)[ND (0.009)	
cis-1,2-Dichloroethene	0.005	0.011[0.012	0.01	0.008	0.061 (A)	0.009	0.009 J[0.009 J
Methylene chloride	ND (0.002)	ND (0.003)[ND (0.003)	0.002 J	ND (0.005)	ND (0.003)	0.003 J[ND (0.009)	
Tetrachloroethene	0.026 (A)	0.097 (A)[0.09 (A)	0.11 (A)	0.19 (A)	0.095 (A)	0.13 (A)[0.13 (A)	
Trichloroethene	0.047 (A)	0.095 (A)[0.088 (A)	0.096 (A)	0.071 (A)	0.078 (A)	0.072 (A)[0.071 (A)	
Vinyl chloride	ND (0.002)	ND (0.003)[ND (0.003)	ND (0.004)	ND (0.005)	0.006 (A)	ND (0.003)	ND (0.003)[ND (0.009)
SVOAs							
Benzo(a)anthracene	ND (0.01)	ND (0.01)[ND (0.01)	-	-	-	-	-
Benzo(a)pyrene	ND (0.01)	ND (0.01)[ND (0.01)	-	-	-	-	-
Benzo(b)fluoranthene	ND (0.01)	ND (0.01)[ND (0.01)	-	-	-	-	-
bis(2-Ethylhexyl)phthalate	ND (0.01)	ND (0.01)[ND (0.01)	-	-	-	-	-
Dibenz(a,h)anthracene	ND (0.01)	ND (0.01)[ND (0.01) LU	-	-	-	-	-
PCBs							
Total PCBs	ND (0.0002)	ND (0.0002)[ND (0.0002)	-	-	-	ND (0.0002)	-
Total PCBs (Dissolved)	ND (0.0002)	ND (0.0002)[ND (0.0002)	-	-	-	-	-

MW-21-04	3/25/04 UA/WT off-site	11/15/04 UA/WT off-site
VOAs		
1,1-Dichloroethene	ND (0.011)	ND (0.008)
Benzene	ND (0.011)	ND (0.008)
cis-1,2-Dichloroethene	0.22 (A)	0.2 (A)
Methylene chloride	ND (0.011)	ND (0.008)
Tetrachloroethene	0.018 (A)	0.007 (A)
Trichloroethene	0.018 (A)	0.009 (A)
Vinyl chloride	ND (0.011)	ND (0.008)
PCBs		
Total PCBs	ND (0.0002)	ND (0.0002)

DAY-24	12/28/04 TR off-site
VOAs	
1,1-Dichloroethene	0.002
Benzene	ND (0.001)
cis-1,2-Dichloroethene	0.109 [V]
Methylene chloride	ND (0.008)
Tetrachloroethene	0.034 [V]
Trichloroethene	0.14 [V]
Vinyl chloride	ND (0.001)
SVOAs	
Benzo(a)anthracene	ND (0.011)
Benzo(a)pyrene	ND (0.011)
Benzo(b)fluoranthene	ND (0.011)
bis(2-Ethylhexyl)phthalate	ND (0.008)
Dibenz(a,h)anthracene	ND (0.011)
PCBs	
Total PCBs	ND (0.0002)

MW-18S-04	3/24/04 UA/WT off-site	11/4/04 UA/WT off-site
VOAs		
1,1-Dichloroethene	ND (0.002)	ND (0.002)
Benzene	ND (0.002)	ND (0.002)
cis-1,2-Dichloroethene	0.021	0.007
Methylene chloride	ND (0.002)	ND (0.003)
Tetrachloroethene	0.096 (A)	0.036 (A)
Trichloroethene	0.02 (A)	0.011 (A)
Vinyl chloride	ND (0.002)	ND (0.002)
PCBs		
Total PCBs	ND (0.0002)	ND (0.0002)

HD-4	7/10/02 UA/O off-site	3/24/03 UA/O off-site	11/9/04 UA/O off-site	4/28/05 UA/O off-site
VOAs				
1,1-Dichloroethene	ND (0.001)	ND (0.002)	ND (0.002)	ND (0.002)
Benzene	ND (0.001)	ND (0.002)	ND (0.002)	ND (0.002)
cis-1,2-Dichloroethene	0.017	0.012	0.01	0.007 J
Methylene chloride	0.001 J	ND (0.002)	ND (0.002)	0.001 J
Tetrachloroethene	0.044 (A)	0.054 (A)	0.043 (A)	0.043 (A)
Trichloroethene	0.009 (A)	0.006 (A)	0.031 (A)	0.032 (A)
Vinyl chloride	0.001 J	ND (0.002)	ND (0.002)	ND (0.002)
SVOAs				
Benzo(a)anthracene	ND (0.01)	ND (0.01)	-	-
Benzo(a)pyrene	ND (0.01)	ND (0.01)	-	-
Benzo(b)fluoranthene	ND (0.01)	ND (0.01)	-	-
bis(2-Ethylhexyl)phthalate	ND (0.01)	ND (0.01)	-	-
Dibenz(a,h)anthracene	ND (0.01)	ND (0.01)	-	-
PCBs				
Total PCBs	ND (0.0002)	ND (0.0002)	ND (0.0002)	-
Total PCBs (Dissolved)	ND (0.0002)	ND (0.0002)	-	-

MW-19-04	3/4/04 TR off-site	3/23/04 TR off-site
VOAs		
1,1-Dichloroethene	ND (0.008)	ND (0.014)
Benzene	ND (0.008)	ND (0.014)
cis-1,2-Dichloroethene	0.21 (A)	0.35 (A)
Methylene chloride	ND (0.008)	ND (0.014)
Tetrachloroethene	ND (0.008)	ND (0.014)
Trichloroethene	0.008 J (A)	0.014 (A)
Vinyl chloride	0.007 J (A)	0.008 J (A)
SVOAs		
Total PCBs	-	ND (0.0002)

MW-48-05	7/18/05 UA/WT Off-Site
VOAs	
1,1-Dichloroethene	ND (0.04) UJ
Benzene	ND (0.04)
cis-1,2-Dichloroethene	0.083
Methylene chloride	0.012 J (A)
Tetrachloroethene	0.042 (A)
Trichloroethene	0.94 (A)
Vinyl chloride	ND (0.04)

MW-20-04	3/4/04 TR off-site	3/24/04 TR off-site	11/9/04 TR off-site
VOAs			
1,1-Dichloroethene	ND (0.012)	ND (0.02)	ND (0.020)
Benzene	ND (0.012)	ND (0.02)	ND (0.020)
cis-1,2-Dichloroethene	0.23 (A)	0.27 (A)	0.71 (A)
Methylene chloride	ND (0.012)	ND (0.02)	ND (0.040)
Tetrachloroethene	ND (0.012)	ND (0.02)	0.056 J (A)
Trichloroethene	0.3 (A)	0.45 (A)	0.81 (A)
Vinyl chloride	ND (0.012)	ND (0.02)	ND (0.020)
PCBs			
Total PCBs	-	ND (0.0002)	ND (0.0002)

MW-43-05	7/14/05 TRA/A Off-Site
VOAs	
1,1-Dichloroethene	0.0003 J
Benzene	ND (0.002)
cis-1,2-Dichloroethene	0.047
Methylene chloride	ND (0.009) UJ
Tetrachloroethene	ND (0.002)
Trichloroethene	0.001 J
Vinyl chloride	0.007 (A)

DAY-07	7/15/02 TR off-site	3/21/03 TR off-site	11/9/04 TR off-site
VOAs			
1,1-Dichloroethene	ND (0.08)	ND (0.033)	ND (0.071)
Benzene	ND (0.08)	ND (0.033)	ND (0.071)
cis-1,2-Dichloroethene	0.34 (A)	0.18 (A)	0.25 (A)
Methylene chloride	ND (0.08)	ND (0.033)	ND (0.071)
Tetrachloroethene	ND (0.08)	ND (0.033)	ND (0.071)
Trichloroethene	1.9 (A)	1.3 (A)	2 (A)
Vinyl chloride	ND (0.08)	ND (0.033)	ND (0.071)
SVOAs			
Benzo(a)anthracene	ND (0.01)	ND (0.01)	-
Benzo(a)pyrene	ND (0.01)	ND (0.01)	-
Benzo(b)fluoranthene	ND (0.01)	ND (0.01)	-
bis(2-Ethylhexyl)phthalate	ND (0.01)	ND (0.01)	-
Dibenz(a,h)anthracene	ND (0.01)	ND (0.01)	-
PCBs			
Total PCBs	ND (0.0002)	ND (0.0002)	ND (0.0002)

MW-11-03	3/20/03 UA/WT off-site	11/3/04 UA/WT off-site
VOAs		
1,1-Dichloroethene	ND (0.001)	ND (0.002)
Benzene	ND (0.001)	ND (0.002)
cis-1,2-Dichloroethene	0.003	0.003
Methylene chloride	ND (0.001)	ND (0.003) UJ
Tetrachloroethene	0.002	0.009 (A)
Trichloroethene	0.012 (A)	0.04 (A)
Vinyl chloride	ND (0.001)	ND (0.002)
SVOAs		
Benzo(a)anthracene	ND (0.01)	-
Benzo(a)pyrene	ND (0.01)	-
Benzo(b)fluoranthene	ND (0.01)	-
bis(2-Ethylhexyl)phthalate	ND (0.01)	-
Dibenz(a,h)anthracene	ND (0.01)	-
PCBs		
Total PCBs	ND (0.0002)	ND (0.0002)

MW-8-03	3/26/03 UA/WT off-site	11/8/04 UA/WT off-site
VOAs		
1,1-Dichloroethene	ND (0.001)	ND (0.003)
Benzene	ND (0.001)	ND (0.003)
cis-1,2-Dichloroethene	0.029	0.077 (A)
Methylene chloride	ND (0.001)	ND (0.003)
Tetrachloroethene	0.052 (A)	0.094 (A)
Trichloroethene	0.018 (A)	0.045 (A)
Vinyl chloride	ND (0.001)	ND (0.003)
SVOAs		
Benzo(a)anthracene	ND (0.01)	-
Benzo(a)pyrene	ND (0.01)	-
Benzo(b)fluoranthene	ND (0.01)	-
bis(2-Ethylhexyl)phthalate	ND (0.01)	-
Dibenz(a,h)anthracene	ND (0.01)	-
PCBs		
Total PCBs	ND (0.0002)	ND (0.0002)

GEOTHERMAL_WELL	5/27/03 UA/TT off-site	8/24/04 LA/ST off-site
VOAs		
1,1-Dichloroethene	ND (0.008)	ND (0.01)
Benzene	ND (0.008)	ND (0.01)
cis-1,2-Dichloroethene	0.067	0.09 (A)
Methylene chloride	ND (0.008)	ND (0.01)
Tetrachloroethene	ND (0.008)	ND (0.01)
Trichloroethene	0.02 (A)	0.32 (A)
Vinyl chloride	ND (0.008)	ND (0.01)
SVOAs		
Benzo(a)anthracene	ND (0.01)	-
Benzo(a)pyrene	ND (0.01)	-
Benzo(b)fluoranthene	ND (0.01)	-
bis(2-Ethylhexyl)phthalate	ND (0.01)	-
Dibenz(a,h)anthracene	ND (0.01)	-
PCBs		
Total PCBs	ND (0.0002)	-

DAY-05R	11/12/04 UA/ST off-site
VOAs	
1,1-Dichloroethene	ND (0.02)[ND (0.02)
Benzene	ND (0.02)[ND (0.02)
cis-1,2-Dichloroethene	0.64 (A)[0.56 (A)
Methylene chloride	ND (0.02)[ND (0.02)
Tetrachloroethene	0.8 (A)[0.69 (A)
Trichloroethene	0.11 (A)[0.08 (A)
Vinyl chloride	0.014 J (A)[0.01 J (A)
PCBs	
Total PCBs	ND (0.0002)[ND (0.0002)

DAY-05	7/11/02 UA/O off-site	3/21/03 UA/O off-site
VOAs		
1,1-Dichloroethene	ND (0.02)[ND (0.02)	ND (0.017)
Benzene	ND (0.02)[ND (0.02)	ND (0.017)
cis-1,2-Dichloroethene	0.0025 J[ND	0.047
Methylene chloride	ND (0.02)[ND (0.02)	ND (0.017)
Tetrachloroethene	0.53 (A)[0.54 (A)	0.46 (A)
Trichloroethene	0.047 (A)[0.045 (A)	0.049 (A)
Vinyl chloride	ND (0.02)[ND (0.02)	ND (0.017)
SVOAs		
Benzo(a)anthracene	ND (0.01)[ND (0.01)	ND (0.01)
Benzo(a)pyrene	ND (0.01)[ND (0.01)	ND (0.01)
Benzo(b)fluoranthene	ND (0.01)[ND (0.01)	ND (0.01)
bis(2-Ethylhexyl)phthalate	ND (0.01)[ND (0.01)	ND (0.01)
Dibenz(a,h)anthracene	ND (0.01)[ND (0.01)	ND (0.01)
PCBs		
Total PCBs	ND (0.0002)[ND (0.0002)	ND (0.0002)

MW-47-05	7/15/05 UA/O Off-Site
VOAs	
1,1-Dichloroethene	ND (0.003)[ND (0.003)
Benzene	ND (0.003)[ND (0.003)
cis-1,2-Dichloroethene	0.015[0.014
Methylene chloride	ND (0.017)[ND (0.017)
Tetrachloroethene	0.055 (A)[0.053 (A)
Trichloroethene	0.096 (A)[0.1 (A)
Vinyl chloride	ND (0.003)[ND (0.003)

MW-8B-03	3/7/03 UA/TT off-site	4/25/03 UA/TT off-site	8/13/03 UA/TT off-site	3/18/04 UA/TT off-site	6/28/04 UA/TT off-site	10/18/04 UA/TT off-site	11/18/04 UA/TT off-site	4/27/05 UA/TT off-site
VOAs								
1,1-Dichloroethene	ND (0.015)	ND (0.033)	ND (0.033)	ND (0.067)	ND (0.04)	ND (0.004)[ND (0.004)	ND (0.02)	ND (0.02)
Benzene	ND (0.015)	ND (0.033)	ND (0.033)	ND (0.067)	ND (0.04)	ND (0.004)[ND (0.004)	ND (0.02)	ND (0.02)
cis-1,2-Dichloroethene	ND (0.008)	1.2 (A)	0.81 (A)	1.5 (A)	1.2 (A)	0.15 (A)[0.16 (A)	0.77 (A)	0.44 (A)
Methylene chloride	0.006 [V]	ND (0.033)	ND (0.033)	ND (0.067)	ND (0.04)	ND (0.004)[ND (0.004)	ND (0.035)	ND (0.1)
Tetrachloroethene	0.31 (A)	0.069 (A)	0.29 (A)	0.17 (A)	0.18 (A)	0.035 (A)[0.051 (A)	0.17 (A)	0.066 (A)
Trichloroethene	0.018 (A)	0.018 J (A)	0.12 (A)	0.09 (A)	0.13 (A)	0.015 (A)[0.02 (A)	0.13 (A)	0.04 (A)
Vinyl chloride	ND (0.015)	ND (0.033)	ND (0.033)	0.067 (A)	0.078 (A)	0.029 (A)[0.021 (A)	0.027 (A)	0.12 (A)
SVOAs								
Benzo(a)anthracene	ND (0.01)	-	-	-	-	-	-	-
Benzo(a)pyrene	ND (0.01)	-	-	-	-	-	-	-
Benzo(b)fluoranthene	ND (0.01)	-	-	-	-	-	-	-
bis(2-Ethylhexyl)phthalate	ND (0.01)	-	-	-	-	-	-	-
Dibenz(a,h)anthracene	ND (0.01)	-	-	-	-	-	-	-
PCBs								
Total PCBs	ND (0.0002)	-	-	-	-	-	-	-
Total PCBs (Dissolved)	ND (0.0002)	-	-	-	-	-	-	-

MW-44-05	7/14/05 TR Off-Site
VOAs	
1,1-Dichloroethene	ND (0.001)
Benzene	ND (0.001)
cis-1,2-Dichloroethene	0.4 J (A)
Methylene chloride	ND (0.16) UJ
Tetrachloroethene	ND (0.001)
Trichloroethene	0.82 J (A)
Vinyl chloride	0.008 J (A)

MW-45-05	7/14/05 UA/TT Off-Site
VOAs	
1,1-Dichloroethene	ND (0.002)
Benzene	ND (0.002)
cis-1,2-Dichloroethene	0.004
Methylene chloride	ND (0.01) UJ
Tetrachloroethene	0.033 (A)
Trichloroethene	0.067 (A)
Vinyl chloride	ND (0.002)

MW-42-05	7/15/05 TR Off-Site
VOAs	
1,1-Dichloroethene	ND (0.017)
Benzene	ND (0.017)
cis-1,2-Dichloroethene	0.3 (A)
Methylene chloride	ND (0.083)
Tetrachloroethene	ND (0.017)
Trichloroethene	0.46 (A)
Vinyl chloride	0.051 (A)

MW-18-04	3/3/04 LA off-site	3/23/04 LA off-site
VOAs		
1,1-Dichloroethene	0.004	0.007
Benzene	ND (0.003)	ND (0.006)
cis-1,2-Dichloroethene	0.11 (A)	0.17 (A)
Methylene chloride	ND (0.003)	ND (0.006)
Tetrachloroethene	ND (0.003)	ND (0.006)
Trichloroethene	ND (0.003)	ND (0.006)
Vinyl chloride	0.008 (A)	0.013 (A)
PCBs		
Total PCBs	-	ND (0.0022)

MW-9A-03	2/5/03 UA/WT off-site	4/29/03 UA/WT off-site	8/13/03 UA/WT off-site	3/18/04 UA/WT off-site	6/28/04 UA/WT off-site	10/18/04 UA/WT off-site	11/18/04 UA/WT off-site	4/27/05 UA/WT off-site
VOAs								
1,1-Dichloroethene	ND (0.04)	ND (0.033)[ND (0.033)	ND (0.008)	ND (0.014)[ND (0.014)	ND (0.

MW-6A-03	2/5/03 UA:WT off-site	4/25/03 UA:WT off-site		8/13/03 UA:WT off-site	3/18/04 UA:WT off-site	6/28/04 UA:WT off-site	10/18/04 UA:WT off-site	4/27/05 UA:WT off-site
Metals								
Arsenic	0.004 J	0.008 J/0.008 J		-	-	-	-	-
Arsenic (Dissolved)	0.006 J	0.006 J/0.006 J		-	-	-	-	-
Cadmium	ND (0.006)	ND (0.005)/ND (0.005)		-	-	-	-	-
Cadmium (Dissolved)	ND (0.006)	ND (0.005)/ND (0.005)		-	-	-	-	-
Lead	ND (0.003)	ND (0.003)/ND (0.003)		-	-	-	-	-
Lead (Dissolved)	ND (0.003)	ND (0.003)/ND (0.003)		-	-	-	-	-
Manganese	0.18	0.5/0.51	0.19	0.16/0.16	0.16	0.15	0.19	
Manganese (Dissolved)	0.16	0.44/0.5		0.16/0.16	-	-	-	
Mercury	ND (0.0002)	ND (0.0002)/ND (0.0002)		-	-	-	-	
Mercury (Dissolved)	ND (0.0002)	ND (0.0002)/ND (0.0002)		-	-	-	-	

HD-11	6/26/02 UA:TT off-site	3/25/03 UA:TT off-site	11/8/04 UA:TT off-site
Metals			
Arsenic	ND (0.01)	0.005 J	-
Arsenic (Dissolved)	ND (0.01)	ND (0.01)	-
Cadmium	ND (0.005)	ND (0.005)	-
Cadmium (Dissolved)	ND (0.005)	ND (0.005)	-
Lead	ND (0.003)	0.003 J	-
Lead (Dissolved)	ND (0.003)	ND (0.003)	-
Manganese	0.45	0.81	0.47
Manganese (Dissolved)	0.43	0.44	-
Mercury	ND (0.0002)	ND (0.0002)	-
Mercury (Dissolved)	ND (0.0002)	ND (0.0002)	-

MW-7B-03	2/6/03 UA:TT off-site	4/28/03 UA:TT off-site	8/12/03 UA:TT off-site	3/18/04 UA:TT off-site	6/29/04 UA:TT off-site	10/14/04 UA:TT off-site	4/27/05 UA:TT off-site
Metals							
Arsenic	ND (0.01)	0.005 J	-	-	0.013 (A)/0.012 (A)	-	-
Arsenic (Dissolved)	ND (0.01)	0.006 J	-	-	-	-	-
Cadmium	ND (0.005)	ND (0.005)	-	-	ND (0.005)/ND (0.005)	-	-
Cadmium (Dissolved)	ND (0.005)	ND (0.005)	-	-	-	-	-
Lead	ND (0.003)	ND (0.003)	-	-	ND (0.003)/ND (0.003)	-	-
Lead (Dissolved)	ND (0.003)	ND (0.003)	-	-	-	-	-
Manganese	0.3	0.12	0.24/0.23	0.27	0.27/0.26	0.27	0.17
Manganese (Dissolved)	0.3	0.066	-	0.25	-	-	-
Mercury	ND (0.0002)	ND (0.0002)	-	-	ND (0.0002)/ND (0.0002)	-	-
Mercury (Dissolved)	ND (0.0002)	ND (0.0002)	-	-	-	-	-

MW-7A-03	2/7/03 UA:WT off-site	4/28/03 UA:WT off-site	8/12/03 UA:WT off-site	3/18/04 UA:WT off-site	6/29/04 UA:WT off-site	10/14/04 UA:WT off-site	4/27/05 UA:WT off-site
Metals							
Arsenic	0.007 J/0.005 J	0.006 J	-	-	0.01	-	-
Arsenic (Dissolved)	0.005 J/0.006 J	0.006 J	-	-	-	-	-
Cadmium	ND (0.005)/ND (0.005)	ND (0.005)	-	-	ND (0.005)	-	-
Cadmium (Dissolved)	ND (0.005)/ND (0.005)	ND (0.005)	-	-	-	-	-
Lead	ND (0.003)/ND (0.003)	ND (0.003)	-	-	ND (0.003)	-	-
Lead (Dissolved)	ND (0.003)/ND (0.003)	ND (0.003)	-	-	-	-	-
Manganese	1.2/1.2	0.15	0.23	0.19	0.18	0.15	0.18
Manganese (Dissolved)	0.82/0.85	0.15	-	0.19	-	-	-
Mercury	0.0002 J/ND (0.0002)	ND (0.0002)	-	-	ND (0.0002)	-	-
Mercury (Dissolved)	ND (0.0002)/ND (0.0002)	ND (0.0002)	-	-	-	-	-

Chemical Name	A	B (On Site)	B (Off Site)	C
VOCs				
1,1-Dichloroethene	7.00E-03	2.44E+02	2.42E+02	1.25E+02
Benzene	5.00E-03	6.41E+00	6.19E+00	4.88E+00
cis-1,2-Dichloroethene	7.00E-02	6.38E+01	6.09E+01	2.29E+01
Methylene chloride	5.00E-03	1.27E+02	1.18E+02	8.94E+01
Tetrachloroethene	5.00E-03	1.49E+01	1.47E+01	1.41E+01
Trichloroethene	5.00E-03	2.73E+01	2.67E+01	2.68E+01
Vinyl chloride	2.00E-03	3.29E+00	3.25E+00	2.02E+00
SVOCs				
Benzo(a)anthracene	1.17E-03	1.43E+02	1.10E+02	6.17E-02
Benzo(a)pyrene	2.00E-04	4.20E+01	3.24E+01	4.35E-03
Benzo(b)fluoranthene	1.17E-03	7.70E+00	6.72E+00	3.71E-02
bis(2-Ethylhexyl)phthalate	6.00E-03	1.00E+05	7.69E+04	1.82E+00
Dibenz(a,h)anthracene	1.17E-04	2.81E+03	2.08E+03	2.78E-03
PCBs				
Total PCBs	5.00E-04	2.52E-01	2.43E-01	9.35E-03
Total PCBs (Dissolved)	5.00E-04	2.52E-01	2.43E-01	9.35E-03
Metals				
Arsenic	1.00E-02	-	-	1.44E+01
Arsenic (Dissolved)	1.00E-02	-	-	1.44E+01
Cadmium	5.00E-03	-	-	1.80E+01
Cadmium (Dissolved)	5.00E-03	-	-	1.80E+01
Lead	1.50E-02	-	-	7.40E+01
Lead (Dissolved)	1.50E-02	-	-	7.40E+01
Manganese	5.11E+00	-	-	5.96E+03
Manganese (Dissolved)	5.11E+00	-	-	5.96E+03
Mercury	2.00E-03	8.33E-01	8.19E-01	2.88E-01
Mercury (Dissolved)	2.00E-03	8.33E-01	8.19E-01	2.88E-01

A Drinking Water (DW)
B Onsite / Offsite Routine Worker (RW) Risk-Based GW Volatilization to Indoor Air
C Risk-Based Routine Construction Worker (Conse) GW Contact Criteria

NOTES:
1. SCREENING CRITERIA AND SAMPLE RESULTS ARE COMPARED TO TWO SIGNIFICANT DIGITS. RESULTS EQUAL TO SCREENING CRITERIA ARE NOT HIGHLIGHTED AS EXCEEDANCES.
2. PARAMETERS THAT DO NOT APPEAR IN THE DATABOX FOR A PARTICULAR SAMPLE WERE NOT ANALYZED.

DAY-11D	6/24/02 UA:TT off-site	3/20/03 UA:TT off-site	11/8/04 UA:TT off-site
Metals			
Arsenic	ND (0.01)	ND (0.01)	-
Cadmium	ND (0.005)	0.0004 J	-
Lead	ND (0.003)	ND (0.003)	-
Manganese	0.31	0.34	0.35
Mercury	ND (0.0002)	ND (0.0002)	-

DAY-11S	6/25/02 UA:O off-site	3/20/03 UA:O off-site	11/9/04 UA:O off-site
Metals			
Arsenic	ND (0.01)	ND (0.01)	-
Cadmium	ND (0.005)	ND (0.005)	-
Lead	ND (0.003)	0.002 J	-
Manganese	0.46	0.46	0.43
Mercury	ND (0.0002)	ND (0.0002)	-

DAY-12	6/27/02 UA:TT off-site	3/21/03 UA:TT off-site
Metals		
Arsenic	ND (0.01)/ND (0.01)	ND (0.01)
Cadmium	ND (0.005)/ND (0.005)	ND (0.005)
Lead	ND (0.003)/ND (0.003)	ND (0.003)
Manganese	0.41/0.42	0.38
Mercury	ND (0.0002)/ND (0.0002)	ND (0.0002)

HD-19	7/10/02 UA:TT off-site	3/26/03 UA:TT off-site	11/8/04 UA:TT off-site
Metals			
Arsenic	0.007 J	0.004 J/0.004 J	-
Arsenic (Dissolved)	0.003 J	0.003 J/0.004 J	-
Cadmium	0.001 J	ND (0.005)/ND (0.005)	-
Cadmium (Dissolved)	0.001 J	ND (0.005)/ND (0.005)	-
Lead	ND (0.003)	ND (0.003)/ND (0.003)	-
Lead (Dissolved)	ND (0.003)	ND (0.003)/ND (0.003)	-
Manganese	0.34	0.36/0.36	0.26
Manganese (Dissolved)	0.34	0.34/0.35	-
Mercury	ND (0.0002)	ND (0.0002)/ND (0.0002)	-
Mercury (Dissolved)	ND (0.0002)	ND (0.0002)/ND (0.0002)	-

DAY-05R	11/12/04 UA:O off-site
Metals	
Manganese	0.37/0.32

DAY-05	7/11/02 UA:O off-site	3/21/03 UA:O off-site
Metals		
Arsenic	0.003 J/0.004 J	ND (0.01)
Cadmium	ND (0.005)/ND (0.005)	ND (0.005)
Lead	ND (0.003)/ND (0.003)	ND (0.003)
Manganese	0.36/0.36	0.43
Mercury	ND (0.0002)/ND (0.0002)	ND (0.0002)

MW-8B-03	2/7/03 UA:TT off-site	4/25/03 UA:TT off-site	8/13/03 UA:TT off-site	3/18/04 UA:TT off-site	6/28/04 UA:TT off-site	10/18/04 UA:TT off-site	4/27/05 UA:TT off-site
Metals							
Arsenic	ND (0.01)	0.013 (A)	-	-	-	-	-
Arsenic (Dissolved)	ND (0.01)	0.014 (A)	-	-	-	-	-
Cadmium	ND (0.005)	ND (0.005)	-	-	-	-	-
Cadmium (Dissolved)	ND (0.005)	ND (0.005)	-	-	-	-	-
Lead	ND (0.003)	0.003	-	-	-	-	-
Lead (Dissolved)	ND (0.003)	ND (0.003)	-	-	-	-	-
Manganese	0.072	0.21	0.17	0.25	0.28	0.24/0.24	0.31
Manganese (Dissolved)	0.071	0.2	-	0.23	-	-	-
Mercury	ND (0.0002)	ND (0.0002)	-	-	-	-	-
Mercury (Dissolved)	ND (0.0002)	ND (0.0002)	-	-	-	-	-

MW-8-03	3/28/03 UA:WT off-site	11/8/04 UA:WT off-site
Metals		
Arsenic	ND (0.01)	-
Cadmium	0.0003 J	-
Lead	ND (0.003)	-
Manganese	0.038	0.042
Mercury	ND (0.0002)	-

GEOTHERMAL_WELL	5/27/03 LA:BT off-site	8/24/04 LA:BT off-site
Metals		
Arsenic	0.004 J	0.006 J
Cadmium	ND (0.005)	ND (0.005)
Lead	ND (0.003)	ND (0.003)
Manganese	0.11	
Mercury	ND (0.0002)	ND (0.0002)

MW-21-04	3/25/04 UA:WT off-site	11/15/04 UA:WT off-site
Metals		
Arsenic	ND (0.01)	-
Cadmium	0.0003 J	-
Lead	ND (0.003)	-
Manganese	0.27	0.35
Mercury	ND (0.0002)	-

MW-16R-04	3/24/04 UA:WT off-site	11/4/04 UA:WT off-site
Metals		
Arsenic	ND (0.01)	-
Cadmium	ND (0.005)	-
Lead	ND (0.003)	-
Manganese	0.75	0.25
Mercury	ND (0.0002)	-

HD-4	7/10/02 UA:O off-site	3/24/03 UA:O off-site
Metals		
Arsenic	0.004 J	0.005 J
Arsenic (Dissolved)	0.006 J	0.004 J
Cadmium	0.0006 J	ND (0.005)
Cadmium (Dissolved)	ND (0.005)	ND (0.005)
Lead	ND (0.003)	ND (0.003)
Lead (Dissolved)	ND (0.003)	ND (0.003)
Manganese	0.45	0.4
Manganese (Dissolved)	0.11	0.19
Mercury	ND (0.0002)	ND (0.0002)
Mercury (Dissolved)	ND (0.0002)	ND (0.0002)

MW-19-04	3/23/04 TR off-site
Metals	
Arsenic	0.004 J
Cadmium	0.0003 J
Lead	ND (0.003)
Manganese	0.046
Mercury	ND (0.0002)

MW-20-04	3/24/04 TR off-site	11/9/04 TR off-site
Metals		
Arsenic	0.003 J	-
Cadmium	0.0004 J	-
Lead	ND (0.003)	-
Manganese	0.063	0.07
Mercury	ND (0.0002)	-

DAY-08	7/15/02 UA:TT off-site	3/19/03 UA:TT off-site
Metals		
Arsenic	0.004 J	0.004 J
Cadmium	ND (0.005)	ND (0.005)
Lead	ND (0.003)	ND (0.003)
Manganese	0.34	0.3
Mercury	ND (0.0002)	ND (0.0002)

DAY-07	7/15/02 TR off-site	3/21/03 TR off-site	11/10/04 TR off-site
Metals			
Arsenic	0.003 J	ND (0.01)	-
Cadmium	ND (0.005)	ND (0.005)	-
Lead	ND (0.003)	ND (0.003)	-
Manganese	0.13	0.17	0.14
Mercury	ND (0.0002)	ND (0.0002)	-

MW-11-03	3/20/03 UA:WT off-site
Metals	
Arsenic	ND (0.01)
Cadmium	ND (0.005)
Lead	ND (0.003)
Manganese	1
Mercury	ND (0.0002)

MW-18-04	3/23/04 LA off-site
Metals	
Arsenic	0.003 J
Cadmium	0.0003 J
Lead	ND (0.003)
Manganese	0.079
Mercury	ND (0.0002)

B-SA26	7/2/02 UA:WT off-site	4/14/03 UA:WT off-site
Metals		
Arsenic	ND (0.01)	ND (0.01)
Cadmium	ND (0.005)	ND (0.005)
Lead	ND (0.003)	ND (0.003)
Manganese	0.2	0.23
Mercury	ND (0.0002)	ND (0.0002)

HD-3	6/26/02 UA:TT off-site	3/24/03 UA:TT off-site	8/13/03 UA:TT off-site	3/19/04 UA:TT off-site	6/28/04 UA:TT off-site	10/14/04 UA:TT off-site	4/28/05 UA:TT off-site
Metals							
Arsenic	ND (0.01)	0.014 (A)	-	-	-	-	-
Arsenic (Dissolved)	ND (0.01)	0.011 (A)	-	-	-	-	-
Cadmium	ND (0.005)	0.0003 J	-	-	-	-	-
Cadmium (Dissolved)	ND (0.005)	ND (0.005)	-	-	-	-	-
Lead	ND (0.003)	ND (0.003)	-	-	-	-	-
Lead (Dissolved)	ND (0.003)	ND (0.003)	-	-	-	-	-
Manganese	0.47	0.5	0.42	0.43	0.36	0.32	0.34
Manganese (Dissolved)	0.28	0.45	-	0.31	-	-	-
Mercury	ND (0.0002)	0.0002	-	-	-	-	-
Mercury (Dissolved)	ND (0.0002)	ND (0.0002)	-	-	-	-	-

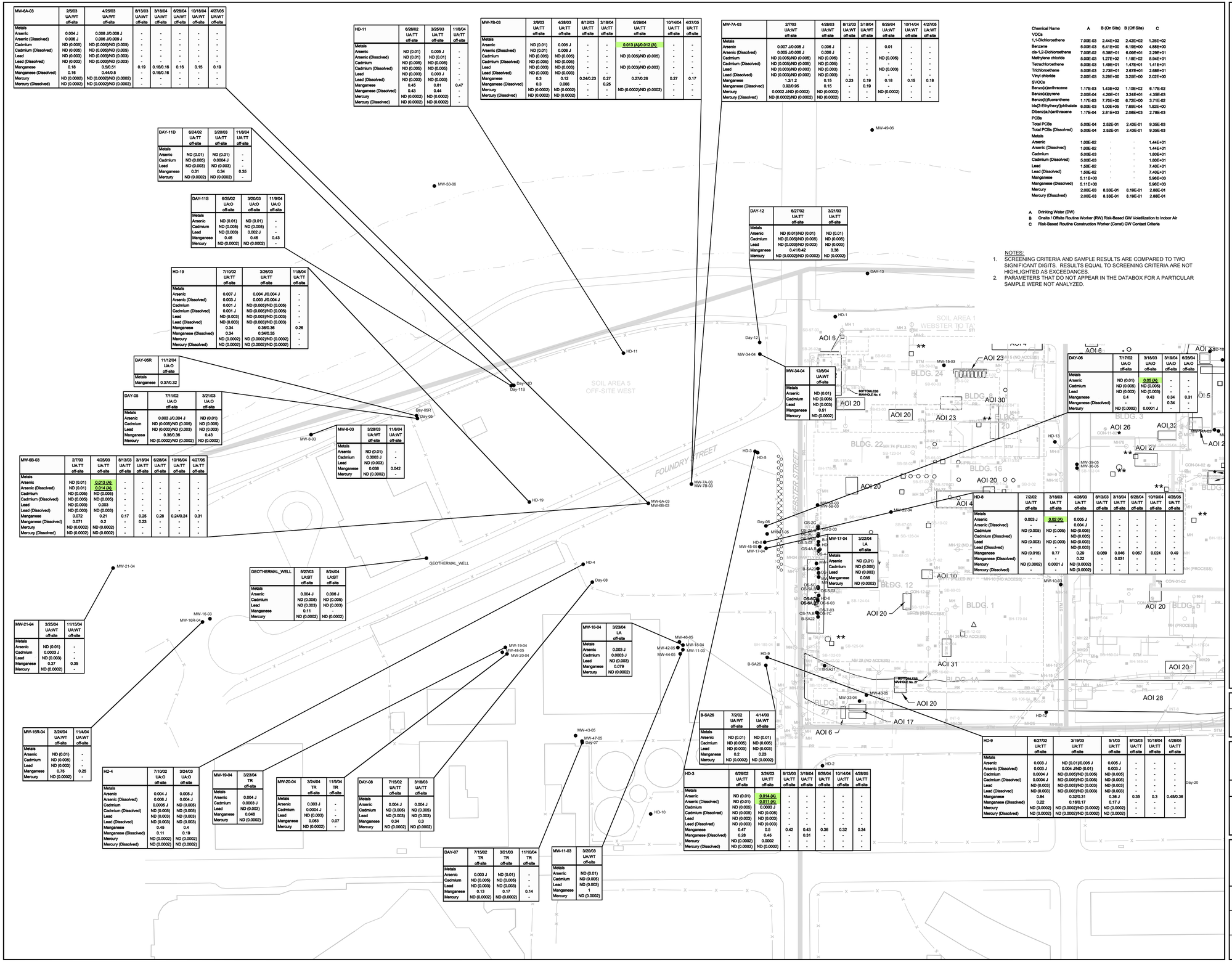
MW-17-04	3/23/04 LA off-site
Metals	
Arsenic	ND (0.01)
Cadmium	ND (0.006)
Lead	ND (0.003)
Manganese	0.056
Mercury	ND (0.0002)

MW-34-04	12/8/04 UA:WT off-site
Metals	
Arsenic	ND (0.01)
Cadmium	ND (0.006)
Lead	ND (0.003)
Manganese	0.51
Mercury	ND (0.0002)

DAY-06	7/17/02 UA:O off-site	3/18/03 UA:O off-site	3/19/04 UA:O off-site	6/29/04 UA:O off-site
Metals				
Arsenic	ND (0.01)	0.05 (A)	-	-
Cadmium	ND (0.005)	ND (0.005)	-	-
Lead	ND (0.003)	ND (0.003)	-	-
Manganese	0.4	0.43	0.34	0.31
Manganese (Dissolved)	-	-	0.34	-
Mercury	ND (0.0002)	0.0001 J	-	-

HD-8	7/2/02 UA:TT off-site	3/18/03 UA:TT off-site	4/28/03 UA:TT off-site	8/13/03 UA:TT off-site	3/18/04 UA:TT off-site	6/28/04 UA:TT off-site	10/19/04 UA:TT off-site	4/28/05 UA:TT off-site
Metals								
Arsenic	0.003 J	0.02 (A)	0.005 J	-	-	-	-	-
Arsenic (Dissolved)	-	-	0.004 J	-	-	-	-	-
Cadmium	ND (0.005)	ND (0.005)	ND (0.005)	-	-	-	-	-
Cadmium (Dissolved)	-	-	ND (0.005)	-	-	-	-	-
Lead	ND (0.003)	ND (0.003)	ND (0.003)	-	-	-	-	-
Lead (Dissolved)	-	-	ND (0.003)	-	-	-	-	-
Manganese	ND (0.015)	0.77	0.29	0.089	0.046	0.067	0.024	0.49
Manganese (Dissolved)	-	-	0.22	-	0.031	-	-	-
Mercury	ND (0.0002)	0.0001 J	ND (0.0002)	-	-	-	-	-
Mercury (Dissolved)			ND (0.0002)	-	-	-	-	-

HD-9	6/27/02 UA:TT off-site	3/19/03 UA:TT off-site	5/1/03 UA:TT off-site	8/13/03 UA:TT off-site	10/19/04 UA:TT off-site	4/28/05 UA:TT off-site
Metals						
Arsenic	0.003 J	ND (0.01)/0.005 J	0.005 J	-	-	-
Arsenic (Dissolved)	0.003 J	0.004 J/ND (0.01)	0.003 J	-	-	-
Cadmium	0.0004 J	ND (0.005)/ND (0.006)	ND (0.005)	-	-	-
Cadmium (Dissolved)	0.0004 J	ND (0.005)/ND (0.006)	ND (0.005)	-	-	-
Lead	ND (0.003)	ND (0.003)/ND (0.003)	ND (0.003)	-	-	-
Lead (Dissolved)	ND (0.003)	ND (0.003)/ND (0.003)	ND (0.003)	-	-	-
Manganese	0.84	0.32/0.31	0.36 J	0.35	0.3	0.45/0.36
Manganese (Dissolved)	0.22	0.16/0.17	0.17 J	-	-	-
Mercury	ND (0.0002)	ND (0.0002)/ND (0.0002)	ND (0.0002)	-	-	-
Mercury (Dissolved)	ND (0.0002)	ND (0.0002)/ND (0.0002)	ND (0.0002)	-	-	-



LEGEND

- BUILDING WALL
- BUILDING BOUNDARY
- FORMER BUILDING WALL
- SHORELINE
- RAILROAD
- SOIL PRESENTATION AREA BOUNDARY
- SOIL BORING LOCATION
- MONITORING WELL LOCATION
- WIPE/CONCRETE CORE SAMPLE LOCATION
- OZONE SPARGE WELL LOCATION
- INJECTION BORING FOR HRC BARRIER
- BASEMENT SUMP LOCATION
- PROCESS SEWER MANHOLE LOCATION
- STORM SEWER MANHOLE LOCATION
- STORM SEWER INTERCEPTOR LOCATION
- PROCESS SEWER LINE
- STORM SEWER LINE

AOI 1 - SOLVENT RELEASE AREA
AOI 2 - STILL ROOM
AOI 3 - WASTE TANKS
AOI 4 - HAZARDOUS WASTE STAGING AND STORING AREAS
** ON UPPER FLOOR
AOI 5 - ELECTROPLATING
AOI 6 - SPILL INTERCEPTORS
AOI 7 - SOLVENT STORAGE TANK
AOI 8 - DEGREASING UNITS:
● STODDARD SOLVENT
■ TCE/PCE/TCA SOLVENT
▲ FREON SOLVENT
** ON UPPER FLOOR
AOI 9 - SATELLITE CLEANING AREA (VARIOUS LOCATIONS THROUGHOUT SITE)
AOI 10 - PAINT WASTE ACCUMULATION AREAS
AOI 11 - CHIP HANDLING AREAS
AOI 12 - CUTTING OIL USTS
AOI 13 - OIL HOUSE
AOI 14 - HYDRAULIC OIL AND COOLANT USTS
AOI 15 - HYDRAULIC OIL UST
AOI 16 - FUEL USTS
AOI 17 - REFRIGERANT USTS
AOI 18 - STORM SEWERS (VARIOUS LOCATIONS THROUGHOUT SITE)
AOI 19 - PROCESS SEWERS (VARIOUS LOCATIONS THROUGHOUT SITE)
AOI 20 - PCB RELEASES FROM ELECTRICAL EQUIPMENT
AOI 21 - HYDROMATION PIT
AOI 22 - INCINERATOR
AOI 23 - USTS AND FORMER STILL
AOI 24 - FORMER MACHINE GUN TESTING AREA
AOI 25 - HYDROCHLORIC ACID SPILLS
AOI 26 - PCB RELEASES FORM PROCESS EQUIPMENT:
✱ PROCESS DUCT
△ No.2 VAILL MACHINE
□ TOOL GRIND ROOM
○ GEAR BOX
AOI 27 - BATTERY CHARGING STATION (A SECOND STATION MAY HAVE BEEN LOCATED IN BLDG. 5)
AOI 28 - FORMER MIAMI CANAL EXTENSION
AOI 29 - BUILDING 12 STILL
AOI 30 - EXPERIMENTAL AIR CONDITIONING
AOI 31 - BUILDING 1 SPRAY BOOTHS
AOI 32 - BUILDING 3 TRANSFORMER (GROUND LEVEL)
AOI 33 - PAINT AND ENAMEL STORAGE
AOI 34 - PARTS GRINDING
AOI 35 - STORAGE TANKS

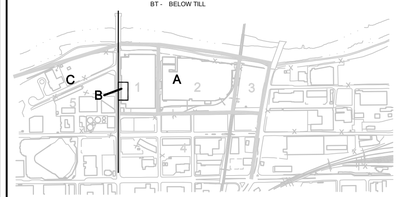
0 40 80ft

MW-34-04	12/8/04 UA:WT off-site
Metals	
Arsenic	ND (0.01)
Cadmium	ND (0.006)
Lead	ND (0.003)
Manganese	0.51
Mercury	ND (0.0002)

SAMPLE LOCATION
SAMPLE DATE
WELL CODE
ON-SITE/OFF-SITE INDICATOR
CONCENTRATION (mg/L)
PARAMETER

SAMPLE EXCEEDANCE

UA - UPPER AQUIFER
LA - LOWER AQUIFER
TR - TILL-ROCK ZONE
WT - WATER TABLE
O - OTHER
TT - TOP OF TILL
BT - BELOW TILL



KEY PLAN

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY

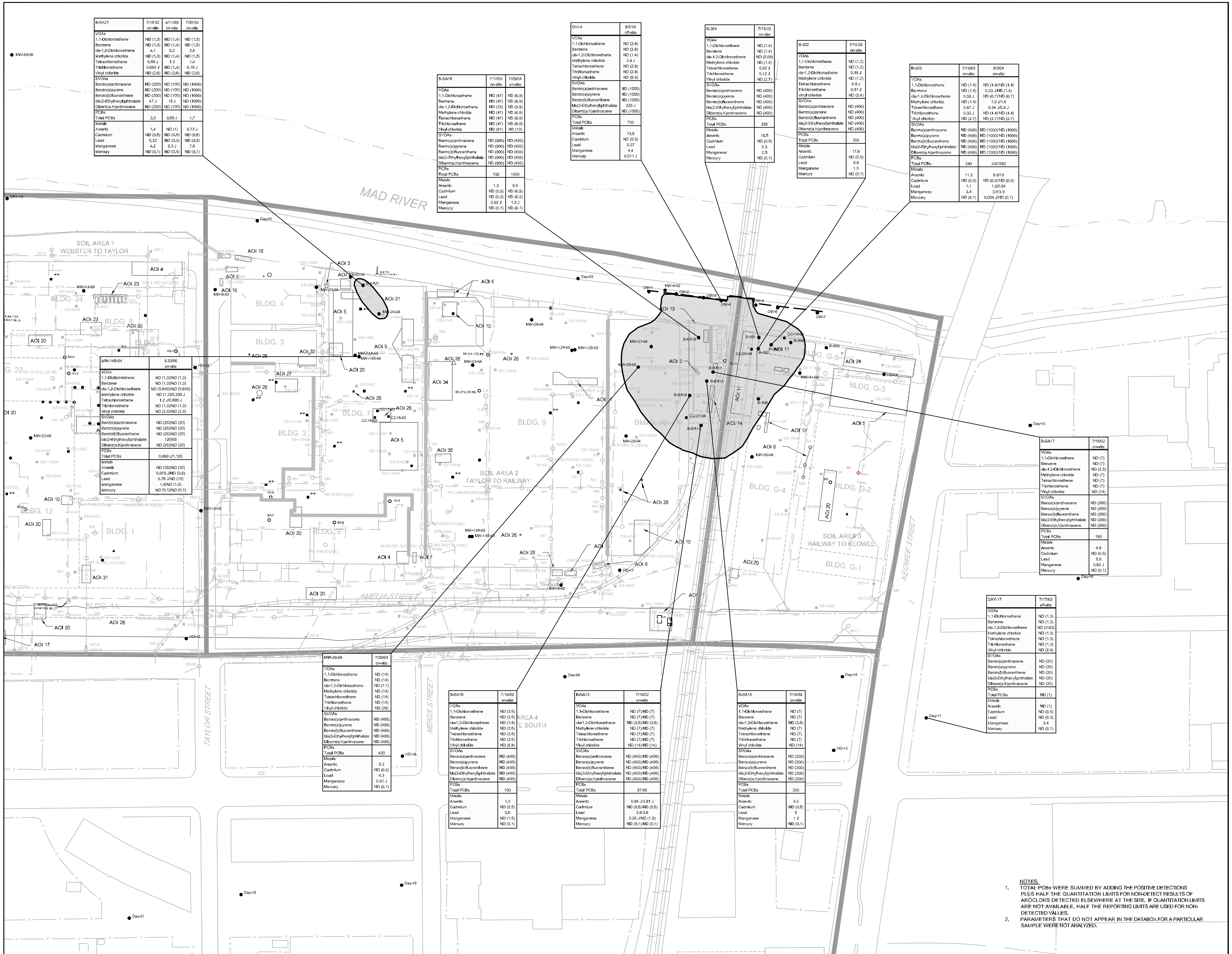
Dayton, Ohio

GROUNDWATER ANALYTICAL DATA INORGANICS - AREA C

CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

Project Manager:	Reviewed By:	Date:	
IKR	SE	MARCH 2006	
Scale: 1"=80'	Project №: 12638-04	Report №: 011	Drawing №: 4.4C(ii)



B-SA27	7/16/02 on-site	4/11/03 on-site	7/30/04 on-site
VOAs			
1,1-Dichloroethene	ND (1.3)	ND (1.4)	ND (1.3)
Benzene	ND (1.3)	ND (1.4)	ND (1.3)
cis-1,2-Dichloroethene	4.1	5.2	2.5
Methylene chloride	ND (1.3)	ND (1.4)	ND (1.3)
Tetrachloroethene	0.69 J	1 J	1.4
Trichloroethene	0.094 J	ND (1.4)	0.16 J
Vinyl chloride	ND (2.6)	ND (2.6)	ND (2.6)
SVOAs			
Benzo(a)anthracene	ND (200)	ND (100)	ND (1000)
Benzo(a)pyrene	ND (200)	ND (100)	ND (1000)
Benzo(b)fluoranthene	ND (200)	ND (100)	ND (1000)
bis(2-Ethylhexyl)phthalate	47 J	15 J	ND (1000)
Dibenz(a,h)anthracene	ND (200)	ND (100)	ND (1000)
PCBs			
Total PCBs	2.3	0.59 J	1.7
Metals			
Arsenic	1.4	ND (1)	0.73 J
Cadmium	ND (0.5)	ND (0.5)	ND (0.5)
Lead	0.32	ND (0.3)	ND (0.3)
Manganese	4.2	2.3 J	7.9
Mercury	ND (0.1)	ND (0.1)	ND (0.1)

B-SA18	7/17/02 on-site	7/29/04 on-site
VOAs		
1,1-Dichloroethene	ND (47)	ND (6.9)
Benzene	ND (47)	ND (6.9)
cis-1,2-Dichloroethene	ND (23)	ND (3.5)
Methylene chloride	ND (47)	ND (6.9)
Tetrachloroethene	ND (47)	ND (6.9)
Trichloroethene	ND (47)	ND (6.9)
Vinyl chloride	ND (91)	ND (13)
SVOAs		
Benzo(a)anthracene	ND (500)	ND (400)
Benzo(a)pyrene	ND (500)	ND (400)
Benzo(b)fluoranthene	ND (500)	ND (400)
bis(2-Ethylhexyl)phthalate	ND (500)	ND (400)
Dibenz(a,h)anthracene	ND (500)	ND (400)
PCBs		
Total PCBs	750	1000
Metals		
Arsenic	1.3	9.6
Cadmium	ND (0.5)	ND (0.5)
Lead	ND (0.3)	ND (0.3)
Manganese	0.52 J	1.3 J
Mercury	ND (0.1)	ND (0.1)

OW-4	8/3/04 off-site
VOAs	
1,1-Dichloroethene	ND (2.8)
Benzene	ND (2.8)
cis-1,2-Dichloroethene	ND (1.4)
Methylene chloride	3.4 J
Tetrachloroethene	ND (2.8)
Trichloroethene	ND (2.8)
Vinyl chloride	ND (5.5)
SVOAs	
Benzo(a)anthracene	ND (1000)
Benzo(a)pyrene	ND (1000)
Benzo(b)fluoranthene	ND (1000)
bis(2-Ethylhexyl)phthalate	220 J
Dibenz(a,h)anthracene	ND (1000)
PCBs	
Total PCBs	730
Metals	
Arsenic	13.8
Cadmium	ND (0.5)
Lead	0.37
Manganese	4.4
Mercury	0.011 J

B-301	7/15/02 on-site
VOAs	
1,1-Dichloroethene	ND (1.4)
Benzene	ND (1.4)
cis-1,2-Dichloroethene	ND (0.69)
Methylene chloride	ND (1.4)
Tetrachloroethene	0.32 J
Trichloroethene	0.12 J
Vinyl chloride	ND (2.7)
SVOAs	
Benzo(a)anthracene	ND (400)
Benzo(a)pyrene	ND (400)
Benzo(b)fluoranthene	ND (400)
bis(2-Ethylhexyl)phthalate	ND (400)
Dibenz(a,h)anthracene	ND (400)
PCBs	
Total PCBs	250
Metals	
Arsenic	18.5
Cadmium	ND (0.5)
Lead	0.3
Manganese	2.5
Mercury	ND (0.1)

B-302	7/15/02 on-site
VOAs	
1,1-Dichloroethene	ND (1.2)
Benzene	ND (1.2)
cis-1,2-Dichloroethene	0.19 J
Methylene chloride	ND (1.2)
Tetrachloroethene	0.9 J
Trichloroethene	0.17 J
Vinyl chloride	ND (2.4)
SVOAs	
Benzo(a)anthracene	ND (400)
Benzo(a)pyrene	ND (400)
Benzo(b)fluoranthene	ND (400)
bis(2-Ethylhexyl)phthalate	ND (400)
Dibenz(a,h)anthracene	ND (400)
PCBs	
Total PCBs	300
Metals	
Arsenic	17.6
Cadmium	ND (0.5)
Lead	0.8
Manganese	1.5
Mercury	ND (0.1)

B-303	7/15/02 on-site	8/2/04 on-site
VOAs		
1,1-Dichloroethene	ND (1.4)	ND (1.4)/ND (1.4)
Benzene	ND (1.4)	0.23 J/ND (1.4)
cis-1,2-Dichloroethene	0.53 J	ND (0.7)/ND (0.7)
Methylene chloride	ND (1.4)	1.3 J/1.6
Tetrachloroethene	0.87 J	0.54 J/0.5 J
Trichloroethene	0.32 J	ND (1.4)/ND (1.4)
Vinyl chloride	ND (2.7)	ND (2.7)/ND (2.7)
SVOAs		
Benzo(a)anthracene	ND (400)	ND (1000)/ND (1000)
Benzo(a)pyrene	ND (400)	ND (1000)/ND (1000)
Benzo(b)fluoranthene	ND (400)	ND (1000)/ND (1000)
bis(2-Ethylhexyl)phthalate	ND (400)	ND (1000)/ND (1000)
Dibenz(a,h)anthracene	ND (400)	ND (1000)/ND (1000)
PCBs		
Total PCBs	340	220/280
Metals		
Arsenic	11.3	9.6/12
Cadmium	ND (0.5)	ND (0.5)/ND (0.5)
Lead	1.1	1.5/0.64
Manganese	3.4	3.5/3.9
Mercury	ND (0.1)	0.009 J/ND (0.1)

MW-14B-04	1/20/06 on-site
VOAs	
1,1-Dichloroethene	ND (1.3)/ND (1.3)
Benzene	ND (1.3)/ND (1.3)
cis-1,2-Dichloroethene	ND (0.640)/ND (0.640)
Methylene chloride	ND (1.3)/0.330 J
Tetrachloroethene	1.2 J/0.890 J
Trichloroethene	ND (1.3)/ND (1.3)
Vinyl chloride	ND (2.5)/ND (2.5)
SVOAs	
Benzo(a)anthracene	ND (20)/ND (20)
Benzo(a)pyrene	ND (20)/ND (20)
Benzo(b)fluoranthene	ND (20)/ND (20)
bis(2-Ethylhexyl)phthalate	120/65
Dibenz(a,h)anthracene	ND (20)/ND (20)
PCBs	
Total PCBs	0.950 J/1.100
Metals	
Arsenic	ND (30)/ND (30)
Cadmium	0.075 J/ND (0.5)
Lead	0.78 J/ND (10)
Manganese	1.6/ND (1.5)
Mercury	ND (0.1)/ND (0.1)

B-SA17	7/16/02 on-site
VOAs	
1,1-Dichloroethene	ND (7)
Benzene	ND (7)
cis-1,2-Dichloroethene	ND (3.5)
Methylene chloride	ND (7)
Tetrachloroethene	ND (7)
Trichloroethene	ND (7)
Vinyl chloride	ND (14)
SVOAs	
Benzo(a)anthracene	ND (200)
Benzo(a)pyrene	ND (200)
Benzo(b)fluoranthene	ND (200)
bis(2-Ethylhexyl)phthalate	ND (200)
Dibenz(a,h)anthracene	ND (200)
PCBs	
Total PCBs	160
Metals	
Arsenic	4.8
Cadmium	ND (0.5)
Lead	5.6
Manganese	0.62 J
Mercury	ND (0.1)

DAY-17	7/17/02 off-site
VOAs	
1,1-Dichloroethene	ND (1.3)
Benzene	ND (1.3)
cis-1,2-Dichloroethene	ND (0.63)
Methylene chloride	ND (1.3)
Tetrachloroethene	ND (1.3)
Trichloroethene	ND (1.3)
Vinyl chloride	ND (2.4)
SVOAs	
Benzo(a)anthracene	ND (20)
Benzo(a)pyrene	ND (20)
Benzo(b)fluoranthene	ND (20)
bis(2-Ethylhexyl)phthalate	ND (20)
Dibenz(a,h)anthracene	ND (20)
PCBs	
Total PCBs	ND (1)
Metals	
Arsenic	ND (1)
Cadmium	ND (0.5)
Lead	ND (0.3)
Manganese	3.4
Mercury	ND (0.1)

MW-28-04	7/29/04 on-site
VOAs	
1,1-Dichloroethene	ND (14)
Benzene	ND (14)
cis-1,2-Dichloroethene	ND (7.1)
Methylene chloride	ND (14)
Tetrachloroethene	ND (14)
Trichloroethene	ND (14)
Vinyl chloride	ND (28)
SVOAs	
Benzo(a)anthracene	ND (400)
Benzo(a)pyrene	ND (400)
Benzo(b)fluoranthene	ND (400)
bis(2-Ethylhexyl)phthalate	ND (400)
Dibenz(a,h)anthracene	ND (400)
PCBs	
Total PCBs	420
Metals	
Arsenic	6.2
Cadmium	ND (0.5)
Lead	4.3
Manganese	0.51 J
Mercury	ND (0.1)

B-SA16	7/16/02 on-site
VOAs	
1,1-Dichloroethene	ND (3.5)
Benzene	ND (3.5)
cis-1,2-Dichloroethene	ND (1.8)
Methylene chloride	ND (3.5)
Tetrachloroethene	ND (3.5)
Trichloroethene	ND (3.5)
Vinyl chloride	ND (6.8)
SVOAs	
Benzo(a)anthracene	ND (400)
Benzo(a)pyrene	ND (400)
Benzo(b)fluoranthene	ND (400)
bis(2-Ethylhexyl)phthalate	ND (400)
Dibenz(a,h)anthracene	ND (400)
PCBs	
Total PCBs	100
Metals	
Arsenic	1.3
Cadmium	ND (0.5)
Lead	3.6
Manganese	ND (1.5)
Mercury	ND (0.1)

B-SA13	7/16/02 on-site
VOAs	
1,1-Dichloroethene	ND (7)/ND (7)
Benzene	ND (7)/ND (7)
cis-1,2-Dichloroethene	ND (3.5)/ND (3.5)
Methylene chloride	ND (7)/ND (7)
Tetrachloroethene	ND (7)/ND (7)
Trichloroethene	ND (7)/ND (7)
Vinyl chloride	ND (14)/ND (14)
SVOAs	
Benzo(a)anthracene	ND (400)/ND (400)
Benzo(a)pyrene	ND (400)/ND (400)
Benzo(b)fluoranthene	ND (400)/ND (400)
bis(2-Ethylhexyl)phthalate	ND (400)/ND (400)
Dibenz(a,h)anthracene	ND (400)/ND (400)
PCBs	
Total PCBs	87/85
Metals	
Arsenic	0.84 J/0.81 J
Cadmium	ND (0.5)/ND (0.5)
Lead	3.8/3.6
Manganese	0.26 J/ND (1.5)
Mercury	ND (0.1)/ND (0.1)

B-SA15	7/16/02 on-site
VOAs	
1,1-Dichloroethene	ND (7)
Benzene	ND (7)
cis-1,2-Dichloroethene	ND (3.5)
Methylene chloride	ND (7)
Tetrachloroethene	ND (7)
Trichloroethene	ND (7)
Vinyl chloride	ND (14)
SVOAs	
Benzo(a)anthracene	ND (200)
Benzo(a)pyrene	ND (200)
Benzo(b)fluoranthene	ND (200)
bis(2-Ethylhexyl)phthalate	ND (200)
Dibenz(a,h)anthracene	ND (200)
PCBs	
Total PCBs	200
Metals	
Arsenic	4.5
Cadmium	ND (0.5)
Lead	5
Manganese	1 J
Mercury	ND (0.1)

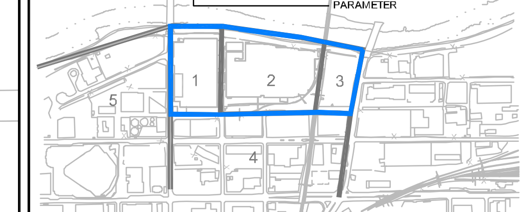
LEGEND

- BUILDING WALL
- BUILDING BOUNDARY
- FORMER BUILDING WALL
- SHORELINE
- RAILROAD
- SOIL PRESENTATION AREA BOUNDARY
- SOIL BORING LOCATION
- MONITORING WELL LOCATION
- WIPE/CONCRETE CORE SAMPLE LOCATION
- OZONE SPARGE WELL LOCATION
- INJECTION BORING FOR HRC BARRIER
- BASEMENT SUMP LOCATION
- PROCESS SEWER MANHOLE LOCATION
- STORM SEWER MANHOLE LOCATION
- STORM SEWER INTERCEPTOR LOCATION
- PROCESS SEWER LINE
- STORM SEWER LINE
- LNAPL PLUME
- SHEET PILE BARRIER WALL

AOI 1 - SOLVENT RELEASE AREA
AOI 2 - STILL ROOM
AOI 3 - WASTE TANKS
AOI 4 - HAZARDOUS WASTE STAGING AND STORING AREAS
** ON UPPER FLOOR
AOI 5 - ELECTROPLATING
AOI 6 - SPILL INTERCEPTORS
AOI 7 - SOLVENT STORAGE TANK
AOI 8 - DEGREASING UNITS:
● STODDARD SOLVENT
● TCE/PCE/TCA SOLVENT
▲ FREON SOLVENT
** ON UPPER FLOOR
AOI 9 - SATELLITE CLEANING AREA (VARIOUS LOCATIONS THROUGHOUT SITE)
AOI 10 - PAINT WASTE ACCUMULATION AREAS
AOI 11 - CHIP HANDLING AREAS
AOI 12 - CUTTING OIL UST'S
AOI 13 - OIL HOUSE
AOI 14 - HYDRAULIC OIL AND COOLANT USTS
AOI 15 - HYDRAULIC OIL UST
AOI 16 - FUEL USTS
AOI 17 - REFRIGERANT USTS
AOI 18 - STORM SEWERS (VARIOUS LOCATIONS THROUGHOUT SITE)
AOI 19 - PROCESS SEWERS (VARIOUS LOCATIONS THROUGHOUT SITE)
AOI 20 - PCB RELEASES FROM ELECTRICAL EQUIPMENT
AOI 21 - HYDRONATION PIT
AOI 22 - INCINERATOR
AOI 23 - UST'S AND FORMER STILL
AOI 24 - FORMER MACHINE GUN TESTING AREA
AOI 25 - HYDROCHLORIC ACID SPILLS
AOI 26 - PCB RELEASES FORM PROCESS EQUIPMENT:
★ PROCESS DUCT
△ No.2 VAULT MACHINE
□ TOOL GRIND ROOM
○ GEAR BOX
AOI 27 - BATTERY CHARGING STATION (A SECOND STATION MAY HAVE BEEN LOCATED IN BLDG. 5)
AOI 28 - FORMER MIAMI CANAL EXTENSION
AOI 29 - BUILDING 12 STILL
AOI 30 - EXPERIMENTAL AIR CONDITIONING
AOI 31 - BUILDING 1 SPRAY BOOTHS
AOI 32 - BUILDING 3 TRANSFORMER (GROUND LEVEL)
AOI 33 - PAINT AND ENAMEL STORAGE
AOI 34 - PARTS GRINDING
AOI 35 - STORAGE TANKS

Legend data box labels: SAMPLE LOCATION; SAMPLE DATE; ON-SITE/OFF-SITE INDICATOR; CONCENTRATION (mg/kg); PARAMETER

B-SA17	7/16/02 on-site
VOAs	
1,1-Dichloroethene	ND (7)
Benzene	ND (7)
cis-1,2-Dichloroethene	ND (3.5)
Methylene chloride	ND (7)
Tetrachloroethene	ND (7)
Trichloroethene	ND (7)
Vinyl chloride	ND (14)
SVOAs	
Benzo(a)anthracene	ND (200)
Benzo(a)pyrene	ND (200)
Benzo(b)fluoranthene	ND (200)
bis(2-Ethylhexyl)phthalate	ND (200)
Dibenz(a,h)anthracene	ND (200)
PCBs	
Total PCBs	160
Metals	
Arsenic	4.8
Cadmium	ND (0.5)
Lead	5.6
Manganese	0.62 J
Mercury	ND (0.1)



KEY PLAN

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY

Dayton, Ohio

LNAPL ANALYTICAL DATA SITE WIDE

CONESTOGA-ROVERS & ASSOCIATES

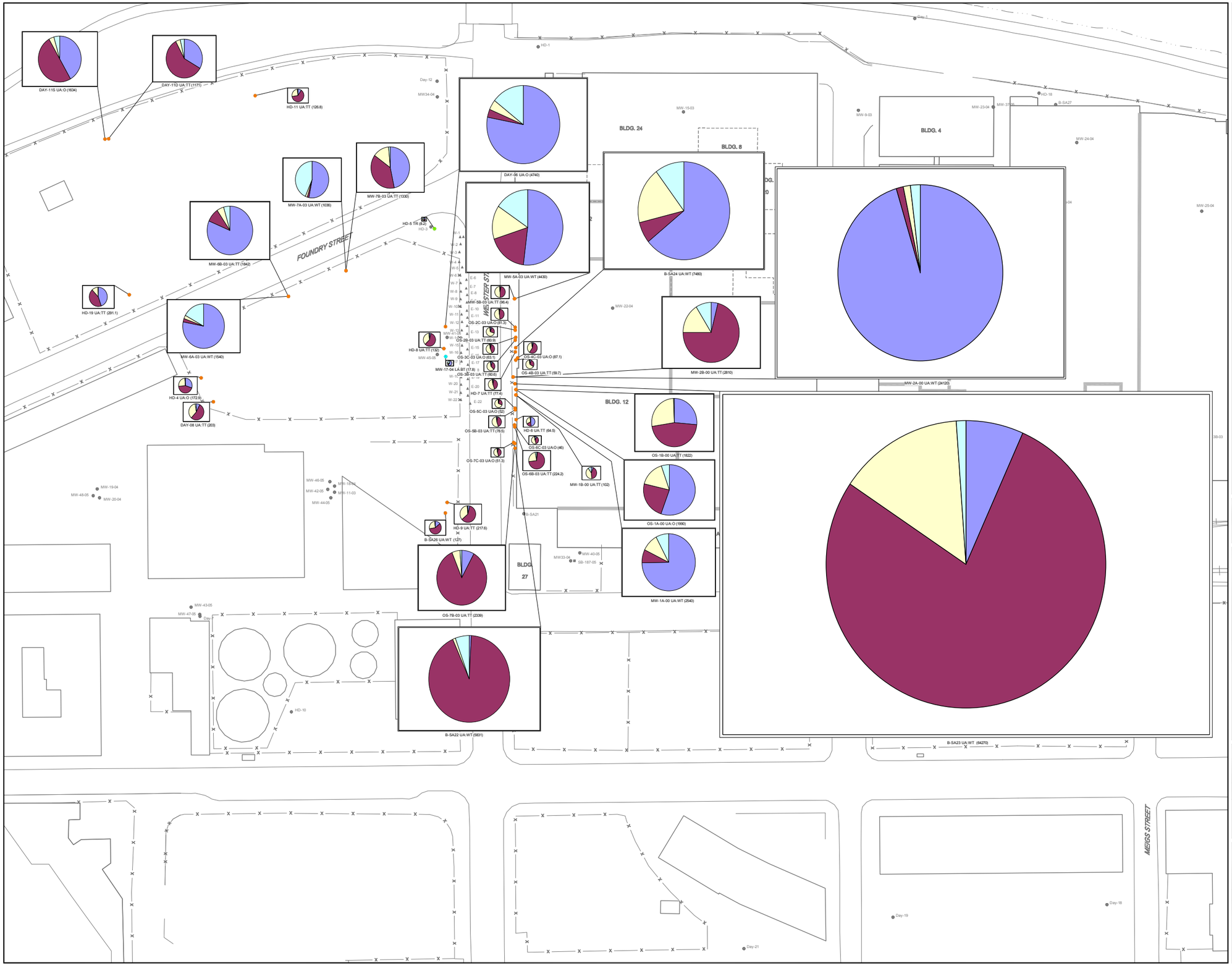
Source Reference:

Project Manager: IKR	Reviewed By: SE	Date: MARCH 2006	
Scale: 1"=80'	Project No.: 12638-04	Report No.: 011	Drawing No.: 4.5

NOTES:
1. TOTAL PCBs WERE SUMMED BY ADDING THE POSITIVE DETECTIONS PLUS HALF THE QUANTITATION LIMITS FOR NON-DETECT RESULTS OF AROCLORS DETECTED ELSEWHERE AT THE SITE. IF QUANTITATION LIMITS ARE NOT AVAILABLE, HALF THE REPORTING LIMITS ARE USED FOR NON-DETECTED VALUES.
2. PARAMETERS THAT DO NOT APPEAR IN THE DATABOX FOR A PARTICULAR SAMPLE WERE NOT ANALYZED.

12638-04(011)GN-WA060 APR 19/2006

Nº	Revision	Date	Initial



NOTES:
1. QUANTITATION LIMIT VALUE USED FOR NON-DETECT RESULTS.
2. AREA OF "PIE DIAGRAM" IS PROPORTIONAL TO TOTAL CVOC CONCENTRATION.

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

Approved

DRAWING STATUS

Status	Date	Initial

FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY

Dayton, Ohio

MAXIMUM HISTORICAL CVOC CONCENTRATIONS WEST OF SITE

CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

Project Manager:	Reviewed By:	Date:	
IKR	SE	MARCH 2006	
Scale: 1"=60'	Project Nº: 12638-04	Report Nº: 011	Drawing Nº: 4.6

12638-04(011)GN-WA063 MAR 27/2006

Nº	Revision	Date	Initial

0 20 60ft

LEGEND

- BUILDING WALL
- BUILDING BOUNDARY
- FORMER BUILDING WALL
- SHORELINE
- RAILROAD
- LOWER AQUIFER MONITORING WELL
- UPPER AQUIFER MONITORING WELL
- TILL RICH ZONE MONITORING WELL

VINYL CHLORIDE
TRICHLOROETHENE
cis-1,2-DICHLOROETHENE
TETRACHLOROETHENE
HD-3 UA:TT (1059) — TOTAL CVOC CONCENTRATION (ug/L)
AQUIFER DESIGNATION
SAMPLE LOCATION

NOTES:
1. QUANTITATION LIMIT VALUE USED FOR NON-DETECT RESULTS.
2. AREA OF "PIE DIAGRAM" IS PROPORTIONAL TO TOTAL CVOC CONCENTRATION.

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

Approved

DRAWING STATUS

Status	Date	Initial

FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY

Dayton, Ohio

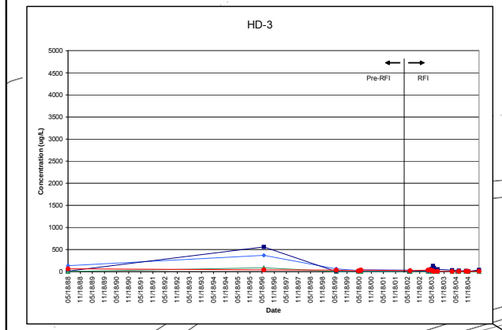
RECENT (POST IM) CVOC CONCENTRATIONS WEST OF SITE

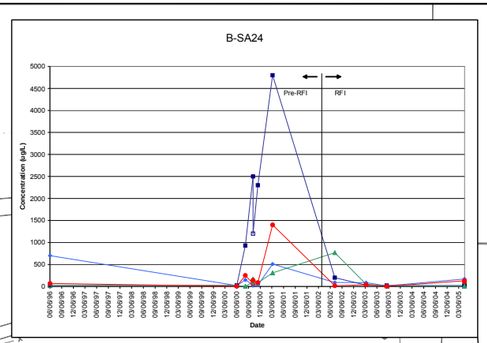
CONESTOGA-ROVERS & ASSOCIATES

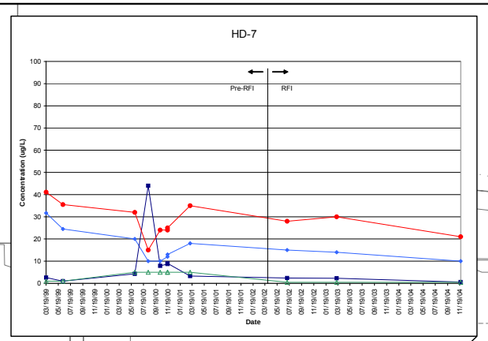
Source Reference:

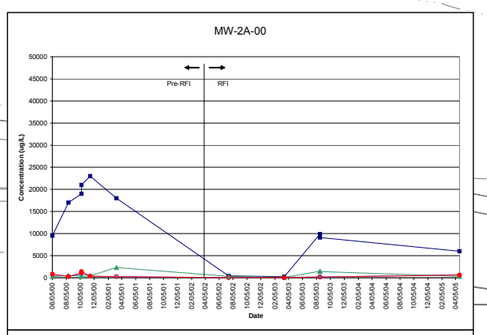
Project Manager:	Reviewed By:	Date:	
IKR	SE	MARCH 2006	
Scale: 1"=60'	Project Nº: 12638-04	Report Nº: 011	Drawing Nº: 4.7

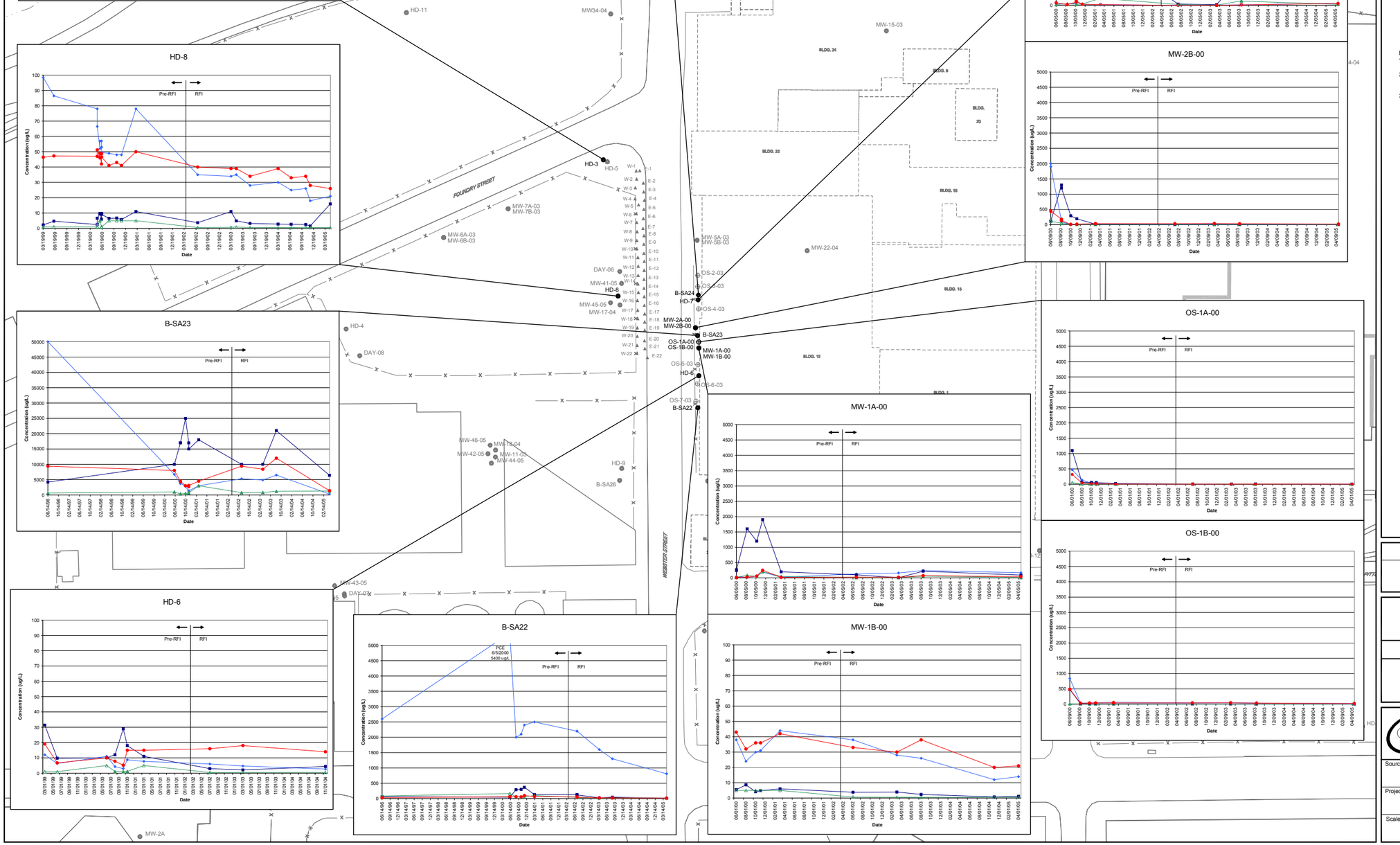
12638-04(011)GN-WA064 MAR 27/2006











NOTES
1. PILOT STUDY OZONE SPARGING CONDUCTED MARCH 2000 TO MARCH 2001 AT OS1A, OS1B, AND MW2B.
2. FULL SCALE OZONE SPARGING CONDUCTED APRIL 2003 TO JUNE 2003 AND FEBRUARY 2004 TO MARCH 2005 AT OS1A, OS1B, OS2B, OS2C, OS3B, OS3C, OS4B, OS4C, OS5B, OS5C, OS6B, OS6C, OS7B, OS7C, AND MW2B.
3. HRC INJECTION COMPLETED JANUARY 2003 AND FEBRUARY 2005.

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY

Dayton, Ohio

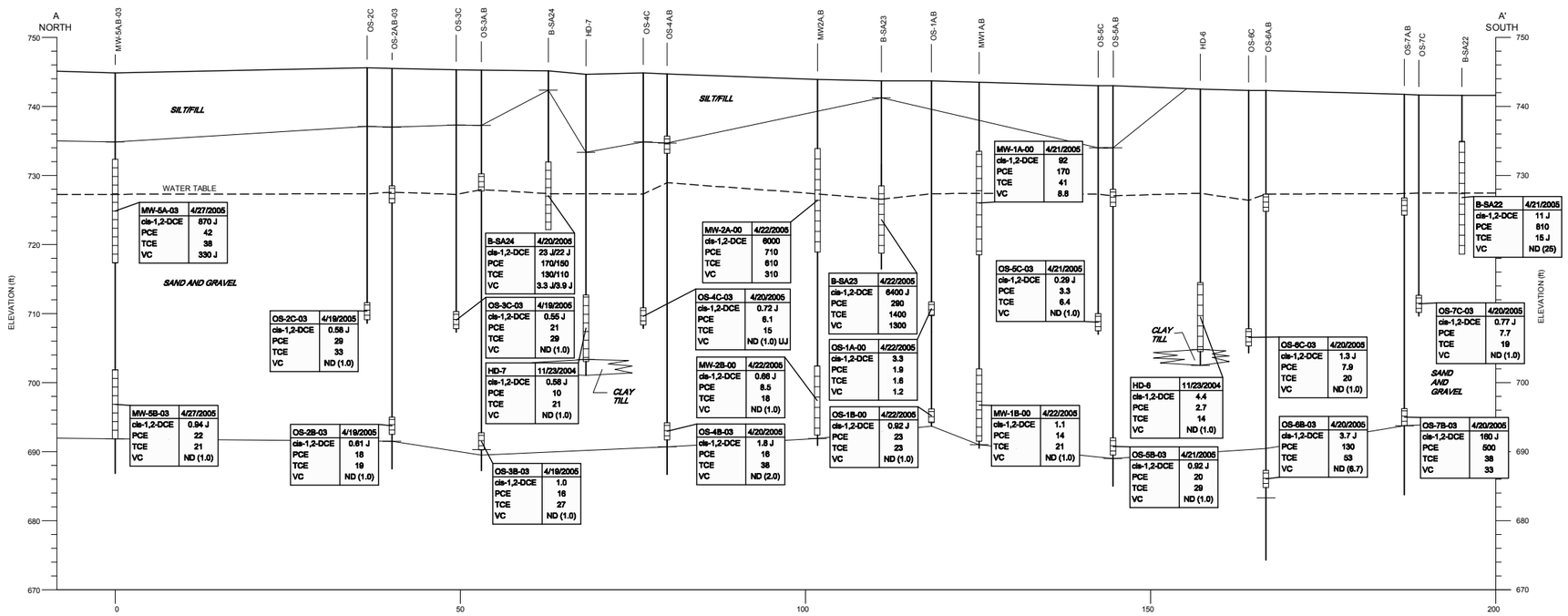
TIME SERIES PLOTS CVOC CONCENTRATIONS IN WEBSTER STREET AREA

CONESTOGA-ROVERS & ASSOCIATES

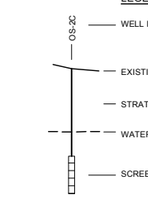
Source Reference:

Project Manager:	Reviewed By:	Date:	
IKR	SE	MARCH 2006	
Scale:	Project №:	Report №:	Drawing №:
1"=60'	12638-04	011	4.8

12638-04(011)GN-WA062 MAR 29/2006



LEGEND

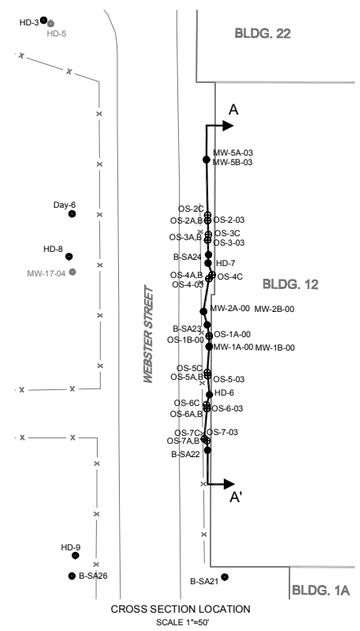


B-SA22	4/21/2005
cis-1,2-DCE	11 J
PCE	810
TCE	15 J
VC	ND (25)

SAMPLE LOCATION
SAMPLE DATE
CONCENTRATION (µg/L)

PARAMETER

cis-1,2-DCE	cis-1,2-Dichloroethene
PCE	Tetrachloroethene
TCE	Trichloroethene
VC	Vinyl Chloride



CROSS SECTION LOCATION
SCALE 1"=50'

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY

Dayton, Ohio

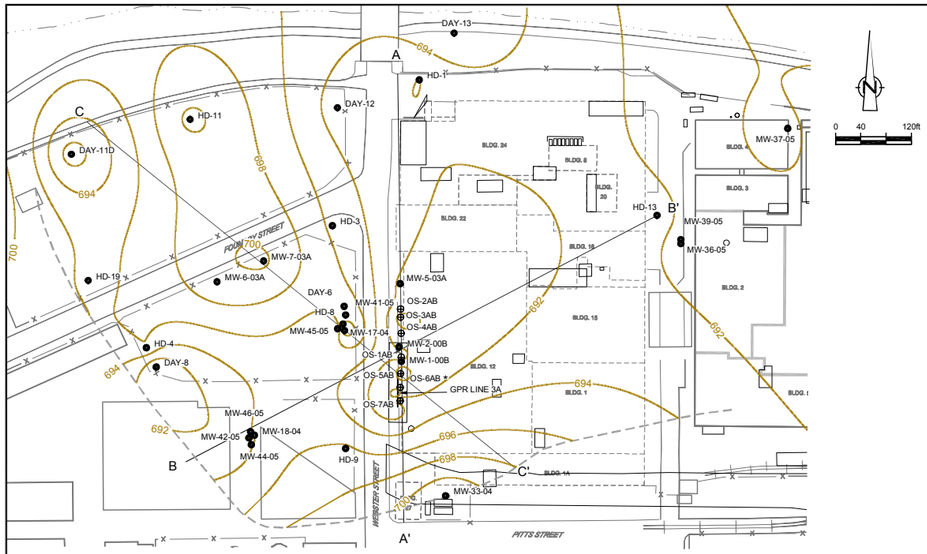
CROSS-SECTION A-A' OF WEBSTER STREET AREA

CONESTOGA-ROVERS & ASSOCIATES

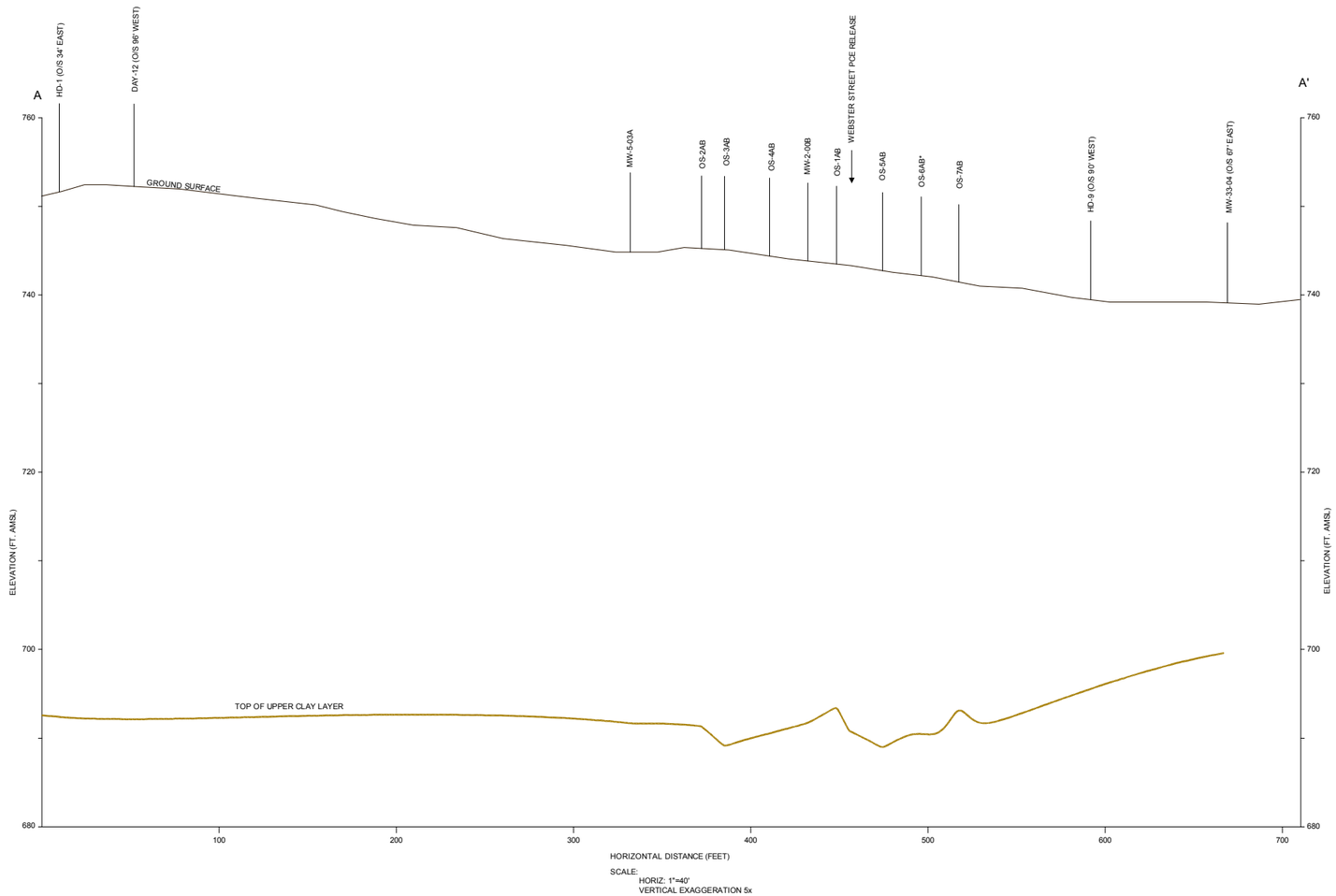
Source Reference:

Project Manager:	Reviewed By:	Date:	
IKR	SE	MARCH 2006	
Scale: AS SHOWN	Project №: 12638-04	Report №: 011	Drawing №: 4.9

12638-04(011)GN-WA068 MAR 15/2006



0 40 120ft



SCALE:
HORIZ: 1"=40'
VERTICAL EXAGGERATION 5x

LEGEND

- BUILDING WALL
- BUILDING BOUNDARY
- FORMER BUILDING WALL
- SHORELINE
- RAILROAD
- MONITORING WELL LOCATION
- OZONE SPARGE WELL LOCATION
- (685.29) TOP OF UPPER CLAY LAYER ELEVATION
- 705 TOP OF UPPER CLAY LAYER CONTOUR
- EDGE OF CLAY LAYER
- * SUSPECTED THAT UPPERMOST CLAY LAYER WAS MISSED AT THIS LOCATION, DATA NOT CONTOURED

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY

Dayton, Ohio

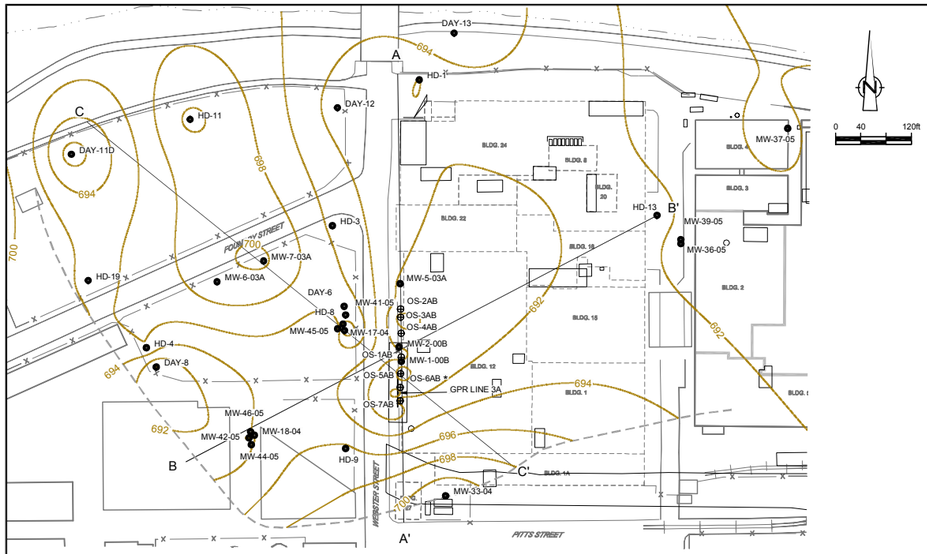
CROSS SECTION A-A'
TOP OF UPPER CLAY LAYER

CONESTOGA-ROVERS & ASSOCIATES

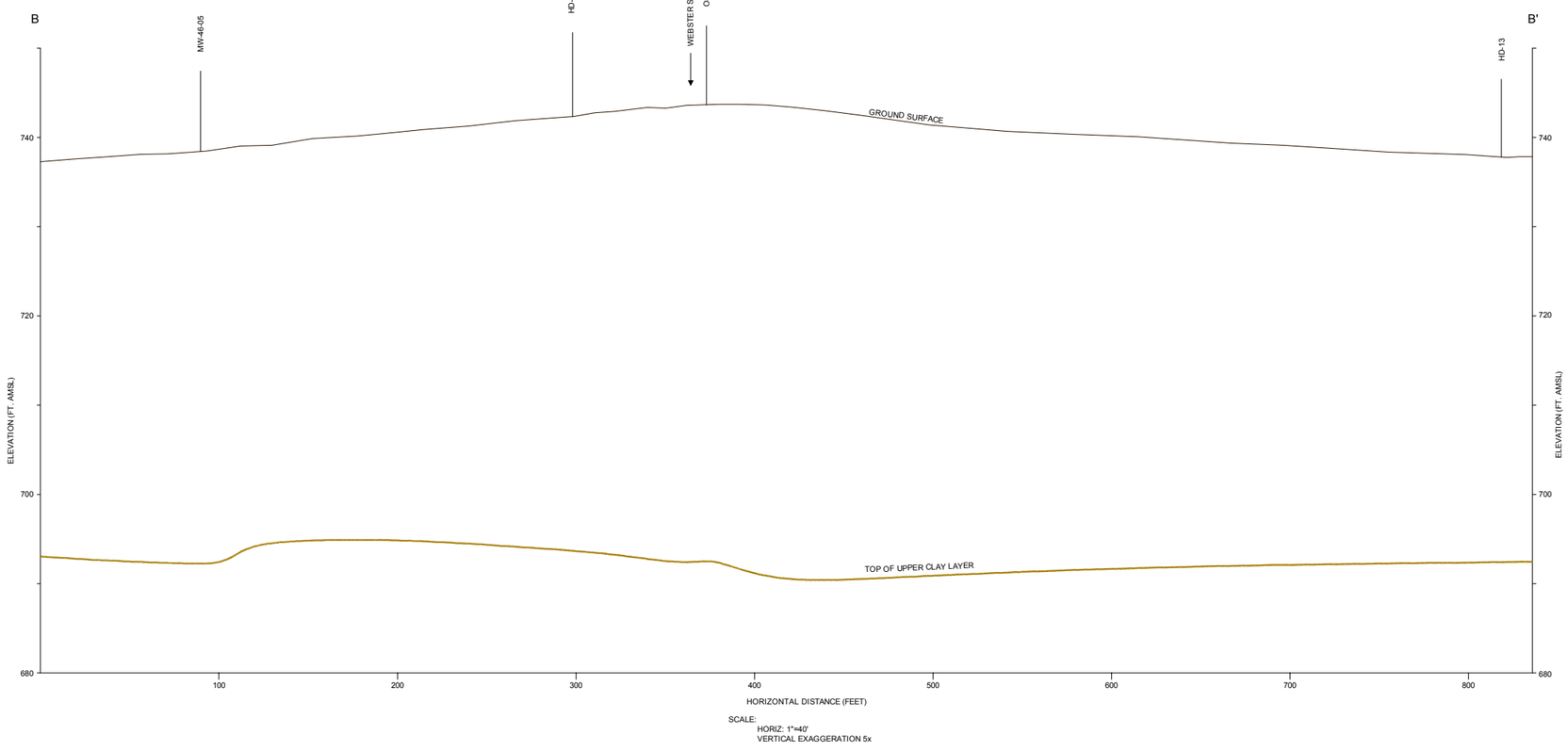
Source Reference:

Project Manager:	Reviewed By:	Date:	
IKR	SE	MARCH 2006	
Scale: AS SHOWN	Project N°: 12638-04	Report N°: 011	Drawing N°: 4.10

12638-04(011)GN-WA070 MAR 27/2006



0 40 120ft



LEGEND

- BUILDING WALL
- BUILDING BOUNDARY
- FORMER BUILDING WALL
- SHORELINE
- RAILROAD
- MONITORING WELL LOCATION
- OZONE SPARGE WELL LOCATION
- (685.29) TOP OF UPPER CLAY LAYER ELEVATION
- 705 TOP OF UPPER CLAY LAYER CONTOUR
- EDGE OF CLAY LAYER
- * SUSPECTED THAT UPPERMOST CLAY LAYER WAS MISSED AT THIS LOCATION, DATA NOT CONTOURED

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY

Dayton, Ohio

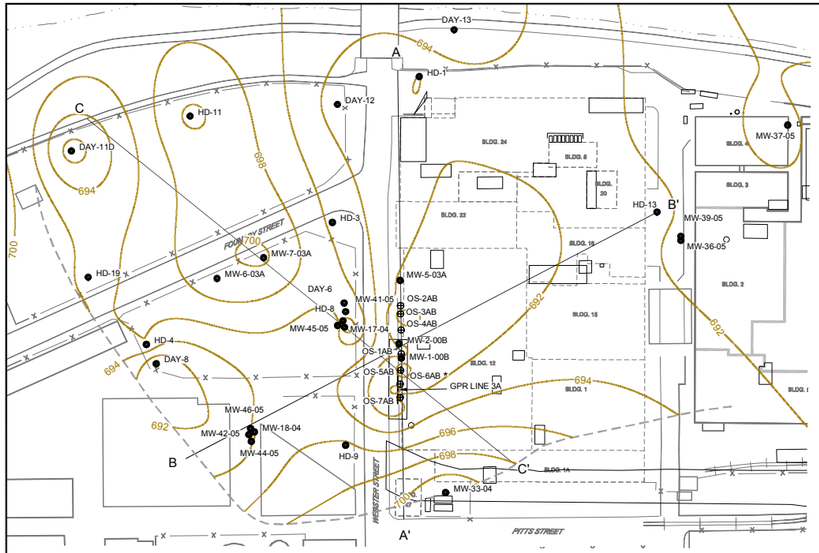
CROSS SECTION B-B'
TOP OF UPPER CLAY LAYER

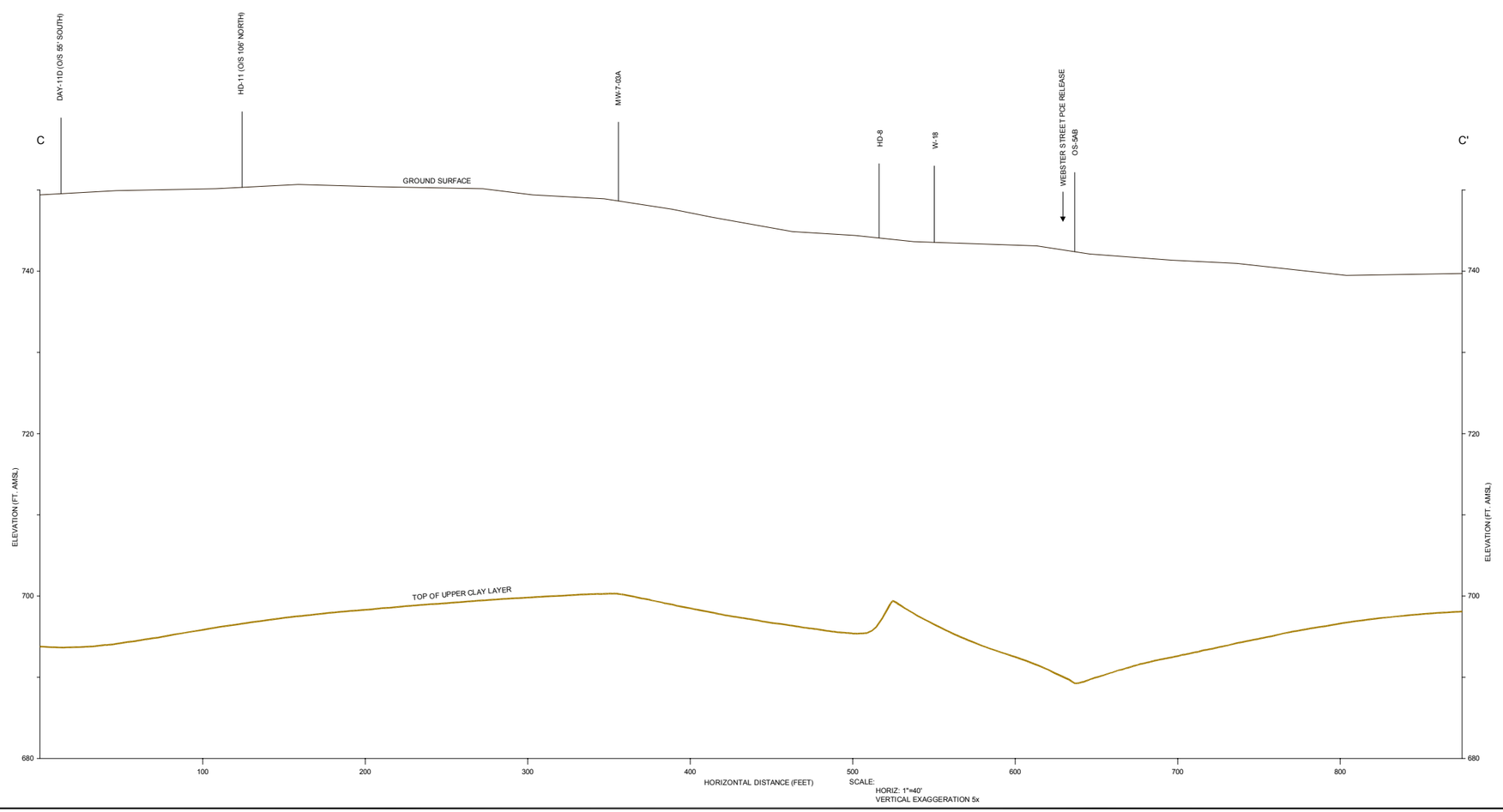
CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

Project Manager:	Reviewed By:	Date:	
IKR	SE	MARCH 2006	
Scale: AS SHOWN	Project N°: 12638-04	Report N°: 011	Drawing N°: 4.11

12638-04(011)GN-WA070 MAR 27/2006





LEGEND

- BUILDING WALL
- BUILDING BOUNDARY
- FORMER BUILDING WALL
- SHORELINE
- RAILROAD
- MONITORING WELL LOCATION
- OZONE SPARGE WELL LOCATION
- (685.29) TOP OF UPPER CLAY LAYER ELEVATION
- 705 TOP OF UPPER CLAY LAYER CONTOUR
- EDGE OF CLAY LAYER
- * SUSPECTED THAT UPPERMOST CLAY LAYER WAS MISSED AT THIS LOCATION, DATA NOT CONTOURED

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY

Dayton, Ohio

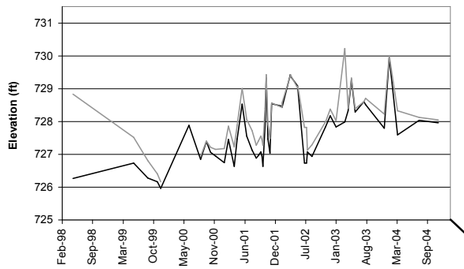
CROSS SECTION C-C'
TOP OF UPPER CLAY LAYER

CONESTOGA-ROVERS & ASSOCIATES

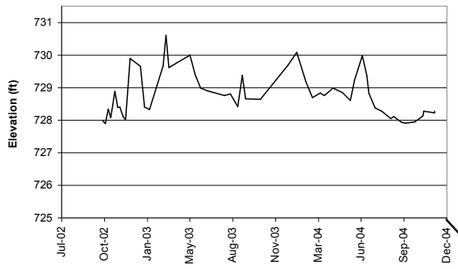
Source Reference:

Project Manager:	Reviewed By:	Date:	
IKR	SE	MARCH 2006	
Scale: AS SHOWN	Project №: 12638-04	Report №: 011	Drawing №: 4.12

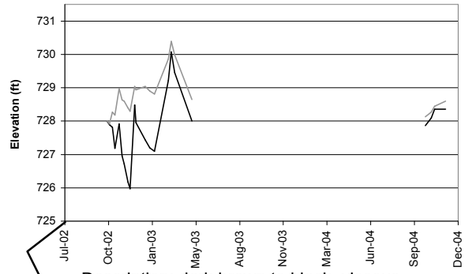
12638-04(011)GN-WA070 MAR 27/2006



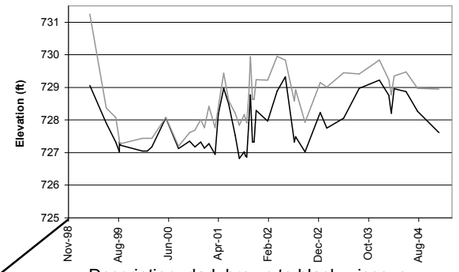
Description: brown to dark brown, very viscous
Thickness: 0.00 ft - 2.57 ft
PCB Aroclor 1254: 1.7 mg/kg



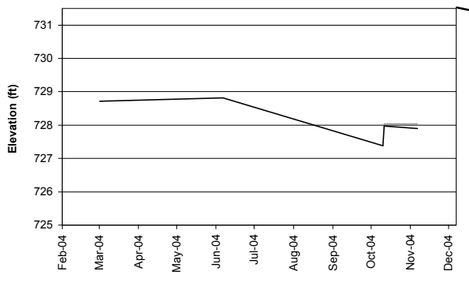
No LNAPL Detected



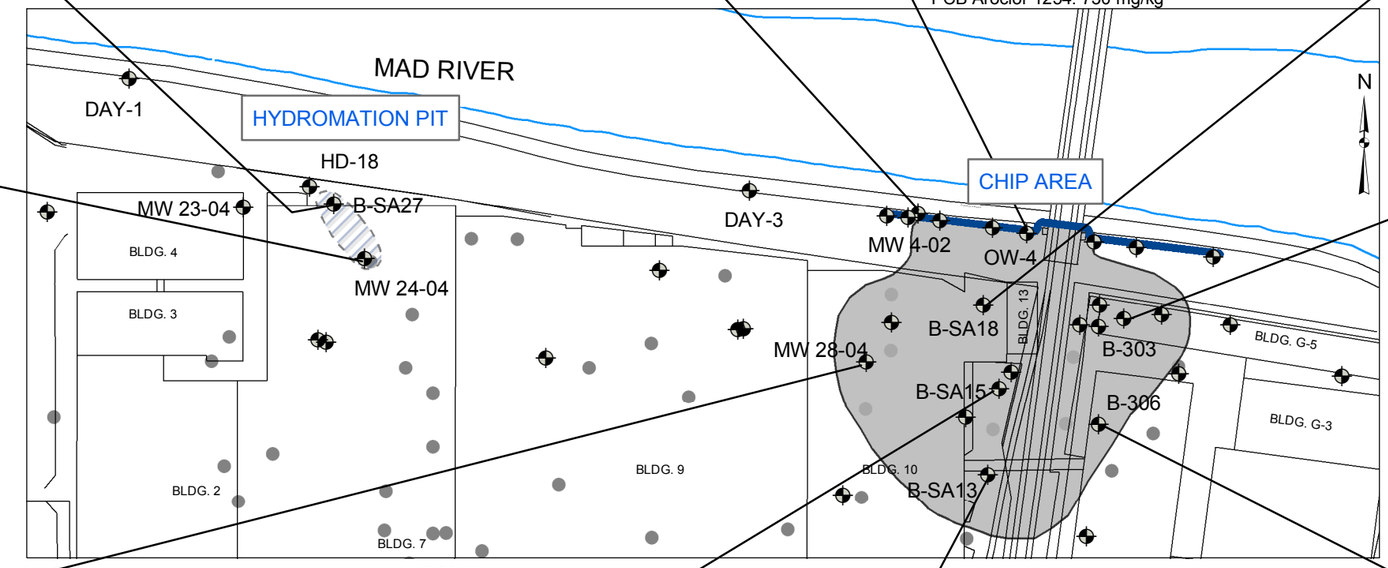
Description: dark brown to black, viscous
Thickness: 0.02 - 2.32 ft
PCB Aroclor 1254: 730 mg/kg

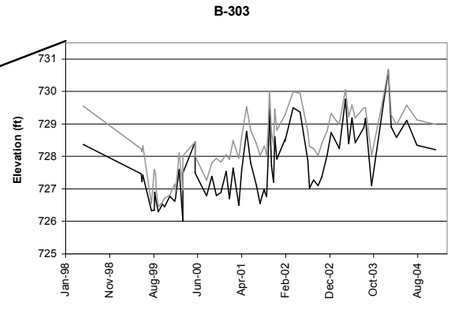


Description: dark brown to black, viscous
Thickness: 0.01ft - 2.19 ft
PCB Aroclor 1254: 1,000 mg/kg

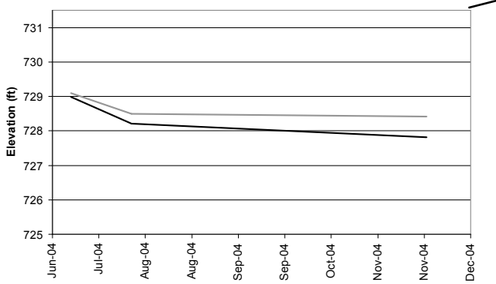


Description: amber to brown, viscous
Thickness: 0.00 ft - 0.14 ft
PCB Aroclor 1254: Unknown

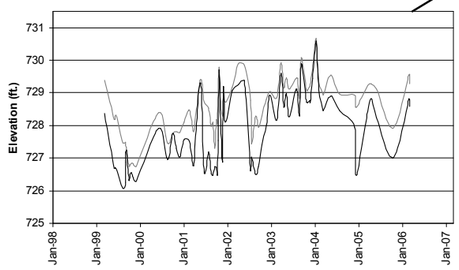




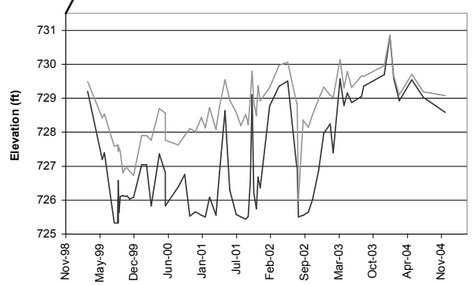
Description: dark brown to black, viscous
Thickness: 0.01 - 1.48 ft
PCB Aroclor 1254: 220 mg/kg



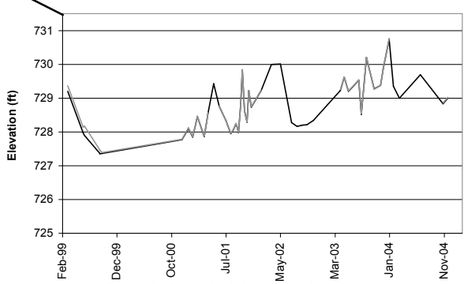
Description: dark brown, viscous
Thickness: 0.11ft - 0.59 ft
PCB Aroclor 1254: 420 mg/kg



Description: dark brown to balck, viscous
Thickness: 0.01 ft - 2.14 ft
PCB Aroclor 1254: 200 mg/kg



Description: dark brown to black, viscous
Thickness: 0.03 ft - 3.08 ft
PCB Aroclor 1254: 87 mg/kg (Stage 1 RFI)



Description: dark brown, viscous
Thickness: 0.00 ft - 0.27 ft
PCB Aroclor 1254: 300 mg/kg (Historic)

LEGEND:

- LNAPL LEVEL ON GRAPH
- WATER LEVEL ON GRAPH
- MONITORING WELLS
- SOIL BORINGS
- SHEET PILE BARRIER WALL
- APPROXIMATE HYDROMATION PIT LNAPL AREA
- APPROXIMATE CHIP AREA LNAPL PLUME WITH PRESENCE OF LNAPL > 0.1 FEET IN 2004

NOTES:

WATER & LNAPL LEVELS WERE NOT COLLECTED IN OW-4 BETWEEN MAY AND SEPTEMBER 2003 DUE TO PETROTRAP IN WELL.

0 50 100 200 Feet

HALEY & ALDRICH
UNDERGROUND ENGINEERING & ENVIRONMENTAL SOLUTIONS

FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

LNAPL DELINEATION AND MONITORING DATA

SCALE AS SHOWN

APRIL 2006

FIGURE 4.13

Dayton G:\Projects\79032 Harrison\Harrison\-113\Groundwater Use\RFI\Final_033006 folder\GIS\rmf\map_documents\2006-03-28\79032-XXX-0413-LNAPL_DATA.MXD

100 0 100 Feet

N

SB-118-04

SB-43-02

Legend

- Former Buildings
- Fence
- Soil boring locations
- Area with acceptable cumulative cancer risk and HI
- Areas with HI > 1

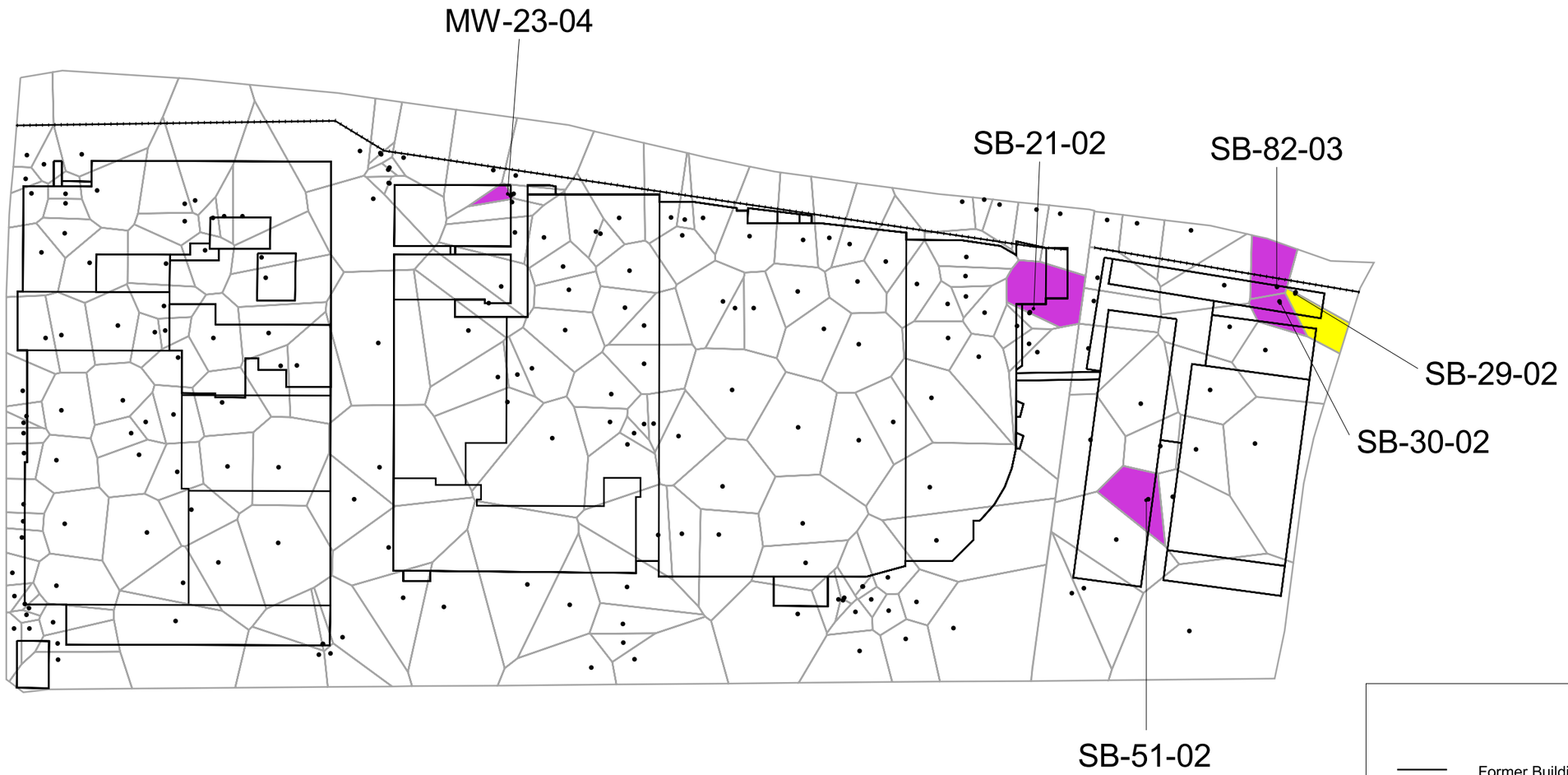
ENVIRON

Date: 3/28/2006

Upper-Bound Cumulative Cancer Risk and HI Estimates for Routine Workers' Exposure to Surface Soil
Former GM Delphi Harrison Thermal Systems Facility, Dayton, Ohio

Figure 5.1

Arcview Plot



100 0 100 Feet

N

Legend

- Former Buildings
- Fence
- Soil boring locations
- Area with acceptable cumulative cancer risk and HI for 250 days/yr
- Areas with Lead Concentration 750 -1750 mg/kg
- Area with Lead concentration Above 1750 mg/kg

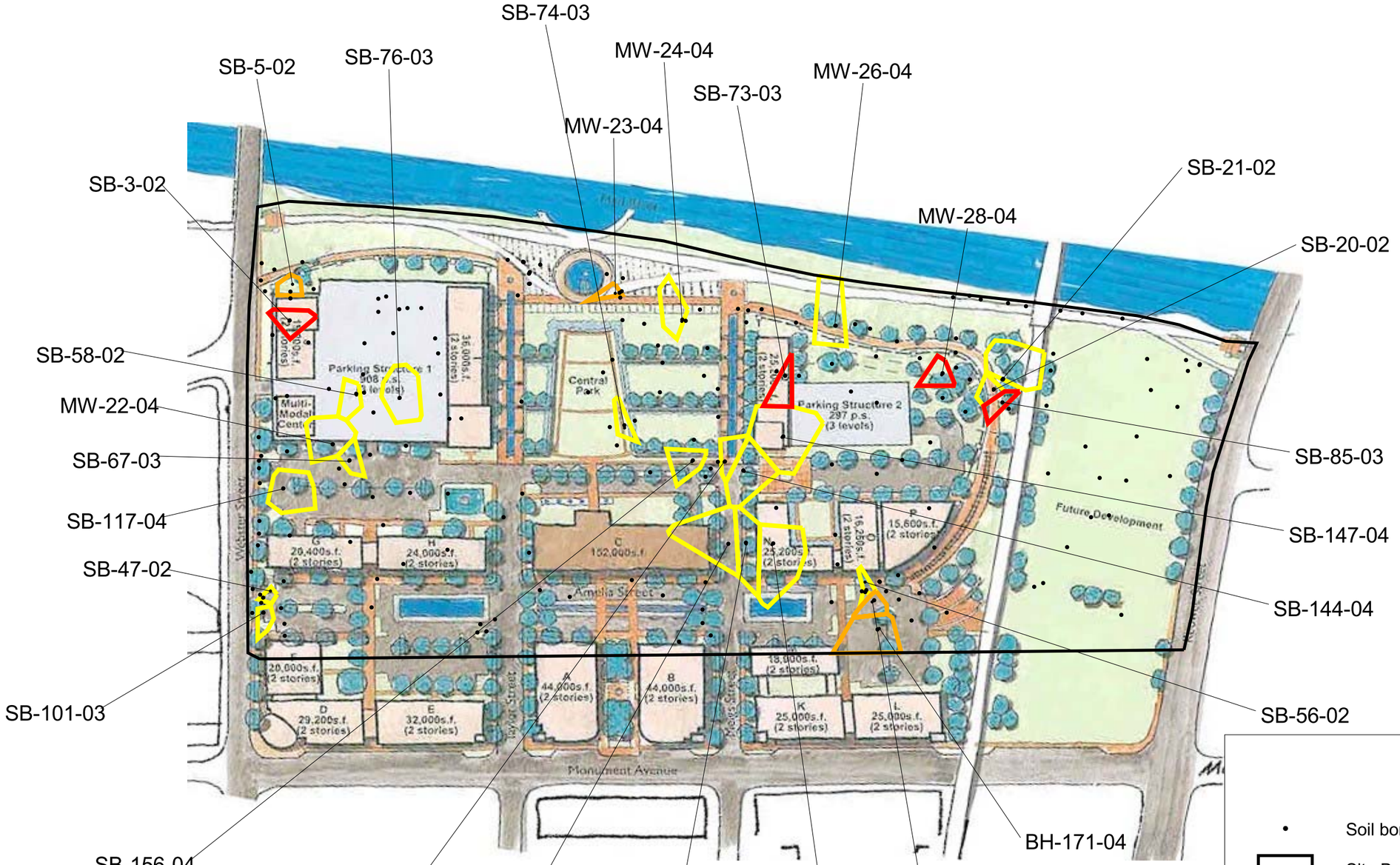
ENVIRON

Date: 3/28/2006

Soil Lead Concentrations Compared to USEPA Lead Screening Levels for Industrial Workers
Former GM Delphi Harrison Thermal Systems Facility, Dayton, Ohio

Figure 5.2

Arcview Plot



100 0 100 Feet

N

Legend

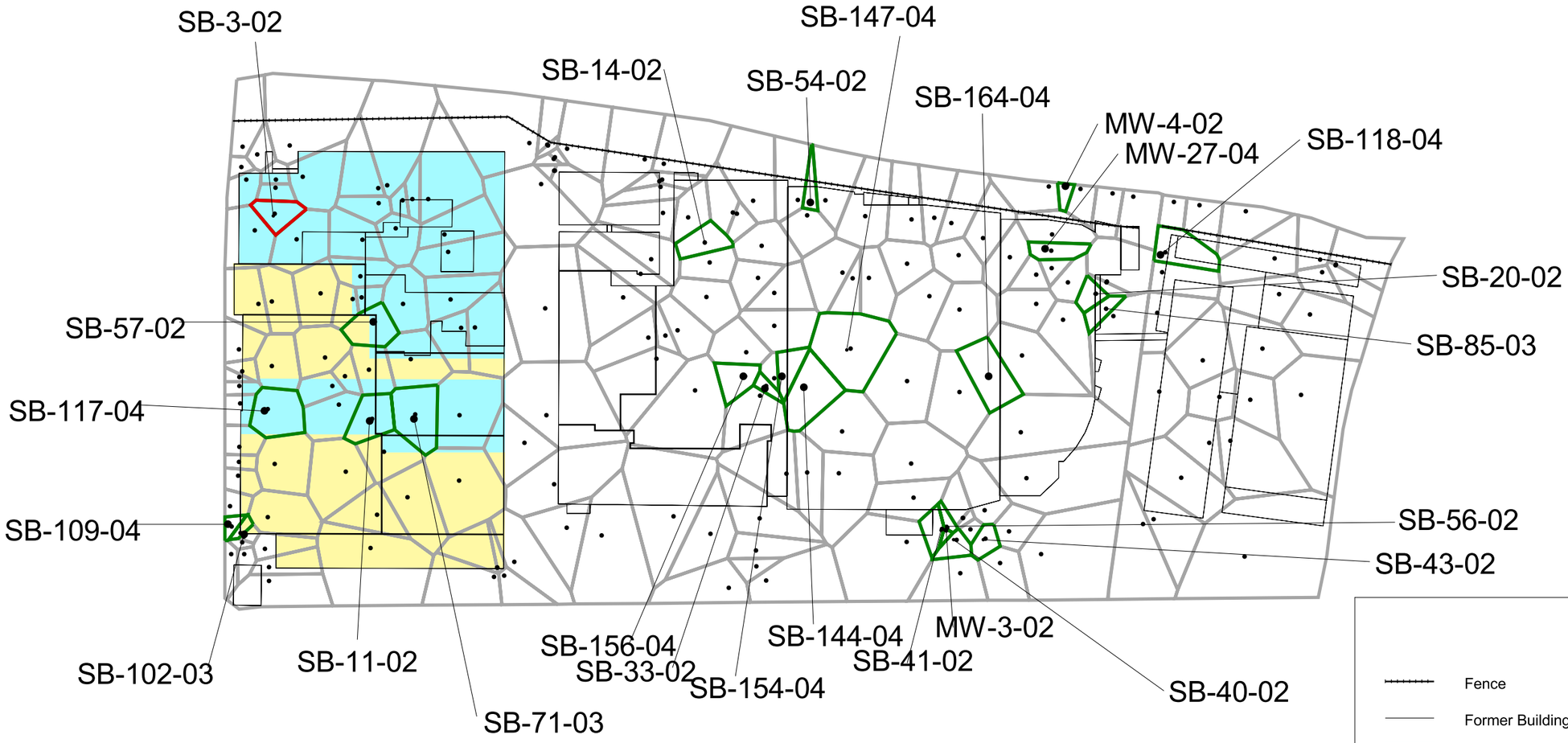
- Soil boring locations
- Site Boundary
- Areas with HI > 1
- Areas with Cumulative Cancer Risk > 10-4
- Areas with Cumulative Cancer Risk > 10-4 and HI > 1

ENVIRON

Date: 3/28/2006

Upper-Bound Cumulative Cancer Risk and HI Estimates for Routine Workers' Exposure via Vapor Intrusion from Soil into Commercial Buildings
Former GM Delphi Harrison Thermal Systems Facility, Dayton, Ohio

Figure 5.3
Arcview Plot



100 0 100 Feet

N

Legend

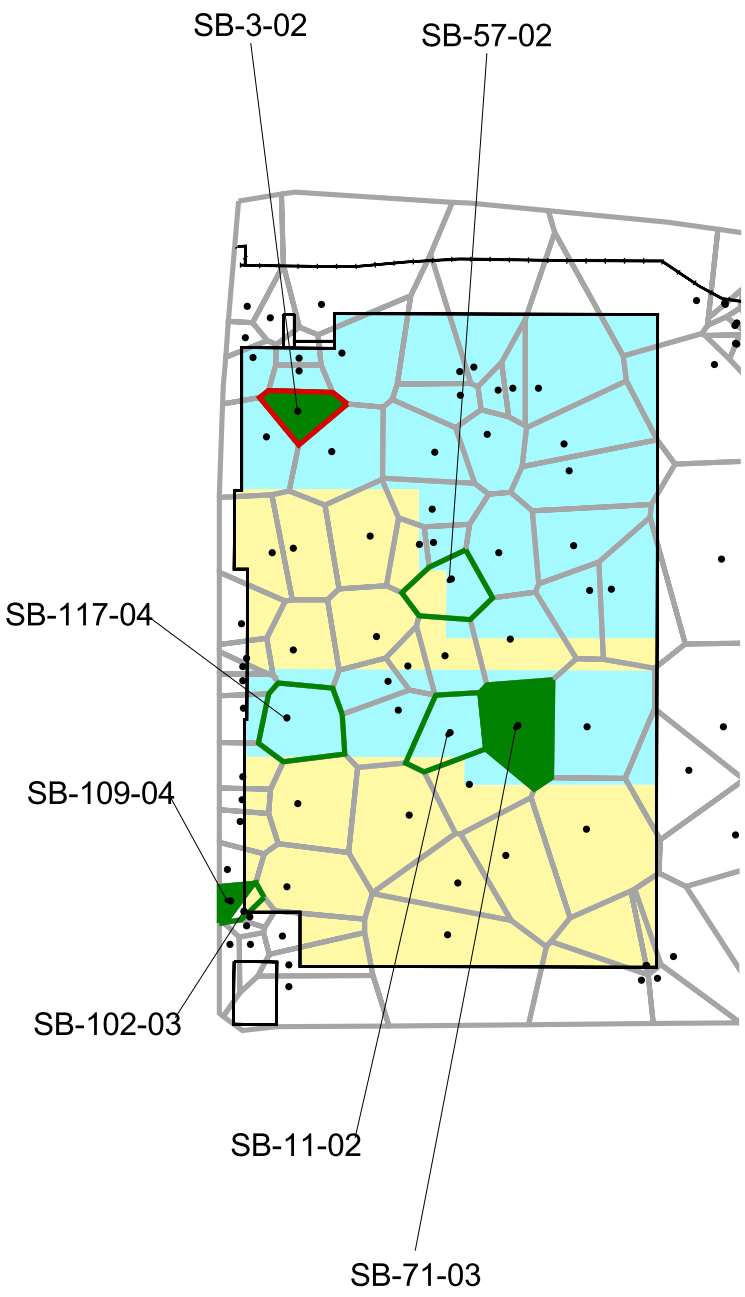
- Fence
- Former Buildings
- Floor slabs to remain
- Floor slabs to be removed
- Soil boring locations
- Area with acceptable cumulative cancer risk and HI for 250 days/yr
- Area with cumulative cancer risk > 1E-4 and HI > 1 for 250 days/yr
- Area with HI > 1 for 250 days/yr

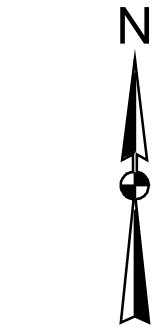
ENVIRON

Date: 3/28/2006

Upper-Bound Cumulative Cancer Risk and HI Estimates for Redevelopment Workers' Exposure to Soil
Former GM Delphi Harrison Thermal Systems Facility, Dayton, Ohio

Figure 5.4
Arcview Plot





100 0 100 Feet

Area Depicted Above

Legend

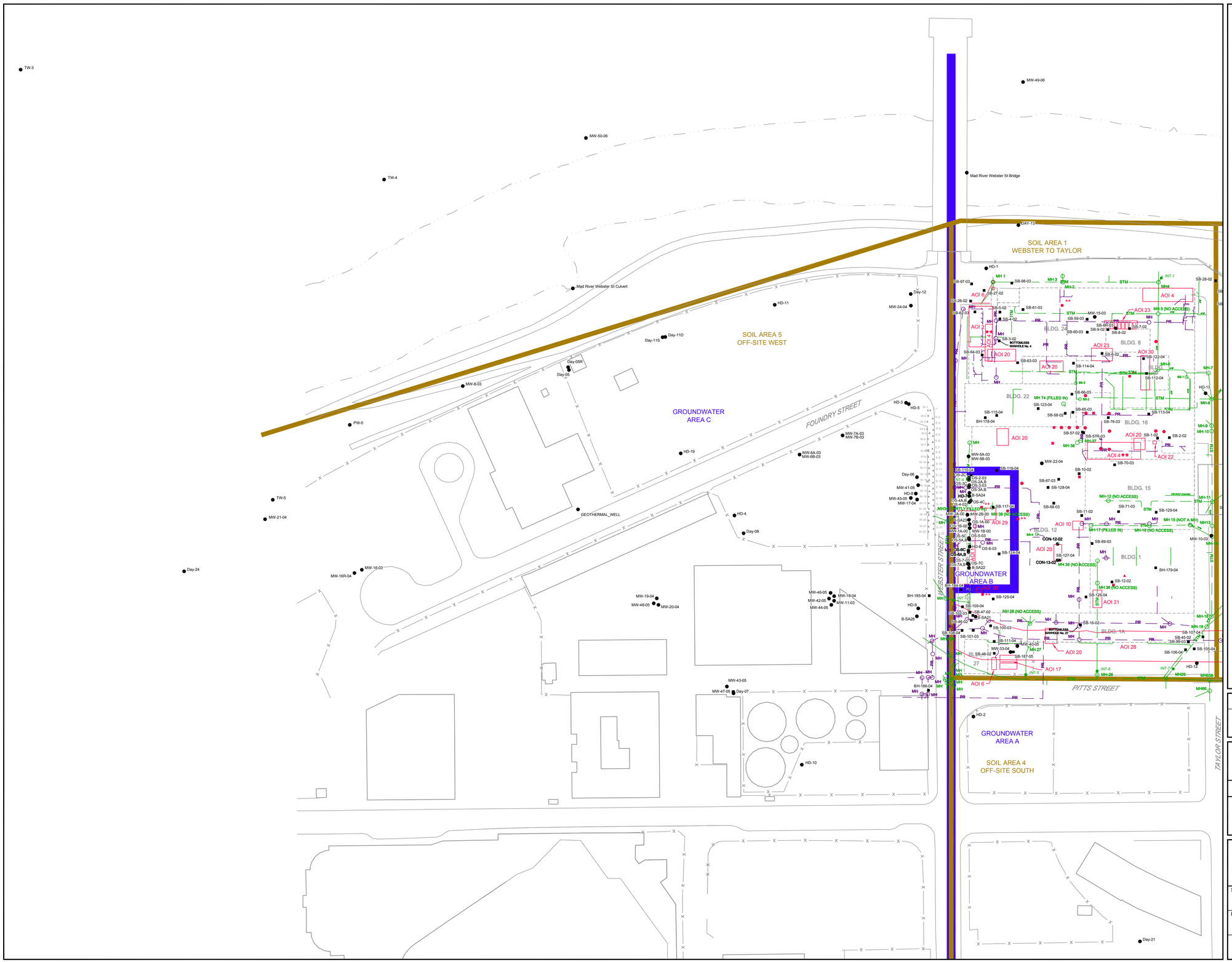
- Fence
- Outline of former buildings
- Floor slabs to remain
- Floor slabs to be removed
- Soil boring locations
- Area with acceptable cumulative cancer risk and HI for 250 days/yr
- Area with cumulative cancer risk > 1E-4 and HI > 1 for 250 days/yr
- Area with HI > 1 for 250 days/yr
- Area with HI > 1 for 64 days/yr

ENVIRON

Date: 3/28/2006

Risk Characterization for Redevelopment Workers' Exposure to Soil
First Phase of Redevelopment from Webster Street to Taylor Street
Former GM Delphi Harrison Thermal Systems Facility, Dayton, Ohio

Figure 5.5
Arcview Plot



0 40 80ft

LEGEND

- BUILDING WALL
- BUILDING BOUNDARY
- FORMER BUILDING WALL
- SHORELINE
- RAILROAD
- SOIL PRESENTATION AREA BOUNDARY
- GROUNDWATER PRESENTATION AREA BOUNDARY
- SOIL BORING LOCATION
- MONITORING WELL LOCATION
- WIPE/CONCRETE CORE SAMPLE LOCATION
- OZONE SPARGE WELL LOCATION
- INJECTION BORING FOR HRC BARRIER
- BS-# BASEMENT SUMP LOCATION
- MH PROCESS SEWER MANHOLE LOCATION
- MH STORM SEWER MANHOLE LOCATION
- INT-1 STORM SEWER INTERCEPTOR LOCATION
- PROCESS SEWER LINE
- STORM SEWER LINE

AOI 1 - SOLVENT RELEASE AREA
AOI 2 - STILL ROOM
AOI 3 - WASTE TANKS
AOI 4 - HAZARDOUS WASTE STAGING AND STORING AREAS
** ON UPPER FLOOR
AOI 5 - ELECTROPLATING
AOI 6 - SPILL INTERCEPTORS
AOI 7 - SOLVENT STORAGE TANK
AOI 8 - DEGREASING UNITS:
● STODDARD SOLVENT
■ TCE/PCE/TCA SOLVENT
▲ FREON SOLVENT
** ON UPPER FLOOR
AOI 9 - SATELITE CLEANING AREA (VARIOUS LOCATIONS THROUGHOUT SITE)
AOI 10 - PAINT WASTE ACCUMULATION AREAS
AOI 11 - CHIP HANDLING AREAS
AOI 12 - CUTTING OIL UST'S
AOI 13 - OIL HOUSE
AOI 14 - HYDRAULIC OIL AND COOLANT UST'S
AOI 15 - HYDRAULIC OIL UST
AOI 16 - FUEL UST'S
AOI 17 - REFRIGERANT UST'S
AOI 18 - STORM SEWERS (VARIOUS LOCATIONS THROUGHOUT SITE)
AOI 19 - PROCESS SEWERS (VARIOUS LOCATIONS THROUGHOUT SITE)
AOI 20 - PCB RELEASES FROM ELECTRICAL EQUIPMENT
AOI 21 - HYDROMATION PIT
AOI 22 - INCINERATOR
AOI 23 - UST'S AND FORMER STILL
AOI 24 - FORMER MACHINE GUN TESTING AREA
AOI 25 - HYDROCHLORIC ACID SPILLS
AOI 26 - PCB RELEASES FORM PROCESS EQUIPMENT:
PROCESS DUCT
No.2 VAILL MACHINE
TOOL GRIND ROOM
GEAR BOX
AOI 27 - BATTERY CHARGING STATION
(A SECOND STATION MAY HAVE BEEN LOCATED IN BLDG. 5)
AOI 28 - FORMER MIAMI CANAL EXTENSION
AOI 29 - BUILDING 12 STILL
AOI 30 - EXPERIMENTAL AIR CONDITIONING
AOI 31 - BUILDING 1 SPRAY BOOTHS
AOI 32 - BUILDING 3 TRANSFORMER (GROUND LEVEL)
AOI 33 - PAINT AND ENAMEL STORAGE
AOI 34 - PARTS GRINDING
AOI 35 - STORAGE TANKS

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY

Dayton, Ohio

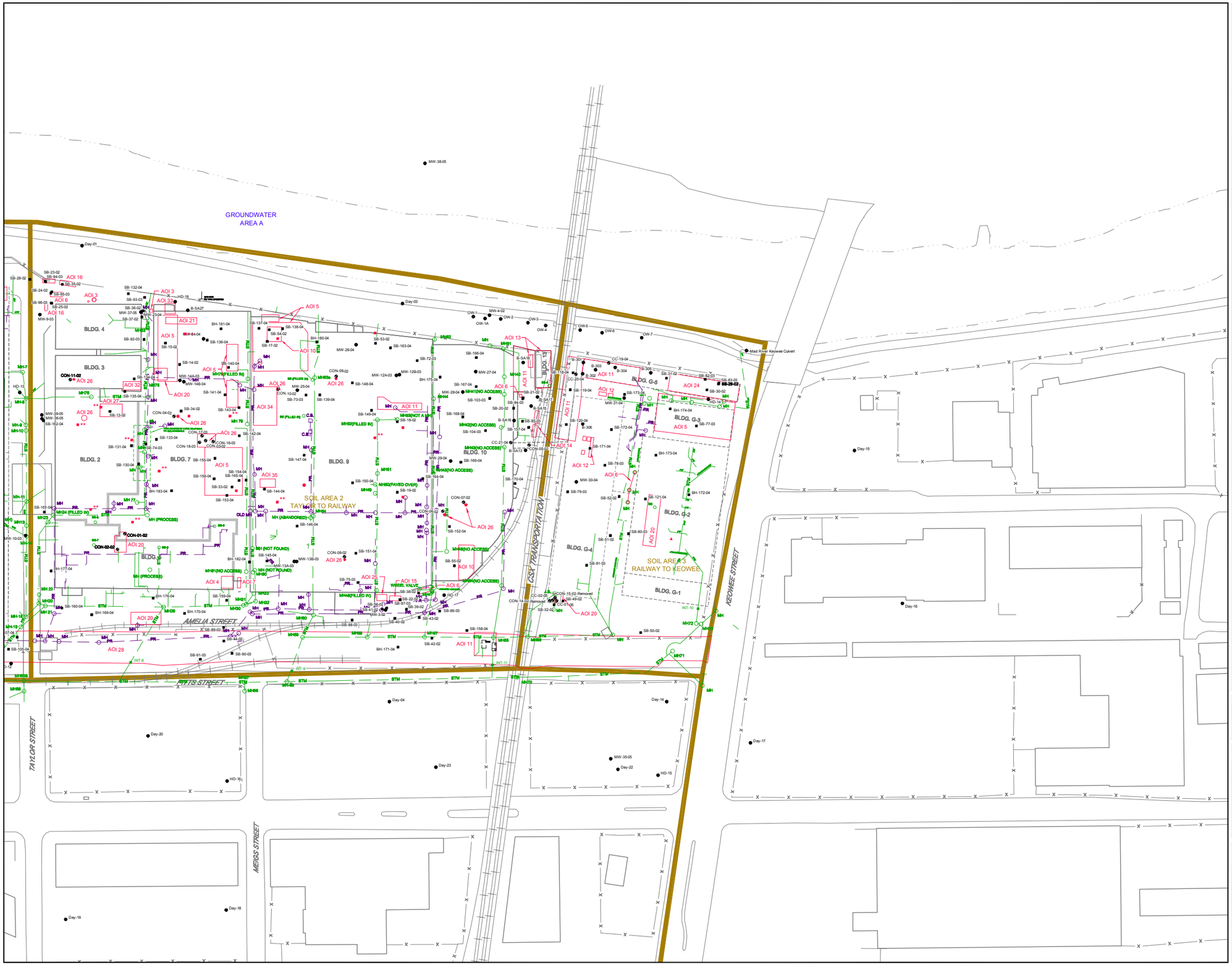
AOI LOCATIONS AND PRESENTATION AREAS - WEST SIDE

CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

Project Manager:	Reviewed By:	Date:	
IKR	SE	MARCH 2006	
Scale: 1"=80'	Project N°: 12638-04	Report N°: 011	Drawing N°: PLAN 1A

12638-04(011)GN-WA030 MAR 27/2006



0 40 80ft

LEGEND

- BUILDING WALL
- BUILDING BOUNDARY
- FORMER BUILDING WALL
- SHORELINE
- RAILROAD
- SOIL PRESENTATION AREA BOUNDARY
- GROUNDWATER PRESENTATION AREA BOUNDARY
- SOIL BORING LOCATION
- MONITORING WELL LOCATION
- WIPE/CONCRETE CORE SAMPLE LOCATION
- OZONE SPARGE WELL LOCATION
- INJECTION BORING FOR HRC BARRIER
- BASEMENT SUMP LOCATION
- PROCESS SEWER MANHOLE LOCATION
- STORM SEWER MANHOLE LOCATION
- STORM SEWER INTERCEPTOR LOCATION
- PROCESS SEWER LINE
- STORM SEWER LINE
- AOI 1 - SOLVENT RELEASE AREA
- AOI 2 - STILL ROOM
- AOI 3 - WASTE TANKS
- AOI 4 - HAZARDOUS WASTE STAGING AND STORING AREAS
  - ON UPPER FLOOR
- AOI 5 - ELECTROPLATING
- AOI 6 - SPILL INTERCEPTORS
- AOI 7 - SOLVENT STORAGE TANK
- AOI 8 - DEGREASING UNITS:
  - STODDARD SOLVENT
  - TCE/PCE/TCA SOLVENT
  - FREON SOLVENT
  - ON UPPER FLOOR
- AOI 9 - SATELLITE CLEANING AREA (VARIOUS LOCATIONS THROUGHOUT SITE)
- AOI 10 - PAINT WASTE ACCUMULATION AREAS
- AOI 11 - CHIP HANDLING AREAS
- AOI 12 - CUTTING OIL USTS
- AOI 13 - OIL HOUSE
- AOI 14 - HYDRAULIC OIL AND COOLANT USTS
- AOI 15 - HYDRAULIC OIL UST
- AOI 16 - FUEL USTS
- AOI 17 - REFRIGERANT USTS
- AOI 18 - STORM SEWERS (VARIOUS LOCATIONS THROUGHOUT SITE)
- AOI 19 - PROCESS SEWERS (VARIOUS LOCATIONS THROUGHOUT SITE)
- AOI 20 - PCB RELEASES FROM ELECTRICAL EQUIPMENT
- AOI 21 - HYDROMATION PIT
- AOI 22 - INCINERATOR
- AOI 23 - UST'S AND FORMER STILL
- AOI 24 - FORMER MACHINE GUN TESTING AREA
- AOI 25 - HYDROCHLORIC ACID SPILLS
- AOI 26 - PCB RELEASES FORM PROCESS EQUIPMENT:
  - PROCESS DUCT
  - No.2 VAILL MACHINE
  - TOOL GRIND ROOM
  - GEAR BOX
- AOI 27 - BATTERY CHARGING STATION (A SECOND STATION MAY HAVE BEEN LOCATED IN BLDG. 5)
- AOI 28 - FORMER MIAMI CANAL EXTENSION
- AOI 29 - BUILDING 12 STILL
- AOI 30 - EXPERIMENTAL AIR CONDITIONING
- AOI 31 - BUILDING 1 SPRAY BOOTHS
- AOI 32 - BUILDING 3 TRANSFORMER (GROUND LEVEL)
- AOI 33 - PAINT AND ENAMEL STORAGE
- AOI 34 - PARTS GRINDING
- AOI 35 - STORAGE TANKS

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY

Dayton, Ohio

AOI LOCATIONS AND PRESENTATION AREAS - EAST SIDE

CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

Project Manager:	Reviewed By:	Date:	
IKR	SE	MARCH 2006	
Scale: 1"=80'	Project №: 12638-04	Report №: 011	Drawing №: PLAN 1B

12638-04(011)GN-WA061 MAR 27/2006

TABLE 2.1

SUMMARY OF UNDERGROUND STORAGE TANKS
FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY - DAYTON, OHIO

BUSTR Tank ID	*Delphi Tank ID*	*Material*	*Volume (Gallons)*	*Location*	*Installation Date*	*Date Last Used*	*Status*	*AOI*
Tank 1	Tank 1A	Refrigerant Oil	20,000 (1)	S of Former Bldg. 12	1979	Oct-92	Removed Sep/1993, NFA Mar/1998	17
Tank 2	Tank 1B	Refrigerant Oil	20,000 (1)	S of Former Bldg. 12	1979	Oct-92	Removed Sep/1993, NFA Mar/1998	17
Tank 3	Tank 2	Refrigerant Oil	10,000	W of Former Bldg. 12	1966	Oct-81	Removed Dec/1989	1
Tank 4	Tank 3	Hydraulic Oil	10,000	S of Bldg. 9	1971	1982	Removed Dec/1989, NFA Oct/6/2003	15
Tank 5	Tank 4	Hydraulic Oil	10,000	E of Bldg. 10	1972	Jan-92	Removed Dec/1992	14
Tank 6	Tank 5	Coolant (Cimcool)	10,000	E of Bldg. 10	1972	Dec-88	Removed Dec/1989	14
Tank 7	Tank 6	Coolant (Quaker 568)	10,000	Under Bldg. 10	1972	Jan-92	Removed Dec/1992	13
Tank 8	Tank 7	Stoddard Solvent	10,000	Bsmt. Bldg. 13	1963	Dec-88	Removed Dec/1989	13
Tank 9	Tank 8	S-9 Blending Oil	10,000	Bsmt. Bldg. 13	1963	Oct-89	Removed Dec/1989	13
Tank 10	Tank 9	Mineral Oil	10,000	Bsmt. Bldg. 13	1963	1980	Removed Dec/1989	13
Tank 11	Tank 10	Cutting Oil	10,000	Bsmt. Bldg. 13	1963	Oct-89	Removed Dec/1989	13
Tank 12	Tank 12	Non-Leaded Gasoline	10,000	N of Bldg. 4	1974	Jan-92	Removed Dec/1992	16
Tank 13	Tank 13	Regular Gasoline/ Diesel	5,500	NW of Bldg. 4	1974	Feb-92	Removed Dec/1992	16
Tank 14	Tank 17	Diesel	2,000	W of Bldg. 4	1974	Oct-89	Removed Dec/1989, NFA Aug/1993	16
Tank 15	Tank 32D-3	Stoddard Solvent (3)	3,000	Under Former Bldg. 24	1967	Apr-87	Cleaned/Capped Dec/1989	2
Tank 16	Tank 32D-6	Paint	10,000	Under Bldg. Former 24	1967	May-91	Cleaned/Capped 1991	2
Tank 17	Tank 36B	Cutting Oil	1,200	Under Bldg. Former G-4	1946	1977	Closed in Place 1977	12
Tank 18	Tank 14	Chlorinated Solvent	10,000	W of Bldg. Former 12	1966	Oct-81	Removed Dec/1989	1
Tank 19	Tank 32D-4	Chlorinated Solvent (3)	3,000	Under Bldg. Former 24	1967	Apr-87	Cleaned/Capped Dec/1989	2
Tank 20	Tank 15	Stoddard Solvent	10,000	W of Bldg. Former 12	1965	1982	Removed Dec/1988	1
Tank 21	Tank 16	Kerosene	10,000	W of Bldg. Former 12	1965	1981	Removed Dec/1988	1
Tank 22	Tank 35A	Cutting Oil	2,000	Under Bldg. Former G-4	1946	Dec-86	Removed Dec/1988	12
Tank 23	Tank 35B	Cutting Oil	5,000	Under Bldg. Former G-4	1946	Dec-86	Removed Dec/1988	12
Tank 24	Tank 36A	Cutting Oil	8,000	Under Bldg. Former G-4	unknown	Dec-86	Removed Dec/1988	12
Tank 25	Tank 36C	Cutting Oil	1,800	Under Bldg. Former G-4	unknown	Dec-86	Removed Dec/1988	12
Tank 26	Tank 36D	Cutting Oil	1,800	Under Bldg. Former G-4	unknown	Dec-86	Removed Dec/1988	12
Tank 27	Tank 30B	Kerosene	1,000	S of Bldg. 13	unknown	unknown	Removed May/1986	13

TABLE 2.1

SUMMARY OF UNDERGROUND STORAGE TANKS
FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY - DAYTON, OHIO

BUSTR Tank ID	*Delphi Tank ID*	*Material*	*Volume (Gallons)*	*Location*	*Installation Date*	*Date Last Used*	*Status*	*AOI*
Tank 28	Tank 30A	Kerosene	500	S of Bldg. 13	unknown	unknown	Removed prior to May/1986	13
Tank 28 (2)	Tank 32D-1	Stoddard Solvent (3)	10,000	Under Former Bldg. 24	1967	Apr-87	In Place	2
Tank 27 (2)	Tank 32D-2	Chlorinated Solvent (3)	10,000	Under Former Bldg. 24	1967	Apr-87	In Place	2
(4)	Tank 32D-5	Still Bottoms (3)	3,000	Under Former Bldg. 24	1967	Apr-87	RCRA Clean Closure Jan/24/2002	2
Tank 29 (2)	Tank 33	Stoddard Solvent (3)	10,000	S of Bldg. 7	pre-1965	unknown	unknown	7
(4)	- -	Waste Oil and Solvent	1,000	E of Bldg. 4	pre-1971	1978	unknown	3
(4)	- -	Refrigerant Oil (525 VISC)	1,500	N of Former Bldg. 8	unknown	pre-1967	Removed 1967	25
(4)	- -	Refrigerant Oil (300 VISC)	1,500	N of Former Bldg. 8	unknown	pre-1967	Removed 1967	25
(4)	- -	Refrigerant Oil (525 VISC)	1,500	N of Former Bldg. 8	unknown	pre-1967	Removed 1967	25
(4)	- -	Refrigerant Oil (525 VISC)	1,500	N of Former Bldg. 8	unknown	pre-1967	Removed 1967	25
(4)	- -	Dirty Stoddard Solvent	1,500	N of Former Bldg. 8	unknown	pre-1967	Removed 1967	25
(4)	- -	Dirty Naphtholite	1,500	N of Former Bldg. 8	unknown	pre-1967	Removed 1967	25
(4)	- -	Naphtholite for Fire	1,500	N of Former Bldg. 8	unknown	pre-1967	Removed 1967	25
(4)	- -	Still Dump	1,260	N of Former Bldg. 8	unknown	pre-1967	Removed 1967	25

Notes:

(1) 15,000-gallon UST may have been located in this area in 1974-1979.
(2) 1998 designation; kerosene Tanks 27 and 28 already removed.
(3) Part of closed loop recycling system.
(4) Not subject to BUSTR rules.

TABLE 2.2

AOI SUMMARY
FORMER DELPHI HARRISON THERMAL SYSTEMS – DAYTON, OHIO

AOI	*Description*	*Historical Operations*	*Pre-RFI Sampling*	*RFI Sampling*	*IM Sampling*
AOI 1	Solvent Release Area (Webster Street)	– 1,000-gal. PCE release – 10- to 15-gal. refrigerant oil release – TCE/PCE/TCA, refrigerant oil, kerosene, and Stoddard storage	Yes	No	Yes
AOI 2	Still Room (NW Former Bldg. 24)	– TCE/PCE and Stoddard recovery – RCRA closure with Ohio EPA approved	Yes (closure)	No	No
AOI 3	Waste Tank (N Bldg. 4)	– waste oil and still bottom storage – RCRA closure with Ohio EPA approved	Yes (closure)	No	No
AOI 3	Waste Tank (E Bldg. 4)	– waste oil and still bottom storage	No	Yes	No
AOI 4	Hazardous Waste Staging/Storage	– hazardous waste staging/storage – clean closed	Yes (closure)	No	No
AOI 4	90 Day Hazardous Waste Accumulation	– hazardous waste accumulation – generator closure completed	Yes (closure)	No	No
AOI 5	Electroplating (Former Bldg. G-3)	– electroplating – no evidence of release to environment – area has been removed	No	No	No
AOI 5	Electroplating (Bldg. 9)	– electroplating – 1995 boring did not identify RCRA metals above action levels	Yes (decommissioning)	No	No
AOI 5	Electroplating (Bldg. 7)	– electroplating	No	Yes	No
AOI 6	Spill Interceptor (N Bldg. 4)	– spill interception, various materials – waste oil and still bottom storage – RCRA closure with Ohio EPA approved	Yes (closure)	No	No
AOI 6	Spill Interceptors	– spill interception, various materials	No	Yes	No
AOI 7	Solvent Storage Tank	– used Stoddard – BUSTR closure approved	Yes (closure)	No	No
AOI 8	Degreasing Units located at ground surface	– TCE/PCE/TCA, Stoddard, Freon	No	Yes	No
AOI 9	Satellite Cleaning Units	– no release to environment	No	No	No

TABLE 2.2

AOI SUMMARY
FORMER DELPHI HARRISON THERMAL SYSTEMS – DAYTON, OHIO

AOI	*Description*	*Historical Operations*	*Pre-RFI Sampling*	*RFI Sampling*	*IM Sampling*
AOI 10	Paint Waste Accumulation Areas	– paint waste accumulation	No	Yes	No
AOI 11	Chip Handling Areas	– cutting oil/metal chip separation – LNAPL plume contains PCBs	Yes	Yes	Yes (LNAPL investigation)
AOI 12	Cutting Oil USTs	– cutting oil storage	Yes	Yes	Yes (LNAPL investigation)
AOI 13	Oil House	– various petroleum product storage	Yes	Yes	Yes (LNAPL investigation)
AOI 14	Hydraulic Oil and Coolant USTs	– hydraulic oil and coolant storage	Yes	Yes	Yes (LNAPL investigation)
AOI 15	Hydraulic Oil UST	– hydraulic oil storage – no further action requested from BUSTR	Yes (NFA)	No	No
AOI 16	Fuel USTs	– gasoline and diesel fuel storage	Yes	Yes	No
AOI 17	Refrigerant Oil USTs	– refrigerant storage – BUSTR approved no further action	Yes (NFA)	No	No
AOI 18	Storm Sewers	– storm water conveyance – historical process sewer cross-connections, also some spills	Yes	Yes	Yes (sewer cleaning)
AOI 19	Process Sewers	– process water conveyance – abandoned for decommissioning – solvents near still room, PCBs near Former Bldg. 1A, TPH S of Tank 4 (AOI 15)	Yes (decommissioning)	Yes	No
AOI 20	PCB Releases From Electrical Equipment	– historical PCB leaks	Yes	Yes	Yes (G-Lot transformer removal)
AOI 21	Hydromation Pit	– recirculation of non-hazardous oil	Yes	Yes	Yes (LNAPL investigation)
AOI 22	Paint Hanger Incinerator	– paint hanger cleaning – no release to environment	No	No	No

TABLE 2.2

AOI SUMMARY
FORMER DELPHI HARRISON THERMAL SYSTEMS – DAYTON, OHIO

AOI	*Description*	*Historical Operations*	*Pre-RFI Sampling*	*RFI Sampling*	*IM Sampling*
AOI 22	Incinerator (Former Bldg. 16)	– used to burn dirty liquids and plant trash	No	Yes	No
AOI 23	USTs and Former Still (Former Bldg. 8)	– still bottom, Stoddard, naphthalite, and refrigerant oil storage tanks – Stoddard solvent stills	No	Yes	No
AOI 24	Former Machine Gun Testing Area	– machine gun testing	No	Yes	No
AOI 25	Hydrochloric Acid Spills	– hydrochloric acid spills	No	Yes	No
AOI 26	Potential PCB Releases from Process Equipment	– No. 2 Vaill machine and grinder in tool grind room contained PCBs – PCBs in process venting ductwork identified during decommissioning	Yes (decommissioning)	Yes	No
AOI 27	Battery Charging Stations	– battery charging station between Bldg. 2 and 3, possibly in Bldg. 5	No	Yes	No
AOI 28	Former Miami Canal Extension	– former canal filled in early 1950s	No	Yes	No
AOI 29	Former Still (Former Bldg. 12)	– identified on 1943 insurance map	No	Yes	No
AOI 30	Experimental Air Conditioning	– identified on 1943 insurance map	No	Yes	No
AOI 31	Spray Booths (Bldg. 1)	– identified on 1943 insurance map	No	Yes	No
AOI 32	Former Transformer (Bldg. 3)	– identified on 1943 insurance map	No	Yes	No
AOI 33	Paint and Enamel Storage	– identified on 1943 insurance map	No	Yes	No
AOI 34	Parts Grinding	– identified on 1943 insurance map	No	Yes	No
AOI 35	Storage Tanks	– identified on 1943 insurance map	No	Yes	No

Note:

RFI and IM sampling conducted during 2002 through 2005 included in RFI data evaluation and risk assessment.

TABLE 3.1
VERTICAL GRADIENT CALCULATIONS FROM
DATA LOGGER MONITORING EVENT SEPTEMBER 2005
FORMER DELPHI THERMAL SYSTEMS FACILITY
DAYTON, OHIO

MONITORING WELL DESIGNATION	AQUIFER DESIGNATION	DOWNWARD VERTICAL GRADIENT 9/20/2005 17:00 hrs	DOWNWARD VERTICAL GRADIENT 9/25/2005 21:00 hrs
MW20-04 MW19-04	TR-TR	0.31	0.40
DAY-7 MW43-05	TR-LA	0.25	0.32
MW40-05 MW33-04	TR-LA	0.05	0.07
MW45-05 MW17-04	TR-LA	0.10	0.14
MW44-05 MW18-04	TR-LA	0.12	0.17
MW36-05 MW39-05	TR-LA	0.16	0.22

Notes

1. Vertical Gradient across the till-rich zone to the lower aquifer is vertically downward as a result of pumping wells in the lower aquifer.
2. Only the Dayton Public Schools Career Academy Geothermal Well was pumping on 9/20/05 at 17:00 hrs.
3. Riverscape Fountain Wells and Dayton Public Schools Career Academy Geothermal Well were pumping on 9/25/05 at 21:00 hrs.
4. Aquifer designations as follows: (TR) till-rich zone, (LA) lower aquifer, and (TR/LA) between till-rich zone and lower aquifer.

TABLE 3.2

Concentrations of Metals in Background Soil Samples
Former GM Delphi Harrison Thermal Systems Facility, Dayton

		Antimony		Arsenic		Barium		Beryllium		Cadmium		Chromium		Cobalt		Copper		Lead		Manganese		Mercury		Nickel		Selenium		Silver		Thallium		Vanadium		Zinc	
		Sb		As		Ba		Be		Cd		Cr		Co		Cu		Pb		Mn		Hg		Ni		Se		Ag		Tl		V		Zn	
SAMPLE CONCENTRATIONS USED TO ASSESS BACKGROUND LEVELS																																	
Soil Sample ID	**Location ID**	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
S-120104-NZ-053	BH-187	0.30	J	8.5		83.3		0.52	J	1.5		13.1		8.2		31.1		43.7		875.0		0.17		11.1		0.165	U	0.3	J	0.2	U	20.0		81.6	
S-BSS-01-072401	BSS-01	0.28	UJ	11.5		82.6		0.027	U	0.025	U	15.2		10.8		17.7	J	16.3		590.0		0.005	U	17.8		0.18	U	0.1	U	1.9		29.9		60.3	
S-BSS-02-072401	BSS-02	0.31	UJ	13.7		67.6		0.029	U	0.027	U	20.7		8.0		18.4	J	17.5		330.0		0.01	U	19.5		0.20	U	0.1	U	2.1		40.1		66.4	
S-BSS-03-072401	BSS-03	0.29	UJ	7.5		94.4		0.027	U	0.026	U	12.2		0.1	U	17.3	J	99.6		439.0		0.13		14.6		0.19	U	0.1	U	2.5		18.3		158.0	
S-BSS-04-072401	BSS-04	0.30	UJ	11.6		134		0.028	U	0.026	U	13.3		9.5		29.7	J	88.7		1300.0		outlier[4]		16.1		0.19	U	0.1	U	3.4		25.8		165.0	
S-BSS-05-072401	BSS-05	0.28	UJ	outlier[4]		73.1		1.1		0.024	U	5.8		0.1	U	20.6	J	13.7		169.0		0.005	U	11.8		1.0		0.1	U	0.3	U	13.5		45.5	
S-BSS-06-072401	BSS-06	0.29	UJ	9.9		138		0.61		0.025	U	15.0		0.1	U	17.3		34.6		417.0		0.005	U	12.2		0.18	U	0.1	U	1.8		23.1		74.8	
S-BSS-07-072401*	BSS-07	0.29	UJ	9.1		55.2		0.027	U	0.025	U	14.8		3.4	J	14.7	J	11.5		283.5		0.005	U	13.0		0.18	U	0.1	U	0.3	U	28.5		50.2	
TYPICAL BACKGROUND RANGE FOR OHIO [3]																																	
Min (mg/kg)		ND		ND		ND		ND		ND		ND		ND		ND		ND		59		ND		ND		ND		ND		ND		4.6		ND	
Max (mg/kg)		92		56		700		3.15		4.4		100		53.6		70		147		1750		1.60		110		35		14.8		0.59		150		190	
SAMPLE STATISTICS																																	
Count		8		7		8		8		8		8		8		8		8		8		7		8		8		8		8		8		8	
Detected		1		7		8		3		1		8		5		8		8		8		2		8		1		1		5		8		8	
Minimum		0.28		7.5		55		0.03		0.02		5.8		0.1		14.7		11.5		169		0.00		11.1		0.17		0.1		0.2		14		46	
Median		0.29		9.9		83		0.03		0.03		14.0		5.7		18.1		26.1		428		0.00		13.8		0.18		0.1		1.9		24		71	
Maximum		0.31		13.7		138		1.10		1.50		20.7		10.8		31.1		99.6		1300		0.17		19.5		1.00		0.3		3.4		40		165	
Mean		0.3		10.3		91		0.30		0.21		13.8		5.0		20.9		40.7		550		0.05		14.5		0.28		0.1		1.6		25		88	
SD		0.01		2.1		30		0.41		0.52		4.1		4.6		6.1		34.9		371		0.07		3.0		0.29		0.1		1.2		8		47	
RSD		3%		21%		33%		137%		249%		30%		91%		29%		86%		67%		155%		21%		102%		57%		76%		33%		54%	
95% Bootstrap UCL				11.6		109		0.575				15.8		7.5		24.8		63.0		816		0.099		16.5						2.2		29.9		122	
BACKGROUND LEVELS		**0.31**		**11.58**		**109.38**		**0.575**		**1.5**		**15.76**		**7.49**		**24.78**		**63.0**		**816**		**0.10**		**16.5**		**1.0**		**0.27**		**2.2**		**29.9**		**122**	

Data Qualifiers:

U	= analyte not detected
J	= analyte detected but concentration estimated
UJ	= analyte not detected; quantitation limit estimated

Abbreviations:

SD	= standard deviation
RSD	= relative standard deviation
UCL	= upper confidence limit

Notes:

1. Concentrations for Sample IDs with * represent average of duplicate samples.
2. Surrogate concentrations for non-detects (U- or UJ - qualified data) are assumed to be one-half of the quantitation limit, for purposes of calculating the UCL.
3. Typical background concentrations for Ohio from Dragun and Chekiri (2005).
4. Soil sample concentrations for arsenic (117.0 mg/kg) or mercury (1.9 mg/kg) not considered in background assessment.

Table 4.1: Concrete PCB Results Summary
Former GM Delphi Harrison Thermal Systems Facility, Dayton, Ohio

Area	Station ID	Sample Date	Core Sample (mg/kg)	Wipe Sample (ug/100cm^2)	Delphi Building ID	Further Description of Sampling Location
1~Webster to Taylor	CON-12-02	4/3/2002	5.81E-01	1.40E+02	12	Vault 4, Basement
1~Webster to Taylor	CON-13-02	4/3/2002	2.16E+00	1.60E+02	12	Vault 4, Basement
2~Taylor to Railway	CC-21-04	2/18/2004	2.64E+01	ND (4)	10	Tunnel
2~Taylor to Railway	CC-21A	9/22/2005	3.23E-01	NS	10	
2~Taylor to Railway	CC-21B	9/22/2005	2.02E-01	NS	10	
2~Taylor to Railway	CON-01-02	4/2/2002	1.04E+00	1.08E+01	5	Vault 1, Basement
2~Taylor to Railway	CON-02-02	4/2/2002	9.05E-02	7.20E+00	5	Vault 1, Basement
2~Taylor to Railway	CON-03-02	4/2/2002	2.78E+01	6.30E+01	7	Tool Grinder Room, Column L32
2~Taylor to Railway	CON-04-02	4/2/2002	4.36E+00	2.80E+01	7	Tool Grinder Duct, Column M31
2~Taylor to Railway	CON-05-02	4/3/2002	1.48E+00	4.10E+01	10	Tunnel Under Railroad Tracks
2~Taylor to Railway	CON-06-02	4/3/2002	2.15E+00	2.30E+01	10	Annealing Oven Duct, Column H48
2~Taylor to Railway	CON-07-02	4/3/2002	1.35E-01	ND (4)	10	Heat Treat Oven Duct, Column I49
2~Taylor to Railway	CON-08-02	4/3/2002	3.82E-01	3.00E+01	9	Induction Furnace Duct, Column D43
2~Taylor to Railway	CON-09-02	4/3/2002	5.66E-01	1.80E+01	9	Exhaust Manifold, Column S42
2~Taylor to Railway	CON-10-02	4/3/2002	2.66E+00	6.60E+01	9	No. 2 Vaill Machine, Column U39
2~Taylor to Railway	CON-11-02	4/3/2002	9.62E-01	2.00E+01	3	Tool Shop Duct, Column P24
2~Taylor to Railway	CON-16-03	4/7/2003	1.03E+00	NS	7	Tool Grinder Room, Column L32
2~Taylor to Railway	CON-17-03	4/7/2003	9.86E+00	NS	7	Tool Grinder Room, Column L32
2~Taylor to Railway	CON-18-03	4/7/2003	1.91E+00	NS	7	Tool Grinder Room, Column L32
3~Railway to Keowee	CC-01-05	2/21/2005	1.28E+00	NS	G-4	
3~Railway to Keowee	CC-02-05	2/21/2005	2.33E-01	NS	G-4	
3~Railway to Keowee	CC-19-04	2/18/2004	7.47E+00	3.90E+01	G-5	
3~Railway to Keowee	CC-19A	9/20/2005	1.82E+00	NS	G-5	
3~Railway to Keowee	CC-19B	9/20/2005	2.42E+00	NS	G-5	
3~Railway to Keowee	CC-20-04	2/18/2004	2.87E+01	1.04E+02	G-5	Railway Retaining Wall
3~Railway to Keowee *	CON-14-02	4/4/2002	3.52E+01	2.10E+03	G-4	G-Lot Transformer Pad
3~Railway to Keowee *	CON-15-02	4/4/2002	5.82E+01	3.50E+03	G-4	G-Lot Transformer Pad

Notes:

* Concrete has been removed from the Site.

1. Core samples are the maximum concentration from any depth per location.
2. Shaded cells represent concentrations that are higher than the Screening Criteria.
3. Core Sample Screening Criterion is the TSCA low-occupancy criteria (25 mg/kg).
4. Wipe Samples Screening Criterion is the TSCA low-occupancy criteria (100 ug/100 cm^2).

Abbreviations:

NS - not sampled

ND - not detected, quantitation limit in parentheses

Table 4.2A(i): Soil Screening Results Summary: On-Site
Former GM Delphi Harrison Thermal Systems Facility, Dayton, Ohio

Area	Chem Group	Chemical	CASRN	Carc Class	Analyzed	Detected	Min Detected Concentration (mg/kg)	Max Detected Concentration (mg/kg)	Site-Specific Background Concentration (mg/kg)	Comm/Ind PRG Based Criteria (mg/kg)	Ratio of Max Detect to Comm/Ind Criteria	Comm/Ind Soil Vol Indoor Air Criteria (mg/kg)	Ratio of Max Detect to Comm/Ind Soil Vol Ind Air Criteria	Redevelop-ment Worker Soil Contact Criteria (mg/kg)	Ratio of Max Detect to Redev Worker Soil Criteria
1~Webster to Taylor	VOC	Acetone	67-64-1	ID	195	17	2.10E-03	3.60E+00		5.43E+04	6.6E-05	3.5E+03	1.0E-03	2.9E+03	1.3E-03
1~Webster to Taylor	VOC	Benzene	71-43-2	A	194	30	2.48E-04	7.70E-01		1.41E+01	5.5E-02	1.1E+00	6.8E-01	1.2E+01	6.7E-02
1~Webster to Taylor	VOC	Bromomethane	74-83-9	D	193	2	4.00E-01	1.00E+00		1.31E+01	7.6E-02	1.6E+00	6.3E-01	2.9E+01	3.4E-02
1~Webster to Taylor	VOC	2-Butanone	78-93-3	ID	195	22	1.50E-03	1.50E-01		1.13E+05	1.3E-06	4.2E+03	3.6E-05	4.4E+03	3.4E-05
1~Webster to Taylor	VOC	Carbon Disulfide	75-15-0		195	2	1.51E-03	3.70E-03		1.20E+03	3.1E-06	2.2E+02	1.7E-05	7.3E+01	5.0E-05
1~Webster to Taylor	VOC	Chloroform	67-66-3	B2	195	3	6.10E-04	3.30E-03		4.70E+00	7.0E-04	3.8E-01	8.6E-03	5.7E+00	5.8E-04
1~Webster to Taylor	VOC	Chloromethane	74-87-3	D	195	1	5.50E-02	5.50E-02		1.56E+02	3.5E-04	2.8E+01	1.9E-03	1.1E+01	4.9E-03
1~Webster to Taylor	VOC	Cumene	98-82-8	D	195	8	7.10E-04	5.00E-01		1.98E+03	2.5E-04	1.3E+02	4.0E-03	4.6E+01	1.1E-02
1~Webster to Taylor	VOC	Cyclohexane	110-82-7	ID	195	36	3.90E-04	6.50E-01		9.43E+03	6.9E-05	1.9E+03	3.4E-04	7.7E+02	8.4E-04
1~Webster to Taylor	VOC	1,2-Dichlorobenzene	95-50-1	D	195	2	3.80E-02	4.10E-02		4.08E+03	1.0E-05	1.7E+02	2.5E-04	1.9E+03	2.2E-05
1~Webster to Taylor	VOC	1,4-Dichlorobenzene	106-46-7	C	195	5	5.90E-04	2.90E-02		7.87E+01	3.7E-04	2.8E+00	1.0E-02	9.4E+01	3.1E-04
1~Webster to Taylor	VOC	Dichlorodifluoromethane	75-71-8		195	9	5.90E-04	2.20E+00		3.08E+02	7.1E-03	6.3E+01	3.5E-02	2.0E+02	1.1E-02
1~Webster to Taylor	VOC	1,1-Dichloroethane	75-34-3	C	195	12	1.90E-03	6.00E+00		1.74E+03	3.5E-03	1.6E+02	3.8E-02	8.9E+02	6.7E-03
1~Webster to Taylor	VOC	1,1-Dichloroethene	75-35-4	C	195	9	5.48E-04	1.80E-02		4.13E+02	4.4E-05	6.3E+01	2.9E-04	2.4E+01	7.5E-04
1~Webster to Taylor	VOC	cis-1,2-Dichloroethene	156-59-2	D	195	69	3.50E-04	1.20E+02		1.46E+02	8.2E-01	1.1E+01	**1.1E+01**	7.3E+01	**1.7E+00**
1~Webster to Taylor	VOC	trans-1,2-Dichloroethene	156-60-5		195	15	5.80E-04	2.60E-01		2.35E+02	1.1E-03	1.9E+01	1.4E-02	1.0E+01	2.5E-02
1~Webster to Taylor	VOC	Ethyl Benzene	100-41-4	D	195	38	4.20E-04	1.20E+00		7.42E+03	1.6E-04	3.2E+02	3.8E-03	3.6E+02	3.3E-03
1~Webster to Taylor	VOC	Methyl Acetate	79-20-9		195	30	3.40E-02	1.85E+00		9.15E+04	2.0E-05	1.8E+03	1.0E-03	2.2E+04	8.4E-05
1~Webster to Taylor	VOC	Methyl tert-butyl ether	1634-04-4		195	1	2.95E-02	2.95E-02		7.00E+02	4.2E-05	9.5E+02	3.1E-05	1.0E+03	2.9E-05
1~Webster to Taylor	VOC	4-Methyl-2-pentanone	108-10-1	ID	195	11	9.50E-04	4.40E-03		4.70E+04	9.4E-08	1.5E+03	3.0E-06	2.1E+03	2.1E-06
1~Webster to Taylor	VOC	Methylcyclohexane	108-87-2		195	73	3.13E-04	2.70E+00		8.72E+03	3.1E-04	9.5E+02	2.9E-03	3.3E+02	8.2E-03
1~Webster to Taylor	VOC	Methylene Chloride	75-09-2	B2	195	15	1.60E-03	1.10E+00		2.05E+02	5.4E-03	1.9E+01	5.9E-02	2.6E+02	4.2E-03
1~Webster to Taylor	VOC	Tetrachloroethene	127-18-4	C-B2	195	177	5.20E-04	6.10E+02		1.31E+01	**4.7E+01**	2.9E+00	**2.1E+02**	4.3E+01	**1.4E+01**
1~Webster to Taylor	VOC	Toluene	108-88-3	ID	195	117	3.70E-04	1.30E+00		2.21E+03	5.9E-04	1.6E+03	8.2E-04	1.3E+03	9.6E-04
1~Webster to Taylor	VOC	1,2,4-Trichlorobenzene	120-82-1	D	195	1	1.30E-01	1.30E-01		2.16E+02	6.0E-04	6.3E+02	2.1E-04	2.7E+03	4.8E-05
1~Webster to Taylor	VOC	1,1,1-Trichloroethane	71-55-6	D	195	16	1.10E-03	3.10E+00		6.95E+03	4.5E-04	6.9E+02	4.5E-03	3.6E+03	8.7E-04
1~Webster to Taylor	VOC	Trichloroethene	79-01-6	C-B2	194	152	6.40E-04	2.40E+02		6.12E+01	**3.9E+00**	5.2E+00	**4.6E+01**	9.4E+01	**2.6E+00**
1~Webster to Taylor	VOC	Trichlorofluoromethane	75-69-4		195	1	1.95E-01	1.95E-01		1.28E+03	1.5E-04	2.2E+02	8.8E-04	7.6E+02	2.6E-04
1~Webster to Taylor	VOC	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1		195	1	8.30E-02	8.30E-02		6.87E+04	1.2E-06	9.5E+03	8.8E-06	3.2E+03	2.6E-05
1~Webster to Taylor	VOC	Vinyl Chloride	75-01-4	A	195	5	1.40E-03	1.00E+00		7.46E+00	1.3E-01	1.0E+00	1.0E+00	7.5E+00	1.3E-01
1~Webster to Taylor	VOC	Xylenes (total)	1330-20-7	ID	195	54	9.00E-04	5.20E+00		8.97E+02	5.8E-03	3.2E+01	1.6E-01	1.2E+02	4.4E-02
1~Webster to Taylor	SVOC	Acenaphthene	83-32-9		127	30	1.60E-02	3.10E+00		2.92E+04	1.1E-04	2.4E+04	1.3E-04	2.6E+04	1.2E-04
1~Webster to Taylor	SVOC	Acenaphthylene	208-96-8	D	127	4	1.90E-02	1.40E-01		2.91E+04	4.8E-06	1.7E+04	8.2E-06	1.5E+04	9.3E-06
1~Webster to Taylor	SVOC	Anthracene	120-12-7	D	127	40	1.73E-02	4.00E+00		2.38E+05	1.7E-05			1.1E+06	3.7E-06
1~Webster to Taylor	SVOC	Benzaldehyde	100-52-7		127	1	1.90E-01	1.90E-01		6.16E+04	3.1E-06	1.6E+03	1.2E-04	7.7E+02	2.5E-04
1~Webster to Taylor	SVOC	Benzo(a)anthracene	56-55-3	B2	127	68	2.10E-02	9.40E+00		2.11E+01	4.5E-01	9.3E+04	1.0E-04	3.2E+02	2.9E-02
1~Webster to Taylor	SVOC	Benzo(a)pyrene	50-32-8	B2	127	66	2.30E-02	1.59E+01		2.11E+00	**7.5E+00**	7.0E+04	2.3E-04	3.4E+01	4.7E-01
1~Webster to Taylor	SVOC	Benzo(b)fluoranthene	205-99-2	B2	127	69	2.80E-02	1.46E+01		2.11E+01	6.9E-01	8.9E+03	1.6E-03	3.0E+02	4.9E-02
1~Webster to Taylor	SVOC	Benzo(g,h,i)perylene	191-24-2	D	127	63	2.40E-02	1.26E+01		2.91E+04	4.3E-04	2.4E+10	5.3E-10	1.1E+05	1.2E-04
1~Webster to Taylor	SVOC	Benzo(k)fluoranthene	207-08-9	B2	127	65	1.50E-02	8.95E+00		2.11E+02	4.2E-02	1.2E+07	7.6E-07	3.4E+03	2.6E-03
1~Webster to Taylor	SVOC	Biphenyl	92-52-4	D	127	9	4.73E-02	3.60E-01		2.33E+04	1.5E-05	1.5E+04	2.4E-05	2.0E+03	1.8E-04
1~Webster to Taylor	SVOC	bis(2-Ethylhexyl)phthalate	117-81-7	B2	127	33	1.50E-02	1.41E+00		1.23E+03	1.1E-03	2.5E+09	5.6E-10	7.7E+03	1.8E-04
1~Webster to Taylor	SVOC	Carbazole	86-74-8	B2	127	29	2.10E-02	2.70E+00		8.62E+02	3.1E-03	2.7E+06	1.0E-06	1.2E+04	2.3E-04
1~Webster to Taylor	SVOC	Chrysene	218-01-9	B2	127	69	2.40E-02	9.40E+00		2.11E+03	4.5E-03	3.3E+05	2.8E-05	2.8E+04	3.4E-04
1~Webster to Taylor	SVOC	Dibenz(a,h)anthracene	53-70-3	B2	127	35	2.95E-02	3.45E+00		2.11E+00	**1.6E+00**	2.0E+07	1.7E-07	3.4E+01	1.0E-01
1~Webster to Taylor	SVOC	Dibenzofuran	132-64-9	D	127	24	2.00E-02	1.80E+00		1.56E+03	1.2E-03	2.9E+04	6.2E-05	3.9E+02	4.6E-03
1~Webster to Taylor	SVOC	Di-n-octylphthalate	117-84-0		127	6	6.78E-02	1.80E-01		2.46E+04	7.3E-06			1.5E+05	1.2E-06
1~Webster to Taylor	SVOC	Fluoranthene	206-44-0	D	127	77	3.80E-02	2.30E+01		2.20E+04	1.0E-03	2.3E+06	9.9E-06	9.5E+04	2.4E-04
1~Webster to Taylor	SVOC	Fluorene	86-73-7	D	127	35	1.80E-02	3.10E+00		2.63E+04	1.2E-04	7.5E+04	4.1E-05	3.5E+04	8.8E-05
1~Webster to Taylor	SVOC	Indeno(1,2,3-cd)pyrene	193-39-5	B2	127	60	1.93E-02	1.14E+01		2.11E+01	5.4E-01	1.7E+06	6.6E-06	3.4E+02	3.3E-02
1~Webster to Taylor	SVOC	Isophorone	78-59-1	C	127	1	4.51E-01	4.51E-01		5.12E+03	8.8E-05			2.8E+05	1.6E-06
1~Webster to Taylor	SVOC	2-Methylnaphthalene	91-57-6	ID	127	27	2.10E-02	1.40E+00		1.88E+02	7.5E-03	8.9E+01	1.6E-02	2.0E+01	6.9E-02
1~Webster to Taylor	SVOC	Methylphenol (total)	1319-77-3		125	1	6.40E-02	6.40E-02		3.08E+03	2.1E-05	5.0E+04	1.3E-06	2.6E+03	2.5E-05
1~Webster to Taylor	SVOC	Naphthalene	91-20-3	C	127	27	2.00E-02	1.20E+00		1.88E+02	6.4E-03	3.1E+01	3.9E-02	1.1E+01	1.1E-01
1~Webster to Taylor	SVOC	Phenanthrene	85-01-8	D	127	70	2.40E-02	1.40E+01		2.91E+04	4.8E-04	2.7E+05	5.2E-05	4.4E+04	3.1E-04
1~Webster to Taylor	SVOC	Pyrene	129-00-0	D	127	73	3.90E-02	1.70E+01		2.91E+04	5.8E-04	2.5E+06	6.8E-06	7.7E+04	2.2E-04
1~Webster to Taylor	PCB	PCBs (total)	1336-36-3	B2	182	107	8.30E-03	2.72E+02		7.44E+00	**3.7E+01**	1.5E+02	**1.8E+00**	1.7E+01	**1.6E+01**
1~Webster to Taylor	INORG	Antimony	7440-36-0		96	19	3.70E-01	1.72E+01	3.10E-01	4.09E+02	4.1E-02			2.0E+02	8.3E-02
1~Webster to Taylor	INORG	Arsenic	7440-38-2	A	100	100	1.90E+00	3.43E+01	1.16E+01	1.59E+01	**1.4E+00**			2.1E+02	1.1E-01
1~Webster to Taylor	INORG	Barium	7440-39-3	D	96	96	1.28E+01	6.90E+02	1.09E+02	6.66E+04	8.7E-03			3.6E+04	1.6E-02
1~Webster to Taylor	INORG	Beryllium	7440-41-7	B1	96	38	1.20E-01	1.19E+01	5.75E-01	1.94E+03	5.8E-03			3.7E+02	3.0E-02
1~Webster to Taylor	INORG	Cadmium	7440-43-9	B1	96	61	3.90E-02	4.60E+00	1.50E+00	4.51E+02	6.9E-03			4.4E+02	7.0E-03
1~Webster to Taylor	INORG	Chromium (total)	7440-47-3		99	99	1.60E+00	1.49E+02	1.58E+01	2.54E+03	5.2E-02			1.7E+03	7.8E-02
1~Webster to Taylor	INORG	Cobalt	7440-48-4	B1	96	96	9.60E-01	1.32E+01	7.49E+00	1.33E+04	4.3E-04			5.5E+02	1.0E-02
1~Webster to Taylor	INORG	Copper	7440-50-8	D	96	96	1.70E+00	4.05E+02	2.48E+01	4.09E+04	9.3E-03			2.0E+04	1.9E-02
1~Webster to Taylor	INORG	Cyanide (total)	57-12-5	D	96	31	1.20E-01	5.60E+00		1.23E+04	4.5E-04			1.0E+04	5.5E-04
1~Webster to Taylor	INORG	Lead	7439-92-1	B2	96	96	1.70E+00	6.55E+02		8.00E+02	8.2E-01				

Table 4.2A(i): Soil Screening Results Summary: On-Site
Former GM Delphi Harrison Thermal Systems Facility, Dayton, Ohio

Area	Chem Group	Chemical	CASRN	Carc Class	Analyzed	Detected	Min Detected Concentration (mg/kg)	Max Detected Concentration (mg/kg)	Site-Specific Background Concentration (mg/kg)	Comm/Ind PRG Based Criteria (mg/kg)	Ratio of Max Detect to Comm/Ind Criteria	Comm/Ind Soil Vol Indoor Air Criteria (mg/kg)	Ratio of Max Detect to Comm/Ind Soil Vol Ind Air Criteria	Redevelop-ment Worker Soil Contact Criteria (mg/kg)	Ratio of Max Detect to Redev Worker Soil Criteria
1~Webster to Taylor	INORG	Manganese	7439-96-5	D	96	96	6.86E+01	6.41E+02	8.16E+02	1.95E+04				1.4E+03	
1~Webster to Taylor	INORG	Mercury	7439-97-6	D	102	71	9.30E-03	4.01E+01	1.00E-01	1.36E+01	**2.9E+00**	5.3E+01	7.6E-01	6.0E+00	**6.7E+00**
1~Webster to Taylor	INORG	Nickel	7440-02-0	A	96	96	2.50E+00	2.95E+01	1.65E+01	2.04E+04	6.4E-04			1.0E+04	1.3E-03
1~Webster to Taylor	INORG	Selenium	7782-49-2	D	96	8	3.95E-01	1.10E+00	1.00E+00	5.11E+03	2.0E-05			2.5E+03	3.9E-05
1~Webster to Taylor	INORG	Silver	7440-22-4	D	96	9	1.55E-01	1.80E+00	2.70E-01	5.11E+03	3.0E-04			2.6E+02	5.8E-03
1~Webster to Taylor	INORG	Thallium	7440-28-0		96	27	6.20E-02	2.10E+00	2.20E+00	6.75E+01				3.6E+01	
1~Webster to Taylor	INORG	Vanadium	7440-62-2		96	96	4.20E+00	5.88E+01	2.99E+01	1.02E+03	2.8E-02			3.6E+03	8.1E-03
1~Webster to Taylor	INORG	Zinc	7440-66-6	ID	96	96	7.60E+00	6.48E+02	1.22E+02	3.06E+05	1.7E-03			1.5E+05	3.4E-03
2~Taylor to Railway	VOC	Acetone	67-64-1	ID	249	40	4.25E-03	1.50E+00		5.43E+04	2.8E-05	3.5E+03	4.3E-04	2.9E+03	5.3E-04
2~Taylor to Railway	VOC	Benzene	71-43-2	A	247	38	2.33E-04	1.24E+00		1.41E+01	8.8E-02	1.1E+00	**1.1E+00**	1.2E+01	1.1E-01
2~Taylor to Railway	VOC	Bromodichloromethane	75-27-4	B2	250	1	3.20E-03	3.20E-03		1.83E+01	1.7E-04	5.0E-01	6.4E-03	2.2E+01	1.5E-04
2~Taylor to Railway	VOC	Bromomethane	74-83-9	D	236	6	8.00E-02	7.70E-01		1.31E+01	5.9E-02	1.6E+00	4.9E-01	2.9E+01	2.7E-02
2~Taylor to Railway	VOC	2-Butanone	78-93-3	ID	250	37	1.60E-03	3.10E-01		1.13E+05	2.7E-06	4.2E+03	7.4E-05	4.4E+03	7.0E-05
2~Taylor to Railway	VOC	Carbon Disulfide	75-15-0		250	3	1.30E-03	2.10E-03		1.20E+03	1.7E-06	2.2E+02	9.5E-06	7.3E+01	2.9E-05
2~Taylor to Railway	VOC	Carbon Tetrachloride	56-23-5	B2	250	3	1.03E-02	6.90E-02		5.49E+00	1.3E-02	5.9E-01	1.2E-01	3.1E+00	2.2E-02
2~Taylor to Railway	VOC	Chlorobenzene	108-90-7	D	250	3	7.60E-04	6.30E-02		5.30E+02	1.2E-04	1.9E+01	3.3E-03	2.5E+01	2.5E-03
2~Taylor to Railway	VOC	Chloroform	67-66-3	B2	250	10	5.50E-04	1.80E-01		4.70E+00	3.8E-02	3.8E-01	4.7E-01	5.7E+00	3.2E-02
2~Taylor to Railway	VOC	Cumene	98-82-8	D	250	21	2.30E-03	2.10E+00		1.98E+03	1.1E-03	1.3E+02	1.7E-02	4.6E+01	4.5E-02
2~Taylor to Railway	VOC	Cyclohexane	110-82-7	ID	250	59	4.98E-04	3.40E+00		9.43E+03	3.6E-04	1.9E+03	1.8E-03	7.7E+02	4.4E-03
2~Taylor to Railway	VOC	1,2-Dibromo-3-chloropropane	96-12-8	B2	250	1	1.20E-01	1.20E-01		1.10E+01	1.1E-02	5.4E-01	2.2E-01	3.2E-01	3.7E-01
2~Taylor to Railway	VOC	Dibromochloromethane	124-48-1	C	250	1	3.20E-03	3.20E-03		2.55E+01	1.3E-04	3.7E-01	8.7E-03	2.9E+01	1.1E-04
2~Taylor to Railway	VOC	1,2-Dibromoethane	106-93-4	LC	250	1	1.10E-03	1.10E-03		6.30E-01	1.7E-03	1.5E-02	7.5E-02	4.2E-01	2.6E-03
2~Taylor to Railway	VOC	1,2-Dichlorobenzene	95-50-1	D	250	4	5.90E-02	3.40E-01		4.08E+03	8.3E-05	1.7E+02	2.1E-03	1.9E+03	1.8E-04
2~Taylor to Railway	VOC	1,4-Dichlorobenzene	106-46-7	C	250	11	5.40E-04	3.10E-02		7.87E+01	3.9E-04	2.8E+00	1.1E-02	9.4E+01	3.3E-04
2~Taylor to Railway	VOC	Dichlorodifluoromethane	75-71-8		250	3	1.29E-01	3.00E-01		3.08E+02	9.7E-04	6.3E+01	4.8E-03	2.0E+02	1.5E-03
2~Taylor to Railway	VOC	1,1-Dichloroethane	75-34-3	C	250	10	6.00E-04	3.35E+00		1.74E+03	1.9E-03	1.6E+02	2.1E-02	8.9E+02	3.8E-03
2~Taylor to Railway	VOC	1,2-Dichloroethane	107-06-2	B2	250	1	6.40E-04	6.40E-04		6.03E+00	1.1E-04	3.4E-01	1.9E-03	1.3E+00	4.8E-04
2~Taylor to Railway	VOC	1,1-Dichloroethene	75-35-4	C	250	4	1.10E-01	3.60E-01		4.13E+02	8.7E-04	6.3E+01	5.7E-03	2.4E+01	1.5E-02
2~Taylor to Railway	VOC	cis-1,2-Dichloroethene	156-59-2	D	250	99	3.50E-04	2.20E+01		1.46E+02	1.5E-01	1.1E+01	**2.0E+00**	7.3E+01	3.0E-01
2~Taylor to Railway	VOC	trans-1,2-Dichloroethene	156-60-5		250	16	2.60E-03	1.50E+00		2.35E+02	6.4E-03	1.9E+01	8.0E-02	1.0E+01	1.4E-01
2~Taylor to Railway	VOC	1,2-Dichloropropane	78-87-5	B2	250	1	2.80E-03	2.80E-03		7.42E+00	3.8E-04	1.3E+00	2.2E-03	3.2E+00	8.7E-04
2~Taylor to Railway	VOC	Ethyl Benzene	100-41-4	D	250	52	2.63E-04	2.36E+00		7.42E+03	3.2E-04	3.2E+02	7.5E-03	3.6E+02	6.5E-03
2~Taylor to Railway	VOC	2-Hexanone	591-78-6		250	4	2.60E-03	2.30E-01						1.8E+04	1.3E-05
2~Taylor to Railway	VOC	Methyl Acetate	79-20-9		250	39	3.20E-02	4.00E+00		9.15E+04	4.4E-05	1.8E+03	2.2E-03	2.2E+04	1.8E-04
2~Taylor to Railway	VOC	4-Methyl-2-pentanone	108-10-1	ID	250	11	1.00E-03	2.10E-02		4.70E+04	4.5E-07	1.5E+03	1.4E-05	2.1E+03	9.9E-06
2~Taylor to Railway	VOC	Methylcyclohexane	108-87-2		250	106	3.23E-04	9.25E+00		8.72E+03	1.1E-03	9.5E+02	9.8E-03	3.3E+02	2.8E-02
2~Taylor to Railway	VOC	Methylene Chloride	75-09-2	B2	250	45	1.00E-03	2.70E+00		2.05E+02	1.3E-02	1.9E+01	1.4E-01	2.6E+02	1.0E-02
2~Taylor to Railway	VOC	Styrene	100-42-5		250	3	1.20E-03	9.30E-02		1.81E+04	5.1E-06	7.1E+02	1.3E-04	2.6E+03	3.6E-05
2~Taylor to Railway	VOC	1,1,2,2-Tetrachloroethane	79-34-5	C	250	1	3.30E-02	3.30E-02		9.29E+00	3.6E-03	3.8E-01	8.6E-02	1.1E+01	3.0E-03
2~Taylor to Railway	VOC	Tetrachloroethene	127-18-4	C-B2	250	197	4.60E-04	1.30E+02		1.31E+01	**9.9E+00**	2.9E+00	**4.5E+01**	4.3E+01	**3.1E+00**
2~Taylor to Railway	VOC	Toluene	108-88-3	ID	250	121	2.53E-04	8.95E+00		2.21E+03	4.0E-03	1.6E+03	5.7E-03	1.3E+03	6.6E-03
2~Taylor to Railway	VOC	1,2,4-Trichlorobenzene	120-82-1	D	250	2	1.10E-03	2.80E-01		2.16E+02	1.3E-03	6.3E+02	4.4E-04	2.7E+03	1.0E-04
2~Taylor to Railway	VOC	1,1,1-Trichloroethane	71-55-6	D	250	14	1.10E-03	8.70E+00		6.95E+03	1.3E-03	6.9E+02	1.3E-02	3.6E+03	2.4E-03
2~Taylor to Railway	VOC	1,1,2-Trichloroethane	79-00-5	C	250	1	9.60E-02	9.60E-02		1.61E+01	6.0E-03	5.5E-01	1.7E-01	1.9E+01	5.1E-03
2~Taylor to Railway	VOC	Trichloroethene	79-01-6	C-B2	250	190	5.40E-04	1.50E+02		6.12E+01	**2.5E+00**	5.2E+00	**2.9E+01**	9.4E+01	**1.6E+00**
2~Taylor to Railway	VOC	Trichlorofluoromethane	75-69-4		250	1	1.60E-01	1.60E-01		1.28E+03	1.3E-04	2.2E+02	7.3E-04	7.6E+02	2.1E-04
2~Taylor to Railway	VOC	Vinyl Chloride	75-01-4	A	250	6	1.60E-02	1.80E+00		7.46E+00	2.4E-01	1.0E+00	**1.8E+00**	7.5E+00	2.4E-01
2~Taylor to Railway	VOC	Xylenes (total)	1330-20-7	ID	250	67	9.50E-04	1.06E+01		8.97E+02	1.2E-02	3.2E+01	3.3E-01	1.2E+02	9.0E-02
2~Taylor to Railway	SVOC	Acenaphthene	83-32-9		194	20	1.60E-02	9.30E-01		2.92E+04	3.2E-05	2.4E+04	3.9E-05	2.6E+04	3.5E-05
2~Taylor to Railway	SVOC	Acenaphthylene	208-96-8	D	194	10	2.50E-02	6.10E-01		2.91E+04	2.1E-05	1.7E+04	3.6E-05	1.5E+04	4.0E-05
2~Taylor to Railway	SVOC	Acetophenone	98-86-2	D	194	1	1.10E-01	1.10E-01				4.2E+03	2.6E-05	1.2E+04	9.5E-06
2~Taylor to Railway	SVOC	Anthracene	120-12-7	D	194	39	1.55E-02	2.70E+00		2.38E+05	1.1E-05			1.1E+06	2.5E-06
2~Taylor to Railway	SVOC	Benzaldehyde	100-52-7		194	3	2.10E-02	1.80E-01		6.16E+04	2.9E-06	1.6E+03	1.1E-04	7.7E+02	2.4E-04
2~Taylor to Railway	SVOC	Benzo(a)anthracene	56-55-3	B2	194	62	2.90E-02	1.00E+01		2.11E+01	4.7E-01	9.3E+04	1.1E-04	3.2E+02	3.1E-02
2~Taylor to Railway	SVOC	Benzo(a)pyrene	50-32-8	B2	194	59	2.10E-02	8.40E+00		2.11E+00	**4.0E+00**	7.0E+04	1.2E-04	3.4E+01	2.5E-01
2~Taylor to Railway	SVOC	Benzo(b)fluoranthene	205-99-2	B2	194	69	2.20E-02	1.00E+01		2.11E+01	4.7E-01	8.9E+03	1.1E-03	3.0E+02	3.3E-02
2~Taylor to Railway	SVOC	Benzo(g,h,i)perylene	191-24-2	D	194	54	1.80E-02	4.70E+00		2.91E+04	1.6E-04	2.4E+10	2.0E-10	1.1E+05	4.4E-05
2~Taylor to Railway	SVOC	Benzo(k)fluoranthene	207-08-9	B2	194	51	2.30E-02	6.70E+00		2.11E+02	3.2E-02	1.2E+07	5.7E-07	3.4E+03	2.0E-03
2~Taylor to Railway	SVOC	Biphenyl	92-52-4	D	194	5	2.90E-02	1.30E-01		2.33E+04	5.6E-06	1.5E+04	8.6E-06	2.0E+03	6.5E-05
2~Taylor to Railway	SVOC	bis(2-Ethylhexyl)phthalate	117-81-7	B2	194	36	1.50E-02	3.00E+00		1.23E+03	2.4E-03	2.5E+09	1.2E-09	7.7E+03	3.9E-04
2~Taylor to Railway	SVOC	Butylbenzylphthalate	85-68-7	C	194	1	2.20E-02	2.20E-02		1.23E+05	1.8E-07	5.9E+06	3.7E-09	1.2E+05	1.8E-07
2~Taylor to Railway	SVOC	Caprolactam	105-60-2		194	1	1.80E-02	1.80E-02		3.08E+05	5.8E-08	1.5E+07	1.2E-09	6.7E+04	2.7E-07
2~Taylor to Railway	SVOC	Carbazole	86-74-8	B2	194	24	2.28E-02	5.30E+00		8.62E+02	6.1E-03	2.7E+06	2.0E-06	1.2E+04	4.5E-04
2~Taylor to Railway	SVOC	Chrysene	218-01-9	B2	194	70	1.90E-02	1.10E+01		2.11E+03	5.2E-03	3.3E+05	3.3E-05	2.8E+04	4.0E-04
2~Taylor to Railway	SVOC	Dibenz(a,h)anthracene	53-70-3	B2	194	32	2.10E-02	1.00E+00		2.11E+00	4.7E-01	2.0E+07	5.0E-08	3.4E+01	2.9E-02
2~Taylor to Railway	SVOC	Dibenzofuran	132-64-9	D	194	25	1.80E-02	1.60E+00		1.56E+03	1.0E-03	2.9E+04	5.6E-05	3.9E+02	4.1E-03
2~Taylor to Railway	SVOC	Di-n-butylphthalate	84-74-2	D	194	1	2.90E+00	2.90E+00		6.16E+04	4.7E-05			3.8E+05	7.5E-06

Table 4.2A(i): Soil Screening Results Summary: On-Site
Former GM Delphi Harrison Thermal Systems Facility, Dayton, Ohio

Area	Chem Group	Chemical	CASRN	Carc Class	Analyzed	Detected	Min Detected Concentration (mg/kg)	Max Detected Concentration (mg/kg)	Site-Specific Background Concentration (mg/kg)	Comm/Ind PRG Based Criteria (mg/kg)	Ratio of Max Detect to Comm/Ind Criteria	Comm/Ind Soil Vol Indoor Air Criteria (mg/kg)	Ratio of Max Detect to Comm/Ind Soil Vol Ind Air Criteria	Redevelop-ment Worker Soil Contact Criteria (mg/kg)	Ratio of Max Detect to Redev Worker Soil Criteria
2~Taylor to Railway	SVOC	Di-n-octylphthalate	117-84-0		194	7	1.63E-02	2.20E-01		2.46E+04	8.9E-06			1.5E+05	1.4E-06
2~Taylor to Railway	SVOC	Fluoranthene	206-44-0	D	194	75	2.40E-02	2.70E+01		2.20E+04	1.2E-03	2.3E+06	1.2E-05	9.5E+04	2.8E-04
2~Taylor to Railway	SVOC	Fluorene	86-73-7	D	194	26	2.30E-02	1.60E+00		2.63E+04	6.1E-05	7.5E+04	2.1E-05	3.5E+04	4.5E-05
2~Taylor to Railway	SVOC	Indeno(1,2,3-cd)pyrene	193-39-5	B2	194	46	2.50E-02	4.10E+00		2.11E+01	1.9E-01	1.7E+06	2.4E-06	3.4E+02	1.2E-02
2~Taylor to Railway	SVOC	Isophorone	78-59-1	C	194	1	4.40E-01	4.40E-01		5.12E+03	8.6E-05			2.8E+05	1.6E-06
2~Taylor to Railway	SVOC	2-Methylnaphthalene	91-57-6	ID	194	47	2.30E-02	1.30E+01		1.88E+02	6.9E-02	8.9E+01	1.5E-01	2.0E+01	6.4E-01
2~Taylor to Railway	SVOC	Naphthalene	91-20-3	C	194	40	2.00E-02	2.80E+00		1.88E+02	1.5E-02	3.1E+01	9.1E-02	1.1E+01	2.5E-01
2~Taylor to Railway	SVOC	Phenanthrene	85-01-8	D	194	80	1.70E-02	1.10E+01		2.91E+04	3.8E-04	2.7E+05	4.1E-05	4.4E+04	2.5E-04
2~Taylor to Railway	SVOC	Pyrene	129-00-0	D	194	76	1.90E-02	2.50E+01		2.91E+04	8.6E-04	2.5E+06	1.0E-05	7.7E+04	3.3E-04
2~Taylor to Railway	PCB	PCBs (total)	1336-36-3	B2	180	98	7.25E-03	1.13E+02		7.44E+00	**1.5E+01**	1.5E+02	7.4E-01	1.7E+01	**6.5E+00**
2~Taylor to Railway	INORG	Antimony	7440-36-0		197	47	2.40E-01	2.88E+01	3.10E-01	4.09E+02	7.0E-02			2.0E+02	1.4E-01
2~Taylor to Railway	INORG	Arsenic	7440-38-2	A	201	200	1.10E+00	3.24E+01	1.16E+01	1.59E+01	**1.3E+00**			2.1E+02	1.0E-01
2~Taylor to Railway	INORG	Barium	7440-39-3	D	199	199	2.80E+00	7.48E+02	1.09E+02	6.66E+04	9.6E-03			3.6E+04	1.8E-02
2~Taylor to Railway	INORG	Beryllium	7440-41-7	B1	199	96	3.40E-02	4.30E+00	5.75E-01	1.94E+03	1.9E-03			3.7E+02	1.0E-02
2~Taylor to Railway	INORG	Cadmium	7440-43-9	B1	199	152	2.60E-02	3.34E+03	1.50E+00	4.51E+02	**7.4E+00**			4.4E+02	**7.5E+00**
2~Taylor to Railway	INORG	Chromium (total)	7440-47-3		199	199	1.70E+00	1.79E+03	1.58E+01	2.54E+03	7.0E-01			1.7E+03	1.0E+00
2~Taylor to Railway	INORG	Cobalt	7440-48-4	B1	199	198	4.90E-01	8.48E+01	7.49E+00	1.33E+04	5.8E-03			5.5E+02	1.4E-01
2~Taylor to Railway	INORG	Copper	7440-50-8	D	199	197	1.20E+00	9.42E+03	2.48E+01	4.09E+04	2.3E-01			2.0E+04	4.6E-01
2~Taylor to Railway	INORG	Cyanide (total)	57-12-5	D	197	52	9.70E-02	5.05E+01		1.23E+04	4.1E-03			1.0E+04	5.0E-03
2~Taylor to Railway	INORG	Lead	7439-92-1	B2	205	205	8.60E-01	5.18E+04		8.00E+02	**6.5E+01**				
2~Taylor to Railway	INORG	Manganese	7439-96-5	D	207	207	4.44E+01	5.76E+03	8.16E+02	1.95E+04	2.5E-01			1.4E+03	**3.5E+00**
2~Taylor to Railway	INORG	Mercury	7439-97-6	D	194	132	4.80E-03	7.50E+00	1.00E-01	1.36E+01	5.4E-01	5.3E+01	1.4E-01	6.0E+00	**1.2E+00**
2~Taylor to Railway	INORG	Nickel	7440-02-0	A	199	199	1.00E+00	5.28E+02	1.65E+01	2.04E+04	2.5E-02			1.0E+04	5.0E-02
2~Taylor to Railway	INORG	Selenium	7782-49-2	D	199	16	3.90E-01	2.30E+00	1.00E+00	5.11E+03	2.5E-04			2.5E+03	5.1E-04
2~Taylor to Railway	INORG	Silver	7440-22-4	D	199	30	8.75E-02	2.90E+00	2.70E-01	5.11E+03	5.1E-04			2.6E+02	1.0E-02
2~Taylor to Railway	INORG	Thallium	7440-28-0		199	87	3.90E-01	2.50E+00	2.20E+00	6.75E+01	4.4E-03			3.6E+01	8.4E-03
2~Taylor to Railway	INORG	Vanadium	7440-62-2		199	199	1.70E+00	6.31E+01	2.99E+01	1.02E+03	3.2E-02			3.6E+03	9.3E-03
2~Taylor to Railway	INORG	Zinc	7440-66-6	ID	199	198	3.20E+00	4.33E+04	1.22E+02	3.06E+05	1.4E-01			1.5E+05	2.8E-01
3~Railway to Keowee	VOC	Acetone	67-64-1	ID	22	6	9.90E-03	1.80E+00		5.43E+04	3.3E-05	3.5E+03	5.1E-04	2.9E+03	6.3E-04
3~Railway to Keowee	VOC	Benzene	71-43-2	A	22	8	5.70E-03	1.60E-01		1.41E+01	1.1E-02	1.1E+00	1.4E-01	1.2E+01	1.4E-02
3~Railway to Keowee	VOC	2-Butanone	78-93-3	ID	22	6	3.00E-03	4.00E-01		1.13E+05	3.5E-06	4.2E+03	9.5E-05	4.4E+03	9.1E-05
3~Railway to Keowee	VOC	Carbon Disulfide	75-15-0		22	2	9.00E-04	1.50E-03		1.20E+03	1.2E-06	2.2E+02	6.8E-06	7.3E+01	2.0E-05
3~Railway to Keowee	VOC	Chlorobenzene	108-90-7	D	22	1	7.90E-04	7.90E-04		5.30E+02	1.5E-06	1.9E+01	4.2E-05	2.5E+01	3.1E-05
3~Railway to Keowee	VOC	Chloromethane	74-87-3	D	22	1	3.20E-03	3.20E-03		1.56E+02	2.1E-05	2.8E+01	1.1E-04	1.1E+01	2.8E-04
3~Railway to Keowee	VOC	Cumene	98-82-8	D	22	7	3.50E-02	4.40E-01		1.98E+03	2.2E-04	1.3E+02	3.5E-03	4.6E+01	9.5E-03
3~Railway to Keowee	VOC	Cyclohexane	110-82-7	ID	22	10	1.30E-03	5.70E-01		9.43E+03	6.0E-05	1.9E+03	3.0E-04	7.7E+02	7.4E-04
3~Railway to Keowee	VOC	1,2-Dichlorobenzene	95-50-1	D	22	3	3.70E-02	2.10E-01		4.08E+03	5.1E-05	1.7E+02	1.3E-03	1.9E+03	1.1E-04
3~Railway to Keowee	VOC	cis-1,2-Dichloroethene	156-59-2	D	22	3	2.10E-02	2.10E-01		1.46E+02	1.4E-03	1.1E+01	1.9E-02	7.3E+01	2.9E-03
3~Railway to Keowee	VOC	Ethyl Benzene	100-41-4	D	22	13	9.70E-04	1.00E+00		7.42E+03	1.3E-04	3.2E+02	3.2E-03	3.6E+02	2.8E-03
3~Railway to Keowee	VOC	Methyl Acetate	79-20-9		22	6	5.60E-02	7.30E-01		9.15E+04	8.0E-06	1.8E+03	4.1E-04	2.2E+04	3.3E-05
3~Railway to Keowee	VOC	4-Methyl-2-pentanone	108-10-1	ID	22	5	2.20E-03	1.70E+01		4.70E+04	3.6E-04	1.5E+03	1.1E-02	2.1E+03	8.0E-03
3~Railway to Keowee	VOC	Methylcyclohexane	108-87-2		22	13	9.10E-04	1.20E+00		8.72E+03	1.4E-04	9.5E+02	1.3E-03	3.3E+02	3.7E-03
3~Railway to Keowee	VOC	Methylene Chloride	75-09-2	B2	22	4	6.70E-02	1.30E-01		2.05E+02	6.3E-04	1.9E+01	6.9E-03	2.6E+02	4.9E-04
3~Railway to Keowee	VOC	Tetrachloroethene	127-18-4	C-B2	22	7	3.50E-03	6.20E-01		1.31E+01	4.7E-02	2.9E+00	2.1E-01	4.3E+01	1.5E-02
3~Railway to Keowee	VOC	Toluene	108-88-3	ID	22	12	9.70E-04	1.30E+00		2.21E+03	5.9E-04	1.6E+03	8.2E-04	1.3E+03	9.6E-04
3~Railway to Keowee	VOC	1,2,4-Trichlorobenzene	120-82-1	D	22	2	5.70E-02	4.20E-01		2.16E+02	1.9E-03	6.3E+02	6.6E-04	2.7E+03	1.6E-04
3~Railway to Keowee	VOC	Trichloroethene	79-01-6	C-B2	22	6	9.90E-04	1.30E+00		6.12E+01	2.1E-02	5.2E+00	2.5E-01	9.4E+01	1.4E-02
3~Railway to Keowee	VOC	Xylenes (total)	1330-20-7	ID	22	12	2.50E-03	4.00E+00		8.97E+02	4.5E-03	3.2E+01	1.3E-01	1.2E+02	3.4E-02
3~Railway to Keowee	SVOC	Acenaphthene	83-32-9		22	6	3.90E-02	1.20E+00		2.92E+04	4.1E-05	2.4E+04	5.0E-05	2.6E+04	4.5E-05
3~Railway to Keowee	SVOC	Anthracene	120-12-7	D	22	5	3.60E-01	4.60E+00		2.38E+05	1.9E-05			1.1E+06	4.3E-06
3~Railway to Keowee	SVOC	Benzaldehyde	100-52-7		22	1	7.70E-02	7.70E-02		6.16E+04	1.3E-06	1.6E+03	4.7E-05	7.7E+02	1.0E-04
3~Railway to Keowee	SVOC	Benzo(a)anthracene	56-55-3	B2	22	6	5.50E-02	8.40E+00		2.11E+01	4.0E-01	9.3E+04	9.0E-05	3.2E+02	2.6E-02
3~Railway to Keowee	SVOC	Benzo(a)pyrene	50-32-8	B2	22	6	6.20E-02	7.30E+00		2.11E+00	**3.5E+00**	7.0E+04	1.0E-04	3.4E+01	2.2E-01
3~Railway to Keowee	SVOC	Benzo(b)fluoranthene	205-99-2	B2	22	6	7.20E-02	8.00E+00		2.11E+01	3.8E-01	8.9E+03	9.0E-04	3.0E+02	2.7E-02
3~Railway to Keowee	SVOC	Benzo(g,h,i)perylene	191-24-2	D	22	7	7.20E-02	4.90E+00		2.91E+04	1.7E-04	2.4E+10	2.1E-10	1.1E+05	4.6E-05
3~Railway to Keowee	SVOC	Benzo(k)fluoranthene	207-08-9	B2	22	6	4.00E-02	4.40E+00		2.11E+02	2.1E-02	1.2E+07	3.7E-07	3.4E+03	1.3E-03
3~Railway to Keowee	SVOC	Biphenyl	92-52-4	D	22	3	5.45E-02	1.50E-01		2.33E+04	6.4E-06	1.5E+04	9.9E-06	2.0E+03	7.5E-05
3~Railway to Keowee	SVOC	bis(2-Ethylhexyl)phthalate	117-81-7	B2	22	6	2.00E-02	7.20E-01		1.23E+03	5.8E-04	2.5E+09	2.8E-10	7.7E+03	9.4E-05
3~Railway to Keowee	SVOC	Butylbenzylphthalate	85-68-7	C	22	1	2.10E-01	2.10E-01		1.23E+05	1.7E-06	5.9E+06	3.6E-08	1.2E+05	1.7E-06
3~Railway to Keowee	SVOC	Carbazole	86-74-8	B2	22	4	1.60E-01	2.30E+00		8.62E+02	2.7E-03	2.7E+06	8.7E-07	1.2E+04	2.0E-04
3~Railway to Keowee	SVOC	Chrysene	218-01-9	B2	22	7	8.00E-02	8.40E+00		2.11E+03	4.0E-03	3.3E+05	2.5E-05	2.8E+04	3.0E-04
3~Railway to Keowee	SVOC	Dibenz(a,h)anthracene	53-70-3	B2	22	4	2.40E-02	1.20E+00		2.11E+00	5.7E-01	2.0E+07	6.1E-08	3.4E+01	3.5E-02
3~Railway to Keowee	SVOC	Dibenzofuran	132-64-9	D	22	6	6.50E-02	1.60E+00		1.56E+03	1.0E-03	2.9E+04	5.6E-05	3.9E+02	4.1E-03
3~Railway to Keowee	SVOC	Di-n-octylphthalate	117-84-0		22	1	6.00E-01	6.00E-01		2.46E+04	2.4E-05			1.5E+05	3.9E-06
3~Railway to Keowee	SVOC	Fluoranthene	206-44-0	D	22	7	1.40E-01	2.70E+01		2.20E+04	1.2E-03	2.3E+06	1.2E-05	9.5E+04	2.8E-04
3~Railway to Keowee	SVOC	Fluorene	86-73-7	D	22	8	1.30E-01	1.40E+00		2.63E+04	5.3E-05	7.5E+04	1.9E-05	3.5E+04	4.0E-05
3~Railway to Keowee	SVOC	Indeno(1,2,3-cd)pyrene	193-39-5	B2	22	6	5.70E-02	4.30E+00		2.11E+01	2.0E-01	1.7E+06	2.5E-06	3.4E+02	1.3E-02

Table 4.2A(i): Soil Screening Results Summary: On-Site
Former GM Delphi Harrison Thermal Systems Facility, Dayton, Ohio

Area	Chem Group	Chemical	CASRN	Carc Class	Analyzed	Detected	Min Detected Concentration (mg/kg)	Max Detected Concentration (mg/kg)	Site-Specific Background Concentration (mg/kg)	Comm/Ind PRG Based Criteria (mg/kg)	Ratio of Max Detect to Comm/Ind Criteria	Comm/Ind Soil Vol Indoor Air Criteria (mg/kg)	Ratio of Max Detect to Comm/Ind Soil Vol Ind Air Criteria	Redevelop-ment Worker Soil Contact Criteria (mg/kg)	Ratio of Max Detect to Redev Worker Soil Criteria
3~Railway to Keowee	SVOC	2-Methylnaphthalene	91-57-6	ID	22	5	1.34E-01	4.20E-01		1.88E+02	2.2E-03	8.9E+01	4.7E-03	2.0E+01	2.1E-02
3~Railway to Keowee	SVOC	Naphthalene	91-20-3	C	22	10	1.90E-01	8.40E+00		1.88E+02	4.5E-02	3.1E+01	2.7E-01	1.1E+01	7.6E-01
3~Railway to Keowee	SVOC	Phenanthrene	85-01-8	D	22	14	8.30E-02	2.20E+01		2.91E+04	7.6E-04	2.7E+05	8.1E-05	4.4E+04	4.9E-04
3~Railway to Keowee	SVOC	Phenol	108-95-2	ID	22	2	1.78E-02	1.60E+00		1.85E+05	8.7E-06			1.2E+05	1.4E-05
3~Railway to Keowee	SVOC	Pyrene	129-00-0	D	22	10	1.20E-01	2.00E+01		2.91E+04	6.9E-04	2.5E+06	8.0E-06	7.7E+04	2.6E-04
3~Railway to Keowee	PCB	PCBs (total)	1336-36-3	B2	37	18	2.97E-02	9.70E+01		7.44E+00	**1.3E+01**	1.5E+02	6.4E-01	1.7E+01	**5.5E+00**
3~Railway to Keowee	INORG	Antimony	7440-36-0		22	6	4.90E-01	1.37E+01	3.10E-01	4.09E+02	3.3E-02			2.0E+02	6.6E-02
3~Railway to Keowee	INORG	Arsenic	7440-38-2	A	22	22	2.20E+00	2.41E+01	1.16E+01	1.59E+01	7.9E-01			2.1E+02	6.0E-02
3~Railway to Keowee	INORG	Barium	7440-39-3	D	22	22	1.42E+01	5.50E+02	1.09E+02	6.66E+04	6.6E-03			3.6E+04	1.2E-02
3~Railway to Keowee	INORG	Beryllium	7440-41-7	B1	22	12	4.10E-02	5.80E-01	5.75E-01	1.94E+03	2.6E-06			3.7E+02	1.3E-05
3~Railway to Keowee	INORG	Cadmium	7440-43-9	B1	22	12	1.70E-01	4.40E+00	1.50E+00	4.51E+02	6.4E-03			4.4E+02	6.5E-03
3~Railway to Keowee	INORG	Chromium (total)	7440-47-3		22	22	2.50E+00	3.57E+02	1.58E+01	2.54E+03	1.3E-01			1.7E+03	2.0E-01
3~Railway to Keowee	INORG	Cobalt	7440-48-4	B1	22	22	1.30E+00	2.30E+01	7.49E+00	1.33E+04	1.2E-03			5.5E+02	2.8E-02
3~Railway to Keowee	INORG	Copper	7440-50-8	D	22	22	2.40E+00	6.60E+03	2.48E+01	4.09E+04	1.6E-01			2.0E+04	3.2E-01
3~Railway to Keowee	INORG	Cyanide (total)	57-12-5	D	22	5	1.30E-01	5.70E-01		1.23E+04	4.6E-05			1.0E+04	5.6E-05
3~Railway to Keowee	INORG	Lead	7439-92-1	B2	35	35	1.70E+00	8.60E+04		8.00E+02	**1.1E+02**				
3~Railway to Keowee	INORG	Manganese	7439-96-5	D	22	22	1.97E+02	9.82E+02	8.16E+02	1.95E+04	8.5E-03			1.4E+03	1.2E-01
3~Railway to Keowee	INORG	Mercury	7439-97-6	D	22	20	8.80E-03	1.70E+00	1.00E-01	1.36E+01	1.2E-01	5.3E+01	3.0E-02	6.0E+00	2.7E-01
3~Railway to Keowee	INORG	Nickel	7440-02-0	A	22	22	2.90E+00	1.30E+02	1.65E+01	2.04E+04	5.6E-03			1.0E+04	1.1E-02
3~Railway to Keowee	INORG	Selenium	7782-49-2	D	22	1	7.40E-01	7.40E-01	1.00E+00	5.11E+03				2.5E+03	
3~Railway to Keowee	INORG	Silver	7440-22-4	D	22	5	2.28E-01	8.20E-01	2.70E-01	5.11E+03	1.1E-04			2.6E+02	2.1E-03
3~Railway to Keowee	INORG	Thallium	7440-28-0		22	9	4.80E-01	1.50E+00	2.20E+00	6.75E+01				3.6E+01	
3~Railway to Keowee	INORG	Vanadium	7440-62-2		22	22	3.90E+00	3.47E+01	2.99E+01	1.02E+03	4.7E-03			3.6E+03	1.3E-03
3~Railway to Keowee	INORG	Zinc	7440-66-6	ID	22	22	1.04E+01	3.62E+03	1.22E+02	3.06E+05	1.1E-02			1.5E+05	2.3E-02

Notes:

1. Only constituents detected in each respective area are shown.
2. Ratios are calculated using site-related concentrations, which are those in excess of site-specific background concentrations for inorganics.
3. The Screening Criteria for soil are the lower of the Screening Criteria at either a cancer risk level of $1x10^{-5}$ or a hazard quotient of 1.
4. Shaded cells represent ratios of concentration to the Screening Criteria greater than 1.
5. Comm/Ind PRGs are based on EPA Region 9 values. Comm/Ind Soil Vol Indoor Air Criteria and Redevelopment Worker Soil Contact Criteria were calculated by ENVIRON as discussed in Appendix E of the RFI Report.
6. The Screening Criteria for Pyrene were used as surrogates for Phenanthrene and Benzo(g,h,i)perylene.
7. The Screening Criteria for Naphthalene were used as surrogates for 2-Methylnaphthalene.
8. The Screening Criteria for Chromium VI were used as a surrogate for Chromium (total).
9. The concentrations for the Methylphenol (2, 3, & 4) were summed before comparing to the Screening Criteria for 4-Methylphenol.
10. The concentrations for all polychlorinated biphenyls (PCBs) isomers were summed before comparing to the Screening Criteria for PCBs (total). Comm/Ind PRG Criteria for PCBs are based on PCBs (total) for cancer effects and and Aroclor 1254 for noncancer effects.
11. The Comm/Ind PRG Based Screening Criteria for Mercury were calculated by ENVIRON to account for the vapor inhalation pathway using: EPA Region 9 equations, RfC from IRIS, and chemical properties from EPA's Soil Screening Guidance.

Abbreviations:

Chem Group - Chemical Group
CASRN - Chemical Abstract Service Registry Number
Carc Class - EPA Weight-of-Evidence Cancer Classification
Comm/Ind - Commercial/Industrial
PRG - Preliminary Remediation Goal
Vol - Volatilization

Table 4.2A(ii) Soil Concentrations Exceeding Screening Criteria: On-Site
Former GM Delphi Harrison Thermal Systems Facility, Dayton, Ohio

Area	Station ID	Top Depth (ft)	Bottom Depth (ft)	Sample Date	Chem Group	Chemical	CASRN	Concentration (mg/kg)	Site-Specific Background Concentration (mg/kg)	Comm/Ind PRG Based Criteria (mg/kg)	Ratio of Concentration to Comm/Ind PRG Based Criteria	Comm/Ind Soil Vol Indoor Air Criteria (mg/kg)	Ratio of Concentration to Comm/Ind Soil Vol Ind Air Criteria	Redevelop-ment Worker Soil Contact Criteria (mg/kg)	Ratio of Concentration to Redev Worker Soil Contact Criteria
1~Webster to Taylor	BH-184-04	12	14	11/29/04	PCB	PCBs (total)	1336-36-3	8.54E+00		7.40E+00	**1.1E+00**	1.51E+02	5.6E-02	1.75E+01	4.9E-01
1~Webster to Taylor	MW-22-04	0	2	03/02/04	VOC	Tetrachloroethene	127-18-4	2.50E+01		1.30E+01	**1.9E+00**	2.88E+00	**8.7E+00**	4.26E+01	5.9E-01
1~Webster to Taylor	MW-22-04	0	2	03/02/04	VOC	Trichloroethene	79-01-6	4.50E+01		6.10E+01	7.4E-01	5.19E+00	**8.7E+00**	9.40E+01	4.8E-01
1~Webster to Taylor	MW-5-03	0	2	01/22/03	VOC	Tetrachloroethene	127-18-4	6.25E+00		1.30E+01	4.8E-01	2.88E+00	**2.2E+00**	4.26E+01	1.5E-01
1~Webster to Taylor	MW-5-03	0	2	01/22/03	VOC	Trichloroethene	79-01-6	8.55E+00		6.10E+01	1.4E-01	5.19E+00	**1.6E+00**	9.40E+01	9.1E-02
1~Webster to Taylor	OS-2-03	0	2	01/27/03	VOC	Tetrachloroethene	127-18-4	4.80E+00		1.30E+01	3.7E-01	2.88E+00	**1.7E+00**	4.26E+01	1.1E-01
1~Webster to Taylor	OS-2-03	0	2	01/27/03	SVOC	Benzo(a)pyrene	50-32-8	7.40E+00		2.10E+00	**3.5E+00**	6.99E+04	1.1E-04	3.35E+01	2.2E-01
1~Webster to Taylor	OS-2-03	8	10	01/27/03	VOC	Tetrachloroethene	127-18-4	3.20E+00		1.30E+01	2.4E-01	2.88E+00	**1.1E+00**	4.26E+01	7.5E-02
1~Webster to Taylor	OS-2-03	8	10	01/27/03	INORG	Arsenic	7440-38-2	3.43E+01	1.16E+01	1.60E+01	**1.4E+00**			2.08E+02	1.1E-01
1~Webster to Taylor	OS-4-03	0	2	01/20/03	SVOC	Benzo(a)pyrene	50-32-8	4.60E+00		2.10E+00	**2.2E+00**	6.99E+04	6.6E-05	3.35E+01	1.4E-01
1~Webster to Taylor	OS-4-03	7	9	01/20/03	VOC	Tetrachloroethene	127-18-4	1.60E+01		1.30E+01	**1.2E+00**	2.88E+00	**5.5E+00**	4.26E+01	3.8E-01
1~Webster to Taylor	OS-5-03	0	2	01/31/03	VOC	Tetrachloroethene	127-18-4	9.30E+00		1.30E+01	7.1E-01	2.88E+00	**3.2E+00**	4.26E+01	2.2E-01
1~Webster to Taylor	OS-5-03	8	10	01/31/03	VOC	Tetrachloroethene	127-18-4	3.40E+00		1.30E+01	2.6E-01	2.88E+00	**1.2E+00**	4.26E+01	8.0E-02
1~Webster to Taylor	SB-100-03	1	3	04/02/03	VOC	Tetrachloroethene	127-18-4	2.60E+01		1.30E+01	**2.0E+00**	2.88E+00	**9.0E+00**	4.26E+01	6.1E-01
1~Webster to Taylor	SB-100-03	1	3	04/02/03	VOC	Trichloroethene	79-01-6	1.50E+01		6.10E+01	2.5E-01	5.19E+00	**2.9E+00**	9.40E+01	1.6E-01
1~Webster to Taylor	SB-10-02	8	10	04/04/02	VOC	Tetrachloroethene	127-18-4	1.28E+01		1.30E+01	9.8E-01	2.88E+00	**4.4E+00**	4.26E+01	3.0E-01
1~Webster to Taylor	SB-10-02	8	10	04/04/02	VOC	Trichloroethene	79-01-6	8.55E+00		6.10E+01	1.4E-01	5.19E+00	**1.6E+00**	9.40E+01	9.1E-02
1~Webster to Taylor	SB-101-03	1	3	04/02/03	VOC	Tetrachloroethene	127-18-4	1.00E+01		1.30E+01	7.6E-01	2.88E+00	**3.5E+00**	4.26E+01	2.3E-01
1~Webster to Taylor	SB-101-03	1	3	04/02/03	VOC	Trichloroethene	79-01-6	9.90E+01		6.10E+01	**1.6E+00**	5.19E+00	**1.9E+01**	9.40E+01	**1.1E+00**
1~Webster to Taylor	SB-102-03	9.5	11.5	04/02/03	PCB	PCBs (total)	1336-36-3	4.08E+01		7.40E+00	**5.5E+00**	1.51E+02	2.7E-01	1.75E+01	**2.3E+00**
1~Webster to Taylor	SB-108-04	0	2	01/14/04	VOC	Trichloroethene	79-01-6	5.80E+00		6.10E+01	9.5E-02	5.19E+00	**1.1E+00**	9.40E+01	6.2E-02
1~Webster to Taylor	SB-108-04	8	10	01/14/04	VOC	Trichloroethene	79-01-6	1.80E+01		6.10E+01	2.9E-01	5.19E+00	**3.5E+00**	9.40E+01	1.9E-01
1~Webster to Taylor	SB-109-04	0	2	01/14/04	VOC	Tetrachloroethene	127-18-4	4.10E+00		1.30E+01	3.1E-01	2.88E+00	**1.4E+00**	4.26E+01	9.6E-02
1~Webster to Taylor	SB-109-04	8	10	01/14/04	PCB	PCBs (total)	1336-36-3	2.72E+02		7.40E+00	**3.7E+01**	1.51E+02	**1.8E+00**	1.75E+01	**1.6E+01**
1~Webster to Taylor	SB-109-04	10	12	01/14/04	VOC	Tetrachloroethene	127-18-4	3.80E+00		1.30E+01	2.9E-01	2.88E+00	**1.3E+00**	4.26E+01	8.9E-02
1~Webster to Taylor	SB-11-02	8	10	04/04/02	PCB	PCBs (total)	1336-36-3	1.58E+01		7.40E+00	**2.1E+00**	1.51E+02	1.0E-01	1.75E+01	9.0E-01
1~Webster to Taylor	SB-11-02	13	15	04/04/02	PCB	PCBs (total)	1336-36-3	3.48E+01		7.40E+00	**4.7E+00**	1.51E+02	2.3E-01	1.75E+01	**2.0E+00**
1~Webster to Taylor	SB-114-04	8	10	01/15/04	VOC	Trichloroethene	79-01-6	6.40E+00		6.10E+01	1.0E-01	5.19E+00	**1.2E+00**	9.40E+01	6.8E-02
1~Webster to Taylor	SB-115-04	0	2	02/04/04	VOC	Tetrachloroethene	127-18-4	9.50E+00		1.30E+01	7.3E-01	2.88E+00	**3.3E+00**	4.26E+01	2.2E-01
1~Webster to Taylor	SB-115-04	0	2	02/04/04	VOC	Trichloroethene	79-01-6	3.80E+01		6.10E+01	6.2E-01	5.19E+00	**7.3E+00**	9.40E+01	4.0E-01
1~Webster to Taylor	SB-117-04	0	2	01/15/04	VOC	Tetrachloroethene	127-18-4	1.10E+02		1.30E+01	**8.4E+00**	2.88E+00	**3.8E+01**	4.26E+01	**2.6E+00**
1~Webster to Taylor	SB-117-04	0	2	01/15/04	VOC	Trichloroethene	79-01-6	2.10E+01		6.10E+01	3.4E-01	5.19E+00	**4.0E+00**	9.40E+01	2.2E-01
1~Webster to Taylor	SB-128-04	0	2	01/21/04	VOC	Tetrachloroethene	127-18-4	2.40E+01		1.30E+01	**1.8E+00**	2.88E+00	**8.3E+00**	4.26E+01	5.6E-01
1~Webster to Taylor	SB-128-04	0	2	01/21/04	VOC	Trichloroethene	79-01-6	1.60E+01		6.10E+01	2.6E-01	5.19E+00	**3.1E+00**	9.40E+01	1.7E-01
1~Webster to Taylor	SB-27-02	9	11	04/11/02	VOC	Tetrachloroethene	127-18-4	6.80E+00		1.30E+01	5.2E-01	2.88E+00	**2.4E+00**	4.26E+01	1.6E-01
1~Webster to Taylor	SB-27-02	9	11	04/11/02	SVOC	Benzo(a)pyrene	50-32-8	1.59E+01		2.10E+00	**7.5E+00**	6.99E+04	2.3E-04	3.35E+01	4.7E-01
1~Webster to Taylor	SB-27-02	9	11	04/11/02	SVOC	Dibenz(a,h)anthracene	53-70-3	3.45E+00		2.10E+00	**1.6E+00**	1.98E+07	1.7E-07	3.42E+01	1.0E-01
1~Webster to Taylor	SB-3-02	1	3	04/03/02	VOC	Tetrachloroethene	127-18-4	5.80E+00		1.30E+01	4.4E-01	2.88E+00	**2.0E+00**	4.26E+01	1.4E-01
1~Webster to Taylor	SB-3-02	1	3	04/03/02	PCB	PCBs (total)	1336-36-3	1.48E+01		7.40E+00	**2.0E+00**	1.51E+02	9.8E-02	1.75E+01	8.5E-01
1~Webster to Taylor	SB-3-02	9	11	04/03/02	VOC	cis-1,2-Dichloroethene	156-59-2	3.50E+01		1.50E+02	2.4E-01	1.10E+01	**3.2E+00**	7.25E+01	4.8E-01
1~Webster to Taylor	SB-3-02	9	11	04/03/02	VOC	Tetrachloroethene	127-18-4	6.10E+02		1.30E+01	**4.7E+01**	2.88E+00	**2.1E+02**	4.26E+01	**1.4E+01**
1~Webster to Taylor	SB-3-02	9	11	04/03/02	VOC	Trichloroethene	79-01-6	2.40E+02		6.10E+01	**3.9E+00**	5.19E+00	**4.6E+01**	9.40E+01	**2.6E+00**
1~Webster to Taylor	SB-3-02	11	12	04/03/02	VOC	cis-1,2-Dichloroethene	156-59-2	1.20E+02		1.50E+02	8.2E-01	1.10E+01	**1.1E+01**	7.25E+01	**1.7E+00**
1~Webster to Taylor	SB-45-02	1	3	04/16/02	SVOC	Benzo(a)pyrene	50-32-8	6.52E+00		2.10E+00	**3.1E+00**	6.99E+04	9.3E-05	3.35E+01	1.9E-01
1~Webster to Taylor	SB-46-02	1	3	04/16/02	VOC	Trichloroethene	79-01-6	1.50E+01		6.10E+01	2.5E-01	5.19E+00	**2.9E+00**	9.40E+01	1.6E-01
1~Webster to Taylor	SB-46-02	1	3	04/16/02	SVOC	Benzo(a)pyrene	50-32-8	3.30E+00		2.10E+00	**1.6E+00**	6.99E+04	4.7E-05	3.35E+01	9.8E-02
1~Webster to Taylor	SB-47-02	1	3	04/16/02	VOC	Tetrachloroethene	127-18-4	2.10E+01		1.30E+01	**1.6E+00**	2.88E+00	**7.3E+00**	4.26E+01	4.9E-01
1~Webster to Taylor	SB-47-02	1	3	04/16/02	VOC	Trichloroethene	79-01-6	4.10E+01		6.10E+01	6.7E-01	5.19E+00	**7.9E+00**	9.40E+01	4.4E-01
1~Webster to Taylor	SB-5-02	9	11	04/03/02	VOC	cis-1,2-Dichloroethene	156-59-2	4.20E+01		1.50E+02	2.9E-01	1.10E+01	**3.8E+00**	7.25E+01	5.8E-01
1~Webster to Taylor	SB-57-02	1	3	04/17/02	VOC	Tetrachloroethene	127-18-4	6.70E+00		1.30E+01	5.1E-01	2.88E+00	**2.3E+00**	4.26E+01	1.6E-01
1~Webster to Taylor	SB-57-02	5	7	04/17/02	VOC	Tetrachloroethene	127-18-4	7.20E+00		1.30E+01	5.5E-01	2.88E+00	**2.5E+00**	4.26E+01	1.7E-01
1~Webster to Taylor	SB-57-02	5	7	04/17/02	VOC	Trichloroethene	79-01-6	8.10E+00		6.10E+01	1.3E-01	5.19E+00	**1.6E+00**	9.40E+01	8.6E-02
1~Webster to Taylor	SB-57-02	9.5	11.5	04/17/02	PCB	PCBs (total)	1336-36-3	5.47E+01		7.40E+00	**7.4E+00**	1.51E+02	3.6E-01	1.75E+01	**3.1E+00**
1~Webster to Taylor	SB-57R-03	13	15	02/19/03	PCB	PCBs (total)	1336-36-3	2.54E+01		7.40E+00	**3.4E+00**	1.51E+02	1.7E-01	1.75E+01	**1.5E+00**
1~Webster to Taylor	SB-58-02	1	3	04/17/02	VOC	Tetrachloroethene	127-18-4	1.50E+01		1.30E+01	**1.1E+00**	2.88E+00	**5.2E+00**	4.26E+01	3.5E-01
1~Webster to Taylor	SB-58-02	1	3	04/17/02	VOC	Trichloroethene	79-01-6	6.50E+01		6.10E+01	**1.1E+00**	5.19E+00	**1.3E+01**	9.40E+01	6.9E-01
1~Webster to Taylor	SB-58-02	6	8	04/17/02	VOC	Tetrachloroethene	127-18-4	3.10E+00		1.30E+01	2.4E-01	2.88E+00	**1.1E+00**	4.26E+01	7.3E-02
1~Webster to Taylor	SB-58-02	6	8	04/17/02	VOC	Trichloroethene	79-01-6	1.10E+01		6.10E+01	1.8E-01	5.19E+00	**2.1E+00**	9.40E+01	1.2E-01

Table 4.2A(ii) Soil Concentrations Exceeding Screening Criteria: On-Site
Former GM Delphi Harrison Thermal Systems Facility, Dayton, Ohio

Area	Station ID	Top Depth (ft)	Bottom Depth (ft)	Sample Date	Chem Group	Chemical	CASRN	Concentration (mg/kg)	Site-Specific Background Concentration (mg/kg)	Comm/Ind PRG Based Criteria (mg/kg)	Ratio of Concentration to Comm/Ind PRG Based Criteria	Comm/Ind Soil Vol Indoor Air Criteria (mg/kg)	Ratio of Concentration to Comm/Ind Soil Vol Ind Air Criteria	Redevelop-ment Worker Soil Contact Criteria (mg/kg)	Ratio of Concentration to Redev Worker Soil Contact Criteria
1~Webster to Taylor	SB-63-03	9	11	02/18/03	VOC	Trichloroethene	79-01-6	6.10E+00		6.10E+01	1.0E-01	5.19E+00	**1.2E+00**	9.40E+01	6.5E-02
1~Webster to Taylor	SB-66-03	1	3	02/19/03	VOC	Tetrachloroethene	127-18-4	3.40E+00		1.30E+01	2.6E-01	2.88E+00	**1.2E+00**	4.26E+01	8.0E-02
1~Webster to Taylor	SB-66-03	1	3	02/19/03	VOC	Trichloroethene	79-01-6	8.60E+00		6.10E+01	1.4E-01	5.19E+00	**1.7E+00**	9.40E+01	9.1E-02
1~Webster to Taylor	SB-66-03	13	15	02/19/03	VOC	Trichloroethene	79-01-6	8.00E+00		6.10E+01	1.3E-01	5.19E+00	**1.5E+00**	9.40E+01	8.5E-02
1~Webster to Taylor	SB-67-03	1	3	02/19/03	VOC	Tetrachloroethene	127-18-4	3.80E+01		1.30E+01	**2.9E+00**	2.88E+00	**1.3E+01**	4.26E+01	8.9E-01
1~Webster to Taylor	SB-67-03	1	3	02/19/03	VOC	Trichloroethene	79-01-6	2.00E+01		6.10E+01	3.3E-01	5.19E+00	**3.9E+00**	9.40E+01	2.1E-01
1~Webster to Taylor	SB-67-03	5	7	02/19/03	VOC	Tetrachloroethene	127-18-4	8.60E+00		1.30E+01	6.6E-01	2.88E+00	**3.0E+00**	4.26E+01	2.0E-01
1~Webster to Taylor	SB-67-03	13	15	02/19/03	VOC	Tetrachloroethene	127-18-4	6.80E+00		1.30E+01	5.2E-01	2.88E+00	**2.4E+00**	4.26E+01	1.6E-01
1~Webster to Taylor	SB-71-03	8	10	02/19/03	PCB	PCBs (total)	1336-36-3	1.34E+02		7.40E+00	**1.8E+01**	1.51E+02	8.8E-01	1.75E+01	**7.7E+00**
1~Webster to Taylor	SB-71-03	10	11.7	02/19/03	PCB	PCBs (total)	1336-36-3	6.40E+01		7.40E+00	**8.6E+00**	1.51E+02	4.2E-01	1.75E+01	**3.7E+00**
1~Webster to Taylor	SB-76-03	10	12	02/20/03	VOC	Tetrachloroethene	127-18-4	3.60E+01		1.30E+01	**2.8E+00**	2.88E+00	**1.2E+01**	4.26E+01	8.4E-01
1~Webster to Taylor	SB-76-03	10	12	02/20/03	VOC	Trichloroethene	79-01-6	2.60E+01		6.10E+01	4.3E-01	5.19E+00	**5.0E+00**	9.40E+01	2.8E-01
1~Webster to Taylor	SB-8-02	10	12	04/04/02	INORG	Mercury	7439-97-6	4.01E+01	1.00E-01	1.40E+01	**2.9E+00**	5.25E+01	7.6E-01	6.01E+00	**6.7E+00**
1~Webster to Taylor	SB-9-02	10	12	04/04/02	VOC	Tetrachloroethene	127-18-4	4.00E+00		1.30E+01	3.1E-01	2.88E+00	**1.4E+00**	4.26E+01	9.4E-02
1~Webster to Taylor	SB-99-03	1	3	04/02/03	SVOC	Benzo(a)pyrene	50-32-8	4.30E+00		2.10E+00	**2.0E+00**	6.99E+04	6.2E-05	3.35E+01	1.3E-01
2~Taylor to Railway	BH-175-04	0	2	11/01/04	VOC	Trichloroethene	79-01-6	2.20E+01		6.10E+01	3.6E-01	5.19E+00	**4.2E+00**	9.40E+01	2.3E-01
2~Taylor to Railway	BH-180-04	0	2	11/11/04	VOC	Trichloroethene	79-01-6	8.65E+00		6.10E+01	1.4E-01	5.19E+00	**1.7E+00**	9.40E+01	9.2E-02
2~Taylor to Railway	BH-181-04	0	2	11/11/04	VOC	Tetrachloroethene	127-18-4	9.80E+00		1.30E+01	7.5E-01	2.88E+00	**3.4E+00**	4.26E+01	2.3E-01
2~Taylor to Railway	BH-181-04	0	2	11/11/04	VOC	Trichloroethene	79-01-6	2.20E+01		6.10E+01	3.6E-01	5.19E+00	**4.2E+00**	9.40E+01	2.3E-01
2~Taylor to Railway	BH-183-04	0	2	11/29/04	VOC	Tetrachloroethene	127-18-4	8.20E+00		1.30E+01	6.3E-01	2.88E+00	**2.8E+00**	4.26E+01	1.9E-01
2~Taylor to Railway	MW-12-03	1	3	03/05/03	VOC	Tetrachloroethene	127-18-4	7.30E+00		1.30E+01	5.6E-01	2.88E+00	**2.5E+00**	4.26E+01	1.7E-01
2~Taylor to Railway	MW-12-03	1	3	03/05/03	VOC	Trichloroethene	79-01-6	9.40E+00		6.10E+01	1.5E-01	5.19E+00	**1.8E+00**	9.40E+01	1.0E-01
2~Taylor to Railway	MW-12-03	1	3	03/05/03	SVOC	Benzo(a)pyrene	50-32-8	3.50E+00		2.10E+00	**1.7E+00**	6.99E+04	5.0E-05	3.35E+01	1.0E-01
2~Taylor to Railway	MW-12-03	9	11	03/05/03	VOC	Tetrachloroethene	127-18-4	8.70E+00		1.30E+01	6.6E-01	2.88E+00	**3.0E+00**	4.26E+01	2.0E-01
2~Taylor to Railway	MW-12-03	9	11	03/05/03	VOC	Trichloroethene	79-01-6	1.40E+01		6.10E+01	2.3E-01	5.19E+00	**2.7E+00**	9.40E+01	1.5E-01
2~Taylor to Railway	MW-14B-04	0	2	03/08/04	VOC	Tetrachloroethene	127-18-4	1.30E+01		1.30E+01	9.9E-01	2.88E+00	**4.5E+00**	4.26E+01	3.1E-01
2~Taylor to Railway	MW-14B-04	0	2	03/08/04	VOC	Trichloroethene	79-01-6	2.50E+01		6.10E+01	4.1E-01	5.19E+00	**4.8E+00**	9.40E+01	2.7E-01
2~Taylor to Railway	MW-23-04	0	2	03/03/04	VOC	Tetrachloroethene	127-18-4	4.55E+00		1.30E+01	3.5E-01	2.88E+00	**1.6E+00**	4.26E+01	1.1E-01
2~Taylor to Railway	MW-23-04	0	2	03/03/04	VOC	Trichloroethene	79-01-6	2.10E+01		6.10E+01	3.4E-01	5.19E+00	**4.0E+00**	9.40E+01	2.2E-01
2~Taylor to Railway	MW-23-04	0	2	03/03/04	INORG	Lead	7439-92-1	3.27E+03		8.00E+02	**4.1E+00**				
2~Taylor to Railway	MW-23-04	8	10	03/03/04	VOC	Tetrachloroethene	127-18-4	2.10E+01		1.30E+01	**1.6E+00**	2.88E+00	**7.3E+00**	4.26E+01	4.9E-01
2~Taylor to Railway	MW-23-04	8	10	03/03/04	VOC	Trichloroethene	79-01-6	2.60E+01		6.10E+01	4.3E-01	5.19E+00	**5.0E+00**	9.40E+01	2.8E-01
2~Taylor to Railway	MW-24-04	0	2	03/03/04	VOC	Tetrachloroethene	127-18-4	9.70E+00		1.30E+01	7.4E-01	2.88E+00	**3.4E+00**	4.26E+01	2.3E-01
2~Taylor to Railway	MW-24-04	0	2	03/03/04	VOC	Trichloroethene	79-01-6	4.40E+01		6.10E+01	7.2E-01	5.19E+00	**8.5E+00**	9.40E+01	4.7E-01
2~Taylor to Railway	MW-26-04	0	2	03/04/04	VOC	Tetrachloroethene	127-18-4	4.90E+01		1.30E+01	**3.7E+00**	2.88E+00	**1.7E+01**	4.26E+01	**1.2E+00**
2~Taylor to Railway	MW-26-04	0	2	03/04/04	VOC	Trichloroethene	79-01-6	6.60E+01		6.10E+01	**1.1E+00**	5.19E+00	**1.3E+01**	9.40E+01	7.0E-01
2~Taylor to Railway	MW-27-04	0	2	03/05/04	INORG	Manganese	7439-96-5	2.86E+03	8.16E+02	1.90E+04	1.1E-01			1.43E+03	**1.4E+00**
2~Taylor to Railway	MW-28-04	0	2	03/05/04	VOC	cis-1,2-Dichloroethene	156-59-2	1.50E+01		1.50E+02	1.0E-01	1.10E+01	**1.4E+00**	7.25E+01	2.1E-01
2~Taylor to Railway	MW-28-04	0	2	03/05/04	VOC	Trichloroethene	79-01-6	1.50E+02		6.10E+01	**2.5E+00**	5.19E+00	**2.9E+01**	9.40E+01	**1.6E+00**
2~Taylor to Railway	MW-3-02	8	10	06/26/02	PCB	PCBs (total)	1336-36-3	2.81E+01		7.40E+00	**3.8E+00**	1.51E+02	1.9E-01	1.75E+01	**1.6E+00**
2~Taylor to Railway	MW-3-02	12	14	06/26/02	PCB	PCBs (total)	1336-36-3	6.42E+01		7.40E+00	**8.6E+00**	1.51E+02	4.2E-01	1.75E+01	**3.7E+00**
2~Taylor to Railway	MW-37-05	3.5	4.5	05/12/05	PCB	PCBs (total)	1336-36-3	1.13E+02		7.40E+00	**1.5E+01**	1.51E+02	7.4E-01	1.75E+01	**6.5E+00**
2~Taylor to Railway	SB-103-03	1	3	04/02/03	VOC	Trichloroethene	79-01-6	8.60E+00		6.10E+01	1.4E-01	5.19E+00	**1.7E+00**	9.40E+01	9.1E-02
2~Taylor to Railway	SB-130-04	0	2	01/21/04	VOC	Trichloroethene	79-01-6	6.90E+00		6.10E+01	1.1E-01	5.19E+00	**1.3E+00**	9.40E+01	7.3E-02
2~Taylor to Railway	SB-131-04	0	2	01/21/04	VOC	Tetrachloroethene	127-18-4	7.80E+00		1.30E+01	6.0E-01	2.88E+00	**2.7E+00**	4.26E+01	1.8E-01
2~Taylor to Railway	SB-131-04	0	2	01/21/04	VOC	Trichloroethene	79-01-6	3.20E+01		6.10E+01	5.2E-01	5.19E+00	**6.2E+00**	9.40E+01	3.4E-01
2~Taylor to Railway	SB-131-04	8	10	01/21/04	VOC	Trichloroethene	79-01-6	1.50E+01		6.10E+01	2.5E-01	5.19E+00	**2.9E+00**	9.40E+01	1.6E-01
2~Taylor to Railway	SB-132-04	0	2	01/21/04	VOC	Trichloroethene	79-01-6	6.40E+00		6.10E+01	1.0E-01	5.19E+00	**1.2E+00**	9.40E+01	6.8E-02
2~Taylor to Railway	SB-138-04	0	2	01/26/04	VOC	Tetrachloroethene	127-18-4	1.70E+01		1.30E+01	**1.3E+00**	2.88E+00	**5.9E+00**	4.26E+01	4.0E-01
2~Taylor to Railway	SB-138-04	0	2	01/26/04	VOC	Trichloroethene	79-01-6	1.40E+01		6.10E+01	2.3E-01	5.19E+00	**2.7E+00**	9.40E+01	1.5E-01
2~Taylor to Railway	SB-138-04	11	13	01/26/04	VOC	Tetrachloroethene	127-18-4	4.00E+00		1.30E+01	3.1E-01	2.88E+00	**1.4E+00**	4.26E+01	9.4E-02
2~Taylor to Railway	SB-139-04	0	2	01/27/04	VOC	Tetrachloroethene	127-18-4	3.40E+00		1.30E+01	2.6E-01	2.88E+00	**1.2E+00**	4.26E+01	8.0E-02
2~Taylor to Railway	SB-139-04	0	2	01/27/04	VOC	Trichloroethene	79-01-6	1.00E+01		6.10E+01	1.6E-01	5.19E+00	**1.9E+00**	9.40E+01	1.1E-01
2~Taylor to Railway	SB-14-02	4	6	04/05/02	VOC	Tetrachloroethene	127-18-4	2.10E+01		1.30E+01	**1.6E+00**	2.88E+00	**7.3E+00**	4.26E+01	4.9E-01
2~Taylor to Railway	SB-14-02	4	6	04/05/02	VOC	Trichloroethene	79-01-6	2.00E+01		6.10E+01	3.3E-01	5.19E+00	**3.9E+00**	9.40E+01	2.1E-01
2~Taylor to Railway	SB-14-02	4	6	04/05/02	INORG	Cadmium	7440-43-9	2.11E+03	1.50E+00	4.50E+02	**4.7E+00**			4.44E+02	**4.8E+00**
2~Taylor to Railway	SB-14-02	10	12	04/05/02	INORG	Cadmium	7440-43-9	3.34E+03	1.50E+00	4.50E+02	**7.4E+00**			4.44E+02	**7.5E+00**
2~Taylor to Railway	SB-142-04	0	2	01/27/04	VOC	Trichloroethene	79-01-6	9.80E+00		6.10E+01	1.6E-01	5.19E+00	**1.9E+00**	9.40E+01	1.0E-01

Table 4.2A(ii) Soil Concentrations Exceeding Screening Criteria: On-Site
Former GM Delphi Harrison Thermal Systems Facility, Dayton, Ohio

Area	Station ID	Top Depth (ft)	Bottom Depth (ft)	Sample Date	Chem Group	Chemical	CASRN	Concentration (mg/kg)	Site-Specific Background Concentration (mg/kg)	Comm/Ind PRG Based Criteria (mg/kg)	Ratio of Concentration to Comm/Ind PRG Based Criteria	Comm/Ind Soil Vol Indoor Air Criteria (mg/kg)	Ratio of Concentration to Comm/Ind Soil Vol Ind Air Criteria	Redevelop-ment Worker Soil Contact Criteria (mg/kg)	Ratio of Concentration to Redev Worker Soil Contact Criteria
2~Taylor to Railway	SB-144-04	0	2	01/27/04	VOC	Tetrachloroethene	127-18-4	5.30E+01		1.30E+01	**4.1E+00**	2.88E+00	**1.8E+01**	4.26E+01	**1.2E+00**
2~Taylor to Railway	SB-144-04	0	2	01/27/04	VOC	Trichloroethene	79-01-6	4.80E+01		6.10E+01	7.8E-01	5.19E+00	**9.2E+00**	9.40E+01	5.1E-01
2~Taylor to Railway	SB-144-04	12.5	14.5	01/27/04	PCB	PCBs (total)	1336-36-3	1.22E+01		7.40E+00	**1.6E+00**	1.51E+02	8.0E-02	1.75E+01	7.0E-01
2~Taylor to Railway	SB-145-04	0	2	01/28/04	VOC	Trichloroethene	79-01-6	9.10E+01		6.10E+01	**1.5E+00**	5.19E+00	**1.8E+01**	9.40E+01	9.7E-01
2~Taylor to Railway	SB-146-04	0	2	01/28/04	VOC	Tetrachloroethene	127-18-4	1.20E+01		1.30E+01	9.2E-01	2.88E+00	**4.2E+00**	4.26E+01	2.8E-01
2~Taylor to Railway	SB-146-04	0	2	01/28/04	VOC	Trichloroethene	79-01-6	1.00E+01		6.10E+01	1.6E-01	5.19E+00	**1.9E+00**	9.40E+01	1.1E-01
2~Taylor to Railway	SB-146-04	0	2	01/28/04	PCB	PCBs (total)	1336-36-3	1.32E+01		7.40E+00	**1.8E+00**	1.51E+02	8.7E-02	1.75E+01	7.6E-01
2~Taylor to Railway	SB-148-04	0	2	01/28/04	VOC	Trichloroethene	79-01-6	1.70E+01		6.10E+01	2.8E-01	5.19E+00	**3.3E+00**	9.40E+01	1.8E-01
2~Taylor to Railway	SB-150-04	0	2	01/28/04	VOC	Trichloroethene	79-01-6	2.95E+01		6.10E+01	4.8E-01	5.19E+00	**5.7E+00**	9.40E+01	3.1E-01
2~Taylor to Railway	SB-150-04	0	2	01/28/04	VOC	Vinyl Chloride	75-01-4	1.80E+00		7.50E+00	2.4E-01	1.00E+00	**1.8E+00**	7.49E+00	2.4E-01
2~Taylor to Railway	SB-15-02	11.5	13.5	04/05/02	VOC	Tetrachloroethene	127-18-4	3.30E+00		1.30E+01	2.5E-01	2.88E+00	**1.1E+00**	4.26E+01	7.7E-02
2~Taylor to Railway	SB-153-04	0	2	02/03/04	VOC	Tetrachloroethene	127-18-4	2.50E+01		1.30E+01	**1.9E+00**	2.88E+00	**8.7E+00**	4.26E+01	5.9E-01
2~Taylor to Railway	SB-153-04	0	2	02/03/04	VOC	Trichloroethene	79-01-6	9.50E+00		6.10E+01	1.6E-01	5.19E+00	**1.8E+00**	9.40E+01	1.0E-01
2~Taylor to Railway	SB-154-04	0	2	02/05/04	VOC	Tetrachloroethene	127-18-4	3.00E+01		1.30E+01	**2.3E+00**	2.88E+00	**1.0E+01**	4.26E+01	7.0E-01
2~Taylor to Railway	SB-154-04	0	2	02/05/04	VOC	Trichloroethene	79-01-6	1.70E+01		6.10E+01	2.8E-01	5.19E+00	**3.3E+00**	9.40E+01	1.8E-01
2~Taylor to Railway	SB-154-04	8	10	02/05/04	VOC	Tetrachloroethene	127-18-4	6.60E+01		1.30E+01	**5.0E+00**	2.88E+00	**2.3E+01**	4.26E+01	**1.5E+00**
2~Taylor to Railway	SB-154-04	11.5	13.5	02/05/04	VOC	Tetrachloroethene	127-18-4	1.30E+02		1.30E+01	**9.9E+00**	2.88E+00	**4.5E+01**	4.26E+01	**3.1E+00**
2~Taylor to Railway	SB-156-04	0	2	02/03/04	VOC	Tetrachloroethene	127-18-4	2.90E+01		1.30E+01	**2.2E+00**	2.88E+00	**1.0E+01**	4.26E+01	6.8E-01
2~Taylor to Railway	SB-156-04	0	2	02/03/04	VOC	Trichloroethene	79-01-6	4.90E+01		6.10E+01	8.0E-01	5.19E+00	**9.4E+00**	9.40E+01	5.2E-01
2~Taylor to Railway	SB-156-04	0	2	02/03/04	INORG	Mercury	7439-97-6	7.50E+00	1.00E-01	1.40E+01	5.4E-01	5.25E+01	1.4E-01	6.01E+00	**1.2E+00**
2~Taylor to Railway	SB-156-04	13	15	02/03/04	VOC	Tetrachloroethene	127-18-4	3.50E+01		1.30E+01	**2.7E+00**	2.88E+00	**1.2E+01**	4.26E+01	8.2E-01
2~Taylor to Railway	SB-156-04	13	15	02/03/04	VOC	Trichloroethene	79-01-6	6.00E+01		6.10E+01	9.8E-01	5.19E+00	**1.2E+01**	9.40E+01	6.4E-01
2~Taylor to Railway	SB-163-04	0	2	02/05/04	VOC	Tetrachloroethene	127-18-4	2.70E+01		1.30E+01	**2.1E+00**	2.88E+00	**9.4E+00**	4.26E+01	6.3E-01
2~Taylor to Railway	SB-163-04	0	2	02/05/04	VOC	Trichloroethene	79-01-6	1.20E+01		6.10E+01	2.0E-01	5.19E+00	**2.3E+00**	9.40E+01	1.3E-01
2~Taylor to Railway	SB-164-04	0	2	02/06/04	VOC	Tetrachloroethene	127-18-4	5.00E+00		1.30E+01	3.8E-01	2.88E+00	**1.7E+00**	4.26E+01	1.2E-01
2~Taylor to Railway	SB-164-04	0	2	02/06/04	VOC	Trichloroethene	79-01-6	7.80E+00		6.10E+01	1.3E-01	5.19E+00	**1.5E+00**	9.40E+01	8.3E-02
2~Taylor to Railway	SB-164-04	0	2	02/06/04	INORG	Manganese	7439-96-5	3.94E+03	8.16E+02	1.90E+04	1.6E-01			1.43E+03	**2.2E+00**
2~Taylor to Railway	SB-18-02	1	3	04/08/02	VOC	Tetrachloroethene	127-18-4	6.10E+00		1.30E+01	4.7E-01	2.88E+00	**2.1E+00**	4.26E+01	1.4E-01
2~Taylor to Railway	SB-18-02	1	3	04/08/02	VOC	Trichloroethene	79-01-6	2.30E+01		6.10E+01	3.8E-01	5.19E+00	**4.4E+00**	9.40E+01	2.4E-01
2~Taylor to Railway	SB-20-02	1	3	04/09/02	VOC	Benzene	71-43-2	1.24E+00		1.40E+01	8.8E-02	1.13E+00	**1.1E+00**	1.15E+01	1.1E-01
2~Taylor to Railway	SB-20-02	1	3	04/09/02	VOC	Tetrachloroethene	127-18-4	3.75E+00		1.30E+01	2.9E-01	2.88E+00	**1.3E+00**	4.26E+01	8.8E-02
2~Taylor to Railway	SB-20-02	1	3	04/09/02	VOC	Trichloroethene	79-01-6	7.25E+01		6.10E+01	**1.2E+00**	5.19E+00	**1.4E+01**	9.40E+01	7.7E-01
2~Taylor to Railway	SB-20-02	13	15	04/09/02	VOC	Trichloroethene	79-01-6	5.60E+00		6.10E+01	9.2E-02	5.19E+00	**1.1E+00**	9.40E+01	6.0E-02
2~Taylor to Railway	SB-21-02	1	3	04/09/02	VOC	Tetrachloroethene	127-18-4	1.10E+01		1.30E+01	8.4E-01	2.88E+00	**3.8E+00**	4.26E+01	2.6E-01
2~Taylor to Railway	SB-21-02	1	3	04/09/02	VOC	Trichloroethene	79-01-6	6.30E+01		6.10E+01	1.0E+00	5.19E+00	**1.2E+01**	9.40E+01	6.7E-01
2~Taylor to Railway	SB-21-02	1	3	04/09/02	INORG	Lead	7439-92-1	5.18E+04		8.00E+02	**6.5E+01**				
2~Taylor to Railway	SB-22-02	9	11	04/10/02	VOC	Tetrachloroethene	127-18-4	4.10E+00		1.30E+01	3.1E-01	2.88E+00	**1.4E+00**	4.26E+01	9.6E-02
2~Taylor to Railway	SB-34-02	1	3	04/12/02	VOC	Tetrachloroethene	127-18-4	6.60E+00		1.30E+01	5.0E-01	2.88E+00	**2.3E+00**	4.26E+01	1.5E-01
2~Taylor to Railway	SB-34-02	1	3	04/12/02	VOC	Trichloroethene	79-01-6	9.80E+00		6.10E+01	1.6E-01	5.19E+00	**1.9E+00**	9.40E+01	1.0E-01
2~Taylor to Railway	SB-34-02	1	3	04/12/02	SVOC	Benzo(a)pyrene	50-32-8	5.40E+00		2.10E+00	**2.6E+00**	6.99E+04	7.7E-05	3.35E+01	1.6E-01
2~Taylor to Railway	SB-39-02	8.5	10.5	04/15/02	VOC	Tetrachloroethene	127-18-4	5.10E+00		1.30E+01	3.9E-01	2.88E+00	**1.8E+00**	4.26E+01	1.2E-01
2~Taylor to Railway	SB-39-02	8.5	10.5	04/15/02	INORG	Manganese	7439-96-5	2.70E+03	8.16E+02	1.90E+04	9.7E-02			1.43E+03	**1.3E+00**
2~Taylor to Railway	SB-40-02	1	3	04/15/02	VOC	cis-1,2-Dichloroethene	156-59-2	1.90E+01		1.50E+02	1.3E-01	1.10E+01	**1.7E+00**	7.25E+01	2.6E-01
2~Taylor to Railway	SB-40-02	1	3	04/15/02	VOC	Tetrachloroethene	127-18-4	7.30E+00		1.30E+01	5.6E-01	2.88E+00	**2.5E+00**	4.26E+01	1.7E-01
2~Taylor to Railway	SB-40-02	1	3	04/15/02	VOC	Trichloroethene	79-01-6	7.60E+00		6.10E+01	1.2E-01	5.19E+00	**1.5E+00**	9.40E+01	8.1E-02
2~Taylor to Railway	SB-40-02	1	3	04/15/02	INORG	Manganese	7439-96-5	5.76E+03	8.16E+02	1.90E+04	2.5E-01			1.43E+03	**3.5E+00**
2~Taylor to Railway	SB-40-02	9.5	11.5	04/15/02	VOC	Tetrachloroethene	127-18-4	4.80E+00		1.30E+01	3.7E-01	2.88E+00	**1.7E+00**	4.26E+01	1.1E-01
2~Taylor to Railway	SB-41-02	1	3	04/15/02	VOC	Tetrachloroethene	127-18-4	2.30E+01		1.30E+01	**1.8E+00**	2.88E+00	**8.0E+00**	4.26E+01	5.4E-01
2~Taylor to Railway	SB-41-02	1	3	04/15/02	VOC	Trichloroethene	79-01-6	1.50E+01		6.10E+01	2.5E-01	5.19E+00	**2.9E+00**	9.40E+01	1.6E-01
2~Taylor to Railway	SB-41-02	6	8	04/15/02	PCB	PCBs (total)	1336-36-3	2.11E+01		7.40E+00	**2.8E+00**	1.51E+02	1.4E-01	1.75E+01	**1.2E+00**
2~Taylor to Railway	SB-41-02	9	11	04/15/02	PCB	PCBs (total)	1336-36-3	1.33E+01		7.40E+00	**1.8E+00**	1.51E+02	8.8E-02	1.75E+01	7.6E-01
2~Taylor to Railway	SB-43-02	1	3	04/15/02	VOC	Tetrachloroethene	127-18-4	1.50E+01		1.30E+01	**1.1E+00**	2.88E+00	**5.2E+00**	4.26E+01	3.5E-01
2~Taylor to Railway	SB-43-02	1	3	04/15/02	PCB	PCBs (total)	1336-36-3	2.39E+01		7.40E+00	**3.2E+00**	1.51E+02	1.6E-01	1.75E+01	**1.4E+00**
2~Taylor to Railway	SB-43-02	4	6	04/15/02	INORG	Arsenic	7440-38-2	3.24E+01	1.16E+01	1.60E+01	**1.3E+00**			2.08E+02	1.0E-01
2~Taylor to Railway	SB-43-02	9	11	04/15/02	SVOC	Benzo(a)pyrene	50-32-8	3.20E+00		2.10E+00	**1.5E+00**	6.99E+04	4.6E-05	3.35E+01	9.6E-02
2~Taylor to Railway	SB-43-02	9	11	04/15/02	PCB	PCBs (total)	1336-36-3	3.10E+01		7.40E+00	**4.2E+00**	1.51E+02	2.0E-01	1.75E+01	**1.8E+00**
2~Taylor to Railway	SB-44-02	1	3	04/15/02	SVOC	Benzo(a)pyrene	50-32-8	5.70E+00		2.10E+00	**2.7E+00**	6.99E+04	8.2E-05	3.35E+01	1.7E-01
2~Taylor to Railway	SB-53-02	1	3	04/17/02	VOC	Tetrachloroethene	127-18-4	1.60E+01		1.30E+01	**1.2E+00**	2.88E+00	**5.5E+00**	4.26E+01	3.8E-01

Table 4.2A(ii) Soil Concentrations Exceeding Screening Criteria: On-Site
Former GM Delphi Harrison Thermal Systems Facility, Dayton, Ohio

Area	Station ID	Top Depth (ft)	Bottom Depth (ft)	Sample Date	Chem Group	Chemical	CASRN	Concentration (mg/kg)	Site-Specific Background Concentration (mg/kg)	Comm/Ind PRG Based Criteria (mg/kg)	Ratio of Concentration to Comm/Ind PRG Based Criteria	Comm/Ind Soil Vol Indoor Air Criteria (mg/kg)	Ratio of Concentration to Comm/Ind Soil Vol Ind Air Criteria	Redevelop-ment Worker Soil Contact Criteria (mg/kg)	Ratio of Concentration to Redev Worker Soil Contact Criteria
2~Taylor to Railway	SB-54-02	1	3	04/17/02	VOC	Tetrachloroethene	127-18-4	6.30E+00		1.30E+01	4.8E-01	2.88E+00	**2.2E+00**	4.26E+01	1.5E-01
2~Taylor to Railway	SB-54-02	1	3	04/17/02	VOC	Trichloroethene	79-01-6	8.40E+00		6.10E+01	1.4E-01	5.19E+00	**1.6E+00**	9.40E+01	8.9E-02
2~Taylor to Railway	SB-54-02	9	11	04/17/02	VOC	Trichloroethene	79-01-6	6.80E+00		6.10E+01	1.1E-01	5.19E+00	**1.3E+00**	9.40E+01	7.2E-02
2~Taylor to Railway	SB-54-02	9	11	04/17/02	INORG	Manganese	7439-96-5	3.36E+03	8.16E+02	1.90E+04	1.3E-01			1.43E+03	**1.8E+00**
2~Taylor to Railway	SB-55-02	1	3	04/17/02	VOC	Tetrachloroethene	127-18-4	1.11E+01		1.30E+01	8.4E-01	2.88E+00	**3.8E+00**	4.26E+01	2.6E-01
2~Taylor to Railway	SB-56-02	1	3	04/17/02	VOC	Tetrachloroethene	127-18-4	3.90E+01		1.30E+01	**3.0E+00**	2.88E+00	**1.4E+01**	4.26E+01	9.2E-01
2~Taylor to Railway	SB-56-02	1	3	04/17/02	VOC	Trichloroethene	79-01-6	1.20E+01		6.10E+01	2.0E-01	5.19E+00	**2.3E+00**	9.40E+01	1.3E-01
2~Taylor to Railway	SB-56-02	1	3	04/17/02	PCB	PCBs (total)	1336-36-3	9.64E+00		7.40E+00	**1.3E+00**	1.51E+02	6.4E-02	1.75E+01	5.5E-01
2~Taylor to Railway	SB-56-02	6	8	04/17/02	PCB	PCBs (total)	1336-36-3	5.02E+01		7.40E+00	**6.7E+00**	1.51E+02	3.3E-01	1.75E+01	**2.9E+00**
2~Taylor to Railway	SB-56-02	9.5	11.5	04/17/02	PCB	PCBs (total)	1336-36-3	3.38E+01		7.40E+00	**4.5E+00**	1.51E+02	2.2E-01	1.75E+01	**1.9E+00**
2~Taylor to Railway	SB-72-03	1	3	02/20/03	VOC	Trichloroethene	79-01-6	9.90E+00		6.10E+01	1.6E-01	5.19E+00	**1.9E+00**	9.40E+01	1.1E-01
2~Taylor to Railway	SB-73-03	2	4	02/20/03	VOC	Tetrachloroethene	127-18-4	2.60E+01		1.30E+01	**2.0E+00**	2.88E+00	**9.0E+00**	4.26E+01	6.1E-01
2~Taylor to Railway	SB-73-03	2	4	02/20/03	VOC	Trichloroethene	79-01-6	6.00E+01		6.10E+01	9.8E-01	5.19E+00	**1.2E+01**	9.40E+01	6.4E-01
2~Taylor to Railway	SB-73-03	8	10	02/20/03	VOC	cis-1,2-Dichloroethene	156-59-2	2.20E+01		1.50E+02	1.5E-01	1.10E+01	**2.0E+00**	7.25E+01	3.0E-01
2~Taylor to Railway	SB-73-03	8	10	02/20/03	VOC	Tetrachloroethene	127-18-4	2.60E+01		1.30E+01	**2.0E+00**	2.88E+00	**9.0E+00**	4.26E+01	6.1E-01
2~Taylor to Railway	SB-73-03	8	10	02/20/03	VOC	Trichloroethene	79-01-6	1.00E+02		6.10E+01	**1.6E+00**	5.19E+00	**1.9E+01**	9.40E+01	**1.1E+00**
2~Taylor to Railway	SB-74-03	2	4	02/20/03	VOC	Tetrachloroethene	127-18-4	2.10E+01		1.30E+01	**1.6E+00**	2.88E+00	**7.3E+00**	4.26E+01	4.9E-01
2~Taylor to Railway	SB-74-03	2	4	02/20/03	VOC	Trichloroethene	79-01-6	8.10E+01		6.10E+01	**1.3E+00**	5.19E+00	**1.6E+01**	9.40E+01	8.6E-01
2~Taylor to Railway	SB-74-03	8	10	02/20/03	VOC	Tetrachloroethene	127-18-4	1.00E+01		1.30E+01	7.6E-01	2.88E+00	**3.5E+00**	4.26E+01	2.3E-01
2~Taylor to Railway	SB-74-03	8	10	02/20/03	VOC	Trichloroethene	79-01-6	5.30E+01		6.10E+01	8.7E-01	5.19E+00	**1.0E+01**	9.40E+01	5.6E-01
2~Taylor to Railway	SB-74-03	8	10	02/20/03	SVOC	Benzo(a)pyrene	50-32-8	8.40E+00		2.10E+00	**4.0E+00**	6.99E+04	1.2E-04	3.35E+01	2.5E-01
2~Taylor to Railway	SB-84-03	1	3	03/31/03	VOC	Tetrachloroethene	127-18-4	6.80E+00		1.30E+01	5.2E-01	2.88E+00	**2.4E+00**	4.26E+01	1.6E-01
2~Taylor to Railway	SB-84-03	1	3	03/31/03	VOC	Trichloroethene	79-01-6	5.40E+01		6.10E+01	8.8E-01	5.19E+00	**1.0E+01**	9.40E+01	5.7E-01
2~Taylor to Railway	SB-84-03	6.5	8.5	03/31/03	VOC	Tetrachloroethene	127-18-4	7.20E+00		1.30E+01	5.5E-01	2.88E+00	**2.5E+00**	4.26E+01	1.7E-01
2~Taylor to Railway	SB-84-03	6.5	8.5	03/31/03	VOC	Trichloroethene	79-01-6	5.00E+01		6.10E+01	8.2E-01	5.19E+00	**9.6E+00**	9.40E+01	5.3E-01
2~Taylor to Railway	SB-85-03	1	3	03/31/03	VOC	cis-1,2-Dichloroethene	156-59-2	2.10E+01		1.50E+02	1.4E-01	1.10E+01	**1.9E+00**	7.25E+01	2.9E-01
2~Taylor to Railway	SB-85-03	1	3	03/31/03	VOC	Trichloroethene	79-01-6	1.40E+01		6.10E+01	2.3E-01	5.19E+00	**2.7E+00**	9.40E+01	1.5E-01
2~Taylor to Railway	SB-85-03	8.5	10.5	03/31/03	VOC	cis-1,2-Dichloroethene	156-59-2	1.50E+01		1.50E+02	1.0E-01	1.10E+01	**1.4E+00**	7.25E+01	2.1E-01
2~Taylor to Railway	SB-85-03	8.5	10.5	03/31/03	VOC	Trichloroethene	79-01-6	8.30E+01		6.10E+01	**1.4E+00**	5.19E+00	**1.6E+01**	9.40E+01	8.8E-01
2~Taylor to Railway	SB-85-03	12.5	14.5	03/31/03	VOC	Trichloroethene	79-01-6	8.40E+00		6.10E+01	1.4E-01	5.19E+00	**1.6E+00**	9.40E+01	8.9E-02
2~Taylor to Railway	SB-88-03	3	5	04/01/03	VOC	Tetrachloroethene	127-18-4	1.07E+01		1.30E+01	8.2E-01	2.88E+00	**3.7E+00**	4.26E+01	2.5E-01
2~Taylor to Railway	SB-92-03	9	11	04/01/03	VOC	Tetrachloroethene	127-18-4	5.60E+00		1.30E+01	4.3E-01	2.88E+00	**1.9E+00**	4.26E+01	1.3E-01
3~Railway to Keowee	SB-118-04	0	2	01/16/04	PCB	PCBs (total)	1336-36-3	9.70E+01		7.40E+00	**1.3E+01**	1.51E+02	6.4E-01	1.75E+01	**5.5E+00**
3~Railway to Keowee	SB-118-04	8	10	01/16/04	PCB	PCBs (total)	1336-36-3	1.52E+01		7.40E+00	**2.0E+00**	1.51E+02	1.0E-01	1.75E+01	8.7E-01
3~Railway to Keowee	SB-119-04	0	2	01/16/04	PCB	PCBs (total)	1336-36-3	1.22E+01		7.40E+00	**1.6E+00**	1.51E+02	8.1E-02	1.75E+01	7.0E-01
3~Railway to Keowee	SB-120-04	8	10	01/19/04	PCB	PCBs (total)	1336-36-3	9.58E+00		7.40E+00	**1.3E+00**	1.51E+02	6.3E-02	1.75E+01	5.5E-01
3~Railway to Keowee	SB-120-04	21	23	01/19/04	PCB	PCBs (total)	1336-36-3	1.21E+01		7.40E+00	**1.6E+00**	1.51E+02	8.0E-02	1.75E+01	6.9E-01
3~Railway to Keowee	SB-121-04	0	2	01/19/04	SVOC	Benzo(a)pyrene	50-32-8	3.90E+00		2.10E+00	**1.8E+00**	6.99E+04	5.6E-05	3.35E+01	1.2E-01
3~Railway to Keowee	SB-29-02	1	3	04/11/02	INORG	Lead	7439-92-1	1.17E+03		8.00E+02	**1.5E+00**				
3~Railway to Keowee	SB-30-02	1	3	04/11/02	INORG	Lead	7439-92-1	1.36E+04		8.00E+02	**1.7E+01**				
3~Railway to Keowee	SB-51-02	1	3	04/16/02	INORG	Lead	7439-92-1	2.09E+03		8.00E+02	**2.6E+00**				
3~Railway to Keowee	SB-52-02	1	3	04/16/02	SVOC	Benzo(a)pyrene	50-32-8	7.30E+00		2.10E+00	**3.5E+00**	6.99E+04	1.0E-04	3.35E+01	2.2E-01
3~Railway to Keowee	SB-82-03	1	3	03/31/03	INORG	Lead	7439-92-1	8.60E+04		8.00E+02	**1.1E+02**				

Notes:

1. Ratios are calculated using site-related concentrations, which are those in excess of site-specific background concentrations for inorganics.
2. The Screening Criteria for soil are the lower of the Screening Criteria at either a cancer risk level of $1x10^{-5}$ or a hazard quotient of 1.
3. Shaded cells represent ratios of concentration to the Screening Criteria greater than 1.
4. Comm/Ind PRGs are based on EPA Region 9 values. Comm/Ind Soil Vol Indoor Air Criteria and Redevelopment Worker Soil Contact Criteria were calculated by ENVIRON as discussed in Appendix E of the RFI Report.

Abbreviations:

Chem Group - Chemical Group
CASRN - Chemical Abstract Service Registry Number
Comm/Ind - Commercial/Industrial
PRG - Preliminary Remediation Goal
Vol - Volatilization

Table 4.2B(i): Soil Screening Results Summary: Off-Site
Former GM Delphi Harrison Thermal Systems Facility, Dayton, Ohio

Area	Chem Group	Chemical	CASRN	Carc Class	Analyzed	Detected	Min Detected Concentration (mg/kg)	Max Detected Concentration (mg/kg)	Site-Specific Background Concentration (mg/kg)	Comm/Ind PRG Based Criteria (mg/kg)	Ratio of Max Detect to Comm/Ind Criteria
2~Taylor to Railway	VOC	Acetone	67-64-1	ID	9	1	9.40E-03	9.40E-03		5.43E+04	1.7E-07
2~Taylor to Railway	VOC	Benzene	71-43-2	A	9	1	5.80E-04	5.80E-04		1.41E+01	4.1E-05
2~Taylor to Railway	VOC	2-Butanone	78-93-3	ID	9	2	2.10E-03	3.40E-03		1.13E+05	3.0E-08
2~Taylor to Railway	VOC	Carbon Disulfide	75-15-0		9	1	1.20E-03	1.20E-03		1.20E+03	1.0E-06
2~Taylor to Railway	VOC	Chloromethane	74-87-3	D	9	1	2.60E-02	2.60E-02		1.56E+02	1.7E-04
2~Taylor to Railway	VOC	Cumene	98-82-8	D	9	2	3.30E-02	1.70E-01		1.98E+03	8.6E-05
2~Taylor to Railway	VOC	Cyclohexane	110-82-7	ID	9	3	4.80E-04	3.00E-02		9.43E+03	3.2E-06
2~Taylor to Railway	VOC	Ethyl Benzene	100-41-4	D	9	2	1.30E-03	9.40E-03		7.42E+03	1.3E-06
2~Taylor to Railway	VOC	Methyl Acetate	79-20-9		9	6	7.10E-03	8.50E-01		9.15E+04	9.3E-06
2~Taylor to Railway	VOC	Methylcyclohexane	108-87-2		9	5	5.40E-04	1.10E-01		8.72E+03	1.3E-05
2~Taylor to Railway	VOC	Methylene Chloride	75-09-2	B2	9	3	2.70E-03	4.20E-03		2.05E+02	2.0E-05
2~Taylor to Railway	VOC	Tetrachloroethene	127-18-4	C-B2	9	1	5.10E-04	5.10E-04		1.31E+01	3.9E-05
2~Taylor to Railway	VOC	Toluene	108-88-3	ID	9	5	5.60E-04	1.50E-02		2.21E+03	6.8E-06
2~Taylor to Railway	VOC	Xylenes (total)	1330-20-7	ID	9	3	1.20E-03	4.20E-02		8.97E+02	4.7E-05
2~Taylor to Railway	SVOC	Acenaphthene	83-32-9		9	1	8.50E-02	8.50E-02		2.92E+04	2.9E-06
2~Taylor to Railway	SVOC	Anthracene	120-12-7	D	9	1	1.80E-01	1.80E-01		2.38E+05	7.6E-07
2~Taylor to Railway	SVOC	Benzaldehyde	100-52-7		9	1	4.40E-02	4.40E-02		6.16E+04	7.1E-07
2~Taylor to Railway	SVOC	Benzo(a)anthracene	56-55-3	B2	9	5	6.60E-02	3.40E-01		2.11E+01	1.6E-02
2~Taylor to Railway	SVOC	Benzo(a)pyrene	50-32-8	B2	9	5	8.00E-02	3.30E-01		2.11E+00	1.6E-01
2~Taylor to Railway	SVOC	Benzo(b)fluoranthene	205-99-2	B2	9	5	1.10E-01	4.90E-01		2.11E+01	2.3E-02
2~Taylor to Railway	SVOC	Benzo(g,h,i)perylene	191-24-2	D	9	5	5.90E-02	2.00E-01		2.91E+04	6.9E-06
2~Taylor to Railway	SVOC	Benzo(k)fluoranthene	207-08-9	B2	9	5	5.10E-02	2.50E-01		2.11E+02	1.2E-03
2~Taylor to Railway	SVOC	Carbazole	86-74-8	B2	9	1	1.10E-01	1.10E-01		8.62E+02	1.3E-04
2~Taylor to Railway	SVOC	Chrysene	218-01-9	B2	9	6	8.60E-02	4.40E-01		2.11E+03	2.1E-04
2~Taylor to Railway	SVOC	Dibenz(a,h)anthracene	53-70-3	B2	9	1	4.90E-02	4.90E-02		2.11E+00	2.3E-02
2~Taylor to Railway	SVOC	Dibenzofuran	132-64-9	D	9	1	7.10E-02	7.10E-02		1.56E+03	4.5E-05
2~Taylor to Railway	SVOC	Fluoranthene	206-44-0	D	9	6	1.30E-01	8.60E-01		2.20E+04	3.9E-05
2~Taylor to Railway	SVOC	Fluorene	86-73-7	D	9	1	9.90E-02	9.90E-02		2.63E+04	3.8E-06
2~Taylor to Railway	SVOC	Indeno(1,2,3-cd)pyrene	193-39-5	B2	9	5	4.90E-02	1.70E-01		2.11E+01	8.1E-03
2~Taylor to Railway	SVOC	2-Methylnaphthalene	91-57-6	ID	9	2	4.90E-02	5.10E-02		1.88E+02	2.7E-04
2~Taylor to Railway	SVOC	Naphthalene	91-20-3	C	9	2	4.80E-02	7.60E-02		1.88E+02	4.0E-04
2~Taylor to Railway	SVOC	Phenanthrene	85-01-8	D	9	6	7.00E-02	8.40E-01		2.91E+04	2.9E-05
2~Taylor to Railway	SVOC	Pyrene	129-00-0	D	9	6	1.10E-01	6.80E-01		2.91E+04	2.3E-05
2~Taylor to Railway	PCB	PCBs (total)	1336-36-3	B2	9	9	8.38E-02	5.87E+01		7.44E+00	**7.9E+00**
2~Taylor to Railway	INORG	Arsenic	7440-38-2	A	9	9	4.00E+00	1.09E+01	1.16E+01	1.59E+01	
2~Taylor to Railway	INORG	Barium	7440-39-3	D	9	9	2.67E+01	2.09E+02	1.09E+02	6.66E+04	1.5E-03
2~Taylor to Railway	INORG	Beryllium	7440-41-7	B1	9	5	1.10E-01	2.30E-01	5.75E-01	1.94E+03	
2~Taylor to Railway	INORG	Cadmium	7440-43-9	B1	9	9	3.30E-02	1.20E+00	1.50E+00	4.51E+02	
2~Taylor to Railway	INORG	Chromium (total)	7440-47-3		9	9	2.80E+00	1.50E+01	1.58E+01	2.54E+03	
2~Taylor to Railway	INORG	Cobalt	7440-48-4	B1	9	9	2.20E+00	3.90E+00	7.49E+00	1.33E+04	
2~Taylor to Railway	INORG	Copper	7440-50-8	D	9	8	6.10E+00	2.86E+01	2.48E+01	4.09E+04	9.3E-05
2~Taylor to Railway	INORG	Cyanide (total)	57-12-5	D	9	2	1.00E-01	1.20E-01		1.23E+04	9.7E-06
2~Taylor to Railway	INORG	Lead	7439-92-1	B2	9	9	1.90E+00	1.06E+02		8.00E+02	1.3E-01
2~Taylor to Railway	INORG	Manganese	7439-96-5	D	9	9	2.74E+02	5.53E+02	8.16E+02	1.95E+04	
2~Taylor to Railway	INORG	Mercury	7439-97-6	D	9	6	2.70E-02	1.10E-01	1.00E-01	1.36E+01	7.3E-04

Table 4.2B(i): Soil Screening Results Summary: Off-Site
Former GM Delphi Harrison Thermal Systems Facility, Dayton, Ohio

Area	Chem Group	Chemical	CASRN	Carc Class	Analyzed	Detected	Min Detected Concentration (mg/kg)	Max Detected Concentration (mg/kg)	Site-Specific Background Concentration (mg/kg)	Comm/Ind PRG Based Criteria (mg/kg)	Ratio of Max Detect to Comm/Ind Criteria
2~Taylor to Railway	INORG	Nickel	7440-02-0	A	9	9	5.50E+00	1.14E+01	1.65E+01	2.04E+04	
2~Taylor to Railway	INORG	Silver	7440-22-4	D	9	3	2.00E-01	2.50E+00	2.70E-01	5.11E+03	4.4E-04
2~Taylor to Railway	INORG	Thallium	7440-28-0		9	3	8.70E-01	2.70E+00	2.20E+00	6.75E+01	7.4E-03
2~Taylor to Railway	INORG	Vanadium	7440-62-2		9	9	5.20E+00	1.21E+01	2.99E+01	1.02E+03	
2~Taylor to Railway	INORG	Zinc	7440-66-6	ID	9	9	1.16E+01	7.04E+01	1.22E+02	3.06E+05	
3~Railway to Keowee	VOC	Ethyl Benzene	100-41-4	D	3	1	2.00E-03	2.00E-03		7.42E+03	2.7E-07
3~Railway to Keowee	VOC	Methyl Acetate	79-20-9		3	2	1.90E-03	2.40E-02		9.15E+04	2.6E-07
3~Railway to Keowee	VOC	Methylcyclohexane	108-87-2		3	1	1.60E-03	1.60E-03		8.72E+03	1.8E-07
3~Railway to Keowee	VOC	Toluene	108-88-3	ID	3	1	1.70E-03	1.70E-03		2.21E+03	7.7E-07
3~Railway to Keowee	VOC	Xylenes (total)	1330-20-7	ID	3	1	9.30E-03	9.30E-03		8.97E+02	1.0E-05
3~Railway to Keowee	SVOC	Anthracene	120-12-7	D	3	1	8.50E-02	8.50E-02		2.38E+05	3.6E-07
3~Railway to Keowee	SVOC	Benzaldehyde	100-52-7		3	1	4.90E-02	4.90E-02		6.16E+04	8.0E-07
3~Railway to Keowee	SVOC	Benzo(a)anthracene	56-55-3	B2	3	3	1.20E-01	4.10E-01		2.11E+01	1.9E-02
3~Railway to Keowee	SVOC	Benzo(a)pyrene	50-32-8	B2	3	3	1.40E-01	4.90E-01		2.11E+00	2.3E-01
3~Railway to Keowee	SVOC	Benzo(b)fluoranthene	205-99-2	B2	3	3	2.10E-01	9.50E-01		2.11E+01	4.5E-02
3~Railway to Keowee	SVOC	Benzo(g,h,i)perylene	191-24-2	D	3	3	1.00E-01	3.30E-01		2.91E+04	1.1E-05
3~Railway to Keowee	SVOC	Benzo(k)fluoranthene	207-08-9	B2	3	3	9.70E-02	3.60E-01		2.11E+02	1.7E-03
3~Railway to Keowee	SVOC	bis(2-Ethylhexyl)phthalate	117-81-7	B2	3	1	5.30E-02	5.30E-02		1.23E+03	4.3E-05
3~Railway to Keowee	SVOC	Carbazole	86-74-8	B2	3	1	1.00E-01	1.00E-01		8.62E+02	1.2E-04
3~Railway to Keowee	SVOC	Chrysene	218-01-9	B2	3	3	1.70E-01	7.30E-01		2.11E+03	3.5E-04
3~Railway to Keowee	SVOC	Dibenz(a,h)anthracene	53-70-3	B2	3	1	8.30E-02	8.30E-02		2.11E+00	3.9E-02
3~Railway to Keowee	SVOC	Dibenzofuran	132-64-9	D	3	1	1.60E-01	1.60E-01		1.56E+03	1.0E-04
3~Railway to Keowee	SVOC	Fluoranthene	206-44-0	D	3	3	3.00E-01	8.80E-01		2.20E+04	4.0E-05
3~Railway to Keowee	SVOC	Indeno(1,2,3-cd)pyrene	193-39-5	B2	3	3	8.90E-02	3.00E-01		2.11E+01	1.4E-02
3~Railway to Keowee	SVOC	2-Methylnaphthalene	91-57-6	ID	3	1	5.70E-01	5.70E-01		1.88E+02	3.0E-03
3~Railway to Keowee	SVOC	Naphthalene	91-20-3	C	3	1	4.00E-01	4.00E-01		1.88E+02	2.1E-03
3~Railway to Keowee	SVOC	Phenanthrene	85-01-8	D	3	3	1.70E-01	6.60E-01		2.91E+04	2.3E-05
3~Railway to Keowee	SVOC	Pyrene	129-00-0	D	3	3	2.20E-01	7.80E-01		2.91E+04	2.7E-05
3~Railway to Keowee	PCB	PCBs (total)	1336-36-3	B2	3	3	9.08E-02	2.68E-01		7.44E+00	3.6E-02
3~Railway to Keowee	INORG	Antimony	7440-36-0		3	1	1.80E+00	1.80E+00	3.10E-01	4.09E+02	3.6E-03
3~Railway to Keowee	INORG	Arsenic	7440-38-2	A	3	3	5.10E+00	1.85E+01	1.16E+01	1.59E+01	4.4E-01
3~Railway to Keowee	INORG	Barium	7440-39-3	D	3	3	1.00E+02	1.96E+02	1.09E+02	6.66E+04	1.3E-03
3~Railway to Keowee	INORG	Beryllium	7440-41-7	B1	3	3	1.80E-01	5.90E-01	5.75E-01	1.94E+03	7.7E-06
3~Railway to Keowee	INORG	Cadmium	7440-43-9	B1	3	3	5.40E-01	1.40E+00	1.50E+00	4.51E+02	
3~Railway to Keowee	INORG	Chromium (total)	7440-47-3		3	3	1.18E+01	2.61E+01	1.58E+01	2.54E+03	4.1E-03
3~Railway to Keowee	INORG	Cobalt	7440-48-4	B1	3	3	3.80E+00	7.60E+00	7.49E+00	1.33E+04	8.3E-06
3~Railway to Keowee	INORG	Copper	7440-50-8	D	3	3	2.57E+01	1.22E+02	2.48E+01	4.09E+04	2.4E-03
3~Railway to Keowee	INORG	Cyanide (total)	57-12-5	D	3	1	1.70E-01	1.70E-01		1.23E+04	1.4E-05
3~Railway to Keowee	INORG	Lead	7439-92-1	B2	3	3	3.76E+01	2.69E+02		8.00E+02	3.4E-01
3~Railway to Keowee	INORG	Manganese	7439-96-5	D	3	3	3.34E+02	4.56E+02	8.16E+02	1.95E+04	
3~Railway to Keowee	INORG	Mercury	7439-97-6	D	3	3	7.90E-02	2.50E-01	1.00E-01	1.36E+01	1.1E-02
3~Railway to Keowee	INORG	Nickel	7440-02-0	A	3	3	1.02E+01	1.77E+01	1.65E+01	2.04E+04	5.9E-05
3~Railway to Keowee	INORG	Silver	7440-22-4	D	3	3	2.00E-01	7.10E-01	2.70E-01	5.11E+03	8.6E-05
3~Railway to Keowee	INORG	Vanadium	7440-62-2		3	3	1.07E+01	1.87E+01	2.99E+01	1.02E+03	
3~Railway to Keowee	INORG	Zinc	7440-66-6	ID	3	3	6.82E+01	1.93E+02	1.22E+02	3.06E+05	2.3E-04

Table 4.2B(i): Soil Screening Results Summary: Off-Site
Former GM Delphi Harrison Thermal Systems Facility, Dayton, Ohio

Area	Chem Group	Chemical	CASRN	Carc Class	Analyzed	Detected	Min Detected Concentration (mg/kg)	Max Detected Concentration (mg/kg)	Site-Specific Background Concentration (mg/kg)	Comm/Ind PRG Based Criteria (mg/kg)	Ratio of Max Detect to Comm/Ind Criteria
4~Off Site South	SVOC	Benzo(a)pyrene	50-32-8	B2	6	1	2.14E-01	2.14E-01		2.11E+00	1.0E-01
4~Off Site South	INORG	Arsenic	7440-38-2	A	6	2	4.20E+00	7.70E+00	1.16E+01	1.59E+01	
4~Off Site South	INORG	Barium	7440-39-3	D	6	5	3.88E+01	1.14E+02	1.09E+02	6.66E+04	6.9E-05
4~Off Site South	INORG	Chromium (total)	7440-47-3		6	2	5.78E+00	6.07E+00	1.58E+01	2.54E+03	
4~Off Site South	INORG	Lead	7439-92-1	B2	6	3	8.66E+00	1.15E+02		8.00E+02	1.4E-01
4~Off Site South	INORG	Mercury	7439-97-6	D	6	2	4.44E-02	6.79E-02	1.00E-01	1.36E+01	
5~Off Site West	VOC	Acetone	67-64-1	ID	31	6	7.30E-03	2.10E-01		5.43E+04	3.9E-06
5~Off Site West	VOC	Benzene	71-43-2	A	31	5	3.20E-04	2.40E-02		1.41E+01	1.7E-03
5~Off Site West	VOC	2-Butanone	78-93-3	ID	31	6	1.40E-03	6.80E-03		1.13E+05	6.0E-08
5~Off Site West	VOC	Carbon Disulfide	75-15-0		31	2	4.20E-04	1.60E-03		1.20E+03	1.3E-06
5~Off Site West	VOC	Cumene	98-82-8	D	31	3	9.80E-04	2.50E-02		1.98E+03	1.3E-05
5~Off Site West	VOC	Cyclohexane	110-82-7	ID	28	7	4.20E-04	1.00E-01		9.43E+03	1.1E-05
5~Off Site West	VOC	1,1-Dichloroethene	75-35-4	C	31	3	5.10E-04	1.00E-03		4.13E+02	2.4E-06
5~Off Site West	VOC	cis-1,2-Dichloroethene	156-59-2	D	31	2	2.80E-04	5.50E-04		1.46E+02	3.8E-06
5~Off Site West	VOC	Ethyl Benzene	100-41-4	D	31	5	6.70E-04	4.80E-02		7.42E+03	6.5E-06
5~Off Site West	VOC	Methyl Acetate	79-20-9		28	2	4.70E-02	1.90E-01		9.15E+04	2.1E-06
5~Off Site West	VOC	4-Methyl-2-pentanone	108-10-1	ID	31	1	1.80E-03	1.80E-03		4.70E+04	3.8E-08
5~Off Site West	VOC	Methylcyclohexane	108-87-2		28	10	5.40E-04	1.40E+00		8.72E+03	1.6E-04
5~Off Site West	VOC	Methylene Chloride	75-09-2	B2	31	5	1.40E-03	2.60E-03		2.05E+02	1.3E-05
5~Off Site West	VOC	Tetrachloroethene	127-18-4	C-B2	31	17	5.70E-04	7.30E-01		1.31E+01	5.6E-02
5~Off Site West	VOC	Toluene	108-88-3	ID	31	19	3.90E-04	1.50E-01		2.21E+03	6.8E-05
5~Off Site West	VOC	Trichloroethene	79-01-6	C-B2	31	13	7.40E-04	5.90E-02		6.12E+01	9.6E-04
5~Off Site West	VOC	Xylenes (total)	1330-20-7	ID	31	5	1.30E-03	7.80E-01		8.97E+02	8.7E-04
5~Off Site West	SVOC	Acenaphthene	83-32-9		7	2	1.04E+00	2.30E+00		2.92E+04	7.9E-05
5~Off Site West	SVOC	Anthracene	120-12-7	D	7	3	5.24E-01	2.90E+00		2.38E+05	1.2E-05
5~Off Site West	SVOC	Benzo(a)anthracene	56-55-3	B2	7	4	1.97E+00	1.70E+01		2.11E+01	8.1E-01
5~Off Site West	SVOC	Benzo(a)pyrene	50-32-8	B2	7	4	2.53E+00	3.10E+01		2.11E+00	**1.5E+01**
5~Off Site West	SVOC	Benzo(b)fluoranthene	205-99-2	B2	7	4	3.80E+00	2.60E+01		2.11E+01	**1.2E+00**
5~Off Site West	SVOC	Benzo(g,h,i)perylene	191-24-2	D	7	4	8.47E-01	1.20E+01		2.91E+04	4.1E-04
5~Off Site West	SVOC	Benzo(k)fluoranthene	207-08-9	B2	7	4	1.85E+00	2.40E+01		2.11E+02	1.1E-01
5~Off Site West	SVOC	Carbazole	86-74-8	B2	4	1	1.70E+00	1.70E+00		8.62E+02	2.0E-03
5~Off Site West	SVOC	Chrysene	218-01-9	B2	7	4	2.09E+00	1.30E+01		2.11E+03	6.2E-03
5~Off Site West	SVOC	Dibenz(a,h)anthracene	53-70-3	B2	7	4	2.55E-01	6.80E+00		2.11E+00	**3.2E+00**
5~Off Site West	SVOC	Dibenzofuran	132-64-9	D	7	2	5.70E-01	9.07E-01		1.56E+03	5.8E-04
5~Off Site West	SVOC	Fluoranthene	206-44-0	D	7	4	2.99E+00	1.10E+01		2.20E+04	5.0E-04
5~Off Site West	SVOC	Fluorene	86-73-7	D	7	2	8.15E-01	9.40E-01		2.63E+04	3.6E-05
5~Off Site West	SVOC	Indeno(1,2,3-cd)pyrene	193-39-5	B2	7	4	8.07E-01	1.60E+01		2.11E+01	7.6E-01
5~Off Site West	SVOC	Naphthalene	91-20-3	C	7	4	4.80E-01	1.09E+00		1.88E+02	5.8E-03
5~Off Site West	SVOC	Phenanthrene	85-01-8	D	7	4	1.27E+00	8.71E+00		2.91E+04	3.0E-04
5~Off Site West	SVOC	Pyrene	129-00-0	D	7	4	4.51E+00	1.30E+01		2.91E+04	4.5E-04
5~Off Site West	PCB	PCBs (total)	1336-36-3	B2	24	7	3.95E-02	3.63E-01		7.44E+00	4.9E-02
5~Off Site West	INORG	Antimony	7440-36-0		27	10	4.00E-01	5.30E+00	3.10E-01	4.09E+02	1.2E-02
5~Off Site West	INORG	Arsenic	7440-38-2	A	30	30	1.90E+00	2.70E+01	1.16E+01	1.59E+01	9.7E-01
5~Off Site West	INORG	Barium	7440-39-3	D	30	30	1.30E+01	2.75E+02	1.09E+02	6.66E+04	2.5E-03
5~Off Site West	INORG	Beryllium	7440-41-7	B1	27	14	7.20E-02	5.10E+00	5.75E-01	1.94E+03	2.3E-03

Table 4.2B(i): Soil Screening Results Summary: Off-Site
Former GM Delphi Harrison Thermal Systems Facility, Dayton, Ohio

Area	Chem Group	Chemical	CASRN	Carc Class	Analyzed	Detected	Min Detected Concentration (mg/kg)	Max Detected Concentration (mg/kg)	Site-Specific Background Concentration (mg/kg)	Comm/Ind PRG Based Criteria (mg/kg)	Ratio of Max Detect to Comm/Ind Criteria
5~Off Site West	INORG	Cadmium	7440-43-9	B1	30	25	2.50E-02	4.87E+00	1.50E+00	4.51E+02	7.5E-03
5~Off Site West	INORG	Chromium (total)	7440-47-3		30	29	2.20E+00	7.58E+01	1.58E+01	2.54E+03	2.4E-02
5~Off Site West	INORG	Cobalt	7440-48-4	B1	27	27	8.10E-01	1.05E+01	7.49E+00	1.33E+04	2.3E-04
5~Off Site West	INORG	Copper	7440-50-8	D	27	26	2.70E+00	3.66E+02	2.48E+01	4.09E+04	8.3E-03
5~Off Site West	INORG	Cyanide (total)	57-12-5	D	27	9	9.80E-02	5.10E+00		1.23E+04	4.1E-04
5~Off Site West	INORG	Lead	7439-92-1	B2	30	30	1.70E+00	1.25E+03		8.00E+02	**1.6E+00**
5~Off Site West	INORG	Manganese	7439-96-5	D	27	27	9.45E+01	5.71E+02	8.16E+02	1.95E+04	
5~Off Site West	INORG	Mercury	7439-97-6	D	30	25	2.70E-02	5.01E+00	1.00E-01	1.36E+01	3.6E-01
5~Off Site West	INORG	Nickel	7440-02-0	A	27	27	2.20E+00	1.20E+02	1.65E+01	2.04E+04	5.1E-03
5~Off Site West	INORG	Selenium	7782-49-2	D	30	5	5.90E-01	6.69E+00	1.00E+00	5.11E+03	1.1E-03
5~Off Site West	INORG	Silver	7440-22-4	D	30	9	1.00E-01	1.00E+01	2.70E-01	5.11E+03	1.9E-03
5~Off Site West	INORG	Thallium	7440-28-0		27	11	4.10E-02	1.80E+00	2.20E+00	6.75E+01	
5~Off Site West	INORG	Vanadium	7440-62-2		27	27	3.10E+00	4.47E+01	2.99E+01	1.02E+03	1.4E-02
5~Off Site West	INORG	Zinc	7440-66-6	ID	27	27	9.50E+00	5.74E+02	1.22E+02	3.06E+05	1.5E-03

Notes:

1. Only constituents detected in each respective area are shown.
2. Ratios are calculated using site-related concentrations, which are those in excess of site-specific background concentrations for inorganics.
3. The Screening Criteria for soil are the lower of the Screening Criteria at either a cancer risk level of $1x10^{-5}$ or a hazard quotient of 1.
4. Shaded cells represent ratios of concentration to the Screening Criteria greater than 1.
5. Comm/Ind PRGs are based on EPA Region 9 values.
6. The Screening Criteria for Pyrene were used as surrogates for Phenanthrene and Benzo(g,h,i)perylene.
7. The Screening Criteria for Naphthalene were used as surrogates for 2-Methylnaphthalene.
8. The Screening Criteria for Chromium VI were used as a surrogate for Chromium (total).
9. The concentrations for all polychlorinated biphenyls (PCBs) isomers were summed before comparing to the Screening Criteria for PCBs (total). Comm/Ind PRG Criteria for PCBs are based on PCBs (total) for cancer effects and and Aroclor 1254 for noncancer effects.
10. The Comm/Ind PRG Based Screening Criteria for Mercury were calculated by ENVIRON to account for the vapor inhalation pathway using: EPA Region 9 equations, RfC from IRIS, and chemical properties from EPA's Soil Screening Guidance.

Abbreviations:

Chem Group - Chemical Group
CASRN - Chemical Abstract Service Registry Number
Carc Class - EPA Weight-of-Evidence Cancer Classification
Comm/Ind - Commercial/Industrial
PRG - Preliminary Remediation Goal

Table 4.2B(ii) Soil Concentrations Exceeding Screening Criteria: Off-Site
Former GM Delphi Harrison Thermal Systems Facility, Dayton, Ohio

Area	Station ID	Top Depth (ft)	Bottom Depth (ft)	Sample Date	Chem Group	Chemical	CASRN	Concentration (mg/kg)	Site-Specific Background Concentration (mg/kg)	Comm/Ind PRG Based Criteria (mg/kg)	Ratio of Concentration to Comm/Ind PRG Based Criteria
2~Taylor to Railway	MW-4-02	11	13	06/25/02	PCB	PCBs (total)	1336-36-3	5.87E+01		7.40E+00	**7.9E+00**
2~Taylor to Railway	OW-3	12	13	10/15/02	PCB	PCBs (total)	1336-36-3	1.70E+01		7.40E+00	**2.3E+00**
5~Off Site West	DAY-24 *	0	2	12/17/04	SVOC	Benzo(a)pyrene	50-32-8	2.80E+00		2.10E+00	**1.3E+00**
5~Off Site West	DAY-24 *	13	15	12/17/04	SVOC	Benzo(a)pyrene	50-32-8	6.43E+00		2.10E+00	**3.0E+00**
5~Off Site West	DAY-24 *	8	10	12/17/04	SVOC	Benzo(a)pyrene	50-32-8	2.53E+00		2.10E+00	**1.2E+00**
5~Off Site West	DAY-24 *	8	10	12/17/04	INORG	Lead	7439-92-1	1.25E+03		8.00E+02	**1.6E+00**
5~Off Site West	MW-11-03	6	8	01/18/03	SVOC	Benzo(a)pyrene	50-32-8	3.10E+01		2.10E+00	**1.5E+01**
5~Off Site West	MW-11-03	6	8	01/18/03	SVOC	Benzo(b)fluoranthene	205-99-2	2.60E+01		2.10E+01	**1.2E+00**
5~Off Site West	MW-11-03	6	8	01/18/03	SVOC	Dibenz(a,h)anthracene	53-70-3	6.80E+00		2.10E+00	**3.2E+00**

Notes:

***** Non-RFI Data were collected by the City of Dayton during installation of monitoring well DAY-24 and have not been independently validated by GM.

1. Ratios are calculated using site-related concentrations, which are those in excess of site-specific background concentrations for inorganics.

2. The Screening Criteria for soil are the lower of the Screening Criteria at either a cancer risk level of $1x10^{-5}$ or a hazard quotient of 1.

3. Shaded cells represent ratios of concentration to the Screening Criteria greater than 1.

4. Comm/Ind PRGs are based on EPA Region 9 values.

Abbreviations:

Chem Group - Chemical Group

CASRN - Chemical Abstract Service Registry Number

Comm/Ind - Commercial/Industrial

PRG - Preliminary Remediation Goal

Table 4.3A(i): Groundwater Screening Results: Upper Aquifer, On-Site
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

Area	Chem Group	Chemical	CASRN	Meas Basis	Carc Class	Analyzed	Detected	Min Detected Concentration (mg/L)	Max Detected Concentration (mg/L)	Drinking Water Criteria (mg/L)	Ratio of Max Detect to DW Criteria	Maintenance Worker Groundwater Contact Criteria (mg/L)	Ratio of Max Detect to Maint Worker GW Contact Criteria	Comm/Ind Groundwater Vol Indoor Air Criteria (mg/L)	Ratio of Max Detect to Comm/Ind GW Vol Indoor Air Criteria
1~Webster to Taylor	VOC	Acetone	67-64-1	T	ID	118	4	1.70E-03	7.60E-02	3.29E+01	2.3E-03	6.78E+03	1.1E-05	1.20E+05	6.3E-07
1~Webster to Taylor	VOC	Benzene	71-43-2	T	A	118	2	2.30E-04	8.80E-03	5.00E-03	**1.8E+00**	4.88E+00	1.8E-03	6.41E+00	1.4E-03
1~Webster to Taylor	VOC	Bromodichloromethane	75-27-4	T	B2	118	1	3.10E-04	3.10E-04	8.00E-02	3.9E-03	3.47E+00	8.9E-05	5.18E+00	6.0E-05
1~Webster to Taylor	VOC	Carbon Disulfide	75-15-0	T		118	1	1.20E-03	1.20E-03	3.65E+00	3.3E-04	3.76E+02	3.2E-06	8.45E+02	1.4E-06
1~Webster to Taylor	VOC	Chloroform	67-66-3	T	B2	118	41	5.30E-04	9.50E-03	8.00E-02	1.2E-01	2.29E+00	4.1E-03	2.37E+00	4.0E-03
1~Webster to Taylor	VOC	Cumene	98-82-8	T	D	118	6	3.00E-04	2.00E-03	3.65E+00	5.5E-04	2.14E+02	9.4E-06	4.30E+02	4.6E-06
1~Webster to Taylor	VOC	Cyclohexane	110-82-7	T	ID	118	1	5.80E-04	5.80E-04			3.68E+03	1.6E-07	6.22E+03	9.3E-08
1~Webster to Taylor	VOC	Dibromochloromethane	124-48-1	T	C	118	1	2.45E-04	2.45E-04	8.00E-02	3.1E-03	3.06E+00	8.0E-05	6.32E+00	3.9E-05
1~Webster to Taylor	VOC	1,1-Dichloroethane	75-34-3	T	C	118	2	2.95E-04	3.90E-04	7.30E+00	5.3E-05	3.32E+02	1.2E-06	8.70E+02	4.5E-07
1~Webster to Taylor	VOC	1,1-Dichloroethene	75-35-4	T	C	118	4	4.90E-04	2.70E-02	7.00E-03	**3.9E+00**	1.25E+02	2.2E-04	2.44E+02	1.1E-04
1~Webster to Taylor	VOC	cis-1,2-Dichloroethene	156-59-2	T	D	118	117	2.90E-04	2.10E+01	7.00E-02	**3.0E+02**	2.29E+01	9.2E-01	6.38E+01	3.3E-01
1~Webster to Taylor	VOC	trans-1,2-Dichloroethene	156-60-5	T		118	2	2.80E-04	2.20E-02	1.00E-01	2.2E-01	3.81E+01	5.8E-04	8.31E+01	2.6E-04
1~Webster to Taylor	VOC	Ethyl Benzene	100-41-4	T	D	118	5	1.50E-03	3.40E-03	7.00E-01	4.9E-03	4.41E+02	7.7E-06	1.99E+03	1.7E-06
1~Webster to Taylor	VOC	Methyl Acetate	79-20-9	T		118	1	1.30E-02	1.30E-02	3.65E+01	3.6E-04	4.69E+03	2.8E-06	6.42E+04	2.0E-07
1~Webster to Taylor	VOC	Methylcyclohexane	108-87-2	T		118	6	4.40E-04	2.70E-02			1.99E+03	1.4E-05	3.04E+03	8.9E-06
1~Webster to Taylor	VOC	Methylene Chloride	75-09-2	T	B2	118	9	5.00E-04	1.40E-01	5.00E-03	**2.8E+01**	8.94E+01	1.6E-03	1.27E+02	1.1E-03
1~Webster to Taylor	VOC	Tetrachloroethene	127-18-4	T	C-B2	118	116	5.70E-04	6.50E+00	5.00E-03	**1.3E+03**	1.41E+01	4.6E-01	1.49E+01	4.4E-01
1~Webster to Taylor	VOC	1,2,4-Trichlorobenzene	120-82-1	T	D	118	1	1.18E-03	1.18E-03	7.00E-02	1.7E-02	4.31E+01	2.7E-05	7.92E+02	1.5E-06
1~Webster to Taylor	VOC	1,1,1-Trichloroethane	71-55-6	T	D	118	20	2.10E-04	9.40E-04	2.00E-01	4.7E-03	1.47E+03	6.4E-07	3.38E+03	2.8E-07
1~Webster to Taylor	VOC	Trichloroethene	79-01-6	T	C-B2	118	116	5.85E-04	1.20E+01	5.00E-03	**2.4E+03**	2.68E+01	4.5E-01	2.73E+01	4.4E-01
1~Webster to Taylor	VOC	Vinyl Chloride	75-01-4	T	A	118	42	4.50E-04	1.45E+00	2.00E-03	**7.3E+02**	2.02E+00	7.2E-01	3.29E+00	4.4E-01
1~Webster to Taylor	VOC	Xylenes (total)	1330-20-7	T	ID	118	1	6.18E-04	6.18E-04	1.00E+01	6.2E-05	6.80E+01	9.1E-06	1.88E+02	3.3E-06
1~Webster to Taylor	SVOC	bis(2-Ethylhexyl)phthalate	117-81-7	T	B2	36	3	2.00E-03	3.80E-03	6.00E-03	6.3E-01	1.82E+00	2.1E-03	1.00E+05	3.8E-08
1~Webster to Taylor	SVOC	Caprolactam	105-60-2	T		36	2	3.00E-02	3.00E-01	1.83E+01	1.6E-02	2.01E+05	1.5E-06	4.29E+08	7.0E-10
1~Webster to Taylor	SVOC	Diethylphthalate	84-66-2	T	D	36	1	2.00E-03	2.00E-03	2.92E+01	6.8E-05	4.70E+04	4.3E-08	1.00E+07	2.0E-10
1~Webster to Taylor	PCB	PCBs (total)	1336-36-3	T	B2	39	5	1.05E-04	7.76E-02	5.00E-04	**1.6E+02**	9.35E-03	**8.3E+00**	2.52E-01	3.1E-01
1~Webster to Taylor	INORG	Arsenic	7440-38-2	T	A	37	22	1.83E-03	9.50E-03	1.00E-02	9.5E-01	1.44E+01	6.6E-04		
1~Webster to Taylor	INORG	Arsenic	7440-38-2	D	A	6	3	2.30E-03	7.00E-03	1.00E-02	7.0E-01	1.44E+01	4.9E-04		
1~Webster to Taylor	INORG	Barium	7440-39-3	T	D	37	37	3.10E-02	3.60E-01	2.00E+00	1.8E-01	3.43E+03	1.0E-04		
1~Webster to Taylor	INORG	Barium	7440-39-3	D	D	6	6	9.50E-02	3.10E-01	2.00E+00	1.6E-01	3.43E+03	9.0E-05		
1~Webster to Taylor	INORG	Cadmium	7440-43-9	T	B1	37	11	2.90E-04	6.60E-03	5.00E-03	**1.3E+00**	1.80E+01	3.7E-04		
1~Webster to Taylor	INORG	Chromium (total)	7440-47-3	T		37	18	1.18E-03	1.60E-02	1.00E-01	1.6E-01	2.85E+01	5.6E-04		
1~Webster to Taylor	INORG	Chromium (total)	7440-47-3	D		6	1	1.80E-03	1.80E-03	1.00E-01	1.8E-02	2.85E+01	6.3E-05		
1~Webster to Taylor	INORG	Cobalt	7440-48-4	T	B1	37	11	7.80E-04	3.60E-03	7.30E-01	4.9E-03	8.09E+03	4.5E-07		
1~Webster to Taylor	INORG	Cobalt	7440-48-4	D	B1	6	1	1.00E-03	1.00E-03	7.30E-01	1.4E-03	8.09E+03	1.2E-07		
1~Webster to Taylor	INORG	Copper	7440-50-8	T	D	37	6	2.30E-03	2.40E-02	1.30E+00	1.8E-02	1.23E+04	1.9E-06		
1~Webster to Taylor	INORG	Cyanide (total)	57-12-5	T	D	35	6	2.50E-03	1.30E-02	2.00E-01	6.5E-02	6.16E+03	2.1E-06		
1~Webster to Taylor	INORG	Lead	7439-92-1	T	B2	38	4	3.10E-03	4.90E-02	1.50E-02	**3.3E+00**	7.40E+01	6.6E-04		
1~Webster to Taylor	INORG	Manganese	7439-96-5	T	D	42	41	6.00E-03	7.80E-01	5.11E+00	1.5E-01	5.96E+03	1.3E-04		
1~Webster to Taylor	INORG	Manganese	7439-96-5	D	D	8	8	2.20E-03	3.70E-01	5.11E+00	7.2E-02	5.96E+03	6.2E-05		
1~Webster to Taylor	INORG	Mercury	7439-97-6	T	D	37	2	1.00E-04	1.60E-04	2.00E-03	8.0E-02	2.88E-01	5.6E-04	8.33E-01	1.9E-04
1~Webster to Taylor	INORG	Nickel	7440-02-0	T	A	37	14	3.00E-03	1.10E-02	1.00E-01	1.1E-01	2.38E+03	4.6E-06		
1~Webster to Taylor	INORG	Nickel	7440-02-0	D	A	6	2	3.50E-03	5.20E-03	1.00E-01	5.2E-02	2.38E+03	2.2E-06		
1~Webster to Taylor	INORG	Selenium	7782-49-2	T	D	37	1	5.00E-03	5.00E-03	5.00E-02	1.0E-01	1.54E+03	3.2E-06		
1~Webster to Taylor	INORG	Silver	7440-22-4	T	D	37	1	1.60E-03	1.60E-03	1.83E-01	8.8E-03	2.34E+02	6.8E-06		
1~Webster to Taylor	INORG	Silver	7440-22-4	D	D	6	1	1.10E-03	1.10E-03	1.83E-01	6.0E-03	2.34E+02	4.7E-06		
1~Webster to Taylor	INORG	Thallium	7440-28-0	T		37	2	3.90E-05	4.50E-05	2.00E-03	2.3E-02	2.15E+01	2.1E-06		
1~Webster to Taylor	INORG	Thallium	7440-28-0	D		6	1	3.50E-05	3.50E-05	2.00E-03	1.8E-02	2.15E+01	1.6E-06		
1~Webster to Taylor	INORG	Vanadium	7440-62-2	T		37	12	6.80E-04	4.80E-03	3.65E-02	1.3E-01	1.94E+01	2.5E-04		
1~Webster to Taylor	INORG	Zinc	7440-66-6	T	ID	37	8	1.80E-02	6.20E-02	1.10E+01	5.7E-03	1.10E+05	5.6E-07		
1~Webster to Taylor	INORG	Zinc	7440-66-6	D	ID	6	1	3.90E-02	3.90E-02	1.10E+01	3.6E-03	1.10E+05	3.6E-07		

Table 4.3A(i): Groundwater Screening Results: Upper Aquifer, On-Site
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

Area	Chem Group	Chemical	CASRN	Meas Basis	Carc Class	Analyzed	Detected	Min Detected Concentration (mg/L)	Max Detected Concentration (mg/L)	Drinking Water Criteria (mg/L)	Ratio of Max Detect to DW Criteria	Maintenance Worker Groundwater Contact Criteria (mg/L)	Ratio of Max Detect to Maint Worker GW Contact Criteria	Comm/Ind Groundwater Vol Indoor Air Criteria (mg/L)	Ratio of Max Detect to Comm/Ind GW Vol Indoor Air Criteria
2~Taylor to Railway	VOC	Acetone	67-64-1	T	ID	37	1	1.40E-01	1.40E-01	3.29E+01	4.3E-03	6.78E+03	2.1E-05	1.20E+05	1.2E-06
2~Taylor to Railway	VOC	Benzene	71-43-2	T	A	37	1	4.20E-04	4.20E-04	5.00E-03	8.4E-02	4.88E+00	8.6E-05	6.41E+00	6.5E-05
2~Taylor to Railway	VOC	Bromodichloromethane	75-27-4	T	B2	37	1	1.60E-03	1.60E-03	8.00E-02	2.0E-02	3.47E+00	4.6E-04	5.18E+00	3.1E-04
2~Taylor to Railway	VOC	Chloroform	67-66-3	T	B2	37	16	1.20E-03	1.80E-02	8.00E-02	2.3E-01	2.29E+00	7.9E-03	2.37E+00	7.6E-03
2~Taylor to Railway	VOC	Cumene	98-82-8	T	D	37	3	1.50E-04	1.80E-03	3.65E+00	4.9E-04	2.14E+02	8.4E-06	4.30E+02	4.2E-06
2~Taylor to Railway	VOC	Cyclohexane	110-82-7	T	ID	37	2	3.20E-04	4.60E-04			3.68E+03	1.2E-07	6.22E+03	7.4E-08
2~Taylor to Railway	VOC	Dibromochloromethane	124-48-1	T	C	37	1	8.60E-04	8.60E-04	8.00E-02	1.1E-02	3.06E+00	2.8E-04	6.32E+00	1.4E-04
2~Taylor to Railway	VOC	1,1-Dichloroethane	75-34-3	T	C	37	10	4.20E-04	1.20E-02	7.30E+00	1.6E-03	3.32E+02	3.6E-05	8.70E+02	1.4E-05
2~Taylor to Railway	VOC	cis-1,2-Dichloroethene	156-59-2	T	D	37	34	2.30E-04	3.45E+01	7.00E-02	**4.9E+02**	2.29E+01	**1.5E+00**	6.38E+01	5.4E-01
2~Taylor to Railway	VOC	trans-1,2-Dichloroethene	156-60-5	T		37	3	3.00E-03	2.90E-02	1.00E-01	2.9E-01	3.81E+01	7.6E-04	8.31E+01	3.5E-04
2~Taylor to Railway	VOC	Tetrachloroethene	127-18-4	T	C-B2	37	29	5.30E-04	4.60E+00	5.00E-03	**9.2E+02**	1.41E+01	3.3E-01	1.49E+01	3.1E-01
2~Taylor to Railway	VOC	1,2,4-Trichlorobenzene	120-82-1	T	D	37	1	2.60E-04	2.60E-04	7.00E-02	3.7E-03	4.31E+01	6.0E-06	7.92E+02	3.3E-07
2~Taylor to Railway	VOC	1,1,1-Trichloroethane	71-55-6	T	D	37	5	5.00E-04	2.90E-03	2.00E-01	1.5E-02	1.47E+03	2.0E-06	3.38E+03	8.6E-07
2~Taylor to Railway	VOC	Trichloroethene	79-01-6	T	C-B2	37	32	5.00E-04	1.30E+00	5.00E-03	**2.6E+02**	2.68E+01	4.8E-02	2.73E+01	4.8E-02
2~Taylor to Railway	VOC	Vinyl Chloride	75-01-4	T	A	37	13	2.80E-04	2.90E+00	2.00E-03	**1.5E+03**	2.02E+00	**1.4E+00**	3.29E+00	8.8E-01
2~Taylor to Railway	SVOC	bis(2-Ethylhexyl)phthalate	117-81-7	T	B2	13	2	9.90E-04	4.70E-03	6.00E-03	7.8E-01	1.82E+00	2.6E-03	1.00E+05	4.7E-08
2~Taylor to Railway	SVOC	Caprolactam	105-60-2	T		13	7	3.40E-02	4.70E-01	1.83E+01	2.6E-02	2.01E+05	2.3E-06	4.29E+08	1.1E-09
2~Taylor to Railway	SVOC	Diethylphthalate	84-66-2	T	D	13	2	7.80E-04	8.60E-04	2.92E+01	2.9E-05	4.70E+04	1.8E-08	1.00E+07	8.6E-11
2~Taylor to Railway	PCB	PCBs (total)	1336-36-3	T	B2	32	5	9.75E-05	5.80E-03	5.00E-04	**1.2E+01**	9.35E-03	6.2E-01	2.52E-01	2.3E-02
2~Taylor to Railway	INORG	Arsenic	7440-38-2	T	A	20	10	2.10E-03	2.00E-02	1.00E-02	**2.0E+00**	1.44E+01	1.4E-03		
2~Taylor to Railway	INORG	Arsenic	7440-38-2	D	A	4	1	2.70E-03	2.70E-03	1.00E-02	2.7E-01	1.44E+01	1.9E-04		
2~Taylor to Railway	INORG	Barium	7440-39-3	T	D	20	20	6.20E-02	1.10E+00	2.00E+00	5.5E-01	3.43E+03	3.2E-04		
2~Taylor to Railway	INORG	Barium	7440-39-3	D	D	4	4	1.00E-01	1.70E-01	2.00E+00	8.5E-02	3.43E+03	5.0E-05		
2~Taylor to Railway	INORG	Cadmium	7440-43-9	T	B1	20	4	2.80E-04	2.80E-03	5.00E-03	5.6E-01	1.80E+01	1.6E-04		
2~Taylor to Railway	INORG	Cadmium	7440-43-9	D	B1	4	1	3.10E-04	3.10E-04	5.00E-03	6.2E-02	1.80E+01	1.7E-05		
2~Taylor to Railway	INORG	Chromium (total)	7440-47-3	T		20	1	1.80E-03	1.80E-03	1.00E-01	1.8E-02	2.85E+01	6.3E-05		
2~Taylor to Railway	INORG	Cobalt	7440-48-4	T	B1	20	2	7.70E-04	1.00E-03	7.30E-01	1.4E-03	8.09E+03	1.2E-07		
2~Taylor to Railway	INORG	Copper	7440-50-8	T	D	20	3	2.30E-03	3.60E-03	1.30E+00	2.8E-03	1.23E+04	2.9E-07		
2~Taylor to Railway	INORG	Cyanide (total)	57-12-5	T	D	19	1	2.40E-02	2.40E-02	2.00E-01	1.2E-01	6.16E+03	3.9E-06		
2~Taylor to Railway	INORG	Lead	7439-92-1	T	B2	20	2	9.00E-04	2.00E-03	1.50E-02	1.3E-01	7.40E+01	2.7E-05		
2~Taylor to Railway	INORG	Manganese	7439-96-5	T	D	23	21	5.90E-03	1.50E+00	5.11E+00	2.9E-01	5.96E+03	2.5E-04		
2~Taylor to Railway	INORG	Manganese	7439-96-5	D	D	4	4	1.80E-02	1.20E-01	5.11E+00	2.3E-02	5.96E+03	2.0E-05		
2~Taylor to Railway	INORG	Nickel	7440-02-0	T	A	20	4	3.30E-03	9.30E-03	1.00E-01	9.3E-02	2.38E+03	3.9E-06		
2~Taylor to Railway	INORG	Selenium	7782-49-2	T	D	20	1	9.10E-04	9.10E-04	5.00E-02	1.8E-02	1.54E+03	5.9E-07		
2~Taylor to Railway	INORG	Silver	7440-22-4	T	D	20	1	8.90E-04	8.90E-04	1.83E-01	4.9E-03	2.34E+02	3.8E-06		
2~Taylor to Railway	INORG	Vanadium	7440-62-2	T		20	1	1.30E-03	1.30E-03	3.65E-02	3.6E-02	1.94E+01	6.7E-05		
2~Taylor to Railway	INORG	Zinc	7440-66-6	T	ID	20	2	1.70E-02	1.70E-02	1.10E+01	1.6E-03	1.10E+05	1.5E-07		
3~Railway to Keowee	VOC	Chloroform	67-66-3	T	B2	13	4	1.10E-03	8.55E-03	8.00E-02	1.1E-01	2.29E+00	3.7E-03	2.37E+00	3.6E-03
3~Railway to Keowee	VOC	1,1-Dichloroethane	75-34-3	T	C	13	1	5.10E-04	5.10E-04	7.30E+00	7.0E-05	3.32E+02	1.5E-06	8.70E+02	5.9E-07
3~Railway to Keowee	VOC	cis-1,2-Dichloroethene	156-59-2	T	D	13	6	2.80E-04	1.40E-02	7.00E-02	2.0E-01	2.29E+01	6.1E-04	6.38E+01	2.2E-04
3~Railway to Keowee	VOC	Tetrachloroethene	127-18-4	T	C-B2	13	1	5.70E-04	5.70E-04	5.00E-03	1.1E-01	1.41E+01	4.1E-05	1.49E+01	3.8E-05
3~Railway to Keowee	VOC	Trichloroethene	79-01-6	T	C-B2	13	6	3.90E-04	1.00E-02	5.00E-03	**2.0E+00**	2.68E+01	3.7E-04	2.73E+01	3.7E-04
3~Railway to Keowee	VOC	Vinyl Chloride	75-01-4	T	A	13	4	2.40E-04	3.30E-03	2.00E-03	**1.7E+00**	2.02E+00	1.6E-03	3.29E+00	1.0E-03
3~Railway to Keowee	SVOC	Caprolactam	105-60-2	T		7	2	3.50E-02	8.10E-02	1.83E+01	4.4E-03	2.01E+05	4.0E-07	4.29E+08	1.9E-10
3~Railway to Keowee	PCB	PCBs (total)	1336-36-3	T	B2	13	4	3.13E-04	8.43E-04	5.00E-04	**1.7E+00**	9.35E-03	9.0E-02	2.52E-01	3.3E-03
3~Railway to Keowee	INORG	Arsenic	7440-38-2	D	A	2	1	2.20E-03	2.20E-03	1.00E-02	2.2E-01	1.44E+01	1.5E-04		
3~Railway to Keowee	INORG	Barium	7440-39-3	T	D	9	9	1.00E-01	2.90E-01	2.00E+00	1.5E-01	3.43E+03	8.5E-05		
3~Railway to Keowee	INORG	Barium	7440-39-3	D	D	2	2	1.00E-01	1.10E-01	2.00E+00	5.5E-02	3.43E+03	3.2E-05		
3~Railway to Keowee	INORG	Cadmium	7440-43-9	T	B1	9	1	2.40E-04	2.40E-04	5.00E-03	4.8E-02	1.80E+01	1.3E-05		
3~Railway to Keowee	INORG	Chromium (total)	7440-47-3	T		9	4	2.00E-03	3.20E-03	1.00E-01	3.2E-02	2.85E+01	1.1E-04		
3~Railway to Keowee	INORG	Copper	7440-50-8	T	D	9	1	2.30E-03	2.30E-03	1.30E+00	1.8E-03	1.23E+04	1.9E-07		

Table 4.3A(i): Groundwater Screening Results: Upper Aquifer, On-Site
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

Area	Chem Group	Chemical	CASRN	Meas Basis	Carc Class	Analyzed	Detected	Min Detected Concentration (mg/L)	Max Detected Concentration (mg/L)	Drinking Water Criteria (mg/L)	Ratio of Max Detect to DW Criteria	Maintenance Worker Groundwater Contact Criteria (mg/L)	Ratio of Max Detect to Maint Worker GW Contact Criteria	Comm/Ind Groundwater Vol Indoor Air Criteria (mg/L)	Ratio of Max Detect to Comm/Ind GW Vol Indoor Air Criteria
3~Railway to Keowee	INORG	Copper	7440-50-8	D	D	2	1	2.40E-03	2.40E-03	1.30E+00	1.8E-03	1.23E+04	1.9E-07		
3~Railway to Keowee	INORG	Cyanide (total)	57-12-5	T	D	9	4	1.00E-02	3.30E-02	2.00E-01	1.7E-01	6.16E+03	5.4E-06		
3~Railway to Keowee	INORG	Manganese	7439-96-5	T	D	9	8	9.00E-04	3.30E-01	5.11E+00	6.5E-02	5.96E+03	5.5E-05		
3~Railway to Keowee	INORG	Manganese	7439-96-5	D	D	2	1	8.10E-04	8.10E-04	5.11E+00	1.6E-04	5.96E+03	1.4E-07		
3~Railway to Keowee	INORG	Zinc	7440-66-6	T	ID	9	1	1.10E-01	1.10E-01	1.10E+01	1.0E-02	1.10E+05	1.0E-06		

Notes:

1. Only constituents detected in each respective area are shown.
2. The Screening Criteria for groundwater are the lower of the Screening Criteria at either a cancer risk level of $1x10^{-5}$ or a hazard quotient of 1.
3. Shaded cells represent ratios of concentration to the Screening Criteria greater than 1.
4. Equivalent Drinking Water Concentration Limits, Maintenance Worker GW Contact Criteria, and Comm/Ind GW Vol Indoor Air Criteria were calculated as discussed in Appendix E of the RFI Report.
5. The Screening Criteria for Chromium VI were used as a surrogate for Chromium (total).
6. The concentrations for all polychlorinated biphenyls (PCBs) isomers were summed before comparing to the Screening Criteria for PCBs (total).

Abbreviations:

Chem Group - Chemical Group
CASRN - Chemical Abstract Service Registry Number
Carc Class - EPA Weight-of-Evidence Cancer Classification
Comm/Ind - Commercial/Industrial
Vol - Volatilization
Meas Basis - Measured Basis; T = Total, D = Dissolved

Table 4.3A(ii): Groundwater Concentrations Exceeding Screening Criteria: Upper Aquifer, On-Site
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

Area	Station ID	Sample Date	Chem Group	Chemical	CASRN	Concentration (mg/L)	Drinking Water Criteria (mg/L)	Ratio of Concentration to Drinking Water Criteria	Maintenance Worker Groundwater Contact Criteria (mg/L)	Ratio of Concentration to Maint Worker GW Contact Criteria	Comm/Ind Groundwater Vol Indoor Air Criteria (mg/L)	Ratio of Concentration to Comm/Ind GW Vol Indoor Air Criteria
1~Webster to Taylor	B-SA21	07/17/02	VOC	cis-1,2-Dichloroethene	156-59-2	1.30E-01	7.00E-02	**1.9E+00**	2.29E+01	5.7E-03	6.38E+01	2.0E-03
1~Webster to Taylor	B-SA21	07/17/02	VOC	Vinyl Chloride	75-01-4	3.90E-03	2.00E-03	**2.0E+00**	2.02E+00	1.9E-03	3.29E+00	1.2E-03
1~Webster to Taylor	B-SA21	07/17/02	PCB	PCBs (total)	1336-36-3	7.76E-02	5.00E-04	**1.6E+02**	9.35E-03	**8.3E+00**	2.52E-01	3.1E-01
1~Webster to Taylor	B-SA21	07/17/02	INORG	Cadmium	7440-43-9	6.60E-03	5.00E-03	**1.3E+00**	1.80E+01	3.7E-04		
1~Webster to Taylor	B-SA21	11/23/04	PCB	PCBs (total)	1336-36-3	3.15E-03	5.00E-04	**6.3E+00**	9.35E-03	3.4E-01	2.52E-01	1.3E-02
1~Webster to Taylor	B-SA21	03/20/03	VOC	cis-1,2-Dichloroethene	156-59-2	1.20E-01	7.00E-02	**1.7E+00**	2.29E+01	5.2E-03	6.38E+01	1.9E-03
1~Webster to Taylor	B-SA21	03/20/03	VOC	Vinyl Chloride	75-01-4	3.30E-03	2.00E-03	**1.7E+00**	2.02E+00	1.6E-03	3.29E+00	1.0E-03
1~Webster to Taylor	B-SA21	03/20/03	PCB	PCBs (total)	1336-36-3	1.03E-02	5.00E-04	**2.1E+01**	9.35E-03	**1.1E+00**	2.52E-01	4.1E-02
1~Webster to Taylor	B-SA22	07/08/02	VOC	cis-1,2-Dichloroethene	156-59-2	1.25E-01	7.00E-02	**1.8E+00**	2.29E+01	5.5E-03	6.38E+01	2.0E-03
1~Webster to Taylor	B-SA22	07/08/02	VOC	Methylene Chloride	75-09-2	3.55E-02	5.00E-03	**7.1E+00**	8.94E+01	4.0E-04	1.27E+02	2.8E-04
1~Webster to Taylor	B-SA22	07/08/02	VOC	Tetrachloroethene	127-18-4	2.20E+00	5.00E-03	**4.4E+02**	1.41E+01	1.6E-01	1.49E+01	1.5E-01
1~Webster to Taylor	B-SA22	07/08/02	VOC	Trichloroethene	79-01-6	5.10E-02	5.00E-03	**1.0E+01**	2.68E+01	1.9E-03	2.73E+01	1.9E-03
1~Webster to Taylor	B-SA22	03/18/03	VOC	Tetrachloroethene	127-18-4	1.60E+00	5.00E-03	**3.2E+02**	1.41E+01	1.1E-01	1.49E+01	1.1E-01
1~Webster to Taylor	B-SA22	03/18/03	VOC	Trichloroethene	79-01-6	2.50E-02	5.00E-03	**5.0E+00**	2.68E+01	9.3E-04	2.73E+01	9.2E-04
1~Webster to Taylor	B-SA22	04/21/05	VOC	Tetrachloroethene	127-18-4	8.10E-01	5.00E-03	**1.6E+02**	1.41E+01	5.8E-02	1.49E+01	5.4E-02
1~Webster to Taylor	B-SA22	04/21/05	VOC	Trichloroethene	79-01-6	1.50E-02	5.00E-03	**3.0E+00**	2.68E+01	5.6E-04	2.73E+01	5.5E-04
1~Webster to Taylor	B-SA22	08/15/03	VOC	Tetrachloroethene	127-18-4	1.30E+00	5.00E-03	**2.6E+02**	1.41E+01	9.2E-02	1.49E+01	8.7E-02
1~Webster to Taylor	B-SA22	08/15/03	VOC	Trichloroethene	79-01-6	2.30E-02	5.00E-03	**4.6E+00**	2.68E+01	8.6E-04	2.73E+01	8.4E-04
1~Webster to Taylor	B-SA23	07/17/02	VOC	cis-1,2-Dichloroethene	156-59-2	1.00E+01	7.00E-02	**1.4E+02**	2.29E+01	4.4E-01	6.38E+01	1.6E-01
1~Webster to Taylor	B-SA23	07/17/02	VOC	Methylene Chloride	75-09-2	1.40E-01	5.00E-03	**2.8E+01**	8.94E+01	1.6E-03	1.27E+02	1.1E-03
1~Webster to Taylor	B-SA23	07/17/02	VOC	Tetrachloroethene	127-18-4	5.30E+00	5.00E-03	**1.1E+03**	1.41E+01	3.8E-01	1.49E+01	3.6E-01
1~Webster to Taylor	B-SA23	07/17/02	VOC	Trichloroethene	79-01-6	9.40E+00	5.00E-03	**1.9E+03**	2.68E+01	3.5E-01	2.73E+01	3.4E-01
1~Webster to Taylor	B-SA23	07/17/02	VOC	Vinyl Chloride	75-01-4	7.50E-01	2.00E-03	**3.8E+02**	2.02E+00	3.7E-01	3.29E+00	2.3E-01
1~Webster to Taylor	B-SA23	03/18/03	VOC	cis-1,2-Dichloroethene	156-59-2	1.00E+01	7.00E-02	**1.4E+02**	2.29E+01	4.4E-01	6.38E+01	1.6E-01
1~Webster to Taylor	B-SA23	03/18/03	VOC	Tetrachloroethene	127-18-4	4.90E+00	5.00E-03	**9.8E+02**	1.41E+01	3.5E-01	1.49E+01	3.3E-01
1~Webster to Taylor	B-SA23	03/18/03	VOC	Trichloroethene	79-01-6	8.40E+00	5.00E-03	**1.7E+03**	2.68E+01	3.1E-01	2.73E+01	3.1E-01
1~Webster to Taylor	B-SA23	03/18/03	VOC	Vinyl Chloride	75-01-4	8.20E-01	2.00E-03	**4.1E+02**	2.02E+00	4.1E-01	3.29E+00	2.5E-01
1~Webster to Taylor	B-SA23	04/22/05	VOC	cis-1,2-Dichloroethene	156-59-2	6.40E+00	7.00E-02	**9.1E+01**	2.29E+01	2.8E-01	6.38E+01	1.0E-01
1~Webster to Taylor	B-SA23	04/22/05	VOC	Tetrachloroethene	127-18-4	2.90E-01	5.00E-03	**5.8E+01**	1.41E+01	2.1E-02	1.49E+01	1.9E-02
1~Webster to Taylor	B-SA23	04/22/05	VOC	Trichloroethene	79-01-6	1.40E+00	5.00E-03	**2.8E+02**	2.68E+01	5.2E-02	2.73E+01	5.1E-02
1~Webster to Taylor	B-SA23	04/22/05	VOC	Vinyl Chloride	75-01-4	1.30E+00	2.00E-03	**6.5E+02**	2.02E+00	6.4E-01	3.29E+00	4.0E-01
1~Webster to Taylor	B-SA23	08/20/03	VOC	cis-1,2-Dichloroethene	156-59-2	2.10E+01	7.00E-02	**3.0E+02**	2.29E+01	9.2E-01	6.38E+01	3.3E-01
1~Webster to Taylor	B-SA23	08/20/03	VOC	Tetrachloroethene	127-18-4	6.50E+00	5.00E-03	**1.3E+03**	1.41E+01	4.6E-01	1.49E+01	4.4E-01
1~Webster to Taylor	B-SA23	08/20/03	VOC	Trichloroethene	79-01-6	1.20E+01	5.00E-03	**2.4E+03**	2.68E+01	4.5E-01	2.73E+01	4.4E-01
1~Webster to Taylor	B-SA23	08/20/03	VOC	Vinyl Chloride	75-01-4	1.20E+00	2.00E-03	**6.0E+02**	2.02E+00	5.9E-01	3.29E+00	3.6E-01
1~Webster to Taylor	B-SA24	07/11/02	VOC	cis-1,2-Dichloroethene	156-59-2	2.00E-01	7.00E-02	**2.9E+00**	2.29E+01	8.7E-03	6.38E+01	3.1E-03
1~Webster to Taylor	B-SA24	07/11/02	VOC	Tetrachloroethene	127-18-4	9.10E-02	5.00E-03	**1.8E+01**	1.41E+01	6.5E-03	1.49E+01	6.1E-03
1~Webster to Taylor	B-SA24	07/11/02	VOC	Trichloroethene	79-01-6	1.70E-02	5.00E-03	**3.4E+00**	2.68E+01	6.3E-04	2.73E+01	6.2E-04
1~Webster to Taylor	B-SA24	07/11/02	VOC	Vinyl Chloride	75-01-4	5.00E-02	2.00E-03	**2.5E+01**	2.02E+00	2.5E-02	3.29E+00	1.5E-02
1~Webster to Taylor	B-SA24	03/13/03	VOC	Tetrachloroethene	127-18-4	8.80E-02	5.00E-03	**1.8E+01**	1.41E+01	6.3E-03	1.49E+01	5.9E-03
1~Webster to Taylor	B-SA24	03/13/03	VOC	Trichloroethene	79-01-6	3.90E-02	5.00E-03	**7.8E+00**	2.68E+01	1.5E-03	2.73E+01	1.4E-03
1~Webster to Taylor	B-SA24	03/13/03	VOC	Vinyl Chloride	75-01-4	1.30E-02	2.00E-03	**6.5E+00**	2.02E+00	6.4E-03	3.29E+00	4.0E-03
1~Webster to Taylor	B-SA24	04/20/05	VOC	Tetrachloroethene	127-18-4	1.60E-01	5.00E-03	**3.2E+01**	1.41E+01	1.1E-02	1.49E+01	1.1E-02
1~Webster to Taylor	B-SA24	04/20/05	VOC	Trichloroethene	79-01-6	1.20E-01	5.00E-03	**2.4E+01**	2.68E+01	4.5E-03	2.73E+01	4.4E-03
1~Webster to Taylor	B-SA24	04/20/05	VOC	Vinyl Chloride	75-01-4	3.60E-03	2.00E-03	**1.8E+00**	2.02E+00	1.8E-03	3.29E+00	1.1E-03
1~Webster to Taylor	B-SA24	08/21/03	VOC	Tetrachloroethene	127-18-4	1.30E-02	5.00E-03	**2.6E+00**	1.41E+01	9.2E-04	1.49E+01	8.7E-04
1~Webster to Taylor	B-SA24	08/21/03	VOC	Vinyl Chloride	75-01-4	6.20E-03	2.00E-03	**3.1E+00**	2.02E+00	3.1E-03	3.29E+00	1.9E-03

Table 4.3A(ii): Groundwater Concentrations Exceeding Screening Criteria: Upper Aquifer, On-Site
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

Area	Station ID	Sample Date	Chem Group	Chemical	CASRN	Concentration (mg/L)	Drinking Water Criteria (mg/L)	Ratio of Concentration to Drinking Water Criteria	Maintenance Worker Groundwater Contact Criteria (mg/L)	Ratio of Concentration to Maint Worker GW Contact Criteria	Comm/Ind Groundwater Vol Indoor Air Criteria (mg/L)	Ratio of Concentration to Comm/Ind GW Vol Indoor Air Criteria
1~Webster to Taylor	HD-1	07/11/02	VOC	Tetrachloroethene	127-18-4	3.80E-02	5.00E-03	**7.6E+00**	1.41E+01	2.7E-03	1.49E+01	2.6E-03
1~Webster to Taylor	HD-1	07/11/02	VOC	Trichloroethene	79-01-6	1.70E-02	5.00E-03	**3.4E+00**	2.68E+01	6.3E-04	2.73E+01	6.2E-04
1~Webster to Taylor	HD-1	11/11/04	VOC	Tetrachloroethene	127-18-4	5.50E-02	5.00E-03	**1.1E+01**	1.41E+01	3.9E-03	1.49E+01	3.7E-03
1~Webster to Taylor	HD-1	11/11/04	VOC	Trichloroethene	79-01-6	2.50E-02	5.00E-03	**5.0E+00**	2.68E+01	9.3E-04	2.73E+01	9.2E-04
1~Webster to Taylor	HD-1	04/10/03	VOC	Tetrachloroethene	127-18-4	4.40E-02	5.00E-03	**8.8E+00**	1.41E+01	3.1E-03	1.49E+01	3.0E-03
1~Webster to Taylor	HD-1	04/10/03	VOC	Trichloroethene	79-01-6	2.10E-02	5.00E-03	**4.2E+00**	2.68E+01	7.8E-04	2.73E+01	7.7E-04
1~Webster to Taylor	HD-12	07/17/02	VOC	Trichloroethene	79-01-6	1.20E-02	5.00E-03	**2.4E+00**	2.68E+01	4.5E-04	2.73E+01	4.4E-04
1~Webster to Taylor	HD-12	11/12/04	VOC	Trichloroethene	79-01-6	1.10E-02	5.00E-03	**2.2E+00**	2.68E+01	4.1E-04	2.73E+01	4.0E-04
1~Webster to Taylor	HD-12	03/25/03	VOC	Trichloroethene	79-01-6	1.40E-02	5.00E-03	**2.8E+00**	2.68E+01	5.2E-04	2.73E+01	5.1E-04
1~Webster to Taylor	HD-13	07/11/02	VOC	Methylene Chloride	75-09-2	1.50E-02	5.00E-03	**3.0E+00**	8.94E+01	1.7E-04	1.27E+02	1.2E-04
1~Webster to Taylor	HD-13	07/11/02	VOC	Tetrachloroethene	127-18-4	3.70E-01	5.00E-03	**7.4E+01**	1.41E+01	2.6E-02	1.49E+01	2.5E-02
1~Webster to Taylor	HD-13	07/11/02	VOC	Trichloroethene	79-01-6	1.00E-02	5.00E-03	**2.0E+00**	2.68E+01	3.7E-04	2.73E+01	3.7E-04
1~Webster to Taylor	HD-13	11/11/04	VOC	Tetrachloroethene	127-18-4	2.00E-01	5.00E-03	**4.0E+01**	1.41E+01	1.4E-02	1.49E+01	1.3E-02
1~Webster to Taylor	HD-13	11/11/04	VOC	Trichloroethene	79-01-6	1.00E-02	5.00E-03	**2.0E+00**	2.68E+01	3.7E-04	2.73E+01	3.7E-04
1~Webster to Taylor	HD-13	03/19/03	VOC	Tetrachloroethene	127-18-4	3.00E-01	5.00E-03	**6.0E+01**	1.41E+01	2.1E-02	1.49E+01	2.0E-02
1~Webster to Taylor	HD-13	03/19/03	VOC	Trichloroethene	79-01-6	1.10E-02	5.00E-03	**2.2E+00**	2.68E+01	4.1E-04	2.73E+01	4.0E-04
1~Webster to Taylor	HD-6	07/08/02	VOC	Tetrachloroethene	127-18-4	6.00E-03	5.00E-03	**1.2E+00**	1.41E+01	4.3E-04	1.49E+01	4.0E-04
1~Webster to Taylor	HD-6	07/08/02	VOC	Trichloroethene	79-01-6	1.60E-02	5.00E-03	**3.2E+00**	2.68E+01	6.0E-04	2.73E+01	5.9E-04
1~Webster to Taylor	HD-6	11/23/04	VOC	Trichloroethene	79-01-6	1.40E-02	5.00E-03	**2.8E+00**	2.68E+01	5.2E-04	2.73E+01	5.1E-04
1~Webster to Taylor	HD-6	03/18/03	VOC	Trichloroethene	79-01-6	1.80E-02	5.00E-03	**3.6E+00**	2.68E+01	6.7E-04	2.73E+01	6.6E-04
1~Webster to Taylor	HD-7	07/08/02	VOC	Tetrachloroethene	127-18-4	1.50E-02	5.00E-03	**3.0E+00**	1.41E+01	1.1E-03	1.49E+01	1.0E-03
1~Webster to Taylor	HD-7	07/08/02	VOC	Trichloroethene	79-01-6	2.80E-02	5.00E-03	**5.6E+00**	2.68E+01	1.0E-03	2.73E+01	1.0E-03
1~Webster to Taylor	HD-7	11/23/04	VOC	Tetrachloroethene	127-18-4	1.00E-02	5.00E-03	**2.0E+00**	1.41E+01	7.1E-04	1.49E+01	6.7E-04
1~Webster to Taylor	HD-7	11/23/04	VOC	Trichloroethene	79-01-6	2.10E-02	5.00E-03	**4.2E+00**	2.68E+01	7.8E-04	2.73E+01	7.7E-04
1~Webster to Taylor	HD-7	03/13/03	VOC	Tetrachloroethene	127-18-4	1.40E-02	5.00E-03	**2.8E+00**	1.41E+01	1.0E-03	1.49E+01	9.4E-04
1~Webster to Taylor	HD-7	03/13/03	VOC	Trichloroethene	79-01-6	3.00E-02	5.00E-03	**6.0E+00**	2.68E+01	1.1E-03	2.73E+01	1.1E-03
1~Webster to Taylor	MW-1A-00	06/26/02	VOC	cis-1,2-Dichloroethene	156-59-2	1.00E-01	7.00E-02	**1.4E+00**	2.29E+01	4.4E-03	6.38E+01	1.6E-03
1~Webster to Taylor	MW-1A-00	06/26/02	VOC	Tetrachloroethene	127-18-4	1.30E-01	5.00E-03	**2.6E+01**	1.41E+01	9.2E-03	1.49E+01	8.7E-03
1~Webster to Taylor	MW-1A-00	06/26/02	VOC	Trichloroethene	79-01-6	2.40E-02	5.00E-03	**4.8E+00**	2.68E+01	8.9E-04	2.73E+01	8.8E-04
1~Webster to Taylor	MW-1A-00	06/26/02	VOC	Vinyl Chloride	75-01-4	9.40E-03	2.00E-03	**4.7E+00**	2.02E+00	4.6E-03	3.29E+00	2.9E-03
1~Webster to Taylor	MW-1A-00	03/17/03	VOC	Tetrachloroethene	127-18-4	1.60E-01	5.00E-03	**3.2E+01**	1.41E+01	1.1E-02	1.49E+01	1.1E-02
1~Webster to Taylor	MW-1A-00	03/17/03	VOC	Trichloroethene	79-01-6	2.30E-02	5.00E-03	**4.6E+00**	2.68E+01	8.6E-04	2.73E+01	8.4E-04
1~Webster to Taylor	MW-1A-00	04/21/05	VOC	cis-1,2-Dichloroethene	156-59-2	9.20E-02	7.00E-02	**1.3E+00**	2.29E+01	4.0E-03	6.38E+01	1.4E-03
1~Webster to Taylor	MW-1A-00	04/21/05	VOC	Tetrachloroethene	127-18-4	1.70E-01	5.00E-03	**3.4E+01**	1.41E+01	1.2E-02	1.49E+01	1.1E-02
1~Webster to Taylor	MW-1A-00	04/21/05	VOC	Trichloroethene	79-01-6	4.10E-02	5.00E-03	**8.2E+00**	2.68E+01	1.5E-03	2.73E+01	1.5E-03
1~Webster to Taylor	MW-1A-00	04/21/05	VOC	Vinyl Chloride	75-01-4	8.80E-03	2.00E-03	**4.4E+00**	2.02E+00	4.3E-03	3.29E+00	2.7E-03
1~Webster to Taylor	MW-1A-00	08/18/03	VOC	cis-1,2-Dichloroethene	156-59-2	2.20E-01	7.00E-02	**3.1E+00**	2.29E+01	9.6E-03	6.38E+01	3.4E-03
1~Webster to Taylor	MW-1A-00	08/18/03	VOC	Tetrachloroethene	127-18-4	2.40E-01	5.00E-03	**4.8E+01**	1.41E+01	1.7E-02	1.49E+01	1.6E-02
1~Webster to Taylor	MW-1A-00	08/18/03	VOC	Trichloroethene	79-01-6	7.30E-02	5.00E-03	**1.5E+01**	2.68E+01	2.7E-03	2.73E+01	2.7E-03
1~Webster to Taylor	MW-1A-00	08/18/03	VOC	Vinyl Chloride	75-01-4	5.90E-02	2.00E-03	**3.0E+01**	2.02E+00	2.9E-02	3.29E+00	1.8E-02
1~Webster to Taylor	MW-1B-00	06/26/02	VOC	Tetrachloroethene	127-18-4	3.80E-02	5.00E-03	**7.6E+00**	1.41E+01	2.7E-03	1.49E+01	2.6E-03
1~Webster to Taylor	MW-1B-00	06/26/02	VOC	Trichloroethene	79-01-6	3.30E-02	5.00E-03	**6.6E+00**	2.68E+01	1.2E-03	2.73E+01	1.2E-03
1~Webster to Taylor	MW-1B-00	11/23/04	VOC	Tetrachloroethene	127-18-4	1.20E-02	5.00E-03	**2.4E+00**	1.41E+01	8.5E-04	1.49E+01	8.1E-04
1~Webster to Taylor	MW-1B-00	11/23/04	VOC	Trichloroethene	79-01-6	2.00E-02	5.00E-03	**4.0E+00**	2.68E+01	7.5E-04	2.73E+01	7.3E-04
1~Webster to Taylor	MW-1B-00	03/17/03	VOC	Tetrachloroethene	127-18-4	2.80E-02	5.00E-03	**5.6E+00**	1.41E+01	2.0E-03	1.49E+01	1.9E-03
1~Webster to Taylor	MW-1B-00	03/17/03	VOC	Trichloroethene	79-01-6	3.00E-02	5.00E-03	**6.0E+00**	2.68E+01	1.1E-03	2.73E+01	1.1E-03
1~Webster to Taylor	MW-1B-00	04/22/05	VOC	Tetrachloroethene	127-18-4	1.40E-02	5.00E-03	**2.8E+00**	1.41E+01	1.0E-03	1.49E+01	9.4E-04

Table 4.3A(ii): Groundwater Concentrations Exceeding Screening Criteria: Upper Aquifer, On-Site
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

Area	Station ID	Sample Date	Chem Group	Chemical	CASRN	Concentration (mg/L)	Drinking Water Criteria (mg/L)	Ratio of Concentration to Drinking Water Criteria	Maintenance Worker Groundwater Contact Criteria (mg/L)	Ratio of Concentration to Maint Worker GW Contact Criteria	Comm/Ind Groundwater Vol Indoor Air Criteria (mg/L)	Ratio of Concentration to Comm/Ind GW Vol Indoor Air Criteria
1~Webster to Taylor	MW-1B-00	04/22/05	VOC	Trichloroethene	79-01-6	2.10E-02	5.00E-03	**4.2E+00**	2.68E+01	7.8E-04	2.73E+01	7.7E-04
1~Webster to Taylor	MW-1B-00	08/18/03	VOC	Tetrachloroethene	127-18-4	2.60E-02	5.00E-03	**5.2E+00**	1.41E+01	1.8E-03	1.49E+01	1.7E-03
1~Webster to Taylor	MW-1B-00	08/18/03	VOC	Trichloroethene	79-01-6	3.80E-02	5.00E-03	**7.6E+00**	2.68E+01	1.4E-03	2.73E+01	1.4E-03
1~Webster to Taylor	MW-22-04	03/25/04	VOC	Tetrachloroethene	127-18-4	4.60E-02	5.00E-03	**9.2E+00**	1.41E+01	3.3E-03	1.49E+01	3.1E-03
1~Webster to Taylor	MW-22-04	03/25/04	VOC	Trichloroethene	79-01-6	2.60E-02	5.00E-03	**5.2E+00**	2.68E+01	9.7E-04	2.73E+01	9.5E-04
1~Webster to Taylor	MW-2A-00	07/16/02	VOC	cis-1,2-Dichloroethene	156-59-2	4.20E-01	7.00E-02	**6.0E+00**	2.29E+01	1.8E-02	6.38E+01	6.6E-03
1~Webster to Taylor	MW-2A-00	07/16/02	VOC	Vinyl Chloride	75-01-4	3.10E-01	2.00E-03	**1.6E+02**	2.02E+00	1.5E-01	3.29E+00	9.4E-02
1~Webster to Taylor	MW-2A-00	03/17/03	VOC	cis-1,2-Dichloroethene	156-59-2	2.40E-01	7.00E-02	**3.4E+00**	2.29E+01	1.0E-02	6.38E+01	3.8E-03
1~Webster to Taylor	MW-2A-00	03/17/03	VOC	Tetrachloroethene	127-18-4	1.30E-01	5.00E-03	**2.6E+01**	1.41E+01	9.2E-03	1.49E+01	8.7E-03
1~Webster to Taylor	MW-2A-00	03/17/03	VOC	Trichloroethene	79-01-6	3.50E-02	5.00E-03	**7.0E+00**	2.68E+01	1.3E-03	2.73E+01	1.3E-03
1~Webster to Taylor	MW-2A-00	03/17/03	VOC	Vinyl Chloride	75-01-4	7.90E-02	2.00E-03	**4.0E+01**	2.02E+00	3.9E-02	3.29E+00	2.4E-02
1~Webster to Taylor	MW-2A-00	04/22/05	VOC	cis-1,2-Dichloroethene	156-59-2	6.00E+00	7.00E-02	**8.6E+01**	2.29E+01	2.6E-01	6.38E+01	9.4E-02
1~Webster to Taylor	MW-2A-00	04/22/05	VOC	Tetrachloroethene	127-18-4	7.10E-01	5.00E-03	**1.4E+02**	1.41E+01	5.0E-02	1.49E+01	4.8E-02
1~Webster to Taylor	MW-2A-00	04/22/05	VOC	Trichloroethene	79-01-6	6.10E-01	5.00E-03	**1.2E+02**	2.68E+01	2.3E-02	2.73E+01	2.2E-02
1~Webster to Taylor	MW-2A-00	04/22/05	VOC	Vinyl Chloride	75-01-4	3.10E-01	2.00E-03	**1.6E+02**	2.02E+00	1.5E-01	3.29E+00	9.4E-02
1~Webster to Taylor	MW-2A-00	08/20/03	VOC	cis-1,2-Dichloroethene	156-59-2	9.50E+00	7.00E-02	**1.4E+02**	2.29E+01	4.2E-01	6.38E+01	1.5E-01
1~Webster to Taylor	MW-2A-00	08/20/03	VOC	Tetrachloroethene	127-18-4	9.00E-02	5.00E-03	**1.8E+01**	1.41E+01	6.4E-03	1.49E+01	6.0E-03
1~Webster to Taylor	MW-2A-00	08/20/03	VOC	Vinyl Chloride	75-01-4	1.45E+00	2.00E-03	**7.3E+02**	2.02E+00	7.2E-01	3.29E+00	4.4E-01
1~Webster to Taylor	MW-2B-00	07/16/02	VOC	Tetrachloroethene	127-18-4	1.70E-02	5.00E-03	**3.4E+00**	1.41E+01	1.2E-03	1.49E+01	1.1E-03
1~Webster to Taylor	MW-2B-00	07/16/02	VOC	Trichloroethene	79-01-6	3.10E-02	5.00E-03	**6.2E+00**	2.68E+01	1.2E-03	2.73E+01	1.1E-03
1~Webster to Taylor	MW-2B-00	03/17/03	VOC	Tetrachloroethene	127-18-4	2.80E-02	5.00E-03	**5.6E+00**	1.41E+01	2.0E-03	1.49E+01	1.9E-03
1~Webster to Taylor	MW-2B-00	03/17/03	VOC	Trichloroethene	79-01-6	3.90E-02	5.00E-03	**7.8E+00**	2.68E+01	1.5E-03	2.73E+01	1.4E-03
1~Webster to Taylor	MW-2B-00	04/22/05	VOC	Tetrachloroethene	127-18-4	8.50E-03	5.00E-03	**1.7E+00**	1.41E+01	6.0E-04	1.49E+01	5.7E-04
1~Webster to Taylor	MW-2B-00	04/22/05	VOC	Trichloroethene	79-01-6	1.80E-02	5.00E-03	**3.6E+00**	2.68E+01	6.7E-04	2.73E+01	6.6E-04
1~Webster to Taylor	MW-2B-00	08/20/03	VOC	Tetrachloroethene	127-18-4	1.60E-02	5.00E-03	**3.2E+00**	1.41E+01	1.1E-03	1.49E+01	1.1E-03
1~Webster to Taylor	MW-2B-00	08/20/03	VOC	Trichloroethene	79-01-6	3.00E-02	5.00E-03	**6.0E+00**	2.68E+01	1.1E-03	2.73E+01	1.1E-03
1~Webster to Taylor	MW-5A-03	06/19/03	VOC	cis-1,2-Dichloroethene	156-59-2	1.50E+00	7.00E-02	**2.1E+01**	2.29E+01	6.6E-02	6.38E+01	2.3E-02
1~Webster to Taylor	MW-5A-03	06/19/03	VOC	Tetrachloroethene	127-18-4	3.60E-01	5.00E-03	**7.2E+01**	1.41E+01	2.6E-02	1.49E+01	2.4E-02
1~Webster to Taylor	MW-5A-03	06/19/03	VOC	Trichloroethene	79-01-6	2.40E-01	5.00E-03	**4.8E+01**	2.68E+01	8.9E-03	2.73E+01	8.8E-03
1~Webster to Taylor	MW-5A-03	06/19/03	VOC	Vinyl Chloride	75-01-4	2.20E-01	2.00E-03	**1.1E+02**	2.02E+00	1.1E-01	3.29E+00	6.7E-02
1~Webster to Taylor	MW-5A-03	11/19/04	VOC	1,1-Dichloroethene	75-35-4	2.70E-02	7.00E-03	**3.9E+00**	1.25E+02	2.2E-04	2.44E+02	1.1E-04
1~Webster to Taylor	MW-5A-03	11/19/04	VOC	cis-1,2-Dichloroethene	156-59-2	2.50E+00	7.00E-02	**3.6E+01**	2.29E+01	1.1E-01	6.38E+01	3.9E-02
1~Webster to Taylor	MW-5A-03	11/19/04	VOC	Tetrachloroethene	127-18-4	5.10E-01	5.00E-03	**1.0E+02**	1.41E+01	3.6E-02	1.49E+01	3.4E-02
1~Webster to Taylor	MW-5A-03	11/19/04	VOC	Trichloroethene	79-01-6	5.40E-01	5.00E-03	**1.1E+02**	2.68E+01	2.0E-02	2.73E+01	2.0E-02
1~Webster to Taylor	MW-5A-03	11/19/04	VOC	Vinyl Chloride	75-01-4	3.60E-01	2.00E-03	**1.8E+02**	2.02E+00	1.8E-01	3.29E+00	1.1E-01
1~Webster to Taylor	MW-5A-03	03/05/03	VOC	cis-1,2-Dichloroethene	156-59-2	2.60E+00	7.00E-02	**3.7E+01**	2.29E+01	1.1E-01	6.38E+01	4.1E-02
1~Webster to Taylor	MW-5A-03	03/05/03	VOC	Tetrachloroethene	127-18-4	6.40E-01	5.00E-03	**1.3E+02**	1.41E+01	4.5E-02	1.49E+01	4.3E-02
1~Webster to Taylor	MW-5A-03	03/05/03	VOC	Trichloroethene	79-01-6	4.70E-01	5.00E-03	**9.4E+01**	2.68E+01	1.8E-02	2.73E+01	1.7E-02
1~Webster to Taylor	MW-5A-03	03/05/03	VOC	Vinyl Chloride	75-01-4	3.90E-01	2.00E-03	**2.0E+02**	2.02E+00	1.9E-01	3.29E+00	1.2E-01
1~Webster to Taylor	MW-5A-03	03/05/03	INORG	Lead	7439-92-1	4.90E-02	1.50E-02	**3.3E+00**	7.40E+01	6.6E-04		
1~Webster to Taylor	MW-5A-03	04/27/05	VOC	1,1-Dichloroethene	75-35-4	8.70E-03	7.00E-03	**1.2E+00**	1.25E+02	7.0E-05	2.44E+02	3.6E-05
1~Webster to Taylor	MW-5A-03	04/27/05	VOC	cis-1,2-Dichloroethene	156-59-2	8.70E-01	7.00E-02	**1.2E+01**	2.29E+01	3.8E-02	6.38E+01	1.4E-02
1~Webster to Taylor	MW-5A-03	04/27/05	VOC	Tetrachloroethene	127-18-4	4.20E-02	5.00E-03	**8.4E+00**	1.41E+01	3.0E-03	1.49E+01	2.8E-03
1~Webster to Taylor	MW-5A-03	04/27/05	VOC	Trichloroethene	79-01-6	3.80E-02	5.00E-03	**7.6E+00**	2.68E+01	1.4E-03	2.73E+01	1.4E-03
1~Webster to Taylor	MW-5A-03	04/27/05	VOC	Vinyl Chloride	75-01-4	3.30E-01	2.00E-03	**1.7E+02**	2.02E+00	1.6E-01	3.29E+00	1.0E-01
1~Webster to Taylor	MW-5A-03	10/19/04	VOC	Benzene	71-43-2	8.80E-03	5.00E-03	**1.8E+00**	4.88E+00	1.8E-03	6.41E+00	1.4E-03
1~Webster to Taylor	MW-5A-03	10/19/04	VOC	cis-1,2-Dichloroethene	156-59-2	8.30E-01	7.00E-02	**1.2E+01**	2.29E+01	3.6E-02	6.38E+01	1.3E-02

Table 4.3A(ii): Groundwater Concentrations Exceeding Screening Criteria: Upper Aquifer, On-Site
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

Area	Station ID	Sample Date	Chem Group	Chemical	CASRN	Concentration (mg/L)	Drinking Water Criteria (mg/L)	Ratio of Concentration to Drinking Water Criteria	Maintenance Worker Groundwater Contact Criteria (mg/L)	Ratio of Concentration to Maint Worker GW Contact Criteria	Comm/Ind Groundwater Vol Indoor Air Criteria (mg/L)	Ratio of Concentration to Comm/Ind GW Vol Indoor Air Criteria
1~Webster to Taylor	MW-5A-03	10/19/04	VOC	Tetrachloroethene	127-18-4	3.50E-01	5.00E-03	**7.0E+01**	1.41E+01	2.5E-02	1.49E+01	2.4E-02
1~Webster to Taylor	MW-5A-03	10/19/04	VOC	Trichloroethene	79-01-6	2.70E-01	5.00E-03	**5.4E+01**	2.68E+01	1.0E-02	2.73E+01	9.9E-03
1~Webster to Taylor	MW-5A-03	10/19/04	VOC	Vinyl Chloride	75-01-4	1.30E-01	2.00E-03	**6.5E+01**	2.02E+00	6.4E-02	3.29E+00	4.0E-02
1~Webster to Taylor	MW-5A-03	03/19/04	VOC	1,1-Dichloroethene	75-35-4	2.50E-02	7.00E-03	**3.6E+00**	1.25E+02	2.0E-04	2.44E+02	1.0E-04
1~Webster to Taylor	MW-5A-03	03/19/04	VOC	cis-1,2-Dichloroethene	156-59-2	2.30E+00	7.00E-02	**3.3E+01**	2.29E+01	1.0E-01	6.38E+01	3.6E-02
1~Webster to Taylor	MW-5A-03	03/19/04	VOC	Tetrachloroethene	127-18-4	8.00E-01	5.00E-03	**1.6E+02**	1.41E+01	5.7E-02	1.49E+01	5.4E-02
1~Webster to Taylor	MW-5A-03	03/19/04	VOC	Trichloroethene	79-01-6	6.40E-01	5.00E-03	**1.3E+02**	2.68E+01	2.4E-02	2.73E+01	2.3E-02
1~Webster to Taylor	MW-5A-03	03/19/04	VOC	Vinyl Chloride	75-01-4	6.90E-01	2.00E-03	**3.5E+02**	2.02E+00	3.4E-01	3.29E+00	2.1E-01
1~Webster to Taylor	MW-5A-03	05/01/03	VOC	cis-1,2-Dichloroethene	156-59-2	1.30E+00	7.00E-02	**1.9E+01**	2.29E+01	5.7E-02	6.38E+01	2.0E-02
1~Webster to Taylor	MW-5A-03	05/01/03	VOC	Tetrachloroethene	127-18-4	6.30E-01	5.00E-03	**1.3E+02**	1.41E+01	4.5E-02	1.49E+01	4.2E-02
1~Webster to Taylor	MW-5A-03	05/01/03	VOC	Trichloroethene	79-01-6	5.10E-01	5.00E-03	**1.0E+02**	2.68E+01	1.9E-02	2.73E+01	1.9E-02
1~Webster to Taylor	MW-5A-03	05/01/03	VOC	Vinyl Chloride	75-01-4	2.80E-01	2.00E-03	**1.4E+02**	2.02E+00	1.4E-01	3.29E+00	8.5E-02
1~Webster to Taylor	MW-5A-03	05/16/03	VOC	cis-1,2-Dichloroethene	156-59-2	1.80E+00	7.00E-02	**2.6E+01**	2.29E+01	7.9E-02	6.38E+01	2.8E-02
1~Webster to Taylor	MW-5A-03	05/16/03	VOC	Methylene Chloride	75-09-2	2.10E-02	5.00E-03	**4.2E+00**	8.94E+01	2.3E-04	1.27E+02	1.7E-04
1~Webster to Taylor	MW-5A-03	05/16/03	VOC	Tetrachloroethene	127-18-4	2.70E-01	5.00E-03	**5.4E+01**	1.41E+01	1.9E-02	1.49E+01	1.8E-02
1~Webster to Taylor	MW-5A-03	05/16/03	VOC	Trichloroethene	79-01-6	2.70E-01	5.00E-03	**5.4E+01**	2.68E+01	1.0E-02	2.73E+01	9.9E-03
1~Webster to Taylor	MW-5A-03	05/16/03	VOC	Vinyl Chloride	75-01-4	2.40E-01	2.00E-03	**1.2E+02**	2.02E+00	1.2E-01	3.29E+00	7.3E-02
1~Webster to Taylor	MW-5A-03	06/05/03	VOC	cis-1,2-Dichloroethene	156-59-2	1.95E+00	7.00E-02	**2.8E+01**	2.29E+01	8.5E-02	6.38E+01	3.1E-02
1~Webster to Taylor	MW-5A-03	06/05/03	VOC	Tetrachloroethene	127-18-4	1.20E+00	5.00E-03	**2.4E+02**	1.41E+01	8.5E-02	1.49E+01	8.1E-02
1~Webster to Taylor	MW-5A-03	06/05/03	VOC	Trichloroethene	79-01-6	8.10E-01	5.00E-03	**1.6E+02**	2.68E+01	3.0E-02	2.73E+01	3.0E-02
1~Webster to Taylor	MW-5A-03	06/05/03	VOC	Vinyl Chloride	75-01-4	2.65E-01	2.00E-03	**1.3E+02**	2.02E+00	1.3E-01	3.29E+00	8.1E-02
1~Webster to Taylor	MW-5A-03	06/29/04	VOC	cis-1,2-Dichloroethene	156-59-2	1.10E+00	7.00E-02	**1.6E+01**	2.29E+01	4.8E-02	6.38E+01	1.7E-02
1~Webster to Taylor	MW-5A-03	06/29/04	VOC	Tetrachloroethene	127-18-4	5.20E-01	5.00E-03	**1.0E+02**	1.41E+01	3.7E-02	1.49E+01	3.5E-02
1~Webster to Taylor	MW-5A-03	06/29/04	VOC	Trichloroethene	79-01-6	4.20E-01	5.00E-03	**8.4E+01**	2.68E+01	1.6E-02	2.73E+01	1.5E-02
1~Webster to Taylor	MW-5A-03	06/29/04	VOC	Vinyl Chloride	75-01-4	1.60E-01	2.00E-03	**8.0E+01**	2.02E+00	7.9E-02	3.29E+00	4.9E-02
1~Webster to Taylor	MW-5A-03	08/14/03	VOC	cis-1,2-Dichloroethene	156-59-2	1.00E+00	7.00E-02	**1.4E+01**	2.29E+01	4.4E-02	6.38E+01	1.6E-02
1~Webster to Taylor	MW-5A-03	08/14/03	VOC	Tetrachloroethene	127-18-4	3.50E-01	5.00E-03	**7.0E+01**	1.41E+01	2.5E-02	1.49E+01	2.4E-02
1~Webster to Taylor	MW-5A-03	08/14/03	VOC	Trichloroethene	79-01-6	2.90E-01	5.00E-03	**5.8E+01**	2.68E+01	1.1E-02	2.73E+01	1.1E-02
1~Webster to Taylor	MW-5A-03	08/14/03	VOC	Vinyl Chloride	75-01-4	1.50E-01	2.00E-03	**7.5E+01**	2.02E+00	7.4E-02	3.29E+00	4.6E-02
1~Webster to Taylor	MW-5B-03	06/19/03	VOC	Tetrachloroethene	127-18-4	4.50E-02	5.00E-03	**9.0E+00**	1.41E+01	3.2E-03	1.49E+01	3.0E-03
1~Webster to Taylor	MW-5B-03	06/19/03	VOC	Trichloroethene	79-01-6	4.70E-02	5.00E-03	**9.4E+00**	2.68E+01	1.8E-03	2.73E+01	1.7E-03
1~Webster to Taylor	MW-5B-03	11/19/04	VOC	Tetrachloroethene	127-18-4	3.00E-02	5.00E-03	**6.0E+00**	1.41E+01	2.1E-03	1.49E+01	2.0E-03
1~Webster to Taylor	MW-5B-03	11/19/04	VOC	Trichloroethene	79-01-6	3.00E-02	5.00E-03	**6.0E+00**	2.68E+01	1.1E-03	2.73E+01	1.1E-03
1~Webster to Taylor	MW-5B-03	03/05/03	VOC	Tetrachloroethene	127-18-4	3.80E-02	5.00E-03	**7.6E+00**	1.41E+01	2.7E-03	1.49E+01	2.6E-03
1~Webster to Taylor	MW-5B-03	03/05/03	VOC	Trichloroethene	79-01-6	4.00E-02	5.00E-03	**8.0E+00**	2.68E+01	1.5E-03	2.73E+01	1.5E-03
1~Webster to Taylor	MW-5B-03	04/27/05	VOC	Tetrachloroethene	127-18-4	2.20E-02	5.00E-03	**4.4E+00**	1.41E+01	1.6E-03	1.49E+01	1.5E-03
1~Webster to Taylor	MW-5B-03	04/27/05	VOC	Trichloroethene	79-01-6	2.10E-02	5.00E-03	**4.2E+00**	2.68E+01	7.8E-04	2.73E+01	7.7E-04
1~Webster to Taylor	MW-5B-03	10/19/04	VOC	Tetrachloroethene	127-18-4	3.90E-02	5.00E-03	**7.8E+00**	1.41E+01	2.8E-03	1.49E+01	2.6E-03
1~Webster to Taylor	MW-5B-03	10/19/04	VOC	Trichloroethene	79-01-6	3.40E-02	5.00E-03	**6.8E+00**	2.68E+01	1.3E-03	2.73E+01	1.2E-03
1~Webster to Taylor	MW-5B-03	03/19/04	VOC	Tetrachloroethene	127-18-4	3.90E-02	5.00E-03	**7.8E+00**	1.41E+01	2.8E-03	1.49E+01	2.6E-03
1~Webster to Taylor	MW-5B-03	03/19/04	VOC	Trichloroethene	79-01-6	3.30E-02	5.00E-03	**6.6E+00**	2.68E+01	1.2E-03	2.73E+01	1.2E-03
1~Webster to Taylor	MW-5B-03	05/01/03	VOC	Tetrachloroethene	127-18-4	4.20E-02	5.00E-03	**8.4E+00**	1.41E+01	3.0E-03	1.49E+01	2.8E-03
1~Webster to Taylor	MW-5B-03	05/01/03	VOC	Trichloroethene	79-01-6	4.60E-02	5.00E-03	**9.2E+00**	2.68E+01	1.7E-03	2.73E+01	1.7E-03
1~Webster to Taylor	MW-5B-03	05/16/03	VOC	Tetrachloroethene	127-18-4	3.50E-02	5.00E-03	**7.0E+00**	1.41E+01	2.5E-03	1.49E+01	2.4E-03
1~Webster to Taylor	MW-5B-03	05/16/03	VOC	Trichloroethene	79-01-6	3.90E-02	5.00E-03	**7.8E+00**	2.68E+01	1.5E-03	2.73E+01	1.4E-03
1~Webster to Taylor	MW-5B-03	06/05/03	VOC	Tetrachloroethene	127-18-4	3.90E-02	5.00E-03	**7.8E+00**	1.41E+01	2.8E-03	1.49E+01	2.6E-03
1~Webster to Taylor	MW-5B-03	06/05/03	VOC	Trichloroethene	79-01-6	4.50E-02	5.00E-03	**9.0E+00**	2.68E+01	1.7E-03	2.73E+01	1.7E-03

Table 4.3A(ii): Groundwater Concentrations Exceeding Screening Criteria: Upper Aquifer, On-Site
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

Area	Station ID	Sample Date	Chem Group	Chemical	CASRN	Concentration (mg/L)	Drinking Water Criteria (mg/L)	Ratio of Concentration to Drinking Water Criteria	Maintenance Worker Groundwater Contact Criteria (mg/L)	Ratio of Concentration to Maint Worker GW Contact Criteria	Comm/Ind Groundwater Vol Indoor Air Criteria (mg/L)	Ratio of Concentration to Comm/Ind GW Vol Indoor Air Criteria
1~Webster to Taylor	MW-5B-03	06/29/04	VOC	Tetrachloroethene	127-18-4	3.40E-02	5.00E-03	**6.8E+00**	1.41E+01	2.4E-03	1.49E+01	2.3E-03
1~Webster to Taylor	MW-5B-03	06/29/04	VOC	Trichloroethene	79-01-6	3.20E-02	5.00E-03	**6.4E+00**	2.68E+01	1.2E-03	2.73E+01	1.2E-03
1~Webster to Taylor	MW-5B-03	08/14/03	VOC	Tetrachloroethene	127-18-4	3.60E-02	5.00E-03	**7.2E+00**	1.41E+01	2.6E-03	1.49E+01	2.4E-03
1~Webster to Taylor	MW-5B-03	08/14/03	VOC	Trichloroethene	79-01-6	3.60E-02	5.00E-03	**7.2E+00**	2.68E+01	1.3E-03	2.73E+01	1.3E-03
1~Webster to Taylor	OS-1A-00	07/15/02	VOC	Vinyl Chloride	75-01-4	4.50E-03	2.00E-03	**2.3E+00**	2.02E+00	2.2E-03	3.29E+00	1.4E-03
1~Webster to Taylor	OS-1A-00	03/11/03	VOC	Vinyl Chloride	75-01-4	4.70E-03	2.00E-03	**2.4E+00**	2.02E+00	2.3E-03	3.29E+00	1.4E-03
1~Webster to Taylor	OS-1A-00	08/18/03	VOC	Vinyl Chloride	75-01-4	3.50E-03	2.00E-03	**1.8E+00**	2.02E+00	1.7E-03	3.29E+00	1.1E-03
1~Webster to Taylor	OS-1B-00	07/15/02	VOC	Tetrachloroethene	127-18-4	4.70E-02	5.00E-03	**9.4E+00**	1.41E+01	3.3E-03	1.49E+01	3.2E-03
1~Webster to Taylor	OS-1B-00	07/15/02	VOC	Trichloroethene	79-01-6	4.20E-02	5.00E-03	**8.4E+00**	2.68E+01	1.6E-03	2.73E+01	1.5E-03
1~Webster to Taylor	OS-1B-00	03/11/03	VOC	Tetrachloroethene	127-18-4	5.20E-02	5.00E-03	**1.0E+01**	1.41E+01	3.7E-03	1.49E+01	3.5E-03
1~Webster to Taylor	OS-1B-00	03/11/03	VOC	Trichloroethene	79-01-6	4.60E-02	5.00E-03	**9.2E+00**	2.68E+01	1.7E-03	2.73E+01	1.7E-03
1~Webster to Taylor	OS-1B-00	04/22/05	VOC	Tetrachloroethene	127-18-4	2.30E-02	5.00E-03	**4.6E+00**	1.41E+01	1.6E-03	1.49E+01	1.5E-03
1~Webster to Taylor	OS-1B-00	04/22/05	VOC	Trichloroethene	79-01-6	2.30E-02	5.00E-03	**4.6E+00**	2.68E+01	8.6E-04	2.73E+01	8.4E-04
1~Webster to Taylor	OS-1B-00	08/20/03	VOC	Tetrachloroethene	127-18-4	3.50E-02	5.00E-03	**7.0E+00**	1.41E+01	2.5E-03	1.49E+01	2.4E-03
1~Webster to Taylor	OS-1B-00	08/20/03	VOC	Trichloroethene	79-01-6	3.50E-02	5.00E-03	**7.0E+00**	2.68E+01	1.3E-03	2.73E+01	1.3E-03
1~Webster to Taylor	OS-2B-03	03/06/03	VOC	Tetrachloroethene	127-18-4	1.50E-02	5.00E-03	**3.0E+00**	1.41E+01	1.1E-03	1.49E+01	1.0E-03
1~Webster to Taylor	OS-2B-03	03/06/03	VOC	Trichloroethene	79-01-6	4.10E-02	5.00E-03	**8.2E+00**	2.68E+01	1.5E-03	2.73E+01	1.5E-03
1~Webster to Taylor	OS-2B-03	04/19/05	VOC	Tetrachloroethene	127-18-4	1.80E-02	5.00E-03	**3.6E+00**	1.41E+01	1.3E-03	1.49E+01	1.2E-03
1~Webster to Taylor	OS-2B-03	04/19/05	VOC	Trichloroethene	79-01-6	1.90E-02	5.00E-03	**3.8E+00**	2.68E+01	7.1E-04	2.73E+01	7.0E-04
1~Webster to Taylor	OS-2B-03	08/21/03	VOC	Tetrachloroethene	127-18-4	2.10E-02	5.00E-03	**4.2E+00**	1.41E+01	1.5E-03	1.49E+01	1.4E-03
1~Webster to Taylor	OS-2B-03	08/21/03	VOC	Trichloroethene	79-01-6	2.90E-02	5.00E-03	**5.8E+00**	2.68E+01	1.1E-03	2.73E+01	1.1E-03
1~Webster to Taylor	OS-2C-03	03/11/03	VOC	Tetrachloroethene	127-18-4	3.70E-02	5.00E-03	**7.4E+00**	1.41E+01	2.6E-03	1.49E+01	2.5E-03
1~Webster to Taylor	OS-2C-03	03/11/03	VOC	Trichloroethene	79-01-6	4.00E-02	5.00E-03	**8.0E+00**	2.68E+01	1.5E-03	2.73E+01	1.5E-03
1~Webster to Taylor	OS-2C-03	04/19/05	VOC	Tetrachloroethene	127-18-4	2.90E-02	5.00E-03	**5.8E+00**	1.41E+01	2.1E-03	1.49E+01	1.9E-03
1~Webster to Taylor	OS-2C-03	04/19/05	VOC	Trichloroethene	79-01-6	3.30E-02	5.00E-03	**6.6E+00**	2.68E+01	1.2E-03	2.73E+01	1.2E-03
1~Webster to Taylor	OS-2C-03	08/21/03	VOC	Tetrachloroethene	127-18-4	3.40E-02	5.00E-03	**6.8E+00**	1.41E+01	2.4E-03	1.49E+01	2.3E-03
1~Webster to Taylor	OS-2C-03	08/21/03	VOC	Trichloroethene	79-01-6	3.80E-02	5.00E-03	**7.6E+00**	2.68E+01	1.4E-03	2.73E+01	1.4E-03
1~Webster to Taylor	OS-3B-03	03/06/03	VOC	Tetrachloroethene	127-18-4	1.90E-02	5.00E-03	**3.8E+00**	1.41E+01	1.4E-03	1.49E+01	1.3E-03
1~Webster to Taylor	OS-3B-03	03/06/03	VOC	Trichloroethene	79-01-6	3.70E-02	5.00E-03	**7.4E+00**	2.68E+01	1.4E-03	2.73E+01	1.4E-03
1~Webster to Taylor	OS-3B-03	04/19/05	VOC	Tetrachloroethene	127-18-4	1.60E-02	5.00E-03	**3.2E+00**	1.41E+01	1.1E-03	1.49E+01	1.1E-03
1~Webster to Taylor	OS-3B-03	04/19/05	VOC	Trichloroethene	79-01-6	2.70E-02	5.00E-03	**5.4E+00**	2.68E+01	1.0E-03	2.73E+01	9.9E-04
1~Webster to Taylor	OS-3B-03	08/21/03	VOC	Tetrachloroethene	127-18-4	1.90E-02	5.00E-03	**3.8E+00**	1.41E+01	1.4E-03	1.49E+01	1.3E-03
1~Webster to Taylor	OS-3B-03	08/21/03	VOC	Trichloroethene	79-01-6	3.20E-02	5.00E-03	**6.4E+00**	2.68E+01	1.2E-03	2.73E+01	1.2E-03
1~Webster to Taylor	OS-3C-03	03/10/03	VOC	Tetrachloroethene	127-18-4	2.50E-02	5.00E-03	**5.0E+00**	1.41E+01	1.8E-03	1.49E+01	1.7E-03
1~Webster to Taylor	OS-3C-03	03/10/03	VOC	Trichloroethene	79-01-6	3.40E-02	5.00E-03	**6.8E+00**	2.68E+01	1.3E-03	2.73E+01	1.2E-03
1~Webster to Taylor	OS-3C-03	04/19/05	VOC	Tetrachloroethene	127-18-4	2.10E-02	5.00E-03	**4.2E+00**	1.41E+01	1.5E-03	1.49E+01	1.4E-03
1~Webster to Taylor	OS-3C-03	04/19/05	VOC	Trichloroethene	79-01-6	2.90E-02	5.00E-03	**5.8E+00**	2.68E+01	1.1E-03	2.73E+01	1.1E-03
1~Webster to Taylor	OS-3C-03	08/21/03	VOC	Tetrachloroethene	127-18-4	2.40E-02	5.00E-03	**4.8E+00**	1.41E+01	1.7E-03	1.49E+01	1.6E-03
1~Webster to Taylor	OS-3C-03	08/21/03	VOC	Trichloroethene	79-01-6	3.40E-02	5.00E-03	**6.8E+00**	2.68E+01	1.3E-03	2.73E+01	1.2E-03
1~Webster to Taylor	OS-4B-03	03/07/03	VOC	Tetrachloroethene	127-18-4	1.70E-02	5.00E-03	**3.4E+00**	1.41E+01	1.2E-03	1.49E+01	1.1E-03
1~Webster to Taylor	OS-4B-03	03/07/03	VOC	Trichloroethene	79-01-6	3.80E-02	5.00E-03	**7.6E+00**	2.68E+01	1.4E-03	2.73E+01	1.4E-03
1~Webster to Taylor	OS-4B-03	04/20/05	VOC	Tetrachloroethene	127-18-4	1.60E-02	5.00E-03	**3.2E+00**	1.41E+01	1.1E-03	1.49E+01	1.1E-03
1~Webster to Taylor	OS-4B-03	04/20/05	VOC	Trichloroethene	79-01-6	3.80E-02	5.00E-03	**7.6E+00**	2.68E+01	1.4E-03	2.73E+01	1.4E-03
1~Webster to Taylor	OS-4B-03	08/20/03	VOC	Tetrachloroethene	127-18-4	2.10E-02	5.00E-03	**4.2E+00**	1.41E+01	1.5E-03	1.49E+01	1.4E-03
1~Webster to Taylor	OS-4B-03	08/20/03	VOC	Trichloroethene	79-01-6	3.40E-02	5.00E-03	**6.8E+00**	2.68E+01	1.3E-03	2.73E+01	1.2E-03
1~Webster to Taylor	OS-4C-03	03/10/03	VOC	Tetrachloroethene	127-18-4	4.90E-02	5.00E-03	**9.8E+00**	1.41E+01	3.5E-03	1.49E+01	3.3E-03
1~Webster to Taylor	OS-4C-03	03/10/03	VOC	Trichloroethene	79-01-6	3.30E-02	5.00E-03	**6.6E+00**	2.68E+01	1.2E-03	2.73E+01	1.2E-03

Table 4.3A(ii): Groundwater Concentrations Exceeding Screening Criteria: Upper Aquifer, On-Site
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

Area	Station ID	Sample Date	Chem Group	Chemical	CASRN	Concentration (mg/L)	Drinking Water Criteria (mg/L)	Ratio of Concentration to Drinking Water Criteria	Maintenance Worker Groundwater Contact Criteria (mg/L)	Ratio of Concentration to Maint Worker GW Contact Criteria	Comm/Ind Groundwater Vol Indoor Air Criteria (mg/L)	Ratio of Concentration to Comm/Ind GW Vol Indoor Air Criteria
1~Webster to Taylor	OS-4C-03	04/20/05	VOC	Tetrachloroethene	127-18-4	6.10E-03	5.00E-03	**1.2E+00**	1.41E+01	4.3E-04	1.49E+01	4.1E-04
1~Webster to Taylor	OS-4C-03	04/20/05	VOC	Trichloroethene	79-01-6	1.50E-02	5.00E-03	**3.0E+00**	2.68E+01	5.6E-04	2.73E+01	5.5E-04
1~Webster to Taylor	OS-4C-03	08/20/03	VOC	Tetrachloroethene	127-18-4	1.00E-02	5.00E-03	**2.0E+00**	1.41E+01	7.1E-04	1.49E+01	6.7E-04
1~Webster to Taylor	OS-4C-03	08/20/03	VOC	Trichloroethene	79-01-6	2.30E-02	5.00E-03	**4.6E+00**	2.68E+01	8.6E-04	2.73E+01	8.4E-04
1~Webster to Taylor	OS-5B-03	03/10/03	VOC	Tetrachloroethene	127-18-4	3.20E-02	5.00E-03	**6.4E+00**	1.41E+01	2.3E-03	1.49E+01	2.1E-03
1~Webster to Taylor	OS-5B-03	03/10/03	VOC	Trichloroethene	79-01-6	4.20E-02	5.00E-03	**8.4E+00**	2.68E+01	1.6E-03	2.73E+01	1.5E-03
1~Webster to Taylor	OS-5B-03	04/21/05	VOC	Tetrachloroethene	127-18-4	2.00E-02	5.00E-03	**4.0E+00**	1.41E+01	1.4E-03	1.49E+01	1.3E-03
1~Webster to Taylor	OS-5B-03	04/21/05	VOC	Trichloroethene	79-01-6	2.90E-02	5.00E-03	**5.8E+00**	2.68E+01	1.1E-03	2.73E+01	1.1E-03
1~Webster to Taylor	OS-5B-03	08/18/03	VOC	Tetrachloroethene	127-18-4	2.40E-02	5.00E-03	**4.8E+00**	1.41E+01	1.7E-03	1.49E+01	1.6E-03
1~Webster to Taylor	OS-5B-03	08/18/03	VOC	Trichloroethene	79-01-6	4.10E-02	5.00E-03	**8.2E+00**	2.68E+01	1.5E-03	2.73E+01	1.5E-03
1~Webster to Taylor	OS-5C-03	03/12/03	VOC	Tetrachloroethene	127-18-4	1.40E-02	5.00E-03	**2.8E+00**	1.41E+01	1.0E-03	1.49E+01	9.4E-04
1~Webster to Taylor	OS-5C-03	03/12/03	VOC	Trichloroethene	79-01-6	3.50E-02	5.00E-03	**7.0E+00**	2.68E+01	1.3E-03	2.73E+01	1.3E-03
1~Webster to Taylor	OS-5C-03	04/21/05	VOC	Trichloroethene	79-01-6	6.40E-03	5.00E-03	**1.3E+00**	2.68E+01	2.4E-04	2.73E+01	2.3E-04
1~Webster to Taylor	OS-5C-03	08/18/03	VOC	Tetrachloroethene	127-18-4	7.00E-03	5.00E-03	**1.4E+00**	1.41E+01	5.0E-04	1.49E+01	4.7E-04
1~Webster to Taylor	OS-5C-03	08/18/03	VOC	Trichloroethene	79-01-6	2.10E-02	5.00E-03	**4.2E+00**	2.68E+01	7.8E-04	2.73E+01	7.7E-04
1~Webster to Taylor	OS-6B-03	03/07/03	VOC	Tetrachloroethene	127-18-4	1.60E-01	5.00E-03	**3.2E+01**	1.41E+01	1.1E-02	1.49E+01	1.1E-02
1~Webster to Taylor	OS-6B-03	03/07/03	VOC	Trichloroethene	79-01-6	5.40E-02	5.00E-03	**1.1E+01**	2.68E+01	2.0E-03	2.73E+01	2.0E-03
1~Webster to Taylor	OS-6B-03	04/20/05	VOC	Tetrachloroethene	127-18-4	1.30E-01	5.00E-03	**2.6E+01**	1.41E+01	9.2E-03	1.49E+01	8.7E-03
1~Webster to Taylor	OS-6B-03	04/20/05	VOC	Trichloroethene	79-01-6	5.30E-02	5.00E-03	**1.1E+01**	2.68E+01	2.0E-03	2.73E+01	1.9E-03
1~Webster to Taylor	OS-6B-03	08/15/03	VOC	Tetrachloroethene	127-18-4	1.50E-01	5.00E-03	**3.0E+01**	1.41E+01	1.1E-02	1.49E+01	1.0E-02
1~Webster to Taylor	OS-6B-03	08/15/03	VOC	Trichloroethene	79-01-6	5.30E-02	5.00E-03	**1.1E+01**	2.68E+01	2.0E-03	2.73E+01	1.9E-03
1~Webster to Taylor	OS-6C-03	03/12/03	VOC	Tetrachloroethene	127-18-4	1.70E-02	5.00E-03	**3.4E+00**	1.41E+01	1.2E-03	1.49E+01	1.1E-03
1~Webster to Taylor	OS-6C-03	03/12/03	VOC	Trichloroethene	79-01-6	2.40E-02	5.00E-03	**4.8E+00**	2.68E+01	8.9E-04	2.73E+01	8.8E-04
1~Webster to Taylor	OS-6C-03	04/20/05	VOC	Tetrachloroethene	127-18-4	7.90E-03	5.00E-03	**1.6E+00**	1.41E+01	5.6E-04	1.49E+01	5.3E-04
1~Webster to Taylor	OS-6C-03	04/20/05	VOC	Trichloroethene	79-01-6	2.00E-02	5.00E-03	**4.0E+00**	2.68E+01	7.5E-04	2.73E+01	7.3E-04
1~Webster to Taylor	OS-6C-03	08/15/03	VOC	Tetrachloroethene	127-18-4	1.20E-02	5.00E-03	**2.4E+00**	1.41E+01	8.5E-04	1.49E+01	8.1E-04
1~Webster to Taylor	OS-6C-03	08/15/03	VOC	Trichloroethene	79-01-6	2.10E-02	5.00E-03	**4.2E+00**	2.68E+01	7.8E-04	2.73E+01	7.7E-04
1~Webster to Taylor	OS-7B-03	03/07/03	VOC	cis-1,2-Dichloroethene	156-59-2	2.40E-01	7.00E-02	**3.4E+00**	2.29E+01	1.0E-02	6.38E+01	3.8E-03
1~Webster to Taylor	OS-7B-03	03/07/03	VOC	Tetrachloroethene	127-18-4	9.80E-01	5.00E-03	**2.0E+02**	1.41E+01	7.0E-02	1.49E+01	6.6E-02
1~Webster to Taylor	OS-7B-03	03/07/03	VOC	Trichloroethene	79-01-6	2.20E-01	5.00E-03	**4.4E+01**	2.68E+01	8.2E-03	2.73E+01	8.1E-03
1~Webster to Taylor	OS-7B-03	03/07/03	VOC	Vinyl Chloride	75-01-4	4.10E-02	2.00E-03	**2.1E+01**	2.02E+00	2.0E-02	3.29E+00	1.2E-02
1~Webster to Taylor	OS-7B-03	04/20/05	VOC	cis-1,2-Dichloroethene	156-59-2	1.60E-01	7.00E-02	**2.3E+00**	2.29E+01	7.0E-03	6.38E+01	2.5E-03
1~Webster to Taylor	OS-7B-03	04/20/05	VOC	Methylene Chloride	75-09-2	1.90E-02	5.00E-03	**3.8E+00**	8.94E+01	2.1E-04	1.27E+02	1.5E-04
1~Webster to Taylor	OS-7B-03	04/20/05	VOC	Tetrachloroethene	127-18-4	5.00E-01	5.00E-03	**1.0E+02**	1.41E+01	3.6E-02	1.49E+01	3.4E-02
1~Webster to Taylor	OS-7B-03	04/20/05	VOC	Trichloroethene	79-01-6	3.80E-02	5.00E-03	**7.6E+00**	2.68E+01	1.4E-03	2.73E+01	1.4E-03
1~Webster to Taylor	OS-7B-03	04/20/05	VOC	Vinyl Chloride	75-01-4	3.30E-02	2.00E-03	**1.7E+01**	2.02E+00	1.6E-02	3.29E+00	1.0E-02
1~Webster to Taylor	OS-7B-03	08/15/03	VOC	cis-1,2-Dichloroethene	156-59-2	1.90E-01	7.00E-02	**2.7E+00**	2.29E+01	8.3E-03	6.38E+01	3.0E-03
1~Webster to Taylor	OS-7B-03	08/15/03	VOC	Tetrachloroethene	127-18-4	2.00E+00	5.00E-03	**4.0E+02**	1.41E+01	1.4E-01	1.49E+01	1.3E-01
1~Webster to Taylor	OS-7B-03	08/15/03	VOC	Trichloroethene	79-01-6	1.20E-01	5.00E-03	**2.4E+01**	2.68E+01	4.5E-03	2.73E+01	4.4E-03
1~Webster to Taylor	OS-7B-03	08/15/03	VOC	Vinyl Chloride	75-01-4	2.90E-02	2.00E-03	**1.5E+01**	2.02E+00	1.4E-02	3.29E+00	8.8E-03
1~Webster to Taylor	OS-7C-03	03/13/03	VOC	Tetrachloroethene	127-18-4	2.10E-02	5.00E-03	**4.2E+00**	1.41E+01	1.5E-03	1.49E+01	1.4E-03
1~Webster to Taylor	OS-7C-03	03/13/03	VOC	Trichloroethene	79-01-6	2.70E-02	5.00E-03	**5.4E+00**	2.68E+01	1.0E-03	2.73E+01	9.9E-04
1~Webster to Taylor	OS-7C-03	04/20/05	VOC	Tetrachloroethene	127-18-4	7.70E-03	5.00E-03	**1.5E+00**	1.41E+01	5.5E-04	1.49E+01	5.2E-04
1~Webster to Taylor	OS-7C-03	04/20/05	VOC	Trichloroethene	79-01-6	1.90E-02	5.00E-03	**3.8E+00**	2.68E+01	7.1E-04	2.73E+01	7.0E-04
1~Webster to Taylor	OS-7C-03	08/15/03	VOC	Tetrachloroethene	127-18-4	1.30E-02	5.00E-03	**2.6E+00**	1.41E+01	9.2E-04	1.49E+01	8.7E-04
1~Webster to Taylor	OS-7C-03	08/15/03	VOC	Trichloroethene	79-01-6	2.50E-02	5.00E-03	**5.0E+00**	2.68E+01	9.3E-04	2.73E+01	9.2E-04
2~Taylor to Railway	HD-17	07/11/02	VOC	Trichloroethene	79-01-6	6.10E-02	5.00E-03	**1.2E+01**	2.68E+01	2.3E-03	2.73E+01	2.2E-03

Table 4.3A(ii): Groundwater Concentrations Exceeding Screening Criteria: Upper Aquifer, On-Site
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

Area	Station ID	Sample Date	Chem Group	Chemical	CASRN	Concentration (mg/L)	Drinking Water Criteria (mg/L)	Ratio of Concentration to Drinking Water Criteria	Maintenance Worker Groundwater Contact Criteria (mg/L)	Ratio of Concentration to Maint Worker GW Contact Criteria	Comm/Ind Groundwater Vol Indoor Air Criteria (mg/L)	Ratio of Concentration to Comm/Ind GW Vol Indoor Air Criteria
2~Taylor to Railway	HD-17	11/12/04	VOC	Trichloroethene	79-01-6	6.70E-02	5.00E-03	**1.3E+01**	2.68E+01	2.5E-03	2.73E+01	2.5E-03
2~Taylor to Railway	HD-17	03/19/03	VOC	Trichloroethene	79-01-6	6.50E-02	5.00E-03	**1.3E+01**	2.68E+01	2.4E-03	2.73E+01	2.4E-03
2~Taylor to Railway	HD-18	07/16/02	VOC	Tetrachloroethene	127-18-4	3.90E-02	5.00E-03	**7.8E+00**	1.41E+01	2.8E-03	1.49E+01	2.6E-03
2~Taylor to Railway	HD-18	07/16/02	VOC	Trichloroethene	79-01-6	1.50E-02	5.00E-03	**3.0E+00**	2.68E+01	5.6E-04	2.73E+01	5.5E-04
2~Taylor to Railway	HD-18	11/16/04	VOC	Tetrachloroethene	127-18-4	4.40E-02	5.00E-03	**8.8E+00**	1.41E+01	3.1E-03	1.49E+01	3.0E-03
2~Taylor to Railway	HD-18	11/16/04	VOC	Trichloroethene	79-01-6	1.00E-02	5.00E-03	**2.0E+00**	2.68E+01	3.7E-04	2.73E+01	3.7E-04
2~Taylor to Railway	HD-18	03/19/03	VOC	Tetrachloroethene	127-18-4	3.60E-02	5.00E-03	**7.2E+00**	1.41E+01	2.6E-03	1.49E+01	2.4E-03
2~Taylor to Railway	HD-18	03/19/03	VOC	Trichloroethene	79-01-6	1.70E-02	5.00E-03	**3.4E+00**	2.68E+01	6.3E-04	2.73E+01	6.2E-04
2~Taylor to Railway	MW-12A-03	04/15/03	PCB	PCBs (total)	1336-36-3	1.25E-03	5.00E-04	**2.5E+00**	9.35E-03	1.3E-01	2.52E-01	5.0E-03
2~Taylor to Railway	MW-12B-03	11/17/04	VOC	Trichloroethene	79-01-6	1.00E-02	5.00E-03	**2.0E+00**	2.68E+01	3.7E-04	2.73E+01	3.7E-04
2~Taylor to Railway	MW-12B-03	04/16/03	VOC	Trichloroethene	79-01-6	1.30E-02	5.00E-03	**2.6E+00**	2.68E+01	4.8E-04	2.73E+01	4.8E-04
2~Taylor to Railway	MW-13A-03	04/16/03	VOC	Tetrachloroethene	127-18-4	1.20E-02	5.00E-03	**2.4E+00**	1.41E+01	8.5E-04	1.49E+01	8.1E-04
2~Taylor to Railway	MW-13B-03	11/17/04	VOC	Tetrachloroethene	127-18-4	1.20E-02	5.00E-03	**2.4E+00**	1.41E+01	8.5E-04	1.49E+01	8.1E-04
2~Taylor to Railway	MW-13B-03	04/17/03	VOC	Tetrachloroethene	127-18-4	1.70E-02	5.00E-03	**3.4E+00**	1.41E+01	1.2E-03	1.49E+01	1.1E-03
2~Taylor to Railway	MW-14A-03	11/18/04	VOC	cis-1,2-Dichloroethene	156-59-2	5.60E-01	7.00E-02	**8.0E+00**	2.29E+01	2.4E-02	6.38E+01	8.8E-03
2~Taylor to Railway	MW-14A-03	11/18/04	VOC	Vinyl Chloride	75-01-4	4.30E-02	2.00E-03	**2.2E+01**	2.02E+00	2.1E-02	3.29E+00	1.3E-02
2~Taylor to Railway	MW-14A-03	04/18/03	VOC	cis-1,2-Dichloroethene	156-59-2	2.80E-01	7.00E-02	**4.0E+00**	2.29E+01	1.2E-02	6.38E+01	4.4E-03
2~Taylor to Railway	MW-14A-03	04/18/03	VOC	Trichloroethene	79-01-6	7.90E-03	5.00E-03	**1.6E+00**	2.68E+01	2.9E-04	2.73E+01	2.9E-04
2~Taylor to Railway	MW-14A-03	04/18/03	VOC	Vinyl Chloride	75-01-4	2.60E-02	2.00E-03	**1.3E+01**	2.02E+00	1.3E-02	3.29E+00	7.9E-03
2~Taylor to Railway	MW-14B-04	11/18/04	VOC	Tetrachloroethene	127-18-4	6.50E-02	5.00E-03	**1.3E+01**	1.41E+01	4.6E-03	1.49E+01	4.4E-03
2~Taylor to Railway	MW-14B-04	11/18/04	VOC	Trichloroethene	79-01-6	8.20E-03	5.00E-03	**1.6E+00**	2.68E+01	3.1E-04	2.73E+01	3.0E-04
2~Taylor to Railway	MW-14B-04	01/23/06	VOC	Tetrachloroethene	127-18-4	8.30E-02	5.00E-03	**1.7E+01**	1.41E+01	5.9E-03	1.49E+01	5.6E-03
2~Taylor to Railway	MW-14B-04	01/23/06	VOC	Trichloroethene	79-01-6	8.30E-03	5.00E-03	**1.7E+00**	2.68E+01	3.1E-04	2.73E+01	3.0E-04
2~Taylor to Railway	MW-14B-04	03/30/04	VOC	Tetrachloroethene	127-18-4	4.90E-02	5.00E-03	**9.8E+00**	1.41E+01	3.5E-03	1.49E+01	3.3E-03
2~Taylor to Railway	MW-14B-04	03/30/04	VOC	Trichloroethene	79-01-6	6.70E-03	5.00E-03	**1.3E+00**	2.68E+01	2.5E-04	2.73E+01	2.5E-04
2~Taylor to Railway	MW-23-04	11/17/04	VOC	cis-1,2-Dichloroethene	156-59-2	2.80E+01	7.00E-02	**4.0E+02**	2.29E+01	**1.2E+00**	6.38E+01	4.4E-01
2~Taylor to Railway	MW-23-04	11/17/04	VOC	Tetrachloroethene	127-18-4	4.60E+00	5.00E-03	**9.2E+02**	1.41E+01	3.3E-01	1.49E+01	3.1E-01
2~Taylor to Railway	MW-23-04	11/17/04	VOC	Trichloroethene	79-01-6	1.30E+00	5.00E-03	**2.6E+02**	2.68E+01	4.8E-02	2.73E+01	4.8E-02
2~Taylor to Railway	MW-23-04	11/17/04	VOC	Vinyl Chloride	75-01-4	2.90E+00	2.00E-03	**1.5E+03**	2.02E+00	**1.4E+00**	3.29E+00	8.8E-01
2~Taylor to Railway	MW-23-04	03/30/04	VOC	cis-1,2-Dichloroethene	156-59-2	1.10E+00	7.00E-02	**1.6E+01**	2.29E+01	4.8E-02	6.38E+01	1.7E-02
2~Taylor to Railway	MW-23-04	03/30/04	VOC	Tetrachloroethene	127-18-4	1.20E+00	5.00E-03	**2.4E+02**	1.41E+01	8.5E-02	1.49E+01	8.1E-02
2~Taylor to Railway	MW-23-04	03/30/04	VOC	Trichloroethene	79-01-6	3.90E-01	5.00E-03	**7.8E+01**	2.68E+01	1.5E-02	2.73E+01	1.4E-02
2~Taylor to Railway	MW-23-04	03/30/04	VOC	Vinyl Chloride	75-01-4	1.20E-01	2.00E-03	**6.0E+01**	2.02E+00	5.9E-02	3.29E+00	3.6E-02
2~Taylor to Railway	MW-23-04	04/01/05	VOC	cis-1,2-Dichloroethene	156-59-2	3.45E+01	7.00E-02	**4.9E+02**	2.29E+01	**1.5E+00**	6.38E+01	5.4E-01
2~Taylor to Railway	MW-23-04	04/01/05	VOC	Tetrachloroethene	127-18-4	1.30E+00	5.00E-03	**2.6E+02**	1.41E+01	9.2E-02	1.49E+01	8.7E-02
2~Taylor to Railway	MW-23-04	04/01/05	VOC	Trichloroethene	79-01-6	6.00E-01	5.00E-03	**1.2E+02**	2.68E+01	2.2E-02	2.73E+01	2.2E-02
2~Taylor to Railway	MW-23-04	04/01/05	VOC	Vinyl Chloride	75-01-4	8.10E-01	2.00E-03	**4.1E+02**	2.02E+00	4.0E-01	3.29E+00	2.5E-01
2~Taylor to Railway	MW-24-04	03/25/04	VOC	cis-1,2-Dichloroethene	156-59-2	3.10E-01	7.00E-02	**4.4E+00**	2.29E+01	1.4E-02	6.38E+01	4.9E-03
2~Taylor to Railway	MW-24-04	03/25/04	VOC	Vinyl Chloride	75-01-4	1.80E-02	2.00E-03	**9.0E+00**	2.02E+00	8.9E-03	3.29E+00	5.5E-03
2~Taylor to Railway	MW-24-04	03/25/04	INORG	Arsenic	7440-38-2	2.00E-02	1.00E-02	**2.0E+00**	1.44E+01	1.4E-03		
2~Taylor to Railway	MW-25-04	11/19/04	VOC	Tetrachloroethene	127-18-4	1.40E-02	5.00E-03	**2.8E+00**	1.41E+01	1.0E-03	1.49E+01	9.4E-04
2~Taylor to Railway	MW-25-04	11/19/04	VOC	Trichloroethene	79-01-6	2.50E-02	5.00E-03	**5.0E+00**	2.68E+01	9.3E-04	2.73E+01	9.2E-04
2~Taylor to Railway	MW-25-04	03/26/04	VOC	Tetrachloroethene	127-18-4	1.80E-02	5.00E-03	**3.6E+00**	1.41E+01	1.3E-03	1.49E+01	1.2E-03
2~Taylor to Railway	MW-25-04	03/26/04	VOC	Trichloroethene	79-01-6	4.70E-02	5.00E-03	**9.4E+00**	2.68E+01	1.8E-03	2.73E+01	1.7E-03
2~Taylor to Railway	MW-26-04	11/17/04	VOC	Trichloroethene	79-01-6	1.10E-02	5.00E-03	**2.2E+00**	2.68E+01	4.1E-04	2.73E+01	4.0E-04
2~Taylor to Railway	MW-26-04	11/17/04	VOC	Vinyl Chloride	75-01-4	5.20E-03	2.00E-03	**2.6E+00**	2.02E+00	2.6E-03	3.29E+00	1.6E-03
2~Taylor to Railway	MW-26-04	03/26/04	VOC	cis-1,2-Dichloroethene	156-59-2	1.40E-01	7.00E-02	**2.0E+00**	2.29E+01	6.1E-03	6.38E+01	2.2E-03

Table 4.3A(ii): Groundwater Concentrations Exceeding Screening Criteria: Upper Aquifer, On-Site
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

Area	Station ID	Sample Date	Chem Group	Chemical	CASRN	Concentration (mg/L)	Drinking Water Criteria (mg/L)	Ratio of Concentration to Drinking Water Criteria	Maintenance Worker Groundwater Contact Criteria (mg/L)	Ratio of Concentration to Maint Worker GW Contact Criteria	Comm/Ind Groundwater Vol Indoor Air Criteria (mg/L)	Ratio of Concentration to Comm/Ind GW Vol Indoor Air Criteria
2~Taylor to Railway	MW-26-04	03/26/04	VOC	Trichloroethene	79-01-6	8.70E-03	5.00E-03	**1.7E+00**	2.68E+01	3.2E-04	2.73E+01	3.2E-04
2~Taylor to Railway	MW-26-04	03/26/04	VOC	Vinyl Chloride	75-01-4	6.20E-03	2.00E-03	**3.1E+00**	2.02E+00	3.1E-03	3.29E+00	1.9E-03
2~Taylor to Railway	MW-26-04	03/26/04	INORG	Arsenic	7440-38-2	1.10E-02	1.00E-02	**1.1E+00**	1.44E+01	7.7E-04		
2~Taylor to Railway	MW-3-02	11/12/04	VOC	Tetrachloroethene	127-18-4	9.10E-03	5.00E-03	**1.8E+00**	1.41E+01	6.5E-04	1.49E+01	6.1E-04
2~Taylor to Railway	MW-3-02	11/12/04	PCB	PCBs (total)	1336-36-3	1.25E-03	5.00E-04	**2.5E+00**	9.35E-03	1.3E-01	2.52E-01	5.0E-03
2~Taylor to Railway	MW-3-02	04/18/03	VOC	Tetrachloroethene	127-18-4	4.00E-02	5.00E-03	**8.0E+00**	1.41E+01	2.8E-03	1.49E+01	2.7E-03
2~Taylor to Railway	MW-3-02	04/18/03	VOC	Trichloroethene	79-01-6	6.20E-03	5.00E-03	**1.2E+00**	2.68E+01	2.3E-04	2.73E+01	2.3E-04
2~Taylor to Railway	MW-3-02	04/18/03	PCB	PCBs (total)	1336-36-3	5.80E-03	5.00E-04	**1.2E+01**	9.35E-03	6.2E-01	2.52E-01	2.3E-02
2~Taylor to Railway	MW-37-05	06/03/05	VOC	cis-1,2-Dichloroethene	156-59-2	4.00E+00	7.00E-02	**5.7E+01**	2.29E+01	1.7E-01	6.38E+01	6.3E-02
2~Taylor to Railway	MW-37-05	06/03/05	VOC	Tetrachloroethene	127-18-4	7.90E-01	5.00E-03	**1.6E+02**	1.41E+01	5.6E-02	1.49E+01	5.3E-02
2~Taylor to Railway	MW-37-05	06/03/05	VOC	Trichloroethene	79-01-6	1.80E-01	5.00E-03	**3.6E+01**	2.68E+01	6.7E-03	2.73E+01	6.6E-03
2~Taylor to Railway	MW-9-03	04/10/03	VOC	Tetrachloroethene	127-18-4	8.40E-03	5.00E-03	**1.7E+00**	1.41E+01	6.0E-04	1.49E+01	5.6E-04
3~Railway to Keowee	B-306	07/16/02	PCB	PCBs (total)	1336-36-3	8.43E-04	5.00E-04	**1.7E+00**	9.35E-03	9.0E-02	2.52E-01	3.3E-03
3~Railway to Keowee	HD-14	11/10/04	VOC	Trichloroethene	79-01-6	1.00E-02	5.00E-03	**2.0E+00**	2.68E+01	3.7E-04	2.73E+01	3.7E-04
3~Railway to Keowee	MW-31-04	03/31/04	VOC	Vinyl Chloride	75-01-4	3.30E-03	2.00E-03	**1.7E+00**	2.02E+00	1.6E-03	3.29E+00	1.0E-03

Notes:

1. Only constituents detected in each respective area are shown.
2. The Screening Criteria for groundwater are the lower of the Screening Criteria at either a cancer risk level of $1x10^{-5}$ or a hazard quotient of 1.
3. Shaded cells represent ratios of concentration to the Screening Criteria greater than 1.
4. Equivalent Drinking Water Concentration Limits, Maintenance Worker GW Contact Criteria, and Comm/Ind GW Vol Indoor Air Criteria were calculated as discussed in Appendix E of the RFI Report.

Abbreviations:

Chem Group - Chemical Group
CASRN - Chemical Abstract Service Registry Number
Comm/Ind - Commercial/Industrial
Vol - Volatilization

Table 4.3B(i): Groundwater Screening Results: Upper Aquifer, Off-Site
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

Area	Chem Group	Chemical	CASRN	Meas Basis	Carc Class	Analyzed	Detected	Min Detected Concentration (mg/L)	Max Detected Concentration (mg/L)	Drinking Water Criteria (mg/L)	Ratio of Max Detect to DW Criteria	Maintenance Worker Groundwater Contact Criteria (mg/L)	Ratio of Max Detect to Maint Worker GW Contact Criteria	Comm/Ind Groundwater Vol Indoor Air Criteria (mg/L)	Ratio of Max Detect to Comm/Ind GW Vol Indoor Air Criteria
1~Webster to Taylor	VOC	2-Butanone	78-93-3	T	ID	3	1	2.40E-03	2.40E-03	2.19E+01	1.1E-04	8.70E+03	2.8E-07	1.16E+05	2.1E-08
1~Webster to Taylor	VOC	cis-1,2-Dichloroethene	156-59-2	T	D	3	3	2.70E-03	7.50E-03	7.00E-02	1.1E-01	2.29E+01	3.3E-04	6.09E+01	1.2E-04
1~Webster to Taylor	VOC	Tetrachloroethene	127-18-4	T	C-B2	3	3	1.40E-01	1.50E-01	5.00E-03	**3.0E+01**	1.41E+01	1.1E-02	1.47E+01	1.0E-02
1~Webster to Taylor	VOC	1,1,1-Trichloroethane	71-55-6	T	D	3	1	1.10E-03	1.10E-03	2.00E-01	5.5E-03	1.47E+03	7.5E-07	3.34E+03	3.3E-07
1~Webster to Taylor	VOC	Trichloroethene	79-01-6	T	C-B2	3	3	2.60E-02	2.70E-02	5.00E-03	**5.4E+00**	2.68E+01	1.0E-03	2.67E+01	1.0E-03
1~Webster to Taylor	SVOC	Caprolactam	105-60-2	T		2	1	4.60E-02	4.60E-02	1.83E+01	2.5E-03	2.01E+05	2.3E-07	3.09E+08	1.5E-10
1~Webster to Taylor	INORG	Barium	7440-39-3	T	D	2	2	1.10E-01	1.10E-01	2.00E+00	5.5E-02	3.43E+03	3.2E-05		
1~Webster to Taylor	INORG	Cobalt	7440-48-4	T	B1	2	1	1.20E-03	1.20E-03	7.30E-01	1.6E-03	8.09E+03	1.5E-07		
1~Webster to Taylor	INORG	Manganese	7439-96-5	T	D	3	3	2.70E-01	1.60E+00	5.11E+00	3.1E-01	5.96E+03	2.7E-04		
1~Webster to Taylor	INORG	Nickel	7440-02-0	T	A	2	1	3.80E-03	3.80E-03	1.00E-01	3.8E-02	2.38E+03	1.6E-06		
1~Webster to Taylor	INORG	Thallium	7440-28-0	T		2	1	3.80E-05	3.80E-05	2.00E-03	1.9E-02	2.15E+01	1.8E-06		
1~Webster to Taylor	INORG	Vanadium	7440-62-2	T		2	1	2.00E-03	2.00E-03	3.65E-02	5.5E-02	1.94E+01	1.0E-04		
1~Webster to Taylor	INORG	Zinc	7440-66-6	T	ID	2	1	1.80E-02	1.80E-02	1.10E+01	1.6E-03	1.10E+05	1.6E-07		
2~Taylor to Railway	VOC	1,1-Dichloroethane	75-34-3	T	C	8	1	1.20E-03	1.20E-03	7.30E+00	1.6E-04	3.32E+02	3.6E-06	8.40E+02	1.4E-06
2~Taylor to Railway	VOC	cis-1,2-Dichloroethene	156-59-2	T	D	8	5	3.10E-04	1.60E-02	7.00E-02	2.3E-01	2.29E+01	7.0E-04	6.09E+01	2.6E-04
2~Taylor to Railway	VOC	trans-1,2-Dichloroethene	156-60-5	T		8	1	2.10E-04	2.10E-04	1.00E-01	2.1E-03	3.81E+01	5.5E-06	8.10E+01	2.6E-06
2~Taylor to Railway	VOC	Tetrachloroethene	127-18-4	T	C-B2	8	1	2.30E-03	2.30E-03	5.00E-03	4.6E-01	1.41E+01	1.6E-04	1.47E+01	1.6E-04
2~Taylor to Railway	VOC	Trichloroethene	79-01-6	T	C-B2	8	3	1.40E-03	7.80E-03	5.00E-03	**1.6E+00**	2.68E+01	2.9E-04	2.67E+01	2.9E-04
2~Taylor to Railway	VOC	Vinyl Chloride	75-01-4	T	A	8	2	1.10E-03	4.80E-03	2.00E-03	**2.4E+00**	2.02E+00	2.4E-03	3.25E+00	1.5E-03
2~Taylor to Railway	SVOC	Caprolactam	105-60-2	T		5	3	2.70E-02	2.00E-01	1.83E+01	1.1E-02	2.01E+05	1.0E-06	3.09E+08	6.5E-10
2~Taylor to Railway	PCB	PCBs (total)	1336-36-3	T	B2	8	2	4.83E-04	5.83E-04	5.00E-04	**1.2E+00**	9.35E-03	6.2E-02	2.43E-01	2.4E-03
2~Taylor to Railway	INORG	Arsenic	7440-38-2	T	A	5	2	2.80E-03	6.50E-03	1.00E-02	6.5E-01	1.44E+01	4.5E-04		
2~Taylor to Railway	INORG	Barium	7440-39-3	T	D	5	5	6.70E-02	3.70E-01	2.00E+00	1.9E-01	3.43E+03	1.1E-04		
2~Taylor to Railway	INORG	Cadmium	7440-43-9	T	B1	5	1	3.00E-04	3.00E-04	5.00E-03	6.0E-02	1.80E+01	1.7E-05		
2~Taylor to Railway	INORG	Chromium (total)	7440-47-3	T		5	2	2.20E-03	1.40E-02	1.00E-01	1.4E-01	2.85E+01	4.9E-04		
2~Taylor to Railway	INORG	Cobalt	7440-48-4	T	B1	5	5	7.80E-04	1.80E-03	7.30E-01	2.5E-03	8.09E+03	2.2E-07		
2~Taylor to Railway	INORG	Manganese	7439-96-5	T	D	8	8	3.00E-02	4.40E-01	5.11E+00	8.6E-02	5.96E+03	7.4E-05		
2~Taylor to Railway	INORG	Mercury	7439-97-6	T	D	5	1	3.50E-04	3.50E-04	2.00E-03	1.8E-01	2.88E-01	1.2E-03	8.19E-01	4.3E-04
2~Taylor to Railway	INORG	Nickel	7440-02-0	T	A	5	2	4.40E-03	1.20E-02	1.00E-01	1.2E-01	2.38E+03	5.0E-06		
2~Taylor to Railway	INORG	Selenium	7782-49-2	T	D	5	1	5.20E-03	5.20E-03	5.00E-02	1.0E-01	1.54E+03	3.4E-06		
2~Taylor to Railway	INORG	Vanadium	7440-62-2	T		5	1	1.70E-03	1.70E-03	3.65E-02	4.7E-02	1.94E+01	8.8E-05		
2~Taylor to Railway	INORG	Zinc	7440-66-6	T	ID	5	1	1.40E-02	1.40E-02	1.10E+01	1.3E-03	1.10E+05	1.3E-07		
4~Off Site South	VOC	Chloroform	67-66-3	T	B2	22	11	4.70E-04	6.10E-03	8.00E-02	7.6E-02	2.29E+00	2.7E-03	2.25E+00	2.7E-03
4~Off Site South	VOC	cis-1,2-Dichloroethene	156-59-2	T	D	22	19	3.60E-04	5.90E-03	7.00E-02	8.4E-02	2.29E+01	2.6E-04	6.09E+01	9.7E-05
4~Off Site South	VOC	trans-1,2-Dichloroethene	156-60-5	T		22	1	4.70E-04	4.70E-04	1.00E-01	4.7E-03	3.81E+01	1.2E-05	8.10E+01	5.8E-06
4~Off Site South	VOC	Methylene Chloride	75-09-2	T	B2	22	2	8.40E-04	8.80E-04	5.00E-03	1.8E-01	8.94E+01	9.8E-06	1.18E+02	7.5E-06
4~Off Site South	VOC	Tetrachloroethene	127-18-4	T	C-B2	22	15	4.30E-04	4.80E-02	5.00E-03	**9.6E+00**	1.41E+01	3.4E-03	1.47E+01	3.3E-03
4~Off Site South	VOC	1,1,1-Trichloroethane	71-55-6	T	D	22	4	4.40E-04	8.70E-04	2.00E-01	4.4E-03	1.47E+03	5.9E-07	3.34E+03	2.6E-07
4~Off Site South	VOC	Trichloroethene	79-01-6	T	C-B2	22	22	5.90E-04	8.70E-02	5.00E-03	**1.7E+01**	2.68E+01	3.2E-03	2.67E+01	3.3E-03
4~Off Site South	SVOC	bis(2-Ethylhexyl)phthalate	117-81-7	T	B2	18	2	6.10E-03	6.90E-03	6.00E-03	**1.2E+00**	1.82E+00	3.8E-03	7.69E+04	9.0E-08
4~Off Site South	SVOC	Caprolactam	105-60-2	T		18	5	3.30E-03	1.30E-01	1.83E+01	7.1E-03	2.01E+05	6.5E-07	3.09E+08	4.2E-10
4~Off Site South	PCB	PCBs (total)	1336-36-3	T	B2	22	1	1.93E-04	1.93E-04	5.00E-04	3.9E-01	9.35E-03	2.1E-02	2.43E-01	7.9E-04
4~Off Site South	INORG	Arsenic	7440-38-2	T	A	18	2	2.80E-03	3.80E-03	1.00E-02	3.8E-01	1.44E+01	2.6E-04		
4~Off Site South	INORG	Barium	7440-39-3	T	D	18	18	8.20E-02	2.10E-01	2.00E+00	1.1E-01	3.43E+03	6.1E-05		
4~Off Site South	INORG	Barium	7440-39-3	D	D	6	6	1.20E-01	2.00E-01	2.00E+00	1.0E-01	3.43E+03	5.8E-05		
4~Off Site South	INORG	Cadmium	7440-43-9	T	B1	18	2	3.20E-04	3.90E-04	5.00E-03	7.8E-02	1.80E+01	2.2E-05		
4~Off Site South	INORG	Chromium (total)	7440-47-3	D		6	2	1.70E-03	2.00E-03	1.00E-01	2.0E-02	2.85E+01	7.0E-05		
4~Off Site South	INORG	Chromium (total)	7440-47-3	T		18	7	1.70E-03	1.10E-02	1.00E-01	1.1E-01	2.85E+01	3.9E-04		
4~Off Site South	INORG	Cobalt	7440-48-4	T	B1	18	2	1.40E-03	2.20E-03	7.30E-01	3.0E-03	8.09E+03	2.7E-07		
4~Off Site South	INORG	Copper	7440-50-8	T	D	18	3	2.50E-03	3.10E-02	1.30E+00	2.4E-02	1.23E+04	2.5E-06		
4~Off Site South	INORG	Lead	7439-92-1	T	B2	18	2	1.90E-03	2.10E-03	1.50E-02	1.4E-01	7.40E+01	2.8E-05		
4~Off Site South	INORG	Manganese	7439-96-5	D	D	6	4	2.70E-02	8.80E-02	5.11E+00	1.7E-02	5.96E+03	1.5E-05		
4~Off Site South	INORG	Manganese	7439-96-5	T	D	19	17	2.80E-03	8.50E-01	5.11E+00	1.7E-01	5.96E+03	1.4E-04		

Table 4.3B(i): Groundwater Screening Results: Upper Aquifer, Off-Site
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

Area	Chem Group	Chemical	CASRN	Meas Basis	Carc Class	Analyzed	Detected	Min Detected Concentration (mg/L)	Max Detected Concentration (mg/L)	Drinking Water Criteria (mg/L)	Ratio of Max Detect to DW Criteria	Maintenance Worker Groundwater Contact Criteria (mg/L)	Ratio of Max Detect to Maint Worker GW Contact Criteria	Comm/Ind Groundwater Vol Indoor Air Criteria (mg/L)	Ratio of Max Detect to Comm/Ind GW Vol Indoor Air Criteria
4~Off Site South	INORG	Nickel	7440-02-0	T	A	18	4	3.80E-03	9.00E-03	1.00E-01	9.0E-02	2.38E+03	3.8E-06		
4~Off Site South	INORG	Thallium	7440-28-0	T		18	1	4.20E-05	4.20E-05	2.00E-03	2.1E-02	2.15E+01	1.9E-06		
4~Off Site South	INORG	Vanadium	7440-62-2	T		18	3	9.20E-04	4.00E-03	3.65E-02	1.1E-01	1.94E+01	2.1E-04		
4~Off Site South	INORG	Zinc	7440-66-6	T	ID	18	2	1.60E-02	4.30E-02	1.10E+01	3.9E-03	1.10E+05	3.9E-07		
5~Off Site West	VOC	Acetone	67-64-1	T	ID	106	1	1.10E-03	1.10E-03	3.29E+01	3.3E-05	6.78E+03	1.6E-07	9.19E+04	1.2E-08
5~Off Site West	VOC	Benzene	71-43-2	T	A	106	1	3.40E-04	3.40E-04	5.00E-03	6.8E-02	4.88E+00	7.0E-05	6.19E+00	5.5E-05
5~Off Site West	VOC	2-Butanone	78-93-3	T	ID	106	1	1.00E-03	1.00E-03	2.19E+01	4.6E-05	8.70E+03	1.2E-07	1.16E+05	8.7E-09
5~Off Site West	VOC	Chloroethane	75-00-3	T		106	1	8.80E-04	8.80E-04	2.94E-01	3.0E-03	2.09E+03	4.2E-07	1.17E+04	7.5E-08
5~Off Site West	VOC	Chloroform	67-66-3	T	B2	106	12	3.40E-04	3.10E-03	8.00E-02	3.9E-02	2.29E+00	1.4E-03	2.25E+00	1.4E-03
5~Off Site West	VOC	Chloromethane	74-87-3	T	D	106	2	1.50E-04	1.60E-04			4.34E+01	3.7E-06	1.85E+02	8.7E-07
5~Off Site West	VOC	Cyclohexane	110-82-7	T	ID	106	4	1.40E-04	5.40E-04			3.68E+03	1.5E-07	6.21E+03	8.7E-08
5~Off Site West	VOC	Dichlorodifluoromethane	75-71-8	T		106	8	3.60E-04	1.75E-02	7.30E+00	2.4E-03	1.45E+02	1.2E-04	2.18E+02	8.0E-05
5~Off Site West	VOC	1,1-Dichloroethane	75-34-3	T	C	106	2	5.20E-04	1.70E-03	7.30E+00	2.3E-04	3.32E+02	5.1E-06	8.40E+02	2.0E-06
5~Off Site West	VOC	1,1-Dichloroethene	75-35-4	T	C	106	2	1.90E-04	2.30E-04	7.00E-03	3.3E-02	1.25E+02	1.8E-06	2.42E+02	9.5E-07
5~Off Site West	VOC	cis-1,2-Dichloroethene	156-59-2	T	D	106	103	5.60E-04	3.10E+00	7.00E-02	**4.4E+01**	2.29E+01	1.4E-01	6.09E+01	5.1E-02
5~Off Site West	VOC	trans-1,2-Dichloroethene	156-60-5	T		106	20	1.60E-04	4.85E-03	1.00E-01	4.9E-02	3.81E+01	1.3E-04	8.10E+01	6.0E-05
5~Off Site West	VOC	Methylcyclohexane	108-87-2	T		106	1	4.30E-04	4.30E-04			1.99E+03	2.2E-07	3.04E+03	1.4E-07
5~Off Site West	VOC	Methylene Chloride	75-09-2	T	B2	106	12	6.10E-04	1.45E-02	5.00E-03	**2.9E+00**	8.94E+01	1.6E-04	1.18E+02	1.2E-04
5~Off Site West	VOC	Tetrachloroethene	127-18-4	T	C-B2	106	87	4.40E-04	6.95E-01	5.00E-03	**1.4E+02**	1.41E+01	4.9E-02	1.47E+01	4.7E-02
5~Off Site West	VOC	Toluene	108-88-3	T	ID	106	1	1.90E-04	1.90E-04	1.00E+00	1.9E-04	1.69E+03	1.1E-07	9.16E+03	2.1E-08
5~Off Site West	VOC	1,2,4-Trichlorobenzene	120-82-1	T	D	106	1	3.90E-04	3.90E-04	7.00E-02	5.6E-03	4.31E+01	9.1E-06	7.44E+02	5.2E-07
5~Off Site West	VOC	1,1,1-Trichloroethane	71-55-6	T	D	106	10	2.10E-04	5.30E-04	2.00E-01	2.7E-03	1.47E+03	3.6E-07	3.34E+03	1.6E-07
5~Off Site West	VOC	Trichloroethene	79-01-6	T	C-B2	106	86	2.20E-04	9.40E-01	5.00E-03	**1.9E+02**	2.68E+01	3.5E-02	2.67E+01	3.5E-02
5~Off Site West	VOC	Vinyl Chloride	75-01-4	T	A	106	41	3.00E-04	7.90E-01	2.00E-03	**4.0E+02**	2.02E+00	3.9E-01	3.25E+00	2.4E-01
5~Off Site West	SVOC	Caprolactam	105-60-2	T		33	1	2.90E-03	2.90E-03	1.83E+01	1.6E-04	2.01E+05	1.4E-08	3.09E+08	9.4E-12
5~Off Site West	SVOC	Di-n-octylphthalate	117-84-0	T		33	1	1.60E-03	1.60E-03	1.46E+00	1.1E-03	1.31E+01	1.2E-04		
5~Off Site West	SVOC	Methylphenol (total)	1319-77-3	T		33	1	4.20E-03	4.20E-03	1.83E+00	2.3E-03	2.63E+03	1.6E-06	2.11E+05	2.0E-08
5~Off Site West	INORG	Arsenic	7440-38-2	D	A	20	15	2.60E-03	1.40E-02	1.00E-02	**1.4E+00**	1.44E+01	9.7E-04		
5~Off Site West	INORG	Arsenic	7440-38-2	T	A	43	24	2.50E-03	5.00E-02	1.00E-02	**5.0E+00**	1.44E+01	3.5E-03		
5~Off Site West	INORG	Barium	7440-39-3	D	D	20	20	1.20E-01	3.95E-01	2.00E+00	2.0E-01	3.43E+03	1.2E-04		
5~Off Site West	INORG	Barium	7440-39-3	T	D	43	43	1.00E-01	4.50E-01	2.00E+00	2.3E-01	3.43E+03	1.3E-04		
5~Off Site West	INORG	Cadmium	7440-43-9	D	B1	20	2	4.20E-04	5.80E-04	5.00E-03	1.2E-01	1.80E+01	3.2E-05		
5~Off Site West	INORG	Cadmium	7440-43-9	T	B1	43	7	3.00E-04	7.70E-04	5.00E-03	1.5E-01	1.80E+01	4.3E-05		
5~Off Site West	INORG	Chromium (total)	7440-47-3	T		43	19	1.33E-03	2.25E-02	1.00E-01	2.3E-01	2.85E+01	7.9E-04		
5~Off Site West	INORG	Cobalt	7440-48-4	D	B1	20	7	5.90E-04	3.80E-03	7.30E-01	5.2E-03	8.09E+03	4.7E-07		
5~Off Site West	INORG	Cobalt	7440-48-4	T	B1	43	19	6.85E-04	7.05E-03	7.30E-01	9.7E-03	8.09E+03	8.7E-07		
5~Off Site West	INORG	Copper	7440-50-8	D	D	20	2	1.48E-03	2.20E-03	1.30E+00	1.7E-03	1.23E+04	1.8E-07		
5~Off Site West	INORG	Copper	7440-50-8	T	D	43	6	1.33E-03	8.20E-03	1.30E+00	6.3E-03	1.23E+04	6.7E-07		
5~Off Site West	INORG	Cyanide (total)	57-12-5	T	D	35	6	2.00E-03	2.80E-02	2.00E-01	1.4E-01	6.16E+03	4.5E-06		
5~Off Site West	INORG	Lead	7439-92-1	T	B2	43	3	1.60E-03	3.40E-03	1.50E-02	2.3E-01	7.40E+01	4.6E-05		
5~Off Site West	INORG	Manganese	7439-96-5	T	D	84	83	2.40E-02	1.20E+00	5.11E+00	2.3E-01	5.96E+03	2.0E-04		
5~Off Site West	INORG	Manganese	7439-96-5	D	D	27	27	3.10E-02	9.35E-01	5.11E+00	1.8E-01	5.96E+03	1.6E-04		
5~Off Site West	INORG	Mercury	7439-97-6	T	D	43	4	8.80E-05	2.00E-04	2.00E-03	1.0E-01	2.88E-01	7.0E-04	8.19E-01	2.4E-04
5~Off Site West	INORG	Nickel	7440-02-0	D	A	20	7	2.38E-03	5.80E-03	1.00E-01	5.8E-02	2.38E+03	2.4E-06		
5~Off Site West	INORG	Nickel	7440-02-0	T	A	43	20	2.38E-03	1.80E-02	1.00E-01	1.8E-01	2.38E+03	7.6E-06		
5~Off Site West	INORG	Thallium	7440-28-0	D		20	1	3.40E-05	3.40E-05	2.00E-03	1.7E-02	2.15E+01	1.6E-06		
5~Off Site West	INORG	Thallium	7440-28-0	T		43	4	3.60E-05	4.70E-05	2.00E-03	2.4E-02	2.15E+01	2.2E-06		
5~Off Site West	INORG	Vanadium	7440-62-2	T		43	11	5.78E-04	2.30E-03	3.65E-02	6.3E-02	1.94E+01	1.2E-04		
5~Off Site West	INORG	Zinc	7440-66-6	D	ID	20	4	1.40E-02	2.20E-02	1.10E+01	2.0E-03	1.10E+05	2.0E-07		
5~Off Site West	INORG	Zinc	7440-66-6	T	ID	43	12	1.10E-02	4.55E-02	1.10E+01	4.2E-03	1.10E+05	4.1E-07		
6~Off Site East	VOC	Chloroform	67-66-3	T	B2	4	3	8.70E-04	4.90E-03	8.00E-02	6.1E-02	2.29E+00	2.1E-03	2.25E+00	2.2E-03
6~Off Site East	SVOC	Caprolactam	105-60-2	T		4	2	8.80E-03	5.30E-02	1.83E+01	2.9E-03	2.01E+05	2.6E-07	3.09E+08	1.7E-10
6~Off Site East	INORG	Arsenic	7440-38-2	T	A	4	1	3.60E-03	3.60E-03	1.00E-02	3.6E-01	1.44E+01	2.5E-04		

Table 4.3B(i): Groundwater Screening Results: Upper Aquifer, Off-Site
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

Area	Chem Group	Chemical	CASRN	Meas Basis	Carc Class	Analyzed	Detected	Min Detected Concentration (mg/L)	Max Detected Concentration (mg/L)	Drinking Water Criteria (mg/L)	Ratio of Max Detect to DW Criteria	Maintenance Worker Groundwater Contact Criteria (mg/L)	Ratio of Max Detect to Maint Worker GW Contact Criteria	Comm/Ind Groundwater Vol Indoor Air Criteria (mg/L)	Ratio of Max Detect to Comm/Ind GW Vol Indoor Air Criteria
6~Off Site East	INORG	Barium	7440-39-3	T	D	4	4	7.60E-02	2.10E-01	2.00E+00	1.1E-01	3.43E+03	6.1E-05		
6~Off Site East	INORG	Cadmium	7440-43-9	T	B1	4	1	2.80E-04	2.80E-04	5.00E-03	5.6E-02	1.80E+01	1.6E-05		
6~Off Site East	INORG	Cyanide (total)	57-12-5	T	D	4	1	1.90E-03	1.90E-03	2.00E-01	9.5E-03	6.16E+03	3.1E-07		
6~Off Site East	INORG	Manganese	7439-96-5	T	D	4	2	5.30E-02	1.40E-01	5.11E+00	2.7E-02	5.96E+03	2.3E-05		
6~Off Site East	INORG	Zinc	7440-66-6	T	ID	4	1	6.90E-02	6.90E-02	1.10E+01	6.3E-03	1.10E+05	6.3E-07		

Notes:

1. Only constituents detected in each respective area are shown
2. The Screening Criteria for groundwater are the lower of the Screening Criteria at either a cancer risk level of $1x10^{-5}$ or a hazard quotient of 1.
3. Shaded cells represent ratios of concentration to the Screening Criteria greater than 1
4. Equivalent Drinking Water Concentration Limits, Maintenance Worker GW Contact Criteria, and Comm/Ind GW Vol Indoor Air Criteria were calculated as discussed in Appendix E of the RFI Report.
5. The Screening Criteria for Chromium VI were used as a surrogate for Chromium (total).
6. The concentrations for the Methylphenol (2, 3, & 4) were summed before comparing to the Screening Criteria for 4-Methylphenol.
7. The concentrations for all polychlorinated biphenyls (PCBs) isomers were summed before comparing to the Screening Criteria for PCBs (total).

Abbreviations:

Chem Group - Chemical Group
CASRN - Chemical Abstract Service Registry Number
Carc Class - EPA Weight-of-Evidence Cancer Classification
Comm/Ind - Commercial/Industrial
Vol - Volatilization
Meas Basis - Measured Basis; T = Total, D = Dissolved

Table 4.3B(ii): Groundwater Concentrations Exceeding Screening Criteria: Upper Aquifer, Off-Site
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

Area	Station ID	Sample Date	Meas Basis	Chem Group	Chemical	CASRN	Concentration (mg/L)	Drinking Water Criteria (mg/L)	Ratio of Concentration to DW Criteria	Maintenance Worker Groundwater Contact Criteria (mg/L)	Ratio of Concentration to Maint Worker GW Contact Criteria	Comm/Ind Groundwater Vol Indoor Air Criteria (mg/L)	Ratio of Concentration to Comm/Ind GW Vol Indoor Air Criteria
1~Webster to Taylor	DAY-13	07/01/02	T	VOC	Tetrachloroethene	127-18-4	1.50E-01	5.00E-03	**3.0E+01**	1.41E+01	1.1E-02	1.47E+01	1.0E-02
1~Webster to Taylor	DAY-13	07/01/02	T	VOC	Trichloroethene	79-01-6	2.60E-02	5.00E-03	**5.2E+00**	2.68E+01	9.7E-04	2.67E+01	9.7E-04
1~Webster to Taylor	DAY-13	11/16/04	T	VOC	Tetrachloroethene	127-18-4	1.50E-01	5.00E-03	**3.0E+01**	1.41E+01	1.1E-02	1.47E+01	1.0E-02
1~Webster to Taylor	DAY-13	11/16/04	T	VOC	Trichloroethene	79-01-6	2.70E-02	5.00E-03	**5.4E+00**	2.68E+01	1.0E-03	2.67E+01	1.0E-03
1~Webster to Taylor	DAY-13	04/08/03	T	VOC	Tetrachloroethene	127-18-4	1.40E-01	5.00E-03	**2.8E+01**	1.41E+01	1.0E-02	1.47E+01	9.5E-03
1~Webster to Taylor	DAY-13	04/08/03	T	VOC	Trichloroethene	79-01-6	2.70E-02	5.00E-03	**5.4E+00**	2.68E+01	1.0E-03	2.67E+01	1.0E-03
2~Taylor to Railway	DAY-01	11/10/04	T	VOC	Trichloroethene	79-01-6	7.80E-03	5.00E-03	**1.6E+00**	2.68E+01	2.9E-04	2.67E+01	2.9E-04
2~Taylor to Railway	DAY-01	04/08/03	T	VOC	Vinyl Chloride	75-01-4	4.80E-03	2.00E-03	**2.4E+00**	2.02E+00	2.4E-03	3.25E+00	1.5E-03
2~Taylor to Railway	MW-4-02	04/17/03	T	PCB	PCBs (total)	1336-36-3	5.83E-04	5.00E-04	**1.2E+00**	9.35E-03	6.2E-02	2.43E-01	2.4E-03
4~Off Site South	DAY-14	07/08/02	T	VOC	Trichloroethene	79-01-6	4.00E-02	5.00E-03	**8.0E+00**	2.68E+01	1.5E-03	2.67E+01	1.5E-03
4~Off Site South	DAY-14	04/07/03	T	VOC	Trichloroethene	79-01-6	4.40E-02	5.00E-03	**8.8E+00**	2.68E+01	1.6E-03	2.67E+01	1.6E-03
4~Off Site South	DAY-18	07/10/02	T	VOC	Trichloroethene	79-01-6	5.10E-02	5.00E-03	**1.0E+01**	2.68E+01	1.9E-03	2.67E+01	1.9E-03
4~Off Site South	DAY-18	07/10/02	T	SVOC	bis(2-Ethylhexyl)phthalate	117-81-7	6.90E-03	6.00E-03	**1.2E+00**	1.82E+00	3.8E-03	7.69E+04	9.0E-08
4~Off Site South	DAY-18	04/03/03	T	VOC	Trichloroethene	79-01-6	4.90E-02	5.00E-03	**9.8E+00**	2.68E+01	1.8E-03	2.67E+01	1.8E-03
4~Off Site South	DAY-19	07/10/02	T	VOC	Trichloroethene	79-01-6	5.30E-02	5.00E-03	**1.1E+01**	2.68E+01	2.0E-03	2.67E+01	2.0E-03
4~Off Site South	DAY-19	04/03/03	T	VOC	Trichloroethene	79-01-6	5.10E-02	5.00E-03	**1.0E+01**	2.68E+01	1.9E-03	2.67E+01	1.9E-03
4~Off Site South	DAY-20	07/09/02	T	VOC	Trichloroethene	79-01-6	1.70E-02	5.00E-03	**3.4E+00**	2.68E+01	6.3E-04	2.67E+01	6.4E-04
4~Off Site South	DAY-20	11/08/04	T	VOC	Tetrachloroethene	127-18-4	4.80E-02	5.00E-03	**9.6E+00**	1.41E+01	3.4E-03	1.47E+01	3.3E-03
4~Off Site South	DAY-20	11/08/04	T	VOC	Trichloroethene	79-01-6	2.00E-02	5.00E-03	**4.0E+00**	2.68E+01	7.5E-04	2.67E+01	7.5E-04
4~Off Site South	DAY-20	11/10/04	T	VOC	Trichloroethene	79-01-6	8.20E-03	5.00E-03	**1.6E+00**	2.68E+01	3.1E-04	2.67E+01	3.1E-04
4~Off Site South	DAY-20	04/07/03	T	VOC	Trichloroethene	79-01-6	1.70E-02	5.00E-03	**3.4E+00**	2.68E+01	6.3E-04	2.67E+01	6.4E-04
4~Off Site South	DAY-21	07/17/02	T	VOC	Trichloroethene	79-01-6	6.30E-02	5.00E-03	**1.3E+01**	2.68E+01	2.3E-03	2.67E+01	2.4E-03
4~Off Site South	DAY-21	04/08/03	T	VOC	Trichloroethene	79-01-6	7.30E-02	5.00E-03	**1.5E+01**	2.68E+01	2.7E-03	2.67E+01	2.7E-03
4~Off Site South	HD-15	07/08/02	T	VOC	Trichloroethene	79-01-6	3.90E-02	5.00E-03	**7.8E+00**	2.68E+01	1.5E-03	2.67E+01	1.5E-03
4~Off Site South	HD-15	03/27/03	T	VOC	Trichloroethene	79-01-6	3.80E-02	5.00E-03	**7.6E+00**	2.68E+01	1.4E-03	2.67E+01	1.4E-03
4~Off Site South	HD-16	07/09/02	T	VOC	Trichloroethene	79-01-6	2.10E-02	5.00E-03	**4.2E+00**	2.68E+01	7.8E-04	2.67E+01	7.9E-04
4~Off Site South	HD-16	03/28/03	T	VOC	Trichloroethene	79-01-6	1.50E-02	5.00E-03	**3.0E+00**	2.68E+01	5.6E-04	2.67E+01	5.6E-04
4~Off Site South	HD-2	07/09/02	T	VOC	Tetrachloroethene	127-18-4	1.20E-02	5.00E-03	**2.4E+00**	1.41E+01	8.5E-04	1.47E+01	8.2E-04
4~Off Site South	HD-2	07/09/02	T	VOC	Trichloroethene	79-01-6	5.20E-02	5.00E-03	**1.0E+01**	2.68E+01	1.9E-03	2.67E+01	1.9E-03
4~Off Site South	HD-2	11/16/04	T	VOC	Tetrachloroethene	127-18-4	1.30E-02	5.00E-03	**2.6E+00**	1.41E+01	9.2E-04	1.47E+01	8.8E-04
4~Off Site South	HD-2	11/16/04	T	VOC	Trichloroethene	79-01-6	8.70E-02	5.00E-03	**1.7E+01**	2.68E+01	3.2E-03	2.67E+01	3.3E-03
4~Off Site South	HD-2	03/27/03	T	VOC	Tetrachloroethene	127-18-4	1.20E-02	5.00E-03	**2.4E+00**	1.41E+01	8.5E-04	1.47E+01	8.2E-04
4~Off Site South	HD-2	03/27/03	T	VOC	Trichloroethene	79-01-6	5.60E-02	5.00E-03	**1.1E+01**	2.68E+01	2.1E-03	2.67E+01	2.1E-03
5~Off Site West	DAY-05	07/11/02	T	VOC	Tetrachloroethene	127-18-4	5.35E-01	5.00E-03	**1.1E+02**	1.41E+01	3.8E-02	1.47E+01	3.6E-02
5~Off Site West	DAY-05	07/11/02	T	VOC	Trichloroethene	79-01-6	4.60E-02	5.00E-03	**9.2E+00**	2.68E+01	1.7E-03	2.67E+01	1.7E-03
5~Off Site West	DAY-05	11/12/04	T	VOC	cis-1,2-Dichloroethene	156-59-2	4.65E-01	7.00E-02	**6.6E+00**	2.29E+01	2.0E-02	6.09E+01	7.6E-03
5~Off Site West	DAY-05	11/12/04	T	VOC	Tetrachloroethene	127-18-4	6.95E-01	5.00E-03	**1.4E+02**	1.41E+01	4.9E-02	1.47E+01	4.7E-02
5~Off Site West	DAY-05	11/12/04	T	VOC	Trichloroethene	79-01-6	9.50E-02	5.00E-03	**1.9E+01**	2.68E+01	3.5E-03	2.67E+01	3.6E-03
5~Off Site West	DAY-05	11/12/04	T	VOC	Vinyl Chloride	75-01-4	1.20E-02	2.00E-03	**6.0E+00**	2.02E+00	5.9E-03	3.25E+00	3.7E-03
5~Off Site West	DAY-05	03/21/03	T	VOC	Tetrachloroethene	127-18-4	4.90E-01	5.00E-03	**9.8E+01**	1.41E+01	3.5E-02	1.47E+01	3.3E-02
5~Off Site West	DAY-05	03/21/03	T	VOC	Trichloroethene	79-01-6	4.90E-02	5.00E-03	**9.8E+00**	2.68E+01	1.8E-03	2.67E+01	1.8E-03
5~Off Site West	DAY-06	07/17/02	T	VOC	cis-1,2-Dichloroethene	156-59-2	3.10E-01	7.00E-02	**4.4E+00**	2.29E+01	1.4E-02	6.09E+01	5.1E-03
5~Off Site West	DAY-06	07/17/02	T	VOC	Tetrachloroethene	127-18-4	3.50E-01	5.00E-03	**7.0E+01**	1.41E+01	2.5E-02	1.47E+01	2.4E-02
5~Off Site West	DAY-06	07/17/02	T	VOC	Trichloroethene	79-01-6	1.70E-01	5.00E-03	**3.4E+01**	2.68E+01	6.3E-03	2.67E+01	6.4E-03
5~Off Site West	DAY-06	11/19/04	T	VOC	Trichloroethene	79-01-6	5.50E-03	5.00E-03	**1.1E+00**	2.68E+01	2.1E-04	2.67E+01	2.1E-04
5~Off Site West	DAY-06	11/19/04	T	VOC	Vinyl Chloride	75-01-4	5.70E-03	2.00E-03	**2.9E+00**	2.02E+00	2.8E-03	3.25E+00	1.8E-03
5~Off Site West	DAY-06	03/18/03	T	VOC	cis-1,2-Dichloroethene	156-59-2	3.10E+00	7.00E-02	**4.4E+01**	2.29E+01	1.4E-01	6.09E+01	5.1E-02
5~Off Site West	DAY-06	03/18/03	T	VOC	Vinyl Chloride	75-01-4	8.60E-02	2.00E-03	**4.3E+01**	2.02E+00	4.2E-02	3.25E+00	2.6E-02
5~Off Site West	DAY-06	03/18/03	T	INORG	Arsenic	7440-38-2	5.00E-02	1.00E-02	**5.0E+00**	1.44E+01	3.5E-03		
5~Off Site West	DAY-06	03/19/04	T	VOC	cis-1,2-Dichloroethene	156-59-2	2.60E-01	7.00E-02	**3.7E+00**	2.29E+01	1.1E-02	6.09E+01	4.3E-03

Table 4.3B(ii): Groundwater Concentrations Exceeding Screening Criteria: Upper Aquifer, Off-Site
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

Area	Station ID	Sample Date	Meas Basis	Chem Group	Chemical	CASRN	Concentration (mg/L)	Drinking Water Criteria (mg/L)	Ratio of Concentration to DW Criteria	Maintenance Worker Groundwater Contact Criteria (mg/L)	Ratio of Concentrationt o Maint Worker GW Contact Criteria	Comm/Ind Groundwater Vol Indoor Air Criteria (mg/L)	Ratio of Concentrationt o Comm/Ind GW Vol Indoor Air Criteria
5~Off Site West	DAY-06	03/19/04	T	VOC	Vinyl Chloride	75-01-4	1.30E-02	2.00E-03	**6.5E+00**	2.02E+00	6.4E-03	3.25E+00	4.0E-03
5~Off Site West	DAY-06	06/28/04	T	VOC	cis-1,2-Dichloroethene	156-59-2	2.60E-01	7.00E-02	**3.7E+00**	2.29E+01	1.1E-02	6.09E+01	4.3E-03
5~Off Site West	DAY-06	06/28/04	T	VOC	Vinyl Chloride	75-01-4	7.00E-03	2.00E-03	**3.5E+00**	2.02E+00	3.5E-03	3.25E+00	2.2E-03
5~Off Site West	DAY-08	07/15/02	T	VOC	Tetrachloroethene	127-18-4	5.80E-02	5.00E-03	**1.2E+01**	1.41E+01	4.1E-03	1.47E+01	3.9E-03
5~Off Site West	DAY-08	07/15/02	T	VOC	Trichloroethene	79-01-6	4.30E-02	5.00E-03	**8.6E+00**	2.68E+01	1.6E-03	2.67E+01	1.6E-03
5~Off Site West	DAY-08	11/11/04	T	VOC	Tetrachloroethene	127-18-4	6.30E-02	5.00E-03	**1.3E+01**	1.41E+01	4.5E-03	1.47E+01	4.3E-03
5~Off Site West	DAY-08	11/11/04	T	VOC	Trichloroethene	79-01-6	6.10E-02	5.00E-03	**1.2E+01**	2.68E+01	2.3E-03	2.67E+01	2.3E-03
5~Off Site West	DAY-08	03/18/03	T	VOC	Tetrachloroethene	127-18-4	7.60E-02	5.00E-03	**1.5E+01**	1.41E+01	5.4E-03	1.47E+01	5.2E-03
5~Off Site West	DAY-08	03/18/03	T	VOC	Trichloroethene	79-01-6	5.30E-02	5.00E-03	**1.1E+01**	2.68E+01	2.0E-03	2.67E+01	2.0E-03
5~Off Site West	DAY-11D	06/24/02	T	VOC	Tetrachloroethene	127-18-4	2.10E-01	5.00E-03	**4.2E+01**	1.41E+01	1.5E-02	1.47E+01	1.4E-02
5~Off Site West	DAY-11D	06/24/02	T	VOC	Trichloroethene	79-01-6	3.00E-02	5.00E-03	**6.0E+00**	2.68E+01	1.1E-03	2.67E+01	1.1E-03
5~Off Site West	DAY-11D	11/08/04	T	VOC	cis-1,2-Dichloroethene	156-59-2	1.50E-01	7.00E-02	**2.1E+00**	2.29E+01	6.6E-03	6.09E+01	2.5E-03
5~Off Site West	DAY-11D	11/08/04	T	VOC	Tetrachloroethene	127-18-4	1.60E-01	5.00E-03	**3.2E+01**	1.41E+01	1.1E-02	1.47E+01	1.1E-02
5~Off Site West	DAY-11D	11/08/04	T	VOC	Trichloroethene	79-01-6	2.00E-02	5.00E-03	**4.0E+00**	2.68E+01	7.5E-04	2.67E+01	7.5E-04
5~Off Site West	DAY-11D	11/08/04	T	VOC	Vinyl Chloride	75-01-4	3.10E-02	2.00E-03	**1.6E+01**	2.02E+00	1.5E-02	3.25E+00	9.5E-03
5~Off Site West	DAY-11D	03/20/03	T	VOC	Tetrachloroethene	127-18-4	2.80E-01	5.00E-03	**5.6E+01**	1.41E+01	2.0E-02	1.47E+01	1.9E-02
5~Off Site West	DAY-11D	03/20/03	T	VOC	Trichloroethene	79-01-6	4.00E-02	5.00E-03	**8.0E+00**	2.68E+01	1.5E-03	2.67E+01	1.5E-03
5~Off Site West	DAY-11S	06/25/02	T	VOC	cis-1,2-Dichloroethene	156-59-2	4.20E-01	7.00E-02	**6.0E+00**	2.29E+01	1.8E-02	6.09E+01	6.9E-03
5~Off Site West	DAY-11S	06/25/02	T	VOC	Methylene Chloride	75-09-2	9.30E-03	5.00E-03	**1.9E+00**	8.94E+01	1.0E-04	1.18E+02	7.9E-05
5~Off Site West	DAY-11S	06/25/02	T	VOC	Tetrachloroethene	127-18-4	4.20E-01	5.00E-03	**8.4E+01**	1.41E+01	3.0E-02	1.47E+01	2.9E-02
5~Off Site West	DAY-11S	06/25/02	T	VOC	Trichloroethene	79-01-6	5.40E-02	5.00E-03	**1.1E+01**	2.68E+01	2.0E-03	2.67E+01	2.0E-03
5~Off Site West	DAY-11S	06/25/02	T	VOC	Vinyl Chloride	75-01-4	4.80E-02	2.00E-03	**2.4E+01**	2.02E+00	2.4E-02	3.25E+00	1.5E-02
5~Off Site West	DAY-11S	11/09/04	T	VOC	cis-1,2-Dichloroethene	156-59-2	2.70E-01	7.00E-02	**3.9E+00**	2.29E+01	1.2E-02	6.09E+01	4.4E-03
5~Off Site West	DAY-11S	11/09/04	T	VOC	Tetrachloroethene	127-18-4	2.30E-01	5.00E-03	**4.6E+01**	1.41E+01	1.6E-02	1.47E+01	1.6E-02
5~Off Site West	DAY-11S	11/09/04	T	VOC	Trichloroethene	79-01-6	1.90E-02	5.00E-03	**3.8E+00**	2.68E+01	7.1E-04	2.67E+01	7.1E-04
5~Off Site West	DAY-11S	11/09/04	T	VOC	Vinyl Chloride	75-01-4	1.80E-01	2.00E-03	**9.0E+01**	2.02E+00	8.9E-02	3.25E+00	5.5E-02
5~Off Site West	DAY-11S	03/20/03	T	VOC	cis-1,2-Dichloroethene	156-59-2	3.60E-01	7.00E-02	**5.1E+00**	2.29E+01	1.6E-02	6.09E+01	5.9E-03
5~Off Site West	DAY-11S	03/20/03	T	VOC	Tetrachloroethene	127-18-4	4.10E-01	5.00E-03	**8.2E+01**	1.41E+01	2.9E-02	1.47E+01	2.8E-02
5~Off Site West	DAY-11S	03/20/03	T	VOC	Trichloroethene	79-01-6	5.30E-02	5.00E-03	**1.1E+01**	2.68E+01	2.0E-03	2.67E+01	2.0E-03
5~Off Site West	DAY-11S	03/20/03	T	VOC	Vinyl Chloride	75-01-4	2.40E-02	2.00E-03	**1.2E+01**	2.02E+00	1.2E-02	3.25E+00	7.4E-03
5~Off Site West	DAY-12	06/27/02	T	VOC	Tetrachloroethene	127-18-4	6.55E-02	5.00E-03	**1.3E+01**	1.41E+01	4.7E-03	1.47E+01	4.4E-03
5~Off Site West	DAY-12	06/27/02	T	VOC	Trichloroethene	79-01-6	2.25E-02	5.00E-03	**4.5E+00**	2.68E+01	8.4E-04	2.67E+01	8.4E-04
5~Off Site West	DAY-12	03/21/03	T	VOC	Tetrachloroethene	127-18-4	5.70E-02	5.00E-03	**1.1E+01**	1.41E+01	4.1E-03	1.47E+01	3.9E-03
5~Off Site West	DAY-12	03/21/03	T	VOC	Trichloroethene	79-01-6	2.30E-02	5.00E-03	**4.6E+00**	2.68E+01	8.6E-04	2.67E+01	8.6E-04
5~Off Site West	DAY-12	04/28/05	T	VOC	Tetrachloroethene	127-18-4	5.30E-02	5.00E-03	**1.1E+01**	1.41E+01	3.8E-03	1.47E+01	3.6E-03
5~Off Site West	DAY-12	04/28/05	T	VOC	Trichloroethene	79-01-6	1.80E-02	5.00E-03	**3.6E+00**	2.68E+01	6.7E-04	2.67E+01	6.7E-04
5~Off Site West	HD-11	06/26/02	T	VOC	Tetrachloroethene	127-18-4	5.90E-02	5.00E-03	**1.2E+01**	1.41E+01	4.2E-03	1.47E+01	4.0E-03
5~Off Site West	HD-11	06/26/02	T	VOC	Trichloroethene	79-01-6	2.00E-02	5.00E-03	**4.0E+00**	2.68E+01	7.5E-04	2.67E+01	7.5E-04
5~Off Site West	HD-11	11/08/04	T	VOC	Tetrachloroethene	127-18-4	6.60E-02	5.00E-03	**1.3E+01**	1.41E+01	4.7E-03	1.47E+01	4.5E-03
5~Off Site West	HD-11	11/08/04	T	VOC	Trichloroethene	79-01-6	2.40E-02	5.00E-03	**4.8E+00**	2.68E+01	8.9E-04	2.67E+01	9.0E-04
5~Off Site West	HD-11	03/25/03	T	VOC	Tetrachloroethene	127-18-4	7.60E-02	5.00E-03	**1.5E+01**	1.41E+01	5.4E-03	1.47E+01	5.2E-03
5~Off Site West	HD-11	03/25/03	T	VOC	Trichloroethene	79-01-6	2.60E-02	5.00E-03	**5.2E+00**	2.68E+01	9.7E-04	2.67E+01	9.7E-04
5~Off Site West	HD-11	04/28/05	T	VOC	Tetrachloroethene	127-18-4	6.30E-02	5.00E-03	**1.3E+01**	1.41E+01	4.5E-03	1.47E+01	4.3E-03
5~Off Site West	HD-11	04/28/05	T	VOC	Trichloroethene	79-01-6	1.90E-02	5.00E-03	**3.8E+00**	2.68E+01	7.1E-04	2.67E+01	7.1E-04
5~Off Site West	HD-19	07/10/02	T	VOC	cis-1,2-Dichloroethene	156-59-2	1.10E-01	7.00E-02	**1.6E+00**	2.29E+01	4.8E-03	6.09E+01	1.8E-03
5~Off Site West	HD-19	07/10/02	T	VOC	Tetrachloroethene	127-18-4	9.60E-02	5.00E-03	**1.9E+01**	1.41E+01	6.8E-03	1.47E+01	6.5E-03
5~Off Site West	HD-19	07/10/02	T	VOC	Trichloroethene	79-01-6	2.70E-02	5.00E-03	**5.4E+00**	2.68E+01	1.0E-03	2.67E+01	1.0E-03
5~Off Site West	HD-19	11/08/04	T	VOC	Tetrachloroethene	127-18-4	8.60E-02	5.00E-03	**1.7E+01**	1.41E+01	6.1E-03	1.47E+01	5.8E-03
5~Off Site West	HD-19	11/08/04	T	VOC	Trichloroethene	79-01-6	3.70E-02	5.00E-03	**7.4E+00**	2.68E+01	1.4E-03	2.67E+01	1.4E-03
5~Off Site West	HD-19	03/26/03	T	VOC	cis-1,2-Dichloroethene	156-59-2	9.05E-02	7.00E-02	**1.3E+00**	2.29E+01	4.0E-03	6.09E+01	1.5E-03

Table 4.3B(ii): Groundwater Concentrations Exceeding Screening Criteria: Upper Aquifer, Off-Site
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

Area	Station ID	Sample Date	Meas Basis	Chem Group	Chemical	CASRN	Concentration (mg/L)	Drinking Water Criteria (mg/L)	Ratio of Concentration to DW Criteria	Maintenance Worker Groundwater Contact Criteria (mg/L)	Ratio of Concentration to Maint Worker GW Contact Criteria	Comm/Ind Groundwater Vol Indoor Air Criteria (mg/L)	Ratio of Concentration to Comm/Ind GW Vol Indoor Air Criteria
5~Off Site West	HD-19	03/26/03	T	VOC	Tetrachloroethene	127-18-4	1.10E-01	5.00E-03	**2.2E+01**	1.41E+01	7.8E-03	1.47E+01	7.5E-03
5~Off Site West	HD-19	03/26/03	T	VOC	Trichloroethene	79-01-6	3.75E-02	5.00E-03	**7.5E+00**	2.68E+01	1.4E-03	2.67E+01	1.4E-03
5~Off Site West	HD-3	06/26/02	T	VOC	Tetrachloroethene	127-18-4	3.50E-02	5.00E-03	**7.0E+00**	1.41E+01	2.5E-03	1.47E+01	2.4E-03
5~Off Site West	HD-3	06/26/02	T	VOC	Trichloroethene	79-01-6	2.30E-02	5.00E-03	**4.6E+00**	2.68E+01	8.6E-04	2.67E+01	8.6E-04
5~Off Site West	HD-3	06/19/03	T	VOC	cis-1,2-Dichloroethene	156-59-2	8.30E-02	7.00E-02	**1.2E+00**	2.29E+01	3.6E-03	6.09E+01	1.4E-03
5~Off Site West	HD-3	06/19/03	T	VOC	Tetrachloroethene	127-18-4	1.00E-02	5.00E-03	**2.0E+00**	1.41E+01	7.1E-04	1.47E+01	6.8E-04
5~Off Site West	HD-3	11/17/04	T	VOC	Tetrachloroethene	127-18-4	6.80E-03	5.00E-03	**1.4E+00**	1.41E+01	4.8E-04	1.47E+01	4.6E-04
5~Off Site West	HD-3	11/17/04	T	VOC	Trichloroethene	79-01-6	7.70E-03	5.00E-03	**1.5E+00**	2.68E+01	2.9E-04	2.67E+01	2.9E-04
5~Off Site West	HD-3	03/24/03	T	VOC	Tetrachloroethene	127-18-4	1.60E-02	5.00E-03	**3.2E+00**	1.41E+01	1.1E-03	1.47E+01	1.1E-03
5~Off Site West	HD-3	03/24/03	T	VOC	Trichloroethene	79-01-6	3.70E-02	5.00E-03	**7.4E+00**	2.68E+01	1.4E-03	2.67E+01	1.4E-03
5~Off Site West	HD-3	03/24/03	T	INORG	Arsenic	7440-38-2	1.40E-02	1.00E-02	**1.4E+00**	1.44E+01	9.7E-04		
5~Off Site West	HD-3	03/24/03	D	INORG	Arsenic	7440-38-2	1.10E-02	1.00E-02	**1.1E+00**	1.44E+01	7.7E-04		
5~Off Site West	HD-3	04/28/05	T	VOC	Tetrachloroethene	127-18-4	1.50E-02	5.00E-03	**3.0E+00**	1.41E+01	1.1E-03	1.47E+01	1.0E-03
5~Off Site West	HD-3	04/28/05	T	VOC	Trichloroethene	79-01-6	1.10E-02	5.00E-03	**2.2E+00**	2.68E+01	4.1E-04	2.67E+01	4.1E-04
5~Off Site West	HD-3	10/14/04	T	VOC	Tetrachloroethene	127-18-4	1.40E-02	5.00E-03	**2.8E+00**	1.41E+01	1.0E-03	1.47E+01	9.5E-04
5~Off Site West	HD-3	10/14/04	T	VOC	Trichloroethene	79-01-6	8.70E-03	5.00E-03	**1.7E+00**	2.68E+01	3.2E-04	2.67E+01	3.3E-04
5~Off Site West	HD-3	03/19/04	T	VOC	Tetrachloroethene	127-18-4	7.70E-03	5.00E-03	**1.5E+00**	1.41E+01	5.5E-04	1.47E+01	5.2E-04
5~Off Site West	HD-3	05/01/03	T	VOC	Tetrachloroethene	127-18-4	3.30E-02	5.00E-03	**6.6E+00**	1.41E+01	2.3E-03	1.47E+01	2.2E-03
5~Off Site West	HD-3	05/01/03	T	VOC	Trichloroethene	79-01-6	3.60E-02	5.00E-03	**7.2E+00**	2.68E+01	1.3E-03	2.67E+01	1.3E-03
5~Off Site West	HD-3	05/16/03	T	VOC	Tetrachloroethene	127-18-4	3.00E-02	5.00E-03	**6.0E+00**	1.41E+01	2.1E-03	1.47E+01	2.0E-03
5~Off Site West	HD-3	05/16/03	T	VOC	Trichloroethene	79-01-6	2.80E-02	5.00E-03	**5.6E+00**	2.68E+01	1.0E-03	2.67E+01	1.0E-03
5~Off Site West	HD-3	06/05/03	T	VOC	cis-1,2-Dichloroethene	156-59-2	1.30E-01	7.00E-02	**1.9E+00**	2.29E+01	5.7E-03	6.09E+01	2.1E-03
5~Off Site West	HD-3	06/05/03	T	VOC	Tetrachloroethene	127-18-4	2.30E-02	5.00E-03	**4.6E+00**	1.41E+01	1.6E-03	1.47E+01	1.6E-03
5~Off Site West	HD-3	06/05/03	T	VOC	Trichloroethene	79-01-6	1.80E-02	5.00E-03	**3.6E+00**	2.68E+01	6.7E-04	2.67E+01	6.7E-04
5~Off Site West	HD-3	06/28/04	T	VOC	Tetrachloroethene	127-18-4	1.10E-02	5.00E-03	**2.2E+00**	1.41E+01	7.8E-04	1.47E+01	7.5E-04
5~Off Site West	HD-3	06/28/04	T	VOC	Trichloroethene	79-01-6	7.90E-03	5.00E-03	**1.6E+00**	2.68E+01	2.9E-04	2.67E+01	3.0E-04
5~Off Site West	HD-3	08/13/03	T	VOC	Tetrachloroethene	127-18-4	1.00E-02	5.00E-03	**2.0E+00**	1.41E+01	7.1E-04	1.47E+01	6.8E-04
5~Off Site West	HD-3	08/13/03	T	VOC	Trichloroethene	79-01-6	7.30E-03	5.00E-03	**1.5E+00**	2.68E+01	2.7E-04	2.67E+01	2.7E-04
5~Off Site West	HD-4	07/10/02	T	VOC	Tetrachloroethene	127-18-4	4.40E-02	5.00E-03	**8.8E+00**	1.41E+01	3.1E-03	1.47E+01	3.0E-03
5~Off Site West	HD-4	07/10/02	T	VOC	Trichloroethene	79-01-6	2.60E-02	5.00E-03	**5.2E+00**	2.68E+01	9.7E-04	2.67E+01	9.7E-04
5~Off Site West	HD-4	11/09/04	T	VOC	Tetrachloroethene	127-18-4	4.50E-02	5.00E-03	**9.0E+00**	1.41E+01	3.2E-03	1.47E+01	3.1E-03
5~Off Site West	HD-4	11/09/04	T	VOC	Trichloroethene	79-01-6	3.10E-02	5.00E-03	**6.2E+00**	2.68E+01	1.2E-03	2.67E+01	1.2E-03
5~Off Site West	HD-4	03/24/03	T	VOC	Tetrachloroethene	127-18-4	5.40E-02	5.00E-03	**1.1E+01**	1.41E+01	3.8E-03	1.47E+01	3.7E-03
5~Off Site West	HD-4	03/24/03	T	VOC	Trichloroethene	79-01-6	3.60E-02	5.00E-03	**7.2E+00**	2.68E+01	1.3E-03	2.67E+01	1.3E-03
5~Off Site West	HD-4	04/28/05	T	VOC	Tetrachloroethene	127-18-4	4.50E-02	5.00E-03	**9.0E+00**	1.41E+01	3.2E-03	1.47E+01	3.1E-03
5~Off Site West	HD-4	04/28/05	T	VOC	Trichloroethene	79-01-6	3.20E-02	5.00E-03	**6.4E+00**	2.68E+01	1.2E-03	2.67E+01	1.2E-03
5~Off Site West	HD-8	07/02/02	T	VOC	Tetrachloroethene	127-18-4	3.50E-02	5.00E-03	**7.0E+00**	1.41E+01	2.5E-03	1.47E+01	2.4E-03
5~Off Site West	HD-8	07/02/02	T	VOC	Trichloroethene	79-01-6	4.00E-02	5.00E-03	**8.0E+00**	2.68E+01	1.5E-03	2.67E+01	1.5E-03
5~Off Site West	HD-8	11/23/04	T	VOC	Tetrachloroethene	127-18-4	1.80E-02	5.00E-03	**3.6E+00**	1.41E+01	1.3E-03	1.47E+01	1.2E-03
5~Off Site West	HD-8	11/23/04	T	VOC	Trichloroethene	79-01-6	2.80E-02	5.00E-03	**5.6E+00**	2.68E+01	1.0E-03	2.67E+01	1.0E-03
5~Off Site West	HD-8	03/18/03	T	VOC	Tetrachloroethene	127-18-4	3.40E-02	5.00E-03	**6.8E+00**	1.41E+01	2.4E-03	1.47E+01	2.3E-03
5~Off Site West	HD-8	03/18/03	T	VOC	Trichloroethene	79-01-6	3.90E-02	5.00E-03	**7.8E+00**	2.68E+01	1.5E-03	2.67E+01	1.5E-03
5~Off Site West	HD-8	03/18/03	T	INORG	Arsenic	7440-38-2	2.00E-02	1.00E-02	**2.0E+00**	1.44E+01	1.4E-03		
5~Off Site West	HD-8	04/28/05	T	VOC	Tetrachloroethene	127-18-4	2.10E-02	5.00E-03	**4.2E+00**	1.41E+01	1.5E-03	1.47E+01	1.4E-03
5~Off Site West	HD-8	04/28/05	T	VOC	Trichloroethene	79-01-6	2.60E-02	5.00E-03	**5.2E+00**	2.68E+01	9.7E-04	2.67E+01	9.7E-04
5~Off Site West	HD-8	10/19/04	T	VOC	Tetrachloroethene	127-18-4	2.60E-02	5.00E-03	**5.2E+00**	1.41E+01	1.8E-03	1.47E+01	1.8E-03
5~Off Site West	HD-8	10/19/04	T	VOC	Trichloroethene	79-01-6	3.40E-02	5.00E-03	**6.8E+00**	2.68E+01	1.3E-03	2.67E+01	1.3E-03
5~Off Site West	HD-8	03/18/04	T	VOC	Tetrachloroethene	127-18-4	3.00E-02	5.00E-03	**6.0E+00**	1.41E+01	2.1E-03	1.47E+01	2.0E-03
5~Off Site West	HD-8	03/18/04	T	VOC	Trichloroethene	79-01-6	3.90E-02	5.00E-03	**7.8E+00**	2.68E+01	1.5E-03	2.67E+01	1.5E-03
5~Off Site West	HD-8	04/28/03	T	VOC	Tetrachloroethene	127-18-4	3.50E-02	5.00E-03	**7.0E+00**	1.41E+01	2.5E-03	1.47E+01	2.4E-03

Table 4.3B(ii): Groundwater Concentrations Exceeding Screening Criteria: Upper Aquifer, Off-Site
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

Area	Station ID	Sample Date	Meas Basis	Chem Group	Chemical	CASRN	Concentration (mg/L)	Drinking Water Criteria (mg/L)	Ratio of Concentration to DW Criteria	Maintenance Worker Groundwater Contact Criteria (mg/L)	Ratio of Concentration to Maint Worker GW Contact Criteria	Comm/Ind Groundwater Vol Indoor Air Criteria (mg/L)	Ratio of Concentration to Comm/Ind GW Vol Indoor Air Criteria
5~Off Site West	HD-8	04/28/03	T	VOC	Trichloroethene	79-01-6	3.90E-02	5.00E-03	**7.8E+00**	2.68E+01	1.5E-03	2.67E+01	1.5E-03
5~Off Site West	HD-8	06/28/04	T	VOC	Tetrachloroethene	127-18-4	2.50E-02	5.00E-03	**5.0E+00**	1.41E+01	1.8E-03	1.47E+01	1.7E-03
5~Off Site West	HD-8	06/28/04	T	VOC	Trichloroethene	79-01-6	3.30E-02	5.00E-03	**6.6E+00**	2.68E+01	1.2E-03	2.67E+01	1.2E-03
5~Off Site West	HD-8	08/13/03	T	VOC	Tetrachloroethene	127-18-4	2.80E-02	5.00E-03	**5.6E+00**	1.41E+01	2.0E-03	1.47E+01	1.9E-03
5~Off Site West	HD-8	08/13/03	T	VOC	Trichloroethene	79-01-6	3.40E-02	5.00E-03	**6.8E+00**	2.68E+01	1.3E-03	2.67E+01	1.3E-03
5~Off Site West	HD-9	06/27/02	T	VOC	Tetrachloroethene	127-18-4	2.60E-02	5.00E-03	**5.2E+00**	1.41E+01	1.8E-03	1.47E+01	1.8E-03
5~Off Site West	HD-9	06/27/02	T	VOC	Trichloroethene	79-01-6	4.70E-02	5.00E-03	**9.4E+00**	2.68E+01	1.8E-03	2.67E+01	1.8E-03
5~Off Site West	HD-9	11/16/04	T	VOC	Tetrachloroethene	127-18-4	1.30E-01	5.00E-03	**2.6E+01**	1.41E+01	9.2E-03	1.47E+01	8.8E-03
5~Off Site West	HD-9	11/16/04	T	VOC	Trichloroethene	79-01-6	7.50E-02	5.00E-03	**1.5E+01**	2.68E+01	2.8E-03	2.67E+01	2.8E-03
5~Off Site West	HD-9	03/19/03	T	VOC	Tetrachloroethene	127-18-4	8.70E-02	5.00E-03	**1.7E+01**	1.41E+01	6.2E-03	1.47E+01	5.9E-03
5~Off Site West	HD-9	03/19/03	T	VOC	Trichloroethene	79-01-6	5.55E-02	5.00E-03	**1.1E+01**	2.68E+01	2.1E-03	2.67E+01	2.1E-03
5~Off Site West	HD-9	04/28/05	T	VOC	Tetrachloroethene	127-18-4	1.25E-01	5.00E-03	**2.5E+01**	1.41E+01	8.9E-03	1.47E+01	8.5E-03
5~Off Site West	HD-9	04/28/05	T	VOC	Trichloroethene	79-01-6	7.15E-02	5.00E-03	**1.4E+01**	2.68E+01	2.7E-03	2.67E+01	2.7E-03
5~Off Site West	HD-9	10/18/04	T	VOC	cis-1,2-Dichloroethene	156-59-2	8.10E-02	7.00E-02	**1.2E+00**	2.29E+01	3.5E-03	6.09E+01	1.3E-03
5~Off Site West	HD-9	10/18/04	T	VOC	Tetrachloroethene	127-18-4	7.70E-03	5.00E-03	**1.5E+00**	1.41E+01	5.5E-04	1.47E+01	5.2E-04
5~Off Site West	HD-9	10/18/04	T	VOC	Trichloroethene	79-01-6	1.10E-02	5.00E-03	**2.2E+00**	2.68E+01	4.1E-04	2.67E+01	4.1E-04
5~Off Site West	HD-9	10/18/04	T	VOC	Vinyl Chloride	75-01-4	7.60E-03	2.00E-03	**3.8E+00**	2.02E+00	3.8E-03	3.25E+00	2.3E-03
5~Off Site West	HD-9	05/01/03	T	VOC	Tetrachloroethene	127-18-4	1.10E-01	5.00E-03	**2.2E+01**	1.41E+01	7.8E-03	1.47E+01	7.5E-03
5~Off Site West	HD-9	05/01/03	T	VOC	Trichloroethene	79-01-6	5.60E-02	5.00E-03	**1.1E+01**	2.68E+01	2.1E-03	2.67E+01	2.1E-03
5~Off Site West	HD-9	08/13/03	T	VOC	Tetrachloroethene	127-18-4	1.30E-01	5.00E-03	**2.6E+01**	1.41E+01	9.2E-03	1.47E+01	8.8E-03
5~Off Site West	HD-9	08/13/03	T	VOC	Trichloroethene	79-01-6	5.80E-02	5.00E-03	**1.2E+01**	2.68E+01	2.2E-03	2.67E+01	2.2E-03
5~Off Site West	MW-11-03	11/30/04	T	VOC	Tetrachloroethene	127-18-4	7.70E-03	5.00E-03	**1.5E+00**	1.41E+01	5.5E-04	1.47E+01	5.2E-04
5~Off Site West	MW-11-03	11/30/04	T	VOC	Trichloroethene	79-01-6	4.00E-02	5.00E-03	**8.0E+00**	2.68E+01	1.5E-03	2.67E+01	1.5E-03
5~Off Site West	MW-11-03	03/20/03	T	VOC	Trichloroethene	79-01-6	1.20E-02	5.00E-03	**2.4E+00**	2.68E+01	4.5E-04	2.67E+01	4.5E-04
5~Off Site West	MW-16R-04	03/24/04	T	VOC	Tetrachloroethene	127-18-4	3.60E-02	5.00E-03	**7.2E+00**	1.41E+01	2.6E-03	1.47E+01	2.4E-03
5~Off Site West	MW-16R-04	03/24/04	T	VOC	Trichloroethene	79-01-6	2.00E-02	5.00E-03	**4.0E+00**	2.68E+01	7.5E-04	2.67E+01	7.5E-04
5~Off Site West	MW-16R-04	11/04/04	T	VOC	Tetrachloroethene	127-18-4	3.90E-02	5.00E-03	**7.8E+00**	1.41E+01	2.8E-03	1.47E+01	2.6E-03
5~Off Site West	MW-16R-04	11/04/04	T	VOC	Trichloroethene	79-01-6	3.10E-02	5.00E-03	**6.2E+00**	2.68E+01	1.2E-03	2.67E+01	1.2E-03
5~Off Site West	MW-21-04	11/15/04	T	VOC	cis-1,2-Dichloroethene	156-59-2	2.00E-01	7.00E-02	**2.9E+00**	2.29E+01	8.7E-03	6.09E+01	3.3E-03
5~Off Site West	MW-21-04	11/15/04	T	VOC	Tetrachloroethene	127-18-4	3.70E-02	5.00E-03	**7.4E+00**	1.41E+01	2.6E-03	1.47E+01	2.5E-03
5~Off Site West	MW-21-04	11/15/04	T	VOC	Trichloroethene	79-01-6	2.90E-02	5.00E-03	**5.8E+00**	2.68E+01	1.1E-03	2.67E+01	1.1E-03
5~Off Site West	MW-21-04	03/25/04	T	VOC	cis-1,2-Dichloroethene	156-59-2	2.20E-01	7.00E-02	**3.1E+00**	2.29E+01	9.6E-03	6.09E+01	3.6E-03
5~Off Site West	MW-21-04	03/25/04	T	VOC	Tetrachloroethene	127-18-4	1.80E-02	5.00E-03	**3.6E+00**	1.41E+01	1.3E-03	1.47E+01	1.2E-03
5~Off Site West	MW-21-04	03/25/04	T	VOC	Trichloroethene	79-01-6	1.60E-02	5.00E-03	**3.2E+00**	2.68E+01	6.0E-04	2.67E+01	6.0E-04
5~Off Site West	MW-46-05	07/14/05	T	VOC	Tetrachloroethene	127-18-4	3.30E-02	5.00E-03	**6.6E+00**	1.41E+01	2.3E-03	1.47E+01	2.2E-03
5~Off Site West	MW-46-05	07/14/05	T	VOC	Trichloroethene	79-01-6	6.70E-02	5.00E-03	**1.3E+01**	2.68E+01	2.5E-03	2.67E+01	2.5E-03
5~Off Site West	MW-47-05	07/15/05	T	VOC	Tetrachloroethene	127-18-4	3.30E-02	5.00E-03	**6.6E+00**	1.41E+01	2.3E-03	1.47E+01	2.2E-03
5~Off Site West	MW-47-05	07/15/05	T	VOC	Trichloroethene	79-01-6	9.90E-02	5.00E-03	**2.0E+01**	2.68E+01	3.7E-03	2.67E+01	3.7E-03
5~Off Site West	MW-48-05	07/18/05	T	VOC	Methylene Chloride	75-09-2	1.20E-02	5.00E-03	**2.4E+00**	8.94E+01	1.3E-04	1.18E+02	1.0E-04
5~Off Site West	MW-48-05	07/18/05	T	VOC	Tetrachloroethene	127-18-4	6.80E-02	5.00E-03	**1.4E+01**	1.41E+01	4.8E-03	1.47E+01	4.6E-03
5~Off Site West	MW-48-05	07/18/05	T	VOC	Trichloroethene	79-01-6	9.40E-01	5.00E-03	**1.9E+02**	2.68E+01	3.5E-02	2.67E+01	3.5E-02
5~Off Site West	MW-6A-03	11/18/04	T	VOC	cis-1,2-Dichloroethene	156-59-2	3.40E-01	7.00E-02	**4.9E+00**	2.29E+01	1.5E-02	6.09E+01	5.6E-03
5~Off Site West	MW-6A-03	11/18/04	T	VOC	Vinyl Chloride	75-01-4	5.00E-01	2.00E-03	**2.5E+02**	2.02E+00	2.5E-01	3.25E+00	1.5E-01
5~Off Site West	MW-6A-03	02/05/03	T	VOC	cis-1,2-Dichloroethene	156-59-2	1.20E+00	7.00E-02	**1.7E+01**	2.29E+01	5.2E-02	6.09E+01	2.0E-02
5~Off Site West	MW-6A-03	02/05/03	T	VOC	Vinyl Chloride	75-01-4	2.60E-01	2.00E-03	**1.3E+02**	2.02E+00	1.3E-01	3.25E+00	8.0E-02
5~Off Site West	MW-6A-03	04/27/05	T	VOC	cis-1,2-Dichloroethene	156-59-2	3.00E-01	7.00E-02	**4.3E+00**	2.29E+01	1.3E-02	6.09E+01	4.9E-03
5~Off Site West	MW-6A-03	04/27/05	T	VOC	Vinyl Chloride	75-01-4	3.60E-01	2.00E-03	**1.8E+02**	2.02E+00	1.8E-01	3.25E+00	1.1E-01
5~Off Site West	MW-6A-03	10/18/04	T	VOC	Vinyl Chloride	75-01-4	2.60E-02	2.00E-03	**1.3E+01**	2.02E+00	1.3E-02	3.25E+00	8.0E-03
5~Off Site West	MW-6A-03	03/18/04	T	VOC	cis-1,2-Dichloroethene	156-59-2	1.80E-01	7.00E-02	**2.6E+00**	2.29E+01	7.9E-03	6.09E+01	3.0E-03
5~Off Site West	MW-6A-03	03/18/04	T	VOC	Vinyl Chloride	75-01-4	3.80E-01	2.00E-03	**1.9E+02**	2.02E+00	1.9E-01	3.25E+00	1.2E-01

Table 4.3B(ii): Groundwater Concentrations Exceeding Screening Criteria: Upper Aquifer, Off-Site
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

Area	Station ID	Sample Date	Meas Basis	Chem Group	Chemical	CASRN	Concentration (mg/L)	Drinking Water Criteria (mg/L)	Ratio of Concentration to DW Criteria	Maintenance Worker Groundwater Contact Criteria (mg/L)	Ratio of Concentration to Maint Worker GW Contact Criteria	Comm/Ind Groundwater Vol Indoor Air Criteria (mg/L)	Ratio of Concentration to Comm/Ind GW Vol Indoor Air Criteria
5~Off Site West	MW-6A-03	04/25/03	T	VOC	cis-1,2-Dichloroethene	156-59-2	3.40E-01	7.00E-02	**4.9E+00**	2.29E+01	1.5E-02	6.09E+01	5.6E-03
5~Off Site West	MW-6A-03	04/25/03	T	VOC	Vinyl Chloride	75-01-4	7.90E-01	2.00E-03	**4.0E+02**	2.02E+00	3.9E-01	3.25E+00	2.4E-01
5~Off Site West	MW-6A-03	06/28/04	T	VOC	Vinyl Chloride	75-01-4	1.50E-01	2.00E-03	**7.5E+01**	2.02E+00	7.4E-02	3.25E+00	4.6E-02
5~Off Site West	MW-6A-03	08/13/03	T	VOC	cis-1,2-Dichloroethene	156-59-2	1.80E-01	7.00E-02	**2.6E+00**	2.29E+01	7.9E-03	6.09E+01	3.0E-03
5~Off Site West	MW-6A-03	08/13/03	T	VOC	Vinyl Chloride	75-01-4	2.80E-01	2.00E-03	**1.4E+02**	2.02E+00	1.4E-01	3.25E+00	8.6E-02
5~Off Site West	MW-6B-03	11/18/04	T	VOC	cis-1,2-Dichloroethene	156-59-2	7.70E-01	7.00E-02	**1.1E+01**	2.29E+01	3.4E-02	6.09E+01	1.3E-02
5~Off Site West	MW-6B-03	11/18/04	T	VOC	Tetrachloroethene	127-18-4	1.70E-01	5.00E-03	**3.4E+01**	1.41E+01	1.2E-02	1.47E+01	1.2E-02
5~Off Site West	MW-6B-03	11/18/04	T	VOC	Trichloroethene	79-01-6	1.30E-01	5.00E-03	**2.6E+01**	2.68E+01	4.8E-03	2.67E+01	4.9E-03
5~Off Site West	MW-6B-03	11/18/04	T	VOC	Vinyl Chloride	75-01-4	2.70E-02	2.00E-03	**1.4E+01**	2.02E+00	1.3E-02	3.25E+00	8.3E-03
5~Off Site West	MW-6B-03	02/07/03	T	VOC	Methylene Chloride	75-09-2	7.60E-03	5.00E-03	**1.5E+00**	8.94E+01	8.5E-05	1.18E+02	6.5E-05
5~Off Site West	MW-6B-03	02/07/03	T	VOC	Tetrachloroethene	127-18-4	3.10E-01	5.00E-03	**6.2E+01**	1.41E+01	2.2E-02	1.47E+01	2.1E-02
5~Off Site West	MW-6B-03	02/07/03	T	VOC	Trichloroethene	79-01-6	1.80E-02	5.00E-03	**3.6E+00**	2.68E+01	6.7E-04	2.67E+01	6.7E-04
5~Off Site West	MW-6B-03	04/27/05	T	VOC	cis-1,2-Dichloroethene	156-59-2	4.40E-01	7.00E-02	**6.3E+00**	2.29E+01	1.9E-02	6.09E+01	7.2E-03
5~Off Site West	MW-6B-03	04/27/05	T	VOC	Tetrachloroethene	127-18-4	6.50E-02	5.00E-03	**1.3E+01**	1.41E+01	4.6E-03	1.47E+01	4.4E-03
5~Off Site West	MW-6B-03	04/27/05	T	VOC	Trichloroethene	79-01-6	3.00E-02	5.00E-03	**6.0E+00**	2.68E+01	1.1E-03	2.67E+01	1.1E-03
5~Off Site West	MW-6B-03	04/27/05	T	VOC	Vinyl Chloride	75-01-4	1.20E-01	2.00E-03	**6.0E+01**	2.02E+00	5.9E-02	3.25E+00	3.7E-02
5~Off Site West	MW-6B-03	10/18/04	T	VOC	cis-1,2-Dichloroethene	156-59-2	1.40E-01	7.00E-02	**2.0E+00**	2.29E+01	6.1E-03	6.09E+01	2.3E-03
5~Off Site West	MW-6B-03	10/18/04	T	VOC	Tetrachloroethene	127-18-4	4.70E-02	5.00E-03	**9.4E+00**	1.41E+01	3.3E-03	1.47E+01	3.2E-03
5~Off Site West	MW-6B-03	10/18/04	T	VOC	Trichloroethene	79-01-6	2.15E-02	5.00E-03	**4.3E+00**	2.68E+01	8.0E-04	2.67E+01	8.1E-04
5~Off Site West	MW-6B-03	10/18/04	T	VOC	Vinyl Chloride	75-01-4	2.50E-02	2.00E-03	**1.3E+01**	2.02E+00	1.2E-02	3.25E+00	7.7E-03
5~Off Site West	MW-6B-03	03/18/04	T	VOC	cis-1,2-Dichloroethene	156-59-2	1.50E+00	7.00E-02	**2.1E+01**	2.29E+01	6.6E-02	6.09E+01	2.5E-02
5~Off Site West	MW-6B-03	03/18/04	T	VOC	Tetrachloroethene	127-18-4	1.70E-01	5.00E-03	**3.4E+01**	1.41E+01	1.2E-02	1.47E+01	1.2E-02
5~Off Site West	MW-6B-03	03/18/04	T	VOC	Trichloroethene	79-01-6	9.00E-02	5.00E-03	**1.8E+01**	2.68E+01	3.4E-03	2.67E+01	3.4E-03
5~Off Site West	MW-6B-03	03/18/04	T	VOC	Vinyl Chloride	75-01-4	8.20E-02	2.00E-03	**4.1E+01**	2.02E+00	4.1E-02	3.25E+00	2.5E-02
5~Off Site West	MW-6B-03	04/25/03	T	VOC	cis-1,2-Dichloroethene	156-59-2	1.20E+00	7.00E-02	**1.7E+01**	2.29E+01	5.2E-02	6.09E+01	2.0E-02
5~Off Site West	MW-6B-03	04/25/03	T	VOC	Tetrachloroethene	127-18-4	6.90E-02	5.00E-03	**1.4E+01**	1.41E+01	4.9E-03	1.47E+01	4.7E-03
5~Off Site West	MW-6B-03	04/25/03	T	VOC	Trichloroethene	79-01-6	1.90E-02	5.00E-03	**3.8E+00**	2.68E+01	7.1E-04	2.67E+01	7.1E-04
5~Off Site West	MW-6B-03	04/25/03	T	INORG	Arsenic	7440-38-2	1.30E-02	1.00E-02	**1.3E+00**	1.44E+01	9.0E-04		
5~Off Site West	MW-6B-03	04/25/03	D	INORG	Arsenic	7440-38-2	1.40E-02	1.00E-02	**1.4E+00**	1.44E+01	9.7E-04		
5~Off Site West	MW-6B-03	06/28/04	T	VOC	cis-1,2-Dichloroethene	156-59-2	1.20E+00	7.00E-02	**1.7E+01**	2.29E+01	5.2E-02	6.09E+01	2.0E-02
5~Off Site West	MW-6B-03	06/28/04	T	VOC	Tetrachloroethene	127-18-4	1.80E-01	5.00E-03	**3.6E+01**	1.41E+01	1.3E-02	1.47E+01	1.2E-02
5~Off Site West	MW-6B-03	06/28/04	T	VOC	Trichloroethene	79-01-6	1.20E-01	5.00E-03	**2.4E+01**	2.68E+01	4.5E-03	2.67E+01	4.5E-03
5~Off Site West	MW-6B-03	06/28/04	T	VOC	Vinyl Chloride	75-01-4	7.60E-02	2.00E-03	**3.8E+01**	2.02E+00	3.8E-02	3.25E+00	2.3E-02
5~Off Site West	MW-6B-03	08/13/03	T	VOC	cis-1,2-Dichloroethene	156-59-2	8.10E-01	7.00E-02	**1.2E+01**	2.29E+01	3.5E-02	6.09E+01	1.3E-02
5~Off Site West	MW-6B-03	08/13/03	T	VOC	Tetrachloroethene	127-18-4	2.90E-01	5.00E-03	**5.8E+01**	1.41E+01	2.1E-02	1.47E+01	2.0E-02
5~Off Site West	MW-6B-03	08/13/03	T	VOC	Trichloroethene	79-01-6	1.20E-01	5.00E-03	**2.4E+01**	2.68E+01	4.5E-03	2.67E+01	4.5E-03
5~Off Site West	MW-7A-03	11/18/04	T	VOC	Vinyl Chloride	75-01-4	1.40E-02	2.00E-03	**7.0E+00**	2.02E+00	6.9E-03	3.25E+00	4.3E-03
5~Off Site West	MW-7A-03	02/07/03	T	VOC	cis-1,2-Dichloroethene	156-59-2	4.65E-01	7.00E-02	**6.6E+00**	2.29E+01	2.0E-02	6.09E+01	7.6E-03
5~Off Site West	MW-7A-03	02/07/03	T	VOC	Methylene Chloride	75-09-2	5.75E-03	5.00E-03	**1.2E+00**	8.94E+01	6.4E-05	1.18E+02	4.9E-05
5~Off Site West	MW-7A-03	02/07/03	T	VOC	Vinyl Chloride	75-01-4	2.95E-01	2.00E-03	**1.5E+02**	2.02E+00	1.5E-01	3.25E+00	9.1E-02
5~Off Site West	MW-7A-03	04/27/05	T	VOC	Vinyl Chloride	75-01-4	4.10E-03	2.00E-03	**2.1E+00**	2.02E+00	2.0E-03	3.25E+00	1.3E-03
5~Off Site West	MW-7A-03	10/14/04	T	VOC	cis-1,2-Dichloroethene	156-59-2	3.40E-01	7.00E-02	**4.9E+00**	2.29E+01	1.5E-02	6.09E+01	5.6E-03
5~Off Site West	MW-7A-03	10/14/04	T	VOC	Vinyl Chloride	75-01-4	4.00E-01	2.00E-03	**2.0E+02**	2.02E+00	2.0E-01	3.25E+00	1.2E-01
5~Off Site West	MW-7A-03	03/18/04	T	VOC	Vinyl Chloride	75-01-4	8.10E-02	2.00E-03	**4.1E+01**	2.02E+00	4.0E-02	3.25E+00	2.5E-02
5~Off Site West	MW-7A-03	04/28/03	T	VOC	cis-1,2-Dichloroethene	156-59-2	5.50E-01	7.00E-02	**7.9E+00**	2.29E+01	2.4E-02	6.09E+01	9.0E-03
5~Off Site West	MW-7A-03	04/28/03	T	VOC	Vinyl Chloride	75-01-4	4.50E-01	2.00E-03	**2.3E+02**	2.02E+00	2.2E-01	3.25E+00	1.4E-01
5~Off Site West	MW-7A-03	06/29/04	T	VOC	Vinyl Chloride	75-01-4	2.70E-02	2.00E-03	**1.4E+01**	2.02E+00	1.3E-02	3.25E+00	8.3E-03
5~Off Site West	MW-7B-03	11/18/04	T	VOC	Vinyl Chloride	75-01-4	2.60E-02	2.00E-03	**1.3E+01**	2.02E+00	1.3E-02	3.25E+00	8.0E-03
5~Off Site West	MW-7B-03	02/06/03	T	VOC	Tetrachloroethene	127-18-4	2.20E-01	5.00E-03	**4.4E+01**	1.41E+01	1.6E-02	1.47E+01	1.5E-02
5~Off Site West	MW-7B-03	02/06/03	T	VOC	Trichloroethene	79-01-6	4.50E-02	5.00E-03	**9.0E+00**	2.68E+01	1.7E-03	2.67E+01	1.7E-03

Table 4.3B(ii): Groundwater Concentrations Exceeding Screening Criteria: Upper Aquifer, Off-Site
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

Area	Station ID	Sample Date	Meas Basis	Chem Group	Chemical	CASRN	Concentration (mg/L)	Drinking Water Criteria (mg/L)	Ratio of Concentration to DW Criteria	Maintenance Worker Groundwater Contact Criteria (mg/L)	Ratio of Concentrationt o Maint Worker GW Contact Criteria	Comm/Ind Groundwater Vol Indoor Air Criteria (mg/L)	Ratio of Concentrationt o Comm/Ind GW Vol Indoor Air Criteria
5~Off Site West	MW-7B-03	04/27/05	T	VOC	Vinyl Chloride	75-01-4	1.50E-02	2.00E-03	**7.5E+00**	2.02E+00	7.4E-03	3.25E+00	4.6E-03
5~Off Site West	MW-7B-03	10/14/04	T	VOC	cis-1,2-Dichloroethene	156-59-2	7.30E-01	7.00E-02	**1.0E+01**	2.29E+01	3.2E-02	6.09E+01	1.2E-02
5~Off Site West	MW-7B-03	10/14/04	T	VOC	Tetrachloroethene	127-18-4	2.00E-01	5.00E-03	**4.0E+01**	1.41E+01	1.4E-02	1.47E+01	1.4E-02
5~Off Site West	MW-7B-03	10/14/04	T	VOC	Trichloroethene	79-01-6	9.80E-02	5.00E-03	**2.0E+01**	2.68E+01	3.7E-03	2.67E+01	3.7E-03
5~Off Site West	MW-7B-03	10/14/04	T	VOC	Vinyl Chloride	75-01-4	5.30E-02	2.00E-03	**2.7E+01**	2.02E+00	2.6E-02	3.25E+00	1.6E-02
5~Off Site West	MW-7B-03	03/18/04	T	VOC	cis-1,2-Dichloroethene	156-59-2	3.40E-01	7.00E-02	**4.9E+00**	2.29E+01	1.5E-02	6.09E+01	5.6E-03
5~Off Site West	MW-7B-03	03/18/04	T	VOC	Tetrachloroethene	127-18-4	1.60E-02	5.00E-03	**3.2E+00**	1.41E+01	1.1E-03	1.47E+01	1.1E-03
5~Off Site West	MW-7B-03	03/18/04	T	VOC	Trichloroethene	79-01-6	1.10E-02	5.00E-03	**2.2E+00**	2.68E+01	4.1E-04	2.67E+01	4.1E-04
5~Off Site West	MW-7B-03	03/18/04	T	VOC	Vinyl Chloride	75-01-4	9.10E-02	2.00E-03	**4.6E+01**	2.02E+00	4.5E-02	3.25E+00	2.8E-02
5~Off Site West	MW-7B-03	04/28/03	T	VOC	cis-1,2-Dichloroethene	156-59-2	6.20E-01	7.00E-02	**8.9E+00**	2.29E+01	2.7E-02	6.09E+01	1.0E-02
5~Off Site West	MW-7B-03	04/28/03	T	VOC	Tetrachloroethene	127-18-4	5.10E-01	5.00E-03	**1.0E+02**	1.41E+01	3.6E-02	1.47E+01	3.5E-02
5~Off Site West	MW-7B-03	04/28/03	T	VOC	Trichloroethene	79-01-6	1.80E-01	5.00E-03	**3.6E+01**	2.68E+01	6.7E-03	2.67E+01	6.7E-03
5~Off Site West	MW-7B-03	06/29/04	T	VOC	cis-1,2-Dichloroethene	156-59-2	2.60E-01	7.00E-02	**3.7E+00**	2.29E+01	1.1E-02	6.09E+01	4.3E-03
5~Off Site West	MW-7B-03	06/29/04	T	VOC	Tetrachloroethene	127-18-4	2.10E-02	5.00E-03	**4.2E+00**	1.41E+01	1.5E-03	1.47E+01	1.4E-03
5~Off Site West	MW-7B-03	06/29/04	T	VOC	Trichloroethene	79-01-6	1.15E-02	5.00E-03	**2.3E+00**	2.68E+01	4.3E-04	2.67E+01	4.3E-04
5~Off Site West	MW-7B-03	06/29/04	T	VOC	Vinyl Chloride	75-01-4	4.60E-02	2.00E-03	**2.3E+01**	2.02E+00	2.3E-02	3.25E+00	1.4E-02
5~Off Site West	MW-7B-03	06/29/04	T	INORG	Arsenic	7440-38-2	1.25E-02	1.00E-02	**1.3E+00**	1.44E+01	8.7E-04		
5~Off Site West	MW-7B-03	08/12/03	T	VOC	cis-1,2-Dichloroethene	156-59-2	8.50E-01	7.00E-02	**1.2E+01**	2.29E+01	3.7E-02	6.09E+01	1.4E-02
5~Off Site West	MW-7B-03	08/12/03	T	VOC	Methylene Chloride	75-09-2	1.45E-02	5.00E-03	**2.9E+00**	8.94E+01	1.6E-04	1.18E+02	1.2E-04
5~Off Site West	MW-7B-03	08/12/03	T	VOC	Tetrachloroethene	127-18-4	4.10E-02	5.00E-03	**8.2E+00**	1.41E+01	2.9E-03	1.47E+01	2.8E-03
5~Off Site West	MW-7B-03	08/12/03	T	VOC	Trichloroethene	79-01-6	1.60E-02	5.00E-03	**3.2E+00**	2.68E+01	6.0E-04	2.67E+01	6.0E-04
5~Off Site West	MW-7B-03	08/12/03	T	VOC	Vinyl Chloride	75-01-4	4.50E-02	2.00E-03	**2.3E+01**	2.02E+00	2.2E-02	3.25E+00	1.4E-02
5~Off Site West	MW-8-03	11/08/04	T	VOC	cis-1,2-Dichloroethene	156-59-2	7.70E-02	7.00E-02	**1.1E+00**	2.29E+01	3.4E-03	6.09E+01	1.3E-03
5~Off Site West	MW-8-03	11/08/04	T	VOC	Tetrachloroethene	127-18-4	3.40E-02	5.00E-03	**6.8E+00**	1.41E+01	2.4E-03	1.47E+01	2.3E-03
5~Off Site West	MW-8-03	11/08/04	T	VOC	Trichloroethene	79-01-6	4.50E-02	5.00E-03	**9.0E+00**	2.68E+01	1.7E-03	2.67E+01	1.7E-03
5~Off Site West	MW-8-03	03/28/03	T	VOC	Tetrachloroethene	127-18-4	2.20E-02	5.00E-03	**4.4E+00**	1.41E+01	1.6E-03	1.47E+01	1.5E-03
5~Off Site West	MW-8-03	03/28/03	T	VOC	Trichloroethene	79-01-6	1.90E-02	5.00E-03	**3.8E+00**	2.68E+01	7.1E-04	2.67E+01	7.1E-04

Notes:

1. Only constituents detected in each respective area are shown.
2. The Screening Criteria for groundwater are the lower of the Screening Criteria at either a cancer risk level of $1x10^{-5}$ or a hazard quotient of 1.
3. Shaded cells represent ratios of concentration to the Screening Criteria greater than 1.
4. Equivalent Drinking Water Concentration Limits, Maintenance Worker GW Contact Criteria, and Comm/Ind GW Vol Indoor Air Criteria were calculated as discussed in Appendix E of the RFI Report.

Abbreviations:

Chem Group - Chemical Group
CASRN - Chemical Abstract Service Registry Number
Comm/Ind - Commercial/Industrial
Vol - Volatilization
Meas Basis - Measured Basis; T = Total, D = Dissolved

Table 4.3C(i): Groundwater Screening Results: Till Rich Zone
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

On/Off-site	Area	Chem Group	Chemical	CASRN	Carc Class	Analyzed	Detected	Min Detected Concentration (mg/L)	Max Detected Concentration(mg/L)	Drinking Water Criteria (mg/L)	Ratio of Max Detect to DW Criteria
On-site	1~Webster to Taylor	VOC	cis-1,2-Dichloroethene	156-59-2	D	1	1	6.00E-03	6.00E-03	7.00E-02	8.6E-02
On-site	1~Webster to Taylor	VOC	Tetrachloroethene	127-18-4	C-B2	1	1	2.70E-02	2.70E-02	5.00E-03	**5.4E+00**
On-site	1~Webster to Taylor	VOC	Trichloroethene	79-01-6	C-B2	1	1	7.20E-02	7.20E-02	5.00E-03	**1.4E+01**
On-site	2~Taylor to Railway	VOC	Chloroform	67-66-3	B2	1	1	6.75E-04	6.75E-04	8.00E-02	8.4E-03
On-site	2~Taylor to Railway	VOC	cis-1,2-Dichloroethene	156-59-2	D	1	1	1.15E-02	1.15E-02	7.00E-02	1.6E-01
On-site	2~Taylor to Railway	VOC	Tetrachloroethene	127-18-4	C-B2	1	1	1.15E-02	1.15E-02	5.00E-03	**2.3E+00**
On-site	2~Taylor to Railway	VOC	Trichloroethene	79-01-6	C-B2	1	1	1.90E-01	1.90E-01	5.00E-03	**3.8E+01**
Off-site	4~Off Site South	VOC	Trichloroethene	79-01-6	C-B2	1	1	1.07E-01	1.07E-01	5.00E-03	**2.1E+01**
Off-site	4~Off Site South	INORG	Barium	7440-39-3	D	1	1	1.24E-01	1.24E-01	2.00E+00	6.2E-02
Off-site	5~Off Site West	VOC	Acetone	67-64-1	ID	14	1	1.80E-02	1.80E-02	3.29E+01	5.5E-04
Off-site	5~Off Site West	VOC	2-Butanone	78-93-3	ID	14	1	9.90E-02	9.90E-02	2.19E+01	4.5E-03
Off-site	5~Off Site West	VOC	Chloromethane	74-87-3	D	14	1	7.30E-03	7.30E-03		
Off-site	5~Off Site West	VOC	Dichlorodifluoromethane	75-71-8		14	10	7.30E-03	1.10E-01	7.30E+00	1.5E-02
Off-site	5~Off Site West	VOC	1,1-Dichloroethene	75-35-4	C	14	3	3.10E-04	2.40E-03	7.00E-03	3.4E-01
Off-site	5~Off Site West	VOC	cis-1,2-Dichloroethene	156-59-2	D	14	13	4.70E-02	7.10E-01	7.00E-02	**1.0E+01**
Off-site	5~Off Site West	VOC	trans-1,2-Dichloroethene	156-60-5		14	7	4.70E-04	1.20E-02	1.00E-01	1.2E-01
Off-site	5~Off Site West	VOC	Tetrachloroethene	127-18-4	C-B2	14	4	3.10E-03	7.50E-02	5.00E-03	**1.5E+01**
Off-site	5~Off Site West	VOC	Trichloroethene	79-01-6	C-B2	14	14	6.90E-04	2.00E+00	5.00E-03	**4.0E+02**
Off-site	5~Off Site West	VOC	Vinyl Chloride	75-01-4	A	14	6	5.70E-03	5.10E-02	2.00E-03	**2.6E+01**
Off-site	5~Off Site West	INORG	Arsenic	7440-38-2	A	5	3	2.50E-03	4.10E-03	1.00E-02	4.1E-01
Off-site	5~Off Site West	INORG	Barium	7440-39-3	D	5	5	1.00E-01	1.50E-01	2.00E+00	7.5E-02
Off-site	5~Off Site West	INORG	Cadmium	7440-43-9	B1	5	2	2.90E-04	3.70E-04	5.00E-03	7.4E-02
Off-site	5~Off Site West	INORG	Cobalt	7440-48-4	B1	4	1	1.50E-03	1.50E-03	7.30E-01	2.1E-03
Off-site	5~Off Site West	INORG	Copper	7440-50-8	D	4	1	2.20E-03	2.20E-03	1.30E+00	1.7E-03
Off-site	5~Off Site West	INORG	Manganese	7439-96-5	D	6	6	4.60E-02	1.70E-01	5.11E+00	3.3E-02
Off-site	5~Off Site West	INORG	Nickel	7440-02-0	A	4	1	8.90E-03	8.90E-03	1.00E-01	8.9E-02
Off-site	5~Off Site West	INORG	Thallium	7440-28-0		4	1	8.10E-05	8.10E-05	2.00E-03	4.1E-02
Off-site	5~Off Site West	INORG	Vanadium	7440-62-2		4	2	8.60E-04	1.10E-03	3.65E-02	3.0E-02
Off-site	5~Off Site West	INORG	Zinc	7440-66-6	ID	4	1	1.90E-02	1.90E-02	1.10E+01	1.7E-03

Notes:

1. Only constituents detected in each respective area are shown.
2. The Screening Criteria for groundwater are the lower of the Screening Criteria at either a cancer risk level of $1x10^{-5}$ or a hazard quotient of 1.
3. Shaded cells represent ratios of concentration to the Screening Criteria greater than 1.
4. Equivalent Drinking Water Concentration Limits were calculated as discussed in Appendix E of the RFI Report.

Abbreviations:

Chem Group - Chemical Group
CASRN - Chemical Abstract Service Registry Number
Carc Class - EPA Weight-of-Evidence Cancer Classification

Table 4.3C(ii): Groundwater Concentrations Exceeding Screening Criteria: Till Rich Zone
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

Area	Station ID	Sample Date	Chem Group	Chemical	CASRN	Concentration (mg/L)	Drinking Water Criteria (mg/L)	Ratio of Concentration to DW Criteria
1~Webster to Taylor	MW-40-05	07/18/05	VOC	Tetrachloroethene	127-18-4	2.70E-02	5.00E-03	**5.4E+00**
1~Webster to Taylor	MW-40-05	07/18/05	VOC	Trichloroethene	79-01-6	7.20E-02	5.00E-03	**1.4E+01**
2~Taylor to Railway	MW-36-05	06/02/05	VOC	Tetrachloroethene	127-18-4	1.15E-02	5.00E-03	**2.3E+00**
2~Taylor to Railway	MW-36-05	06/02/05	VOC	Trichloroethene	79-01-6	1.90E-01	5.00E-03	**3.8E+01**
4~Off Site South	DAY-23 *	12/28/04	VOC	Trichloroethene	79-01-6	1.07E-01	5.00E-03	**2.1E+01**
5~Off Site West	DAY-07	07/15/02	VOC	cis-1,2-Dichloroethene	156-59-2	3.40E-01	7.00E-02	**4.9E+00**
5~Off Site West	DAY-07	07/15/02	VOC	Trichloroethene	79-01-6	1.90E+00	5.00E-03	**3.8E+02**
5~Off Site West	DAY-07	11/10/04	VOC	cis-1,2-Dichloroethene	156-59-2	2.50E-01	7.00E-02	**3.6E+00**
5~Off Site West	DAY-07	11/10/04	VOC	Trichloroethene	79-01-6	2.00E+00	5.00E-03	**4.0E+02**
5~Off Site West	DAY-07	03/21/03	VOC	cis-1,2-Dichloroethene	156-59-2	1.80E-01	7.00E-02	**2.6E+00**
5~Off Site West	DAY-07	03/21/03	VOC	Trichloroethene	79-01-6	1.30E+00	5.00E-03	**2.6E+02**
5~Off Site West	DAY-24 *	12/28/04	VOC	cis-1,2-Dichloroethene	156-59-2	1.03E-01	7.00E-02	**1.5E+00**
5~Off Site West	DAY-24 *	12/28/04	VOC	Tetrachloroethene	127-18-4	2.38E-02	5.00E-03	**4.8E+00**
5~Off Site West	DAY-24 *	12/28/04	VOC	Trichloroethene	79-01-6	1.40E-01	5.00E-03	**2.8E+01**
5~Off Site West	MW-19-04	03/04/04	VOC	cis-1,2-Dichloroethene	156-59-2	2.10E-01	7.00E-02	**3.0E+00**
5~Off Site West	MW-19-04	03/04/04	VOC	Trichloroethene	79-01-6	7.70E-03	5.00E-03	**1.5E+00**
5~Off Site West	MW-19-04	03/04/04	VOC	Vinyl Chloride	75-01-4	7.00E-03	2.00E-03	**3.5E+00**
5~Off Site West	MW-19-04	03/23/04	VOC	cis-1,2-Dichloroethene	156-59-2	3.50E-01	7.00E-02	**5.0E+00**
5~Off Site West	MW-19-04	03/23/04	VOC	Trichloroethene	79-01-6	1.40E-02	5.00E-03	**2.8E+00**
5~Off Site West	MW-19-04	03/23/04	VOC	Vinyl Chloride	75-01-4	5.70E-03	2.00E-03	**2.9E+00**
5~Off Site West	MW-20-04	11/09/04	VOC	cis-1,2-Dichloroethene	156-59-2	7.10E-01	7.00E-02	**1.0E+01**
5~Off Site West	MW-20-04	11/09/04	VOC	Tetrachloroethene	127-18-4	8.00E-03	5.00E-03	**1.6E+00**
5~Off Site West	MW-20-04	11/09/04	VOC	Trichloroethene	79-01-6	6.10E-01	5.00E-03	**1.2E+02**
5~Off Site West	MW-20-04	03/04/04	VOC	cis-1,2-Dichloroethene	156-59-2	2.30E-01	7.00E-02	**3.3E+00**
5~Off Site West	MW-20-04	03/04/04	VOC	Trichloroethene	79-01-6	3.00E-01	5.00E-03	**6.0E+01**
5~Off Site West	MW-20-04	03/24/04	VOC	cis-1,2-Dichloroethene	156-59-2	2.70E-01	7.00E-02	**3.9E+00**
5~Off Site West	MW-20-04	03/24/04	VOC	Trichloroethene	79-01-6	4.50E-01	5.00E-03	**9.0E+01**
5~Off Site West	MW-41-05	07/18/05	VOC	Trichloroethene	79-01-6	1.40E-02	5.00E-03	**2.8E+00**
5~Off Site West	MW-41-05	07/18/05	VOC	Vinyl Chloride	75-01-4	1.60E-02	2.00E-03	**8.0E+00**
5~Off Site West	MW-42-05	07/15/05	VOC	cis-1,2-Dichloroethene	156-59-2	3.00E-01	7.00E-02	**4.3E+00**
5~Off Site West	MW-42-05	07/15/05	VOC	Trichloroethene	79-01-6	4.60E-01	5.00E-03	**9.2E+01**
5~Off Site West	MW-42-05	07/15/05	VOC	Vinyl Chloride	75-01-4	5.10E-02	2.00E-03	**2.6E+01**
5~Off Site West	MW-43-05	07/14/05	VOC	Vinyl Chloride	75-01-4	6.90E-03	2.00E-03	**3.5E+00**
5~Off Site West	MW-44-05	07/14/05	VOC	cis-1,2-Dichloroethene	156-59-2	4.00E-01	7.00E-02	**5.7E+00**
5~Off Site West	MW-44-05	07/14/05	VOC	Trichloroethene	79-01-6	8.20E-01	5.00E-03	**1.6E+02**
5~Off Site West	MW-44-05	07/14/05	VOC	Vinyl Chloride	75-01-4	7.90E-03	2.00E-03	**4.0E+00**
5~Off Site West	MW-45-05	07/15/05	VOC	Tetrachloroethene	127-18-4	7.50E-02	5.00E-03	**1.5E+01**

Notes:

* Non-RFI Data were collected by the City of Dayton during installation of monitoring well DAY-23 and DAY-24 and have not been independently validated by GM.

1. Only constituents detected in each respective area are shown.

2. The Screening Criteria for groundwater are the lower of the Screening Criteria at either a cancer risk level of $1x10^{-5}$ or a hazard quotient of 1.

3. Shaded cells represent ratios of concentration to the Screening Criteria greater than 1.

4. Equivalent Drinking Water Concentration Limits were calculated as discussed in Appendix E of the RFI Report.

Abbreviations:

Chem Group - Chemical Group

CASRN - Chemical Abstract Service Registry Number

Table 4.3D(i): Groundwater Screening Results: Lower Aquifer
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

On/Off-site	Area	Chem Group	Chemical	CASRN	Carc Class	Analyzed	Detected	Min Detected Concentration (mg/L)	Max Detected Concentration (mg/L)	Drinking Water Criteria (mg/L)	Ratio of Max Detect to DW Criteria
On-site	1~Webster to Taylor	VOC	Dichlorodifluoromethane	75-71-8		1	1	3.40E-01	3.40E-01	7.30E+00	4.7E-02
On-site	1~Webster to Taylor	VOC	cis-1,2-Dichloroethene	156-59-2	D	1	1	3.60E-01	3.60E-01	7.00E-02	**5.1E+00**
On-site	1~Webster to Taylor	VOC	trans-1,2-Dichloroethene	156-60-5		1	1	1.70E-03	1.70E-03	1.00E-01	1.7E-02
On-site	1~Webster to Taylor	VOC	Trichloroethene	79-01-6	C-B2	1	1	4.80E-03	4.80E-03	5.00E-03	9.6E-01
On-site	1~Webster to Taylor	VOC	Vinyl Chloride	75-01-4	A	1	1	7.80E-03	7.80E-03	2.00E-03	**3.9E+00**
On-site	1~Webster to Taylor	INORG	Arsenic	7440-38-2	A	1	1	8.50E-03	8.50E-03	1.00E-02	8.5E-01
On-site	1~Webster to Taylor	INORG	Barium	7440-39-3	D	1	1	8.45E-02	8.45E-02	2.00E+00	4.2E-02
On-site	1~Webster to Taylor	INORG	Manganese	7439-96-5	D	1	1	4.60E-02	4.60E-02	5.11E+00	9.0E-03
On-site	1~Webster to Taylor	INORG	Zinc	7440-66-6	ID	1	1	1.25E-02	1.25E-02	1.10E+01	1.1E-03
On-site	2~Taylor to Railway	VOC	Toluene	108-88-3	ID	1	1	1.70E-04	1.70E-04	1.00E+00	1.7E-04
On-site	2~Taylor to Railway	VOC	Vinyl Chloride	75-01-4	A	1	1	3.00E-03	3.00E-03	2.00E-03	**1.5E+00**
On-site	7~North of River	VOC	Toluene	108-88-3	ID	1	1	6.00E-04	6.00E-04	1.00E+00	6.0E-04
Off-site	4~Off Site South	VOC	Toluene	108-88-3	ID	2	1	2.30E-04	2.30E-04	1.00E+00	2.3E-04
Off-site	4~Off Site South	INORG	Barium	7440-39-3	D	1	1	7.54E-02	7.54E-02	2.00E+00	3.8E-02
Off-site	4~Off Site South	INORG	Selenium	7782-49-2	D	1	1	6.98E-03	6.98E-03	5.00E-02	1.4E-01
Off-site	5~Off Site West	VOC	Dichlorodifluoromethane	75-71-8		6	5	1.30E-02	1.70E-01	7.30E+00	2.3E-02
Off-site	5~Off Site West	VOC	1,1-Dichloroethene	75-35-4	C	6	4	4.30E-04	7.00E-03	7.00E-03	1.0E+00
Off-site	5~Off Site West	VOC	cis-1,2-Dichloroethene	156-59-2	D	6	6	9.50E-03	1.70E-01	7.00E-02	**2.4E+00**
Off-site	5~Off Site West	VOC	trans-1,2-Dichloroethene	156-60-5		6	3	1.60E-03	4.20E-03	1.00E-01	4.2E-02
Off-site	5~Off Site West	VOC	Trichloroethene	79-01-6	C-B2	6	4	1.30E-03	3.20E-01	5.00E-03	**6.4E+01**
Off-site	5~Off Site West	VOC	Vinyl Chloride	75-01-4	A	6	4	4.10E-03	1.30E-02	2.00E-03	**6.5E+00**
Off-site	5~Off Site West	INORG	Arsenic	7440-38-2	A	4	3	3.30E-03	6.40E-03	1.00E-02	6.4E-01
Off-site	5~Off Site West	INORG	Barium	7440-39-3	D	4	4	9.00E-02	1.70E-01	2.00E+00	8.5E-02
Off-site	5~Off Site West	INORG	Cadmium	7440-43-9	B1	4	1	3.30E-04	3.30E-04	5.00E-03	6.6E-02
Off-site	5~Off Site West	INORG	Copper	7440-50-8	D	3	1	2.60E-03	2.60E-03	1.30E+00	2.0E-03
Off-site	5~Off Site West	INORG	Manganese	7439-96-5	D	3	3	5.60E-02	1.10E-01	5.11E+00	2.2E-02
Off-site	5~Off Site West	INORG	Zinc	7440-66-6	ID	3	2	1.50E-02	1.80E-02	1.10E+01	1.6E-03

Notes:

1. Only constituents detected in each respective area are shown.
2. The Screening Criteria for groundwater are the lower of the Screening Criteria at either a cancer risk level of $1x10^{-5}$ or a hazard quotient of 1.
3. Shaded cells represent ratios of concentration to the Screening Criteria greater than 1.
4. Equivalent Drinking Water Concentration Limits were calculated as discussed in Appendix E of the RFI Report.

Abbreviations:

Chem Group - Chemical Group

CASRN - Chemical Abstract Service Registry Number

Carc Class - EPA Weight-of-Evidence Cancer Classification

Table 4.3D(ii): Groundwater Concentrations Exceeding Screening Criteria: Lower Aquifer
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

On/Off Site	Area	Station ID	Sample Date	Chem Group	Chemical	CASRN	Concentration (mg/L)	Drinking Water Criteria (mg/L)	Ratio of Concentration to DW Criteria
On-site	1~Webster to Taylor	MW-33-04	12/08/04	VOC	cis-1,2-Dichloroethene	156-59-2	3.60E-01	7.00E-02	**5.1E+00**
On-site	1~Webster to Taylor	MW-33-04	12/08/04	VOC	Vinyl Chloride	75-01-4	7.80E-03	2.00E-03	**3.9E+00**
On-site	2~Taylor to Railway	MW-39-05	06/02/05	VOC	Vinyl Chloride	75-01-4	3.00E-03	2.00E-03	**1.5E+00**
Off-site	5~Off Site West	GEOTHERMAL_WELL	05/27/03	VOC	Trichloroethene	79-01-6	2.20E-01	5.00E-03	**4.4E+01**
Off-site	5~Off Site West	GEOTHERMAL_WELL	08/24/04	VOC	cis-1,2-Dichloroethene	156-59-2	9.00E-02	7.00E-02	**1.3E+00**
Off-site	5~Off Site West	GEOTHERMAL_WELL	08/24/04	VOC	Trichloroethene	79-01-6	3.20E-01	5.00E-03	**6.4E+01**
Off-site	5~Off Site West	MW-17-04	02/04/04	VOC	Vinyl Chloride	75-01-4	4.10E-03	2.00E-03	**2.1E+00**
Off-site	5~Off Site West	MW-17-04	03/22/04	VOC	Vinyl Chloride	75-01-4	4.60E-03	2.00E-03	**2.3E+00**
Off-site	5~Off Site West	MW-18-04	03/03/04	VOC	cis-1,2-Dichloroethene	156-59-2	1.10E-01	7.00E-02	**1.6E+00**
Off-site	5~Off Site West	MW-18-04	03/03/04	VOC	Vinyl Chloride	75-01-4	8.00E-03	2.00E-03	**4.0E+00**
Off-site	5~Off Site West	MW-18-04	03/23/04	VOC	cis-1,2-Dichloroethene	156-59-2	1.70E-01	7.00E-02	**2.4E+00**
Off-site	5~Off Site West	MW-18-04	03/23/04	VOC	Vinyl Chloride	75-01-4	1.30E-02	2.00E-03	**6.5E+00**

Notes:

1. Only constituents detected in each respective area are shown.
2. The Screening Criteria for groundwater are the lower of the Screening Criteria at either a cancer risk level of $1x10^{-5}$ or a hazard quotient of 1.
3. Shaded cells represent ratios of concentration to the Screening Criteria greater than 1.
4. Equivalent Drinking Water Concentration Limits were calculated as discussed in Appendix E of the RFI Report.

Abbreviations:

Chem Group - Chemical Group

CASRN - Chemical Abstract Service Registry Number

Table 4.4A(i): Storm Sewer Sediment Screening Results Summary
Former GM Delphi Harrison Thermal Systems Facility, Dayton, Ohio

Area	Sewer Status	Chem Group	Chemical	CASRN	Carc Class	Analyzed	Detected	Min Detected Concentration (mg/kg)	Max Detected Concentration (mg/kg)	Site-Specific Background Concentration (mg/kg)	Comm/Ind PRG Based Criteria (mg/kg)	Ratio of Max Detect to Comm/Ind Criteria
1~Webster to Taylor	C	VOC	Acetone	67-64-1	ID	4	1	3.30E-02	3.30E-02		5.43E+04	6.1E-07
1~Webster to Taylor	C	VOC	Benzene	71-43-2	A	4	1	6.90E-04	6.90E-04		1.41E+01	4.9E-05
1~Webster to Taylor	C	VOC	2-Butanone	78-93-3	ID	4	1	8.00E-03	8.00E-03		1.13E+05	7.1E-08
1~Webster to Taylor	C	VOC	1,4-Dichlorobenzene	106-46-7	C	4	1	6.70E-04	6.70E-04		7.87E+01	8.5E-06
1~Webster to Taylor	C	VOC	cis-1,2-Dichloroethene	156-59-2	D	4	2	5.60E-04	2.40E-01		1.46E+02	1.6E-03
1~Webster to Taylor	C	VOC	Ethyl Benzene	100-41-4	D	4	1	3.00E-03	3.00E-03		7.42E+03	4.0E-07
1~Webster to Taylor	C	VOC	Methyl Acetate	79-20-9		4	1	2.00E-01	2.00E-01		9.15E+04	2.2E-06
1~Webster to Taylor	C	VOC	Methylcyclohexane	108-87-2		4	1	1.00E-03	1.00E-03		8.72E+03	1.1E-07
1~Webster to Taylor	C	VOC	Methylene Chloride	75-09-2	B2	4	1	1.10E-01	1.10E-01		2.05E+02	5.4E-04
1~Webster to Taylor	C	VOC	Tetrachloroethene	127-18-4	C-B2	4	3	1.00E-02	2.60E+00		1.31E+01	2.0E-01
1~Webster to Taylor	C	VOC	Toluene	108-88-3	ID	4	1	2.80E-02	2.80E-02		2.21E+03	1.3E-05
1~Webster to Taylor	C	VOC	Trichloroethene	79-01-6	C-B2	4	3	5.90E-04	3.90E-01		6.12E+01	6.4E-03
1~Webster to Taylor	C	VOC	Xylenes (total)	1330-20-7	ID	4	1	1.70E-03	1.70E-03		8.97E+02	1.9E-06
1~Webster to Taylor	C	SVOC	Acenaphthene	83-32-9		4	1	5.30E+00	5.30E+00		2.92E+04	1.8E-04
1~Webster to Taylor	C	SVOC	Anthracene	120-12-7	D	4	2	1.30E+00	5.90E+00		2.38E+05	2.5E-05
1~Webster to Taylor	C	SVOC	Benzo(a)anthracene	56-55-3	B2	4	4	1.80E-01	1.50E+01		2.11E+01	7.1E-01
1~Webster to Taylor	C	SVOC	Benzo(a)pyrene	50-32-8	B2	4	4	2.80E-01	1.30E+01		2.11E+00	**6.2E+00**
1~Webster to Taylor	C	SVOC	Benzo(b)fluoranthene	205-99-2	B2	4	4	4.80E-01	2.00E+01		2.11E+01	9.5E-01
1~Webster to Taylor	C	SVOC	Benzo(g,h,i)perylene	191-24-2	D	4	4	2.90E-01	1.00E+01		2.91E+04	3.4E-04
1~Webster to Taylor	C	SVOC	Benzo(k)fluoranthene	207-08-9	B2	4	4	2.00E-01	7.10E+00		2.11E+02	3.4E-02
1~Webster to Taylor	C	SVOC	bis(2-Chloroethyl) ether	111-44-4	B2	4	1	8.30E-01	8.30E-01		5.75E+00	1.4E-01
1~Webster to Taylor	C	SVOC	bis(2-Ethylhexyl)phthalate	117-81-7	B2	4	4	1.00E+00	3.00E+01		1.23E+03	2.4E-02
1~Webster to Taylor	C	SVOC	Butylbenzylphthalate	85-68-7	C	4	2	3.40E-01	1.00E+02		1.23E+05	8.1E-04
1~Webster to Taylor	C	SVOC	Carbazole	86-74-8	B2	4	2	1.50E+00	5.60E+00		8.62E+02	6.5E-03
1~Webster to Taylor	C	SVOC	Chrysene	218-01-9	B2	4	4	2.80E-01	1.70E+01		2.11E+03	8.1E-03
1~Webster to Taylor	C	SVOC	Dibenz(a,h)anthracene	53-70-3	B2	4	2	9.10E-01	2.10E+00		2.11E+00	1.0E+00
1~Webster to Taylor	C	SVOC	Dibenzofuran	132-64-9	D	4	2	3.60E-01	3.90E+00		1.56E+03	2.5E-03
1~Webster to Taylor	C	SVOC	Fluoranthene	206-44-0	D	4	4	3.90E-01	4.00E+01		2.20E+04	1.8E-03
1~Webster to Taylor	C	SVOC	Fluorene	86-73-7	D	4	2	4.70E-01	6.30E+00		2.63E+04	2.4E-04
1~Webster to Taylor	C	SVOC	Indeno(1,2,3-cd)pyrene	193-39-5	B2	4	4	2.20E-01	8.30E+00		2.11E+01	3.9E-01
1~Webster to Taylor	C	SVOC	2-Methylnaphthalene	91-57-6	ID	4	2	1.20E-01	2.40E+00		1.88E+02	1.3E-02
1~Webster to Taylor	C	SVOC	Naphthalene	91-20-3	C	4	1	2.00E-01	2.00E-01		1.88E+02	1.1E-03
1~Webster to Taylor	C	SVOC	Phenanthrene	85-01-8	D	4	4	2.70E-01	4.30E+01		2.91E+04	1.5E-03
1~Webster to Taylor	C	SVOC	Pyrene	129-00-0	D	4	4	3.60E-01	3.10E+01		2.91E+04	1.1E-03
1~Webster to Taylor	C	PCB	PCBs (total)	1336-36-3	B2	4	4	1.78E+00	1.54E+01		7.44E+00	**2.1E+00**
1~Webster to Taylor	C	INORG	Antimony	7440-36-0		4	3	7.90E-01	5.60E+00	3.10E-01	4.09E+02	1.3E-02
1~Webster to Taylor	C	INORG	Arsenic	7440-38-2	A	4	4	9.40E+00	1.32E+01	6.29E+01	1.59E+01	
1~Webster to Taylor	C	INORG	Barium	7440-39-3	D	4	4	9.57E+01	4.69E+02	1.09E+02	6.66E+04	5.4E-03
1~Webster to Taylor	C	INORG	Beryllium	7440-41-7	B1	4	2	3.40E-01	5.96E+01	5.75E-01	1.94E+03	3.0E-02
1~Webster to Taylor	C	INORG	Cadmium	7440-43-9	B1	4	4	3.50E+00	1.36E+01	1.50E+00	4.51E+02	2.7E-02
1~Webster to Taylor	C	INORG	Chromium (total)	7440-47-3		4	4	3.65E+01	2.83E+02	1.58E+01	2.54E+03	1.1E-01
1~Webster to Taylor	C	INORG	Cobalt	7440-48-4	B1	4	4	5.70E+00	2.27E+01	7.49E+00	1.33E+04	1.1E-03
1~Webster to Taylor	C	INORG	Copper	7440-50-8	D	4	4	1.15E+02	4.27E+03	2.48E+01	4.09E+04	1.0E-01

Table 4.4A(i): Storm Sewer Sediment Screening Results Summary
Former GM Delphi Harrison Thermal Systems Facility, Dayton, Ohio

Area	Sewer Status	Chem Group	Chemical	CASRN	Carc Class	Analyzed	Detected	Min Detected Concentration (mg/kg)	Max Detected Concentration (mg/kg)	Site-Specific Background Concentration (mg/kg)	Comm/Ind PRG Based Criteria (mg/kg)	Ratio of Max Detect to Comm/Ind Criteria
1~Webster to Taylor	C	INORG	Cyanide (total)	57-12-5	D	3	3	4.10E-01	1.70E+00		1.23E+04	1.4E-04
1~Webster to Taylor	C	INORG	Lead	7439-92-1	B2	4	4	1.76E+02	1.26E+03		8.00E+02	**1.6E+00**
1~Webster to Taylor	C	INORG	Manganese	7439-96-5	D	4	4	2.91E+02	1.53E+03	8.16E+02	1.95E+04	3.7E-02
1~Webster to Taylor	C	INORG	Mercury	7439-97-6	D	4	4	9.50E-01	2.28E+01	9.70E-01	1.36E+01	**1.6E+00**
1~Webster to Taylor	C	INORG	Nickel	7440-02-0	A	4	4	2.01E+01	4.78E+01	1.65E+01	2.04E+04	1.5E-03
1~Webster to Taylor	C	INORG	Selenium	7782-49-2	D	4	1	6.40E-01	6.40E-01	1.00E+00	5.11E+03	
1~Webster to Taylor	C	INORG	Silver	7440-22-4	D	4	4	1.10E+00	5.10E+00	2.70E-01	5.11E+03	9.5E-04
1~Webster to Taylor	C	INORG	Thallium	7440-28-0		4	1	1.10E-01	1.10E-01	2.20E+00	6.75E+01	
1~Webster to Taylor	C	INORG	Vanadium	7440-62-2		4	4	1.05E+01	2.32E+01	2.99E+01	1.02E+03	
1~Webster to Taylor	C	INORG	Zinc	7440-66-6	ID	4	4	6.86E+02	1.55E+03	1.22E+02	3.06E+05	4.7E-03
1~Webster to Taylor	R	VOC	Acetone	67-64-1	ID	23	8	4.60E-03	2.30E-01		5.43E+04	4.2E-06
1~Webster to Taylor	R	VOC	Benzene	71-43-2	A	23	3	2.80E-04	6.60E-04		1.41E+01	4.7E-05
1~Webster to Taylor	R	VOC	2-Butanone	78-93-3	ID	23	7	1.00E-03	3.30E-02		1.13E+05	2.9E-07
1~Webster to Taylor	R	VOC	Carbon Disulfide	75-15-0		23	2	1.00E-03	1.80E-03		1.20E+03	1.5E-06
1~Webster to Taylor	R	VOC	Cyclohexane	110-82-7	ID	23	1	8.00E-04	8.00E-04		9.43E+03	8.5E-08
1~Webster to Taylor	R	VOC	cis-1,2-Dichloroethene	156-59-2	D	23	5	6.90E-04	6.10E-03		1.46E+02	4.2E-05
1~Webster to Taylor	R	VOC	Ethyl Benzene	100-41-4	D	23	3	3.30E-03	3.60E-03		7.42E+03	4.9E-07
1~Webster to Taylor	R	VOC	2-Hexanone	591-78-6		23	1	1.00E-02	1.00E-02			
1~Webster to Taylor	R	VOC	4-Methyl-2-pentanone	108-10-1	ID	23	2	3.60E-03	7.10E-03		4.70E+04	1.5E-07
1~Webster to Taylor	R	VOC	Methylcyclohexane	108-87-2		23	1	2.60E-02	2.60E-02		8.72E+03	3.0E-06
1~Webster to Taylor	R	VOC	Methylene Chloride	75-09-2	B2	23	4	2.00E-03	7.30E-03		2.05E+02	3.6E-05
1~Webster to Taylor	R	VOC	Tetrachloroethene	127-18-4	C-B2	23	13	8.00E-04	6.70E+00		1.31E+01	5.1E-01
1~Webster to Taylor	R	VOC	Toluene	108-88-3	ID	23	7	4.70E-04	4.20E-02		2.21E+03	1.9E-05
1~Webster to Taylor	R	VOC	Trichloroethene	79-01-6	C-B2	23	16	4.80E-04	2.80E+00		6.12E+01	4.6E-02
1~Webster to Taylor	R	VOC	Trichlorofluoromethane	75-69-4		23	3	1.40E-03	2.10E-01		1.28E+03	1.6E-04
1~Webster to Taylor	R	VOC	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1		23	1	3.20E-02	3.20E-02		6.87E+04	4.7E-07
1~Webster to Taylor	R	VOC	Xylenes (total)	1330-20-7	ID	23	6	1.10E-03	1.90E-02		8.97E+02	2.1E-05
1~Webster to Taylor	R	SVOC	Acenaphthene	83-32-9		23	17	1.90E-02	2.10E+01		2.92E+04	7.2E-04
1~Webster to Taylor	R	SVOC	Acenaphthylene	208-96-8	D	23	7	2.10E-02	6.00E-01		2.91E+04	2.1E-05
1~Webster to Taylor	R	SVOC	Anthracene	120-12-7	D	23	19	9.60E-02	2.90E+01		2.38E+05	1.2E-04
1~Webster to Taylor	R	SVOC	Benzo(a)anthracene	56-55-3	B2	23	21	4.50E-01	3.30E+01		2.11E+01	**1.6E+00**
1~Webster to Taylor	R	SVOC	Benzo(a)pyrene	50-32-8	B2	23	21	4.20E-01	2.70E+01		2.11E+00	**1.3E+01**
1~Webster to Taylor	R	SVOC	Benzo(b)fluoranthene	205-99-2	B2	23	22	5.80E-01	3.90E+01		2.11E+01	**1.8E+00**
1~Webster to Taylor	R	SVOC	Benzo(g,h,i)perylene	191-24-2	D	23	20	3.40E-01	1.50E+01		2.91E+04	5.2E-04
1~Webster to Taylor	R	SVOC	Benzo(k)fluoranthene	207-08-9	B2	23	21	2.80E-01	1.20E+01		2.11E+02	5.7E-02
1~Webster to Taylor	R	SVOC	bis(2-Ethylhexyl)phthalate	117-81-7	B2	23	14	1.70E-01	1.40E+03		1.23E+03	**1.1E+00**
1~Webster to Taylor	R	SVOC	Butylbenzylphthalate	85-68-7	C	22	2	1.00E+00	5.00E+00		1.23E+05	4.1E-05
1~Webster to Taylor	R	SVOC	Carbazole	86-74-8	B2	23	18	4.90E-02	1.70E+01		8.62E+02	2.0E-02
1~Webster to Taylor	R	SVOC	Chrysene	218-01-9	B2	23	22	4.70E-01	3.50E+01		2.11E+03	1.7E-02
1~Webster to Taylor	R	SVOC	Dibenz(a,h)anthracene	53-70-3	B2	23	18	7.60E-02	3.00E+00		2.11E+00	**1.4E+00**
1~Webster to Taylor	R	SVOC	Dibenzofuran	132-64-9	D	23	16	3.90E-02	1.40E+01		1.56E+03	9.0E-03
1~Webster to Taylor	R	SVOC	Di-n-butylphthalate	84-74-2	D	22	1	1.90E+00	1.90E+00		6.16E+04	3.1E-05
1~Webster to Taylor	R	SVOC	Di-n-octylphthalate	117-84-0		22	1	2.30E+02	2.30E+02		2.46E+04	9.3E-03

Table 4.4A(i): Storm Sewer Sediment Screening Results Summary
Former GM Delphi Harrison Thermal Systems Facility, Dayton, Ohio

Area	Sewer Status	Chem Group	Chemical	CASRN	Carc Class	Analyzed	Detected	Min Detected Concentration (mg/kg)	Max Detected Concentration (mg/kg)	Site-Specific Background Concentration (mg/kg)	Comm/Ind PRG Based Criteria (mg/kg)	Ratio of Max Detect to Comm/Ind Criteria
1~Webster to Taylor	R	SVOC	Fluoranthene	206-44-0	D	23	22	1.10E+00	1.10E+02		2.20E+04	5.0E-03
1~Webster to Taylor	R	SVOC	Fluorene	86-73-7	D	22	16	6.60E-02	2.20E+01		2.63E+04	8.4E-04
1~Webster to Taylor	R	SVOC	Indeno(1,2,3-cd)pyrene	193-39-5	B2	23	19	2.80E-01	1.40E+01		2.11E+01	6.6E-01
1~Webster to Taylor	R	SVOC	2-Methylnaphthalene	91-57-6	ID	23	13	1.90E-02	5.00E+00		1.88E+02	2.7E-02
1~Webster to Taylor	R	SVOC	Naphthalene	91-20-3	C	23	12	3.50E-02	7.00E+00		1.88E+02	3.7E-02
1~Webster to Taylor	R	SVOC	4-Nitroaniline	100-01-6	C	22	1	1.20E+00	1.20E+00		8.21E+02	1.5E-03
1~Webster to Taylor	R	SVOC	Phenanthrene	85-01-8	D	23	21	6.10E-01	1.30E+02		2.91E+04	4.5E-03
1~Webster to Taylor	R	SVOC	Pyrene	129-00-0	D	23	23	9.40E-01	7.70E+01		2.91E+04	2.6E-03
1~Webster to Taylor	R	PCB	PCBs (total)	1336-36-3	B2	23	23	1.45E-01	1.94E+03		7.44E+00	**2.6E+02**
1~Webster to Taylor	R	INORG	Antimony	7440-36-0		23	22	4.50E-01	1.17E+01	3.10E-01	4.09E+02	2.8E-02
1~Webster to Taylor	R	INORG	Arsenic	7440-38-2	A	23	23	4.40E+00	4.80E+01	6.29E+01	1.59E+01	
1~Webster to Taylor	R	INORG	Barium	7440-39-3	D	23	23	2.53E+01	1.90E+03	1.09E+02	6.66E+04	2.7E-02
1~Webster to Taylor	R	INORG	Beryllium	7440-41-7	B1	23	8	4.40E-02	5.90E-01	5.75E-01	1.94E+03	7.7E-06
1~Webster to Taylor	R	INORG	Cadmium	7440-43-9	B1	23	23	2.10E+00	9.31E+01	1.50E+00	4.51E+02	2.0E-01
1~Webster to Taylor	R	INORG	Chromium (total)	7440-47-3		23	23	1.51E+01	8.02E+02	1.58E+01	2.54E+03	3.1E-01
1~Webster to Taylor	R	INORG	Cobalt	7440-48-4	B1	23	23	2.70E+00	2.91E+01	7.49E+00	1.33E+04	1.6E-03
1~Webster to Taylor	R	INORG	Copper	7440-50-8	D	23	23	4.39E+01	7.27E+03	2.48E+01	4.09E+04	1.8E-01
1~Webster to Taylor	R	INORG	Cyanide (total)	57-12-5	D	16	11	1.70E-01	6.50E+00		1.23E+04	5.3E-04
1~Webster to Taylor	R	INORG	Lead	7439-92-1	B2	23	23	2.90E+01	2.40E+03		8.00E+02	**3.0E+00**
1~Webster to Taylor	R	INORG	Manganese	7439-96-5	D	23	23	9.32E+01	2.35E+03	8.16E+02	1.95E+04	7.9E-02
1~Webster to Taylor	R	INORG	Mercury	7439-97-6	D	22	21	9.70E-02	1.47E+01	9.70E-01	1.36E+01	1.0E+00
1~Webster to Taylor	R	INORG	Nickel	7440-02-0	A	23	23	7.00E+00	3.20E+02	1.65E+01	2.04E+04	1.5E-02
1~Webster to Taylor	R	INORG	Selenium	7782-49-2	D	23	13	1.10E-01	5.10E+00	1.00E+00	5.11E+03	8.0E-04
1~Webster to Taylor	R	INORG	Silver	7440-22-4	D	23	16	5.70E-01	2.14E+02	2.70E-01	5.11E+03	4.2E-02
1~Webster to Taylor	R	INORG	Thallium	7440-28-0		23	14	2.50E-02	5.80E-01	2.20E+00	6.75E+01	
1~Webster to Taylor	R	INORG	Vanadium	7440-62-2		23	23	5.10E+00	4.22E+01	2.99E+01	1.02E+03	1.2E-02
1~Webster to Taylor	R	INORG	Zinc	7440-66-6	ID	23	23	1.70E+02	5.93E+03	1.22E+02	3.06E+05	1.9E-02
2~Taylor to Railway	C	VOC	Acetone	67-64-1	ID	15	4	9.40E-03	1.10E-01		5.43E+04	2.0E-06
2~Taylor to Railway	C	VOC	Benzene	71-43-2	A	15	1	9.45E-04	9.45E-04		1.41E+01	6.7E-05
2~Taylor to Railway	C	VOC	2-Butanone	78-93-3	ID	15	2	1.71E-02	3.10E-02		1.13E+05	2.7E-07
2~Taylor to Railway	C	VOC	Carbon Disulfide	75-15-0		15	1	8.40E-03	8.40E-03		1.20E+03	7.0E-06
2~Taylor to Railway	C	VOC	1,4-Dichlorobenzene	106-46-7	C	15	1	1.10E-03	1.10E-03		7.87E+01	1.4E-05
2~Taylor to Railway	C	VOC	1,1-Dichloroethene	75-35-4	C	15	1	2.30E-02	2.30E-02		4.13E+02	5.6E-05
2~Taylor to Railway	C	VOC	cis-1,2-Dichloroethene	156-59-2	D	15	9	1.00E-03	9.50E+00		1.46E+02	6.5E-02
2~Taylor to Railway	C	VOC	trans-1,2-Dichloroethene	156-60-5		15	2	2.70E-03	3.80E-02		2.35E+02	1.6E-04
2~Taylor to Railway	C	VOC	Ethyl Benzene	100-41-4	D	15	2	2.28E-03	3.40E-02		7.42E+03	4.6E-06
2~Taylor to Railway	C	VOC	Methyl Acetate	79-20-9		15	2	6.60E-02	4.20E-01		9.15E+04	4.6E-06
2~Taylor to Railway	C	VOC	4-Methyl-2-pentanone	108-10-1	ID	15	1	9.70E-03	9.70E-03		4.70E+04	2.1E-07
2~Taylor to Railway	C	VOC	Methylcyclohexane	108-87-2		15	1	1.40E-01	1.40E-01		8.72E+03	1.6E-05
2~Taylor to Railway	C	VOC	Methylene Chloride	75-09-2	B2	15	1	5.70E-03	5.70E-03		2.05E+02	2.8E-05
2~Taylor to Railway	C	VOC	Styrene	100-42-5		15	1	9.30E-02	9.30E-02		1.81E+04	5.1E-06
2~Taylor to Railway	C	VOC	Tetrachloroethene	127-18-4	C-B2	15	13	4.20E-03	5.60E+00		1.31E+01	4.3E-01
2~Taylor to Railway	C	VOC	Toluene	108-88-3	ID	15	2	4.70E-03	4.00E-02		2.21E+03	1.8E-05

Table 4.4A(i): Storm Sewer Sediment Screening Results Summary
Former GM Delphi Harrison Thermal Systems Facility, Dayton, Ohio

Area	Sewer Status	Chem Group	Chemical	CASRN	Carc Class	Analyzed	Detected	Min Detected Concentration (mg/kg)	Max Detected Concentration (mg/kg)	Site-Specific Background Concentration (mg/kg)	Comm/Ind PRG Based Criteria (mg/kg)	Ratio of Max Detect to Comm/Ind Criteria
2~Taylor to Railway	C	VOC	Trichloroethene	79-01-6	C-B2	15	9	1.00E-03	8.10E-01		6.12E+01	1.3E-02
2~Taylor to Railway	C	VOC	Trichlorofluoromethane	75-69-4		15	1	1.30E-03	1.30E-03		1.28E+03	1.0E-06
2~Taylor to Railway	C	VOC	Vinyl Chloride	75-01-4	A	15	1	2.90E+00	2.90E+00		7.46E+00	3.9E-01
2~Taylor to Railway	C	VOC	Xylenes (total)	1330-20-7	ID	15	1	1.00E-01	1.00E-01		8.97E+02	1.1E-04
2~Taylor to Railway	C	SVOC	Acenaphthene	83-32-9		14	7	4.54E-02	3.30E+00		2.92E+04	1.1E-04
2~Taylor to Railway	C	SVOC	Acenaphthylene	208-96-8	D	14	2	2.26E-02	1.30E-01		2.91E+04	4.5E-06
2~Taylor to Railway	C	SVOC	Anthracene	120-12-7	D	14	10	5.40E-02	5.60E+00		2.38E+05	2.4E-05
2~Taylor to Railway	C	SVOC	Benzo(a)anthracene	56-55-3	B2	14	12	1.50E-01	1.43E+01		2.11E+01	6.8E-01
2~Taylor to Railway	C	SVOC	Benzo(a)pyrene	50-32-8	B2	14	12	1.20E-01	1.04E+01		2.11E+00	**4.9E+00**
2~Taylor to Railway	C	SVOC	Benzo(b)fluoranthene	205-99-2	B2	14	13	2.10E-01	1.45E+01		2.11E+01	6.9E-01
2~Taylor to Railway	C	SVOC	Benzo(g,h,i)perylene	191-24-2	D	14	12	1.00E-01	6.05E+00		2.91E+04	2.1E-04
2~Taylor to Railway	C	SVOC	Benzo(k)fluoranthene	207-08-9	B2	14	12	7.10E-02	6.65E+00		2.11E+02	3.2E-02
2~Taylor to Railway	C	SVOC	bis(2-Ethylhexyl)phthalate	117-81-7	B2	14	13	1.90E-01	2.80E+01		1.23E+03	2.3E-02
2~Taylor to Railway	C	SVOC	Butylbenzylphthalate	85-68-7	C	14	5	2.70E-01	1.80E+01		1.23E+05	1.5E-04
2~Taylor to Railway	C	SVOC	Carbazole	86-74-8	B2	14	8	7.43E-02	4.00E+00		8.62E+02	4.6E-03
2~Taylor to Railway	C	SVOC	Chrysene	218-01-9	B2	14	14	2.10E-01	1.40E+01		2.11E+03	6.6E-03
2~Taylor to Railway	C	SVOC	Dibenz(a,h)anthracene	53-70-3	B2	14	7	6.73E-02	2.00E+00		2.11E+00	9.5E-01
2~Taylor to Railway	C	SVOC	Dibenzofuran	132-64-9	D	14	7	2.98E-02	3.10E+00		1.56E+03	2.0E-03
2~Taylor to Railway	C	SVOC	Di-n-butylphthalate	84-74-2	D	14	2	1.65E-02	3.90E+00		6.16E+04	6.3E-05
2~Taylor to Railway	C	SVOC	Di-n-octylphthalate	117-84-0		14	3	1.40E+00	7.10E+00		2.46E+04	2.9E-04
2~Taylor to Railway	C	SVOC	Fluoranthene	206-44-0	D	14	14	3.70E-01	3.50E+01		2.20E+04	1.6E-03
2~Taylor to Railway	C	SVOC	Fluorene	86-73-7	D	14	8	4.90E-02	4.40E+00		2.63E+04	1.7E-04
2~Taylor to Railway	C	SVOC	Indeno(1,2,3-cd)pyrene	193-39-5	B2	14	12	8.50E-02	5.25E+00		2.11E+01	2.5E-01
2~Taylor to Railway	C	SVOC	2-Methylnaphthalene	91-57-6	ID	14	6	9.85E-02	1.40E+00		1.88E+02	7.5E-03
2~Taylor to Railway	C	SVOC	Naphthalene	91-20-3	C	14	5	5.14E-02	2.10E+00		1.88E+02	1.1E-02
2~Taylor to Railway	C	SVOC	Phenanthrene	85-01-8	D	14	13	1.80E-01	3.10E+01		2.91E+04	1.1E-03
2~Taylor to Railway	C	SVOC	Phenol	108-95-2	ID	14	2	9.38E-02	1.70E-01		1.85E+05	9.2E-07
2~Taylor to Railway	C	SVOC	Pyrene	129-00-0	D	14	14	2.80E-01	2.80E+01		2.91E+04	9.6E-04
2~Taylor to Railway	C	PCB	PCBs (total)	1336-36-3	B2	14	14	1.98E-01	3.85E+01		7.44E+00	**5.2E+00**
2~Taylor to Railway	C	INORG	Antimony	7440-36-0		15	10	5.90E-01	1.71E+01	3.10E-01	4.09E+02	4.1E-02
2~Taylor to Railway	C	INORG	Arsenic	7440-38-2	A	15	15	3.70E+00	2.15E+01	6.29E+01	1.59E+01	
2~Taylor to Railway	C	INORG	Barium	7440-39-3	D	15	15	3.37E+01	8.83E+02	1.09E+02	6.66E+04	1.2E-02
2~Taylor to Railway	C	INORG	Beryllium	7440-41-7	B1	15	6	3.25E-02	4.90E-01	5.75E-01	1.94E+03	
2~Taylor to Railway	C	INORG	Cadmium	7440-43-9	B1	15	15	3.70E-01	2.52E+01	1.50E+00	4.51E+02	5.2E-02
2~Taylor to Railway	C	INORG	Chromium (total)	7440-47-3		15	15	7.90E+00	2.69E+02	1.58E+01	2.54E+03	1.0E-01
2~Taylor to Railway	C	INORG	Cobalt	7440-48-4	B1	15	15	2.70E+00	6.98E+01	7.49E+00	1.33E+04	4.7E-03
2~Taylor to Railway	C	INORG	Copper	7440-50-8	D	15	15	2.62E+01	8.74E+03	2.48E+01	4.09E+04	2.1E-01
2~Taylor to Railway	C	INORG	Cyanide (total)	57-12-5	D	13	9	2.60E-01	2.90E+00		1.23E+04	2.4E-04
2~Taylor to Railway	C	INORG	Lead	7439-92-1	B2	15	15	9.90E+00	6.67E+03		8.00E+02	**8.3E+00**
2~Taylor to Railway	C	INORG	Manganese	7439-96-5	D	15	15	2.48E+02	2.39E+03	8.16E+02	1.95E+04	8.1E-02
2~Taylor to Railway	C	INORG	Mercury	7439-97-6	D	15	14	1.70E-01	4.42E+01	9.70E-01	1.36E+01	**3.2E+00**
2~Taylor to Railway	C	INORG	Nickel	7440-02-0	A	15	15	5.60E+00	7.67E+01	1.65E+01	2.04E+04	2.9E-03
2~Taylor to Railway	C	INORG	Selenium	7782-49-2	D	15	3	2.20E-01	2.00E+00	1.00E+00	5.11E+03	2.0E-04

Table 4.4A(i): Storm Sewer Sediment Screening Results Summary
Former GM Delphi Harrison Thermal Systems Facility, Dayton, Ohio

Area	Sewer Status	Chem Group	Chemical	CASRN	Carc Class	Analyzed	Detected	Min Detected Concentration (mg/kg)	Max Detected Concentration (mg/kg)	Site-Specific Background Concentration (mg/kg)	Comm/Ind PRG Based Criteria (mg/kg)	Ratio of Max Detect to Comm/Ind Criteria
2~Taylor to Railway	C	INORG	Silver	7440-22-4	D	15	12	2.80E-01	4.72E+01	2.70E-01	5.11E+03	9.2E-03
2~Taylor to Railway	C	INORG	Thallium	7440-28-0		15	3	4.30E-02	5.85E-01	2.20E+00	6.75E+01	
2~Taylor to Railway	C	INORG	Vanadium	7440-62-2		15	15	5.00E+00	3.26E+01	2.99E+01	1.02E+03	2.6E-03
2~Taylor to Railway	C	INORG	Zinc	7440-66-6	ID	15	15	7.32E+01	3.28E+03	1.22E+02	3.06E+05	1.0E-02
2~Taylor to Railway	W	VOC	Acetone	67-64-1	ID	8	4	5.30E-03	3.10E-02		5.43E+04	5.7E-07
2~Taylor to Railway	W	VOC	Benzene	71-43-2	A	8	1	1.10E-03	1.10E-03		1.41E+01	7.8E-05
2~Taylor to Railway	W	VOC	2-Butanone	78-93-3	ID	8	2	2.10E-03	7.20E-03		1.13E+05	6.4E-08
2~Taylor to Railway	W	VOC	Carbon Disulfide	75-15-0		8	1	3.20E-04	3.20E-04		1.20E+03	2.7E-07
2~Taylor to Railway	W	VOC	Chloroform	67-66-3	B2	8	1	7.80E-03	7.80E-03		4.70E+00	1.7E-03
2~Taylor to Railway	W	VOC	1,4-Dichlorobenzene	106-46-7	C	8	1	5.80E-04	5.80E-04		7.87E+01	7.4E-06
2~Taylor to Railway	W	VOC	cis-1,2-Dichloroethene	156-59-2	D	8	3	1.10E-02	4.80E-02		1.46E+02	3.3E-04
2~Taylor to Railway	W	VOC	Methylene Chloride	75-09-2	B2	8	2	2.30E-03	3.60E-03		2.05E+02	1.8E-05
2~Taylor to Railway	W	VOC	Tetrachloroethene	127-18-4	C-B2	8	3	8.30E-03	2.20E-01		1.31E+01	1.7E-02
2~Taylor to Railway	W	VOC	Toluene	108-88-3	ID	8	2	9.10E-04	1.00E-03		2.21E+03	4.5E-07
2~Taylor to Railway	W	VOC	Trichloroethene	79-01-6	C-B2	8	3	9.70E-03	1.40E-02		6.12E+01	2.3E-04
2~Taylor to Railway	W	VOC	Xylenes (total)	1330-20-7	ID	8	1	2.00E-03	2.00E-03		8.97E+02	2.2E-06
2~Taylor to Railway	W	SVOC	Acenaphthene	83-32-9		8	3	2.10E-01	4.50E-01		2.92E+04	1.5E-05
2~Taylor to Railway	W	SVOC	Anthracene	120-12-7	D	8	4	8.50E-02	1.80E+00		2.38E+05	7.6E-06
2~Taylor to Railway	W	SVOC	Benzo(a)anthracene	56-55-3	B2	8	7	3.20E-01	3.00E+00		2.11E+01	1.4E-01
2~Taylor to Railway	W	SVOC	Benzo(a)pyrene	50-32-8	B2	8	5	4.20E-01	2.40E+00		2.11E+00	**1.1E+00**
2~Taylor to Railway	W	SVOC	Benzo(b)fluoranthene	205-99-2	B2	8	6	1.10E-01	3.50E+00		2.11E+01	1.7E-01
2~Taylor to Railway	W	SVOC	Benzo(g,h,i)perylene	191-24-2	D	8	8	1.60E-01	1.70E+00		2.91E+04	5.8E-05
2~Taylor to Railway	W	SVOC	Benzo(k)fluoranthene	207-08-9	B2	8	5	2.50E-01	1.70E+00		2.11E+02	8.1E-03
2~Taylor to Railway	W	SVOC	bis(2-Ethylhexyl)phthalate	117-81-7	B2	8	7	1.00E+00	2.30E+01		1.23E+03	1.9E-02
2~Taylor to Railway	W	SVOC	Butylbenzylphthalate	85-68-7	C	8	2	1.80E-01	3.90E-01		1.23E+05	3.2E-06
2~Taylor to Railway	W	SVOC	Caprolactam	105-60-2		8	3	7.70E-02	1.90E-01		3.08E+05	6.2E-07
2~Taylor to Railway	W	SVOC	Carbazole	86-74-8	B2	8	3	4.00E-01	8.20E-01		8.62E+02	9.5E-04
2~Taylor to Railway	W	SVOC	Chrysene	218-01-9	B2	8	7	4.00E-01	3.20E+00		2.11E+03	1.5E-03
2~Taylor to Railway	W	SVOC	Dibenz(a,h)anthracene	53-70-3	B2	8	3	2.30E-01	4.50E-01		2.11E+00	2.1E-01
2~Taylor to Railway	W	SVOC	Dibenzofuran	132-64-9	D	8	2	2.30E-01	6.50E-01		1.56E+03	4.2E-04
2~Taylor to Railway	W	SVOC	Di-n-butylphthalate	84-74-2	D	8	4	9.20E-02	1.00E+00		6.16E+04	1.6E-05
2~Taylor to Railway	W	SVOC	Fluoranthene	206-44-0	D	8	8	1.00E-01	8.40E+00		2.20E+04	3.8E-04
2~Taylor to Railway	W	SVOC	Fluorene	86-73-7	D	8	3	2.90E-01	7.80E-01		2.63E+04	3.0E-05
2~Taylor to Railway	W	SVOC	Indeno(1,2,3-cd)pyrene	193-39-5	B2	8	7	1.60E-01	1.60E+00		2.11E+01	7.6E-02
2~Taylor to Railway	W	SVOC	2-Methylnaphthalene	91-57-6	ID	8	2	9.30E-02	2.70E-01		1.88E+02	1.4E-03
2~Taylor to Railway	W	SVOC	Naphthalene	91-20-3	C	8	3	1.90E-01	8.00E-01		1.88E+02	4.3E-03
2~Taylor to Railway	W	SVOC	Phenanthrene	85-01-8	D	8	7	2.70E-01	6.40E+00		2.91E+04	2.2E-04
2~Taylor to Railway	W	SVOC	Pyrene	129-00-0	D	8	8	1.20E-01	6.50E+00		2.91E+04	2.2E-04
2~Taylor to Railway	W	PCB	PCBs (total)	1336-36-3	B2	8	8	1.47E+00	8.40E+00		7.44E+00	**1.1E+00**
2~Taylor to Railway	W	INORG	Antimony	7440-36-0		8	8	9.00E-01	1.13E+02	3.10E-01	4.09E+02	2.8E-01
2~Taylor to Railway	W	INORG	Arsenic	7440-38-2	A	8	8	5.00E+00	3.60E+01	6.29E+01	1.59E+01	
2~Taylor to Railway	W	INORG	Barium	7440-39-3	D	8	8	1.14E+02	8.29E+03	1.09E+02	6.66E+04	1.2E-01
2~Taylor to Railway	W	INORG	Beryllium	7440-41-7	B1	8	1	1.90E-01	1.90E-01	5.75E-01	1.94E+03	

Table 4.4A(i): Storm Sewer Sediment Screening Results Summary
Former GM Delphi Harrison Thermal Systems Facility, Dayton, Ohio

Area	Sewer Status	Chem Group	Chemical	CASRN	Carc Class	Analyzed	Detected	Min Detected Concentration (mg/kg)	Max Detected Concentration (mg/kg)	Site-Specific Background Concentration (mg/kg)	Comm/Ind PRG Based Criteria (mg/kg)	Ratio of Max Detect to Comm/Ind Criteria
2~Taylor to Railway	W	INORG	Cadmium	7440-43-9	B1	8	8	9.90E-01	9.08E+02	1.50E+00	4.51E+02	**2.0E+00**
2~Taylor to Railway	W	INORG	Chromium (total)	7440-47-3		8	8	1.95E+01	3.11E+02	1.58E+01	2.54E+03	1.2E-01
2~Taylor to Railway	W	INORG	Cobalt	7440-48-4	B1	8	8	3.00E+00	4.12E+01	7.49E+00	1.33E+04	2.5E-03
2~Taylor to Railway	W	INORG	Copper	7440-50-8	D	8	8	4.55E+01	3.26E+03	2.48E+01	4.09E+04	7.9E-02
2~Taylor to Railway	W	INORG	Cyanide (total)	57-12-5	D	7	7	2.30E-01	1.08E+01		1.23E+04	8.8E-04
2~Taylor to Railway	W	INORG	Lead	7439-92-1	B2	8	8	2.65E+02	1.88E+03		8.00E+02	**2.4E+00**
2~Taylor to Railway	W	INORG	Manganese	7439-96-5	D	8	8	2.41E+02	2.15E+03	8.16E+02	1.95E+04	6.9E-02
2~Taylor to Railway	W	INORG	Mercury	7439-97-6	D	8	8	8.70E-02	1.60E+00	9.70E-01	1.36E+01	4.6E-02
2~Taylor to Railway	W	INORG	Nickel	7440-02-0	A	8	8	1.36E+01	1.11E+02	1.65E+01	2.04E+04	4.6E-03
2~Taylor to Railway	W	INORG	Selenium	7782-49-2	D	8	3	2.20E-01	5.15E+00	1.00E+00	5.11E+03	8.1E-04
2~Taylor to Railway	W	INORG	Silver	7440-22-4	D	8	5	1.30E+00	4.85E+00	2.70E-01	5.11E+03	9.0E-04
2~Taylor to Railway	W	INORG	Thallium	7440-28-0		8	3	1.10E-01	1.00E+00	2.20E+00	6.75E+01	
2~Taylor to Railway	W	INORG	Vanadium	7440-62-2		8	8	8.60E+00	2.33E+01	2.99E+01	1.02E+03	
2~Taylor to Railway	W	INORG	Zinc	7440-66-6	ID	8	8	3.34E+02	1.19E+04	1.22E+02	3.06E+05	3.8E-02
3~Railway to Keowee	W	VOC	Methylene Chloride	75-09-2	B2	2	1	2.10E-03	2.10E-03		2.05E+02	1.0E-05
3~Railway to Keowee	W	VOC	Trichloroethene	79-01-6	C-B2	2	1	7.90E-04	7.90E-04		6.12E+01	1.3E-05
3~Railway to Keowee	W	SVOC	Acenaphthene	83-32-9		2	1	5.60E-01	5.60E-01		2.92E+04	1.9E-05
3~Railway to Keowee	W	SVOC	Anthracene	120-12-7	D	2	2	5.90E-01	1.40E+00		2.38E+05	5.9E-06
3~Railway to Keowee	W	SVOC	Benzo(a)anthracene	56-55-3	B2	2	2	3.10E+00	5.00E+00		2.11E+01	2.4E-01
3~Railway to Keowee	W	SVOC	Benzo(a)pyrene	50-32-8	B2	2	2	4.50E+00	5.30E+00		2.11E+00	**2.5E+00**
3~Railway to Keowee	W	SVOC	Benzo(b)fluoranthene	205-99-2	B2	2	2	5.90E+00	8.50E+00		2.11E+01	4.0E-01
3~Railway to Keowee	W	SVOC	Benzo(g,h,i)perylene	191-24-2	D	2	2	2.60E+00	3.90E+00		2.91E+04	1.3E-04
3~Railway to Keowee	W	SVOC	Benzo(k)fluoranthene	207-08-9	B2	2	2	3.60E+00	3.70E+00		2.11E+02	1.8E-02
3~Railway to Keowee	W	SVOC	bis(2-Ethylhexyl)phthalate	117-81-7	B2	2	1	4.30E+00	4.30E+00		1.23E+03	3.5E-03
3~Railway to Keowee	W	SVOC	Butylbenzylphthalate	85-68-7	C	2	2	3.00E-01	4.10E-01		1.23E+05	3.3E-06
3~Railway to Keowee	W	SVOC	Caprolactam	105-60-2		2	1	2.40E-01	2.40E-01		3.08E+05	7.8E-07
3~Railway to Keowee	W	SVOC	Carbazole	86-74-8	B2	2	2	7.40E-01	1.20E+00		8.62E+02	1.4E-03
3~Railway to Keowee	W	SVOC	Chrysene	218-01-9	B2	2	2	4.10E+00	6.30E+00		2.11E+03	3.0E-03
3~Railway to Keowee	W	SVOC	Dibenz(a,h)anthracene	53-70-3	B2	2	2	6.60E-01	1.00E+00		2.11E+00	4.7E-01
3~Railway to Keowee	W	SVOC	Dibenzofuran	132-64-9	D	2	1	3.60E-01	3.60E-01		1.56E+03	2.3E-04
3~Railway to Keowee	W	SVOC	Di-n-butylphthalate	84-74-2	D	2	1	3.80E+00	3.80E+00		6.16E+04	6.2E-05
3~Railway to Keowee	W	SVOC	Di-n-octylphthalate	117-84-0		2	1	3.30E+00	3.30E+00		2.46E+04	1.3E-04
3~Railway to Keowee	W	SVOC	Fluoranthene	206-44-0	D	2	2	9.10E+00	1.50E+01		2.20E+04	6.8E-04
3~Railway to Keowee	W	SVOC	Fluorene	86-73-7	D	2	2	2.90E-01	6.90E-01		2.63E+04	2.6E-05
3~Railway to Keowee	W	SVOC	Indeno(1,2,3-cd)pyrene	193-39-5	B2	2	2	2.60E+00	3.40E+00		2.11E+01	1.6E-01
3~Railway to Keowee	W	SVOC	Phenanthrene	85-01-8	D	2	2	5.10E+00	8.20E+00		2.91E+04	2.8E-04
3~Railway to Keowee	W	SVOC	Pyrene	129-00-0	D	2	2	7.80E+00	1.10E+01		2.91E+04	3.8E-04
3~Railway to Keowee	W	PCB	PCBs (total)	1336-36-3	B2	2	2	1.80E-01	3.25E-01		7.44E+00	4.4E-02
3~Railway to Keowee	W	INORG	Antimony	7440-36-0		2	2	1.00E+00	2.40E+00	3.10E-01	4.09E+02	5.1E-03
3~Railway to Keowee	W	INORG	Arsenic	7440-38-2	A	2	2	4.90E+00	5.30E+00	6.29E+01	1.59E+01	
3~Railway to Keowee	W	INORG	Barium	7440-39-3	D	2	2	1.25E+02	1.74E+02	1.09E+02	6.66E+04	9.7E-04
3~Railway to Keowee	W	INORG	Beryllium	7440-41-7	B1	2	1	4.00E-02	4.00E-02	5.75E-01	1.94E+03	
3~Railway to Keowee	W	INORG	Cadmium	7440-43-9	B1	2	2	1.80E+00	2.00E+00	1.50E+00	4.51E+02	1.1E-03

Table 4.4A(i): Storm Sewer Sediment Screening Results Summary
Former GM Delphi Harrison Thermal Systems Facility, Dayton, Ohio

Area	Sewer Status	Chem Group	Chemical	CASRN	Carc Class	Analyzed	Detected	Min Detected Concentration (mg/kg)	Max Detected Concentration (mg/kg)	Site-Specific Background Concentration (mg/kg)	Comm/Ind PRG Based Criteria (mg/kg)	Ratio of Max Detect to Comm/Ind Criteria
3~Railway to Keowee	W	INORG	Chromium (total)	7440-47-3		2	2	9.31E+01	1.07E+02	1.58E+01	2.54E+03	3.6E-02
3~Railway to Keowee	W	INORG	Cobalt	7440-48-4	B1	2	2	4.30E+00	4.90E+00	7.49E+00	1.33E+04	
3~Railway to Keowee	W	INORG	Copper	7440-50-8	D	2	2	1.28E+02	1.64E+02	2.48E+01	4.09E+04	3.4E-03
3~Railway to Keowee	W	INORG	Cyanide (total)	57-12-5	D	2	2	2.10E+00	2.30E+00		1.23E+04	1.9E-04
3~Railway to Keowee	W	INORG	Lead	7439-92-1	B2	2	2	1.36E+02	1.63E+02		8.00E+02	2.0E-01
3~Railway to Keowee	W	INORG	Manganese	7439-96-5	D	2	2	3.07E+02	3.91E+02	8.16E+02	1.95E+04	
3~Railway to Keowee	W	INORG	Mercury	7439-97-6	D	2	2	7.90E-02	9.20E-02	9.70E-01	1.36E+01	
3~Railway to Keowee	W	INORG	Nickel	7440-02-0	A	2	2	2.53E+01	4.13E+01	1.65E+01	2.04E+04	1.2E-03
3~Railway to Keowee	W	INORG	Silver	7440-22-4	D	2	1	9.00E-01	9.00E-01	2.70E-01	5.11E+03	1.2E-04
3~Railway to Keowee	W	INORG	Thallium	7440-28-0		2	1	1.70E+00	1.70E+00	2.20E+00	6.75E+01	
3~Railway to Keowee	W	INORG	Vanadium	7440-62-2		2	2	1.35E+01	1.36E+01	2.99E+01	1.02E+03	
3~Railway to Keowee	W	INORG	Zinc	7440-66-6	ID	2	2	6.09E+02	6.25E+02	1.22E+02	3.06E+05	1.6E-03

Notes:

1. Only constituents detected in each respective area are shown.
2. Ratios are calculated using site-related concentrations, which are those in excess of site-specific background concentrations for inorganics.
3. The Screening Criteria for sediment are the lower of the Screening Criteria at either a cancer risk level of $1x10^{-5}$ or a hazard quotient of 1.
4. Shaded cells represent ratios of concentration to the Screening Criteria greater than 1.
5. Comm/Ind PRGs are based on EPA Region 9 values.
6. The Screening Criteria for Pyrene were used as surrogates for Phenanthrene and Benzo(g,h,i)perylene.
7. The Screening Criteria for Naphthalene were used as surrogates for 2-Methylnaphthalene.
8. The Screening Criteria for Chromium VI were used as a surrogate for Chromium (total).
9. The concentrations for all polychlorinated biphenyls (PCBs) isomers were summed before comparing to the Screening Criteria for PCBs (total). Comm/Ind PRG Criteria for PCBs are based on PCBs (total) for cancer effects and and Aroclor 1254 for noncancer effects.
10. The Comm/Ind PRG Based Screening Criteria for Mercury were calculated by ENVIRON to account for the vapor inhalation pathway using: EPA Region 9 equations, RfC from IRIS, and chemical properties from EPA's Soil Screening Guidance.

Abbreviations:

Chem Group - Chemical Group
CASRN - Chemical Abstract Service Registry Number
Carc Class - EPA Weight-of-Evidence Cancer Classification
Comm/Ind - Commercial/Industrial
PRG - Preliminary Remediation Goal
Sewer status; R = sewer was cleaned and abandoned in February and March 2006, C = sewer was cleaned in February and March 2006 but will remain in service
W = sewer will remain in service

Table 4.4A(ii): Storm Sewer Sediment Samples Exceeding Screening Criteria
Former GM Delphi Harrison Thermal Systems Facility, Dayton, Ohio

Area	Sewer Status	Station ID	Sample Date	Chem Group	Chemical	CASRN	Concentration (mg/kg)	Site-Specific Background (mg/kg)	Comm/Ind PRG Based Criteria (mg/kg)	Ratio of Concentration to Comm/Ind PRG Based Criteria
1~Webster to Taylor	C	MH-19	10/13/04	PCB	PCBs (total)	1336-36-3	1.23E+01		7.40E+00	**1.6E+00**
1~Webster to Taylor	C	MH-25	10/13/04	SVOC	Benzo(a)pyrene	50-32-8	1.30E+01		2.10E+00	**6.2E+00**
1~Webster to Taylor	C	MH-25	10/13/04	PCB	PCBs (total)	1336-36-3	1.54E+01		7.40E+00	**2.1E+00**
1~Webster to Taylor	C	MH-25	10/13/04	INORG	Lead	7439-92-1	1.26E+03		8.00E+02	**1.6E+00**
1~Webster to Taylor	C	MH-25	10/13/04	INORG	Mercury	7439-97-6	2.28E+01	9.70E-01	1.40E+01	**1.6E+00**
1~Webster to Taylor	C	MH-34	10/24/05	SVOC	Benzo(a)pyrene	50-32-8	5.30E+00		2.10E+00	**2.5E+00**
1~Webster to Taylor	R	MH-1	10/10/05	SVOC	Benzo(a)pyrene	50-32-8	1.60E+01		2.10E+00	**7.6E+00**
1~Webster to Taylor	R	MH-1	10/10/05	SVOC	Dibenz(a,h)anthracene	53-70-3	2.30E+00		2.10E+00	**1.1E+00**
1~Webster to Taylor	R	MH-1	10/10/05	PCB	PCBs (total)	1336-36-3	8.25E+01		7.40E+00	**1.1E+01**
1~Webster to Taylor	R	MH-12	10/13/04	SVOC	Benzo(a)pyrene	50-32-8	9.00E+00		2.10E+00	**4.3E+00**
1~Webster to Taylor	R	MH-12	10/13/04	PCB	PCBs (total)	1336-36-3	5.58E+01		7.40E+00	**7.5E+00**
1~Webster to Taylor	R	MH-15	10/13/04	SVOC	Benzo(a)pyrene	50-32-8	3.80E+00		2.10E+00	**1.8E+00**
1~Webster to Taylor	R	MH-15	10/13/04	PCB	PCBs (total)	1336-36-3	2.08E+01		7.40E+00	**2.8E+00**
1~Webster to Taylor	R	MH-15	10/13/04	INORG	Lead	7439-92-1	9.18E+02		8.00E+02	**1.1E+00**
1~Webster to Taylor	R	MH-16	10/13/04	SVOC	Benzo(a)pyrene	50-32-8	3.00E+00		2.10E+00	**1.4E+00**
1~Webster to Taylor	R	MH-16	10/13/04	PCB	PCBs (total)	1336-36-3	3.47E+02		7.40E+00	**4.7E+01**
1~Webster to Taylor	R	MH-16	10/13/04	INORG	Lead	7439-92-1	1.93E+03		8.00E+02	**2.4E+00**
1~Webster to Taylor	R	MH-17	10/20/05	SVOC	Benzo(a)pyrene	50-32-8	3.00E+00		2.10E+00	**1.4E+00**
1~Webster to Taylor	R	MH-2	10/10/05	SVOC	Benzo(a)pyrene	50-32-8	6.50E+00		2.10E+00	**3.1E+00**
1~Webster to Taylor	R	MH-26/INT-6	04/08/02	SVOC	Benzo(a)pyrene	50-32-8	3.90E+00		2.10E+00	**1.8E+00**
1~Webster to Taylor	R	MH-26/INT-6	10/13/04	SVOC	Benzo(a)pyrene	50-32-8	7.20E+00		2.10E+00	**3.4E+00**
1~Webster to Taylor	R	MH-27	10/20/05	SVOC	Benzo(a)pyrene	50-32-8	7.90E+00		2.10E+00	**3.7E+00**
1~Webster to Taylor	R	MH-28	10/20/05	SVOC	Benzo(a)pyrene	50-32-8	1.30E+01		2.10E+00	**6.2E+00**
1~Webster to Taylor	R	MH-28	10/20/05	INORG	Lead	7439-92-1	9.10E+02		8.00E+02	**1.1E+00**
1~Webster to Taylor	R	mh-35	06/27/05	SVOC	Benzo(a)pyrene	50-32-8	9.20E+00		2.10E+00	**4.4E+00**
1~Webster to Taylor	R	mh-35	10/20/05	SVOC	Benzo(a)pyrene	50-32-8	8.60E+00		2.10E+00	**4.1E+00**
1~Webster to Taylor	R	mh-36	10/20/05	SVOC	Benzo(a)pyrene	50-32-8	4.70E+00		2.10E+00	**2.2E+00**
1~Webster to Taylor	R	MH-37	10/13/04	PCB	PCBs (total)	1336-36-3	1.94E+03		7.40E+00	**2.6E+02**
1~Webster to Taylor	R	MH-37	10/13/04	INORG	Lead	7439-92-1	2.40E+03		8.00E+02	**3.0E+00**
1~Webster to Taylor	R	MH-38	10/20/05	SVOC	Benzo(a)pyrene	50-32-8	3.90E+00		2.10E+00	**1.8E+00**
1~Webster to Taylor	R	MH-39	10/20/05	SVOC	Benzo(a)pyrene	50-32-8	9.70E+00		2.10E+00	**4.6E+00**
1~Webster to Taylor	R	MH-4	10/10/05	SVOC	Benzo(a)pyrene	50-32-8	6.90E+00		2.10E+00	**3.3E+00**
1~Webster to Taylor	R	MH-4	10/10/05	SVOC	bis(2-Ethylhexyl)phthalate	117-81-7	1.40E+03		1.20E+03	**1.1E+00**
1~Webster to Taylor	R	MH-5	10/13/04	SVOC	Benzo(a)anthracene	56-55-3	3.30E+01		2.10E+01	**1.6E+00**
1~Webster to Taylor	R	MH-5	10/13/04	SVOC	Benzo(a)pyrene	50-32-8	2.70E+01		2.10E+00	**1.3E+01**
1~Webster to Taylor	R	MH-5	10/13/04	SVOC	Benzo(b)fluoranthene	205-99-2	3.90E+01		2.10E+01	**1.8E+00**
1~Webster to Taylor	R	MH-5	10/13/04	SVOC	Dibenz(a,h)anthracene	53-70-3	3.00E+00		2.10E+00	**1.4E+00**
1~Webster to Taylor	R	MH-5	10/13/04	PCB	PCBs (total)	1336-36-3	1.35E+01		7.40E+00	**1.8E+00**
1~Webster to Taylor	R	MH-6	10/13/04	SVOC	Benzo(a)pyrene	50-32-8	6.60E+00		2.10E+00	**3.1E+00**
2~Taylor to Railway	C	INT-8	10/15/04	SVOC	Benzo(a)pyrene	50-32-8	1.04E+01		2.10E+00	**4.9E+00**
2~Taylor to Railway	C	INT-8	10/15/04	PCB	PCBs (total)	1336-36-3	3.85E+01		7.40E+00	**5.2E+00**
2~Taylor to Railway	C	INT-8	10/15/04	INORG	Lead	7439-92-1	1.15E+03		8.00E+02	**1.4E+00**

Table 4.4A(ii): Storm Sewer Sediment Samples Exceeding Screening Criteria
Former GM Delphi Harrison Thermal Systems Facility, Dayton, Ohio

Area	Sewer Status	Station ID	Sample Date	Chem Group	Chemical	CASRN	Concentration (mg/kg)	Site-Specific Background (mg/kg)	Comm/Ind PRG Based Criteria (mg/kg)	Ratio of Concentration to Comm/Ind PRG Based Criteria
2~Taylor to Railway	C	MH-13	10/24/05	SVOC	Benzo(a)pyrene	50-32-8	9.00E+00		2.10E+00	**4.3E+00**
2~Taylor to Railway	C	MH-13	10/24/05	INORG	Lead	7439-92-1	4.37E+03		8.00E+02	**5.5E+00**
2~Taylor to Railway	C	MH-13	10/24/05	INORG	Mercury	7439-97-6	4.42E+01	9.70E-01	1.40E+01	**3.2E+00**
2~Taylor to Railway	C	MH-18	04/05/02	SVOC	Benzo(a)pyrene	50-32-8	4.30E+00		2.10E+00	**2.0E+00**
2~Taylor to Railway	C	MH-18	04/05/02	PCB	PCBs (total)	1336-36-3	1.91E+01		7.40E+00	**2.6E+00**
2~Taylor to Railway	C	MH-18	04/05/02	INORG	Mercury	7439-97-6	1.69E+01	9.70E-01	1.40E+01	**1.2E+00**
2~Taylor to Railway	C	MH-18	10/13/04	PCB	PCBs (total)	1336-36-3	1.18E+01		7.40E+00	**1.6E+00**
2~Taylor to Railway	C	MH-18	10/13/04	INORG	Mercury	7439-97-6	2.14E+01	9.70E-01	1.40E+01	**1.5E+00**
2~Taylor to Railway	C	MH-8	10/13/04	INORG	Lead	7439-92-1	6.67E+03		8.00E+02	**8.3E+00**
2~Taylor to Railway	C	MH-9	10/13/04	INORG	Lead	7439-92-1	3.14E+03		8.00E+02	**3.9E+00**
2~Taylor to Railway	W	BS-7	10/15/04	INORG	Cadmium	7440-43-9	8.68E+02	1.50E+00	4.50E+02	**1.9E+00**
2~Taylor to Railway	W	BS-8	04/11/02	INORG	Cadmium	7440-43-9	9.08E+02	1.50E+00	4.50E+02	**2.0E+00**
2~Taylor to Railway	W	BS-8	04/11/02	INORG	Lead	7439-92-1	1.19E+03		8.00E+02	**1.5E+00**
2~Taylor to Railway	W	BS-8	10/15/04	PCB	PCBs (total)	1336-36-3	7.96E+00		7.40E+00	**1.1E+00**
2~Taylor to Railway	W	BS-8	10/15/04	INORG	Lead	7439-92-1	1.88E+03		8.00E+02	**2.4E+00**
2~Taylor to Railway	W	MH-29	01/16/06	SVOC	Benzo(a)pyrene	50-32-8	2.40E+00		2.10E+00	**1.1E+00**
2~Taylor to Railway	W	MH-29	01/16/06	PCB	PCBs (total)	1336-36-3	8.40E+00		7.40E+00	**1.1E+00**
2~Taylor to Railway	W	MH-69	10/15/04	INORG	Lead	7439-92-1	1.33E+03		8.00E+02	**1.7E+00**
3~Railway to Keowee	W	MH-72/INT-10	04/11/02	SVOC	Benzo(a)pyrene	50-32-8	4.50E+00		2.10E+00	**2.1E+00**
3~Railway to Keowee	W	MH-72/INT-10	10/15/04	SVOC	Benzo(a)pyrene	50-32-8	5.30E+00		2.10E+00	**2.5E+00**

Notes:

1. Ratios are calculated using site-related concentrations, which are those in excess of site-specific background concentrations for inorganics.
2. The Screening Criteria for sediment are the lower of the Screening Criteria at either a cancer risk level of $1x10^{-5}$ or a hazard quotient of 1.
3. Shaded cells represent ratios of concentration to the Screening Criteria greater than 1.
4. Comm/Ind PRGs are based on EPA Region 9 values.

Abbreviations:

Chem Group - Chemical Group
CASRN - Chemical Abstract Service Registry Number
Carc Class - EPA Weight-of-Evidence Cancer Classification
Comm/Ind - Commercial/Industrial
PRG - Preliminary Remediation Goal

Sewer status; R = sewer was cleaned and abandoned in February and March 2006, C = sewer was cleaned in February and March 2006 but will remain in service
W = sewer will remain in service

Table 4.5A(i): Storm Sewer Water Screening Results Summary
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

Area	Sewer Status	Chem Group	Chemical	CASRN	Carc Class	Analyzed	Detected	Min Detected Concentration (mg/L)	Max Detected Concentration (mg/L)	Maintenance Worker Ground Water Contact Criteria (mg/L)	Ratio of Max Detect to Maint Worker GW Contact Criteria
1~Webster to Taylor	C	VOC	Acetone	67-64-1	ID	4	2	2.60E-03	3.10E-03	6.78E+03	4.6E-07
1~Webster to Taylor	C	VOC	Bromodichloromethane	75-27-4	B2	4	1	2.30E-03	2.30E-03	3.47E+00	6.6E-04
1~Webster to Taylor	C	VOC	Bromoform	75-25-2	B2	4	1	1.40E-03	1.40E-03	7.31E+01	1.9E-05
1~Webster to Taylor	C	VOC	2-Butanone	78-93-3	ID	4	3	5.30E-04	6.50E-04	8.70E+03	7.5E-08
1~Webster to Taylor	C	VOC	Chloroform	67-66-3	B2	4	1	3.00E-03	3.00E-03	2.29E+00	1.3E-03
1~Webster to Taylor	C	VOC	Dibromochloromethane	124-48-1	C	4	1	2.80E-03	2.80E-03	3.06E+00	9.2E-04
1~Webster to Taylor	C	VOC	cis-1,2-Dichloroethene	156-59-2	D	4	3	4.80E-04	1.80E-03	2.29E+01	7.9E-05
1~Webster to Taylor	C	VOC	Tetrachloroethene	127-18-4	C-B2	4	4	2.40E-04	2.40E-03	1.41E+01	1.7E-04
1~Webster to Taylor	C	VOC	Trichloroethene	79-01-6	C-B2	4	1	4.70E-04	4.70E-04	2.68E+01	1.8E-05
1~Webster to Taylor	C	VOC	Vinyl Chloride	75-01-4	A	4	1	2.40E-04	2.40E-04	2.02E+00	1.2E-04
1~Webster to Taylor	C	SVOC	Benzo(a)anthracene	56-55-3	B2	4	1	1.40E-03	1.40E-03	6.17E-02	2.3E-02
1~Webster to Taylor	C	SVOC	Benzo(a)pyrene	50-32-8	B2	4	1	1.50E-03	1.50E-03	4.35E-03	3.4E-01
1~Webster to Taylor	C	SVOC	Benzo(b)fluoranthene	205-99-2	B2	4	1	2.40E-03	2.40E-03	3.71E-02	6.5E-02
1~Webster to Taylor	C	SVOC	Benzo(g,h,i)perylene	191-24-2	D	4	1	1.10E-03	1.10E-03	8.81E+00	1.2E-04
1~Webster to Taylor	C	SVOC	Benzo(k)fluoranthene	207-08-9	B2	4	1	7.90E-04	7.90E-04	3.80E-01	2.1E-03
1~Webster to Taylor	C	SVOC	Caprolactam	105-60-2		4	1	2.10E-03	2.10E-03	2.01E+05	1.0E-08
1~Webster to Taylor	C	SVOC	Chrysene	218-01-9	B2	4	1	2.20E-03	2.20E-03	5.96E+00	3.7E-04
1~Webster to Taylor	C	SVOC	Fluoranthene	206-44-0	D	4	1	2.90E-03	2.90E-03	4.52E+01	6.4E-05
1~Webster to Taylor	C	SVOC	Indeno(1,2,3-cd)pyrene	193-39-5	B2	4	1	8.90E-04	8.90E-04	2.81E-02	3.2E-02
1~Webster to Taylor	C	SVOC	Phenanthrene	85-01-8	D	4	1	1.60E-03	1.60E-03	7.14E+01	2.2E-05
1~Webster to Taylor	C	SVOC	Pyrene	129-00-0	D	4	1	2.20E-03	2.20E-03	3.48E+01	6.3E-05
1~Webster to Taylor	C	PCB	PCBs (total)	1336-36-3	B2	4	3	2.00E-04	5.58E-02	9.35E-03	**6.0E+00**
1~Webster to Taylor	C	INORG	Antimony	7440-36-0		4	2	2.00E-03	2.20E-03	3.79E+01	5.8E-05
1~Webster to Taylor	C	INORG	Arsenic	7440-38-2	A	4	1	7.50E-03	7.50E-03	1.44E+01	5.2E-04
1~Webster to Taylor	C	INORG	Barium	7440-39-3	D	4	4	2.90E-02	2.10E-01	3.43E+03	6.1E-05
1~Webster to Taylor	C	INORG	Cadmium	7440-43-9	B1	4	2	1.20E-03	7.70E-03	1.80E+01	4.3E-04
1~Webster to Taylor	C	INORG	Chromium (total)	7440-47-3		4	3	3.00E-03	3.50E-02	2.85E+01	1.2E-03
1~Webster to Taylor	C	INORG	Cobalt	7440-48-4	B1	4	1	1.20E-02	1.20E-02	8.09E+03	1.5E-06
1~Webster to Taylor	C	INORG	Copper	7440-50-8	D	4	3	1.40E-02	2.90E-01	1.23E+04	2.4E-05
1~Webster to Taylor	C	INORG	Cyanide (total)	57-12-5	D	4	1	2.20E-03	2.20E-03	6.16E+03	3.6E-07
1~Webster to Taylor	C	INORG	Lead	7439-92-1	B2	4	3	6.00E-03	2.00E-01	7.40E+01	2.7E-03
1~Webster to Taylor	C	INORG	Manganese	7439-96-5	D	4	3	1.50E-02	9.10E-01	5.96E+03	1.5E-04
1~Webster to Taylor	C	INORG	Mercury	7439-97-6	D	4	2	6.70E-04	5.90E-03	2.88E-01	2.1E-02
1~Webster to Taylor	C	INORG	Nickel	7440-02-0	A	4	1	2.50E-02	2.50E-02	2.38E+03	1.1E-05
1~Webster to Taylor	C	INORG	Selenium	7782-49-2	D	4	2	5.10E-03	6.10E-03	1.54E+03	4.0E-06
1~Webster to Taylor	C	INORG	Silver	7440-22-4	D	4	1	1.20E-03	1.20E-03	2.34E+02	5.1E-06
1~Webster to Taylor	C	INORG	Thallium	7440-28-0		4	1	1.40E-04	1.40E-04	2.15E+01	6.5E-06
1~Webster to Taylor	C	INORG	Vanadium	7440-62-2		4	3	9.70E-04	1.60E-02	1.94E+01	8.3E-04
1~Webster to Taylor	C	INORG	Zinc	7440-66-6	ID	4	3	6.60E-02	1.10E+00	1.10E+05	1.0E-05
1~Webster to Taylor	R	VOC	Acetone	67-64-1	ID	14	7	9.40E-04	2.50E-03	6.78E+03	3.7E-07
1~Webster to Taylor	R	VOC	Bromodichloromethane	75-27-4	B2	14	1	3.90E-03	3.90E-03	3.47E+00	1.1E-03

Table 4.5A(i): Storm Sewer Water Screening Results Summary
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

Area	Sewer Status	Chem Group	Chemical	CASRN	Carc Class	Analyzed	Detected	Min Detected Concentration (mg/L)	Max Detected Concentration (mg/L)	Maintenance Worker Ground Water Contact Criteria (mg/L)	Ratio of Max Detect to Maint Worker GW Contact Criteria
1~Webster to Taylor	R	VOC	Bromoform	75-25-2	B2	14	1	1.40E-03	1.40E-03	7.31E+01	1.9E-05
1~Webster to Taylor	R	VOC	2-Butanone	78-93-3	ID	14	3	5.70E-04	6.80E-04	8.70E+03	7.8E-08
1~Webster to Taylor	R	VOC	Chloroform	67-66-3	B2	14	1	1.30E-03	1.30E-03	2.29E+00	5.7E-04
1~Webster to Taylor	R	VOC	Dibromochloromethane	124-48-1	C	14	1	3.80E-03	3.80E-03	3.06E+00	1.2E-03
1~Webster to Taylor	R	VOC	1,1-Dichloroethane	75-34-3	C	14	3	2.20E-04	5.80E-04	3.32E+02	1.7E-06
1~Webster to Taylor	R	VOC	cis-1,2-Dichloroethene	156-59-2	D	14	6	2.30E-04	7.40E-03	2.29E+01	3.2E-04
1~Webster to Taylor	R	VOC	trans-1,2-Dichloroethene	156-60-5		14	1	7.00E-04	7.00E-04	3.81E+01	1.8E-05
1~Webster to Taylor	R	VOC	Ethyl Benzene	100-41-4	D	14	1	6.70E-04	6.70E-04	4.41E+02	1.5E-06
1~Webster to Taylor	R	VOC	Tetrachloroethene	127-18-4	C-B2	14	6	9.30E-04	6.90E-02	1.41E+01	4.9E-03
1~Webster to Taylor	R	VOC	1,1,1-Trichloroethane	71-55-6	D	14	2	5.00E-04	7.70E-04	1.47E+03	5.2E-07
1~Webster to Taylor	R	VOC	Trichloroethene	79-01-6	C-B2	14	9	3.10E-04	2.60E-02	2.68E+01	9.7E-04
1~Webster to Taylor	R	VOC	Xylenes (total)	1330-20-7	ID	14	1	3.60E-03	3.60E-03	6.80E+01	5.3E-05
1~Webster to Taylor	R	SVOC	bis(2-Ethylhexyl)phthalate	117-81-7	B2	13	1	7.20E-03	7.20E-03	1.82E+00	4.0E-03
1~Webster to Taylor	R	SVOC	Caprolactam	105-60-2		13	2	2.40E-03	2.80E-03	2.01E+05	1.4E-08
1~Webster to Taylor	R	PCB	PCBs (total)	1336-36-3	B2	14	3	4.55E-04	3.09E-01	9.35E-03	**3.3E+01**
1~Webster to Taylor	R	INORG	Antimony	7440-36-0		14	3	5.60E-03	1.90E-02	3.79E+01	5.0E-04
1~Webster to Taylor	R	INORG	Arsenic	7440-38-2	A	14	3	2.80E-03	9.80E-02	1.44E+01	6.8E-03
1~Webster to Taylor	R	INORG	Barium	7440-39-3	D	14	14	8.90E-03	1.30E+00	3.43E+03	3.8E-04
1~Webster to Taylor	R	INORG	Beryllium	7440-41-7	B1	14	1	5.10E-03	5.10E-03	1.07E+01	4.8E-04
1~Webster to Taylor	R	INORG	Cadmium	7440-43-9	B1	14	7	8.30E-04	5.60E-01	1.80E+01	3.1E-02
1~Webster to Taylor	R	INORG	Chromium (total)	7440-47-3		14	4	2.70E-03	3.60E+00	2.85E+01	1.3E-01
1~Webster to Taylor	R	INORG	Cobalt	7440-48-4	B1	14	1	1.80E-01	1.80E-01	8.09E+03	2.2E-05
1~Webster to Taylor	R	INORG	Copper	7440-50-8	D	14	8	1.20E-02	1.25E+01	1.23E+04	1.0E-03
1~Webster to Taylor	R	INORG	Lead	7439-92-1	B2	14	8	2.30E-03	5.40E+00	7.40E+01	7.3E-02
1~Webster to Taylor	R	INORG	Manganese	7439-96-5	D	14	11	1.20E-02	7.30E+00	5.96E+03	1.2E-03
1~Webster to Taylor	R	INORG	Mercury	7439-97-6	D	14	1	9.50E-02	9.50E-02	2.88E-01	3.3E-01
1~Webster to Taylor	R	INORG	Nickel	7440-02-0	A	14	2	2.60E-03	4.70E-01	2.38E+03	2.0E-04
1~Webster to Taylor	R	INORG	Selenium	7782-49-2	D	14	1	7.70E-03	7.70E-03	1.54E+03	5.0E-06
1~Webster to Taylor	R	INORG	Silver	7440-22-4	D	14	1	5.50E-01	5.50E-01	2.34E+02	2.3E-03
1~Webster to Taylor	R	INORG	Thallium	7440-28-0		14	5	1.50E-03	9.50E-03	2.15E+01	4.4E-04
1~Webster to Taylor	R	INORG	Vanadium	7440-62-2		14	1	1.50E-01	1.50E-01	1.94E+01	7.7E-03
1~Webster to Taylor	R	INORG	Zinc	7440-66-6	ID	14	13	1.60E-02	3.22E+01	1.10E+05	2.9E-04
2~Taylor to Railway	C	VOC	Acetone	67-64-1	ID	18	7	2.70E-03	1.90E-02	6.78E+03	2.8E-06
2~Taylor to Railway	C	VOC	2-Butanone	78-93-3	ID	18	10	3.58E-04	1.10E-03	8.70E+03	1.3E-07
2~Taylor to Railway	C	VOC	cis-1,2-Dichloroethene	156-59-2	D	18	11	3.40E-04	2.30E-01	2.29E+01	1.0E-02
2~Taylor to Railway	C	VOC	4-Methyl-2-pentanone	108-10-1	ID	18	2	3.80E-04	4.70E-04	3.72E+03	1.3E-07
2~Taylor to Railway	C	VOC	Methylene Chloride	75-09-2	B2	18	1	3.70E-04	3.70E-04	8.94E+01	4.1E-06
2~Taylor to Railway	C	VOC	Tetrachloroethene	127-18-4	C-B2	18	15	2.50E-04	6.30E-02	1.41E+01	4.5E-03
2~Taylor to Railway	C	VOC	Trichloroethene	79-01-6	C-B2	18	11	1.90E-04	3.85E-02	2.68E+01	1.4E-03
2~Taylor to Railway	C	VOC	Vinyl Chloride	75-01-4	A	18	4	6.50E-04	1.60E-02	2.02E+00	7.9E-03
2~Taylor to Railway	C	SVOC	Benzo(a)anthracene	56-55-3	B2	18	2	7.60E-04	1.60E-03	6.17E-02	2.6E-02

Table 4.5A(i): Storm Sewer Water Screening Results Summary
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

Area	Sewer Status	Chem Group	Chemical	CASRN	Carc Class	Analyzed	Detected	Min Detected Concentration (mg/L)	Max Detected Concentration (mg/L)	Maintenance Worker Ground Water Contact Criteria (mg/L)	Ratio of Max Detect to Maint Worker GW Contact Criteria
2~Taylor to Railway	C	SVOC	Benzo(a)pyrene	50-32-8	B2	18	2	6.10E-04	1.50E-03	4.35E-03	3.4E-01
2~Taylor to Railway	C	SVOC	Benzo(b)fluoranthene	205-99-2	B2	18	2	8.70E-04	3.00E-03	3.71E-02	8.1E-02
2~Taylor to Railway	C	SVOC	Benzo(g,h,i)perylene	191-24-2	D	18	2	4.40E-04	1.30E-03	8.81E+00	1.5E-04
2~Taylor to Railway	C	SVOC	Benzo(k)fluoranthene	207-08-9	B2	18	2	4.50E-04	1.20E-03	3.80E-01	3.2E-03
2~Taylor to Railway	C	SVOC	bis(2-Ethylhexyl)phthalate	117-81-7	B2	18	2	2.90E-03	6.80E-03	1.82E+00	3.7E-03
2~Taylor to Railway	C	SVOC	Caprolactam	105-60-2		18	6	5.88E-04	1.80E-02	2.01E+05	9.0E-08
2~Taylor to Railway	C	SVOC	Carbazole	86-74-8	B2	18	1	1.30E-03	1.30E-03	3.32E+01	3.9E-05
2~Taylor to Railway	C	SVOC	Chrysene	218-01-9	B2	18	2	8.50E-04	2.70E-03	5.96E+00	4.5E-04
2~Taylor to Railway	C	SVOC	Dibenz(a,h)anthracene	53-70-3	B2	18	1	4.30E-04	4.30E-04	2.78E-03	1.5E-01
2~Taylor to Railway	C	SVOC	Fluoranthene	206-44-0	D	18	2	2.10E-03	6.10E-03	4.52E+01	1.3E-04
2~Taylor to Railway	C	SVOC	Fluorene	86-73-7	D	18	1	4.30E-04	4.30E-04	1.02E+02	4.2E-06
2~Taylor to Railway	C	SVOC	Indeno(1,2,3-cd)pyrene	193-39-5	B2	18	1	1.20E-03	1.20E-03	2.81E-02	4.3E-02
2~Taylor to Railway	C	SVOC	Methylphenol (total)	1319-77-3		18	2	5.00E-04	7.70E-04	2.63E+03	2.9E-07
2~Taylor to Railway	C	SVOC	4-Nitrophenol	100-02-7		18	1	2.30E-03	2.30E-03		
2~Taylor to Railway	C	SVOC	Phenanthrene	85-01-8	D	18	2	1.40E-03	4.00E-03	7.14E+01	5.6E-05
2~Taylor to Railway	C	SVOC	Phenol	108-95-2	ID	18	1	7.90E-04	7.90E-04	3.09E+04	2.6E-08
2~Taylor to Railway	C	SVOC	Pyrene	129-00-0	D	18	2	1.50E-03	4.00E-03	3.48E+01	1.1E-04
2~Taylor to Railway	C	PCB	PCBs (total)	1336-36-3	B2	17	11	1.80E-04	2.70E-03	9.35E-03	2.9E-01
2~Taylor to Railway	C	INORG	Antimony	7440-36-0		18	5	2.00E-03	4.20E-03	3.79E+01	1.1E-04
2~Taylor to Railway	C	INORG	Arsenic	7440-38-2	A	18	5	2.70E-03	5.40E-03	1.44E+01	3.8E-04
2~Taylor to Railway	C	INORG	Barium	7440-39-3	D	18	17	2.40E-02	1.89E-01	3.43E+03	5.5E-05
2~Taylor to Railway	C	INORG	Cadmium	7440-43-9	B1	18	9	1.10E-03	5.40E-03	1.80E+01	3.0E-04
2~Taylor to Railway	C	INORG	Chromium (total)	7440-47-3		18	9	1.80E-03	3.22E-02	2.85E+01	1.1E-03
2~Taylor to Railway	C	INORG	Cobalt	7440-48-4	B1	18	6	1.60E-03	9.90E-03	8.09E+03	1.2E-06
2~Taylor to Railway	C	INORG	Copper	7440-50-8	D	18	15	1.10E-02	1.74E-01	1.23E+04	1.4E-05
2~Taylor to Railway	C	INORG	Cyanide (total)	57-12-5	D	16	5	1.70E-03	4.00E-03	6.16E+03	6.5E-07
2~Taylor to Railway	C	INORG	Lead	7439-92-1	B2	18	11	4.15E-03	1.40E-01	7.40E+01	1.9E-03
2~Taylor to Railway	C	INORG	Manganese	7439-96-5	D	18	16	1.10E-02	3.10E-01	5.96E+03	5.2E-05
2~Taylor to Railway	C	INORG	Mercury	7439-97-6	D	18	9	4.00E-05	1.50E-03	2.88E-01	5.2E-03
2~Taylor to Railway	C	INORG	Nickel	7440-02-0	A	18	8	3.00E-03	1.13E-02	2.38E+03	4.8E-06
2~Taylor to Railway	C	INORG	Thallium	7440-28-0		18	2	2.90E-05	7.90E-03	2.15E+01	3.7E-04
2~Taylor to Railway	C	INORG	Vanadium	7440-62-2		18	11	8.30E-04	1.12E-02	1.94E+01	5.8E-04
2~Taylor to Railway	C	INORG	Zinc	7440-66-6	ID	18	17	4.40E-02	1.17E+00	1.10E+05	1.1E-05
2~Taylor to Railway	W	VOC	Acetone	67-64-1	ID	12	6	9.90E-04	2.50E-02	6.78E+03	3.7E-06
2~Taylor to Railway	W	VOC	Bromodichloromethane	75-27-4	B2	12	3	3.40E-04	3.30E-03	3.47E+00	9.5E-04
2~Taylor to Railway	W	VOC	Bromoform	75-25-2	B2	12	2	8.20E-04	1.00E-03	7.31E+01	1.4E-05
2~Taylor to Railway	W	VOC	2-Butanone	78-93-3	ID	12	3	5.40E-04	6.80E-03	8.70E+03	7.8E-07
2~Taylor to Railway	W	VOC	Chloroethane	75-00-3		12	1	6.50E-04	6.50E-04	2.09E+03	3.1E-07
2~Taylor to Railway	W	VOC	Chloroform	67-66-3	B2	12	2	1.90E-03	3.80E-03	2.29E+00	1.7E-03
2~Taylor to Railway	W	VOC	Chloromethane	74-87-3	D	12	1	1.00E-03	1.00E-03	4.34E+01	2.3E-05
2~Taylor to Railway	W	VOC	Dibromochloromethane	124-48-1	C	12	3	3.90E-04	3.10E-03	3.06E+00	1.0E-03

Table 4.5A(i): Storm Sewer Water Screening Results Summary
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

Area	Sewer Status	Chem Group	Chemical	CASRN	Carc Class	Analyzed	Detected	Min Detected Concentration (mg/L)	Max Detected Concentration (mg/L)	Maintenance Worker Ground Water Contact Criteria (mg/L)	Ratio of Max Detect to Maint Worker GW Contact Criteria
2~Taylor to Railway	W	VOC	cis-1,2-Dichloroethene	156-59-2	D	12	4	3.10E-04	9.20E-03	2.29E+01	4.0E-04
2~Taylor to Railway	W	VOC	Ethyl Benzene	100-41-4	D	12	3	1.80E-04	2.30E-03	4.41E+02	5.2E-06
2~Taylor to Railway	W	VOC	2-Hexanone	591-78-6		12	1	1.20E-03	1.20E-03	3.57E+00	3.4E-04
2~Taylor to Railway	W	VOC	4-Methyl-2-pentanone	108-10-1	ID	12	1	2.90E-04	2.90E-04	3.72E+03	7.8E-08
2~Taylor to Railway	W	VOC	Tetrachloroethene	127-18-4	C-B2	12	3	9.40E-04	2.90E-02	1.41E+01	2.1E-03
2~Taylor to Railway	W	VOC	Toluene	108-88-3	ID	12	2	3.10E-03	4.90E-03	1.69E+03	2.9E-06
2~Taylor to Railway	W	VOC	1,2,4-Trichlorobenzene	120-82-1	D	12	1	3.50E-04	3.50E-04	4.31E+01	8.1E-06
2~Taylor to Railway	W	VOC	Trichloroethene	79-01-6	C-B2	12	5	1.80E-04	2.10E-03	2.68E+01	7.8E-05
2~Taylor to Railway	W	VOC	Xylenes (total)	1330-20-7	ID	12	3	7.60E-04	1.40E-02	6.80E+01	2.1E-04
2~Taylor to Railway	W	SVOC	bis(2-Ethylhexyl)phthalate	117-81-7	B2	12	1	3.70E-03	3.70E-03	1.82E+00	2.0E-03
2~Taylor to Railway	W	SVOC	Caprolactam	105-60-2		12	3	3.90E-03	5.20E-03	2.01E+05	2.6E-08
2~Taylor to Railway	W	SVOC	Di-n-butylphthalate	84-74-2	D	12	1	6.80E-04	6.80E-04	4.63E+02	1.5E-06
2~Taylor to Railway	W	PCB	PCBs (total)	1336-36-3	B2	12	3	2.90E-04	5.09E-04	9.35E-03	5.4E-02
2~Taylor to Railway	W	INORG	Antimony	7440-36-0		12	4	1.90E-03	2.30E-02	3.79E+01	6.1E-04
2~Taylor to Railway	W	INORG	Arsenic	7440-38-2	A	12	2	4.20E-03	5.80E-03	1.44E+01	4.0E-04
2~Taylor to Railway	W	INORG	Barium	7440-39-3	D	12	12	2.60E-02	2.10E-01	3.43E+03	6.1E-05
2~Taylor to Railway	W	INORG	Cadmium	7440-43-9	B1	12	4	1.60E-02	1.50E-01	1.80E+01	8.3E-03
2~Taylor to Railway	W	INORG	Chromium (total)	7440-47-3		12	5	3.70E-03	2.00E-02	2.85E+01	7.0E-04
2~Taylor to Railway	W	INORG	Cobalt	7440-48-4	B1	12	2	1.70E-03	3.00E-03	8.09E+03	3.7E-07
2~Taylor to Railway	W	INORG	Copper	7440-50-8	D	12	8	5.80E-03	6.50E+00	1.23E+04	5.3E-04
2~Taylor to Railway	W	INORG	Cyanide (total)	57-12-5	D	12	2	1.90E-03	2.10E-03	6.16E+03	3.4E-07
2~Taylor to Railway	W	INORG	Lead	7439-92-1	B2	12	8	4.50E-03	2.40E-01	7.40E+01	3.2E-03
2~Taylor to Railway	W	INORG	Manganese	7439-96-5	D	12	10	5.80E-03	2.10E-01	5.96E+03	3.5E-05
2~Taylor to Railway	W	INORG	Mercury	7439-97-6	D	12	4	4.40E-05	9.90E-04	2.88E-01	3.4E-03
2~Taylor to Railway	W	INORG	Nickel	7440-02-0	A	12	5	3.50E-03	5.40E-02	2.38E+03	2.3E-05
2~Taylor to Railway	W	INORG	Silver	7440-22-4	D	12	2	8.30E-04	5.40E-03	2.34E+02	2.3E-05
2~Taylor to Railway	W	INORG	Thallium	7440-28-0		12	4	5.40E-03	9.20E-03	2.15E+01	4.3E-04
2~Taylor to Railway	W	INORG	Vanadium	7440-62-2		12	4	2.20E-03	4.10E-03	1.94E+01	2.1E-04
2~Taylor to Railway	W	INORG	Zinc	7440-66-6	ID	12	12	2.50E-02	2.90E+00	1.10E+05	2.6E-05
3~Railway to Keowee	W	VOC	Acetone	67-64-1	ID	1	1	1.60E-02	1.60E-02	6.78E+03	2.4E-06
3~Railway to Keowee	W	VOC	Ethyl Benzene	100-41-4	D	1	1	4.90E-04	4.90E-04	4.41E+02	1.1E-06
3~Railway to Keowee	W	VOC	4-Methyl-2-pentanone	108-10-1	ID	1	1	7.10E-04	7.10E-04	3.72E+03	1.9E-07
3~Railway to Keowee	W	VOC	Toluene	108-88-3	ID	1	1	2.00E-04	2.00E-04	1.69E+03	1.2E-07
3~Railway to Keowee	W	VOC	Xylenes (total)	1330-20-7	ID	1	1	2.70E-03	2.70E-03	6.80E+01	4.0E-05
3~Railway to Keowee	W	INORG	Barium	7440-39-3	D	1	1	4.80E-02	4.80E-02	3.43E+03	1.4E-05
3~Railway to Keowee	W	INORG	Chromium (total)	7440-47-3		1	1	7.90E-03	7.90E-03	2.85E+01	2.8E-04
3~Railway to Keowee	W	INORG	Copper	7440-50-8	D	1	1	2.90E-02	2.90E-02	1.23E+04	2.4E-06
3~Railway to Keowee	W	INORG	Lead	7439-92-1	B2	1	1	2.20E-02	2.20E-02	7.40E+01	3.0E-04
3~Railway to Keowee	W	INORG	Manganese	7439-96-5	D	1	1	7.90E-02	7.90E-02	5.96E+03	1.3E-05
3~Railway to Keowee	W	INORG	Nickel	7440-02-0	A	1	1	3.70E-03	3.70E-03	2.38E+03	1.6E-06
3~Railway to Keowee	W	INORG	Vanadium	7440-62-2		1	1	2.50E-03	2.50E-03	1.94E+01	1.3E-04

Table 4.5A(i): Storm Sewer Water Screening Results Summary
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

Area	Sewer Status	Chem Group	Chemical	CASRN	Carc Class	Analyzed	Detected	Min Detected Concentration (mg/L)	Max Detected Concentration (mg/L)	Maintenance Worker Ground Water Contact Criteria (mg/L)	Ratio of Max Detect to Maint Worker GW Contact Criteria
3~Railway to Keowee	W	INORG	Zinc	7440-66-6	ID	1	1	1.40E-01	1.40E-01	1.10E+05	1.3E-06
Notes:											
1. Only constituents detected in each respective area are shown.											
2. The Screening Criteria for storm sewer water are the lower of the Screening Criteria at either a cancer risk level of $1x10^{-5}$ or a hazard quotient of 1.											
3. Shaded cells represent ratios of concentration to the Screening Criteria greater than 1.											
4. Maintenance Worker GW Contact Criteria were calculated as discussed in Appendix E of the RFI Report.											
5. The Screening Criteria for Pyrene were used as surrogates for Phenanthrene and Benzo(g,h,i)perylene.											
6. The Screening Criteria for Chromium VI were used as a surrogate for Chromium (total).											
7. The concentrations for the Methylphenol (2, 3, & 4) were summed before comparing to the Screening Criteria for 4-Methylphenol.											
8. The concentrations for all polychlorinated biphenyls (PCBs) isomers were summed before comparing to the Screening Criteria.											
Abbreviations:											
Chem Group - Chemical Group											
CASRN - Chemical Abstract Service Registry Number											
Carc Class - EPA Weight-of-Evidence Cancer Classification											
Sewer status; R = sewer was cleaned and abandoned in February and March 2006, C = sewer was cleaned in February and March 2006 but will remain in service											
W = sewer will remain in service											

Table 4.5A(ii): Storm Sewer Water Concentrations Exceeding Screening Criteria
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

Area	Sewer Status	Station ID	Sample Date	Chem Group	Chemical	CASRN	Concentration (mg/L)	Maintenance Worker Ground Water Contact Criteria (mg/L)	Ratio of Concentration to Maint Worker GW Contact Criteria
1~Webster to Taylor	C	MH-25	10/13/04	PCB	PCBs (total)	1336-36-3	5.58E-02	9.35E-03	**6.0E+00**
1~Webster to Taylor	R	MH-12	10/13/04	PCB	PCBs (total)	1336-36-3	3.09E-01	9.35E-03	**3.3E+01**

Notes:

1. Only constituents detected in each respective area are shown.
2. The Screening Criteria for storm sewer water are the lower of the Screening Criteria at either a cancer risk level of $1x10^{-5}$ or a hazard quotient of 1.
3. Shaded cells represent ratios of concentration to the Screening Criteria greater than 1.
4. Maintenance Worker GW Contact Criteria were calculated as discussed in Appendix E of the RFI Report.

Abbreviations:

Chem Group - Chemical Group

CASRN - Chemical Abstract Service Registry Number

Sewer status; R = sewer was cleaned and abandoned in February and March 2006, C = sewer was cleaned in February and March 2006 but will remain in service

W = sewer will remain in service

Table 4.6 LNAPL and Oil Constituent Concentrations
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

Product Area	Chem Group	Chemical	CASRN	Element	Carc Class	Analyzed	Detected	Min Detected Concentration (mg/kg)	Max Detected Concentration (mg/kg)
Chip Area LNAPL Plume	VOC	Acetone	67-64-1	LNAPL	ID	12	2	9.10E-01	1.50E+01
Chip Area LNAPL Plume	VOC	Benzene	71-43-2	LNAPL	A	12	1	1.19E-01	1.19E-01
Chip Area LNAPL Plume	VOC	Chloroethane	75-00-3	LNAPL		12	1	3.10E-01	3.10E-01
Chip Area LNAPL Plume	VOC	Chloromethane	74-87-3	LNAPL	D	12	1	1.40E-01	1.40E-01
Chip Area LNAPL Plume	VOC	Cumene	98-82-8	LNAPL	D	12	11	2.08E-01	3.30E+01
Chip Area LNAPL Plume	VOC	Cyclohexane	110-82-7	LNAPL	ID	12	7	5.80E-01	4.20E+00
Chip Area LNAPL Plume	VOC	1,2-Dichlorobenzene	95-50-1	LNAPL	D	12	2	1.30E-01	1.70E-01
Chip Area LNAPL Plume	VOC	1,1-Dichloroethane	75-34-3	LNAPL	C	12	3	3.00E-01	1.50E+00
Chip Area LNAPL Plume	VOC	cis-1,2-Dichloroethene	156-59-2	LNAPL	D	12	2	1.90E-01	5.30E-01
Chip Area LNAPL Plume	VOC	Ethyl Benzene	100-41-4	LNAPL	D	12	4	1.60E-01	3.10E-01
Chip Area LNAPL Plume	VOC	Methyl Acetate	79-20-9	LNAPL		12	3	2.30E-01	3.20E-01
Chip Area LNAPL Plume	VOC	4-Methyl-2-pentanone	108-10-1	LNAPL	ID	12	1	6.06E-01	6.06E-01
Chip Area LNAPL Plume	VOC	Methylcyclohexane	108-87-2	LNAPL		12	12	2.35E-01	1.65E+01
Chip Area LNAPL Plume	VOC	Methylene Chloride	75-09-2	LNAPL	B2	12	2	1.45E+00	3.40E+00
Chip Area LNAPL Plume	VOC	Tetrachloroethene	127-18-4	LNAPL	C-B2	12	4	3.20E-01	9.00E-01
Chip Area LNAPL Plume	VOC	Toluene	108-88-3	LNAPL	ID	12	4	7.60E-02	6.20E-01
Chip Area LNAPL Plume	VOC	Trichloroethene	79-01-6	LNAPL	C-B2	12	3	1.20E-01	3.20E-01
Chip Area LNAPL Plume	VOC	Xylenes (total)	1330-20-7	LNAPL	ID	12	9	8.60E-01	1.20E+01
Chip Area LNAPL Plume	SVOC	bis(2-Ethylhexyl)phthalate	117-81-7	LNAPL	B2	12	1	2.20E+02	2.20E+02
Chip Area LNAPL Plume	PCB	PCBs (total)	1336-36-3	LNAPL	B2	12	12	8.60E+01	1.00E+03
Chip Area LNAPL Plume	INORG	Antimony	7440-36-0	LNAPL		12	1	2.23E-01	2.23E-01
Chip Area LNAPL Plume	INORG	Arsenic	7440-38-2	LNAPL	A	12	12	8.25E-01	1.85E+01
Chip Area LNAPL Plume	INORG	Barium	7440-39-3	LNAPL	D	12	8	1.40E+00	6.10E+00
Chip Area LNAPL Plume	INORG	Chromium (total)	7440-47-3	LNAPL		12	12	2.80E-01	5.20E+00
Chip Area LNAPL Plume	INORG	Copper	7440-50-8	LNAPL	D	12	4	3.80E-01	1.70E+00
Chip Area LNAPL Plume	INORG	Cyanide (total)	57-12-5	LNAPL	D	12	2	2.40E-01	2.50E-01
Chip Area LNAPL Plume	INORG	Lead	7439-92-1	LNAPL	B2	12	10	3.00E-01	5.60E+00
Chip Area LNAPL Plume	INORG	Manganese	7439-96-5	LNAPL	D	12	11	1.48E-01	4.40E+00
Chip Area LNAPL Plume	INORG	Mercury	7439-97-6	LNAPL	D	12	2	5.58E-03	1.10E-02
Chip Area LNAPL Plume	INORG	Nickel	7440-02-0	LNAPL	A	12	11	5.00E-01	9.90E+00
Chip Area LNAPL Plume	INORG	Selenium	7782-49-2	LNAPL	D	12	1	5.50E-01	5.50E-01
Chip Area LNAPL Plume	INORG	Vanadium	7440-62-2	LNAPL		12	10	4.70E-01	6.60E+00
Chip Area LNAPL Plume	INORG	Zinc	7440-66-6	LNAPL	ID	12	8	1.30E+00	6.20E+00
Hydromation Pit LNAPL Plume	VOC	2-Butanone	78-93-3	LNAPL	ID	3	1	5.90E-01	5.90E-01
Hydromation Pit LNAPL Plume	VOC	Cumene	98-82-8	LNAPL	D	3	1	1.10E-01	1.10E-01
Hydromation Pit LNAPL Plume	VOC	cis-1,2-Dichloroethene	156-59-2	LNAPL	D	3	3	2.50E+00	5.20E+00
Hydromation Pit LNAPL Plume	VOC	Tetrachloroethene	127-18-4	LNAPL	C-B2	3	3	6.90E-01	1.40E+00
Hydromation Pit LNAPL Plume	VOC	Trichloroethene	79-01-6	LNAPL	C-B2	3	2	9.40E-02	1.60E-01
Hydromation Pit LNAPL Plume	SVOC	bis(2-Ethylhexyl)phthalate	117-81-7	LNAPL	B2	3	2	1.50E+01	4.70E+01
Hydromation Pit LNAPL Plume	PCB	PCBs (total)	1336-36-3	LNAPL	B2	3	3	5.90E-01	2.30E+00
Hydromation Pit LNAPL Plume	INORG	Antimony	7440-36-0	LNAPL		3	1	3.80E-01	3.80E-01
Hydromation Pit LNAPL Plume	INORG	Arsenic	7440-38-2	LNAPL	A	3	2	7.30E-01	1.40E+00
Hydromation Pit LNAPL Plume	INORG	Barium	7440-39-3	LNAPL	D	3	3	1.20E+00	3.40E+00
Hydromation Pit LNAPL Plume	INORG	Chromium (total)	7440-47-3	LNAPL		3	3	1.02E+01	4.13E+01
Hydromation Pit LNAPL Plume	INORG	Copper	7440-50-8	LNAPL	D	3	1	9.90E-01	9.90E-01
Hydromation Pit LNAPL Plume	INORG	Cyanide (total)	57-12-5	LNAPL	D	3	1	2.30E-01	2.30E-01
Hydromation Pit LNAPL Plume	INORG	Lead	7439-92-1	LNAPL	B2	3	1	3.20E-01	3.20E-01
Hydromation Pit LNAPL Plume	INORG	Manganese	7439-96-5	LNAPL	D	3	3	2.30E+00	7.90E+00
Hydromation Pit LNAPL Plume	INORG	Nickel	7440-02-0	LNAPL	A	3	1	2.30E-01	2.30E-01
Hydromation Pit LNAPL Plume	INORG	Vanadium	7440-62-2	LNAPL		3	3	3.40E-01	1.30E+00

Table 4.6 LNAPL and Oil Constituent Concentrations
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

Product Area	Chem Group	Chemical	CASRN	Element	Carc Class	Analyzed	Detected	Min Detected Concentration (mg/kg)	Max Detected Concentration (mg/kg)
Hydromation Pit LNAPL Plume	INORG	Zinc	7440-66-6	LNAPL	ID	3	1	4.20E+00	4.20E+00
Well Day-17	INORG	Antimony	7440-36-0	LNAPL		1	1	2.40E-01	2.40E-01
Well Day-17	INORG	Barium	7440-39-3	LNAPL	D	1	1	8.20E-01	8.20E-01
Well Day-17	INORG	Chromium (total)	7440-47-3	LNAPL		1	1	3.20E-01	3.20E-01
Well Day-17	INORG	Manganese	7439-96-5	LNAPL	D	1	1	3.40E+00	3.40E+00
Well Day-17	INORG	Nickel	7440-02-0	LNAPL	A	1	1	4.90E-01	4.90E-01
Well Day-17	INORG	Zinc	7440-66-6	LNAPL	ID	1	1	3.50E+00	3.50E+00
Well MW-14B-04	VOC	Acetone	67-64-1	LNAPL	ID	2	2	2.40E-01	3.10E-01
Well MW-14B-04	VOC	Methylene Chloride	75-09-2	LNAPL	B2	2	1	3.30E-01	3.30E-01
Well MW-14B-04	VOC	Tetrachloroethene	127-18-4	LNAPL	C-B2	2	2	8.90E-01	1.20E+00
Well MW-14B-04	SVOC	bis(2-Ethylhexyl)phthalate	117-81-7	LNAPL	B2	2	2	6.50E+01	1.20E+02
Well MW-14B-04	PCB	PCBs (total)	1336-36-3	LNAPL	B2	2	2	9.50E-01	1.10E+00
Well MW-14B-04	INORG	Barium	7440-39-3	LNAPL	D	2	2	6.00E-01	3.10E+00
Well MW-14B-04	INORG	Cadmium	7440-43-9	LNAPL	B1	2	1	7.50E-02	7.50E-02
Well MW-14B-04	INORG	Copper	7440-50-8	LNAPL	D	2	1	1.60E+00	1.60E+00
Well MW-14B-04	INORG	Lead	7439-92-1	LNAPL	B2	2	1	7.80E-01	7.80E-01
Well MW-14B-04	INORG	Manganese	7439-96-5	LNAPL	D	2	1	1.60E+00	1.60E+00
Well MW-14B-04	INORG	Zinc	7440-66-6	LNAPL	ID	2	2	8.20E-01	1.69E+01

Notes:

1. Only constituents detected in each respective area are shown.
2. The concentrations for all polychlorinated biphenyls (PCBs) isomers were summed

Abbreviations:

Chem Group - Chemical Group

CASRN - Chemical Abstract Service Registry Number

LNAPL - Light Non-Aqueous Phase Liquid

Table 5.1

SCENARIOS FOR POTENTIAL HUMAN EXPOSURE
FORMER GM HARRISON THERMAL SYSTEMS FACILITY, DAYTON, OHIO

Exposed Population	Exposure Medium	Exposure Route	Possible Currently?	Possible in Future?	Comments
O n - S i t e					
Routine Workers	surface soil	incidental ingestion of and dermal contact with surface soil	No	Yes	The Site was a former manufacturing facility that is not currently in use but is being redeveloped by the City of Dayton for commercial reuse. After redevelopment, potential exposure of routine workers to soil is possible in unpaved areas. Potential indoor exposure is also possible when new buildings are occupied after redevelopment, if soil-derived vapors migrate through building foundations.
		inhalation of soil-derived vapors and airborne particulates (wind erosion) in ambient air	No	Yes	
		inhalation of soil-derived vapors that migrate through building foundations into indoor air	No	Yes	
	subsurface soil	incidental ingestion of and dermal contact with subsurface soil	No	No	
		inhalation of soil-derived vapors that migrate through building foundations into indoor air	No	Yes	
	groundwater	incidental ingestion of and dermal contact with groundwater and inhalation of groundwater-derived vapors during use of groundwater for drinking water	No	No	Groundwater is not used at the Site for drinking water or other purposes. Potable water is obtained from the City of Dayton municipal system.
		incidental ingestion of and dermal contact with groundwater and inhalation of groundwater-derived vapors during use of groundwater for purposes other than drinking water	No	No	
		inhalation of groundwater-derived vapors that migrate through building foundations into indoor air	No	Yes	Potential indoor exposure is possible when new buildings are occupied after redevelopment, if groundwater-derived vapors migrate through building
	LNAPL	inhalation of LNAPL-derived vapors that migrate through building foundations into indoor air	No	Yes	LNAPL is in the subsurface at the Chip Handling and Hydromation Pit areas, but the City's redevelopment plan does not include new buildings in these areas.
	concrete floors and walls	dermal contact with concrete floor and wall surfaces	No	No	All building surfaces with PCBs data will be removed or made permanently inaccessible during redevelopment of the Site.

Table 5.1

SCENARIOS FOR POTENTIAL HUMAN EXPOSURE
FORMER GM HARRISON THERMAL SYSTEMS FACILITY, DAYTON, OHIO

Exposed Population	Exposure Medium	Exposure Route	Possible Currently?	Possible in Future?	Comments
On-Site (Continued)					
Redevelopment Workers	surface and subsurface soil	incidental ingestion of and dermal contact with soil; inhalation of soil-derived vapors and airborne particulate in work-space air	Yes	Yes	The first phase of redevelopment is occuring between Webster and Taylor Streets. Exposure of construction workers to soil is possible where soil is exposed during redevelopment construction activities.
	groundwater	incidental ingestion of and dermal contact with exposed groundwater; inhalation of vapors from exposed groundwater	No	Yes	Potential exposure to shallow groundwater is possible in excavations that extend into the water table. No such excavations are planned for the first phase of redevelopment between Webster and Taylor Streets.
	LNAPL	incidental ingestion of and dermal contact with exposed LNAPL; inhalation of vapors from exposed LNAPL	No	Yes	The Chip Area and Hydromation Pit LNAPL plumes are in parts of the Site not currently under redevelopment. But potential exposure to LNAPL is possible if future excavations extend into the water table at these areas.
	storm water and sediment	incidental ingestion of and dermal contact with water and sediment in storm sewers; inhalation of vapors from exposed storm water	No	Yes	Potential exposure is possible if redevelopment activities between Taylor and Keowee Streets involve the storm sewer system.
	concrete floors and walls	dermal contact with concrete floor and wall surfaces	Yes	Yes	The significance of dermal contact with PCBs on concrete surfaces is evaluated using TSCA criteria, and is not evaluated in the risk assessment.
Maintenance Workers	surface and subsurface soil	incidental ingestion of and dermal contact with soil; inhalation of soil-derived vapors and airborne particulate in work-space air	No	Yes	
	groundwater	incidental ingestion of and dermal contact with exposed groundwater; inhalation of vapors from exposed groundwater	No	Yes	Potential exposure to shallow groundwater is possible in excavations that extend into the water table.
	LNAPL	incidental ingestion of and dermal contact with exposed LNAPL; inhalation of vapors from exposed LNAPL	No	Yes	Potential exposure is possible if excavations extend to the water table in the areas of the Chip Area and Hydromation Pit LNAPL plumes.
	storm water and sediment	incidental ingestion of and dermal contact with water and sediment in storm sewers; inhalation of vapors from exposed storm water	No	Yes	Potential exposure is possible during maintenance that requires entry into the storm sewer system.
Trespassers	surface soil	incidental ingestion of and dermal contact with surface soil	Yes	Yes	Potential exposure is possible in areas where surface soil is exposed, although the Site is currently fenced between Webster Street and the railway, and warning signs are posted at the area between the railway and Keowee Street.
		inhalation of soil-derived vapors and airborne particulates (wind erosion) in ambient air	Yes	Yes	
	subsurface soil	incidental ingestion of and dermal contact with subsurface soil	No	No	

Table 5.1

SCENARIOS FOR POTENTIAL HUMAN EXPOSURE
FORMER GM HARRISON THERMAL SYSTEMS FACILITY, DAYTON, OHIO

Exposed Population	Exposure Medium	Exposure Route	Possible Currently?	Possible in Future?	Comments
On-Site (Continued)					
Recreational Visitors	surface soil	incidental ingestion of and dermal contact with surface soil	No	Yes	The Site is not currently open to visitors. After redevelopment, potential exposure is possible in areas where surface soil is exposed.
		inhalation of soil-derived vapors and airborne particulates (wind erosion) in ambient air	No	Yes	
	subsurface soil	incidental ingestion of and dermal contact with subsurface soil	No	No	
Off-Site					
Routine Workers	surface and subsurface soil	inhalation of soil-derived vapors and airborne particulates in ambient air	Yes	Yes	Airborne exposures off-site are possible via windblown dust from exposed soil or excavation activities at the Site.
	groundwater	incidental ingestion of and dermal contact with groundwater and inhalation of groundwater-derived vapors during use of groundwater for drinking water	No	Yes	Groundwater is not currently used for drinking water within at least a half mile of the Site, and potable water is available from the City of Dayton municipal system. However, groundwater in the lower aquifer is used in the region as a potable and nonpotable water supply..
		incidental ingestion of and dermal contact with groundwater and inhalation of groundwater-derived vapors during use of groundwater for purposes other than drinking water	No	Yes	
		inhalation of groundwater-derived vapors that migrate through building foundations into indoor air	Yes	Yes	
Maintenance Workers	groundwater	incidental ingestion of and dermal contact with exposed groundwater; inhalation of vapors from exposed groundwater	Yes	Yes	Potential exposure to shallow groundwater is possible if excavations extend into the water table. Potential exposure to lower aquifer groundwater is possible during Geothermal Well maintenance and Stadium Well irrigation.
Recreational Visitors	groundwater	incidental ingestion of and dermal contact with groundwater, and inhalation of groundwater-derived vapors in ambient air	Yes	Yes	Potential exposure to lower aquifer groundwater is possible during recreation at the Fountain Wells.
	surface water	incidental ingestion, dermal contact, and inhalation of vapors	Yes	Yes	Storm sewers and groundwater from the Site discharge into the Mad River. The designated uses of the Mad River at the Site are for recreation and agricultural and industrial water supply.

Table 5.2: High-End Exposure Factors
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

Exposure Factors		Redevelopment Worker		Maintenance Worker		Routine Worker		Recreational Visitor (Age 1-6)		Recreational Visitor (Age 7-31)	
Soil/Sediment Ingestion											
Ingestion Rate (mg/d)	IR	200	d	200	d	50	b				
Conversion Factor (kg/mg)	CF	1E-06		1E-06		1E-06					
Fraction Contacted (unitless)	FC	1.0	d	1.0	d	1.0	d				
Exposure Frequency (d/yr)	EF	250	b	5	d	250	b				
Exposure Duration (yr)	ED	1	d	10	d	25	b				
Body Weight (kg-bw)	BW	70	a	70	a	70	a				
Averaging Time, carc (d)	AT_c	25,550	a	25,550	a	25,550	a				
Averaging Time, noncarc (d)	AT_{nc}	365	a	3,650	a	9,125	a				
Soil/Sediment Dermal Contact											
Adherence Factor (mg/cm^2)	AD	0.2	c	0.2	c	0.2	c				
Skin Surface Area (cm^2/d)	SA	3,300	c	3,300	c	3,300	c				
Conversion Factor (kg/mg)	CF	1E-06		1E-06		1E-06					
Fraction Contacted (unitless)	FC	1.0	d	1.0	d	1.0	d				
Exposure Frequency (d/yr)	EF	250	b	5	d	250	b				
Exposure Duration (yr)	ED	1	d	10	d	25	b				
Body Weight (kg-bw)	BW	70	a	70	a	70	a				
Averaging Time, carc (d)	AT_c	25,550	a	25,550	a	25,550	a				
Averaging Time, noncarc (d)	AT_{nc}	365	a	3,650	a	9,125	a				
Ambient Air Inhalation of Vapor and Particulates											
Fraction Contacted (unitless)	FC	1.0	d	1.0	d	1.0	d	1.0	d	1.0	d
Exposure Frequency (d/yr)	EF	250	b	5	d	250	b	43	d	43	d
Exposure Duration (yr)	ED	1	d	10	d	25	b	6	b	24	b
Averaging Time, carc (d)	AT_c	25,550	a	25,550	a	25,550	a	25,550	a	25,550	a
Averaging Time, noncarc (d)	AT_{nc}	365	a	3,650	a	9,125	a	10,950	a	10,950	a
Incidental Ingestion of Groundwater											
Drinking Rate (L/hr per event)	DR	0.005	f	0.005	d			0.005	d	0.005	d
Exposure Time (h)	ET	2	f	2	d			1	d	1	d
Exposure Frequency (d/yr)	EF	5	f	5	d			43	d	43	d
Expoure Duration (yr)	ED	10	f	10	d			6	b	24	b
Body Weight (kg-bw)	BW	70	f	70	a			15	a	70	a
Averaging Time, canc (d)	AT_c	25,550	f	25,550	a			25,550	a	25,550	a
Averaging Time, noncanc (d)	AT_{nc}	3,650	f	3,650	a			10,950	a	10,950	a
Groundwater and LNAPL Dermal Contact											
Event Time (hr)	t	2	f	2	d			1	d	1	d
Skin Surface Area (cm^2)	SA	3,300	f	3,300	c			6,880	e	18,150	e
Events per Day (event/d)	EV	1	f	1	d			1	d	1	d
Exposure Frequency (d/yr)	EF	5	f	5	d			43	d	43	d
Expoure Duration (yr)	ED	10	f	10	d			6	b	24	b
Body Weight (kg)	BW	70	f	70	a			15	a	70	a
Averaging Time, cancer (days)	AT_c	25,550	f	25,550	a			25,550	a	25,550	a
Averaging Time, noncancer (days)	AT_{nc}	3650	f	3650	a			10,950	a	10,950	a
Groundwater and LNAPL Vapor Inhalation											
Fraction Contacted (unitless)	FC	1.0	f	1.0	d			1.0	d	1.0	d
Exposure Time (h exposed/h in a day)	ET	8/8	f	8/8	d			1/8	d	1/8	d
Exposure Frequency (d/yr)	EF	5	f	5	d			43	d	43	d
Exposure Duration (yr)	ED	10	f	10	d			6	b	24	b
Averaging Time, carc (d)	AT_c	25,550	f	25,550	a			25,550	a	25,550	a
Averaging Time, noncarc (d)	AT_{nc}	3,650	f	3,650	a			10,950	a	10,950	a
Notes:											

a - Risk Assessment Guidance for Superfund, Volume 1: Human Health Evaluation Manual (Part A) (USEPA 1989)

b - Conservatively based on Human Health Evaluation Manual, Supplemental Guidance: "Standard default exposure factors." OSWER Directive 9285.6-03 (USEPA 1991)

c - Risk Assessment Guidance for Superfund, Volume 1: Human Health Evaluation Manual: Part E, Supplemental Guidance for Dermal Risk Assessment (USEPA 2004)

d - Based on professional judgment and site-specific considerations as follows:

1. Incidental soil ingestion rate is based on recent USEPA studies on soil adherence to hands.
2. Fraction contacted is conservatively assumed to be 1.0.
3. The exposure time and frequency for maintenance worker are based on anticipated excavation time for minor underground repairs.
4. Incidental water ingestion rate is conservatively base on 10% of the rate USEPA (1989) recommends for ingestion while swimming.
5. Exposure duration is assumed to be 1 year for redevelopment workers and 10 years for maintenance workers.
6. Event time for maintenance workers is assumed to be 2 hours/event, with 1 event occurring in a day.
7. Exposure frequency for recreational visitors is based on the length of time the Dayton area is above 70 °F (5 months per year) and the assumption of 2 recreational visits during each week in that time period.
8. Event time for recreational visitors is assumed to be 1 hours/event, with 1 event occurring in a day.

e - Exposure Factors Handbook (EPA 1997)

f - LNAPL and groundwater exposure factors for maintenance workers were also used to evaluate the redevelopment workers based on the expectation that redevelopment workers would only be exposed to LNAPL and groundwater for a short time, as discussed in Section 5 of the RFI Report.

Table 5.3A: Upper-Bound Cumulative Cancer Risk and HI Estimates for Each Soil Boring Location
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

		Routine Workers[1]		Vapor Intrusion[2]		Redev Workers[2]		Maintenance Workers[2]	
Area	Station ID	Risk	HI	Risk	HI	Risk	HI	Risk	HI
1~Webster to Taylor	BH-178-04	6E-06	6E-02	1E-05	2E-01	1E-06	3E-01	1E-07	3E-03
1~Webster to Taylor	BH-179-04	7E-06	7E-02	5E-06	1E-01	7E-07	3E-01	9E-08	1E-03
1~Webster to Taylor	BH-184-04	1E-05	4E-02	2E-05	1E-01	3E-06	6E-01	3E-07	2E-02
1~Webster to Taylor	MW-15-03	4E-07	5E-03	4E-07	3E-03	1E-07	1E-02	6E-08	6E-04
1~Webster to Taylor	MW-22-04	6E-05	3E-01	**2E-04**	9E-01	1E-05	8E-01	4E-07	6E-03
1~Webster to Taylor	MW-5-03	2E-05	9E-02	5E-05	2E-01	4E-06	3E-01	3E-07	5E-03
1~Webster to Taylor	OS-2-03	4E-05	1E-01	2E-05	1E-01	6E-06	3E-01	9E-07	9E-03
1~Webster to Taylor	OS-3-03	1E-05	1E-01	1E-05	9E-02	1E-06	4E-01	2E-07	3E-03
1~Webster to Taylor	OS-4-03	3E-05	2E-01	7E-05	3E-01	7E-06	6E-01	6E-07	9E-03
1~Webster to Taylor	OS-5-03	2E-05	1E-01	4E-05	2E-01	3E-06	3E-01	2E-07	4E-03
1~Webster to Taylor	OS-6-03	1E-06	2E-02	8E-06	7E-02	4E-07	9E-02	2E-08	9E-04
1~Webster to Taylor	OS-7-03	7E-07	2E-02	5E-06	5E-02	3E-07	5E-02	9E-09	3E-04
1~Webster to Taylor	SB-100-03	4E-05	2E-01	1E-04	4E-01	1E-05	1E+00	4E-07	3E-02
1~Webster to Taylor	SB-10-02	5E-06	9E-02	8E-05	4E-01	5E-06	6E-01	2E-07	4E-03
1~Webster to Taylor	SB-101-03	7E-05	4E-01	**2E-04**	1E+00	1E-05	1E+00	5E-07	1E-02
1~Webster to Taylor	SB-1-02	5E-07	1E-02	5E-07	4E-03	6E-08	1E-02	7E-09	4E-04
1~Webster to Taylor	SB-102-03	8E-06	6E-02	9E-06	5E-02	7E-06	**3E+00**	9E-07	1E-01
1~Webster to Taylor	SB-105-04	1E-06	2E-02	4E-08	1E-02	9E-08	8E-02	2E-08	4E-04
1~Webster to Taylor	SB-106-04	2E-06	2E-02	4E-08	1E-02	2E-07	8E-02	3E-08	4E-04
1~Webster to Taylor	SB-107-04	3E-06	2E-02	4E-08	1E-02	2E-07	8E-02	4E-08	4E-04
1~Webster to Taylor	SB-108-04	1E-05	7E-02	5E-05	3E-01	3E-06	3E-01	1E-07	3E-03
1~Webster to Taylor	SB-109-04	1E-05	9E-02	4E-05	1E-01	4E-05	**2E+01**	5E-06	8E-01
1~Webster to Taylor	SB-110-04	4E-05	8E-02	1E-05	8E-02	4E-06	2E-01	6E-07	4E-03
1~Webster to Taylor	SB-11-02	3E-06	2E-02	1E-05	4E-02	6E-06	**2E+00**	7E-07	1E-01
1~Webster to Taylor	SB-111-04	1E-06	1E-02	3E-07	1E-02	7E-07	6E-02	1E-07	5E-04
1~Webster to Taylor	SB-112-04	2E-07	4E-03	5E-07	1E-02	4E-07	8E-02	8E-08	5E-04
1~Webster to Taylor	SB-113-04	4E-07	2E-03	3E-07	3E-03	5E-08	5E-03	7E-09	6E-05
1~Webster to Taylor	SB-114-04	3E-06	5E-02	3E-05	2E-01	2E-06	2E-01	9E-08	2E-03
1~Webster to Taylor	SB-115-04	4E-05	5E-01	1E-04	1E+00	8E-06	7E-01	3E-07	9E-03
1~Webster to Taylor	SB-116-04	4E-05	6E-02	9E-07	2E-02	3E-06	2E-01	6E-07	4E-03
1~Webster to Taylor	SB-117-04	1E-04	4E-01	**4E-04**	1E+00	3E-05	**2E+00**	9E-07	6E-03
1~Webster to Taylor	SB-12-02	4E-06	5E-02	1E-05	1E-01	7E-07	2E-01	4E-08	7E-04
1~Webster to Taylor	SB-122-04	2E-06	3E-02	1E-05	8E-02	9E-07	2E-01	1E-07	1E-03
1~Webster to Taylor	SB-123-04	7E-06	5E-02	2E-05	1E-01	1E-06	3E-01	8E-08	2E-03
1~Webster to Taylor	SB-124-04	1E-07	2E-03	1E-05	1E-01	7E-07	1E-01	2E-08	1E-03
1~Webster to Taylor	SB-125-04	1E-05	9E-02	2E-05	1E-01	1E-06	4E-01	1E-07	3E-03
1~Webster to Taylor	SB-126-04	3E-07	4E-03	5E-07	7E-03	1E-07	5E-02	2E-08	2E-03
1~Webster to Taylor	SB-127-04	1E-06	2E-02	4E-07	1E-02	2E-07	1E-01	3E-08	2E-03
1~Webster to Taylor	SB-128-04	4E-05	2E-01	1E-04	5E-01	9E-06	7E-01	3E-07	4E-03
1~Webster to Taylor	SB-129-04	5E-06	3E-02	3E-07	2E-02	4E-07	1E-01	8E-08	6E-04
1~Webster to Taylor	SB-16-02	4E-07	5E-03	7E-07	5E-03	5E-08	1E-02	6E-09	2E-04
1~Webster to Taylor	SB-2-02	4E-07	5E-03	6E-07	6E-03	1E-07	4E-02	1E-08	1E-03
1~Webster to Taylor	SB-26-02	4E-07	4E-03	6E-07	5E-03	2E-07	1E-02	3E-08	1E-04
1~Webster to Taylor	SB-27-02	8E-06	1E-01	5E-05	3E-01	9E-06	6E-01	1E-06	2E-03
1~Webster to Taylor	SB-3-02	3E-05	1E+00	**3E-03**	**2E+01**	**2E-04**	**1E+01**	5E-06	1E-01
1~Webster to Taylor	SB-4-02	1E-06	4E-02	1E-05	2E-01	1E-06	3E-01	4E-08	2E-03
1~Webster to Taylor	SB-45-02	4E-05	4E-02	6E-07	2E-02	3E-06	1E-01	6E-07	2E-03
1~Webster to Taylor	SB-46-02	3E-05	9E-02	5E-05	2E-01	4E-06	4E-01	4E-07	4E-03
1~Webster to Taylor	SB-47-02	5E-05	3E-01	**2E-04**	8E-01	1E-05	1E+00	4E-07	8E-03
1~Webster to Taylor	SB-48-02	5E-06	5E-02	1E-05	1E-01	1E-06	2E-01	2E-07	8E-04
1~Webster to Taylor	SB-5-02	8E-06	4E-02	5E-05	**4E+00**	2E-06	8E-01	8E-08	2E-02
1~Webster to Taylor	SB-57-02	1E-05	5E-02	5E-05	8E-01	1E-05	**4E+00**	2E-06	2E-01
1~Webster to Taylor	SB-58-02	6E-05	3E-01	**2E-04**	7E-01	1E-05	6E-01	4E-07	8E-03
1~Webster to Taylor	SB-59-03	3E-07	4E-03	3E-07	2E-03	1E-07	1E-02	6E-08	6E-04
1~Webster to Taylor	SB-60-03	3E-07	5E-03	1E-06	6E-03	2E-07	2E-02	6E-08	6E-04
1~Webster to Taylor	SB-6-02	3E-06	6E-02	1E-05	2E-01	7E-07	3E-01	6E-08	1E-03
1~Webster to Taylor	SB-61-03	2E-06	9E-02	3E-07	8E-03	2E-07	1E-01	3E-08	4E-03
1~Webster to Taylor	SB-62-03	2E-06	2E-02	6E-06	5E-02	3E-07	6E-02	1E-08	6E-04
1~Webster to Taylor	SB-63-03	8E-07	2E-02	2E-05	5E-02	8E-07	7E-02	3E-08	1E-03
1~Webster to Taylor	SB-64-03	2E-07	3E-03	4E-07	3E-03	4E-08	6E-03	3E-09	1E-04
1~Webster to Taylor	SB-65-03	4E-06	6E-02	1E-05	2E-01	1E-06	3E-01	9E-08	4E-03
1~Webster to Taylor	SB-66-03	1E-05	6E-02	3E-05	1E-01	2E-06	3E-01	1E-07	2E-03
1~Webster to Taylor	SB-67-03	6E-05	2E-01	**2E-04**	6E-01	1E-05	9E-01	4E-07	6E-03
1~Webster to Taylor	SB-68-03	2E-06	3E-02	6E-06	6E-02	4E-07	1E-01	2E-08	6E-04
1~Webster to Taylor	SB-69-03	1E-06	2E-02	2E-07	1E-02	1E-07	9E-02	2E-08	1E-03
1~Webster to Taylor	SB-70-03	4E-06	5E-02	9E-06	6E-02	7E-07	2E-01	7E-08	3E-03
1~Webster to Taylor	SB-7-02	4E-07	1E-02	6E-07	1E-02	5E-08	6E-02	5E-09	3E-04
1~Webster to Taylor	SB-71-03	3E-06	3E-02	2E-05	6E-02	2E-05	**8E+00**	3E-06	4E-01
1~Webster to Taylor	SB-76-03	3E-06	7E-02	**2E-04**	5E-01	1E-05	9E-01	9E-07	9E-03

Table 5.3A: Upper-Bound Cumulative Cancer Risk and HI Estimates for Each Soil Boring Location
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

		Routine Workers[1]		Vapor Intrusion[2]		Redev Workers[2]		Maintenance Workers[2]	
Area	Station ID	Risk	HI	Risk	HI	Risk	HI	Risk	HI
1~Webster to Taylor	SB-8-02	2E-06	4E-02	9E-06	4E-01	8E-07	5E-01	9E-08	4E-03
1~Webster to Taylor	SB-9-02	2E-06	4E-02	2E-05	2E-01	1E-06	4E-01	7E-08	2E-03
1~Webster to Taylor	SB-97-03	5E-06	4E-02	1E-05	8E-02	2E-06	2E-01	2E-07	1E-03
1~Webster to Taylor	SB-98-03	3E-06	2E-02	3E-07	5E-02	3E-07	2E-01	5E-08	9E-04
1~Webster to Taylor	SB-99-03	2E-05	4E-02	5E-08	2E-02	2E-06	1E-01	5E-07	2E-03
2~Taylor to Railway	BH-169-04	5E-06	8E-03	4E-08	8E-03	4E-07	3E-02	8E-08	2E-04
2~Taylor to Railway	BH-170-04	4E-07	2E-03	1E-07	5E-03	4E-08	6E-03	6E-09	7E-05
2~Taylor to Railway	BH-171-04	1E-05	6E-01	4E-05	**2E+00**	3E-06	5E-01	1E-07	1E-02
2~Taylor to Railway	BH-175-04	2E-05	1E-01	6E-05	3E-01	4E-06	9E-01	2E-07	3E-02
2~Taylor to Railway	BH-176-04	5E-07	3E-03	7E-07	7E-03	6E-08	9E-03	7E-09	1E-04
2~Taylor to Railway	BH-177-04	5E-06	4E-02	8E-07	2E-02	6E-07	2E-01	1E-07	2E-03
2~Taylor to Railway	BH-180-04	8E-06	8E-02	3E-05	2E-01	2E-06	3E-01	6E-08	2E-03
2~Taylor to Railway	BH-181-04	3E-05	2E-01	9E-05	5E-01	6E-06	8E-01	6E-07	1E-02
2~Taylor to Railway	BH-182-04	5E-05	4E-01	**2E-04**	8E-01	1E-05	1E+00	3E-07	2E-02
2~Taylor to Railway	BH-183-04	1E-05	1E-01	4E-05	2E-01	3E-06	5E-01	9E-08	4E-03
2~Taylor to Railway	MW-10-03	2E-07	4E-03	2E-07	2E-02	5E-08	2E-01	6E-09	1E-03
2~Taylor to Railway	MW-12-03	3E-05	7E-02	6E-05	2E-01	6E-06	5E-01	4E-07	1E-02
2~Taylor to Railway	MW-13-03	5E-05	3E-01	**2E-04**	9E-01	1E-05	7E-01	3E-07	7E-03
2~Taylor to Railway	MW-14B-04	4E-05	2E-01	1E-04	5E-01	7E-06	6E-01	2E-07	4E-03
2~Taylor to Railway	MW-23-04	3E-05	9E-01	1E-04	**2E+00**	1E-05	1E+00	4E-07	3E-02
2~Taylor to Railway	MW-24-04	4E-05	3E-01	1E-04	8E-01	8E-06	6E-01	4E-07	8E-03
2~Taylor to Railway	MW-25-04	1E-05	8E-02	3E-05	1E-01	2E-06	6E-01	9E-08	8E-03
2~Taylor to Railway	MW-26-04	1E-04	4E-01	**3E-04**	1E+00	2E-05	1E+00	6E-07	7E-03
2~Taylor to Railway	MW-27-04	3E-06	7E-02	1E-05	8E-02	1E-06	**2E+00**	2E-07	1E-01
2~Taylor to Railway	MW-28-04	9E-05	5E-01	**3E-04**	**2E+00**	2E-05	1E+00	6E-07	3E-02
2~Taylor to Railway	MW-29-04	2E-06	1E-01	6E-06	9E-02	3E-07	5E-01	2E-08	3E-03
2~Taylor to Railway	MW-3-02	6E-05	4E-01	**2E-04**	6E-01	2E-05	**5E+00**	2E-06	2E-01
2~Taylor to Railway	MW-9-03	1E-07	2E-03	2E-07	2E-03	3E-08	8E-03	3E-09	2E-04
2~Taylor to Railway	SB-103-03	6E-06	3E-02	2E-05	8E-02	2E-06	4E-01	1E-07	2E-02
2~Taylor to Railway	SB-104-03	8E-07	2E-03	2E-07	3E-03	8E-08	9E-03	1E-08	2E-04
2~Taylor to Railway	SB-130-04	1E-05	9E-02	2E-05	1E-01	2E-06	4E-01	2E-07	7E-03
2~Taylor to Railway	SB-13-02	4E-07	3E-03	6E-07	1E-02	8E-07	2E-01	4E-07	8E-03
2~Taylor to Railway	SB-131-04	3E-05	2E-01	1E-04	5E-01	7E-06	6E-01	3E-07	6E-03
2~Taylor to Railway	SB-132-04	7E-06	1E-01	2E-05	3E-01	1E-06	2E-01	6E-08	4E-03
2~Taylor to Railway	SB-133-04	7E-06	6E-02	2E-05	1E-01	1E-06	2E-01	5E-08	1E-03
2~Taylor to Railway	SB-134-04	3E-07	2E-03	3E-07	1E-02	6E-07	2E-01	4E-07	4E-03
2~Taylor to Railway	SB-135-04	3E-06	3E-02	1E-05	8E-02	1E-06	2E-01	4E-07	5E-03
2~Taylor to Railway	SB-136-04	1E-05	1E-01	3E-05	3E-01	3E-06	5E-01	5E-07	1E-02
2~Taylor to Railway	SB-137-04	1E-05	7E-02	3E-05	1E-01	2E-06	3E-01	2E-07	2E-03
2~Taylor to Railway	SB-138-04	4E-05	2E-01	1E-04	5E-01	7E-06	7E-01	3E-07	4E-03
2~Taylor to Railway	SB-139-04	1E-05	9E-02	4E-05	2E-01	3E-06	6E-01	1E-07	8E-03
2~Taylor to Railway	SB-140-04	5E-06	1E-01	1E-05	1E-01	7E-07	6E-01	5E-08	5E-03
2~Taylor to Railway	SB-14-02	7E-06	3E-02	1E-04	5E-01	1E-05	**9E+00**	2E-06	2E-01
2~Taylor to Railway	SB-141-04	3E-06	1E-01	2E-05	1E-01	9E-07	5E-01	5E-08	3E-03
2~Taylor to Railway	SB-142-04	1E-05	5E-02	4E-05	2E-01	3E-06	6E-01	2E-07	6E-03
2~Taylor to Railway	SB-143-04	9E-06	4E-02	3E-05	8E-02	2E-06	3E-01	1E-07	9E-03
2~Taylor to Railway	SB-144-04	9E-05	3E-01	**3E-04**	1E+00	2E-05	**2E+00**	9E-07	5E-02
2~Taylor to Railway	SB-145-04	5E-05	4E-01	**2E-04**	1E+00	1E-05	8E-01	3E-07	6E-03
2~Taylor to Railway	SB-146-04	5E-05	1E+00	8E-05	9E-01	7E-06	1E+00	6E-07	4E-02
2~Taylor to Railway	SB-147-04	9E-05	4E-01	**3E-04**	9E-01	2E-05	**2E+00**	9E-07	5E-02
2~Taylor to Railway	SB-148-04	2E-05	1E-01	5E-05	2E-01	3E-06	3E-01	2E-07	3E-03
2~Taylor to Railway	SB-149-04	1E-05	3E-01	1E-05	2E-01	1E-06	4E-01	2E-07	1E-02
2~Taylor to Railway	SB-150-04	4E-05	5E-01	1E-04	1E+00	7E-06	8E-01	3E-07	8E-03
2~Taylor to Railway	SB-15-02	2E-06	3E-02	2E-05	5E-01	1E-06	3E-01	2E-07	6E-03
2~Taylor to Railway	SB-151-04	1E-06	4E-02	9E-07	5E-03	2E-07	1E-01	4E-08	5E-03
2~Taylor to Railway	SB-152-04	3E-06	3E-02	4E-07	8E-03	4E-07	2E-01	8E-08	9E-03
2~Taylor to Railway	SB-153-04	4E-05	2E-01	1E-04	4E-01	8E-06	9E-01	4E-07	2E-02
2~Taylor to Railway	SB-154-04	5E-05	2E-01	**5E-04**	1E+00	3E-05	**2E+00**	1E-06	7E-03
2~Taylor to Railway	SB-155-04	2E-06	2E-01	1E-05	2E-01	1E-06	1E+00	2E-07	2E-02
2~Taylor to Railway	SB-156-04	6E-05	5E-01	**2E-04**	9E-01	2E-05	**2E+00**	9E-07	1E-02
2~Taylor to Railway	SB-157-04	3E-06	4E-02	3E-07	2E-01	4E-07	1E+00	1E-07	2E-02
2~Taylor to Railway	SB-158-04	5E-06	2E-02	9E-06	6E-02	6E-07	8E-02	6E-08	5E-04
2~Taylor to Railway	SB-159-04	7E-06	3E-03	2E-07	1E-02	6E-07	9E-02	1E-07	5E-04
2~Taylor to Railway	SB-160-04	5E-06	8E-03	3E-07	9E-03	4E-07	3E-02	8E-08	2E-04
2~Taylor to Railway	SB-161-04	2E-07	4E-03	2E-07	2E-02	5E-08	2E-01	6E-09	1E-03
2~Taylor to Railway	SB-162-04	3E-06	3E-02	1E-05	8E-02	6E-07	1E-01	3E-08	1E-03
2~Taylor to Railway	SB-163-04	4E-05	2E-01	1E-04	5E-01	9E-06	6E-01	3E-07	3E-03
2~Taylor to Railway	SB-164-04	1E-05	1E-01	5E-05	2E-01	3E-06	**2E+00**	1E-07	1E-01
2~Taylor to Railway	SB-165-04	3E-07	3E-02	3E-07	2E-02	5E-08	1E-01	1E-08	1E-03

Table 5.3A: Upper-Bound Cumulative Cancer Risk and HI Estimates for Each Soil Boring Location
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

		Routine Workers[1]		Vapor Intrusion[2]		Redev Workers[2]		Maintenance Workers[2]	
Area	Station ID	Risk	HI	Risk	HI	Risk	HI	Risk	HI
2~Taylor to Railway	SB-166-04	7E-07	3E-02	5E-07	3E-03	6E-07	9E-01	1E-07	5E-02
2~Taylor to Railway	SB-167-04	6E-06	5E-02	2E-05	1E-01	1E-06	4E-01	9E-08	1E-02
2~Taylor to Railway	SB-168-04	3E-06	3E-02	9E-06	7E-02	7E-07	2E-01	6E-08	6E-03
2~Taylor to Railway	SB-17-02	3E-06	3E-02	1E-05	1E-01	5E-07	2E-01	2E-08	2E-03
2~Taylor to Railway	SB-18-02	2E-05	1E-01	8E-05	3E-01	5E-06	5E-01	2E-07	3E-03
2~Taylor to Railway	SB-19-02	7E-06	1E-01	2E-05	3E-01	1E-06	3E-01	5E-08	2E-03
2~Taylor to Railway	SB-20-02	5E-05	3E-01	**2E-04**	9E-01	1E-05	**2E+00**	4E-07	2E-02
2~Taylor to Railway	SB-21-02	5E-05	2E-01	**2E-04**	6E-01	1E-05	9E-01	4E-07	1E-02
2~Taylor to Railway	SB-22-02	4E-06	4E-02	2E-05	1E-01	1E-06	2E-01	5E-08	7E-04
2~Taylor to Railway	SB-23-02	2E-06	3E-02	9E-06	1E-01	4E-07	1E-01	1E-08	5E-04
2~Taylor to Railway	SB-24-02	4E-07	3E-03	1E-06	8E-03	7E-08	1E-02	7E-09	8E-05
2~Taylor to Railway	SB-25-02	4E-06	4E-02	8E-06	1E-01	5E-07	2E-01	5E-08	8E-04
2~Taylor to Railway	SB-28-02	4E-07	3E-03	6E-07	2E-02	6E-08	6E-02	6E-09	3E-04
2~Taylor to Railway	SB-33-02	1E-05	5E-01	2E-05	9E-02	1E-05	**2E+00**	6E-06	7E-02
2~Taylor to Railway	SB-34-02	4E-05	1E-01	5E-05	2E-01	5E-06	4E-01	5E-07	5E-03
2~Taylor to Railway	SB-35-02	4E-07	3E-03	9E-07	6E-03	7E-08	1E-02	6E-09	1E-04
2~Taylor to Railway	SB-36-02	5E-06	1E-01	2E-05	3E-01	1E-06	5E-01	5E-08	7E-03
2~Taylor to Railway	SB-37-02	2E-06	8E-02	1E-06	7E-03	2E-07	1E-01	3E-08	3E-03
2~Taylor to Railway	SB-38-02	5E-06	1E-01	1E-05	1E-01	7E-07	2E-01	4E-08	4E-03
2~Taylor to Railway	SB-39-02	5E-06	2E-02	3E-05	8E-02	2E-06	1E+00	8E-08	8E-02
2~Taylor to Railway	SB-40-02	2E-05	7E-01	6E-05	**2E+00**	3E-06	**4E+00**	2E-07	2E-01
2~Taylor to Railway	SB-41-02	4E-05	2E-01	1E-04	5E-01	1E-05	**2E+00**	7E-07	1E-01
2~Taylor to Railway	SB-42-02	2E-06	1E-02	6E-07	2E-02	2E-07	1E-01	3E-08	7E-04
2~Taylor to Railway	SB-43-02	5E-05	**2E+00**	7E-05	3E-01	1E-05	**3E+00**	1E-06	1E-01
2~Taylor to Railway	SB-44-02	3E-05	2E-02	7E-07	3E-02	3E-06	1E-01	5E-07	8E-04
2~Taylor to Railway	SB-53-02	3E-05	1E-01	8E-05	4E-01	5E-06	6E-01	2E-07	3E-03
2~Taylor to Railway	SB-54-02	2E-05	8E-02	5E-05	1E-01	3E-06	**2E+00**	2E-07	1E-01
2~Taylor to Railway	SB-55-02	3E-05	4E-01	5E-05	3E-01	4E-06	7E-01	3E-07	1E-02
2~Taylor to Railway	SB-56-02	8E-05	9E-01	**2E-04**	7E-01	2E-05	**4E+00**	1E-06	1E-01
2~Taylor to Railway	SB-72-03	1E-05	6E-02	4E-05	2E-01	2E-06	7E-01	1E-07	2E-02
2~Taylor to Railway	SB-73-03	1E-05	8E-02	**3E-04**	**2E+00**	2E-05	1E+00	6E-07	2E-02
2~Taylor to Railway	SB-74-03	5E-06	6E-02	**2E-04**	1E+00	2E-05	1E+00	1E-06	7E-03
2~Taylor to Railway	SB-75-03	7E-06	8E-02	1E-05	9E-02	1E-06	1E-01	8E-08	3E-03
2~Taylor to Railway	SB-84-03	4E-05	2E-01	1E-04	5E-01	8E-06	7E-01	3E-07	5E-03
2~Taylor to Railway	SB-85-03	2E-05	8E-01	**2E-04**	**3E+00**	1E-05	**2E+00**	4E-07	3E-02
2~Taylor to Railway	SB-86-03	3E-06	3E-02	9E-06	1E-01	1E-06	7E-01	1E-07	1E-02
2~Taylor to Railway	SB-87-03	3E-06	4E-02	2E-05	1E-01	1E-06	2E-01	4E-08	7E-04
2~Taylor to Railway	SB-88-03	8E-06	7E-02	4E-05	2E-01	3E-06	1E+00	2E-07	4E-02
2~Taylor to Railway	SB-89-03	7E-06	4E-03	6E-08	1E-02	6E-07	9E-02	1E-07	5E-04
2~Taylor to Railway	SB-90-03	1E-06	4E-03	5E-08	1E-02	1E-07	9E-02	3E-08	5E-04
2~Taylor to Railway	SB-91-03	8E-06	3E-03	6E-08	1E-02	7E-07	9E-02	1E-07	5E-04
2~Taylor to Railway	SB-92-03	2E-06	2E-02	2E-05	2E-01	2E-06	2E-01	1E-07	7E-03
2~Taylor to Railway	SB-93-03	3E-06	1E-01	1E-05	2E-01	7E-07	1E-01	4E-08	3E-03
2~Taylor to Railway	SB-94-03	2E-07	2E-03	2E-06	9E-02	2E-07	1E-01	8E-09	5E-04
2~Taylor to Railway	SB-95-03	4E-07	4E-03	8E-08	7E-03	4E-08	1E-02	7E-09	8E-05
2~Taylor to Railway	SB-96-03	3E-06	4E-02	1E-06	9E-02	3E-07	2E-01	5E-08	8E-04
3~Railway to Keowee	BH-172-04	2E-05	6E-03	5E-07	1E-02	2E-06	3E-02	3E-07	9E-05
3~Railway to Keowee	BH-173-04	2E-05	3E-02	6E-06	8E-02	2E-06	2E-01	3E-07	5E-04
3~Railway to Keowee	BH-174-04	1E-06	2E-03	4E-07	4E-03	1E-07	1E-02	2E-08	5E-04
3~Railway to Keowee	SB-118-04	1E-04	**7E+00**	2E-05	5E-01	2E-05	**7E+00**	2E-06	3E-01
3~Railway to Keowee	SB-119-04	2E-05	1E+00	3E-05	4E-01	4E-06	1E+00	5E-07	4E-02
3~Railway to Keowee	SB-120-04	2E-06	1E-01	8E-06	2E-01	2E-06	1E+00	2E-07	4E-02
3~Railway to Keowee	SB-121-04	2E-05	1E-01	2E-07	2E-02	2E-06	2E-01	4E-07	4E-03
3~Railway to Keowee	SB-29-02	1E-06	5E-03	1E-07	3E-03	1E-07	7E-03	2E-08	2E-04
3~Railway to Keowee	SB-30-02	1E-06	1E-02	1E-07	3E-03	1E-07	1E-02	2E-08	4E-04
3~Railway to Keowee	SB-31-02	1E-06	2E-03	1E-07	3E-03	9E-08	5E-03	2E-08	5E-05
3~Railway to Keowee	SB-32-02	1E-05	2E-01	4E-06	1E-01	3E-06	9E-01	1E-06	3E-02
3~Railway to Keowee	SB-49-02	1E-05	2E-01	4E-06	1E-01	3E-06	9E-01	1E-06	3E-02
3~Railway to Keowee	SB-50-02	4E-07	4E-03	6E-07	5E-03	2E-07	1E-02	4E-08	2E-04
3~Railway to Keowee	SB-51-02	2E-05	2E-01	1E-05	1E-01	4E-06	1E+00	1E-06	3E-02
3~Railway to Keowee	SB-52-02	4E-05	1E-01	7E-07	5E-02	3E-06	3E-01	7E-07	5E-03
3~Railway to Keowee	SB-77-03	2E-05	6E-03	1E-07	1E-02	2E-06	2E-02	3E-07	1E-04
3~Railway to Keowee	SB-78-03	1E-07	3E-02	8E-08	2E-02	1E-08	1E-01	2E-09	5E-04
3~Railway to Keowee	SB-79-03	2E-07	3E-02	8E-08	2E-02	2E-08	1E-01	2E-09	6E-04
3~Railway to Keowee	SB-80-03	2E-06	2E-01	4E-06	1E-01	2E-06	9E-01	1E-06	3E-02
3~Railway to Keowee	SB-81-03	1E-05	2E-01	4E-06	1E-01	3E-06	9E-01	1E-06	3E-02
3~Railway to Keowee	SB-82-03	1E-06	4E-03	1E-07	3E-03	9E-08	7E-03	2E-08	1E-04
3~Railway to Keowee	SB-83-03	1E-06	2E-03	1E-07	3E-03	9E-08	5E-03	2E-08	5E-05
2~Taylor to Railway	MW-4-02	4E-06	3E-02	2E-05	5E-02	1E-05	**3E+00**	1E-06	2E-01

Table 5.3A: Upper-Bound Cumulative Cancer Risk and HI Estimates for Each Soil Boring Location
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

		Routine Workers[1]		Vapor Intrusion[2]		Redev Workers[2]		Maintenance Workers[2]	
Area	**Station ID**	**Risk**	**HI**	**Risk**	**HI**	**Risk**	**HI**	**Risk**	**HI**
2~Taylor to Railway	OW-1	6E-07	8E-03	3E-07	3E-03	5E-07	2E-01	6E-08	8E-03
2~Taylor to Railway	OW-2	9E-07	9E-03	2E-07	2E-03	8E-08	2E-02	1E-08	8E-04
2~Taylor to Railway	OW-3	3E-06	3E-02	4E-06	5E-02	3E-06	1E+00	3E-07	5E-02
2~Taylor to Railway	OW-4	1E-06	1E-02	2E-07	4E-03	1E-07	2E-02	2E-08	5E-04
3~Railway to Keowee	OW-5	6E-06	6E-02	2E-07	2E-02	7E-07	1E-01	2E-07	3E-03
3~Railway to Keowee	OW-6	8E-07	7E-03	2E-07	3E-03	8E-08	9E-03	1E-08	3E-04
3~Railway to Keowee	OW-7	1E-06	2E-02	2E-07	3E-03	1E-07	2E-02	2E-08	6E-04

Notes:

1. Risk and HI estimates are based on highest concentrations in 0 to 2 foot interval at each boring location.
2. Risk and HI estimates are based on highest concentrations among all depths at each boring location.
3. Risk and HI estimates are calculated using site-related concentrations, which are those in excess of site-specific background concentrations for inorganics.
4. Shaded cells represent a cumulative cancer risk or HI for a boring location that is higher than the cancer risk level of $1x10^{-4}$ or HI of 1.

Abbreviations:

Chem Group - Chemical Group
CASRN - Chemical Abstract Service Registry Number
HI - Hazard Index; Risk - Cumulative Cancer Risk
Redev Workers - Redevelopment Workers

Table 5.3B: Potential Significance of Highest Soil Lead Concentrations by Location
Former Delphi Harrison Thermal Facility, Dayton, Ohio

		All Depth						Surface Only		
Area	Station ID	Concentration (mg/kg)	Concentration Basis	Category	Top Depth (ft)	Bottom Depth (ft)		Concentration (mg/kg)	Concentration Basis	Category
1~Webster to Taylor	BH-178-04	2.66E+02	Interpolated Max Detect	low	12	14		1.99E+02	Interpolated Max Detect	low
1~Webster to Taylor	BH-179-04	2.75E+01	Max Detect	low	0	2		2.75E+01	Max Detect	low
1~Webster to Taylor	BH-184-04	8.95E+00	Interpolated Max Detect	low	12	14		4.00E+00	Interpolated Max Detect	low
1~Webster to Taylor	MW-15-03	1.68E+01	Max Detect	low	1	3		1.68E+01	Max Detect	low
1~Webster to Taylor	MW-22-04	4.67E+02	Interpolated Max Detect	low	12	14		4.67E+02	Interpolated Max Detect	low
1~Webster to Taylor	MW-5-03	2.66E+02	Max Detect	low	18	20		1.99E+02	Max Detect	low
1~Webster to Taylor	OS-2-03	1.89E+02	Max Detect	low	8	10		8.71E+01	Max Detect	low
1~Webster to Taylor	OS-3-03	1.76E+02	Max Detect	low	0	2		1.76E+02	Max Detect	low
1~Webster to Taylor	OS-4-03	8.55E+01	Max Detect	low	7	9		6.59E+01	Max Detect	low
1~Webster to Taylor	OS-5-03	5.76E+01	Max Detect	low	8	10		2.59E+01	Max Detect	low
1~Webster to Taylor	OS-6-03	8.60E+00	Max Detect	low	0	2		8.60E+00	Max Detect	low
1~Webster to Taylor	OS-7-03	8.95E+00	Max Detect	low	8	10		4.00E+00	Max Detect	low
1~Webster to Taylor	SB-100-03	1.14E+02	Interpolated Max Detect	low	8	10		1.14E+02	Interpolated Max Detect	low
1~Webster to Taylor	SB-10-02	4.67E+02	Max Detect	low	1	3		4.67E+02	Max Detect	low
1~Webster to Taylor	SB-101-03	1.14E+02	Interpolated Max Detect	low	10	12		1.14E+02	Interpolated Max Detect	low
1~Webster to Taylor	SB-1-02	3.60E+01	Max Detect	low	9	11		5.20E+00	Max Detect	low
1~Webster to Taylor	SB-102-03	6.55E+02	Interpolated Max Detect	low	10	12		6.55E+02	Interpolated Max Detect	low
1~Webster to Taylor	SB-105-04	1.04E+02	Interpolated Max Detect	low	3	20		1.04E+02	Interpolated Max Detect	low
1~Webster to Taylor	SB-106-04	1.04E+02	Interpolated Max Detect	low	3	20		1.04E+02	Interpolated Max Detect	low
1~Webster to Taylor	SB-107-04	1.04E+02	Interpolated Max Detect	low	3	20		1.04E+02	Interpolated Max Detect	low
1~Webster to Taylor	SB-108-04	1.14E+02	Interpolated Max Detect	low	11	13		1.14E+02	Interpolated Max Detect	low
1~Webster to Taylor	SB-109-04	6.55E+02	Interpolated Max Detect	low	10	12		6.55E+02	Interpolated Max Detect	low
1~Webster to Taylor	SB-110-04	1.89E+02	Interpolated Max Detect	low	16	18		8.71E+01	Interpolated Max Detect	low
1~Webster to Taylor	SB-11-02	8.67E+01	Max Detect	low	1	3		8.67E+01	Max Detect	low
1~Webster to Taylor	SB-111-04	9.99E+01	Interpolated Max Detect	low	11	13		9.99E+01	Interpolated Max Detect	low
1~Webster to Taylor	SB-112-04	1.38E+02	Interpolated Max Detect	low	12	14		9.00E+00	Interpolated Max Detect	low
1~Webster to Taylor	SB-113-04	1.68E+01	Max Detect	low	8	10		3.90E+00	Max Detect	low
1~Webster to Taylor	SB-114-04	8.23E+01	Interpolated Max Detect	low	11	13		4.80E+00	Interpolated Max Detect	low
1~Webster to Taylor	SB-115-04	2.66E+02	Interpolated Max Detect	low	12	14		1.99E+02	Interpolated Max Detect	low
1~Webster to Taylor	SB-116-04	1.89E+02	Interpolated Max Detect	low	12	14		8.71E+01	Interpolated Max Detect	low
1~Webster to Taylor	SB-117-04	1.17E+02	Max Detect	low	0	2		1.17E+02	Max Detect	low
1~Webster to Taylor	SB-12-02	1.05E+01	Max Detect	low	1	3		1.05E+01	Max Detect	low
1~Webster to Taylor	SB-122-04	1.38E+02	Max Detect	low	12	14		9.00E+00	Max Detect	low
1~Webster to Taylor	SB-123-04	8.84E+01	Interpolated Max Detect	low	12	14		8.18E+01	Interpolated Max Detect	low
1~Webster to Taylor	SB-124-04	8.60E+00	Interpolated Max Detect	low	0	0		8.60E+00	Interpolated Max Detect	low
1~Webster to Taylor	SB-125-04	6.55E+02	Interpolated Max Detect	low	10	12		6.55E+02	Interpolated Max Detect	low
1~Webster to Taylor	SB-126-04	2.48E+01	Max Detect	low	8	10		4.80E+00	Interpolated Max Detect	low
1~Webster to Taylor	SB-127-04	8.67E+01	Interpolated Max Detect	low	0	0		8.67E+01	Interpolated Max Detect	low
1~Webster to Taylor	SB-128-04	4.67E+02	Interpolated Max Detect	low	12	14		4.67E+02	Interpolated Max Detect	low
1~Webster to Taylor	SB-129-04	2.75E+01	Interpolated Max Detect	low	8	10		2.75E+01	Interpolated Max Detect	low
1~Webster to Taylor	SB-16-02	4.80E+00	Max Detect	low	1	3		4.80E+00	Max Detect	low
1~Webster to Taylor	SB-2-02	1.06E+01	Max Detect	low	9	11		4.60E+00	Max Detect	low
1~Webster to Taylor	SB-26-02	8.90E+00	Max Detect	low	1	3		8.90E+00	Max Detect	low
1~Webster to Taylor	SB-27-02	1.02E+02	Max Detect	low	3	5		1.83E+01	Max Detect	low
1~Webster to Taylor	SB-3-02	1.39E+01	Max Detect	low	13	15		1.22E+01	Max Detect	low
1~Webster to Taylor	SB-4-02	4.43E+01	Max Detect	low	1	3		4.43E+01	Max Detect	low
1~Webster to Taylor	SB-45-02	1.04E+02	Max Detect	low	1	3		1.04E+02	Max Detect	low
1~Webster to Taylor	SB-46-02	1.14E+02	Max Detect	low	1	3		1.14E+02	Max Detect	low
1~Webster to Taylor	SB-47-02	6.55E+02	Max Detect	low	1	3		6.55E+02	Max Detect	low
1~Webster to Taylor	SB-48-02	9.99E+01	Max Detect	low	1	3		9.99E+01	Max Detect	low
1~Webster to Taylor	SB-5-02	1.53E+01	Max Detect	low	9	11		4.00E+00	Max Detect	low
1~Webster to Taylor	SB-57-02	1.47E+02	Max Detect	low	1	3		1.47E+02	Max Detect	low
1~Webster to Taylor	SB-58-02	8.84E+01	Max Detect	low	6	8		8.18E+01	Max Detect	low
1~Webster to Taylor	SB-59-03	1.68E+01	Interpolated Max Detect	low	10	12		1.68E+01	Interpolated Max Detect	low
1~Webster to Taylor	SB-60-03	1.68E+01	Interpolated Max Detect	low	14	16		1.68E+01	Interpolated Max Detect	low
1~Webster to Taylor	SB-6-02	8.23E+01	Max Detect	low	5	7		4.80E+00	Max Detect	low
1~Webster to Taylor	SB-61-03	1.53E+01	Interpolated Max Detect	low	13	15		4.00E+00	Interpolated Max Detect	low
1~Webster to Taylor	SB-62-03	8.90E+00	Interpolated Max Detect	low	12	14		8.90E+00	Interpolated Max Detect	low
1~Webster to Taylor	SB-63-03	1.39E+01	Interpolated Max Detect	low	13	15		1.22E+01	Interpolated Max Detect	low
1~Webster to Taylor	SB-64-03	1.39E+01	Interpolated Max Detect	low	13	15		1.22E+01	Interpolated Max Detect	low
1~Webster to Taylor	SB-65-03	8.84E+01	Interpolated Max Detect	low	12	14		8.18E+01	Interpolated Max Detect	low
1~Webster to Taylor	SB-66-03	8.84E+01	Interpolated Max Detect	low	13	15		8.18E+01	Interpolated Max Detect	low
1~Webster to Taylor	SB-67-03	4.67E+02	Interpolated Max Detect	low	13	15		4.67E+02	Interpolated Max Detect	low
1~Webster to Taylor	SB-68-03	8.67E+01	Interpolated Max Detect	low	13	15		8.67E+01	Interpolated Max Detect	low
1~Webster to Taylor	SB-69-03	8.67E+01	Interpolated Max Detect	low	13	15		8.67E+01	Interpolated Max Detect	low
1~Webster to Taylor	SB-70-03	4.67E+02	Interpolated Max Detect	low	12	14		4.67E+02	Interpolated Max Detect	low
1~Webster to Taylor	SB-7-02	7.30E+00	Max Detect	low	11	13		5.80E+00	Max Detect	low
1~Webster to Taylor	SB-71-03	8.67E+01	Interpolated Max Detect	low	10	12		8.67E+01	Interpolated Max Detect	low
1~Webster to Taylor	SB-76-03	1.47E+02	Interpolated Max Detect	low	14	16		1.47E+02	Interpolated Max Detect	low
1~Webster to Taylor	SB-8-02	2.26E+02	Max Detect	low	10	12		5.00E+00	Max Detect	low
1~Webster to Taylor	SB-9-02	2.37E+02	Max Detect	low	10	12		4.10E+00	Max Detect	low
1~Webster to Taylor	SB-97-03	1.02E+02	Interpolated Max Detect	low	29	31		1.83E+01	Interpolated Max Detect	low
1~Webster to Taylor	SB-98-03	1.02E+02	Interpolated Max Detect	low	24	26		1.83E+01	Interpolated Max Detect	low
1~Webster to Taylor	SB-99-03	1.04E+02	Interpolated Max Detect	low	3	20		1.04E+02	Interpolated Max Detect	low
2~Taylor to Railway	BH-169-04	2.04E+01	Max Detect	low	0	2		2.04E+01	Max Detect	low
2~Taylor to Railway	BH-170-04	3.20E+00	Max Detect	low	8	10		1.50E+00	Max Detect	low
2~Taylor to Railway	BH-171-04	1.19E+01	Interpolated Max Detect	low	8	10		1.19E+01	Interpolated Max Detect	low
2~Taylor to Railway	BH-175-04	8.41E+01	Interpolated Max Detect	low	11	13		8.41E+01	Interpolated Max Detect	low
2~Taylor to Railway	BH-176-04	4.88E+01	Max Detect	low	0	2		4.88E+01	Max Detect	low
2~Taylor to Railway	BH-177-04	1.60E+02	Max Detect	low	0	2		1.60E+02	Max Detect	low
2~Taylor to Railway	BH-180-04	1.53E+02	Interpolated Max Detect	low	0	2		1.53E+02	Interpolated Max Detect	low

Table 5.3B: Potential Significance of Highest Soil Lead Concentrations by Location
Former Delphi Harrison Thermal Facility, Dayton, Ohio

		All Depth						Surface Only		
Area	Station ID	Concentration (mg/kg)	Concentration Basis	Category	Top Depth (ft)	Bottom Depth (ft)		Concentration (mg/kg)	Concentration Basis	Category
2~Taylor to Railway	BH-181-04	1.16E+02	Interpolated Max Detect	low	12	14		2.82E+01	Interpolated Max Detect	low
2~Taylor to Railway	BH-182-04	2.42E+02	Max Detect	low	0	2		2.42E+02	Max Detect	low
2~Taylor to Railway	BH-183-04	4.51E+02	Max Detect	low	0	2		4.51E+02	Max Detect	low
2~Taylor to Railway	MW-10-03	2.33E+01	Max Detect	low	7	9		4.80E+00	Max Detect	low
2~Taylor to Railway	MW-12-03	3.92E+02	Max Detect	low	1	3		3.92E+02	Max Detect	low
2~Taylor to Railway	MW-13-03	1.30E+02	Interpolated Max Detect	low	0	0		1.30E+02	Interpolated Max Detect	low
2~Taylor to Railway	MW-14B-04	3.20E+01	Max Detect	low	0	2		3.20E+01	Max Detect	low
2~Taylor to Railway	MW-23-04	**3.27E+03**	Max Detect	high	0	2		**3.27E+03**	Max Detect	high
2~Taylor to Railway	MW-24-04	1.22E+02	Max Detect	low	0	2		1.22E+02	Max Detect	low
2~Taylor to Railway	MW-25-04	5.28E+02	Interpolated Max Detect	low	0	0		5.28E+02	Interpolated Max Detect	low
2~Taylor to Railway	MW-26-04	1.53E+02	Max Detect	low	0	2		1.53E+02	Max Detect	low
2~Taylor to Railway	MW-27-04	1.54E+02	Max Detect	low	0	2		1.54E+02	Max Detect	low
2~Taylor to Railway	MW-28-04	8.41E+01	Max Detect	low	0	2		8.41E+01	Max Detect	low
2~Taylor to Railway	MW-29-04	5.65E+01	Max Detect	low	0	2		5.65E+01	Max Detect	low
2~Taylor to Railway	MW-3-02	2.28E+02	Max Detect	low	0	2		2.28E+02	Max Detect	low
2~Taylor to Railway	MW-4-02	5.65E+01	Max Detect	low	0	2		5.65E+01	Max Detect	low
2~Taylor to Railway	MW-9-03	6.60E+00	Max Detect	low	9	11		4.90E+00	Max Detect	low
2~Taylor to Railway	OW-1	2.22E+01	Max Detect	low	0	2		2.22E+01	Max Detect	low
2~Taylor to Railway	OW-2	2.91E+01	Max Detect	low	0	2		2.91E+01	Max Detect	low
2~Taylor to Railway	OW-3	1.06E+02	Max Detect	low	0	2		1.06E+02	Max Detect	low
2~Taylor to Railway	OW-4	4.15E+01	Max Detect	low	0	2		4.15E+01	Max Detect	low
2~Taylor to Railway	SB-103-03	1.05E+02	Interpolated Max Detect	low	9	11		1.05E+02	Interpolated Max Detect	low
2~Taylor to Railway	SB-104-03	5.26E+01	Interpolated Max Detect	low	6	8		5.26E+01	Interpolated Max Detect	low
2~Taylor to Railway	SB-130-04	4.51E+02	Interpolated Max Detect	low	0	2		4.51E+02	Interpolated Max Detect	low
2~Taylor to Railway	SB-13-02	4.13E+01	Max Detect	low	10	12		1.44E+01	Max Detect	low
2~Taylor to Railway	SB-131-04	1.21E+02	Interpolated Max Detect	low	8	10		1.44E+01	Interpolated Max Detect	low
2~Taylor to Railway	SB-132-04	1.33E+01	Interpolated Max Detect	low	8	10		1.33E+01	Interpolated Max Detect	low
2~Taylor to Railway	SB-133-04	2.88E+02	Interpolated Max Detect	low	0	2		2.88E+02	Interpolated Max Detect	low
2~Taylor to Railway	SB-134-04	4.13E+01	Interpolated Max Detect	low	8	10		1.44E+01	Interpolated Max Detect	low
2~Taylor to Railway	SB-135-04	4.13E+01	Interpolated Max Detect	low	10	12		1.44E+01	Interpolated Max Detect	low
2~Taylor to Railway	SB-136-04	1.16E+02	Max Detect	low	8	10		2.82E+01	Max Detect	low
2~Taylor to Railway	SB-137-04	2.86E+02	Interpolated Max Detect	low	11	13		2.86E+02	Interpolated Max Detect	low
2~Taylor to Railway	SB-138-04	2.86E+02	Interpolated Max Detect	low	11	13		2.86E+02	Interpolated Max Detect	low
2~Taylor to Railway	SB-139-04	5.28E+02	Interpolated Max Detect	low	0	2		5.28E+02	Interpolated Max Detect	low
2~Taylor to Railway	SB-140-04	3.27E+02	Max Detect	low	0	2		3.27E+02	Max Detect	low
2~Taylor to Railway	SB-14-02	1.91E+02	Max Detect	low	4	6		4.70E+00	Max Detect	low
2~Taylor to Railway	SB-141-04	3.27E+02	Interpolated Max Detect	low	0	0		3.27E+02	Interpolated Max Detect	low
2~Taylor to Railway	SB-142-04	3.90E+01	Max Detect	low	0	2		3.90E+01	Max Detect	low
2~Taylor to Railway	SB-143-04	3.90E+01	Interpolated Max Detect	low	0	0		3.90E+01	Interpolated Max Detect	low
2~Taylor to Railway	SB-144-04	1.72E+02	Max Detect	low	0	2		1.72E+02	Max Detect	low
2~Taylor to Railway	SB-145-04	1.30E+02	Max Detect	low	0	2		1.30E+02	Max Detect	low
2~Taylor to Railway	SB-146-04	2.40E+02	Max Detect	low	0	2		2.40E+02	Max Detect	low
2~Taylor to Railway	SB-147-04	1.72E+02	Interpolated Max Detect	low	0	0		1.72E+02	Interpolated Max Detect	low
2~Taylor to Railway	SB-148-04	5.28E+02	Max Detect	low	0	2		5.28E+02	Max Detect	low
2~Taylor to Railway	SB-149-04	1.10E+01	Max Detect	low	8	10		1.10E+01	Max Detect	low
2~Taylor to Railway	SB-150-04	1.07E+02	Max Detect	low	0	2		1.07E+02	Max Detect	low
2~Taylor to Railway	SB-15-02	1.56E+01	Max Detect	low	3	5		1.42E+01	Max Detect	low
2~Taylor to Railway	SB-151-04	4.80E+00	Max Detect	low	0	2		4.80E+00	Max Detect	low
2~Taylor to Railway	SB-152-04	4.59E+02	Max Detect	low	0	2		4.59E+02	Max Detect	low
2~Taylor to Railway	SB-153-04	5.78E+01	Max Detect	low	0	2		5.78E+01	Max Detect	low
2~Taylor to Railway	SB-154-04	8.46E+01	Max Detect	low	0	2		8.46E+01	Max Detect	low
2~Taylor to Railway	SB-155-04	2.62E+02	Max Detect	low	0	2		2.62E+02	Max Detect	low
2~Taylor to Railway	SB-156-04	1.20E+02	Max Detect	low	0	2		1.20E+02	Max Detect	low
2~Taylor to Railway	SB-157-04	2.83E+02	Interpolated Max Detect	low	14	15		2.83E+02	Interpolated Max Detect	low
2~Taylor to Railway	SB-158-04	1.02E+02	Max Detect	low	0	2		1.02E+02	Max Detect	low
2~Taylor to Railway	SB-159-04	1.47E+02	Interpolated Max Detect	low	7	9		4.10E+00	Interpolated Max Detect	low
2~Taylor to Railway	SB-160-04	2.04E+01	Interpolated Max Detect	low	6	8		2.04E+01	Interpolated Max Detect	low
2~Taylor to Railway	SB-161-04	2.33E+01	Interpolated Max Detect	low	8	10		4.80E+00	Interpolated Max Detect	low
2~Taylor to Railway	SB-162-04	1.06E+01	Interpolated Max Detect	low	8	10		4.60E+00	Interpolated Max Detect	low
2~Taylor to Railway	SB-163-04	2.09E+02	Max Detect	low	0	2		2.09E+02	Max Detect	low
2~Taylor to Railway	SB-164-04	9.82E+01	Max Detect	low	0	2		9.82E+01	Max Detect	low
2~Taylor to Railway	SB-165-04	9.30E+00	Max Detect	low	0	2		9.30E+00	Max Detect	low
2~Taylor to Railway	SB-166-04	2.19E+01	Max Detect	low	0	2		2.19E+01	Max Detect	low
2~Taylor to Railway	SB-167-04	1.05E+02	Max Detect	low	0	2		1.05E+02	Max Detect	low
2~Taylor to Railway	SB-168-04	5.26E+01	Max Detect	low	0	2		5.26E+01	Max Detect	low
2~Taylor to Railway	SB-17-02	1.02E+01	Max Detect	low	8	10		3.50E+00	Max Detect	low
2~Taylor to Railway	SB-18-02	1.37E+02	Max Detect	low	1	3		1.37E+02	Max Detect	low
2~Taylor to Railway	SB-19-02	2.76E+02	Max Detect	low	1	3		2.76E+02	Max Detect	low
2~Taylor to Railway	SB-20-02	1.03E+02	Max Detect	low	13	15		1.02E+02	Max Detect	low
2~Taylor to Railway	SB-21-02	**5.18E+04**	Max Detect	high	1	3		**5.18E+04**	Max Detect	high
2~Taylor to Railway	SB-22-02	8.30E+00	Max Detect	low	9	11		8.00E+00	Max Detect	low
2~Taylor to Railway	SB-23-02	4.70E+00	Max Detect	low	9	11		1.10E+00	Max Detect	low
2~Taylor to Railway	SB-24-02	8.10E+00	Max Detect	low	9	11		8.60E-01	Max Detect	low
2~Taylor to Railway	SB-25-02	4.65E+01	Max Detect	low	1	3		4.65E+01	Max Detect	low
2~Taylor to Railway	SB-28-02	1.64E+01	Max Detect	low	9	11		1.22E+01	Max Detect	low
2~Taylor to Railway	SB-33-02	2.92E+01	Max Detect	low	1	3		2.92E+01	Max Detect	low
2~Taylor to Railway	SB-34-02	2.88E+02	Max Detect	low	1	3		2.88E+02	Max Detect	low
2~Taylor to Railway	SB-35-02	5.80E+00	Max Detect	low	9	11		2.70E+00	Max Detect	low
2~Taylor to Railway	SB-36-02	5.22E+01	Max Detect	low	1	3		5.22E+01	Max Detect	low
2~Taylor to Railway	SB-37-02	2.16E+02	Max Detect	low	1	3		2.16E+02	Max Detect	low
2~Taylor to Railway	SB-38-02	1.57E+01	Max Detect	low	1	3		1.57E+01	Max Detect	low

Table 5.3B: Potential Significance of Highest Soil Lead Concentrations by Location
Former Delphi Harrison Thermal Facility, Dayton, Ohio

		All Depth						Surface Only		
Area	**Station ID**	**Concentration** (mg/kg)	**Concentration Basis**	**Category**	**Top Depth** (ft)	**Bottom Depth** (ft)		**Concentration** (mg/kg)	**Concentration Basis**	**Category**
2~Taylor to Railway	SB-39-02	1.39E+02	Max Detect	low	1	3		1.39E+02	Max Detect	low
2~Taylor to Railway	SB-40-02	1.19E+01	Max Detect	low	1	3		1.19E+01	Max Detect	low
2~Taylor to Railway	SB-41-02	8.06E+01	Max Detect	low	1	3		8.06E+01	Max Detect	low
2~Taylor to Railway	SB-42-02	8.85E+01	Max Detect	low	6	8		2.47E+01	Max Detect	low
2~Taylor to Railway	SB-43-02	7.12E+01	Max Detect	low	9	11		1.50E+01	Max Detect	low
2~Taylor to Railway	SB-44-02	1.47E+02	Max Detect	low	9	11		4.10E+00	Max Detect	low
2~Taylor to Railway	SB-53-02	2.13E+02	Max Detect	low	1	3		2.13E+02	Max Detect	low
2~Taylor to Railway	SB-54-02	2.86E+02	Max Detect	low	1	3		2.86E+02	Max Detect	low
2~Taylor to Railway	SB-55-02	1.33E+02	Max Detect	low	1	3		1.33E+02	Max Detect	low
2~Taylor to Railway	SB-56-02	9.47E+01	Max Detect	low	1	3		9.47E+01	Max Detect	low
2~Taylor to Railway	SB-72-03	1.34E+02	Max Detect	low	1	3		1.34E+02	Max Detect	low
2~Taylor to Railway	SB-73-03	5.28E+02	Interpolated Max Detect	low	0	0		5.28E+02	Interpolated Max Detect	low
2~Taylor to Railway	SB-74-03	2.88E+02	Interpolated Max Detect	low	0	0		2.88E+02	Interpolated Max Detect	low
2~Taylor to Railway	SB-75-03	6.31E+01	Max Detect	low	1	3		6.31E+01	Max Detect	low
2~Taylor to Railway	SB-84-03	6.86E+02	Max Detect	low	1	3		6.86E+02	Max Detect	low
2~Taylor to Railway	SB-85-03	2.83E+02	Max Detect	low	1	3		2.83E+02	Max Detect	low
2~Taylor to Railway	SB-86-03	7.12E+01	Interpolated Max Detect	low	6	8		1.50E+01	Interpolated Max Detect	low
2~Taylor to Railway	SB-87-03	8.30E+00	Interpolated Max Detect	low	9	11		8.00E+00	Interpolated Max Detect	low
2~Taylor to Railway	SB-88-03	8.06E+01	Interpolated Max Detect	low	3	5		8.06E+01	Interpolated Max Detect	low
2~Taylor to Railway	SB-89-03	1.47E+02	Interpolated Max Detect	low	3	20		4.10E+00	Interpolated Max Detect	low
2~Taylor to Railway	SB-90-03	1.47E+02	Interpolated Max Detect	low	3	20		4.10E+00	Interpolated Max Detect	low
2~Taylor to Railway	SB-91-03	1.47E+02	Interpolated Max Detect	low	3	20		4.10E+00	Interpolated Max Detect	low
2~Taylor to Railway	SB-92-03	2.07E+01	Max Detect	low	9	11		8.70E+00	Max Detect	low
2~Taylor to Railway	SB-93-03	1.33E+01	Max Detect	low	1	3		1.33E+01	Max Detect	low
2~Taylor to Railway	SB-94-03	4.70E+00	Interpolated Max Detect	low	9	11		1.10E+00	Interpolated Max Detect	low
2~Taylor to Railway	SB-95-03	8.10E+00	Interpolated Max Detect	low	9	11		8.60E-01	Interpolated Max Detect	low
2~Taylor to Railway	SB-96-03	4.65E+01	Interpolated Max Detect	low	9	11		4.65E+01	Interpolated Max Detect	low
3~Railway to Keowee	BH-172-04	2.01E+01	Max Detect	low	0	2		2.01E+01	Max Detect	low
3~Railway to Keowee	BH-173-04	1.50E+01	Max Detect	low	8	10		2.90E+00	Max Detect	low
3~Railway to Keowee	BH-174-04	6.20E+00	Max Detect	low	8	10		5.10E+00	Max Detect	low
3~Railway to Keowee	OW-5	2.34E+02	Max Detect	low	0	2		2.34E+02	Max Detect	low
3~Railway to Keowee	OW-6	2.69E+02	Max Detect	low	0	2		2.69E+02	Max Detect	low
3~Railway to Keowee	OW-7	3.76E+01	Max Detect	low	0	2		3.76E+01	Max Detect	low
3~Railway to Keowee	SB-118-04	1.85E+02	Max Detect	low	0	2		1.85E+02	Max Detect	low
3~Railway to Keowee	SB-119-04	3.55E+02	Max Detect	low	8	10		2.04E+02	Max Detect	low
3~Railway to Keowee	SB-120-04	9.14E+01	Max Detect	low	0	2		9.14E+01	Max Detect	low
3~Railway to Keowee	SB-121-04	1.07E+02	Max Detect	low	0	2		1.07E+02	Max Detect	low
3~Railway to Keowee	SB-29-02	**1.17E+03**	Max Detect	medium	1	3		**1.17E+03**	Max Detect	medium
3~Railway to Keowee	SB-30-02	**1.36E+04**	Max Detect	high	1	3		**1.36E+04**	Max Detect	high
3~Railway to Keowee	SB-31-02	2.14E+01	Max Detect	low	1	3		2.14E+01	Max Detect	low
3~Railway to Keowee	SB-32-02	1.22E+02	Interpolated Max Detect	low	3	20		1.22E+02	Interpolated Max Detect	low
3~Railway to Keowee	SB-49-02	1.22E+02	Interpolated Max Detect	low	3	20		1.22E+02	Interpolated Max Detect	low
3~Railway to Keowee	SB-50-02	1.44E+02	Max Detect	low	9	11		4.73E+01	Max Detect	low
3~Railway to Keowee	SB-51-02	**2.09E+03**	Max Detect	high	1	3		**2.09E+03**	Max Detect	high
3~Railway to Keowee	SB-52-02	4.68E+01	Max Detect	low	1	3		4.68E+01	Max Detect	low
3~Railway to Keowee	SB-77-03	5.70E+00	Max Detect	low	0	2		5.70E+00	Max Detect	low
3~Railway to Keowee	SB-78-03	4.68E+01	Interpolated Max Detect	low	10	12		4.68E+01	Interpolated Max Detect	low
3~Railway to Keowee	SB-79-03	7.39E+01	Max Detect	low	1	3		7.39E+01	Max Detect	low
3~Railway to Keowee	SB-80-03	3.78E+01	Max Detect	low	8	10		4.25E+00	Max Detect	low
3~Railway to Keowee	SB-81-03	1.22E+02	Max Detect	low	1	3		1.22E+02	Max Detect	low
3~Railway to Keowee	SB-82-03	**8.60E+04**	Max Detect	high	1	3		**8.60E+04**	Max Detect	high
3~Railway to Keowee	SB-83-03	1.53E+01	Max Detect	low	1	3		1.53E+01	Max Detect	low

Notes:

1. Category: low = lead concentration < 750 mg/kg; medium = lead concentrations from 750 to 1750 mg/kg; high = lead concentrations >1750 mg/kg
2. Shaded Concentration cells represent a lead concentration greater than 750 mg/kg.
3. Half Limit = half the sample quantitation limit (SQL) was used as a surrogate for the location, if the lead was not detected at that location.
4. Max Detect = the highest concentration detected at any depth at each location.
5. Interpolated = If lead was not analyzed at a particular location, the nearest detected concentration was used as a surrogate for that location.

Table 5.4: Upper Bound Cumulative Cancer Risk and Noncancer HI Estimates for LNAPL Exposure Former GM Delphi Harrison Thermal Systems Facility, Dayton, Ohio			
LNAPL Contact			
Area	**Receptor: Maintenance Worker**	**Cumulative Cancer Risk**	**Noncancer HI**
Chip Area LNAPL Plume	*Smear Zone Soil Ingestion*	5E-07	8E-02
	Smear Zone Soil Dermal Contact	2E-07	4E-02
	LNAPL Dermal Contact	5E-06	6E-01
	LNAPL Vapor Inhalation	7E-07	8E-02
Hydromation Pit LNAPL Plume	*Smear Zone Soil Ingestion*	2E-09	2E-04
	Smear Zone Soil Dermal Contact	6E-10	9E-05
	LNAPL Dermal Contact	4E-07	1E+00
	LNAPL Vapor Inhalation	6E-08	1E-01
LNAPL Vapor Intrusion			
Area	**Receptor: Indoor Routine Worker**	**Cumulative Cancer Risk**	**Noncancer HI**
Chip Area LNAPL Plume	*LNAPL Indoor Vapor Inhalation*	3E-07	1E-02
Hydromation Pit LNAPL Plume	*LNAPL Indoor Vapor Inhalation*	2E-08	2E-02

Table 5.5: Estimate of Incremental Chemical Concentration in Mad River from Groundwater and Storm Sewer Discharges
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

Chem Group	Chemical	CASRN	C_{river} (mg/L)	Surface Water Quality Criteria (mg/L)	Source for Criteria	Ratio C_{river} to C_{SWQC}
VOC	Acetone	67-64-1	6.9E-06			
VOC	Benzene	71-43-2	3.0E-11	7.1E-01	OH-ND	4.3E-11
VOC	Bromodichloromethane	75-27-4	9.1E-07	4.6E-01	OH-ND	2.0E-06
VOC	Bromoform	75-25-2	2.8E-07	3.6E+00	OH-ND	7.7E-08
VOC	2-Butanone	78-93-3	1.9E-06			
VOC	Carbon Disulfide	75-15-0	8.8E-12			
VOC	Chloroethane	75-00-3	1.8E-07			
VOC	Chloroform	67-66-3	4.3E-06	4.7E+00	OH-ND	9.0E-07
VOC	Chloromethane	74-87-3	2.8E-07			
VOC	Dibromochloromethane	124-48-1	8.6E-07	4.1E-03	OH-D	2.1E-04
VOC	1,4-Dichlorobenzene	106-46-7	1.6E-11	2.6E+00	OH-ND	6.2E-12
VOC	Dichlorodifluoromethane	75-71-8	6.8E-04			
VOC	1,1-Dichloroethane	75-34-3	3.2E-06			
VOC	1,1-Dichloroethene	75-35-4	1.4E-05	3.2E-02	OH-ND	4.4E-04
VOC	cis-1,2-Dichloroethene	156-59-2	7.3E-04	7.0E-02	OH-D	1.0E-02
VOC	trans-1,2-Dichloroethene	156-60-5	9.8E-06	1.0E-01	OH-D	9.8E-05
VOC	Ethyl Benzene	100-41-4	6.4E-07	2.9E+01	OH-ND	2.2E-08
VOC	2-Hexanone	591-78-6	3.3E-07			
VOC	4-Methyl-2-pentanone	108-10-1	2.0E-07			
VOC	Methylene Chloride	75-09-2	5.4E-06	1.6E+01	OH-ND	3.4E-07
VOC	Tetrachloroethene	127-18-4	3.1E-05	8.9E-02	OH-ND	3.5E-04
VOC	Toluene	108-88-3	2.6E-06	2.0E+02	OH-ND	1.3E-08
VOC	1,2,4-Trichlorobenzene	120-82-1	9.7E-08	9.4E-01	OH-ND	1.0E-07
VOC	1,1,1-Trichloroethane	71-55-6	2.0E-07	2.0E-01	OH-D	9.8E-07
VOC	Trichloroethene	79-01-6	6.4E-04	8.1E-01	OH-ND	7.9E-04
VOC	Vinyl Chloride	75-01-4	2.9E-05	5.3E+00	OH-ND	5.4E-06
VOC	Xylenes (total)	1330-20-7	3.9E-06	1.0E+01	OH-D	3.9E-07
SVOC	Acenaphthene	83-32-9	1.5E-08	2.7E+00	OH-ND	5.7E-09
SVOC	Anthracene	120-12-7	5.0E-08	1.1E+02	OH-ND	4.5E-10
SVOC	Benzo(a)anthracene	56-55-3	1.4E-07	4.9E-04	OH-ND	2.8E-04
SVOC	Benzo(a)pyrene	50-32-8	1.5E-07	4.9E-04	OH-ND	3.0E-04

Table 5.5: Estimate of Incremental Chemical Concentration in Mad River from Groundwater and Storm Sewer Discharges
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

Chem Group	Chemical	CASRN	C_{river} (mg/L)	Surface Water Quality Criteria (mg/L)	Source for Criteria	Ratio C_{river} to C_{SWQC}
SVOC	Benzo(b)fluoranthene	205-99-2	2.4E-07	4.9E-04	OH-ND	4.8E-04
SVOC	Benzo(g,h,i)perylene	191-24-2	1.1E-07			
SVOC	Benzo(k)fluoranthene	207-08-9	1.0E-07	4.9E-04	OH-ND	2.1E-04
SVOC	bis(2-Ethylhexyl)phthalate	117-81-7	1.7E-06	5.9E-02	OH-ND	2.8E-05
SVOC	Butylbenzylphthalate	85-68-7	1.1E-08	5.2E+00	OH-ND	2.2E-09
SVOC	Caprolactam	105-60-2	1.0E-04			
SVOC	Carbazole	86-74-8	3.3E-08			
SVOC	Chrysene	218-01-9	1.7E-07	4.9E-04	OH-ND	3.6E-04
SVOC	Dibenz(a,h)anthracene	53-70-3	2.8E-08	4.9E-04	OH-ND	5.6E-05
SVOC	Dibenzofuran	132-64-9	1.8E-08			
SVOC	Di-n-butylphthalate	84-74-2	2.9E-07	1.2E+01	OH-ND	2.4E-08
SVOC	Di-n-octylphthalate	117-84-0	9.1E-08			
SVOC	Fluoranthene	206-44-0	4.1E-07	3.7E-01	OH-ND	1.1E-06
SVOC	Fluorene	86-73-7	2.2E-08	1.4E+01	OH-ND	1.5E-09
SVOC	Indeno(1,2,3-cd)pyrene	193-39-5	9.4E-08	4.9E-04	OH-ND	1.9E-04
SVOC	2-Methylnaphthalene	91-57-6	7.5E-09			
SVOC	Naphthalene	91-20-3	2.2E-08			
SVOC	Phenanthrene	85-01-8	2.3E-07			
SVOC	Pyrene	129-00-0	3.0E-07	1.1E+01	OH-ND	2.8E-08
P/PCB	PCBs (total)	1336-36-3	4.3E-07	1.7E-06	OH-ND	2.5E-01
INORG	Antimony	7440-36-0	9.5E-06	4.3E+00	OH-ND	2.2E-06
INORG	Arsenic	7440-38-2	3.9E-06	1.0E-01	OH-AG	3.9E-05
INORG	Barium	7440-39-3	6.7E-04	2.0E+00	OH-D	3.3E-04
INORG	Beryllium	7440-41-7	5.3E-09	1.0E-01	OH-AG	5.3E-08
INORG	Cadmium	7440-43-9	6.7E-05	5.0E-02	OH-AG	1.3E-03
INORG	Chromium (total)	7440-47-3	1.7E-05	1.0E-01	OH-D	1.7E-04
INORG	Cobalt	7440-48-4	2.6E-06			
INORG	Copper	7440-50-8	1.9E-03	5.0E-01	OH-AG	3.8E-03
INORG	Cyanide (total)	57-12-5	2.3E-06	2.2E+02	OH-ND	1.0E-08
INORG	Lead	7439-92-1	1.2E-04	1.0E-01	OH-AG	1.2E-03
INORG	Manganese	7439-96-5	2.3E-04	5.0E-02	AWQS	4.7E-03

Table 5.5: Estimate of Incremental Chemical Concentration in Mad River from Groundwater and Storm Sewer Discharges
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

Chem Group	Chemical	CASRN	C_{river} (mg/L)	Surface Water Quality Criteria (mg/L)	Source for Criteria	Ratio C_{river} to C_{SWQC}
INORG	Mercury	7439-97-6	3.6E-07	1.2E-05	OH-ND	3.0E-02
INORG	Nickel	7440-02-0	2.1E-05	2.0E-01	OH-AG	1.1E-04
INORG	Selenium	7782-49-2	1.9E-06	5.0E-02	OH-D	3.9E-05
INORG	Silver	7440-22-4	1.6E-06			
INORG	Thallium	7440-28-0	2.6E-06	6.3E-03	OH-ND	4.1E-04
INORG	Vanadium	7440-62-2	2.5E-06			
INORG	Zinc	7440-66-6	1.1E-03	2.5E+01	OH-AG	4.6E-05
Notes:						
1. Ambient Water Quality Criteria are based on USEPA National Recommended Water Quality Criteria						
(revised December 2003) for Human Consumption of Water and Organisms.						
2. Surface Water Quality Criteria are based upon the following hierarchy: Ohio non-drinking water or agricultural use criteria,						
whichever is lower; Ohio drinking water criteria; and federal AWQC						
(the lower of the drinking water or the organism-consumption criteria).						
Abbreviations:						
OH-AG - OH EPA agricultural water source criteria						
OH-ND - Ohio EPA nondrinking water criteria						
OH-D - Ohio EPA drinking water criteria						
AWQC - USEPA Ambient Water Quality Criteria						
ND - Not Detected						

Table 6-1. Comparison of Modeled Mean Flow Concentrations in Mad River to ESLs

Parameters	Region 5 Water ESL (mg/L)	C_{river} (mg/L)	Ratio C_{river}/ Region 5 ESL
Volatile Organic Compounds			
1,1,1-Trichloroethane	0.076	1.96E-07	2.58E-06
1,1-Dichloroethane	0.047	3.17E-06	6.73E-05
1,2,4-Trichlorobenzene	0.03	9.68E-08	3.23E-06
1,4-Dichlorobenzene	0.0094	1.60E-11	1.71E-09
2-Butanone	2.2	1.88E-06	8.55E-07
2-Hexanone	0.099	3.32E-07	3.35E-06
4-Methyl-2-pentanone	0.17	1.96E-07	1.15E-06
Acetone	1.7	6.91E-06	4.07E-06
Benzene	0.114	3.04E-11	2.67E-10
Bromodichloromethane	--	9.12E-07	--
Bromoform	0.23	2.76E-07	1.20E-06
Carbon Disulfide	0.015	8.85E-12	5.90E-10
Chloroethane	--	1.80E-07	--
Chloroform	0.14	4.25E-06	3.04E-05
Chloromethane	--	2.76E-07	--
cis-1,2-Dichloroethene	0.91	7.33E-04	8.06E-04
Dibromochloromethane	--	8.57E-07	--
Ethyl Benzene	0.014	6.36E-07	4.54E-05
Methylene Chloride	0.94	5.40E-06	5.75E-06
Tetrachloroethene	0.045	3.07E-05	6.82E-04
Toluene	0.253	2.55E-06	1.01E-05
trans-1,2-Dichloroethene	0.97	9.79E-06	1.01E-05
Trichloroethene	0.047	6.44E-04	1.37E-02
Vinyl Chloride	0.93	2.88E-05	3.10E-05
Xylenes (total)	0.027	3.87E-06	1.43E-04
Semivolatile Organic Compounds			
2-Methylnaphthalene	0.33	7.47E-09	2.26E-08
Acenaphthene	0.038	1.55E-08	4.07E-07
Anthracene	0.000035	4.98E-08	1.42E-03
Benzo(a)anthracene	0.000025	1.38E-07	5.53E-03
Benzo(a)pyrene	0.000014	1.47E-07	1.05E-02
Benzo(b)fluoranthene	0.00907	2.35E-07	2.59E-05
Benzo(g,h,i)perylene	0.00764	1.08E-07	1.41E-05
Benzo(k)fluoranthene	--	1.02E-07	--
bis(2-Ethylhexyl)phthalate	0.0003	1.66E-06	5.53E-03
Butylbenzylphthalate	0.023	1.13E-08	4.93E-07
Caprolactam	--	1.05E-04	--
Carbazole	--	3.32E-08	--
Chrysene	--	1.74E-07	--
Dibenz(a,h)anthracene	--	2.76E-08	--
Dibenzofuran	0.004	1.80E-08	4.49E-06
Di-n-butylphthalate	0.0097	2.93E-07	3.02E-05
Di-n-octylphthalate	0.03	9.12E-08	3.04E-06
Fluoranthene	0.0019	4.15E-07	2.18E-04
Fluorene	0.019	2.16E-08	1.14E-06

Table 6-1. (cont.)

Parameters	Region 5 Water ESL (mg/L)	C_{river} (mg/L)	Ratio C_{river}/ Region 5 ESL
Indeno(1,2,3-cd)pyrene	0.00431	9.40E-08	2.18E-05
Naphthalene	0.013	2.21E-08	1.70E-06
Phenanthrene	0.0036	2.27E-07	6.30E-05
Pyrene	0.0003	3.04E-07	1.01E-03
Metals			
Antimony	0.08	9.48E-06	1.19E-04
Arsenic	0.148	3.95E-06	2.67E-05
Barium	0.22	6.66E-04	3.03E-03
Beryllium	0.0036	5.25E-09	1.46E-06
Cadmium	0.00015	6.67E-05	4.45E-01
Chromium (total)	0.042	1.73E-05	4.13E-04
Cobalt	0.024	2.59E-06	1.08E-04
Copper	0.00158	**1.89E-03**	**1.19E+00**
Cyanide (total)	0.0052	2.26E-06	4.34E-04
Lead	0.00117	1.19E-04	1.02E-01
Manganese	--	2.34E-04	--
Mercury	1.3E-06	3.61E-07	2.77E-01
Nickel	0.0289	2.10E-05	7.28E-04
Selenium	0.005	1.93E-06	3.86E-04
Silver	0.00012	1.63E-06	1.36E-02
Thallium	0.01	2.61E-06	2.61E-04
Vanadium	0.012	2.53E-06	2.11E-04
Zinc	0.0657	1.14E-03	1.74E-02
PCBs			
PCBs (total)	1.2E-07	**4.28E-07**	**3.57E+00**

Note: All units are mg/L
--no ESL available
bolded values exceed ESL

APPENDIX B
HYDRAULIC CONDUCTIVITY

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HALEY & ALDRICH

MEMORANDUM

28 November 2005
File No. 79032-118

TO: Pamela Barnett (REALM)

C: Jean Caufield (General Motors Corporation)
Laura Romeo/Terry Conway(General Motors Corporation Legal)
Ian Richardson/Sylvie Eastman (CRA Services)
Rich Kapuscinski/Steve Song (ENVIRON)
Chuck Kronbach (REALM)

FROM: Haley & Aldrich, Inc.
Christine Horch
James Little

SUBJECT: Former Delphi Harrison Thermal Systems Facility, Dayton Ohio
Hydraulic Conductivity

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This technical memorandum provides information pertaining to the estimation of hydraulic conductivity in support of the hydrogeologic conceptual model for the former Delphi Thermal Systems Facility (Site) located at 300 Taylor Street in Dayton, Ohio (Figure 1). The estimation is based on information collected by Haley & Aldrich, Inc. (Haley & Aldrich) from Site project investigations and information provided to Haley & Aldrich from the Ohio Department of Natural Resources (ODNR) and the US Geological Society (USGS).

HYDRAULIC CONDUCTIVITY ESTIMATION

The hydraulic conductivities for units underlying the Site, the upper aquifer, till-rich zone and lower aquifer, were estimated using one or more of the following techniques: from specific capacity data using the method outlined by Bradbury and Rothschild (1985), from grain size distribution data (Driscoll, 1986 and API, Haley &Aldrich, 2005), and using Hazen's Approximation (Freeze and Cherry, 1979).

Specific Capacity Calculation

Bradbury and Rothschild (1985) generated a computer program employing specific capacity tests to estimate hydraulic conductivity. Data gathered during pumping tests, including rate of pumping, well construction, period of pumping, and measured drawdown were used to derive transmissivity and hydraulic conductivity using the following equations:

$$(1)\quad T = \frac{Q}{4\pi s}\ln\left(\frac{2.25Tt}{r_w^2 S}\right)$$

$$(2)\quad S_w = CQ^2$$

$$(3)\quad s = \frac{Q}{4\pi T}\left[\ln\left(\frac{2.25Tt}{r_w^2 S}\right) + 2s_p\right.$$

$$(4)\quad s_p = \frac{Q1 - L/b}{L/b}\left(\ln\frac{b}{r_w} - G\{L/B\}\right)$$

$$(5)\quad G\{L/B\} = 2.948 - (7.363\ L/b) + 11.447\{L/b\}^2 - 4.675\{L/b\}^3$$

$$(6)\quad T = \frac{Q}{4\pi(s - s_w)}\left[\ln\left(\frac{2.25Tt}{r_w^2 S}\right) + 2s_p\right]$$

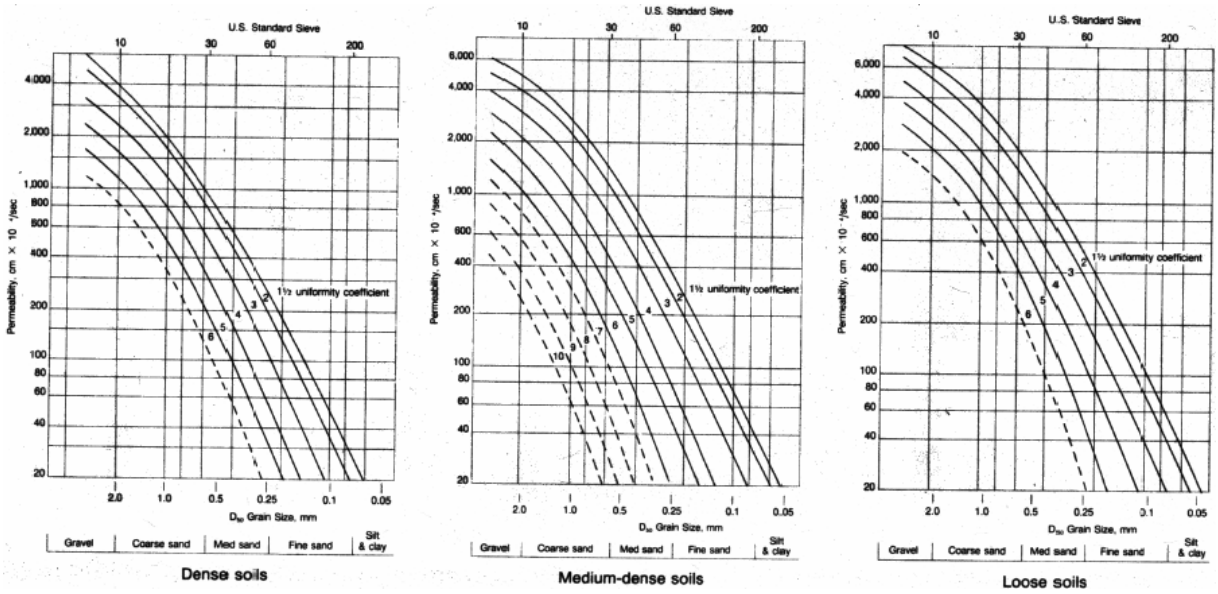
The method developed by Bradbury and Rothschild assumes a homogeneous, isotropic, non-leaky aquifer of infinite aerial extent. An estimated storage coefficient of $1x10^{-3}$ times aquifer thickness and a well loss coefficient (C) of 1 were employed in these calculations. See Appendix B-1 for this reference article.

Bradbury and Rothschild tested their computational approach at two field sites. One of the sites is similar to the Former Delphi Harrison Thermal Systems Facility Site, and is underlain by glacial outwash sands and gravels. Hydraulic conductivities calculated by Bradbury & Rothschild for the glacial outwash site agreed well with pumping test data, and exhibited a range of values of less than one order of magnitude.

For estimation of hydraulic conductivity in the vicinity of the Site, pump test data were gathered from water well logs within one mile of the Site that are on file with the ODNR.

Grain Size Distribution

When pump tests are not available, hydraulic conductivity can be estimated based on particle size, uniformity coefficient, and soil density (Driscoll, 1986). In the absence of sieve test analysis, grain size distribution can be determined from monitoring well installation logs where the USCS soil classification system is employed. The USCS system identifies grain size and rates of abundance from which the dominant grain size, D50, can be identified. Additionally, soil density (dense, medium-dense or loose soils) can be qualitatively identified during subsurface exploration using split spoon counts, pocket penetrometers and sheer strength tests. At the Site, split-spoon blow counts, relative sonic drill time, and soil descriptions were used to estimate soil density. The dominant grain size D50 and soil density are applied to the appropriate chart below to estimate hydraulic conductivity:



(Driscoll, 1986).

Hazen's Approximation

Hydraulic conductivity (K) can also be estimated using the relation of porosity and grain size distribution of uniformly graded soils, using Hazen's Approximation: $K = Ad^2_{10}$, where

K = hydraulic conductivity (cm/s)

d_{10} = the effective grain size diameter, where 10% by weight of the soil particles are finer and 90% are coarser (mm); and

A = coefficient equal to 1.0 (Freeze and Cherry, 1979).

UPPER AQUIFER

The upper aquifer is an unconfined unit that ranges in thickness from approximately 25 to 50 feet in the vicinity of the Site. Based on the Bradbury and Rothschild calculation and grain size distribution measured in Site investigations, the upper aquifer hydraulic conductivity ranges from approximately 100 to 400 feet per day (ft/day).

Based on the calculated geometric mean from the Bradbury and Rothschild specific capacity calculations, the upper aquifer hydraulic conductivity is approximately 207 ft/day or $7.3x10^{-2}$ centimeters per second (cm/sec). This is based on pump tests from six water well installation logs: ODNR Log ID # 571202 and 571203 (located near the northeast corner of the Site), ODNR Log ID # 615282 (located about 0.75 miles southwest of the Site), and ODNR Log ID # 166031 and 400604 (located about 1 mile south or southeast of the Site).

Grain size distribution was measured by PTS Laboratories for two upper aquifer borings associated with the API Investigation in 2004. RFI boring logs indicate that the soils are dominated by gravel and are medium-dense. Given that hydraulic conductivity will be dominated by the largest grain size, and assuming a high uniformity coefficient (based on irregular grain size and broad grain size distribution), hydraulic conductivity in the upper aquifer based on this method ranges from approximately 100 to 400 ft/day or $3.5x10^{-2}$ to $1.4x10^{-1}$ cm/s. The hydraulic conductivity used in the API model calculation, 328 ft/day or $1.2x10^{-1}$ cm/s, is based on API reference tables and the measured grain size distribution.

Hazen's approximation yields a wider range of hydraulic conductivity (11 to 500 ft/day or 3.9 x 10^{-3} cm/s to 1.8 x 10^{-1} cm/s) based on five monitoring wells installed across the Site: MW-22, MW-23, MW-31, MW-36, and MW-46. While Hazen's approximation yields a wider range of hydraulic conductivities, this approach shows reasonable agreement with the Bradbury and Rothschild and grain size approaches, and provides a greater degree of confidence in the estimated results.

TILL-RICH ZONE

The till-rich zone contains lower permeability strata that represent the transition between the upper and lower aquifers. Boring logs in the vicinity of the Site identify the till-rich zone to be approximately 10 to 45 feet thick to the west and 60 to 80 feet thick to the east with variable strata including very low permeability clays, silty sands and sands.

Hydraulic conductivities in the till-rich zone vary widely depending on the variable content of clay, silt, and fine-grained sand. Values of lower permeability layers, as measured in the laboratory, range from 1.7x10^{-4} to 5.0x10^{-4} ft/day or 6.08x10^{-8} to 1.77x10^{-7} cm/s (see Appendix B-2). Values for the more conductive layers based on the Bradbury and Rothschild calculation and the grain size estimation methods range from approximately 60 to 260 ft/day or 2.1 x 10^{-2} to 9.2 x 10^{-2} cm/s. The composite vertical hydraulic conductivity of the till-rich zone is driven by the lower-permeability layers, and is thus not likely to significantly differ from the upper value for hydraulic conductivity of the lower permeability layers derived in the laboratory, 5.0 x 10^{-4} ft/day or 1.8 x 10^{-7} cm/s.

The Bradbury and Rothschild specific capacity calculation, for the conductive layers within the till-rich zone is based on pump tests from 2 water well installation logs: ODNR Log ID # 618617 (located approximately 0.25 miles southwest of the Site) and ODNR Log ID # 498018 (located approximately 0.75 miles southwest of the Site). Because the depth and thickness of the till-rich zone in the vicinity of these wells uncertain and the quality of information recorded in drillers logs varies, it cannot be definitively determined that these two wells are screened in the till-rich zone. As such, the estimated hydraulic conductivity should be used primarily in comparison of other methods, such as the grain size approximations below.

RFI boring logs indicate that the more permeable layers within the till-rich zone are made up of loose silty sands. Given the dominant grain size is medium sand, and assuming a high uniformity coefficient, hydraulic conductivities in the till-rich zone based on the D50 grain size method of estimation range from approximately 60 to 130 ft/day or 2.0x10^{-2} to 4.5x10^{-2} cm/s.

It should be noted, however that the higher estimates for hydraulic conductivity result from review of borings conducted by others. In many cases, only drillers' logs were available. In general, these logs identified more gravel than was described elsewhere. In areas investigated as part of the RFI investigation, the high end hydraulic conductivity, based on grain size analysis, is approximately 130 ft/day or 4.5x10^{-2} cm/sec.

Hazen's approximation yields a wider range of hydraulic conductivities: 11 to 500 ft/day or 3.9 x 10^{-3} cm/s to 1.8 x 10^{-1} cm/s. These calculations are based on soil descriptions from ten

monitoring wells installed in the till-rich zone across the Site: MW-19, MW-20, DAY-23, MW-36, MW-40, MW-41, MW-42, MW-43, MW-44, and MW-45.

LOWER AQUIFER

The lower aquifer is a confined system with a saturated thickness that is approximately 110 feet thick in the vicinity of the Site. Based on the Bradbury and Rothschild calculation and grain size distribution measured in Site investigations, the lower aquifer hydraulic conductivity ranges from approximately 170 to 430 ft/day.

Based on the calculated geometric mean from the Bradbury and Rothschild specific capacity calculations, the lower aquifer hydraulic conductivity is approximately 431.6 ft/day or 1.5 $x10^{-1}$ cm/s. This is based on pump tests from ten water well installation logs: ODNR Log ID # 179356 (formerly located on- site), ODNR Log ID # 618617 and 332300 (located approximately 0.25 miles southwest of the Site), ODNR Log ID # 471162 (located approximately 0.5 miles southwest of the Site), ODNR Log ID # 48991, 101816, 611033, and 179963 (located approximately 0.75 miles southwest of the Site), ODNR Log ID # 166036 (located approximately 1 mile south-southwest of the Site), and ODNR Log ID # 420739 (located approximately 1 mile east-northeast of the Site).

Descriptions of soils from RFI boring logs in the lower aquifer in the vicinity of the Site using the USCS soil classification system indicate that clean medium sands dominate the loose soils. Given the dominant grain size is medium sand, and assuming a low uniformity coefficient (based on more regular grain size and relatively narrow grain size distribution), hydraulic conductivities in the lower aquifer based on the D50 grain size method of estimation ranges from approximately 170 to 430 ft/day or $6.0x10^{-2}$ to $1.5x10^{-1}$ cm/s.

Hazen's approximation yields a wider range of hydraulic conductivities (15 to 500 ft/day or 5.6 x 10^{-3} cm/s to 1.8 x 10^{-1} cm/s) based on soil descriptions from five monitoring wells installed across the Site: MW-17, MW-18, MW-35, MW-38, and MW-39.

SUMMARY

The hydraulic conductivity estimations using specific capacity data using the method outlined by Bradbury and Rothschild (1985) and from the grain size distribution data provide more specific ranges of results; while estimates using Hazen's Approximation provide support of the previous two methods of estimation.

Therefore, based on the methods described herein, the upper aquifer hydraulic conductivity ranges from approximately 100 to 400 ft/day; the lower aquifer ranges from approximately 170 to 430 ft/day; and in the till-rich zone, the more conductive layers range from approximately 60 to 130 ft/day and the less permeable layers approximately $1.7x10^{-4}$ to $5.0x10^{-4}$ ft/day for a composite vertical hydraulic conductivity of the till-rich zone not likely to significantly differ from 5.0 x 10^{-4} ft/day.

References

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Attach
Appendix B-1 : Bradbury and Rothschild, 1985.
Appendix B-2 : Laboratory Results

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APPENDIX B-1
BRADBURY AND ROTHSCHILD, 1985

COMPUTER NOTES

A COMPUTERIZED TECHNIQUE FOR ESTIMATING THE HYDRAULIC CONDUCTIVITY OF AQUIFERS FROM SPECIFIC CAPACITY DATA

by Kenneth R. Bradbury[a] and Edward R. Rothschild[b]

Abstract. Specific capacity data obtained from well construction reports can provide useful estimates of hydraulic conductivity (K). A simple computer program has been developed which can correct specific capacity data for partial penetration and well loss and, using an iterative technique, provide rapid estimates of K at hundreds of data points. The program allows easy data handling and is easily linked with existing statistical programs or contour mapping routines. The method was tested at two field sites in Wisconsin, one underlain by a sandy outwash aquifer, the other by fractured dolomite. In both areas, estimates of K from corrected specific capacity data agree reasonably well with data from pumping tests.

Introduction

Hydrogeologists continually seek and test simple, quick, and inexpensive methods for determining aquifer characteristics. The use of specific capacity tests to determine transmissivity (T), and ultimately hydraulic conductivity (K), is one such tool. Although the use of specific capacity data in estimating aquifer parameters is certainly not new (Theis *et al.*, 1963; Lohman, 1972), commonly used estimation techniques (described below) are somewhat slow and cumbersome. In this paper we describe a computer program which rapidly and accurately provides estimates of aquifer transmissivity at hundreds of points where specific capacity data are available, and we demonstrate that the technique gives excellent results at two field sites in Wisconsin. Because the solution is performed with the use of a computer, data can be manipulated easily and linked with available graphical and statistical packages.

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Discussion open until September 1, 1985.

A specific capacity test involves pumping a well (of known construction) at a known rate and period of time, and measuring the drawdown within the well at the end of the test period. The length of the test is determined by how long it takes for the water level in the well to reach a state of apparent equilibrium, that is, when the change in drawdown is minimal with time. Specific capacity is defined as the discharge divided by the drawdown in the well, and the units generally used are gallons per minute per foot of drawdown (GPM/FT).

Theis *et al.* (1963) present a method of estimating transmissivity from specific capacity. They treat a specific capacity test as a short nonequilibrium pumping test, and utilize a graphical solution to estimate transmissivity. Several other workers, including Walton (1970), Lohman (1972), and Gabrysch (1968) have applied Theis' method to field problems. In this study, we replace the graphical approach with a short computer program utilizing an iterative procedure.

Estimating T from specific capacity involves a series of assumptions. These assumptions include a known storage coefficient (S), minimal well loss, full penetration, and a nonleaky, homogeneous and isotropic, artesian aquifer of infinite areal extent. (These assumptions are essential to use of the Theis equation, and are described in many basic texts.) Fortunately, because specific capacity varies with the logarithm of 1/S, the solution is not very sensitive to variations in S, which can be estimated with sufficient accuracy from previous studies in an area, or by using representative values for a given aquifer type. If appropriate data are available, well loss corrections can be made. Corrections for partial penetration may be very important because few wells fully penetrate an aquifer. A method adopted from Brons and Marting (1961) is used in this study to correct for partial penetration.

To demonstrate the method, specific capacity data were used to estimate hydraulic conductivities for aquifers in two large field areas in Wisconsin (see Figure 1). One aquifer is a confined, fractured dolomite (area A), and the other consists of unconfined, unconsolidated sands and gravels (area B). In Wisconsin, specific capacity tests are generally performed by drillers at the time of well installation. Reports of the tests, as well as geologic logs and well construction reports for most wells are available at the Wisconsin Geological and Natural History Survey. In this study, we use available information to determine aquifer transmissivity, corrected for partial penetration of the wells, and

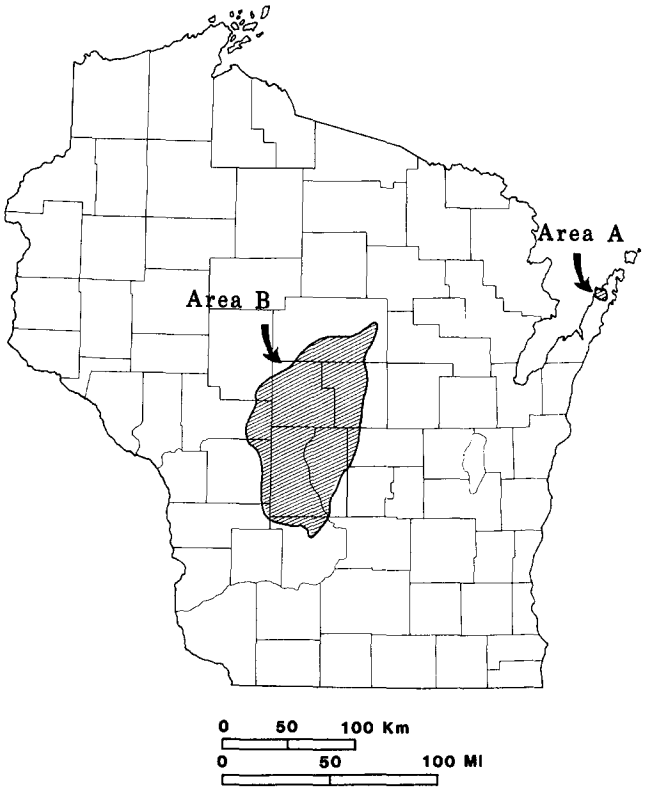

Fig. 1. Map of Wisconsin showing locations of field areas A (fractured dolomite) and B (sand and gravel).

then produce maps of hydraulic conductivity. The maps agree well with the more limited data available from pumping tests.

There are many advantages of using specific capacity information to compute hydraulic conductivity. The data are generally readily available and abundant: for area A, 224 specific capacity tests were available versus 5 pumping tests; for area B, 268 specific capacity tests were available versus 11 pumping tests. Estimates of hydraulic conductivity, based on specific capacity data, are quick, easy, and inexpensive, and when used in conjunction with limited pumping test data, may be the best method for mapping aquifer characteristics over large areas.

Computer Program Development

Theis *et al.* (1963) describe a method for estimating the transmissivity of an aquifer from the specific capacity of wells. Their analysis is based on the Jacob equation, given in consistent units as:

$$T = \frac{Q}{4\pi s} \ln\left(\frac{2.25\ Tt}{r_w^2 S}\right) \qquad (1)$$

where

T = transmissivity (L^2/t),

Q = discharge (L^3/t),

s = drawdown in the well (L),

t = pumping time (t),

S = storage coefficient (dimensionless), and

r_w = radius of the well (L).

Because T appears twice, this formula cannot be solved directly, and Theis *et al.* (1963) and Walton (1970) (among others) propose graphical solutions involving matching the specific capacity data to a family of curves. The graphical methods have the disadvantage of requiring a different set of curves for every possible combination of well radius, pumping period, and storage coefficient. In addition, any corrections for partial penetration or well loss require additional calculations.

Well loss is an increase in drawdown in the well bore over drawdown in the aquifer adjacent to the well. It is due to turbulent flow as water enters the well bore and pump, and depends on the pumping rate, construction of the well, and hydraulic properties of the tested aquifer. It is possible to correct specific capacity data for well loss using the equation (Csallany and Walton, 1963):

$$S_w = CQ^2 \qquad (2)$$

where

S_w = well loss (L),

C = well loss constant (t^2/L^5), and

Q = discharge (L^3/t).

Csallany and Walton present an equation with which to evaluate C from step-drawdown data.

Most private wells penetrate less than the full thickness of aquifers. During a specific capacity test, partially penetrating wells may yield anomalously low values of specific capacity, depending on the ratio of penetration (L) to aquifer thickness (b). In Wisconsin, the L/b ratio is sometimes as low as 0.1. Thus, a correction for partial penetration is necessary before estimating transmissivity from specific capacity. For unsteady drawdown in a partially penetrating well, Sternberg (1973) shows that

$$s = \frac{Q}{4\pi T}\left[\ln\left(\frac{2.25\ Tt}{r_w^2 S}\right) + 2\ s_p\right] \qquad (3)$$

where s_p is a "partial penetration factor" given by Brons and Marting (1961) as

$$s_p = \frac{1 - L/b}{L/b}\left(\ln\frac{b}{r_w} - G\{L/B\}\right) \qquad (4)$$

where

b = aquifer thickness (L),

L = length of open interval (L), and

G = a function of the L/b ratio.

Brons and Marting evaluate G(L/b) for various values of (b/r_w). In the present study the polynomial equation

$$G\{L/b\} = 2.948 - (7.363\ L/b) + 11.447\ \{L/b\}^2 - 4.675\ \{L/b\}^3 \quad (5)$$

was fitted to the data of Brons and Marting by multiple regression, with a correlation coefficient of 0.992. Rewriting equation (3) to incorporate equation (2), we have

$$T = \frac{Q}{4\pi(s - s_w)} \left[\ln\left(\frac{2.25\ Tt}{r_w^2 S}\right) + 2\ s_p\right] \quad (6)$$

The solution of equation (6) yields an estimate of T which is corrected for well loss and partial penetration, and incorporates t, S, and r_w.

Figure 2 shows a flow chart for a computer program which solves equation (6). The program first reads the data in the inconsistent units (gallons per minute, inches, feet, etc.) which are customarily used on driller's logs. After converting to consistent units (feet, seconds), the program solves equations (2), (4), and (5) directly. It then solves equation (6) iteratively, using an initial estimate of T (TGUESS) to calculate an updated estimate (TCALC). The program then substitutes the updated estimate for the original guess, and repeats the process until TGUESS and TCALC agree within a small error criterion (ERR). Finally the program prints the results.

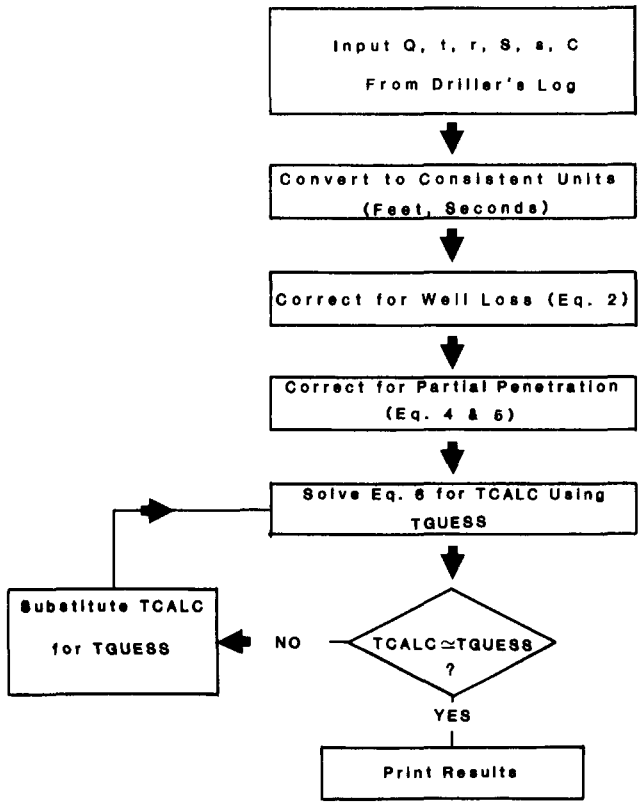

Fig. 2. Computer program flow chart.

Appendix A is a simple BASIC computer code written for an Apple IIe computer illustrating the estimation technique for a single well. A sample output is included in Appendix B. In practice, we expand this program to do several hundred estimations. The program is easily modified to change the types and methods of input and output. Currently it is designed to accept input either interactively or via a data file that has been merged with the program file. By including well coordinates in the input data, the output can be used directly in graphics plotting packages, as well as in statistical routines. The variables ERR and TGUESS have been assigned values of 0.1E-5 and 0.1, respectively. These can be altered by changing lines 300 and 320 of the program. The program also has been written in FORTRAN and is available from the authors.

Description of Field Sites

The aquifer analysis method described above was utilized for the two study areas in Wisconsin shown in Figure 1. The first (area A), called the Peninsula site, is in Door County, northeastern Wisconsin, and encompasses 17.8 mi^2 (46.1 km^2). The aquifer at the Peninsula site is a highly fractured Silurian dolomite. Studies of the interactions of ground water at the site with surface water in adjacent Green Bay used computer modeling (Bradbury, 1982). The computer models required extensive data on transmissivity and hydraulic conductivity of the dolomite aquifer. Because the results of five available pumping tests in the area (Sherrill, 1978) might not adequately describe spatial variability of the fractured dolomite aquifer, the transmissivity estimation technique was applied to specific capacity data from 224 local wells. The use of specific capacity tests increased the average density of hydraulic conductivity data from 0.3 to 12.6 points/mi^2 (0.78 to 32.6 points/km^2).

The second site (area B) encompasses a large portion of the Central Sand Plain of Wisconsin, which is underlain by an aquifer of sandy glacial outwash, and has an area of approximately 612 mi^2 (1585 km^2). The sand and gravel aquifer in the

Table 1. Statistical Results of Estimates of Hydraulic Conductivity (K) from Specific Capacity for Two Areas in Wisconsin. Geometric Means, Standard Deviations (σ), and 95 Percent Confidence Limits Are Given

	K (ft/sec)
AREA A: Fractured dolomite (N = 223)	
Geometric mean	7.8×10^{-5}
σ	0.61
95% C.I.	$6.5 \times 10^{-5} - 9.3 \times 10^{-5}$
AREA B: Sandy outwash (N = 266)	
Geometric mean	2.1×10^{-3}
σ	0.25
95% C.I.	$1.6 \times 10^{-3} - 2.2 \times 10^{-3}$

area is widely utilized for spray irrigation of crops, especially potatoes. Recent indications of groundwater contamination by pesticides in the area (Rothschild *et al.*, 1982) prompted further study of the aquifer, including computer modeling (Rothschild, 1982). Specific capacity data for the area are abundant (268 points) in comparison to the number of pumping tests (11), and the transmissivity estimation technique was used to help describe the hydraulic characteristics of the aquifer. By utilizing specific capacity data the density of data points for transmissivity was increased from 0.018 points/mi^2 (pumping tests) to 0.44 points per mi^2 (0.045 to 1.14 points/km^2).

Results

Reliability of Estimates

Results of the computer estimation of hydraulic conductivities from specific capacity data agree well with values calculated using full-scale pumping tests. Table 1 gives a statistical summary of hydraulic conductivity estimates for 223 wells in fractured dolomite (area A) and 266 wells in sandy outwash (area B). Because hydraulic conductivity data are generally log-normally distributed (Freeze, 1975), the geometric mean gives a good measure of the central tendency of the data, and sigma (σ) represents the standard deviation of the log-transformed data. Table 1 shows that, using many data points, the specific capacity estimates give a lower mean hydraulic conductivity for fractured dolomite (7.8×10^{-5} ft/sec) than for sandy outwash (2.1×10^{-3} ft/sec). Standard deviation values show that the fractured dolomite has statistically more variation in hydraulic conductivity than does the sandy outwash, and that the range of variation in both materials is small enough to make the results useful. Freeze (1975) reports that computer models can give meaningful estimates of hydraulic head when hydraulic conductivity "σ of K" values are less than 0.5, but that meaningful head predictions are impossible when σ is greater than 2.0. Thus the σ values of 0.61 and 0.25 reported here give confidence of reasonable results when using the data in computer simulations to predict hydraulic heads.

In spite of the well-known difficulties in estimating hydraulic conductivities from specific capacity data, the range of values predicted by our method is relatively small. Figure 3 presents average hydraulic conductivities for various materials, and shows the range of values obtained from our computer estimates. As noted by Winter (1981) the standard error in estimating values of hydraulic conductivity is often close to 100 percent or even higher. Thus the ranges of values shown on Figure 3 are quite narrow when compared to the possible ranges of hydraulic conductivity values, and the variation in K is less than one order of magnitude for the sandy outwash and just over an order of magnitude for the fractured dolomite.

Comparing estimates from individual wells, the results of the computer program are surprisingly close to data determined by pumping tests (Table 2). In the fractured dolomite of area A (wells 1-5), specific capacity data give hydraulic conductivity estimates which are slightly smaller than but of the

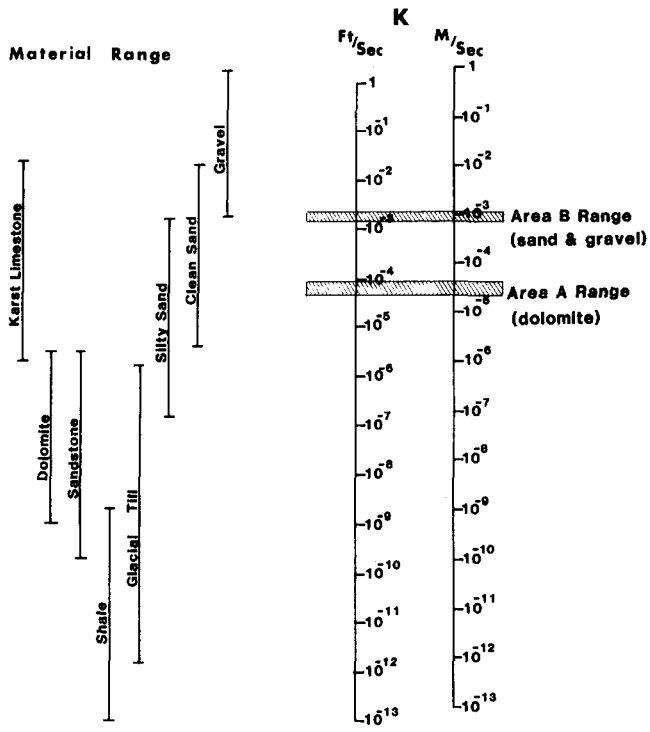

Fig. 3. Ranges of hydraulic conductivity (K) for various geologic materials, showing ranges determined from specific capacity estimates in this study (after Freeze and Cherry, 1979).

Table 2. Comparison of Values of Hydraulic Conductivity (K) Obtained from Pumping Tests with Values Estimated from Specific Capacities for Wells in Two Different Areas in Wisconsin

Well	*Pumping test K (ft/sec)*	*Specific capacity estimate K (ft/sec)*
AREA A: Fractured dolomite		
1	2.8×10^{-4}	7.3×10^{-4}
2	1.7×10^{-4}	1.0×10^{-5}
3	3.0×10^{-4}	5.0×10^{-4}
4	8.8×10^{-4}	2.8×10^{-4}
5	3.9×10^{-4}	1.0×10^{-4}
Geometric mean	3.5×10^{-4}	1.6×10^{-4}
σ	0.26	0.75
AREA B: Sandy outwash		
6	2.9×10^{-3}	1.5×10^{-3}
7	3.4×10^{-3}	1.5×10^{-3}
8	2.7×10^{-3}	2.8×10^{-3}
9	2.2×10^{-3}	1.8×10^{-3}
10	2.8×10^{-3}	1.8×10^{-3}
11	2.4×10^{-3}	2.0×10^{-3}
12	2.1×10^{-3}	1.8×10^{-3}
13	3.3×10^{-3}	2.7×10^{-3}
14	1.5×10^{-3}	1.9×10^{-3}
15	2.4×10^{-3}	2.2×10^{-3}
16	1.5×10^{-3}	2.8×10^{-3}
Geometric mean	2.4×10^{-3}	2.0×10^{-3}
σ	0.12	0.10

same order of magnitude as values derived from full-scale pumping tests using identical wells. In the sandy outwash of area B (wells 6-16), slight variations in K were also detected by specific capacity tests. Wells 9-12 in area B are radial collector wells. These wells are larger in diameter and are more efficient than the high capacity wells used for other specific capacity tests (Karnauskas, 1977). This efficiency difference is evident in consistently lower K values as determined by specific capacity tests, and highlights the importance of knowledge of well construction when interpreting such data. One of the poorer comparisons is for well 16. Due to the nature of outwash in this area the observation wells for the pumping test may not have been in full hydraulic connection with the pumping well. Much of the variation in values for the Central Sand Plain (area B) is explained by poor depth-to-bedrock control. Due to the high transmissivity of the overlying sands and gravels, few area wells are drilled to bedrock. In general, comparisons are poorer for the fractured dolomite of area A than for the sandy outwash of area B. The fractured dolomite is less homogeneous than the outwash, and the fracture system there may not truly approximate a porous media.

Contour Mapping

Contour maps of hydraulic conductivity for the two study areas are a valuable product of the computer program (Figures 4 and 5). The maps are produced by estimating T from specific capacity, then calculating K from aquifer thickness. Because all data are computerized, it is relatively simple to plot and contour the data using standard software packages. Interpolation, graphing, and smoothing packages were used to produce the maps in Figures 4 and 5 for the two study areas.

Distinct trends and differences are discernible in both areas. Figure 4 shows the hydraulic conductivity distribution in the fractured dolomite of the Peninsula area (area A). Because of the logarithmic distribution of K in the fractured dolomite the data are contoured by base 10 logs. As would be expected for a fractured dolomite aquifer, the areal distribution of K appears almost random with the exception of an area of higher K near the center of the area. The likelihood of this area having a higher K was confirmed by additional modeling efforts using a parameter estimation model (Bradbury, 1982).

In the sandy outwash of area B (Figure 5) the areal variation in K is less, and arithmetic contours are plotted. Variations in K shown on the map may be related to known depositional outwash facies in the area (Rothschild, 1982). The statistical inter-

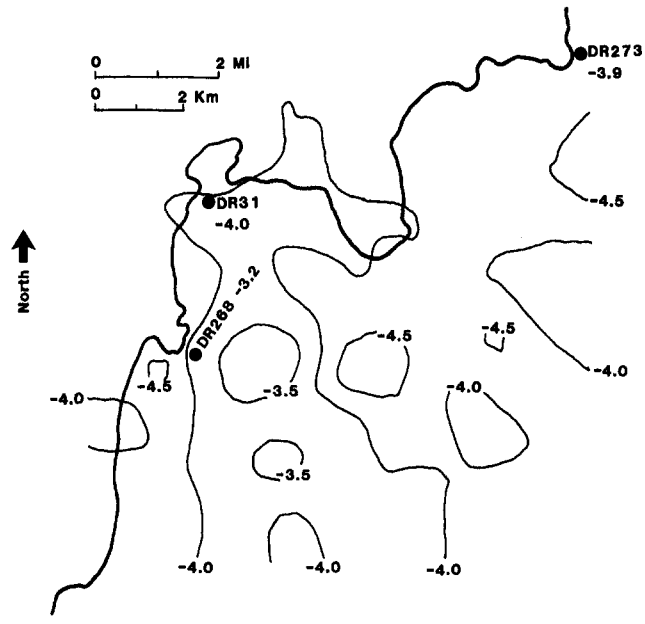

Fig. 4. Contour plot of hydraulic conductivity in study area A based on specific capacity and aquifer thickness data. Base 10 logs are plotted; contour interval is 0.5 log unit. Locations and log hydraulic conductivity values are shown for three wells where pumping tests were conducted.

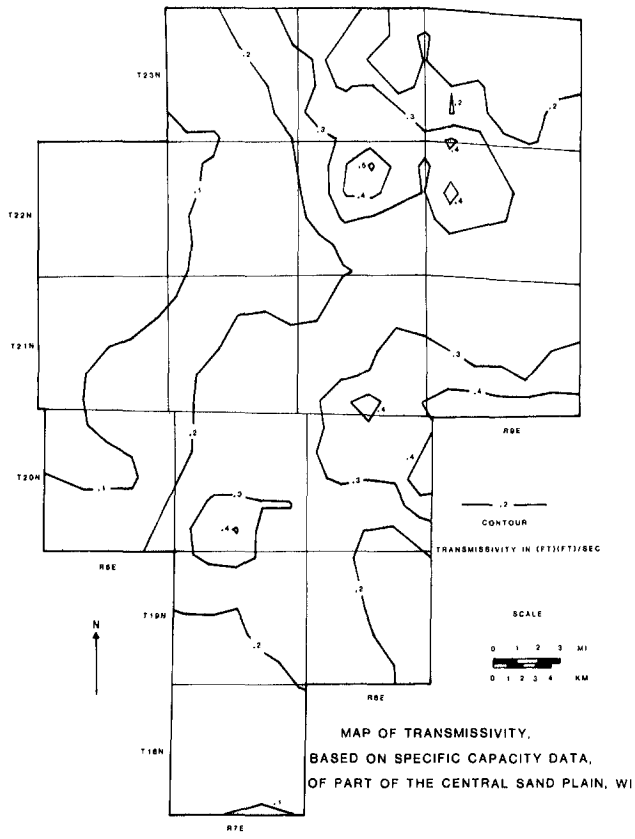

Fig. 5. Map of hydraulic conductivity based on specific capacity data for area B.

pretations of Figures 4 and 5 might be aided by advanced statistical techniques such as kriging which are beyond the scope of the present study.

Conclusions

Although the use of specific capacity data for estimating aquifer characteristics is not new, computer techniques can produce reliable estimates at more points and with less effort than in the past. Computers allow the rapid evaluation and manipulation of specific capacity data from large numbers of data points. The ability to use such data to describe the transmissivity and hydraulic conductivity of aquifers statistically or graphically is an important tool. The method described here has been successfully tested for sandy outwash and fractured dolomite aquifers at two field areas in Wisconsin.

Acknowledgments

This research has been supported by the University of Wisconsin Water Resources Center, the University of Wisconsin Sea Grant Program, the Wisconsin Geological and Natural History Survey, and Martin Marietta Energy Systems, Inc. under contract DE-AC05-84OR21400 with the U.S. Department of Energy.

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* * * * *

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Edward Rothschild received a Bachelor's Degree in Geology from the University of Vermont, and a Master's Degree in Geology at the University of Wisconsin-Madison.

He has worked for the IEC Corp as an Environmental Engineer at an in situ uranium mining operation, and as a Research Scientist in the Environmental Sciences Division of Oak Ridge National Laboratory. He is currently a Hydrogeologist with CH2M Hill. Current interests include modeling and investigation of organics and radionuclides in ground water.

Appendix A

```
10  PRINT : PRINT : PRINT :
20  PRINT "A PROGRAM TO ESTIMATE AQUIFER TRANSMISSIVITY"
30  PRINT "AND HYDRAULIC CONDUCTIVITY"
40  PRINT "FROM SPECIFIC CAPACITY TESTS"
50  PRINT ""
60  PRINT "WRITTEN BY K. BRADBURY AND E. ROTHSCHILD. SEPTEMBER 1981"
70  PRINT ""
80  PRINT "*****************************************************"
90  PRINT "****************** LIST OF VARIABLES ****************"
100 PRINT
110 PRINT "NUM = IDENTIFICATION NUMBER OF WELL"
120 PRINT "DIAM = DIAMETER OF WELL (INCHES)"
130 PRINT "LGTH = LENGTH OF OPEN INTERVAL OR WELL SCREEN (FEET)"
140 PRINT "LVL = STATIC WATER LEVEL...NEGATIVE FOR FLOWING WELL (DEPTH I
    N FEET)"
150 PRINT "PUMP = DEPTH TO WATER WHILE PUMPING DURING SPECIFIC CAPACITY
    TEST (FEET)"
160 PRINT "LN = LENGTH OF TEST (HOURS)"
170 PRINT "GPM = PUMPING RATE DURING TEST (GALLONS/MINUTE)"
180 PRINT "AQTHIC = THICKNESS OF AQUIFER (FEET)"
190 PRINT "S = ESTIMATED OR MEASURED STORAGE COEFFICIENT (UNITLESS)"
200 PRINT "C = WELL LOSS COEFFICIENT (WALTON, BULL 49)... USE 1 IF UNKNO
    WN"
210 PRINT "SC = SPECIFIC CAPACITY CORRECTED FOR WELL LOSS (GALLONS/MINUT
    E/FOOT)"
220 PRINT "T = TRANSMISSIVITY (FEET * FEET/SECOND)"
230 PRINT "K = HYDRAULIC CONDUCTIVITY (FEET/SECOND)"
240 PRINT "ERR = CONVERGENCE CRITERIA FOR T ESTIMATE (FEET * FEET/SECOND
    )"
250 PRINT "*****************************************************************
    "
260 PRINT "HOW MANY WELLS WILL BE ANALYZED?"
270 INPUT XX
280 DIM NUM(XX),DIAM(XX),LGTH(XX),LVL(XX),PUMP(XX),LN(XX),GPM(XX),AQTHIC
    (XX)
290 DIM SC(XX),S(XX),C(XX),T(XX),K(XX),KOUNT(XX),FLUB(XX),ITER(XX)
300 ERR = 0.1E - 5
310 KOUNT = 0
320 TGUESS = 0.1
330 REM  ***************************************************************
340 REM  READ IN RAW DATA IN UNITS GIVEN ON DRILLERS LOGS
350 REM  ***************************************************************
360 PRINT "DO YOU WANT TO ENTER DATA INTERACTIVELY OR FROM A FILE?"
370 PRINT "ENTER 0 IF INTERACTIVELY OR 1 IF FROM FILE"
380 INPUT A
390 IF A = 1 THEN  GOTO 530
400 FOR Z = 1 TO XX
410 PRINT "WELL NUMBER=": INPUT NUM(Z)
420 PRINT "WELL DIAMETER (IN)= ": INPUT DIAM(Z)
430 PRINT "STATIC WATER LEVEL (FT)= ": INPUT LVL(Z)
440 PRINT "DEPTH TO WATER DURING TEST (FT)= ": INPUT PUMP(Z)
450 PRINT "THE LENGTH OF THE TEST (HR)= ": INPUT LN(Z)
460 PRINT "PUMPING RATE (GPM)= ": INPUT GPM(Z)
470 PRINT "THICKNESS OF AQUIFER (FT)= ": INPUT AQTHIC(Z)
480 PRINT "OPEN INTERVAL (FT)= ": INPUT LGTH(Z)
490 PRINT "STORAGE COEFFICIENT= ": INPUT S(Z)
500 PRINT "WELL LOSS COEFFICIENT= ": INPUT C(Z)
510 NEXT Z
520 GOTO 560
530 FOR Z = 1 TO XX
540 READ NUM(Z),DIAM(Z),LVL(Z),PUMP(Z),LN(Z),GPM(Z),AQTHIC(Z),LGTH(Z),S(
    Z),C(Z)
550 NEXT Z
560 REM  ***************************************************************
570 REM  DO ANALYSIS FOR EACH WELL
580 REM  ***************************************************************
590 FOR Y = 1 TO XX
600 FLUB(Y) = 0:ITER(Y) = 0
610 REM  ***************************************************************
620 REM  CHANGE TO CONSISTENT UNITS AND CALCULATE DRAWDOWN
630 REM  ***************************************************************
640 R = DIAM(Y) / 24.0
650 TIME = LN(Y) * 3600.0
660 Q = GPM(Y) / 449.0
670 DD =  - (LVL(Y) - PUMP(Y))
680 IF (DD <  = 0.0) GOTO 1090
690 KOUNT = KOUNT + 1
700 REM  ***************************************************************
710 REM  CORRECT DRAWDOWN FOR WELL LOSS USING THE EQUATION SW=CQQ
720 REM  SEE WALTON, BULL. 49, PAGE 27
730 REM  C IS ESTIMATED FROM STEP DRAWDOWN TESTS.
740 REM  ***************************************************************
750 SW = C(Y) * Q * Q
760 DD = DD - SW
770 SC(Y) = GPM(Y) / DD
780 REM  ***************************************************************
790 REM  CALCULATE AQUIFER TRANSMISSIVITY USING THE JACOB EQUATION
800 REM  USING A CORRECTION FOR PARTIAL PENETRATION AS GIVEN BY
810 REM  STERNBURG (1973)
820 REM  ***************************************************************
830 REM  FIRST CALCULATE SP PARAMETERS FOR USE IN THE EQUATION
840 REM  ***************************************************************
850 B = LGTH(Y) / AQTHIC(Y)
860 IF (B > 1.0) GOTO 1090
870 HRW = AQTHIC(Y) / R
880 GB = 2.9480 - (7.363 * B) + (11.447 * B * B) - (4.675 * B * B * B)
890 SP = ((1.0 - B) / B) * ( LOG (HRW) - GB)
900 REM  ***************************************************************
910 REM  NOW SOLVE FOR T USING ITERATIONS
920 REM  ***************************************************************
930 TGUESS = 0.1
940 FOR W = 1 TO 25
950 F1 = Q / (4.0 * 3.1416 * DD)
960 F2 = (2.25 * TGUESS * TIME) / (R * R * S(Y))
970 TCALC = F1 * ( LOG (F2) + (2.0 * SP))
980 TEST =  ABS (TCALC - TGUESS)
990 TGUESS =  ABS (TCALC)
1000 IF (TEST <  = ERR) THEN  GOTO 1060
1010 KOUNT(Y) = W
1020 NEXT W
1030 IF (KOUNT(Y) = 25) AND (TEST > ERR) THEN  GOTO 1050
1040 GOTO 1060
1050 ITER(Y) = 1: GOTO 1100
1060 T(Y) = TCALC
1070 K(Y) = T(Y) / AQTHIC(Y)
1080 GOTO 1100
1090 FLUB(Y) = 1
1100 NEXT Y
1110 REM  ***************************************************************
1120 REM  PRINT OUTPUT
1130 REM  ***************************************************************
1140 PR# 1
1150 PRINT "*************************************************************"
1160 PRINT "AQUIFER PROPERTIES AS DETERMINED BY ANALYSIS OF "
1170 PRINT "            SPECIFIC CAPACITY TESTS"
1180 PRINT "*************************************************************"
1190 PRINT ""
1200 FOR V = 1 TO XX
1210 IF FLUB(V) = 1 GOTO 1330
1220 IF ITER(V) = 1 GOTO 1390
1230 PRINT ""
1240 PRINT "WELL NUMBER ";NUM(V)
1250 PRINT "SPECIFIC CAPACITY (GPM/FT) = ";SC(V)
1260 PRINT "TRANSMISSIVITY (FT*FT/SEC) = ";T(V)
1270 PRINT "            USING A STORAGE COEFFICIENT = ";S(V)
1280 PRINT "            NUMBER OF ITERATIONS = ";KOUNT(V)
1290 PRINT "HYDRAULIC CONDUCTIVITY (FT/SEC) = ";K(V)
1300 NEXT V
1310 PRINT "THE NUMBER OF WELLS IN THIS RECORD IS ";XX
1320 GOTO 1430
1330 PRINT ""
1340 PRINT "WELL NUMBER ";NUM(V)
1350 PRINT "INPUT ERROR, EITHER:"
1360 PRINT "     1. WATER LEVEL WAS HIGHER DURING TEST THAN BEFORE. OR:"
1370 PRINT "     2. THE SCREEN LENGTH IS LONGER THAN THE AQUIFER THICKNE
    SS."
1380 GOTO 1300
1390 PRINT ""
1400 PRINT "WELL NUMBER ";NUM(V)
1410 PRINT "SOLUTION DID NOT CONVERGE WITHIN 25 ITERATIONS"
1420 GOTO 1300
1430 END
```

Appendix B

As an example of computer program input and output, the following data from area A were input into the interactive computer program (Appendix A).

Number of wells to be analyzed = 2
Interactive data entry
Well number 1
Well diameter = 6 in.
Static water level = 42 ft
Depth to water during test = 57 ft
Length of test = 8 hr
Pumping rate = 10 gpm
Aquifer thickness = 205 ft
Open interval = 47 ft
Storage coefficient = 0.0002
Well loss coefficient = 32.7
Well number 2
Well diameter = 6 in.
Static water level = 132 ft
Depth to water during test = 141 ft
Length of test = 8 hr
Pumping rate = 10 gpm
Aquifer thickness = 115 ft
Open interval = 68 ft
Storage coefficient = 0.0002
Well loss coefficient = 32.7

Figure A1 is the computer output generated by these data.

```
*************************************************************
AQUIFER PROPERTIES AS DETERMINED BY ANALYSIS OF
            SPECIFIC CAPACITY TESTS
*************************************************************
WELL NUMBER 1
SPECIFIC CAPACITY (GPM/FT) = .666688713
TRANSMISSIVITY (FT*FT/SEC) = 5.93317103E-03
            USING A STORAGE COEFFICIENT = 2E-04
            NUMBER OF ITERATIONS = 3
HYDRAULIC CONDUCTIVITY (FT/SEC) = 2.89422977E-05

WELL NUMBER 2
SPECIFIC CAPACITY (GPM/FT) = 1.11117235
TRANSMISSIVITY (FT*FT/SEC) = 4.56944391E-03
            USING A STORAGE COEFFICIENT = 2E-04
            NUMBER OF ITERATIONS = 3
HYDRAULIC CONDUCTIVITY (FT/SEC) = 3.97342949E-05
THE NUMBER OF WELLS IN THIS RECORD IS 2
```

Fig. A-1. Example of computer printout.

APPENDIX B-2
LABORATORY RESULTS

SEVERN TRENT STL

STL Burlington
208 South Park Drive, Suite
Colchester, VT 05446

Tel: 802 655 1203 Fax: 802 655 1248
www.stl-inc.com

May 31, 2005

Ms. Christine Horch
9039 Springboro Pike
Miamisburg, OH 45342-4418

Re: Laboratory Project No. 25000
Case No. 25000; SDG: 107224

Dear Ms. Rapp:

Enclosed are the analytical results for the samples received by STL Burlington on May 14, 2005. This report is sequentially numbered starting with page 0001 and ending with page 0017.

Laboratory ID numbers were designated as follows:

Lab ID	Client Sample ID	Sample Date	Sample Matrix
	Received: 05/14/05 ETR No: 107224		
620775	MW-36A-05/61-62	05/10/05	Soil
620776	MW-35-05/53-53.8	05/11/05	Soil
620777	MW-35-05/132.5-133.4	05/12/05	Soil

Documentation of the condition of the samples at the time of their receipt and any exceptions to the laboratory's Sample Acceptance Policy is included in the Sample Handling section of this submittal.

No exceptions to the method prescribed quality control criteria were observed during the analyses of the samples in this delivery group.

Client specified matrix spike/matrix spike duplicate samples were not analyzed or requested with the above samples. However, routine method quality control analyses were performed.

GEOTECHNICAL / GENERAL CHEMISTRY

Sample Report Summary

Client Sample No.

MW-35-05/53-53.8

Lab Name: STL BURLINGTON | **Contract:** | **SDG No.:** 107224

Lab Code: STLVT | **Case No.:** 25000 | **Lab Sample ID:** 620776

Matrix: SOIL | **Client:** HALAL8 | **Date Received:** 05/14/05

% Solids:

Method	Parameter	Analytical Run Date	Analytical Batch	Units	DF	RL	Conc.	Qual.
D5084	Hydraulic Conductivity	05/21/05		cm/sec	1		1.77E-7	

Printed on: 05/27/05 10:04 AM

GEOTECHNICAL / GENERAL CHEMISTRY

Sample Report Summary

Client Sample No.
MW-35-05/132.5-133.4

Lab Name: STL BURLINGTON
Contract:
SDG No.: 107224

Lab Code: STLVT
Case No.: 25000
Lab Sample ID: 620777

Matrix: SOIL
Client: HALAL8
Date Received: 05/14/05

% Solids:

Method	Parameter	Analytical Run Date	Analytical Batch	Units	DF	RL	Conc.	Qual.
D5084	Hydraulic Conductivity	05/21/05		cm/sec	1		1.59E-7	

Printed on: 05/27/05 10:04 AM

GEOTECHN CAL GENERAL CHEM STRY

Sample Report Summary

Client Sample No.
MW-36A-05/61-62

Lab Name: STL BURLINGTON
Contract:
SDG No. 107224

Lab Code: STLVT
Case No. 25000
Lab Sample ID: 620775

Matrix: SOIL
Client: HALAL8
Date Received: 05/14/05

% Solids:

Method	Parameter	Analytical Run Date	Analytical Batch	Units	DF	RL	Conc.	Qual.
D5084	Hydraulic Conductivity	05/21/05		cm/sec	1		6.08E-8	

Printed 05/27/05 04 M

2638-04-30501

BOW ENVIRONMENTAL SOLUTIONS INC.

June 20, 2007

Ms. Patricia Polston
U.S. Environmental Protection Agency, Region 5
Waste Pesticides and Toxics Division
77 W. Jackson Blvd. (DW-8J)
Chicago, IL 60604-3590

Dear Ms. Polston:

Re: Corrected Figures, Tables and
Final Corrective Measures Proposal and RFI Report Addendum 1
Former Delphi Harrison Thermal Systems Facility – Dayton, Ohio

The RFI Report Addendum 1 and the Final Corrective Measures Proposal were submitted by General Motors Corporation (GM) to the United States Environmental Protection Agency (U.S. EPA) on December 14, 2006 and January 12, 2007, respectively. These reports were submitted in accordance with the Performance-Based Corrective Action Agreement between GM and U.S. EPA, dated May 22, 2001. However, the dimensions of the Building 15 T-Trench and the Building 12B T-Trench were presented incorrectly in these reports.

Please find attached four (4) copies of the following updated table and figures from the Corrective Measures Proposal:

- Appendix A - Corrective Measures Cost Estimate;
- Drawing 4.7 - Location of additional Subsurface Features; and
- Plan 1A - AOI Locations - West Side.

Also attached are four (4) copies of the following updated text and figures from RFI Report Addendum 1:

- Page 4
- Page 18
- Drawing 2.1 - Location of Additional Subsurface Features;
- Figure 2.2 - AOI 36 - Building 15 T-Trench;
- Figure 2.13 - AOI 47 - Building 12B T-Trench; and
- Figure 3.1 - Post RFI Soil Boring Locations in Relation to RFI Sub-Areas.

Finally, four references were omitted from the RFI Report dated March 30, 2006. Also attached are four (4) copies of the reference section.

Please replace these pages in the appropriate documents.

Should you have any questions on the above, please do not hesitate to contact me at 937-455-2636.

Sincerely,

Pamela L. Barnett

Pamela L. Barnett, P.G.

SE/pw/16
Encl.

c.c.: Jean Caufield, GM
Pamela Hull, OEPA
Carl Bridges, Peerless

b.c.c.: Kevin Boland, CSXT
Dave Sholtis, OEPA
Rick Doran, Miami Conservancy District
Requarth
Dayton Public Schools Career Academy
Montgomery County Library
Laura Romeo/Terry Conway, GM
Steve Song, ENVIRON
Jim Little/Christine Horch, H&A
Ian Richardson/Sylvie Eastman, CRA

CORRECTIVE MEASURES PROPOSAL

APPENDIX A

CORRECTIVE MEASURES COST ESTIMATE
FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY - DAYTON, OHIO

			Initial Implementation Cost		*Annual O&M Cost*	*Duration (years)*		*Net Present Value (1)*
1.1	**Institutional Controls (Land Use)**						**$**	**35,000**
	Survey Site (2)	$	-	$	-	0	$	-
	Prepare and Record Restrictive Covenant or Environmental Covenant (deed notice)	$	35,000	$	-	0	$	35,000
1.2	**Soil Management (Soil Direct Contact)**						**$**	**35,000**
	Survey Site (2)	$	-	$	-	0	$	-
	Prepare and Record Restrictive Covenant or Environmental Covenant (deed notice)	$	35,000	$	-	0	$	35,000
1.3	**Soil Management (Soil Vapor Intrusion)**						**$**	**35,000**
	Survey Site (2)	$	-	$	-	0	$	-
	Prepare and Record Restrictive Covenant or Environmental Covenant (deed notice)	$	35,000	$	-	0	$	35,000
2.1	**Institutional Controls (Groundwater Use) and Sitewide Groundwater/LNAPL Monitoring**						**$**	**377,806**
	Survey Site (2)	$	-	$	-	0	$	-
	Prepare and Record Restrictive Covenant or Environmental Covenant (deed notice)	$	35,000	$	-	0	$	35,000
	Groundwater/LNAPL Monitoring	$	-	$	22,300	30	$	342,806
2.2	**In-Situ Bioremediation (AOI 1 Plume)**						**$**	**486,289**
	Identify and Delineate Source Material (if any)	$	12,000	$	-	0	$	12,000
	Treatability and/or Pilot Study	$	50,000	$	-	0	$	50,000
	Bioremediation	$	-	$	53,000	5	$	229,462
	Groundwater Monitoring	$	-	$	45,000	5	$	194,826
2.3	**In-Situ Bioremediation (MW-23 Area)**						**$**	**282,133**
	Extend Wells (if necessary)	$	7,000	$	-	0	$	7,000
	Treatability and/or Pilot Study	$	50,000	$	-	0	$	50,000
	Bioremediation	$	-	$	26,500	5	$	114,731
	Groundwater Monitoring	$	-	$	25,500	5	$	110,402

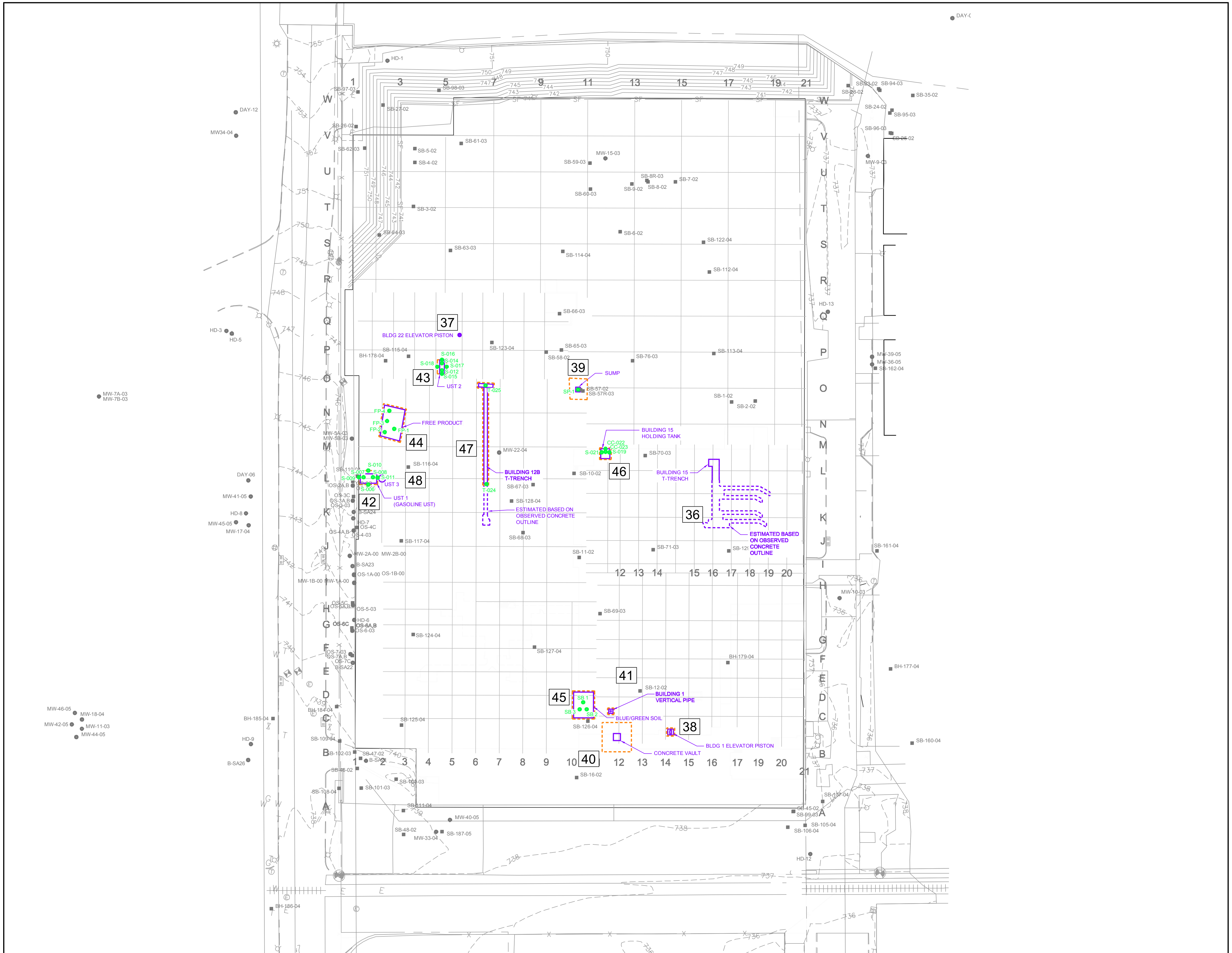
APPENDIX A

CORRECTIVE MEASURES COST ESTIMATE
FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY - DAYTON, OHIO

		Initial Implementation Cost	*Annual O&M Cost*	*Duration (years)*	*Net Present Value (1)*
3.1	**Institutional Controls (LNAPL)(3)**				**$ -**
3.2	**LNAPL Management (Chip Handling)**				**$ 35,000**
	Survey Site (2)	$ -	$ -	0	$ -
	Prepare and Record Restrictive Covenant or Environmental Covenant (deed notice)	$ 35,000	$ -	0	$ 35,000
4.1	**Institutional Controls (Storm Sewers)(3)**				**$ -**
4.2	**Storm Sewer Management**				**$ 35,000**
	Survey Site (2)	$ -	$ -	0	$ -
	Prepare and Record Restrictive Covenant or Environmental Covenant (deed notice)	$ 35,000	$ -	0	$ 35,000
5.1	**Institutional Controls (Concrete)(3)**				**$ -**
5.2	**Concrete Removal, Isolation and/or Management**				**$ 65,000**
	Remove Tool Grind Room	$ 20,000	$ -	0	$ 20,000
	Block Access to Railway Tunnel	$ 2,500	$ -	0	$ 2,500
	Install Facing on Retaining Wall	$ 5,000	$ -	0	$ 5,000
	Survey Concrete Areas	$ 2,500	$ -	0	$ 2,500
	Prepare and Record Restrictive Covenant or Environmental Covenant (deed notice)	$ 35,000	$ -	0	$ 35,000
	TOTAL				**$ 1,386,227**

Notes:

(1) Interest rate of 5% assumed to calculate net present value of annual O&M costs.
(2) Site survey to be coordinated with City of Dayton's replat.
(3) Included under 1.1, no additional cost.



0 20 40ft

LEGEND

CITY FIND

LIMIT OF EXCAVATION

CC-023 SAMPLE LOCATION

36 AOI NUMBER

AOI 36 - BUILDING 15 T-TRENCH
AOI 37 - BUILDING 22 ELEVATOR PISTON
AOI 38 - BUILDING 1 ELEVATOR PISTON
AOI 39 - BUILDING 12B SUMP
AOI 40 - BUILDING 12A CONCRETE VAULT
AOI 41 - BUILDING 1 VERTICAL PIPE
AOI 42 - BUILDING 12B UST 1
AOI 43 - BUILDING 22 UST
AOI 44 - BUILDING 12 FREE PRODUCT
AOI 45 - BLUE-GREEN SOIL
AOI 46 - BUILDING 15 HOLDING TANK
AOI 47 - BUILDING 12B T-TRENCH
AOI 48 - BUILDING 12B UST 3

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY

Dayton, Ohio

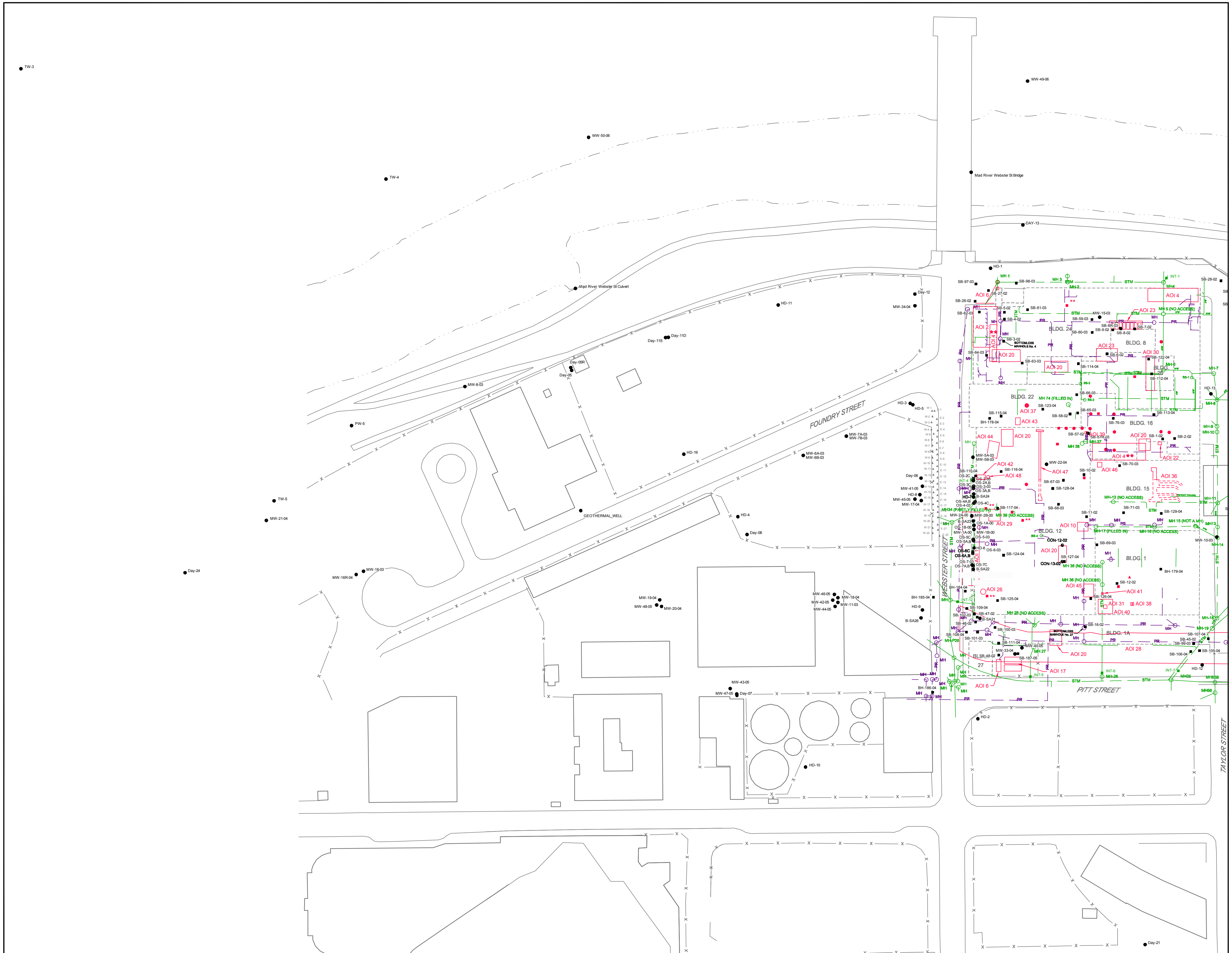
LOCATION OF ADDITIONAL SUBSURFACE FEATURES

CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

Project Manager: IKR	Reviewed By: SE	Date: JANUARY 2007	
Scale: 1"=40'	Project Nº: 12638-04	Report Nº: 016	Drawing Nº: 4.7

12638-04(016)GN-WA026 MAR 07/2007



0 40 80ft

LEGEND

- BUILDING WALL
- BUILDING BOUNDARY
- FORMER BUILDING WALL
- SHORELINE
- RAILROAD
- SOIL BORING LOCATION
- MONITORING WELL LOCATION
- WIPE/CONCRETE CORE SAMPLE LOCATION
- OZONE SPARGE WELL LOCATION
- INJECTION BORING FOR HRC BARRIER
- BS-8 BASEMENT SUMP LOCATION
- MH PROCESS SEWER MANHOLE LOCATION
- MH STORM SEWER MANHOLE LOCATION
- INT-1 STORM SEWER INTERCEPTOR LOCATION
- PR PROCESS SEWER LINE
- STM STORM SEWER LINE

AOI 1 - SOLVENT RELEASE AREA
AOI 2 - STILL ROOM
AOI 3 - WASTE TANKS
AOI 4 - HAZARDOUS WASTE STAGING AND STORING AREAS
** ON UPPER FLOOR
AOI 5 - ELECTROPLATING
AOI 6 - SPILL INTERCEPTORS
AOI 7 - SOLVENT STORAGE TANK
AOI 8 - DEGREASING UNITS:
STODDARD SOLVENT
TCE/PCE/TCA SOLVENT
FREON SOLVENT
** ON UPPER FLOOR
AOI 9 - SATELLITE CLEANING AREA (VARIOUS LOCATIONS THROUGHOUT SITE)
AOI 10 - PAINT WASTE ACCUMULATION AREAS
AOI 11 - CHIP HANDLING AREAS
AOI 12 - CUTTING OIL UST'S
AOI 13 - OIL HOUSE
AOI 14 - HYDRAULIC OIL AND COOLANT UST'S
AOI 15 - HYDRAULIC OIL UST
AOI 16 - FUEL UST'S
AOI 17 - REFRIGERANT UST'S
AOI 18 - STORM SEWERS (VARIOUS LOCATIONS THROUGHOUT SITE)
AOI 19 - PROCESS SEWERS (VARIOUS LOCATIONS THROUGHOUT SITE)
AOI 20 - PCB RELEASES FROM ELECTRICAL EQUIPMENT
AOI 21 - HYDROMATION PIT
AOI 22 - INCINERATOR
AOI 23 - UST'S AND FORMER STILL
AOI 24 - FORMER MACHINE GUN TESTING AREA
AOI 25 - HYDROCHLORIC ACID SPILLS
AOI 26 - PCB RELEASES FORM PROCESS EQUIPMENT:
* PROCESS DUCT
No.2 VAILL MACHINE
TOOL GRIND ROOM
GEAR BOX
AOI 27 - BATTERY CHARGING STATION (A SECOND STATION MAY HAVE BEEN LOCATED IN BLDG. 5)
AOI 28 - FORMER MIAMI CANAL EXTENSION
AOI 29 - BUILDING 12 STILL
AOI 30 - EXPERIMENTAL AIR CONDITIONING
AOI 31 - BUILDING 1 SPRAY BOOTHS
AOI 32 - BUILDING 3 TRANSFORMER (GROUND LEVEL)
AOI 33 - PAINT AND ENAMEL STORAGE
AOI 34 - PARTS GRINDING
AOI 35 - STORAGE TANKS
AOI 36 - BUILDING 15 T-TRENCH
AOI 37 - BUILDING 22 ELEVATOR PISTON
AOI 38 - BUILDING 1 ELEVATOR PISTON
AOI 39 - BUILDING 12B SUMP
AOI 40 - BUILDING 12A CONCRETE VAULT
AOI 41 - BUILDING 1 VERTICAL PIPE
AOI 42 - BUILDING 12B UST 1
AOI 43 - BUILDING 22 UST
AOI 44 - BUILDING 12 FREE PRODUCT
AOI 45 - BLUE-GREEN SOIL
AOI 46 - BUILDING 15 HOLDING TANK
AOI 47 - BUILDING 12B T-TRENCH
AOI 48 - BUILDING 12B UST 3

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY

Dayton, Ohio

AOI LOCATIONS - WEST SIDE

CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

Project Manager: IKR	Reviewed By: SE	Date: JANUARY 2007	
Scale: 1"=80'	Project Nº: 12638-04	Report Nº: 016	Drawing Nº: PLAN 1A

12638-04(016)GN-WA020 MAR 07/2007

RFI REPORT

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RFI ADDENDUM 1

2.0 AREAS OF INTEREST

The subsurface features identified by the City to date are shown on Figure 2.1. Each of these subsurface features is being evaluated as an AOI, consistent with RFI activities. Each of these new AOIs is described below, along with a summary of removal and characterization activities. As discussed in Section 1.1, additional sampling will be conducted for certain subsurface features, and the results of the additional sampling will be summarized in work plans and in a subsequent RFI Report Addendum. Analytical results for samples collected by the City are presented in Appendix A. Photographs documenting inspection of certain features by GM are presented in Appendix B. Analytical results for post-excavation soil samples collected by GM are presented in Appendix C. Data validation reports for post-excavation soil samples collected by GM are presented in Appendix D.

2.1 AOI 36 - BUILDING 15 T-TRENCH

2.1.1 DESCRIPTION

A T-trench located in the area of former Building 15 was identified by the City on April 26, 2006 during Stage 2 demolition activities, as shown on Figure 2.2. The T-trench consists of a metal-lined concrete structure containing pea gravel, water, and sludge. The northern portion of the T-trench that extended into the City's proposed utility trench was approximately 20 feet long, 7 feet deep, and ranged from 6 to 9 feet wide. The southern portion of the T-trench is located beneath the concrete slab of former Building 15. Based on visual evidence at the surface of the concrete slab, this portion of the trench is estimated to extend approximately 40 feet to the south and 55 feet to the east, ranges in width from approximately 3 to 10 feet.

2.1.2 PRE-REMOVAL SAMPLES

The City collected one sample of gravel from inside the trench on April 27, 2006 and analyzed the sample for Polychlorinated Biphenyls (PCBs), Toxicity Characteristic Leaching Procedure (TCLP) Metals, TCLP Volatile Organic Compounds (VOCs), and TCLP Semi-Volatile Organic Compounds (SVOCs). PCBs were detected at 15.6 milligrams per kilogram (mg/kg), and barium was detected at 0.27 milligrams per liter (mg/L). The City also collected four water samples from within the trench on April 27, 2006 and analyzed one sample for PCBs, one for Total VOCs, one for Total SVOCs, and one for RCRA Metals. PCBs were detected at 0.808 mg/L. Two organic compounds were detected, methylene chloride at 0.0221 mg/L, and

tank structures appeared to be intact, and no evidence of contamination was observed on the concrete or soil remaining in place. Based on the lack of evidence of any release to the environment, GM would not have collected post-excavation samples in accordance with the August 9, 2006 work plan. However, due to U.S. EPA's request on August 24, 2006 that post-removal samples be collected from all areas where PCBs were detected, two post-excavation concrete sample locations were selected in the middle of the concrete floor and north wall on August 31, 2006, and two post-excavation soil sample locations were selected on the east and west sides of the concrete structure on August 30, 2006. The samples were analyzed for TCL PCBs, and results are presented on Figure 2.12. The complete sample results are presented in Table 2.6. The PCB concentrations in concrete ranged from 3.5 to 3.8 mg/kg, and the PCB concentrations in soil ranged from 0.21 to 0.83 mg/kg. No further activities are warranted.

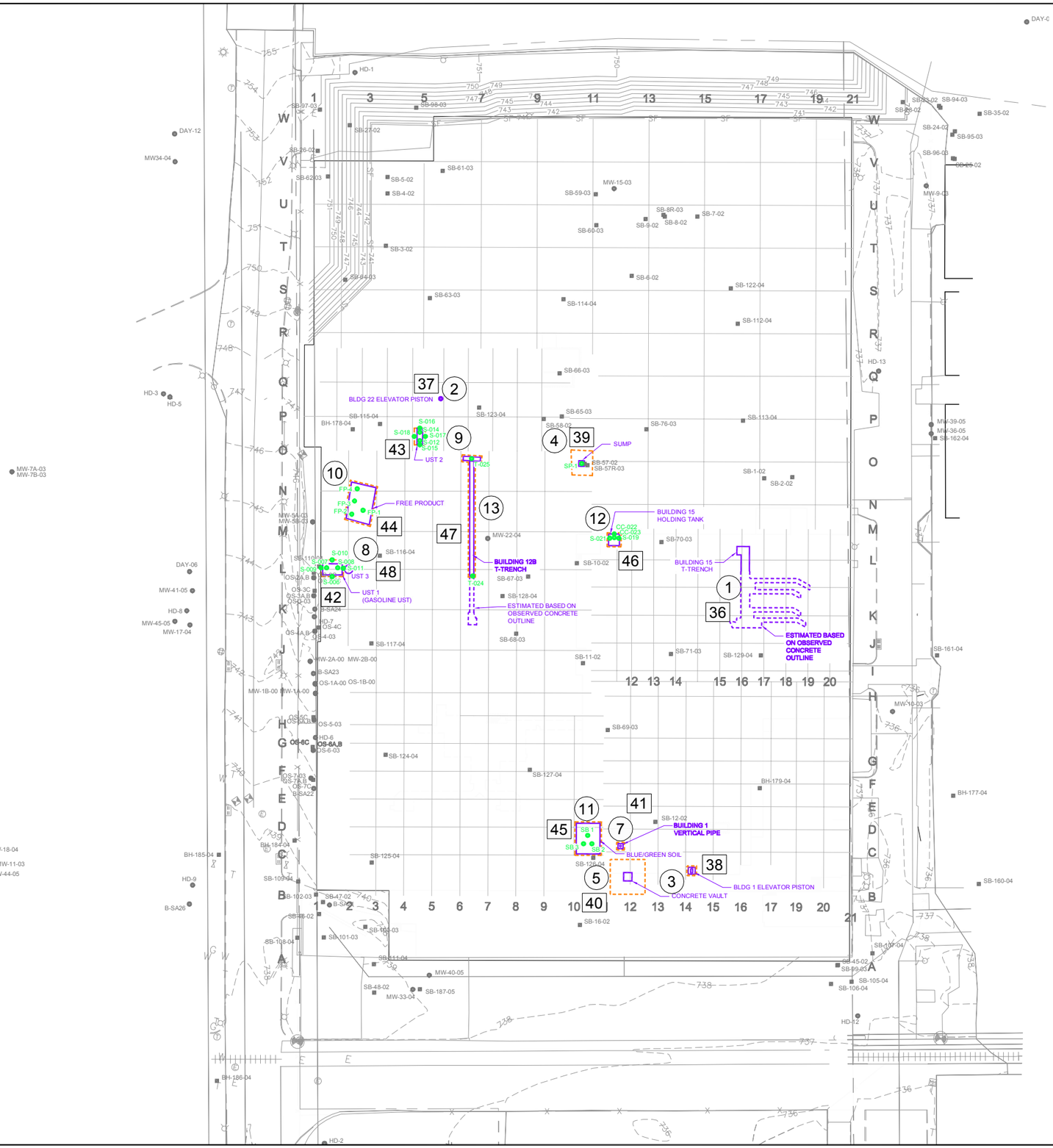
2.12 AOI 47 - BUILDING 12B T-TRENCH

2.12.1 DESCRIPTION

A T-trench located in the area of former Building 12B was identified by the City on June 1, 2006 during Stage 2 demolition activities, as shown on Figure 2.13. The T-trench consisted of a metal-lined concrete structure containing gravelly soil. The northern portion of the T-trench, that extended into the City's proposed utility trench, was approximately 84 feet long, 4 feet deep, and 3 feet wide. The southern portion of the T-trench is located beneath the concrete slab for former Building 12B. Based on visual evidence at the surface of the concrete slab, this portion of the trench is estimated to extend approximately 30 feet to the south, and range in width from approximately 6 to 11 feet.

2.12.2 PRE-REMOVAL SAMPLES

The City collected one sand/gravel sample of material from inside the trench on June 1, 2006 and analyzed the sample for TCLP SVOCs, TCLP Metals, and PCBs. The only metal detected was barium at 0.24 mg/L, and SVOCs were not detected. PCBs were detected at 324 mg/kg. The analytical report is presented in Appendix A.



N

0 20 40ft

LEGEND

- CITY FIND
- LIMIT OF EXCAVATION
- CC-023 SAMPLE LOCATION
- 1 FIND NUMBER
- 36 AOI NUMBER

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY

Dayton, Ohio

LOCATION OF ADDITIONAL SUBSURFACE FEATURES

CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

Project Manager:	Reviewed By:	Date:	
IKR	SE	DECEMBER 2006	
Scale: 1"=40'	Project N°: 12638-04	Report N°: 018	Drawing N°: 2.1

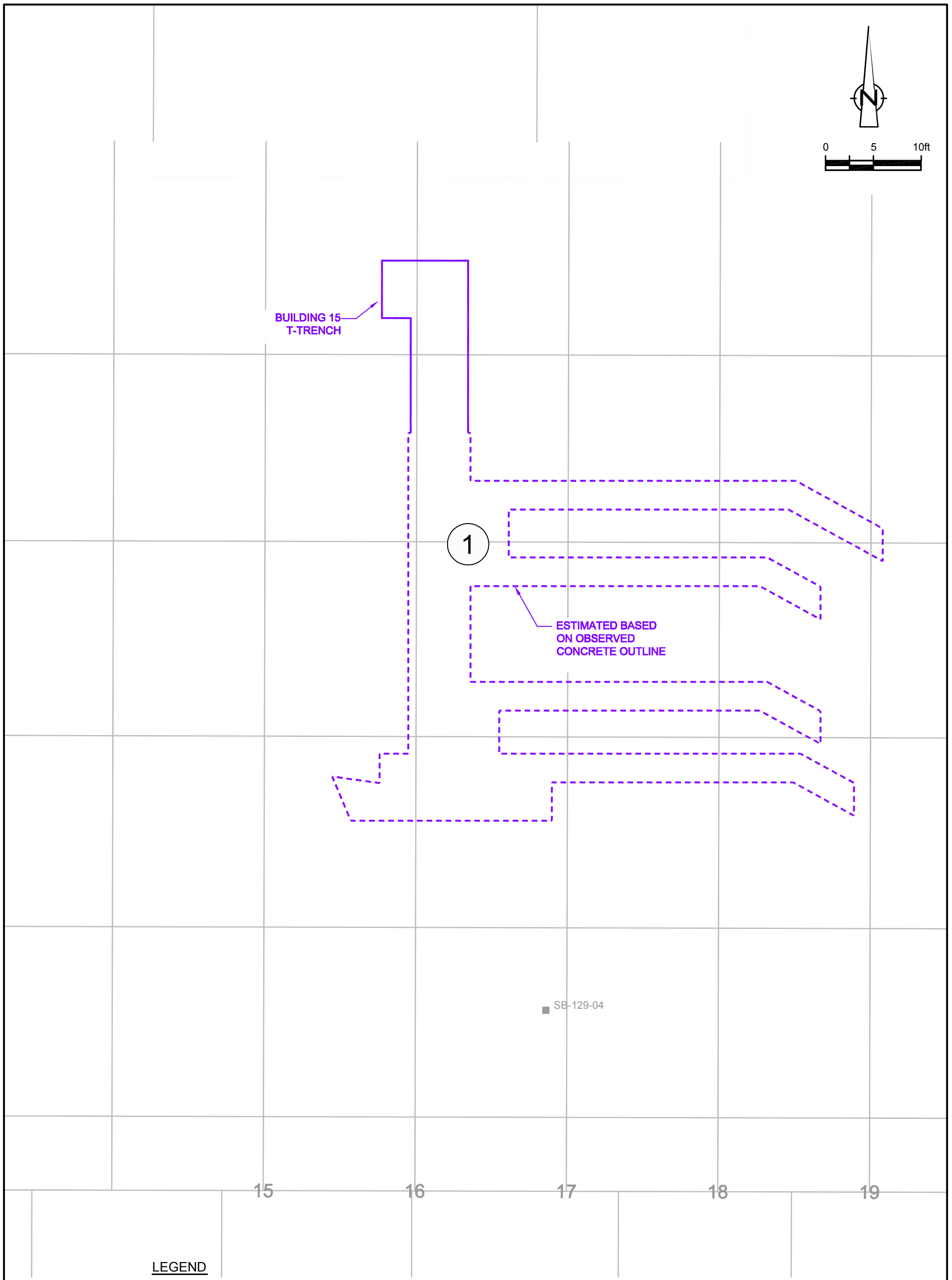


figure 2.2

AOI 36 - BUILDING 15 T-TRENCH
FORMER DELPHI HARRISON
THERMAL SYSTEMS FACILITY
Dayton, Ohio

12638-04(018)GN-WA002 MAR 07/2007

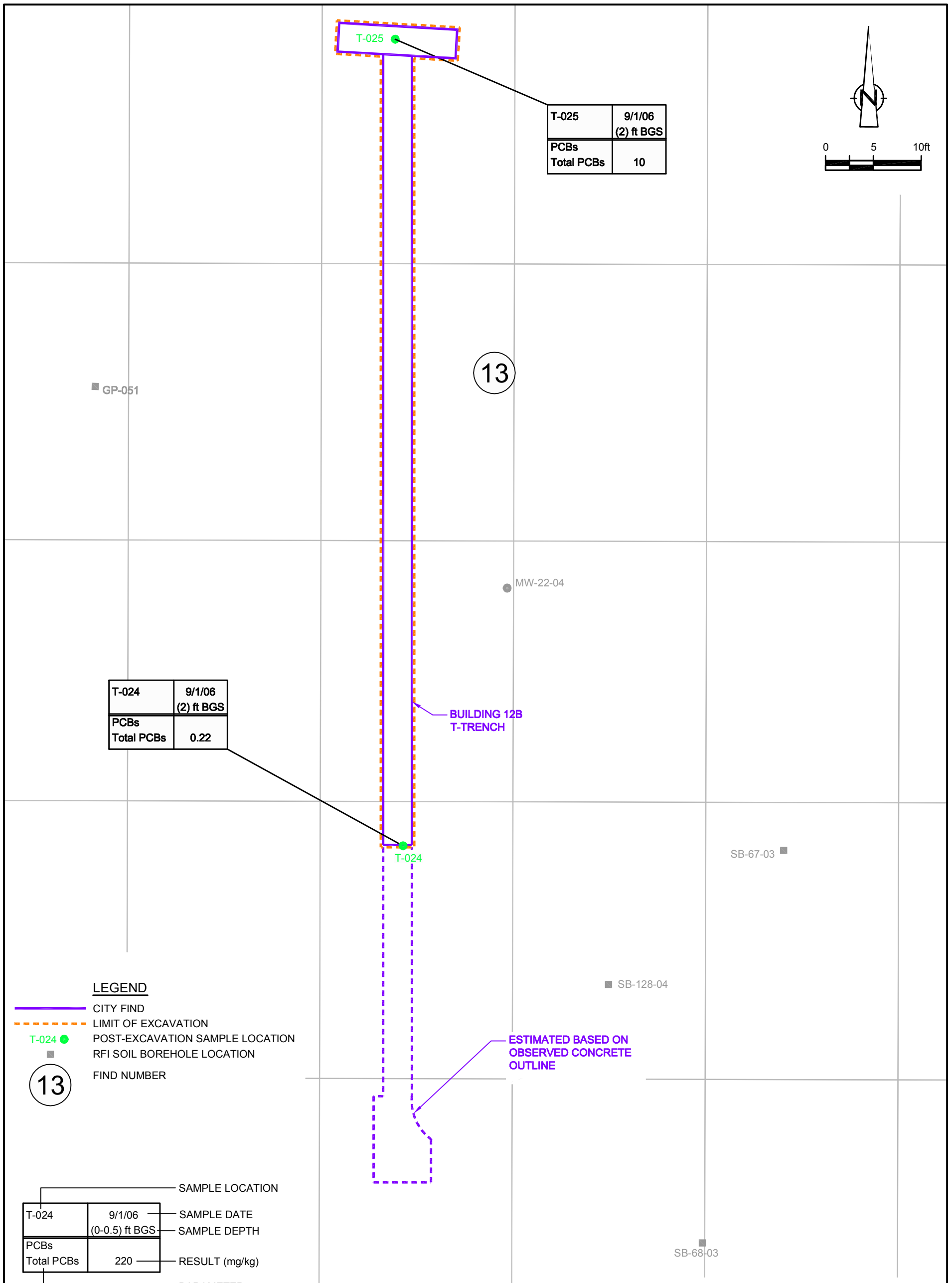


figure 2.13

AOI 47 - BUILDING 12B T-TRENCH
FORMER DELPHI HARRISON
THERMAL SYSTEMS FACILITY
Dayton, Ohio

12638-04(018)GN-WA013 MAR 07/2007

Mad River

40 0 40 80 Feet

Webster Street

Taylor Street

Pitt Street

N

SB-97-03
SB-98-03
MW-15-03
SB-28-02
SB-27-02
SB-59-03
SB-26-02
SB-7-02
SB-5-02
SB-61-03
SB-62-03
SB-4-02
SB-8-02
MW-9-03
SB-60-03
SB-9-02
SB-3-02
SB-122-04
SB-64-03
SB-114-04
SB-6-02
SB-63-03
SB-112-04
Bldg 22 Elevator Piston
AOI 37
Bldg 22 UST 2
AOI 43
SB-66-03
SB-123-04
SB-115-04
S-014
S-016
SB-65-03
SB-113-04
BH-178-04
SB-76-03
SB-162-04
S-018
S-017
SB-58-02
Bldg 12B Sump
AOI 39
S-012
S-015
T-025
SB-57-02
FP-4
Bldg 12B
Free Product
AOI 44
BLDG 12B T-Trench
AOI 47
SP-1
MW-5-03
FP-3
SB-1-02
SB-2-02
MW-22-04
Bldg 15 Holding Tank
AOI 46
FP-2
FP-1
S-010
S-021
SB-70-03
S-011
SB-116-04
SB-110-04
SB-10-02
Bldg 12B UST 3
AOI 48
SB-67-03
S-019
S-009
S-008
S-007
OS-2-03
OS-3-03
SB-128-04
SB-161-04
S-006
T-024
Bldg 15 T-Trench
AOI 36
Bldg 12B UST 1
AOI 42
OS-4-03
SB-117-04
SB-68-03
SB-11-02
SB-71-03
SB-129-04
OS-5-03
MW-10-03
SB-124-04
SB-69-03
OS-6-03
SB-127-04
Bldg 1
Vertical Pipe
AOI 41
OS-7-03
BH-179-04
BH-177-04
BH-184-04
Blue-Green Soil Area
AOI 45
SB-12-02
SB-125-04
Bldg 1 Elevator Piston
AOI 38
SB-126-03
SB-109-04
SB-47-02
SB-107-04
SB-102-03
SB-46-02
SB-100-03
SB-16-02
SB-99-03
Bldg 12A Concrete Vault
AOI 40
SB-108-04
SB-101-03
SB-111-04
SB-106-04
SB-48-02
SB-105-04
SB-45-02

Legend

- RFI Soil Boring Location — SB-45-02
- RFI Sub-Area
- Approx. Extent of Excavation
- Approx. Location of Post-RFI Soil Boring — S-019
- Approx. Outline of Post-RFI Subsurface Structure — Bldg 1 Elevator Piston

ENVIRON

Date: 3/13/2007

Post-RFI Soil Boring Locations in Relation to RFI Sub-Areas. Former GM Delphi Harrison Thermal Systems Facility, Dayton, Ohio

Figure 3.1

Arcview Plot

RESOURCE CONSERVATION AND RECOVERY ACT (RCRA) FACILITY INVESTIGATION REPORT ADDENDUM 1

GENERAL MOTORS CORPORATION
FORMER DELPHI HARRISON THERMAL SYSTEMS
DAYTON, OHIO
OHD017958604

Prepared For:

General Motors Corporation
Remediation and Liability Management Company, Inc.

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LIST OF ACRONYMS AND SHORT FORMS

Agreement	Performance-Based Corrective Action Agreement dated May 22, 2001
AOI	Area of Interest
bgs	Below Ground Surface
BTEX	Benzene, Toluene, Ethylbenzene, and Xylenes
BUSTR	Bureau of Underground Storage Tank Regulations
City	City of Dayton
CRA	Conestoga-Rovers & Associates
Delphi	Delphi Harrison Thermal Systems
DRO	Diesel Range Organics
EI	Environmental Indicator
ENVIRON	ENVIRON International Corporation
Finds	additional subsurface features identified by the City of Dayton during Stage 2 demolition activities
GM	General Motors Corporation
mg/kg	milligrams per kilogram
mg/L	milligrams per liter
PCBs	Polychlorinated Biphenyls
Peerless	Peerless Realty Group Ltd.
PID	Photo-Ionization Detector
RCRA	Resource Conservation and Recovery Act
RFI	RCRA Facility Investigation
SVOCs	Semi-Volatile Organic Compounds
TAL	Target Analyte List
TCL	Target Compound List
TCLP	Toxicity Characteristic Leaching Procedure
TPH	Total Petroleum Hydrocarbons
U.S. EPA	United States Environmental Protection Agency
UST	Underground Storage Tank
VOCs	Volatile Organic Compounds

1.0 INTRODUCTION

1.1 PURPOSE AND SCOPE

This Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) Report Addendum 1 (RFI Report Addendum 1) was prepared as a supplement to the "RFI Report" (CRA, 2006) for the main manufacturing area of the former Delphi Harrison Thermal Systems (Delphi) Facility (hereafter referred to as the Site), which was formerly owned and operated by General Motors Corporation (GM). Subsequent to submittal of the RFI Report, the City of Dayton (City) identified additional subsurface features (Finds) during Stage 2 demolition activities that included partial removal of concrete building slabs in the area bounded by Webster Street (west), Pitt Street (south), Taylor Street (east), and the Mad River levee (north). This RFI Report Addendum 1 was prepared to describe and document the data collected to date and the evaluation of these data for these subsurface features. Additional sampling and/or removal activities will be conducted for certain subsurface features, which will be documented in a subsequent RFI Report Addendum.

The City has identified the following subsurface features to date:

- Building 15 T-Trench [area of interest (AOI) 36] - This feature is currently in place and GM is currently working with the United States Environmental Protection Agency (U.S. EPA) to determine appropriate additional removal and sampling activities, if any, for this feature. Additional sample results and removal activities associated with this feature will be summarized in a future RFI Report Addendum.
- Building 22 Elevator Piston (AOI 37) - This feature was removed by the City, as described in Section 2.2 of this document.
- Building 1 Elevator Piston (AOI 38) - This feature has been removed, as described in Section 2.3 of this document, and GM is currently working with U.S. EPA to determine appropriate sampling activities for this feature. Additional sample results associated with this feature will be summarized in a future RFI Report Addendum.
- Building 12B Sump (AOI 39) - This feature has been removed, as described in Section 2.4 of this document.
- Building 12A Concrete Vault (AOI 40) - This feature has been removed, as described in Section 2.5 of this document.
- Building 1 Vertical Pipe (AOI 41) - This feature has been removed, as described in Section 2.6 of this document, and GM is currently working with U.S. EPA to determine appropriate sampling activities for this feature. Additional sample results associated with this feature will be summarized in a future RFI Report Addendum.

- Building 12B Underground Storage Tank (UST) 1 (AOI 42) - This feature has been removed, as described in Section 2.7 of this document, and a closure report has been submitted to the Bureau of Underground Storage Tank Regulations (BUSTR).
- Building 22 UST 2 (AOI 43) - This feature has been removed, as described in Section 2.8 of this document, and a closure report has been submitted to BUSTR.
- Building 12B Free Product (AOI 44) - This feature has been removed, as described in Section 2.9 of this document, and GM is currently working with U.S. EPA to determine appropriate sampling activities to further characterize soil conditions in the vicinity of this feature. Additional sample results associated with this feature will be summarized in a future RFI Report Addendum.
- Blue-Green Soil Area (AOI 45) - This feature has been removed, as described in Section 2.10 of this document.
- Building 15 Holding Tank (AOI 46) - This feature has been removed, as described in Section 2.11 of this document.
- Building 12B T-Trench (AOI 47) - This feature has been partially removed, as described in Section 2.12 of this document, and GM is currently working with U.S. EPA to determine appropriate additional removal and sampling activities, if any, for this feature. Additional sample results and removal activities, if any, associated with this feature will be summarized in a future RFI Report Addendum.
- Building 12B UST 3 (AOI 48) - This feature is currently in place and GM submitted a work plan to U.S. EPA on November 3, 2006 proposing removal and post-excavation sampling. Additional sample results and removal activities associated with this feature will be summarized in a future RFI Report Addendum.

1.2 BACKGROUND

GM is currently implementing performance-based RCRA Corrective Action at the Site pursuant to a May 22, 2001 performance-based RCRA Corrective Action Agreement (Agreement) between the U.S. EPA and GM.

The Site is located at 300 Taylor Street in Dayton, Ohio, and is bounded by Webster Street to the west, Pitt Street to the south, Keowee Street to the east, and the Mad River levee to the north. The Site also includes a portion of the block bounded by Webster Street (west), Monument Avenue (south), Taylor Street (east), and Pitt Street (north), as presented on Figure 1.1. A Site plan is presented on Figure 1.2. The Site is the main manufacturing area of the former Delphi Facility that is addressed in the Agreement. The entire former Delphi Facility is also identified on Figure 1.2, with the current

property owners indicated. The portions of the former Delphi Facility excluded from the Agreement were generally used for parking and wastewater treatment. The Site boundary, as defined in the Agreement, is identified on Figure 1.2. The Site is currently owned by Peerless Realty Group Ltd. (Peerless), also known as the Peerless Transportation Company, and a portion is controlled by the City via a real property options agreement. The Delphi Facility has U.S. EPA Permit OHD017958604.

As part of the Agreement, GM conducted a RFI to determine whether the AOIs identified in the "Current Conditions Report" (CRA, 2001) and subsequently identified based on the 1943 Insurance Map have released hazardous waste or hazardous constituents that pose a significant risk to human health or the environment. The RFI was conducted in accordance with the "RFI Work Plan" (CRA, 2002) and subsequent amendments for additional stages of investigation (CRA, 2003a; CRA, 2003b; CRA, 2003c; CRA, 2004; CRA, 2005a; and CRA, 2005b). The "RFI Report" (CRA, 2006) was submitted to U.S. EPA on March 30, 2006. As part of the RFI, GM developed information and conducted Interim Measures to support the RCRA corrective action Environmental Indicator (EI) determinations that current human exposures are under control (CA725) and migration of contaminated groundwater is under control (CA750). GM's EI report (ENVIRON, 2006) was also submitted to U.S. EPA on March 30, 2006.

2.0 AREAS OF INTEREST

The subsurface features identified by the City to date are shown on Figure 2.1. Each of these subsurface features is being evaluated as an AOI, consistent with RFI activities. Each of these new AOIs is described below, along with a summary of removal and characterization activities. As discussed in Section 1.1, additional sampling will be conducted for certain subsurface features, and the results of the additional sampling will be summarized in work plans and in a subsequent RFI Report Addendum. Analytical results for samples collected by the City are presented in Appendix A. Photographs documenting inspection of certain features by GM are presented in Appendix B. Analytical results for post-excavation soil samples collected by GM are presented in Appendix C. Data validation reports for post-excavation soil samples collected by GM are presented in Appendix D.

2.1 AOI 36 - BUILDING 15 T-TRENCH

2.1.1 DESCRIPTION

A T-trench located in the area of former Building 15 was identified by the City on April 26, 2006 during Stage 2 demolition activities, as shown on Figure 2.2. The T-trench consists of a metal-lined concrete structure containing pea gravel, water, and sludge. The northern portion of the T-trench that extended into the City's proposed utility trench was approximately 20 feet long, 7 feet deep, and ranged from 9 to 15 feet wide. The southern portion of the T-trench is located beneath the concrete slab of former Building 15. Based on visual evidence at the surface of the concrete slab, this portion of the trench is estimated to extend approximately 55 feet to the south and ranges in width from approximately 9 to 18 feet.

2.1.2 PRE-REMOVAL SAMPLES

The City collected one sample of gravel from inside the trench on April 27, 2006 and analyzed the sample for Polychlorinated Biphenyls (PCBs), Toxicity Characteristic Leaching Procedure (TCLP) Metals, TCLP Volatile Organic Compounds (VOCs), and TCLP Semi-Volatile Organic Compounds (SVOCs). PCBs were detected at 15.6 milligrams per kilogram (mg/kg), and barium was detected at 0.27 milligrams per liter (mg/L). The City also collected four water samples from within the trench on April 27, 2006 and analyzed one sample for PCBs, one for Total VOCs, one for Total SVOCs, and one for RCRA Metals. PCBs were detected at 0.808 mg/L. Two organic compounds were detected, methylene chloride at 0.0221 mg/L, and

bis(2-chloroethyl)ether at 0.12 mg/L. Several metals were detected with the maximum concentration of 0.154 mg/L of barium. The City collected two wipe samples of the metal lining of the trench on June 1, 2006 and analyzed the samples for PCBs. PCBs were not detected in the wipe samples. At the request of U.S. EPA, the City collected two samples of the sludge in the trench on August 30, 2006 and analyzed the samples for PCBs. PCBs were detected at 1,720 mg/kg and 717 mg/kg. The analytical reports are presented in Appendix A.

2.1.3 REMOVAL ACTIVITIES

GM is currently working with U.S. EPA to determine appropriate additional removal and sampling activities, if any, for this feature. Additional sample results and removal activities, if any, will be summarized in a future RFI Report Addendum.

2.2 AOI 37 - BUILDING 22 ELEVATOR PISTON

2.2.1 DESCRIPTION

An elevator piston located in Building 22 was associated with the building, as shown on Figure 2.3. The elevator piston was approximately 19 feet long and ranged from 6 to 12 inches in diameter.

2.2.2 PRE-REMOVAL SAMPLES

The City collected one oil sample from the expansion tank for the Building 22 elevator on August 24, 2004 during Phase I demolition activities, and analyzed the sample for PCBs. No PCBs were detected. The analytical report is presented in Appendix A.

2.2.3 REMOVAL ACTIVITIES

The Building 22 elevator piston was removed by the City on July 18, 2006. The piston was inspected by GM on August 16, 2006, and was found to be an oil-stained metal cylinder. The presence of oil on the piston is not indicative of a release to the environment because the piston moves in an oil-filled outer casing. This outer casing was in the ground at the time of this inspection, and was filled with rainwater,

suggesting that it was not leaking. Photographs are presented in Appendix B. The piston was subsequently disposed of off Site by the City.

2.2.4 POST-REMOVAL SAMPLES

Based on the field observations during GM's inspection on August 16, 2006, which did not suggest any release to the environment, and based on the City's sample result that indicated the oil associated with this elevator did not contain PCBs, no post-removal samples were collected by GM, and no further activities are warranted.

2.3 AOI 38 - BUILDING 1 ELEVATOR PISTON

2.3.1 DESCRIPTION

An elevator piston located in Building 1 was associated with the building, as shown on Figure 2.4. The piston was surrounded by a 3-foot by 1.5-foot concrete block above the building slab and terminated in a 6-foot square concrete footer embedded in the concrete building slab.

2.3.2 PRE-REMOVAL SAMPLES

The City collected one oil sample on May 5, 2006 and analyzed the sample for PCBs and Total Petroleum Hydrocarbons (TPH) fingerprint. PCBs were detected at 21.3 mg/kg. The TPH fingerprint did not identify a match for any library compounds, but appeared to contain some petroleum product resembling motor oil, with sample peaks in the C20-C34 range. The analytical report is presented in Appendix A.

2.3.3 REMOVAL ACTIVITIES

The Building 1 elevator piston was removed by the City on July 18, 2006. The piston was inspected by GM on August 16, 2006, and was found to consist of a metal cylinder approximately 6 to 8 feet long surrounded with concrete. Minor staining was observed on the concrete surface near the top of the piston. The concrete base was mostly clean, with minor staining observed in one small area. Photographs are presented in Appendix B. The piston was subsequently disposed of off Site by the City.

2.3.4 POST-REMOVAL SAMPLES

GM is currently working with U.S. EPA to determine appropriate sampling activities for this feature. Additional sample results will be summarized in a future RFI Report Addendum.

2.4 AOI 39 - BUILDING 12B SUMP

2.4.1 DESCRIPTION

A sump was located in Building 12B, immediately west of SB-57-02 and SB-57R-03, as shown on Figure 2.5. This sump consisted of a concrete structure approximately 4 feet square and 4 feet deep, and was joined to the bottom of the concrete floor slab. This sump was pulled out of the ground by the City concurrent with removal of the building slab on May 9, 2006, and broke open when it was dropped on the adjacent (intact) building slab. A blackish sludge residue was observed within the sump.

2.4.2 PRE-REMOVAL SAMPLES

The City collected one sample of the sludge from the sump on May 10, 2006 and analyzed the sample for TCLP VOCs, TCLP SVOCs, TCLP metals, and PCBs. The only parameter detected was PCBs at 760 mg/kg. The analytical report is presented in Appendix A.

2.4.3 REMOVAL ACTIVITIES

The concrete structure and approximately 40 cubic yards of surrounding soil was excavated by the City on May 9, 2006 and placed in the PCB staging area. The excavation area was approximately 15 x 18 feet, as presented on Figure 2.5, and approximately 6 feet deep. The excavated material was placed into roll-off boxes by GM on July 18, 2006 and disposed of off Site, in accordance with applicable regulations, between August 28 to 29, 2006.

2.4.4 POST-REMOVAL SAMPLES

The City collected two post-excavation soil samples on September 1, 2006 and analyzed one sample for VOCs and one for SVOCs. TCE was detected at 0.0077 mg/kg. Several SVOCs were detected with the maximum concentration of 2.280 mg/kg of fluoranthene.

GM collected one post-excavation floor soil sample on July 20, 2006 and analyzed the sample for Target Compound List (TCL) VOCs, TCL SVOCs, TCL PCBs, and Target Analyte List (TAL) metals (except for aluminum, calcium, iron, magnesium, potassium, and sodium), consistent with RFI sampling. Figure 2.5 presents the sample results for the constituents of interest identified in the RFI. The complete sample results are presented in Table 2.1. PCBs were detected at 1.2 ppm. No further activities are warranted.

2.5 AOI 40 - BUILDING 12A CONCRETE VAULT

2.5.1 DESCRIPTION

The concrete vault located in the south end of Building 12A was identified by the City on March 24, 2006 during Stage 2 demolition activities, as shown on Figure 2.6. This vault consisted of a concrete structure approximately 6 feet square and 6 feet deep containing gravelly soil and water. The water likely consisted of surface runoff that had entered the excavation, and had mostly dried up by the next day.

2.5.2 PRE-REMOVAL SAMPLES

The City collected one soil sample from within the vault on March 27, 2006 and analyzed the sample for TCLP VOCs, TCLP SVOCs, TCLP metals, PCBs, and TPH fingerprint. The only parameters detected were barium at 0.6 mg/L and PCBs at 1.2 mg/kg. The TPH fingerprint did not identify a match for any library compounds, but appeared to contain some petroleum product resembling turpentine or jet fuel, that was lighter than diesel but heavier than gasoline. The analytical report is presented in Appendix A.

2.5.3 REMOVAL ACTIVITIES

The gravelly soil from within the concrete structure was excavated by the City and placed into roll-off boxes. The concrete was removed, inspected, staged in the concrete

containment area, and then crushed and placed in the basement of former Building 12. Approximately 40 cubic yards of soil surrounding the concrete structure was excavated by the City and placed into roll-off boxes. The excavation area was approximately 25 x 25 feet, as presented on Figure 2.6, and a maximum of approximately 6 feet deep. The excavated material was disposed of off Site, in accordance with applicable regulations, on May 23, 2006 by GM.

2.5.4 POST-REMOVAL SAMPLES

The City collected two soil samples from the east and south sidewalls on May 15, 2006 and analyzed one sample for PAHs, one sample for VOCs, and both samples for TPH. Various PAHs were detected, with the maximum concentration being fluoranthene at 0.694 mg/kg. VOCs were not detected. TPH C10-C20 was detected at 15.2 mg/kg, and TPH C20-C34 was detected at 74.2 mg/kg. The City collected four soil samples from the floor, one from each quadrant on May 15, 2006, and analyzed two samples for VOCs, two samples for PAHs, and all samples for TPH. Various PAHs were detected in one of the floor samples, the maximum concentration being fluoranthene at 0.0171 mg/kg, and VOCs and TPH were not detected in the floor samples. The analytical report is presented in Appendix A.

Based on the City's field observations that the vault was intact, and the low concentration of PCBs detected in the vault contents (1.2 mg/kg), GM did not collect additional post-removal samples. The City has backfilled the excavation. No further activities are warranted.

2.6 AOI 41 - BUILDING 1 VERTICAL PIPE

2.6.1 DESCRIPTION

A vertical pipe located on the western edge of Building 1 was identified by the City on April 16, 2006, during Stage 2 demolition activities, as shown on Figure 2.7. This pipe consisted of a metal pipe approximately 15 inches in diameter extending upwards from a 4-foot square concrete footer embedded in the concrete building slab. The City observed that the pipe contained oil and soil and/or debris from building demolition.

2.6.2 PRE-REMOVAL SAMPLES

The City collected one soil sample of the material from within the pipe on April 18, 2006 and analyzed the sample for TCLP VOCs, TCLP SVOCs, PCBs, and Diesel Range Organics (DRO) fingerprint. The only parameter detected was PCBs at 0.67 mg/kg. The DRO fingerprint did not identify a match for any library compounds, but appeared to contain some petroleum product resembling fuel oil and some resembling motor oil.

2.6.3 REMOVAL ACTIVITIES

The oil was pumped from the vertical pipe and the pipe was removed from the ground by the City on July 18, 2006. The pipe was inspected by GM on August 16, 2006, and was found to consist of a metal pipe approximately 8 to 10 feet long in a concrete/rock base. The interior of the pipe was completely filled with rock. The exterior of the pipe and base were visibly clean, and the rock inside the pipe was also visibly clean. Photographs are presented in Appendix B. The pipe and contents were subsequently disposed of off Site by the City.

2.6.4 POST-REMOVAL SAMPLES

The City collected one soil sample on June 27, 2006 following removal of the pipe and analyzed the sample for VOCs and SVOCs. PCE and TCE were detected at 0.0221 mg/kg and 0.0064 mg/kg, respectively. Various PAHs were also detected at concentrations ranging from 0.445 mg/kg [indeno(1,2,3-cd)pyrene] to 3.77 mg/kg (pyrene).

GM is currently working with U.S. EPA to determine appropriate sampling activities for this feature. Additional sample results will be summarized in a future work plan and RFI Report Addendum.

2.7 AOI 42 - BUILDING 12B UST 1

2.7.1 DESCRIPTION

A UST located in former Building 12B was identified by the City on May 17, 2006 during Stage 2 demolition activities, as shown on Figure 2.8. This UST, called UST 1, consisted of a cylindrical metal tank approximately 14 feet long and 8 feet in diameter that

contained approximately 1,000 gallons of water. The UST was located beneath the floor slab of Building 12B. The historical contents of the UST are unknown.

2.7.2 PRE-REMOVAL SAMPLES

The City collected three samples of water from UST 1 on May 17, 2006 and analyzed the samples for PCBs, DRO fingerprint, and VOCs, respectively. PCBs were not detected. The following VOCs were detected: benzene (0.164 mg/L), cis-1,2-dichloroethene (0.0116 mg/L), ethylbenzene (2.83 mg/L), isopropylbenzene (0.156 mg/L), n-propylbenzene (0.0573 mg/L), toluene (3.17 mg/L), 1,2,4-trimethylbenzene (0.071 mg/L), 1,3,5-trimethylbenzene (0.0803 mg/L), and xylenes (29.8 mg/L). The elevated benzene, toluene, ethylbenzene, and xylenes (BTEX) results suggested the UST may have historically contained gasoline. The DRO fingerprint identified the sample contained no significant concentrations of heavy petroleum hydrocarbons. The analytical report is presented in Appendix A.

2.7.3 REMOVAL ACTIVITIES

GM removed UST 1 on August 30, 2006 in accordance with a work plan dated August 9, 2006. Approximately 1,000 gallons of water was pumped from the tank and stored in a frac tank, until off-Site disposal in accordance with applicable regulations on December 13, 2006. The only parameter detected in the frac tank water was PCBs at 0.0005 mg/L. Approximately 25 gallons of sludge was encountered at the bottom of the tank, and was placed into a drum. The sludge contained PCBs at 0.170 mg/kg and various metals. The UST was cleaned, removed from the ground, rendered unusable and free of vapors, and recycled off Site on August 30, 2006. Approximately 6 cubic yards of soil surrounding the UST was excavated, placed in a roll-off box, and disposed of off Site in accordance with applicable regulations on September 29, 2006.

2.7.4 POST-REMOVAL SAMPLES

GM collected post-excavation soil samples from the floor of the excavation under each end of the UST, and from each of the four sidewalls, on August 29, 2006. No evidence of potential contamination was observed, so the samples were collected from the middle of the sidewall or the middle of each half of the excavation floor.

Each sample was split with a portion placed into containers for laboratory analysis and a portion placed into a 4-ounce jar for field screening. Field screening was conducted by covering the mouth of the jar with aluminum foil and replacing the jar lid, and leaving the sample undisturbed for at least 1 hour. The lid was then removed, the aluminum foil was pierced with the tip of a Photo-Ionization Detector (PID), and the reading was recorded. All post-excavation samples were submitted to a laboratory and extracted for TCL VOCs, TCL SVOCs, TCL PCBs, and TAL inorganics (except for aluminum, calcium, iron, magnesium, potassium, and sodium), consistent with RFI sampling, and TPH-DRO and TPH (C6-C12) parameters. The two samples with the highest field screening results were analyzed. The remaining four samples were subsequently analyzed to provide additional characterization data. Figure 2.8 presents the sample results for the constituents of interest identified in the RFI. The complete sample results are presented in Table 2.2.

GM submitted a closure report to BUSTR on November 27, 2006. No further activities are warranted.

2.8 AOI 43 - BUILDING 22 UST

2.8.1 DESCRIPTION

A UST located in former Building 22 was identified by the City on July 19, 2006 during Stage 2 demolition activities, as shown on Figure 2.9. This UST, called UST 2, consisted of a cylindrical metal tank approximately 12 feet long and 4 feet in diameter that contained approximately 500 gallons of water. The UST was located beneath the floor slab of Building 22. The historical contents of this UST are unknown.

2.8.2 PRE-REMOVAL SAMPLES

The City collected four water samples from UST 2 on July 19, 2006 and analyzed the samples for DRO fingerprint, VOCs, SVOCs, and PCBs, respectively. No PCBs were detected. The following VOCs were detected: trichloroethene (0.0025 mg/L), 1,2,4-trimethylbenzene (0.0061 mg/L), and 1,3,6-trimethylbenzene (0.0016 mg/L). The SVOC benzyl butyl phthalate was detected at 0.0011 mg/L. The DRO fingerprint did not identify a match with any library compounds, although there appeared to be some petroleum product resembling turpentine or jet fuel, lighter than diesel, but heavier than gasoline. The analytical report is presented in Appendix A.

2.8.3 REMOVAL ACTIVITIES

GM removed UST 2 on August 30, 2006 in accordance with a work plan dated August 9, 2006. Approximately 500 gallons of water was pumped from the tank and stored in a frac tank until disposal off Site, in accordance with applicable regulations on December 13, 2006. The only parameter detected in the frac tank water was PCBs at 0.0005 mg/L. Approximately 20 gallons of sludge was encountered at the bottom of the tank, was placed into a drum. The sludge contained PCBs at 0.170 mg/kg and various metals. The UST was cleaned, removed from the ground, rendered unusable and free of vapors, and recycled off Site on August 30, 2006. Approximately 3 cubic yards of soil surrounding the UST was excavated, placed in a roll-off box, and disposed of off Site, in accordance with applicable regulations on September 29, 2006.

2.8.4 POST-REMOVAL SAMPLES

GM collected post-excavation soil samples from the floor of the excavation under each end of the UST, and from each of the four sidewalls, on August 30, 2006. No evidence of potential contamination was observed, so the samples were collected from the middle of the sidewall or the middle of each half of the excavation floor.

Each sample was split with a portion placed into containers for laboratory analysis and a portion placed into a 4-ounce jar for field screening. Field screening was conducted by covering the mouth of the jar with aluminum foil and replacing the jar lid, and leaving the sample undisturbed for at least 1 hour. The lid was then removed, the aluminum foil was pierced with the tip of a PID, and the reading was recorded. All post-excavation samples were submitted to a laboratory and extracted for TCL VOCs, TCL SVOCs, TCL PCBs, and TAL inorganics (except for aluminum, calcium, iron, magnesium, potassium, and sodium), consistent with RFI sampling, and TPH-DRO and TPH (C6-C12) parameters. The two samples with the highest field screening results were analyzed. The remaining four samples were subsequently analyzed to provide additional characterization data. Figure 2.9 presents the sample results for the constituents of interest identified in the RFI. The complete sample results are presented in Table 2.3.

GM submitted a closure report to BUSTR on November 27, 2006. No further activities are warranted.

2.9 AOI 44 - BUILDING 12B FREE PRODUCT

2.9.1 DESCRIPTION

A free product area located in the northwest portion of Building 12B was identified by the City on May 17, 2006 during Stage 2 demolition activities, as shown on Figure 2.10, when the concrete building slab in this area was removed. The area was approximately 18 x 25 feet and consisted of oily water pooled on the surface of the soil. A subgrade concrete structure, approximately 12 x 15 x 3 feet deep, was identified by GM during excavation of the oil impacted soil. This concrete structure may have been associated with structural support.

2.9.2 PRE-REMOVAL SAMPLES

The City collected one oil/water sample and one soil/sludge sample from the surface of the impacted area on May 17, 2006. The oil/water sample was analyzed for PCBs and DRO fingerprint. PCBs were detected at 27 mg/kg, and the DRO fingerprint identified a hydrocarbon similar to Fuel Oil 1 and Hydraulic Fluid. The soil/sludge sample was analyzed for VOCs, PCBs, and DRO fingerprint. The following VOCs were detected: sec-butylbenzene (0.852 mg/kg), cis-1,2-dichloroethene (2.800 mg/kg), p-isopropyltoluene (0.902 mg/kg), n-propylbenzene (0.487 mg/kg), 1,2,4-trimethylbenzene (3.360 mg/kg), and 1,3,5-trimethylbenzene (0.499 mg/kg). PCBs were also detected at 2.62 mg/kg. The DRO fingerprint identified a hydrocarbon similar to Fuel Oil 1. The analytical report is presented in Appendix A.

2.9.3 REMOVAL ACTIVITIES

Approximately 160 tons of soil and concrete was excavated by GM between July 18 to July 21, 2006, and on August 31, 2006, and placed in roll-off boxes. The excavation area was approximately 18 x 25 feet, as presented on Figure 2.10, and approximately 3 feet deep. The concrete structure was removed along with surrounding soil within approximately 3 feet laterally. The underlying soil was not stained. The excavation was extended to 8 feet in one area due to water being observed seeping into the excavation in this area. Staining was observed at depth; however, based on the presence of unstained soil above it, this staining did not appear to be associated with the free product area, therefore, further excavation was not conducted. The excavated material was disposed of off Site, in accordance with applicable regulations between September 29 and October 4, 2006.

2.9.4 POST-REMOVAL SAMPLES

GM collected three samples from the main excavation (FP-2, FP-3, and FP-4), and one additional sample from the stained material at depth (FP-1), on July 20, 2006 and analyzed the samples for TCL VOCs, TCL SVOCs, TCL PCBs, and TAL metals (except for aluminum, calcium, iron, magnesium, potassium, and sodium), consistent with RFI sampling. Figure 2.10 presents the sample results for the constituents of interest identified in the RFI. The complete sample results are presented in Appendix C.

From Table 2.4, it can be seen that the data from sample FP-2 had high concentrations of the following metals: antimony (2,580 mg/kg), copper (6,290 mg/kg), lead (4,530 mg/kg), and zinc (1,060 mg/kg), which do not appear to be associated with the free product that was excavated. As discussed in Section 3.4.1, risk calculations using these concentrations, along with the concentration of PCBs found at FP-4, showed that these concentrations could contribute significantly to risk estimates for routine workers if they represent concentrations that still remain in surface soil in the vicinity of these sample locations.

GM is currently working with U.S. EPA to determine appropriate sampling activities to further characterize soil conditions in the vicinity of this feature. Additional sample results will be summarized in a future RFI Report Addendum.

2.10 AOI 45 - BLUE-GREEN SOIL AREA

2.10.1 DESCRIPTION

A blue-green soil area located in the southeast portion of Building 12A was identified by the City on March 24, 2006 during Stage 2 demolition activities, as shown on Figure 2.11, when the concrete building slab in this area was removed. The area of blue-green stained soil was approximately 17 x 22 feet.

2.10.2 PRE-REMOVAL SAMPLES

The City collected one soil sample on March 24, 2006 and analyzed the sample for TCLP VOCs, TCLP SVOCs, TCLP metals, and PCBs. The following metals were detected: barium (0.39 mg/L), chromium (2.96 mg/L), and zinc (52.2 mg/L). PCBs were also

detected at 3.68 mg/kg. VOCs and SVOCs were not detected. The analytical report is presented in Appendix A.

2.10.3 REMOVAL ACTIVITIES

Approximately 80 cubic yards of soil was excavated by the City and subsequently disposed of off Site. The excavation area was approximately 17 x 22 feet, as presented on Figure 2.11, and approximately 8 feet deep.

2.10.4 POST-REMOVAL SAMPLES

The City collected three post-excavation soil samples on May 24, 2006, but these samples were never analyzed because GM collected post-excavation samples.

GM collected three post-excavation floor soil samples on May 25, 2006, and analyzed the samples for TCL VOCs, TCL SVOCs, TCL PCBs, and TAL inorganics (except for aluminum, calcium, iron, magnesium, potassium, and sodium), consistent with RFI sampling. Figure 2.11 presents the sample results for the constituents of interest identified in the RFI. The complete sample results are presented in Table 2.5. No further activities are warranted.

2.11 AOI 46 - BUILDING 15 HOLDING TANK

2.11.1 DESCRIPTION

A Holding Tank located in former Building 15 was identified by the City on May 24, 2006 during Stage 2 demolition activities, as shown on Figure 2.12. The Holding Tank consisted of a metal-lined concrete structure approximately 10 x 10 x 8 feet deep containing water, and a separate smaller metal-lined concrete structure containing sludge. A concrete pad, approximately 6-foot square and 4 inches thick was located below the tank. The structures are believed to have been part of a historical flow-through process system and therefore, do not meet the definition of an UST as specified in OAC 1301:7-9-02.

2.11.2 PRE-REMOVAL SAMPLES

The City collected one sludge sample on May 24, 2006 and analyzed the sample for PCBs and DRO fingerprint. The PCB concentration in the sludge was 41.5 mg/kg. The DRO fingerprint identified that the sample appeared to contain mineral spirits and motor oil. The City collected four water samples from the tank on May 25, 2006 and analyzed the samples for Priority Pollutant Metals, TCLP VOCs, TCLP SVOCs, and PCBs, respectively. Various metals were detected with a maximum concentration of 0.413 mg/L of zinc. The following VOCs were detected: n-butylbenzene (0.0071 mg/L), 1,2,4-trimethylbenzene (0.0148 mg/L), and 1,3,5-trimethylbenzene (0.0064 mg/L). No SVOCs were detected. The PCB concentration in the water was 0.00415 mg/L. The analytical reports are presented in Appendix A.

2.11.3 REMOVAL ACTIVITIES

In accordance with the work plan dated August 9, 2006, GM removed approximately 500 gallons of water from the larger of the two holding tank structures and placed the water in a frac tank on August 30, 2006. The only parameter detected in the frac tank water was PCBs at 0.0005 mg/L. The water was disposed of off Site in accordance with applicable regulations on December 13, 2006. GM also removed approximately 120 gallons of sludge, from both structures together, and placed the sludge in drums on September 1, 2006. The sludge was characterized based on the sample collected by the City, and disposed of off Site in accordance with applicable regulations on December 13, 2006. The structures and approximately 20 cubic yards of soil was excavated and placed in roll-off boxes between August 31 and September 1, 2006. The excavated material was disposed of off Site in accordance with applicable regulations between September 28 to 29, 2006.

2.11.4 POST-REMOVAL SAMPLES

The City collected two post-excavation soil samples on September 1, 2006, and analyzed one sample for VOCs and one sample for SVOCs. Trichloroethene was detected at 0.0073 mg/kg. No SVOCs were detected.

The holding tank structures were found to be partially surrounded by a subgrade concrete structure. The west, south, and east walls of the structure were removed and the material was disposed of as identified above. However, the floor and north wall were integral with the building foundation and were therefore left in place. The holding

tank structures appeared to be intact, and no evidence of contamination was observed on the concrete or soil remaining in place. Based on the lack of evidence of any release to the environment, GM would not have collected post-excavation samples in accordance with the August 9, 2006 work plan. However, due to U.S. EPA's request on August 24, 2006 that post-removal samples be collected from all areas where PCBs were detected, two post-excavation concrete sample locations were selected in the middle of the concrete floor and north wall on August 31, 2006, and two post-excavation soil sample locations were selected on the east and west sides of the concrete structure on August 30, 2006. The samples were analyzed for TCL PCBs, and results are presented on Figure 2.12. The complete sample results are presented in Table 2.6. The PCB concentrations in concrete ranged from 3.5 to 3.8 mg/kg, and the PCB concentrations in soil ranged from 0.21 to 0.83 mg/kg. No further activities are warranted.

2.12 AOI 47 - BUILDING 12B T-TRENCH

2.12.1 DESCRIPTION

A T-trench located in the area of former Building 12B was identified by the City on June 1, 2006 during Stage 2 demolition activities, as shown on Figure 2.13. The T-trench consisted of a metal-lined concrete structure containing gravelly soil. The northern portion of the T-trench, that extended into the City's proposed utility trench, was approximately 84 feet long, 4 feet deep, and ranged from 6 to 14 feet wide. The southern portion of the T-trench is located beneath the concrete slab for former Building 12B. Based on visual evidence at the surface of the concrete slab, this portion of the trench is estimated to extend approximately 42 feet to the south and 52 feet to the east, and range in width from approximately 6 to 11 feet.

2.12.2 PRE-REMOVAL SAMPLES

The City collected one sand/gravel sample of material from inside the trench on June 1, 2006 and analyzed the sample for TCLP SVOCs, TCLP Metals, and PCBs. The only metal detected was barium at 0.24 mg/L, and SVOCs were not detected. PCBs were detected at 324 mg/kg. The analytical report is presented in Appendix A.

2.12.3 REMOVAL ACTIVITIES

Approximately 20 cubic yards of gravel was removed from the exposed northern portion of the T-trench by GM on July 21, 2006, and placed in a roll-off box. This material was disposed of by GM off Site in accordance with applicable regulations on August 29, 2006. The metal lining of the T-trench was also removed by GM and wrapped in plastic, and was subsequently placed in a roll-off box on August 30, 2006. The remaining concrete structure was observed to be generally in good condition, with some minor staining, as shown in photographs taken on August 16, 2006, and presented in Appendix B. The concrete structure and surrounding soil, approximately 40 cubic yards in total, was excavated by GM between August 29 to 31, 2006 and placed into roll-off boxes. This material was disposed of by GM off Site, in accordance with applicable regulations between September 27 to 28, 2006.

2.12.4 POST-REMOVAL SAMPLES

GM collected two post-excavation soil samples on September 1, 2006, beneath each end of the former northern portion of the trench, and analyzed the samples for TCL PCBs. No evidence of contamination was observed on the soil remaining in place beneath the trench and, based on the lack of evidence of any release to the environment, GM would not have collected post-excavation samples. However, due to U.S. EPA's request on August 24, 2006 that post-removal samples be collected from all areas where PCBs were detected, samples were collected. Figure 2.13 presents the sample results for the constituents of interest identified in the RFI. The complete sample results are presented in Table 2.7.

GM is currently working with U.S. EPA to determine appropriate additional removal and sampling activities, if any, for this feature. Additional sample results and removal activities, if any, will be summarized in a work plan and future RFI Report Addendum.

2.13 AOI 48 - BUILDING 12B UST 3

2.13.1 DESCRIPTION

UST 3 was identified by GM immediately adjacent to UST 1 during removal of UST 1. UST 3 consisted of a cylindrical metal tank approximately 6 feet in diameter, installed upright, that contained water. The UST was located beneath the floor slab of

Building 12B, and was also partially surrounded by a subgrade concrete block wall. The historical contents of the UST are unknown.

2.13.2 PRE-REMOVAL SAMPLES

The City collected one water sample from UST 3 on August 29, 2006 and analyzed the sample for PCBs, VOCs, SVOCs, and DRO fingerprint. PCBs were detected at 0.0602 mg/L, vinyl chloride was detected at 0.898 mg/L, xylenes were detected at 4.650 mg/L, and 2,4-dimethylphenol was detected at 0.336 mg/L. The TPH fingerprint identified peaks in the kerosene and motor oil ranges, and also a high component of lighter compounds. The analytical report is presented in Appendix A.

2.13.3 REMOVAL ACTIVITIES

GM submitted a work plan to U.S. EPA on November 3, 2006 proposing removal of UST 3 in the same manner as UST 1. The post-excavation sample results associated with UST 3 will be evaluated in a subsequent RFI Report Addendum.

3.0 HEALTH RISK ASSESSMENT

3.1 PURPOSE AND SCOPE

As discussed in Section 2.0 of this document, GM collected post-RFI soil samples from the following areas:

- AOI 39 (Building 12B Sump)
- AOI 42 (Building 12B UST 1)
- AOI 43 (Building 22 UST 2)
- AOI 44 (Building 12B Free Product)
- AOI 45 (Blue-green Soil Area)
- AOI 46 (Building 15 Holding Tank)
- AOI 47 (Building 12B T-Trench)

This section discusses the evaluation of the data from these soil samples to determine whether they change the RFI Report conclusions regarding the locations of soil that warrants corrective measures.

Additional soil characterization data to be collected by GM for AOIs 36 (Building 15 T-Trench), 38 (Building 1 Elevator Piston), 41 (Building 1 Vertical Pipe), 47 (Building 12B T-Trench), AOI 44 (Building 12B Free Product), and 48 (Building 12B UST 3) will be evaluated similarly in a subsequent RFI Report Addendum.

3.2 DATA VALIDATION

All post-RFI soil data collected by GM for AOIs 39, 42, 43, 44, 45, 46, and 47, which were identified in Section 2.0, were validated in accordance with the QAPP in the RFI Work Plan (CRA, 2002). Summaries of the data validation results are provided in Appendix D.

3.3 SUMMARY OF TECHNICAL APPROACH AND DATA EVALUATION

To efficiently determine whether the new soil data change the conclusions reached in the RFI Report (CRA, 2006), the new soil data were evaluated as follows:

- Each of the post-RFI soil samples collected by GM was assigned to an RFI soil sub-area, based on its location. Figure 3.1 shows all the new AOIs discussed in Section 2.0, the extent of soil excavation performed to date, the locations of the post-RFI soil samples collected to date, and the original RFI sub-areas for the portion of the Site from Webster to Taylor Street. As shown on Figure 3.1, the 24 post-RFI soil samples described in Section 2.0 are located in 10 RFI sub-areas (i.e., MW-5-03, SB-10-02, SB-110-04, SB-115-04, SB-116-04, SB-123-04, SB-126-04, SB-128-04, SB-57-02, and SB-70-03).
- The post-RFI sample constituent concentrations in each RFI sub-area were compared to the concentrations used in the baseline risk assessment for that RFI sub-area, which were described in the RFI Report. These comparisons considered whether the concentrations used in the baseline risk assessment for a sub-area were based on detected concentrations, half-quantitation limits for non-detect results, or interpolated concentrations from an adjacent soil boring for constituents not analyzed in the sub-area. The exposure concentrations were updated based upon these comparisons, as follows:
  - If a constituent was detected in one or more post-RFI samples within a given soil sub-area, then the highest detected concentration among these samples was identified. The risk calculations for that soil sub-area were then updated using this new concentration if it is higher than the concentration in the baseline risk assessment, or if the concentration in the baseline risk assessment was based upon a quantitation limit, or was an interpolated concentration.
  - If a constituent was not detected in any of the post-RFI samples within a given soil sub-area, then the highest quantitation limit among these samples was identified. The risk calculations for that soil sub-area were then updated using one-half of the new quantitation limit if the concentration used in the baseline risk assessment was a lower quantitation limit or was an interpolated concentration.
- Some of the concentrations for the 10 RFI sub-areas with post-RFI samples were used in the baseline risk assessment to provide interpolated concentrations for five adjacent soil sub-areas (i.e., for BH-178-04, MW-22-04, SB-127-04, SB-67-03, and SB-76-03). The interpolated concentrations and risk calculations for these five

sub-areas were also updated similarly. Therefore, the exposure concentrations and risk calculations were updated for a total of 15 RFI sub-areas.

In summary, 15 of the 80 RFI soil sub-areas located between Webster and Taylor Streets were affected by the post-RFI samples. The upper-bound estimates of cumulative cancer risk and HI for each of these 15 sub-areas were recalculated using the updated concentrations for the following exposures, which were evaluated in the RFI Report: routine worker exposure to surface soil while outdoors; maintenance worker exposure to surface and subsurface soil; and vapor intrusion into indoor air. The updated calculations used the same highly conservative exposure factors, toxicity values, and physical/chemical property values that were shown in Appendix E of the RFI Report (CRA, 2006). Similarly, risk estimates will be recalculated for Site redevelopment workers using the same approach as in the RFI Report, once post-RFI soil characterization of the new AOIs is complete.

Appendix E of this report compares the concentrations used in the baseline risk assessment with the updated concentrations based on the post-RFI data. The updated upper-bound cancer risk and hazard quotient (HQ) estimates calculated using the updated concentrations are also shown in Appendix E. The updated cumulative cancer risk and HI estimates were compared to those presented in the RFI Report to identify whether any new estimates exceed U.S. EPA's cumulative cancer risk limit of 10^{-4} and HI limit of 1, respectively.

3.4 DISCUSSION OF RESULTS FOR AFFECTED SOIL AREAS

The analytical results of the post-RFI soil samples from AOIs 39, 42, 43, 44, 45, 46, and 47 were evaluated to determine whether they change the conclusions reached in the RFI Report (CRA, 2006) regarding the locations of soil that warrants corrective measures.

3.4.1 RISK ESTIMATES

Upper-bound cumulative cancer risk and HI estimates for the 15 RFI sub-areas affected by post-RFI samples are presented in Table 3.1. Of the 15 affected RFI sub-areas, only three sub-areas (SB-67-03, MW-22-04, and SB-76-03) have cumulative cancer risk estimates that exceed 10^{-4}. Only two RFI sub-areas (SB-110-04 and SB-115-04) have HI estimates that exceed 1. The updated results for these five RFI sub-areas and how they compare to the results presented in the RFI Report are discussed below.

- The upper-bound cumulative cancer risk estimates for vapor intrusion into indoor air at SB-67-03, MW-22-04, and SB-76-03 also had exceeded 10^{-4} based on data collected during the RFI. Thus, the conclusions for these soil boring locations have not changed as a result of the additional post-RFI soil data.
- For RFI sub-area SB-110-04, the updated upper-bound HI estimate is 2 for vapor intrusion into indoor air (and the updated cumulative cancer risk estimate is 7×10^{-5}). In the RFI Report, the upper-bound HI estimate for vapor intrusion for this sub-area was 0.08 (and the cumulative cancer risk estimate was 1×10^{-5}). The increase in the HI estimate over the limit of 1 is predominantly attributable to higher concentrations of cis-1,2-DCE and xylenes in the post-RFI data, as shown in Appendix E2. According to the current Site redevelopment plan provided to GM by the City sub-area SB-110-04 will not be located under a planned building.
- For RFI sub-area SB-115-04, the updated upper--bound HI estimate is 2 for routine worker exposure to soil while outdoors (and the updated cumulative cancer risk estimate is 7×10^{-5}). In the RFI Report, the upper-bound HI estimate for this potential exposure for this sub-area was 0.5 (and the cumulative cancer risk estimate was 4×10^{-5}). The increase in the HI estimate over the limit of 1 is predominantly attributable to a higher concentration of PCBs in the post-RFI data, as shown in Appendix E2. According to the current Site redevelopment plan provided to GM by the City, this sub-area will be located underneath a planned parking garage.

As discussed in Section 2.9, soil associated with AOI-44, which is located in soil sub-area MW-5-03, will be further characterized to evaluate the extent of constituents that may be unrelated to the free product (e.g., lead, antimony, and PCBs), and therefore, may not have been adequately excavated with the free product. Specifically, post-excavation samples FP-2, FP-3, and FP-4, which were collected at a depth of approximately 3 feet below ground surface (bgs), have maximum concentrations of antimony and PCBs that could contribute significantly to upper-bound HI estimates for routine worker exposure if they represent concentrations that are still present in surface soil (0 to 2 feet bgs) in the vicinity of these sample locations. The maximum concentrations of other constituents found in these samples, including 2-methylnaphthalene and cis-1,2-DCE, also could contribute to the HI estimate, but less significantly.

3.4.2 LEAD CONCENTRATIONS

The lead concentrations were compared to the U.S. EPA-recommended range of screening criteria for industrial workers, which is 750 mg/kg to 1,750 mg/kg, as described in Section 5.0 of the RFI Report (CRA, 2006a). Only one sample, FP-2, which is

associated with AOI 44 and is located within RFI sub-area MW-5-03, had a lead concentration (4,530 mg/kg) that exceeded the high-end of U.S. EPA's screening criterion for protection of workers. Therefore, MW-5-03 was the only RFI sub-area identified as posing a potential concern for lead, based upon the post-RFI soil samples. As discussed in Section 2.9 and Section 3.4.1, soil associated with AOI-44 will be further characterized to evaluate the horizontal and vertical extent of constituents that may be unrelated to the free product (including lead).

3.4.3 SUMMARY

In comparison with the RFI Report, none of the 15 sub-areas affected by post-RFI soil data have upper-bound cumulative cancer risk estimates that increased over the limit of 10^{-4} as a result of the post-RFI soil data. However, two of the 15 sub-areas (SB-110-04 and SB-115-04) have upper-bound estimates of HI that increased over the limit of 1 as a result of the post-RFI soil data. In addition, soil in sub-area MW-5-03 could pose a significant risk if the highest concentrations from the post-RFI soil data for AOI 44 represent concentrations that remain in surface soil in the vicinity. As such, GM is planning further characterization around AOI 44 to evaluate the extent of constituents that may be unrelated to the free product and therefore, may not have been adequately excavated with the free product.

4.0 REFERENCES

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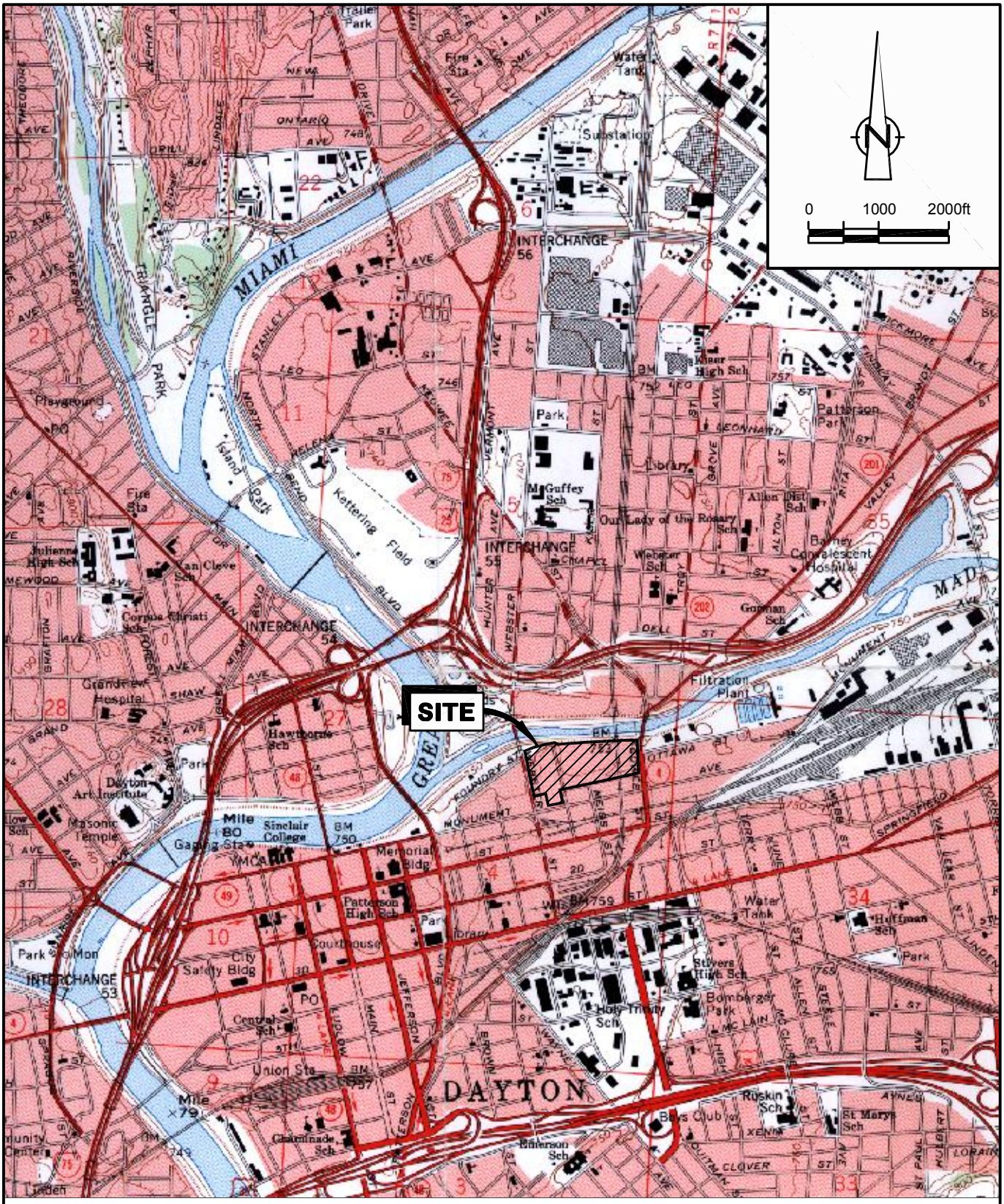
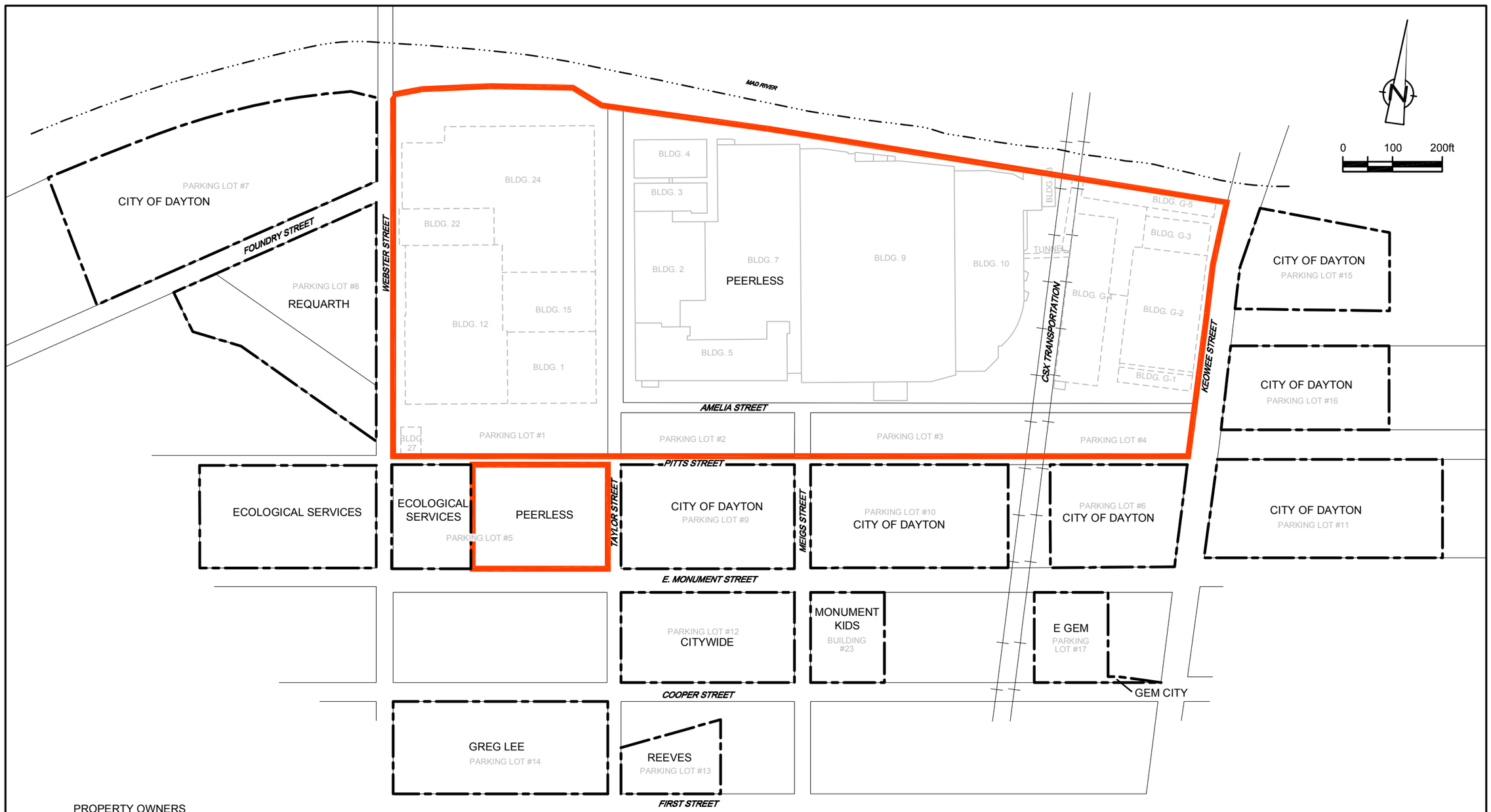


SOURCE: U.S.G.S., DAYTON NORTH, OHIO

figure 1.1

SITE LOCATION
FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY
Dayton, Ohio

12638-04(018)GN-WA014 NOV 02/2006



PROPERTY OWNERS

CITY OF DAYTON
GREG LEE - GREG LEE REALTY
REEVES - REEVES REALTY INC.
CITYWIDE - CITY WIDE DEVELOPMENT CORP.
MONUMENT KIDS - 804 MONUMENT PROPERTIES LLC
E GEM - 848 E. MONUMENT AVE LTD.
GEM CITY - GEM CITY ELEVATION CO. INC.
ECOLOGICAL SERVICES - ECOLOGICAL SERVICES OF AMERICA
REQUARTH - F.A. REQUARTH
PEERLESS - PEERLESS REALTY GROUP, LTD.

LEGEND

PROPERTY BOUNDARY IDENTIFIED IN NOVEMBER 1980 PART A PERMIT

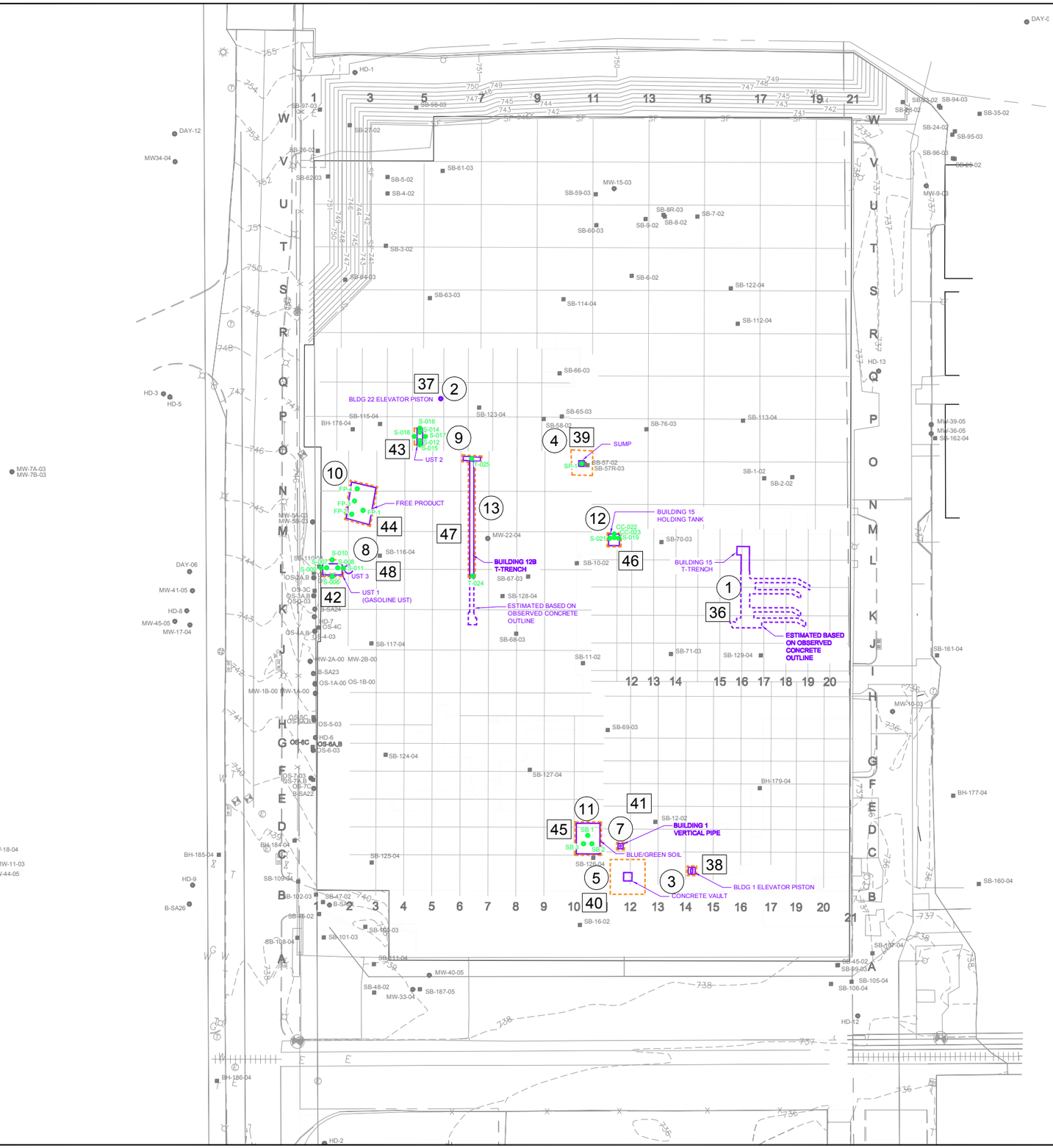
SITE BOUNDARY AS DEFINED IN THE VOLUNTARY AGREEMENT

MAD RIVER SHORELINE

figure 1.2

SITE PLAN
FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY
Dayton, Ohio

12638-04(018)GN-WA015 NOV 02/2006



N

0 20 40ft

LEGEND

- CITY FIND
- LIMIT OF EXCAVATION
- CC-023 SAMPLE LOCATION
- 1 FIND NUMBER
- 36 AOI NUMBER

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY

Dayton, Ohio

LOCATION OF ADDITIONAL SUBSURFACE FEATURES

CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

Project Manager:	Reviewed By:	Date:	
IKR	SE	DECEMBER 2006	
Scale: 1"=40'	Project N°: 12638-04	Report N°: 018	Drawing N°: 2.1

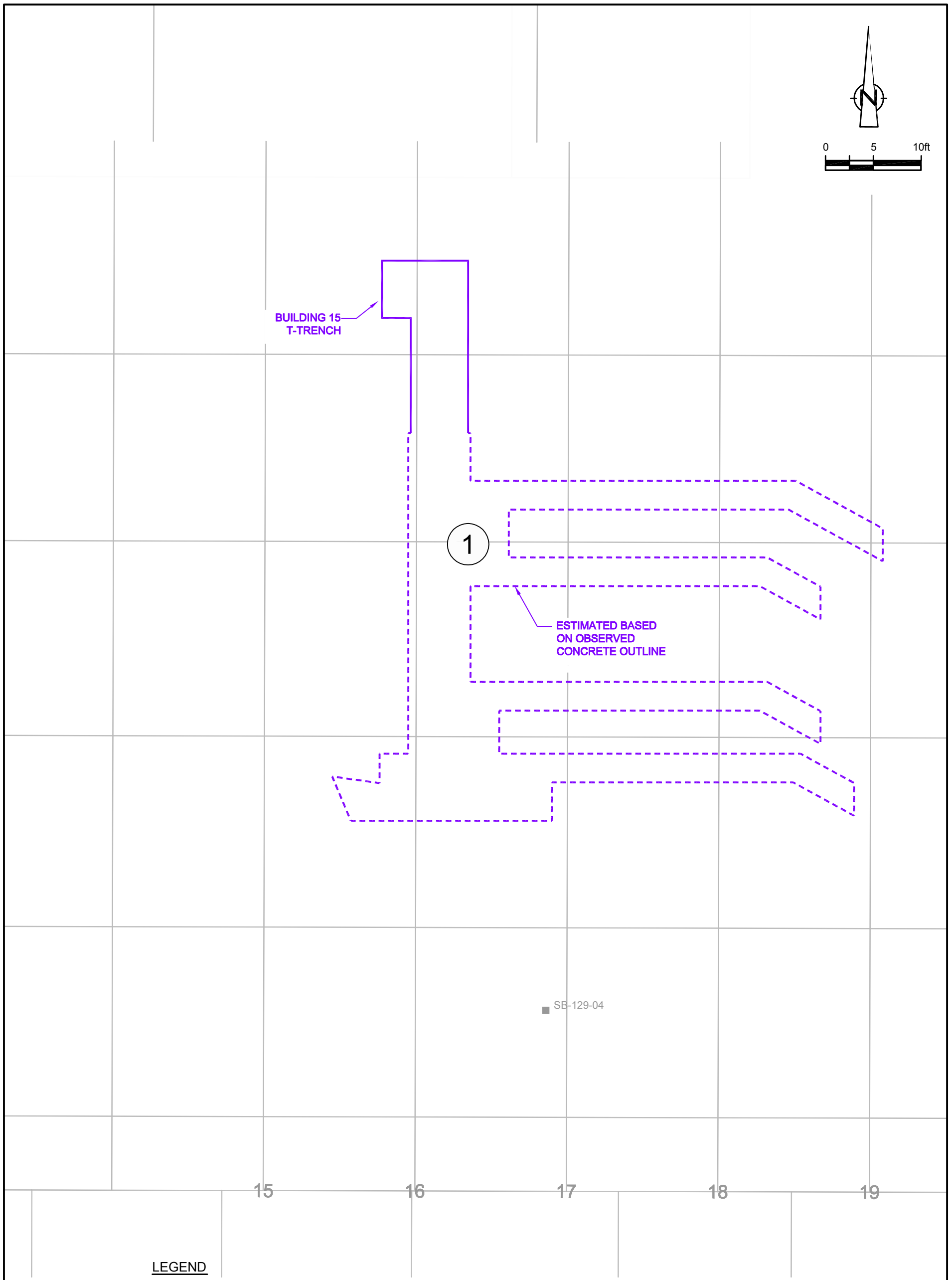


figure 2.2

AOI 36 - BUILDING 15 T-TRENCH
FORMER DELPHI HARRISON
THERMAL SYSTEMS FACILITY
Dayton, Ohio

12638-04(018)GN-WA002 MAR 07/2007

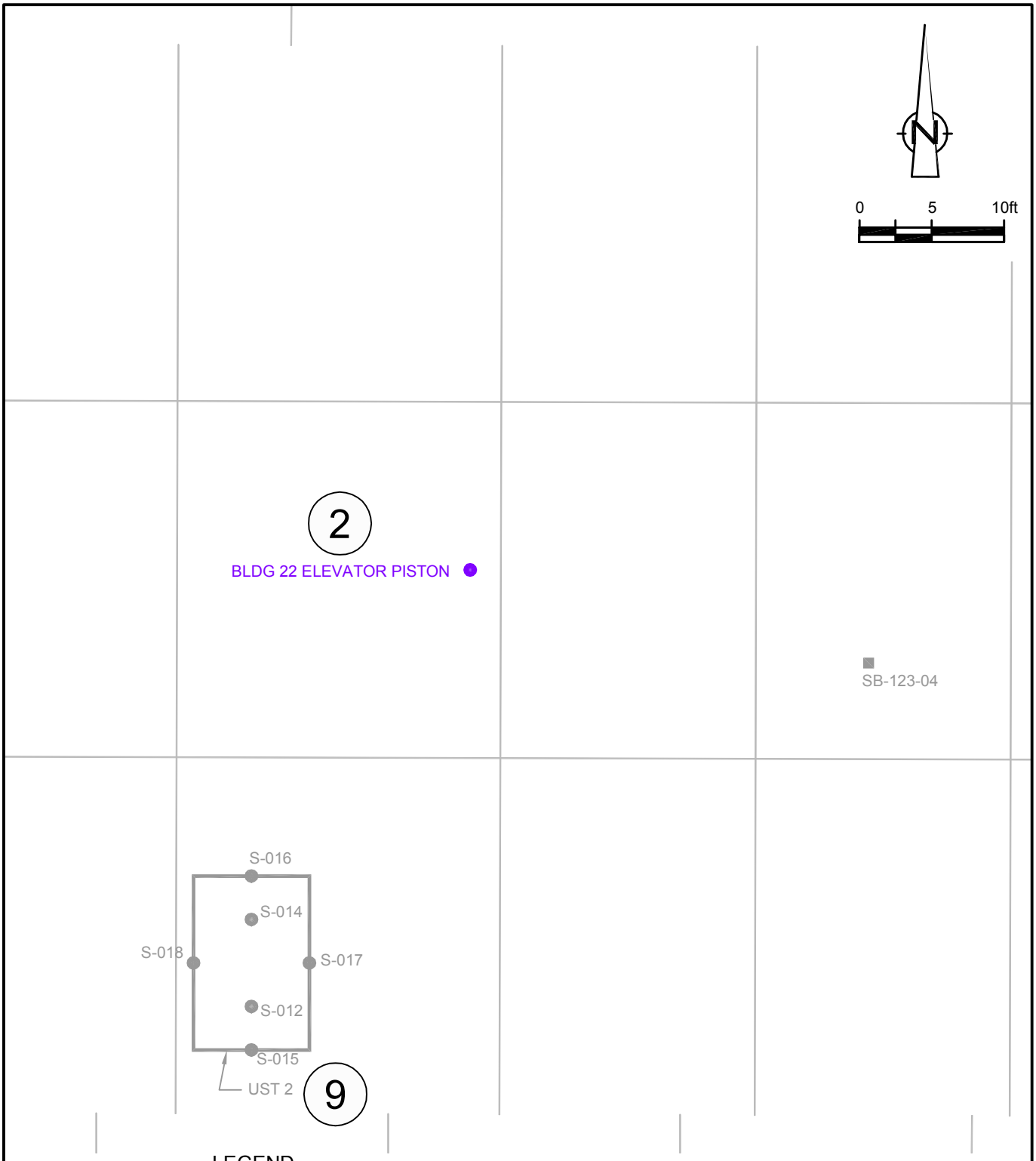


figure 2.3

AOI 37 - BUILDING 22 ELEVATOR PISTON
FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY
Dayton, Ohio

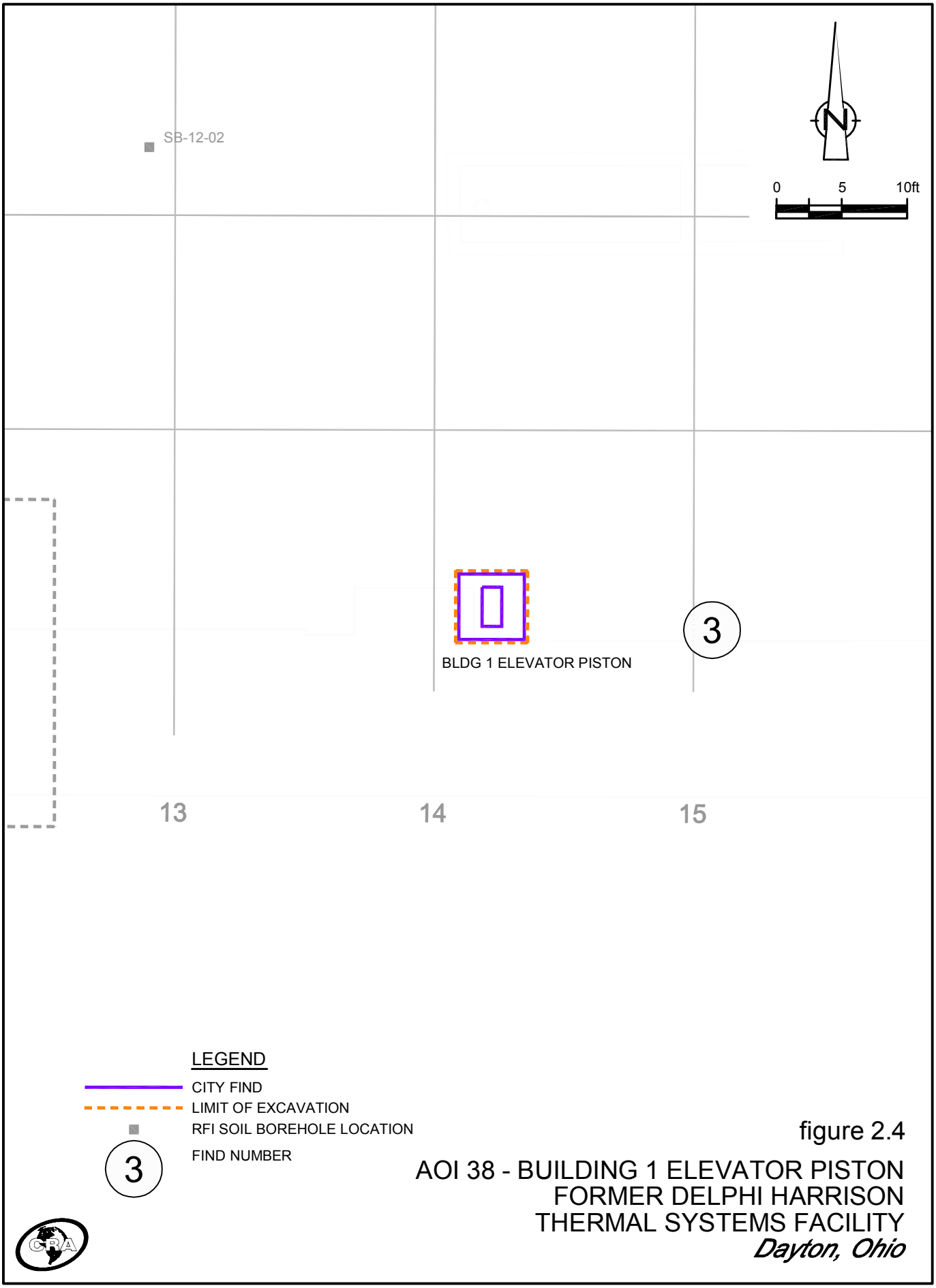
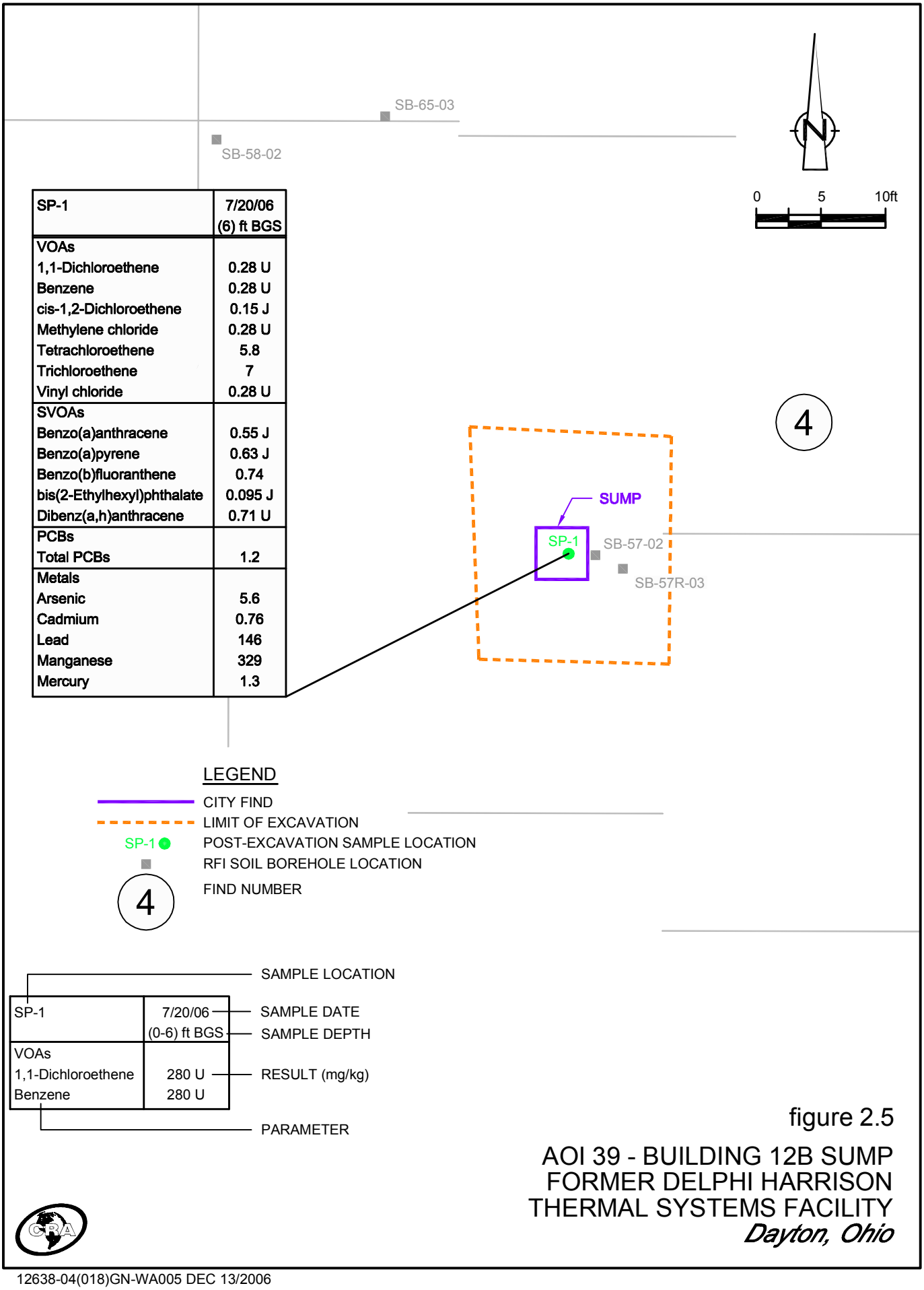


figure 2.4

AOI 38 - BUILDING 1 ELEVATOR PISTON
FORMER DELPHI HARRISON
THERMAL SYSTEMS FACILITY
Dayton, Ohio

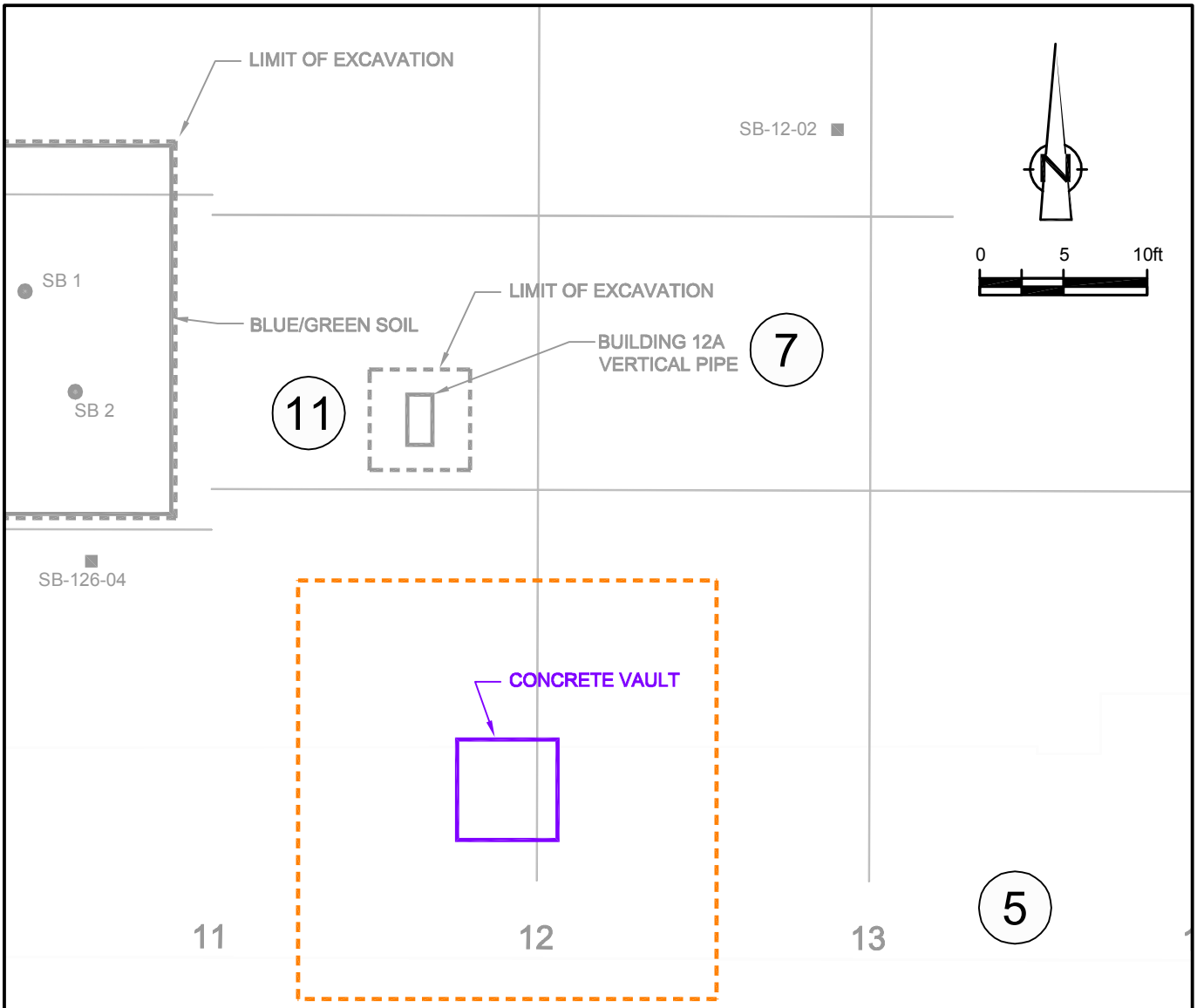
12638-04(018)GN-WA004 DEC 12/2006



SP-1	7/20/06 (6) ft BGS
VOAs	
1,1-Dichloroethene	0.28 U
Benzene	0.28 U
cis-1,2-Dichloroethene	0.15 J
Methylene chloride	0.28 U
Tetrachloroethene	5.8
Trichloroethene	7
Vinyl chloride	0.28 U
SVOAs	
Benzo(a)anthracene	0.55 J
Benzo(a)pyrene	0.63 J
Benzo(b)fluoranthene	0.74
bis(2-Ethylhexyl)phthalate	0.095 J
Dibenz(a,h)anthracene	0.71 U
PCBs	
Total PCBs	1.2
Metals	
Arsenic	5.6
Cadmium	0.76
Lead	146
Manganese	329
Mercury	1.3

figure 2.5

AOI 39 - BUILDING 12B SUMP
FORMER DELPHI HARRISON
THERMAL SYSTEMS FACILITY
Dayton, Ohio



LEGEND

- CITY FIND
- LIMIT OF EXCAVATION
- SB1 POST-EXCAVATION SAMPLE LOCATION
- RFI SOIL BOREHOLE LOCATION
- 5 FIND NUMBER

figure 2.6

AOI 40 - BUILDING 12A CONCRETE VAULT
FORMER DELPHI HARRISON
THERMAL SYSTEMS FACILITY
Dayton, Ohio

12638-04(018)GN-WA006 DEC 11/2006

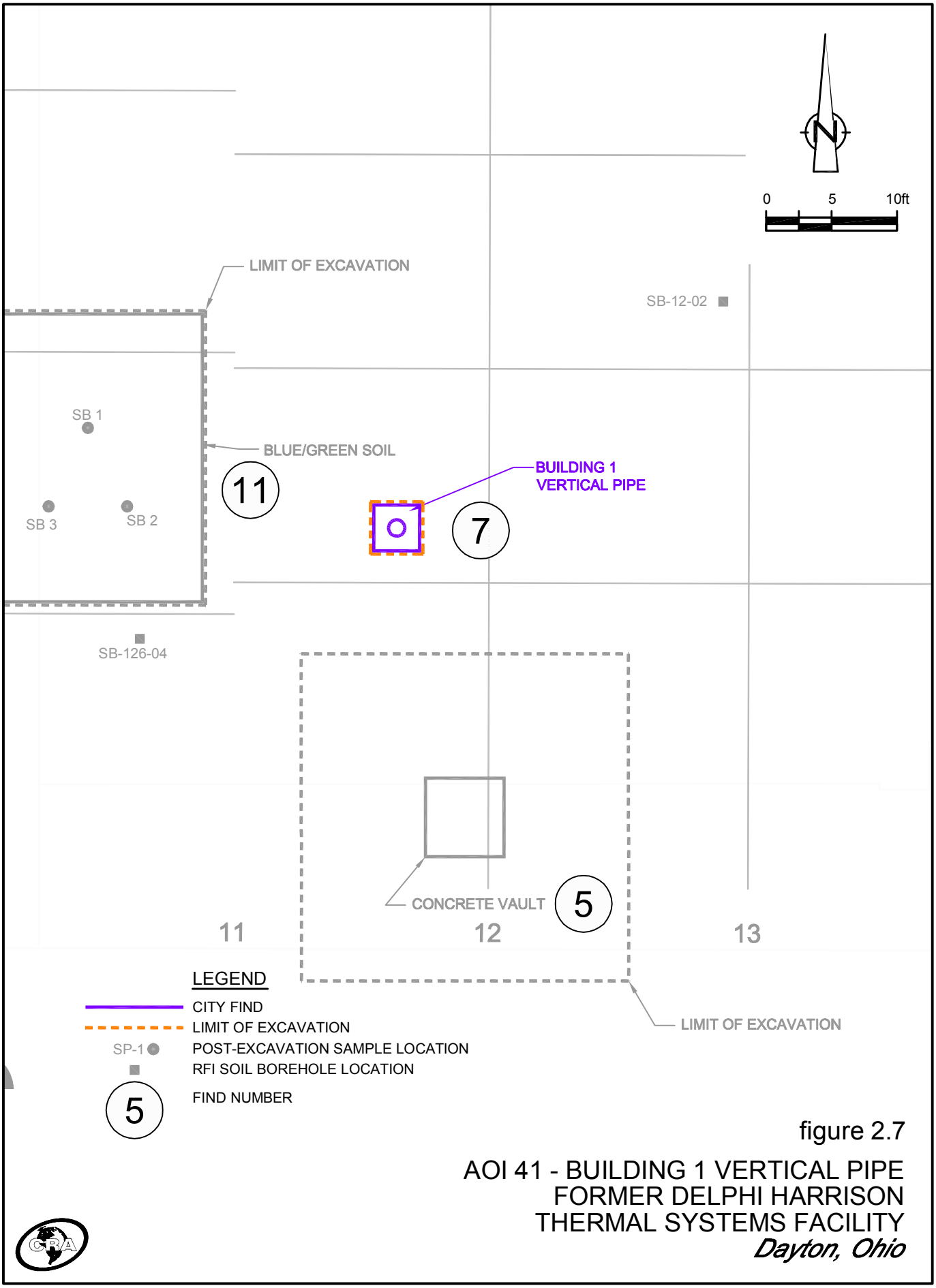
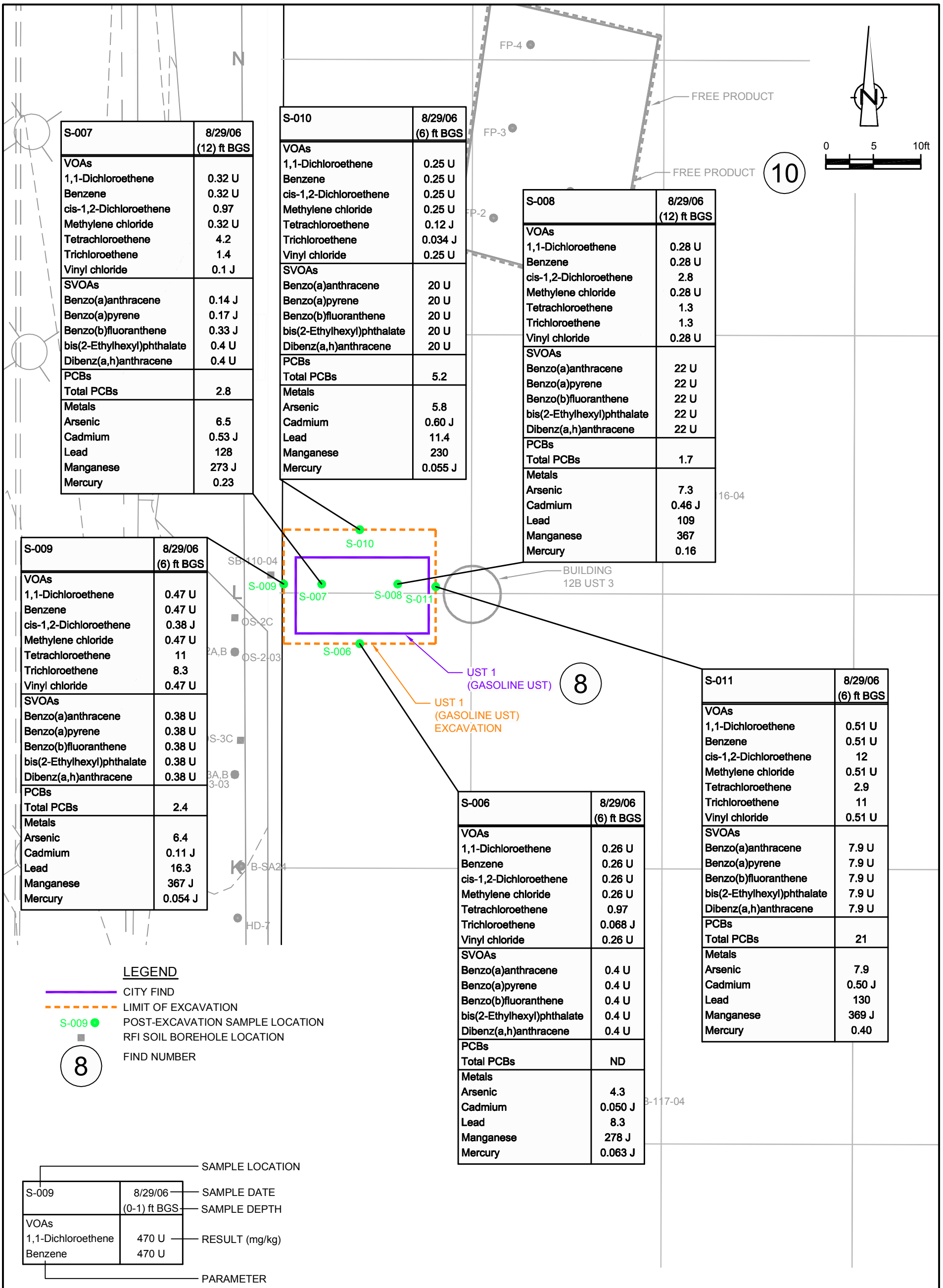


figure 2.7

AOI 41 - BUILDING 1 VERTICAL PIPE
FORMER DELPHI HARRISON
THERMAL SYSTEMS FACILITY
Dayton, Ohio

12638-04(018)GN-WA007 DEC 12/2006



S-007	8/29/06 (12) ft BGS
VOAs	
1,1-Dichloroethene	0.32 U
Benzene	0.32 U
cis-1,2-Dichloroethene	0.97
Methylene chloride	0.32 U
Tetrachloroethene	4.2
Trichloroethene	1.4
Vinyl chloride	0.1 J
SVOAs	
Benzo(a)anthracene	0.14 J
Benzo(a)pyrene	0.17 J
Benzo(b)fluoranthene	0.33 J
bis(2-Ethylhexyl)phthalate	0.4 U
Dibenz(a,h)anthracene	0.4 U
PCBs	
Total PCBs	2.8
Metals	
Arsenic	6.5
Cadmium	0.53 J
Lead	128
Manganese	273 J
Mercury	0.23

S-010	8/29/06 (6) ft BGS
VOAs	
1,1-Dichloroethene	0.25 U
Benzene	0.25 U
cis-1,2-Dichloroethene	0.25 U
Methylene chloride	0.25 U
Tetrachloroethene	0.12 J
Trichloroethene	0.034 J
Vinyl chloride	0.25 U
SVOAs	
Benzo(a)anthracene	20 U
Benzo(a)pyrene	20 U
Benzo(b)fluoranthene	20 U
bis(2-Ethylhexyl)phthalate	20 U
Dibenz(a,h)anthracene	20 U
PCBs	
Total PCBs	5.2
Metals	
Arsenic	5.8
Cadmium	0.60 J
Lead	11.4
Manganese	230
Mercury	0.055 J

S-008	8/29/06 (12) ft BGS
VOAs	
1,1-Dichloroethene	0.28 U
Benzene	0.28 U
cis-1,2-Dichloroethene	2.8
Methylene chloride	0.28 U
Tetrachloroethene	1.3
Trichloroethene	1.3
Vinyl chloride	0.28 U
SVOAs	
Benzo(a)anthracene	22 U
Benzo(a)pyrene	22 U
Benzo(b)fluoranthene	22 U
bis(2-Ethylhexyl)phthalate	22 U
Dibenz(a,h)anthracene	22 U
PCBs	
Total PCBs	1.7
Metals	
Arsenic	7.3
Cadmium	0.46 J
Lead	109
Manganese	367
Mercury	0.16

S-009	8/29/06 (6) ft BGS
VOAs	
1,1-Dichloroethene	0.47 U
Benzene	0.47 U
cis-1,2-Dichloroethene	0.38 J
Methylene chloride	0.47 U
Tetrachloroethene	11
Trichloroethene	8.3
Vinyl chloride	0.47 U
SVOAs	
Benzo(a)anthracene	0.38 U
Benzo(a)pyrene	0.38 U
Benzo(b)fluoranthene	0.38 U
bis(2-Ethylhexyl)phthalate	0.38 U
Dibenz(a,h)anthracene	0.38 U
PCBs	
Total PCBs	2.4
Metals	
Arsenic	6.4
Cadmium	0.11 J
Lead	16.3
Manganese	367 J
Mercury	0.054 J

S-006	8/29/06 (6) ft BGS
VOAs	
1,1-Dichloroethene	0.26 U
Benzene	0.26 U
cis-1,2-Dichloroethene	0.26 U
Methylene chloride	0.26 U
Tetrachloroethene	0.97
Trichloroethene	0.068 J
Vinyl chloride	0.26 U
SVOAs	
Benzo(a)anthracene	0.4 U
Benzo(a)pyrene	0.4 U
Benzo(b)fluoranthene	0.4 U
bis(2-Ethylhexyl)phthalate	0.4 U
Dibenz(a,h)anthracene	0.4 U
PCBs	
Total PCBs	ND
Metals	
Arsenic	4.3
Cadmium	0.050 J
Lead	8.3
Manganese	278 J
Mercury	0.063 J

S-011	8/29/06 (6) ft BGS
VOAs	
1,1-Dichloroethene	0.51 U
Benzene	0.51 U
cis-1,2-Dichloroethene	12
Methylene chloride	0.51 U
Tetrachloroethene	2.9
Trichloroethene	11
Vinyl chloride	0.51 U
SVOAs	
Benzo(a)anthracene	7.9 U
Benzo(a)pyrene	7.9 U
Benzo(b)fluoranthene	7.9 U
bis(2-Ethylhexyl)phthalate	7.9 U
Dibenz(a,h)anthracene	7.9 U
PCBs	
Total PCBs	21
Metals	
Arsenic	7.9
Cadmium	0.50 J
Lead	130
Manganese	369 J
Mercury	0.40

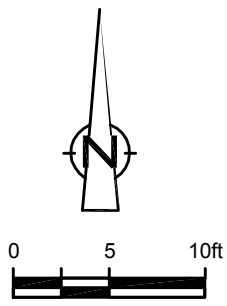
LEGEND

- CITY FIND
- LIMIT OF EXCAVATION
- S-009 POST-EXCAVATION SAMPLE LOCATION
- RFI SOIL BOREHOLE LOCATION
- 8 FIND NUMBER

figure 2.8

AOI 42 - BUILDING 12B UST
FORMER DELPHI HARRISON
THERMAL SYSTEMS FACILITY
Dayton, Ohio

12638-04(018)GN-WA008 DEC 11/2006



S-018	8/30/06 (2) ft BGS
VOAs	
1,1-Dichloroethene	0.0051 U
Benzene	0.0037 J
cis-1,2-Dichloroethene	0.0051 U
Methylene chloride	0.0051 U
Tetrachloroethene	0.0035 J
Trichloroethene	0.016
Vinyl chloride	0.0051 U
SVOAs	
Benzo(a)anthracene	0.066 J
Benzo(a)pyrene	0.082 J
Benzo(b)fluoranthene	0.11 J
bis(2-Ethylhexyl)phthalate	0.39 U
Dibenz(a,h)anthracene	0.016 J
PCBs	
Total PCBs	1.9
Metals	
Arsenic	6.1
Cadmium	0.050 J
Lead	84.4
Manganese	418 J
Mercury	0.18

S-016	8/30/06 (2) ft BGS
VOAs	
1,1-Dichloroethene	1.1 U
Benzene	1.1 U
cis-1,2-Dichloroethene	3.3
Methylene chloride	1.1 U
Tetrachloroethene	0.42 J
Trichloroethene	29
Vinyl chloride	1.1 U
SVOAs	
Benzo(a)anthracene	0.13 J
Benzo(a)pyrene	0.15 J
Benzo(b)fluoranthene	0.22 J
bis(2-Ethylhexyl)phthalate	0.43 U
Dibenz(a,h)anthracene	0.032 J
PCBs	
Total PCBs	0.44
Metals	
Arsenic	9.6
Cadmium	0.11 J
Lead	430
Manganese	271 J
Mercury	1.6

S-014	8/30/06 (4) ft BGS
VOAs	
1,1-Dichloroethene	0.0073 U
Benzene	0.0013 J
cis-1,2-Dichloroethene	0.05
Methylene chloride	0.0073 U
Tetrachloroethene	0.01
Trichloroethene	0.12
Vinyl chloride	0.0073 U
SVOAs	
Benzo(a)anthracene	2.5
Benzo(a)pyrene	2.4
Benzo(b)fluoranthene	2.9
bis(2-Ethylhexyl)phthalate	1.1 U
Dibenz(a,h)anthracene	0.54 J
PCBs	
Total PCBs	0.12
Metals	
Arsenic	6.1 J
Cadmium	0.30 J
Lead	270 J
Manganese	333
Mercury	0.073 J

S-017	8/30/06 (2) ft BGS
VOAs	
1,1-Dichloroethene	0.3 U
Benzene	0.016 J
cis-1,2-Dichloroethene	0.65
Methylene chloride	0.3 U
Tetrachloroethene	0.57
Trichloroethene	7.6
Vinyl chloride	0.3 U
SVOAs	
Benzo(a)anthracene	1.1
Benzo(a)pyrene	1.4
Benzo(b)fluoranthene	1.6
bis(2-Ethylhexyl)phthalate	0.97 U
Dibenz(a,h)anthracene	0.23 J
PCBs	
Total PCBs	19
Metals	
Arsenic	6.7
Cadmium	0.33 J
Lead	340
Manganese	316 J
Mercury	2.5

S-016
S-014
S-018 S-017
S-012
S-015

UST 2

9

S-012	8/30/06 (4) ft BGS
VOAs	
1,1-Dichloroethene	0.6 U/0.61 U
Benzene	0.6 U/0.61 U
cis-1,2-Dichloroethene	0.15 J/0.54 J
Methylene chloride	0.6 U/0.61 U
Tetrachloroethene	2.6/4.7
Trichloroethene	6.2 J/19 J
Vinyl chloride	0.6 U/0.61 U
SVOAs	
Benzo(a)anthracene	0.28 J/3 J
Benzo(a)pyrene	0.33 J/3.5 J
Benzo(b)fluoranthene	0.44 J/4 J
bis(2-Ethylhexyl)phthalate	0.03 J/1.1 U
Dibenz(a,h)anthracene	0.088 J/0.9 J
PCBs	
Total PCBs	3.9 J/0.98 J
Metals	
Arsenic	12.2 J/6.8 J
Cadmium	2.0/1.9
Lead	700 J/361 J
Manganese	406/400
Mercury	0.44/1.1

S-015	8/30/06 (2) ft BGS
VOAs	
1,1-Dichloroethene	1.2 U
Benzene	1.2 U
cis-1,2-Dichloroethene	0.87 J
Methylene chloride	1.2 U
Tetrachloroethene	8.4
Trichloroethene	32
Vinyl chloride	1.2 U
SVOAs	
Benzo(a)anthracene	0.28 J
Benzo(a)pyrene	0.34 J
Benzo(b)fluoranthene	0.46
bis(2-Ethylhexyl)phthalate	0.46 U
Dibenz(a,h)anthracene	0.065 J
PCBs	
Total PCBs	ND
Metals	
Arsenic	9.0
Cadmium	0.39 J
Lead	187
Manganese	294 J
Mercury	4.2

13

LEGEND

- CITY FIND
- LIMIT OF EXCAVATION
- S-017 POST-EXCAVATION SAMPLE LOCATION
- RFI SOIL BOREHOLE LOCATION
- 9 FIND NUMBER

S-009	8/29/06 (0-1) ft BGS
VOAs	
1,1-Dichloroethene	470 U
Benzene	470 U

SAMPLE LOCATION
SAMPLE DATE
SAMPLE DEPTH
RESULT (mg/kg)
PARAMETER

figure 2.9

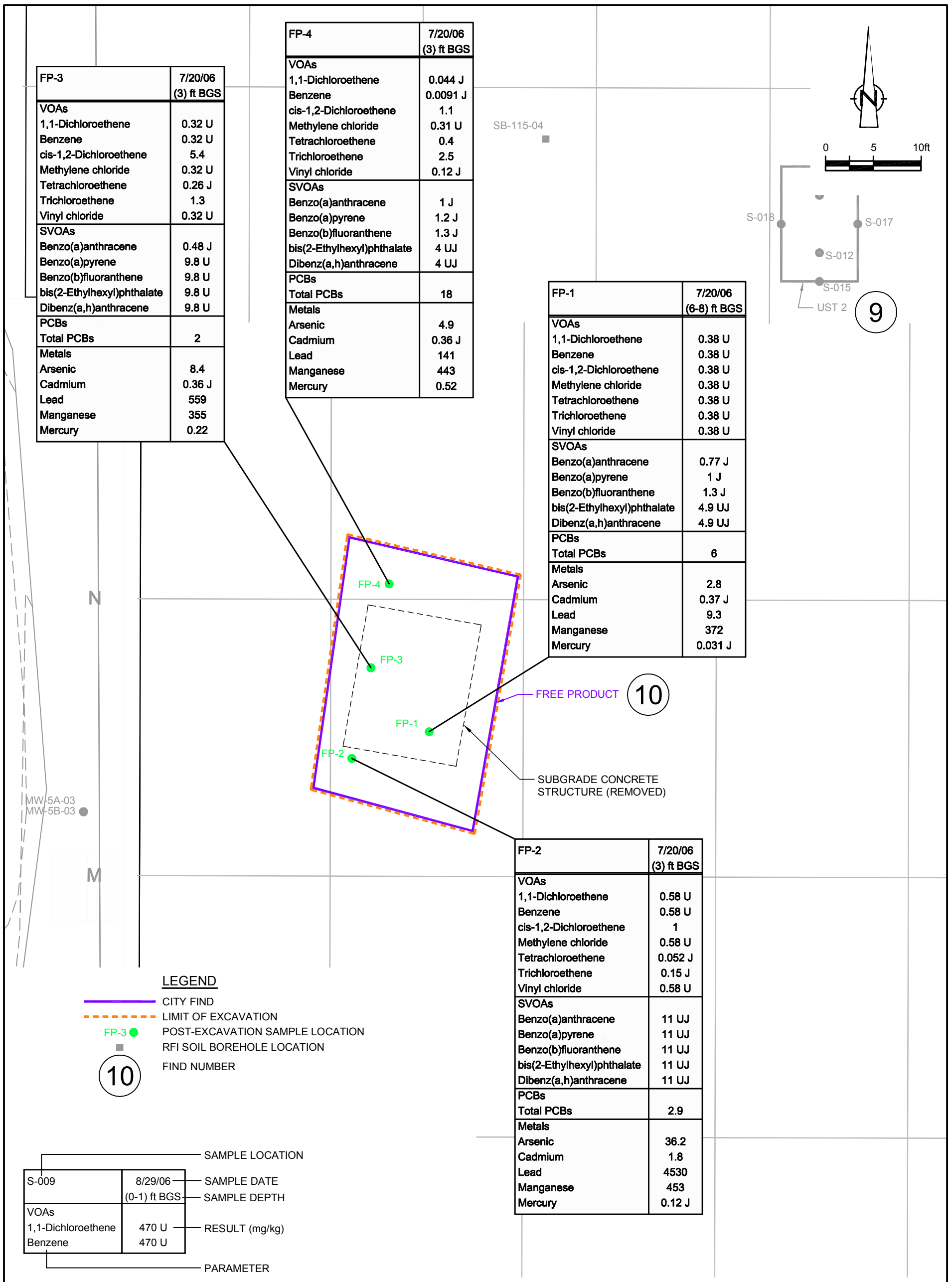
AOI 43 - BUILDING 22 UST
FORMER DELPHI HARRISON
THERMAL SYSTEMS FACILITY
Dayton, Ohio

FP-3	7/20/06 (3) ft BGS
VOAs	
1,1-Dichloroethene	0.32 U
Benzene	0.32 U
cis-1,2-Dichloroethene	5.4
Methylene chloride	0.32 U
Tetrachloroethene	0.26 J
Trichloroethene	1.3
Vinyl chloride	0.32 U
SVOAs	
Benzo(a)anthracene	0.48 J
Benzo(a)pyrene	9.8 U
Benzo(b)fluoranthene	9.8 U
bis(2-Ethylhexyl)phthalate	9.8 U
Dibenz(a,h)anthracene	9.8 U
PCBs	
Total PCBs	2
Metals	
Arsenic	8.4
Cadmium	0.36 J
Lead	559
Manganese	355
Mercury	0.22

FP-4	7/20/06 (3) ft BGS
VOAs	
1,1-Dichloroethene	0.044 J
Benzene	0.0091 J
cis-1,2-Dichloroethene	1.1
Methylene chloride	0.31 U
Tetrachloroethene	0.4
Trichloroethene	2.5
Vinyl chloride	0.12 J
SVOAs	
Benzo(a)anthracene	1 J
Benzo(a)pyrene	1.2 J
Benzo(b)fluoranthene	1.3 J
bis(2-Ethylhexyl)phthalate	4 UJ
Dibenz(a,h)anthracene	4 UJ
PCBs	
Total PCBs	18
Metals	
Arsenic	4.9
Cadmium	0.36 J
Lead	141
Manganese	443
Mercury	0.52

FP-1	7/20/06 (6-8) ft BGS
VOAs	
1,1-Dichloroethene	0.38 U
Benzene	0.38 U
cis-1,2-Dichloroethene	0.38 U
Methylene chloride	0.38 U
Tetrachloroethene	0.38 U
Trichloroethene	0.38 U
Vinyl chloride	0.38 U
SVOAs	
Benzo(a)anthracene	0.77 J
Benzo(a)pyrene	1 J
Benzo(b)fluoranthene	1.3 J
bis(2-Ethylhexyl)phthalate	4.9 UJ
Dibenz(a,h)anthracene	4.9 UJ
PCBs	
Total PCBs	6
Metals	
Arsenic	2.8
Cadmium	0.37 J
Lead	9.3
Manganese	372
Mercury	0.031 J

FP-2	7/20/06 (3) ft BGS
VOAs	
1,1-Dichloroethene	0.58 U
Benzene	0.58 U
cis-1,2-Dichloroethene	1
Methylene chloride	0.58 U
Tetrachloroethene	0.052 J
Trichloroethene	0.15 J
Vinyl chloride	0.58 U
SVOAs	
Benzo(a)anthracene	11 UJ
Benzo(a)pyrene	11 UJ
Benzo(b)fluoranthene	11 UJ
bis(2-Ethylhexyl)phthalate	11 UJ
Dibenz(a,h)anthracene	11 UJ
PCBs	
Total PCBs	2.9
Metals	
Arsenic	36.2
Cadmium	1.8
Lead	4530
Manganese	453
Mercury	0.12 J



LEGEND

- CITY FIND
- LIMIT OF EXCAVATION
- FP-3 POST-EXCAVATION SAMPLE LOCATION
- RFI SOIL BOREHOLE LOCATION
- 10 FIND NUMBER

S-009	8/29/06 (0-1) ft BGS
VOAs	
1,1-Dichloroethene	470 U
Benzene	470 U

SAMPLE LOCATION
SAMPLE DATE
SAMPLE DEPTH
RESULT (mg/kg)
PARAMETER

figure 2.10

AOI 44 - BUILDING 12B FREE PRODUCT
FORMER DELPHI HARRISON
THERMAL SYSTEMS FACILITY
Dayton, Ohio

12638-04(018)GN-WA010 DEC 11/2006

SB 1	5/25/06 (6-8) ft
VOAs	
1,1-Dichloroethene	0.27 U
Benzene	0.27 U
cis-1,2-Dichloroethene	0.27 U
Methylene chloride	0.27 U
Tetrachloroethene	0.22 J
Trichloroethene	0.65
Vinyl chloride	0.27 U
PCBs	
Total PCBs	7.8
SVOAs	
Benzo(a)anthracene	0.034 J
Benzo(a)pyrene	0.027 J
Benzo(b)fluoranthene	0.036 J
bis(2-Ethylhexyl)phthalate	0.38 U
Dibenz(a,h)anthracene	0.38 U
Metals	
Arsenic	2.2
Cadmium	0.61
Lead	12.2
Manganese	160
Mercury	0.045 J

SB 3	5/25/06 (6-8) ft
VOAs	
1,1-Dichloroethene	0.26 U
Benzene	0.26 U
cis-1,2-Dichloroethene	0.031 J
Methylene chloride	0.26 U
Tetrachloroethene	0.49
Trichloroethene	3
Vinyl chloride	0.26 U
PCBs	
Total PCBs	21
SVOAs	
Benzo(a)anthracene	0.043 J
Benzo(a)pyrene	0.037 J
Benzo(b)fluoranthene	0.052 J
bis(2-Ethylhexyl)phthalate	0.41 U
Dibenz(a,h)anthracene	0.41 U
Metals	
Arsenic	2.8
Cadmium	0.94
Lead	35.3
Manganese	174
Mercury	0.11 J

SB 2	5/25/06 (6-8) ft
VOAs	
1,1-Dichloroethene	0.0057 U
Benzene	0.0057 U
cis-1,2-Dichloroethene	0.0057 U
Methylene chloride	0.0057 U
Tetrachloroethene	0.0057 U
Trichloroethene	0.0057 U
Vinyl chloride	0.0057 U
PCBs	
Total PCBs	35
SVOAs	
Benzo(a)anthracene	1.5 U
Benzo(a)pyrene	0.056 J
Benzo(b)fluoranthene	0.077 J
bis(2-Ethylhexyl)phthalate	1.5 U
Dibenz(a,h)anthracene	1.5 U
Metals	
Arsenic	2.1
Cadmium	1.1
Lead	46.1
Manganese	215
Mercury	0.24

SB-127-04

SB 1

SB 3

SB 2

SB-126-04

SB-16-02

BLUE/GREEN SOIL 11

BUILDING 12A VERTICAL PIPE 7

ONCRETE VAULT 5

0 5 10ft

9 10 11

LEGEND

CITY FIND

LIMIT OF EXCAVATION

SB 1 POST-EXCAVATION SAMPLE LOCATION

RFI SOIL BOREHOLE LOCATION

5 FIND NUMBER

S-009	8/29/06 (0-1) ft BGS
VOAs	
1,1-Dichloroethene	470 U
Benzene	470 U

SAMPLE LOCATION

SAMPLE DATE

SAMPLE DEPTH

RESULT (mg/kg)

PARAMETER

figure 2.11

AOI 45 - BLUE-GREEN SOIL AREA
FORMER DELPHI HARRISON
THERMAL SYSTEMS FACILITY
Dayton, Ohio

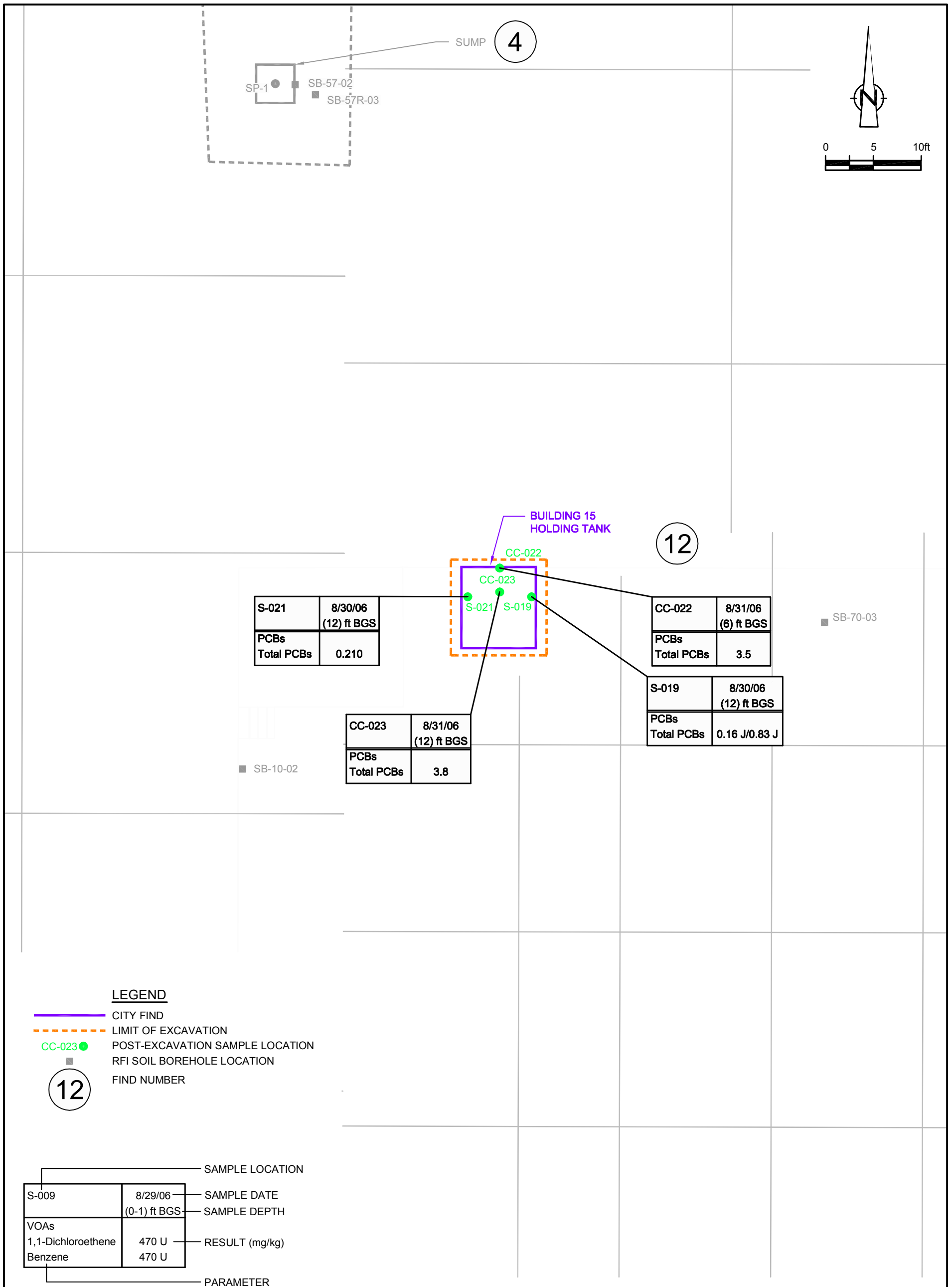


figure 2.12

AOI 46 - BUILDING 15 HOLDING TANK
FORMER DELPHI HARRISON
THERMAL SYSTEMS FACILITY
Dayton, Ohio

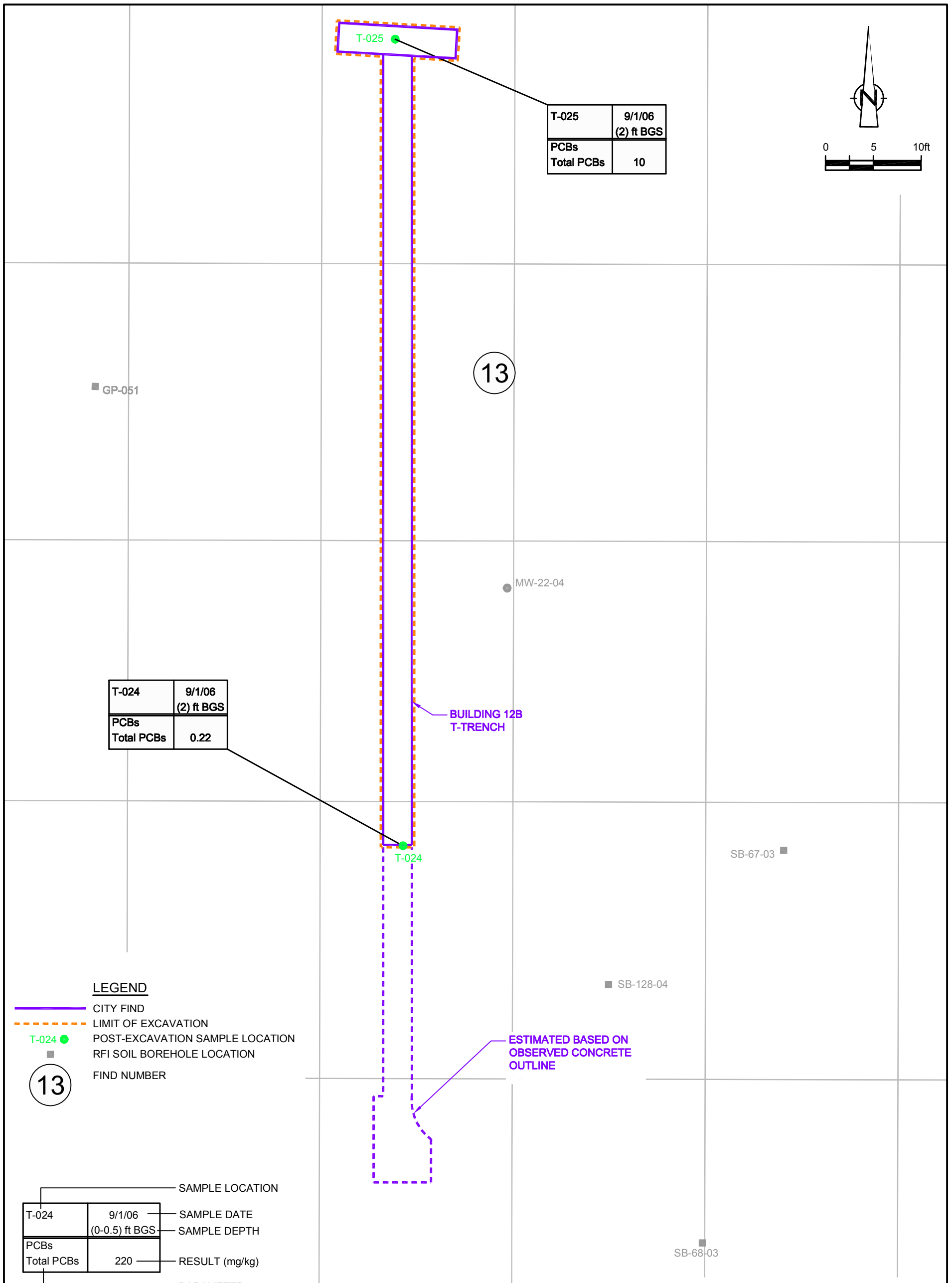


figure 2.13

AOI 47 - BUILDING 12B T-TRENCH
FORMER DELPHI HARRISON
THERMAL SYSTEMS FACILITY
Dayton, Ohio

12638-04(018)GN-WA013 MAR 07/2007

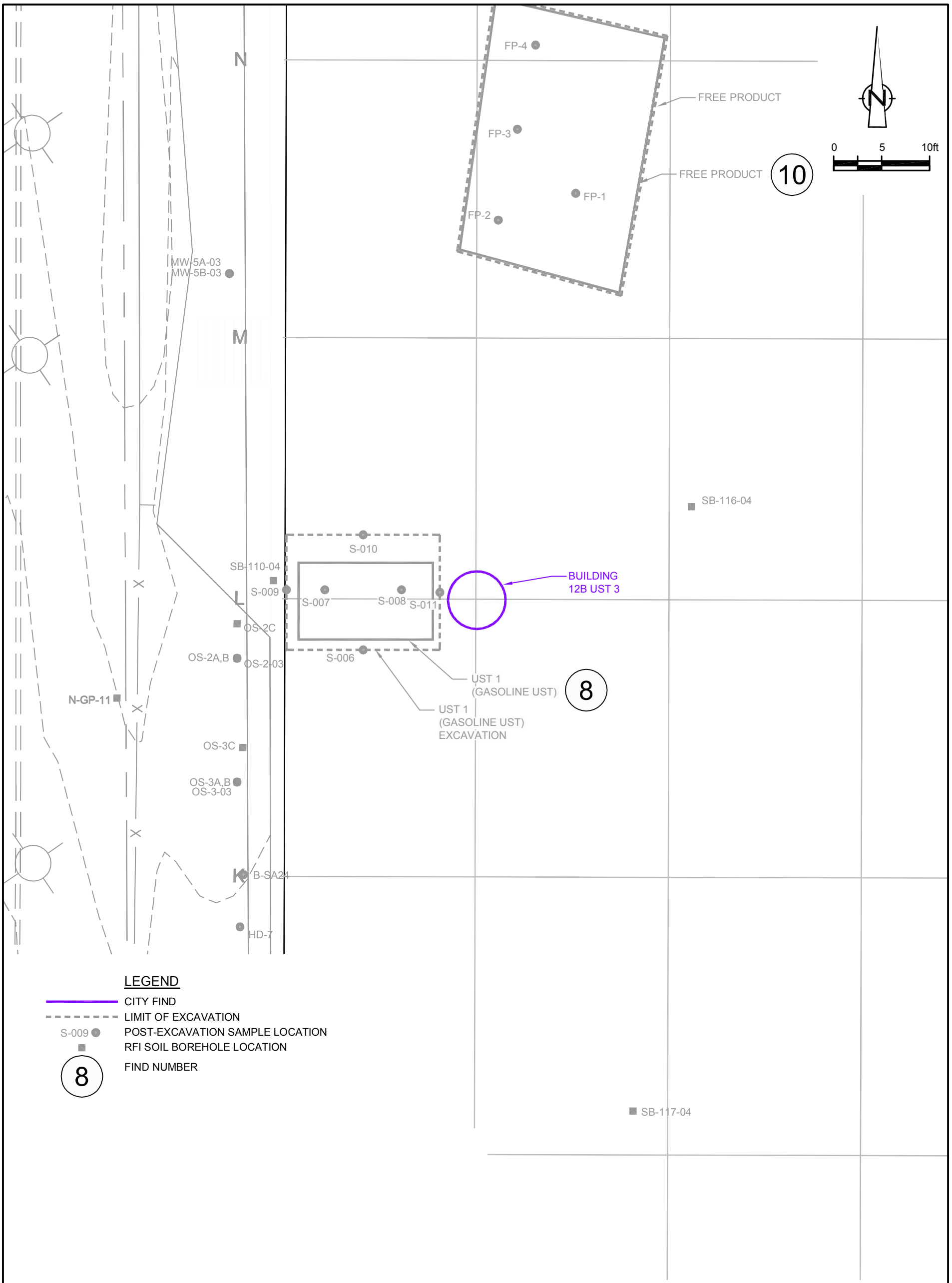


figure 2.14

AOI 48 - BUILDING 12B UST 3
FORMER DELPHI HARRISON
THERMAL SYSTEMS FACILITY
Dayton, Ohio

12638-04(018)GN-WA016 DEC 11/2006

Mad River

40 0 40 80 Feet

Webster Street

Taylor Street

Pitt Street

N

SB-97-03
SB-98-03
SB-27-02
SB-26-02
SB-5-02
SB-61-03
SB-62-03
SB-4-02
SB-3-02
SB-64-03
SB-63-03
SB-59-03
MW-15-03
SB-28-02
SB-7-02
SB-8-02
MW-9-03
SB-60-03
SB-9-02
SB-122-04
SB-114-04
SB-6-02
SB-112-04
SB-66-03
SB-123-04
SB-115-04
BH-178-04
SB-65-03
SB-76-03
SB-113-04
SB-162-04
SB-58-02
SB-57-02
SB-1-02
SB-2-02
MW-5-03
MW-22-04
SB-110-04
SB-116-04
SB-67-03
SB-10-02
SB-70-03
OS-2-03
OS-3-03
SB-128-04
SB-161-04
OS-4-03
SB-117-04
SB-68-03
SB-11-02
SB-71-03
SB-129-04
OS-5-03
SB-124-04
SB-69-03
MW-10-03
OS-6-03
OS-7-03
SB-127-04
BH-179-04
BH-177-04
BH-184-04
SB-125-04
SB-12-02
SB-126-03
SB-109-04
SB-102-03
SB-47-02
SB-46-02
SB-100-03
SB-16-02
SB-99-03
SB-107-04
SB-108-04
SB-101-03
SB-111-04
SB-106-04
SB-105-04
SB-48-02
SB-45-02

Bldg 22 Elevator Piston
AOI 37

Bldg 22 UST 2
AOI 43

S-016
S-014
S-018
S-017
S-012
S-015

Bldg 12B Sump
AOI 39

T-025
SP-1

FP-4
FP-3
FP-2
FP-1
Bldg 12B
Free Product
AOI 44

BLDG 12B T-Trench
AOI 47

Bldg 15 Holding Tank
AOI 46

S-021
S-019

S-010
S-011
S-009
S-007
S-008
S-006
Bldg 12B UST 3
AOI 48

T-024

Bldg 12B UST 1
AOI 42

Bldg 15 T-Trench
AOI 36

SB 1
SB 2
SB 3
Blue-Green Soil Area
AOI 45

Bldg 1
Vertical Pipe
AOI 41

Bldg 1 Elevator Piston
AOI 38

Bldg 12A Concrete Vault
AOI 40

Legend

- RFI Soil Boring Location
- SB-45-02
- Approx. Location of Post-RFI Soil Boring
- S-019
- RFI Sub-Area
- Approx. Outline of Post-RFI Subsurface Structure
- Bldg 1 Elevator Piston
- Approx. Extent of Excavation

ENVIRON

Date: 12/13/2006

Post-RFI Soil Boring Locations in Relation to RFI Sub-Areas.
Former GM Delphi Harrison Thermal Systems Facility, Dayton, Ohio

Figure 3.1
Arcview Plot

TABLE 2.1

ANALYTICAL RESULTS SUMMARY
AOI 39 - BUILDING 12B SUMP
FORMER DELPHI HARRISON THERMAL SYSTEMS
DAYTON, OHIO

Sample Description:		***Bldg 12B Sump***
Sample Area:		***AOI-39***
Sample Location:		***SP-1***
Sample ID:		***S-12638-072006-JC-002***
Sample Date:		***7/20/2006***
Sample Depth:		***6 ft BGS***
Parameters	***Units***	
Volatile Organic Compounds		
1,1,1-Trichloroethane	mg/kg	0.28 U
1,1,2,2-Tetrachloroethane	mg/kg	0.28 U
1,1,2-Trichloroethane	mg/kg	0.28 U
1,1-Dichloroethane	mg/kg	0.28 U
1,1-Dichloroethene	mg/kg	0.28 U
1,2,4-Trichlorobenzene	mg/kg	0.28 U
1,2-Dibromo-3-chloropropane (DBCP)	mg/kg	0.56 U
1,2-Dibromoethane (Ethylene Dibromide)	mg/kg	0.28 U
1,2-Dichlorobenzene	mg/kg	0.28 U
1,2-Dichloroethane	mg/kg	0.28 U
1,2-Dichloropropane	mg/kg	0.28 U
1,3-Dichlorobenzene	mg/kg	0.28 U
1,4-Dichlorobenzene	mg/kg	0.28 U
2-Butanone (Methyl Ethyl Ketone)	mg/kg	1.1 U
2-Hexanone	mg/kg	1.1 U
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	mg/kg	1.1 U
Acetone	mg/kg	1.1 J B
Benzene	mg/kg	0.28 U
Bromodichloromethane	mg/kg	0.28 U
Bromoform	mg/kg	0.28 U
Bromomethane (Methyl Bromide)	mg/kg	0.28 U
Carbon disulfide	mg/kg	0.28 U
Carbon tetrachloride	mg/kg	0.28 U
Chlorobenzene	mg/kg	0.28 U
Chloroethane	mg/kg	0.28 U
Chloroform (Trichloromethane)	mg/kg	0.28 U
Chloromethane (Methyl Chloride)	mg/kg	0.28 U
cis-1,2-Dichloroethene	mg/kg	0.15 J
cis-1,3-Dichloropropene	mg/kg	0.28 U
Cyclohexane	mg/kg	0.045 J
Dibromochloromethane	mg/kg	0.28 U
Dichlorodifluoromethane (CFC-12)	mg/kg	0.28 U
Ethylbenzene	mg/kg	0.022 J

TABLE 2.1

ANALYTICAL RESULTS SUMMARY
AOI 39 - BUILDING 12B SUMP
FORMER DELPHI HARRISON THERMAL SYSTEMS
DAYTON, OHIO

Sample Description:		***Bldg 12B Sump***
Sample Area:		***AOI-39***
Sample Location:		***SP-1***
Sample ID:		***S-12638-072006-JC-002***
Sample Date:		***7/20/2006***
Sample Depth:		***6 ft BGS***
Parameters	***Units***	
Isopropylbenzene	mg/kg	0.28 U
Methyl acetate	mg/kg	0.56 J B
Methyl cyclohexane	mg/kg	0.11 J
Methyl Tert Butyl Ether	mg/kg	1.1 U
Methylene chloride	mg/kg	0.28 U
Styrene	mg/kg	0.28 U
Tetrachloroethene	mg/kg	5.8
Toluene	mg/kg	0.067 J B
trans-1,2-Dichloroethene	mg/kg	0.28 U
trans-1,3-Dichloropropene	mg/kg	0.28 U
Trichloroethene	mg/kg	7
Trichlorofluoromethane (CFC-11)	mg/kg	0.28 U
Trifluorotrichloroethane (Freon 113)	mg/kg	0.28 U
Vinyl chloride	mg/kg	0.28 U
Xylene (total)	mg/kg	0.13 J
Semi-Volatile Organic Compounds		
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	mg/kg	0.71 U
2,4,5-Trichlorophenol	mg/kg	0.71 U
2,4,6-Trichlorophenol	mg/kg	0.71 U
2,4-Dichlorophenol	mg/kg	0.71 U
2,4-Dimethylphenol	mg/kg	0.71 U
2,4-Dinitrophenol	mg/kg	3.4 U
2,4-Dinitrotoluene	mg/kg	0.71 U
2,6-Dinitrotoluene	mg/kg	0.71 U
2-Chloronaphthalene	mg/kg	0.71 U
2-Chlorophenol	mg/kg	0.71 U
2-Methylnaphthalene	mg/kg	0.13 J
2-Methylphenol	mg/kg	0.71 U
2-Nitroaniline	mg/kg	3.4 U
2-Nitrophenol	mg/kg	0.71 U
3,3'-Dichlorobenzidine	mg/kg	3.4 U
3-Nitroaniline	mg/kg	3.4 U

TABLE 2.1

ANALYTICAL RESULTS SUMMARY
AOI 39 - BUILDING 12B SUMP
FORMER DELPHI HARRISON THERMAL SYSTEMS
DAYTON, OHIO

Sample Description:	***Bldg 12B Sump***
Sample Area:	***AOI-39***
Sample Location:	***SP-1***
Sample ID:	***S-12638-072006-JC-002***
Sample Date:	***7/20/2006***
Sample Depth:	***6 ft BGS***

Parameters	*Units*	
4,6-Dinitro-2-methylphenol	mg/kg	3.4 U
4-Bromophenyl phenyl ether	mg/kg	0.71 U
4-Chloro-3-methylphenol	mg/kg	0.71 U
4-Chloroaniline	mg/kg	0.71 U
4-Chlorophenyl phenyl ether	mg/kg	0.71 U
4-Methylphenol	mg/kg	0.71 U
4-Nitroaniline	mg/kg	3.4 U
4-Nitrophenol	mg/kg	3.4 U
Acenaphthene	mg/kg	0.034 J
Acenaphthylene	mg/kg	0.054 J
Acetophenone	mg/kg	0.71 U
Anthracene	mg/kg	0.14 J
Atrazine	mg/kg	0.71 U
Benzaldehyde	mg/kg	0.71 U
Benzo(a)anthracene	mg/kg	0.55 J
Benzo(a)pyrene	mg/kg	0.63 J
Benzo(b)fluoranthene	mg/kg	0.74
Benzo(g,h,i)perylene	mg/kg	0.5 J
Benzo(k)fluoranthene	mg/kg	0.41 J
Biphenyl	mg/kg	0.71 U
bis(2-Chloroethoxy)methane	mg/kg	0.71 U
bis(2-Chloroethyl)ether	mg/kg	0.71 U
bis(2-Ethylhexyl)phthalate	mg/kg	0.095 J
Butyl benzylphthalate	mg/kg	0.71 U
Caprolactam	mg/kg	0.71 U
Carbazole	mg/kg	0.068 J
Chrysene	mg/kg	0.6 J
Dibenz(a,h)anthracene	mg/kg	0.71 U
Dibenzofuran	mg/kg	0.058 J
Diethyl phthalate	mg/kg	0.71 U
Dimethyl phthalate	mg/kg	0.71 U
Di-n-butylphthalate	mg/kg	0.71 U
Di-n-octyl phthalate	mg/kg	0.71 U
Fluoranthene	mg/kg	0.96
Fluorene	mg/kg	0.71 U
Hexachlorobenzene	mg/kg	0.71 U
Hexachlorobutadiene	mg/kg	0.71 U

TABLE 2.1

ANALYTICAL RESULTS SUMMARY
AOI 39 - BUILDING 12B SUMP
FORMER DELPHI HARRISON THERMAL SYSTEMS
DAYTON, OHIO

Sample Description:		***Bldg 12B Sump***
Sample Area:		***AOI-39***
Sample Location:		***SP-1***
Sample ID:		***S-12638-072006-JC-002***
Sample Date:		***7/20/2006***
Sample Depth:		***6 ft BGS***
Parameters	***Units***	
Hexachlorocyclopentadiene	mg/kg	3.4 U
Hexachloroethane	mg/kg	0.71 U
Indeno(1,2,3-cd)pyrene	mg/kg	0.053 J
Isophorone	mg/kg	0.71 U
Naphthalene	mg/kg	0.099 J
Nitrobenzene	mg/kg	0.71 U
N-Nitrosodi-n-propylamine	mg/kg	0.71 U
N-Nitrosodiphenylamine	mg/kg	0.71 U
Pentachlorophenol	mg/kg	0.71 U
Phenanthrene	mg/kg	0.64 J
Phenol	mg/kg	0.71 U
Pyrene	mg/kg	0.92
Metals		
Antimony	mg/kg	1.4 B
Arsenic	mg/kg	5.6
Barium	mg/kg	81.2
Beryllium	mg/kg	0.41 B
Cadmium	mg/kg	0.76
Chromium Total	mg/kg	15.0 J
Cobalt	mg/kg	3.2 B
Copper	mg/kg	174
Lead	mg/kg	146
Manganese	mg/kg	329 J
Mercury	mg/kg	1.3
Nickel	mg/kg	9.2
Selenium	mg/kg	0.54 U
Silver	mg/kg	1.1 U
Thallium	mg/kg	0.13 B
Vanadium	mg/kg	12.6
Zinc	mg/kg	149 J

TABLE 2.1

ANALYTICAL RESULTS SUMMARY
AOI 39 - BUILDING 12B SUMP
FORMER DELPHI HARRISON THERMAL SYSTEMS
DAYTON, OHIO

Sample Description:		***Bldg 12B Sump***
Sample Area:		***AOI-39***
Sample Location:		***SP-1***
Sample ID:		***S-12638-072006-JC-002***
Sample Date:		***7/20/2006***
Sample Depth:		***6 ft BGS***
Parameters	***Units***	
PCBs		
Aroclor-1016 (PCB-1016)	mg/kg	0.35 U
Aroclor-1221 (PCB-1221)	mg/kg	0.35 U
Aroclor-1232 (PCB-1232)	mg/kg	0.35 U
Aroclor-1242 (PCB-1242)	mg/kg	0.35 U
Aroclor-1248 (PCB-1248)	mg/kg	0.35 U
Aroclor-1254 (PCB-1254)	mg/kg	1.2
Aroclor-1260 (PCB-1260)	mg/kg	0.35 U
General Chemistry		
Total Solids	%	93.1

Notes:
U - Not detected at or above the associated value.
J - Estimated concentration.
B - Method blank contamination.
UJ - Estimated reporting detection limit.

TABLE 2.2

ANALYTICAL RESULTS SUMMARY
AOI 42 - BUILDING 12B UST 1
FORMER DELPHI HARRISON THERMAL SYSTEMS
DAYTON, OHIO

Sample Description:		*Bldg 12B UST 1*	*Bldg 12B UST 1*	*Bldg 12B UST 1*	*Bldg 12B UST 1*	*Bldg 12B UST 1*	*Bldg 12B UST 1*
Sample Area:		*AOI-42*	*AOI-42*	*AOI-42*	*AOI-42*	*AOI-42*	*AOI-42*
Sample Location:		*S-006*	*S-007*	*S-008*	*S-009*	*S-010*	*S-011*
Sample ID:		*S-082906-NZ-006*	*S-082906-NZ-007*	*S-082906-NZ-008*	*S-082906-NZ-009*	*S-082906-NZ-010*	*S-082906-NZ-011*
Sample Date:		*8/29/2006*	*8/29/2006*	*8/29/2006*	*8/29/2006*	*8/29/2006*	*8/29/2006*
Sample Depth:		*6 ft BGS*	*12 ft BGS*	*12 ft BGS*	*6 ft BGS*	*6 ft BGS*	*6 ft BGS*
Parameters	*Units*						
Volatile Organic Compounds							
1,1,1-Trichloroethane	mg/kg	0.26 U	0.32 U	0.28 U	0.47 U	0.25 U	0.51 U
1,1,2,2-Tetrachloroethane	mg/kg	0.26 U	0.32 U	0.28 U	0.47 U	0.25 U	0.51 U
1,1,2-Trichloroethane	mg/kg	0.26 U	0.32 U	0.28 U	0.47 U	0.25 U	0.51 U
1,1-Dichloroethane	mg/kg	0.26 U	0.32 U	0.28 U	0.47 U	0.25 U	0.51 U
1,1-Dichloroethene	mg/kg	0.26 U	0.32 U	0.28 U	0.47 U	0.25 U	0.51 U
1,2,4-Trichlorobenzene	mg/kg	0.26 U	0.32 U	0.28 U	0.47 U	0.068 J B	0.51 U
1,2-Dibromo-3-chloropropane (DBCP)	mg/kg	0.51 U	0.64 U	0.55 U	0.93 U	0.5 U	1 U
1,2-Dibromoethane (Ethylene Dibromide)	mg/kg	0.26 U	0.32 U	0.28 U	0.47 U	0.25 U	0.51 U
1,2-Dichlorobenzene	mg/kg	0.26 U	0.32 U	0.28 U	0.47 U	0.25 U	0.51 U
1,2-Dichloroethane	mg/kg	0.26 U	0.32 U	0.28 U	0.47 U	0.25 U	0.51 U
1,2-Dichloropropane	mg/kg	0.26 U	0.32 U	0.28 U	0.47 U	0.25 U	0.51 U
1,3-Dichlorobenzene	mg/kg	0.26 U	0.32 U	0.28 U	0.47 U	0.25 U	0.51 U
1,4-Dichlorobenzene	mg/kg	0.26 U	0.32 U	0.28 U	0.47 U	0.022 J	0.51 U
2-Butanone (Methyl Ethyl Ketone)	mg/kg	1 U	1.3 U	1.1 U	1.9 U	0.99 U	2 U
2-Hexanone	mg/kg	1 U	1.3 U	1.1 U	1.9 U	0.99 U	2 U
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	mg/kg	1 U	1.3 U	1.1 U	1.9 U	0.99 U	0.21 J
Acetone	mg/kg	1 U	1.3 U	1.1 J B	1.9 U	0.99 J B	2 U
Benzene	mg/kg	0.26 U	0.32 U	0.28 U	0.47 U	0.25 U	0.51 U
Bromodichloromethane	mg/kg	0.26 U	0.32 U	0.28 U	0.47 U	0.25 U	0.51 U
Bromoform	mg/kg	0.26 U	0.32 U	0.28 U	0.47 U	0.25 U	0.51 U
Bromomethane (Methyl Bromide)	mg/kg	0.26 U	0.32 U	0.28 U	0.47 U	0.25 U	0.51 U
Carbon disulfide	mg/kg	0.26 U	0.32 U	0.28 U	0.47 U	0.25 U	0.51 U
Carbon tetrachloride	mg/kg	0.26 U	0.32 U	0.28 U	0.47 U	0.25 U	0.51 U
Chlorobenzene	mg/kg	0.26 U	0.32 U	0.28 U	0.47 U	0.25 U	0.51 U
Chloroethane	mg/kg	0.26 U	0.32 U	0.28 U	0.47 U	0.25 U	0.51 U
Chloroform (Trichloromethane)	mg/kg	0.26 U	0.32 U	0.28 U	0.47 U	0.25 U	0.51 U
Chloromethane (Methyl Chloride)	mg/kg	0.26 U	0.32 U	0.28 U	0.47 U	0.25 U	0.51 U
cis-1,2-Dichloroethene	mg/kg	0.26 U	0.97	2.8	0.38 J	0.25 U	12
cis-1,3-Dichloropropene	mg/kg	0.26 U	0.32 U	0.28 U	0.47 U	0.25 U	0.51 U
Cyclohexane	mg/kg	0.51 U	0.64 U	0.55 U	0.93 U	0.5 U	1 U
Dibromochloromethane	mg/kg	0.26 U	0.32 U	0.28 U	0.47 U	0.25 U	0.51 U
Dichlorodifluoromethane (CFC-12)	mg/kg	0.26 U	0.32 U	0.28 U	0.47 U	0.25 U	0.51 U
Ethylbenzene	mg/kg	0.26 U	1.5	0.43	0.11 J	0.018 J	0.033 J
Isopropylbenzene	mg/kg	0.26 U	0.34	0.076 J	0.087 J	0.055 J	0.51 U
Methyl acetate	mg/kg	0.51 J B	0.64 J B	0.55 J B	0.93 U	0.5 J B	1 J B
Methyl cyclohexane	mg/kg	0.51 U	0.67	0.095 J	0.93 U	0.012 J	0.042 J
Methyl Tert Butyl Ether	mg/kg	1 U	1.3 U	1.1 U	1.9 U	0.99 U	2 U
Methylene chloride	mg/kg	0.26 U	0.32 U	0.28 U	0.47 U	0.25 U	0.51 U
Styrene	mg/kg	0.26 U	0.32 U	0.28 U	0.47 U	0.25 U	0.51 U
Tetrachloroethene	mg/kg	0.97	4.2	1.3	11	0.12 J	2.9
Toluene	mg/kg	0.26 U	0.37	0.23 J	0.035 J	0.25 U	0.035 J

TABLE 2.2

ANALYTICAL RESULTS SUMMARY
AOI 42 - BUILDING 12B UST 1
FORMER DELPHI HARRISON THERMAL SYSTEMS
DAYTON, OHIO

Sample Description:		*Bldg 12B UST 1*	*Bldg 12B UST 1*	*Bldg 12B UST 1*	*Bldg 12B UST 1*	*Bldg 12B UST 1*	*Bldg 12B UST 1*
Sample Area:		*AOI-42*	*AOI-42*	*AOI-42*	*AOI-42*	*AOI-42*	*AOI-42*
Sample Location:		*S-006*	*S-007*	*S-008*	*S-009*	*S-010*	*S-011*
Sample ID:		*S-082906-NZ-006*	*S-082906-NZ-007*	*S-082906-NZ-008*	*S-082906-NZ-009*	*S-082906-NZ-010*	*S-082906-NZ-011*
Sample Date:		*8/29/2006*	*8/29/2006*	*8/29/2006*	*8/29/2006*	*8/29/2006*	*8/29/2006*
Sample Depth:		*6 ft BGS*	*12 ft BGS*	*12 ft BGS*	*6 ft BGS*	*6 ft BGS*	*6 ft BGS*
Parameters	***Units***						
trans-1,2-Dichloroethene	mg/kg	0.26 U	0.016 J	0.23 J	0.47 U	0.25 U	0.45 J
trans-1,3-Dichloropropene	mg/kg	0.26 U	0.32 U	0.28 U	0.47 U	0.25 U	0.51 U
Trichloroethene	mg/kg	0.068 J	1.4	1.3	8.3	0.034 J	11
Trichlorofluoromethane (CFC-11)	mg/kg	0.26 U	0.32 U	0.28 U	0.47 U	0.25 U	0.51 U
Trifluorotrichloroethane (Freon 113)	mg/kg	0.26 U	0.32 U	0.28 U	0.47 U	0.25 U	0.51 U
Vinyl chloride	mg/kg	0.26 U	0.1 J	0.28 U	0.47 U	0.25 U	0.51 U
Xylene (total)	mg/kg	0.51 U	21	3.6	0.23 J	0.084 J	0.2 J
Semi-Volatile Organic Compounds							
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	mg/kg	0.4 U	0.4 U	22 U	0.38 U	20 U	7.9 U
2,4,5-Trichlorophenol	mg/kg	0.4 U	0.4 U	22 U	0.38 U	20 U	7.9 U
2,4,6-Trichlorophenol	mg/kg	0.4 U	0.4 U	22 U	0.38 U	20 U	7.9 U
2,4-Dichlorophenol	mg/kg	0.4 U	0.4 U	22 U	0.38 U	20 U	7.9 U
2,4-Dimethylphenol	mg/kg	0.4 U	0.4 U	22 U	0.38 U	20 U	7.9 U
2,4-Dinitrophenol	mg/kg	1.9 U	2 U	110 U	1.8 U	97 U	38 U
2,4-Dinitrotoluene	mg/kg	0.4 U	0.4 U	22 U	0.38 U	20 U	7.9 U
2,6-Dinitrotoluene	mg/kg	0.4 U	0.4 U	22 U	0.38 U	20 U	7.9 U
2-Chloronaphthalene	mg/kg	0.4 U	0.4 U	22 U	0.38 U	20 U	7.9 U
2-Chlorophenol	mg/kg	0.4 U	0.4 U	22 U	0.38 U	20 U	7.9 U
2-Methylnaphthalene	mg/kg	0.4 U	1.5	22 U	0.087 J	20 U	3.1 J
2-Methylphenol	mg/kg	0.4 U	0.4 U	22 U	0.38 U	20 U	7.9 U
2-Nitroaniline	mg/kg	1.9 U	2 U	110 U	1.8 U	97 U	38 U
2-Nitrophenol	mg/kg	0.4 U	0.4 U	22 U	0.38 U	20 U	7.9 U
3,3'-Dichlorobenzidine	mg/kg	1.9 U	2 U	110 U	1.8 U	97 U	38 U
3-Nitroaniline	mg/kg	1.9 U	2 U	110 U	1.8 U	97 U	38 U
4,6-Dinitro-2-methylphenol	mg/kg	1.9 U	2 U	110 U	1.8 U	97 U	38 U
4-Bromophenyl phenyl ether	mg/kg	0.4 U	0.4 U	22 U	0.38 U	20 U	7.9 U
4-Chloro-3-methylphenol	mg/kg	0.4 U	0.4 U	22 U	0.38 U	20 U	7.9 U
4-Chloroaniline	mg/kg	0.4 U	0.4 U	22 U	0.38 U	20 U	7.9 U
4-Chlorophenyl phenyl ether	mg/kg	0.4 U	0.4 U	22 U	0.38 U	20 U	7.9 U
4-Methylphenol	mg/kg	0.4 U	0.4 U	22 U	0.38 U	20 U	7.9 U
4-Nitroaniline	mg/kg	1.9 U	2 U	110 U	1.8 U	97 U	38 U
4-Nitrophenol	mg/kg	1.9 U	2 U	110 U	1.8 U	97 U	38 U
Acenaphthene	mg/kg	0.4 U	0.4 U	22 U	0.38 U	20 U	7.9 U
Acenaphthylene	mg/kg	0.4 U	0.4 U	22 U	0.38 U	20 U	7.9 U
Acetophenone	mg/kg	0.4 U	0.4 U	22 U	0.38 U	20 U	7.9 U
Anthracene	mg/kg	0.4 U	0.055 J	22 U	0.38 U	20 U	7.9 U
Atrazine	mg/kg	0.4 U	0.4 U	22 U	0.38 U	20 U	7.9 U
Benzaldehyde	mg/kg	0.4 U	0.4 U	22 U	0.38 U	20 U	7.9 U
Benzo(a)anthracene	mg/kg	0.4 U	0.14 J	22 U	0.38 U	20 U	7.9 U
Benzo(a)pyrene	mg/kg	0.4 U	0.17 J	22 U	0.38 U	20 U	7.9 U
Benzo(b)fluoranthene	mg/kg	0.4 U	0.33 J	22 U	0.38 U	20 U	7.9 U

TABLE 2.2

ANALYTICAL RESULTS SUMMARY
AOI 42 - BUILDING 12B UST 1
FORMER DELPHI HARRISON THERMAL SYSTEMS
DAYTON, OHIO

Sample Description:		*Bldg 12B UST 1*	*Bldg 12B UST 1*	*Bldg 12B UST 1*	*Bldg 12B UST 1*	*Bldg 12B UST 1*	*Bldg 12B UST 1*
Sample Area:		*AOI-42*	*AOI-42*	*AOI-42*	*AOI-42*	*AOI-42*	*AOI-42*
Sample Location:		*S-006*	*S-007*	*S-008*	*S-009*	*S-010*	*S-011*
Sample ID:		*S-082906-NZ-006*	*S-082906-NZ-007*	*S-082906-NZ-008*	*S-082906-NZ-009*	*S-082906-NZ-010*	*S-082906-NZ-011*
Sample Date:		*8/29/2006*	*8/29/2006*	*8/29/2006*	*8/29/2006*	*8/29/2006*	*8/29/2006*
Sample Depth:		*6 ft BGS*	*12 ft BGS*	*12 ft BGS*	*6 ft BGS*	*6 ft BGS*	*6 ft BGS*
Parameters	***Units***						
Benzo(g,h,i)perylene	mg/kg	0.4 U	0.16 J	22 U	0.38 U	20 U	7.9 U
Benzo(k)fluoranthene	mg/kg	0.4 U	0.13 J	22 U	0.38 U	20 U	7.9 U
Biphenyl	mg/kg	0.4 U	0.23 J	22 U	0.38 U	20 U	0.56 J
bis(2-Chloroethoxy)methane	mg/kg	0.4 U	0.4 U	22 U	0.38 U	20 U	7.9 U
bis(2-Chloroethyl)ether	mg/kg	0.4 U	0.4 U	22 U	0.38 U	20 U	7.9 U
bis(2-Ethylhexyl)phthalate	mg/kg	0.4 J B	0.4 U	22 U	0.38 U	20 U	7.9 U
Butyl benzylphthalate	mg/kg	0.4 U	0.4 U	22 U	0.38 U	20 U	7.9 U
Caprolactam	mg/kg	0.4 U	0.4 U	22 U	0.38 U	20 U	7.9 U
Carbazole	mg/kg	0.4 U	0.4 U	22 U	0.38 U	20 U	7.9 U
Chrysene	mg/kg	0.4 U	0.25 J	22 U	0.38 U	20 U	1.7 J
Dibenz(a,h)anthracene	mg/kg	0.4 U	0.4 U	22 U	0.38 U	20 U	7.9 U
Dibenzofuran	mg/kg	0.4 U	0.064 J	22 U	0.38 U	20 U	7.9 U
Diethyl phthalate	mg/kg	0.4 U	0.4 U	22 U	0.38 U	20 U	7.9 U
Dimethyl phthalate	mg/kg	0.4 U	0.4 U	22 U	0.38 U	20 U	7.9 U
Di-n-butylphthalate	mg/kg	0.4 U	0.4 U	22 U	0.38 U	20 U	7.9 U
Di-n-octyl phthalate	mg/kg	0.4 U	0.4 U	22 U	0.38 U	20 U	7.9 U
Fluoranthene	mg/kg	0.4 U	0.18 J	1.3 J	0.38 U	20 U	1.2 J
Fluorene	mg/kg	0.4 U	0.4 U	22 U	0.38 U	20 U	7.9 U
Hexachlorobenzene	mg/kg	0.4 U	0.4 U	22 U	0.38 U	20 U	7.9 U
Hexachlorobutadiene	mg/kg	0.4 U	0.4 U	22 U	0.38 U	20 U	7.9 U
Hexachlorocyclopentadiene	mg/kg	1.9 U	2 U	110 U	1.8 U	97 U	38 U
Hexachloroethane	mg/kg	0.4 U	0.4 U	22 U	0.38 U	20 U	7.9 U
Indeno(1,2,3-cd)pyrene	mg/kg	0.4 U	0.14 J	22 U	0.38 U	20 U	7.9 U
Isophorone	mg/kg	0.4 U	0.4 U	22 U	0.38 U	20 U	7.9 U
Naphthalene	mg/kg	0.4 U	0.74	1.8 J	0.029 J	20 U	1.6 J
Nitrobenzene	mg/kg	0.4 U	0.4 U	22 U	0.38 U	20 U	7.9 U
N-Nitrosodi-n-propylamine	mg/kg	0.4 U	0.4 U	22 U	0.38 U	20 U	7.9 U
N-Nitrosodiphenylamine	mg/kg	0.4 U	0.4 U	22 U	0.38 U	20 U	7.9 U
Pentachlorophenol	mg/kg	0.4 U	0.4 U	22 U	0.38 U	20 U	7.9 U
Phenanthrene	mg/kg	0.4 U	0.22 J	2.9 J	0.02 J	0.84 J	0.91 J
Phenol	mg/kg	0.4 U	0.4 U	22 U	0.38 U	20 U	7.9 U
Pyrene	mg/kg	0.4 U	0.18 J	1.6 J	0.045 J	20 U	1.3 J

TABLE 2.2

ANALYTICAL RESULTS SUMMARY
AOI 42 - BUILDING 12B UST 1
FORMER DELPHI HARRISON THERMAL SYSTEMS
DAYTON, OHIO

Sample Description:		*Bldg 12B UST 1*	*Bldg 12B UST 1*	*Bldg 12B UST 1*	*Bldg 12B UST 1*	*Bldg 12B UST 1*	*Bldg 12B UST 1*
Sample Area:		*AOI-42*	*AOI-42*	*AOI-42*	*AOI-42*	*AOI-42*	*AOI-42*
Sample Location:		*S-006*	*S-007*	*S-008*	*S-009*	*S-010*	*S-011*
Sample ID:		*S-082906-NZ-006*	*S-082906-NZ-007*	*S-082906-NZ-008*	*S-082906-NZ-009*	*S-082906-NZ-010*	*S-082906-NZ-011*
Sample Date:		*8/29/2006*	*8/29/2006*	*8/29/2006*	*8/29/2006*	*8/29/2006*	*8/29/2006*
Sample Depth:		*6 ft BGS*	*12 ft BGS*	*12 ft BGS*	*6 ft BGS*	*6 ft BGS*	*6 ft BGS*
Parameters	***Units***						
Metals							
Antimony	mg/kg	7.3 U	0.72 B	3.9 B	0.93 B	0.80 B	2.8 B
Arsenic	mg/kg	4.3	6.5	7.3	6.4	5.8	7.9
Barium	mg/kg	34.9	95.7	66.8	59.5	125	101
Beryllium	mg/kg	0.19 B	0.37 B	0.31 B	0.30 B	0.42 B	0.57 B
Cadmium	mg/kg	0.050 B	0.53 B	0.46 B	0.11 B	0.60 B	0.50 B
Chromium Total	mg/kg	6.8	12.6	10.2	10.7	15.7	16.8
Cobalt	mg/kg	3.1 B	4.4 B	5.0 B	5.1 B	6.0 B	5.5 B
Copper	mg/kg	9.6	104	109	17.7	20.4	108
Lead	mg/kg	8.3	128	109 J	16.3	11.4 J	130
Manganese	mg/kg	278	273	367 J	367	230 J	369
Mercury	mg/kg	0.063 B	0.23	0.16	0.054 B	0.055 B	0.40
Nickel	mg/kg	7.0	11.3	12.8	10.9	16.5	17.3
Selenium	mg/kg	0.61 U	0.20 B	0.67 B J	0.57 U	0.61 U	0.17 B
Silver	mg/kg	1.2 U	1.2 U	1.3 U	1.1 U	1.2 U	1.2 U
Thallium	mg/kg	0.11 B	0.17 B	0.17 B	0.16 B	0.17 B	0.21 B
Vanadium	mg/kg	13.1	19.2	17.8	19.7	26.6	19.1
Zinc	mg/kg	29.4 J E	320 J	135 J	51.8 J	76.8 J	186 J
PCBs							
Aroclor-1016 (PCB-1016)	mg/kg	0.04 U	0.2 U	0.22 U	0.19 U	0.4 U	1.6 U
Aroclor-1221 (PCB-1221)	mg/kg	0.04 U	0.2 U	0.22 U	0.19 U	0.4 U	1.6 U
Aroclor-1232 (PCB-1232)	mg/kg	0.04 U	0.2 U	0.22 U	0.19 U	0.4 U	1.6 U
Aroclor-1242 (PCB-1242)	mg/kg	0.04 U	0.2 U	0.22 U	0.19 U	0.4 U	1.6 U
Aroclor-1248 (PCB-1248)	mg/kg	0.04 U	0.2 U	0.22 U	0.19 U	0.4 U	1.6 U
Aroclor-1254 (PCB-1254)	mg/kg	0.04 U	2.8	1.7	2.4	5.2	21
Aroclor-1260 (PCB-1260)	mg/kg	0.04 U	0.2 U	0.22 U	0.19 U	0.4 U	1.6 U
Petrl Prod							
Total Petroleum Hydrocarbons - extractable (DRO)	mg/kg	28 B	950 B	7400 B	170 B	1900 B	1200 B
Total Petroleum Hydrocarbons (C6-C12)	mg/kg	0.12 J B	1500	150	0.15 B	140	18
General Chemistry							
Cyanide (total)	mg/kg	0.61 U	0.61 U	0.67 B J	0.57 U	0.61 B J	0.60 U
Total Solids	%	82.2	81.8	74.3	87.2	82.6	83.9

Notes:
U - Not detected at or above the associated value.
J - Estimated concentration.
B - Method blank contamination.
UJ - Estimated reporting detection limit.

TABLE 2.3

ANALYTICAL RESULTS SUMMARY
AOI 43 - BUILDING 22 UST 2
FORMER DELPHI HARRISON THERMAL SYSTEMS
DAYTON, OHIO

Sample Description:		*Bldg 22 UST 2*	*Bldg 22 UST 2*	*Bldg 22 UST 2*	*Bldg 22 UST 2*	*Bldg 22 UST 2*	*Bldg 22 UST 2*	*Bldg 22 UST 2*
Sample Area:		*AOI-43*	*AOI-43*	*AOI-43*	*AOI-43*	*AOI-43*	*AOI-43*	*AOI-43*
Sample Location:		*S-012*	*S-012*	*S-014*	*S-015*	*S-016*	*S-017*	*S-018*
Sample ID:		*S-083006-NZ-012*	*S-083006-NZ-013*	*S-083006-NZ-014*	*S-083006-NZ-015*	*S-083006-NZ-016*	*S-083006-NZ-017*	*S-083006-NZ-018*
Sample Date:		*8/30/2006*	*8/30/2006*	*8/30/2006*	*8/30/2006*	*8/30/2006*	*8/30/2006*	*8/30/2006*
Sample Depth:		*4 ft BGS*	*4 ft BGS (Dup)*	*4 ft BGS*	*2 ft BGS*	*2 ft BGS*	*2 ft BGS*	*2 ft BGS*
Parameters	***Units***							
Volatile Organic Compounds								
1,1,1-Trichloroethane	mg/kg	0.6 U	0.025 J	0.0073 U	0.046 J	1.1 U	0.3 U	0.0051 U
1,1,2,2-Tetrachloroethane	mg/kg	0.6 U	0.61 U	0.0073 U	1.2 U	1.1 U	0.3 U	0.0051 U
1,1,2-Trichloroethane	mg/kg	0.6 U	0.61 U	0.0073 U	1.2 U	1.1 U	0.3 U	0.0051 U
1,1-Dichloroethane	mg/kg	0.6 U	0.61 U	0.0073 U	1.2 U	1.1 U	0.3 U	0.0051 U
1,1-Dichloroethene	mg/kg	0.6 U	0.61 U	0.0073 U	1.2 U	1.1 U	0.3 U	0.0051 U
1,2,4-Trichlorobenzene	mg/kg	0.6 J B	0.61 J B	0.0073 U	1.2 U	1.1 U	0.3 U	0.0051 U
1,2-Dibromo-3-chloropropane (DBCP)	mg/kg	1.2 U	1.2 U	0.015 U	2.3 U	2.1 U	0.61 U	0.01 U
1,2-Dibromoethane (Ethylene Dibromide)	mg/kg	0.6 U	0.61 U	0.0073 U	1.2 U	1.1 U	0.3 U	0.0051 U
1,2-Dichlorobenzene	mg/kg	0.6 U	0.61 U	0.0073 U	1.2 U	1.1 U	0.3 U	0.0051 U
1,2-Dichloroethane	mg/kg	0.6 U	0.61 U	0.0073 U	1.2 U	1.1 U	0.3 U	0.0051 U
1,2-Dichloropropane	mg/kg	0.6 U	0.61 U	0.0073 U	1.2 U	1.1 U	0.3 U	0.0051 U
1,3-Dichlorobenzene	mg/kg	0.6 U	0.61 U	0.0073 U	1.2 U	1.1 U	0.3 U	0.0051 U
1,4-Dichlorobenzene	mg/kg	0.6 U	0.61 U	0.0073 U	1.2 U	1.1 U	0.3 U	0.0051 U
2-Butanone (Methyl Ethyl Ketone)	mg/kg	2.4 U	2.4 U	0.0094 J	4.7 U	4.2 U	1.2 U	0.0056 J
2-Hexanone	mg/kg	2.4 U	2.4 U	0.029 U	4.7 U	4.2 U	1.2 U	0.02 U
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	mg/kg	2.4 U	2.4 U	0.029 U	4.7 U	4.2 U	1.2 U	0.02 U
Acetone	mg/kg	2.4 U	2.4 U	0.076	4.7 U	4.2 U	1.2 U	0.044
Benzene	mg/kg	0.6 U	0.61 U	0.0013 J	1.2 U	1.1 U	0.016 J	0.0037 J
Bromodichloromethane	mg/kg	0.6 U	0.61 U	0.0073 U	1.2 U	1.1 U	0.3 U	0.0051 U
Bromoform	mg/kg	0.6 U	0.61 U	0.0073 U	1.2 U	1.1 U	0.3 U	0.0051 U
Bromomethane (Methyl Bromide)	mg/kg	0.6 U	0.61 U	0.0073 U	1.2 U	1.1 U	0.3 U	0.0051 U
Carbon disulfide	mg/kg	0.6 U	0.61 U	0.0032 J	1.2 U	1.1 U	0.3 U	0.0051 U
Carbon tetrachloride	mg/kg	0.6 U	0.61 U	0.0073 U	1.2 U	1.1 U	0.3 U	0.0051 U
Chlorobenzene	mg/kg	0.6 U	0.61 U	0.0073 U	1.2 U	1.1 U	0.3 U	0.0051 U
Chloroethane	mg/kg	0.6 U	0.61 U	0.0073 U	1.2 U	1.1 U	0.3 U	0.0051 U
Chloroform (Trichloromethane)	mg/kg	0.6 U	0.039 J	0.0073 U	0.14 J	1.1 U	0.3 U	0.0051 U
Chloromethane (Methyl Chloride)	mg/kg	0.6 U	0.61 U	0.0073 U	1.2 U	1.1 U	0.3 U	0.0051 U
cis-1,2-Dichloroethene	mg/kg	0.15 J	0.54 J	0.05	0.87 J	3.3	0.65	0.0051 U
cis-1,3-Dichloropropene	mg/kg	0.6 U	0.61 U	0.0073 U	1.2 U	1.1 U	0.3 U	0.0051 U
Cyclohexane	mg/kg	0.034 J	0.095 J	0.015 U	2.3 U	2.1 U	0.032 J	0.0047 J
Dibromochloromethane	mg/kg	0.6 U	0.61 U	0.0073 U	1.2 U	1.1 U	0.3 U	0.0051 U
Dichlorodifluoromethane (CFC-12)	mg/kg	0.6 U	0.61 U	0.0073 U	1.2 U	1.1 U	0.3 U	0.0051 U
Ethylbenzene	mg/kg	0.6 U	0.61 U	0.0073 U	1.2 U	1.1 U	0.029 J	0.0029 J
Isopropylbenzene	mg/kg	0.6 U	0.61 U	0.0073 U	1.2 U	1.1 U	0.051 J	0.0051 U
Methyl acetate	mg/kg	1.2 J B	1.2 J B	0.015 U	2.3 J B	2.1 U	0.61 J B	0.01 U
Methyl cyclohexane	mg/kg	0.13 J	0.32 J	0.015 U	0.18 J	0.1 J	0.14 J	0.008 J
Methyl Tert Butyl Ether	mg/kg	2.4 U	2.4 U	0.029 U	4.7 U	4.2 U	1.2 U	0.02 U
Methylene chloride	mg/kg	0.6 U	0.61 U	0.0073 U	1.2 U	1.1 U	0.3 U	0.0051 U
Styrene	mg/kg	0.6 U	0.61 U	0.0073 U	1.2 U	1.1 U	0.3 U	0.0051 J B
Tetrachloroethene	mg/kg	2.6	4.7	0.01	8.4	0.42 J	0.57	0.0035 J
Toluene	mg/kg	0.029 J	0.051 J	0.0073 U	1.2 U	1.1 U	0.083 J	0.0081

TABLE 2.3

ANALYTICAL RESULTS SUMMARY
AOI 43 - BUILDING 22 UST 2
FORMER DELPHI HARRISON THERMAL SYSTEMS
DAYTON, OHIO

Sample Description:		*Bldg 22 UST 2*	*Bldg 22 UST 2*	*Bldg 22 UST 2*	*Bldg 22 UST 2*	*Bldg 22 UST 2*	*Bldg 22 UST 2*	*Bldg 22 UST 2*
Sample Area:		*AOI-43*	*AOI-43*	*AOI-43*	*AOI-43*	*AOI-43*	*AOI-43*	*AOI-43*
Sample Location:		*S-012*	*S-012*	*S-014*	*S-015*	*S-016*	*S-017*	*S-018*
Sample ID:		*S-083006-NZ-012*	*S-083006-NZ-013*	*S-083006-NZ-014*	*S-083006-NZ-015*	*S-083006-NZ-016*	*S-083006-NZ-017*	*S-083006-NZ-018*
Sample Date:		*8/30/2006*	*8/30/2006*	*8/30/2006*	*8/30/2006*	*8/30/2006*	*8/30/2006*	*8/30/2006*
Sample Depth:		*4 ft BGS*	*4 ft BGS (Dup)*	*4 ft BGS*	*2 ft BGS*	*2 ft BGS*	*2 ft BGS*	*2 ft BGS*
Parameters	***Units***							
trans-1,2-Dichloroethene	mg/kg	0.6 U	0.61 U	0.0016 J	1.2 U	0.15 J	0.022 J	0.0051 U
trans-1,3-Dichloropropene	mg/kg	0.6 U	0.61 U	0.0073 U	1.2 U	1.1 U	0.3 U	0.0051 U
Trichloroethene	mg/kg	6.2	19	0.12	32	29	7.6	0.016
Trichlorofluoromethane (CFC-11)	mg/kg	0.6 U	0.61 U	0.0073 U	1.2 U	1.1 U	0.3 U	0.0051 U
Trifluorotrichloroethane (Freon 113)	mg/kg	0.6 U	0.61 U	0.0073 U	1.2 U	1.1 U	0.3 U	0.0051 U
Vinyl chloride	mg/kg	0.6 U	0.61 U	0.0073 U	1.2 U	1.1 U	0.3 U	0.0051 U
Xylene (total)	mg/kg	0.31 J	0.48 J	0.015 U	2.3 U	0.26 J	0.37 J	0.0062 J
Semi-Volatile Organic Compounds								
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	mg/kg	0.49 U	1.1 U	1.1 U	0.46 U	0.43 U	0.97 U	0.39 U
2,4,5-Trichlorophenol	mg/kg	0.49 U	1.1 U	1.1 U	0.46 U	0.43 U	0.97 U	0.39 U
2,4,6-Trichlorophenol	mg/kg	0.49 U	1.1 U	1.1 U	0.46 U	0.43 U	0.97 U	0.39 U
2,4-Dichlorophenol	mg/kg	0.49 U	1.1 U	1.1 U	0.46 U	0.43 U	0.97 U	0.39 U
2,4-Dimethylphenol	mg/kg	0.49 U	1.1 U	1.1 U	0.46 U	0.43 U	0.97 U	0.39 U
2,4-Dinitrophenol	mg/kg	2.4 U	5.2 U	5.1 U	2.2 U	2.1 U	4.7 U	1.9 U
2,4-Dinitrotoluene	mg/kg	0.49 U	1.1 U	1.1 U	0.46 U	0.43 U	0.97 U	0.39 U
2,6-Dinitrotoluene	mg/kg	0.49 U	1.1 U	1.1 U	0.46 U	0.43 U	0.97 U	0.39 U
2-Chloronaphthalene	mg/kg	0.49 U	1.1 U	1.1 U	0.46 U	0.43 U	0.97 U	0.39 U
2-Chlorophenol	mg/kg	0.49 U	1.1 U	1.1 U	0.46 U	0.43 U	0.97 U	0.39 U
2-Methylnaphthalene	mg/kg	0.37 J	0.3 J	0.59 J	0.034 J	0.039 J	0.97 U	0.013 J
2-Methylphenol	mg/kg	0.49 U	1.1 U	1.1 U	0.46 U	0.43 U	0.97 U	0.39 U
2-Nitroaniline	mg/kg	2.4 U	5.2 U	5.1 U	2.2 U	2.1 U	4.7 U	1.9 U
2-Nitrophenol	mg/kg	0.49 U	1.1 U	1.1 U	0.46 U	0.43 U	0.97 U	0.39 U
3,3'-Dichlorobenzidine	mg/kg	2.4 U	5.2 U	5.1 U	2.2 U	2.1 U	4.7 U	1.9 U
3-Nitroaniline	mg/kg	2.4 U	5.2 U	5.1 U	2.2 U	2.1 U	4.7 U	1.9 U
4,6-Dinitro-2-methylphenol	mg/kg	2.4 U	5.2 U	5.1 U	2.2 U	2.1 U	4.7 U	1.9 U
4-Bromophenyl phenyl ether	mg/kg	0.49 U	1.1 U	1.1 U	0.46 U	0.43 U	0.97 U	0.39 U
4-Chloro-3-methylphenol	mg/kg	0.49 U	1.1 U	1.1 U	0.46 U	0.43 U	0.97 U	0.39 U
4-Chloroaniline	mg/kg	0.49 U	1.1 U	1.1 U	0.46 U	0.43 U	0.97 U	0.39 U
4-Chlorophenyl phenyl ether	mg/kg	0.49 U	1.1 U	1.1 U	0.46 U	0.43 U	0.97 U	0.39 U
4-Methylphenol	mg/kg	0.49 U	1.1 U	1.1 U	0.46 U	0.43 U	0.97 U	0.39 U
4-Nitroaniline	mg/kg	2.4 U	5.2 U	5.1 U	2.2 U	2.1 U	4.7 U	1.9 U
4-Nitrophenol	mg/kg	2.4 U	5.2 U	5.1 U	2.2 U	2.1 U	4.7 U	1.9 U
Acenaphthene	mg/kg	0.49 U	0.2 J	0.22 J	0.0098 J	0.43 U	0.092 J	0.39 U
Acenaphthylene	mg/kg	0.031 J	0.067 J	0.036 J	0.024 J	0.011 J	0.022 J	0.39 U
Acetophenone	mg/kg	0.49 U	1.1 U	1.1 U	0.46 U	0.43 U	0.97 U	0.39 U
Anthracene	mg/kg	0.046 J	0.51 J	0.8 J	0.035 J	0.02 J	0.23 J	0.0099 J
Atrazine	mg/kg	0.49 U	1.1 U	1.1 U	0.46 U	0.43 U	0.97 U	0.39 U
Benzaldehyde	mg/kg	0.49 U	1.1 U	1.1 U	0.46 U	0.43 U	0.97 U	0.39 U
Benzo(a)anthracene	mg/kg	0.28 J	3	2.5	0.28 J	0.13 J	1.1	0.066 J
Benzo(a)pyrene	mg/kg	0.33 J	3.5	2.4	0.34 J	0.15 J	1.4	0.082 J
Benzo(b)fluoranthene	mg/kg	0.44 J	4	2.9	0.46	0.22 J	1.6	0.11 J

TABLE 2.3

ANALYTICAL RESULTS SUMMARY
AOI 43 - BUILDING 22 UST 2
FORMER DELPHI HARRISON THERMAL SYSTEMS
DAYTON, OHIO

Sample Description:		*Bldg 22 UST 2*	*Bldg 22 UST 2*	*Bldg 22 UST 2*	*Bldg 22 UST 2*	*Bldg 22 UST 2*	*Bldg 22 UST 2*	*Bldg 22 UST 2*
Sample Area:		*AOI-43*	*AOI-43*	*AOI-43*	*AOI-43*	*AOI-43*	*AOI-43*	*AOI-43*
Sample Location:		*S-012*	*S-012*	*S-014*	*S-015*	*S-016*	*S-017*	*S-018*
Sample ID:		*S-083006-NZ-012*	*S-083006-NZ-013*	*S-083006-NZ-014*	*S-083006-NZ-015*	*S-083006-NZ-016*	*S-083006-NZ-017*	*S-083006-NZ-018*
Sample Date:		*8/30/2006*	*8/30/2006*	*8/30/2006*	*8/30/2006*	*8/30/2006*	*8/30/2006*	*8/30/2006*
Sample Depth:		*4 ft BGS*	*4 ft BGS (Dup)*	*4 ft BGS*	*2 ft BGS*	*2 ft BGS*	*2 ft BGS*	*2 ft BGS*
Parameters	***Units***							
Benzo(g,h,i)perylene	mg/kg	0.27 J	1.9	1.3	0.22 J	0.14 J	0.71 J	0.071 J
Benzo(k)fluoranthene	mg/kg	0.16 J	1.7	1.1	0.2 J	0.068 J	0.75 J	0.045 J
Biphenyl	mg/kg	0.49 U	1.1 U	1.1 U	0.46 U	0.43 U	0.97 U	0.39 U
bis(2-Chloroethoxy)methane	mg/kg	0.49 U	1.1 U	1.1 U	0.46 U	0.43 U	0.97 U	0.39 U
bis(2-Chloroethyl)ether	mg/kg	0.49 U	1.1 U	1.1 U	0.46 U	0.43 U	0.97 U	0.39 U
bis(2-Ethylhexyl)phthalate	mg/kg	0.03 J	1.1 U	1.1 U	0.46 U	0.43 U	0.97 U	0.39 U
Butyl benzylphthalate	mg/kg	0.49 U	1.1 U	1.1 U	0.46 U	0.43 U	0.97 U	0.39 U
Caprolactam	mg/kg	0.49 U	1.1 U	1.1 U	0.46 U	0.43 U	0.97 U	0.39 U
Carbazole	mg/kg	0.49 U	0.29 J	0.46 J	0.46 U	0.43 U	0.12 J	0.39 U
Chrysene	mg/kg	0.25 J	2.4	2	0.28 J	0.14 J	1	0.063 J
Dibenz(a,h)anthracene	mg/kg	0.088 J	0.9 J	0.54 J	0.065 J	0.032 J	0.23 J	0.016 J
Dibenzofuran	mg/kg	0.058 J	0.15 J	0.24 J	0.46 U	0.43 U	0.064 J	0.39 U
Diethyl phthalate	mg/kg	0.49 U	1.1 U	1.1 U	0.46 U	0.43 U	0.97 U	0.39 U
Dimethyl phthalate	mg/kg	0.49 U	1.1 U	1.1 U	0.46 U	0.43 U	0.97 U	0.39 U
Di-n-butylphthalate	mg/kg	0.49 U	1.1 U	1.1 U	0.46 U	0.43 U	0.97 U	0.39 U
Di-n-octyl phthalate	mg/kg	0.49 U	1.1 U	1.1 U	0.46 U	0.43 U	0.97 U	0.39 U
Fluoranthene	mg/kg	0.3 J	2.4	3.2	0.33 J	0.23 J	1.3	0.085 J
Fluorene	mg/kg	0.49 U	0.12 J	0.18 J	0.46 U	0.43 U	0.072 J	0.39 U
Hexachlorobenzene	mg/kg	0.49 U	1.1 U	1.1 U	0.46 U	0.43 U	0.97 U	0.39 U
Hexachlorobutadiene	mg/kg	0.49 U	1.1 U	1.1 U	0.46 U	0.43 U	0.97 U	0.39 U
Hexachlorocyclopentadiene	mg/kg	2.4 U	5.2 U	5.1 U	2.2 U	R	4.7 U	1.9 U
Hexachloroethane	mg/kg	0.49 U	1.1 U	1.1 U	0.46 U	0.43 U	0.97 U	0.39 U
Indeno(1,2,3-cd)pyrene	mg/kg	0.25 J	2	1.3	0.22 J	0.11 J	0.65 J	0.055 J
Isophorone	mg/kg	0.49 U	1.1 U	1.1 U	0.46 U	0.43 U	0.97 U	0.39 U
Naphthalene	mg/kg	0.21 J	0.21 J	0.51 J	0.018 J	0.023 J	0.075 J	0.0079 J
Nitrobenzene	mg/kg	0.49 U	1.1 U	1.1 U	0.46 U	0.43 U	0.97 U	0.39 U
N-Nitrosodi-n-propylamine	mg/kg	0.49 U	1.1 U	1.1 U	0.46 U	0.43 U	0.97 U	0.39 U
N-Nitrosodiphenylamine	mg/kg	0.49 U	1.1 U	1.1 U	0.46 U	0.43 U	0.97 U	0.39 U
Pentachlorophenol	mg/kg	0.49 U	1.1 U	1.1 U	0.46 U	0.43 U	0.97 U	0.39 U
Phenanthrene	mg/kg	0.24 J	1.3	2.2	0.14 J	0.084 J	0.72 J	0.045 J
Phenol	mg/kg	0.49 U	1.1 U	1.1 U	0.46 U	0.43 U	0.97 U	0.39 U
Pyrene	mg/kg	0.28 J	2.2	2.5	0.29 J	0.21 J	1.1	0.081 J

TABLE 2.3

ANALYTICAL RESULTS SUMMARY
AOI 43 - BUILDING 22 UST 2
FORMER DELPHI HARRISON THERMAL SYSTEMS
DAYTON, OHIO

Sample Description:		*Bldg 22 UST 2*	*Bldg 22 UST 2*	*Bldg 22 UST 2*	*Bldg 22 UST 2*	*Bldg 22 UST 2*	*Bldg 22 UST 2*	*Bldg 22 UST 2*
Sample Area:		*AOI-43*	*AOI-43*	*AOI-43*	*AOI-43*	*AOI-43*	*AOI-43*	*AOI-43*
Sample Location:		*S-012*	*S-012*	*S-014*	*S-015*	*S-016*	*S-017*	*S-018*
Sample ID:		*S-083006-NZ-012*	*S-083006-NZ-013*	*S-083006-NZ-014*	*S-083006-NZ-015*	*S-083006-NZ-016*	*S-083006-NZ-017*	*S-083006-NZ-018*
Sample Date:		*8/30/2006*	*8/30/2006*	*8/30/2006*	*8/30/2006*	*8/30/2006*	*8/30/2006*	*8/30/2006*
Sample Depth:		*4 ft BGS*	*4 ft BGS (Dup)*	*4 ft BGS*	*2 ft BGS*	*2 ft BGS*	*2 ft BGS*	*2 ft BGS*
Parameters	***Units***							
Metals								
Antimony	mg/kg	4.3 B	2.4 B	8.4	3.2 B	22.3	8.8	0.86 B
Arsenic	mg/kg	12.2	6.8	6.1	9.0	9.6	6.7	6.1
Barium	mg/kg	116	134	88.2	103	208	113	62.2
Beryllium	mg/kg	2.5	2.6	0.55 B	1.2	0.64 B	0.46 B	0.32 B
Cadmium	mg/kg	2.0	1.9	0.30 B	0.39 B	0.11 B	0.33 B	0.050 B
Chromium Total	mg/kg	20.9	17.0	11.3	10.2	10.6	10.0	11.0
Cobalt	mg/kg	9.2	8.3	5.3 B	3.9 B	6.2 B	4.5 B	6.5
Copper	mg/kg	417	319	80.8	52.7	302	212	30.5
Lead	mg/kg	700 J	361 J	270 J	187	430	340	84.4
Manganese	mg/kg	406 J	400 J	333 J	294	271	316	418
Mercury	mg/kg	0.44	1.1	0.073 B	4.2	1.6	2.5	0.18
Nickel	mg/kg	21.4	21.0	12.5	11.7	15.0	11.8	12.0
Selenium	mg/kg	0.57 B	0.29 B	0.64 U	0.81	0.55 B	0.22 B	0.59 U
Silver	mg/kg	1.5 U	1.3 U	1.3 U	1.4 U	1.3 U	1.2 U	1.2 U
Thallium	mg/kg	0.12 B	0.10 B	0.13 B	0.16 B	0.14 B	0.10 B	0.14 B
Vanadium	mg/kg	30.8 J	25.5 J	21.8 J	13.8	17.0	16.2	23.6
Zinc	mg/kg	2000 J	1200 J	110 J	118 J	143 J	166 J	54.3 J
PCBs								
Aroclor-1016 (PCB-1016)	mg/kg	0.098 U	0.43 U	0.042 U	0.046 U	0.043 U	1.9 U	0.19 U
Aroclor-1221 (PCB-1221)	mg/kg	0.098 U	0.43 U	0.042 U	0.046 U	0.043 U	1.9 U	0.19 U
Aroclor-1232 (PCB-1232)	mg/kg	0.098 U	0.43 U	0.042 U	0.046 U	0.043 U	1.9 U	0.19 U
Aroclor-1242 (PCB-1242)	mg/kg	0.098 U	0.43 U	0.042 U	0.046 U	0.043 U	1.9 U	0.19 U
Aroclor-1248 (PCB-1248)	mg/kg	0.098 U	0.43 U	0.042 U	0.046 U	0.043 U	1.9 U	0.19 U
Aroclor-1254 (PCB-1254)	mg/kg	0.98	3.9	0.12	0.046 U	0.44	19	1.9
Aroclor-1260 (PCB-1260)	mg/kg	0.098 U	0.43 U	0.042 U	0.046 U	0.043 U	1.9 U	0.19 U
Petrl Prod								
Total Petroleum Hydrocarbons - extractable (DRO)	mg/kg	160 B	660 B	91 B	86 B	16 B	930 B	66 B
Total Petroleum Hydrocarbons (C6-C12)	mg/kg	0.17 B	0.13 J B	0.13 J B	2 B	0.23 B	0.12 J B	0.047 J
General Chemistry								
Cyanide (total)	mg/kg	1.9 J	1.5 J	0.64 B J	0.70 U	0.14 B	3.5	0.59 U
Total Solids	%	67.4	76.5	77.8	71.5	76.0	85.4	85.2

Notes:
U - Not detected at or above the associated value.
J - Estimated concentration.
B - Method blank contamination.
UJ - Estimated reporting detection limit.

TABLE 2.4

ANALYTICAL RESULTS SUMMARY
AOI 44 - BUILDING 12B FREE PRODUCT
FORMER DELPHI HARRISON THERMAL SYSTEMS
DAYTON, OHIO

Sample Description:		*Bldg 12 Free Product Area*	*Bldg 12 Free Product Area*	*Bldg 12 Free Product Area*	*Bldg 12 Free Product Area*
Sample Area:		*AOI-44*	*AOI-44*	*AOI-44*	*AOI-44*
Sample Location:		*FP-1*	*FP-2*	*FP-3*	*FP-4*
Sample ID:		*S-12638-072006-JC-001*	*S-12638-072006-JC-003*	*S-12638-072006-JC-004*	*S-12638-072006-JC-005*
Sample Date:		*7/20/2006*	*7/20/2006*	*7/20/2006*	*7/20/2006*
Sample Depth:		*6 ft BGS*	*3 ft BGS*	*3 ft BGS*	*3 ft BGS*
Parameters	*Units*				
Volatile Organic Compounds					
1,1,1-Trichloroethane	mg/kg	0.38 U	0.58 U	0.32 U	0.31 U
1,1,2,2-Tetrachloroethane	mg/kg	0.38 U	0.58 U	0.32 U	0.31 U
1,1,2-Trichloroethane	mg/kg	0.38 U	0.58 U	0.32 U	0.31 U
1,1-Dichloroethane	mg/kg	0.38 U	0.58 U	0.32 U	0.31 U
1,1-Dichloroethene	mg/kg	0.38 U	0.58 U	0.32 U	0.044 J
1,2,4-Trichlorobenzene	mg/kg	0.38 U	0.58 U	0.32 U	0.31 U
1,2-Dibromo-3-chloropropane (DBCP)	mg/kg	0.75 U	1.2 U	0.64 U	0.62 U
1,2-Dibromoethane (Ethylene Dibromide)	mg/kg	0.38 U	0.58 U	0.32 U	0.31 U
1,2-Dichlorobenzene	mg/kg	0.38 U	0.58 U	0.32 U	0.31 U
1,2-Dichloroethane	mg/kg	0.38 U	0.58 U	0.32 U	0.31 U
1,2-Dichloropropane	mg/kg	0.38 U	0.58 U	0.32 U	0.31 U
1,3-Dichlorobenzene	mg/kg	0.38 U	0.58 U	0.0097 J	0.31 U
1,4-Dichlorobenzene	mg/kg	0.38 U	0.58 U	0.013 J	0.31 U
2-Butanone (Methyl Ethyl Ketone)	mg/kg	0.44 J	2.3 U	1.3 U	1.2 U
2-Hexanone	mg/kg	1.5 U	2.3 U	1.3 U	1.2 U
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	mg/kg	1.5 U	2.3 U	1.3 U	1.2 U
Acetone	mg/kg	1.5 J B	2.3 J B	1.3 J B	1.2 J B
Benzene	mg/kg	0.38 U	0.58 U	0.32 U	0.0091 J
Bromodichloromethane	mg/kg	0.38 U	0.58 U	0.32 U	0.31 U
Bromoform	mg/kg	0.38 U	0.58 U	0.32 U	0.31 U
Bromomethane (Methyl Bromide)	mg/kg	0.38 U	0.58 U	0.32 U	0.034 J
Carbon disulfide	mg/kg	0.38 U	0.58 U	0.32 U	0.31 U
Carbon tetrachloride	mg/kg	0.38 U	0.58 U	0.32 U	0.31 U
Chlorobenzene	mg/kg	0.38 U	0.58 U	0.32 U	0.31 U
Chloroethane	mg/kg	0.38 U	0.58 U	0.32 U	0.31 U
Chloroform (Trichloromethane)	mg/kg	0.38 U	0.58 U	0.32 U	0.31 U
Chloromethane (Methyl Chloride)	mg/kg	0.38 U	0.58 U	0.32 U	0.31 U
cis-1,2-Dichloroethene	mg/kg	0.38 U	1	5.4	1.1
cis-1,3-Dichloropropene	mg/kg	0.38 U	0.58 U	0.32 U	0.31 U
Cyclohexane	mg/kg	0.75 U	1.2 U	0.64 U	0.014 J
Dibromochloromethane	mg/kg	0.38 U	0.58 U	0.32 U	0.31 U
Dichlorodifluoromethane (CFC-12)	mg/kg	0.38 U	0.58 U	0.32 U	0.31 U
Ethylbenzene	mg/kg	0.38 U	0.58 U	0.05 J	0.0089 J
Isopropylbenzene	mg/kg	0.38 U	0.04 J	0.025 J	0.31 U
Methyl acetate	mg/kg	0.75 J B	1.2 J B	0.64 J B	0.62 J B
Methyl cyclohexane	mg/kg	0.75 U	1.2 U	0.019 J	0.055 J
Methyl Tert Butyl Ether	mg/kg	1.5 U	2.3 U	1.3 U	1.2 U
Methylene chloride	mg/kg	0.38 U	0.58 U	0.32 U	0.31 U
Styrene	mg/kg	0.38 U	0.58 U	0.32 U	0.31 U
Tetrachloroethene	mg/kg	0.38 U	0.052 J	0.26 J	0.4
Toluene	mg/kg	0.38 J B	0.58 U	0.32 J B	0.31 J B

TABLE 2.4

ANALYTICAL RESULTS SUMMARY
AOI 44 - BUILDING 12B FREE PRODUCT
FORMER DELPHI HARRISON THERMAL SYSTEMS
DAYTON, OHIO

Sample Description:		*Bldg 12 Free Product Area*	*Bldg 12 Free Product Area*	*Bldg 12 Free Product Area*	*Bldg 12 Free Product Area*
Sample Area:		*AOI-44*	*AOI-44*	*AOI-44*	*AOI-44*
Sample Location:		*FP-1*	*FP-2*	*FP-3*	*FP-4*
Sample ID:		*S-12638-072006-JC-001*	*S-12638-072006-JC-003*	*S-12638-072006-JC-004*	*S-12638-072006-JC-005*
Sample Date:		*7/20/2006*	*7/20/2006*	*7/20/2006*	*7/20/2006*
Sample Depth:		*6 ft BGS*	*3 ft BGS*	*3 ft BGS*	*3 ft BGS*
Parameters	***Units***				
trans-1,2-Dichloroethene	mg/kg	0.38 U	0.58 U	0.28 J	0.05 J
trans-1,3-Dichloropropene	mg/kg	0.38 U	0.58 U	0.32 U	0.31 U
Trichloroethene	mg/kg	0.38 U	0.15 J	1.3	2.5
Trichlorofluoromethane (CFC-11)	mg/kg	0.38 U	0.58 U	0.32 U	0.31 U
Trifluorotrichloroethane (Freon 113)	mg/kg	0.38 U	0.58 U	0.32 U	0.31 U
Vinyl chloride	mg/kg	0.38 U	0.58 U	0.32 U	0.12 J
Xylene (total)	mg/kg	0.75 U	0.058 J	0.24 J	0.042 J
Semi-Volatile Organic Compounds					
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	mg/kg	4.9 U	11 U	9.8 U	4 U
2,4,5-Trichlorophenol	mg/kg	4.9 U	11 U	9.8 U	4 U
2,4,6-Trichlorophenol	mg/kg	4.9 U	11 U	9.8 U	4 U
2,4-Dichlorophenol	mg/kg	4.9 U	11 U	9.8 U	4 U
2,4-Dimethylphenol	mg/kg	4.9 U	11 U	9.8 U	4 U
2,4-Dinitrophenol	mg/kg	24 U	53 U	47 U	19 U
2,4-Dinitrotoluene	mg/kg	4.9 U	11 U	9.8 U	4 U
2,6-Dinitrotoluene	mg/kg	4.9 U	11 U	9.8 U	4 U
2-Chloronaphthalene	mg/kg	4.9 U	11 U	9.8 U	4 U
2-Chlorophenol	mg/kg	4.9 U	11 U	9.8 U	4 U
2-Methylnaphthalene	mg/kg	3.5 J	16	14	2 J
2-Methylphenol	mg/kg	4.9 U	11 U	9.8 U	4 U
2-Nitroaniline	mg/kg	24 U	53 U	47 U	19 U
2-Nitrophenol	mg/kg	4.9 U	11 U	9.8 U	4 U
3,3'-Dichlorobenzidine	mg/kg	24 U	53 U	47 U	19 U
3-Nitroaniline	mg/kg	24 U	53 U	47 U	19 U
4,6-Dinitro-2-methylphenol	mg/kg	24 U	53 U	47 U	19 U
4-Bromophenyl phenyl ether	mg/kg	4.9 U	11 U	9.8 U	4 U
4-Chloro-3-methylphenol	mg/kg	4.9 U	11 U	9.8 U	4 U
4-Chloroaniline	mg/kg	4.9 U	11 U	9.8 U	4 U
4-Chlorophenyl phenyl ether	mg/kg	4.9 U	11 U	9.8 U	4 U
4-Methylphenol	mg/kg	4.9 U	11 U	9.8 U	4 U
4-Nitroaniline	mg/kg	24 U	53 U	47 U	19 U
4-Nitrophenol	mg/kg	24 U	53 U	47 U	19 U
Acenaphthene	mg/kg	4.9 U	0.85 J	9.8 U	0.19 J
Acenaphthylene	mg/kg	4.9 U	11 U	9.8 U	4 U
Acetophenone	mg/kg	4.9 U	11 U	9.8 U	4 U
Anthracene	mg/kg	4.9 U	11 U	0.48 J	0.33 J
Atrazine	mg/kg	4.9 U	11 U	9.8 U	4 U
Benzaldehyde	mg/kg	4.9 U	11 U	9.8 U	4 U
Benzo(a)anthracene	mg/kg	0.77 J	11 U	0.48 J	1 J
Benzo(a)pyrene	mg/kg	1 J	11 U	9.8 U	1.2 J
Benzo(b)fluoranthene	mg/kg	1.3 J	11 U	9.8 U	1.3 J

TABLE 2.4

ANALYTICAL RESULTS SUMMARY
AOI 44 - BUILDING 12B FREE PRODUCT
FORMER DELPHI HARRISON THERMAL SYSTEMS
DAYTON, OHIO

Sample Description:		*Bldg 12 Free Product Area*	*Bldg 12 Free Product Area*	*Bldg 12 Free Product Area*	*Bldg 12 Free Product Area*
Sample Area:		*AOI-44*	*AOI-44*	*AOI-44*	*AOI-44*
Sample Location:		*FP-1*	*FP-2*	*FP-3*	*FP-4*
Sample ID:		*S-12638-072006-JC-001*	*S-12638-072006-JC-003*	*S-12638-072006-JC-004*	*S-12638-072006-JC-005*
Sample Date:		*7/20/2006*	*7/20/2006*	*7/20/2006*	*7/20/2006*
Sample Depth:		*6 ft BGS*	*3 ft BGS*	*3 ft BGS*	*3 ft BGS*
Parameters	***Units***				
Benzo(g,h,i)perylene	mg/kg	4.9 U	11 U	9.8 U	0.83 J
Benzo(k)fluoranthene	mg/kg	0.36 J	11 U	9.8 U	0.51 J
Biphenyl	mg/kg	4.9 U	11 U	1.8 J	4 U
bis(2-Chloroethoxy)methane	mg/kg	4.9 U	11 U	9.8 U	4 U
bis(2-Chloroethyl)ether	mg/kg	4.9 U	11 U	9.8 U	4 U
bis(2-Ethylhexyl)phthalate	mg/kg	4.9 U	11 U	9.8 U	4 U
Butyl benzylphthalate	mg/kg	4.9 U	11 U	9.8 U	4 U
Caprolactam	mg/kg	4.9 U	11 U	9.8 U	4 U
Carbazole	mg/kg	4.9 U	11 U	9.8 U	4 U
Chrysene	mg/kg	0.68 J	11 U	0.34 J	0.92 J
Dibenz(a,h)anthracene	mg/kg	4.9 U	11 U	9.8 U	4 U
Dibenzofuran	mg/kg	4.9 U	11 U	9.8 U	4 U
Diethyl phthalate	mg/kg	4.9 U	11 U	9.8 U	4 U
Dimethyl phthalate	mg/kg	4.9 U	11 U	9.8 U	4 U
Di-n-butylphthalate	mg/kg	4.9 U	11 U	9.8 U	4 U
Di-n-octyl phthalate	mg/kg	4.9 U	11 U	9.8 U	4 U
Fluoranthene	mg/kg	0.78 J	11 U	0.55 J	1.3 J
Fluorene	mg/kg	4.9 U	11 U	9.8 U	4 U
Hexachlorobenzene	mg/kg	4.9 U	11 U	9.8 U	4 U
Hexachlorobutadiene	mg/kg	4.9 U	11 U	9.8 U	4 U
Hexachlorocyclopentadiene	mg/kg	24 U	53 U	47 U	19 U
Hexachloroethane	mg/kg	4.9 U	11 U	9.8 U	4 U
Indeno(1,2,3-cd)pyrene	mg/kg	0.52 J	11 U	9.8 U	0.62 J
Isophorone	mg/kg	4.9 U	11 U	9.8 U	4 U
Naphthalene	mg/kg	4.9 U	4.7 J	4.9 J	0.68 J
Nitrobenzene	mg/kg	4.9 U	11 U	9.8 U	4 U
N-Nitrosodi-n-propylamine	mg/kg	4.9 U	11 U	9.8 U	4 U
N-Nitrosodiphenylamine	mg/kg	4.9 U	11 U	9.8 U	4 U
Pentachlorophenol	mg/kg	4.9 U	11 U	9.8 U	4 U
Phenanthrene	mg/kg	0.28 J	0.62 J	1.2 J	0.93 J
Phenol	mg/kg	4.9 U	11 U	9.8 U	4 U
Pyrene	mg/kg	0.95 J	11 U	0.73 J	1.3 J

TABLE 2.4

ANALYTICAL RESULTS SUMMARY
AOI 44 - BUILDING 12B FREE PRODUCT
FORMER DELPHI HARRISON THERMAL SYSTEMS
DAYTON, OHIO

Sample Description:		***Bldg 12 Free Product Area***	***Bldg 12 Free Product Area***	***Bldg 12 Free Product Area***	***Bldg 12 Free Product Area***
Sample Area:		***AOI-44***	***AOI-44***	***AOI-44***	***AOI-44***
Sample Location:		***FP-1***	***FP-2***	***FP-3***	***FP-4***
Sample ID:		***S-12638-072006-JC-001***	***S-12638-072006-JC-003***	***S-12638-072006-JC-004***	***S-12638-072006-JC-005***
Sample Date:		***7/20/2006***	***7/20/2006***	***7/20/2006***	***7/20/2006***
Sample Depth:		***6 ft BGS***	***3 ft BGS***	***3 ft BGS***	***3 ft BGS***
Parameters	***Units***				
Metals					
Antimony	mg/kg	9.0 U	2580	21.6	14.3
Arsenic	mg/kg	2.8	36.2	8.4	4.9
Barium	mg/kg	220	674	108	194
Beryllium	mg/kg	0.45 B	0.46 B	0.51 B	1.6
Cadmium	mg/kg	0.37 B	1.8	0.36 B	0.36 B
Chromium Total	mg/kg	10.5 J	21.0 J	10.0 J	9.7 J
Cobalt	mg/kg	5.0 B	9.6	5.4 B	6.0
Copper	mg/kg	13.7	6290	242	148
Lead	mg/kg	9.3	4530	559	141
Manganese	mg/kg	372 J	453 J	355 J	443 J
Mercury	mg/kg	0.031 B	0.12 B	0.22	0.52
Nickel	mg/kg	12.9	24.2	13.7	16.6
Selenium	mg/kg	0.75 U	0.25 B	0.13 B	0.60 U
Silver	mg/kg	1.5 U	3.2	1.2 U	1.2 U
Thallium	mg/kg	0.11 B	0.18 B	0.13 B	0.11 B
Vanadium	mg/kg	15.3	38.0	20.7	25.4
Zinc	mg/kg	50.6 J	1060 J	113 J	111 J
PCBs					
Aroclor-1016 (PCB-1016)	mg/kg	0.99 U	0.44 U	0.39 U	4 U
Aroclor-1221 (PCB-1221)	mg/kg	0.99 U	0.44 U	0.39 U	4 U
Aroclor-1232 (PCB-1232)	mg/kg	0.99 U	0.44 U	0.39 U	4 U
Aroclor-1242 (PCB-1242)	mg/kg	0.99 U	0.44 U	0.39 U	4 U
Aroclor-1248 (PCB-1248)	mg/kg	0.99 U	0.44 U	0.39 U	4 U
Aroclor-1254 (PCB-1254)	mg/kg	6	2.9	2	18
Aroclor-1260 (PCB-1260)	mg/kg	0.99 U	0.44 U	0.39 U	4 U
General Chemistry					
Total Solids	%	67.0	75.4	84.4	82.7

Notes:
U - Not detected at or above the associated value.
J - Estimated concentration.
B - Method blank contamination.
UJ - Estimated reporting detection limit.

TABLE 2.5

ANALYTICAL RESULTS SUMMARY
AOI 45 - BLUE GREEN SOIL AREA
FORMER DELPHI HARRISON THERMAL SYSTEMS
DAYTON, OHIO

Sample Description:		*Blue Green Soil*	*Blue Green Soil*	*Blue Green Soil*
Sample Area:		*AOI-45*	*AOI-45*	*AOI-45*
Sample Location:		*SB 1*	*SB 2*	*SB 3*
Sample ID:		*SO-052506-GL-001*	*SO-052506-GL-002*	*SO-052506-GL-003*
Sample Date:		*5/25/2006*	*5/25/2006*	*5/25/2006*
Sample Depth:		*6 ft*	*6 ft*	*6 ft*
Parameters	*Units*			
Volatile Organic Compounds				
1,1,1-Trichloroethane	mg/kg	0.27 U	0.0057 U	0.26 U
1,1,2,2-Tetrachloroethane	mg/kg	0.27 U	0.0057 U	0.26 U
1,1,2-Trichloroethane	mg/kg	0.27 U	0.0057 U	0.26 U
1,1-Dichloroethane	mg/kg	0.27 U	0.0057 U	0.26 U
1,1-Dichloroethene	mg/kg	0.27 U	0.0057 U	0.26 U
1,2,4-Trichlorobenzene	mg/kg	0.27 U	0.0057 U	0.26 U
1,2-Dibromo-3-chloropropane (DBCP)	mg/kg	0.53 U	0.011 U	0.52 U
1,2-Dibromoethane (Ethylene Dibromide)	mg/kg	0.27 U	0.0057 U	0.26 U
1,2-Dichlorobenzene	mg/kg	0.27 U	0.0057 U	0.26 U
1,2-Dichloroethane	mg/kg	0.27 U	0.0057 U	0.26 U
1,2-Dichloropropane	mg/kg	0.27 U	0.0057 U	0.26 U
1,3-Dichlorobenzene	mg/kg	0.27 U	0.0057 U	0.26 U
1,4-Dichlorobenzene	mg/kg	0.27 U	0.0057 U	0.26 U
2-Butanone (Methyl Ethyl Ketone)	mg/kg	1.1 U	0.023 U	1 U
2-Hexanone	mg/kg	1.1 U	0.023 U	1 U
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	mg/kg	1.1 U	0.023 U	1 U
Acetone	mg/kg	1.1 J B	0.023 U	1 J B
Benzene	mg/kg	0.27 U	0.0057 U	0.26 U
Bromodichloromethane	mg/kg	0.27 U	0.0057 U	0.26 U
Bromoform	mg/kg	0.27 U	0.0057 U	0.26 U
Bromomethane (Methyl Bromide)	mg/kg	0.27 U	0.0057 U	0.26 U
Carbon disulfide	mg/kg	0.27 U	0.0057 U	0.26 U
Carbon tetrachloride	mg/kg	0.27 U	0.0057 U	0.26 U
Chlorobenzene	mg/kg	0.27 U	0.0057 U	0.26 U
Chloroethane	mg/kg	0.27 U	0.0057 U	0.26 U
Chloroform (Trichloromethane)	mg/kg	0.27 U	0.0057 U	0.26 U
Chloromethane (Methyl Chloride)	mg/kg	0.27 U	0.0057 U	0.26 U
cis-1,2-Dichloroethene	mg/kg	0.27 U	0.0057 U	0.031 J
cis-1,3-Dichloropropene	mg/kg	0.27 U	0.0057 U	0.26 U

TABLE 2.5

ANALYTICAL RESULTS SUMMARY
AOI 45 - BLUE GREEN SOIL AREA
FORMER DELPHI HARRISON THERMAL SYSTEMS
DAYTON, OHIO

Sample Description:		*Blue Green Soil*	*Blue Green Soil*	*Blue Green Soil*
Sample Area:		*AOI-45*	*AOI-45*	*AOI-45*
Sample Location:		*SB 1*	*SB 2*	*SB 3*
Sample ID:		*SO-052506-GL-001*	*SO-052506-GL-002*	*SO-052506-GL-003*
Sample Date:		*5/25/2006*	*5/25/2006*	*5/25/2006*
Sample Depth:		*6 ft*	*6 ft*	*6 ft*
Parameters	*Units*			
Cyclohexane	mg/kg	0.53 U	0.011 U	0.52 U
Dibromochloromethane	mg/kg	0.27 U	0.0057 U	0.26 U
Dichlorodifluoromethane (CFC-12)	mg/kg	0.27 U	0.0057 U	0.26 U
Ethylbenzene	mg/kg	0.27 U	0.0057 U	0.26 U
Isopropylbenzene	mg/kg	0.27 U	0.0057 U	0.26 U
Methyl acetate	mg/kg	0.53 U	0.011 U	0.52 U
Methyl cyclohexane	mg/kg	0.036 J	0.011 U	0.056 J
Methyl Tert Butyl Ether	mg/kg	1.1 U	0.023 U	1 U
Methylene chloride	mg/kg	0.27 U	0.0057 U	0.26 U
Styrene	mg/kg	0.27 U	0.0057 U	0.26 U
Tetrachloroethene	mg/kg	0.22 J	0.0057 U	0.49
Toluene	mg/kg	0.044 J	0.0057 U	0.11 J
trans-1,2-Dichloroethene	mg/kg	0.27 U	0.0057 U	0.26 U
trans-1,3-Dichloropropene	mg/kg	0.27 U	0.0057 U	0.26 U
Trichloroethene	mg/kg	0.65	0.0057 U	3
Trichlorofluoromethane (CFC-11)	mg/kg	0.27 U	0.0057 U	0.26 U
Trifluorotrichloroethane (Freon 113)	mg/kg	0.27 U	0.0057 U	0.26 U
Vinyl chloride	mg/kg	0.27 U	0.0057 U	0.26 U
Xylene (total)	mg/kg	0.53 U	0.011 U	0.081 J

TABLE 2.5

ANALYTICAL RESULTS SUMMARY
AOI 45 - BLUE GREEN SOIL AREA
FORMER DELPHI HARRISON THERMAL SYSTEMS
DAYTON, OHIO

Sample Description:		***Blue Green Soil***	***Blue Green Soil***	***Blue Green Soil***
Sample Area:		***AOI-45***	***AOI-45***	***AOI-45***
Sample Location:		***SB 1***	***SB 2***	***SB 3***
Sample ID:		***SO-052506-GL-001***	***SO-052506-GL-002***	***SO-052506-GL-003***
Sample Date:		***5/25/2006***	***5/25/2006***	***5/25/2006***
Sample Depth:		***6 ft***	***6 ft***	***6 ft***
Parameters	***Units***			
Semi-Volatile Organic Compounds				
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	mg/kg	0.38 U	1.5 U	0.41 U
2,4,5-Trichlorophenol	mg/kg	0.38 U	1.5 U	0.41 U
2,4,6-Trichlorophenol	mg/kg	0.38 U	1.5 U	0.41 U
2,4-Dichlorophenol	mg/kg	0.38 U	1.5 U	0.41 U
2,4-Dimethylphenol	mg/kg	0.38 U	1.5 U	0.41 U
2,4-Dinitrophenol	mg/kg	1.9 U	7.4 U	2 U
2,4-Dinitrotoluene	mg/kg	0.38 U	1.5 U	0.41 U
2,6-Dinitrotoluene	mg/kg	0.38 U	1.5 U	0.41 U
2-Chloronaphthalene	mg/kg	0.38 U	1.5 U	0.41 U
2-Chlorophenol	mg/kg	0.38 U	1.5 U	0.41 U
2-Methylnaphthalene	mg/kg	0.034 J	0.065 J	0.021 J
2-Methylphenol	mg/kg	0.38 U	1.5 U	0.41 U
2-Nitroaniline	mg/kg	1.9 U	7.4 U	2 U
2-Nitrophenol	mg/kg	0.38 U	1.5 U	0.41 U
3,3'-Dichlorobenzidine	mg/kg	1.9 U	7.4 U	2 U
3-Nitroaniline	mg/kg	1.9 U	7.4 U	2 U
4,6-Dinitro-2-methylphenol	mg/kg	1.9 U	7.4 U	2 U
4-Bromophenyl phenyl ether	mg/kg	0.38 U	1.5 U	0.41 U
4-Chloro-3-methylphenol	mg/kg	0.38 U	1.5 U	0.41 U
4-Chloroaniline	mg/kg	0.38 U	1.5 U	0.41 U
4-Chlorophenyl phenyl ether	mg/kg	0.38 U	1.5 U	0.41 U
4-Methylphenol	mg/kg	0.38 U	1.5 U	0.41 U
4-Nitroaniline	mg/kg	1.9 U	7.4 U	2 U
4-Nitrophenol	mg/kg	1.9 U	7.4 U	2 U
Acenaphthene	mg/kg	0.38 U	1.5 U	0.41 U
Acenaphthylene	mg/kg	0.38 U	1.5 U	0.41 U
Acetophenone	mg/kg	0.38 U	1.5 U	0.41 U
Anthracene	mg/kg	0.38 U	1.5 U	0.41 U

TABLE 2.5

ANALYTICAL RESULTS SUMMARY
AOI 45 - BLUE GREEN SOIL AREA
FORMER DELPHI HARRISON THERMAL SYSTEMS
DAYTON, OHIO

Sample Description:		*Blue Green Soil*	*Blue Green Soil*	*Blue Green Soil*
Sample Area:		*AOI-45*	*AOI-45*	*AOI-45*
Sample Location:		*SB 1*	*SB 2*	*SB 3*
Sample ID:		*SO-052506-GL-001*	*SO-052506-GL-002*	*SO-052506-GL-003*
Sample Date:		*5/25/2006*	*5/25/2006*	*5/25/2006*
Sample Depth:		*6 ft*	*6 ft*	*6 ft*
Parameters	*Units*			
Atrazine	mg/kg	0.38 U	1.5 U	0.41 U
Benzaldehyde	mg/kg	0.38 U	1.5 U	0.41 U
Benzo(a)anthracene	mg/kg	0.034 J	1.5 U	0.043 J
Benzo(a)pyrene	mg/kg	0.027 J	0.056 J	0.037 J
Benzo(b)fluoranthene	mg/kg	0.036 J	0.077 J	0.052 J
Benzo(g,h,i)perylene	mg/kg	0.026 J	0.056 J	0.031 J
Benzo(k)fluoranthene	mg/kg	0.014 J	1.5 U	0.018 J
Biphenyl	mg/kg	0.38 U	1.5 U	0.41 U
bis(2-Chloroethoxy)methane	mg/kg	0.38 U	1.5 U	0.41 U
bis(2-Chloroethyl)ether	mg/kg	0.38 U	1.5 U	0.41 U
bis(2-Ethylhexyl)phthalate	mg/kg	0.38 J B	1.5 U	0.41 J B
Butyl benzylphthalate	mg/kg	0.38 U	1.5 U	0.41 U
Caprolactam	mg/kg	0.38 J B	1.5 U	0.41 J B
Carbazole	mg/kg	0.38 U	1.5 U	0.41 U
Chrysene	mg/kg	0.042 J	1.5 U	0.044 J
Dibenz(a,h)anthracene	mg/kg	0.38 U	1.5 U	0.41 U
Dibenzofuran	mg/kg	0.38 U	1.5 U	0.41 U
Diethyl phthalate	mg/kg	0.38 U	1.5 U	0.41 U
Dimethyl phthalate	mg/kg	0.38 U	1.5 U	0.41 U
Di-n-butylphthalate	mg/kg	0.38 J B	1.5 U	0.41 U
Di-n-octyl phthalate	mg/kg	0.38 U	1.5 U	0.41 U
Fluoranthene	mg/kg	0.067 J	0.068 J	0.069 J
Fluorene	mg/kg	0.38 U	1.5 U	0.41 U
Hexachlorobenzene	mg/kg	0.38 U	1.5 U	0.41 U
Hexachlorobutadiene	mg/kg	0.38 U	1.5 U	0.41 U
Hexachlorocyclopentadiene	mg/kg	1.9 U	7.4 U	2 U
Hexachloroethane	mg/kg	0.38 U	1.5 U	0.41 U
Indeno(1,2,3-cd)pyrene	mg/kg	0.017 J	1.5 U	0.026 J
Isophorone	mg/kg	0.38 U	1.5 U	0.41 U
Naphthalene	mg/kg	0.02 J	1.5 U	0.41 U
Nitrobenzene	mg/kg	0.38 U	1.5 U	0.41 U
N-Nitrosodi-n-propylamine	mg/kg	0.38 U	1.5 U	0.41 U
N-Nitrosodiphenylamine	mg/kg	0.38 U	1.5 U	0.41 U
Pentachlorophenol	mg/kg	0.38 U	1.5 U	0.41 U

TABLE 2.5

ANALYTICAL RESULTS SUMMARY
AOI 45 - BLUE GREEN SOIL AREA
FORMER DELPHI HARRISON THERMAL SYSTEMS
DAYTON, OHIO

Sample Description:		***Blue Green Soil***	***Blue Green Soil***	***Blue Green Soil***
Sample Area:		***AOI-45***	***AOI-45***	***AOI-45***
Sample Location:		***SB 1***	***SB 2***	***SB 3***
Sample ID:		***SO-052506-GL-001***	***SO-052506-GL-002***	***SO-052506-GL-003***
Sample Date:		***5/25/2006***	***5/25/2006***	***5/25/2006***
Sample Depth:		***6 ft***	***6 ft***	***6 ft***
Parameters	***Units***			
Phenanthrene	mg/kg	0.062 J	0.064 J	0.042 J
Phenol	mg/kg	0.38 U	1.5 U	0.41 U
Pyrene	mg/kg	0.059 J	0.064 J	0.064 J
Metals				
Antimony	mg/kg	7.0 U	6.9 U	7.4 U
Arsenic	mg/kg	2.2	2.1	2.8
Barium	mg/kg	64.6	131	290
Beryllium	mg/kg	0.58 B J	0.58 B J	0.61 B J
Cadmium	mg/kg	0.61	1.1	0.94
Chromium Total	mg/kg	277	2180	709
Cobalt	mg/kg	1.6 B	1.8 B	1.6 B
Copper	mg/kg	27.4	70.8	39.2
Lead	mg/kg	12.2 J	46.1 J	35.3 J
Manganese	mg/kg	160	215	174
Mercury	mg/kg	0.045 B	0.24	0.11 B
Nickel	mg/kg	9.3	23.8	10.8
Selenium	mg/kg	0.58 B J	0.58 B J	0.61 B J
Silver	mg/kg	1.2 U	0.83 B	1.2 U
Thallium	mg/kg	0.0081 B	0.038 B	0.030 B
Vanadium	mg/kg	6.8	5.9	5.4 B
Zinc	mg/kg	104 J	280 J	231 J

TABLE 2.5

ANALYTICAL RESULTS SUMMARY
AOI 45 - BLUE GREEN SOIL AREA
FORMER DELPHI HARRISON THERMAL SYSTEMS
DAYTON, OHIO

Sample Description:		*Blue Green Soil*	*Blue Green Soil*	*Blue Green Soil*
Sample Area:		*AOI-45*	*AOI-45*	*AOI-45*
Sample Location:		*SB 1*	*SB 2*	*SB 3*
Sample ID:		*SO-052506-GL-001*	*SO-052506-GL-002*	*SO-052506-GL-003*
Sample Date:		*5/25/2006*	*5/25/2006*	*5/25/2006*
Sample Depth:		*6 ft*	*6 ft*	*6 ft*
Parameters	*Units*			
PCBs				
Aroclor-1016 (PCB-1016)	mg/kg	3.8 U	7.6 U	8.1 U
Aroclor-1221 (PCB-1221)	mg/kg	3.8 U	7.6 U	8.1 U
Aroclor-1232 (PCB-1232)	mg/kg	3.8 U	7.6 U	8.1 U
Aroclor-1242 (PCB-1242)	mg/kg	3.8 U	7.6 U	8.1 U
Aroclor-1248 (PCB-1248)	mg/kg	3.8 U	7.6 U	8.1 U
Aroclor-1254 (PCB-1254)	mg/kg	7.8	35	21
Aroclor-1260 (PCB-1260)	mg/kg	3.8 U	7.6 U	8.1 U
General Chemistry				
Cyanide (total)	mg/kg	0.58 B J	0.58 U	0.61 B J
Total Solids	%	85.8	86.7	81.4

Notes:
U - Not detected at or above the associated value.
J - Estimated concentration.
B - Method blank contamination.
UJ - Estimated reporting detection limit.

TABLE 2.6

ANALYTICAL RESULTS SUMMARY
AOI 46 - BUILDING 15 HOLDING TANK
FORMER DELPHI HARRISON THERMAL SYSTEMS
DAYTON, OHIO

Sample Description:		*Bldg 15 Holding Tank*	*Bldg 15 Holding Tank*	*Bldg 15 Holding Tank*	*Bldg 15 Holding Tank*	*Bldg 15 Holding Tank*
Sample Area:		*AOI-46*	*AOI-46*	*AOI-46*	*AOI-46*	*AOI-46*
Sample Location:		*CC-022*	*CC-023*	*S-019*	*S-019*	*S-021*
Sample ID:		*CC-083106-NZ-022*	*CC-083106-NZ-023*	*S-083006-NZ-019*	*S-083006-NZ-020*	*S-083006-NZ-021*
Sample Date:		*8/31/2006*	*8/31/2006*	*8/30/2006*	*8/30/2006*	*8/30/2006*
Sample Depth:		*6 ft BGS*	*12 ft BGS*	*12 ft BGS*	*12 ft BGS (Dup)*	*12 ft BGS*
Parameters	*Units*					
PCBs						
Aroclor-1016 (PCB-1016)	mg/kg	0.34 U	0.73 U	0.077 U	0.036 U	0.046 U
Aroclor-1221 (PCB-1221)	mg/kg	0.34 U	0.73 U	0.077 U	0.036 U	0.046 U
Aroclor-1232 (PCB-1232)	mg/kg	0.34 U	0.73 U	0.077 U	0.036 U	0.046 U
Aroclor-1242 (PCB-1242)	mg/kg	0.34 U	0.73 U	0.077 U	0.036 U	0.046 U
Aroclor-1248 (PCB-1248)	mg/kg	0.34 U	0.73 U	0.077 U	0.036 U	0.046 U
Aroclor-1254 (PCB-1254)	mg/kg	3.5	3.8	0.83	0.16	0.21
Aroclor-1260 (PCB-1260)	mg/kg	0.34 U	0.73 U	0.077 U	0.036 U	0.046 U
General Chemistry						
Total Solids	%	95.8	91.0	86.0	90.5	72.1

Notes:
U - Not detected at or above the associated value.
J - Estimated concentration.
B - Method blank contamination.
UJ - Estimated reporting detection limit.

TABLE 2.7

ANALYTICAL RESULTS SUMMARY
AOI 47 - BUILDING 12B T-TRENCH
FORMER DELPHI HARRISON THERMAL SYSTEMS
DAYTON, OHIO

Sample Description:		***Bldg 12B T-Trench***	***Bldg 12B T-Trench***
Sample Area:		***AOI-47***	***AOI-47***
Sample Location:		***T-024***	***T-025***
Sample ID:		***S-090106-NZ-024***	***S-090106-NZ-025***
Sample Date:		***9/1/2006***	***9/1/2006***
Sample Depth:		***2 ft BGS***	***2 ft BGS***
Parameters	***Units***		
PCBs			
Aroclor-1016 (PCB-1016)	mg/kg	0.076 U	1.9 U
Aroclor-1221 (PCB-1221)	mg/kg	0.076 U	1.9 U
Aroclor-1232 (PCB-1232)	mg/kg	0.076 U	1.9 U
Aroclor-1242 (PCB-1242)	mg/kg	0.076 U	1.9 U
Aroclor-1248 (PCB-1248)	mg/kg	0.076 U	1.9 U
Aroclor-1254 (PCB-1254)	mg/kg	0.22	10
Aroclor-1260 (PCB-1260)	mg/kg	0.076 U	1.9 U
General Chemistry			
Total Solids	%	87.2	88.0

Notes:
U - Not detected at or above the associated value.
J - Estimated concentration.
B - Method blank contamination.
UJ - Estimated reporting detection limit.

Table 3.1: Upper-Bound Cumulative Cancer Risk and HI Estimates for Affected RFI Sub-Areas
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

RFI	Routine Woker Direct Contact[1]		Vapor Intrusion[2]		Maintenance Worker[2]	
Sub-Area	**Risk**	**HI**	**Risk**	**HI**	**Risk**	**HI**
MW-5-03	NA[3]	NA[3]	5E-05	1E+00	8E-07	3E-01
SB-10-02	NA	NA	8E-05	4E-01	2E-07	4E-03
SB-110-04	NA	NA	7E-05	**2E+00**	1E-06	7E-02
SB-115-04	7E-05	**2E+00**	1E-04	1E+00	1E-06	3E-01
SB-116-04	NA	NA	8E-06	2E-01	1E-06	2E-02
SB-123-04	2E-05	7E-01	2E-05	1E-01	3E-07	3E-02
SB-126-04	NA	NA	1E-05	9E-02	8E-06	2E-01
SB-128-04	4E-05	2E-01	1E-04	5E-01	3E-07	5E-03
SB-57-02	NA	NA	5E-05	8E-01	2E-06	2E-01
SB-70-03	NA	NA	9E-06	6E-02	9E-08	3E-03
BH-178-04	7E-06	4E-02	2E-05	5E-01	8E-07	3E-01
MW-22-04	6E-05	3E-01	**2E-04**	9E-01	4E-07	6E-03
SB-127-04	1E-06	2E-02	4E-07	1E-02	8E-06	8E-02
SB-67-03	NA	NA	**2E-04**	6E-01	4E-07	6E-03
SB-76-03	3E-06	7E-02	**2E-04**	6E-01	9E-07	1E-02

Notes:

1. Risk and HI estimates are based on highest concentrations in the surface soil at each boring location.
2. Risk and HI estimates are based on highest concentrations among all depths at each boring location.
3. The post-RFI samples in this sub-area are from 3 ft bgs. But if the highest concentrations among these samples represent concentrations that are still present in surface soil in the vicinity, the upper-bound estimates of cumulative cancer risk and HI would be 5E-5 and 5, respectively.
4. Risk and HI estimates are calculated using site-related concentrations, which are those in excess of site-specific background concentrations for inorganics.
5. Risk and HI estimates are based on chemical concentrations determined by taking both the RFI and post-RFI sample concentrations into account.
6. Shaded, bold cells represent a cumulative cancer risk or HI for a RFI sub-area that is higher than the cancer risk level of $1x10^{-4}$ or HI of 1, but were not higher than these levels in the RFI Report.
7. Outlined, bold cells represent a cumulative cancer risk or HI for a sub-area that is higher than the cancer risk level of $1x10^{-4}$ or HI of 1 and were also higher than these levels in the RFI Report.

Abbreviations:

HI - Hazard Index; Risk - Cumulative Cancer Risk

NA - Risk and HI values were not calculated, since it was unnecessary to take post-RFI surface samples at these RFI sub-areas.

BOW ENVIRONMENTAL SOLUTIONS INC.

VIA OVERNIGHT DELIVERY SERVICE

January 12, 2007

Ms. Patricia J. Polston
Waste, Pesticides and Toxics Division
U.S. EPA Region 5
77 W. Jackson Blvd., DRE-9J
Chicago, IL 60604-3590

Re: RCRA Facility Investigation Report Addendum 2
Performance-Based RCRA Corrective Action
Former Delphi Harrison Thermal Systems
USEPA ID No. OHD 017 958 604

Dear Ms. Polston:

Please find the attached four (4) copies of the RCRA Facility Investigation (RFI) Report Addendum 2 for the Former Delphi Harrison Thermal Systems Site located at 300 Taylor Street, Dayton, Ohio. The RFI Report Addendum 2 was completed by ENVIRON International Corporation, Haley& Aldrich, Inc., and Conestoga-Rovers & Associates on behalf of the General Motors Corporation (GM) and in accordance with the Performance-Based Corrective Action Agreement for the site. Please call (937) 455-2636 if you have any questions concerning this information.

Sincerely,

Pamela L. Barnett

Pamela L. Barnett, P.G.
Project Manager
BOW Environmental Solutions, Inc. on behalf of GM

attachment.
c.c.: Jean Caufield, GM Remediation
Pamela Hull, OEPA
Carl Bridges, Peerless
Gwen Eberly/Chris Lipson, City of Dayton

RESOURCE CONSERVATION AND RECOVERY ACT
FACILITY INVESTIGATION REPORT
ADDENDUM 2

General Motors Corporation
Former Delphi Harrison Thermal Systems
Dayton, Ohio

OH 017 958 604

Prepared for

General Motors Corporation
Pontiac, Michigan

Prepared by

ENVIRON International Corporation
Princeton, New Jersey

January 12, 2007

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ACRONYMNS

AOI	area of interest
AWQC	ambient water quality criteria
cis-1,2-DCE	cis-1,2-dichloroethene
CRA	Conestoga-Rovers & Associates
CSM	conceptual site model
EI	environmental indicators
ENVIRON	ENVIRON International Corporation
ESLs	ecological screening levels
GM	General Motors Corporation
gpm	gallons per minute
H&A	Haley & Aldrich, Inc.
HI	hazard index
LNAPL	light non-aqueous phase liquid
MCL	maximum contaminant level
MDEQ	Michigan Department of Environmental Quality
NOAA	National Oceanic and Atmospheric Administration
PCBs	polychlorinated biphenyls
PCE	tetrachloroethene
QAPP	Quality Assurance Project Plan
RBC	Risk-based criteria
RCRA	Resource Conservation and Recovery Act
RFI	RCRA Facility Investigation
SQL	sample quantitation limit
TCE	trichloroethene
TCL	target compound list
USEPA	U. S. Environmental Protection Agency
VOCs	volatile organic compounds

1.0 INTRODUCTION

1.1 Background and Purpose

This Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) Report Addendum 2 was prepared in conjunction with a performance-based RCRA corrective action that General Motors Corporation (GM) is conducting at the former Delphi Harrison Thermal Systems Facility located at 300 Taylor Street in Dayton, Ohio (hereafter referred to as the "Site"). The boundary of the Site, as defined in the performance-based agreement dated May 22, 2001 between GM and the U. S. Environmental Protection Agency (USEPA), is shown on Figure 1.4 of the RFI Report (CRA 2006a) and Figure 1.2 of the Corrective Measures Proposal for Soil, LNAPL, Upper Aquifer Groundwater, Storm Sewers, and Concrete (CRA 2007).

This RFI Report Addendum 2 presents groundwater characterization data that GM collected after submittal of the RFI Report (CRA 2006a) to USEPA on March 30, 2006, describes an evaluation of these post-RFI groundwater data to confirm the environmental indicator (EI) determinations regarding current human exposures (CA725) and migration of contaminated groundwater (CA750) that were presented in the EI Report (ENVIRON 2006), and supports decisions regarding the extent to which corrective measures are warranted for shallow groundwater at and downgradient of the Site.

This RFI Report Addendum 2 also presents an additional evaluation of the soil characterization data that were collected during the RFI and the data subsequently collected to investigate new areas of interest (AOIs) identified during the City of Dayton's site redevelopment activities between Webster Street and Taylor Street, which were presented in RFI Report Addendum 1 (CRA 2006d). The additional evaluation addresses the potential for exposure if subsurface soil is excavated and relocated to other parts of the Site during future redevelopment activities to prepare the Site for reuse. The results of this evaluation are intended to support decisions regarding the extent to which institutional controls on soil management (excavation and relocation) are warranted for soil at the Site.

Finally, this RFI Report Addendum 2 presents an additional evaluation of the soil and groundwater characterization data that were collected during the RFI in the vicinity of Building 5, located between Taylor Street and the Railway. The results of this evaluation are intended to

support decisions regarding the extent to which corrective measures are warranted for soil or shallow groundwater in this area.

1.2 Report Organization

The remainder of this report is organized as follows:

- Section 2 provides a summary of post-RFI monitoring data evaluated in this report, including data collected per the CA750 monitoring program described in the EI Report (ENVIRON 2006).

- Section 3 presents an updated conceptual site model and supplements the CA725 determination by comparing post-RFI and RFI groundwater sampling data to risk-based screening criteria based upon conservative assumptions related to drinking water consumption, vapor intrusion, or direct contact.

- Section 4 describes an evaluation of potential effects on the Mad River for a hypothetical worst-case in which constituent concentrations in upper aquifer groundwater currently at the four primary areas of on-site groundwater contamination are assumed to migrate unattenuated into the Mad River.

- Section 5 summarizes risk calculation results that are relevant to the management of soil that may be excavated and relocated on-site during future Site redevelopment activities.

- Section 6 describes a supplemental health risk assessment of potential human exposures in the basement of Building 5 via vapor intrusion from soil and groundwater, under a hypothetical future scenario in which the City of Dayton reuses, rather than fills and closes, this basement.

- Section 7 lists the references cited in this report.

2.0 POST-RFI GROUNDWATER AND LNAPL DATA

Subsequent to submittal of the RFI Report in March 2006, GM collected additional groundwater and light non-aqueous phase liquid (LNAPL) monitoring data as part of the monitoring program described in Section 3.5 of the EI Report (ENVIRON 2006), and as part of an ongoing supplemental groundwater investigation to further assess and characterize the degree, if any, to which the Site is the source of trichloroethene (TCE) in the Dayton Public Schools Career Academy geothermal well (Geothermal Well) discharge (CRA and H&A 2006b).

These post-RFI data are presented, evaluated, and discussed in the remainder of this section. When the ongoing supplemental groundwater investigation is completed, additional post-RFI groundwater data, including sampling data from monitoring wells in the till-rich zone and the lower aquifer, will be presented and evaluated in another addendum to the RFI Report.

2.1 Groundwater Sampling Data

The post-RFI sampling data evaluated in this report are presented in Appendix A. The groundwater sampling data in Appendix A include the following:

- Groundwater monitoring data collected from the 14 upper aquifer monitoring wells listed for groundwater sampling on Table 3-2 of the EI Report;
- Groundwater discharge data collected from the Geothermal Well in July 2006.

Figure 2-1 shows the locations where these data were collected. All of the groundwater samples were analyzed for target compound list (TCL) volatile organic compounds (VOCs), and certain groundwater samples were analyzed for polychlorinated biphenyls (PCBs). These post-RFI data, like the RFI groundwater sampling data, were collected and analyzed in accordance with the procedures and methods approved by USEPA Region 5 (CRA 2002, 2006b). These data were validated in accordance with the Quality Assurance Project Plan (QAPP) in the RFI Work Plan (CRA 2002). Summaries of the data validation results are provided in Appendix B. The significance of these data is evaluated and discussed in Sections 3 and 4.

In addition, borehole water data from exploratory borings through the upper aquifer that were collected before September 21, 2006 as part of the RFI and ongoing supplemental groundwater investigation (CRA and H&A 2006b) are also presented in Appendix A. The borehole water

samples were analyzed for various VOCs, as identified in Appendix A. The rationale and collection methods for these samples are described in Appendix A. Tetrachloroethene (PCE) and TCE concentrations in these borehole water samples are shown on Figure 7.4 in the Corrective Measures Proposal for Soil, LNAPL, Upper Aquifer Groundwater, Storm Sewers, and Concrete (CRA 2007).

2.2 Groundwater Level Data

Groundwater levels were measured during June, September, and December 2006 at all of the monitoring wells listed for water level measurement on Table 3-2 of the EI Report, except as noted in Appendix A. The water table contours based on the three sets of measurements are shown on Figures 2-2a, 2-2b, and 2-2c, respectively; and the potentiometric contours for the lower aquifer are shown on Figures 2-3a, 2-3b, and 2-3c. The water table contours show that groundwater in the upper aquifer at the Site flows to the northwest and west into the Mad River, which is consistent with flow conditions described in the RFI Report (CRA 2006a) and EI Report (ENVIRON 2006). The potentiometric contours for the lower aquifer show that the Geothermal Well is continuing to capture lower aquifer groundwater from beneath the Site, which is consistent with conditions described in the RFI Report (CRA 2006a) and EI Report (ENVIRON 2006).

2.3 LNAPL Data

LNAPL presence and thickness, if any, were checked at all of the monitoring wells listed for LNAPL monitoring on Table 3-2 of the EI Report. The LNAPL monitoring locations are shown in Figure 2-1, along with the approximate extent of the LNAPL plumes at the former Chip Handling Area and former Hydromation Pit Area. These LNAPL monitoring results confirm conditions described in the RFI Report (CRA 2006a) and EI Report (ENVIRON 2006).

For the Chip Handling Area plume, LNAPL presence and thickness was checked in September 2006 at 13 monitoring wells. No measurable LNAPL was found at wells MW-12-03A, MW-30-04, MW-31-04, MW-4-02, OW-1, OW-1A, OW-5, OW-6, and OW-7, which are located along the perimeter of the LNAPL plume. Wells OW1A, OW-1, MW-25-04, and MW-26-04, located along the downgradient perimeter of the LNAPL plume, did not have measurable thicknesses of LNAPL. Monitoring locations within the plume had LNAPL thicknesses that were comparable to past measurements at these wells.

For the Hydromation Pit Area plume, LNAPL presence was checked in 2006 at monitoring wells MW-14A-03 and DAY-01, which are located upgradient and downgradient, respectively, and outside of the inferred LNAPL plume extent. No measurable LNAPL was observed in either well. LNAPL presence and thickness was also checked at monitoring well MW-14B-04.

LNAPL was first observed in MW-14B-04 in January 2006 and was effectively removed by pumping. In June, September, and December 2006, the residual LNAPL observed in well MW-14B-04 (approximately 0.02 ft) was consistent with past measurements following initial LNAPL removal by pumping.

These monitoring results confirm previous conclusions that the LNAPL plumes in the former Chip Handling Area and former Hydromation Pit Area remain stable.

3.0 SCREENING OF POST-RFI GROUNDWATER DATA

In the EI Report (ENVIRON 2006), the presence of groundwater that meets the definition of "contamination" was identified by comparing the most recent RFI groundwater sampling data with risk-based screening criteria based upon conservative assumptions related to drinking water consumption, vapor intrusion, or direct contact. This section supplements the EI Report (CA725 and CA750) by comparing the post-RFI groundwater sampling data discussed in Section 2.1 to risk-based criteria that correspond to an updated conceptual site model (CSM) of potential human exposures to groundwater downgradient of the Site. The updated CSM is discussed in Section 3.1. The screening criteria and the results of the risk-based screening are presented in Sections 3.2 and 3.3, respectively.

3.1 Updated Conceptual Site Model

The CSM in the RFI Report has been updated to include the following two potential scenarios for human exposure in the off-site area between Webster Street and the Mad River:

- Vapor intrusion from shallow groundwater into residential buildings
- Nonpotable use of groundwater by residential populations

As discussed in Section 3.8 of the RFI Report, potable use of groundwater at the Site and its vicinity is not reasonably expected, because no active water supply well exists at the Site and an extensive review of water use records during the RFI has identified no drinking water supply well within a half-mile of the Site (CRA 2006a). The City of Dayton provides potable water for the Site and its vicinity. The updated CSM, which incorporates the two additional potential exposure scenarios for off-site areas, is presented in Table 3-1.

3.2 Screening Criteria

As discussed in Section 4.0.2 of the RFI Report, the primary set of groundwater screening criteria used to guide the groundwater investigation to date is conservatively based on maximum contaminant levels (MCLs) promulgated under the Safe Drinking Water Act, and similarly-derived drinking water concentration limits for chemicals that lack MCLs. The use of drinking water criteria for identifying "contamination" is highly conservative, because no active water supply well exists at the Site and an extensive review of water use records during the RFI has identified no drinking water supply well within a half-mile of the Site (CRA 2006a). Derivation

of drinking water limits for chemicals that lack MCLs is discussed in Appendix E of the RFI Report.

Screening criteria for evaluating vapor intrusion into future on-site commercial buildings and off-site commercial buildings were derived as discussed in Appendix E of the RFI Report (CRA 2006a). Screening criteria for evaluating vapor intrusion into potential off-site residential buildings were derived similarly, except for the following factors:

- Air exchange rate (1 per hour for a residential building, versus 2 per hour for a commercial building) (MDEQ 1998);[1]
- Building area (10.6 m x 10.6 m for a residential building, versus 19.3 m x 19.3 m for an off-site commercial/industrial building) (MDEQ 1998); and
- Exposure frequency and duration (350 days/year and 30 years for residential receptors, versus 250 days/year and 25 years for routine workers) (USEPA 1991).

The groundwater contact criteria used in the RFI Report and EI Report were derived based on exposure of maintenance workers to constituents in groundwater via incidental ingestion, dermal contact, and vapor inhalation during occasional excavation activities that extend into the water table. Derivation of these criteria is discussed in Appendix E of the RFI Report.

Exposures associated with potential off-site residential nonpotable groundwater use are evaluated using a scenario where groundwater is used to fill a backyard wading pool ("kiddie" pool). This scenario represents a reasonable worst-case, in which the estimated exposure is expected to be higher than those associated with other nonpotable uses (e.g., watering lawns, washing cars, etc.). Potential routes of exposure evaluated as part of this "kiddie" pool scenario include incidental ingestion, dermal contact, and inhalation of vapors. Derivation of these criteria is discussed further in Appendix C of this RFI Report Addendum.

3.3 Screening Results

For the purposes of this report, as well as the EI determinations (ENVIRON 2006), only the most recent concentration for each constituent at each well is used. In this report, the post-RFI groundwater sampling data from the upper aquifer and the Geothermal Well discharge, as discussed in Section 2.1, were evaluated together with the most recent RFI groundwater data for

[1] The generic assumptions used by MDEQ are believed to be conservative for generic commercial and residential buildings in the Site vicinity. USEPA has not developed appropriate assumptions for evaluating vapor intrusion from soil or groundwater into generic residential buildings in this region of the United States. Also, the Ohio Environmental Protection Agency has not independently developed appropriate assumptions for this region.

the rest of the monitoring wells in the upper aquifer and monitoring wells in the lower aquifer, respectively, to provide updated screening results. The screening results for groundwater data from the till-rich zone that were presented in the RFI Report and EI Report are not updated in this report, because post-RFI till-rich zone groundwater data from the ongoing supplemental groundwater investigation were not available for evaluation during the preparation of this report. Post-RFI till-rich zone groundwater data will be evaluated in a subsequent addendum to the RFI Report.

Groundwater that meets the definition of "contamination" is identified on Tables 3-2a, 3-3a, and 3-4a by comparing the highest concentration of each constituent to the respective screening criteria. The presence of groundwater that meets the definition of "contamination" is identified by ratios of concentrations to the screening criteria that exceed 1.

3.3.1 Upper Aquifer

The updated screening results for groundwater data from all on-site and off-site RFI monitoring wells in the upper aquifer are summarized on Table 3-2a and Table 3-3a, respectively. As shown on Table 3-2a, several constituents have concentrations in on-site groundwater that are higher than the drinking water screening criteria. The predominant groundwater contaminants in the upper aquifer at each on-site area (Table 3-2a) are as follows:

Webster to Taylor	cis-1,2-DCE, PCE, TCE, vinyl chloride
Taylor to Railway	cis-1,2-DCE, PCE, TCE, vinyl chloride
Railway to Keowee	TCE, PCBs

Based upon the locations where these constituents exceed drinking water criteria (Table 3-2b), the four primary areas of groundwater in the upper aquifer that meet the definition of "contaminated" are the dissolved-phase plumes associated with AOI 1, monitoring well MW-23, and the LNAPLs in the vicinity of the former Chip Handling Area and the former Hydromation Pit Area. These updated results are the same as those presented in the RFI Report and EI Report.

As shown on Table 3-3a, several of the constituents listed above are also present in groundwater from the upper aquifer at off-site locations up-gradient, side-gradient, and down-gradient of the Site at concentrations that are higher than the drinking water screening criteria. Table 3-3b identifies the off-site locations where constituent concentrations in shallow groundwater exceed risk-based criteria. The principal change in these screening results from those presented in the EI Report is that the PCB concentration in the most recent (post-RFI) sample from monitoring well

MW-4-02 (0.00056 mg/L) slightly exceeds its drinking water criterion (see Table 3-3b herein), whereas the previous sample from this well (see Table 2-3f in the EI Report) was slightly lower than the drinking water criterion. Even with this change, the updated results are still essentially the same as those presented in the RFI Report and EI Report.

Only one concentration at an on-site location (34.5 mg/L of cis-1,2-DCE at MW-23-04) is higher than the screening criteria based on maintenance worker contact (Table 3-2b). No concentration in on-site or off-site groundwater in the upper aquifer is higher than the respective vapor intrusion criteria for a commercial building (Tables 3-2a and 3-3a). These updated results are the same as those presented in the RFI Report and EI Report.

The screening results for the two new sets of criteria based on potential off-site residential exposures show that no concentration in off-site groundwater in the upper aquifer is higher than the vapor intrusion criteria for a residential building (Table 3-3a), but constituent concentrations in off-site groundwater in the upper aquifer at three locations exceed the criteria for residential nonpotable use (Table 3-3b), as follows:

- Two off-site locations within the AOI 1 plume in the upper aquifer (DAY-03 for arsenic, and the well cluster MW-6A and MW-6B for vinyl chloride). Arsenic is believed to be unrelated to the Site (CRA 2006a, Section 4-7).

- One off-site location (MW-4-02 for PCBs) between the levee at the northern boundary of the Site and the Mad River, where future residential land use is not reasonably expected.

Future residential land use is not reasonably expected on-site. However, groundwater data from on-site monitoring wells in the upper aquifer within the AOI 1 plume were screened against the two new sets of criteria for potential off-site residential exposures, because shallow groundwater at AOI 1 is located at the downgradient boundary of the Site and could migrate off-site. As shown in Table 3-2c:

- Only one on-site location (B-SA23) within the AOI 1 plume has a concentration (vinyl chloride at 1.3 mg/L) that is higher than the criterion for vapor intrusion into an off-site residential building.

- Five on-site locations within the AOI 1 plume have groundwater concentrations that are higher than the residential nonpotable use criteria (B-SA21 for PCBs; B-SA22 for PCE; B-SA23 for vinyl chloride; MW-2A for PCE and vinyl chloride; and MW-5A for vinyl

chloride). Dissolved-phase PCBs are not expected to migrate significant distances via groundwater flow.

Groundwater data from on-site monitoring wells in the upper aquifer at the other three primary on-site areas of groundwater contamination in the upper aquifer (i.e., MW-23 area plume, and groundwater in contact with LNAPL in the former Hydromation Pit Area and former Chip Handling Area), which are located along the northern boundary of the Site near the Mad River, were not screened against the two new sets of criteria for potential off-site residential exposures, because residential land use is not reasonably expected in the small area between these areas and the Mad River.

3.3.2 Lower Aquifer

The updated screening results for groundwater data from all RFI wells in the lower aquifer and the Geothermal Well discharge are summarized on Table 3-4a. Table 3-4b identifies the locations where constituent concentrations in lower aquifer groundwater and the Geothermal Well discharge exceed drinking water criteria. The locations of these wells are shown on Figure 2-1.

The results shown on Tables 3-4a and 3-4b are essentially the same as those presented in the RFI Report and EI Report. The minor differences between the updated concentrations and those presented in the RFI Report and EI Report are due to minor changes in the concentrations found in the Geothermal Well discharge, since these were the only post-RFI groundwater sampling data for the lower aquifer that were available for evaluation during preparation of this report. Additional post-RFI lower aquifer groundwater data from the ongoing supplemental groundwater investigation will be evaluated in a subsequent addendum to the RFI Report.

Future residential land use is not reasonably expected on Site. However, groundwater data from on-site monitoring wells in the lower aquifer were also screened against the new criteria for potential residential nonpotable groundwater use, because lower aquifer groundwater at the Site could migrate off-site under the influence of changes in pumping conditions around the Site. As shown on Table 3-4a, none of the constituent concentrations in lower aquifer groundwater samples are higher than the criteria for potential residential nonpotable use.

4.0 HYPOTHETICAL GROUNDWATER DISCHARGE TO MAD RIVER

This section presents an evaluation of potential effects on the Mad River for a hypothetical case in which constituent concentrations in upper aquifer groundwater at the four primary areas of on-site groundwater "contamination" are assumed to migrate unattenuated to the Mad River. This hypothetical case was evaluated to support the development of risk-based remedial action objectives for constituent concentrations currently present in upper aquifer groundwater at these on-site areas. Appendix D identifies the data used to estimate the hypothetical worst-case mass loading from groundwater to the Mad River and compares them to those used in the baseline assessment presented in the RFI Report (CRA 2006a, Appendix I). An overview of the technical approach and a summary of the evaluation results are presented below.

4.1 Technical Approach

The predominant on-site areas of Site-related groundwater "contamination" in the upper aquifer are associated with the AOI 1 plume, the MW-23 area plume, and groundwater in contact with LNAPL in the vicinity of the former Chip Handling Area and the former Hydromation Pit Area (CRA 2006a, see Section 4.6; ENVIRON 2006, see Section 3.3). Shallow groundwater from each of these areas is expected to migrate towards and discharge into the Mad River, based upon the hydrogeologic conceptual model described in Section 3.5 of the RFI Report (CRA 2006a). Because the concentration of some constituents in some monitoring wells at each of these areas is higher than that used to characterize shallow groundwater discharge into the Mad River under current conditions (as presented in the EI Report and the RFI Report), it is necessary to determine whether corrective measures at these areas are warranted to ensure that such higher concentrations would not eventually cause adverse effects on the Mad River.

To efficiently make this determination, the evaluation conservatively assumed that the highest concentrations in upper aquifer groundwater currently at the four areas will reach the Mad River unattenuated. If any of these concentrations are higher than the concentrations currently at the downgradient monitoring wells along the Mad River that were used in the RFI baseline risk assessment to estimate mass loading to the River, then the higher concentration was used to estimate mass loading for the hypothetical case. Of the 14 monitoring wells along the River that were used to estimate mass loading from the upper aquifer, 10 of the monitoring wells are downgradient of one or more of the four areas. Table D1 in Appendix D shows which wells are

downgradient of which area. Tables D2 through D5 show the groundwater sampling data used in this evaluation, which include the post-RFI groundwater sampling data discussed in Section 2.1.

The worst-case mass loading from the upper aquifer was then combined with estimated mass loadings from the Geothermal Well discharge and storm sewer discharge, in the same manner as discussed in the RFI baseline risk assessment. In this evaluation, the mass loading from the Geothermal Well discharge was updated using the post-RFI data discussed in Section 2.1 and a current flow rate of 410 gallons per minute (gpm) (which is somewhat higher than the flow rate of 340 gpm used in the RFI baseline risk assessment). The mass loading from storm sewer discharge did not need to be updated.

4.2 Results

The estimated concentrations in the Mad River for the hypothetical worst-case are shown on Table 4-1 for all constituents detected in upper aquifer groundwater. Table 4-1 also compares these concentrations to the ambient water quality criteria (AWQC) and ecological screening levels (ESLs) used in the RFI baseline risk assessment. This comparison shows that, even assuming no attenuation of the constituent concentrations in the four areas, all estimated concentrations in the Mad River are less than the respective AWQC. It also shows that only two constituents, PCBs and copper, have estimated concentrations in the Mad River that are higher than the respective ESLs. However, these two constituents previously (in the baseline risk assessment) had estimated concentrations that exceeded the respective ESLs. As discussed in Section 6 of the RFI Report, neither of these estimated concentrations is believed to represent a potential for significant ecological risk.

In summary, these results show that the current concentrations in upper aquifer groundwater at the four primary on-site areas of groundwater contamination are not reasonably expected to have any significant effect on the designated uses of the Mad River or pose any ecological risks to aquatic receptors for the segment that is adjacent to the Site even if they were to migrate unattenuated into the Mad River.

5.0 SOIL MANAGEMENT

This Section summarizes risk calculation results that are relevant to the management of soil that is excavated and relocated elsewhere on-site during future Site redevelopment activities. These calculations provide cumulative cancer risk and non-cancer hazard index (HI) estimates for the 214 soil sub-areas that, in combination with related risk assessment results presented in the RFI Report (CRA 2006a) and RFI Report Addendum 1 (CRA 2006d), can be used to categorize the locations as follows:

1. Locations where excavation of soil from any depth, and placement of the soil anywhere at the Site would not pose a significant risk during planned use of the Site after redevelopment; and

2. Locations where excavation and movement of soil would warrant consideration of actual excavation depths and volumes, and specific plans for placement of the excavated soil to ensure that movement and placement do not create opportunities for significant exposure during planned use of the Site after redevelopment.

The information and risk estimates provided below supplement ENVIRON's memoranda dated April 14, 2006 and August 11, 2006, which focused on the City of Dayton's recent Site redevelopment activities between Webster and Taylor Streets.

5.1 Overview of Approach

Once redevelopment of the Site is completed, the largest receptor population at the Site is expected to consist of workers who would be engaged in routine commercial/industrial activities. Most of these workers are expected to spend the majority of their work day indoors and a limited amount of time outdoors. Risk estimates were conservatively calculated for this population in the baseline human health risk assessment, based upon RFI data, (CRA 2006a, Section 5) and were updated in RFI Report Addendum 1, using post-RFI data collected to date by GM (CRA 2006d). To conservatively evaluate routine worker exposures while outdoors, these estimates were based upon the surface soil data and assumed daily exposure at each of the 214 locations. To conservatively evaluate routine worker exposures while indoors, these estimates were based upon the highest constituent concentration in soil from any depth at each of the 214 RFI soil sub-areas and assumed daily indoor exposure at each of the 214 locations.

In this supplemental assessment, risk estimates were calculated assuming daily exposure of routine workers while outdoors to the highest constituent concentrations in soil from any depth at each of the 214 RFI soil sub-areas where RFI or post-RFI data were collected to characterize soil conditions at the Site (CRA 2006a, 2006d). These risk estimates were calculated in the same manner as those described in Section 5.6.2.1.1 of the RFI Report for assessing potential exposure of routine workers (via incidental ingestion, dermal contact, and inhalation of soil-derived particulate and vapor emissions) to surface soil (0 to 2 ft bgs) at each boring location, except they assume exposure to the highest concentrations in soil from any depth. The exposure concentrations are, therefore, the same as those used to calculate risk estimates for vapor intrusion and direct contact by maintenance (occasional construction) workers, based upon the on-site soil sampling data collected during the RFI (CRA 2006a) and the post-RFI on-site soil investigations to date (CRA 2006d). Table 5-1 lists the resulting risk estimates for the 214 soil sub-areas. The risk calculations and risk estimates are further discussed below.

5.2 Soil Areas Posing No Concern

As shown in Table 5-1, 195 of the 214 soil sub-areas have cumulative cancer risk estimates and HI estimates for routine workers while outdoors (columns three through six) that do not exceed the USEPA's limits of 10^{-4} and 1, respectively, for identifying conditions that warrant corrective measures (61 FR 19432, May 1, 1996; USEPA 1991). Placement of soil excavated from these locations anywhere on-site would not increase either the cumulative cancer risk or the HI estimate for the destination location(s) to a level that would exceed either 10^{-4} or 1, respectively, even if the soil was placed at the ground surface and left exposed. Lead concentrations (column nine) were less than 750 mg/kg in 206 of the 214 soil sub-areas, which is the low-end of USEPA's screening criterion for protection of routine workers via direct contact. These risk estimates and lead concentrations, which are based upon the RFI and post-RFI data collected to date, show that soil from most locations (189 out of 214 soil sub-areas) could be excavated and placed on the Site without concern for potential human exposure while outdoors during planned use of the Site after redevelopment.

As shown in Table 5-1, 185 of the 214 soil sub-areas have cumulative cancer risk estimates and HI estimates for vapor intrusion (columns seven and eight) that do not exceed the USEPA's limits of 10^{-4} and 1, respectively, for identifying conditions that warrant corrective measures (61 FR 19432, May 1, 1996; USEPA 1991). Placement of soil excavated from these locations anywhere on-site would not increase either the cumulative cancer risk or the HI estimate for the destination location(s) to a level that would exceed either 10^{-4} or 1, respectively. These risk estimates, which are based upon the RFI and post-RFI data collected to date, show that soil from most locations can be excavated and placed on the Site without concern for potential human exposure while indoors during planned use of the Site after redevelopment.

5.3 Soil Areas Warranting Special Considerations

Soil at 47 of the 214 sub-areas warrants special consideration if soil is excavated and relocated elsewhere on-site. These are the locations shown on Figure 5-1 that are highlighted with a solid, colored border. The locations on Figure 5-1 that are not highlighted (i.e., the soil sub-areas outlined with a solid black border) pose no concern if excavated and relocated elsewhere on the Site.

As shown in Table 5-1 and Figure 5-1, 25 of the 47 soil boring locations have either cumulative cancer risk and HI estimates for routine workers while outdoors that exceed the USEPA's limits of 10^{-4} and 1, or have lead concentrations that exceed 750 mg/kg. These boring locations have constituent concentrations in soil (at most locations, in sub-surface soil) that warrant further risk evaluation if soil from these locations is to be excavated, placed at the ground surface, and left exposed. Such evaluation should consider the actual depths and volumes of soil excavated from these locations and specific plans for placement of the excavated soil, to ensure that movement and placement do not create an opportunity for significant exposure during planned use of the Site after redevelopment.

As shown in Table 5-1 and Figure 5-1, 29 of the 47 soil boring locations have cumulative cancer risk estimates that exceed 10^{-4} and/or HI estimates that exceed 1 for vapor intrusion. These boring locations have constituent concentrations in soil that warrant further risk evaluation if soil from these locations is to be excavated and placed without a barrier underneath the footprint of a planned building (other than parking structures). Such evaluation should consider the actual depths and volumes of soil excavated from these locations and specific plans for placement of the excavated soil, to ensure that movement and placement do not create an opportunity for significant exposure during planned use of the Site after redevelopment.

6.0 BUILDING 5 BASEMENT

Based upon information available at the time, the RFI Report stated that all basements of existing on-site buildings, including the Building 5 basement, are expected to be filled and made inaccessible by the City of Dayton during its redevelopment of the Site. Subsequently, the City of Dayton informed GM that it is considering reuse of the Building 5 basement, but did not identify a specific use.

This section describes a health risk assessment of potential human exposure in the Building 5 basement via vapor intrusion from soil and groundwater, under a hypothetical future scenario in which the City of Dayton reuses, rather than fills and closes, the basement. The results of this assessment are intended to support decisions regarding the extent to which corrective measures are warranted for soil or shallow groundwater in the vicinity of Building 5.

6.1 Technical Approach

Workers in the Building 5 basement could be exposed to constituents in subsurface soil or shallow groundwater, if the constituents were to volatilize and migrate through cracks in the building foundation into the basement air. To conservatively assess such potential exposures in the absence of specific information about how the Building 5 basement will be reused, this assessment conservatively evaluated a hypothetical worst-case in which it was assumed that the basement will be occupied by routine workers who spend the entire work day in the basement, for 250 days/year and 25 years.

6.1.1 Soil

The risk calculations for this hypothetical worst-case scenario are based on the RFI soil characterization data collected from the soil boring locations in the vicinity of Building 5. Like the approach used in the RFI baseline risk assessment and described in Section 5.4.4 of the RFI Report (CRA 2006a), this assessment also conservatively used the highest constituent concentrations detected among samples from any depth at each of the soil boring locations (or surrogate concentrations based on either concentrations detected in adjacent borings or sample quantitation limits, for constituents not detected). These calculations are also based on the same general approach and parameters described in Section 5.4.5 of the RFI Report for vapor intrusion into buildings, with the following differences:

- Building size: The Building 5 footprint area of 2,820 m^2 was used, rather than the footprint area of 725 m^2 used in the RFI baseline risk assessment to represent the footprint area of the smallest planned on-site commercial building.

- Basement height: The average height of the Building 5 basement is approximately 8 ft. This is the same as the height of the first floor that was assumed for the future on-site slab-on-grade buildings evaluated in the RFI baseline risk assessment. Like the RFI baseline risk assessment, this assessment conservatively assumed that vapors from soil and/or groundwater would mix with only air in this occupied space, which results in estimates of air concentrations in this space that are higher than if mixing were assumed to also occur with air in upper floors.

- Maximum constituent mass available for vapor intrusion: The constituent mass in vadose zone soil within 10 ft of the Building 5 basement walls was used, rather than the constituent mass in 10 feet of vadose zone soil beneath the planned slab-on-grade buildings. Workers in the Building 5 basement were conservatively assumed to be exposed to the entire mass of VOCs in this soil volume over USEPA's standard default exposure period of 25 years. A lateral distance of 10 feet from the Building 5 basement wall was assumed based on the expectation that VOCs in the vadose zone at greater distances would more likely diffuse upward to ground surface rather than laterally to Building 5 because there would be less resistance to upward diffusion than lateral diffusion at such distances. Sensitivity of the risk assessment conclusions to this assumption was evaluated in a sensitivity analysis which tested the use of distances greater than 10 ft from Building 5.

This assessment assumes an air exchange rate of 2 per hour in the Building 5 basement, which was the air exchange rate used in the RFI baseline risk assessment for assessing routine worker exposures in future on-site commercial buildings. This assumed value is consistent with the worst-case assumption that routine workers occupy the basement for the entire work day everyday, and is believed to be protective of other potential uses of the basement, including those for which the air exchange rate might be lower. This belief is based on the expectation that uses of the basement that allow lower air exchange rates naturally would be associated with workers spending proportionally less time in the basement.

6.1.2 Groundwater

Risk-based screening criteria for vapor intrusion from groundwater into the Building 5 basement were calculated to evaluate the hypothetical worst-case scenario in which the basement is

assumed to be occupied by routine workers. These risk-based screening criteria were calculated using the same approach described in Appendix E of the RFI Report (CRA, 2006a), except for the following differences:

- Building size: The Building 5 footprint area of 2,820 m^2 was used, rather than the footprint area of 725 m^2 used in the RFI baseline risk assessment to represent the footprint area of the smallest planned on-site commercial building

- Depth to water table: The water table was conservatively assumed to be at the bottom of the Building 5 basement's floor slab, whereas an 8-ft separation from the groundwater table was used in the RFI baseline risk assessment to evaluate slab-on-grade commercial buildings.

Like the assessment for soil, the risk-based screening criteria for vapor intrusion from groundwater into the Building 5 basement were calculated using an air exchange rate of 2 per hour, for the reasons discussed in Section 6.1.1. The risk-based groundwater criteria were then used in a comparison with the most recent shallow groundwater concentration for each constituent at each monitoring well in the vicinity of Building 5.

6.2 Results

The estimates of cumulative cancer risk and noncancer HI for soil vapor intrusion under the hypothetical worst-case scenario are 2×10^{-5} and 0.2, respectively. These risk estimates do not exceed the USEPA's limits of 10^{-4} and 1, respectively, for identifying conditions that warrant corrective measures (61 FR 19432, May 1, 1996; USEPA 1991). As a sensitivity analysis, additional risk calculations were performed to show that the conservative assumption regarding the maximum constituent mass available for vapor intrusion (discussed in Section 6.1.1) could be made far more conservative without causing the estimates of cumulative cancer risk and HI to exceed the USEPA limits. Specifically, the additional risk calculations show that routine workers could be assumed to be exposed to the entire mass of VOCs in a soil volume extending up to 60 ft from the Building 5 basement walls without resulting in estimates of significant risk. Given these findings, vapor intrusion from soil in the vicinity of Building 5 is unlikely to pose a significant risk to workers in the basement of Building 5.

Comparison of the most recent shallow groundwater concentrations with the groundwater vapor intrusion criteria for Building 5 basement shows that none of the wells located up-gradient of Building 5 or in its vicinity has constituent concentrations that exceed the risk-based criteria. On

this basis, vapor intrusion from groundwater in the vicinity of Building 5 is also unlikely to pose a significant risk to workers in the basement of Building 5.

7.0 REFERENCES

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Conestoga-Rovers & Associates (CRA). 2006a. *RCRA Facility Investigation (RFI) Report.--Former Delphi Harrison Thermal Systems.* March 30.

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Conestoga-Rovers & Associates, Inc. (CRA). 2006c. *Interim Measures Report for AOI 1 (Webster Street PCE Release).* July 24.

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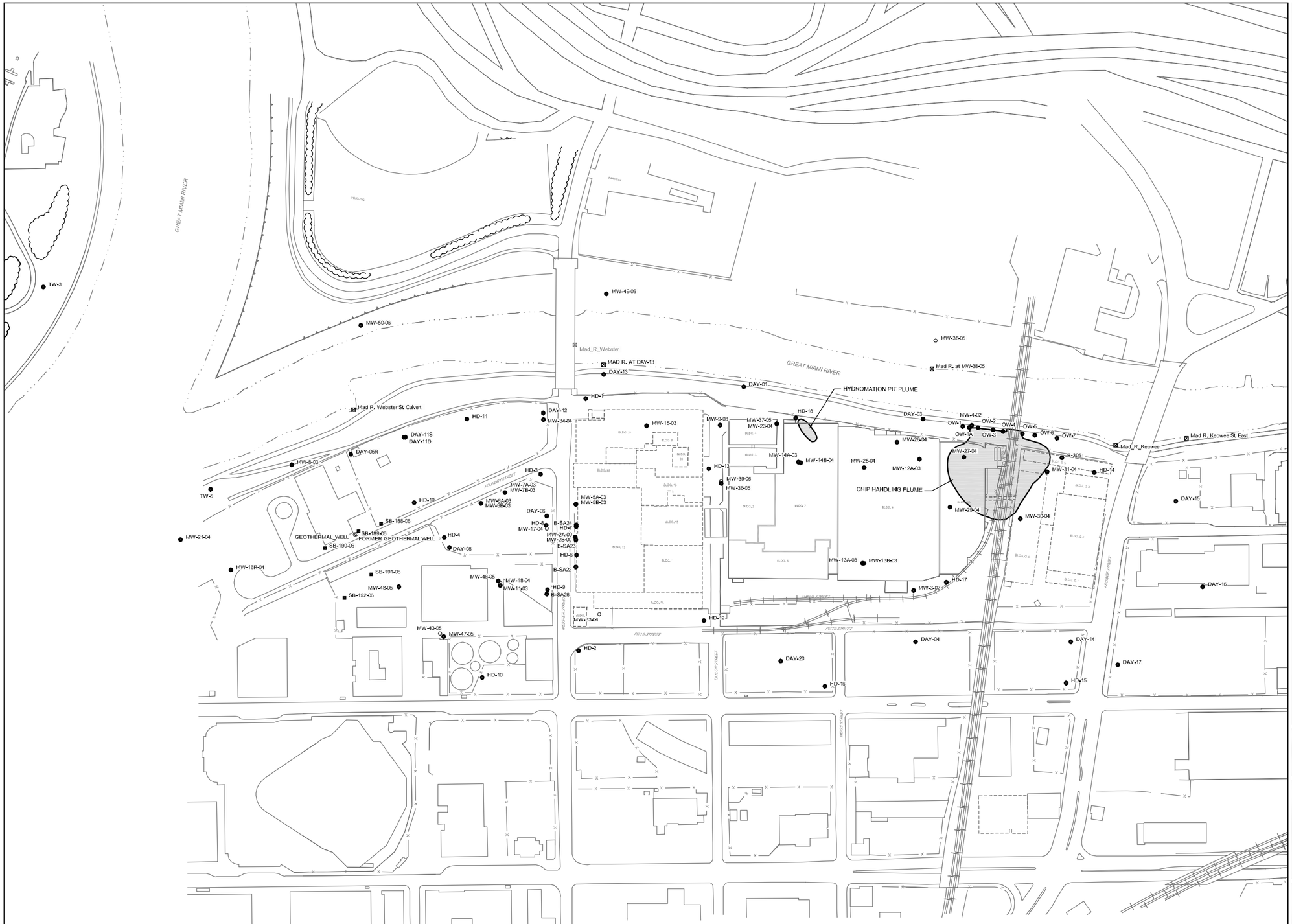
F I G U R E S



SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY

Dayton, Ohio

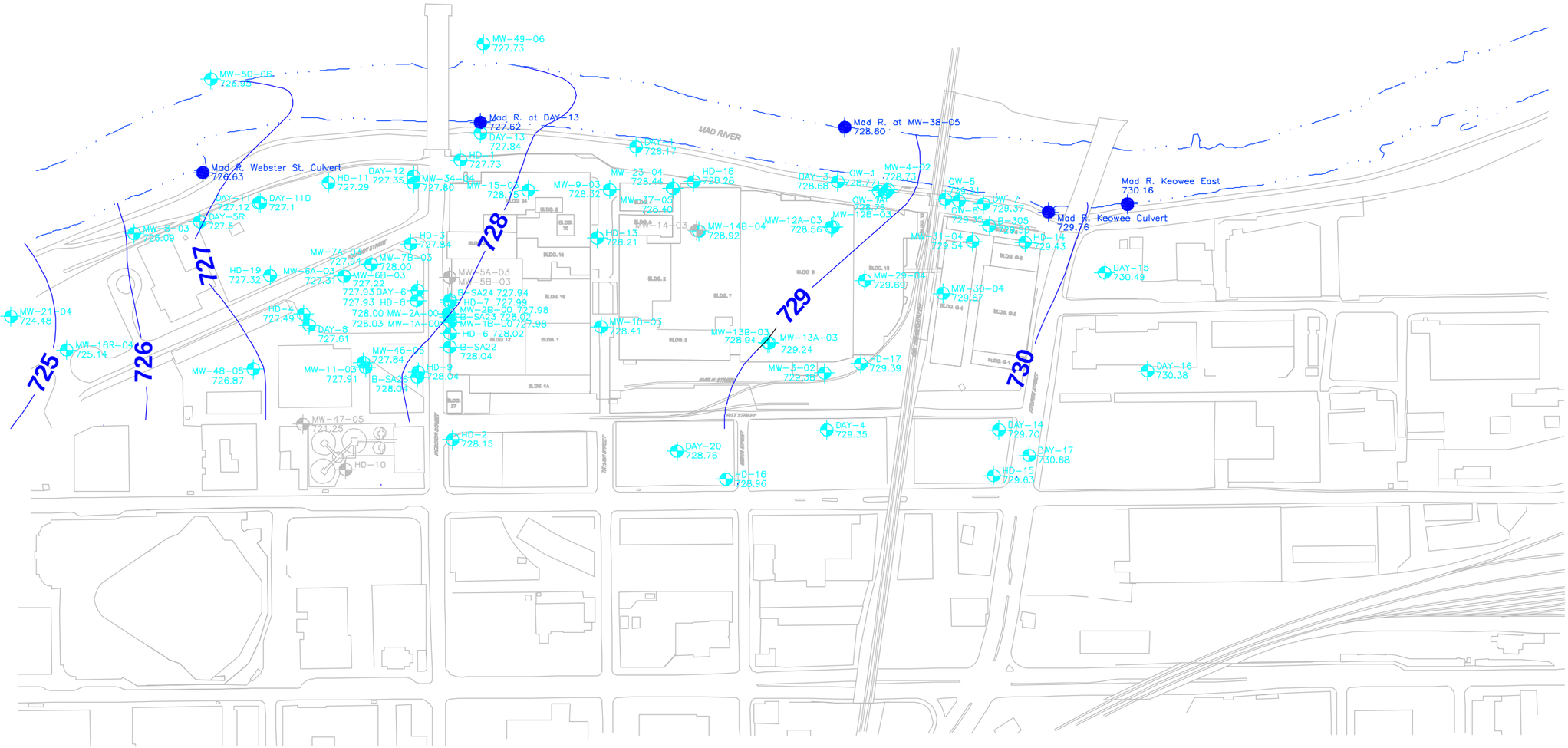
POST RFI - MONITORING LOCATIONS

CONESTOGA-ROVERS & ASSOCIATES

Source References:

Project Manager:	Reviewed By:	Date:	
IKR	SE	JANUARY 2007	
Scale: 1"=150'	Project N°: 12638-04	Report N°: PRES041	Drawing N°: 2.1

12638-04(PRES041)GN-WA001 JAN 12/2007



LEGEND

- GROUNDWATER CONTOUR
- TW-4 725.8 — WELL ID, GROUNDWATER ELEVATION (FT)
- TW-4 725.8 — WELL ID, GROUNDWATER ELEVATION (FT), (NOT USED IN DEPICTION OF CONTOURS)
- Mad R. at Day-13 727.62 — SURFACE WATER ID, SURFACE WATER ELVATION (FT)

NOTES

1.) BASE SITE PLAN OBTAINED FROM GENERAL MOTORS.

2.) PLAN AND MONITORING WELL LOCATIONS ARE APPROXIMATE.

3.) MONITORING WELLS NOT USED IN THE DEPICTION OF GROUNDWATER CONTOURS MAY BE A RESULT OF INACCESIBILITY, NO MEASUREMENT TAKEN, ELEVATIONS DO NOT APPEAR TO HAVE DIRECT HYDROGEOLOGIC CONNECTION, OR LIKELY INACCURATE MEASUREMENT RECORDING.

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APPROXIMATE SCALE IN FEET

HALEY & ALDRICH

GENERAL MOTORS CORPORATION
DELPHI HARRISON THERMAL SYSTEMS
DAYTON, OHIO

WATER TABLE CONTOURS
JUNE 14, 2006
(2Q 2006)

SCALE: AS SHOWN
JANUARY 2007

FIGURE 2-2a

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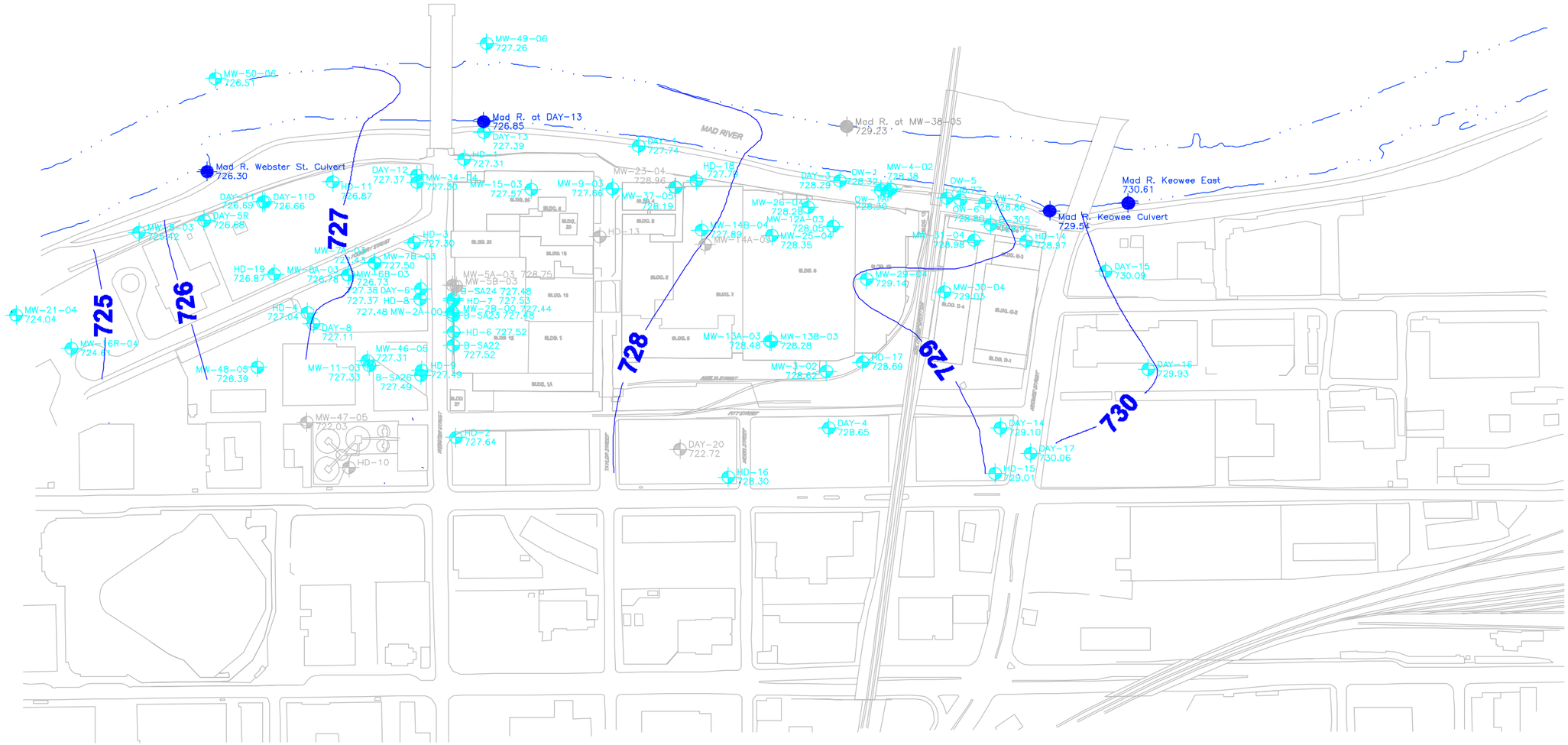

LEGEND

- GROUNDWATER CONTOUR
- TW-4 725.8 — WELL ID, GROUNDWATER ELEVATION (FT)
- TW-4 725.8 — WELL ID, GROUNDWATER ELEVATION (FT), (NOT USED IN DEPICTION OF CONTOURS)
- Mad R. at Day-13 727.62 — SURFACE WATER ID, SURFACE WATER ELEVATION (FT)
- Mad R. at Day-13 727.62 — SURFACE WATER ID, SURFACE WATER ELEVATION (FT), NOT USED IN DEPICTION OF CONTOURS)

NOTES

1.) BASE SITE PLAN OBTAINED FROM GENERAL MOTORS.

2.) PLAN AND MONITORING WELL LOCATIONS ARE APPROXIMATE.

3.) MONITORING WELLS NOT USED IN THE DEPICTION OF GROUNDWATER CONTOURS MAY BE A RESULT OF INACCESIBILITY, NO MEASUREMENT TAKEN, ELEVATIONS DO NOT APPEAR TO HAVE DIRECT HYDROGEOLOGIC CONNECTION, OR LIKELY INACCURATE MEASUREMENT RECORDING.

4.) SURFACE WATER READING MAD RIVER AT MW-38-05 WAS NOT USED IN THE DEPICTION OF CONTOURS BECAUSE THE VARIABILITY OF THIS POINT TO ADJACENT SURFACE WATER MONITORING POINTS SIGNIFICANTLY EXCEEDS THAT OF THE PREVIOUS DATA SETS.

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APPROXIMATE SCALE IN FEET

HALEY & ALDRICH

GENERAL MOTORS CORPORATION
DELPHI HARRISON THERMAL SYSTEMS
DAYTON, OHIO

WATER TABLE CONTOURS SEPTEMBER 20, 2006 (3Q 2006)

SCALE: AS SHOWN
JANUARY 2007

FIGURE 2-2b

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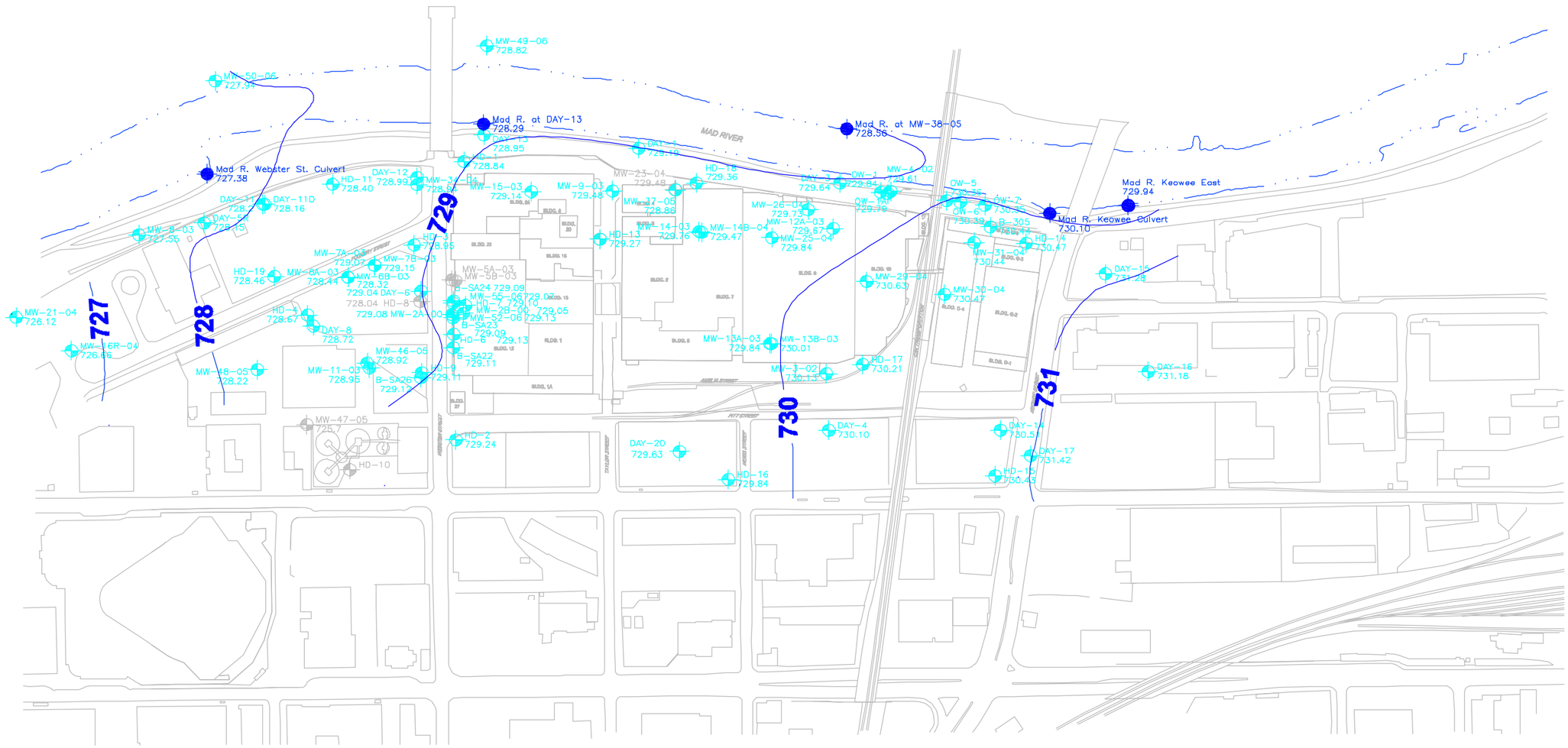

LEGEND

GROUNDWATER CONTOUR

TW-4 725.8 — WELL ID, GROUNDWATER ELEVATION (FT)

TW-4 725.8 — WELL ID, GROUNDWATER ELEVATION (FT), (NOT USED IN DEPICTION OF CONTOURS)

Mad R. at Day-13 727.62 — SURFACE WATER ID, SURFACE WATER ELEVATION (FT)

NOTES

1.) BASE SITE PLAN OBTAINED FROM GENERAL MOTORS.

2.) PLAN AND MONITORING WELL LOCATIONS ARE APPROXIMATE.

3.) MONITORING WELLS NOT USED IN THE DEPICTION OF GROUNDWATER CONTOURS MAY BE A RESULT OF INACCESIBILITY, NO MEASUREMENT TAKEN, ELEVATIONS DO NOT APPEAR TO HAVE DIRECT HYDROGEOLOGIC CONNECTION, OR LIKELY INACCURATE MEASUREMENT RECORDING.

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HALEY & ALDRICH

GENERAL MOTORS CORPORATION
DELPHI HARRISON THERMAL SYSTEMS
DAYTON, OHIO

WATER TABLE CONTOURS
DECEMBER 7, 2006
(4Q 2006)

SCALE: AS SHOWN
JANUARY 2007

FIGURE 2-2c

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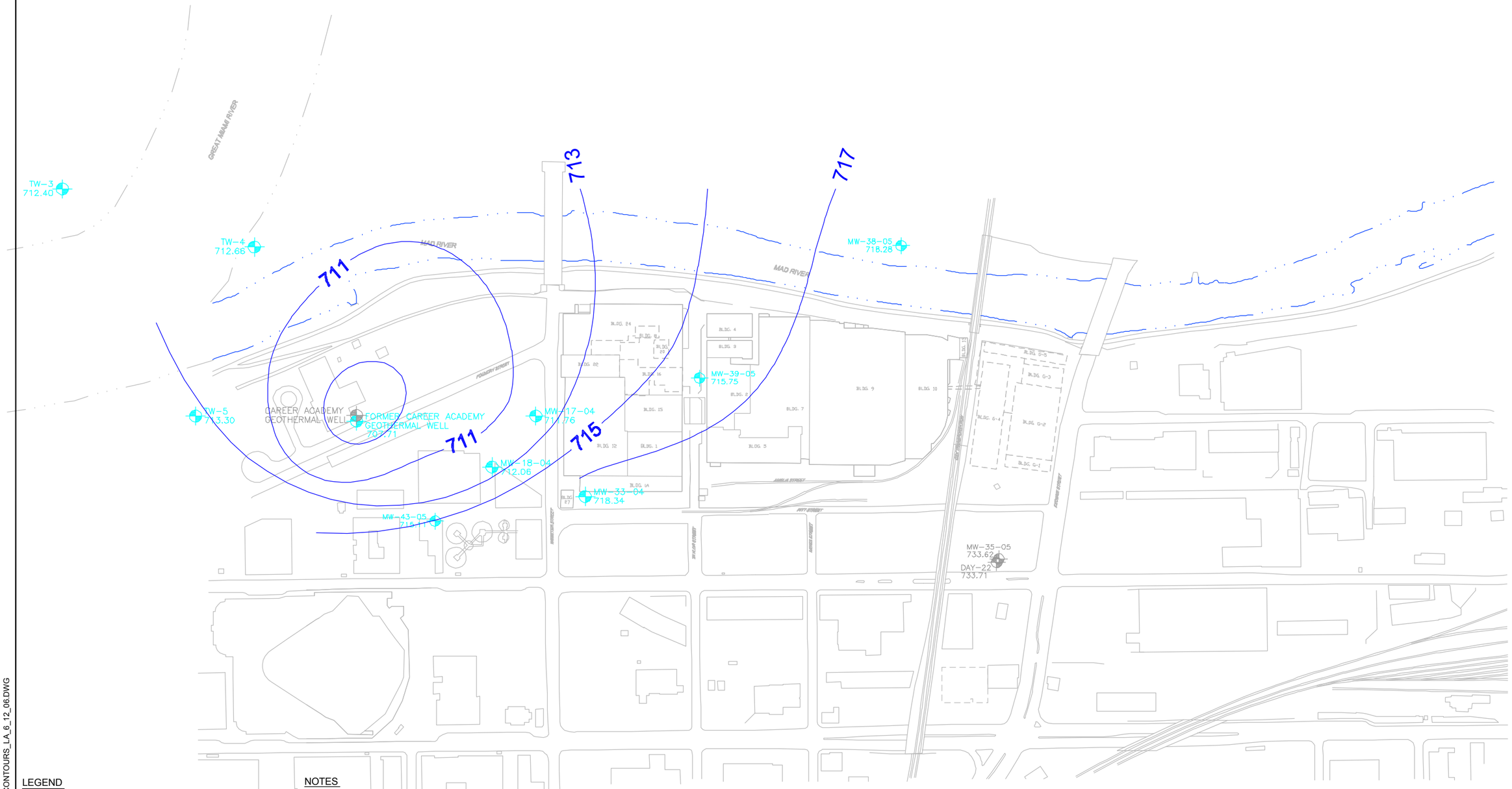

LEGEND

- GROUNDWATER CONTOUR
- TW-4 725.8 — WELL ID, GROUNDWATER ELEVATION (FT)
- TW-4 725.8 — WELL ID, GROUNDWATER ELEVATION (FT), (NOT USED IN DEPICTION OF CONTOURS)

NOTES

1.) BASE SITE PLAN OBTAINED FROM GENERAL MOTORS.

2.) PLAN AND MONITORING WELL LOCATIONS ARE APPROXIMATE.

3.) BASED ON GROUNDWATER ELEVATIONS AND DATA LOGGER OBSERVATIONS, MONITORING WELLS MW-35-05 AND DAY-22 APPEAR TO BE HYDROGEOLOGICALLY SEPARATED FROM THE OTHER LOWER AQUIFER WELLS. AS SUCH, THESE WELLS ARE NOT USED IN THE DEPICTION OF LOWER AQUIFER GROUNDWATER CONTOURS. OTHER MONITORING WELLS NOT USED IN THE DEPICTION OF GROUNDWATER CONTOURS MAY BE A RESULTS OF INACCESSIBILITY, NO MEASUREMENT TAKEN, LIKELY INACCURATE MEASUREMENT RECORDING OR PRESENCE OF LNAPL.

4.) IN 2004, THE CAREER ACADEMY INSTALLED A NEW GEOTHERMAL WELL. THE FORMER CAREER ACADEMY GEOTHERMAL WELL IS NO LONGER USED FOR PUMPING.

5.) THE ACTIVE CAREER ACADEMY GEOTHERMAL WELL AND THE FOUNTAIN WELLS WERE OPERATING DURING THIS EVENT.

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APPROXIMATE SCALE IN FEET

HALEY & ALDRICH

GENERAL MOTORS CORPORATION
DELPHI HARRISON THERMAL SYSTEMS
DAYTON, OHIO

LOWER AQUIFER POTENTIOMETRIC CONTOURS, JUNE 12, 2006 (2Q 2006)

SCALE: AS SHOWN
JANUARY 2007

FIGURE 2-3a

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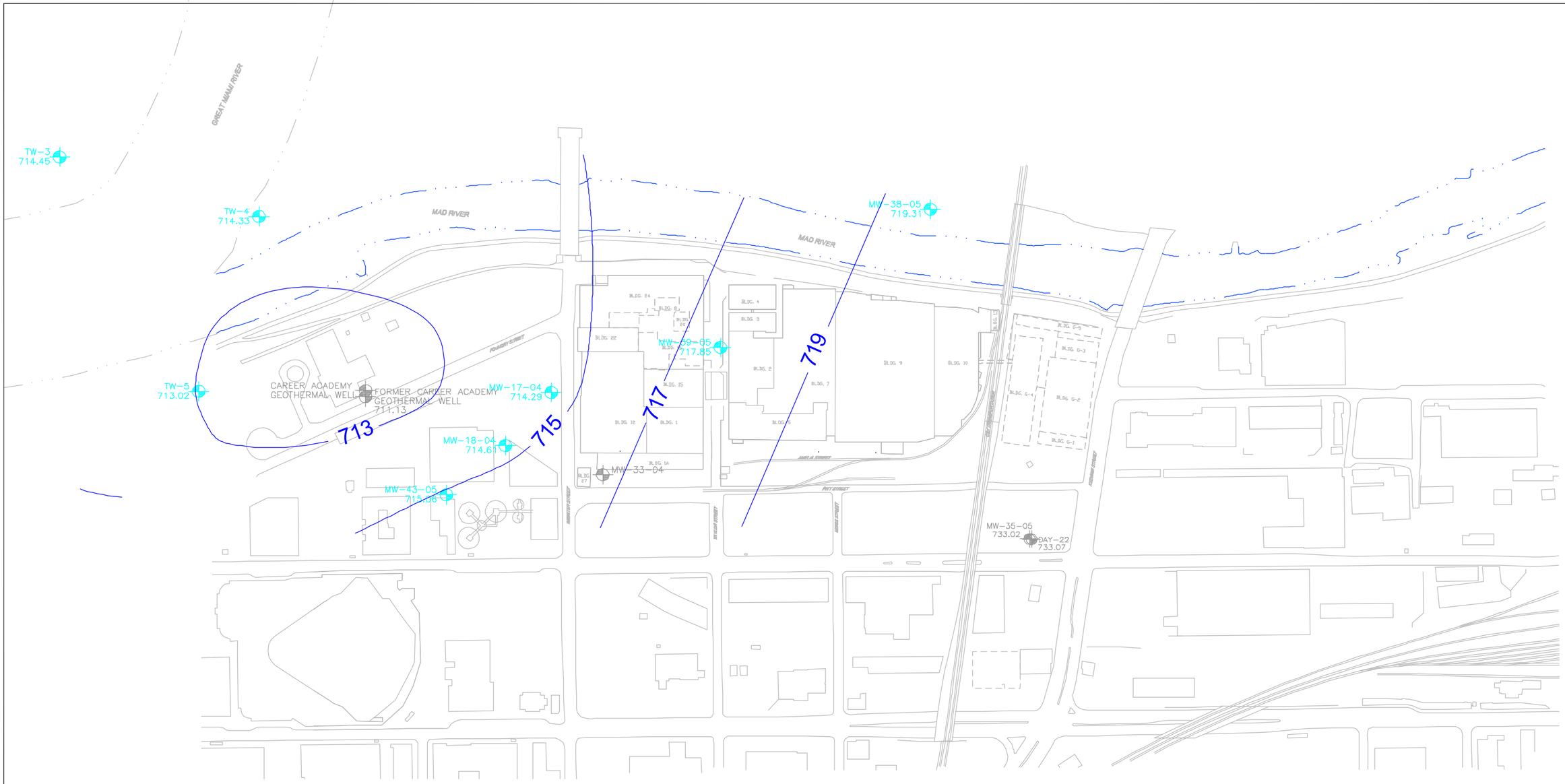

LEGEND

- GROUNDWATER CONTOUR
- TW-4 725.8 — WELL ID, GROUNDWATER ELEVATION (FT)
- TW-4 725.8 — WELL ID, GROUNDWATER ELEVATION (FT), (NOT USED IN DEPICTION OF CONTOURS)

NOTES

1.) BASE SITE PLAN OBTAINED FROM GENERAL MOTORS.

2.) PLAN AND MONITORING WELL LOCATIONS ARE APPROXIMATE.

3.) BASED ON GROUNDWATER ELEVATIONS AND DATA LOGGER OBSERVATIONS, MONITORING WELLS MW-35-05 AND DAY-22 APPEAR TO BE HYDROGEOLOGICALLY SEPARATED FROM THE OTHER LOWER AQUIFER WELLS. AS SUCH, THESE WELLS ARE NOT USED IN THE DEPICTION OF LOWER AQUIFER GROUNDWATER CONTOURS. OTHER MONITORING WELLS NOT USED IN THE DEPICTION OF GROUNDWATER CONTOURS MAY BE A RESULT OF INACCESSIBILITY, NO MEASUREMENT TAKEN, LIKELY INACCURATE MEASUREMENT RECORDING OR PRESENCE OF LNAPL.

4.) IN 2004, THE CAREER ACADEMY INSTALLED A NEW GEOTHERMAL WELL. THE FORMER CAREER ACADEMY GEOTHERMAL WELL IS NO LONGER USED FOR PUMPING. THE DEPTH TO GROUNDWATER WAS MEASURED ON JUNE 27, 2006.

5.) THE ACTIVE CAREER ACADEMY GEOTHERMAL WELL WAS OPERATING DURING THIS EVENT, WHILE THE FOUNTAIN WELLS WERE NOT.

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APPROXIMATE SCALE IN FEET

HALEY & ALDRICH

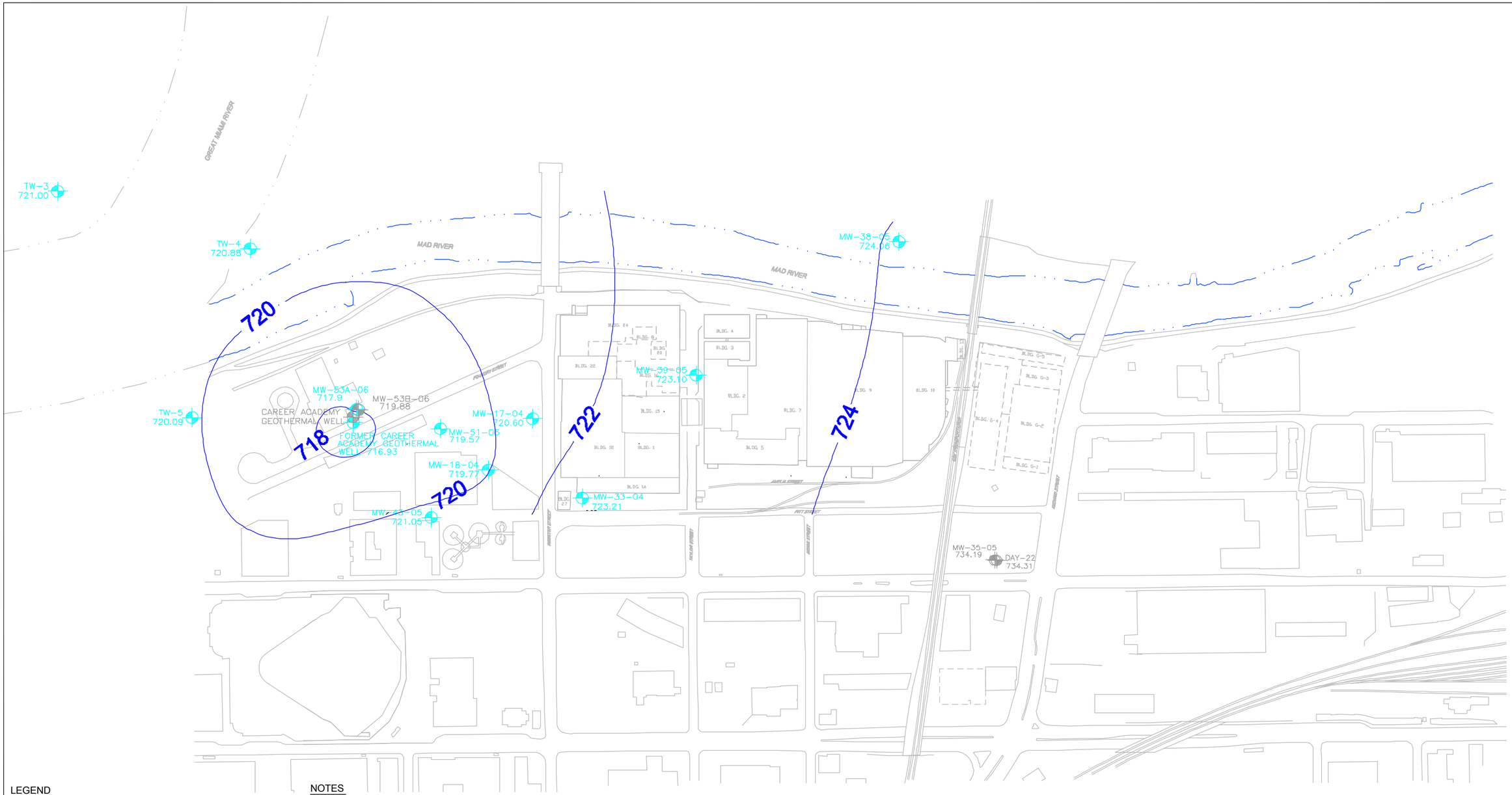
GENERAL MOTORS CORPORATION
DELPHI HARRISON THERMAL SYSTEMS
DAYTON, OHIO

LOWER AQUIFER POTENTIOMETRIC CONTOURS, SEPTEMBER 20, 2006 (3Q 2006)

SCALE: AS SHOWN
JANUARY 2007

FIGURE 2-3b

G:\PROJECTS\79032.HARRISON\ACAD\GW_CONTOURS_LA_9_20_06.DWG



LEGEND

- GROUNDWATER CONTOUR
- TW-4 725.8 — WELL ID, GROUNDWATER ELEVATION (FT)
- TW-4 725.8 — WELL ID, GROUNDWATER ELEVATION (FT) (NOT USED IN DEPICTION OF CONTOURS)

NOTES

1.) BASE SITE PLAN OBTAINED FROM GENERAL MOTORS.

2.) PLAN AND MONITORING WELLLOCATIONS ARE APPROXIMATE.

3.) BASED ON GROUNDWATER ELEVATIONS AND DATA LOGGER OBSERVATIONS, MONITORING WELLS MW-35-05 AND DAY-22 APPEAR TO BE HYDROGEOLOGICALLY SEPARATED FROM THE OTHER LOWER AQUIFER WELLS. AS SUCH, THESE WELLS ARE NOT USED IN THE DEPICTION OF LOWER AQUIFER GROUNDWATER CONTOURS. OTHER MONITORING WELLS NOT USED IN THE DEPICTION OF GROUNDWATER CONTOURS MAY BE A RESULT OF INACCESSIBILILTIY, NO MEASUREMENT TAKEN, LIKELY INACCURATE MEASUREMENT RECORDING OR PRESENCE OF LNAPL.

4.) IN 2004, THE CAREER ACADEMY INSTALLED A NEW GEOTHERMAL WELL. THE FORMER CAREER ACADEMY GEOTHERMAL WELL IS NO LONGER USED FOR PUMPING

5.) THE ACTIVE CAREER ACADEMY GEOTHERMAL WELL WAS OPERATING DURING THIS EVENT, WHILE THE FOUNTAIN WELLS WERE NOT.

HALEY & ALDRICH

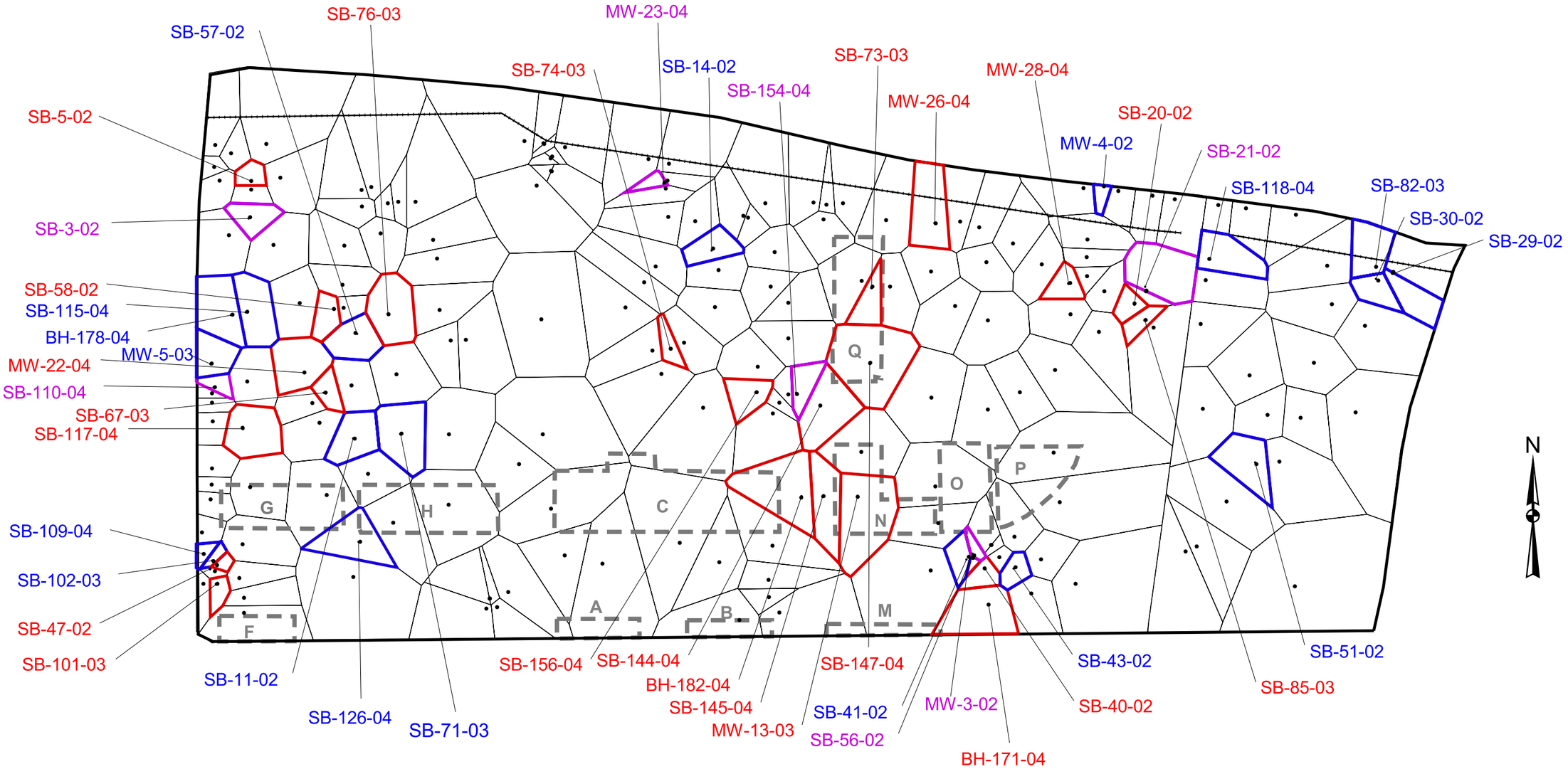
GENERAL MOTORS CORPORATION
DELPHI HARRISON THERMAL SYSTEMS
DAYTON, OHIO

LOWER AQUIFER POTENTIOMETRIC CONTOURS, DECEMBER 7, 2006 (4Q 2006)

SCALE: AS SHOWN
JANUARY 2007

FIGURE 2-3c

G:\PROJECTS\79032 HARRISON\ACAD\GW_CONTOURS_LA_12_07_06.DWG



Legend

Fence

Planned building (excluding parking structures)

Soil boring locations

Soil does not warrant special soil management consideration

Soil warrants further risk evaluation if excavated and placed elsewhere on-site:

at the surface, without cover.

underneath a building without a barrier.

at the surface, without cover or underneath a building without a barrier.

100 0 100 Feet

ENVIRON

Date: 1/12/2007

Locations Where Special Soil Management Consideration is Warranted
Former GM Delphi Harrison Thermal Systems Facility, Dayton, Ohio

Figure 5-1

Arcview Plot

T A B L E S

Table 3-1

SCENARIOS FOR POTENTIAL HUMAN EXPOSURE
FORMER GM HARRISON THERMAL SYSTEMS FACILITY, DAYTON, OHIO

Exposed Population	Exposure Medium	Exposure Route	Possible Currently?	Possible in Future?	Comments
O n - S i t e					
Routine Workers	surface soil	incidental ingestion of and dermal contact with surface soil	No	Yes	The Site was a former manufacturing facility that is not currently in use but is being redeveloped by the City of Dayton for commercial reuse. After redevelopment, potential exposure of routine workers to soil is possible in unpaved areas. Potential indoor exposure is also possible when new buildings are occupied after redevelopment, if soil-derived vapors migrate through building foundations.
		inhalation of soil-derived vapors and airborne particulates (wind erosion) in ambient air	No	Yes	
		inhalation of soil-derived vapors that migrate through building foundations into indoor air	No	Yes	
	subsurface soil	incidental ingestion of and dermal contact with subsurface soil	No	No	
		inhalation of soil-derived vapors that migrate through building foundations into indoor air	No	Yes	
	groundwater	incidental ingestion of and dermal contact with groundwater and inhalation of groundwater-derived vapors during use of groundwater for drinking water	No	No	Groundwater is not used at the Site for drinking water or other purposes. Potable water is obtained from the City of Dayton municipal system.
		incidental ingestion of and dermal contact with groundwater and inhalation of groundwater-derived vapors during use of groundwater for purposes other than drinking water	No	No	
		inhalation of groundwater-derived vapors that migrate through building foundations into indoor air	No	Yes	Potential indoor exposure is possible when new buildings are occupied after redevelopment, if groundwater-derived vapors migrate through building
	LNAPL	inhalation of LNAPL-derived vapors that migrate through building foundations into indoor air	No	Yes	LNAPL is in the subsurface at the Chip Handling and Hydromation Pit areas, but the City's redevelopment plan does not include new buildings in these areas.
	concrete floors and walls	dermal contact with concrete floor and wall surfaces	No	No	All building surfaces with PCBs data will be removed or made permanently inaccessible during redevelopment of the Site.
Redevelopment Workers	surface and subsurface soil	incidental ingestion of and dermal contact with soil; inhalation of soil-derived vapors and airborne particulate in work-space air	Yes	Yes	The first phase of redevelopment is occuring between Webster and Taylor Streets. Exposure of construction workers to soil is possible where soil is exposed during redevelopment construction activities.
	groundwater	incidental ingestion of and dermal contact with exposed groundwater; inhalation of vapors from exposed groundwater	No	Yes	Potential exposure to shallow groundwater is possible in excavations that extend into the water table. No such excavations are planned for the first phase of redevelopment between Webster and Taylor Streets.
	LNAPL	incidental ingestion of and dermal contact with exposed LNAPL; inhalation of vapors from exposed LNAPL	No	Yes	The Chip Area and Hydromation Pit LNAPL plumes are in parts of the Site not currently under redevelopment. But potential exposure to LNAPL is possible if future excavations extend into the water table at these areas.
	storm water and sediment	incidental ingestion of and dermal contact with water and sediment in storm sewers; inhalation of vapors from exposed storm water	No	Yes	Potential exposure is possible if redevelopment activities between Taylor and Keowee Streets involve the storm sewer system.
	concrete floors and walls	dermal contact with concrete floor and wall surfaces	Yes	Yes	The significance of dermal contact with PCBs on concrete surfaces is evaluated using TSCA criteria, and is not evaluated in the risk assessment.

Table 3-1

SCENARIOS FOR POTENTIAL HUMAN EXPOSURE
FORMER GM HARRISON THERMAL SYSTEMS FACILITY, DAYTON, OHIO

Exposed Population	Exposure Medium	Exposure Route	Possible Currently?	Possible in Future?	Comments
On-Site (Continued)					
Maintenance Workers	surface and subsurface soil	incidental ingestion of and dermal contact with soil; inhalation of soil-derived vapors and airborne particulate in work-space air	No	Yes	
	groundwater	incidental ingestion of and dermal contact with exposed groundwater; inhalation of vapors from exposed groundwater	No	Yes	Potential exposure to shallow groundwater is possible in excavations that extend into the water table.
	LNAPL	incidental ingestion of and dermal contact with exposed LNAPL; inhalation of vapors from exposed LNAPL	No	Yes	Potential exposure is possible if excavations extend to the water table in the areas of the Chip Area and Hydromation Pit LNAPL plumes.
	storm water and sediment	incidental ingestion of and dermal contact with water and sediment in storm sewers; inhalation of vapors from exposed storm water	No	Yes	Potential exposure is possible during maintenance that requires entry into the storm sewer system.
Trespassers	surface soil	incidental ingestion of and dermal contact with surface soil	Yes	Yes	Potential exposure is possible in areas where surface soil is exposed, although the Site is currently fenced between Webster Street and the railway, and warning signs are posted at the area between the railway and Keowee Street.
		inhalation of soil-derived vapors and airborne particulates (wind erosion) in ambient air	Yes	Yes	
	subsurface soil	incidental ingestion of and dermal contact with subsurface soil	No	No	
Recreational Visitors	surface soil	incidental ingestion of and dermal contact with surface soil	No	Yes	The Site is not currently open to visitors. After redevelopment, potential exposure is possible in areas where surface soil is exposed.
		inhalation of soil-derived vapors and airborne particulates (wind erosion) in ambient air	No	Yes	
	subsurface soil	incidental ingestion of and dermal contact with subsurface soil	No	No	
Off-Site					
Routine Workers	surface and subsurface soil	inhalation of soil-derived vapors and airborne particulates in ambient air	Yes	Yes	Airborne exposures off-site are possible via windblown dust from exposed soil or excavation activities at the Site.
	groundwater	incidental ingestion of and dermal contact with groundwater and inhalation of groundwater-derived vapors during use of groundwater for drinking water	No	Yes	Groundwater is not currently used for drinking water within at least a half mile of the Site, and potable water is available from the City of Dayton municipal system. However, groundwater in the lower aquifer is used in the region as a potable and nonpotable water supply..
		incidental ingestion of and dermal contact with groundwater and inhalation of groundwater-derived vapors during use of groundwater for purposes other than drinking water	No	Yes	
		inhalation of groundwater-derived vapors that migrate through building foundations into indoor air	Yes	Yes	

Table 3-1

SCENARIOS FOR POTENTIAL HUMAN EXPOSURE
FORMER GM HARRISON THERMAL SYSTEMS FACILITY, DAYTON, OHIO

Exposed Population	Exposure Medium	Exposure Route	Possible Currently?	Possible in Future?	Comments
Off-Site (Continued)					
Maintenance Workers	groundwater	incidental ingestion of and dermal contact with exposed groundwater; inhalation of vapors from exposed groundwater	Yes	Yes	Potential exposure to shallow groundwater is possible if excavations extend into the water table. Potential exposure to lower aquifer groundwater is possible during Geothermal Well maintenance and Stadium Well irrigation.
Recreational Visitors	groundwater	incidental ingestion of and dermal contact with groundwater, and inhalation of groundwater-derived vapors in ambient air	Yes	Yes	Potential exposure to lower aquifer groundwater is possible during recreation at the Fountain Wells.
	surface water	incidental ingestion, dermal contact, and inhalation of vapors	Yes	Yes	Storm sewers and groundwater from the Site discharge into the Mad River. The designated uses of the Mad River at the Site are for recreation and agricultural and industrial water supply.
Residents	groundwater	incidental ingestion of and dermal contact with groundwater and inhalation of groundwater-derived vapors during use of groundwater for drinking water	No	Yes	Groundwater is not currently used for drinking water within at least a half mile of the Site, and potable water is available from the City of Dayton municipal system. However, groundwater in the lower aquifer is used in the region as a potable and nonpotable water supply.
		incidental ingestion of and dermal contact with groundwater and inhalation of groundwater-derived vapors during use of groundwater for purposes other than drinking water	No	Yes	
		inhalation of groundwater-derived vapors that migrate through building foundations into indoor air	No	Yes	The off-site areas within approximately a half-mile of the Site consist of commercial/industrial land use. Potential residential land use was evaluated in the off-site area between Webster Street and the Mad River.

Table 3-2a: Groundwater Screening Results: Upper Aquifer On-Site
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

Area	Chem Group	Chemical	CASRN	Meas Basis	Carc Class	Analyzed	Detected	Min Detected Concentration (mg/L)	Max Detected Concentration (mg/L)	Drinking Water Criteria (mg/L)	Ratio of Max Detect to DW Criteria	Maintenance Worker Groundwater Contact Criteria (mg/L)	Ratio of Max Detect to Maintenance Worker GW Contact Criteria	Comm/Ind Groundwater Vol Indoor Air Criteria (mg/L)	Ratio of Max Detect to Comm/Ind GW Vol Indoor Air Criteria
1~Webster to Taylor	VOC	Bromodichloromethane	75-27-4	T	B2	31	1	3.10E-04	3.10E-04	8.00E-02	3.9E-03	3.47E+00	8.9E-05	5.18E+00	6.0E-05
1~Webster to Taylor	VOC	Chloroform	67-66-3	T	B2	31	17	1.20E-03	9.50E-03	8.00E-02	1.2E-01	2.29E+00	4.1E-03	2.37E+00	4.0E-03
1~Webster to Taylor	VOC	Cumene	98-82-8	T	D	31	2	5.15E-04	5.95E-04	3.65E+00	1.6E-04	2.14E+02	2.8E-06	4.30E+02	1.4E-06
1~Webster to Taylor	VOC	Dibromochloromethane	124-48-1	T	C	31	1	2.45E-04	2.45E-04	8.00E-02	3.1E-03	3.06E+00	8.0E-05	6.32E+00	3.9E-05
1~Webster to Taylor	VOC	1,1-Dichloroethane	75-34-3	T	SC	31	1	2.95E-04	2.95E-04	7.30E+00	4.0E-05	3.32E+02	8.9E-07	8.70E+02	3.4E-07
1~Webster to Taylor	VOC	1,1-Dichloroethene	75-35-4	T	C	31	1	8.70E-03	8.70E-03	7.00E-03	**1.2E+00**	1.25E+02	7.0E-05	2.44E+02	3.6E-05
1~Webster to Taylor	VOC	cis-1,2-Dichloroethene	156-59-2	T	ID	31	31	2.90E-04	6.40E+00	7.00E-02	**9.1E+01**	2.29E+01	2.8E-01	6.38E+01	1.0E-01
1~Webster to Taylor	VOC	Ethyl Benzene	100-41-4	T	D	31	1	2.45E-03	2.45E-03	7.00E-01	3.5E-03	4.41E+02	5.6E-06	1.99E+03	1.2E-06
1~Webster to Taylor	VOC	Methyl Acetate	79-20-9	T		31	1	1.30E-02	1.30E-02	3.65E+01	3.6E-04	4.69E+03	2.8E-06	6.42E+04	2.0E-07
1~Webster to Taylor	VOC	Methylene Chloride	75-09-2	T	B2	31	3	4.65E-03	1.90E-02	5.00E-03	**3.8E+00**	8.94E+01	2.1E-04	1.27E+02	1.5E-04
1~Webster to Taylor	VOC	Tetrachloroethene	127-18-4	T	C-B2	31	31	5.70E-04	8.10E-01	5.00E-03	**1.6E+02**	1.41E+01	5.8E-02	1.49E+01	5.4E-02
1~Webster to Taylor	VOC	1,2,4-Trichlorobenzene	120-82-1	T	D	31	1	1.18E-03	1.18E-03	7.00E-02	1.7E-02	4.31E+01	2.7E-05	7.92E+02	1.5E-06
1~Webster to Taylor	VOC	1,1,1-Trichloroethane	71-55-6	T	D	31	9	2.10E-04	8.90E-04	2.00E-01	4.5E-03	1.47E+03	6.1E-07	3.38E+03	2.6E-07
1~Webster to Taylor	VOC	Trichloroethene	79-01-6	T	C-B2	31	31	1.35E-03	1.40E+00	5.00E-03	**2.8E+02**	2.68E+01	5.2E-02	2.73E+01	5.1E-02
1~Webster to Taylor	VOC	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	T		31	1	2.60E-04	2.60E-04	1.10E+03	2.4E-07	2.63E+04	9.9E-09	3.08E+04	8.4E-09
1~Webster to Taylor	VOC	Vinyl Chloride	75-01-4	T	A	31	9	8.80E-04	1.30E+00	2.00E-03	**6.5E+02**	2.02E+00	6.4E-01	3.29E+00	4.0E-01
1~Webster to Taylor	VOC	Xylenes (total)	1330-20-7	T	ID	31	1	6.18E-04	6.18E-04	1.00E+01	6.2E-05	6.80E+01	9.1E-06	1.88E+02	3.3E-06
1~Webster to Taylor	SVOC	bis(2-Ethylhexyl)phthalate	117-81-7	T	B2	21	1	2.00E-03	2.00E-03	6.00E-03	3.3E-01	1.82E+00	1.1E-03	1.00E+05	2.0E-08
1~Webster to Taylor	SVOC	Caprolactam	105-60-2	T		21	2	3.00E-02	3.00E-01	1.83E+01	1.6E-02	2.01E+05	1.5E-06	4.29E+08	7.0E-10
1~Webster to Taylor	SVOC	Diethylphthalate	84-66-2	T	D	21	1	2.00E-03	2.00E-03	2.92E+01	6.8E-05	4.70E+04	4.3E-08	1.00E+07	2.0E-10
1~Webster to Taylor	PCB	PCBs (total)	1336-36-3	T	B2	24	2	2.03E-04	3.15E-03	5.00E-04	**6.3E+00**	9.35E-03	3.4E-01	2.52E-01	1.3E-02
1~Webster to Taylor	INORG	Arsenic	7440-38-2	T	A	24	16	1.93E-03	9.50E-03	1.00E-02	9.5E-01	1.44E+01	6.6E-04		
1~Webster to Taylor	INORG	Arsenic	7440-38-2	D	A	4	2	2.30E-03	7.00E-03	1.00E-02	7.0E-01	1.44E+01	4.9E-04		
1~Webster to Taylor	INORG	Barium	7440-39-3	T	NC	24	24	4.00E-02	3.60E-01	2.00E+00	1.8E-01	3.43E+03	1.0E-04		
1~Webster to Taylor	INORG	Barium	7440-39-3	D	NC	4	4	9.50E-02	3.10E-01	2.00E+00	1.6E-01	3.43E+03	9.0E-05		
1~Webster to Taylor	INORG	Cadmium	7440-43-9	T	B1	24	7	2.90E-04	3.80E-03	5.00E-03	7.6E-01	1.80E+01	2.1E-04		
1~Webster to Taylor	INORG	Chromium (total)	7440-47-3	T		24	9	1.50E-03	1.40E-02	1.00E-01	1.4E-01	2.85E+01	4.9E-04		
1~Webster to Taylor	INORG	Cobalt	7440-48-4	T	B1	24	10	7.80E-04	2.10E-03	7.30E-01	2.9E-03	8.09E+03	2.6E-07		
1~Webster to Taylor	INORG	Cobalt	7440-48-4	D	B1	4	1	1.00E-03	1.00E-03	7.30E-01	1.4E-03	8.09E+03	1.2E-07		
1~Webster to Taylor	INORG	Copper	7440-50-8	T	D	24	3	2.30E-03	2.40E-02	1.30E+00	1.8E-02	1.23E+04	1.9E-06		
1~Webster to Taylor	INORG	Cyanide (total)	57-12-5	T	D	22	4	2.50E-03	7.80E-03	2.00E-01	3.9E-02	6.16E+03	1.3E-06		
1~Webster to Taylor	INORG	Lead	7439-92-1	T	B2	24	3	3.10E-03	4.90E-02	1.50E-02	**3.3E+00**	7.40E+01	6.6E-04		
1~Webster to Taylor	INORG	Manganese	7439-96-5	T	D	24	23	6.00E-03	7.80E-01	5.11E+00	1.5E-01	5.96E+03	1.3E-04		
1~Webster to Taylor	INORG	Manganese	7439-96-5	D	D	4	4	2.20E-03	2.70E-01	5.11E+00	5.3E-02	5.96E+03	4.5E-05		
1~Webster to Taylor	INORG	Mercury	7439-97-6	T	D	24	2	1.00E-04	1.60E-04	2.00E-03	8.0E-02	2.88E-01	5.6E-04	8.33E-01	1.9E-04
1~Webster to Taylor	INORG	Nickel	7440-02-0	T	A	24	6	3.70E-03	1.10E-02	1.00E-01	1.1E-01	2.38E+03	4.6E-06		
1~Webster to Taylor	INORG	Nickel	7440-02-0	D	A	4	1	5.20E-03	5.20E-03	1.00E-01	5.2E-02	2.38E+03	2.2E-06		
1~Webster to Taylor	INORG	Selenium	7782-49-2	T	D	24	1	5.00E-03	5.00E-03	5.00E-02	1.0E-01	1.54E+03	3.2E-06		
1~Webster to Taylor	INORG	Silver	7440-22-4	T	D	24	1	1.60E-03	1.60E-03	1.83E-01	8.8E-03	2.34E+02	6.8E-06		
1~Webster to Taylor	INORG	Thallium	7440-28-0	T		24	2	3.90E-05	4.50E-05	2.00E-03	2.3E-02	2.15E+01	2.1E-06		
1~Webster to Taylor	INORG	Thallium	7440-28-0	D		4	1	3.50E-05	3.50E-05	2.00E-03	1.8E-02	2.15E+01	1.6E-06		
1~Webster to Taylor	INORG	Vanadium	7440-62-2	T		24	10	6.80E-04	4.80E-03	3.65E-02	1.3E-01	1.94E+01	2.5E-04		
1~Webster to Taylor	INORG	Zinc	7440-66-6	T	ID	24	3	1.90E-02	5.20E-02	1.10E+01	4.7E-03	1.10E+05	4.7E-07		
1~Webster to Taylor	INORG	Zinc	7440-66-6	D	ID	4	1	3.90E-02	3.90E-02	1.10E+01	3.6E-03	1.10E+05	3.6E-07		

Table 3-2a: Groundwater Screening Results: Upper Aquifer On-Site
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

Area	Chem Group	Chemical	CASRN	Meas Basis	Carc Class	Analyzed	Detected	Min Detected Concentration (mg/L)	Max Detected Concentration (mg/L)	Drinking Water Criteria (mg/L)	Ratio of Max Detect to DW Criteria	Maintenance Worker Groundwater Contact Criteria (mg/L)	Ratio of Max Detect to Maintenance Worker GW Contact Criteria	Comm/Ind Groundwater Vol Indoor Air Criteria (mg/L)	Ratio of Max Detect to Comm/Ind GW Vol Indoor Air Criteria
2~Taylor to Railway	VOC	Acetone	67-64-1	T	ID	18	1	1.40E-01	1.40E-01	3.29E+01	4.3E-03	6.78E+03	2.1E-05	1.20E+05	1.2E-06
2~Taylor to Railway	VOC	Benzene	71-43-2	T	A	18	1	4.20E-04	4.20E-04	5.00E-03	8.4E-02	4.88E+00	8.6E-05	6.41E+00	6.5E-05
2~Taylor to Railway	VOC	Chloroform	67-66-3	T	B2	18	8	1.20E-03	1.80E-02	8.00E-02	2.3E-01	2.29E+00	7.9E-03	2.37E+00	7.6E-03
2~Taylor to Railway	VOC	Cumene	98-82-8	T	D	18	2	7.00E-04	1.80E-03	3.65E+00	4.9E-04	2.14E+02	8.4E-06	4.30E+02	4.2E-06
2~Taylor to Railway	VOC	Cyclohexane	110-82-7	T	ID	18	2	3.20E-04	4.60E-04			3.68E+03	1.2E-07	6.22E+03	7.4E-08
2~Taylor to Railway	VOC	1,1-Dichloroethane	75-34-3	T	SC	18	5	4.20E-04	1.20E-02	7.30E+00	1.6E-03	3.32E+02	3.6E-05	8.70E+02	1.4E-05
2~Taylor to Railway	VOC	cis-1,2-Dichloroethene	156-59-2	T	ID	18	16	2.30E-04	3.45E+01	7.00E-02	**4.9E+02**	2.29E+01	**1.5E+00**	6.38E+01	5.4E-01
2~Taylor to Railway	VOC	trans-1,2-Dichloroethene	156-60-5	T		18	1	2.90E-02	2.90E-02	1.00E-01	2.9E-01	3.81E+01	7.6E-04	8.31E+01	3.5E-04
2~Taylor to Railway	VOC	Methylene Chloride	75-09-2	T	B2	18	1	2.60E-03	2.60E-03	5.00E-03	5.2E-01	8.94E+01	2.9E-05	1.27E+02	2.0E-05
2~Taylor to Railway	VOC	Tetrachloroethene	127-18-4	T	C-B2	18	13	5.30E-04	1.30E+00	5.00E-03	**2.6E+02**	1.41E+01	9.2E-02	1.49E+01	8.7E-02
2~Taylor to Railway	VOC	1,2,4-Trichlorobenzene	120-82-1	T	D	18	1	2.60E-04	2.60E-04	7.00E-02	3.7E-03	4.31E+01	6.0E-06	7.92E+02	3.3E-07
2~Taylor to Railway	VOC	1,1,1-Trichloroethane	71-55-6	T	D	18	3	2.10E-04	2.50E-03	2.00E-01	1.3E-02	1.47E+03	1.7E-06	3.38E+03	7.4E-07
2~Taylor to Railway	VOC	Trichloroethene	79-01-6	T	C-B2	18	14	5.40E-04	6.00E-01	5.00E-03	**1.2E+02**	2.68E+01	2.2E-02	2.73E+01	2.2E-02
2~Taylor to Railway	VOC	Vinyl Chloride	75-01-4	T	A	18	7	7.80E-04	8.10E-01	2.00E-03	**4.1E+02**	2.02E+00	4.0E-01	3.29E+00	2.5E-01
2~Taylor to Railway	SVOC	bis(2-Ethylhexyl)phthalate	117-81-7	T	B2	11	1	9.90E-04	9.90E-04	6.00E-03	1.7E-01	1.82E+00	5.5E-04	1.00E+05	9.9E-09
2~Taylor to Railway	SVOC	Caprolactam	105-60-2	T		11	7	3.40E-02	4.70E-01	1.83E+01	2.6E-02	2.01E+05	2.3E-06	4.29E+08	1.1E-09
2~Taylor to Railway	SVOC	Diethylphthalate	84-66-2	T	D	11	2	7.80E-04	8.60E-04	2.92E+01	2.9E-05	4.70E+04	1.8E-08	1.00E+07	8.6E-11
2~Taylor to Railway	PCB	PCBs (total)	1336-36-3	T	B2	18	4	9.75E-05	1.25E-03	5.00E-04	**2.5E+00**	9.35E-03	1.3E-01	2.52E-01	5.0E-03
2~Taylor to Railway	INORG	Arsenic	7440-38-2	T	A	17	9	2.10E-03	2.00E-02	1.00E-02	**2.0E+00**	1.44E+01	1.4E-03		
2~Taylor to Railway	INORG	Arsenic	7440-38-2	D	A	2	1	2.70E-03	2.70E-03	1.00E-02	2.7E-01	1.44E+01	1.9E-04		
2~Taylor to Railway	INORG	Barium	7440-39-3	T	NC	17	17	6.40E-02	1.10E+00	2.00E+00	5.5E-01	3.43E+03	3.2E-04		
2~Taylor to Railway	INORG	Barium	7440-39-3	D	NC	2	2	1.10E-01	1.70E-01	2.00E+00	8.5E-02	3.43E+03	5.0E-05		
2~Taylor to Railway	INORG	Cadmium	7440-43-9	T	B1	17	3	2.80E-04	2.80E-03	5.00E-03	5.6E-01	1.80E+01	1.6E-04		
2~Taylor to Railway	INORG	Chromium (total)	7440-47-3	T		17	1	1.80E-03	1.80E-03	1.00E-01	1.8E-02	2.85E+01	6.3E-05		
2~Taylor to Railway	INORG	Cobalt	7440-48-4	T	B1	17	2	7.70E-04	1.00E-03	7.30E-01	1.4E-03	8.09E+03	1.2E-07		
2~Taylor to Railway	INORG	Copper	7440-50-8	T	D	17	3	2.30E-03	3.60E-03	1.30E+00	2.8E-03	1.23E+04	2.9E-07		
2~Taylor to Railway	INORG	Cyanide (total)	57-12-5	T	D	17	1	2.40E-02	2.40E-02	2.00E-01	1.2E-01	6.16E+03	3.9E-06		
2~Taylor to Railway	INORG	Lead	7439-92-1	T	B2	17	2	9.00E-04	2.00E-03	1.50E-02	1.3E-01	7.40E+01	2.7E-05		
2~Taylor to Railway	INORG	Manganese	7439-96-5	T	D	18	16	5.90E-03	1.50E+00	5.11E+00	2.9E-01	5.96E+03	2.5E-04		
2~Taylor to Railway	INORG	Manganese	7439-96-5	D	D	2	2	1.80E-02	9.20E-02	5.11E+00	1.8E-02	5.96E+03	1.5E-05		
2~Taylor to Railway	INORG	Nickel	7440-02-0	T	A	17	4	3.30E-03	9.30E-03	1.00E-01	9.3E-02	2.38E+03	3.9E-06		
2~Taylor to Railway	INORG	Selenium	7782-49-2	T	D	17	1	9.10E-04	9.10E-04	5.00E-02	1.8E-02	1.54E+03	5.9E-07		
2~Taylor to Railway	INORG	Silver	7440-22-4	T	D	17	1	8.90E-04	8.90E-04	1.83E-01	4.9E-03	2.34E+02	3.8E-06		
2~Taylor to Railway	INORG	Vanadium	7440-62-2	T		17	1	1.30E-03	1.30E-03	3.65E-02	3.6E-02	1.94E+01	6.7E-05		
2~Taylor to Railway	INORG	Zinc	7440-66-6	T	ID	17	2	1.70E-02	1.70E-02	1.10E+01	1.6E-03	1.10E+05	1.5E-07		
3~Railway to Keowee	VOC	Chloroform	67-66-3	T	B2	6	2	1.10E-03	6.10E-03	8.00E-02	7.6E-02	2.29E+00	2.7E-03	2.37E+00	2.6E-03
3~Railway to Keowee	VOC	1,1-Dichloroethane	75-34-3	T	SC	6	1	5.10E-04	5.10E-04	7.30E+00	7.0E-05	3.32E+02	1.5E-06	8.70E+02	5.9E-07
3~Railway to Keowee	VOC	cis-1,2-Dichloroethene	156-59-2	T	ID	6	4	2.80E-04	7.30E-03	7.00E-02	1.0E-01	2.29E+01	3.2E-04	6.38E+01	1.1E-04
3~Railway to Keowee	VOC	Tetrachloroethene	127-18-4	T	C-B2	6	1	5.70E-04	5.70E-04	5.00E-03	1.1E-01	1.41E+01	4.1E-05	1.49E+01	3.8E-05
3~Railway to Keowee	VOC	Trichloroethene	79-01-6	T	C-B2	6	3	4.30E-04	1.00E-02	5.00E-03	**2.0E+00**	2.68E+01	3.7E-04	2.73E+01	3.7E-04
3~Railway to Keowee	VOC	Vinyl Chloride	75-01-4	T	A	6	2	2.40E-04	7.70E-04	2.00E-03	3.9E-01	2.02E+00	3.8E-04	3.29E+00	2.3E-04
3~Railway to Keowee	SVOC	Caprolactam	105-60-2	T		4	2	3.50E-02	8.10E-02	1.83E+01	4.4E-03	2.01E+05	4.0E-07	4.29E+08	1.9E-10
3~Railway to Keowee	PCB	PCBs (total)	1336-36-3	T	B2	7	2	3.23E-04	8.43E-04	5.00E-04	**1.7E+00**	9.35E-03	9.0E-02	2.52E-01	3.3E-03
3~Railway to Keowee	INORG	Arsenic	7440-38-2	D	A	1	1	2.20E-03	2.20E-03	1.00E-02	2.2E-01	1.44E+01	1.5E-04		
3~Railway to Keowee	INORG	Barium	7440-39-3	T	NC	6	6	1.00E-01	2.50E-01	2.00E+00	1.3E-01	3.43E+03	7.3E-05		

Table 3-2a: Groundwater Screening Results: Upper Aquifer On-Site
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

Area	Chem Group	Chemical	CASRN	Meas Basis	Carc Class	Analyzed	Detected	Min Detected Concentration (mg/L)	Max Detected Concentration (mg/L)	Drinking Water Criteria (mg/L)	Ratio of Max Detect to DW Criteria	Maintenance Worker Groundwater Contact Criteria (mg/L)	Ratio of Max Detect to Maintenance Worker GW Contact Criteria	Comm/Ind Groundwater Vol Indoor Air Criteria (mg/L)	Ratio of Max Detect to Comm/Ind GW Vol Indoor Air Criteria
3~Railway to Keowee	INORG	Barium	7440-39-3	D	NC	1	1	1.00E-01	1.00E-01	2.00E+00	5.0E-02	3.43E+03	2.9E-05		
3~Railway to Keowee	INORG	Chromium (total)	7440-47-3	T		6	2	2.00E-03	2.40E-03	1.00E-01	2.4E-02	2.85E+01	8.4E-05		
3~Railway to Keowee	INORG	Copper	7440-50-8	T	D	6	1	2.30E-03	2.30E-03	1.30E+00	1.8E-03	1.23E+04	1.9E-07		
3~Railway to Keowee	INORG	Copper	7440-50-8	D	D	1	1	2.40E-03	2.40E-03	1.30E+00	1.8E-03	1.23E+04	1.9E-07		
3~Railway to Keowee	INORG	Cyanide (total)	57-12-5	T	D	6	3	1.00E-02	3.30E-02	2.00E-01	1.7E-01	6.16E+03	5.4E-06		
3~Railway to Keowee	INORG	Manganese	7439-96-5	T	D	6	6	9.00E-04	3.10E-01	5.11E+00	6.1E-02	5.96E+03	5.2E-05		
3~Railway to Keowee	INORG	Manganese	7439-96-5	D	D	1	1	8.10E-04	8.10E-04	5.11E+00	1.6E-04	5.96E+03	1.4E-07		
3~Railway to Keowee	INORG	Zinc	7440-66-6	T	ID	6	1	1.10E-01	1.10E-01	1.10E+01	1.0E-02	1.10E+05	1.0E-06		

Notes:

1. Only constituents detected in each respective area are shown.
2. The Screening Criteria for groundwater are the lower of the Screening Criteria at either a cancer risk level of $1x10^{-5}$ or a hazard quotient of 1.
3. Shaded cells represent ratios of concentration to the Screening Criteria greater than 1.
4. Equivalent Drinking Water Concentration Limits, Maintenance Worker GW Contact Criteria, and Comm/Ind GW Vol Indoor Air Criteria were calculated as discussed in Appendix E of the RFI Report.
5. The Screening Criteria for Chromium VI were used as a surrogate for Chromium (total).
6. The concentrations for all polychlorinated biphenyls (PCBs) isomers were summed before comparing to the Screening Criteria for PCBs (total).

Abbreviations:

Chem Group - Chemical Group
CASRN - Chemical Abstract Service Registry Number
Carc Class - EPA Weight-of-Evidence Cancer Classification
Comm/Ind - Commercial/Industrial
Vol - Volatilization
Meas Basis - Measured Basis; T = Total, D = Dissolved

Table 3-2b: Groundwater Concentrations Exceeding Screening Criteria for Drinking Water Criteria and Worker Protection Criteria: Upper Aquifer On-Site
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

Area	Location	Sample Date	Chem Group	Chemical	CASRN	Concentration (mg/L)	Drinking Water Criteria (mg/L)	Ratio of Concentration to DW Criteria	Maintenance Worker Groundwater Contact Criteria (mg/L)	Ratio of Concentration to Mant Worker GW Contact Criteria	Comm/Ind Groundwater Vol Indoor Air Criteria (mg/L)	Ratio of Concentration to Comm/Ind GW Vol Indoor Air Criteria
1~Webster to Taylor	B-SA21	11/23/04	PCB	PCBs (total)	1336-36-3	3.15E-03	5.00E-04	**6.3E+00**	9.35E-03	3.4E-01	2.52E-01	1.3E-02
1~Webster to Taylor	B-SA22	04/21/05	VOC	Tetrachloroethene	127-18-4	8.10E-01	5.00E-03	**1.6E+02**	1.41E+01	5.8E-02	1.49E+01	5.4E-02
1~Webster to Taylor	B-SA22	04/21/05	VOC	Trichloroethene	79-01-6	1.50E-02	5.00E-03	**3.0E+00**	2.68E+01	5.6E-04	2.73E+01	5.5E-04
1~Webster to Taylor	B-SA23	04/22/05	VOC	cis-1,2-Dichloroethene	156-59-2	6.40E+00	7.00E-02	**9.1E+01**	2.29E+01	2.8E-01	6.38E+01	1.0E-01
1~Webster to Taylor	B-SA23	04/22/05	VOC	Tetrachloroethene	127-18-4	2.90E-01	5.00E-03	**5.8E+01**	1.41E+01	2.1E-02	1.49E+01	1.9E-02
1~Webster to Taylor	B-SA23	04/22/05	VOC	Trichloroethene	79-01-6	1.40E+00	5.00E-03	**2.8E+02**	2.68E+01	5.2E-02	2.73E+01	5.1E-02
1~Webster to Taylor	B-SA23	04/22/05	VOC	Vinyl Chloride	75-01-4	1.30E+00	2.00E-03	**6.5E+02**	2.02E+00	6.4E-01	3.29E+00	4.0E-01
1~Webster to Taylor	B-SA24	04/20/05	VOC	Tetrachloroethene	127-18-4	1.60E-01	5.00E-03	**3.2E+01**	1.41E+01	1.1E-02	1.49E+01	1.1E-02
1~Webster to Taylor	B-SA24	04/20/05	VOC	Trichloroethene	79-01-6	1.20E-01	5.00E-03	**2.4E+01**	2.68E+01	4.5E-03	2.73E+01	4.4E-03
1~Webster to Taylor	B-SA24	04/20/05	VOC	Vinyl Chloride	75-01-4	3.60E-03	2.00E-03	**1.8E+00**	2.02E+00	1.8E-03	3.29E+00	1.1E-03
1~Webster to Taylor	HD-1	09/15/06	VOC	Tetrachloroethene	127-18-4	3.20E-02	5.00E-03	**6.4E+00**	1.41E+01	2.3E-03	1.49E+01	2.1E-03
1~Webster to Taylor	HD-1	09/15/06	VOC	Trichloroethene	79-01-6	2.40E-02	5.00E-03	**4.8E+00**	2.68E+01	8.9E-04	2.73E+01	8.8E-04
1~Webster to Taylor	HD-12	11/12/04	VOC	Trichloroethene	79-01-6	1.10E-02	5.00E-03	**2.2E+00**	2.68E+01	4.1E-04	2.73E+01	4.0E-04
1~Webster to Taylor	HD-13	11/11/04	VOC	Tetrachloroethene	127-18-4	2.00E-01	5.00E-03	**4.0E+01**	1.41E+01	1.4E-02	1.49E+01	1.3E-02
1~Webster to Taylor	HD-13	11/11/04	VOC	Trichloroethene	79-01-6	1.00E-02	5.00E-03	**2.0E+00**	2.68E+01	3.7E-04	2.73E+01	3.7E-04
1~Webster to Taylor	HD-6	11/23/04	VOC	Trichloroethene	79-01-6	1.40E-02	5.00E-03	**2.8E+00**	2.68E+01	5.2E-04	2.73E+01	5.1E-04
1~Webster to Taylor	HD-7	11/23/04	VOC	Tetrachloroethene	127-18-4	1.00E-02	5.00E-03	**2.0E+00**	1.41E+01	7.1E-04	1.49E+01	6.7E-04
1~Webster to Taylor	HD-7	11/23/04	VOC	Trichloroethene	79-01-6	2.10E-02	5.00E-03	**4.2E+00**	2.68E+01	7.8E-04	2.73E+01	7.7E-04
1~Webster to Taylor	MW-1A-00	04/21/05	VOC	cis-1,2-Dichloroethene	156-59-2	9.20E-02	7.00E-02	**1.3E+00**	2.29E+01	4.0E-03	6.38E+01	1.4E-03
1~Webster to Taylor	MW-1A-00	04/21/05	VOC	Tetrachloroethene	127-18-4	1.70E-01	5.00E-03	**3.4E+01**	1.41E+01	1.2E-02	1.49E+01	1.1E-02
1~Webster to Taylor	MW-1A-00	04/21/05	VOC	Trichloroethene	79-01-6	4.10E-02	5.00E-03	**8.2E+00**	2.68E+01	1.5E-03	2.73E+01	1.5E-03
1~Webster to Taylor	MW-1A-00	04/21/05	VOC	Vinyl Chloride	75-01-4	8.80E-03	2.00E-03	**4.4E+00**	2.02E+00	4.3E-03	3.29E+00	2.7E-03
1~Webster to Taylor	MW-1B-00	04/22/05	VOC	Tetrachloroethene	127-18-4	1.40E-02	5.00E-03	**2.8E+00**	1.41E+01	1.0E-03	1.49E+01	9.4E-04
1~Webster to Taylor	MW-1B-00	04/22/05	VOC	Trichloroethene	79-01-6	2.10E-02	5.00E-03	**4.2E+00**	2.68E+01	7.8E-04	2.73E+01	7.7E-04
1~Webster to Taylor	MW-22-04	03/25/04	VOC	Tetrachloroethene	127-18-4	4.60E-02	5.00E-03	**9.2E+00**	1.41E+01	3.3E-03	1.49E+01	3.1E-03
1~Webster to Taylor	MW-22-04	03/25/04	VOC	Trichloroethene	79-01-6	2.60E-02	5.00E-03	**5.2E+00**	2.68E+01	9.7E-04	2.73E+01	9.5E-04
1~Webster to Taylor	MW-2A-00	04/22/05	VOC	cis-1,2-Dichloroethene	156-59-2	6.00E+00	7.00E-02	**8.6E+01**	2.29E+01	2.6E-01	6.38E+01	9.4E-02
1~Webster to Taylor	MW-2A-00	04/22/05	VOC	Tetrachloroethene	127-18-4	7.10E-01	5.00E-03	**1.4E+02**	1.41E+01	5.0E-02	1.49E+01	4.8E-02
1~Webster to Taylor	MW-2A-00	04/22/05	VOC	Trichloroethene	79-01-6	6.10E-01	5.00E-03	**1.2E+02**	2.68E+01	2.3E-02	2.73E+01	2.2E-02
1~Webster to Taylor	MW-2A-00	04/22/05	VOC	Vinyl Chloride	75-01-4	3.10E-01	2.00E-03	**1.6E+02**	2.02E+00	1.5E-01	3.29E+00	9.4E-02
1~Webster to Taylor	MW-2B-00	04/22/05	VOC	Tetrachloroethene	127-18-4	8.50E-03	5.00E-03	**1.7E+00**	1.41E+01	6.0E-04	1.49E+01	5.7E-04
1~Webster to Taylor	MW-2B-00	04/22/05	VOC	Trichloroethene	79-01-6	1.80E-02	5.00E-03	**3.6E+00**	2.68E+01	6.7E-04	2.73E+01	6.6E-04
1~Webster to Taylor	MW-5A-03	03/05/03	INORG	Lead	7439-92-1	4.90E-02	1.50E-02	**3.3E+00**	7.40E+01	6.6E-04		
1~Webster to Taylor	MW-5A-03	04/27/05	VOC	1,1-Dichloroethene	75-35-4	8.70E-03	7.00E-03	**1.2E+00**	1.25E+02	7.0E-05	2.44E+02	3.6E-05
1~Webster to Taylor	MW-5A-03	04/27/05	VOC	cis-1,2-Dichloroethene	156-59-2	8.70E-01	7.00E-02	**1.2E+01**	2.29E+01	3.8E-02	6.38E+01	1.4E-02
1~Webster to Taylor	MW-5A-03	04/27/05	VOC	Tetrachloroethene	127-18-4	4.20E-02	5.00E-03	**8.4E+00**	1.41E+01	3.0E-03	1.49E+01	2.8E-03
1~Webster to Taylor	MW-5A-03	04/27/05	VOC	Trichloroethene	79-01-6	3.80E-02	5.00E-03	**7.6E+00**	2.68E+01	1.4E-03	2.73E+01	1.4E-03
1~Webster to Taylor	MW-5A-03	04/27/05	VOC	Vinyl Chloride	75-01-4	3.30E-01	2.00E-03	**1.7E+02**	2.02E+00	1.6E-01	3.29E+00	1.0E-01
1~Webster to Taylor	MW-5B-03	04/27/05	VOC	Tetrachloroethene	127-18-4	2.20E-02	5.00E-03	**4.4E+00**	1.41E+01	1.6E-03	1.49E+01	1.5E-03
1~Webster to Taylor	MW-5B-03	04/27/05	VOC	Trichloroethene	79-01-6	2.10E-02	5.00E-03	**4.2E+00**	2.68E+01	7.8E-04	2.73E+01	7.7E-04
1~Webster to Taylor	OS-1B-00	04/22/05	VOC	Tetrachloroethene	127-18-4	2.30E-02	5.00E-03	**4.6E+00**	1.41E+01	1.6E-03	1.49E+01	1.5E-03
1~Webster to Taylor	OS-1B-00	04/22/05	VOC	Trichloroethene	79-01-6	2.30E-02	5.00E-03	**4.6E+00**	2.68E+01	8.6E-04	2.73E+01	8.4E-04
1~Webster to Taylor	OS-2B-03	04/19/05	VOC	Tetrachloroethene	127-18-4	1.80E-02	5.00E-03	**3.6E+00**	1.41E+01	1.3E-03	1.49E+01	1.2E-03
1~Webster to Taylor	OS-2B-03	04/19/05	VOC	Trichloroethene	79-01-6	1.90E-02	5.00E-03	**3.8E+00**	2.68E+01	7.1E-04	2.73E+01	7.0E-04
1~Webster to Taylor	OS-2C-03	04/19/05	VOC	Tetrachloroethene	127-18-4	2.90E-02	5.00E-03	**5.8E+00**	1.41E+01	2.1E-03	1.49E+01	1.9E-03

Table 3-2b: Groundwater Concentrations Exceeding Screening Criteria for Drinking Water Criteria and Worker Protection Criteria: Upper Aquifer On-Site
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

Area	Location	Sample Date	Chem Group	Chemical	CASRN	Concentration (mg/L)	Drinking Water Criteria (mg/L)	Ratio of Concentration to DW Criteria	Maintenance Worker Groundwater Contact Criteria (mg/L)	Ratio of Concentration to Mant Worker GW Contact Criteria	Comm/Ind Groundwater Vol Indoor Air Criteria (mg/L)	Ratio of Concentration to Comm/Ind GW Vol Indoor Air Criteria
1~Webster to Taylor	OS-2C-03	04/19/05	VOC	Trichloroethene	79-01-6	3.30E-02	5.00E-03	**6.6E+00**	2.68E+01	1.2E-03	2.73E+01	1.2E-03
1~Webster to Taylor	OS-3B-03	04/19/05	VOC	Tetrachloroethene	127-18-4	1.60E-02	5.00E-03	**3.2E+00**	1.41E+01	1.1E-03	1.49E+01	1.1E-03
1~Webster to Taylor	OS-3B-03	04/19/05	VOC	Trichloroethene	79-01-6	2.70E-02	5.00E-03	**5.4E+00**	2.68E+01	1.0E-03	2.73E+01	9.9E-04
1~Webster to Taylor	OS-3C-03	04/19/05	VOC	Tetrachloroethene	127-18-4	2.10E-02	5.00E-03	**4.2E+00**	1.41E+01	1.5E-03	1.49E+01	1.4E-03
1~Webster to Taylor	OS-3C-03	04/19/05	VOC	Trichloroethene	79-01-6	2.90E-02	5.00E-03	**5.8E+00**	2.68E+01	1.1E-03	2.73E+01	1.1E-03
1~Webster to Taylor	OS-4B-03	04/20/05	VOC	Tetrachloroethene	127-18-4	1.60E-02	5.00E-03	**3.2E+00**	1.41E+01	1.1E-03	1.49E+01	1.1E-03
1~Webster to Taylor	OS-4B-03	04/20/05	VOC	Trichloroethene	79-01-6	3.80E-02	5.00E-03	**7.6E+00**	2.68E+01	1.4E-03	2.73E+01	1.4E-03
1~Webster to Taylor	OS-4C-03	04/20/05	VOC	Tetrachloroethene	127-18-4	6.10E-03	5.00E-03	**1.2E+00**	1.41E+01	4.3E-04	1.49E+01	4.1E-04
1~Webster to Taylor	OS-4C-03	04/20/05	VOC	Trichloroethene	79-01-6	1.50E-02	5.00E-03	**3.0E+00**	2.68E+01	5.6E-04	2.73E+01	5.5E-04
1~Webster to Taylor	OS-5B-03	04/21/05	VOC	Tetrachloroethene	127-18-4	2.00E-02	5.00E-03	**4.0E+00**	1.41E+01	1.4E-03	1.49E+01	1.3E-03
1~Webster to Taylor	OS-5B-03	04/21/05	VOC	Trichloroethene	79-01-6	2.90E-02	5.00E-03	**5.8E+00**	2.68E+01	1.1E-03	2.73E+01	1.1E-03
1~Webster to Taylor	OS-5C-03	04/21/05	VOC	Trichloroethene	79-01-6	6.40E-03	5.00E-03	**1.3E+00**	2.68E+01	2.4E-04	2.73E+01	2.3E-04
1~Webster to Taylor	OS-6B-03	04/20/05	VOC	Tetrachloroethene	127-18-4	1.30E-01	5.00E-03	**2.6E+01**	1.41E+01	9.2E-03	1.49E+01	8.7E-03
1~Webster to Taylor	OS-6B-03	04/20/05	VOC	Trichloroethene	79-01-6	5.30E-02	5.00E-03	**1.1E+01**	2.68E+01	2.0E-03	2.73E+01	1.9E-03
1~Webster to Taylor	OS-6C-03	04/20/05	VOC	Tetrachloroethene	127-18-4	7.90E-03	5.00E-03	**1.6E+00**	1.41E+01	5.6E-04	1.49E+01	5.3E-04
1~Webster to Taylor	OS-6C-03	04/20/05	VOC	Trichloroethene	79-01-6	2.00E-02	5.00E-03	**4.0E+00**	2.68E+01	7.5E-04	2.73E+01	7.3E-04
1~Webster to Taylor	OS-7B-03	04/20/05	VOC	cis-1,2-Dichloroethene	156-59-2	1.60E-01	7.00E-02	**2.3E+00**	2.29E+01	7.0E-03	6.38E+01	2.5E-03
1~Webster to Taylor	OS-7B-03	04/20/05	VOC	Methylene Chloride	75-09-2	1.90E-02	5.00E-03	**3.8E+00**	8.94E+01	2.1E-04	1.27E+02	1.5E-04
1~Webster to Taylor	OS-7B-03	04/20/05	VOC	Tetrachloroethene	127-18-4	5.00E-01	5.00E-03	**1.0E+02**	1.41E+01	3.6E-02	1.49E+01	3.4E-02
1~Webster to Taylor	OS-7B-03	04/20/05	VOC	Trichloroethene	79-01-6	3.80E-02	5.00E-03	**7.6E+00**	2.68E+01	1.4E-03	2.73E+01	1.4E-03
1~Webster to Taylor	OS-7B-03	04/20/05	VOC	Vinyl Chloride	75-01-4	3.30E-02	2.00E-03	**1.7E+01**	2.02E+00	1.6E-02	3.29E+00	1.0E-02
1~Webster to Taylor	OS-7C-03	04/20/05	VOC	Tetrachloroethene	127-18-4	7.70E-03	5.00E-03	**1.5E+00**	1.41E+01	5.5E-04	1.49E+01	5.2E-04
1~Webster to Taylor	OS-7C-03	04/20/05	VOC	Trichloroethene	79-01-6	1.90E-02	5.00E-03	**3.8E+00**	2.68E+01	7.1E-04	2.73E+01	7.0E-04
2~Taylor to Railway	HD-17	11/12/04	VOC	Trichloroethene	79-01-6	6.70E-02	5.00E-03	**1.3E+01**	2.68E+01	2.5E-03	2.73E+01	2.5E-03
2~Taylor to Railway	HD-18	09/15/06	VOC	Tetrachloroethene	127-18-4	3.70E-02	5.00E-03	**7.4E+00**	1.41E+01	2.6E-03	1.49E+01	2.5E-03
2~Taylor to Railway	HD-18	09/15/06	VOC	Trichloroethene	79-01-6	1.20E-02	5.00E-03	**2.4E+00**	2.68E+01	4.5E-04	2.73E+01	4.4E-04
2~Taylor to Railway	MW-12A-03	04/15/03	PCB	PCBs (total)	1336-36-3	1.25E-03	5.00E-04	**2.5E+00**	9.35E-03	1.3E-01	2.52E-01	5.0E-03
2~Taylor to Railway	MW-12B-03	11/17/04	VOC	Trichloroethene	79-01-6	1.00E-02	5.00E-03	**2.0E+00**	2.68E+01	3.7E-04	2.73E+01	3.7E-04
2~Taylor to Railway	MW-13B-03	11/17/04	VOC	Tetrachloroethene	127-18-4	1.20E-02	5.00E-03	**2.4E+00**	1.41E+01	8.5E-04	1.49E+01	8.1E-04
2~Taylor to Railway	MW-14A-03	11/18/04	VOC	cis-1,2-Dichloroethene	156-59-2	5.60E-01	7.00E-02	**8.0E+00**	2.29E+01	2.4E-02	6.38E+01	8.8E-03
2~Taylor to Railway	MW-14A-03	11/18/04	VOC	Vinyl Chloride	75-01-4	4.30E-02	2.00E-03	**2.2E+01**	2.02E+00	2.1E-02	3.29E+00	1.3E-02
2~Taylor to Railway	MW-14B-04	01/23/06	VOC	Tetrachloroethene	127-18-4	8.30E-02	5.00E-03	**1.7E+01**	1.41E+01	5.9E-03	1.49E+01	5.6E-03
2~Taylor to Railway	MW-14B-04	01/23/06	VOC	Trichloroethene	79-01-6	8.30E-03	5.00E-03	**1.7E+00**	2.68E+01	3.1E-04	2.73E+01	3.0E-04
2~Taylor to Railway	MW-23-04	04/01/05	VOC	cis-1,2-Dichloroethene	156-59-2	3.45E+01	7.00E-02	**4.9E+02**	2.29E+01	**1.5E+00**	6.38E+01	5.4E-01
2~Taylor to Railway	MW-23-04	04/01/05	VOC	Tetrachloroethene	127-18-4	1.30E+00	5.00E-03	**2.6E+02**	1.41E+01	9.2E-02	1.49E+01	8.7E-02
2~Taylor to Railway	MW-23-04	04/01/05	VOC	Trichloroethene	79-01-6	6.00E-01	5.00E-03	**1.2E+02**	2.68E+01	2.2E-02	2.73E+01	2.2E-02
2~Taylor to Railway	MW-23-04	04/01/05	VOC	Vinyl Chloride	75-01-4	8.10E-01	2.00E-03	**4.1E+02**	2.02E+00	4.0E-01	3.29E+00	2.5E-01
2~Taylor to Railway	MW-24-04	03/25/04	VOC	cis-1,2-Dichloroethene	156-59-2	3.10E-01	7.00E-02	**4.4E+00**	2.29E+01	1.4E-02	6.38E+01	4.9E-03
2~Taylor to Railway	MW-24-04	03/25/04	VOC	Vinyl Chloride	75-01-4	1.80E-02	2.00E-03	**9.0E+00**	2.02E+00	8.9E-03	3.29E+00	5.5E-03
2~Taylor to Railway	MW-24-04	03/25/04	INORG	Arsenic	7440-38-2	2.00E-02	1.00E-02	**2.0E+00**	1.44E+01	1.4E-03		
2~Taylor to Railway	MW-25-04	11/19/04	VOC	Tetrachloroethene	127-18-4	1.40E-02	5.00E-03	**2.8E+00**	1.41E+01	1.0E-03	1.49E+01	9.4E-04
2~Taylor to Railway	MW-25-04	11/19/04	VOC	Trichloroethene	79-01-6	2.50E-02	5.00E-03	**5.0E+00**	2.68E+01	9.3E-04	2.73E+01	9.2E-04
2~Taylor to Railway	MW-26-04	03/26/04	INORG	Arsenic	7440-38-2	1.10E-02	1.00E-02	**1.1E+00**	1.44E+01	7.7E-04		
2~Taylor to Railway	MW-26-04	09/21/06	VOC	cis-1,2-Dichloroethene	156-59-2	1.10E-01	7.00E-02	**1.6E+00**	2.29E+01	4.8E-03	6.38E+01	1.7E-03
2~Taylor to Railway	MW-26-04	09/21/06	VOC	Trichloroethene	79-01-6	9.30E-02	5.00E-03	**1.9E+01**	2.68E+01	3.5E-03	2.73E+01	3.4E-03

Table 3-2b: Groundwater Concentrations Exceeding Screening Criteria for Drinking Water Criteria and Worker Protection Criteria: Upper Aquifer On-Site
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

Area	Location	Sample Date	Chem Group	Chemical	CASRN	Concentration (mg/L)	Drinking Water Criteria (mg/L)	Ratio of Concentration to DW Criteria	Maintenance Worker Groundwater Contact Criteria (mg/L)	Ratio of Concentration to Mant Worker GW Contact Criteria	Comm/Ind Groundwater Vol Indoor Air Criteria (mg/L)	Ratio of Concentration to Comm/Ind GW Vol Indoor Air Criteria
2~Taylor to Railway	MW-26-04	09/21/06	VOC	Vinyl Chloride	75-01-4	2.20E-03	2.00E-03	**1.1E+00**	2.02E+00	1.1E-03	3.29E+00	6.7E-04
2~Taylor to Railway	MW-3-02	11/12/04	VOC	Tetrachloroethene	127-18-4	9.10E-03	5.00E-03	**1.8E+00**	1.41E+01	6.5E-04	1.49E+01	6.1E-04
2~Taylor to Railway	MW-3-02	11/12/04	PCB	PCBs (total)	1336-36-3	1.25E-03	5.00E-04	**2.5E+00**	9.35E-03	1.3E-01	2.52E-01	5.0E-03
2~Taylor to Railway	MW-37-05	06/03/05	VOC	cis-1,2-Dichloroethene	156-59-2	4.00E+00	7.00E-02	**5.7E+01**	2.29E+01	1.7E-01	6.38E+01	6.3E-02
2~Taylor to Railway	MW-37-05	06/03/05	VOC	Tetrachloroethene	127-18-4	7.90E-01	5.00E-03	**1.6E+02**	1.41E+01	5.6E-02	1.49E+01	5.3E-02
2~Taylor to Railway	MW-37-05	06/03/05	VOC	Trichloroethene	79-01-6	1.80E-01	5.00E-03	**3.6E+01**	2.68E+01	6.7E-03	2.73E+01	6.6E-03
3~Railway to Keowee	B-306	07/16/02	PCB	PCBs (total)	1336-36-3	8.43E-04	5.00E-04	**1.7E+00**	9.35E-03	9.0E-02	2.52E-01	3.3E-03
3~Railway to Keowee	HD-14	11/10/04	VOC	Trichloroethene	79-01-6	1.00E-02	5.00E-03	**2.0E+00**	2.68E+01	3.7E-04	2.73E+01	3.7E-04

Notes:

1. Only constituents detected in each respective area are shown.
2. The Screening Criteria for groundwater are the lower of the Screening Criteria at either a cancer risk level of $1x10^{-5}$ or a hazard quotient of 1.
3. Shaded cells represent ratios of concentration to the Screening Criteria greater than 1.
4. Equivalent Drinking Water Concentration Limits, Maintenance Worker GW Contact Criteria, and Comm/Ind GW Vol Indoor Air Criteria were calculated as discussed in Appendix E of the RFI Report.

Abbreviations:

Chem Group - Chemical Group
CASRN - Chemical Abstract Service Registry Number
Comm/Ind - Commercial/Industrial
Vol - Volatilization

Table 3-2c: Groundwater Concentrations Exceeding Screening Criteria for Residential Nonpotable Exposures: Upper Aquifer On-Site Within the AOI 1 Plume
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

Location	Sample Date	Chem Group	Chemical	CASRN	Concentration (mg/L)	GW Residential Vol Indoor Air Criteria (mg/L)	Ratio of Concentration to GW Res Vol Indoor Air Criteria	Residential Nonpotable GW Criteria (mg/L)	Ratio of Concentration to Res Nonpotable GW Criteria
B-SA21	11/23/04	PCB	PCBs (total)	1336-36-3	3.15E-03	6.95E-02	4.5E-02	1.96E-04	**1.6E+01**
B-SA22	04/21/05	VOC	Tetrachloroethene	127-18-4	8.10E-01	4.32E+00	1.9E-01	6.02E-01	**1.3E+00**
B-SA23	04/22/05	VOC	Vinyl Chloride	75-01-4	1.30E+00	9.53E-01	**1.4E+00**	4.90E-02	**2.7E+01**
MW-2A-00	04/22/05	VOC	Tetrachloroethene	127-18-4	7.10E-01	4.32E+00	1.6E-01	6.02E-01	**1.2E+00**
MW-2A-00	04/22/05	VOC	Vinyl Chloride	75-01-4	3.10E-01	9.53E-01	3.3E-01	4.90E-02	**6.3E+00**
MW-5A-03	04/27/05	VOC	Vinyl Chloride	75-01-4	3.30E-01	9.53E-01	3.5E-01	4.90E-02	**6.7E+00**

Notes:

1. Only constituents detected are shown.
2. The Screening Criteria for groundwater are the lower of the Screening Criteria at either a cancer risk level of 1×10^{-5} or a hazard quotient of 1.
3. Shaded cells represent ratios of concentration to the Screening Criteria greater than 1.

Abbreviations:

Chem Group - Chemical Group
CASRN - Chemical Abstract Service Registry Number
Comm/Ind - Commercial/Industrial
Vol - Volatilization

Table 3-3a: Groundwater Screening Results: Upper Aquifer Off-Site
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

Area	Chem Group	Chemical	CASRN	Meas Basis	Carc Class	Analyzed	Detected	Min Detected Concentration (mg/L)	Max Detected Concentration (mg/L)	Drinking Water Criteria (mg/L)	Ratio of Max Detect to DW Criteria	Maintenance Worker Groundwater Contact Criteria (mg/L)	Ratio of Max Detect to Maintenance Worker GW Contact Criteria	Comm/Ind Groundwater Vol Indoor Air Criteria (mg/L)	Ratio of Max Detect to Comm/Ind GW Vol Indoor Air Criteria	Residential GW Vol of Indoor Air Criteria (mg/L)	Ratio of Max Detect to GW Vol Indoor Air Criteria	Residential Nonpotable GW Criteria (mg/L)	Ratio of Max Detect to Res Nonpotable GW Criteria
1~Webster to Taylor	VOC	cis-1,2-Dichloroethene	156-59-2	T	ID	1	1	1.60E-03	1.60E-03	7.00E-02	2.3E-02	2.29E+01	7.0E-05	6.09E+01	2.6E-05	2.05E+01	7.8E-05	2.44E+01	6.6E-05
1~Webster to Taylor	VOC	Tetrachloroethene	127-18-4	T	C-B2	1	1	9.00E-02	9.00E-02	5.00E-03	**1.8E+01**	1.41E+01	6.4E-03	1.47E+01	6.1E-03	4.32E+00	2.1E-02	6.02E-01	1.5E-01
1~Webster to Taylor	VOC	1,1,1-Trichloroethane	71-55-6	T	D	1	1	7.00E-04	7.00E-04	2.00E-01	3.5E-03	1.47E+03	4.8E-07	3.34E+03	2.1E-07	1.17E+03	6.0E-07	3.94E+02	1.8E-06
1~Webster to Taylor	VOC	Trichloroethene	79-01-6	T	C-B2	1	1	1.10E-02	1.10E-02	5.00E-03	**2.2E+00**	2.68E+01	4.1E-04	2.67E+01	4.1E-04	7.76E+00	1.4E-03	2.23E+00	4.9E-03
1~Webster to Taylor	SVOC	Caprolactam	105-60-2	T		1	1	4.60E-02	4.60E-02	1.83E+01	2.5E-03	2.01E+05	2.3E-07	3.09E+08	1.5E-10	6.16E+07	7.5E-10	1.40E+03	3.3E-05
1~Webster to Taylor	INORG	Barium	7440-39-3	T	NC	1	1	1.10E-01	1.10E-01	2.00E+00	5.5E-02	3.43E+03	3.2E-05					4.83E+01	2.3E-03
1~Webster to Taylor	INORG	Manganese	7439-96-5	T	D	1	1	6.70E-01	6.70E-01	5.11E+00	1.3E-01	5.96E+03	1.1E-04					8.55E+01	7.8E-03
1~Webster to Taylor	INORG	Nickel	7440-02-0	T	A	1	1	3.80E-03	3.80E-03	1.00E-01	3.8E-02	2.38E+03	1.6E-06					2.78E+01	1.4E-04
1~Webster to Taylor	INORG	Thallium	7440-28-0	T		1	1	3.80E-05	3.80E-05	2.00E-03	1.9E-02	2.15E+01	1.8E-06					1.73E-01	2.2E-04
1~Webster to Taylor	INORG	Vanadium	7440-62-2	T		1	1	2.00E-03	2.00E-03	3.65E-02	5.5E-02	1.94E+01	1.0E-04					2.98E-01	6.7E-03
1~Webster to Taylor	INORG	Zinc	7440-66-6	T	ID	1	1	1.80E-02	1.80E-02	1.10E+01	1.6E-03	1.10E+05	1.6E-07					8.05E+02	2.2E-05
2~Taylor to Railway	VOC	cis-1,2-Dichloroethene	156-59-2	T	ID	3	2	1.20E-03	2.70E-03	7.00E-02	3.9E-02	2.29E+01	1.2E-04	6.09E+01	4.4E-05	2.05E+01	1.3E-04	2.44E+01	1.1E-04
2~Taylor to Railway	VOC	Tetrachloroethene	127-18-4	T	C-B2	3	1	2.70E-04	2.70E-04	5.00E-03	5.4E-02	1.41E+01	1.9E-05	1.47E+01	1.8E-05	4.32E+00	6.2E-05	6.02E-01	4.5E-04
2~Taylor to Railway	VOC	Trichloroethene	79-01-6	T	C-B2	3	1	1.30E-03	1.30E-03	5.00E-03	2.6E-01	2.68E+01	4.8E-05	2.67E+01	4.9E-05	7.76E+00	1.7E-04	2.23E+00	5.8E-04
2~Taylor to Railway	VOC	Vinyl Chloride	75-01-4	T	A	3	1	2.40E-04	2.40E-04	2.00E-03	1.2E-01	2.02E+00	1.2E-04	3.25E+00	7.4E-05	9.53E-01	2.5E-04	4.90E-02	4.9E-03
2~Taylor to Railway	SVOC	Caprolactam	105-60-2	T		3	3	2.70E-02	2.00E-01	1.83E+01	1.1E-02	2.01E+05	1.0E-06	3.09E+08	6.5E-10	6.16E+07	3.2E-09	1.40E+03	1.4E-04
2~Taylor to Railway	PCB	PCBs (total)	1336-36-3	T	B2	3	1	5.60E-04	5.60E-04	5.00E-04	**1.1E+00**	9.35E-03	6.0E-02	2.43E-01	2.3E-03	6.95E-02	8.1E-03	1.96E-04	**2.9E+00**
2~Taylor to Railway	INORG	Arsenic	7440-38-2	T	A	3	1	6.50E-03	6.50E-03	1.00E-02	6.5E-01	1.44E+01	4.5E-04					3.85E-02	1.7E-01
2~Taylor to Railway	INORG	Barium	7440-39-3	T	NC	3	3	6.70E-02	3.70E-01	2.00E+00	1.9E-01	3.43E+03	1.1E-04					4.83E+01	7.7E-03
2~Taylor to Railway	INORG	Cadmium	7440-43-9	T	B1	3	1	3.00E-04	3.00E-04	5.00E-03	6.0E-02	1.80E+01	1.7E-05					2.88E-01	1.0E-03
2~Taylor to Railway	INORG	Cobalt	7440-48-4	T	B1	3	3	7.80E-04	1.80E-03	7.30E-01	2.5E-03	8.09E+03	2.2E-07					5.60E+01	3.2E-05
2~Taylor to Railway	INORG	Manganese	7439-96-5	T	D	3	3	9.10E-02	2.40E-01	5.11E+00	4.7E-02	5.96E+03	4.0E-05					8.55E+01	2.8E-03
2~Taylor to Railway	INORG	Mercury	7439-97-6	T	D	3	1	3.50E-04	3.50E-04	2.00E-03	1.8E-01	2.88E-01	1.2E-03	8.19E-01	4.3E-04	2.86E-01	1.2E-03	1.53E+00	2.3E-04
2~Taylor to Railway	INORG	Selenium	7782-49-2	T	D	3	1	5.20E-03	5.20E-03	5.00E-02	1.0E-01	1.54E+03	3.4E-06					1.24E+01	4.2E-04
2~Taylor to Railway	INORG	Zinc	7440-66-6	T	ID	3	1	1.40E-02	1.40E-02	1.10E+01	1.3E-03	1.10E+05	1.3E-07					8.05E+02	1.7E-05
4~Off Site South	VOC	Chloroform	67-66-3	T	B2	9	5	4.70E-04	6.10E-03	8.00E-02	7.6E-02	2.29E+00	2.7E-03	2.25E+00	2.7E-03	6.31E-01	9.7E-03	2.53E+01	2.4E-04
4~Off Site South	VOC	cis-1,2-Dichloroethene	156-59-2	T	ID	9	7	6.90E-04	5.90E-03	7.00E-02	8.4E-02	2.29E+01	2.6E-04	6.09E+01	9.7E-05	2.05E+01	2.9E-04	2.44E+01	2.4E-04
4~Off Site South	VOC	trans-1,2-Dichloroethene	156-60-5	T		9	1	4.70E-04	4.70E-04	1.00E-01	4.7E-03	3.81E+01	1.2E-05	8.10E+01	5.8E-06	2.80E+01	1.7E-05	3.94E+01	1.2E-05
4~Off Site South	VOC	Tetrachloroethene	127-18-4	T	C-B2	9	6	4.30E-04	1.30E-02	5.00E-03	**2.6E+00**	1.41E+01	9.2E-04	1.47E+01	8.8E-04	4.32E+00	3.0E-03	6.02E-01	2.2E-02
4~Off Site South	VOC	1,1,1-Trichloroethane	71-55-6	T	D	9	2	5.50E-04	7.50E-04	2.00E-01	3.8E-03	1.47E+03	5.1E-07	3.34E+03	2.2E-07	1.17E+03	6.4E-07	3.94E+02	1.9E-06
4~Off Site South	VOC	Trichloroethene	79-01-6	T	C-B2	9	9	5.90E-04	8.70E-02	5.00E-03	**1.7E+01**	2.68E+01	3.2E-03	2.67E+01	3.3E-03	7.76E+00	1.1E-02	2.23E+00	3.9E-02
4~Off Site South	SVOC	Caprolactam	105-60-2	T		9	5	3.30E-03	1.30E-01	1.83E+01	7.1E-03	2.01E+05	6.5E-07	3.09E+08	4.2E-10	6.16E+07	2.1E-09	1.40E+03	9.3E-05
4~Off Site South	INORG	Barium	7440-39-3	T	NC	9	9	8.20E-02	2.10E-01	2.00E+00	1.1E-01	3.43E+03	6.1E-05					4.83E+01	4.3E-03
4~Off Site South	INORG	Barium	7440-39-3	D	NC	3	3	1.20E-01	2.00E-01	2.00E+00	1.0E-01	3.43E+03	5.8E-05					4.83E+01	4.1E-03
4~Off Site South	INORG	Cadmium	7440-43-9	T	B1	9	1	3.90E-04	3.90E-04	5.00E-03	7.8E-02	1.80E+01	2.2E-05					2.88E-01	1.4E-03
4~Off Site South	INORG	Chromium (total)	7440-47-3	T		9	1	1.70E-03	1.70E-03	1.00E-01	1.7E-02	2.85E+01	6.0E-05					4.53E-01	3.8E-03
4~Off Site South	INORG	Cobalt	7440-48-4	T	B1	9	1	2.20E-03	2.20E-03	7.30E-01	3.0E-03	8.09E+03	2.7E-07					5.60E+01	3.9E-05
4~Off Site South	INORG	Copper	7440-50-8	T	D	9	1	3.00E-03	3.00E-03	1.30E+00	2.3E-03	1.23E+04	2.4E-07					9.89E+01	3.0E-05
4~Off Site South	INORG	Lead	7439-92-1	T	B2	9	1	1.90E-03	1.90E-03	1.50E-02	1.3E-01	7.40E+01	2.6E-05						
4~Off Site South	INORG	Manganese	7439-96-5	T	D	9	8	2.80E-03	8.50E-01	5.11E+00	1.7E-01	5.96E+03	1.4E-04					8.55E+01	9.9E-03
4~Off Site South	INORG	Manganese	7439-96-5	D	D	3	2	3.90E-02	8.80E-02	5.11E+00	1.7E-02	5.96E+03	1.5E-05					8.55E+01	1.0E-03
4~Off Site South	INORG	Nickel	7440-02-0	T	A	9	1	6.00E-03	6.00E-03	1.00E-01	6.0E-02	2.38E+03	2.5E-06					2.78E+01	2.2E-04
4~Off Site South	INORG	Vanadium	7440-62-2	T		9	2	9.20E-04	2.60E-03	3.65E-02	7.1E-02	1.94E+01	1.3E-04					2.98E-01	8.7E-03
4~Off Site South	INORG	Zinc	7440-66-6	T	ID	9	1	1.60E-02	1.60E-02	1.10E+01	1.5E-03	1.10E+05	1.5E-07					8.05E+02	2.0E-05
5~Off Site West	VOC	2-Butanone	78-93-3	T	ID	25	1	1.00E-03	1.00E-03	2.19E+01	4.6E-05	8.70E+03	1.2E-07	1.16E+05	8.7E-09	2.87E+04	3.5E-08	3.13E+03	3.2E-07
5~Off Site West	VOC	Chloroform	67-66-3	T	B2	25	5	4.00E-04	2.00E-03	8.00E-02	2.5E-02	2.29E+00	8.7E-04	2.25E+00	8.9E-04	6.31E-01	3.2E-03	2.53E+01	7.9E-05
5~Off Site West	VOC	Chloromethane	74-87-3	T	D	25	1	3.30E-04	3.30E-04			4.34E+01	7.6E-06	1.85E+02	1.8E-06	6.46E+01	5.1E-06	3.79E+03	8.7E-08
5~Off Site West	VOC	Cyclohexane	110-82-7	T	ID	25	1	5.40E-04	5.40E-04			3.68E+03	1.5E-07	6.21E+03	8.7E-08	2.21E+03	2.4E-07	2.70E+05	2.0E-09
5~Off Site West	VOC	Dichlorodifluoromethane	75-71-8	T		25	8	3.60E-04	1.75E-02	7.30E+00	2.4E-03	1.45E+02	1.2E-04	2.18E+02	8.0E-05	7.77E+01	2.3E-04	3.57E+02	4.9E-05
5~Off Site West	VOC	1,1-Dichloroethane	75-34-3	T	SC	25	1	5.20E-04	5.20E-04	7.30E+00	7.1E-05	3.32E+02	1.6E-06	8.40E+02	6.2E-07	2.87E+02	1.8E-06	5.15E+02	1.0E-06
5~Off Site West	VOC	1,1-Dichloroethene	75-35-4	T	C	25	2	1.90E-04	2.30E-04	7.00E-03	3.3E-02	1.25E+02	1.8E-06	2.42E+02	9.5E-07	8.52E+01	2.7E-06	8.82E+01	2.6E-06
5~Off Site West	VOC	cis-1,2-Dichloroethene	156-59-2	T	ID	25	24	7.80E-04	4.40E-01	7.00E-02	**6.3E+00**	2.29E+01	1.9E-02	6.09E+01	7.2E-03	2.05E+01	2.1E-02	2.44E+01	1.8E-02
5~Off Site West	VOC	trans-1,2-Dichloroethene	156-60-5	T		25	4	1.60E-04	5.30E-04	1.00E-01	5.3E-03	3.81E+01	1.4E-05	8.10E+01	6.5E-06	2.80E+01	1.9E-05	3.94E+01	1.3E-05
5~Off Site West	VOC	Methylene Chloride	75-09-2	T	B2	25	3	6.30E-04	1.20E-02	5.00E-03	**2.4E+00**	8.94E+01	1.3E-04	1.18E+02	1.0E-04	3.18E+01	3.8E-04	1.28E+01	9.4E-04
5~Off Site West	VOC	Tetrachloroethene	127-18-4	T	C-B2	25	22	3.20E-03	6.00E-01	5.00E-03	**1.2E+02**	1.41E+01	4.3E-02	1.47E+01	4.1E-02	4.32E+00	1.4E-01	6.02E-01	1.0E+00
5~Off Site West	VOC	1,1,1-Trichloroethane	71-55-6	T	D	25	3	2.20E-04	3.30E-04	2.00E-01	1.7E-03	1.47E+03	2.2E-07	3.34E+03	9.9E-08	1.17E+03	2.8E-07	3.94E+02	8.4E-07
5~Off Site West	VOC	Trichloroethene	79-01-6	T	C-B2	25	22	2.30E-03	9.40E-01	5.00E-03	**1.9E+02**	2.68E+01	3.5E-02	2.67E+01	3.5E-02	7.76E+00	1.2E-01	2.23E+00	4.2E-01
5~Off Site West	VOC	Vinyl Chloride	75-01-4	T	A	25	8	4.20E-04	3.60E-01	2.00E-03	**1.8E+02**	2.02E+00	1.8E-01	3.25E+00	1.1E-01	9.53E-01	3.8E-01	4.90E-02	**7.3E+00**

Table 3-3a: Groundwater Screening Results: Upper Aquifer Off-Site
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

Area	Chem Group	Chemical	CASRN	Meas Basis	Carc Class	Analyzed	Detected	Min Detected Concentration (mg/L)	Max Detected Concentration (mg/L)	Drinking Water Criteria (mg/L)	Ratio of Max Detect to DW Criteria	Maintenance Worker Groundwater Contact Criteria (mg/L)	Ratio of Max Detect to Maintenance Worker GW Contact Criteria	Comm/Ind Groundwater Vol Indoor Air Criteria (mg/L)	Ratio of Max Detect to Comm/Ind GW Vol Indoor Air Criteria	Residential GW Vol of Indoor Air Criteria (mg/L)	Ratio of Max Detect to GW Vol Indoor Air Criteria	Residential Nonpotable GW Criteria (mg/L)	Ratio of Max Detect to Res Nonpotable GW Criteria
5~Off Site West	SVOC	Caprolactam	105-60-2	T		20	1	2.90E-03	2.90E-03	1.83E+01	1.6E-04	2.01E+05	1.4E-08	3.09E+08	9.4E-12	6.16E+07	4.7E-11	1.40E+03	2.1E-06
5~Off Site West	SVOC	Di-n-octylphthalate	117-84-0	T		20	1	1.60E-03	1.60E-03	1.46E+00	1.1E-03	1.31E+01	1.2E-04					3.52E-01	4.5E-03
5~Off Site West	SVOC	Methylphenol (total)	1319-77-3	T		20	1	4.20E-03	4.20E-03	1.83E+00	2.3E-03	2.63E+03	1.6E-06	2.11E+05	2.0E-08	4.70E+04	8.9E-08	4.47E+01	9.4E-05
5~Off Site West	INORG	Arsenic	7440-38-2	T	A	24	14	3.85E-03	5.00E-02	1.00E-02	**5.0E+00**	1.44E+01	3.5E-03					3.85E-02	**1.3E+00**
5~Off Site West	INORG	Arsenic	7440-38-2	D	A	10	9	3.00E-03	1.40E-02	1.00E-02	**1.4E+00**	1.44E+01	9.7E-04					3.85E-02	3.6E-01
5~Off Site West	INORG	Barium	7440-39-3	T	NC	24	24	1.50E-01	4.20E-01	2.00E+00	2.1E-01	3.43E+03	1.2E-04					4.83E+01	8.7E-03
5~Off Site West	INORG	Barium	7440-39-3	D	NC	10	10	1.30E-01	3.95E-01	2.00E+00	2.0E-01	3.43E+03	1.2E-04					4.83E+01	8.2E-03
5~Off Site West	INORG	Cadmium	7440-43-9	T	B1	24	4	3.00E-04	3.50E-04	5.00E-03	7.0E-02	1.80E+01	1.9E-05					2.88E-01	1.2E-03
5~Off Site West	INORG	Chromium (total)	7440-47-3	T		24	6	2.40E-03	9.30E-03	1.00E-01	9.3E-02	2.85E+01	3.3E-04					4.53E-01	2.1E-02
5~Off Site West	INORG	Cobalt	7440-48-4	T	B1	24	12	6.85E-04	7.05E-03	7.30E-01	9.7E-03	8.09E+03	8.7E-07					5.60E+01	1.3E-04
5~Off Site West	INORG	Cobalt	7440-48-4	D	B1	10	4	5.90E-04	3.80E-03	7.30E-01	5.2E-03	8.09E+03	4.7E-07					5.60E+01	6.8E-05
5~Off Site West	INORG	Copper	7440-50-8	T	D	24	5	1.33E-03	8.20E-03	1.30E+00	6.3E-03	1.23E+04	6.7E-07					9.89E+01	8.3E-05
5~Off Site West	INORG	Copper	7440-50-8	D	D	10	2	1.48E-03	2.20E-03	1.30E+00	1.7E-03	1.23E+04	1.8E-07					9.89E+01	2.2E-05
5~Off Site West	INORG	Cyanide (total)	57-12-5	T	D	22	5	2.00E-03	1.20E-02	2.00E-01	6.0E-02	6.16E+03	1.9E-06					4.95E+01	2.4E-04
5~Off Site West	INORG	Lead	7439-92-1	T	B2	24	3	1.60E-03	3.40E-03	1.50E-02	2.3E-01	7.40E+01	4.6E-05						
5~Off Site West	INORG	Manganese	7439-96-5	T	D	32	32	4.20E-02	1.00E+00	5.11E+00	2.0E-01	5.96E+03	1.7E-04					8.55E+01	1.2E-02
5~Off Site West	INORG	Manganese	7439-96-5	D	D	11	11	3.10E-02	4.40E-01	5.11E+00	8.6E-02	5.96E+03	7.4E-05					8.55E+01	5.1E-03
5~Off Site West	INORG	Mercury	7439-97-6	T	D	24	2	8.80E-05	2.00E-04	2.00E-03	1.0E-01	2.88E-01	7.0E-04	8.19E-01	2.4E-04	2.86E-01	7.0E-04	1.53E+00	1.3E-04
5~Off Site West	INORG	Nickel	7440-02-0	T	A	24	10	2.50E-03	8.80E-03	1.00E-01	8.8E-02	2.38E+03	3.7E-06					2.78E+01	3.2E-04
5~Off Site West	INORG	Nickel	7440-02-0	D	A	10	1	3.10E-03	3.10E-03	1.00E-01	3.1E-02	2.38E+03	1.3E-06					2.78E+01	1.1E-04
5~Off Site West	INORG	Thallium	7440-28-0	T		24	4	3.60E-05	4.70E-05	2.00E-03	2.4E-02	2.15E+01	2.2E-06					1.73E-01	2.7E-04
5~Off Site West	INORG	Thallium	7440-28-0	D		10	1	3.40E-05	3.40E-05	2.00E-03	1.7E-02	2.15E+01	1.6E-06					1.73E-01	2.0E-04
5~Off Site West	INORG	Vanadium	7440-62-2	T		24	8	5.78E-04	2.30E-03	3.65E-02	6.3E-02	1.94E+01	1.2E-04					2.98E-01	7.7E-03
5~Off Site West	INORG	Zinc	7440-66-6	T	ID	24	8	1.55E-02	2.80E-02	1.10E+01	2.6E-03	1.10E+05	2.5E-07					8.05E+02	3.5E-05
5~Off Site West	INORG	Zinc	7440-66-6	D	ID	10	2	1.40E-02	1.50E-02	1.10E+01	1.4E-03	1.10E+05	1.4E-07					8.05E+02	1.9E-05
6~Off Site East	VOC	Chloroform	67-66-3	T	B2	2	1	2.50E-03	2.50E-03	8.00E-02	3.1E-02	2.29E+00	1.1E-03	2.25E+00	1.1E-03	6.31E-01	4.0E-03	2.53E+01	9.9E-05
6~Off Site East	SVOC	Caprolactam	105-60-2	T		2	2	8.80E-03	5.30E-02	1.83E+01	2.9E-03	2.01E+05	2.6E-07	3.09E+08	1.7E-10	6.16E+07	8.6E-10	1.40E+03	3.8E-05
6~Off Site East	INORG	Barium	7440-39-3	T	NC	2	2	7.60E-02	2.10E-01	2.00E+00	1.1E-01	3.43E+03	6.1E-05					4.83E+01	4.3E-03
6~Off Site East	INORG	Manganese	7439-96-5	T	D	2	1	1.40E-01	1.40E-01	5.11E+00	2.7E-02	5.96E+03	2.3E-05					8.55E+01	1.6E-03
6~Off Site East	INORG	Zinc	7440-66-6	T	ID	2	1	6.90E-02	6.90E-02	1.10E+01	6.3E-03	1.10E+05	6.3E-07					8.05E+02	8.6E-05

Notes:

1. Only constituents detected in each respective area are shown.
2. The Screening Criteria for groundwater are the lower of the Screening Criteria at either a cancer risk level of $1x10^{-5}$ or a hazard quotient of 1.
3. Shaded cells represent ratios of concentration to the Screening Criteria greater than 1.
4. Equivalent Drinking Water Concentration Limits, Maintenance Worker GW Contact Criteria, and Comm/Ind GW Vol Indoor Air Criteria were calculated as discussed in Appendix E of the RFI Report.
5. The Screening Criteria for Chromium VI was used as a surrogate for Chromium (total).
6. The concentrations for the Methylphenol (2, 3, & 4) were summed before comparing to the Screening Criteria for 4-Methylphenol.
7. The concentrations for all polychlorinated biphenyls (PCBs) isomers were summed before comparing to the Screening Criteria for PCBs (total).

Abbreviations:

Chem Group - Chemical Group
CASRN - Chemical Abstract Service Registry Number
Carc Class - EPA Weight-of-Evidence Cancer Classification
Comm/Ind - Commercial/Industrial
Vol - Volatilization
Meas Basis - Measured Basis; T = Total, D = Dissolved

Table 3-3b: Groundwater Concentrations Exceeding Screening Criteria: Upper Aquifer Off-Site
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

Area	Location	Sample Date	Chem Group	Chemical	CASRN	Concentration (mg/L)	Drinking Water Criteria (mg/L)	Ratio of Concentration to DW Criteria	Maintenance Worker Groundwater Contact Criteria (mg/L)	Ratio of Concentration to Maintenance Worker GW Contact Criteria	Comm/Ind Groundwater Vol Indoor Air Criteria (mg/L)	Ratio of Concentration to Comm/Ind GW Vol Indoor Air Criteria	GW Residential Vol Indoor Air Criteria (mg/L)	Ratio of Concentration to GW Res Vol Indoor Air Criteria	Residential Nonpotable GW Criteria (mg/L)	Ratio of Concentration to Res Nonpotable GW Criteria
1~Webster to Taylor	DAY-13	09/14/06	VOC	Tetrachloroethene	127-18-4	9.00E-02	5.00E-03	**1.8E+01**	1.41E+01	6.4E-03	1.47E+01	6.1E-03	4.32E+00	2.1E-02	6.02E-01	1.5E-01
1~Webster to Taylor	DAY-13	09/14/06	VOC	Trichloroethene	79-01-6	1.10E-02	5.00E-03	**2.2E+00**	2.68E+01	4.1E-04	2.67E+01	4.1E-04	7.76E+00	1.4E-03	2.23E+00	4.9E-03
2~Taylor to Railway	MW-4-02	09/14/06	PCB	PCBs (total)	1336-36-3	5.60E-04	5.00E-04	**1.1E+00**	9.35E-03	6.0E-02	2.43E-01	2.3E-03	6.95E-02	8.1E-03	1.96E-04	**2.9E+00**
4~Off Site South	DAY-14	04/07/03	VOC	Trichloroethene	79-01-6	4.40E-02	5.00E-03	**8.8E+00**	2.68E+01	1.6E-03	2.67E+01	1.6E-03	7.76E+00	5.7E-03	2.23E+00	2.0E-02
4~Off Site South	DAY-18	04/03/03	VOC	Trichloroethene	79-01-6	4.90E-02	5.00E-03	**9.8E+00**	2.68E+01	1.8E-03	2.67E+01	1.8E-03	7.76E+00	6.3E-03	2.23E+00	2.2E-02
4~Off Site South	DAY-19	04/03/03	VOC	Trichloroethene	79-01-6	5.10E-02	5.00E-03	**1.0E+01**	2.68E+01	1.9E-03	2.67E+01	1.9E-03	7.76E+00	6.6E-03	2.23E+00	2.3E-02
4~Off Site South	DAY-20	11/10/04	VOC	Trichloroethene	79-01-6	8.20E-03	5.00E-03	**1.6E+00**	2.68E+01	3.1E-04	2.67E+01	3.1E-04	7.76E+00	1.1E-03	2.23E+00	3.7E-03
4~Off Site South	DAY-21	04/08/03	VOC	Trichloroethene	79-01-6	7.30E-02	5.00E-03	**1.5E+01**	2.68E+01	2.7E-03	2.67E+01	2.7E-03	7.76E+00	9.4E-03	2.23E+00	3.3E-02
4~Off Site South	HD-15	03/27/03	VOC	Trichloroethene	79-01-6	3.80E-02	5.00E-03	**7.6E+00**	2.68E+01	1.4E-03	2.67E+01	1.4E-03	7.76E+00	4.9E-03	2.23E+00	1.7E-02
4~Off Site South	HD-16	03/28/03	VOC	Trichloroethene	79-01-6	1.50E-02	5.00E-03	**3.0E+00**	2.68E+01	5.6E-04	2.67E+01	5.6E-04	7.76E+00	1.9E-03	2.23E+00	6.7E-03
4~Off Site South	HD-2	11/16/04	VOC	Tetrachloroethene	127-18-4	1.30E-02	5.00E-03	**2.6E+00**	1.41E+01	9.2E-04	1.47E+01	8.8E-04	4.32E+00	3.0E-03	6.02E-01	2.2E-02
4~Off Site South	HD-2	11/16/04	VOC	Trichloroethene	79-01-6	8.70E-02	5.00E-03	**1.7E+01**	2.68E+01	3.2E-03	2.67E+01	3.3E-03	7.76E+00	1.1E-02	2.23E+00	3.9E-02
5~Off Site West	DAY-05	09/14/06	VOC	cis-1,2-Dichloroethene	156-59-2	1.10E-01	7.00E-02	**1.6E+00**	2.29E+01	4.8E-03	6.09E+01	1.8E-03	2.05E+01	5.4E-03	2.44E+01	4.5E-03
5~Off Site West	DAY-05	09/14/06	VOC	Tetrachloroethene	127-18-4	6.00E-01	5.00E-03	**1.2E+02**	1.41E+01	4.3E-02	1.47E+01	4.1E-02	4.32E+00	1.4E-01	6.02E-01	1.0E+00
5~Off Site West	DAY-05	09/14/06	VOC	Trichloroethene	79-01-6	5.50E-02	5.00E-03	**1.1E+01**	2.68E+01	2.1E-03	2.67E+01	2.1E-03	7.76E+00	7.1E-03	2.23E+00	2.5E-02
5~Off Site West	DAY-06	11/19/04	VOC	Trichloroethene	79-01-6	5.50E-03	5.00E-03	**1.1E+00**	2.68E+01	2.1E-04	2.67E+01	2.1E-04	7.76E+00	7.1E-04	2.23E+00	2.5E-03
5~Off Site West	DAY-06	11/19/04	VOC	Vinyl Chloride	75-01-4	5.70E-03	2.00E-03	**2.9E+00**	2.02E+00	2.8E-03	3.25E+00	1.8E-03	9.53E-01	6.0E-03	4.90E-02	1.2E-01
5~Off Site West	DAY-06	03/18/03	INORG	Arsenic	7440-38-2	5.00E-02	1.00E-02	**5.0E+00**	1.44E+01	3.5E-03					3.85E-02	**1.3E+00**
5~Off Site West	DAY-08	11/11/04	VOC	Tetrachloroethene	127-18-4	6.30E-02	5.00E-03	**1.3E+01**	1.41E+01	4.5E-03	1.47E+01	4.3E-03	4.32E+00	1.5E-02	6.02E-01	1.0E-01
5~Off Site West	DAY-08	11/11/04	VOC	Trichloroethene	79-01-6	6.10E-02	5.00E-03	**1.2E+01**	2.68E+01	2.3E-03	2.67E+01	2.3E-03	7.76E+00	7.9E-03	2.23E+00	2.7E-02
5~Off Site West	DAY-11D	09/13/06	VOC	Tetrachloroethene	127-18-4	6.10E-02	5.00E-03	**1.2E+01**	1.41E+01	4.3E-03	1.47E+01	4.1E-03	4.32E+00	1.4E-02	6.02E-01	1.0E-01
5~Off Site West	DAY-11D	09/13/06	VOC	Trichloroethene	79-01-6	7.90E-03	5.00E-03	**1.6E+00**	2.68E+01	2.9E-04	2.67E+01	3.0E-04	7.76E+00	1.0E-03	2.23E+00	3.6E-03
5~Off Site West	DAY-11D	09/13/06	VOC	Vinyl Chloride	75-01-4	2.30E-03	2.00E-03	**1.2E+00**	2.02E+00	1.1E-03	3.25E+00	7.1E-04	9.53E-01	2.4E-03	4.90E-02	4.7E-02
5~Off Site West	DAY-11S	09/13/06	VOC	Tetrachloroethene	127-18-4	9.90E-02	5.00E-03	**2.0E+01**	1.41E+01	7.0E-03	1.47E+01	6.7E-03	4.32E+00	2.3E-02	6.02E-01	1.6E-01
5~Off Site West	DAY-11S	09/13/06	VOC	Trichloroethene	79-01-6	8.00E-03	5.00E-03	**1.6E+00**	2.68E+01	3.0E-04	2.67E+01	3.0E-04	7.76E+00	1.0E-03	2.23E+00	3.6E-03
5~Off Site West	DAY-12	09/15/06	VOC	Tetrachloroethene	127-18-4	3.90E-02	5.00E-03	**7.8E+00**	1.41E+01	2.8E-03	1.47E+01	2.6E-03	4.32E+00	9.0E-03	6.02E-01	6.5E-02
5~Off Site West	DAY-12	09/15/06	VOC	Trichloroethene	79-01-6	1.60E-02	5.00E-03	**3.2E+00**	2.68E+01	6.0E-04	2.67E+01	6.0E-04	7.76E+00	2.1E-03	2.23E+00	7.2E-03
5~Off Site West	HD-11	09/14/06	VOC	Tetrachloroethene	127-18-4	4.10E-02	5.00E-03	**8.2E+00**	1.41E+01	2.9E-03	1.47E+01	2.8E-03	4.32E+00	9.5E-03	6.02E-01	6.8E-02
5~Off Site West	HD-11	09/14/06	VOC	Trichloroethene	79-01-6	1.40E-02	5.00E-03	**2.8E+00**	2.68E+01	5.2E-04	2.67E+01	5.2E-04	7.76E+00	1.8E-03	2.23E+00	6.3E-03
5~Off Site West	HD-19	11/08/04	VOC	Tetrachloroethene	127-18-4	8.60E-02	5.00E-03	**1.7E+01**	1.41E+01	6.1E-03	1.47E+01	5.8E-03	4.32E+00	2.0E-02	6.02E-01	1.4E-01
5~Off Site West	HD-19	11/08/04	VOC	Trichloroethene	79-01-6	3.70E-02	5.00E-03	**7.4E+00**	2.68E+01	1.4E-03	2.67E+01	1.4E-03	7.76E+00	4.8E-03	2.23E+00	1.7E-02
5~Off Site West	HD-3	03/24/03	INORG	Arsenic	7440-38-2	1.10E-02	1.00E-02	**1.1E+00**	1.44E+01	7.7E-04					3.85E-02	2.9E-01
5~Off Site West	HD-3	03/24/03	INORG	Arsenic	7440-38-2	1.40E-02	1.00E-02	**1.4E+00**	1.44E+01	9.7E-04					3.85E-02	3.6E-01
5~Off Site West	HD-3	04/28/05	VOC	Tetrachloroethene	127-18-4	1.50E-02	5.00E-03	**3.0E+00**	1.41E+01	1.1E-03	1.47E+01	1.0E-03	4.32E+00	3.5E-03	6.02E-01	2.5E-02
5~Off Site West	HD-3	04/28/05	VOC	Trichloroethene	79-01-6	1.10E-02	5.00E-03	**2.2E+00**	2.68E+01	4.1E-04	2.67E+01	4.1E-04	7.76E+00	1.4E-03	2.23E+00	4.9E-03
5~Off Site West	HD-4	04/28/05	VOC	Tetrachloroethene	127-18-4	4.50E-02	5.00E-03	**9.0E+00**	1.41E+01	3.2E-03	1.47E+01	3.1E-03	4.32E+00	1.0E-02	6.02E-01	7.5E-02
5~Off Site West	HD-4	04/28/05	VOC	Trichloroethene	79-01-6	3.20E-02	5.00E-03	**6.4E+00**	2.68E+01	1.2E-03	2.67E+01	1.2E-03	7.76E+00	4.1E-03	2.23E+00	1.4E-02
5~Off Site West	HD-8	04/28/05	VOC	Tetrachloroethene	127-18-4	2.10E-02	5.00E-03	**4.2E+00**	1.41E+01	1.5E-03	1.47E+01	1.4E-03	4.32E+00	4.9E-03	6.02E-01	3.5E-02
5~Off Site West	HD-8	04/28/05	VOC	Trichloroethene	79-01-6	2.60E-02	5.00E-03	**5.2E+00**	2.68E+01	9.7E-04	2.67E+01	9.7E-04	7.76E+00	3.3E-03	2.23E+00	1.2E-02
5~Off Site West	HD-9	04/28/05	VOC	Tetrachloroethene	127-18-4	1.25E-01	5.00E-03	**2.5E+01**	1.41E+01	8.9E-03	1.47E+01	8.5E-03	4.32E+00	2.9E-02	6.02E-01	2.1E-01
5~Off Site West	HD-9	04/28/05	VOC	Trichloroethene	79-01-6	7.15E-02	5.00E-03	**1.4E+01**	2.68E+01	2.7E-03	2.67E+01	2.7E-03	7.76E+00	9.2E-03	2.23E+00	3.2E-02
5~Off Site West	MW-11-03	11/30/04	VOC	Tetrachloroethene	127-18-4	7.70E-03	5.00E-03	**1.5E+00**	1.41E+01	5.5E-04	1.47E+01	5.2E-04	4.32E+00	1.8E-03	6.02E-01	1.3E-02
5~Off Site West	MW-11-03	11/30/04	VOC	Trichloroethene	79-01-6	4.00E-02	5.00E-03	**8.0E+00**	2.68E+01	1.5E-03	2.67E+01	1.5E-03	7.76E+00	5.2E-03	2.23E+00	1.8E-02
5~Off Site West	MW-16R-04	11/04/04	VOC	Tetrachloroethene	127-18-4	3.90E-02	5.00E-03	**7.8E+00**	1.41E+01	2.8E-03	1.47E+01	2.6E-03	4.32E+00	9.0E-03	6.02E-01	6.5E-02
5~Off Site West	MW-16R-04	11/04/04	VOC	Trichloroethene	79-01-6	3.10E-02	5.00E-03	**6.2E+00**	2.68E+01	1.2E-03	2.67E+01	1.2E-03	7.76E+00	4.0E-03	2.23E+00	1.4E-02
5~Off Site West	MW-21-04	09/15/06	VOC	Tetrachloroethene	127-18-4	6.80E-03	5.00E-03	**1.4E+00**	1.41E+01	4.8E-04	1.47E+01	4.6E-04	4.32E+00	1.6E-03	6.02E-01	1.1E-02
5~Off Site West	MW-21-04	09/15/06	VOC	Trichloroethene	79-01-6	7.50E-03	5.00E-03	**1.5E+00**	2.68E+01	2.8E-04	2.67E+01	2.8E-04	7.76E+00	9.7E-04	2.23E+00	3.4E-03
5~Off Site West	MW-46-05	07/14/05	VOC	Tetrachloroethene	127-18-4	3.30E-02	5.00E-03	**6.6E+00**	1.41E+01	2.3E-03	1.47E+01	2.2E-03	4.32E+00	7.6E-03	6.02E-01	5.5E-02
5~Off Site West	MW-46-05	07/14/05	VOC	Trichloroethene	79-01-6	6.70E-02	5.00E-03	**1.3E+01**	2.68E+01	2.5E-03	2.67E+01	2.5E-03	7.76E+00	8.6E-03	2.23E+00	3.0E-02
5~Off Site West	MW-47-05	07/15/05	VOC	Tetrachloroethene	127-18-4	3.30E-02	5.00E-03	**6.6E+00**	1.41E+01	2.3E-03	1.47E+01	2.2E-03	4.32E+00	7.6E-03	6.02E-01	5.5E-02
5~Off Site West	MW-47-05	07/15/05	VOC	Trichloroethene	79-01-6	9.90E-02	5.00E-03	**2.0E+01**	2.68E+01	3.7E-03	2.67E+01	3.7E-03	7.76E+00	1.3E-02	2.23E+00	4.4E-02

Table 3-3b: Groundwater Concentrations Exceeding Screening Criteria: Upper Aquifer Off-Site
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

Area	Location	Sample Date	Chem Group	Chemical	CASRN	Concentration (mg/L)	Drinking Water Criteria (mg/L)	Ratio of Concentration to DW Criteria	Maintenance Worker Groundwater Contact Criteria (mg/L)	Ratio of Concentration to Maintenance Worker GW Contact Criteria	Comm/Ind Groundwater Vol Indoor Air Criteria (mg/L)	Ratio of Concentration to Comm/Ind GW Vol Indoor Air Criteria	GW Residential Vol Indoor Air Criteria (mg/L)	Ratio of Concentration to GW Res Vol Indoor Air Criteria	Residential Nonpotable GW Criteria (mg/L)	Ratio of Concentration to Res Nonpotable GW Criteria
5~Off Site West	MW-48-05	07/18/05	VOC	Methylene Chloride	75-09-2	1.20E-02	5.00E-03	**2.4E+00**	8.94E+01	1.3E-04	1.18E+02	1.0E-04	3.18E+01	3.8E-04	1.28E+01	9.4E-04
5~Off Site West	MW-48-05	07/18/05	VOC	Tetrachloroethene	127-18-4	6.80E-02	5.00E-03	**1.4E+01**	1.41E+01	4.8E-03	1.47E+01	4.6E-03	4.32E+00	1.6E-02	6.02E-01	1.1E-01
5~Off Site West	MW-48-05	07/18/05	VOC	Trichloroethene	79-01-6	9.40E-01	5.00E-03	**1.9E+02**	2.68E+01	3.5E-02	2.67E+01	3.5E-02	7.76E+00	1.2E-01	2.23E+00	4.2E-01
5~Off Site West	MW-6A-03	04/27/05	VOC	cis-1,2-Dichloroethene	156-59-2	3.00E-01	7.00E-02	**4.3E+00**	2.29E+01	1.3E-02	6.09E+01	4.9E-03	2.05E+01	1.5E-02	2.44E+01	1.2E-02
5~Off Site West	MW-6A-03	04/27/05	VOC	Vinyl Chloride	75-01-4	3.60E-01	2.00E-03	**1.8E+02**	2.02E+00	1.8E-01	3.25E+00	1.1E-01	9.53E-01	3.8E-01	4.90E-02	**7.3E+00**
5~Off Site West	MW-6B-03	04/27/05	VOC	cis-1,2-Dichloroethene	156-59-2	4.40E-01	7.00E-02	**6.3E+00**	2.29E+01	1.9E-02	6.09E+01	7.2E-03	2.05E+01	2.1E-02	2.44E+01	1.8E-02
5~Off Site West	MW-6B-03	04/27/05	VOC	Tetrachloroethene	127-18-4	6.50E-02	5.00E-03	**1.3E+01**	1.41E+01	4.6E-03	1.47E+01	4.4E-03	4.32E+00	1.5E-02	6.02E-01	1.1E-01
5~Off Site West	MW-6B-03	04/27/05	VOC	Trichloroethene	79-01-6	3.00E-02	5.00E-03	**6.0E+00**	2.68E+01	1.1E-03	2.67E+01	1.1E-03	7.76E+00	3.9E-03	2.23E+00	1.3E-02
5~Off Site West	MW-6B-03	04/27/05	VOC	Vinyl Chloride	75-01-4	1.20E-01	2.00E-03	**6.0E+01**	2.02E+00	5.9E-02	3.25E+00	3.7E-02	9.53E-01	1.3E-01	4.90E-02	**2.4E+00**
5~Off Site West	MW-6B-03	04/25/03	INORG	Arsenic	7440-38-2	1.40E-02	1.00E-02	**1.4E+00**	1.44E+01	9.7E-04					3.85E-02	3.6E-01
5~Off Site West	MW-6B-03	04/25/03	INORG	Arsenic	7440-38-2	1.30E-02	1.00E-02	**1.3E+00**	1.44E+01	9.0E-04					3.85E-02	3.4E-01
5~Off Site West	MW-7A-03	04/27/05	VOC	Vinyl Chloride	75-01-4	4.10E-03	2.00E-03	**2.1E+00**	2.02E+00	2.0E-03	3.25E+00	1.3E-03	9.53E-01	4.3E-03	4.90E-02	8.4E-02
5~Off Site West	MW-7B-03	04/27/05	VOC	Vinyl Chloride	75-01-4	1.50E-02	2.00E-03	**7.5E+00**	2.02E+00	7.4E-03	3.25E+00	4.6E-03	9.53E-01	1.6E-02	4.90E-02	3.1E-01
5~Off Site West	MW-7B-03	06/29/04	INORG	Arsenic	7440-38-2	1.25E-02	1.00E-02	**1.3E+00**	1.44E+01	8.7E-04					3.85E-02	3.2E-01
5~Off Site West	MW-8-03	09/15/06	VOC	Tetrachloroethene	127-18-4	1.10E-02	5.00E-03	**2.2E+00**	1.41E+01	7.8E-04	1.47E+01	7.5E-04	4.32E+00	2.5E-03	6.02E-01	1.8E-02
5~Off Site West	MW-8-03	09/15/06	VOC	Trichloroethene	79-01-6	7.60E-03	5.00E-03	**1.5E+00**	2.68E+01	2.8E-04	2.67E+01	2.8E-04	7.76E+00	9.8E-04	2.23E+00	3.4E-03

Notes:

1. Only constituents detected in each respective area are shown.
2. The Screening Criteria for groundwater are the lower of the Screening Criteria at either a cancer risk level of 1x10 $^{-5}$ or a hazard quotient of 1.
3. Shaded cells represent ratios of concentration to the Screening Criteria greater than 1.
4. Equivalent Drinking Water Concentration Limits, Maintenance Worker GW Contact Criteria, and Comm/Ind GW Vol Indoor Air Criteria were calculated as discussed in Appendix E of the RFI Report.

Abbreviations:

Chem Group - Chemical Group
CASRN - Chemical Abstract Service Registry Number
Comm/Ind - Commercial/Industrial
Vol - Volatilization
Meas Basis - Measured Basis; T = Total, D = Dissolved

Table 3-4a: Groundwater Screening Results: Lower Aquifer
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

On/Off-site	Area	Chem Group	Chemical	CASRN	Carc Class	Analyzed	Detected	Min Detected Concentration (mg/L)	Max Detected Concentration (mg/L)	Drinking Water Criteria (mg/L)	Ratio of Max Detect to DW Criteria	Residenital NonPotable GW Criteria (mg/L)	Ratio of Max Detect to Res NonPotable GW Criteria
On-site	1~Webster to Taylor	VOC	Dichlorodifluoromethane	75-71-8		1	1	3.40E-01	3.40E-01	7.30E+00	4.7E-02	3.57E+02	9.5E-04
On-site	1~Webster to Taylor	VOC	cis-1,2-Dichloroethene	156-59-2	ID	1	1	3.60E-01	3.60E-01	7.00E-02	**5.1E+00**	2.44E+01	1.5E-02
On-site	1~Webster to Taylor	VOC	trans-1,2-Dichloroethene	156-60-5		1	1	1.70E-03	1.70E-03	1.00E-01	1.7E-02	3.94E+01	4.3E-05
On-site	1~Webster to Taylor	VOC	Trichloroethene	79-01-6	C-B2	1	1	4.80E-03	4.80E-03	5.00E-03	9.6E-01	2.23E+00	2.2E-03
On-site	1~Webster to Taylor	VOC	Vinyl Chloride	75-01-4	A	1	1	7.80E-03	7.80E-03	2.00E-03	**3.9E+00**	4.90E-02	1.6E-01
On-site	1~Webster to Taylor	INORG	Arsenic	7440-38-2	A	1	1	8.50E-03	8.50E-03	1.00E-02	8.5E-01	3.85E-02	2.2E-01
On-site	1~Webster to Taylor	INORG	Barium	7440-39-3	NC	1	1	8.45E-02	8.45E-02	2.00E+00	4.2E-02	4.83E+01	1.7E-03
On-site	1~Webster to Taylor	INORG	Manganese	7439-96-5	D	1	1	4.60E-02	4.60E-02	5.11E+00	9.0E-03	8.55E+01	5.4E-04
On-site	1~Webster to Taylor	INORG	Zinc	7440-66-6	ID	1	1	1.25E-02	1.25E-02	1.10E+01	1.1E-03	8.05E+02	1.6E-05
On-site	2~Taylor to Railway	VOC	Toluene	108-88-3	ID	1	1	1.70E-04	1.70E-04	1.00E+00	1.7E-04	5.90E+01	2.9E-06
On-site	2~Taylor to Railway	VOC	Vinyl Chloride	75-01-4	A	1	1	3.00E-03	3.00E-03	2.00E-03	**1.5E+00**	4.90E-02	6.1E-02
On-site	7~North of River	VOC	Toluene	108-88-3	ID	1	1	6.00E-04	6.00E-04	1.00E+00	6.0E-04	5.90E+01	1.0E-05
Off-site	4~Off Site South	VOC	Toluene	108-88-3	ID	2	1	2.30E-04	2.30E-04	1.00E+00	2.3E-04	5.90E+01	3.9E-06
Off-site	4~Off Site South	INORG	Barium	7440-39-3	NC	1	1	7.54E-02	7.54E-02	2.00E+00	3.8E-02	4.83E+01	1.6E-03
Off-site	4~Off Site South	INORG	Selenium	7782-49-2	D	1	1	6.98E-03	6.98E-03	5.00E-02	1.4E-01	1.24E+01	5.6E-04
Off-site	5~Off Site West	VOC	2-Butanone	78-93-3	ID	3	1	1.30E-02	1.30E-02	2.19E+01	5.9E-04	3.13E+03	4.2E-06
Off-site	5~Off Site West	VOC	Dichlorodifluoromethane	75-71-8		3	3	1.30E-02	1.70E-01	7.30E+00	2.3E-02	3.57E+02	4.8E-04
Off-site	5~Off Site West	VOC	1,1-Dichloroethene	75-35-4	C	3	3	4.30E-04	7.00E-03	7.00E-03	1.0E+00	8.82E+01	7.9E-05
Off-site	5~Off Site West	VOC	cis-1,2-Dichloroethene	156-59-2	ID	3	3	9.50E-03	1.70E-01	7.00E-02	**2.4E+00**	2.44E+01	7.0E-03
Off-site	5~Off Site West	VOC	trans-1,2-Dichloroethene	156-60-5		3	1	4.20E-03	4.20E-03	1.00E-01	4.2E-02	3.94E+01	1.1E-04
Off-site	5~Off Site West	VOC	Trichloroethene	79-01-6	C-B2	3	2	1.30E-03	3.30E-01	5.00E-03	**6.6E+01**	2.23E+00	1.5E-01
Off-site	5~Off Site West	VOC	Vinyl Chloride	75-01-4	A	3	2	4.60E-03	1.30E-02	2.00E-03	**6.5E+00**	4.90E-02	2.7E-01
Off-site	5~Off Site West	INORG	Arsenic	7440-38-2	A	3	2	3.30E-03	6.40E-03	1.00E-02	6.4E-01	3.85E-02	1.7E-01
Off-site	5~Off Site West	INORG	Barium	7440-39-3	NC	3	3	1.00E-01	1.70E-01	2.00E+00	8.5E-02	4.83E+01	3.5E-03
Off-site	5~Off Site West	INORG	Cadmium	7440-43-9	B1	3	1	3.30E-04	3.30E-04	5.00E-03	6.6E-02	2.88E-01	1.1E-03
Off-site	5~Off Site West	INORG	Copper	7440-50-8	D	3	1	2.60E-03	2.60E-03	1.30E+00	2.0E-03	9.89E+01	2.6E-05
Off-site	5~Off Site West	INORG	Manganese	7439-96-5	D	3	3	5.60E-02	1.10E-01	5.11E+00	2.2E-02	8.55E+01	1.3E-03
Off-site	5~Off Site West	INORG	Zinc	7440-66-6	ID	3	2	1.50E-02	1.80E-02	1.10E+01	1.6E-03	8.05E+02	2.2E-05

Notes:

1. Only constituents detected in each respective area are shown.
2. The Screening Criteria for groundwater are the lower of the Screening Criteria at either a cancer risk level of $1x10^{-5}$ or a hazard quotient of 1.
3. Shaded cells represent ratios of concentration to the Screening Criteria greater than 1.
4. Equivalent Drinking Water Concentration Limits were calculated as discussed in Appendix E of the RFI Report.

Abbreviations:

Chem Group - Chemical Group
CASRN - Chemical Abstract Service Registry Number
Carc Class - EPA Weight-of-Evidence Cancer Classification

Table 3-4b: Groundwater Concentrations Exceeding Screening Criteria: Lower Aquifer
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

On/Off Site	Area	Location	Sample Date	Chem Group	Chemical	CASRN	Concentration (mg/L)	Drinking Water Criteria (mg/L)	Ratio of Concentration to DW Criteria	Residential NonPotable GW Criteria (mg/L)	Ratio of Concentration to Res NonPotable GW Criteria
On-site	1~Webster to Taylor	MW-33-04	12/08/04	VOC	cis-1,2-Dichloroethene	156-59-2	3.60E-01	7.00E-02	**5.1E+00**	2.44E+01	1.5E-02
On-site	1~Webster to Taylor	MW-33-04	12/08/04	VOC	Vinyl Chloride	75-01-4	7.80E-03	2.00E-03	**3.9E+00**	4.90E-02	1.6E-01
On-site	2~Taylor to Railway	MW-39-05	06/02/05	VOC	Vinyl Chloride	75-01-4	3.00E-03	2.00E-03	**1.5E+00**	4.90E-02	6.1E-02
Off-site	5~Off Site West	GEOTHERMAL_WELL	07/12/06	VOC	cis-1,2-Dichloroethene	156-59-2	9.00E-02	7.00E-02	**1.3E+00**	2.44E+01	3.7E-03
Off-site	5~Off Site West	GEOTHERMAL_WELL	07/12/06	VOC	Trichloroethene	79-01-6	3.30E-01	5.00E-03	**6.6E+01**	2.23E+00	1.5E-01
Off-site	5~Off Site West	MW-17-04	03/22/04	VOC	Vinyl Chloride	75-01-4	4.60E-03	2.00E-03	**2.3E+00**	4.90E-02	9.4E-02
Off-site	5~Off Site West	MW-18-04	03/23/04	VOC	cis-1,2-Dichloroethene	156-59-2	1.70E-01	7.00E-02	**2.4E+00**	2.44E+01	7.0E-03
Off-site	5~Off Site West	MW-18-04	03/23/04	VOC	Vinyl Chloride	75-01-4	1.30E-02	2.00E-03	**6.5E+00**	4.90E-02	2.7E-01

Notes:

1. Only constituents detected in each respective area are shown.
2. The Screening Criteria for groundwater are the lower of the Screening Criteria at either a cancer risk level of $1x10^{-5}$ or a hazard quotient of 1.
3. Shaded cells represent ratios of concentration to the Screening Criteria greater than 1.
4. Equivalent Drinking Water Concentration Limits were calculated as discussed in Appendix E of the RFI Report.

Abbreviations:

Chem Group - Chemical Group

CASRN - Chemical Abstract Service Registry Number

Table 4-1: Estimates of Incremental Chemical Concentration in Mad River from Groundwater and Storm Sewer Discharges for Hypothetical Discharge Scenario
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

Chem Group	Chemical	CASRN	C_{river} (mg/L)	Ambient Water Quality Criteria (AWQC) (mg/L)	Source for Criteria	Ratio C_{river} to C_{AWQC}	Region 5 Water Ecological Screening Levels (ESL) (mg/L)	Ratio C_{river} to C_{ESL}
VOC	Acetone	67-64-1	3.5E-02				1.7E+00	2.1E-02
VOC	Benzene	71-43-2	3.6E-07	7.1E-01	OH-ND	5.1E-07	1.1E-01	3.2E-06
VOC	Bromodichloromethane	75-27-4	1.0E-06	4.6E-01	OH-ND	2.2E-06		
VOC	Bromoform	75-25-2	2.8E-07	3.6E+00	OH-ND	7.7E-08	2.3E-01	1.2E-06
VOC	2-Butanone	78-93-3	3.0E-04				2.2E+00	1.3E-04
VOC	Carbon Disulfide	75-15-0	8.8E-12				1.5E-02	5.9E-10
VOC	Chloroethane	75-00-3	3.9E-06					
VOC	Chloroform	67-66-3	5.2E-06	4.7E+00	OH-ND	1.1E-06	1.4E-01	3.7E-05
VOC	Chloromethane	74-87-3	2.3E-06					
VOC	Cumene	98-82-8	2.3E-06					
VOC	Cyclohexane	110-82-7	3.7E-07					
VOC	Dibromochloromethane	124-48-1	9.4E-07	4.1E-03	OH-D	2.3E-04		
VOC	1,2-Dichlorobenzene	95-50-1	2.5E-08	1.7E+01	OH-ND	1.4E-09		
VOC	1,4-Dichlorobenzene	106-46-7	1.6E-11	2.6E+00	OH-ND	6.2E-12	9.4E-03	1.7E-09
VOC	Dichlorodifluoromethane	75-71-8	8.2E-04					
VOC	1,1-Dichloroethane	75-34-3	1.0E-05				4.7E-02	2.2E-04
VOC	1,1-Dichloroethene	75-35-4	2.0E-05	3.2E-02	OH-ND	6.2E-04		
VOC	cis-1,2-Dichloroethene	156-59-2	2.9E-03	7.0E-02	OH-D	4.2E-02	9.1E-01	3.2E-03
VOC	trans-1,2-Dichloroethene	156-60-5	2.0E-05	1.0E-01	OH-D	2.0E-04	9.7E-01	2.1E-05
VOC	Ethyl Benzene	100-41-4	1.5E-06	2.9E+01	OH-ND	5.1E-08	1.4E-02	1.1E-04
VOC	2-Hexanone	591-78-6	3.3E-07				9.9E-02	3.3E-06
VOC	Methyl Acetate	79-20-9	1.4E-04					
VOC	4-Methyl-2-pentanone	108-10-1	1.6E-05				1.7E-01	9.3E-05
VOC	Methylcyclohexane	108-87-2	3.2E-07					
VOC	Methylene Chloride	75-09-2	7.7E-05	1.6E+01	OH-ND	4.8E-06	9.4E-01	8.2E-05
VOC	Tetrachloroethene	127-18-4	1.3E-04	8.9E-02	OH-ND	1.5E-03	4.5E-02	2.9E-03
VOC	Toluene	108-88-3	3.3E-06	2.0E+02	OH-ND	1.6E-08	2.5E-01	1.3E-05
VOC	1,2,4-Trichlorobenzene	120-82-1	5.0E-07	9.4E-01	OH-ND	5.3E-07	3.0E-02	1.7E-05
VOC	1,1,1-Trichloroethane	71-55-6	3.1E-07	2.0E-01	OH-D	1.5E-06	7.6E-02	4.0E-06
VOC	Trichloroethene	79-01-6	9.1E-04	8.1E-01	OH-ND	1.1E-03	4.7E-02	1.9E-02

Table 4-1: Estimates of Incremental Chemical Concentration in Mad River from Groundwater and Storm Sewer Discharges for Hypothetical Discharge Scenario
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

Chem Group	Chemical	CASRN	C_{river} (mg/L)	Ambient Water Quality Criteria (AWQC) (mg/L)	Source for Criteria	Ratio C_{river} to C_{AWQC}	Region 5 Water Ecological Screening Levels (ESL) (mg/L)	Ratio C_{river} to C_{ESL}
VOC	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	8.9E-08					
VOC	Vinyl Chloride	75-01-4	1.5E-04	5.3E+00	OH-ND	2.8E-05	9.3E-01	1.6E-04
VOC	Xylenes (total)	1330-20-7	6.6E-06	1.0E+01	OH-D	6.6E-07	2.7E-02	2.4E-04
SVOC	Acenaphthene	83-32-9	1.5E-08	2.7E+00	OH-ND	5.7E-09	3.8E-02	4.1E-07
SVOC	Anthracene	120-12-7	5.0E-08	1.1E+02	OH-ND	4.5E-10	3.5E-05	1.4E-03
SVOC	Benzo(a)anthracene	56-55-3	1.4E-07	4.9E-04	OH-ND	2.8E-04	2.5E-05	5.5E-03
SVOC	Benzo(a)pyrene	50-32-8	1.5E-07	4.9E-04	OH-ND	3.0E-04	1.4E-05	1.0E-02
SVOC	Benzo(b)fluoranthene	205-99-2	2.3E-07	4.9E-04	OH-ND	4.8E-04	9.1E-03	2.6E-05
SVOC	Benzo(g,h,i)perylene	191-24-2	1.1E-07				7.6E-03	1.4E-05
SVOC	Benzo(k)fluoranthene	207-08-9	1.0E-07	4.9E-04	OH-ND	2.1E-04		
SVOC	bis(2-Ethylhexyl)phthalate	117-81-7	2.3E-06	5.9E-02	OH-ND	4.0E-05	3.0E-04	7.8E-03
SVOC	Butylbenzylphthalate	85-68-7	1.1E-08	5.2E+00	OH-ND	2.2E-09	2.3E-02	4.9E-07
SVOC	Caprolactam	105-60-2	1.0E-04					
SVOC	Carbazole	86-74-8	3.3E-08					
SVOC	Chrysene	218-01-9	1.7E-07	4.9E-04	OH-ND	3.6E-04		
SVOC	Dibenz(a,h)anthracene	53-70-3	2.8E-08	4.9E-04	OH-ND	5.6E-05		
SVOC	Dibenzofuran	132-64-9	1.8E-08				4.0E-03	4.5E-06
SVOC	Diethylphthalate	84-66-2	6.9E-07	1.2E+02	OH-ND	5.7E-09		
SVOC	Di-n-butylphthalate	84-74-2	2.9E-07	1.2E+01	OH-ND	2.4E-08	9.7E-03	3.0E-05
SVOC	Di-n-octylphthalate	117-84-0	9.1E-08				3.0E-02	3.0E-06
SVOC	Fluoranthene	206-44-0	4.1E-07	3.7E-01	OH-ND	1.1E-06	1.9E-03	2.2E-04
SVOC	Fluorene	86-73-7	2.2E-08	1.4E+01	OH-ND	1.5E-09	1.9E-02	1.1E-06
SVOC	Indeno(1,2,3-cd)pyrene	193-39-5	9.4E-08	4.9E-04	OH-ND	1.9E-04	4.3E-03	2.2E-05
SVOC	2-Methylnaphthalene	91-57-6	7.5E-09				3.30E-01	2.3E-08
SVOC	Methylphenol (total)	1319-77-3	1.4E-06					
SVOC	Naphthalene	91-20-3	2.2E-08				1.3E-02	1.7E-06
SVOC	Phenanthrene	85-01-8	2.3E-07				3.6E-03	6.3E-05
SVOC	Pyrene	129-00-0	3.0E-07	1.1E+01	OH-ND	2.8E-08	3.0E-04	1.0E-03
P/PCB	PCBs (total)	1336-36-3	7.5E-07	1.7E-06	OH-ND	4.4E-01	1.2E-07	**6.3E+00**

Table 4-1: Estimates of Incremental Chemical Concentration in Mad River from Groundwater and Storm Sewer Discharges for Hypothetical Discharge Scenario
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

Chem Group	Chemical	CASRN	C_{river} (mg/L)	Ambient Water Quality Criteria (AWQC) (mg/L)	Source for Criteria	Ratio C_{river} to C_{AWQC}	Region 5 Water Ecological Screening Levels (ESL) (mg/L)	Ratio C_{river} to C_{ESL}
INORG	Antimony	7440-36-0	9.5E-06	4.3E+00	OH-ND	2.2E-06	8.0E-02	1.2E-04
INORG	Arsenic	7440-38-2	8.4E-06	1.0E-01	OH-AG	8.4E-05	1.5E-01	5.7E-05
INORG	Barium	7440-39-3	6.7E-04	2.0E+00	OH-D	3.3E-04	2.2E-01	3.0E-03
INORG	Beryllium	7440-41-7	5.3E-09	1.0E-01	OH-AG	5.3E-08	3.6E-03	1.5E-06
INORG	Cadmium	7440-43-9	6.8E-05	5.0E-02	OH-AG	1.4E-03	1.5E-04	4.5E-01
INORG	Chromium (total)	7440-47-3	1.9E-05	1.0E-01	OH-D	1.9E-04	4.2E-02	4.5E-04
INORG	Cobalt	7440-48-4	4.4E-06				2.4E-02	1.8E-04
INORG	Copper	7440-50-8	1.9E-03	5.0E-01	OH-AG	3.8E-03	1.6E-03	**1.2E+00**
INORG	Cyanide (total)	57-12-5	1.2E-05	2.2E+02	OH-ND	5.6E-08	5.2E-03	2.4E-03
INORG	Lead	7439-92-1	1.4E-04	1.0E-01	OH-AG	1.4E-03	1.2E-03	1.2E-01
INORG	Manganese	7439-96-5	4.2E-04	5.0E-02	AWQS	8.3E-03		
INORG	Mercury	7439-97-6	3.7E-07	1.2E-05	OH-ND	3.1E-02	1.3E-06	2.8E-01
INORG	Nickel	7440-02-0	2.2E-05	2.0E-01	OH-AG	1.1E-04	2.9E-02	7.5E-04
INORG	Selenium	7782-49-2	1.9E-06	5.0E-02	OH-D	3.9E-05	5.0E-03	3.9E-04
INORG	Silver	7440-22-4	2.2E-06				1.2E-04	1.8E-02
INORG	Thallium	7440-28-0	2.6E-06	6.3E-03	OH-ND	4.1E-04	1.0E-02	2.6E-04
INORG	Vanadium	7440-62-2	3.4E-06				1.2E-02	2.9E-04
INORG	Zinc	7440-66-6	1.2E-03	2.5E+01	OH-AG	4.7E-05	6.6E-02	1.8E-02

Notes:

1. Ambient Water Quality Criteria are based upon the following hierarchy: Ohio non-drinking water or agricultural use criteria, whichever is lower; Ohio drinking water criteria; and Federal AWQC.
2. Ecological Screening Criteria from Table 6-1 of the RFI Report.
3. Shaded cells represent ratios of concentration to the criteria greater than 1.

Abbreviations:

OH-AG - OH EPA agricultural water source criteria
OH-ND - Ohio EPA nondrinking water criteria
OH-D - Ohio EPA drinking water criteria
AWQC - USEPA Ambient Water Quality Criteria

Table 5-1: Upper-bound Cumulative Cancer Risk and HI Estimates and Lead Concentrations for On-site Soil Boring Sub-areas
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

		Direct Contact to Surface Soil[1]		Direct Contact to Soil at Any Depth[2]		Vapor Intrusion[2]		Lead Concentration[2]
Area	Station ID	Risk	HI	Risk	HI	Risk	HI	(mg/kg)
1~Webster to Taylor	BH-178-04	7E-06	4E-02	4E-05	**5E+00**	2E-05	5E-01	**4.53E+03**
1~Webster to Taylor	BH-179-04	7E-06	7E-02	7E-06	7E-02	5E-06	1E-01	2.75E+01
1~Webster to Taylor	BH-184-04	1E-05	4E-02	2E-05	6E-01	2E-05	1E-01	8.95E+00
1~Webster to Taylor	MW-15-03	4E-07	5E-03	4E-07	5E-03	4E-07	3E-03	1.68E+01
1~Webster to Taylor	MW-22-04	6E-05	3E-01	6E-05	3E-01	**2E-04**	9E-01	4.67E+02
1~Webster to Taylor	MW-5-03[3]	2E-05	8E-02	5E-05	**5E+00**	5E-05	1E+00	**4.53E+03**
1~Webster to Taylor	OS-2-03	4E-05	1E-01	5E-05	2E-01	2E-05	1E-01	1.89E+02
1~Webster to Taylor	OS-3-03	1E-05	1E-01	1E-05	1E-01	1E-05	9E-02	1.76E+02
1~Webster to Taylor	OS-4-03	3E-05	2E-01	5E-05	3E-01	7E-05	3E-01	8.55E+01
1~Webster to Taylor	OS-5-03	2E-05	1E-01	2E-05	1E-01	4E-05	2E-01	5.76E+01
1~Webster to Taylor	OS-6-03	1E-06	2E-02	2E-06	4E-02	8E-06	7E-02	8.60E+00
1~Webster to Taylor	OS-7-03	7E-07	2E-02	1E-06	2E-02	5E-06	5E-02	8.95E+00
1~Webster to Taylor	SB-100-03	4E-05	2E-01	5E-05	7E-01	1E-04	4E-01	1.14E+02
1~Webster to Taylor	SB-10-02	5E-06	9E-02	3E-05	2E-01	8E-05	4E-01	4.67E+02
1~Webster to Taylor	SB-101-03	7E-05	4E-01	8E-05	5E-01	**2E-04**	1E+00	1.14E+02
1~Webster to Taylor	SB-1-02	5E-07	1E-02	5E-07	1E-02	5E-07	4E-03	3.60E+01
1~Webster to Taylor	SB-102-03	8E-06	6E-02	6E-05	**3E+00**	9E-06	5E-02	6.55E+02
1~Webster to Taylor	SB-105-04	1E-06	2E-02	1E-06	2E-02	4E-08	1E-02	1.04E+02
1~Webster to Taylor	SB-106-04	2E-06	2E-02	2E-06	2E-02	4E-08	1E-02	1.04E+02
1~Webster to Taylor	SB-107-04	3E-06	2E-02	3E-06	2E-02	4E-08	1E-02	1.04E+02
1~Webster to Taylor	SB-108-04	1E-05	7E-02	2E-05	1E-01	5E-05	3E-01	1.14E+02
1~Webster to Taylor	SB-109-04	1E-05	9E-02	**4E-04**	**2E+01**	4E-05	1E-01	6.55E+02
1~Webster to Taylor	SB-110-04	4E-05	8E-02	8E-05	**2E+00**	7E-05	**2E+00**	1.30E+02
1~Webster to Taylor	SB-11-02	3E-06	2E-02	5E-05	**2E+00**	1E-05	4E-02	8.67E+01
1~Webster to Taylor	SB-111-04	1E-06	1E-02	8E-06	2E-02	3E-07	1E-02	9.99E+01
1~Webster to Taylor	SB-112-04	2E-07	4E-03	5E-06	2E-02	5E-07	1E-02	1.38E+02
1~Webster to Taylor	SB-113-04	4E-07	2E-03	4E-07	2E-03	3E-07	3E-03	1.68E+01
1~Webster to Taylor	SB-114-04	3E-06	5E-02	1E-05	9E-02	3E-05	2E-01	8.23E+01
1~Webster to Taylor	SB-115-04	7E-05	**2E+00**	7E-05	**2E+00**	1E-04	1E+00	5.31E+02
1~Webster to Taylor	SB-116-04	4E-05	1E-01	4E-05	5E-01	8E-06	2E-01	8.71E+01
1~Webster to Taylor	SB-117-04	1E-04	4E-01	1E-04	4E-01	**4E-04**	1E+00	1.17E+02
1~Webster to Taylor	SB-12-02	4E-06	5E-02	4E-06	5E-02	1E-05	1E-01	1.05E+01
1~Webster to Taylor	SB-122-04	2E-06	3E-02	8E-06	6E-02	1E-05	8E-02	1.38E+02
1~Webster to Taylor	SB-123-04	2E-05	7E-01	2E-05	8E-01	2E-05	1E-01	8.84E+01
1~Webster to Taylor	SB-124-04	1E-07	2E-03	4E-06	5E-02	1E-05	1E-01	8.60E+00
1~Webster to Taylor	SB-125-04	1E-05	9E-02	1E-05	9E-02	2E-05	1E-01	6.55E+02
1~Webster to Taylor	SB-126-04	3E-07	4E-03	6E-05	**3E+00**	1E-05	9E-02	4.61E+01
1~Webster to Taylor	SB-127-04	1E-06	2E-02	7E-06	4E-01	4E-07	1E-02	8.67E+01
1~Webster to Taylor	SB-128-04	4E-05	2E-01	5E-05	2E-01	1E-04	5E-01	4.67E+02
1~Webster to Taylor	SB-129-04	5E-06	3E-02	5E-06	3E-02	3E-07	2E-02	2.75E+01
1~Webster to Taylor	SB-16-02	4E-07	5E-03	4E-07	6E-03	7E-07	5E-03	4.80E+00
1~Webster to Taylor	SB-2-02	4E-07	5E-03	9E-07	3E-02	6E-07	6E-03	1.06E+01
1~Webster to Taylor	SB-26-02	4E-07	4E-03	2E-06	4E-03	6E-07	5E-03	8.90E+00
1~Webster to Taylor	SB-27-02	8E-06	1E-01	9E-05	1E-01	5E-05	3E-01	1.02E+02
1~Webster to Taylor	SB-3-02	3E-05	1E+00	**9E-04**	**6E+00**	**3E-03**	**2E+01**	1.39E+01
1~Webster to Taylor	SB-4-02	1E-06	4E-02	6E-06	9E-02	1E-05	2E-01	4.43E+01
1~Webster to Taylor	SB-45-02	4E-05	4E-02	4E-05	4E-02	6E-07	2E-02	1.04E+02
1~Webster to Taylor	SB-46-02	3E-05	9E-02	3E-05	1E-01	5E-05	2E-01	1.14E+02
1~Webster to Taylor	SB-47-02	5E-05	3E-01	5E-05	3E-01	**2E-04**	8E-01	6.55E+02
1~Webster to Taylor	SB-48-02	5E-06	5E-02	1E-05	5E-02	1E-05	1E-01	9.99E+01
1~Webster to Taylor	SB-5-02	8E-06	4E-02	1E-05	1E+00	5E-05	**4E+00**	1.53E+01
1~Webster to Taylor	SB-57-02	1E-05	5E-02	9E-05	**4E+00**	5E-05	8E-01	1.47E+02
1~Webster to Taylor	SB-58-02	6E-05	3E-01	6E-05	3E-01	**2E-04**	7E-01	8.84E+01
1~Webster to Taylor	SB-59-03	3E-07	4E-03	3E-07	4E-03	3E-07	2E-03	1.68E+01
1~Webster to Taylor	SB-60-03	3E-07	5E-03	6E-07	6E-03	1E-06	6E-03	1.68E+01
1~Webster to Taylor	SB-6-02	3E-06	6E-02	5E-06	8E-02	1E-05	2E-01	8.23E+01
1~Webster to Taylor	SB-61-03	2E-06	9E-02	2E-06	1E-01	3E-07	8E-03	1.53E+01
1~Webster to Taylor	SB-62-03	2E-06	2E-02	2E-06	3E-02	6E-06	5E-02	8.90E+00
1~Webster to Taylor	SB-63-03	8E-07	2E-02	4E-06	4E-02	2E-05	5E-02	1.39E+01
1~Webster to Taylor	SB-64-03	2E-07	3E-03	2E-07	3E-03	4E-07	3E-03	1.39E+01

Table 5-1: Upper-bound Cumulative Cancer Risk and HI Estimates and Lead Concentrations for On-site Soil Boring Sub-areas
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

		Direct Contact to Surface Soil[1]		Direct Contact to Soil at Any Depth[2]		Vapor Intrusion[2]		Lead Concentration[2]
Area	Station ID	Risk	HI	Risk	HI	Risk	HI	(mg/kg)
1~Webster to Taylor	SB-65-03	4E-06	6E-02	8E-06	1E-01	1E-05	2E-01	8.84E+01
1~Webster to Taylor	SB-66-03	1E-05	6E-02	1E-05	9E-02	3E-05	1E-01	8.84E+01
1~Webster to Taylor	SB-67-03	6E-05	2E-01	6E-05	3E-01	**2E-04**	6E-01	4.67E+02
1~Webster to Taylor	SB-68-03	2E-06	3E-02	2E-06	3E-02	6E-06	6E-02	8.67E+01
1~Webster to Taylor	SB-69-03	1E-06	2E-02	1E-06	4E-02	2E-07	1E-02	8.67E+01
1~Webster to Taylor	SB-70-03	4E-06	5E-02	6E-06	8E-02	9E-06	6E-02	4.67E+02
1~Webster to Taylor	SB-7-02	4E-07	1E-02	4E-07	1E-02	6E-07	1E-02	7.30E+00
1~Webster to Taylor	SB-71-03	3E-06	3E-02	**2E-04**	**9E+00**	2E-05	6E-02	8.67E+01
1~Webster to Taylor	SB-76-03	3E-06	7E-02	6E-05	3E-01	**2E-04**	6E-01	1.47E+02
1~Webster to Taylor	SB-8-02	2E-06	4E-02	6E-06	2E-01	9E-06	4E-01	2.26E+02
1~Webster to Taylor	SB-9-02	2E-06	4E-02	8E-06	1E-01	2E-05	2E-01	2.37E+02
1~Webster to Taylor	SB-97-03	5E-06	4E-02	1E-05	5E-02	1E-05	8E-02	1.02E+02
1~Webster to Taylor	SB-98-03	3E-06	2E-02	3E-06	5E-02	3E-07	5E-02	1.02E+02
1~Webster to Taylor	SB-99-03	2E-05	5E-02	2E-05	5E-02	5E-08	2E-02	1.04E+02
2~Taylor to Railway	BH-169-04	5E-06	8E-03	5E-06	8E-03	4E-08	8E-03	2.04E+01
2~Taylor to Railway	BH-170-04	4E-07	2E-03	4E-07	3E-03	1E-07	5E-03	3.20E+00
2~Taylor to Railway	BH-171-04	1E-05	6E-01	1E-05	6E-01	4E-05	**2E+00**	1.19E+01
2~Taylor to Railway	BH-175-04	2E-05	1E-01	2E-05	4E-01	6E-05	3E-01	8.41E+01
2~Taylor to Railway	BH-176-04	5E-07	3E-03	5E-07	4E-03	7E-07	7E-03	4.88E+01
2~Taylor to Railway	BH-177-04	5E-06	4E-02	6E-06	5E-02	8E-07	2E-02	1.60E+02
2~Taylor to Railway	BH-180-04	8E-06	8E-02	8E-06	8E-02	3E-05	2E-01	1.53E+02
2~Taylor to Railway	BH-181-04	3E-05	2E-01	3E-05	3E-01	9E-05	5E-01	1.16E+02
2~Taylor to Railway	BH-182-04	5E-05	4E-01	5E-05	4E-01	**2E-04**	8E-01	2.42E+02
2~Taylor to Railway	BH-183-04	1E-05	1E-01	1E-05	1E-01	4E-05	2E-01	4.51E+02
2~Taylor to Railway	MW-10-03	2E-07	4E-03	4E-07	5E-02	2E-07	2E-02	2.33E+01
2~Taylor to Railway	MW-12-03	3E-05	7E-02	4E-05	3E-01	6E-05	2E-01	3.92E+02
2~Taylor to Railway	MW-13-03	5E-05	3E-01	6E-05	4E-01	**2E-04**	9E-01	1.30E+02
2~Taylor to Railway	MW-14B-04	4E-05	2E-01	4E-05	2E-01	1E-04	5E-01	3.20E+01
2~Taylor to Railway	MW-23-04	3E-05	9E-01	5E-05	9E-01	1E-04	**2E+00**	**3.27E+03**
2~Taylor to Railway	MW-24-04	4E-05	3E-01	4E-05	3E-01	1E-04	8E-01	1.22E+02
2~Taylor to Railway	MW-25-04	1E-05	1E-01	1E-05	2E-01	3E-05	1E-01	5.28E+02
2~Taylor to Railway	MW-26-04	1E-04	4E-01	1E-04	4E-01	**3E-04**	1E+00	1.53E+02
2~Taylor to Railway	MW-27-04	3E-06	7E-02	1E-05	4E-01	1E-05	8E-02	1.54E+02
2~Taylor to Railway	MW-28-04	9E-05	5E-01	1E-04	8E-01	**3E-04**	**2E+00**	8.41E+01
2~Taylor to Railway	MW-29-04	2E-06	1E-01	2E-06	1E-01	6E-06	9E-02	5.65E+01
2~Taylor to Railway	MW-3-02	6E-05	4E-01	**2E-04**	**5E+00**	**2E-04**	6E-01	2.28E+02
2~Taylor to Railway	MW-9-03	1E-07	2E-03	2E-07	7E-03	2E-07	2E-03	6.60E+00
2~Taylor to Railway	SB-103-03	6E-06	3E-02	1E-05	3E-01	2E-05	8E-02	1.05E+02
2~Taylor to Railway	SB-104-03	8E-07	2E-03	9E-07	5E-03	2E-07	3E-03	5.26E+01
2~Taylor to Railway	SB-130-04	1E-05	9E-02	1E-05	2E-01	2E-05	1E-01	4.51E+02
2~Taylor to Railway	SB-13-02	4E-07	3E-03	2E-06	1E-01	6E-07	1E-02	4.13E+01
2~Taylor to Railway	SB-131-04	3E-05	2E-01	4E-05	2E-01	1E-04	5E-01	1.21E+02
2~Taylor to Railway	SB-132-04	7E-06	1E-01	7E-06	1E-01	2E-05	3E-01	1.33E+01
2~Taylor to Railway	SB-133-04	7E-06	6E-02	7E-06	6E-02	2E-05	1E-01	2.88E+02
2~Taylor to Railway	SB-134-04	3E-07	2E-03	6E-07	4E-02	3E-07	1E-02	4.13E+01
2~Taylor to Railway	SB-135-04	3E-06	3E-02	3E-06	7E-02	1E-05	8E-02	4.13E+01
2~Taylor to Railway	SB-136-04	1E-05	1E-01	1E-05	2E-01	3E-05	3E-01	1.16E+02
2~Taylor to Railway	SB-137-04	1E-05	8E-02	1E-05	8E-02	3E-05	1E-01	2.86E+02
2~Taylor to Railway	SB-138-04	4E-05	2E-01	4E-05	2E-01	1E-04	5E-01	2.86E+02
2~Taylor to Railway	SB-139-04	1E-05	1E-01	2E-05	2E-01	4E-05	2E-01	5.28E+02
2~Taylor to Railway	SB-140-04	5E-06	1E-01	5E-06	1E-01	1E-05	1E-01	3.27E+02
2~Taylor to Railway	SB-14-02	7E-06	3E-02	5E-05	**3E+00**	1E-04	5E-01	1.91E+02
2~Taylor to Railway	SB-141-04	3E-06	1E-01	5E-06	1E-01	2E-05	1E-01	3.27E+02
2~Taylor to Railway	SB-142-04	1E-05	5E-02	2E-05	2E-01	4E-05	2E-01	3.90E+01
2~Taylor to Railway	SB-143-04	9E-06	4E-02	1E-05	2E-01	3E-05	8E-02	3.90E+01
2~Taylor to Railway	SB-144-04	9E-05	3E-01	1E-04	1E+00	**3E-04**	1E+00	1.72E+02
2~Taylor to Railway	SB-145-04	5E-05	4E-01	5E-05	4E-01	**2E-04**	1E+00	1.30E+02
2~Taylor to Railway	SB-146-04	5E-05	1E+00	5E-05	1E+00	8E-05	9E-01	2.40E+02
2~Taylor to Railway	SB-147-04	9E-05	4E-01	1E-04	1E+00	**3E-04**	9E-01	1.72E+02
2~Taylor to Railway	SB-148-04	2E-05	1E-01	2E-05	1E-01	5E-05	2E-01	5.28E+02

Table 5-1: Upper-bound Cumulative Cancer Risk and HI Estimates and Lead Concentrations for On-site Soil Boring Sub-areas
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

		Direct Contact to Surface Soil[1]		Direct Contact to Soil at Any Depth[2]		Vapor Intrusion[2]		Lead Concentration[2]
Area	Station ID	Risk	HI	Risk	HI	Risk	HI	(mg/kg)
2~Taylor to Railway	SB-149-04	1E-05	3E-01	1E-05	3E-01	1E-05	2E-01	1.10E+01
2~Taylor to Railway	SB-150-04	4E-05	5E-01	4E-05	5E-01	1E-04	1E+00	1.07E+02
2~Taylor to Railway	SB-15-02	2E-06	3E-02	7E-06	2E-01	2E-05	5E-01	1.56E+01
2~Taylor to Railway	SB-151-04	1E-06	4E-02	1E-06	4E-02	9E-07	5E-03	4.80E+00
2~Taylor to Railway	SB-152-04	3E-06	3E-02	3E-06	3E-02	4E-07	8E-03	4.59E+02
2~Taylor to Railway	SB-153-04	4E-05	2E-01	4E-05	2E-01	1E-04	4E-01	5.78E+01
2~Taylor to Railway	SB-154-04	5E-05	2E-01	**2E-04**	5E-01	**5E-04**	1E+00	8.46E+01
2~Taylor to Railway	SB-155-04	2E-06	2E-01	8E-06	3E-01	1E-05	2E-01	2.62E+02
2~Taylor to Railway	SB-156-04	6E-05	5E-01	8E-05	5E-01	**2E-04**	9E-01	1.20E+02
2~Taylor to Railway	SB-157-04	3E-06	4E-02	4E-06	2E-01	3E-07	2E-01	2.83E+02
2~Taylor to Railway	SB-158-04	5E-06	2E-02	5E-06	3E-02	9E-06	6E-02	1.02E+02
2~Taylor to Railway	SB-159-04	7E-06	3E-03	7E-06	2E-02	2E-07	1E-02	1.47E+02
2~Taylor to Railway	SB-160-04	5E-06	8E-03	5E-06	8E-03	3E-07	9E-03	2.04E+01
2~Taylor to Railway	SB-161-04	2E-07	4E-03	4E-07	5E-02	2E-07	2E-02	2.33E+01
2~Taylor to Railway	SB-162-04	3E-06	3E-02	4E-06	6E-02	1E-05	8E-02	1.06E+01
2~Taylor to Railway	SB-163-04	4E-05	2E-01	4E-05	2E-01	1E-04	5E-01	2.09E+02
2~Taylor to Railway	SB-164-04	1E-05	1E-01	1E-05	1E-01	5E-05	2E-01	9.82E+01
2~Taylor to Railway	SB-165-04	3E-07	3E-02	4E-07	3E-02	3E-07	2E-02	9.30E+00
2~Taylor to Railway	SB-166-04	7E-07	3E-02	5E-06	2E-01	5E-07	3E-03	2.19E+01
2~Taylor to Railway	SB-167-04	6E-06	5E-02	8E-06	2E-01	2E-05	1E-01	1.05E+02
2~Taylor to Railway	SB-168-04	3E-06	3E-02	5E-06	2E-01	9E-06	7E-02	5.26E+01
2~Taylor to Railway	SB-17-02	3E-06	3E-02	3E-06	4E-02	1E-05	1E-01	1.02E+01
2~Taylor to Railway	SB-18-02	2E-05	1E-01	2E-05	1E-01	8E-05	3E-01	1.37E+02
2~Taylor to Railway	SB-19-02	7E-06	1E-01	7E-06	1E-01	2E-05	3E-01	2.76E+02
2~Taylor to Railway	SB-20-02	5E-05	3E-01	5E-05	5E-01	**2E-04**	9E-01	1.03E+02
2~Taylor to Railway	SB-21-02	5E-05	2E-01	5E-05	4E-01	**2E-04**	6E-01	**5.18E+04**
2~Taylor to Railway	SB-22-02	4E-06	4E-02	7E-06	5E-02	2E-05	1E-01	8.30E+00
2~Taylor to Railway	SB-23-02	2E-06	3E-02	2E-06	3E-02	9E-06	1E-01	4.70E+00
2~Taylor to Railway	SB-24-02	4E-07	3E-03	6E-07	4E-03	1E-06	8E-03	8.10E+00
2~Taylor to Railway	SB-25-02	4E-06	4E-02	4E-06	4E-02	8E-06	1E-01	4.65E+01
2~Taylor to Railway	SB-28-02	4E-07	3E-03	5E-07	2E-02	6E-07	2E-02	1.64E+01
2~Taylor to Railway	SB-33-02	1E-05	5E-01	1E-05	5E-01	2E-05	9E-02	2.92E+01
2~Taylor to Railway	SB-34-02	4E-05	1E-01	4E-05	1E-01	5E-05	2E-01	2.88E+02
2~Taylor to Railway	SB-35-02	4E-07	3E-03	5E-07	5E-03	9E-07	6E-03	5.80E+00
2~Taylor to Railway	SB-36-02	5E-06	1E-01	7E-06	1E-01	2E-05	3E-01	5.22E+01
2~Taylor to Railway	SB-37-02	2E-06	8E-02	2E-06	8E-02	1E-06	7E-03	2.16E+02
2~Taylor to Railway	SB-38-02	5E-06	1E-01	5E-06	1E-01	1E-05	1E-01	1.57E+01
2~Taylor to Railway	SB-39-02	5E-06	2E-02	9E-06	7E-02	3E-05	8E-02	1.39E+02
2~Taylor to Railway	SB-40-02	2E-05	7E-01	2E-05	7E-01	6E-05	**2E+00**	1.19E+01
2~Taylor to Railway	SB-41-02	4E-05	2E-01	7E-05	**2E+00**	1E-04	5E-01	8.06E+01
2~Taylor to Railway	SB-42-02	2E-06	1E-02	2E-06	3E-02	6E-07	2E-02	8.85E+01
2~Taylor to Railway	SB-43-02	5E-05	**2E+00**	9E-05	**2E+00**	7E-05	3E-01	7.12E+01
2~Taylor to Railway	SB-44-02	3E-05	2E-02	3E-05	4E-02	7E-07	3E-02	1.47E+02
2~Taylor to Railway	SB-53-02	3E-05	1E-01	3E-05	1E-01	8E-05	4E-01	2.13E+02
2~Taylor to Railway	SB-54-02	2E-05	8E-02	2E-05	1E-01	5E-05	1E-01	2.86E+02
2~Taylor to Railway	SB-55-02	3E-05	4E-01	3E-05	4E-01	5E-05	3E-01	1.33E+02
2~Taylor to Railway	SB-56-02	8E-05	9E-01	1E-04	**4E+00**	**2E-04**	7E-01	9.47E+01
2~Taylor to Railway	SB-72-03	1E-05	6E-02	1E-05	3E-01	4E-05	2E-01	1.34E+02
2~Taylor to Railway	SB-73-03	1E-05	1E-01	9E-05	9E-01	**3E-04**	**2E+00**	5.28E+02
2~Taylor to Railway	SB-74-03	5E-06	6E-02	1E-04	4E-01	**2E-04**	1E+00	2.88E+02
2~Taylor to Railway	SB-75-03	7E-06	8E-02	7E-06	8E-02	1E-05	9E-02	6.31E+01
2~Taylor to Railway	SB-84-03	4E-05	2E-01	4E-05	2E-01	1E-04	5E-01	6.86E+02
2~Taylor to Railway	SB-85-03	2E-05	8E-01	5E-05	1E+00	**2E-04**	**3E+00**	2.83E+02
2~Taylor to Railway	SB-86-03	3E-06	3E-02	7E-06	3E-01	9E-06	1E-01	7.12E+01
2~Taylor to Railway	SB-87-03	3E-06	4E-02	6E-06	5E-02	2E-05	1E-01	8.30E+00
2~Taylor to Railway	SB-88-03	9E-06	7E-02	2E-05	1E-01	4E-05	2E-01	8.06E+01
2~Taylor to Railway	SB-89-03	7E-06	4E-03	7E-06	2E-02	6E-08	1E-02	1.47E+02
2~Taylor to Railway	SB-90-03	1E-06	4E-03	1E-06	2E-02	5E-08	1E-02	1.47E+02
2~Taylor to Railway	SB-91-03	8E-06	3E-03	8E-06	2E-02	6E-08	1E-02	1.47E+02
2~Taylor to Railway	SB-92-03	2E-06	2E-02	9E-06	1E-01	2E-05	2E-01	2.07E+01

Table 5-1: Upper-bound Cumulative Cancer Risk and HI Estimates and Lead Concentrations for On-site Soil Boring Sub-areas
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

		Direct Contact to Surface Soil[1]		Direct Contact to Soil at Any Depth[2]		Vapor Intrusion[2]		Lead Concentration[2]
Area	**Station ID**	**Risk**	**HI**	**Risk**	**HI**	**Risk**	**HI**	**(mg/kg)**
2~Taylor to Railway	SB-93-03	3E-06	1E-01	4E-06	1E-01	1E-05	2E-01	1.33E+01
2~Taylor to Railway	SB-94-03	2E-07	2E-03	9E-07	3E-02	2E-06	9E-02	4.70E+00
2~Taylor to Railway	SB-95-03	4E-07	4E-03	4E-07	4E-03	8E-08	7E-03	8.10E+00
2~Taylor to Railway	SB-96-03	3E-06	4E-02	3E-06	4E-02	1E-06	9E-02	4.65E+01
3~Railway to Keowee	BH-172-04	2E-05	6E-03	2E-05	6E-03	5E-07	1E-02	2.01E+01
3~Railway to Keowee	BH-173-04	2E-05	3E-02	2E-05	3E-02	6E-06	8E-02	1.50E+01
3~Railway to Keowee	BH-174-04	1E-06	2E-03	1E-06	1E-02	4E-07	4E-03	6.20E+00
3~Railway to Keowee	SB-118-04	1E-04	**7E+00**	1E-04	**7E+00**	2E-05	5E-01	1.85E+02
3~Railway to Keowee	SB-119-04	2E-05	1E+00	3E-05	1E+00	3E-05	4E-01	3.55E+02
3~Railway to Keowee	SB-120-04	2E-06	1E-01	2E-05	9E-01	8E-06	2E-01	9.14E+01
3~Railway to Keowee	SB-121-04	2E-05	1E-01	2E-05	1E-01	2E-07	2E-02	1.07E+02
3~Railway to Keowee	SB-29-02	1E-06	5E-03	1E-06	5E-03	1E-07	3E-03	**1.17E+03**
3~Railway to Keowee	SB-30-02	1E-06	1E-02	1E-06	1E-02	1E-07	3E-03	**1.36E+04**
3~Railway to Keowee	SB-31-02	1E-06	2E-03	1E-06	2E-03	1E-07	3E-03	2.14E+01
3~Railway to Keowee	SB-32-02	1E-05	2E-01	1E-05	2E-01	4E-06	1E-01	1.22E+02
3~Railway to Keowee	SB-49-02	1E-05	2E-01	1E-05	2E-01	4E-06	1E-01	1.22E+02
3~Railway to Keowee	SB-50-02	4E-07	4E-03	3E-06	5E-03	6E-07	5E-03	1.44E+02
3~Railway to Keowee	SB-51-02	2E-05	2E-01	2E-05	2E-01	1E-05	1E-01	**2.09E+03**
3~Railway to Keowee	SB-52-02	4E-05	1E-01	4E-05	1E-01	7E-07	5E-02	4.68E+01
3~Railway to Keowee	SB-77-03	2E-05	6E-03	2E-05	6E-03	1E-07	1E-02	5.70E+00
3~Railway to Keowee	SB-78-03	1E-07	3E-02	1E-07	3E-02	8E-08	2E-02	4.68E+01
3~Railway to Keowee	SB-79-03	2E-07	3E-02	2E-07	3E-02	8E-08	2E-02	7.39E+01
3~Railway to Keowee	SB-80-03	4E-06	2E-01	5E-06	2E-01	4E-06	1E-01	3.78E+01
3~Railway to Keowee	SB-81-03	1E-05	2E-01	1E-05	2E-01	4E-06	1E-01	1.22E+02
3~Railway to Keowee	SB-82-03	1E-06	4E-03	1E-06	4E-03	1E-07	3E-03	**8.60E+04**
3~Railway to Keowee	SB-83-03	1E-06	2E-03	1E-06	2E-03	1E-07	3E-03	1.53E+01
2~Taylor to Railway	MW-4-02	4E-06	3E-02	8E-05	**4E+00**	2E-05	5E-02	5.65E+01
2~Taylor to Railway	OW-1	6E-07	8E-03	4E-06	2E-01	3E-07	3E-03	2.22E+01
2~Taylor to Railway	OW-2	9E-07	9E-03	1E-06	1E-02	2E-07	2E-03	2.91E+01
2~Taylor to Railway	OW-3	3E-06	3E-02	3E-05	1E+00	4E-06	5E-02	1.06E+02
2~Taylor to Railway	OW-4	1E-06	1E-02	1E-06	1E-02	2E-07	4E-03	4.15E+01
3~Railway to Keowee	OW-5	6E-06	6E-02	6E-06	6E-02	2E-07	2E-02	2.34E+02
3~Railway to Keowee	OW-6	8E-07	7E-03	8E-07	7E-03	2E-07	3E-03	2.69E+02
3~Railway to Keowee	OW-7	1E-06	2E-02	1E-06	2E-02	2E-07	3E-03	3.76E+01

Notes:

1. Risk and HI estimates are based on highest concentrations in the surface soil at each boring location.
2. Risk and HI estimates and lead concentrations are based on highest concentrations among all depths at each boring location.
3. The post-RFI samples in sub-area MW-5-03 are from 3 ft bgs. But if the highest concentrations among these samples represent concentrations that are still present in surface soil in the vicinity, the upper-bound estimates of cumulative cancer risk and HI from direct contact to surface soil would be 5×10^{-5} and 5, respectively.
4. Risk and HI estimates are calculated using site-related concentrations, which are those in excess of site-specific background concentrations for inorganics.
5. Shaded cells represent a cumulative cancer risk or HI for a boring location that is higher than the cancer risk level of 10^{-4} or HI of 1.
6. Shaded lead concentration cells represent a concentration greater than 750 mg/kg.

Abbreviations:

Chem Group - Chemical Group
CASRN - Chemical Abstract Service Registry Number
HI - Hazard Index; Risk - Cumulative Cancer Risk

BOW ENVIRONMENTAL SOLUTIONS INC.

September 17, 2008

Mr. Allen Debus
Land and Chemicals Division
Corrective Action Section 1
U.S. EPA Region 5
77 W. Jackson Blvd., LU-9J
Chicago, IL 60604-3590

Re: RCRA Facility Investigation Addendum 3 Report
Performance-Based RCRA Corrective Action
Former Delphi Harrison Thermal Systems
USEPA ID No. OHD 017 958 604

Dear Mr. Debus:

Please find the attached four (4) copies of the RCRA Facility Investigation (RFI) Addendum 3 Report for the Former Delphi Harrison Thermal Systems Site located at 300 Taylor Street, Dayton, Ohio. The RFI Addendum 3 Report was completed by Environ Corporation, Haley& Aldrich, Inc. and Conestoga-Rovers & Associates on behalf of the General Motors Corporation (GM) and in accordance with the Performance-Based Corrective Action Agreement for the site. Please call (937) 455-2636 if you have any questions concerning this information.

Sincerely,

Pamela L. Barnett

Pamela L. Barnett, P.G.
Project Manager
BOW Environmental Solutions, Inc. on behalf of GM

attachment.
c.c.: Jean Caufield, GM Remediation
Pamela Hull, OEPA
Carl Bridges, Peerless
Chris Lipson, City of Dayton

RESOURCE CONSERVATION AND RECOVERY ACT (RCRA) FACILITY INVESTIGATION REPORT ADDENDUM 3

GENERAL MOTORS CORPORATION
FORMER DELPHI HARRISON THERMAL SYSTEMS
DAYTON, OHIO
OHD017958604

Prepared For:

General Motors Corporation
Remediation and Liability Management Company, Inc.

Prepared By:

Conestoga-Rovers & Associates
Haley & Aldrich, Inc.
ENVIRON International Corporation

DISCLAIMER:
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SEPTEMBER 17, 2008
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LIST OF ACRONYMS AND SHORT FORMS

Agreement	Performance-Based Corrective Action Agreement dated May 22, 2001
AOI	Area of Interest
bgs	Below Ground Surface
cis-1,2-DCE	cis-1,2-Dichloroethene
CRA	Conestoga-Rovers & Associates
CVOC	Chlorinated Volatile Organic Compounds
Delphi	Delphi Harrison Thermal Systems
EI	Environmental Indicator
ENVIRON	ENVIRON International Corporation
GM	General Motors Corporation
GIS	geographic information system
GPR	ground penetrating radar
H&A	Haley & Aldrich
mg/kg	milligrams per kilogram
mg/L	milligrams per liter
mg/m^3	milligrams per cubic meter
PCBs	Polychlorinated Biphenyls
PCE	Tetrachloroethene
Peerless	Peerless Realty Group Ltd.
PID	Photo-Ionization Detector
ppbv	parts per billion volume
ppm	parts per million
PRG	Preliminary Remediation Goal
RCRA	Resource Conservation and Recovery Act
RFI	RCRA Facility Investigation
SGSL	Soil Gas Screening Level
SVOCs	Semi-Volatile Organic Compounds
TAL	Target Analyte List
TCE	Trichloroethene
TCL	Target Compound List
U.S. EPA	United States Environmental Protection Agency
VOCs	Volatile Organic Compounds
VC	Vinyl Chloride

1.0 INTRODUCTION

1.1 PURPOSE AND SCOPE

This Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) Report Addendum 3 was prepared as a supplement to the "RFI Report" (CRA, 2006a) for the main manufacturing area of the former Delphi Harrison Thermal Systems (Delphi) Facility (hereafter referred to as the Site), which was formerly owned and operated by General Motors Corporation (GM).

Subsequent to submittal of the RFI Report, additional soil, groundwater, borehole water, soil gas, and geophysical characterization were conducted. This RFI Report Addendum 3 was prepared to describe and document the data collected to date and the evaluation of these data.

1.2 BACKGROUND

GM is currently implementing performance-based RCRA Corrective Action at the Site pursuant to a May 22, 2001 performance-based RCRA Corrective Action Agreement (Agreement) between the United States Environmental Protection Agency (U.S. EPA) and GM.

The Site is located at 300 Taylor Street in Dayton, Ohio, and is bounded by Webster Street to the west, Pitt Street to the south, Keowee Street to the east, and the Mad River levee to the north. The Site also includes a portion of the block bounded by Webster Street (west), Monument Avenue (south), Taylor Street (east), and Pitt Street (north), as presented on Figure 1.1. A Site plan is presented on Figure 1.2. The Site is currently owned by Peerless Realty Group Ltd. (Peerless), also known as the Peerless Transportation Company, and a portion is controlled by the City via a real property options agreement. The Delphi Facility has U.S. EPA Permit OHD017958604.

As part of the Agreement, GM conducted a RFI to determine whether the Areas of Interest (AOIs) identified in the "Current Conditions Report" (CRA, 2001) and subsequently identified based on the 1943 Insurance Map have released hazardous waste or hazardous constituents that pose a significant risk to human health or the environment. The RFI was conducted in accordance with the "RFI Work Plan" (CRA, 2002) and subsequent amendments for additional stages of investigation (CRA, 2003a; CRA, 2003b; CRA, 2003c; CRA, 2004; CRA, 2005a; and CRA, 2005b). The "RFI Report" (CRA, 2006a) was submitted to U.S. EPA on March 30, 2006. As part of the

RFI, GM developed information and conducted Interim Measures to support the RCRA corrective action Environmental Indicator (EI) determinations that current human exposures are under control (CA725) and migration of contaminated groundwater is under control (CA750). GM's EI report (ENVIRON, 2006) was also submitted to U.S. EPA on March 30, 2006. The "RFI Addendum 1" (CRA, 2006b) was submitted to the U.S. EPA on December 14, 2006 and detailed the work conducted on the additional subsurface structures identified by the City during Stage 2 demolition activities. The "RFI Addendum 2" (ENVIRON, 2007) was submitted to the U.S. EPA on January 12, 2007 and detailed additional groundwater and soil characterization data and their evaluation with respect to corrective measures. The revised draft CA725 and CA750 were submitted to U.S. EPA on August 29, 2008.

Work described in this RFI Report Addendum 3 was conducted in accordance with the "Proposed GPR Test Survey" (CRA, 2005c), "CMP Investigation Work Plan" (CRA and H&A, 2006a), "Lower Aquifer Investigation Work Plan" (CRA and H&A, 2006b), "Amendments to Stage 3 of September 1, 2006 'Lower Aquifer Investigation Work Plan'" (CRA and H&A, 2007a), "Work Plan for Groundwater Investigation Adjacent to Mad River" (CRA and H&A, 2007b), and "Work Plan for Soil Gas Sampling Pilot Test" (CRA, 2008).

Monitoring well, soil boring, and AOI locations are presented on Plans 1A and 1B. Monitoring well, soil boring, and soil gas probe installation logs are presented in Appendix A. Analytical results are presented in Appendix B. Laboratory reports and data validation summaries are presented in Appendix C.

2.0 GROUNDWATER INVESTIGATION

2.1 BACKGROUND

Investigations were conducted in accordance with the "CMP Investigation Work Plan" (CRA and H&A, 2006a) and the "Lower Aquifer Investigation Work Plan" (CRA and H&A, 2006b) to investigate lower aquifer groundwater, and particularly to assess and characterize the degree, if any, to which the Site is the source of trichloroethene (TCE) at the Geothermal Well. This investigation proceeded in three stages. The objective of the Stage 1 investigation was to better characterize conditions in the Career Academy area, which included soil sampling that is discussed in Section 4.0. The Stage 2 investigation included isotope analysis that will be discussed in a later report. The objective of the Stage 3 investigation was to better characterize groundwater quality conditions in the lower aquifer in the vicinity of the Career Academy area.

The scope of work for Stage 3 of the Lower Aquifer Investigation was expanded in the "Amendments to Stage 3 of September 1, 2006 'Lower Aquifer Investigation Work Plan'" (CRA and H&A, 2007a) to further evaluate the origin of concentrations of chlorinated volatile organic compounds (CVOCs), primarily TCE, in the Geothermal Well and investigate potential migration pathways through the till-rich zone. The primary CVOCs identified during the RFI and supplemental investigations are tetrachloroethene (PCE), TCE, cis-1,2-dichloroethene (cis-1,2-DCE), and vinyl chloride (VC). PCE and/or TCE have typically been found during various stages of the RFI, and cis-1,2-DCE and VC are associated degradation products.

The scope was then expanded further by the "Work Plan for Groundwater Investigation Adjacent to Mad River" (CRA and H&A, 2007b) to investigate the groundwater flow direction in the till-rich zone north and south of the Mad River.

The groundwater sample chemical analytical results are presented in this RFI Report Addendum 3. However, the isotope analytical results and the hydrogeological evaluation to identify the source(s) of contamination will be presented in a later report.

2.2 SCOPE AND RESULTS

Groundwater sampling was conducted at 57 locations at and downgradient of the Site between September 21, 2006 and November 29, 2007. Borehole water sampling was conducted at new monitoring well locations in order to determine the optimal location for well installation. Borehole water samples were analyzed for TCL VOCs.

As part of the CMP Investigation, monitoring well MW-51-06 and soil borings SB-188-06 through SB-192-06 were installed. During the Stage 1 Lower Aquifer Investigation, monitoring wells MW-52-06 through MW-56-06 and soil borings SB-193-06 through SB-195-06 were installed.

As part of the Stage 1 Lower Aquifer Investigation, groundwater from the wells installed near the Geothermal Well was sampled in October and November 2006 and analyzed for TCL VOCs. A natural gamma log survey was conducted in three wells. The former Geothermal Well was also video-scoped to evaluate well construction, and water trickling into the former Geothermal Well from a break in the casing near the ground surface ("Geothermal Well Trickle") was sampled in October 2006 and analyzed for TCL VOCs. During the installation of MW-52-06 in November 2006, visual evidence of potential contamination was observed in the soil. As described in Section 3.2, soil samples were collected from MW-52-06 and analyzed for TCL VOCs, TCL SVOCs, TAL metals, and PCBs. Based on the soil sample results, groundwater from MW-52-06 was analyzed for TCL SVOCs as well as TCL VOCs.

As part of the Stage 2 investigation, monitoring wells MW-57-07 through MW-63-07 were installed and groundwater from selected wells was sampled in October 2006, November 2006, June 2007, and August 2007 and analyzed for TCL VOCs, carbon and chlorine isotopes in the primary CVOCs (i.e., PCE, TCE, cis-1,2-DCE, and VC), and MNA parameters. Isotope results will be discussed in a later report.

As part of the Stage 3 investigation, groundwater from the lower aquifer and till-rich zone wells installed near the Geothermal Well and AOI 1 was sampled in June and August 2007 and analyzed for TCL VOCs. Monitoring well B-SA21 was damaged by the City of Dayton during their redevelopment activities and was properly abandoned and replaced by GM. Groundwater from replacement well BSA-21R was also sampled and analyzed for TCL VOCs and PCBs due to the historical PCB detections in B-SA21.

As part of the groundwater investigation adjacent to the Mad River, groundwater was resampled from MW-63-07 in October 2007 and analyzed for TCL VOCs. Additionally, the till-rich zone well installed north of the Mad River (MW-64-07) was sampled in November 2007 and analyzed for TCL VOCs.

Additionally, data from other post-RFI investigations, events unassociated with formal work plans (i.e., water elevation monitoring events, off Site groundwater sampling activities in conjunction with other property owner requests, such as at MW-50-06), are incorporated in this RFI Addendum 3.

Continuous data logging of groundwater elevations at select monitoring wells was conducted in the vicinity of the Site in 2005 as described in the RFI (CRA, 2006a). These data were used to better understand the influence of pumping in the lower aquifer in the vicinity of the Site. A subsequent continuous data logging of groundwater elevations was conducted in 2007 to evaluate response to pumping in wells installed during post RFI investigations. Groundwater elevations at 39 wells were monitored continuously using data loggers for one week in August 2007.

The data from these investigations were used to characterize hydrologic interactions between the hydrostratigraphic units and groundwater flow directions. Figure 2.1, herein, and RFI Figure 3.26 illustrate groundwater elevations measured by the data loggers in wells screened in the upper aquifer, till-rich zone, and lower aquifer for the full duration of the August 2007 and the September 2005 monitoring events, respectively. The response to pumping was used to classify wells into upper aquifer, till-rich zone, and lower aquifer. As a result of the wider network of [till-rich zone wells], aquifer designations for three wells (HD-12, MW-47-05, and DAY-23) were re-designated based on the data collected from the latest monitoring event. The new designations are reflected in the data tables in this report, which also support the EI determinations.

2.2.1 STRATIGRAPHIC DATA

The Site is predominantly underlain by the Mad River Buried Valley Aquifer and sits within the Mad River Watershed. The ODNR State Aquifer Mapping Program identified multiple till, or semi-confining, units within proximity of the Site separating the aquifers into "upper" and "lower" systems. In addition to water well records within a 1-mile radius of the Site submitted to ODNR, on- and off-Site RFI borings confirm the presence of these laterally continuous till units, and indicate they are comprised of interbedded clays, silty sands, and sands.

Supplemental RFI investigations support the stratigraphic interpretations presented in the RFI report (CRA, 2006a); in that investigations confirm the presence of the laterally continuous till-rich zone beneath the Site. During the installation of the off-Site monitoring well MW-57-07, an area of less competent clay was identified at the base of the till-rich zone. These data will be discussed in a later report.

2.2.2 HYDRAULIC DATA

In addition to the data presented in the RFI Report (CRA, 2006a), the following investigations were conducted and used to support refinement of the site hydrogeologic conceptual model.

- A more extensive till-rich zone and lower aquifer monitoring well network was generated to support potential corrective measures decisions.
- Groundwater elevation measurements were conducted concurrent with groundwater quality events associated with EI monitoring. Data from recent rounds of groundwater elevation measurements, (upper aquifer – June 25, 2008, February 26, 2006; till-rich zone – June 25, 2008, March 26, 2008; lower aquifer – March 26, 2008, September 25, 2005) were used to determine groundwater flow direction because these events include the most complete monitoring network.
- In addition to previous events, continuous data logging of groundwater elevations at select monitoring wells was conducted to better quantify the influence of two pumping systems in the lower aquifer in the vicinity of the Site. Groundwater elevations at 39 wells were monitored using data loggers in August 2007, and were used to characterize hydrologic interactions between the water-bearing units and to characterize flow directions.

Results of these investigations are described in Section 2.3.5.

2.3 DISCUSSION OF RESULTS

The most recent site wide groundwater results for all locations for the primary CVOCs (PCE, TCE, cis-1,2-DCE, and VC) are presented on Figures 2.8A and 2.8B. Groundwater results compared to screening criteria for the upper aquifer are presented on Figures 2.9 through 2.14. Groundwater results compared to screening criteria for the till-rich zone and lower aquifer are presented on Figures 2.15 and 2.16. The list of constituents presented in the databox figures is the same as that presented in the RFI Report (CRA, 2006a)

Complete groundwater results are presented in Appendix B-1. Complete borehole water results are presented in Appendix B-2.

2.3.1 GROUNDWATER SAMPLES – UPPER AQUIFER

The CVOC(s) PCE and/or TCE exceeded screening criteria at almost all sampling locations on and off Site, in the upper aquifer. In addition, the degradation products cis-1,2-DCE and/or VC exceeded screening criteria in some wells.

CVOC concentrations east of Webster Street (Figure 2.9) are generally consistent with results presented in the RFI Report.

Concentrations of other constituents east of Webster Street (Figure 2.10) are generally consistent with results presented in the RFI Report. No additional SVOCs or metals exceeded screening criteria in any samples since those reported in the RFI Report. Methylene chloride exceeded screening criteria at MW-23-04; this chemical was not previously detected at MW-23-04 but the detected concentration is below previous detection limits. PCBs exceeded screening criteria at replacement well BSA-21R, with concentrations similar to B-SA21. This location was discussed in further detail in the RFI Report.

CVOC concentrations at monitoring wells MW-55-06 and MW-52-06 in the AOI 1 Webster Street PCE Release area (Figure 2.11) are generally consistent with results presented in the RFI Report. Ozone sparging has been implemented as an interim measure in the upper aquifer. As discussed in the RFI Report, concentrations of chlorinated VOCs have generally decreased as a result of ozone sparging; however, concentrations remain above screening criteria.

Concentrations of other constituents around the AOI 1 Webster Street PCE Release area (Figure 2.12) are generally consistent with results presented in the RFI Report. No additional SVOCs, metals, or PCBs exceeded screening criteria in any samples since those reported in the RFI Report.

CVOC concentrations west of Webster Street (Figure 2.13) are generally consistent with or slightly lower than results presented in the RFI Report. MW-50-06 was originally installed in the upper aquifer north of the Mad River to evaluate groundwater flow conditions and was later sampled by the City of Dayton and split with GM. PCE and TCE exceeded screening criteria in this well, but this is not associated with the Site based on the groundwater flow direction, as discussed in the RFI Report (CRA, 2006a).

As discussed in the RFI Report, concentrations of PCE and TCE in downgradient wells have decreased as a result of the HRC® barrier, sometimes to non-detect. Concentrations of cis-1,2-DCE and VC showed an initial increase in concentrations due

to degradation of the PCE and TCE, but concentrations of these constituents have since decreased.

Concentrations of other constituents off Site and west of the property (Figure 2.14) are generally consistent with results presented in the RFI. No additional SVOCs, metals, or PCBs exceeded screening criteria in any samples since those reported in the RFI Report.

2.3.2 GROUNDWATER SAMPLES – TILL-RICH ZONE

CVOC concentrations on Site and off Site (Figure 2.15) exceed screening criteria. PCE exceeds screening criteria in 8 of 16 wells completed in the till-rich zone at and west of the Site, with no pattern evident. Of these, PCE in two wells (MW-20-04 and MW-45-05) did not consistently exceed criteria. In contrast, TCE exceeds screening criteria in 15 of 16 wells completed in the till-rich zone at and west of the Site, with the highest concentrations identified in the vicinity of off-Site well DAY-7. In addition, the degradation products cis-1,2-DCE and VC exceeded screening criteria in some wells, and were generally at concentrations less than the TCE concentration.

The only other constituent (Figure 2.16) that exceeded screening criteria was 1,1-dichloroethene, which was slightly above the screening criterion in MW-60-07 (located west of the Site).

MW-64-07 is a till-rich zone well that was installed to evaluate CVOC concentrations north of the Mad River. No constituents were detected above screening criteria in this well.

2.3.3 GROUNDWATER SAMPLES – LOWER AQUIFER

CVOC concentrations on Site and off Site (Figure 2.15) exceed screening criteria. PCE was not detected in any lower aquifer wells. In contrast, TCE exceeds screening criteria in 7 of 14 wells completed in the lower aquifer at and west of the Site, with the highest concentrations identified in the vicinity of the off-Site current and former Geothermal Wells and in MW-57-07, which is located beneath the area of less competent till-rich zone located northwest of DAY-7. In addition, the degradation products cis-1,2-DCE and VC exceeded screening criteria in some wells.

The only other constituent (Figure 2.16) that exceeded screening criteria was 1,1-dichloroethene, which was slightly above the screening criterion in MW-18-04 and MW-57-07 (located west of the Site).

No concentrations exceeded screening criteria in groundwater from MW-38-05, installed north of the Mad River.

2.4 HYDROGEOLOGIC DISCUSSION

Groundwater flow in the two main highly permeable aquifers at the Site, the upper and the lower aquifers, is dominated by horizontal flow, while flow in the till-rich zone is predominantly vertically downward (at a low velocity due to the low hydraulic conductivity materials that comprise this unit), likely the result of pumping of the lower aquifer. Upward gradients have been identified within the upper aquifer along the Mad River.

This vertical flow system is schematically illustrated on Figure 2.17, while potentiometric surface maps depict quantitative groundwater elevation data for the upper aquifer, till rich zone, and the lower aquifer on Figures 2.2 through 2.7.

2.4.1 UPPER AQUIFER

As discussed previously, potentiometric surface mapping of the upper aquifer demonstrates flow toward and discharge to the Mad River. This is based upon both the lateral and upward vertical hydraulic gradients adjacent to the river (see RFI Figures 3.17 through 3.20; CRA, 2006). This flow is driven by higher potentiometric heads measured in deeper upper aquifer wells screened at the base of this unit relative to lower heads observed in shallower wells and the Mad River.

As depicted on potentiometric surface maps (Figures 2.2 and 2.3), local gradients in the upper aquifer across the Site vary within a narrow range, with a geometric mean of 0.0013 ft/ft, ranging from 0.0009 to 0.0019 ft/ft. During the RFI Investigations and post-RFI events, direction of flow was consistent from the east to the west-northwest.

2.4.2 TILL RICH ZONE

The primary direction of groundwater flow in the till-rich zone is vertically downward (as illustrated on Figures 2.4 and 2.5) and results from two factors: nearby pumping and lower permeability strata. First, continual pumping in the lower aquifer from multiple high-yield production wells, the closest of which, the Geothermal Well, is located approximately 650 feet west of the western boundary of the Site, creates a very strong vertical gradient between the upper and lower aquifers. Secondly, lower permeability strata generally tend to refract equipotential lines, because of the permeability contrast, to create a vertically dominated flow system.

The combination of reduced head in the lower aquifer, resulting from continuous high-yield pumping, and low permeability create a flow regime that is predominantly vertically downward through the till-rich zone (see RFI Table 3.1). Additionally, the stratigraphy at the base of the till-rich zone in monitoring well MW-57-07 (near MW-19-04) includes a zone of relatively higher-permeability. A potentometric low exists around MW-19-04 that is the result of this localized change in stratigraphy with less clay and enhanced (or stronger) hydraulic connection to the lower aquifer (see Figure 2.17).

2.4.3 LOWER AQUIFER

Regionally, flow in the lower aquifer trends to the southwest, following the general trend of the Great Miami Buried Valley Aquifer (RFI Figure 3.8; CRA, 2006a). However, the lower aquifer is widely tapped by regional water production wells and these wells create localized capture zones that change flow conditions (CRA, 2006a). For example, the Geothermal Well located approximately 650 feet west of the Site, continuously extracts lower aquifer groundwater and creates a capture zone in the lower aquifer that encompasses the Site (see Figures 2.6 and 2.7).

2.4.4 AQUIFER INTERACTION

Two pumping systems that appear to exert a strong influence on the lower aquifer at the Site include: the Geothermal Well and the seven wells for RiverScape Metropark's Five Rivers Fountain of Lights (Fountain Wells). The systems are described in more detail in Section 3.8.2 of the RFI Report (CRA, 2006a). Impact from these pumping influences on the upper aquifer, till-rich zone, and the lower aquifer were evaluated using data loggers.

In September 2005, 42 wells, and August 2007, 39 wells, were monitored using data loggers to provide information on groundwater interaction between the upper aquifer, the till-rich zone, and the lower aquifer in response to nearby pumping wells. Data loggers were placed in monitoring wells, test wells associated with the Fountain Wells and in the former Geothermal Well.

Figure 2.1 and RFI Figure 3.26 illustrate groundwater elevations measured by the data loggers in monitoring wells screened in the upper aquifer, till-rich zone, and lower aquifer for the full duration of the respective monitoring events. The responses of groundwater elevations to pumping can be generally classified into three types that correspond to the well screen intervals in the upper aquifer, till-rich zone and lower aquifer.

Response to lower aquifer pumping is greatest in test wells (TW) closest to the Fountain Wells (FW) and decreases with distance from the Fountain Wells. Response also decreases from the lower aquifer to the higher portions of the till-rich zone. No response is observed in any wells in the upper aquifer. The lack of response to pumping in the upper aquifer supports the conclusion that the till-rich zone provides a substantial barrier to downward flow.

Drawdown and recovery patterns in till-rich zone wells are identical in periodicity to lower aquifer wells with no discernable lag in response time. This observation indicates a strong hydraulic connection between the lower aquifer and the till-rich zone and is consistent with the understanding that groundwater flow in the till-rich zone is vertically downward.

In summary, this data logger monitoring events corroborate the hydrogeologic conceptual model regarding hydrological interactions between the three units, as represented in RFI Section 3.5. The absence of response in the upper aquifer demonstrates that it is hydraulically isolated from the lower aquifer and the till-rich zones. The attenuated but immediate response to pumping observed in the till-rich zone demonstrates its hydraulic connection to the lower aquifer. The attenuated response in the till-rich zone verifies that this zone has a significantly lower hydraulic conductivity than the lower aquifer. Additionally, the Geothermal Well captures lower aquifer and till-rich zone flow from underneath the Site, even while the Fountain Wells were pumping (see Figure 2.7).

3.0 SUPPLEMENTAL SOIL INVESTIGATION

3.1 BACKGROUND

A soil investigation was conducted in accordance with Stage 1 of the "Lower Aquifer Investigation Work Plan" (CRA and H&A, 2006b). The objective of the soil investigation was to determine whether there is a source of TCE in soil in the vicinity of the Geothermal Well (e.g., originating from the former maintenance area or sump/drain at the Career Academy).

3.2 SCOPE AND RESULTS

Three geoprobe soil borings were installed on October 23, 2006 in the vicinity of the former maintenance garage at the Dayton Public Schools Career Academy. Photoionization detection (PID) and Sudan IV "Oil-in-Soil" screening methods were employed to screen for VOCs and free product in vadose zone soil. The soil borings were then abandoned using a cement/bentonite grout. A total of nine soil samples were collected from the following depth intervals and analyzed for TCL VOCs:

- the 0- to 2-foot interval below ground surface (bgs), which represents the interval most likely impacted by a release to the ground surface; and
- the 2-foot interval at or immediately above the water table, which represents soil that best indicates whether the vadose zone soil at this location has affected groundwater.

Three new monitoring wells were installed east of B-SA23 (one well was installed in each of the upper aquifer water table, upper aquifer top of till, and till-rich zone) on September 6, 2006, November 6, 2006, and November 9, 2006, respectively. A total of nine soil samples were collected from the following depth intervals:

- the 0- to 2-foot interval bgs, which represents the interval most likely impacted by a release to the ground surface. Soil samples were analyzed for TCL VOCs and TCL SVOCs; and
- the 2-foot interval at or immediately above the water table, which represents soil that best indicates whether the vadose zone soil at this location has affected groundwater. Soil samples were analyzed for TCL VOCs and TCL SVOCs; and
- the 2-foot interval with evidence of potential contamination, as identified by PID screening, Oil-in-Soil screening, and/or staining. The only evidence of potential

contamination observed was at MW-52-06, and consisted of black staining (at 5 feet bgs) and a positive Oil-in-Soil reading (at 15 feet bgs). Soil samples were collected at these intervals and analyzed for TCL VOCs, TCL SVOCs, TCL PCBs, and TAL metals.

One soil sample was collected at GP-06-08 during the soil gas probe installation (see Section 5.0), because PID readings of 3 parts per million (ppm) were encountered between 5 and 8 feet bgs. A soil sample was collected and analyzed for TCL VOCs.

3.3 DISCUSSION OF RESULTS

Figure 3.1 shows the soil results compared to screening criteria. The list of constituents presented on the databox figure is the same as that presented in the RFI. The complete results are presented in Appendix B-3. These off-site concentrations are not related to historic Site operations.

PCE, TCE, cis-1,2-DCE, and VC were not detected at the surface and were detected at relatively low concentrations immediately above the water table in the three soil borings in the vicinity of the Geothermal Well. No samples exceeded screening criteria.

Screening criteria were exceeded for PCE and TCE in the shallowest samples at MW-52-06 (5 to 7 feet bgs) and MW-55-06 (0 to 2 feet bgs). The deeper samples, including the sample where a positive Oil-in-Soil result was detected, did not exceed screening criteria. No other constituents exceeded screening criteria.

3.4 CONCLUSIONS

The soil samples did not contain concentrations indicative of a potential source of VOCs in the vadose zone near the Geothermal Well. The relatively low VOC concentrations immediately above the water table are consistent with VOC concentrations in groundwater in this area.

The PCE and TCE concentrations in the on-site soil samples in the Webster Street PCE Release Area (AOI 1) are consistent with other results previously reported in the RFI Report.

4.0 GEOPHYSICAL INVESTIGATION

4.1 GAMMA LOG SUMMARY

4.1.1 BACKGROUND

A natural gamma log survey was conducted on the Geothermal Well, MW-19-04 and MW-43-05. The objective of the survey was to investigate whether clay layers could be distinguished from sand and gravel based on gamma logs.

4.1.2 SCOPE AND RESULTS

The gamma log survey was conducted on May 30, 2006 by Blackhawk Geophysical Services, L.L.C. using a scintillation detector that measures the natural release of gamma radiation.

4.1.3 DISCUSSION OF RESULTS

Results of the gamma log survey were submitted to the U.S. EPA October 19, 2006 and are presented in Appendix D.

4.2 GROUND PENETRATING RADAR (GPR) SURVEY

4.2.1 BACKGROUND

CRA completed a geophysical investigation at the Site on January 31, 2006. The primary objective of the investigation was to delineate the contact between the upper aquifer and the underlying till-rich zone, which was identified in monitoring wells completed at the Site. In addition, the investigation was anticipated to provide information regarding subsurface stratigraphy, and potential groundwater migration pathways. In order to achieve these objectives, CRA completed a ground penetrating radar (GPR) survey on selected lines or transects at the Site.

4.2.2 SCOPE AND RESULTS

4.2.2.1 SURVEY COVERAGE

The GPR investigation involved the completion of eight survey lines or transects, as presented on Figure 4.1. Lines 1A and 1B were completed along the top and base of the berm alongside the Mad River, running approximately east-west. Lines 3 and 3A were completed adjacent to Webster Street, extending north-south. Line 8 was completed to the west of the intersection of Webster St. and Pitts St., and Lines 8A and 8B were completed along Pitts St. to the east of the intersection. All three lines run east-west. Lines 9 and 10 run parallel to Lines 3 and 3A. The trace plots for each survey line are presented on Figures 4.2 through 4.5.

The surveyed area was completed over sections of concrete, asphalt, and grass. The locations of the lines were located by measuring the starting locations, and running parallel to conspicuous structural features.

4.2.2.2 GEOPHYSICAL SURVEY METHOD

The GPR investigation was completed using a Ramac™ Rough Terrain Concept (RTC) low frequency system, which transmits at 50 MHz. This instrument is characterized by an in-line transmitter-receiver antenna configuration, which allows for relatively rapid GPR data acquisition in comparison to other instruments. GPR systems utilize pulsed EM waves, which are emitted from a transmitting antenna. They are propagated into the ground, and travel at velocities determined by the electrical properties of earth materials. If a wave hits a buried object or boundary with different electrical properties as it moves downward, part of the wave energy is reflected back to the surface and is detected by a receiving antenna. The reflected wave is stored digitally, and processed as a trace of signal versus amplitude. As the antennas are moved along a survey line, a series of traces are recorded at discrete points. When presented collectively, these traces display a profile of the subsurface.

A total of eight GPR survey lines were completed. The data collection was triggered using a hip-chain, with the equipment capable of making up to 200 scans per second. The data was collected as a continuous profile, and stored in a data logger. Upon return from the site, all data was downloaded to a computer and compiled for data processing and plotting.

4.2.3 DISCUSSION OF RESULTS

The GPR data were inconclusive. The following observations are provided based on the GPR investigation:

- The GPR survey provided limited information regarding the nature of the subsurface, providing inconclusive evidence relating to the location of the pertinent clay-rich layers;
- The presence of cultural (metallic) objects in close proximity to the survey lines caused rapid attenuation of the radar signal, and introduced numerous response features indicative of interference from these objects (both at surface and below); and
- Low-frequency GPR may not be a suitable means of providing conclusive evidence as to the three-dimensional spatial extent of the significant clay-rich layers.

5.0 SOIL GAS INVESTIGATION

5.1 BACKGROUND

At the request of U.S. EPA, a pilot test investigation was conducted in accordance with the "Work Plan for Soil Gas Sampling Pilot Test" (CRA, 2008) to investigate the soil gas in the vicinity of the Career Academy. The objectives of the pilot test were to:

- allow for a more complete evaluation of the soil gas sampling data to be collected by Ohio EPA in the Career Academy;
- evaluate the potential for soil gas migration from the Site or other off site sources to the Career Academy; and
- evaluate whether soil gas in the vicinity of the Career Academy is likely to cause significant health risk to receptors in the Career Academy building.

5.2 SCOPE AND RESULTS

Ten soil gas sampling probes were installed on February 18 and 19, 2008 to depths of 6.5 to 8 feet bgs in the vicinity of the Career Academy, as shown on Figure 5.1. A soil sample was collected from the center of each screen and analyzed for soil moisture analysis to confirm that moisture would not collect in the soil gas ports and to provide information that may aid interpretation of the soil gas data. No PID readings were detected in the soil borings with the exception of GP-06-08, which encountered PID readings of 3 parts per million (ppm) between 5 and 8 feet bgs. A soil sample was collected and analyzed for TCL VOCs.

Soil gas samples were collected on February 28 and 29, 2008 at all soil gas probe locations with the exception of GP-05-08. Two attempts were made to sample from GP-05-08, however on both occasions the probe contained too much moisture to allow for proper sampling. Continued sampling attempts will not be made at this location because the sample results for the other locations in the vicinity of GP-05-08 did not indicate concentrations of concern (see Section 5.4). Soil gas samples were analyzed for VOCs.

5.3 DISCUSSION OF RESULTS

Figure 5.2 shows the soil gas results [in both milligrams per cubic meter (mg/m^3) and parts per billion in volume (ppbv)] compared to site-specific soil gas screening levels for

the primary CVOCs. Soil results are presented in Appendix B-4. Derivation of the soil gas screening levels is documented in Appendix F and explained in Section 6.2.3. Soil results are presented in Appendix B-3.

Two locations, GP-09-08 (off Site and east of Webster Street) and GP-08-08 (off Site and southwest) exceeded the Residential Soil Gas Screening Level (SGSL) criteria for PCE. No other constituents exceeded screening criteria.

It is GM's understanding that the Ohio EPA subslab soil gas samples from the Career Academy did not detect any CVOCs that are potentially related to the Site.

5.4 CONCLUSIONS

The soil gas result at GP-08-08, slightly exceeded the residential SGSL for PCE, while the duplicate result did not exceed the residential SGSL. This sample did not contain concentrations indicative of a potential source of VOCs in the vadose zone around the Geothermal Well. The relatively low PCE concentration is consistent with VOC concentrations in groundwater in this area. This location is not in an area of residential land use.

The soil gas results at GP-09-08, contained a PCE concentration that exceeded the residential SGSL. This location is not in an area of residential land use and results did not exceed industrial screening criteria.

6.0 UPDATED RFI BASELINE HEALTH RISK ASSESSMENT

6.1 PURPOSE AND SCOPE

The baseline human health risk assessment, that was presented in Section 5.0 of the RFI Report (CRA, 2006a) and updated in RFI Report Addendum 1 (CRA, 2006b) and RFI Report Addendum 2 (ENVIRON, 2007), has been further updated to incorporate soil, groundwater, and soil gas data that became available after these reports were prepared. This update also incorporates minor changes to the conceptual site model (CSM) and certain other aspects of the risk assessment that are discussed below. Aside from these updates, the risk assessment uses the same methods and assumptions as those used in the original risk assessment and in the previous two addenda. For example, it uses the same fate-and-transport models, dose and risk equations, and toxicity values that were used previously. Because these methods and assumptions were previously described in Section 5.0 of the RFI Report and in the two addenda, the discussion in this update focuses on the new data, updates and clarifications of certain aspects of the risk assessment, and the updated risk characterization results. Specifically, the discussion is organized as follows:

- Section 6.2 updates the discussion in Section 5.3 of the RFI Report which summarized the areas and environmental media that have been affected by a potentially significant release and the primary constituents in these media. In this update, the additional soil, groundwater, and soil gas data are compared to screening criteria to determine whether additional constituents are present at potentially significant concentrations. The discussion in Section 5.3 of the RFI Report that pertained to LNAPL, storm sewer water and sediment, and concrete has not been updated because no additional data for these media have been collected since the RFI Report. It should be noted that neither the updated data screening results nor the original screening results are used to eliminate detected constituents from the risk assessment.
- Section 6.3 provides updates and clarifications of certain aspects of the risk assessment. These include discussion of an updated conceptual site model, description of the approach to incorporating the additional soil data into the risk assessment, clarification of the approach for estimating soil exposure concentrations, clarification of the rationale for the "point-by-point assessment" approach for soil risk characterization, and updates to the City of Dayton's site redevelopment plan.
- Section 6.4 presents the updated risk characterization, which includes not only the risk characterization results that have been updated due to new data or other updates, but also the risk characterization results that have not changed from those

presented in the RFI Report or the two Addenda (E and F). As such, this updated risk characterization supersedes the information provided in Section 5.6 of the March 2006 RFI Report, and is intended to provide a comprehensive basis for identification of where corrective measures for the Site are warranted.

The additional RFI data used in the updated risk assessment have been validated and prepared to support quantitative risk assessment using the same procedures that were used for the earlier RFI data. Specifically, the additional data were validated in accordance with the Quality Assurance Project Plan in the RFI Work Plan (CRA, 2002) and were prepared to support quantitative risk assessment using the procedures described in Section 5.2.2 of the RFI Report (CRA, 2006a). The laboratory data reports and data validation summaries are provided in Appendix C.

6.2 POTENTIALLY SIGNIFICANT RELEASES

6.2.1 SOIL

Soil data from 9 additional on-site samples and 10 additional off-site samples became available after the preparation of RFI Report Addendum 1. As discussed in Section 3.2, the 9 on-site samples were collected during the installation of monitoring wells MW-52-06, MW-54-06, and MW-55-06, which are located between Webster Street and Taylor Street as shown in Plan 1A, and 10 off-site soil samples were collected during soil gas sampling at GP-06-08 and during an investigation to identify off-site sources of VOCs in groundwater near the Career Academy at SB-193-06, SB-194-06, and SB-195-06.

The additional soil data were compared to the same screening criteria that were used to guide the RFI field investigation. The basis for these screening criteria is summarized in Section 6.2.1.1. The soil data screening results are discussed in Section 6.2.1.2, and are summarized in Tables 6.1A to 6.1C. The background concentrations of metals shown on these tables are based on the background soil data presented in Table 3.2 of the RFI Report.

It should be noted that further soil sampling will be conducted to characterize certain AOIs that were identified between Webster Street and Taylor Street during demolition activities in 2006, as discussed in RFI Report Addendum 1 (CRA, 2006b).

6.2.1.1 SCREENING CRITERIA

As discussed in Section 4.0.1 of the RFI Report (CRA, 2006a), the screening criteria used to guide the RFI field investigation for on-site soil included the U.S. EPA Region 9 risk-based, preliminary remediation goals (PRGs) for industrial soil based on incidental ingestion, dermal contact, and inhalation of soil vapor and particulates in ambient air (U.S. EPA, 2004c). They also included conservative site-specific criteria that were developed for evaluating potential long-term exposure of workers to constituents in soil if they were to volatilize and migrate through building foundation cracks into indoor air, and conservative site-specific criteria that were developed for evaluating potential short-term exposure of construction workers (which were referred to as redevelopment workers in the RFI Report) to surface and subsurface soil.

The criteria for soil volatilization into indoor air were derived using a vapor intrusion modeling approach recommended by U.S. EPA (2004a) for screening-level analysis. The model parameters related to soil properties were based on a conservative interpretation of the predominant soil conditions at the Site, the minimum footprint area of future on-site buildings in a site redevelopment plan provided to GM by the City of Dayton, and conservative assumptions for other building characteristics that have not yet been specified in the site redevelopment plan. The derivation also included a mass balance check to ensure that the mass of a chemical assumed to infiltrate into the building over the exposure period does not exceed an upper-bound estimate of the chemical's mass in the vadose zone underlying the building. The criteria for construction workers were derived for exposures to soil via ingestion, dermal contact, and inhalation during short-term, subsurface intrusive activities (e.g., slab removal and soil excavation) associated with preparing the Site for commercial/industrial reuse.

As discussed in the RFI Report, the soil screening criteria were derived using exposure assumptions that are highly conservative for the populations addressed by the criteria, and a target cancer risk of 10^{-5} and a target hazard quotient (HQ) of 1. Further details of the derivation of the vapor intrusion and construction worker criteria were discussed in Appendix E of the RFI Report (2006a) and are documented in Appendix F of this report.

6.2.1.2 SCREENING RESULTS

A potentially significant release to soil at an area is identified in Tables 6.1A and 6.1C by comparing the highest site-related concentration of each constituent in surface and subsurface soil at the area to the screening criteria. Ratios of the highest site-related

concentrations in surface or subsurface soil to the screening criteria that exceed 1 are considered indications of a potentially significant release to soil.

For the area from Webster Street to Taylor Street, the only constituents with concentrations that exceed the screening criteria are PCE and TCE, as shown in Tables 6.1A and 6.1B. These results do not change the findings based on the earlier RFI data, which already identified PCE and TCE concentrations in this area that exceed screening criteria.

For the off-site area, no constituent has a concentration that exceeds the screening criteria, as shown in Table 6.1C. As discussed in the RFI Report, concentrations in off-site soil are not believed to be associated with the Site, regardless of whether they exceed screening criteria.

6.2.2 GROUNDWATER

The additional groundwater characterization data that became available after preparation of RFI Report Addendum 2, which resulted from sampling of both new monitoring wells and a number of existing monitoring wells, were combined with the previously collected RFI data to provide a comprehensive update of the groundwater screening results presented in the RFI Report and RFI Report Addendum 2. The combined groundwater data were screened against criteria previously used during the various phases of the investigation, including the residential non-potable criteria developed as part of RFI Report Addendum 2 (ENVIRON, 2007). The basis for these screening criteria is summarized in Section 6.2.2.1.

The groundwater data screening results are discussed in Section 6.2.2.2 and are summarized in Tables 6.2A to 6.2D by hydrogeologic unit (i.e., upper aquifer, till-rich zone, and lower aquifer) and by area. Concentrations that exceed screening criteria are presented in Tables 6.2E through 6.2I. The updated well zone designations, as discussed in Section 2.0, were used in preparing the screening results shown in Tables 6.2A through 6.2I.

6.2.2.1 SCREENING CRITERIA

As discussed in Section 4.0.2 of the RFI Report (CRA, 2006a), the primary set of groundwater screening criteria used to guide the RFI groundwater investigation were conservatively based on maximum contaminant levels (MCLs) promulgated under the

Safe Drinking Water Act, and similarly-derived drinking water concentration limits for chemicals that lack MCLs. The use of drinking water criteria for identifying "contamination" in all groundwater is highly conservative, because no active water supply well exists at the Site and an extensive review of water use records during the RFI has identified no drinking water supply well within a half-mile of the Site (CRA, 2006a). Potable water at and around the Site is supplied by the City of Dayton, as discussed in Section 3.8 of the RFI Report. Derivation of drinking water limits for chemicals that lack MCLs was based on an ingestion rate of 2 L/day, an exposure frequency (EF) of 350 days/year, an exposure duration (ED) of 30 years, and a body-weight of 70 kg.

In addition to the drinking water criteria, groundwater data collected during the RFI were also evaluated using screening criteria based on vapor intrusion, worker contact during excavations that extend to the water table, and residential nonpotable groundwater use. The vapor intrusion criteria and excavation worker contact criteria were used to evaluate upper aquifer groundwater data, and the residential nonpotable groundwater use criteria were used to evaluate groundwater data from all three hydrogeologic units. The basis for these criteria is summarized below.

Vapor Intrusion

Screening criteria for evaluating vapor intrusion into future on-site commercial/industrial buildings and off-site commercial/industrial buildings were derived as discussed in Appendix E of the RFI Report (CRA, 2006a) and Appendix F of this Report. These screening criteria were derived using the modeling approach described by Johnson and Ettinger (1991). The screening criteria for on-site commercial/industrial buildings are conservatively based on the minimum footprint area of future on-site buildings in a site redevelopment plan provided to GM by the City of Dayton. The screening criteria for off-site locations are conservatively based on assumed vapor intrusion into a small hypothetical commercial/industrial building. The choice of a building footprint area that is smaller than that of the smallest existing off-site building downgradient of the Site and smaller than that of the smallest on-site building planned by the City of Dayton is conservative, because the model predicts that the attenuation coefficient, which is the ratio of the predicted indoor air concentration to the vapor concentration at the groundwater table, increases with decreasing building footprint area.

Screening criteria for evaluating vapor intrusion into future off-site residential buildings were derived in RFI Report Addendum 2 (ENVIRON, 2007), based on the City of Dayton's plan to include future residential land use in redeveloping the off-site area

west of the Site. As discussed in Section 3 of RFI Report Addendum 2, the screening criteria for evaluating vapor intrusion into hypothetical off-site residential buildings were derived similarly to the vapor intrusion screening criteria for commercial/industrial buildings. These screening criteria are used for both the off-site upper aquifer groundwater data and the on-site upper aquifer groundwater data from AOI 1, because AOI 1 is located along the Site's downgradient boundary and is immediately upgradient of the off-site area where residential redevelopment is now reasonably expected.

Excavation Worker Contact

Screening criteria for evaluating worker exposure to groundwater via incidental ingestion, dermal contact, and vapor inhalation during occasional excavations that extend into the water table were derived as discussed in Appendix E of the RFI Report (CRA, 2006a) and Appendix F of this Report. These criteria were derived based on an EF of 5 days/year and an ED of 10 years. These EF and ED are believed to be adequately conservative for assessing the potential exposure of both construction workers and maintenance workers to groundwater during installation and/or repair of underground utilities at the Site and its vicinity, because the water table at the Site, which ranges from approximately 7 feet to 13 feet bgs, is deeper than the depth of most, if not all, existing and planned underground utilities. According to the Site redevelopment plan provided to GM by the City of Dayton, the utility corridors to be installed are designed to be above the water table, and the portion being installed between Webster Street and Taylor Street is, in fact, above the water table. Based on these considerations, the EF is likely closer to 0 day/year during site-redevelopment construction, and would rarely exceed 5 days/year after the Site has been redeveloped for reuse.

Residential Nonpotable Use

Screening criteria for evaluating potential off-site residential nonpotable use of groundwater to fill a backyard wading pool ("kiddie" pool) were derived as discussed in Section 3.0 and Appendix C of RFI Report Addendum 2 (ENVIRON, 2007) and Appendix F of this Report. This scenario represents a reasonable worst-case, in which the estimated exposure is expected to be higher than those associated with other nonpotable uses (e.g., watering lawns, washing cars, etc.). Potential routes of exposure evaluated in this "kiddie" pool scenario are incidental ingestion, dermal contact, and inhalation of vapors.

As discussed in the RFI Report, all of the groundwater screening criteria used in the RFI were derived using exposure assumptions that are highly conservative for the populations addressed by the criteria, and a target cancer risk of 10^{-5} and a target hazard quotient (HQ) of 1.

6.2.2.2 SCREENING RESULTS

6.2.2.2.1 UPPER AQUIFER, ON-SITE

As shown in Tables 6.2A and 6.2E, certain constituents have concentrations in upper aquifer groundwater that exceed the drinking water criteria at the following on-site areas:

- Webster Street to Taylor Street (for benzene, 1,1-DCE, cis-1,2-DCE, methylene chloride, PCE, TCE, VC, PCBs, cadmium, and lead);
- Taylor Street to Railway (for cis-1,2-DCE, methylene chloride, PCE, TCE, VC, PCBs, and arsenic); and
- Railway to Keowee Street (for TCE, VC, and PCBs).

These constituents were previously identified in the RFI Report and RFI Report Addendum 2 as having concentrations in upper aquifer, on-site groundwater that exceed the drinking water criteria in these areas, with the exception of the methylene chloride exceedance in the Taylor Street to Railway Area. The methylene chloride exceedance was from a sample collected at MW-23-04 where several other VOCs have concentrations that previously and currently exceed the drinking water criteria. As such, this new exceedance does not materially change the findings based on the earlier RFI data.

No groundwater concentration from on-site locations in the upper aquifer exceeds the screening criteria for vapor intrusion into commercial/industrial buildings.

As shown in Table 6.2A, the following constituents have concentrations in on-site upper aquifer groundwater that exceed the excavation worker contact criteria: PCBs, cis-1,2-DCE, and VC. As shown in Table 6.2E, these exceedances are at monitoring wells B-SA21 (PCBs) and MW-23-04 (cis-1,2-DCE and VC). As shown on Figure 2.10, the concentrations of PCBs in groundwater at monitoring well B-SA21, which is screened in the upper aquifer and located between Webster and Taylor Streets, exceeded this screening criterion in the 2002 and 2003 data, but not in the 2004 and 2007 data. As

shown on Figure 2.9, groundwater concentrations of cis-1,2-DCE and VC at monitoring well MW-23-04 have fluctuated.

6.2.2.2.2 UPPER AQUIFER, OFF-SITE

As shown in Tables 6.2B and 6.2F, certain constituents have concentrations in upper aquifer groundwater that exceed the drinking water criteria at the following off-site areas:

- Off-site West, which is downgradient or sidegradient of the Site (for cis-1,2-DCE, methylene chloride, PCE, TCE, VC, and arsenic);
- Off-site South, which is upgradient or sidegradient of the Site (for PCE, TCE, and bis-2-ethylhexylphthalate);
- Off-site North, which is across the Mad River (for PCE and TCE);
- Off-site between Webster to Taylor, which is downgradient of the Site and north of the Mad River levee (for PCE and TCE); and
- Off-site between Taylor to Railway, which is downgradient of the Site and north of the Mad River levee (for TCE, VC, and PCBs).

These constituents were previously identified in the RFI Report (CRA, 2006a) and RFI Report Addendum 2 (ENVIRON, 2007) as having concentrations in upper aquifer, off-site groundwater that exceed drinking water criteria in these areas. The off-site concentrations in upper aquifer groundwater north of the Mad River (i.e., MW-50-06) are unrelated to the Site, as discussed further in Section 2.3.1 above.

No groundwater concentration from off-site locations in the upper aquifer exceeds the excavation worker groundwater contact criteria or the vapor intrusion screening criteria for residential or commercial buildings.

As shown in Tables 6.2B and 6.2F, the following constituents have concentrations in off-site upper aquifer groundwater that exceed the residential nonpotable use criteria: PCE, VC, PCBs, and arsenic. These exceedances are discussed below:

- The PCE exceedance was from a sample collected in 2004 at location Day-05. As shown on Figure 2.13, the most recent PCE concentration for this location does not exceed the residential nonpotable criterion;

- In the most recent groundwater data, only two locations have VC concentrations that exceed the residential nonpotable use criterion. These locations are MW-6A-03 and MW-6B-03, as shown in Table 6.2F;
- As previously discussed in RFI Report Addendum 2, the PCB exceedance was from a sample collected at MW-4-02, which is located between the levee at the northern boundary of the Site and the Mad River in an area where future residential land use is not reasonably expected. Additionally, dissolved-phase PCBs are not expected to migrate significant distances via groundwater flow; and
- As discussed in the RFI Report, arsenic presence in groundwater is believed to be unrelated to the Site.

Groundwater data from on-site monitoring wells in the upper aquifer within AOI 1 were screened against the residential vapor intrusion criteria and residential nonpotable groundwater use criteria, because AOI 1 is located along the Site's downgradient boundary and is immediately upgradient of the off-site area where residential redevelopment is now reasonably expected. This screening is highly conservatively because it assumes that the groundwater concentrations at AOI 1 do not attenuate with groundwater flow from AOI 1.

As shown in Table 6.2G, the following constituents have concentrations in AOI 1 upper aquifer groundwater that exceed the residential vapor intrusion criteria or the residential nonpotable groundwater use criteria: PCE, TCE, VC, and PCBs. Based on the most recent groundwater data, there is only one exceedance of the residential vapor intrusion criteria (i.e., VC at B-SA23).

6.2.2.2.3 TILL-RICH ZONE

As shown in Tables 6.2C and 6.2H, certain constituents have concentrations in till-rich zone groundwater that exceed the drinking water criteria at the following areas:

- On-site between Webster and Taylor Streets at well MW-40 (for PCE and TCE) and MW-54 (for TCE, cis-1,2-DCE, and VC);
- On-site between Taylor Street and the Railway at well MW-36 (for PCE and TCE)' and
- Off-site West at several locations (collectively, for 1,1-DCE, cis-1,2-DCE, PCE, TCE, and VC).

These constituents were previously identified in the RFI Report as having concentrations in till-rich zone groundwater that exceed the drinking water criteria in these areas, with the exception of the 1,1-DCE exceedance in the Off-site West area. The 1,1-DCE exceedance was from a sample collected at monitoring well MW-60-07, which was installed after RFI Report Addendum 2. However, because cis-1,2-DCE, TCE, and VC are also present at MW-60-07 and have far larger exceedances of their drinking water criteria than 1,1-DCE (as shown in Table 6.2H), the 1,1-DCE exceedance per se does not materially change the findings based on the earlier RFI data.

Tables 6.2C and 6.2H also show that only one constituent has a concentration in till-rich zone groundwater that exceeds the residential nonpotable groundwater use criteria. This exceedance (VC at off-site monitoring well MW-41-05) was previously identified in RFI Report Addendum 2 (ENVIRON, 2007).

It should be noted that the till-rich zone (on-site and off-site) is not a current or reasonably expected future potable or nonpotable water source, but the till-rich zone groundwater data were conservatively screened against the drinking water criteria and residential nonpotable groundwater use criteria because constituents in the till-rich zone (on-site and off-site) could migrate into the lower aquifer, under the influence of pumping in the lower aquifer around the Site, and reach locations where potable and nonpotable groundwater use are possible in the future. However, it should also be recognized that this screening is highly conservatively because it ignores the attenuation and dilution of the concentrations in the till-rich zone as the constituents move through the till-rich zone and the lower aquifer.

6.2.2.2.4 LOWER AQUIFER

As shown in Tables 6.2D and 6.2I, certain constituents have concentrations in lower aquifer groundwater that exceed the drinking water criteria at the following areas:

- On-site between Webster and Taylor Streets at well MW-33-04 (for cis-1,2-DCE, TCE, and VC);
- On-site between Taylor Street and the Railway at well MW-39-04 (for VC); and
- Off-site West at several locations (collectively, for 1,1-DCE, cis-1,2-DCE, TCE, and VC).

These constituents were previously identified in the RFI Report as having concentrations in lower aquifer groundwater that exceed the drinking water criteria in these areas, with

the exception of the TCE exceedance in the on-site area between Webster Street and Taylor Streets and the 1,1-DCE exceedance in the Off-site West Area. The TCE exceedance was from data collected at MW-33-04 and the 1,1-DCE exceedance was from data collected at MW-18-04 and MW-57-07. These exceedances do not materially change the findings based on the earlier RFI data because the previous data had shown that other VOCs have larger exceedances than these constituents at these monitoring locations.

Tables 6.2D and 6.2I, also show that no constituent has a concentration in the lower aquifer that is higher than the residential nonpotable groundwater use criteria.

It should be noted that the lower aquifer on-site is not a current or reasonably expected future potable or nonpotable water source, but the groundwater data from on-site monitoring wells in the lower aquifer were conservatively screened against the drinking water criteria and residential nonpotable groundwater use criteria, because constituents in the lower aquifer groundwater at the Site could migrate, under the influence of pumping around the Site, to off-site areas where potable and nonpotable groundwater use are possible in the future. However, it should also be recognized that this screening is highly conservative because it ignores the attenuation and dilution of the concentrations in the lower aquifer as the constituents move toward pumping wells.

6.2.3 SOIL GAS

As discussed in Section 5.2, soil gas data were collected from nine off-site locations to the west of the Site as part of the RFI. The soil gas samples were collected at a depth of 6.5 to 8 feet bgs and were analyzed for 60 volatile constituents using Method TO-15. Table 6.3A shows the detected constituents, their detection frequencies, the maximum detected concentrations, and ratios of the highest measured concentrations to soil gas screening levels (SGSLs). Soil gas samples with concentrations that exceed screening criteria are summarized in Table 6.3B.

The SGSLs were derived to provide a screening-level evaluation of potential vapor intrusion into residential and commercial/industrial buildings. The derivation began with the calculation of risk-based indoor air concentrations. For residential exposures, the indoor air concentrations were calculated using U.S. EPA's standard inhalation risk equations, standard default exposure factors for residential populations (see Table 6.4), a target cancer risk of 10^{-5}, and a target hazard quotient of 1. The non-cancer reference concentrations (RfCs) and unit cancer risk factors (URFs) used in the calculations are the same as those used in the RFI baseline risk assessment (CRA, 2006a, Section 5). For

nonresidential exposures, the indoor air concentrations were calculated similarly, except that the standard default exposure factors were those for routine workers, as presented in Table 6.4.

The residential SGSLs were then calculated by dividing the risk-based indoor air concentrations by a soil gas attenuation coefficient (α) of 0.002, which is the highest (or most conservative) value for "semi-site-specific screening" from Figure 3a of U.S. EPA's draft vapor intrusion guidance (page 37) for residential buildings (U.S. EPA, 2002c). The industrial semi-site-specific SGSLs were calculated using a soil vapor attenuation coefficient based on the industrial/commercial building type and characteristics used in the RFI Report (CRA 2006a). The inputs used in the calculation of the residential and industrial SGSLs are provided in Appendix F of this report.

Table 6.3A shows that only one constituent, PCE, has a soil gas concentration that is higher than the SGSLs for residential buildings. Table 6.3B shows that the PCE soil gas concentration is higher than the SGSL for residential buildings at two locations (GP-08 and GP-09) where there are no residential buildings currently. No concentration in off-site soil gas is higher than the SGSLs for commercial/industrial buildings.

The residential SGSLs are considered to be initial residential screening levels in part because the soil gas attenuation coefficient (α) used in their derivation includes assumptions that correspond to short-term vapor intrusion conditions (e.g., an air exchange rate that is typical of only winter months), which are more appropriate for assessing short-term rather than long-term risks. This means either: (1) the α value should be used with subchronic RfCs (or intermediate minimal risk levels (MRLs) for chemicals without subchronic RfCs), or (2) the α value should be adjusted to reflect long-term vapor intrusion conditions so that it is appropriate for use with chronic RfCs and URFs. However, neither of these adjustments was conducted because the cumulative cancer risk and HI estimates for soil gas vapor intrusion into off-site residential buildings do not indicate that a more realistic site-specific evaluation is warranted, as discussed in Section 6.3.2.9.

6.3 KEY UPDATES AND CLARIFICATIONS

6.3.1 CONCEPTUAL SITE MODEL

The scope of the updated human health risk assessment is summarized in the conceptual site model (CSM) presented in Table 6.5, which updates and replaces the CSM presented in the RFI Report and RFI Report Addendum 2. The CSM identifies the

on- and off-site receptor populations under current and reasonably expected future land use at and in the vicinity of the Site. Specifically, on-site receptors are listed first under the section labeled "On-Site" and off-site receptors are listed next in the section labeled "Off-Site". Each of these sections include columns that are labeled "Possible Currently?" and "Possible in Future?" with "Yes" and "No" answers that indicate whether an exposure is reasonably expected under current and/or future conditions, respectively. Table 6.5 also includes a new column called "Type of Analysis" to indicate whether a particular exposure is directly evaluated quantitatively ("Quantitative") or is indirectly evaluated by inferring from the risk estimates for another receptor ("Inferred from …"). For exposures that are evaluated quantitatively, the exposure factors used in the updated risk assessment are summarized in Table 6.4, which incorporates revisions to the maintenance worker exposure factors for soil ingestion rate and exposure frequency to address U.S. EPA comments on the baseline risk assessment presented in the RFI Report.

Other minor updates to the CSM include changing the name of the receptor that was called "Redevelopment Worker" in the RFI Report to "Construction Worker", adding "concrete floor and walls" as an exposure medium for all on-site receptors, and revising the notes in the "Comment" column to incorporate up-to-date information regarding the Site and the progress of site redevelopment activities.

Because all of the updates to the CSM are relatively minor, the discussion of the exposure scenarios in Sections 5.4.2 and 5.4.3 of the RFI Report remain useful and is not updated here as a stand-alone section. Instead, discussion of the exposure scenarios in the updated CSM is incorporated into the discussion of the updated risk characterization results in Section 6.4. In each subsection of Section 6.4, the discussion of the risk characterization results for a particular exposure pathway is preceded by a discussion of the corresponding exposure scenario.

6.3.2 INCORPORATION OF ADDITIONAL SOIL DATA

Soil characterization data were collected at 214 boring locations at the Site during the RFI field investigation, which were reported in the RFI Report (CRA, 2006a). To support risk characterization for soil exposures and corrective action planning, a sub-area of the Site was assigned to each of these 214 borings, based on the Thiessen polygon tessellation of these boring locations, which was implemented using ArcView™ GIS 3.2a software. These subareas are shown on Figure 6-1. Details on the construction of the tessellation are provided in Attachment E1 of the RFI Report (CRA, 2006a), which is reproduced herein as Attachment F.1 for convenience.

To efficiently determine whether the additional on-site soil data change the conclusions reached in the RFI Report (CRA, 2006a) and RFI Report Addendum 1 (CRA, 2006b) regarding the locations with soil that warrants corrective measures, each of the additional soil samples was assigned to an existing sub area, based on its location. The additional on-site soil data were from locations MW-37-05, MW-55-06, MW-54-06, MW-52-06, and SB-187-05. As shown on Figure 6.2, these five on-site soil boring locations are within four sub areas (i.e., SB-117-04, SB-48-02, OS-4-03, and MW-23-04). The exposure concentrations for these RFI sub-areas were derived using the additional soil data, as described in the next sub-section.

6.3.3 ESTIMATION OF EXPOSURE CONCENTRATIONS FOR SOIL

Soil samples were collected from different depths and were analyzed for different chemicals, depending on the need to characterize the extent of potentially significant chemical concentrations at each location. For example, samples at a particular location would have been analyzed for only VOCs if VOCs were the only chemicals with potentially significant concentrations at the location. Decisions on characterization needs followed the approach described in the document entitled Health-Based Evaluation of Data to Streamline RCRA Facility Investigations (RFIs) at General Motors Facilities (ENVIRON, 2003).

As discussed in the RFI Report, the risk assessment for soil exposures took an approach that began with extreme, upper-bound estimates of the reasonable maximum exposure (RME), and refined these estimates only where refinements would lead to different risk management decisions. This approach is intended to streamline the risk assessment and facilitate risk management decisions. One method that was used in the risk assessment to ensure upper-bound estimates of the RME was to use highly conservative exposure concentrations. Specifically, the highest concentration of each chemical detected in soil that could be encountered by a worker population within each sub-area was used in risk calculations. The calculations for routine worker exposure to surface soil used the highest concentration of each chemical detected in the surface soil samples (0 to 2 feet bgs) within each sub-area. The calculations for the other exposure scenarios (i.e., vapor intrusion, maintenance worker, construction worker) conservatively used the highest concentration of each chemical detected among all the samples (surface and subsurface from any depth) within each sub-area. If a chemical was analyzed but not detected in a particular soil sample but was detected in at least one other soil sample from the Site, one-half the sample quantitation limit (SQL) for that sample was assigned as the concentration for the chemical, unless (consistent with U.S. EPA risk assessment

guidance) the SQL was unusually high and gave significant risk estimates. In that case, one-half the lowest SQL among the samples within that sub-area was assigned as the concentration. These procedures for handling chemicals that were detected in only some of the RFI soil samples and for handling unusually high SQLs are consistent with the guidance in Section 5.3 of the Risk Assessment Guidance for Superfund (RAGS), Part A (U.S. EPA, 1989).

Another method of ensuring highly conservative exposure concentrations was to assign a surrogate concentration to sub-areas that were not analyzed for a chemical, if the chemical has concentrations at other locations that could contribute significantly to the cumulative cancer and/or noncancer risk estimates for any of the four on-site worker exposure scenarios. This approach is highly conservative, in that it assigns constituent concentrations to sub-areas where analysis for the constituents was deemed unnecessary in the RFI work plans, because significant concentrations were not reasonably expected to be present. Chemicals that received surrogate assignments include, among others, PCBs, PCE, TCE, cis-1,2-DCE, VC, cadmium, and lead. The assignment of surrogate concentrations was performed only for chemicals that could contribute significantly to the cumulative cancer and/or noncancer risk estimates because the procedure for assigning surrogates is time-consuming and would not have enhanced the reliability of the risk assessment results for the other chemicals.

For chemicals that warrant assignment of surrogate concentrations, assignment was performed using measured concentrations from the nearest location or depth. For a chemical that was not analyzed in a surface sample, a surrogate concentration was assigned from the nearest sub-area where the chemical was analyzed in a surface sample. For a chemical that was not analyzed in a subsurface sample (deeper than 2 feet bgs), the highest measured concentration of the chemical among the other samples within that sub-area was assigned as the surrogate. If the chemical was not analyzed in another sample within that sub-area, then the highest concentration among samples at the nearest sub-area was used as the surrogate. Further information regarding the assignment of surrogate concentrations is provided in Attachment E1 of the RFI Report (CRA, 2006a), which is reproduced herein as Attachment F.1 for convenience.

6.3.4 RISK CHARACTERIZATION FOR EXPOSURES TO SOIL

As discussed in the RFI Report, the risk assessment started with a "point-by-point assessment" approach to the risk characterization for soil exposures. This approach was developed to avoid the difficulties with attempting to establish exposure units for evaluating future soil exposures under scenarios that are dependent on site

redevelopment plans which are subject to change. In the "point-by-point assessment" approach, each of the 214 sub-areas shown on Figure 6-1 is conservatively assumed to constitute a distinct exposure unit for the entire potential exposure of each worker population. For each of these worst-case exposure units, the risk assessment calculated risk estimates using the exposure factors that are supposed to apply to the workers' actual (but unknown) exposure units (e.g., EF of 250 days/year, ED of 25 years in the case of routine workers). The purpose of these risk calculations was to derive obvious upper-bound cumulative risk estimates that can be used to reliably identify areas that do not pose a significant risk to workers. Specifically, the risk assessment can reliably conclude that boring locations with upper-bound estimates that do not exceed the cumulative cancer risk limit of 10^{-4} or the HI limit of 1 will not pose a significant risk to workers—regardless of what the workers' actual exposure units turn out to be when the Site has been redeveloped for reuse.

Although the upper-bound estimates are useful for reliably identifying locations that do not pose a significant risk, they cannot be used to conclude that a location poses a significant risk. This is because each of the worst-case exposure units is so small that it would be unreasonable to expect workers to have their entire soil exposure only within one soil sub-area. For a location with an upper-bound risk estimate that exceeds an acceptable risk limit, the next step of the analysis was to determine if the location could be grouped with nearby locations to form a more realistic and reasonable-size exposure unit that does not have a cumulative cancer risk or HI that exceeds the acceptable limits. In the case of construction workers, a more realistic exposure unit for "current" conditions is defined by the redevelopment plan that the City of Dayton provided to GM, as discussed further below. In this case, risk estimates for the defined exposure unit were calculated by weighting the cumulative cancer risk and non-cancer HI for each sub-areas within the known exposure unit by the respective size of the sub-area; such risk values are referred to as "area–weighted risk estimates." In cases where a more realistic exposure unit has not yet been defined, a key consideration in the analysis was to minimize the size of the hypothetical exposure unit, so as to not inordinately skew projected exposure toward unimpacted areas. If a reasonable-size grouping was possible, then it was concluded the sub-area and exposure unit do not pose a significant risk to workers. Conversely, if a reasonable-size grouping was not possible, then it was concluded the area poses a significant risk. To make these determinations, area-weighted risk estimates were calculated for the small, hypothesized exposure unit.

The upper-bound risk estimates for potential exposure to soil by routine workers, construction workers, maintenance workers, and vapor intrusion into commercial/industrial buildings were calculated for each sub-area using the exposure factors in Table 6.4, the physical/chemical properties and toxicity values data in

Attachments E3 and E4, respectively, of the RFI Report (CRA, 2006a), which are reproduced herein as Attachments F.3 and F.4, and exposure concentrations that were calculated as described in Section 6.3.3. The vapor intrusion calculations for soil included a mass balance check to ensure that the assumed mass of a chemical infiltrating into the building over the assumed exposure period does not exceed an upper-bound estimate of the chemical's mass in the vadose zone soil underlying the building. The values used in this risk assessment for soil-related parameters are conservatively based on "sand" as the soil type, which is a conservative interpretation of the predominant soil type in the vadose zone at the Site.

The upper-bound estimates of cumulative cancer risk and HI for each of the 214 sub-areas are summarized in Table 6.6A. All estimates are shown with one significant digit per U.S. EPA convention. These calculations considered all detected constituents based upon all RFI soil data, except lead, which was evaluated separately. These estimates include the updated cumulative cancer risk and HI estimates for the four sub-areas discussed above, along with the estimates for 15 other sub-areas that were updated in RFI Report Addendum 1 (CRA, 2006b) and sub-areas that warranted updating due to updated "surrogate" concentrations.

6.3.5 SITE REDEVELOPMENT PLAN

After RFI Report Addendum 2, the City of Dayton provided GM with a slightly revised site redevelopment plan. This revised redevelopment plan contains minor modifications to the placement and configuration of planned on-site buildings in the area between Webster Street and the Railway.

The upper-bound risk estimates for exposures to soil in individual sub-areas are not affected by these minor changes to the site redevelopment plan, although some refined risk estimates have been updated to incorporate the updated information about building location and configuration, which was used to support a building-specific vapor intrusion analysis. These updates are discussed below in Section 6.4.1.1.

6.4 RISK CHARACTERIZATION FOR POTENTIALLY EXPOSED POPULATIONS

The health significance of the potential exposures identified in the updated CSM (Table 6.5) is discussed in the following subsections. For each potentially exposed population considered in the CSM, the risk characterization below presents a discussion

of the risks associated with current and future land use for each applicable exposure medium, as required to support remedy decision-making (U.S. EPA, 1991).

The risk characterization in the following sub-sections updates and supersedes the information provided in Section 5.6 of the March 2006 RFI Report and is intended to provide a comprehensive basis for identification of where corrective measures for the Site are warranted. Because all of the updates to the CSM and certain other aspects of the risk assessment are relatively minor (i.e., the risk assessment uses the same methods and assumptions as those used in the original risk assessment and in the previous two RFI report addenda), the discussion of uncertainties in the risk characterization in Section 5.6.3 of the RFI Report remains useful and is not updated here as a stand-alone section.

Information to support this risk characterization is presented in Tables 6.5 through 6.17 and Figures 6.3 through 6.8B. The cumulative cancer risk and HI estimates presented in these tables and figures exceed the U.S. EPA goal to quantify RME risks in baseline risk assessments (U.S. EPA, 1989). As discussed in the RFI Report and in the following subsections, the risk assessment summed cancer risks and HQs across all chemicals for all pathways for each medium, even when the risks and HQs in these sums are calculated with upper-bound assumptions (e.g., highest concentrations and extreme exposure factors). Because the cumulative cancer risk and HI estimates for each medium are already upper-bound estimates which exceed RME risk estimates, further summing of estimates across media is not warranted, and would be inconsistent with U.S. EPA guidance (U.S. EPA, 1989). In fact, the upper-bound for a single medium is so conservative that it is not reasonable to expect any individual to face that risk.

6.4.1 ON-SITE ROUTINE WORKERS

The Site is not currently being used. In the future, routine workers are expected to be engaged in commercial activities that will generally take place indoors. These workers could be exposed to constituents in subsurface soil if the constituents were to volatilize and migrate through cracks in the building foundation into indoor air. Similarly, these workers could be exposed to constituents in groundwater if the constituents volatilize and migrate through cracks in the building foundation. It should be noted that all existing buildings at the Site will be demolished, with the possible except of Building 5, according to the City's redevelopment plans provided to GM, and all existing basements, including the Building 5 basement, are expected to be made inaccessible and most will be filled as part of the redevelopment. As such, the potential for exposure via vapor intrusion was evaluated based on future buildings in the redevelopment plan,

rather than existing buildings at the Site. Vapor intrusion exposures are evaluated in this risk assessment using upper-bound risk estimates that were calculated based on the conservative assumption that routine workers spend their entire work day indoors.

Exposure of routine workers via potable groundwater use is not expected because groundwater is not used as a drinking water supply at the Site or in the vicinity, and future potable use of groundwater at the Site is not reasonably expected, as discussed in Section 3.8 of the RFI Report (CRA, 2006a).

During limited time outdoors, routine workers could contact surface soil in unpaved areas Potential routes of exposure to exposed surface soil would include incidental ingestion, dermal contact, and inhalation of soil vapor and airborne particulates. To assess these exposures, this risk assessment uses upper-bound risk estimates that were calculated based on the conservative assumption that routine workers spend their entire work day outdoors.

The conceptual redevelopment plans for the Site entail placement of up to several feet of "clean fill" for grading and to attain specified ground elevations consistent with planned land uses. For purposes of the health risk assessment, potential exposures by future routine workers conservatively assumed that the existing surface soil will remain surface soil, because specific plans for placement of clean fill are not yet available.

Many on-site buildings have already been demolished, and all but possibly one of the remaining on-site buildings (Building 5) will be demolished as part of the City of Dayton's redevelopment plans. PCB concentrations in concrete samples from Building 5 did not exceed criteria [see Table 4.1 of the RFI Report (CRA, 2006a)], and were collected from the basement which is expected to be made inaccessible prior to reuse of the building, according to the City's redevelopment plan. All building floor surfaces characterized by GM during the RFI will be removed or made permanently inaccessible during redevelopment of the Site (e.g., buildings will be constructed on top of such floor surfaces that will remain, according to the development plan provided to GM by the City of Dayton). Given these considerations, routine workers are not reasonably expected to have future exposure to on-site concrete. However, in the highly unlikely event that routine workers contact any of the building floor surfaces that remain at the Site, such exposure would be insignificant, as demonstrated by the screening-level risk assessment of exposure to PCBs in concrete that is described in Section 6.4.2.4. The results of the screening-level risk assessment are summarized in Table 6.12 and include extreme, upper-bound risk estimates for routine workers contact with PCBs in concrete, which were calculated primarily for use as upper-bound estimates for evaluating trespasser exposures to PCBs in concrete, as discussed in Section 6.4.4.

The significance of risks associated with potential future exposure of routine workers to on-Site soil, groundwater, and LNAPL is discussed below.

6.4.1.1 ROUTINE WORKER EXPOSURE TO SOIL

Potential outdoor exposures

The estimates of cumulative cancer and noncancer risks from potential outdoor exposure of routine workers to soil for each of the 214 RFI sub-areas are summarized in Table 6.6A. The calculations conservatively used the highest concentration of each chemical detected among all the surface samples within each respective sub-area. Further information regarding the detailed basis for these calculations is provided in Appendix E of the RFI Report, RFI Report Addendum 1, and Appendix F of this Report. The upper-bound estimates of site-related cumulative cancer and noncancer risks for each of the 214 sub-areas were compared to U.S. EPA's cancer risk limit of 10^{-4} and HI limit of 1 (U.S. EPA, 1991), respectively.

The results in Table 6.6A show that there is only one soil sub-area with potentially significant cumulative cancer risk estimate for routine workers (SB-117-04), even if they were to spend the entire work day outdoors for 250 days/year. Only four RFI sub-areas have a HI estimate higher than 1 for routine workers (i.e., sub-areas SB-115-04 and SB-117-04 in the area between Webster to Taylor Streets, sub-area SB-43-02 in the area between Taylor Street to Railway, and sub-area SB-118-04 in the area between Railway to Keowee Street), assuming they spend the entire work day outdoors for 250 days/year at each of these RFI sub-areas. RFI sub-areas SB-117-04, SB-115-04, SB-43-02, and SB-118-04 are highlighted on Figure 6.3. The significance of potential exposure at these four RFI sub-areas was further evaluated, as follows:

- As shown in Table 6.6A, the upper-bound HI for sub area SB-115-04 is 2 for routine worker exposure to soil while outdoors (and the upper-bound cumulative cancer risk is 7×10^{-5}), assuming that workers spend the entire work day outdoors for 250 days/year within this sub-area. The upper-bound HI of 2 is predominantly attributable to the maximum concentration of PCBs (19 mg/kg) in the soil data collected to characterize AOI 43, which was presented in RFI Report Addendum 1. Refinement of this upper-bound HI has not been performed because GM is planning to conduct additional soil sampling in the vicinity of a nearby AOI (AOI 44), which will include sampling for PCBs within sub-area SB-115-04. The data from this

additional sampling, when they become available, will be combined with the existing data to refine the upper-bound HI.

- The upper-bound cumulative risk and HI for sub area SB-117-04 are 7×10^{-4} and 2, respectively, for routine worker exposure to soil while outdoors is predominantly attributable to the concentrations of PCE and TCE in the additional soil data discussed in Sections 6.2.1 and 6.3.2. These upper-bound cumulative risk estimates are predominantly due to risks associated with inhalation of soil vapor in outdoor air, which were derived using the conservative assumption that volatile chemicals are present in a vadose zone of infinite depth. However, the vadose zone at this part of the Site extends to a depth of only 10 feet, which is the average distance from the ground surface to the water table after the area from Webster to Taylor Streets is regraded for redevelopment. Using a vadose zone depth of 10 feet in the vapor emission model, without changing any other assumptions, the upper-bound cumulative cancer risk and HI become 8×10^{-5} and 0.8, respectively, which are below the limits of 10^{-4} and 1. The details of these calculations are provided in Appendix F. It should be noted that these refined estimates are still considered upper-bound estimates because they still incorporate a number of highly conservative or upper-bound estimates. For example, they are still based on the assumption that workers spend the entire work day outdoors for 250 days/year for 25 years within only this sub-area.
- As discussed in the RFI Report, sub-area SB-118-04 is located on an elevated railroad ramp and actually represents a narrow strip of elevated soil that is bounded on its west side by the railroad tracks and on its east side by a sheer drop of approximately 10 to 15 feet to the ground below. This strip of soil is covered with 1 foot of concrete. Based on the location of the soil and the presence of the concrete pavement, routine workers are not expected to come in contact with the soil at this location for the entire work day for 250 days/year, and as such, potential exposures are more appropriately evaluated under the maintenance worker scenario. As shown in Table 6.6A, the cumulative cancer risk and HI estimates for maintenance worker exposure to soil at this location are 8×10^{-6} and 1, which are within the limits of 10^{-4} and 1, respectively.
- As discussed in the RFI Report, the cumulative cancer risk and HI estimates for sub-area SB-43-02, shown in Table 6.6A, were based on the assumption that workers spend the entire work day outdoors for 250 day/year at the 0.033-acre area associated with this sub-area. Realistically, routine workers would not be reasonably expected to spend 250 days per year for 25 years in such a small area. To provide a more realistic but still highly conservative assessment of potential soil exposure, workers were assumed to have an exposure unit comprised of sub-area SB-43-02 and contiguous sub-area SB-40-02, which together total to 0.07 acres. It was

assumed, for practical purposes and consistent with U.S. EPA risk assessment guidance (U.S. EPA, 2002a), that during the exposure period workers will have approximately the same chance of contact with the soil throughout this 0.07-acre exposure unit. Figure 6.3B shows the locations of the sub-areas used in these calculations, which is the worst-case combination of a contiguous sub-area with SB-43-02. The updated calculation of cumulative risks for this exposure unit is shown in Table 6.7. The updated estimates of cumulative cancer risk and HI are 4×10^{-5} and 1, respectively, which do not exceed the U.S. EPA limits of 10^{-4} and 1. These estimates are still highly conservative because they do not consider that routine workers can be reasonably expected to have contact with surface soil in sub-areas beyond those representing this 0.07 acre and which have HI estimates less than 1.

The cumulative cancer risk and HI for routine worker exposure to background concentrations of metals in surface soil while outdoors are shown in Table 6.9. These risk estimates are not significant.

The soil lead data for each of the 214 sub-areas are summarized on Figure 6.4 and Table 6.6B, wherein the "Concentration Basis" columns indicate whether a concentration is the maximum detected at that location ("Max Detect") or is conservatively interpolated from the maximum detected at a nearby location ("Interpolated Max Detect"). The soil lead data in Table 6.6B are categorized relative to the U.S. EPA range of screening criteria for long-term exposure of industrial workers, which is 750 mg/kg to 1,750 mg/kg (U.S. EPA, 2003). These soil criteria are intended to protect workers that include child-bearing age women.

As discussed in the RFI Report (CRA, 2006a), lead concentrations in on-site surface soil do not pose a health concern for routine workers, even if they were to spend their entire work-day outdoors within each sub-area every work-day, except at sub-areas MW-23-04, SB-21-02, SB-29-02, SB-30-02, SB-51-02, and SB-82-03 if pavement were removed and the surface soil in the areas is left exposed. In addition, sub-areas MW-5-03 and BH-178-04 could have soil lead concentrations that would pose a significant risk if the highest lead concentrations from the soil data collected to characterize AOI 44 are in surface soil. As discussed in RFI Report Addendum 1 (CRA, 2006b), GM is planning to conduct additional soil sampling in the vicinity of AOI 44, including within sub-areas MW-5-03 and BH-178-04, to characterize the extent of lead and other constituents.

For sub-areas MW-23-04 and SB-51-02, potential exposure of routine workers to soil lead is not expected to be of concern even though the concentrations at these sub-areas

exceed the upper-end screening criterion. The reason is that the soil lead screening criterion assumes that workers spend the entire work-day outdoors for 219 days/year, and it is unrealistic to expect that workers would spend this much time in the 0.02-acre area around MW-23-04 or in the 0.1-acre area around SB-51-02. To provide a more realistic but still highly conservative assessment of potential soil lead exposure at these two sub-areas, workers were assumed to have exposure units that comprise the nearest sub-areas surrounding boring locations MW-23-04 and SB-51-02. For MW-23-04, an exposure concentration for lead was derived for a hypothetical exposure unit comprised of this sub-area and one contiguous sub-area, which total to 0.092 acre. For SB-51-02, an exposure concentration for lead was derived for a hypothetical exposure unit comprised of this sub-area and two contiguous sub-areas, which total to 0.38 acre. As shown in Table 6.8, the soil lead concentrations for these hypothetical exposure units around MW-23-04 and SB-51-02 are 683 and 610 mg/kg, respectively, which are below the lower end of the U.S. EPA range of screening criteria for industrial workers. Figure 6.4B shows the locations of the sub-areas used in these calculations, which are the worst-case combinations of contiguous sub-areas with MW-23-04 and SB-51-02.

None of the lead concentrations in the surface soil samples collected after the RFI Report is higher than 750 mg/kg, which is the low-end of U.S. EPA's range of screening criterion.

Potential indoor exposures

The upper-bound estimates of cumulative cancer risk and HI for potential indoor exposure of routine workers to soil via vapor intrusion for each of the 214 sub-areas are summarized in Table 6.6A. These upper-bound estimates conservatively assume that the workers are exposed indoors for the entire work day for 250 days/year over 25 years. They are also conservatively based on the highest concentration of each chemical detected among all the samples (surface and subsurface) within each respective sub-area. Details of the vapor intrusion modeling calculations are provided in Appendix E of the RFI Report and Appendix F of this Report. The upper-bound estimates of site-related cumulative cancer and noncancer risks for each of the 214 sub-areas were compared to U.S. EPA's cancer risk limit of 10^{-4} and HI limit of 1 (U.S. EPA, 1991), respectively.

The results in Table 6.6A show that there are 24 sub-areas with upper-bound cumulative cancer risk that are potentially significant and nine sub-areas with upper-bound HI that are potentially significant. These sub-areas are highlighted on Figure 6.5. The concentrations of PCE, TCE, and/or VC generally contributed most to the upper-bound cumulative cancer risk estimates at these locations, and the concentrations of

cis-1,2-DCE and/or PCE generally contributed most to the upper-bound HI estimates. Further information regarding the chemical-specific contribution to the upper-bound cumulative cancer risk and HI is provided in Appendix F. The upper-bound HI for sub-area SB-110-04 exceeds 1 as a result of the soil data presented in RFI Report Addendum 1. The upper-bound HI for sub-area SB-117-04 exceeds 1 as a result of the additional soil data discussed in Section 6.3.1.1.

Several of the sub-areas highlighted on Figure 6.5 are in areas where buildings are expected to be constructed, according to the site redevelopment plan (also shown on Figure 6.5). Figure 6.5 shows that sub-areas with potentially significant upper-bound cumulative cancer risk and HI are either entirely or partly under planned Buildings C, N, Q, and the parking structure. The potential for significant vapor intrusion exposure in these buildings was further evaluated to determine whether vapor mitigation or other considerations are warranted in the design and construction of these buildings, as follows:

- As discussed in the RFI Report, because parking structures are not enclosed, exposure and risk from vapor intrusion at such structures is not a concern. An earlier version of the site redevelopment plan indicated that a building (Building J) may be constructed on top of the parking structure. Because it would be on top of the parking structure, vapor intrusion is also not a concern for Building J.
- Sub-area BH-184-02 is shown on Figure 6.5 as extending into a corner of Building C, but Building C is an existing building (Building 5) with a basement in this corner. As discussed in the RFI Report, this means the soil represented by BH-184-02 actually does not extend under the corner of Building C. Therefore, vapor intrusion from soil underlying this building is not a concern for this building even if it is to be reused.
- For planned slab-on-grade Buildings N and Q, cumulative cancer risk and HI were calculated for each building by aggregating the vapor intrusion risk estimates for each sub-area within the planned footprint of each respective building. It was conservatively assumed that a distinct population of routine workers would spend the entire exposure period of 250 days per year for 25 years in each of these buildings. For chemicals where the assumed mass of a chemical infiltrating into the building over the assumed exposure period equaled the upper-bound estimate of the chemical's mass in the vadose zone underlying the building (subsequently referred to as "mass-limited chemicals"), the sub-area-specific cancer risk and HQ estimates were scaled according to the portion of the boring's sub-area that is located under the proposed building footprint. These scaled risk estimates were then summed (among mass-limited chemicals and then among sub-areas) for the entire building. For lower-volatility chemicals that were not considered mass-limited, the

chemical-specific risk estimates were conservatively aggregated taking into consideration the entire sub-area rather than only the portion of each sub-area that is within the proposed building footprint. The resulting cumulative risk estimates for mass-limited and non-mass-limited chemicals for each respective building were then added. For Building N, the building-specific assessment resulted in a cumulative cancer risk and HI of 9×10^{-5} and 1, which are within the U.S. EPA limits of 10^{-4} and 1. These estimates for Building N differ slightly from those presented in the RFI Report (1×10^{-4} and 1, respectively) due to a slight shift in the position of Building N and merging with Building O in the most recent site redevelopment plan. For Building Q, the building-specific assessment resulted in a cumulative cancer risk and HI of 9×10^{-5} and 1, which are within the U.S. EPA limits of 10^{-4} and 1. These estimates for Building Q are lower than those presented in the RFI Report due to a shift in the position of Building Q to the north-west, which reduced the portion of sub-area SB-73-03 that is under Building Q.

These building-specific assessments show that the planned buildings, as they are configured in the current site redevelopment plan, do not warrant vapor mitigation considerations in their design and construction. However, if the configuration of these buildings change or other buildings are added to the plan in a way that results in having a building overlay any of the sub-areas highlighted on Figure 6.5, additional building-specific assessments like those discussed above would be warranted. Further details for the building-specific calculations discussed above are provided in Appendix F.

6.4.1.2 ROUTINE WORKER EXPOSURE TO GROUNDWATER

Groundwater characterization data collected from monitoring wells in the upper aquifer were compared to health-based criteria based on vapor intrusion. As summarized in Section 6.2.2.2 and Tables 6.2A and 6.2B, no concentration in groundwater samples from the upper aquifer exceeds the criteria based on potential vapor intrusion. Based on the comparison results in Tables 6.2A and 6.2B, it can be shown that the cumulative cancer risk and HI estimates for potential exposures of routine workers via vapor intrusion from constituents in upper aquifer groundwater would not exceed U.S. EPA limits.

Exposure of routine workers via potable groundwater use is not expected because groundwater is not currently used as a drinking water supply at the Site and future potable use of groundwater at the Site is not reasonably expected, as discussed in Section 3.8 of the RFI Report.

6.4.1.3 ROUTINE WORKER EXPOSURE TO LNAPL

No new LNAPL characterization data were collected after the RFI Report. As discussed in Section 5.6 and Appendix E of the RFI Report and Appendix F of this Report, the risk assessment did not use the finite mass approach that U.S. EPA used in its LNAPL vapor intrusion model. Instead, the risk assessment used a more conservative approach which assumed chemical concentrations in the LNAPLs and vapor emissions from the LNAPLs remain constant (rather than decrease) over time. That is, the risk assessment essentially assumed an infinite mass of contaminants. It should also be noted that the risk assessment used the highest detected chemical concentrations among the LNAPL characterization data for each LNAPL area, as another highly conservative way of accounting for variability and uncertainty in the characterization of the LNAPL and LNAPL-contaminated soil. Using these highly conservative assumptions (i.e., infinite mass, and the highest detected concentrations), the upper-bound estimates of cumulative cancer risk and HI for vapor intrusion exposures at the two LNAPL areas are:

	Risk	***HI***
Chip Area LNAPL	3×10^{-7}	0.01
Hydromation Pit LNAPL	2×10^{-8}	0.02

Because these upper-bound estimates are well within the acceptable cumulative cancer risk limit of 10^{-4} and HI limit of 1, they provide a reliable determination that potential routine worker exposure to constituents in these LNAPLs via vapor intrusion would not pose a significant risk. It should be noted that the City's redevelopment plan does not include the construction of any buildings at either of the LNAPL areas.

6.4.2 ON-SITE CONSTRUCTION WORKERS

The Site is not currently being used, but it is being redeveloped for commercial/industrial reuse by the City of Dayton. According to the site redevelopment plan provided to GM by the City of Dayton, future buildings at the Site are expected to be slab-on-grade construction.

As discussed in the RFI Report, redevelopment is proceeding in three phases with the first phase of site preparation nearly completed between Webster Street and Taylor Street; demolition of on-site above-ground structures in this part of the Site was completed in October 2005, and regrading and floor-slab removal in certain areas are

largely completed. Although the schedule for remaining site preparation activities between Webster Street and Taylor Street is being developed, completion of the sub-grade utilities corridor in the southern portion is underway and is the only activity known to be planned for the next 12 months. Activities in the northern portion are expected to resume after completion of further soil investigation (and, if warranted, remediation) of certain areas identified in RFI Report Addendum 1; these site preparation activities are currently expected to resume after 2008.

The portions of the Site between Taylor Street and the railway and between the railway and Keowee Street are scheduled for redevelopment in the second and third phases, respectively. Asbestos abatement is underway in certain buildings. The City is currently planning other construction-related site preparation activities for the portion of the Site between Taylor Street and the railway. Although the scope of near-term activities is being developed, the first stage of work in this portion of the Site involves construction of a sub-grade utilities corridor in the southern portion of the area between Taylor Street and Meigs Street as soon as during the second half of 2008. No construction workers are currently present or expected to be present in the near future at the rest of this part of the Site between Taylor and Keowee Streets, where the buildings have been vacated and site preparation entailing slab removal and soil excavation is not expected to begin until at least after 2008. Other short-term workers currently at the Site (e.g., asbestos removal workers) are engaged in activities that are entirely above ground.

During slab removal and excavation associated with site preparation activities, construction workers could come in contact with surface and subsurface soil at the Site. These subsurface activities are expected to be of limited extent and duration. Potential routes of exposure would include incidental ingestion, dermal contact, and inhalation of soil vapor and airborne particulates.

According to the site preparation plans provided to GM by the City of Dayton, construction activities in the first phase of redevelopment (between Webster and Taylor Streets) do not involve excavations that extend into the water table, which is typically found at approximately 7 to 13 feet bgs at and around the Site. If excavations that encounter groundwater are necessary in the future phases of redevelopment, workers could be exposed to shallow groundwater. Potential routes of exposure would include incidental ingestion, dermal contact, and inhalation of vapor. If construction plans for future phases of redevelopment between Taylor and Keowee Streets require excavation to the water table in the Chip Handling and Hydromation Pit areas (AOIs 11, 12, 13, 14, and 21), construction workers also could be exposed to LNAPL and LNAPL-containing soil in the smear zone. The most potentially significant routes of exposure to LNAPL would be dermal contact and inhalation of vapor. Subsurface activities that could lead

to exposure of construction workers to shallow groundwater and/or NAPL, if to occur, are expected to be of limited extent and duration.

No current redevelopment activities occur in an area that is located under concrete floors that were characterized in the RFI. All on-site buildings formerly located between Webster and Taylor Streets were demolished, and the basements of these buildings have been made permanently inaccessible. In the future phases of redevelopment (e.g., between Taylor and Keowee Streets), incidental contact with concrete surfaces by construction workers is possible during building demolition and slab removal.

The significance of risks associated with potential current or future exposure of construction workers to soil, groundwater, LNAPL, and concrete at the Site is discussed below. This receptor population was referred to as "redevelopment workers" in the RFI Report.

6.4.2.1 CONSTRUCTION WORKER EXPOSURE TO SOIL

Risk Estimates

The upper-bound estimates of cumulative cancer risk and HI from potential outdoor exposures of construction workers to soil for each of the 214 sub-areas are summarized in Table 6.6A. These initial upper-bound estimates conservatively assume that construction workers spend the entire exposure period of 250 days in each sub-area. These estimates are considered upper-bound estimates because it is essentially impossible for construction workers to spend as much as 250 days within each sub-area excavating into surface and subsurface soil. Additionally, the estimates are conservatively based on the highest concentration of each chemical detected among all the samples (surface and subsurface) within each respective sub-area without regard to whether soil at a particular depth would, in fact, be encountered. The upper-bound estimates of site-related cumulative cancer and noncancer risks for each of the 214 sub-areas were compared to U.S. EPA's cancer risk limit of 10^{-4} and HI limit of 1, respectively (U.S. EPA, 1991).

The results in Table 6.6A show that there is one sub-area (SB-3-02) with a potentially significant upper-bound cumulative cancer risk and 31 sub-areas with potentially significant upper-bound HI (e.g., sub-area SB-118-04). These sub-areas are highlighted on Figure 6.6. The HI estimates for sub-areas BH-178-04, MW-5-03, SB-110-04, SB-115-04, and SB-126-04 exceed 1 as a result of soil data presented in RFI Report Addendum 1. The HI estimate for sub-area MW-23-04 exceeds 1 as a result of the

additional soil data discussed in Section 6.3.2. The concentrations of PCBs, cis-1,2-DCE, PCE, TCE, antimony, cadmium, and/or manganese generally contributed most to the HI estimates at the highlighted locations. Based on GM's understanding that the City of Dayton will leave certain existing building slabs intact as part of its redevelopment, some of the locations with potentially significant upper-bound risk estimates for the construction worker scenario are located where soil excavation is not expected to occur during site preparation for redevelopment.

As discussed above, there are the only two areas where site preparation activities may involve soil excavation during the second half of 2008 and first half of 2009. These two areas are outlined in purple on Figure 6.7 and are associated with construction of utility corridors. The significance of potential soil exposures in these two areas is discussed below.

Webster Street to Taylor Street

Completion of the sub-grade utilities corridor in the southern portion is underway and is the only activity known to be planned for the next 12 months in the portion of the Site between Webster and Taylor Streets. This 2.2-acre area is shown in the western half of the area outlined in purple on Figure 6.7, and is bounded to the west and south by the Site boundary, to the north by the remaining building slab, and to the east by the eastern edge of the former GM Building 1; building locations and Site boundaries are shown on Figure 1.4 and slab locations are shown on Figure 5.5 of the RFI Report (CRA, 2006a). As shown by comparing Figure 6.7 and the risk estimates in Table 6.6A and Figure 6.6, none of the 31 soil sub-areas that are entirely or partially within this 2.2-acre area have upper-bound cumulative cancer risk estimates that exceed the limit of 10^{-4} and only six have upper-bound HI estimates that exceed the limit of 1, assuming that construction workers spend 250 work-days at each sub-area.

However, construction workers are expected to spend much less than 250 work-days in each sub-area. According to the City of Dayton's construction plans, the exposure period for this stage of work in this 2.2-acre area is expected to be no more than 64 work-days. To derive a more realistic but still conservative estimate of the RME for construction workers in this area during this stage of work, the area comprising the 31 whole and partial sub-areas was considered to be the appropriate exposure unit for this scenario, and it was assumed in accordance with U.S. EPA risk assessment guidance (U.S. EPA, 2002a) that the construction workers will be equally exposed to soil within all portions of the exposure unit over the 64 work-days (90 calendar days) expected for this phase of work.

To derive RME risk estimates for this scenario, cumulative cancer risk and HI estimates for each of the 31 whole and partial sub-areas were first calculated using an EF of 64 work-days/year. These risk estimates are shown in the third and fourth columns of Table 6.10, which indicate that only three of the 31 soil sub-areas (i.e., SB-109-04, SB-117-04, and SB-71-03) have an upper-bound HI that exceeds 1. Collectively, these three sub-areas comprise less than 0.02 acres (or less than 1%) of the total exposure unit of 2.2 acres. Under the assumption that an individual is equally exposed to soil within all portions of an exposure unit over the exposure period (U.S. EPA, 2002a), the calculation of risk estimates for the exposure unit must account for differences in the area that is represented by each soil boring location. If the calculations do not account for such differences, the resulting risk estimates would implicitly assume, without any basis and in contradiction of U.S. EPA risk assessment guidance (U.S. EPA, 2002a), that construction workers will spend a disproportionately large amount of time in the smaller sub-areas within the exposure units. To properly account for the differences in the area that is represented by each soil boring location, the cumulative cancer risk or HI estimate for each sub-area was weighted by the ratio of the polygon's area that is within this exposure unit to the total area of the exposure unit (which is approximately 2.2 acres). The area-weighted risk estimates for each boring location (in the fifth and sixth columns of Table 6.10) were then summed to obtain the cumulative cancer risk and HI estimates for the 2.2-acre exposure unit.

As shown in Table 6.10, the cumulative cancer risk and HI estimates of 9×10^{-7} and 0.1 for the exposure unit are well within U.S. EPA's limits of 10^{-4} and 1, respectively. These estimates show that no unacceptable exposure of construction workers to soil is expected during the next phase of site preparation activities in this 2.2-acre exposure unit. It should be noted that the cumulative cancer risk and HI estimates for the exposure unit is still highly conservative because they are still based on the highest concentration of each chemical from any depth at each boring location. As such, these estimates are believed to be still higher than RME risk estimates. The cumulative cancer risk and HI estimates for the exposure also do not exceed the limits of 10^{-4} and 1, respectively, even if a soil ingestion rate of 330 mg/day is used instead of 200 mg/day.

As noted above, the upper-bound cumulative cancer risk and HI estimates in Table 6.10 are highly conservative in that they are calculated using the highest concentrations detected at any depth in a boring when some of these concentrations are at depths greater than the maximum excavation depth in the City's construction plans. For example:

- The concentrations that contribute most significantly to the upper-bound HI estimate for location SB-109-04 are at a depth of 8 to 10 feet, which is far deeper than the

planned excavation depth at this location. In fact, the upper-bound HI estimate for SB-109-04, which is based on the PCBs concentration at 8 to 10 feet bgs, is the largest component of the HI for the 2.2-acre exposure unit. In the area represented by boring location SB-109-04, the City's construction plan actually indicates that soil excavation will not extend beyond the top 2 feet, where PCBs were not detected.

- The concentrations that contribute most significantly to the upper-bound HI estimate for location SB-71-03 are at a depth of 8 to 10 feet, which is far deeper than the planned excavation depth at this location. The PCBs concentration at SB-71-03 contributes the most to the upper-bound HI estimate for this location. Most of the area associated with soil boring SB-71-03 is under a slab that will not be removed; slab locations are shown on Figure 5.5 of the RFI Report (CRA, 2006a).

Taylor Street to Meigs Street

The City's construction-related site preparation plans indicate that the first stage of phase two work may involve construction of a sub-grade utilities corridor in the southern portion of the area between Taylor Street and Meigs Street, as soon as during the second half of 2008. This area is shown in the eastern half of the area outlined in purple on Figure 6.7 and is bounded by the Site boundary to the south, by the eastern edge of former GM Building 1 to the west, the southern edge of existing Building 5 to the north, and Meigs Street to the east; building locations and Site boundaries are shown on Figure 1.4 of the RFI Report (CRA, 2006a). As shown on Figure 6.7 and Table 6.11, none of the 14 sub-areas that are entirely or partially within this area have upper-bound cumulative cancer risk and HI estimates that exceed the limits of 10^{-4} and 1, respectively. These results show that no unacceptable exposure of construction workers to soil is expected during activities in this area. The actual amount of time construction workers will spend in this area is expected to be much less than 250 work-days/year in each sub-area, which means the estimates in Table 6.10 are extremely conservative. The risk estimates in Table 6.11 are also highly conservative because they are based on the highest concentration of each chemical from any depth in the soil even though workers are less likely to encounter deeper concentrations. The upper-bound cumulative cancer risk and HI estimates for these 14 sub-areas also do not exceed the limits of 10^{-4} and 1, respectively, even if a soil ingestion rate of 330 mg/day is used instead of 200 mg/day, as documented in Appendix F.

Further refinements to the upper-bound risk estimates for the northern portion of the area from Webster to Taylor Streets have not been conducted because further soil characterization, and possible remediation, of certain areas identified in RFI Report Addendum 1 is scheduled to be conducted and no site preparation activities in this area

are expected until soil characterization (and possible remediation) is completed. This area is currently surrounded by fencing.

Specific plans for construction activities that could potentially expose construction workers to surface and subsurface soil (e.g., plans for concrete slab removal and soil excavation) are not yet available to GM for the remaining phases of the City's redevelopment plan. Hence, it is not yet possible to refine the upper-bound risk estimates for these areas based on site-specific information regarding exposure units and exposure duration, as was done for the corridor construction areas between Webster and Taylor Streets and Taylor and Meigs Streets.

In summary, the soil conditions in the southern portions of the area between Webster and Taylor Streets and Taylor and Meigs Streets are not expected to pose a health concern for construction workers in terms of cumulative cancer risk or HI during slab removal and soil excavation associated with construction of utility corridors. The data and risk estimates for sub-areas in the northern portion of the area between Webster and Taylor Streets warrant further evaluation after additional soil investigation and possible remediation in this area have been conducted. The soil conditions between Taylor Street and the Railway and between the Railway and Keowee Street warrant reconsideration as specific plans for redevelopment of these portions of the Site are developed. Further details on the calculations discussed above, which are recommended for future evaluation of site-specific exposure units and exposure duration, are provided in Appendix E of the RFI Report and Appendix F of this report.

For construction workers, the risk assessment used a soil ingestion rate of 200 mg/day, as shown in Table 6.4. As explained in Section 5.4.6.2 of the RFI Report, the soil ingestion rate of 200 mg/day can be shown to be consistent with the soil-to-hand adherence data for the construction-related activities in the 1997 Exposure Factors Handbook (U.S. EPA, 1997). This consistency provides technical support for the soil ingestion rate because incidental soil ingestion is predominantly associated with hand-to-mouth contact (e.g., Kissel et al., 1998). In addition, calculations were performed using a soil ingestion rate of 330 mg/day, per request by U.S. EPA Region 5. As documented in Appendix F, these calculations show that using 330 mg/day adds only nine sub-areas, which are contiguous with several of the existing 31 soil boring locations (out of 214 at the Site) that have upper-bound risk estimates exceeding the cumulative cancer risk limit of 10^{-4} or the HI limit of 1, except for one location (SB-5-02). Further details for these calculations are provided in Appendix F.

The risk estimates for construction workers exposure to background concentrations of metals in soil are shown in Table 6.9. These risk estimates are low, with the exception of

manganese. The manganese HQ is a nontrivial fraction of the HI limit of 1, but it does not indicate that manganese is elevated in the background soil. As shown in the Table 6.9 (and Table 3-2 in the RFI Report), the manganese background concentration used in the risk assessment is only 816 mg/kg, which is well within the range of background in Ohio (Dragun and Chekiri, 2005) and across the United States (Shacklette and Boerngen, 1984). The manganese background HQ for the construction scenario is as high as 0.6 only because several highly conservative assumptions were used to assess exposures for this scenario. For example, the risk assessment used the very stringent chronic RfC of 0.00005 mg/m^3 from U.S. EPA's Integrated Risk Information System (IRIS) as a subchronic RfC (because a subchronic RfC is not available) and assumed that workers inhale 50 µg/m^3 of PM10 during the work day for 250 days/year. Under less extreme assumptions, such as those for the routine worker scenario, the manganese background HQ is only 0.01 (see Table 6.9). These results show that when enough conservative assumptions are combined, even background concentrations that do not warrant risk management attention can appear significant.

Lead Data

The updated soil lead data for each of the 214 sub-areas are summarized in Table 6.6B, wherein the "Concentration Basis" columns indicate whether a concentration is the maximum detected at that location ("Max Detect") or is conservatively interpolated from the maximum detected at a nearby location ("Interpolated Max Detect"). The soil lead data in Table 6.6B are categorized relative to the U.S. EPA range of screening criteria for long-term exposure to industrial workers, which is 750 mg/kg to 1,750 mg/kg. These soil criteria are intended to protect workers that include child-bearing age women.

The results show that only eight sub-areas have soil lead concentrations greater than 750 mg/kg, which is the lower-end of U.S. EPA's range of screening criterion. This criterion was developed for routine worker and is conservatively used to assess lead exposures to construction workers, since it is based on an EF of 219 days per year. Two of these sub-areas (BH-178-04 and MW-5-04) are located between Webster Street and Taylor Street, two (SB-21-02 and MW-23-04) are located between Taylor Street and the Railway, and four (SB-29-02, SB-30-02, SB-51-02, and SB-82-03) are located between the Railway and Keowee Street. The significance of potential soil lead exposures in these sub-areas was evaluated further, as follows:

- None of the RFI soil boring locations in the two areas outlined in purple on Figure 6.7 has lead concentrations greater than 750 mg/kg. Hence, lead concentrations in on-site soil do not pose a health concern to construction workers during completion of sub-grade utilities corridors in these areas.

- As discussed in RFI Report Addendum 1 (CRA, 2006b), GM is planning to conduct additional soil sampling in the vicinity of AOI 44, including within sub-areas MW-5-03 and BH-178-04, to characterize the extent of lead and other constituents. The data and risk estimates for sub-areas in the northern portion of the area between Webster and Taylor Streets warrant further evaluation after additional soil investigation and possible remediation in this area have been conducted.
- The soil conditions between Taylor Street and the Railway and between the Railway and Keowee Street warrant reconsideration as specific plans for redevelopment of these portions of the Site are developed.
- As discussed in Section 6.4.1.1, potential exposure of construction workers to soil lead in sub-areas MW-23-04 and SB-51-02 are not expected to be of concern even though the concentrations at these sub-areas exceed the upper-end screening criterion. The reason is that the soil lead screening criterion assumes that workers spend the entire work-day outdoors for 219 days/year, and it is unrealistic to expect that construction workers would spend this much time in the 0.02-acre area around MW-23-04 or in the 0.1-acre area around SB-51-02. Consideration of realistic exposure units and area-weighted average lead concentrations indicate that potential lead exposure should not be a concern to construction workers, as shown in Table 6.8 and Figure 6.4B.

6.4.2.2 CONSTRUCTION WORKER EXPOSURE TO GROUNDWATER

The risk assessment conservatively assumed that construction workers could contact groundwater anywhere at the Site during excavations into the water table. However, as noted above, construction of utility corridors in the southern portions of the areas between Webster Street and Taylor Street is not expected to involve excavations that extend into the water table, according to the current redevelopment plan provided to GM by the City of Dayton.

Because the water table at the Site ranges from approximately 7 to 13 feet below ground, the risk assessment assumed a groundwater exposure frequency (EF) of 5 days/year, based on professional judgment that most excavations will not likely extend to such depths. GM believes that it is reasonable to expect that the frequency of groundwater contact should be lower than that for soil excavations at sites where the water table is not near ground surface. The water table at the Site ranges from approximately 7 to 13 feet below ground, depending on location and season. Most if not all existing utilities at the Site are above the water table, and the new corridor for underground utilities that is being constructed in the southern part of the site between Webster Street and Taylor

Street is also above the water table. For these reasons, using an EF of 5 days/year to assess construction worker exposures via contact with groundwater at the Site is adequately conservative, since it would not be reasonable to expect every soil excavation at the Site to reach the water table. The risk assessment also assumed an exposure time of 2 hours per event for groundwater, based on professional judgment that workers are not likely to remain in contact with "fresh" groundwater at the bottom of an approximately 10-foot deep pit (the mid-point of the range of groundwater depths across the Site) for more than 2 hours at a time.

To streamline the risk assessment, this scenario was used for both construction workers and maintenance workers, because the scenario is believed to be representative of excavations that are reasonably likely to occur during site redevelopment, as well as during pre-and post-redevelopment maintenance activities. As discussed in Section 5.6.2.2.2 of the RFI Report, the evaluation of construction worker exposures in this scenario was accomplished by recognizing that their exposures cannot be higher that those for maintenance workers due to their shorter ED of 1 year (as compared to the maintenance workers' ED of 10 years) which also allows exposures to be assessed using subchronic (rather than chronic) toxicity values. As discussed in Section 6.3.2.2.2, the risk estimates for maintenance workers do not exceed the limits of 10^{-4} and 1, respectively, for any on-site area; hence, potential exposures of construction workers to upper aquifer groundwater are not significant for any on-site area.

6.4.2.3 CONSTRUCTION WORKER EXPOSURE TO LNAPL

No new LNAPL characterization data were collected since the RFI Report. As discussed in Section 5.6 of the RFI Report, the risk assessment included a site-specific evaluation of direct contact and inhalation exposures to LNAPL, using methods that are recommended in U.S. EPA guidance, as noted in Section 5.4.6.2 and Section E4.2 of the RFI Report. Potential routes of exposure to LNAPL-containing smear zone soil would include incidental ingestion and dermal contact.

To streamline this risk assessment, exposure of construction workers to LNAPL and smear-zone soil are indirectly evaluated using risk estimates for exposure of maintenance workers to LNAPL and smear-zone soil, which are believed to be appropriate. Maintenance worker LNAPL contact estimates were used to assess construction worker exposure to LNAPL since construction workers are expected to contact LNAPL for a period of time that is no more than that for maintenance workers. As discussed in the preceding sub-section regarding potential exposures to groundwater, excavations that extend to the water table would be expected to remain

open during only a small portion of the overall site preparation and construction activities and construction workers would be in the excavation pit for only a small part of that time.

As discussed in Section 5.6 of the RFI Report, potential exposures to constituents in on-site LNAPL are not expected to pose a significant risk to maintenance or construction workers, as shown by Table 6.13. In addition, LNAPL is not present in the areas outlined in purple on Figure 6.7, where the next stages of site preparation are planned. Hence, construction workers would not have any exposure to LNAPL during completion of sub-grade utilities corridors in these areas.

6.4.2.4 CONSTRUCTION WORKER EXPOSURE TO CONCRETE SURFACES

In the future phases of redevelopment (e.g., between Taylor and Keowee Streets), incidental contact with concrete surfaces by construction workers is possible during building demolition and slab removal. During such activities, construction workers are expected to wear personal protective equipment that is typical for these types of construction work (such as gloves) which would tend to minimize such contact.

As discussed in Section 2.2.6.3 of the RFI Report, wipe and core samples of concrete surfaces were collected at various locations throughout the Site and analyzed for PCBs. These data are summarized in the Table 4.4 of the RFI Report. No new concrete data were collected after the RFI Report.

To supplement the concrete data evaluation discussed in the RFI Report, the concrete core sampling data were used in a screening-level risk assessment. Table 6.12 lists the maximum PCB concentration detected at each sampling location and identifies that only five sample locations have PCB concentrations greater than 25 mg/kg, the core sampling criterion for low-occupancy areas, which was established by U.S. EPA under TSCA (40 CFR 761.61). The TSCA low-occupancy criterion is appropriate because the remaining buildings are not in use and are scheduled for demolition in later phases of site redevelopment. As noted in Table 6.12, each of these locations has been removed, is scheduled to be removed, or is scheduled to be sealed, pending approval of GM's Concrete Isolation Plan (BOW, 2006 and 2007) by U.S. EPA. For purposes of a screening-level risk assessment for concrete surfaces, upper-bound risk estimates were calculated using the same exposure factors (e.g., incidental ingestion rate, dermal adherence, skin surface area) as for exposure to soil. The resulting values are shown in Table 6.12. All sampling locations have upper-bound cancer risk estimates well below the U.S. EPA's limit of 10^{-4}. Only the three existing locations that were identified by

comparison to the TSCA low-occupancy criteria and are scheduled to be removed or sealed have an upper-bound HQ greater than 1; two of these locations are between Taylor Street and the Railway and one is between the Railway and Keowee Street. None of these locations is within the two areas outlined in purple on Figure 6.7, which are associated with construction of utility corridors. Hence, construction workers would not have any significant exposure to PCBs in concrete during completion of sub-grade utilities corridors in these areas.

This screening-level assessment assumed that intact concrete is just as available for exposure to workers as soil, which clearly is highly conservative. For each of the sampling locations, risk estimates were calculated using the exposure factors that are intended to apply to soil and substantially over-state the workers' actual (but unknown) exposure to bulk concrete. In addition, these calculations assume that each sampling location constitutes a distinct exposure unit for the entire potential exposure of worker populations. For each of these worst-case exposure units, risk estimates were calculated using the exposure factors (e.g., EF of 250 days/year in the case of construction workers) that are supposed to apply to the workers' actual (but unknown) exposure units. The purpose of these risk calculations was to derive obvious upper-bound cumulative risk estimates that can be used to reliably identify areas that do not pose a significant risk to construction workers. From the results in Table 6.12, the screening-level risk assessment was able to conclude that the concrete boring locations with upper-bound estimates that do not exceed the cumulative cancer risk limit of 10^{-4} or the HI limit of 1 will not pose a significant risk to construction workers. Although the upper-bound estimates in Table 6.12 are useful for identifying locations that do not pose a significant risk, they cannot be used to conclude that a location poses a significant risk. This is because each of the worst-case exposure units is so small that it would be unreasonable to expect workers to have their entire concrete exposure (e.g., EF, ED) only within one sampling location.

6.4.3 ON-SITE MAINTENANCE WORKERS

Maintenance workers could be present at the Site under current or future conditions to conduct emergency repairs of utilities, which are currently located predominantly around the Site perimeter and along Taylor Street. These activities could put them in contact with surface and subsurface soil, upper aquifer groundwater, or LNAPL in the smear zone at either the Chip Handling or Hydromation Pit Areas. Excavations associated with these maintenance activities are expected to be of limited size and duration, because they would likely arise only during emergency repairs of utilities that are designed to provide reliable and essential supplies of water or power. Potential

routes of exposure would include incidental ingestion, dermal contact, and inhalation of soil vapor and airborne particulates.

Maintenance workers could be potentially exposed to on-site storm sewer water and sediment during occasional maintenance activities that require entry into the storm sewers that still service the Site. Potential routes of exposure would include incidental ingestion, dermal contact, and inhalation of vapor.

The significance of risks associated with potential exposures of maintenance workers to on-site soil, on-site upper aquifer groundwater, LNAPL, concrete, storm sewer water, and storm sewer sediment is discussed below.

6.4.3.1 MAINTENANCE WORKER EXPOSURE TO SOIL

The conceptual redevelopment plans for the Site entail placement of up to several feet of "clean fill" for grading and to attain specified ground elevations consistent with planned land uses. For purposes of the health risk assessment, potential exposures by maintenance workers conservatively assumed that the existing surface soil will remain surface soil, because specific plans for placement of clean fill are not yet available.

The upper-bound estimates of cumulative cancer risks and HI from potential outdoor exposures of maintenance workers to soil for each of the 214 RFI sub-areas are summarized in Table 6.6A. These estimates are conservatively based on the highest concentration of each chemical detected among all the samples (surface and subsurface) within each respective sub-area. These calculations used an ED of 10 years and the U.S. EPA-suggested ingestion rate of 100 mg/day and EF of 30 days/year for the Site, as shown in Table 6.4. The ED of 10 years is supported by the analysis of Burmaster (2000), using data from the Bureau of Labor Statistics through February 1996, which indicated that 95th and 90th percentile job tenure of workers in construction is approximately 12.48 years and 7.7 years, respectively, both of which round to 10 years, using 1 significant digit. Further details for these calculations are provided in Appendix F.

The upper-bound estimates of site-related cumulative cancer risk and HI for each of the 214 sub-areas were compared to U.S. EPA's cancer risk limit of 10^{-4} and HI limit of 1, respectively (U.S. EPA, 1991). The results show that there are no sub-areas with an upper-bound cumulative cancer risk estimate that exceeds 10^{-4}. Two of the sub-areas (SB-109-04 and SB-71-03) have upper-bound HI estimates that exceed the limit of 1; their locations are shown on Figure 6.8A. For SB-109-04, the upper-bound HI estimate is 3, and is based on the assumption that maintenance workers would spend 30 days/year

for 10 years at the 0.015-acre area associated with SB-109-04. Similarly, for SB-71-03, the upper-bound HI estimate is 2, and is also based on the assumption that workers would spend 30 days/year for 10 years at the 0.12-acre area associated with SB-71-03. Realistically, maintenance workers would not be reasonably expected to spend 30 days per year for 10 years in such small areas. To provide a more realistic but still highly conservative assessment of potential exposure, risk estimates were derived for small, hypothetical exposure units that comprised each of these sub-areas and contiguous sub-areas.

For SB-109-04, the hypothetical exposure unit comprised SB-109-04 and two contiguous sub-areas which total to 0.034 acres. For SB-71-03, the hypothetical exposure unit comprised SB-71-03 and one contiguous sub-area which total to 0.21 acres. Clearly, it is still highly conservative to assume that maintenance workers would spend 30 days/year excavating soil to any depth within these small hypothetical exposure units. As such, the HI estimates for these hypothetical exposure units are still higher than RME risks. However, because they do not exceed the limit of 1, as shown in Table 6.6A, they are useful for demonstrating that maintenance worker exposure to soil around these sub-areas is not significant. Figure 6.8B shows the locations of the sub-areas used in this calculation, which are the worst-case combinations of contiguous sub-areas with SB-71-03 and SB-109-04. The details of these calculations are presented in Appendix F.

The risk estimates for maintenance worker exposure to background concentrations of metals in soil are shown in Table 6.9. These risk estimates are low and not significant.

The updated soil lead data are summarized in Table 6.6B. As discussed in the RFI Report, the soil lead data were categorized relative to the U.S. EPA range of screening criteria for industrial workers, which is 750 mg/kg to 1,750 mg/kg. As shown in Table 6.6B, lead concentrations in on-site soil exceed the upper-end of this range only at sub-areas MW-5-03, BH-178-04, SB-21-02, SB-30-02, SB-82-03, MW-23-04, and SB-51-02. For locations MW-23-04 and SB-51-02, consideration of realistic exposure units and area-weighted average lead concentrations indicate that potential lead exposure should not be a concern to maintenance workers, as shown in Table 6.8 and Figure 6.4B and discussed above in Section 6.4.1.1. Each of the five remaining locations with lead concentrations in on-site soil that exceed the upper-end of the range of screening criteria set by U.S. EPA is located near the Site perimeter, where utilities are currently located. As such, GM has advised the City of Dayton to establish controls to ensure protection of maintenance workers during maintenance activities in the vicinity of locations MW-5-03, BH-178-04, SB-21-02, SB-30-02, and SB-82-03 if such activities have the potential for workers to contact soil.

The U.S. EPA soil criteria for lead are intended to protect workers that include child-bearing age women, and are based on an assumed EF of 219 days per year. Because maintenance workers are assumed to have less frequent exposure to on-site soil, they can encounter higher lead concentrations in on-site soil without a health concern during occasional sub-surface activities. The assessment of potential lead exposures to maintenance workers discussed above has not incorporated any adjustment for an EF less than 219 days/year for maintenance workers, although such adjustments could be made based on nonsteady-state blood-lead modeling of short-term (i.e., less than 90 days) exposures.

6.4.3.2 MAINTENANCE WORKER EXPOSURE TO LNAPL AND SMEAR ZONE SOIL

No new LNAPL characterization data were collected after the RFI Report. As discussed in Section 5.6 of the RFI Report, the risk assessment included a site-specific evaluation of direct contact and inhalation exposures to LNAPL, using methods that are recommended in U.S. EPA guidance, as noted in Section 5.4.6.2 and Section E4.2 of the RFI Report. Potential routes of exposure to LNAPL-containing smear zone soil would include incidental ingestion and dermal contact. The risk assessment also assumed an exposure time of 2 hours per event for LNAPL, based on professional judgment that workers are not likely to remain in contact with "fresh" LNAPL at the bottom of an approximately 10-foot deep pit (the mid-point of the range of groundwater depths across the Site) for more than 2 hours at a time.

Potential exposures to constituents in LNAPL and smear zone soil at the former Chip Handling Area and Hydromation Pit LNAPL plumes are not expected to pose a significant risk to maintenance workers, as shown by Table 6.13.

6.4.3.3 MAINTENANCE WORKER EXPOSURE TO GROUNDWATER

The risk assessment conservatively assumed that maintenance workers could contact upper aquifer groundwater anywhere at the Site during excavations into the water table. Inhalation exposures during excavations that extend to the water table were evaluated assuming vapor emission from exposed groundwater in a 15-foot by 15-foot pit. Exposures to groundwater via ingestion and dermal contact were also evaluated in this scenario. This scenario was used to evaluate both construction workers and maintenance workers.

Because the water table at the Site ranges from approximately 7 to 13 feet below ground, the risk assessment assumed a groundwater exposure frequency (EF) of 5 days/year, based on professional judgment that most excavations will not likely extend to such depths. GM believes that it is reasonable to expect that the frequency of groundwater contact should be lower than that for soil excavations at sites where the water table is not near ground surface. At the Dayton Site the water table ranges from approximately 7 to 13 feet below ground, depending on location and season. Most if not all existing utilities at the Site are above the water table, and the new corridor for underground utilities that is being constructed in the southern part of the Site between Webster Street and Taylor Street is also above the water table. For these reasons, using an EF of 5 days/year to assess maintenance worker exposures via contact with groundwater at the Site is adequately conservative, since it would not be reasonable to expect every soil excavation at the Site to reach the water table.

The risk assessment also assumed an exposure time of 2 hours per event for contact with groundwater, based on professional judgment that workers are not likely to remain in contact with "fresh" groundwater at the bottom of an approximately 10-foot deep pit (the mid-point of the range of groundwater depths across the Site) for more than 2 hours at a time.

As discussed in Section 6.2.2.2.1, groundwater concentrations on-site in the upper aquifer at B-SA21 and MW-23-04 exceed the screening criteria based on direct contact by maintenance workers. Upper-bound estimates of the cumulative cancer risk and HI for maintenance worker contact with shallow groundwater during excavations that extend into the water table have been calculated and are shown in Table 6.15. These estimates do not exceed the limits of 10^{-4} and 1, respectively, for any on-site (or off-site) area. The risk estimates in Table 6.15 are based on the most recent groundwater data for each constituent at each upper-aquifer monitoring well, which are generally the most appropriate data for assessing current and future exposures.

Use of the most current groundwater concentrations is appropriate to assess current and future exposures at B-SA21. As shown on Figure 2.10, the concentrations of PCBs in groundwater at monitoring well B-SA21, which is screened in the upper aquifer and located between Webster and Taylor Streets, exceeded the screening criteria based on direct contact by maintenance workers in the 2002 and 2003 data, but they have not exceeded in the data from 2004 and 2007.

However, it may not be appropriate to use the most recent groundwater concentrations to assess current and future exposures at MW-23-04. As shown on Figure 2.9, groundwater concentrations of cis-1,2-DCE and VC at monitoring well MW-23-04 have

fluctuated. Samples collected in November 2004 and April 2005 had cis-1,2-DCE concentrations that were somewhat higher than the most recent sample collected in November 2006, and are associated with a hazard quotients (HQ) of 2. It is not currently known if these recent fluctuations in cis-1,2-DCE concentrations at MW-23-04 are due to normal variability in sample collection and laboratory analysis, or concentration reductions due to natural attenuation.

6.4.3.4 MAINTENANCE WORKER EXPOSURE TO CONCRETE

The potential for current and future exposure of maintenance workers to PCBs in concrete is limited to incidental contact during slab removal activities that are necessary to access utilities for maintenance. During such activities, maintenance workers are expected to wear personal protective equipment that is typical for these types of construction work (such as gloves) which would tend to minimize such contact.

Potential exposures to PCBs in on-site concrete are not expected to pose a significant risk to maintenance workers. None of the upper-bound risk estimates shown in Table 6.12 for maintenance workers are greater than the U.S. EPA's limits of 10^{-4} for cancer risk and 1 for HQ. For reasons discussed in Section 6.3.2.2, the upper-bound risk estimates in Table 6.12 can be used to reliably identify areas that do not pose a significant risk to maintenance workers.

6.4.3.5 MAINTENANCE WORKER EXPOSURE TO STORM SEWER WATER AND STORM SEWER SEDIMENTS

No new storm sewer water or storm sewer sediment data were collected since the RFI Report. As discussed in Section 5.6 and Tables 4.5A and 4.5B of the RFI Report, potential exposures to constituents in storm sewer water or storm sewer sediment are not expected to pose a significant risk to maintenance workers.

As shown in Table 4.5A of the RFI Report, only two samples of storm sewer water collected during the RFI had any constituent concentrations with sample concentrations that exceeded the health-based criteria for direct contact by maintenance workers. These samples were collected from manhole MH-12 and MH-25, which are located between Webster and Taylor Streets and were cleaned during February 2006, as part of an Interim Measure for storm sewers. Sixteen other storm sewer water samples from locations between Webster and Taylor Streets and 31 storm sewer samples collected

elsewhere on the Site did not have any sample concentrations that exceed the health-based criteria for any constituent.

As shown in Table 4.4.A of the RFI Report, several samples of storm sewer sediment collected during the RFI had constituent concentrations with sample concentrations that exceeded the screening criteria that are based on the U.S. EPA Region 9 PRGs for soil contact by adult workers. All the manholes between Webster and Taylor Streets that had sediment concentrations that exceed the screening criteria were cleaned and/or permanently closed as part of the Interim Measure that was conducted in February 2006. Four of the manholes located between Taylor Streets and the Railway that have sediment concentrations that exceed the screening criteria were previously cleaned. Consequently, many of the sample concentrations that exceeded the screening criteria do not represent current conditions.

To assess the significance of potential exposure to storm sewer water in the portion of the storm sewer system that has not been cleaned and/or permanently closed, risk calculations were performed using the exposure factors for evaluating maintenance workers' exposure to groundwater (see Table 6.4). The assessment determined that the cumulative cancer risk and noncancer HI estimates for this scenario are 4×10^{-7} and 0.07, respectively, which are well within U.S. EPA's acceptable limits of 10^{-4} and 1, respectively.

To assess the significance of potential exposure to storm sewer sediment in the portion of the storm sewer system that has not been cleaned and/or permanently closed, risk calculations were performed using the exposure factors for evaluating maintenance workers exposure to soil, except an EF of 5 days/year was used, which is consistent with the EF for contact with storm sewer water (see Table 6.4). The use of these exposure factors for this purpose is believed to be conservative because exposure to storm sewer sediment (e.g., incidental ingestion rate) is expected to be lower than exposure to soil. The assessment determined that the cumulative cancer risk and noncancer HI estimates for this scenario are 9×10^{-7} and 0.1, respectively, which are well within U.S. EPA's acceptable limits of 10^{-4} and 1, respectively.

6.4.4 ON-SITE TRESPASSERS

Trespasser access to the Site is limited by fencing and warning signs. Fencing encompasses specific portions of the Site from Webster Street to the Railway, and warning signs are posted where fencing is not present at the portion of the Site from the Railway to Keowee Street.

The significance of risks associated with potential exposure of trespassers to on-site soil and concrete before the Site is fully redeveloped is discussed below.

Surface Soil

Fencing and warning signs and the fact that many of the locations with contaminated soil are under pavement or former buildings, or the contaminated soil is in the subsurface, make the potential for current trespasser exposure to contaminated soil insignificant in most, but not all areas. While on-site, trespassers could come into contact with soil in unpaved areas. Potential routes of exposure would include incidental ingestion, dermal contact, and inhalation of soil vapor and airborne particulates. Potential exposure of trespassers to soil is evaluated indirectly using exposure estimates for routine workers, as explained in Section 5.4.3.1 of the RFI Report. Given the conclusions of Section 6.4.1.1 regarding routine workers, potential exposures to constituents in on-site surface soils do not pose a significant risk to on-site trespassers, except possibly for lead in surface soil at RFI sub-areas SB-021-02, SB-29-02, SB-30-02, and SB-82-03 where a potential for significant exposure exists for routine workers if concrete were removed and the surface soil in the areas is left exposed. However, soil in each of these locations is under pavement. As such, trespassers are not expected to come in contact with the soil at these locations.

In addition, soil in sub-areas MW-5-03 and BH-178-04 could have constituent concentrations that would pose a significant risk if the highest concentrations from the soil data collected to characterize AOI 44 are in surface soil, as discussed in RFI Report Addendum 1 (CRA, 2006b). RFI sub-areas MW-5-03 and BH-178-04 are currently fenced, precluding trespasser exposure.

Concrete Surfaces

While on-site before the remaining buildings are demolished and concrete surfaces are sealed or made inaccessible, trespassers could come into contact with PCBs on concrete surfaces. Potential exposure of trespassers to concrete under current conditions is evaluated indirectly using exposure estimates for routine workers. Given the upper-bound risk estimates for routine workers in Table 6.12 and the discussion in Section 6.3.2.2.4 regarding the lower human exposure to concrete compared to that for soil and realistic exposure units for concrete, potential exposures to PCBs in on-site concrete do not pose a significant risk to on-site trespassers. The maximum HQ for routine workers for any sampling location is only 2. A refined assessment that takes into account actual, but unknown, exposure units and exposure factors for concrete would

predict lower risk estimates by at least a factor of two. As noted in Table 6.12, all three locations with an upper-bound HQ greater than 1 for routine workers are scheduled to be removed or sealed, pending approval of GM's Concrete Isolation Plan (BOW, 2006 and 2007) by U.S. EPA.

6.4.5 ON-SITE RECREATIONAL VISITORS

The Site is not currently being used. Potential exposure of future recreational visitors to soil is evaluated indirectly using exposure estimates for routine workers, as explained in Section 5.4.3.1 of the RFI Report. Given the conclusions of Section 6.3.2.1.1 regarding routine workers, potential exposures to constituents in on-site surface soils do not pose a significant risk to on-site recreational visitors, except possibly for lead in surface soil at sub-areas SB-021-02, SB-29-02, SB-30-02, and SB-82-03 where a potential for significant exposure exists for routine workers if pavement were removed and the surface soil in the areas is left exposed. In addition, soil in sub-areas MW-5-03 and BH-178-04 could have constituent concentrations that would pose a significant exposure if the highest concentrations from the soil data collected to characterize AOI 44 are in surface soil, as discussed in RFI Report Addendum 1 (CRA, 2006b).

6.4.6 OFF-SITE RECREATIONAL VISITORS

Potential Exposure to Groundwater

Groundwater from the lower aquifer is used for nonpotable purposes by the RiverScape MetroPark's Five Rivers Fountain of Lights, which is located approximately a half-mile from the Site. The RiverScape Fountain has seven wells that extract groundwater from the lower aquifer intermittently during the day and evening from April through October. The Fountain consists of five water jets that straddle the confluence of the Great Miami and Mad Rivers and shoot groundwater toward the center of the river where a central jet of groundwater shoots 200 feet into the air. When the Fountain is operating, visitors could have incidental contact with groundwater from the Fountain's jets.

The significance of incidental contact with groundwater from the Fountain Wells under current and future conditions is evaluated using a long-term, seasonal recreational scenario in which children and adult visitors at off-site locations are assumed to have exposure via incidental ingestion, dermal contact, and inhalation. Exposure factors for this population are shown in Table 6.4.

Because groundwater data are not available from the Fountain's water jets, the exposure assessment conservatively assumed that groundwater from the water jets have VOCs at concentrations equal to the highest that were detected, based on the most recent concentrations from the RFI for each constituent among each lower aquifer well (both off-site and on-site). Some of these concentrations are likely unrelated to the Site, as discussed in Section 2.3, but these concentrations are used to provide a theoretical upper-bound assessment of hypothetical exposures for the purposes of the baseline risk assessment. For PCE, which was not detected in the lower aquifer during the various stages of the RFI, the exposure assessment conservatively assumed that groundwater from the water jets has concentrations equal to one-half the highest sample quantitation limit, which is in accordance with U.S. EPA risk assessment guidance (U.S. EPA, 1989). Furthermore, the assessment conservatively assumed that these VOC concentrations are concurrently available for both inhalation and direct contact exposures.

The theoretical, upper-bound cumulative cancer risk and HI estimates for the hypothetical exposure of off-site recreational visitors to VOCs in groundwater from the Fountain's water jets are approximately 8×10^{-6} and 0.3, respectively, which are well within the U.S. EPA's acceptable limits of 10^{-4} and 1, and represent insignificant levels of risk.

It should be recognized that these risk estimates are meant to demonstrate that site-related VOCs would not be reasonably expected to present an unacceptable current exposure at the Fountain Wells even if they were able to reach these wells. These risk estimates should not be interpreted to mean that site-related VOCs have actually reached or will reach these wells.

Potential Exposure to the Mad River

As discussed in Sections 2 and 3 of the RFI Report, the Mad River receives discharges from the storm sewers that service the Site and groundwater in the upper aquifer that flows beneath the Site. In addition, the Mad River receives discharge from the Geothermal Well. To assess whether these discharges to the Mad River have potentially significant effects on the designated uses of this segment of the River (e.g., recreational uses), estimates of mass loading of constituents into the River were combined with the harmonic mean stream flow to provide a conservative estimate of the total, average incremental concentrations of constituents in the Mad River.

The most recent groundwater concentrations for 14 wells along or near the Mad River and for the Geothermal Well discharge were used to estimate current mass loadings,

although GM believes that the concentrations of TCE found in the lower aquifer at the Geothermal Well are unlikely to be solely or predominantly related to the Site (CRA, 2006a). Appendix I of the RFI Report (CRA, 2006a) provides further details on the mass loading calculations and the selection of flow data for these calculations. The resulting mass loading estimates, which update Table I-1 of the RFI Report, are presented in Appendix E. They are regarded as conservative estimates of the mass loading of site-related constituents into the River because of the following:

- For all but nine constituents, the entire discharge of upper aquifer groundwater was characterized by the maximum concentration from among the most recent data from these 14 wells;
- For the other nine constituents, each constituent was assumed to be present in the entire discharge of upper aquifer groundwater, even though detectable concentrations were observed for only a sub-set of the 14 wells. PCBs, for example, were detected in the most recent sample from only one of the 14 wells (MW-4-02), which is consistent with its presence in the Chip Handling Area NAPL and its limited distribution in groundwater samples on the Site. PCBs were, nevertheless, assumed to be present at a concentration equal to one-half the sample quantitation limit in upper aquifer groundwater migrating from the other 13 wells towards the River;
- For all constituents, the groundwater concentrations from the 14 monitoring wells likely over-estimate constituent concentrations in the hyporheic zone. Constituent concentrations are reasonably expected to attenuate as groundwater migrates from well locations towards the river. Wells HD-16 and MW-26-04, for example, are located more than 100 feet from the River;
- The entire groundwater discharge from the Geothermal Well was characterized by the maximum concentration among the most recent data from all of the lower aquifer wells;
- For all constituents but PCBs, the entire discharge of storm water was characterized by the maximum concentration among all storm sewer water concentrations and storm sewer sediment concentrations, except those locations that were cleaned or removed as part of an Interim Measure. Because an unknown amount of sediment is likely to have been present in every storm sewer water sample, this approach yielded estimates of total constituent concentrations that double-count the sediment-related component;
- For PCBs, the entire discharge of storm water was characterized by the maximum concentration within the aqueous solubility of Aroclor 1254 plus the maximum concentration among all storm sewer sediment concentrations, except those locations

that were closed or removed as part of an Interim Measure. This approach yielded similar estimates of PCB mass loading from storm sewer water and storm sewer sediment, which together exceeded the estimated mass loading from shallow groundwater by almost eight times; and

- Constituent concentrations in upper aquifer groundwater samples from at least two of the 14 upper aquifer wells (i.e., MW-8-03 and MW-21-04) and in the Geothermal Well discharge likely reflect contributions from other sites.

The conservative estimates of mass loading yielded conservative estimates of concentrations of site-related constituents in the Mad River based on these discharges, which were compared to the applicable surface water quality criteria for this segment of the River (OAC 3745-1-07, -21, -34). These criteria are based on agricultural water supply, industrial water supply, and recreational uses (but not public water supply use), as designated by the Ohio Environmental Protection Agency (OEPA). As summarized in Table 6.16, no constituent has an estimated concentration in the River that is higher than its surface water quality criterion. Therefore, the discharge of groundwater to the Mad River is not expected to have any significant effect on the designated non-potable uses, including recreational uses, for this segment of the River. This conclusion is the same as that in the RFI Report.

Most of the groundwater from the Fountain Wells' jets falls into the Mad River and Great Miami River. To assess the effects of this groundwater on surface water quality in the Rivers, mass loading from the Fountain Wells was calculated under the conservative assumption that all of the groundwater in the jets fall into the Mad River. Because groundwater data are not available from the Fountain's water jets, the assessment conservatively assumed that groundwater from the water jets have VOCs at concentrations equal to the highest that have been detected in the lower aquifer based on the most recent concentrations for each constituent. Some of these concentrations are likely unrelated to the Site, but are used to provide a theoretical upper-bound mass loading for the purposes of this sensitivity analysis. Even with these highly conservative assumptions, the mass loading from the Fountain Wells, when combined with those from shallow groundwater, storm water, and the Geothermal Well discharge, as described above, do not result in incremental constituent concentrations in the Mad River that exceed the applicable surface water quality criteria for this segment of the Mad River. These calculations are documented herein in Appendix E.

RFI Report Addendum 2 presented an evaluation of potential effects on the Mad River for a hypothetical case in which constituent concentrations in upper aquifer groundwater at the four primary areas of on-site groundwater "contamination" are

assumed to migrate unattenuated to the Mad River. This hypothetical case was evaluated to support the development of risk-based remedial action objectives for constituent concentrations currently present in upper aquifer groundwater at these on-site areas. Appendix D from RFI Report Addendum 2 identified the locations used to estimate the hypothetical worst-case mass loading from groundwater to the Mad River and provided an overview of the technical approach. This evaluation has been updated to account for groundwater data collected after RFI Report Addendum 2 (ENVIRON, 2007). Appendix E compares the updated concentrations used to estimate the hypothetical worst-case mass loading from groundwater to the Mad River to those used in the baseline assessment presented in the RFI Report (CRA, 2006a, Appendix I).

The updated estimates of concentrations in the Mad River for the hypothetical worst-case are shown in Table 6.17 for all constituents detected in upper aquifer groundwater. These updated estimates do not change the conclusions reached in RFI Report Addendum 2, which were that all estimated concentrations in the Mad River are less than the respective surface water quality criteria, even assuming no attenuation of the constituent concentrations during migration of shallow groundwater from the four areas. In summary, these results show that the current concentrations in upper aquifer groundwater at the four primary on-site areas of groundwater contamination are not reasonably expected to have any significant effect on the designated uses of the Mad River for the segment that is adjacent to the Site, even if they were to migrate unattenuated into the Mad River.

It should be recognized that the mass loadings from the Geothermal Well and the Fountain Well are meant to demonstrate that site-related VOCs would not be reasonably expected to be significant in the Mad River, even if they were able to reach these wells. These mass loading estimates should not be interpreted to mean that site-related VOCs have actually reached or will reach either well.

6.4.7 OFF-SITE MAINTENANCE WORKERS

Upper Aquifer Groundwater

Maintenance workers could be potentially exposed under current and future conditions to off-site upper aquifer groundwater during excavations into the water table associated with maintenance of off-site utilities. Potential routes of exposure would include incidental ingestion, dermal contact, and inhalation of vapor. These potential exposures are evaluated in this risk assessment in the same way as those for on-site maintenance

workers. The risk assessment conservatively assumed that maintenance workers could contact upper aquifer groundwater anywhere in the off-site area west of the Site.

Upper-bound estimates of the cumulative cancer risk and HI for maintenance worker contact with shallow groundwater during excavations that extend into the water table have been calculated and are shown in Table 6.15. These estimates do not exceed the limits of 10^{-4} and 1, respectively, for any off-site area. The risk estimates in Table 6.15 are based on the most recent groundwater data for each constituent at each upper-aquifer monitoring well, which are generally the most appropriate data for assessing current and future exposures.

Lower Aquifer Groundwater

Groundwater from the lower aquifer is used for nonpotable purposes within a half-mile to the west of the Site via the Dayton Public Schools Career Academy Geothermal Well (Geothermal Well), the RiverScape MetroPark's Five Rivers Fountain of Lights (Fountain Wells), and the Dayton Dragons' Fifth Third Field irrigation well (Stadium Well). Workers who perform maintenance on the Geothermal Well system could have incidental contact with groundwater during brief, occasional periods of maintenance. Groundskeepers at the stadium could have incidental contact with groundwater when the field is watered.

Because constituent concentrations in the lower aquifer are similar to or lower than those observed in the upper aquifer, potential exposures to constituents in off-site lower aquifer groundwater are not expected to pose a significant risk to maintenance workers via direct contact with groundwater from the Stadium Well or the Geothermal Well. The significance of incidental contact with lower aquifer groundwater from the Stadium Well, and the Geothermal Well is also evaluated by direct assessment of the potential exposures at the Fountain Wells. This streamlines the risk assessment and is conservative because exposures at the Stadium Well and Geothermal Wells, if any, are expected to be much lower than at the Fountain Wells, as estimated in this risk assessment. The upper-bound risk estimates for the long-term, seasonal recreational visitors, discussed in Section 6.3.2.6, also show that exposures of groundskeepers and maintenance workers to groundwater from the Stadium Well and Geothermal Well, if any, would likewise be insignificant. Specifically, the assumed exposures of children and adult recreational visitors are expected to be higher than the potential exposures of maintenance workers or groundskeepers. For example, as shown in Table 6.4 of the RFI Report Addendum 3, the assessment of seasonal recreational visitors assumed high-end values for the area of exposed skin by children and adults (6,880 and 18,150 cm^2, respectively), which are more than six times those assumed for maintenance workers,

when expressed per unit of body weight. In addition, the EF (43 days/year) and ED (30 years) assumed in the risk calculations for these recreational visitors comprise an exposure time (EF times ED) that is greater than the exposure time expected for the Geothermal Well maintenance worker and the Stadium groundskeeper contact with groundwater. Hence, the theoretical, upper-bound cumulative cancer risk and HI estimates for the exposure of maintenance workers and groundskeepers to VOCs in groundwater from the Geothermal Well and the Stadium Well are expected to be less than 8×10^{-6} and 0.3, respectively, which represent insignificant levels of risk. Additionally, exposure of groundskeepers to VOCs in groundwater from the Stadium Well is expected to be minimal since groundskeepers are not likely to be present at night, when seasonal watering at the Stadium typically occurs.

6.4.8 OFF-SITE ROUTINE WORKERS

The significance of risks associated with potential current or future exposure of off-site routine workers to groundwater, soil gas, and wind-blown dust and vapors is discussed below.

Potential Indoor Exposure

Theoretically, off-site workers could be exposed under current or future conditions to constituents in groundwater if the constituents volatilize and migrate through cracks in building foundations. These potential exposures are evaluated in this risk assessment in the same way as those for on-site routine workers.

As summarized in Section 6.2.2.2.2 and Table 6.2B, no concentration in the off-site groundwater samples from the upper aquifer exceeds the criteria based on potential vapor intrusion. As summarized in Section 6.2.3.2 and Tables 6.3A and 6.3B, no concentration in soil gas samples exceeds industrial SGSLs. Based on the comparison results in Tables 6.2B, 6.3A, and 6.3B, it can be shown that the cumulative cancer risk and HI estimates for potential exposures of off-site routine workers via vapor intrusion from constituents in upper aquifer groundwater or soil gas would not exceed U.S. EPA limits.

Potential Potable Groundwater Use

Exposure of off-site routine workers via potable groundwater use is not expected because groundwater is not currently used as a drinking water supply in the Site

vicinity and future potable use of groundwater in the Site vicinity is not reasonably expected, as discussed in Section 3.8 of the RFI Report.

Potential Outdoor Exposure

Off-site routine workers also could be exposed to constituents in soil that are transported off-site by wind erosion or vapors that migrate off-site. As discussed in Section 5.6 of the RFI Report, potential airborne exposures of off-site populations are indirectly, but conservatively, evaluated using exposure estimates for on-site routine workers. As discussed on page 4-9 of the Supplemental Guidance for Developing Soil Screening Levels for Superfund Sites (U.S. EPA, 2002b), on-site routine workers always have higher exposure concentrations in air (which are annual-average concentrations) than off-site populations. The exposure concentrations off-site are always lower because air dispersion causes concentrations to decrease with downwind distance from the Site, and changes in wind direction cause an off-site individual to be downwind of the Site only some of the time. The lower off-site air concentrations ensure that off-site workers have lower inhalation risks than on-site routine workers, regardless of the off-site workers' distance from the Site. This is because off-site workers are exposed to lower air concentrations and have the same EF and ED as on-site routine workers. In additional, the risk assessment had calculated on-site routine worker risk estimates that combined inhalation risks with soil ingestion and dermal contact risks (which off-site workers do not have).

Given the conclusions of Section 6.3.2.1.1 regarding routine workers, potential off-site exposures to routine workers from wind-blown constituents derived from on-site surface soils do not pose a significant risk to off-site populations. Only lead in surface soil at RFI sub-areas SB-021-02, SB-29-02, SB-30-02, and SB-82-03 was identified as a potential exposure concern for routine workers. That conclusion was based on potential exposure via incidental ingestion of soil and would not occur unless concrete were removed and the surface soil in the sub-areas is left exposed. In setting its screening criteria for soil lead for industrial workers, U.S. EPA concluded that inhalation exposures contribute negligibly to elevated blood lead. Because only inhalation exposures are relevant for off-site exposure to on-site soil, there is no reason to expect that off-site worker exposure to on-site soil lead could pose an exposure concern, even if concrete were removed and the surface soil at RFI sub-areas SB-021-02, SB-29-02, SB-30-02, and SB-82-03 is left exposed.

6.4.9 OFF-SITE RESIDENTS

The City of Dayton plans to include future residential land use in the redevelopment of the off-site area west of the Site, according to information provided to GM since the RFI Report. The significance of risks associated with potential future exposure of off-site residents to groundwater, soil gas, and wind-blown dust and vapors is discussed below.

Potential Indoor Exposure

Theoretically, off-site future residents could be exposed to constituents in groundwater if the constituents volatilize and migrate through cracks in building foundations. These potential exposures into hypothetical off-site residential buildings are evaluated in this risk assessment similarly to those for potential exposures in commercial/industrial buildings, as described in Section 3 of RFI Report Addendum 2 (ENVIRON, 2007).

As discussed in Section 6.2.2.2.2 and Table 6.2B, no groundwater concentration from off-site locations in the upper aquifer exceeds the vapor intrusion screening criteria for residential buildings. Based on the comparison results in Tables 6.2B, it can be shown that the cumulative cancer risk and HI estimates for potential exposures of off-site residents via vapor intrusion from constituents in upper aquifer groundwater would not exceed U.S. EPA limits.

As summarized in Section 6.2.2.2.2 and Table 6.2G, groundwater concentrations at one on-site location within AOI 1 in the upper aquifer (B-SA23) exceeded screening criteria for vapor intrusion into an off-site residential building using the most recent groundwater data. Under the hypothetical scenario that shallow on-site groundwater from AOI 1 would migrate off-site without attenuation to locations where residential buildings are planned, highly conservative estimates of the cumulative cancer risk and HI were calculated for vapor intrusion into a hypothetical off-site residential building using groundwater data from the upper aquifer from wells located within AOI 1. The upper-bound estimates for vapor intrusion into an off-site residential building from shallow groundwater that has migrated off-site without attenuation from AOI 1 are 2×10^{-5} for cumulative risk and 0.6 for the HI, which do not exceed the U.S. EPA limits of 10^{-4} and 1, respectively (U.S. EPA, 1991). These risk estimates are based on the most recent groundwater data for each constituent at each upper-aquifer monitoring well in AOI 1. Further information regarding these cumulative risk and HI estimates is provided in Appendix F.

As summarized in Section 6.2.3.2 and Tables 6.3A and 6.3B, PCE soil gas concentrations exceeded residential SGSLs at locations GP-08 and GP-09. Using the soil gas data

collected off-site by GM, cumulative risk estimates for residential exposure via vapor intrusion were calculated to further assess the significance of the detected concentrations. The upper-bound estimates for vapor intrusion into an off-site residential building are 8×10^{-5} for cumulative risk and 0.2 for HI, which do not exceed the limits of 10^{-4} and 1, respectively. These upper-bound estimates are derived using an attenuation coefficient of 2×10^{-3}, which is based on the conservative assumptions discussed in Section 6.2.3. The soil vapor attenuation coefficient for PCE based on a residential building type and characteristics used in RFI Report Addendum 2 (ENVIRON, 2007), is 3×10^{-4}, which is approximately seven times lower than the soil gas attenuation coefficient used in this assessment. Further information regarding these cumulative risk and HI estimates is provided in Appendix F.

Potential Nonpotable Groundwater Use

Exposure of off-site residents via potable groundwater use is not expected because groundwater is not currently used as a drinking water supply in the Site vicinity and future potable use of groundwater in the Site vicinity is not reasonably expected, as discussed in Section 3.8 of the RFI Report. Groundwater in the lower aquifer is used in the region for non-potable purposes, however.

As discussed in Section 6.2.2.2.4 and Table 6.2D, no concentrations in the groundwater samples for the lower aquifer exceed criteria based on residential nonpotable groundwater use. Based on the comparison results in Table 6.2D, it can be shown that the cumulative cancer risk and HI estimates for potential residential exposures via nonpotable use of lower aquifer groundwater would not exceed U.S. EPA limits.

As discussed in Section 6.2.2.2.2 and Table 6.2G, groundwater concentrations in the upper aquifer for the most recent groundwater data exceed screening criteria for potential residential nonpotable use at two off-site locations west of the Site (MW-6A and MW-6B). Upper-bound estimates of the cumulative cancer risk and HI for potential residential nonpotable use were calculated for the area west of the Site. The upper-bound risk estimates for potential off-site residential nonpotable exposure to groundwater are 1×10^{-4} for cumulative risk and 0.3 for HI, based upon the maximum concentration for each detected constituent among the most recent groundwater data at each upper-aquifer monitoring well in the off-site west area. Although these estimates do not exceed the limits of 10^{-4} and 1, respectively, constituent concentrations have fluctuated in off-site upper aquifer groundwater. As shown on Figures 2.13 and 2.14, concentrations of VC collected in November 2004 at MW-6A-03 and PCBs collected in September 2006 at MW-4-02 were higher than concentrations in the most recent samples collected in April 2005 and in August 2007, respectively. These recent fluctuations may

be due to normal variability in sample collection and laboratory analysis. Further information regarding these cumulative risk and HI estimates is provided in Appendix F.

As discussed in Section 6.2.2.2.1 and Table 6.2A, on-site, upper aquifer groundwater concentrations for the most recent groundwater data exceed residential nonpotable use screening criteria for PCBs, PCE, and VC. These concentrations also represent cancer risk and HI estimates greater than 1×10^{-4} and 1, respectively, if they were to migrate unattenuated into off-site areas where non-potable use of shallow groundwater is possible.

Potential Outdoor Exposure

Off-site residents could be exposed to constituents in soil that are transported off-site by wind erosion or vapors that migrate off-site. As discussed in Section 5.6 of the RFI Report, potential airborne exposures of off-site populations are indirectly, but conservatively, evaluated using exposure estimates for on-site routine workers. Given the conclusions of Section 6.3.2.1.1 regarding routine workers, potential off-site exposures to routine workers from wind-blown constituents derived from on-site surface soils do not pose a significant risk to off-site residents.

As discussed in Section 6.3.2.8, the exposure concentrations off-site are always lower than those on-site because air dispersion causes concentrations to decrease with downwind distance from the Site, and changes in wind direction cause an off-site individual to be downwind of the Site only some of the time. For off-site residents, the off-site air concentrations must be low enough to offset the residents' somewhat higher EF (350 days/year vs. 250 days/yr) and ED (30 years vs. 25 years). In most cases, the off-site air concentrations decrease quickly enough with downwind distance that residential populations do not need to be far downwind before the air concentrations are low enough (U.S. EPA, 2002b).

Currently, there are no residential populations near the Site. The area west of the Site (i.e., west of Webster Street), where the City of Dayton is considering new residential construction, is not typically downwind of the Site, since the predominant wind direction in the Dayton area is from the west and southwest. But even under the hypothetical worst-case assumption that this area is constantly downwind of the Site, it can be shown via air dispersion modeling that off-site residents can be as close as approximately 20 m of the Site (or just a short distance west of Webster Street) without having inhalation risks that are higher than on-site routine workers' inhalation risks. When actual wind directions are considered, the residents could be even closer to the

Site. Also, as noted above, the risk assessment's conclusions regarding off-site inhalation risks were actually based on risk estimates for on-site routine workers that included soil ingestion and dermal contact risks, which added reliability to the conclusions.

6.4.10 SUMMARY

The baseline human health risk assessment was conducted based on the expectation that future land use on the Site will remain commercial/industrial with allowances for open space or park use as envisioned in the Site redevelopment plan that the City of Dayton provided to GM. This assessment was updated to incorporate new soil, groundwater, and soil gas data collected by GM as part of the RFI and relatively minor changes in the CSM. Upper-bound estimates of site-related cumulative cancer and noncancer risks were compared to U.S. EPA's cancer risk limit of 10^{-4} and HI limit of 1 (U.S. EPA, 1991), respectively, to identify media that warrant corrective measures. The primary findings and conclusions of the updated risk assessment are as follows:

Soil

- Currently, there is no unacceptable risk associated with soil, because buildings are currently unoccupied, the Site is not being used, and fencing and warning signs are used to limit access to unpaved soil areas that could potentially pose a significant risk to trespassers.
- The soil conditions in the southern portions of the area between Webster and Taylor Streets and Taylor and Meigs Streets are not expected to pose a health concern for construction workers during slab removal and soil excavation associated with construction of utility corridors.
- Certain areas were identified where the concentrations of lead in surface soil could result in potentially significant exposures to workers and trespassers under commercial/industrial land use if pavement were removed and the surface soil in the areas is left exposed (i.e., sub-areas SB-21-02, SB-29-02, SB-30-02, and SB-82-03).
- Certain soil sub-areas were identified where the concentrations of VOCs in vadose zone soil could result in potentially significant exposure via vapor intrusion, depending on the characteristics of the buildings if future buildings are constructed over these areas. None of the slab-on-grade buildings associated with the City's currently proposed redevelopment were found to have potentially unacceptable soil vapor intrusion. Additional building-specific assessments, like those discussed herein, would be warranted if the configurations of these buildings change or other

buildings are added to the redevelopment plan in a way that results in having a building overlay any of the sub-areas highlighted on Figure 6.5.

- Certain soil sub-areas were identified where the constituent concentrations in soil could result in potentially significant exposures to construction workers engaged in short-term soil excavation or slab removal. Additional site-specific assessments, like those discussed herein, would be warranted as specific plans are developed for the remaining phases of the redevelopment (i.e., in the northern portion of the area between Webster and Taylor Streets, between Taylor Street and the Railway, and between the Railway and Keowee Street), if site preparation activities in these phases entail soil excavation in any of the sub-areas highlighted on Figure 6.6.
- Given the conclusions of regarding routine workers, potential off-site exposures from wind-blown constituents derived from on-site surface soils do not pose a significant risk to off-site populations.
- Sub-areas MW-5-03 and BH-178-04 could have constituent concentrations, including soil lead concentrations, that would pose a significant risk if the highest concentrations from the soil data collected to characterize AOI 44 are in surface soil. As discussed in RFI Report Addendum 1 (CRA, 2006b), GM is planning to conduct additional soil sampling in the vicinity of AOI 44 to characterize the extent of lead and other constituents. The data from this additional sampling, when they become available, will be combined with the existing data to refine the risk estimates for sub-areas in the vicinity of this AOI.

Groundwater

- Site-related constituent concentrations that exceed drinking water criteria were identified in groundwater in all three hydrogeologic units at monitoring wells that are located on the Site and downgradient of the Site. Upper aquifer groundwater upgradient and side-gradient of the Site also have concentrations that exceed drinking water criteria, but the presence of these concentrations is not attributable to the Site.
- Exposure of on-site and off-site routine workers and off-site residents via potable groundwater use is not expected because groundwater is not used as a drinking water supply at the Site or in the vicinity, and future potable use of groundwater at the Site is not reasonably expected, as discussed in Section 3.8 of the RFI Report.
- Based on the risk-based screening results in Tables 6.2A and 6.2B, it can be shown that the cumulative cancer risk and HI estimates for potential exposures of routine workers via vapor intrusion from constituents in upper aquifer groundwater would not exceed U.S. EPA limits.

- The risk estimates for maintenance workers do not exceed U.S. EPA limits for any on-site or off-site area; hence, potential exposures of construction workers to upper aquifer groundwater are not significant for any area, based on the most recent groundwater monitoring data. However, groundwater concentrations at MW-23-04 have fluctuated such that there is sufficient uncertainty in the conclusions based on the most recent data to warrant further monitoring of groundwater conditions at and around MW-23-04, and establish appropriate health and safety planning to protect maintenance and construction workers from exposure to groundwater in this area. Such monitoring and health and safety precautions are warranted until it is determined based on the additional data that such monitoring and precautions are not warranted.
- The theoretical, upper-bound cumulative cancer risk and HI estimates for the exposure of off-site recreational visitors to VOCs hypothetically assumed to be in groundwater from the Fountain's water jets are well within the U.S. EPA's acceptable limits and represent insignificant levels of risk.
- Cumulative cancer risk and HI estimates for potential exposures of off-site residents to off-site upper aquifer groundwater via nonpotable exposure to groundwater are within U.S. EPA's limits. Cumulative cancer risk and HI estimates for potential exposures of off-site residents to lower aquifer groundwater via nonpotable exposure to groundwater are also within U.S. EPA's acceptable limits.

Soil Gas

- Based on the risk-based screening results in Tables 6.3A and 6.3B, it can be shown that the cumulative cancer risk and HI estimates for potential exposures of off-site routine workers via vapor intrusion from constituents in soil gas would not exceed U.S. EPA limits.
- Cumulative cancer risk and HI estimates for potential exposures of off-site residents to off-site soil gas via vapor intrusion are within U.S. EPA's acceptable limits.

LNAPL

- Constituents in the LNAPLs would not pose a significant risk to routine workers via vapor intrusion even if commercial/industrial buildings were to be constructed in the Chip Handling Area or the Hydromation Pit area.
- Potential exposures to constituents in on-site LNAPL are not expected to pose a significant risk to maintenance workers or construction workers. In addition, LNAPL is not present in the areas outlined in purple on Figure 6.7, where the next

stages of site preparation are planned. Hence, construction workers would not have any exposure to LNAPL during completion of sub-grade utilities corridors in these areas.

Concrete Surfaces

- Many on-site buildings have already been demolished, and all but possibly one of the remaining on-site buildings (Building 5) will be demolished as part of the City of Dayton's redevelopment plans. All building floor surfaces characterized by GM during the RFI will be removed or made permanently inaccessible during redevelopment of the Site (e.g., buildings will be constructed on top of such floor surfaces that will remain, according to the development plan provided to GM by the City of Dayton).
- Given these considerations, routine workers are not reasonably expected to have future exposure to on-site concrete. However, in the highly unlikely event that routine workers contact any of the building floor surfaces that remain at the Site, such exposure would be insignificant, as demonstrated by the screening-level risk assessment of exposure to PCBs in concrete.
- The potential for exposure of construction and maintenance workers to concrete surfaces is limited to incidental contact during slab removal activities. From the results in Table 6.12, the screening-level risk assessment was able to conclude that the concrete surfaces characterized by GM during the RFI will not pose a significant risk to construction or maintenance workers.
- While on-site before all buildings are demolished and concrete surfaces are sealed or made inaccessible, trespassers could come into contact with PCBs on concrete surfaces. Given the conclusions regarding routine workers, potential exposures to concrete surfaces do not pose a significant risk to trespassers.

Storm Sewer Sediment and Water

- Potential exposures to constituents in storm sewer water and storm sewer sediment are not expected to pose a significant risk to maintenance workers.

Mad River

- The Mad River receives discharges from the storm sewers that service the Site and from the Geothermal Well, in addition to upper aquifer groundwater. Conservative estimates of mass loading from these discharges yielded conservative estimates of

concentrations of site-related constituents in the Mad River, which were compared to the applicable surface water quality criteria for this segment of the River (OAC 3745-1-07, -21, -34). No constituent has an estimated concentration in the River that is higher than its surface water quality criterion. These criteria are based on agricultural water supply, industrial water supply, and recreational uses (but not public water supply use), as designated by the Ohio Environmental Protection Agency. Therefore, the discharge of groundwater to the Mad River is not expected to have any significant effect on the designated uses for this segment of the River.

7.0 UPDATED RFI BASELINE ECOLOGICAL RISK ASSESSMENT

Estimates of concentrations in the Mad River arising from discharges of storm water and shallow groundwater from the Site and discharge of lower aquifer groundwater from the Geothermal Well operated at the Career Academy were calculated and updated as described in Section 6.3.2.7. These concentrations are compared to the U.S. EPA Region 5 Ecological Screening Levels (ESLs), as shown in Table 6.16. The ESLs were also used in the baseline risk assessment to determine the level below which ecological risks would be negligible in the Mad River, as is described in Section 6.1 of the RFI Report (CRA, 2006a).

RFI Report Addendum 2 presented an evaluation of potential effects on the Mad River for a hypothetical case in which constituent concentrations in upper aquifer groundwater at the four primary areas of on-site groundwater "contamination" are assumed to migrate unattenuated to the Mad River. This hypothetical case was evaluated to support the development of risk-based remedial action objectives for constituent concentrations currently present in upper aquifer groundwater at these on-site areas and was updated as described in Section 6.3.2.7. The updated estimates of concentrations in the Mad River under this hypothetical worst-case scenario are shown in Table 6.17 and compared to the ESLs.

It should be recognized that the mass loadings from the Geothermal Well are meant to demonstrate that site-related VOCs would not be reasonably expected to be significant in the Mad River, even if they were able to reach this wells. These mass loading estimates should not be interpreted to mean that site-related VOCs have actually reached or will reach the Geothermal Well.

As documented in Tables 6.16 and 6.17, only two constituents, PCBs (total) and copper, have an estimated concentration in the Mad River that is higher than the ESL under current conditions and in the assessment of hypothetical worst-case future scenario. These two constituents also exceeded the ESLs in the original assessments of these respective scenarios (CRA, 2006a, ENVIRON, 2007). After adjusting the ESL based on the site-specific Mad River water hardness, the estimated copper concentration no longer exceeds the ESL. As documented in the "Ecological Risk Assessment Problem Formulation" (Exponent 2005), the limited utilization of the urban Dayton environment by high-level predators suggests limited potential for significant exposure to PCBs via the aquatic food web. Therefore, even hypothetical constituent migration to the Mad River from the four primary areas of on-site, shallow groundwater contamination would not be predicted to cause significant risk to ecological receptors in the Mad River.

Based on the analysis above, the assessment endpoints defined in the ERA Problem Formulation are predicted to be adequately protected, and no significant risk to ecological receptors in the Mad River is predicted.

8.0 REFERENCES

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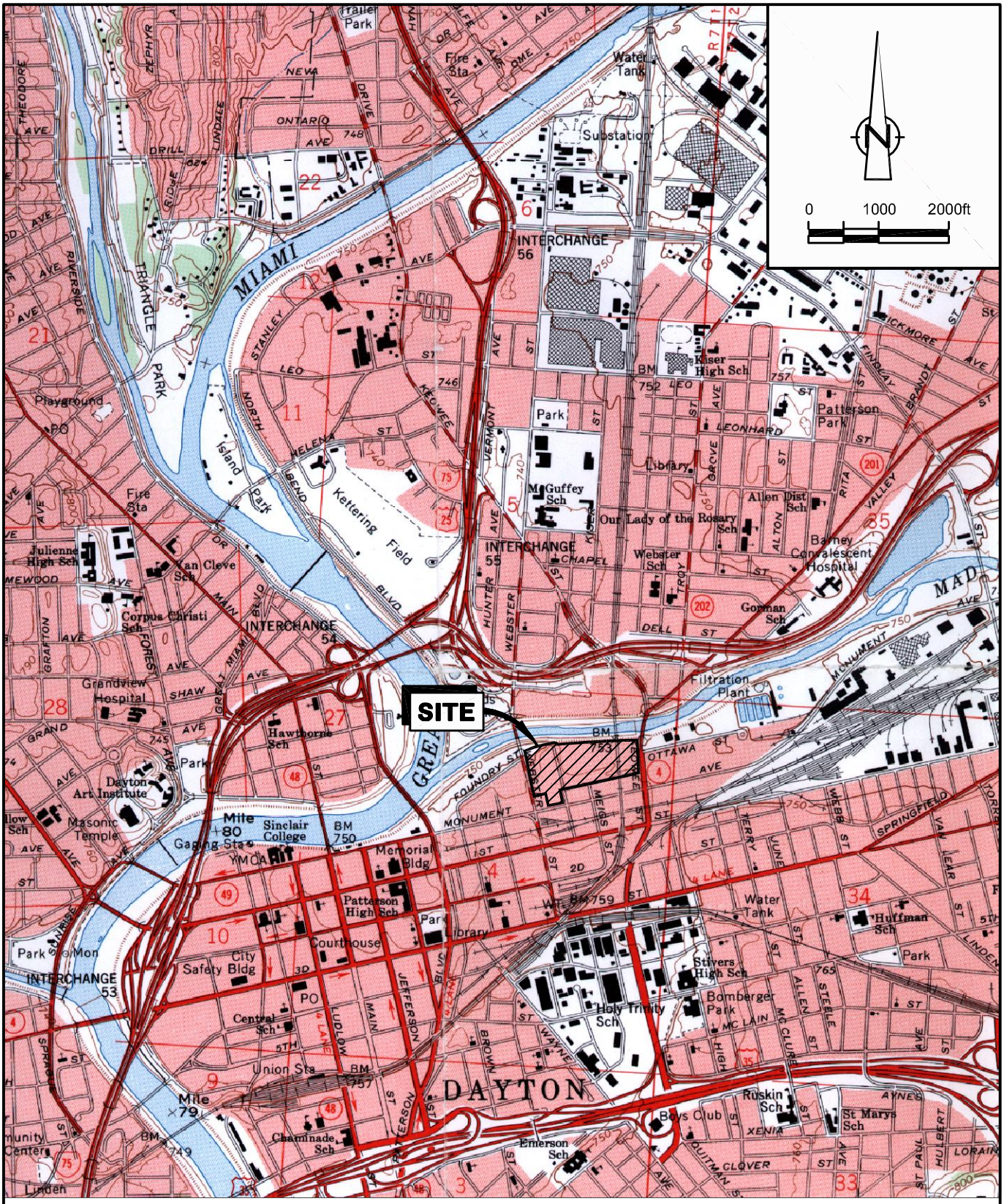
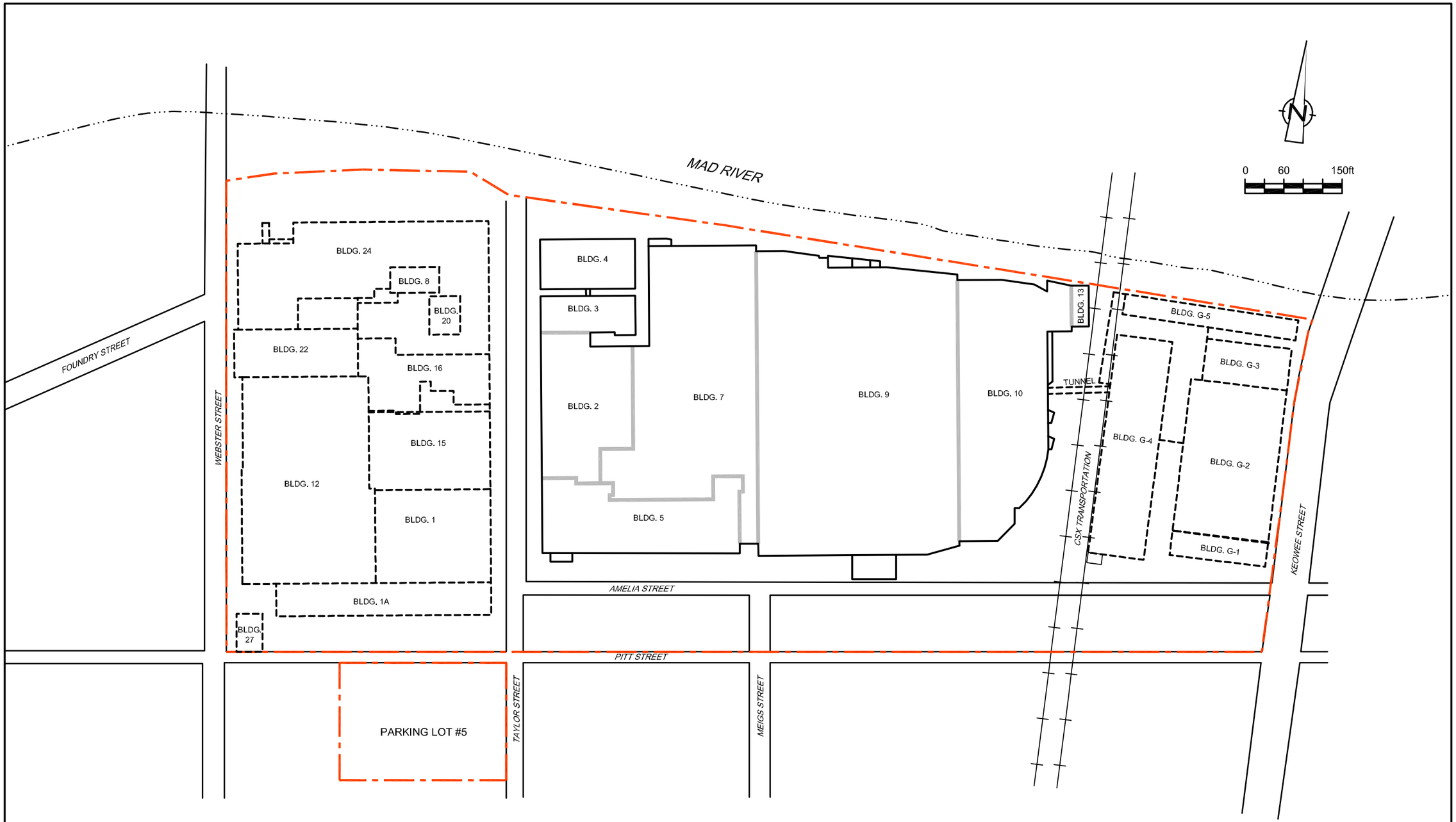


SOURCE: U.S.G.S., DAYTON NORTH, OHIO

figure 1.1

SITE LOCATION
FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY
Dayton, Ohio

12638-03(021)GN-WA001 MAR 20/2008



LEGEND

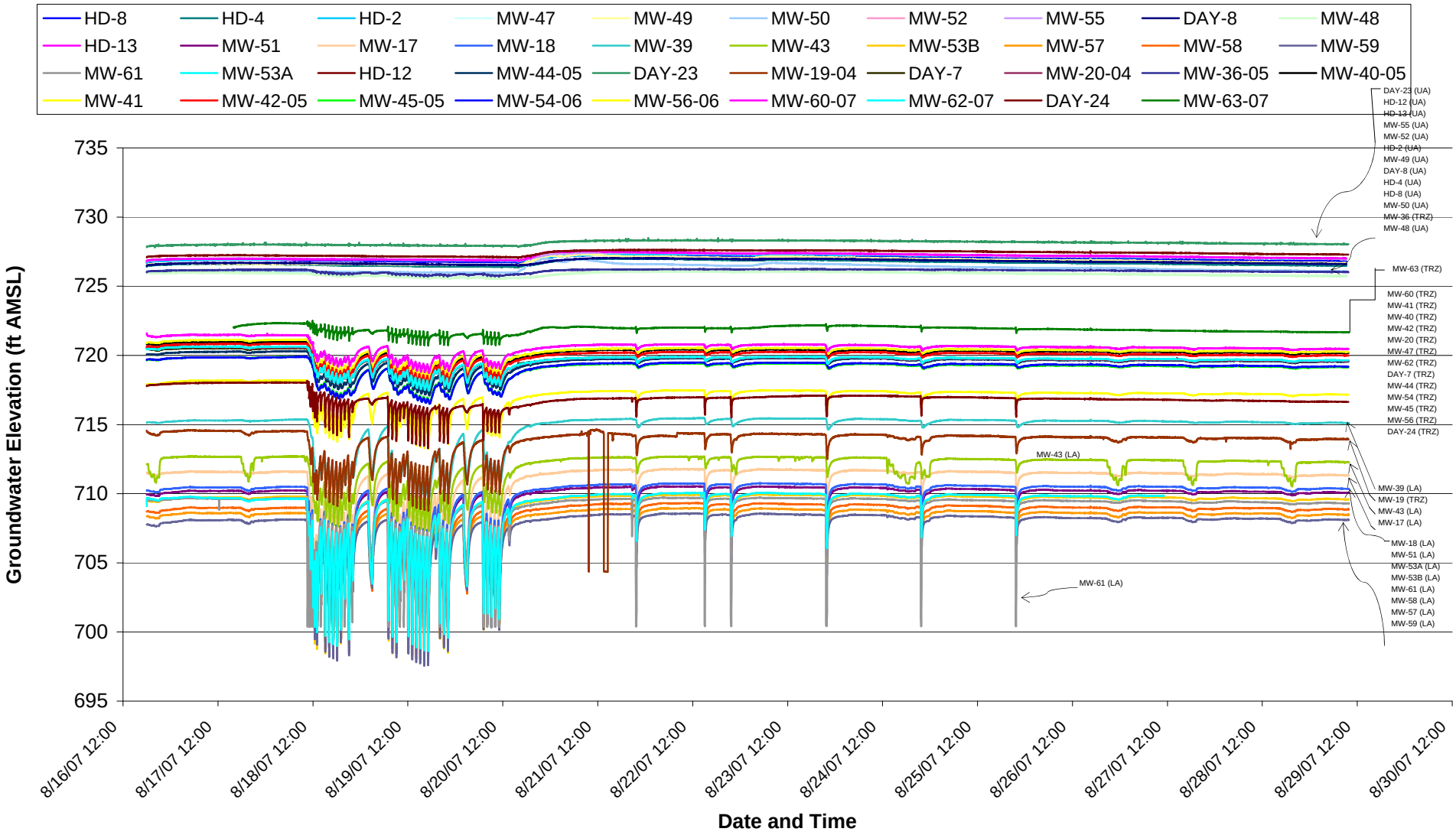
- BUILDING WALL
- BUILDING BOUNDARY
- FORMER BUILDING WALL
- SHORELINE
- RAILROAD
- SITE BOUNDARY

figure 1.2

SITE PLAN
FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY
Dayton, Ohio

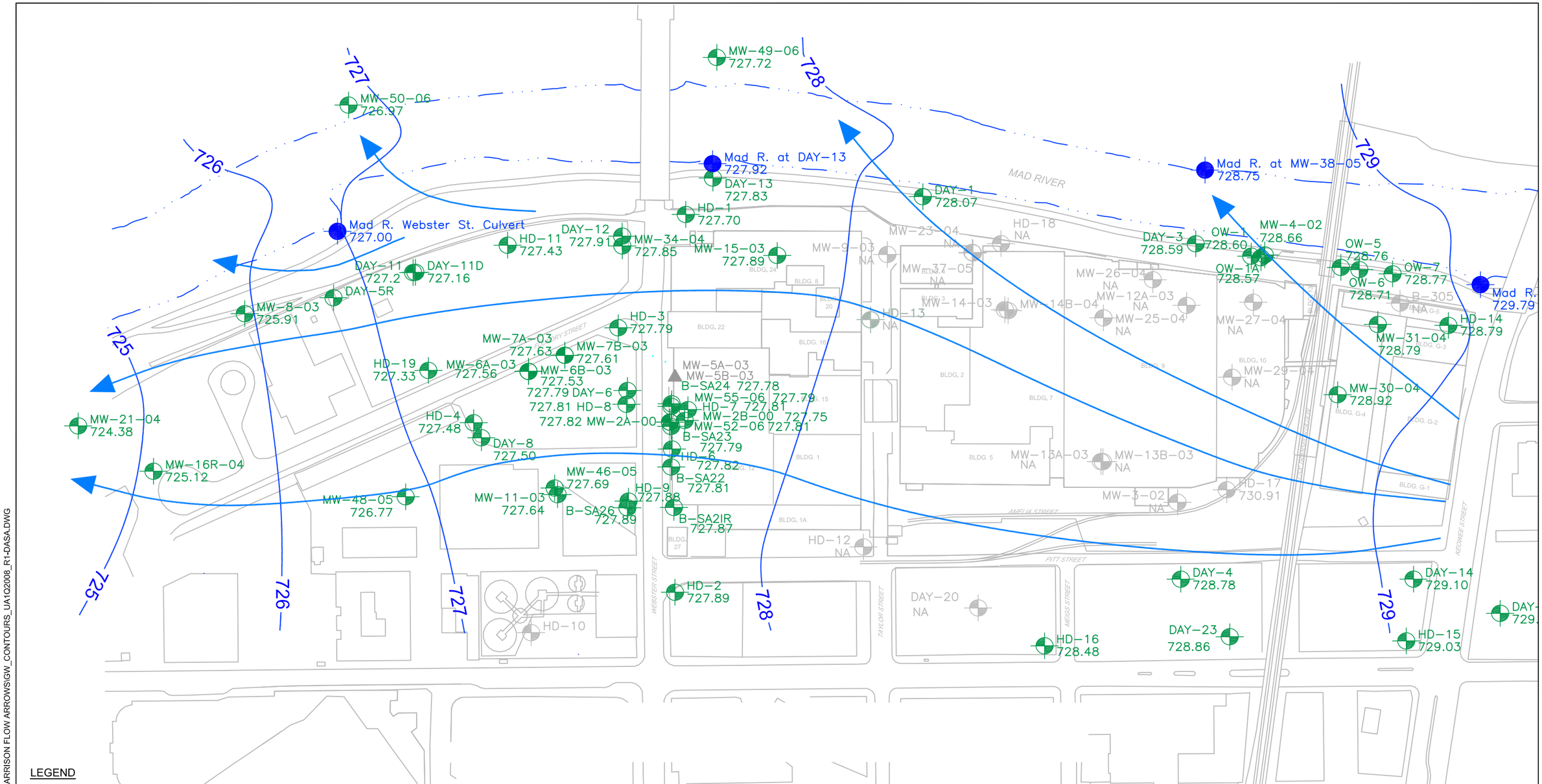
12638-03(021)GN-WA028 SEP 02/2008

Figure 2.1 Hydrograph of Data Logger Event August 2007



FORMER DELPHI HARRISON THERMAL SYSTEMS
DAYTON OHIO
9/10/2008

HALEY & ALDRICH, INC.



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LEGEND

- GROUNDWATER CONTOUR
- TW-4 725.8 — WELL ID, GROUNDWATER ELEVATION (FT)
- TW-4 725.8 — WELL ID, GROUNDWATER ELEVATION (FT), (NOT USED IN DEPICTION OF CONTOURS)
- Mad R. at Day-13 727.62 — SURFACE WATER ID, SURFACE WATER ELEVATION (FT)
- MW-5A-03 — ABANDONED MONITORING WELL
- MW-27-04 NA — WELL ID, NOT AVAILABLE

NOTES

1.) BASE SITE PLAN OBTAINED FROM GENERAL MOTORS.

2.) PLAN AND MONITORING WELL LOCATIONS ARE APPROXIMATE.

3.) MONITORING WELLS NOT USED IN THE DEPICTION OF GROUNDWATER CONTOURS MAY BE A RESULT OF INACCESIBILITY, NO MEASUREMENT TAKEN, ELEVATIONS DO NOT APPEAR TO HAVE DIRECT HYDROGEOLOGIC CONNECTION, POSSIBLE INACCURATE MEASUREMENT RECORDING, OR PRESENCE OF LNAPL.

4.) MONITORING WELLS INSIDE THE BUILDINGS WERE NOT MONITORED DUE TO ASBESTOS ABATEMENT ACTIVITIES.

5.) THE FOUNTAIN WELLS WERE OPERATING DURING THIS EVENT.

N W E S

0 200 400
APPROXIMATE SCALE IN FEET

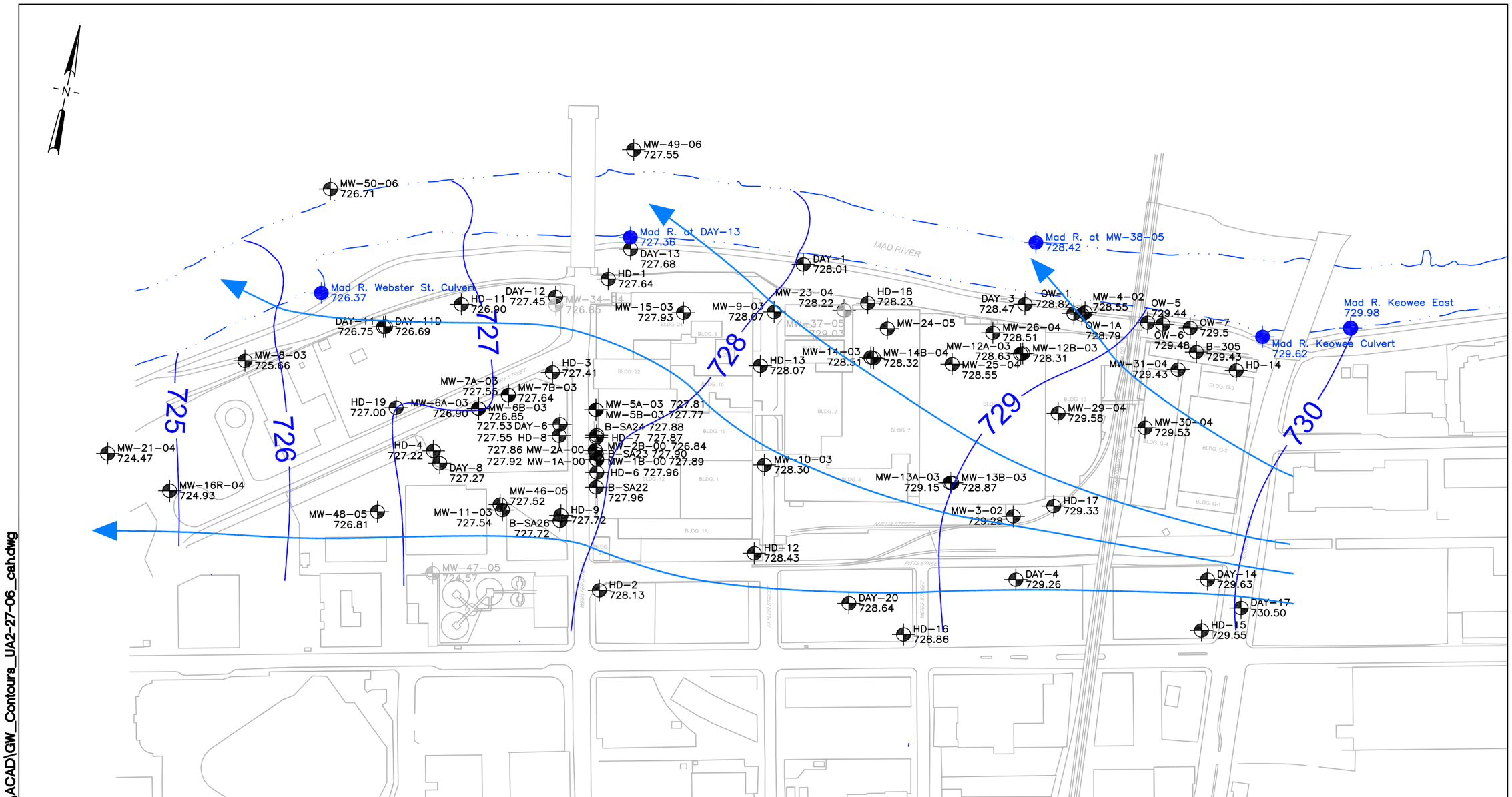
HALEY & ALDRICH

GENERAL MOTORS CORPORATION
DELPHI HARRISON THERMAL SYSTEMS
DAYTON, OHIO

WATER TABLE CONTOURS
June 25, 2008
(2Q 2008)

SCALE: AS SHOWN
July 2008

FIGURE 2.2



LEGEND:

- MW 16-03 727.24 — WELL ID, GROUNDWATER ELEVATION AT WATER TABLE OF UPPER AQUIFER (FT)
- Mad R. 725.20 — LOCATION ID, SURFACE WATER ELEVATION (FT)
- MW 16-03 727.24 — WELL ID, GROUNDWATER ELEVATION AT WATER TABLE OF UPPER AQUIFER (FT) (NOT USED IN DEPICTION OF CONTOURS)
- 729 — GROUNDWATER ELEVATION CONTOUR

NOTES:

1) BASE SITE PLAN OBTAINED FROM GENERAL MOTORS
2) PLAN AND MONITORING WELL LOCATIONS APPROXIMATE

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APPROXIMATE SCALE IN FEET

HALEY & ALDRICH
UNDERGROUND ENGINEERING & ENVIRONMENTAL SOLUTIONS

GENERAL MOTORS CORP.
DELPHI HARRISON THERMAL SYSTEMS
DAYTON, OHIO

WATER TABLE CONTOURS
FEBRUARY 27, 2006

SCALE: AS SHOWN

FEBRUARY 2006

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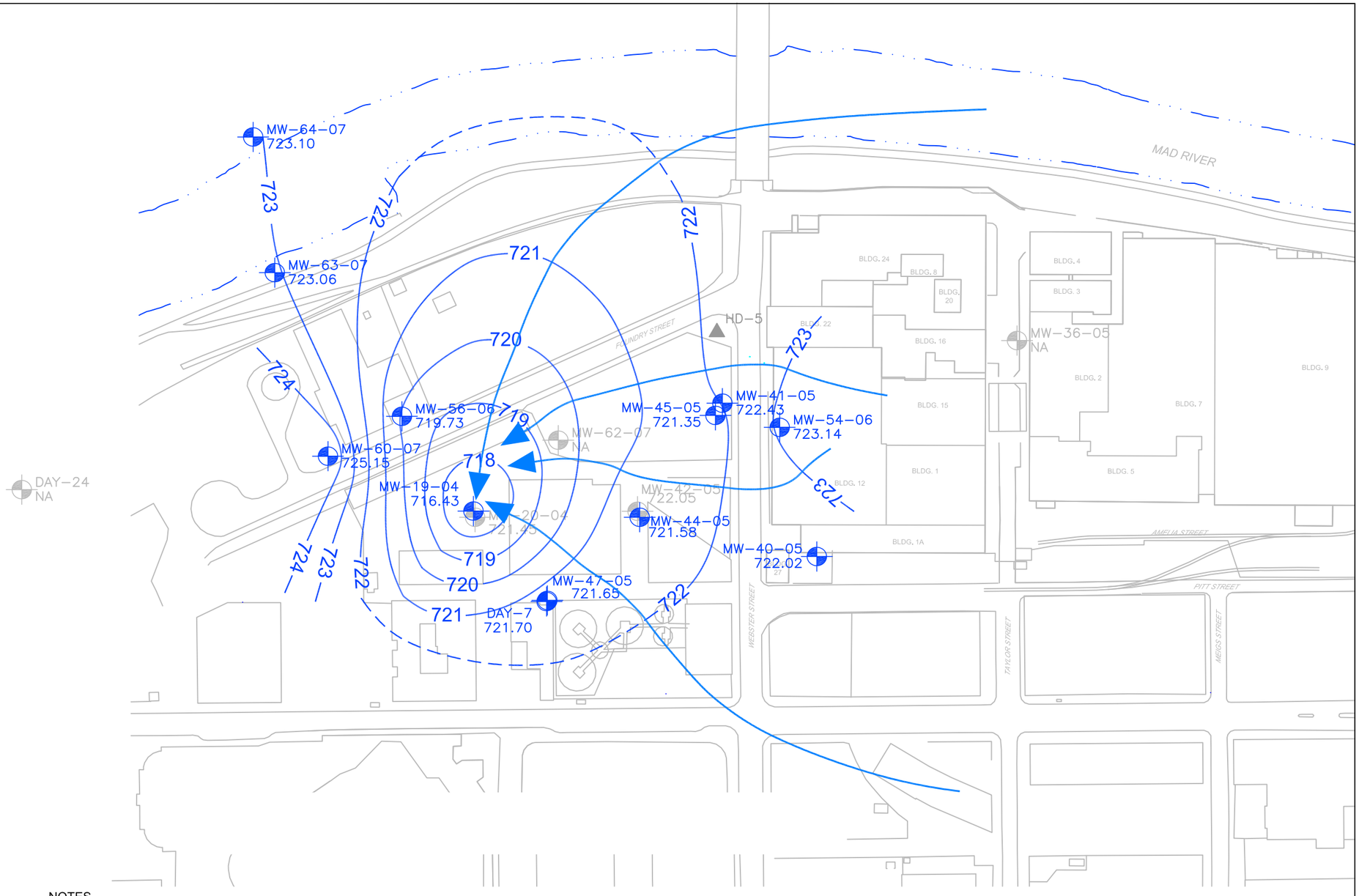
FIGURE 2.3



LEGEND

	GROUNDWATER CONTOUR
TW-4 725.8	WELL ID GROUNDWATER ELEVATION (FT)
TW-4 725.8	WELL ID GROUNDWATER ELEVATION (FT) (NOT USED IN DEPICTION OF CONTOURS)
HD-5	ABANDONED MONITORING WELL
MW-35-05 NA	WELL ID NOT AVAILABLE

NOTES

1.) BASE SITE PLAN OBTAINED FROM GENERAL MOTORS.

2.) PLAN AND MONITORING WELL LOCATIONS ARE APPROXIMATE.

3.) MONITORING WELLS NOT USED IN THE DEPICTION OF GROUNDWATER CONTOURS MAY BE A RESULT OF INACCESIBILITY, NO MEASUREMENT TAKEN, ELEVATIONS DO NOT APPEAR TO HAVE DIRECT HYDROGEOLOGIC CONNECTION, POSSIBLE INACCURATE MEASUREMENT RECORDING, OR PRESENCE OF LNAPL.

4.) MONITORING WELLS INSIDE THE BUILDINGS WERE NOT MONITORED DUE TO ASBESTOS ABATEMENT ACTIVITIES.

5.) THE FOUNTAIN WELLS WERE OPERATING DURING THIS EVENT.

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APPROXIMATE SCALE IN FEET

HALEY & ALDRICH

GENERAL MOTORS CORPORATION
DELPHI HARRISON THERMAL SYSTEMS
DAYTON, OHIO

TILL RICH ZONE CONTOURS
June 25, 2008
(1Q 2008)

SCALE: AS SHOWN
July 2008

FIGURE 2.4

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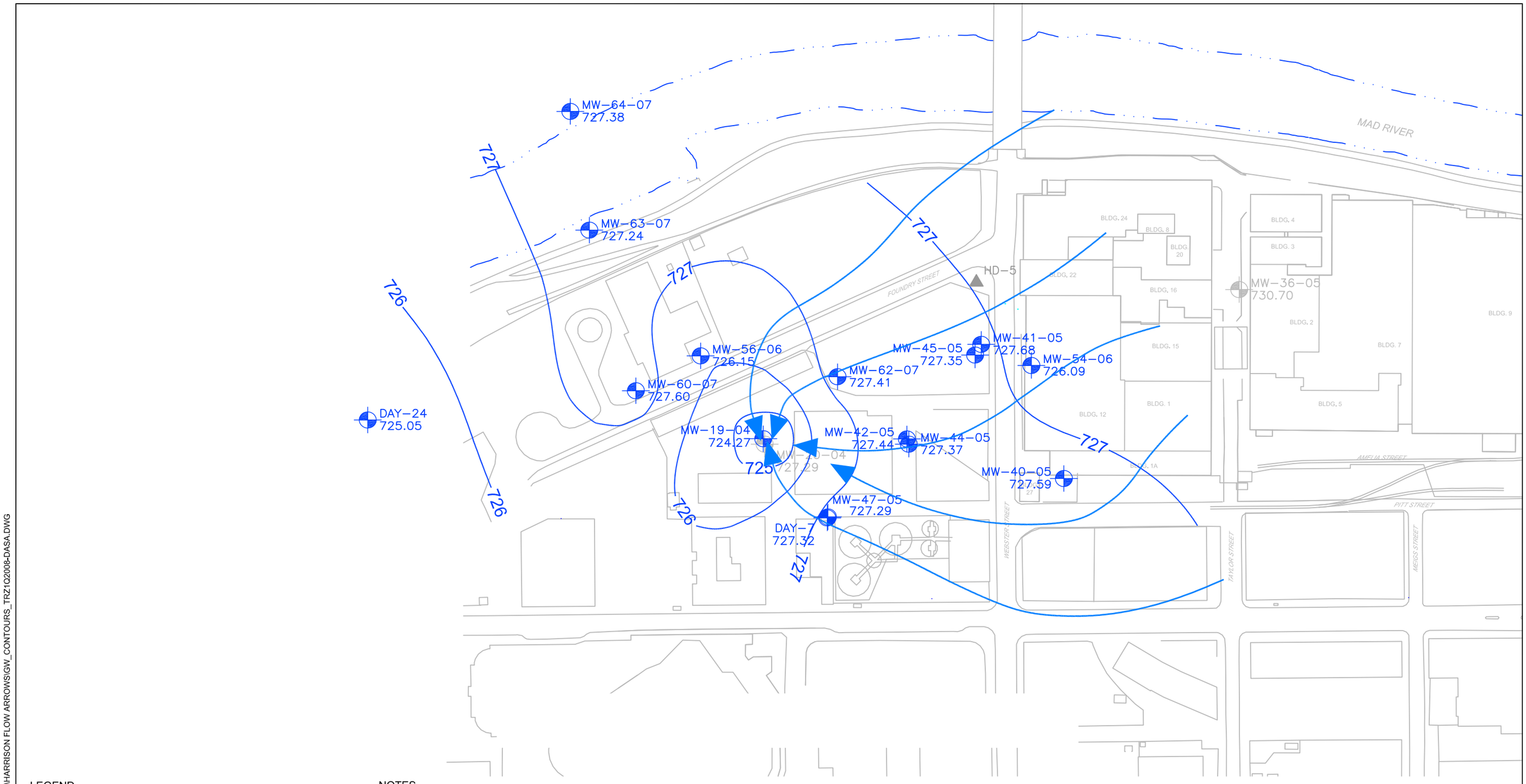

LEGEND

	GROUNDWATER CONTOUR
TW-4 725.8	WELL ID GROUNDWATER ELEVATION (FT)
TW-4 725.8	WELL ID GROUNDWATER ELEVATION (FT) (NOT USED IN DEPICTION OF CONTOURS)
HD-5	ABANDONED MONITORING WELL

NOTES

1.) BASE SITE PLAN OBTAINED FROM GENERAL MOTORS.

2.) PLAN AND MONITORING WELL LOCATIONS ARE APPROXIMATE.

3.) MONITORING WELLS NOT USED IN THE DEPICTION OF GROUNDWATER CONTOURS MAY BE A RESULT OF INACCESIBILITY, NO MEASUREMENT TAKEN, ELEVATIONS DO NOT APPEAR TO HAVE DIRECT HYDROGEOLOGIC CONNECTION, POSSIBLE INACCURATE MEASUREMENT RECORDING, OR PRESENCE OF LNAPL.

4.) MONITORING WELLS INSIDE THE BUILDINGS WERE NOT MONITORED DUE TO ASBESTOS ABATEMENT ACTIVITIES.

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APPROXIMATE SCALE IN FEET

HALEY & ALDRICH

GENERAL MOTORS CORPORATION
DELPHI HARRISON THERMAL SYSTEMS
DAYTON, OHIO

TILL RICH ZONE CONTOURS
March 26, 2008
(1Q 2008)

SCALE: AS SHOWN
April 2008

FIGURE 2.5

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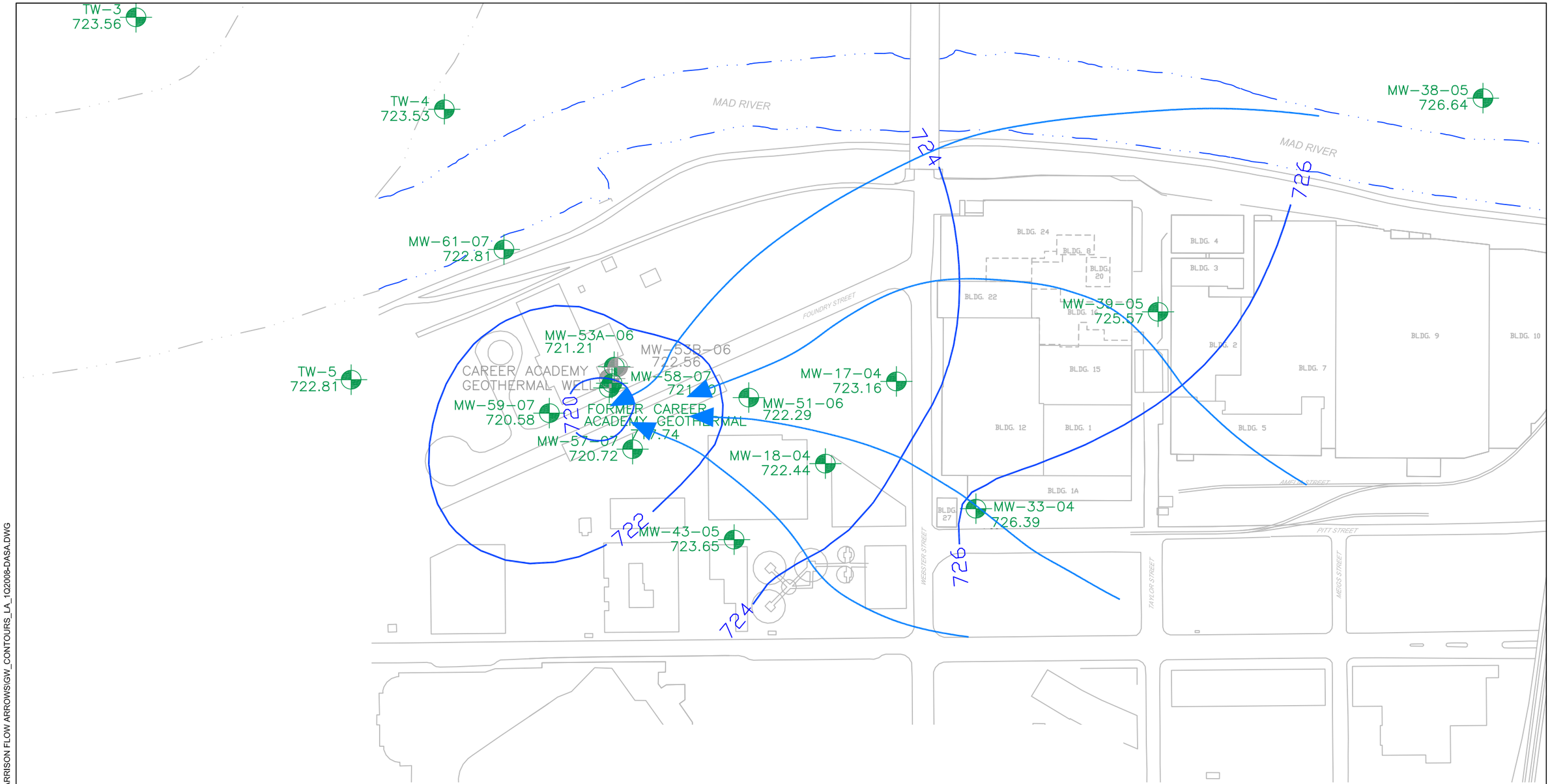

LEGEND

- GROUNDWATER CONTOUR
- TW-4 725.8 — WELL ID, GROUNDWATER ELEVATION (FT)
- TW-4 725.8 — WELL ID, GROUNDWATER ELEVATION (FT) (NOT USED IN DEPICTION OF CONTOURS)

NOTES

1.) BASE SITE PLAN OBTAINED FROM GENERAL MOTORS.

2.) PLAN AND MONITORING WELL LOCATIONS ARE APPROXIMATE.

3.) BASED ON GROUNDWATER ELEVATIONS AND DATA LOGGER OBSERVATIONS, MONITORING WELLS MW-35-05 AND DAY-22 APPEAR TO BE HYDROGEOLOGICALLY SEPARATED FROM THE OTHER LOWER AQUIFER WELLS. AS SUCH, THESE WELLS ARE NOT USED IN THE DEPICTION OF LOWER AQUIFER GROUNDWATER CONTOURS. OTHER MONITORING WELLS NOT USED IN THE DEPICTION OF GROUNDWATER CONTOURS MAY BE A RESULT OF INACCESSIBILILTIY, NO MEASUREMENT TAKEN, OR POSSIBLE INACCURATE MEASUREMENT RECORDING.

4.) IN 2004, THE CAREER ACADEMY INSTALLED A NEW GEOTHERMAL WELL. THE FORMER CAREER ACADEMY GEOTHERMAL WELL IS NO LONGER USED FOR PUMPING.

5.) THE ACTIVE CAREER ACADEMY GEOTHERMAL WELL WAS OPERATING DURING THIS EVENT, WHILE THE FOUNTAIN WELLS WERE NOT OPERATING.

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0 200 400
APPROXIMATE SCALE IN FEET

HALEY & ALDRICH

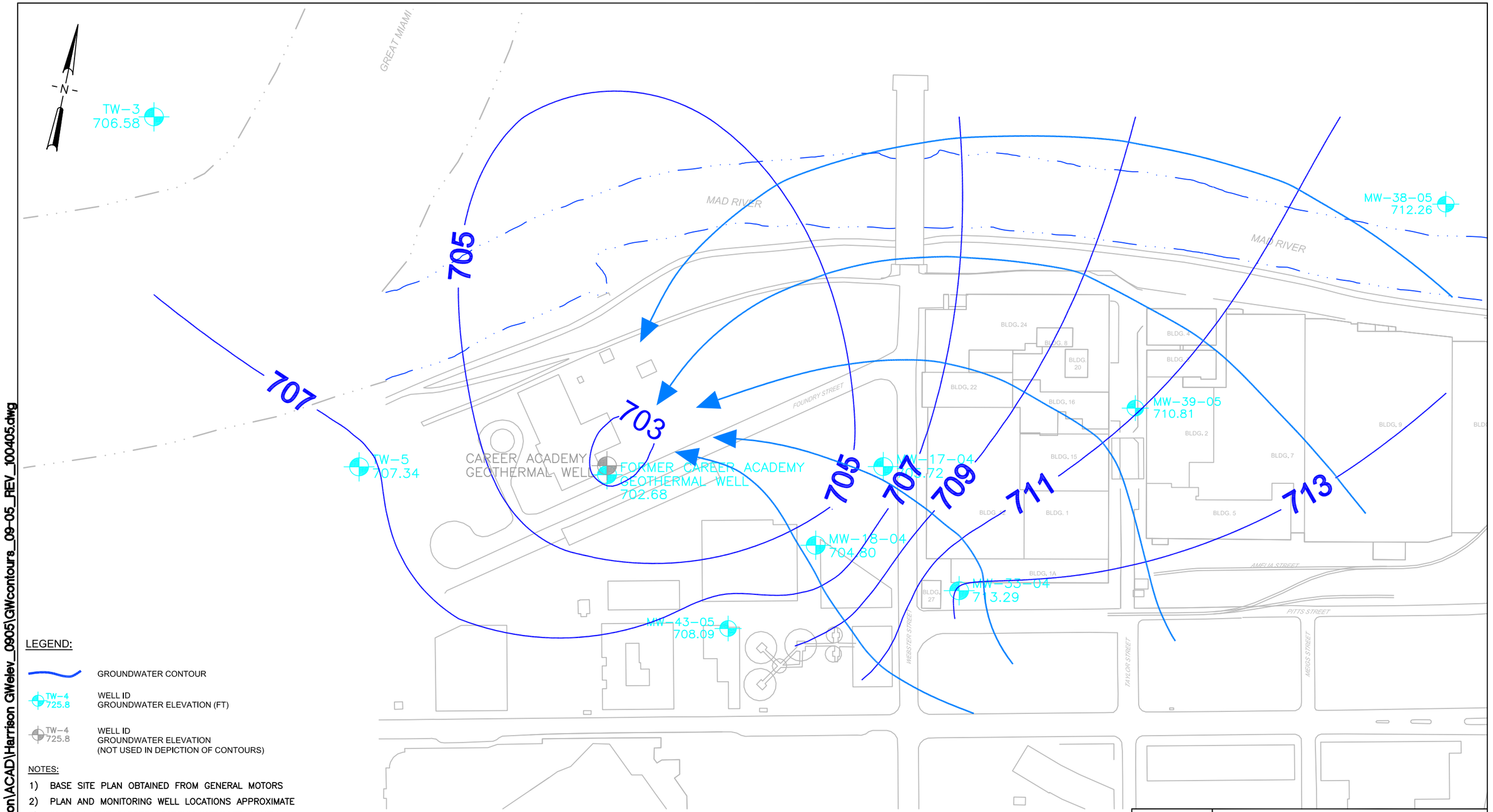
GENERAL MOTORS CORPORATION
DELPHI HARRISON THERMAL SYSTEMS
DAYTON, OHIO

LOWER AQUIFER CONTOURS
MARCH 26, 2008
(1Q 2008)

SCALE: AS SHOWN
APRIL 2008

FIGURE 2.6

C:\DOCUMENTS AND SETTINGS\DHB\DESKTOP\HARRISON FLOW ARROWS\GW_CONTOURS_LA_1Q2008-DASA.DWG



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LEGEND:

- GROUNDWATER CONTOUR
- TW-4 725.8 — WELL ID, GROUNDWATER ELEVATION (FT)
- TW-4 725.8 — WELL ID, GROUNDWATER ELEVATION (NOT USED IN DEPICTION OF CONTOURS)

NOTES:

1) BASE SITE PLAN OBTAINED FROM GENERAL MOTORS
2) PLAN AND MONITORING WELL LOCATIONS APPROXIMATE
3) IN 2004, THE CAREER ACADEMY INSTALLED A NEW GEOTHERMAL WELL. THE FORMER CAREER ACADEMY GEOTHERMAL WELL IS NO LONGER USED FOR PUMPING. THE DATALOGGER WAS PLACED IN THE FORMER CAREER ACADEMY GEOTHERMAL WELL.
4) GROUNDWATER ELEVATIONS WERE OBTAINED FROM A DATA LOGGER EVENT ON SEPTEMBER 25, 2005 AT 21:00 WHEN IT APPEARS THAT ONLY THE RIVERSCAPE FOUNTAIN WELLS AND THE CAREER ACADEMY GEOTHERMAL WELL WERE PUMPING.

HALEY & ALDRICH

UNDERGROUND ENGINEERING & ENVIRONMENTAL SOLUTIONS

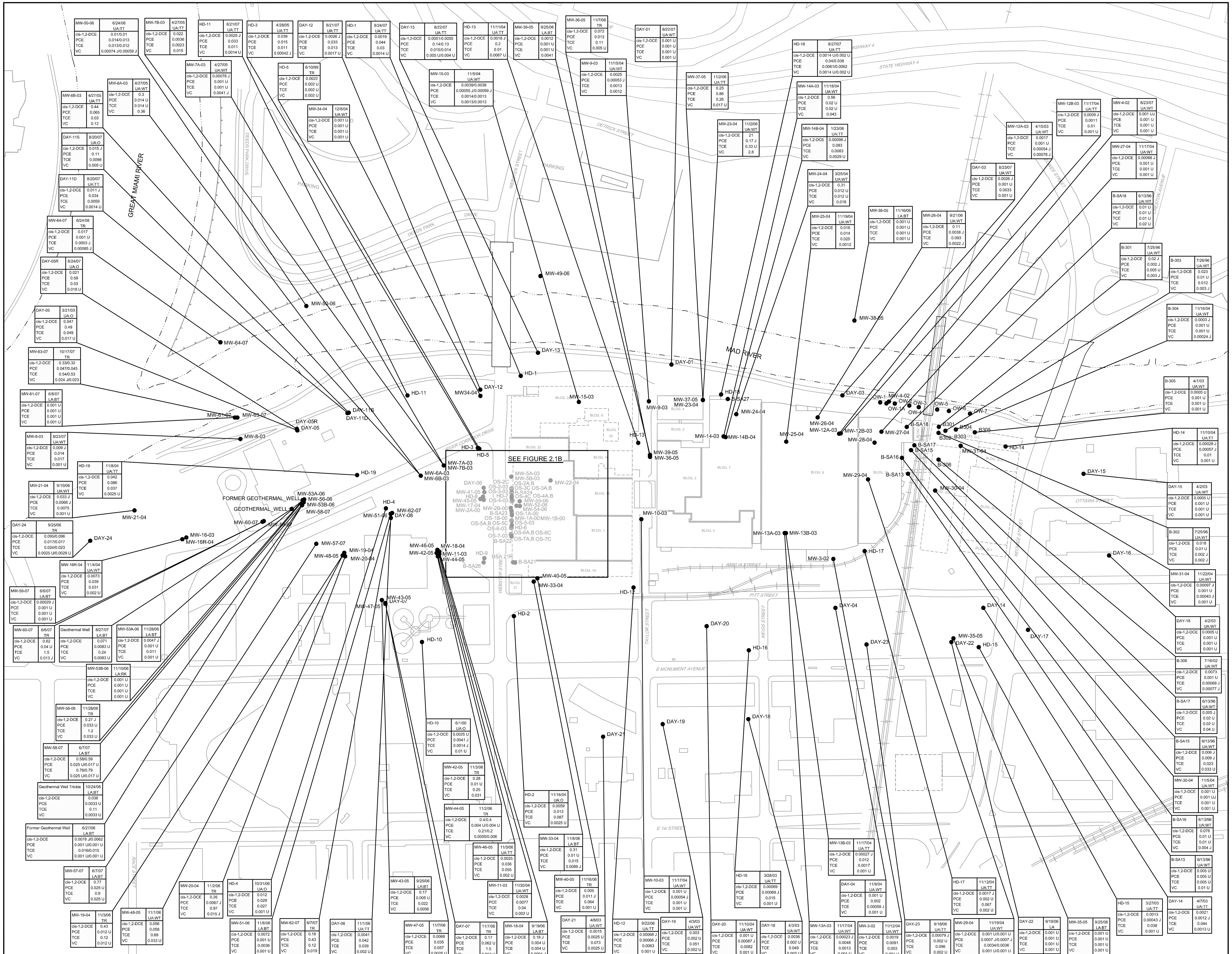
GENERAL MOTORS CORP.
DELPHI HARRISON THERMAL SYSTEMS
DAYTON, OHIO

LOWER AQUIFER CONTOURS
September 25, 2005

SCALE: AS SHOWN

DECEMBER 2005

FIGURE 2.7



LEGEND

MAD RIVER SHORELINE
MONITORING WELL

MW-23-04	11/02/06 UA:WT
cis-1,2-DCE	21
PCE	0.17 J
TCE	0.33 U
VC	2.8

SAMPLE LOCATION
SAMPLE DATE
GEOLOGIC UNIT CODE
RESULT (mg/L)
PARAMETER

J Estimated concentration
U Not present at or above the associated value
UJ Estimated reporting limit
- Not analyzed

NOTE:
MOST RECENT ANALYTICAL DATA RESULTS FOR PRIMARY CVOCS FOR SITE-WIDE GROUNDWATER MONITORING LOCATIONS PRESENTED.

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

FORMER DEPHI HARRISON THERMAL SYSTEMS FACILITY

Dayton, Ohio

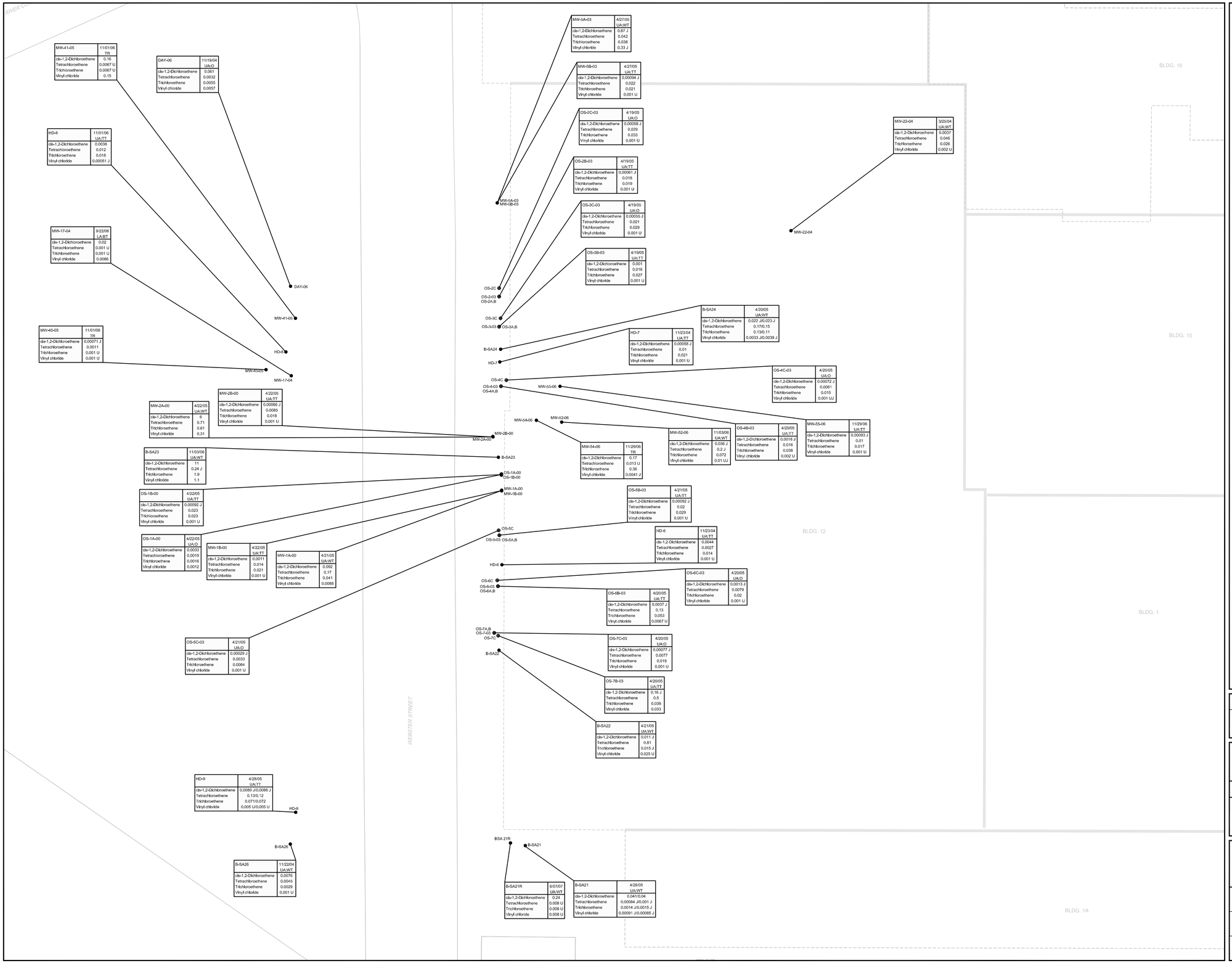
PRIMARY CVOC IN GROUNDWATER (EXCLUDING WEBSTER STREET)

CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

Project Manager:	Reviewed By:	Date:	
IKR	SE	SEPTEMBER 2008	
Scale:	Project Nº:	Report Nº:	Drawing Nº:
1"=150'	12638-03	021	2.8A

12638-03(021)GN-WA003 SEP 15/2008



SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY

Dayton, Ohio

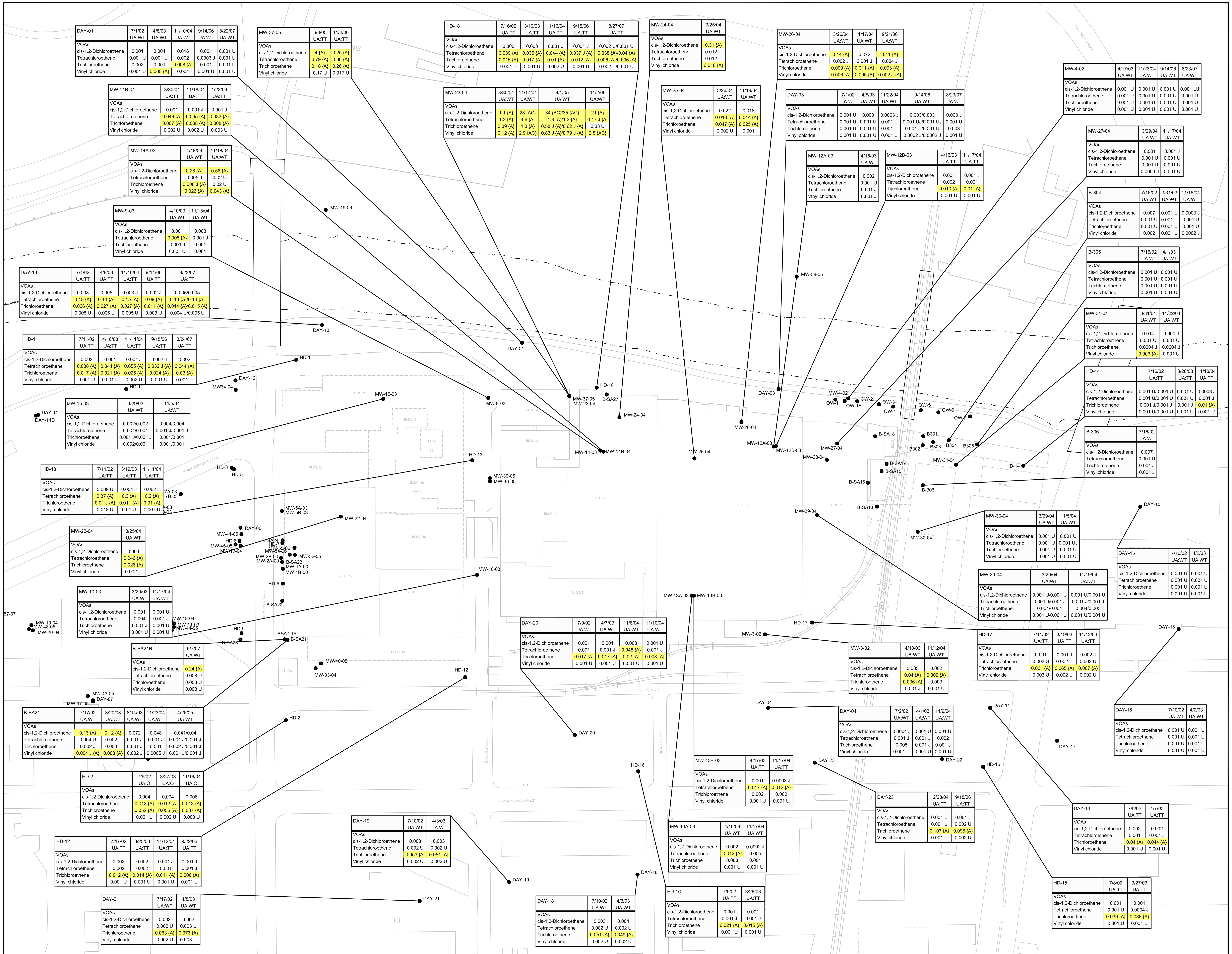
PRIMARY CVOC IN GROUNDWATER (WEBSTER STREET)

CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

Project Manager:	Reviewed By:	Date:	
IKR	SE	SEPTEMBER 2008	
Scale: 1"=20'	Project N°: 12638-03	Report N°: 021	Drawing N°: 2.8B

12638-03(021)GN-WA004 SEP 15/2008



DAY-01	7/1/02 UA:WT	4/8/03 UA:WT	11/10/04 UA:WT	9/14/06 UA:WT	8/22/07 UA:WT
VOAs					
cis-1,2-Dichloroethene	0.001	0.004	0.016	0.001	0.001 U
Tetrachloroethene	0.001 U	0.001 U	0.002	0.0003 J	0.001 U
Trichloroethene	0.002	0.001	0.008 {A}	0.001	0.001 U
Vinyl chloride	0.001 U	0.005 {A}	0.001	0.001 U	0.001 U

MW-37-05	6/3/05 UA:TT	11/2/06 UA:TT
VOAs		
cis-1,2-Dichloroethene	4 {A}	0.25 {A}
Tetrachloroethene	0.79 {A}	0.86 {A}
Trichloroethene	0.18 {A}	0.26 {A}
Vinyl chloride	0.17 U	0.017 U

MW-14B-04	3/30/04 UA:TT	11/18/04 UA:TT	1/23/06 UA:TT
VOAs			
cis-1,2-Dichloroethene	0.001	0.001 J	0.001 J
Tetrachloroethene	0.049 {A}	0.065 {A}	0.083 {A}
Trichloroethene	0.007 {A}	0.008 {A}	0.008 {A}
Vinyl chloride	0.002 U	0.002 U	0.003 U

MW-14A-03	4/18/03 UA:WT	11/18/04 UA:WT
VOAs		
cis-1,2-Dichloroethene	0.28 {A}	0.56 {A}
Tetrachloroethene	0.005 J	0.02 U
Trichloroethene	0.008 J {A}	0.02 U
Vinyl chloride	0.026 {A}	0.043 {A}

MW-9-03	4/10/03 UA:WT	11/15/04 UA:WT
VOAs		
cis-1,2-Dichloroethene	0.001	0.003
Tetrachloroethene	0.008 {A}	0.001 J
Trichloroethene	0.001 J	0.001
Vinyl chloride	0.001 U	0.001

DAY-13	7/1/02 UA:TT	4/8/03 UA:TT	11/16/04 UA:TT	9/14/06 UA:TT	8/22/07 UA:TT
VOAs					
cis-1,2-Dichloroethene	0.008	0.005	0.003 J	0.002 J	0.006/0.005
Tetrachloroethene	0.15 {A}	0.14 {A}	0.15 {A}	0.09 {A}	0.13 {A}/0.14 {A}
Trichloroethene	0.026 {A}	0.027 {A}	0.027 {A}	0.011 {A}	0.014 {A}/0.015 {A}
Vinyl chloride	0.005 U	0.006 U	0.005 U	0.003 U	0.004 U/0.005 U

HD-1	7/11/02 UA:TT	4/10/03 UA:TT	11/11/04 UA:TT	9/15/06 UA:TT	8/24/07 UA:TT
VOAs					
cis-1,2-Dichloroethene	0.002	0.001	0.001 J	0.002 J	0.002
Tetrachloroethene	0.038 {A}	0.044 {A}	0.055 {A}	0.032 J {A}	0.044 {A}
Trichloroethene	0.017 {A}	0.021 {A}	0.025 {A}	0.024 {A}	0.03 {A}
Vinyl chloride	0.001 U	0.001 U	0.002 U	0.001 U	0.001 U

MW-15-03	4/29/03 UA:WT	11/5/04 UA:WT
VOAs		
cis-1,2-Dichloroethene	0.002/0.002	0.004/0.004
Tetrachloroethene	0.001/0.001	0.001 J/0.001 J
Trichloroethene	0.001 J/0.001 J	0.001/0.001
Vinyl chloride	0.002/0.001	0.001/0.001

HD-13	7/11/02 UA:TT	3/19/03 UA:TT	11/11/04 UA:TT
VOAs			
cis-1,2-Dichloroethene	0.009 U	0.004 J	0.002 J
Tetrachloroethene	0.37 {A}	0.3 {A}	0.2 {A}
Trichloroethene	0.01 J {A}	0.011 {A}	0.01 {A}
Vinyl chloride	0.018 U	0.01 U	0.007 U

MW-22-04	3/25/04 UA:WT
VOAs	
cis-1,2-Dichloroethene	0.004
Tetrachloroethene	0.046 {A}
Trichloroethene	0.026 {A}
Vinyl chloride	0.002 U

MW-10-03	3/20/03 UA:WT	11/17/04 UA:WT
VOAs		
cis-1,2-Dichloroethene	0.001	0.001 U
Tetrachloroethene	0.004	0.001 J
Trichloroethene	0.001 J	0.001 U
Vinyl chloride	0.001 U	0.001 U

B-SA21R	6/7/07 UA:WT
VOAs	
cis-1,2-Dichloroethene	0.24 {A}
Tetrachloroethene	0.008 U
Trichloroethene	0.008 U
Vinyl chloride	0.008 U

B-SA21	7/17/02 UA:WT	3/20/03 UA:WT	8/14/03 UA:WT	11/23/04 UA:WT	4/26/05 UA:WT
VOAs					
cis-1,2-Dichloroethene	0.13 {A}	0.12 {A}	0.072	0.048	0.041/0.04
Tetrachloroethene	0.004 U	0.002 J	0.001 J	0.001 J	0.001 J/0.001 J
Trichloroethene	0.002 J	0.003 J	0.001 J	0.001	0.002 J/0.001 J
Vinyl chloride	0.004 J {A}	0.003 {A}	0.002 J	0.0005 J	0.001 J/0.001 J

HD-2	7/9/02 UA:O	3/27/03 UA:O	11/16/04 UA:O
VOAs			
cis-1,2-Dichloroethene	0.004	0.004	0.006
Tetrachloroethene	0.012 {A}	0.012 {A}	0.013 {A}
Trichloroethene	0.052 {A}	0.056 {A}	0.087 {A}
Vinyl chloride	0.001 U	0.002 U	0.003 U

HD-12	7/17/02 UA:TT	3/25/03 UA:TT	11/12/04 UA:TT	9/22/06 UA:TT
VOAs				
cis-1,2-Dichloroethene	0.002	0.002	0.001 J	0.001 J
Tetrachloroethene	0.002	0.002	0.001	0.001 J
Trichloroethene	0.012 {A}	0.014 {A}	0.011 {A}	0.006 {A}
Vinyl chloride	0.001 U	0.001 U	0.001 U	0.001 U

DAY-21	7/17/02 UA:WT	4/8/03 UA:WT
VOAs		
cis-1,2-Dichloroethene	0.002	0.002
Tetrachloroethene	0.002 U	0.003 U
Trichloroethene	0.063 {A}	0.073 {A}
Vinyl chloride	0.002 U	0.003 U

DAY-19	7/10/02 UA:WT	4/3/03 UA:WT
VOAs		
cis-1,2-Dichloroethene	0.003	0.003
Tetrachloroethene	0.002 U	0.002 U
Trichloroethene	0.053 {A}	0.051 {A}
Vinyl chloride	0.002 U	0.002 U

HD-18	7/16/02 UA:TT	3/19/03 UA:TT	11/16/04 UA:TT	9/15/06 UA:TT	8/27/07 UA:TT
VOAs					
cis-1,2-Dichloroethene	0.006	0.003	0.001 J	0.001 J	0.002 U/0.001 U
Tetrachloroethene	0.039 {A}	0.036 {A}	0.044 {A}	0.037 J {A}	0.038 {A}/0.04 {A}
Trichloroethene	0.015 {A}	0.017 {A}	0.01 {A}	0.012 {A}	0.006 {A}/0.006 {A}
Vinyl chloride	0.001 U	0.001 U	0.002 U	0.001 U	0.002 U/0.001 U

MW-23-04	3/30/04 UA:WT	11/17/04 UA:WT	4/1/05 UA:WT	11/2/06 UA:WT
VOAs				
cis-1,2-Dichloroethene	1.1 {A}	28 {AC}	34 {AC}/35 {AC}	21 {A}
Tetrachloroethene	1.2 {A}	4.6 {A}	1.3 {A}/1.3 {A}	0.17 J {A}
Trichloroethene	0.39 {A}	1.3 {A}	0.58 J {A}/0.62 J {A}	0.33 U
Vinyl chloride	0.12 {A}	2.9 {AC}	0.83 J {A}/0.79 J {A}	2.8 {AC}

MW-24-04	3/25/04 UA:WT
VOAs	
cis-1,2-Dichloroethene	0.31 {A}
Tetrachloroethene	0.012 U
Trichloroethene	0.012 U
Vinyl chloride	0.018 {A}

MW-25-04	3/26/04 UA:WT	11/19/04 UA:WT
VOAs		
cis-1,2-Dichloroethene	0.022	0.018
Tetrachloroethene	0.018 {A}	0.014 {A}
Trichloroethene	0.047 {A}	0.025 {A}
Vinyl chloride	0.002 U	0.001

MW-26-04	3/26/04 UA:WT	11/17/04 UA:WT	9/21/06 UA:WT
VOAs			
cis-1,2-Dichloroethene	0.14 {A}	0.072	0.11 {A}
Tetrachloroethene	0.002 J	0.001 J	0.004 J
Trichloroethene	0.009 {A}	0.011 {A}	0.093 {A}
Vinyl chloride	0.006 {A}	0.005 {A}	0.002 J {A}

DAY-03	7/1/02 UA:WT	4/8/03 UA:WT	11/22/04 UA:WT	9/14/06 UA:WT	8/23/07 UA:WT
VOAs					
cis-1,2-Dichloroethene	0.001 U	0.003	0.0003 J	0.003/0.003	0.003 J
Tetrachloroethene	0.001 U	0.001 U	0.001 U	0.001 UJ/0.001 UJ	0.001 U
Trichloroethene	0.001 U	0.001 U	0.001 U	0.001 U/0.001 U	0.003
Vinyl chloride	0.001 U	0.001 U	0.001 U	0.0002 J/0.0002 J	0.001 U

MW-12A-03	4/15/03 UA:WT
VOAs	
cis-1,2-Dichloroethene	0.002
Tetrachloroethene	0.001 U
Trichloroethene	0.001 J
Vinyl chloride	0.001 J

MW-12B-03	4/16/03 UA:TT	11/17/04 UA:TT
VOAs		
cis-1,2-Dichloroethene	0.001	0.001 J
Tetrachloroethene	0.002	0.001
Trichloroethene	0.013 {A}	0.01 {A}
Vinyl chloride	0.001 U	0.001 U

MW-4-02	4/17/03 UA:WT	11/23/04 UA:WT	9/14/06 UA:WT	8/23/07 UA:WT
VOAs				
cis-1,2-Dichloroethene	0.001 U	0.001 U	0.001 U	0.001 UJ
Tetrachloroethene	0.001 U	0.001 U	0.001 U	0.001 U
Trichloroethene	0.001 U	0.001 U	0.001 U	0.001 U
Vinyl chloride	0.001 U	0.001 U	0.001 U	0.001 U

MW-27-04	3/29/04 UA:WT	11/17/04 UA:WT
VOAs		
cis-1,2-Dichloroethene	0.001	0.001 J
Tetrachloroethene	0.001 U	0.001 U
Trichloroethene	0.001 U	0.001 U
Vinyl chloride	0.0003 J	0.001 U

B-304	7/16/02 UA:WT	3/31/03 UA:WT	11/16/04 UA:WT
VOAs			
cis-1,2-Dichloroethene	0.007	0.001 U	0.0003 J
Tetrachloroethene	0.001 U	0.001 U	0.001 U
Trichloroethene	0.001 U	0.001 U	0.001 U
Vinyl chloride	0.002	0.001 U	0.0002 J

B-305	7/16/02 UA:WT	4/1/03 UA:WT
VOAs		
cis-1,2-Dichloroethene	0.001 U	0.001 U
Tetrachloroethene	0.001 U	0.001 U
Trichloroethene	0.001 U	0.001 U
Vinyl chloride	0.001 U	0.001 U

MW-31-04	3/31/04 UA:WT	11/22/04 UA:WT
VOAs		
cis-1,2-Dichloroethene	0.014	0.001 J
Tetrachloroethene	0.001 U	0.001 U
Trichloroethene	0.0004 J	0.0004 J
Vinyl chloride	0.003 {A}	0.001 U

HD-14	7/16/02 UA:TT	3/26/03 UA:TT	11/10/04 UA:TT
VOAs			
cis-1,2-Dichloroethene	0.001 U/0.001 U	0.001 U	0.0003 J
Tetrachloroethene	0.001 U/0.001 U	0.001 U	0.001 J
Trichloroethene	0.001 J/0.001 J	0.001 J	0.01 {A}
Vinyl chloride	0.001 U/0.001 U	0.001 U	0.001 U

B-306	7/16/02 UA:WT
VOAs	
cis-1,2-Dichloroethene	0.007
Tetrachloroethene	0.001 U
Trichloroethene	0.001 J
Vinyl chloride	0.001 J

MW-30-04	3/29/04 UA:WT	11/5/04 UA:WT
VOAs		
cis-1,2-Dichloroethene	0.001 U	0.001 U
Tetrachloroethene	0.001 U	0.001 UJ
Trichloroethene	0.001 U	0.001 U
Vinyl chloride	0.001 U	0.001 U

DAY-15	7/10/02 UA:WT	4/2/03 UA:WT
VOAs		
cis-1,2-Dichloroethene	0.001 U	0.001 U
Tetrachloroethene	0.001 U	0.001 U
Trichloroethene	0.001 U	0.001 U
Vinyl chloride	0.001 U	0.001 U

MW-29-04	3/29/04 UA:WT	11/19/04 UA:WT
VOAs		
cis-1,2-Dichloroethene	0.001 U/0.001 U	0.001 U/0.001 U
Tetrachloroethene	0.001 J/0.001 J	0.001 J/0.001 J
Trichloroethene	0.004/0.004	0.004/0.003
Vinyl chloride	0.001 U/0.001 U	0.001 U/0.001 U

DAY-20	7/9/02 UA:WT	4/7/03 UA:WT	11/8/04 UA:WT	11/10/04 UA:WT
VOAs				
cis-1,2-Dichloroethene	0.001	0.001	0.003	0.001 U
Tetrachloroethene	0.001	0.001 J	0.048 {A}	0.001 J
Trichloroethene	0.017 {A}	0.017 {A}	0.02 {A}	0.008 {A}
Vinyl chloride	0.001 U	0.001 U	0.001 U	0.001 U

MW-3-02	4/18/03 UA:WT	11/12/04 UA:WT
VOAs		
cis-1,2-Dichloroethene	0.035	0.002
Tetrachloroethene	0.04 {A}	0.009 {A}
Trichloroethene	0.006 {A}	0.003
Vinyl chloride	0.001 J	0.001 U

HD-17	7/11/02 UA:TT	3/19/03 UA:TT	11/12/04 UA:TT
VOAs			
cis-1,2-Dichloroethene	0.001	0.001 J	0.002 J
Tetrachloroethene	0.003 U	0.002 U	0.002 U
Trichloroethene	0.061 {A}	0.065 {A}	0.067 {A}
Vinyl chloride	0.003 U	0.002 U	0.002 U

DAY-04	7/2/02 UA:WT	4/1/03 UA:WT	11/9/04 UA:WT
VOAs			
cis-1,2-Dichloroethene	0.0004 J	0.001 U	0.001 U
Tetrachloroethene	0.001 J	0.001 J	0.002
Trichloroethene	0.005	0.001 J	0.001 J
Vinyl chloride	0.001 U	0.001 U	0.001 U

DAY-16	7/10/02 UA:WT	4/2/03 UA:WT
VOAs		
cis-1,2-Dichloroethene	0.001 U	0.001 U
Tetrachloroethene	0.001 U	0.001 U
Trichloroethene	0.001 U	0.001 U
Vinyl chloride	0.001 U	0.001 U

MW-13B-03	4/17/03 UA:TT	11/17/04 UA:TT
VOAs		
cis-1,2-Dichloroethene	0.001	0.0003 J
Tetrachloroethene	0.017 {A}	0.012 {A}
Trichloroethene	0.002	0.002
Vinyl chloride	0.001 U	0.001 U

MW-13A-03	4/16/03 UA:WT	11/17/04 UA:WT
VOAs		
cis-1,2-Dichloroethene	0.002	0.0002 J
Tetrachloroethene	0.012 {A}	0.005
Trichloroethene	0.003	0.001
Vinyl chloride	0.001 U	0.001 U

DAY-23	12/28/04 UA:TT	9/18/06 UA:TT
VOAs		
cis-1,2-Dichloroethene	0.001 U	0.001 J
Tetrachloroethene	0.001 U	0.002 U
Trichloroethene	0.107 {A}	0.096 {A}
Vinyl chloride	0.001 U	0.002 U

DAY-14	7/8/02 UA:TT	4/7/03 UA:TT
VOAs		
cis-1,2-Dichloroethene	0.002	0.002
Tetrachloroethene	0.001	0.001 J
Trichloroethene	0.04 {A}	0.044 {A}
Vinyl chloride	0.001 U	0.001 U

HD-15	7/8/02 UA:TT	3/27/03 UA:TT
VOAs		
cis-1,2-Dichloroethene	0.001	0.001
Tetrachloroethene	0.001 U	0.0004 J
Trichloroethene	0.039 {A}	0.038 {A}
Vinyl chloride	0.001 U	0.001 U

DAY-18	7/10/02 UA:WT	4/3/03 UA:WT
VOAs		
cis-1,2-Dichloroethene	0.003	0.004
Tetrachloroethene	0.002 U	0.002 U
Trichloroethene	0.051 {A}	0.049 {A}
Vinyl chloride	0.002 U	0.002 U

HD-16	7/9/02 UA:TT	3/28/03 UA:TT
VOAs		
cis-1,2-Dichloroethene	0.001	0.001
Tetrachloroethene	0.001 J	0.001 J
Trichloroethene	0.021 {A}	0.015 {A}
Vinyl chloride	0.001 U	0.001 U

0 50 100ft

LEGEND

MAD RIVER SHORELINE

MONITORING WELL

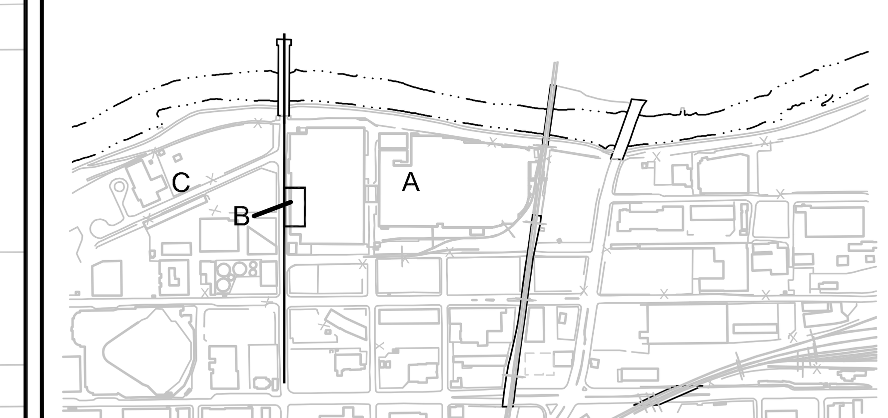
MW-53B-06	11/10/06 LA:RK
VOAs	
cis-1,2-Dichloroethene	0.001 U
Tetrachloroethene	0.001 U
Trichloroethene	0.001 U
Vinyl chloride	0.001 U

SAMPLE LOCATION
SAMPLE DATE
WELL ZONE
RESULT (mg/L)
PARAMETER
EXCEEDANCE

J Estimated concentration
U Not present at or above the associated value
UJ Estimated reporting limit
- Not analyzed

Chemical Name	A	B	C	D	E
VOAs					
1,1-Dichloroethene	7.00E-03	2.44E+02	1.25E+02	8.52E+01	8.82E+01
Benzene	5.00E-03	6.41E+00	4.88E+00	1.77E+00	6.39E-01
cis-1,2-Dichloroethene	7.00E-02	6.38E+01	2.29E+01	2.05E+01	2.44E+01
Methylene chloride	5.00E-03	1.27E+02	8.94E+01	3.18E+01	1.28E+01
Tetrachloroethene	5.00E-03	1.49E+01	1.41E+01	4.32E+00	6.02E-01
Trichloroethene	5.00E-03	2.73E+01	2.68E+01	7.76E+00	2.23E+00
Vinyl chloride	2.00E-03	3.29E+00	2.02E+00	9.53E-01	4.90E-02
SVOAs					
Benzo(a)anthracene	1.17E-03	1.43E+02	6.17E-02	2.18E+01	3.92E-04
Benzo(a)pyrene	2.00E-04	4.20E+01	4.35E-03	6.39E+00	2.50E-05
Benzo(b)fluoranthene	1.17E-03	7.70E+00	3.71E-02	1.67E+00	4.04E-04
bis(2-Ethylhexyl)phthalate	6.00E-03	1.00E+05	1.82E+00	1.49E+04	9.97E-03
Dibenz(a,h)anthracene	1.17E-04	2.81E+03	2.78E-03	3.67E+02	1.52E-05
PCBs					
Total PCBs	5.00E-04	2.52E-01	9.35E-03	6.95E-02	1.96E-04
Total PCBs (Dissolved)	5.00E-04	2.52E-01	9.35E-03	6.95E-02	1.96E-04
Metals					
Arsenic	1.00E-02	-	1.44E+01	-	3.85E-02
Arsenic (Dissolved)	1.00E-02	-	1.44E+01	-	3.85E-02
Cadmium	5.00E-03	-	1.80E+01	-	2.88E-01
Cadmium (Dissolved)	5.00E-03	-	1.80E+01	-	2.88E-01
Lead	1.50E-02	-	7.40E+01	-	-
Lead (Dissolved)	1.50E-02	-	7.40E+01	-	-
Manganese	5.11E+00	-	5.96E+03	-	8.55E+01
Manganese (Dissolved)	5.11E+00	-	5.96E+03	-	8.55E+01
Mercury	2.00E-03	8.33E-01	2.88E-01	2.86E-01	1.53E+00
Mercury (Dissolved)	2.00E-03	8.33E-01	2.88E-01	2.86E-01	1.53E+00

A: Drinking Water Criteria
B: Commercial/Industrial GW Volatilization into Indoor Air Criteria
C: Maintenance GW Contact Criteria
D: Off-site Residential GW Volatilization into Indoor Air Criteria
E: Off-site Residential Nonpotable GW Use Criteria



KEY PLAN

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY

Dayton, Ohio

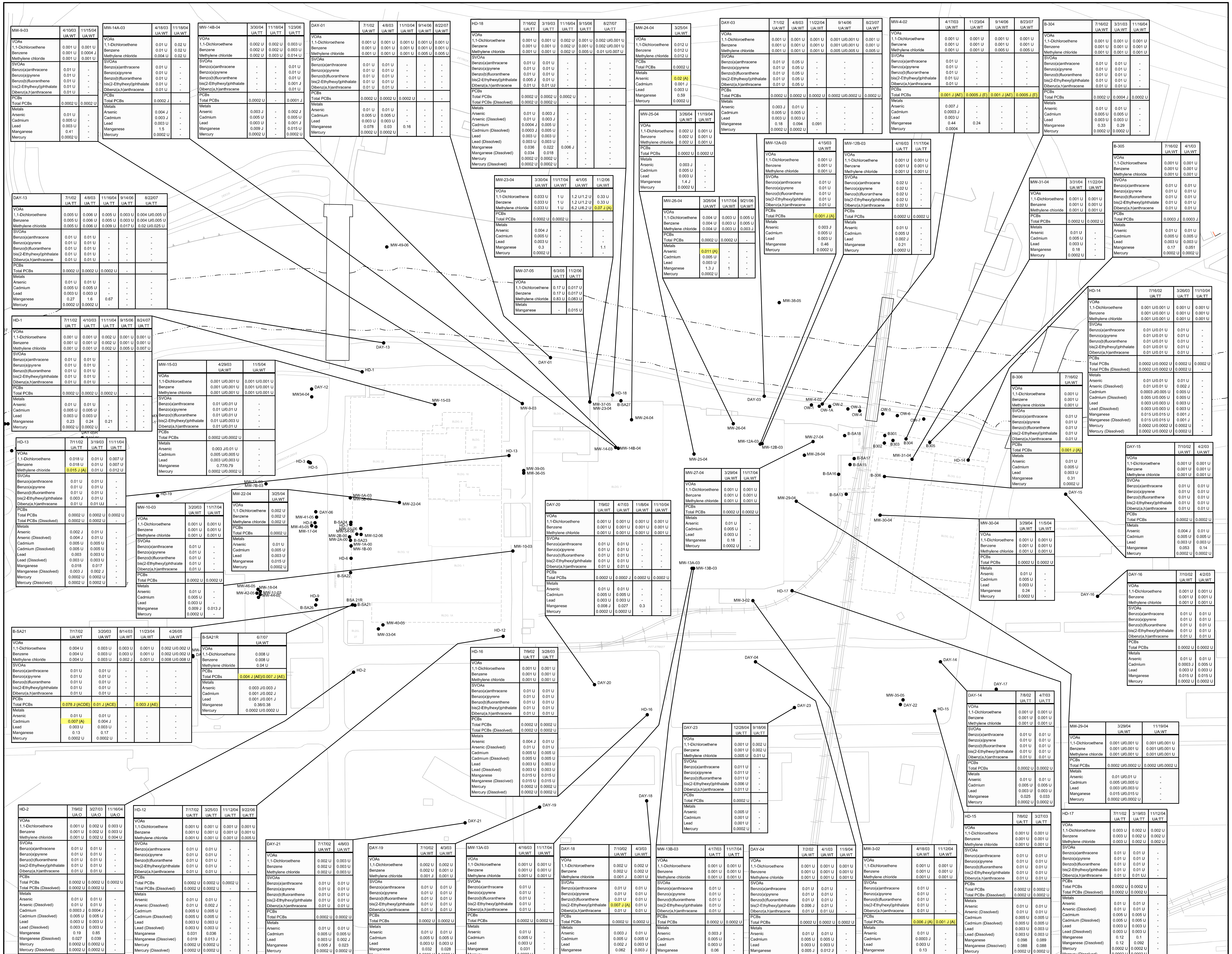
PRIMARY CVOC IN UPPER AQUIFER GROUNDWATER - AREA A

CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

Project Manager: IKR	Reviewed By: SE	Date: SEPTEMBER 2008
Scale: 1:100	Project N°: 12638-03	Report N°: 021	Drawing N°: 2.9

12638-03(021)GN-WA017 SEP 15/2008



0 40 120ft

LEGEND

MAD RIVER SHORELINE

MONITORING WELL

MW-53B-06	11/10/06 LA:RK
VOAs	
cis-1,2-Dichloroethene	0.001 U
Tetrachloroethene	0.001 U
Trichloroethene	0.001 U
Vinyl chloride	0.001 U

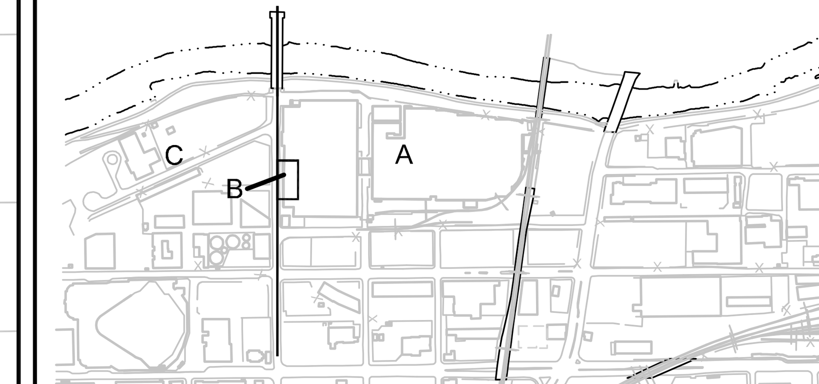
SAMPLE LOCATION
SAMPLE DATE
WELL ZONE
RESULT (mg/L)
PARAMETER

EXCEEDANCE

J Estimated concentration
U Not present at or above the associated value
UJ Estimated reporting limit
- Not analyzed

Chemical Name	A	B	C	D	E
VOAs					
1,1-Dichloroethene	7.00E-03	2.44E+02	1.25E+02	8.52E+01	8.82E+01
Benzene	5.00E-03	6.41E+00	4.88E+00	1.77E+00	6.39E-01
cis-1,2-Dichloroethene	7.00E-02	6.38E+01	2.29E+01	2.05E+01	2.44E+01
Methylene chloride	5.00E-03	1.27E+02	8.94E+01	3.18E+01	1.28E+01
Tetrachloroethene	5.00E-03	1.49E+01	1.41E+01	4.32E+00	6.02E-01
Trichloroethene	5.00E-03	2.73E+01	2.68E+01	7.76E+00	2.23E+00
Vinyl chloride	2.00E-03	3.29E+00	2.02E+00	9.53E-01	4.90E-02
SVOAs					
Benzo(a)anthracene	1.17E-03	1.43E+02	6.17E-02	2.18E+01	3.92E-04
Benzo(a)pyrene	2.00E-04	4.20E+01	4.35E-03	6.39E+00	2.50E-05
Benzo(b)fluoranthene	1.17E-03	7.70E+00	3.71E-02	1.67E+00	4.04E-04
bis(2-Ethylhexyl)phthalate	6.00E-03	1.00E+05	1.82E+00	1.49E+04	9.97E-03
Dibenz(a,h)anthracene	1.17E-04	2.81E+03	2.78E-03	3.67E+02	1.52E-05
PCBs					
Total PCBs	5.00E-04	2.52E-01	9.35E-03	6.95E-02	1.96E-04
Total PCBs (Dissolved)	5.00E-04	2.52E-01	9.35E-03	6.95E-02	1.96E-04
Metals					
Arsenic	1.00E-02	-	1.44E+01	-	3.85E-02
Arsenic (Dissolved)	1.00E-02	-	1.44E+01	-	3.85E-02
Cadmium	5.00E-03	-	1.80E+01	-	2.88E-01
Cadmium (Dissolved)	5.00E-03	-	1.80E+01	-	2.88E-01
Lead	1.50E-02	-	7.40E+01	-	-
Lead (Dissolved)	1.50E-02	-	7.40E+01	-	-
Manganese	5.11E+00	-	5.96E+03	-	8.55E+01
Manganese (Dissolved)	5.11E+00	-	5.96E+03	-	8.55E+01
Mercury	2.00E-03	8.33E-01	2.88E-01	2.86E-01	1.53E+00
Mercury (Dissolved)	2.00E-03	8.33E-01	2.88E-01	2.86E-01	1.53E+00

A: Drinking Water Criteria
B: Commercial/Industrial GW Volatilization into Indoor Air Criteria
C: Maintenance GW Contact Criteria
D: Off-site Residential GW Volatilization into Indoor Air Criteria
E: Off-site Residential Nonpotable GW Use Criteria



KEY PLAN

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY

Dayton, Ohio

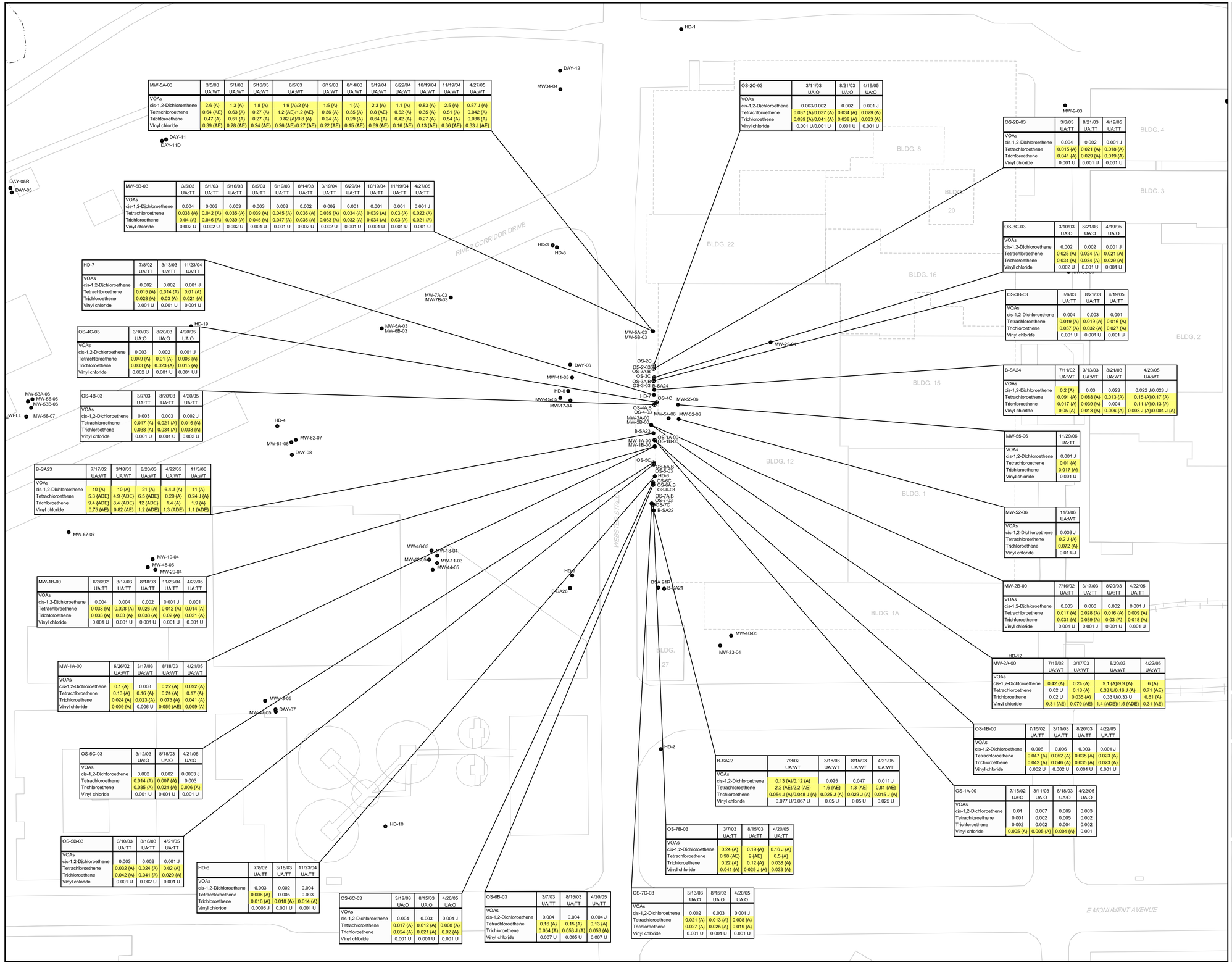
OTHER CONSTITUENTS IN UPPER AQUIFER GROUNDWATER - AREA A

CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

Project Manager:	Reviewed By:	Date:	
IKR	SE	SEPTEMBER 2008	
Scale: 1:120	Project Nº: 12638-03	Report Nº: 021	Drawing Nº: 2.10

12638-03(021)GN-WA023 SEP 15/2008



MW-5A-03	3/5/03 UA:WT	5/1/03 UA:WT	5/16/03 UA:WT	6/5/03 UA:WT	6/19/03 UA:WT	8/14/03 UA:WT	3/19/04 UA:WT	6/29/04 UA:WT	10/19/04 UA:WT	11/19/04 UA:WT	4/27/05 UA:WT
VOAs											
cis-1,2-Dichloroethene	2.6 (A)	1.3 (A)	1.8 (A)	1.9 (A)/2 (A)	1.5 (A)	1 (A)	2.3 (A)	1.1 (A)	0.83 (A)	2.5 (A)	0.87 J (A)
Tetrachloroethene	0.64 (AE)	0.83 (A)	0.27 (A)	1.2 (AE)/1.2 (AE)	0.36 (A)	0.35 (A)	0.8 (AE)	0.52 (A)	0.35 (A)	0.51 (A)	0.042 (A)
Trichloroethene	0.47 (A)	0.51 (A)	0.27 (A)	0.82 (A)/0.8 (A)	0.24 (A)	0.29 (A)	0.64 (A)	0.42 (A)	0.27 (A)	0.54 (A)	0.038 (A)
Vinyl chloride	0.39 (AE)	0.28 (AE)	0.24 (AE)	0.26 (AE)/0.27 (AE)	0.22 (AE)	0.15 (AE)	0.69 (AE)	0.16 (AE)	0.13 (AE)	0.36 (AE)	0.33 J (AE)

OS-2C-03	3/11/03 UA:O	8/21/03 UA:O	4/19/05 UA:O
VOAs			
cis-1,2-Dichloroethene	0.003/0.002	0.002	0.001 J
Tetrachloroethene	0.037 (A)/0.037 (A)	0.034 (A)	0.029 (A)
Trichloroethene	0.039 (A)/0.041 (A)	0.038 (A)	0.033 (A)
Vinyl chloride	0.001 U/0.001 U	0.001 U	0.001 U

OS-2B-03	3/6/03 UA:TT	8/21/03 UA:TT	4/19/05 UA:TT
VOAs			
cis-1,2-Dichloroethene	0.004	0.002	0.001 J
Tetrachloroethene	0.015 (A)	0.021 (A)	0.018 (A)
Trichloroethene	0.041 (A)	0.029 (A)	0.019 (A)
Vinyl chloride	0.001 U	0.001 U	0.001 U

MW-5B-03	3/5/03 UA:TT	5/1/03 UA:TT	5/16/03 UA:TT	6/5/03 UA:TT	6/19/03 UA:TT	8/14/03 UA:TT	3/19/04 UA:TT	6/29/04 UA:TT	10/19/04 UA:TT	11/19/04 UA:TT	4/27/05 UA:TT
VOAs											
cis-1,2-Dichloroethene	0.004	0.003	0.003	0.003	0.003	0.002	0.002	0.001	0.001	0.001	0.001 J
Tetrachloroethene	0.038 (A)	0.042 (A)	0.035 (A)	0.039 (A)	0.045 (A)	0.036 (A)	0.039 (A)	0.034 (A)	0.039 (A)	0.03 (A)	0.022 (A)
Trichloroethene	0.04 (A)	0.046 (A)	0.039 (A)	0.045 (A)	0.047 (A)	0.036 (A)	0.033 (A)	0.032 (A)	0.034 (A)	0.03 (A)	0.021 (A)
Vinyl chloride	0.002 U	0.002 U	0.002 U	0.001 U	0.001 U	0.002 U	0.002 U	0.001 U	0.001 U	0.001 U	0.001 U

OS-3C-03	3/10/03 UA:O	8/21/03 UA:O	4/19/05 UA:O
VOAs			
cis-1,2-Dichloroethene	0.002	0.002	0.001 J
Tetrachloroethene	0.025 (A)	0.024 (A)	0.021 (A)
Trichloroethene	0.034 (A)	0.034 (A)	0.029 (A)
Vinyl chloride	0.002 U	0.001 U	0.001 U

HD-7	7/8/02 UA:TT	3/13/03 UA:TT	11/23/04 UA:TT
VOAs			
cis-1,2-Dichloroethene	0.002	0.002	0.001 J
Tetrachloroethene	0.015 (A)	0.014 (A)	0.01 (A)
Trichloroethene	0.028 (A)	0.03 (A)	0.021 (A)
Vinyl chloride	0.001 U	0.001 U	0.001 U

OS-3B-03	3/6/03 UA:TT	8/21/03 UA:TT	4/19/05 UA:TT
VOAs			
cis-1,2-Dichloroethene	0.004	0.003	0.001
Tetrachloroethene	0.019 (A)	0.019 (A)	0.016 (A)
Trichloroethene	0.037 (A)	0.032 (A)	0.027 (A)
Vinyl chloride	0.001 U	0.001 U	0.001 U

OS-4C-03	3/10/03 UA:O	8/20/03 UA:O	4/20/05 UA:O
VOAs			
cis-1,2-Dichloroethene	0.003	0.002	0.001 J
Tetrachloroethene	0.049 (A)	0.01 (A)	0.006 (A)
Trichloroethene	0.033 (A)	0.023 (A)	0.015 (A)
Vinyl chloride	0.002 U	0.001 U	0.001 UU

B-SA24	7/11/02 UA:WT	3/13/03 UA:WT	8/21/03 UA:WT	4/20/05 UA:WT
VOAs				
cis-1,2-Dichloroethene	0.2 (A)	0.03	0.023	0.022 J/0.023 J
Tetrachloroethene	0.091 (A)	0.068 (A)	0.013 (A)	0.15 (A)/0.17 (A)
Trichloroethene	0.017 (A)	0.039 (A)	0.004	0.11 (A)/0.13 (A)
Vinyl chloride	0.05 (A)	0.013 (A)	0.006 (A)	0.003 J (A)/0.004 J (A)

OS-4B-03	3/7/03 UA:TT	8/20/03 UA:TT	4/20/05 UA:TT
VOAs			
cis-1,2-Dichloroethene	0.003	0.003	0.002 J
Tetrachloroethene	0.017 (A)	0.021 (A)	0.016 (A)
Trichloroethene	0.038 (A)	0.034 (A)	0.038 (A)
Vinyl chloride	0.001 U	0.001 U	0.002 U

MW-55-06	11/29/06 UA:TT
VOAs	
cis-1,2-Dichloroethene	0.001 J
Tetrachloroethene	0.01 (A)
Trichloroethene	0.017 (A)
Vinyl chloride	0.001 U

B-SA23	7/17/02 UA:WT	3/18/03 UA:WT	8/20/03 UA:WT	4/22/05 UA:WT	11/3/06 UA:WT
VOAs					
cis-1,2-Dichloroethene	10 (A)	10 (A)	21 (A)	6.4 J (A)	11 (A)
Tetrachloroethene	5.3 (ADE)	4.9 (ADE)	6.5 (ADE)	0.29 (A)	0.24 J (A)
Trichloroethene	9.4 (ADE)	8.4 (ADE)	12 (ADE)	1.4 (A)	1.9 (A)
Vinyl chloride	0.75 (AE)	0.82 (AE)	1.2 (ADE)	1.3 (ADE)	1.1 (ADE)

MW-52-06	11/3/06 UA:WT
VOAs	
cis-1,2-Dichloroethene	0.036 J
Tetrachloroethene	0.2 J (A)
Trichloroethene	0.072 (A)
Vinyl chloride	0.01 UJ

MW-1B-00	6/26/02 UA:TT	3/17/03 UA:TT	8/18/03 UA:TT	11/23/04 UA:TT	4/22/05 UA:TT
VOAs					
cis-1,2-Dichloroethene	0.004	0.004	0.002	0.001 J	0.001
Tetrachloroethene	0.038 (A)	0.028 (A)	0.026 (A)	0.012 (A)	0.014 (A)
Trichloroethene	0.033 (A)	0.03 (A)	0.038 (A)	0.02 (A)	0.021 (A)
Vinyl chloride	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U

MW-2B-00	7/16/02 UA:TT	3/17/03 UA:TT	8/20/03 UA:TT	4/22/05 UA:TT
VOAs				
cis-1,2-Dichloroethene	0.003	0.006	0.002	0.001 J
Tetrachloroethene	0.017 (A)	0.028 (A)	0.016 (A)	0.009 (A)
Trichloroethene	0.031 (A)	0.039 (A)	0.03 (A)	0.018 (A)
Vinyl chloride	0.001 U	0.001 J	0.001 U	0.001 U

MW-1A-00	6/26/02 UA:WT	3/17/03 UA:WT	8/18/03 UA:WT	4/21/05 UA:WT
VOAs				
cis-1,2-Dichloroethene	0.1 (A)	0.008	0.22 (A)	0.092 (A)
Tetrachloroethene	0.13 (A)	0.16 (A)	0.24 (A)	0.17 (A)
Trichloroethene	0.024 (A)	0.023 (A)	0.073 (A)	0.041 (A)
Vinyl chloride	0.009 (A)	0.006 U	0.059 (AE)	0.009 (A)

HD-12				
MW-2A-00	7/16/02 UA:WT	3/17/03 UA:WT	8/20/03 UA:WT	4/22/05 UA:WT
VOAs				
cis-1,2-Dichloroethene	0.42 (A)	0.24 (A)	9.1 (A)/9.9 (A)	6 (A)
Tetrachloroethene	0.02 U	0.13 (A)	0.33 U/0.16 J (A)	0.71 (AE)
Trichloroethene	0.02 U	0.035 (A)	0.33 U/0.33 U	0.61 (A)
Vinyl chloride	0.31 (AE)	0.079 (AE)	1.4 (ADE)/1.5 (ADE)	0.31 (AE)

OS-1B-00	7/15/02 UA:TT	3/11/03 UA:TT	8/20/03 UA:TT	4/22/05 UA:TT
VOAs				
cis-1,2-Dichloroethene	0.006	0.006	0.003	0.001 J
Tetrachloroethene	0.047 (A)	0.052 (A)	0.035 (A)	0.023 (A)
Trichloroethene	0.042 (A)	0.046 (A)	0.035 (A)	0.023 (A)
Vinyl chloride	0.002 U	0.002 U	0.001 U	0.001 U

OS-5C-03	3/12/03 UA:O	8/18/03 UA:O	4/21/05 UA:O
VOAs			
cis-1,2-Dichloroethene	0.002	0.002	0.0003 J
Tetrachloroethene	0.014 (A)	0.007 (A)	0.003
Trichloroethene	0.035 (A)	0.021 (A)	0.006 (A)
Vinyl chloride	0.001 U	0.001 U	0.001 U

B-SA22	7/8/02 UA:WT	3/18/03 UA:WT	8/15/03 UA:WT	4/21/05 UA:WT
VOAs				
cis-1,2-Dichloroethene	0.13 (A)/0.12 (A)	0.025	0.047	0.011 J
Tetrachloroethene	2.2 (AE)/2.2 (AE)	1.6 (AE)	1.3 (AE)	0.81 (AE)
Trichloroethene	0.054 J (A)/0.048 J (A)	0.025 J (A)	0.023 J (A)	0.015 J (A)
Vinyl chloride	0.077 U/0.067 U	0.05 U	0.05 U	0.025 U

OS-1A-00	7/15/02 UA:O	3/11/03 UA:O	8/18/03 UA:O	4/22/05 UA:O
VOAs				
cis-1,2-Dichloroethene	0.01	0.007	0.009	0.003
Tetrachloroethene	0.001	0.002	0.005	0.002
Trichloroethene	0.002	0.002	0.004	0.002
Vinyl chloride	0.005 (A)	0.005 (A)	0.004 (A)	0.001

OS-5B-03	3/10/03 UA:TT	8/18/03 UA:TT	4/21/05 UA:TT
VOAs			
cis-1,2-Dichloroethene	0.003	0.002	0.001 J
Tetrachloroethene	0.032 (A)	0.024 (A)	0.02 (A)
Trichloroethene	0.042 (A)	0.041 (A)	0.029 (A)
Vinyl chloride	0.001 U	0.002 U	0.001 U

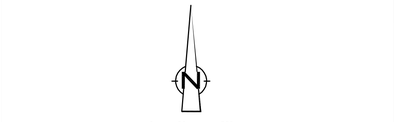
OS-7B-03	3/7/03 UA:TT	8/15/03 UA:TT	4/20/05 UA:TT
VOAs			
cis-1,2-Dichloroethene	0.24 (A)	0.19 (A)	0.16 J (A)
Tetrachloroethene	0.98 (AE)	2 (AE)	0.5 (A)
Trichloroethene	0.22 (A)	0.12 (A)	0.038 (A)
Vinyl chloride	0.041 (A)	0.029 J (A)	0.033 (A)

HD-6	7/8/02 UA:TT	3/18/03 UA:TT	11/23/04 UA:TT
VOAs			
cis-1,2-Dichloroethene	0.003	0.002	0.004
Tetrachloroethene	0.006 (A)	0.005	0.003
Trichloroethene	0.016 (A)	0.018 (A)	0.014 (A)
Vinyl chloride	0.0005 J	0.001 U	0.001 U

OS-6C-03	3/12/03 UA:O	8/15/03 UA:O	4/20/05 UA:O
VOAs			
cis-1,2-Dichloroethene	0.004	0.003	0.001 J
Tetrachloroethene	0.017 (A)	0.012 (A)	0.008 (A)
Trichloroethene	0.024 (A)	0.021 (A)	0.02 (A)
Vinyl chloride	0.001 U	0.001 U	0.001 U

OS-6B-03	3/7/03 UA:TT	8/15/03 UA:TT	4/20/05 UA:TT
VOAs			
cis-1,2-Dichloroethene	0.004	0.004	0.004 J
Tetrachloroethene	0.16 (A)	0.15 (A)	0.13 (A)
Trichloroethene	0.054 (A)	0.053 J (A)	0.053 (A)
Vinyl chloride	0.007 U	0.005 U	0.007 U

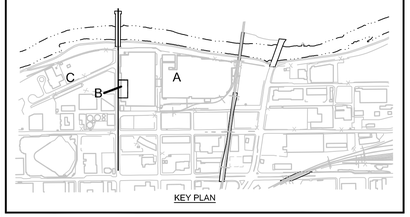
OS-7C-03	3/13/03 UA:O	8/15/03 UA:O	4/20/05 UA:O
VOAs			
cis-1,2-Dichloroethene	0.002	0.003	0.001 J
Tetrachloroethene	0.021 (A)	0.013 (A)	0.008 (A)
Trichloroethene	0.027 (A)	0.025 (A)	0.019 (A)
Vinyl chloride	0.001 U	0.001 U	0.001 U



J Estimated concentration
U Not present at or above the associated value
UJ Estimated reporting limit
- Not analyzed

Chemical Name	A	B	C	D	E
VOAs					
1,1-Dichloroethene	7.00E-03	2.44E+02	1.25E+02	8.52E+01	8.82E+01
Benzene	5.00E-03	6.41E+00	4.88E+00	1.77E+00	6.39E-01
cis-1,2-Dichloroethene	7.00E-02	6.38E+01	2.29E+01	2.05E+01	2.44E+01
Methylene chloride	5.00E-03	1.27E+02	8.94E+01	3.18E+01	1.28E+01
Tetrachloroethene	5.00E-03	1.49E+01	1.41E+01	4.32E+00	6.02E-01
Trichloroethene	5.00E-03	2.73E+01	2.68E+01	7.76E+00	2.23E+00
Vinyl chloride	2.00E-03	3.29E+00	2.02E+00	9.53E-01	4.90E-02
SVOAs					
Benzo(a)anthracene	1.17E-03	1.43E+02	6.17E-02	2.18E+01	3.92E-04
Benzo(a)pyrene	2.00E-04	4.20E+01	4.35E-03	6.39E+00	2.50E-05
Benzo(b)fluoranthene	1.17E-03	7.70E+00	3.71E-02	1.67E+00	4.04E-04
bis(2-Ethylhexyl)phthalate	6.00E-03	1.00E+05	1.82E+00	1.49E+04	9.97E-03
Dibenz(a,h)anthracene	1.17E-04	2.81E+03	2.78E-03	3.67E+02	1.52E-05
PCBs					
Total PCBs	5.00E-04	2.52E-01	9.35E-03	6.95E-02	1.96E-04
Total PCBs (Dissolved)	5.00E-04	2.52E-01	9.35E-03	6.95E-02	1.96E-04
Metals					
Arsenic	1.00E-02	-	1.44E+01	-	3.85E-02
Arsenic (Dissolved)	1.00E-02	-	1.44E+01	-	3.85E-02
Cadmium	5.00E-03	-	1.80E+01	-	2.88E-01
Cadmium (Dissolved)	5.00E-03	-	1.80E+01	-	2.88E-01
Lead	1.50E-02	-	7.40E+01	-	-
Lead (Dissolved)	1.50E-02	-	7.40E+01	-	-
Manganese	5.11E+00	-	5.96E+03	-	8.55E+01
Manganese (Dissolved)	5.11E+00	-	5.96E+03	-	8.55E+01
Mercury	2.00E-03	8.33E-01	2.88E-01	2.86E-01	1.53E+00
Mercury (Dissolved)	2.00E-03	8.33E-01	2.88E-01	2.86E-01	1.53E+00

A: Drinking Water Criteria
B: Commercial/Industrial GW Volatilization into Indoor Air Criteria
C: Maintenance GW Contact Criteria
D: Off-site Residential GW Volatilization into Indoor Air Criteria
E: Off-site Residential Nonpotable GW Use Criteria



KEY PLAN

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY

Dayton, Ohio

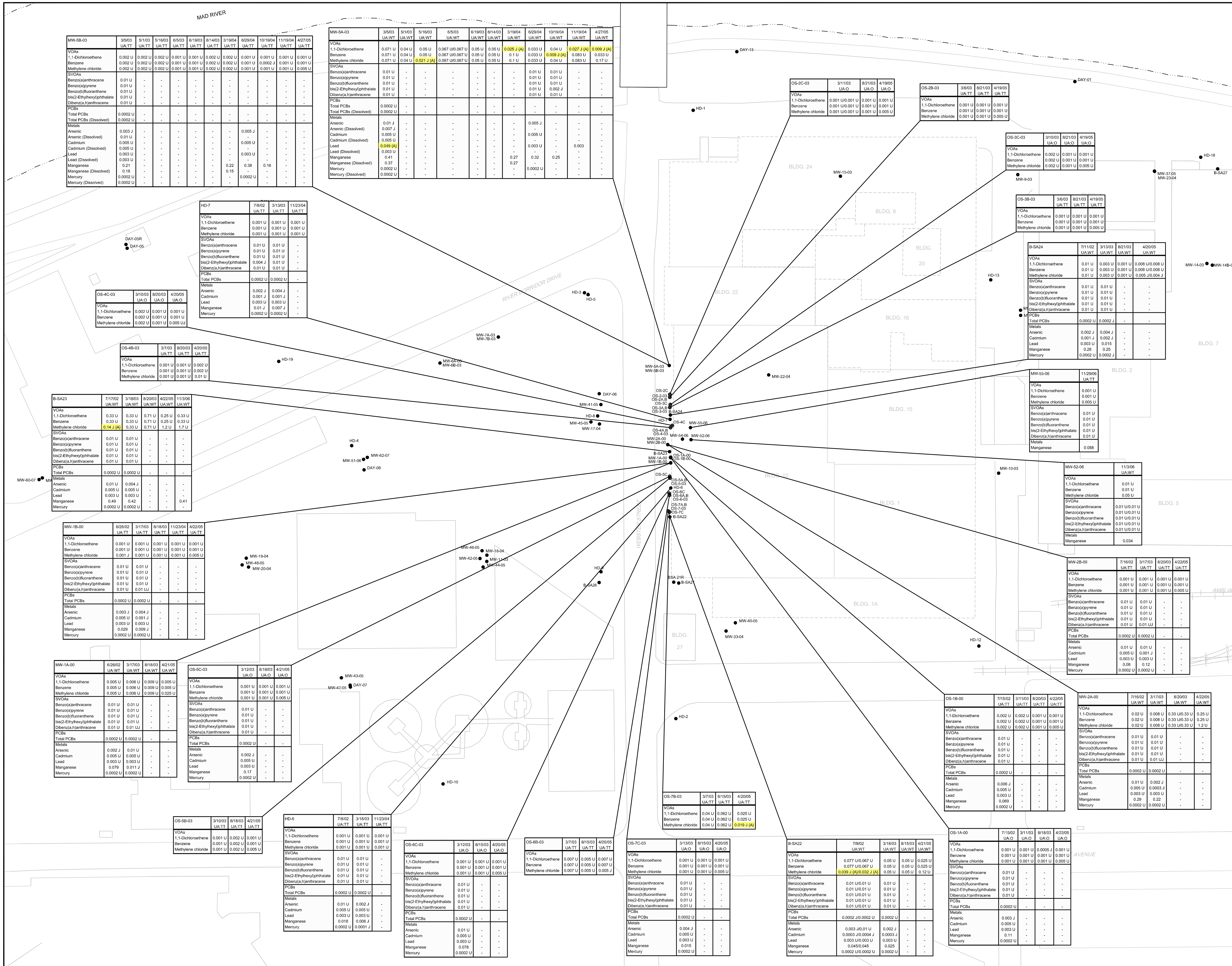
PRIMARY CVOC IN UPPER AQUIFER GROUNDWATER - AREA B

CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

Project Manager:	Reviewed By:	Date:	
IKR	SE	SEPTEMBER 2008	
Scale: 1:50	Project Nº: 12638-03	Report Nº: 021	Drawing Nº: 2.11

12638-03(021)GN-WA020 SEP 15/2008



MW-5B-03	3/5/03 UA:TT	5/1/03 UA:TT	5/16/03 UA:TT	6/5/03 UA:TT	6/19/03 UA:TT	8/14/03 UA:TT	3/19/04 UA:TT	6/29/04 UA:TT	10/19/04 UA:TT	11/19/04 UA:TT	4/27/05 UA:TT
VOAs											
1,1-Dichloroethene	0.002 U	0.002 U	0.002 U	0.001 U	0.001 U	0.002 U	0.002 U	0.001 U	0.001 U	0.001 U	0.001 U
Benzene	0.002 U	0.002 U	0.002 U	0.001 U	0.001 U	0.002 U	0.002 U	0.001 U	0.0002 J	0.001 U	0.001 U
Methylene chloride	0.002 U	0.002 U	0.002 U	0.001 U	0.001 U	0.002 U	0.002 U	0.001 U	0.001 U	0.001 U	0.005 U
SVOAs											
Benzo(a)anthracene	0.01 U	-	-	-	-	-	-	-	-	-	-
Benzo(a)pyrene	0.01 U	-	-	-	-	-	-	-	-	-	-
Benzo(b)fluoranthene	0.01 U	-	-	-	-	-	-	-	-	-	-
bis(2-Ethylhexyl)phthalate	0.01 U	-	-	-	-	-	-	-	-	-	-
Dibenz(a,h)anthracene	0.01 U	-	-	-	-	-	-	-	-	-	-
PCBs											
Total PCBs	0.0002 U	-	-	-	-	-	-	-	-	-	-
Total PCBs (Dissolved)	0.0002 U	-	-	-	-	-	-	-	-	-	-
Metals											
Arsenic	0.003 J	-	-	-	-	-	-	0.005 J	-	-	-
Arsenic (Dissolved)	0.01 U	-	-	-	-	-	-	-	-	-	-
Cadmium	0.005 U	-	-	-	-	-	-	0.005 U	-	-	-
Cadmium (Dissolved)	0.005 U	-	-	-	-	-	-	-	-	-	-
Lead	0.003 U	-	-	-	-	-	-	0.003 U	-	-	-
Lead (Dissolved)	0.003 U	-	-	-	-	-	-	-	-	-	-
Manganese	0.21	-	-	-	-	-	0.22	0.38	0.16	-	-
Manganese (Dissolved)	0.18	-	-	-	-	-	0.15	-	-	-	-
Mercury	0.0002 U	-	-	-	-	-	-	0.0002 U	-	-	-
Mercury (Dissolved)	0.0002 U	-	-	-	-	-	-	-	-	-	-

MW-5A-03	3/5/03 UA:WT	5/1/03 UA:WT	5/16/03 UA:WT	6/5/03 UA:WT	6/19/03 UA:WT	8/14/03 UA:WT	3/19/04 UA:WT	6/29/04 UA:WT	10/19/04 UA:WT	11/19/04 UA:WT	4/27/05 UA:WT
VOAs											
1,1-Dichloroethene	0.071 U	0.04 U	0.05 U	0.067 U/0.067 U	0.05 U	0.05 U	0.025 J {A}	0.033 U	0.04 U	0.027 J {A}	0.009 J {A}
Benzene	0.071 U	0.04 U	0.05 U	0.067 U/0.067 U	0.05 U	0.05 U	0.1 U	0.033 U	0.009 J {A}	0.083 U	0.033 U
Methylene chloride	0.071 U	0.04 U	0.021 J {A}	0.067 U/0.067 U	0.05 U	0.05 U	0.1 U	0.033 U	0.04 U	0.083 U	0.17 U
SVOAs											
Benzo(a)anthracene	0.01 U	-	-	-	-	-	-	0.01 U	0.01 U	-	-
Benzo(a)pyrene	0.01 U	-	-	-	-	-	-	0.01 U	0.01 U	-	-
Benzo(b)fluoranthene	0.01 U	-	-	-	-	-	-	0.01 U	0.01 U	-	-
bis(2-Ethylhexyl)phthalate	0.01 U	-	-	-	-	-	-	0.01 U	0.002 J	-	-
Dibenz(a,h)anthracene	0.01 U	-	-	-	-	-	-	0.01 U	0.01 U	-	-
PCBs											
Total PCBs	0.0002 U	-	-	-	-	-	-	-	-	-	-
Total PCBs (Dissolved)	0.0002 U	-	-	-	-	-	-	-	-	-	-
Metals											
Arsenic	0.01 J	-	-	-	-	-	-	0.005 J	-	-	-
Arsenic (Dissolved)	0.007 J	-	-	-	-	-	-	-	-	-	-
Cadmium	0.005 U	-	-	-	-	-	-	0.005 U	-	-	-
Cadmium (Dissolved)	0.005 U	-	-	-	-	-	-	-	-	-	-
Lead	0.049 {A}	-	-	-	-	-	-	0.003 U	-	0.003	-
Lead (Dissolved)	0.003 U	-	-	-	-	-	-	-	-	-	-
Manganese	0.41	-	-	-	-	-	0.27	0.32	0.25	-	-
Manganese (Dissolved)	0.37	-	-	-	-	-	0.27	-	-	-	-
Mercury	0.0002 U	-	-	-	-	-	-	0.0002 U	-	-	-
Mercury (Dissolved)	0.0002 U	-	-	-	-	-	-	-	-	-	-

HD-7	7/8/02 UA:TT	3/13/03 UA:TT	11/23/04 UA:TT
VOAs			
1,1-Dichloroethene	0.001 U	0.001 U	0.001 U
Benzene	0.001 U	0.001 U	0.001 U
Methylene chloride	0.001 U	0.001 U	0.001 U
SVOAs			
Benzo(a)anthracene	0.01 U	0.01 U	-
Benzo(a)pyrene	0.01 U	0.01 U	-
Benzo(b)fluoranthene	0.01 U	0.01 U	-
bis(2-Ethylhexyl)phthalate	0.004 J	0.01 U	-
Dibenz(a,h)anthracene	0.01 U	0.01 U	-
PCBs			
Total PCBs	0.0002 U	0.0002 U	-
Metals			
Arsenic	0.002 J	0.004 J	-
Cadmium	0.001 J	0.001 J	-
Lead	0.003 U	0.003 U	-
Manganese	0.01 J	0.007 J	-
Mercury	0.0002 U	0.0002 U	-

OS-4C-03	3/10/03 UA:O	8/20/03 UA:O	4/20/05 UA:O
VOAs			
1,1-Dichloroethene	0.002 U	0.001 U	0.001 U
Benzene	0.002 U	0.001 U	0.001 U
Methylene chloride	0.002 U	0.001 U	0.005 UJ

OS-4B-03	3/7/03 UA:TT	8/20/03 UA:TT	4/20/05 UA:TT
VOAs			
1,1-Dichloroethene	0.001 U	0.001 U	0.002 U
Benzene	0.001 U	0.001 U	0.002 U
Methylene chloride	0.001 U	0.001 U	0.01 U

B-SA23	7/17/02 UA:WT	3/18/03 UA:WT	8/20/03 UA:WT	4/22/05 UA:WT	11/3/06 UA:WT
VOAs					
1,1-Dichloroethene	0.33 U	0.33 U	0.71 U	0.25 U	0.33 U
Benzene	0.33 U	0.33 U	0.71 U	0.25 U	0.33 U
Methylene chloride	0.14 J {A}	0.33 U	0.71 U	1.2 U	1.7 U
SVOAs					
Benzo(a)anthracene	0.01 U	0.01 U	-	-	-
Benzo(a)pyrene	0.01 U	0.01 U	-	-	-
Benzo(b)fluoranthene	0.01 U	0.01 U	-	-	-
bis(2-Ethylhexyl)phthalate	0.01 U	0.01 U	-	-	-
Dibenz(a,h)anthracene	0.01 U	0.01 U	-	-	-
PCBs					
Total PCBs	0.0002 U	0.0002 U	-	-	-
Metals					
Arsenic	0.01 U	0.004 J	-	-	-
Cadmium	0.005 U	0.005 U	-	-	-
Lead	0.003 U	0.003 U	-	-	-
Manganese	0.49	0.42	-	-	0.41
Mercury	0.0002 U	0.0002 U	-	-	-

MW-1B-00	6/26/02 UA:TT	3/17/03 UA:TT	8/18/03 UA:TT	11/23/04 UA:TT	4/22/05 UA:TT
VOAs					
1,1-Dichloroethene	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Benzene	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Methylene chloride	0.001 J	0.001 U	0.001 U	0.001 U	0.005 U
SVOAs					
Benzo(a)anthracene	0.01 U	0.01 U	-	-	-
Benzo(a)pyrene	0.01 U	0.01 U	-	-	-
Benzo(b)fluoranthene	0.01 U	0.01 U	-	-	-
bis(2-Ethylhexyl)phthalate	0.01 U	0.01 U	-	-	-
Dibenz(a,h)anthracene	0.01 U	0.01 UJ	-	-	-
PCBs					
Total PCBs	0.0002 U	0.0002 U	-	-	-
Metals					
Arsenic	0.003 J	0.004 J	-	-	-
Cadmium	0.005 U	0.001 J	-	-	-
Lead	0.003 U	0.003 U	-	-	-
Manganese	0.029	0.009 J	-	-	-
Mercury	0.0002 U	0.0002 U	-	-	-

MW-1A-00	6/26/02 UA:WT	3/17/03 UA:WT	8/18/03 UA:WT	4/21/05 UA:WT
VOAs				
1,1-Dichloroethene	0.005 U	0.006 U	0.009 U	0.005 U
Benzene	0.005 U	0.006 U	0.009 U	0.005 U
Methylene chloride	0.005 U	0.006 U	0.009 U	0.025 U
SVOAs				
Benzo(a)anthracene	0.01 U	0.01 U	-	-
Benzo(a)pyrene	0.01 U	0.01 U	-	-
Benzo(b)fluoranthene	0.01 U	0.01 U	-	-
bis(2-Ethylhexyl)phthalate	0.01 U	0.01 U	-	-
Dibenz(a,h)anthracene	0.01 U	0.01 UJ	-	-
PCBs				
Total PCBs	0.0002 U	0.0002 U	-	-
Metals				
Arsenic	0.002 J	0.01 U	-	-
Cadmium	0.005 U	0.005 U	-	-
Lead	0.003 U	0.003 U	-	-
Manganese	0.079	0.011 J	-	-
Mercury	0.0002 U	0.0002 U	-	-

OS-5C-03	3/12/03 UA:O	8/18/03 UA:O	4/21/05 UA:O
VOAs			
1,1-Dichloroethene	0.001 U	0.001 U	0.001 U
Benzene	0.001 U	0.001 U	0.001 U
Methylene chloride	0.001 U	0.001 U	0.005 U
SVOAs			
Benzo(a)anthracene	0.01 U	-	-
Benzo(a)pyrene	0.01 U	-	-
Benzo(b)fluoranthene	0.01 U	-	-
bis(2-Ethylhexyl)phthalate	0.01 U	-	-
Dibenz(a,h)anthracene	0.01 U	-	-
PCBs			
Total PCBs	0.0002 U	-	-
Metals			
Arsenic	0.002 J	-	-
Cadmium	0.005 U	-	-
Lead	0.003 U	-	-
Manganese	0.17	-	-
Mercury	0.0002 U	-	-

OS-5B-03	3/10/03 UA:TT	8/18/03 UA:TT	4/21/05 UA:TT
VOAs			
1,1-Dichloroethene	0.001 U	0.002 U	0.001 U
Benzene	0.001 U	0.002 U	0.001 U
Methylene chloride	0.001 U	0.002 U	0.005 U

HD-6	7/8/02 UA:TT	3/18/03 UA:TT	11/23/04 UA:TT
VOAs			
1,1-Dichloroethene	0.001 U	0.001 U	0.001 U
Benzene	0.001 U	0.001 U	0.001 U
Methylene chloride	0.001 U	0.001 U	0.001 U
SVOAs			
Benzo(a)anthracene	0.01 U	0.01 U	-
Benzo(a)pyrene	0.01 U	0.01 U	-
Benzo(b)fluoranthene	0.01 U	0.01 U	-
bis(2-Ethylhexyl)phthalate	0.01 U	0.01 U	-
Dibenz(a,h)anthracene	0.01 U	0.01 U	-
PCBs			
Total PCBs	0.0002 U	0.0002 U	-
Metals			
Arsenic	0.01 U	0.002 J	-
Cadmium	0.005 U	0.005 U	-
Lead	0.003 U	0.003 U	-
Manganese	0.018	0.006 J	-
Mercury	0.0002 U	0.0001 J	-

OS-6C-03	3/12/03 UA:O	8/15/03 UA:O	4/20/05 UA:O
VOAs			
1,1-Dichloroethene	0.001 U	0.001 U	0.001 U
Benzene	0.001 U	0.001 U	0.001 U
Methylene chloride	0.001 U	0.001 U	0.005 U
SVOAs			
Benzo(a)anthracene	0.01 U	-	-
Benzo(a)pyrene	0.01 U	-	-
Benzo(b)fluoranthene	0.01 U	-	-
bis(2-Ethylhexyl)phthalate	0.01 U	-	-
Dibenz(a,h)anthracene	0.01 U	-	-
PCBs			
Total PCBs	0.0002 U	-	-
Metals			
Arsenic	0.01 U	-	-
Cadmium	0.005 U	-	-
Lead	0.003 U	-	-
Manganese	0.078	-	-
Mercury	0.0002 U	-	-

OS-6B-03	3/7/03 UA:TT	8/15/03 UA:TT	4/20/05 UA:TT
VOAs			
1,1-Dichloroethene	0.007 U	0.005 U	0.007 U
Benzene	0.007 U	0.005 U	0.007 U
Methylene chloride	0.007 U	0.005 U	0.005 J

OS-7C-03	3/13/03 UA:O	8/15/03 UA:O	4/20/05 UA:O
VOAs			
1,1-Dichloroethene	0.001 U	0.001 U	0.001 U
Benzene	0.001 U	0.001 U	0.001 U
Methylene chloride	0.001 U	0.001 U	0.005 U
SVOAs			
Benzo(a)anthracene	0.01 U	-	-
Benzo(a)pyrene	0.01 U	-	-
Benzo(b)fluoranthene	0.01 U	-	-
bis(2-Ethylhexyl)phthalate	0.01 U	-	-
Dibenz(a,h)anthracene	0.01 U	-	-
PCBs			
Total PCBs	0.0002 U	-	-
Metals			
Arsenic	0.004 J	-	-
Cadmium	0.005 U	-	-
Lead	0.003 U	-	-
Manganese	0.015	-	-
Mercury	0.0002 U	-	-

OS-7B-03	3/7/03 UA:TT	8/15/03 UA:TT	4/20/05 UA:TT
VOAs			
1,1-Dichloroethene	0.04 U	0.062 U	0.025 U
Benzene	0.04 U	0.062 U	0.025 U
Methylene chloride	0.04 U	0.062 U	0.019 J {A}

B-SA22	7/8/02 UA:WT	3/18/03 UA:WT	8/15/03 UA:WT	4/21/05 UA:WT
VOAs				
1,1-Dichloroethene	0.077 U/0.067 U	0.05 U	0.05 U	0.025 U
Benzene	0.077 U/0.067 U	0.05 U	0.05 U	0.025 U
Methylene chloride	0.039 J {A}/0.032 J {A}	0.05 U	0.05 U	0.12 U
SVOAs				
Benzo(a)anthracene	0.01 U/0.01 U	0.01 U	-	-
Benzo(a)pyrene	0.01 U/0.01 U	0.01 U	-	-
Benzo(b)fluoranthene	0.01 U/0.01 U	0.01 U	-	-
bis(2-Ethylhexyl)phthalate	0.01 U/0.01 U	0.01 U	-	-
Dibenz(a,h)anthracene	0.01 U/0.01 U	0.01 U	-	-
PCBs				
Total PCBs	0.0002 J/0.0002 U	0.0002 U	-	-
Metals				
Arsenic	0.003 J/0.01 U	0.002 J	-	-
Cadmium	0.0003 J/0.0004 J	0.0003 J	-	-
Lead	0.003 U/0.003 U	0.003 U	-	-
Manganese	0.045/0.045	0.025	-	-
Mercury	0.0002 U/0.0002 U	0.0002 U	-	-

OS-1A-00	7/15/02 UA:O	3/11/03 UA:O	8/18/03 UA:O	4/22/05 UA:O
VOAs				
1,1-Dichloroethene	0.001 U	0.001 U	0.0005 J	0.001 U
Benzene	0.001 U	0.001 U	0.001 U	0.001 U
Methylene chloride	0.001 U	0.001 U	0.001 U	0.005 U
SVOAs				
Benzo(a)anthracene	0.01 U	-	-	-
Benzo(a)pyrene	0.01 U	-	-	-
Benzo(b)fluoranthene	0.01 U	-	-	-
bis(2-Ethylhexyl)phthalate	0.01 U	-	-	-
Dibenz(a,h)anthracene	0.01 U	-	-	-
PCBs				
Total PCBs	0.0002 U	-	-	-
Metals				
Arsenic	0.003 J	-	-	-
Cadmium	0.005 U	-	-	-
Lead	0.003 U	-	-	-
Manganese	0.11	-	-	-
Mercury	0.0002 U	-	-	-

OS-1B-00	7/15/02 UA:TT	3/11/03 UA:TT	8/20/03 UA:TT	4/22/05 UA:TT
VOAs				
1,1-Dichloroethene	0.002 U	0.002 U	0.001 U	0.001 U
Benzene	0.002 U	0.002 U	0.001 U	0.001 U
Methylene chloride	0.002 U	0.002 U	0.001 U	0.005 U
SVOAs				
Benzo(a)anthracene	0.01 U	-	-	-
Benzo(a)pyrene	0.01 U	-	-	-
Benzo(b)fluoranthene	0.01 U	-	-	-
bis(2-Ethylhexyl)phthalate	0.01 U	-	-	-
Dibenz(a,h)anthracene	0.01 U	-	-	-
PCBs				
Total PCBs	0.0002 U	-	-	-
Metals				
Arsenic	0.006 J	-	-	-
Cadmium	0.005 U	-	-	-
Lead	0.003 U	-	-	-
Manganese	0.069	-	-	-
Mercury	0.0002 U	-	-	-

MW-2A-00	7/16/02 UA:WT	3/17/03 UA:WT	8/20/03 UA:WT	4/22/05 UA:WT
VOAs				
1,1-Dichloroethene	0.02 U	0.008 U	0.33 U/0.33 U	0.25 U
Benzene	0.02 U	0.008 U	0.33 U/0.33 U	0.25 U
Methylene chloride	0.02 U	0.008 U	0.33 U/0.33 U	1.2 U
SVOAs				
Benzo(a)anthracene	0.01 U	0.01 U	-	-
Benzo(a)pyrene	0.01 U	0.01 U	-	-
Benzo(b)fluoranthene	0.01 U	0.01 U	-	-
bis(2-Ethylhexyl)phthalate	0.01 U	0.01 U	-	-
Dibenz(a,h)anthracene	0.01 U	0.01 UJ	-	-
PCBs				
Total PCBs	0.0002 U	0.0002 U	-	-
Metals				
Arsenic	0.01 U	0.002 J	-	-
Cadmium	0.005 U	0.0003 J	-	-
Lead	0.003 U	0.003 U	-	-
Manganese	0.29	0.22	-	-
Mercury	0.0002 U	0.0002 U	-	-

MW-2B-00	7/16/02 UA:TT	3/17/03 UA:TT	8/20/03 UA:TT	4/22/05 UA:TT
VOAs				
1,1-Dichloroethene	0.001 U	0.001 U	0.001 U	0.001 U
Benzene	0.001 U	0.001 U	0.001 U	0.001 U
Methylene chloride	0.001 U	0.001 U	0.001 U	0.005 U
SVOAs				
Benzo(a)anthracene	0.01 U	0.01 U	-	-
Benzo(a)pyrene	0.01 U	0.01 U	-	-
Benzo(b)fluoranthene	0.01 U	0.01 U	-	-
bis(2-Ethylhexyl)phthalate	0.01 U	0.01 U	-	-
Dibenz(a,h)anthracene	0.01 U	0.01 UJ	-	-
PCBs				
Total PCBs	0.0002 U	0.0002 U	-	-
Metals				
Arsenic	0.01 U	0.01 U	-	-
Cadmium	0.005 U	0.001 J	-	-
Lead	0.003 U	0.003 U	-	-
Manganese	0.08	0.12	-	-
Mercury	0.0002 U	0.0002 U	-	-

MW-52-06	11/3/06 UA:WT
VOAs	
1,1-Dichloroethene	0.01 U
Benzene	0.01 U
Methylene chloride	0.05 U
SVOAs	
Benzo(a)anthracene	0.01 U/0.01 U
Benzo(a)pyrene	0.01 U/0.01 U
Benzo(b)fluoranthene	0.01 U/0.01 U
bis(2-Ethylhexyl)phthalate	0.01 U/0.01 U
Dibenz(a,h)anthracene	0.01 U/0.01 U
Metals	
Manganese	0.034

MW-55-06	11/29/06 UA:TT
VOAs	
1,1-Dichloroethene	0.001 U
Benzene	0.001 U
Methylene chloride	0.005 U
SVOAs	
Benzo(a)anthracene	0.01 U
Benzo(a)pyrene	0.01 U
Benzo(b)fluoranthene	0.01 U
bis(2-Ethylhexyl)phthalate	0.01 U
Dibenz(a,h)anthracene	0.01 U
Metals	
Manganese	0.088

B-SA24	7/11/02 UA:WT	3/13/03 UA:WT	8/21/03 UA:WT	4/20/05 UA:WT
VOAs				
1,1-Dichloroethene	0.01 U	0.003 U	0.001 U	0.008 U/0.008 U
Benzene	0.01 U	0.003 U	0.001 U	0.008 U/0.008 U
Methylene chloride	0.01 U	0.003 U	0.001 U	0.005 J/0.004 J
SVOAs				
Benzo(a)anthracene	0.01 U	0.01 U	-	-
Benzo(a)pyrene	0.01 U	0.01 U	-	-
Benzo(b)fluoranthene	0.01 U	0.01 U	-	-
bis(2-Ethylhexyl)phthalate	0.01 U	0.01 U	-	-
Dibenz(a,h)anthracene	0.01 U	0.01 U	-	-
PCBs				
Total PCBs	0.0002 U	0.0002 J	-	-
Metals				
Arsenic	0.002 J	0.004 J	-	-
Cadmium	0.001 J	0.002 J	-	-
Lead	0.003 U	0.015	-	-
Manganese	0.28	0.25	-	-
Mercury	0.0002 U	0.0002 J	-	-

OS-3B-03	3/6/03 UA:TT	8/21/03 UA:TT	4/19/05 UA:TT
VOAs			
1,1-Dichloroethene	0.001 U	0.001 U	0.001 U
Benzene	0.001 U	0.001 U	0.001 U
Methylene chloride	0.001 U	0.001 U	0.005 U

OS-3C-03	3/10/03 UA:O	8/21/03 UA:O	4/19/05 UA:O
VOAs			
1,1-Dichloroethene	0.002 U	0.001 U	0.001 U
Benzene	0.002 U	0.001 U	0.001 U
Methylene chloride	0.002 U	0.001 U	0.005 U

OS-2B-03	3/6/03 UA:TT	8/21/03 UA:TT	4/19/05 UA:TT
VOAs			
1,1-Dichloroethene	0.001 U	0.001 U	0.001 U
Benzene	0.001 U	0.001 U	0.001 U
Methylene chloride	0.001 U	0.001 U	0.005 U

OS-2C-03	3/11/03 UA:O	8/21/03 UA:O	4/19/05 UA:O
VOAs			
1,1-Dichloroethene	0.001 U/0.001 U	0.001 U	0.001 U
Benzene	0.001 U/0.001 U	0.001 U	0.001 U
Methylene chloride	0.001 U/0.001 U	0.001 U	0.005 U

N

0 20 60ft

LEGEND

MAD RIVER SHORELINE
MONITORING WELL
OZONE SPARGE WELL LOCATION

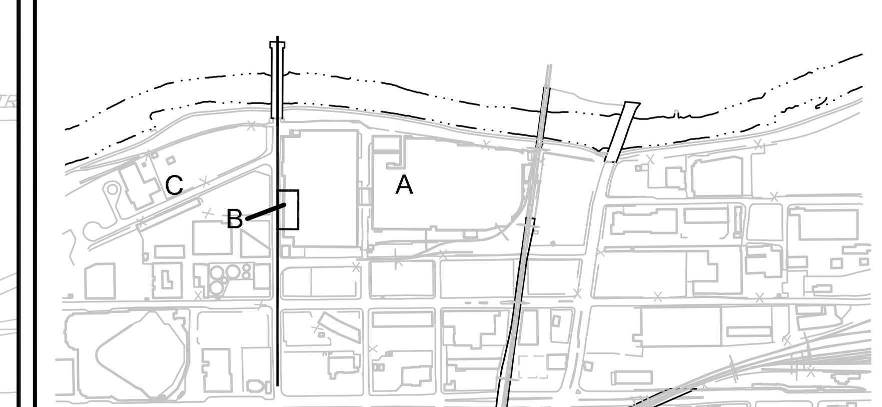
MW-53B-06	11/10/06 LA:RK
VOAs	
cis-1,2-Dichloroethene	0.001 U
Tetrachloroethene	0.001 U
Trichloroethene	0.001 U
Vinyl chloride	0.001 U

SAMPLE LOCATION
SAMPLE DATE
WELL ZONE
RESULT (mg/L)
PARAMETER
EXCEEDANCE

J Estimated concentration
U Not present at or above the associated value
UJ Estimated reporting limit
\- Not analyzed

Chemical Name	A	B	C	D	E
VOAs					
1,1-Dichloroethene	7.00E-03	2.44E+02	1.25E+02	8.52E+01	8.82E+01
Benzene	5.00E-03	6.41E+00	4.88E+00	1.77E+00	6.39E-01
cis-1,2-Dichloroethene	7.00E-02	6.38E+01	2.29E+01	2.05E+01	2.44E+01
Methylene chloride	5.00E-03	1.27E+02	8.94E+01	3.18E+01	1.28E+01
Tetrachloroethene	5.00E-03	1.49E+01	1.41E+01	4.32E+00	6.02E-01
Trichloroethene	5.00E-03	2.73E+01	2.68E+01	7.76E+00	2.23E+00
Vinyl chloride	2.00E-03	3.29E+00	2.02E+00	9.53E-01	4.90E-02
SVOAs					
Benzo(a)anthracene	1.17E-03	1.43E+02	6.17E-02	2.18E+01	3.92E-04
Benzo(a)pyrene	2.00E-04	4.20E+01	4.35E-03	6.39E+00	2.50E-05
Benzo(b)fluoranthene	1.17E-03	7.70E+00	3.71E-02	1.67E+00	4.04E-04
bis(2-Ethylhexyl)phthalate	6.00E-03	1.00E+05	1.82E+00	1.49E+04	9.97E-03
Dibenz(a,h)anthracene	1.17E-04	2.81E+03	2.78E-03	3.67E+02	1.52E-05
PCBs					
Total PCBs	5.00E-04	2.52E-01	9.35E-03	6.95E-02	1.96E-04
Total PCBs (Dissolved)	5.00E-04	2.52E-01	9.35E-03	6.95E-02	1.96E-04
Metals					
Arsenic	1.00E-02	-	1.44E+01	-	3.85E-02
Arsenic (Dissolved)	1.00E-02	-	1.44E+01	-	3.85E-02
Cadmium	5.00E-03	-	1.80E+01	-	2.88E-01
Cadmium (Dissolved)	5.00E-03	-	1.80E+01	-	2.88E-01
Lead	1.50E-02	-	7.40E+01	-	-
Lead (Dissolved)	1.50E-02	-	7.40E+01	-	-
Manganese	5.11E+00	-	5.96E+03	-	8.55E+01
Manganese (Dissolved)	5.11E+00	-	5.96E+03	-	8.55E+01
Mercury	2.00E-03	8.33E-01	2.88E-01	2.86E-01	1.53E+00
Mercury (Dissolved)	2.00E-03	8.33E-01	2.88E-01	2.86E-01	1.53E+00

A: Drinking Water Criteria
B: Commercial/Industrial GW Volatilization into Indoor Air Criteria
C: Maintenance GW Contact Criteria
D: Off-site Residential GW Volatilization into Indoor Air Criteria
E: Off-site Residential Nonpotable GW Use Criteria



KEY PLAN

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY

Dayton, Ohio

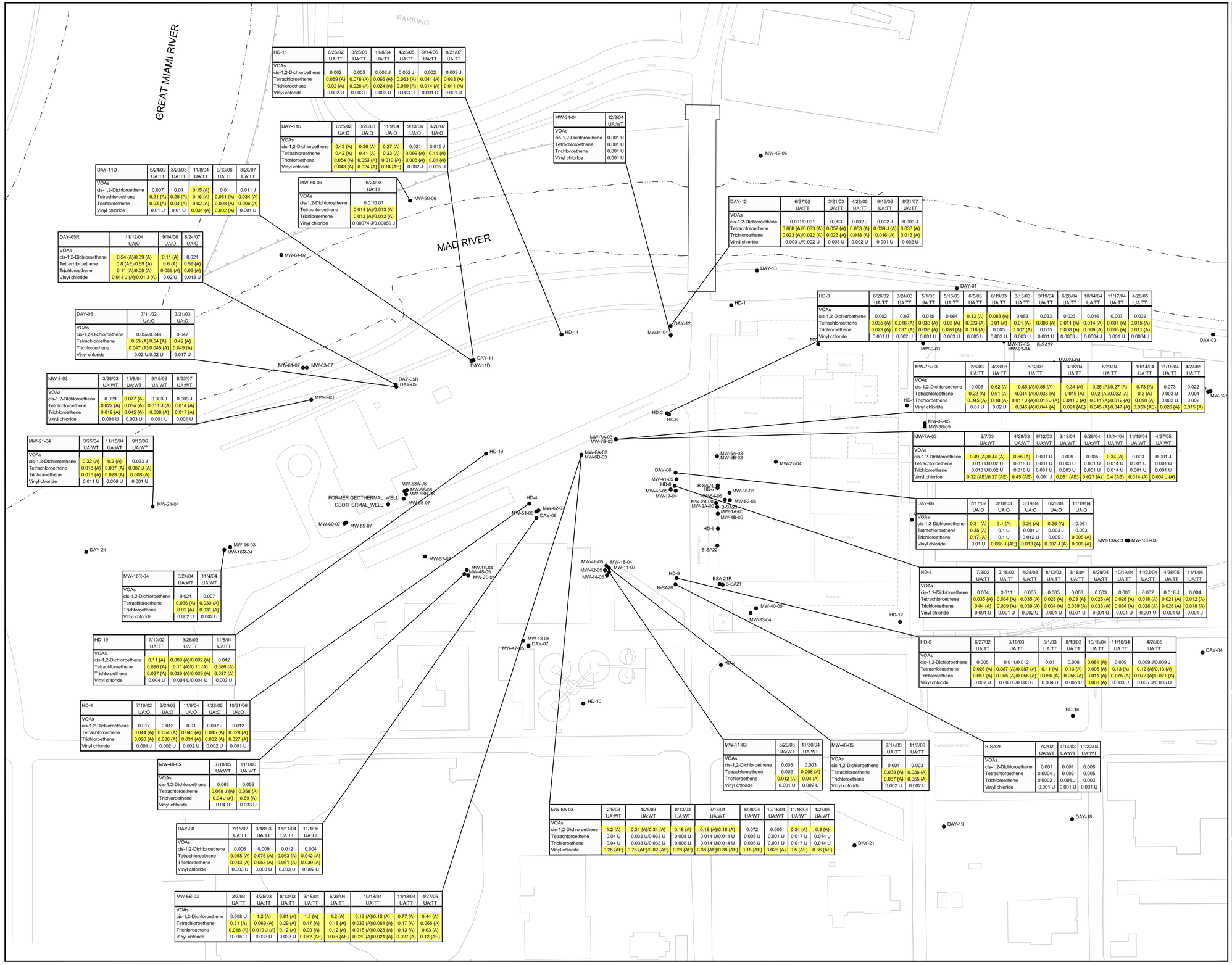
OTHER CONSTITUENTS IN UPPER AQUIFER GROUNDWATER - AREA B

CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

Project Manager:	Reviewed By:	Date:	
IKR	SE	SEPTEMBER 2008	
Scale: 1:60	Project No: 12638-03	Report No: 021	Drawing No: 2.12

12638-03(021)GN-WA024 SEP 15/2008



HD-11	6/26/02 UA:TT	3/25/03 UA:TT	11/8/04 UA:TT	4/28/05 UA:TT	9/14/06 UA:TT	8/21/07 UA:TT
VOAs						
cis-1,2-Dichloroethene	0.002	0.005	0.002 J	0.002 J	0.002	0.003 J
Tetrachloroethene	0.059 (A)	0.076 (A)	0.066 (A)	0.063 (A)	0.041 (A)	0.033 (A)
Trichloroethene	0.02 (A)	0.026 (A)	0.024 (A)	0.019 (A)	0.014 (A)	0.011 (A)
Vinyl chloride	0.002 U	0.003 U	0.002 U	0.003 U	0.001 U	0.001 U

DAY-11S	6/25/02 UA:O	3/20/03 UA:O	11/9/04 UA:O	9/13/06 UA:O	8/20/07 UA:O
VOAs					
cis-1,2-Dichloroethene	0.42 (A)	0.36 (A)	0.27 (A)	0.021	0.015 J
Tetrachloroethene	0.42 (A)	0.41 (A)	0.23 (A)	0.099 (A)	0.11 (A)
Trichloroethene	0.054 (A)	0.053 (A)	0.019 (A)	0.008 (A)	0.01 (A)
Vinyl chloride	0.048 (A)	0.024 (A)	0.18 (AE)	0.002 J	0.005 U

MW-34-04	12/8/04 UA:WT
VOAs	
cis-1,2-Dichloroethene	0.001 U
Tetrachloroethene	0.001 U
Trichloroethene	0.001 U
Vinyl chloride	0.001 U

DAY-11D	6/24/02 UA:TT	3/20/03 UA:TT	11/8/04 UA:TT	9/13/06 UA:TT	8/20/07 UA:TT
VOAs					
cis-1,2-Dichloroethene	0.007	0.01	0.15 (A)	0.01	0.011 J
Tetrachloroethene	0.21 (A)	0.28 (A)	0.16 (A)	0.061 (A)	0.034 (A)
Trichloroethene	0.03 (A)	0.04 (A)	0.02 (A)	0.008 (A)	0.006 (A)
Vinyl chloride	0.01 U	0.01 U	0.031 (A)	0.002 (A)	0.001 U

MW-50-06	6/24/08 UA:TT
VOAs	
cis-1,2-Dichloroethene	0.01/0.01
Tetrachloroethene	0.014 (A)/0.013 (A)
Trichloroethene	0.013 (A)/0.012 (A)
Vinyl chloride	0.00074 J/0.00059 J

DAY-12	6/27/02 UA:TT	3/21/03 UA:TT	4/28/05 UA:TT	9/15/06 UA:TT	8/21/07 UA:TT
VOAs					
cis-1,2-Dichloroethene	0.001/0.001	0.003	0.002 J	0.002 J	0.003 J
Tetrachloroethene	0.068 (A)/0.063 (A)	0.057 (A)	0.053 (A)	0.039 J (A)	0.033 (A)
Trichloroethene	0.023 (A)/0.022 (A)	0.023 (A)	0.018 (A)	0.016 (A)	0.013 (A)
Vinyl chloride	0.003 U/0.002 U	0.003 U	0.002 U	0.001 U	0.002 U

DAY-05R	11/12/04 UA:O	9/14/06 UA:O	8/24/07 UA:O
VOAs			
cis-1,2-Dichloroethene	0.54 (A)/0.39 (A)	0.11 (A)	0.021
Tetrachloroethene	0.8 (AE)/0.59 (A)	0.6 (A)	0.59 (A)
Trichloroethene	0.11 (A)/0.08 (A)	0.055 (A)	0.03 (A)
Vinyl chloride	0.014 J (A)/0.01 J (A)	0.02 U	0.018 U

DAY-05	7/11/02 UA:O	3/21/03 UA:O
VOAs		
cis-1,2-Dichloroethene	0.052/0.044	0.047
Tetrachloroethene	0.53 (A)/0.54 (A)	0.49 (A)
Trichloroethene	0.047 (A)/0.045 (A)	0.049 (A)
Vinyl chloride	0.02 U/0.02 U	0.017 U

HD-3	6/26/02 UA:TT	3/24/03 UA:TT	5/1/03 UA:TT	5/16/03 UA:TT	6/5/03 UA:TT	6/19/03 UA:TT	8/13/03 UA:TT	3/19/04 UA:TT	6/28/04 UA:TT	10/14/04 UA:TT	11/17/04 UA:TT	4/28/05 UA:TT
VOAs												
cis-1,2-Dichloroethene	0.002	0.02	0.015	0.064	0.13 (A)	0.083 (A)	0.053	0.033	0.023	0.016	0.007	0.039
Tetrachloroethene	0.035 (A)	0.016 (A)	0.033 (A)	0.03 (A)	0.023 (A)	0.01 (A)	0.01 (A)	0.008 (A)	0.011 (A)	0.014 (A)	0.007 (A)	0.015 (A)
Trichloroethene	0.023 (A)	0.037 (A)	0.036 (A)	0.028 (A)	0.018 (A)	0.005	0.007 (A)	0.005	0.008 (A)	0.009 (A)	0.008 (A)	0.011 (A)
Vinyl chloride	0.001 U	0.002 U	0.001 U	0.003 U	0.005 U	0.003 U	0.003 U	0.001 U	0.0003 J	0.0004 J	0.001 U	0.0004 J

MW-7B-03	2/6/03 UA:TT	4/28/03 UA:TT	8/12/03 UA:TT	3/18/04 UA:TT	6/29/04 UA:TT	10/14/04 UA:TT	11/18/04 UA:TT	4/27/05 UA:TT
VOAs								
cis-1,2-Dichloroethene	0.006	0.62 (A)	0.85 (A)/0.85 (A)	0.34 (A)	0.25 (A)/0.27 (A)	0.73 (A)	0.073	0.022
Tetrachloroethene	0.22 (A)	0.51 (A)	0.044 (A)/0.038 (A)	0.016 (A)	0.02 (A)/0.022 (A)	0.2 (A)	0.003 U	0.004
Trichloroethene	0.045 (A)	0.18 (A)	0.017 J (A)/0.015 J (A)	0.011 J (A)	0.011 (A)/0.012 (A)	0.098 (A)	0.003 U	0.002
Vinyl chloride	0.01 U	0.02 U	0.046 (A)/0.044 (A)	0.091 (AE)	0.045 (A)/0.047 (A)	0.053 (AE)	0.026 (A)	0.015 (A)

MW-8-03	3/28/03 UA:WT	11/8/04 UA:WT	9/15/06 UA:WT	8/23/07 UA:WT
VOAs				
cis-1,2-Dichloroethene	0.029	0.077 (A)	0.003 J	0.009 J
Tetrachloroethene	0.022 (A)	0.034 (A)	0.011 J (A)	0.014 (A)
Trichloroethene	0.019 (A)	0.045 (A)	0.008 (A)	0.017 (A)
Vinyl chloride	0.001 U	0.003 U	0.001 U	0.001 U

MW-7A-03	2/7/03 UA:WT	4/28/03 UA:WT	8/12/03 UA:WT	3/18/04 UA:WT	6/29/04 UA:WT	10/14/04 UA:WT	11/18/04 UA:WT	4/27/05 UA:WT
VOAs								
cis-1,2-Dichloroethene	0.49 (A)/0.44 (A)	0.55 (A)	0.001 U	0.009	0.005	0.34 (A)	0.003	0.001 J
Tetrachloroethene	0.018 U/0.02 U	0.018 U	0.001 U	0.003 U	0.001 U	0.014 U	0.001 U	0.001 U
Trichloroethene	0.018 U/0.02 U	0.018 U	0.001 U	0.003 U	0.001 U	0.014 U	0.001 U	0.001 U
Vinyl chloride	0.32 (AE)/0.27 (AE)	0.45 (AE)	0.001 J	0.081 (AE)	0.027 (A)	0.4 (AE)	0.014 (A)	0.004 J (A)

MW-21-04	3/25/04 UA:WT	11/15/04 UA:WT	9/15/06 UA:WT
VOAs			
cis-1,2-Dichloroethene	0.22 (A)	0.2 (A)	0.033 J
Tetrachloroethene	0.018 (A)	0.037 (A)	0.007 J (A)
Trichloroethene	0.016 (A)	0.029 (A)	0.008 (A)
Vinyl chloride	0.011 U	0.006 U	0.001 U

DAY-06	7/17/02 UA:O	3/18/03 UA:O	3/19/04 UA:O	6/28/04 UA:O	11/19/04 UA:O
VOAs					
cis-1,2-Dichloroethene	0.31 (A)	3.1 (A)	0.26 (A)	0.26 (A)	0.061
Tetrachloroethene	0.35 (A)	0.1 U	0.001 J	0.003 J	0.003
Trichloroethene	0.17 (A)	0.1 U	0.012 U	0.005 J	0.006 (A)
Vinyl chloride	0.01 U	0.086 J (AE)	0.013 (A)	0.007 J (A)	0.006 (A)

HD-8	7/2/02 UA:TT	3/18/03 UA:TT	4/28/03 UA:TT	8/13/03 UA:TT	3/18/04 UA:TT	6/28/04 UA:TT	10/19/04 UA:TT	11/23/04 UA:TT	4/28/05 UA:TT	11/1/06 UA:TT
VOAs										
cis-1,2-Dichloroethene	0.004	0.011	0.005	0.003	0.003	0.003	0.003	0.002	0.016 J	0.004
Tetrachloroethene	0.035 (A)	0.034 (A)	0.035 (A)	0.028 (A)	0.03 (A)	0.025 (A)	0.026 (A)	0.018 (A)	0.021 (A)	0.012 (A)
Trichloroethene	0.04 (A)	0.039 (A)	0.039 (A)	0.034 (A)	0.039 (A)	0.033 (A)	0.034 (A)	0.028 (A)	0.026 (A)	0.018 (A)
Vinyl chloride	0.001 U	0.001 U	0.002 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 J

MW-16R-04	3/24/04 UA:WT	11/4/04 UA:WT
VOAs		
cis-1,2-Dichloroethene	0.021	0.007
Tetrachloroethene	0.036 (A)	0.039 (A)
Trichloroethene	0.02 (A)	0.031 (A)
Vinyl chloride	0.002 U	0.002 U

HD-9	6/27/02 UA:TT	3/19/03 UA:TT	5/1/03 UA:TT	8/13/03 UA:TT	10/18/04 UA:TT	11/16/04 UA:TT	4/28/05 UA:TT
VOAs							
cis-1,2-Dichloroethene	0.005	0.011/0.012	0.01	0.006	0.081 (A)	0.009	0.009 J/0.009 J
Tetrachloroethene	0.026 (A)	0.087 (A)/0.087 (A)	0.11 (A)	0.13 (A)	0.008 (A)	0.13 (A)	0.12 (A)/0.13 (A)
Trichloroethene	0.047 (A)	0.055 (A)/0.056 (A)	0.056 (A)	0.058 (A)	0.011 (A)	0.075 (A)	0.072 (A)/0.071 (A)
Vinyl chloride	0.002 U	0.003 U/0.003 U	0.004 U	0.005 U	0.008 (A)	0.003 U	0.005 U/0.005 U

HD-19	7/10/02 UA:TT	3/26/03 UA:TT	11/8/04 UA:TT
VOAs			
cis-1,2-Dichloroethene	0.11 (A)	0.089 (A)/0.092 (A)	0.042
Tetrachloroethene	0.096 (A)	0.11 (A)/0.11 (A)	0.086 (A)
Trichloroethene	0.027 (A)	0.036 (A)/0.039 (A)	0.037 (A)
Vinyl chloride	0.004 U	0.004 U/0.004 U	0.003 U

HD-4	7/10/02 UA:O	3/24/03 UA:O	11/9/04 UA:O	4/28/05 UA:O	10/31/06 UA:O
VOAs					
cis-1,2-Dichloroethene	0.017	0.012	0.01	0.007 J	0.012
Tetrachloroethene	0.044 (A)	0.054 (A)	0.045 (A)	0.045 (A)	0.029 (A)
Trichloroethene	0.028 (A)	0.036 (A)	0.031 (A)	0.032 (A)	0.027 (A)
Vinyl chloride	0.001 J	0.002 U	0.002 U	0.002 U	0.001 U

MW-11-03	3/20/03 UA:WT	11/30/04 UA:WT
VOAs		
cis-1,2-Dichloroethene	0.003	0.003
Tetrachloroethene	0.002	0.008 (A)
Trichloroethene	0.012 (A)	0.04 (A)
Vinyl chloride	0.001 U	0.002 U

MW-46-05	7/14/05 UA:TT	11/3/06 UA:TT
VOAs		
cis-1,2-Dichloroethene	0.004	0.003
Tetrachloroethene	0.033 (A)	0.036 (A)
Trichloroethene	0.067 (A)	0.055 (A)
Vinyl chloride	0.002 U	0.002 U

B-SA26	7/2/02 UA:WT	4/14/03 UA:WT	11/22/04 UA:WT
VOAs			
cis-1,2-Dichloroethene	0.001	0.001	0.008
Tetrachloroethene	0.0004 J	0.002	0.005
Trichloroethene	0.0002 J	0.001 J	0.003
Vinyl chloride	0.001 U	0.001 U	0.001 U

MW-48-05	7/18/05 UA:WT	11/1/06 UA:WT
VOAs		
cis-1,2-Dichloroethene	0.063	0.056
Tetrachloroethene	0.068 J (A)	0.058 (A)
Trichloroethene	0.94 J (A)	0.69 (A)
Vinyl chloride	0.04 U	0.033 U

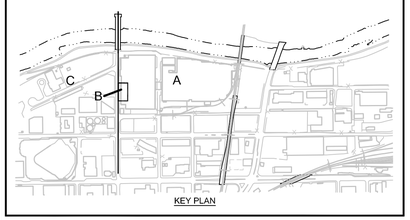
MW-6A-03	2/5/03 UA:WT	4/25/03 UA:WT	8/13/03 UA:WT	3/18/04 UA:WT	6/28/04 UA:WT	10/18/04 UA:WT	11/18/04 UA:WT	4/27/05 UA:WT
VOAs								
cis-1,2-Dichloroethene	1.2 (A)	0.34 (A)/0.34 (A)	0.18 (A)	0.18 (A)/0.18 (A)	0.072	0.005	0.34 (A)	0.3 (A)
Tetrachloroethene	0.04 U	0.033 U/0.033 U	0.008 U	0.014 U/0.014 U	0.005 U	0.001 U	0.017 U	0.014 U
Trichloroethene	0.04 U	0.033 U/0.033 U	0.008 U	0.014 U/0.014 U	0.005 U	0.001 U	0.017 U	0.014 U
Vinyl chloride	0.26 (AE)	0.76 (AE)/0.82 (AE)	0.28 (AE)	0.38 (AE)/0.38 (AE)	0.15 (AE)	0.026 (A)	0.5 (AE)	0.36 (AE)

DAY-08	7/15/02 UA:TT	3/18/03 UA:TT	11/11/04 UA:TT	11/1/06 UA:TT
VOAs				
cis-1,2-Dichloroethene	0.006	0.009	0.012	0.004
Tetrachloroethene	0.058 (A)	0.076 (A)	0.063 (A)	0.042 (A)
Trichloroethene	0.043 (A)	0.053 (A)	0.061 (A)	0.039 (A)
Vinyl chloride	0.003 U	0.003 U	0.003 U	0.002 U

MW-6B-03	2/7/03 UA:TT	4/25/03 UA:TT	8/13/03 UA:TT	3/18/04 UA:TT	6/28/04 UA:TT	10/18/04 UA:TT	11/18/04 UA:TT	4/27/05 UA:TT
VOAs								
cis-1,2-Dichloroethene	0.008 U	1.2 (A)	0.81 (A)	1.5 (A)	1.2 (A)	0.13 (A)/0.15 (A)	0.77 (A)	0.44 (A)
Tetrachloroethene	0.31 (A)	0.069 (A)	0.29 (A)	0.17 (A)	0.18 (A)	0.033 (A)/0.061 (A)	0.17 (A)	0.065 (A)
Trichloroethene	0.018 (A)	0.019 J (A)	0.12 (A)	0.09 (A)	0.12 (A)	0.015 (A)/0.028 (A)	0.13 (A)	0.03 (A)
Vinyl chloride	0.015 U	0.033 U	0.033 U	0.082 (AE)	0.076 (AE)	0.029 (A)/0.021 (A)	0.027 (A)	0.12 (AE)

Chemical Name	A	B	C	D	E
VOAs					
1,1-Dichloroethene	7.00E-03	2.44E+02	1.25E+02	8.52E+01	8.82E+01
Benzene	5.00E-03	6.41E+00	4.88E+00	1.77E+00	6.39E-01
cis-1,2-Dichloroethene	7.00E-02	6.38E+01	2.29E+01	2.05E+01	2.44E+01
Methylene chloride	5.00E-03	1.27E+02	8.94E+01	3.18E+01	1.28E+01
Tetrachloroethene	5.00E-03	1.49E+01	1.41E+01	4.32E+00	6.02E-01
Trichloroethene	5.00E-03	2.73E+01	2.68E+01	7.76E+00	2.23E+00
Vinyl chloride	2.00E-03	3.29E+00	2.02E+00	9.53E-01	4.90E-02
SVOAs					
Benzo(a)anthracene	1.17E-03	1.43E+02	6.17E-02	2.18E+01	3.92E-04
Benzo(a)pyrene	2.00E-04	4.20E+01	4.35E-03	6.39E+00	2.50E-05
Benzo(b)fluoranthene	1.17E-03	7.70E+00	3.71E-02	1.67E+00	4.04E-04
bis(2-Ethylhexyl)phthalate	6.00E-03	1.00E+05	1.82E+00	1.49E+04	9.97E-03
Dibenz(a,h)anthracene	1.17E-04	2.81E+03	2.78E-03	3.67E+02	1.52E-05
PCBs					
Total PCBs	5.00E-04	2.52E-01	9.35E-03	6.95E-02	1.96E-04
Total PCBs (Dissolved)	5.00E-04	2.52E-01	9.35E-03	6.95E-02	1.96E-04
Metals					
Arsenic	1.00E-02	-	1.44E+01	-	3.85E-02
Arsenic (Dissolved)	1.00E-02	-	1.44E+01	-	3.85E-02
Cadmium	5.00E-03	-	1.80E+01	-	2.88E-01
Cadmium (Dissolved)	5.00E-03	-	1.80E+01	-	2.88E-01
Lead	1.50E-02	-	7.40E+01	-	-
Lead (Dissolved)	1.50E-02	-	7.40E+01	-	-
Manganese	5.11E+00	-	5.96E+03	-	8.55E+01
Manganese (Dissolved)	5.11E+00	-	5.96E+03	-	8.55E+01
Mercury	2.00E-03	8.33E-01	2.88E-01	2.86E-01	1.53E+00
Mercury (Dissolved)	2.00E-03	8.33E-01	2.88E-01	2.86E-01	1.53E+00

A: Drinking Water Criteria
B: Commercial/Industrial GW Volatilization into Indoor Air Criteria
C: Maintenance GW Contact Criteria
D: Off-site Residential GW Volatilization into Indoor Air Criteria
E: Off-site Residential Nonpotable GW Use Criteria



KEY PLAN

0 50 100ft

LEGEND

MAD RIVER SHORELINE
MONITORING WELL

MW-53B-06	11/10/06 LA:RK
VOAs	
cis-1,2-Dichloroethene	0.001 U
Tetrachloroethene	0.001 U
Trichloroethene	0.001 U
Vinyl chloride	0.001 U

SAMPLE LOCATION
SAMPLE DATE
WELL ZONE
RESULT (mg/L)
PARAMETER
EXCEEDANCE

J Estimated concentration
U Not present at or above the associated value
UJ Estimated reporting limit
- Not analyzed

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY

Dayton, Ohio

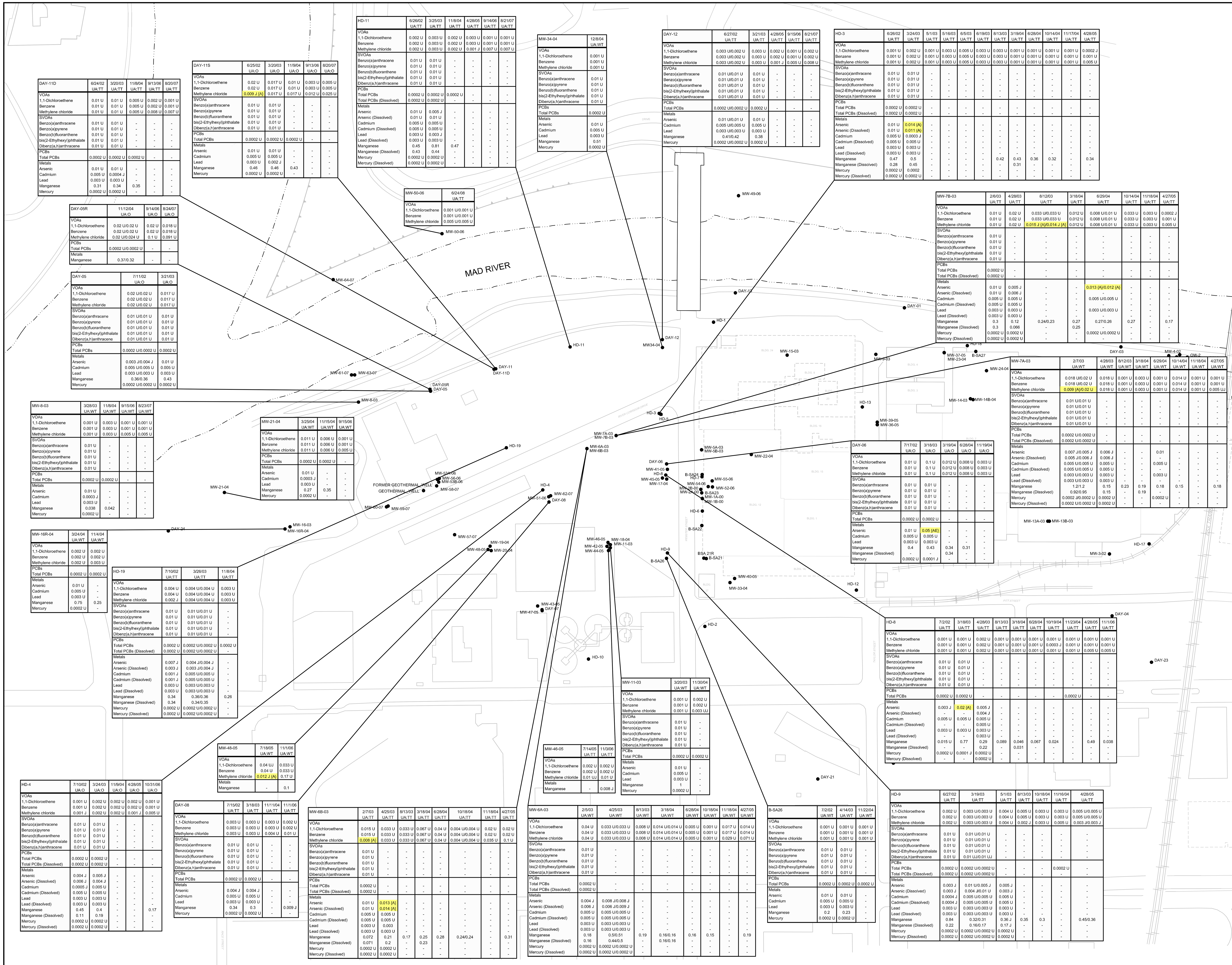
PRIMARY CVOC IN UPPER AQUIFER GROUNDWATER - AREA C

CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

Project Manager:	Reviewed By:	Date:	
IKR	SE	SEPTEMBER 2008	
Scale: 1:100	Project №: 12638-03	Report №: 021	Drawing №: 2.13

12638-03(021)GN-WA022 SEP 15/2008



DAY-11D	6/24/02 UA:TT	3/20/03 UA:TT	11/8/04 UA:TT	9/13/06 UA:TT	8/20/07 UA:TT
VOAs					
1,1-Dichloroethene	0.01 U	0.01 U	0.005 U	0.002 U	0.001 U
Benzene	0.01 U	0.01 U	0.005 U	0.002 U	0.001 U
Methylene chloride	0.01 U	0.01 U	0.005 U	0.008 U	0.007 U
SVOAs					
Benzo(a)anthracene	0.01 U	0.01 U	-	-	-
Benzo(a)pyrene	0.01 U	0.01 U	-	-	-
Benzo(b)fluoranthene	0.01 U	0.01 U	-	-	-
bis(2-Ethylhexyl)phthalate	0.01 U	0.01 U	-	-	-
Dibenz(a,h)anthracene	0.01 U	0.01 U	-	-	-
PCBs					
Total PCBs	0.0002 U	0.0002 U	0.0002 U	-	-
Metals					
Arsenic	0.01 U	0.01 U	-	-	-
Cadmium	0.005 U	0.0004 J	-	-	-
Lead	0.003 U	0.003 U	-	-	-
Manganese	0.31	0.34	0.35	-	-
Mercury	0.0002 U	0.0002 U	-	-	-

DAY-11S	6/25/02 UA:O	3/20/03 UA:O	11/9/04 UA:O	9/13/06 UA:O	8/20/07 UA:O
VOAs					
1,1-Dichloroethene	0.02 U	0.017 U	0.01 U	0.003 U	0.005 U
Benzene	0.02 U	0.017 U	0.01 U	0.003 U	0.005 U
Methylene chloride	0.009 J {A}	0.017 U	0.017 U	0.012 U	0.025 U
SVOAs					
Benzo(a)anthracene	0.01 U	0.01 U	-	-	-
Benzo(a)pyrene	0.01 U	0.01 U	-	-	-
Benzo(b)fluoranthene	0.01 U	0.01 U	-	-	-
bis(2-Ethylhexyl)phthalate	0.01 U	0.01 U	-	-	-
Dibenz(a,h)anthracene	0.01 U	0.01 U	-	-	-
PCBs					
Total PCBs	0.0002 U	0.0002 U	0.0002 U	-	-
Metals					
Arsenic	0.01 U	0.01 U	-	-	-
Cadmium	0.005 U	0.005 U	-	-	-
Lead	0.003 U	0.002 J	-	-	-
Manganese	0.46	0.46	0.43	-	-
Mercury	0.0002 U	0.0002 U	-	-	-

HD-11	6/26/02 UA:TT	3/25/03 UA:TT	11/8/04 UA:TT	4/28/05 UA:TT	9/14/06 UA:TT	8/21/07 UA:TT
VOAs						
1,1-Dichloroethene	0.002 U	0.003 U	0.002 U	0.003 U	0.001 U	0.001 U
Benzene	0.002 U	0.003 U	0.002 U	0.003 U	0.001 U	0.001 U
Methylene chloride	0.002 U	0.003 U	0.002 U	0.001 J	0.007 U	0.007 U
SVOAs						
Benzo(a)anthracene	0.01 U	0.01 U	-	-	-	-
Benzo(a)pyrene	0.01 U	0.01 U	-	-	-	-
Benzo(b)fluoranthene	0.01 U	0.01 U	-	-	-	-
bis(2-Ethylhexyl)phthalate	0.01 U	0.01 U	-	-	-	-
Dibenz(a,h)anthracene	0.01 U	0.01 U	-	-	-	-
PCBs						
Total PCBs	0.0002 U	0.0002 U	0.0002 U	-	-	-
Total PCBs (Dissolved)	0.0002 U	0.0002 U	-	-	-	-
Metals						
Arsenic	0.01 U	0.005 J	-	-	-	-
Arsenic (Dissolved)	0.01 U	0.01 U	-	-	-	-
Cadmium	0.005 U	0.005 U	-	-	-	-
Cadmium (Dissolved)	0.005 U	0.005 U	-	-	-	-
Lead	0.003 U	0.003 J	-	-	-	-
Lead (Dissolved)	0.003 U	0.003 U	-	-	-	-
Manganese	0.45	0.81	0.47	-	-	-
Manganese (Dissolved)	0.43	0.44	-	-	-	-
Mercury	0.0002 U	0.0002 U	-	-	-	-
Mercury (Dissolved)	0.0002 U	0.0002 U	-	-	-	-

MW-34-04	12/8/04 UA:WT
VOAs	
1,1-Dichloroethene	0.001 U
Benzene	0.001 U
Methylene chloride	0.001 U
SVOAs	
Benzo(a)anthracene	0.01 U
Benzo(a)pyrene	0.01 U
Benzo(b)fluoranthene	0.01 U
bis(2-Ethylhexyl)phthalate	0.01 U
Dibenz(a,h)anthracene	0.01 U
PCBs	
Total PCBs	0.0002 U
Metals	
Arsenic	0.01 U
Cadmium	0.005 U
Lead	0.003 U
Manganese	0.51
Mercury	0.0002 U

DAY-12	6/27/02 UA:TT	3/21/03 UA:TT	4/28/05 UA:TT	9/15/06 UA:TT	8/21/07 UA:TT
VOAs					
1,1-Dichloroethene	0.003 U/0.002 U	0.003 U	0.002 U	0.001 U	0.002 U
Benzene	0.003 U/0.002 U	0.003 U	0.002 U	0.001 U	0.002 U
Methylene chloride	0.003 U/0.002 U	0.003 U	0.001 J	0.005 U	0.008 U
SVOAs					
Benzo(a)anthracene	0.01 U/0.01 U	0.01 U	-	-	-
Benzo(a)pyrene	0.01 U/0.01 U	0.01 U	-	-	-
Benzo(b)fluoranthene	0.01 U/0.01 U	0.01 U	-	-	-
bis(2-Ethylhexyl)phthalate	0.01 U/0.01 U	0.01 U	-	-	-
Dibenz(a,h)anthracene	0.01 U/0.01 U	0.01 U	-	-	-
PCBs					
Total PCBs	0.0002 U/0.0002 U	0.0002 U	-	-	-
Metals					
Arsenic	0.01 U/0.01 U	0.01 U	-	-	-
Cadmium	0.005 U/0.005 U	0.005 U	-	-	-
Lead	0.003 U/0.003 U	0.003 U	-	-	-
Manganese	0.41/0.42	0.38	-	-	-
Mercury	0.0002 U/0.0002 U	0.0002 U	-	-	-

HD-3	6/26/02 UA:TT	3/24/03 UA:TT	5/1/03 UA:TT	5/16/03 UA:TT	6/5/03 UA:TT	6/19/03 UA:TT	8/13/03 UA:TT	3/19/04 UA:TT	6/28/04 UA:TT	10/14/04 UA:TT	11/17/04 UA:TT	4/28/05 UA:TT
VOAs												
1,1-Dichloroethene	0.001 U	0.002 U	0.001 U	0.003 U	0.005 U	0.003 U	0.003 U	0.001 U	0.001 U	0.001 U	0.001 U	0.0002 J
Benzene	0.001 U	0.002 U	0.001 U	0.003 U	0.005 U	0.003 U	0.003 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Methylene chloride	0.001 U	0.002 U	0.001 U	0.003 U	0.005 U	0.003 U	0.003 U	0.001 U	0.001 U	0.001 U	0.001 U	0.005 U
SVOAs												
Benzo(a)anthracene	0.01 U	0.01 U	-	-	-	-	-	-	-	-	-	-
Benzo(a)pyrene	0.01 U	0.01 U	-	-	-	-	-	-	-	-	-	-
Benzo(b)fluoranthene	0.01 U	0.01 U	-	-	-	-	-	-	-	-	-	-
bis(2-Ethylhexyl)phthalate	0.01 U	0.01 U	-	-	-	-	-	-	-	-	-	-
Dibenz(a,h)anthracene	0.01 U	0.01 U	-	-	-	-	-	-	-	-	-	-
PCBs												
Total PCBs	0.0002 U	0.0002 U	-	-	-	-	-	-	-	-	-	-
Total PCBs (Dissolved)	0.0002 U	0.0002 U	-	-	-	-	-	-	-	-	-	-
Metals												
Arsenic	0.01 U	0.014 {A}	-	-	-	-	-	-	-	-	-	-
Arsenic (Dissolved)	0.01 U	0.011 {A}	-	-	-	-	-	-	-	-	-	-
Cadmium	0.005 U	0.0003 J	-	-	-	-	-	-	-	-	-	-
Cadmium (Dissolved)	0.005 U	0.005 U	-	-	-	-	-	-	-	-	-	-
Lead	0.003 U	0.003 U	-	-	-	-	-	-	-	-	-	-
Lead (Dissolved)	0.003 U	0.003 U	-	-	-	-	-	-	-	-	-	-
Manganese	0.47	0.5	-	-	-	-	0.42	0.43	0.36	0.32	-	0.34
Manganese (Dissolved)	0.28	0.45	-	-	-	-	-	0.31	-	-	-	-
Mercury	0.0002 U	0.0002	-	-	-	-	-	-	-	-	-	-
Mercury (Dissolved)	0.0002 U	0.0002 U	-	-	-	-	-	-	-	-	-	-

MW-50-06	6/24/08 UA:TT
VOAs	
1,1-Dichloroethene	0.001 U/0.001 U
Benzene	0.001 U/0.001 U
Methylene chloride	0.005 U/0.005 U

DAY-05R	11/12/04 UA:O	9/14/06 UA:O	8/24/07 UA:O
VOAs			
1,1-Dichloroethene	0.02 U/0.02 U	0.02 U	0.018 U
Benzene	0.02 U/0.02 U	0.02 U	0.018 U
Methylene chloride	0.02 U/0.024 U	0.1 U	0.091 U
PCBs			
Total PCBs	0.0002 U/0.0002 U	-	-
Metals			
Manganese	0.37/0.32	-	-

DAY-05	7/11/02 UA:O	3/21/03 UA:O
VOAs		
1,1-Dichloroethene	0.02 U/0.02 U	0.017 U
Benzene	0.02 U/0.02 U	0.017 U
Methylene chloride	0.02 U/0.02 U	0.017 U
SVOAs		
Benzo(a)anthracene	0.01 U/0.01 U	0.01 U
Benzo(a)pyrene	0.01 U/0.01 U	0.01 U
Benzo(b)fluoranthene	0.01 U/0.01 U	0.01 U
bis(2-Ethylhexyl)phthalate	0.01 U/0.01 U	0.01 U
Dibenz(a,h)anthracene	0.01 U/0.01 U	0.01 U
PCBs		
Total PCBs	0.0002 U/0.0002 U	0.0002 U
Metals		
Arsenic	0.003 J/0.004 J	0.01 U
Cadmium	0.005 U/0.005 U	0.005 U
Lead	0.003 U/0.003 U	0.003 U
Manganese	0.36/0.36	0.43
Mercury	0.0002 U/0.0002 U	0.0002 U

MW-8-03	3/28/03 UA:WT	11/8/04 UA:WT	9/15/06 UA:WT	8/23/07 UA:WT
VOAs				
1,1-Dichloroethene	0.001 U	0.003 U	0.001 U	0.001 U
Benzene	0.001 U	0.003 U	0.001 U	0.001 U
Methylene chloride	0.001 U	0.003 U	0.005 U	0.005 U
SVOAs				
Benzo(a)anthracene	0.01 U	-	-	-
Benzo(a)pyrene	0.01 U	-	-	-
Benzo(b)fluoranthene	0.01 U	-	-	-
bis(2-Ethylhexyl)phthalate	0.01 U	-	-	-
Dibenz(a,h)anthracene	0.01 U	-	-	-
PCBs				
Total PCBs	0.0002 U	0.0002 U	-	-
Metals				
Arsenic	0.01 U	-	-	-
Cadmium	0.0003 J	-	-	-
Lead	0.003 U	-	-	-
Manganese	0.038	0.042	-	-
Mercury	0.0002 U	-	-	-

MW-21-04	3/25/04 UA:WT	11/15/04 UA:WT	9/15/06 UA:WT
VOAs			
1,1-Dichloroethene	0.011 U	0.006 U	0.001 U
Benzene	0.011 U	0.006 U	0.001 U
Methylene chloride	0.011 U	0.006 U	0.005 U
PCBs			
Total PCBs	0.0002 U	0.0002 U	-
Metals			
Arsenic	0.01 U	-	-
Cadmium	0.0003 J	-	-
Lead	0.003 U	-	-
Manganese	0.27	0.35	-
Mercury	0.0002 U	-	-

MW-16R-04	3/24/04 UA:WT	11/4/04 UA:WT
VOAs		
1,1-Dichloroethene	0.002 U	0.002 U
Benzene	0.002 U	0.002 U
Methylene chloride	0.002 U	0.003 U
PCBs		
Total PCBs	0.0002 U	0.0002 U
Metals		
Arsenic	0.01 U	-
Cadmium	0.005 U	-
Lead	0.003 U	-
Manganese	0.75	0.25
Mercury	0.0002 U	-

HD-19	7/10/02 UA:TT	3/26/03 UA:TT	11/8/04 UA:TT
VOAs			
1,1-Dichloroethene	0.004 U	0.004 U/0.004 U	0.003 U
Benzene	0.004 U	0.004 U/0.004 U	0.003 U
Methylene chloride	0.002 J	0.004 U/0.004 U	0.003 U
SVOAs			
Benzo(a)anthracene	0.01 U	0.01 U/0.01 U	-
Benzo(a)pyrene	0.01 U	0.01 U/0.01 U	-
Benzo(b)fluoranthene	0.01 U	0.01 U/0.01 U	-
bis(2-Ethylhexyl)phthalate	0.01 U	0.01 U/0.01 U	-
Dibenz(a,h)anthracene	0.01 U	0.01 U/0.01 U	-
PCBs			
Total PCBs	0.0002 U	0.0002 U/0.0002 U	0.0002 U
Total PCBs (Dissolved)	0.0002 U	0.0002 U/0.0002 U	-
Metals			
Arsenic	0.007 J	0.004 J/0.004 J	-
Arsenic (Dissolved)	0.003 J	0.003 J/0.004 J	-
Cadmium	0.001 J	0.005 U/0.005 U	-
Cadmium (Dissolved)	0.001 J	0.005 U/0.005 U	-
Lead	0.003 U	0.003 U/0.003 U	-
Lead (Dissolved)	0.003 U	0.003 U/0.003 U	-
Manganese	0.34	0.36/0.36	0.26
Manganese (Dissolved)	0.34	0.34/0.35	-
Mercury	0.0002 U	0.0002 U/0.0002 U	-
Mercury (Dissolved)	0.0002 U	0.0002 U/0.0002 U	-

MW-7B-03	2/6/03 UA:TT	4/28/03 UA:TT	8/12/03 UA:TT	3/18/04 UA:TT	6/29/04 UA:TT	10/14/04 UA:TT	11/18/04 UA:TT	4/27/05 UA:TT
VOAs								
1,1-Dichloroethene	0.01 U	0.02 U	0.033 U/0.033 U	0.012 U	0.008 U/0.01 U	0.033 U	0.003 U	0.0002 J
Benzene	0.01 U	0.02 U	0.033 U/0.033 U	0.012 U	0.008 U/0.01 U	0.033 U	0.003 U	0.001 U
Methylene chloride	0.01 U	0.02 U	0.015 J {A}/0.014 J {A}	0.012 U	0.008 U/0.01 U	0.033 U	0.003 U	0.005 U
SVOAs								
Benzo(a)anthracene	0.01 U	-	-	-	-	-	-	-
Benzo(a)pyrene	0.01 U	-	-	-	-	-	-	-
Benzo(b)fluoranthene	0.01 U	-	-	-	-	-	-	-
bis(2-Ethylhexyl)phthalate	0.01 U	-	-	-	-	-	-	-
Dibenz(a,h)anthracene	0.01 U	-	-	-	-	-	-	-
PCBs								
Total PCBs	0.0002 U	-	-	-	-	-	-	-
Total PCBs (Dissolved)	0.0002 U	-	-	-	-	-	-	-
Metals								
Arsenic	0.01 U	0.005 J	-	-	0.013 {A}/0.012 {A}	-	-	-
Arsenic (Dissolved)	0.01 U	0.006 J	-	-	-	-	-	-
Cadmium	0.005 U	0.005 U	-	-	0.005 U/0.005 U	-	-	-
Cadmium (Dissolved)	0.005 U	0.005 U	-	-	-	-	-	-
Lead	0.003 U	0.003 U	-	-	0.003 U/0.003 U	-	-	-
Lead (Dissolved)	0.003 U	0.003 U	-	-	-	-	-	-
Manganese	0.3	0.12	0.24/0.23	0.27	0.27/0.26	0.27	-	0.17
Manganese (Dissolved)	0.3	0.066	-	0.25	-	-	-	-
Mercury	0.0002 U	0.0002 U	-	-	0.0002 U/0.0002 U	-	-	-
Mercury (Dissolved)	0.0002 U	0.0002 U	-	-	-	-	-	-

MW-7A-03	2/7/03 UA:WT	4/28/03 UA:WT	8/12/03 UA:WT	3/18/04 UA:WT	6/29/04 UA:WT	10/14/04 UA:WT	11/18/04 UA:WT	4/27/05 UA:WT
VOAs								
1,1-Dichloroethene	0.018 U/0.02 U	0.018 U	0.001 U	0.003 U	0.001 U	0.014 U	0.001 U	0.001 U
Benzene	0.018 U/0.02 U	0.018 U	0.001 U	0.003 U	0.001 U	0.014 U	0.001 U	0.001 U
Methylene chloride	0.009 {A}/0.02 U	0.018 U	0.001 U	0.003 U	0.001 U	0.014 U	0.001 U	0.005 UJ
SVOAs								
Benzo(a)anthracene	0.01 U/0.01 U	-	-	-	-	-	-	-
Benzo(a)pyrene	0.01 U/0.01 U	-	-	-	-	-	-	-
Benzo(b)fluoranthene	0.01 U/0.01 U	-	-	-	-	-	-	-
bis(2-Ethylhexyl)phthalate	0.01 U/0.01 U	-	-	-	-	-	-	-
Dibenz(a,h)anthracene	0.01 U/0.01 U	-	-	-	-	-	-	-
PCBs								
Total PCBs	0.0002 U/0.0002 U	-	-	-	-	-	-	-
Total PCBs (Dissolved)	0.0002 U/0.0002 U	-	-	-	-	-	-	-
Metals								
Arsenic	0.007 J/0.005 J	0.006 J	-	-	0.01	-	-	-
Arsenic (Dissolved)	0.005 J/0.006 J	0.006 J	-	-	-	-	-	-
Cadmium	0.005 U/0.005 U	0.005 U	-	-	0.005 U	-	-	-
Cadmium (Dissolved)	0.005 U/0.005 U	0.005 U	-	-	-	-	-	-
Lead	0.003 U/0.003 U	0.003 U	-	-	0.003 U	-	-	-
Lead (Dissolved)	0.003 U/0.003 U	0.003 U	-	-	-	-	-	-
Manganese	1.2/1.2	0.15	0.23	0.19	0.18	0.15	-	0.18
Manganese (Dissolved)	0.92/0.95	0.15	-	0.19	-	-	-	-
Mercury	0.0002 J/0.0002 U	0.0002 U	-	-	0.0002 U	-	-	-
Mercury (Dissolved)	0.0002 U/0.0002 U	0.0002 U	-	-	-	-	-	-

DAY-06	7/17/02 UA:O	3/18/03 UA:O	3/19/04 UA:O	6/28/04 UA:O	11/19/04 UA:O
VOAs					
1,1-Dichloroethene	0.01 U	0.1 U	0.012 U	0.008 U	0.003 U
Benzene	0.01 U	0.1 U	0.012 U	0.008 U	0.003 U
Methylene chloride	0.01 U	0.1 U	0.012 U	0.008 U	0.003 U
SVOAs					
Benzo(a)anthracene	0.01 U	0.01 U	-	-	-
Benzo(a)pyrene	0.01 U	0.01 U	-	-	-
Benzo(b)fluoranthene	0.01 U	0.01 U	-	-	-
bis(2-Ethylhexyl)phthalate	0.01 U	0.01 U	-	-	-
Dibenz(a,h)anthracene	0.01 U	0.01 U	-	-	-
PCBs					
Total PCBs	0.0002 U	0.0002 U	-	-	-
Metals					
Arsenic	0.01 U	0.05 {AE}	-	-	-
Cadmium	0.005 U	0.005 U	-	-	-
Lead	0.003 U	0.003 U	-	-	-
Manganese	0.4	0.43	0.34	0.31	-
Manganese (Dissolved)	-	-	0.34	-	-
Mercury	0.0002 U	0.0001 J	-	-	-

HD-8	7/2/02 UA:TT	3/18/03 UA:TT	4/28/03 UA:TT	8/13/03 UA:TT	3/18/04 UA:TT	6/28/04 UA:TT	10/19/04 UA:TT	11/23/04 UA:TT	4/28/05 UA:TT	11/1/06 UA:TT
VOAs										
1,1-Dichloroethene	0.001 U	0.001 U	0.002 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Benzene	0.001 U	0.001 U	0.002 U	0.001 U	0.001 U	0.001 U	0.0003 J	0.001 U	0.001 U	0.001 U
Methylene chloride	0.001 U	0.001 U	0.002 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.005 U	0.005 U
SVOAs										
Benzo(a)anthracene	0.01 U	0.01 U	-	-	-	-	-	-	-	-
Benzo(a)pyrene	0.01 U	0.01 U	-	-	-	-	-	-	-	-
Benzo(b)fluoranthene	0.01 U	0.01 U	-	-	-	-	-	-	-	-
bis(2-Ethylhexyl)phthalate	0.01 U	0.01 U	-	-	-	-	-	-	-	-
Dibenz(a,h)anthracene	0.01 U	0.01 U	-	-	-	-	-	-	-	-
PCBs										
Total PCBs	0.0002 U	0.0002 U	-	-	-	-	-	0.0002 U	-	-
Metals										
Arsenic	0.003 J	0.02 {A}	0.005 J	-	-	-	-	-	-	-
Arsenic (Dissolved)	-	-	0.004 J	-	-	-	-	-	-	-
Cadmium	0.005 U	0.005 U	0.005 U	-	-	-	-	-	-	-
Cadmium (Dissolved)	-	-	0.005 U	-	-	-	-	-	-	-
Lead	0.003 U	0.003 U	0.003 U	-	-	-	-	-	-	-
Lead (Dissolved)	-	-	0.003 U	-	-	-	-	-	-	-
Manganese	0.015 U	0.77	0.29	0.089	0.046	0.067	0.024	-	0.49	0.038
Manganese (Dissolved)	-	-	0.22	-	0.031	-	-	-	-	-
Mercury	0.0002 U	0.0001 J	0.0002 U	-	-	-	-	-	-	-
Mercury (Dissolved)	-	-	0.0002 U	-	-	-	-	-	-	-

MW-11-03	3/20/03 UA:WT	11/30/04 UA:WT
VOAs		
1,1-Dichloroethene	0.001 U	0.002 U
Benzene	0.001 U	0.002 U
Methylene chloride	0.001 U	0.003 UJ
SVOAs		
Benzo(a)anthracene	0.01 U	-
Benzo(a)pyrene	0.01 U	-
Benzo(b)fluoranthene	0.01 U	-
bis(2-Ethylhexyl)phthalate	0.01 U	-
Dibenz(a,h)anthracene	0.01 U	-
PCBs		
Total PCBs	0.0002 U	0.0002 U
Metals		
Arsenic	0.01 U	-
Cadmium	0.005 U	-
Lead	0.003 U	-
Manganese	1	-
Mercury	0.0002 U	-

MW-48-05	7/18/05 UA:WT	11/1/06 UA:WT
VOAs		
1,1-Dichloroethene	0.04 UJ	0.033 U
Benzene	0.04 U	0.033 U
Methylene chloride	0.012 J {A}	0.17 U
Metals		
Manganese	-	0.1

MW-46-05	7/14/05 UA:TT	11/3/06 UA:TT
VOAs		
1,1-Dichloroethene	0.002 U	0.002 U
Benzene	0.002 U	0.002 U
Methylene chloride	0.01 UJ	0.01 U
Metals		
Manganese	-	0.008 J

HD-4	7/10/02 UA:O	3/24/03 UA:O	11/9/04 UA:O	4/28/05 UA:O	10/31/06 UA:O
VOAs					
1,1-Dichloroethene	0.001 U	0.002 U	0.002 U	0.002 U	0.001 U
Benzene	0.001 U	0.002 U	0.002 U	0.002 U	0.001 U
Methylene chloride	0.001 J	0.002 U	0.002 U	0.001 J	0.005 U
SVOAs					
Benzo(a)anthracene	0.01 U	0.01 U	-	-	-
Benzo(a)pyrene	0.01 U	0.01 U	-	-	-
Benzo(b)fluoranthene	0.01 U	0.01 U	-	-	-
bis(2-Ethylhexyl)phthalate	0.01 U	0.01 U	-	-	-
Dibenz(a,h)anthracene	0.01 U	0.01 U	-	-	-
PCBs					
Total PCBs	0.0002 U	0.0002 U	-	-	-
Total PCBs (Dissolved)	0.0002 U	0.0002 U	-	-	-
Metals					
Arsenic	0.004 J	0.005 J	-	-	-
Arsenic (Dissolved)	0.006 J	0.004 J	-	-	-
Cadmium	0.0005 J	0.005 U	-	-	-
Cadmium (Dissolved)	0.005 U	0.005 U	-	-	-
Lead	0.003 U	0.003 U	-	-	-
Lead (Dissolved)	0.003 U	0.003 U	-	-	-
Manganese	0.45	0.4	-	-	0.17
Manganese (Dissolved)	0.11	0.19	-	-	-
Mercury	0.0002 U	0.0002 U	-	-	-
Mercury (Dissolved)	0.0002 U	0.0002 U	-	-	-

DAY-08	7/15/02 UA:TT	3/18/03 UA:TT	11/11/04 UA:TT	11/1/06 UA:TT
VOAs				
1,1-Dichloroethene	0.003 U	0.003 U	0.003 U	0.002 U
Benzene	0.003 U	0.003 U	0.003 U	0.002 U
Methylene chloride	0.003 U	0.003 U	0.004 U	0.01 U
SVOAs				
Benzo(a)anthracene	0.01 U	0.01 U	-	-
Benzo(a)pyrene	0.01 U	0.01 U	-	-
Benzo(b)fluoranthene	0.01 U	0.01 U	-	-
bis(2-Ethylhexyl)phthalate	0.01 U	0.01 U	-	-
Dibenz(a,h)anthracene	0.01 U	0.01 U	-	-
PCBs				
Total PCBs	0.0002 U	0.0002 U	-	-
Metals				
Arsenic	0.004 J	0.004 J	-	-
Cadmium	0.005 U	0.005 U	-	-
Lead	0.003 U	0.003 U	-	-
Manganese	0.34	0.3	-	0.009 J
Mercury	0.0002 U	0.0002 U	-	-

MW-6B-03	2/7/03 UA:TT	4/25/03 UA:TT	8/13/03 UA:TT	3/18/04 UA:TT	6/28/04 UA:TT	10/18/04 UA:TT	11/18/04 UA:TT	4/27/05 UA:TT
VOAs								
1,1-Dichloroethene	0.015 U	0.033 U	0.033 U	0.067 U	0.04 U	0.004 U/0.004 U	0.02 U	0.02 U
Benzene	0.015 U	0.033 U	0.033 U	0.067 U	0.04 U	0.004 U/0.004 U	0.02 U	0.02 U
Methylene chloride	0.008 {A}	0.033 U	0.033 U	0.067 U	0.04 U	0.004 U/0.004 U	0.035 U	0.1 U
SVOAs								
Benzo(a)anthracene	0.01 U	-	-	-	-	-	-	-
Benzo(a)pyrene	0.01 U	-	-	-	-	-	-	-
Benzo(b)fluoranthene	0.01 U	-	-	-	-	-	-	-
bis(2-Ethylhexyl)phthalate	0.01 U	-	-	-	-	-	-	-
Dibenz(a,h)anthracene	0.01 U	-	-	-	-	-	-	-
PCBs								
Total PCBs	0.0002 U	-	-	-	-	-	-	-
Total PCBs (Dissolved)	0.0002 U	-	-	-	-	-	-	-
Metals								
Arsenic	0.01 U	0.013 {A}	-	-	-	-	-	-
Arsenic (Dissolved)	0.01 U	0.014 {A}	-	-	-	-	-	-
Cadmium	0.005 U	0.005 U	-	-	-	-	-	-
Cadmium (Dissolved)	0.005 U	0.005 U	-	-	-	-	-	-
Lead	0.003 U	0.003	-	-	-	-	-	-
Lead (Dissolved)	0.003 U	0.003 U	-	-	-	-	-	-
Manganese	0.072	0.21	0.17	0.25	0.28	0.24/0.24	-	0.31
Manganese (Dissolved)	0.071	0.2	-	0.23	-	-	-	-
Mercury	0.0002 U	0.0002 U	-	-	-	-	-	-
Mercury (Dissolved)	0.0002 U	0.0002 U	-	-	-	-	-	-

MW-6A-03	2/5/03 UA:WT	4/25/03 UA:WT	8/13/03 UA:WT	3/18/04 UA:WT	6/28/04 UA:WT	10/18/04 UA:WT	11/18/04 UA:WT	4/27/05 UA:WT
VOAs								
1,1-Dichloroethene	0.04 U	0.033 U/0.033 U	0.008 U	0.014 U/0.014 U	0.005 U	0.001 U	0.017 U	0.014 U
Benzene	0.04 U	0.033 U/0.033 U	0.008 U	0.014 U/0.014 U	0.005 U	0.001 U	0.017 U	0.014 U
Methylene chloride	0.04 U	0.033 U/0.033 U	0.008 U	0.014 U/0.014 U	0.005 U	0.001 U	0.029 U	0.071 U
SVOAs								
Benzo(a)anthracene	0.01 U	-	-	-	-	-	-	-
Benzo(a)pyrene	0.01 U	-	-	-	-	-	-	-
Benzo(b)fluoranthene	0.01 U	-	-	-	-	-	-	-
bis(2-Ethylhexyl)phthalate	0.01 U	-	-	-	-	-	-	-
Dibenz(a,h)anthracene	0.01 U	-	-	-	-	-	-	-
PCBs								
Total PCBs	0.0002 U	-	-	-	-	-	-	-
Total PCBs (Dissolved)	0.0002 U	-	-	-	-	-	-	-
Metals								
Arsenic	0.004 J	0.008 J/0.008 J	-	-	-	-	-	-
Arsenic (Dissolved)	0.006 J	0.006 J/0.009 J	-	-	-	-	-	-
Cadmium	0.005 U	0.005 U/0.005 U	-	-	-	-	-	-
Cadmium (Dissolved)	0.005 U	0.005 U/0.005 U	-	-	-	-	-	-
Lead	0.003 U	0.003 U/0.003 U	-	-	-	-	-	-
Lead (Dissolved)	0.003 U	0.003 U/0.003 U	-	-	-	-	-	-
Manganese	0.18	0.5/0.51	0.19	0.16/0.16	0.16	0.15	-	0.19
Manganese (Dissolved)	0.16	0.44/0.5	-	0.16/0.16	-	-	-	-
Mercury	0.0002 U	0.0002 U/0.0002 U	-	-	-	-	-	-
Mercury (Dissolved)	0.0002 U	0.0002 U/0.0002 U	-	-	-	-	-	-

B-SA26	7/2/02 UA:WT	4/14/03 UA:WT	11/22/04 UA:WT
VOAs			
1,1-Dichloroethene	0.001 U	0.001 U	0.001 U
Benzene	0.001 U	0.001 U	0.001 U
Methylene chloride	0.001 U	0.001 U	0.001 U
SVOAs			
Benzo(a)anthracene	0.01 U	0.01 U	-
Benzo(a)pyrene	0.01 U	0.01 U	-
Benzo(b)fluoranthene	0.01 U	0.01 U	-
bis(2-Ethylhexyl)phthalate	0.01 U	0.01 U	-
Dibenz(a,h)anthracene	0.01 U	0.01 U	-
PCBs			
Total PCBs	0.0002 U	0.0002 U	0.0002 U
Metals			
Arsenic	0.01 U	0.01 U	-
Cadmium	0.005 U	0.005 U	-
Lead	0.003 U	0.003 U	-
Manganese	0.2	0.23	-
Mercury	0.0002 U	0.0002 U	-

HD-9	6/27/02 UA:TT	3/19/03 UA:TT	5/1/03 UA:TT	8/13/03 UA:TT	10/18/04 UA:TT	11/16/04 UA:TT	4/28/05 UA:TT
VOAs							
1,1-Dichloroethene	0.002 U	0.003 U/0.003 U	0.004 U	0.005 U	0.003 U	0.003 U	0.005 U/0.005 U
Benzene	0.002 U	0.003 U/0.003 U	0.004 U	0.005 U	0.003 U	0.003 U	0.005 U/0.005 U
Methylene chloride	0.002 U	0.003 U/0.003 U	0.004 U	0.002 J	0.003 U	0.005 U	0.003 J/0.003 J
SVOAs							
Benzo(a)anthracene	0.01 U	0.01 U/0.01 U	-	-	-	-	-
Benzo(a)pyrene	0.01 U	0.01 U/0.01 U	-	-	-	-	-
Benzo(b)fluoranthene	0.01 U	0.01 U/0.01 U	-	-	-	-	-
bis(2-Ethylhexyl)phthalate	0.01 U	0.01 U/0.01 U	-	-	-	-	-
Dibenz(a,h)anthracene	0.01 U	0.01 UJ/0.01 UJ	-	-	-	-	-
PCBs							
Total PCBs	0.0002 U	0.0002 U/0.0002 U	-	-	-	0.0002 U	-
Total PCBs (Dissolved)	0.0002 U	0.0002 U/0.0002 U	-	-	-	-	-
Metals							
Arsenic	0.003 J	0.01 U/0.005 J	0.005 J	-	-	-	-
Arsenic (Dissolved)	0.003 J	0.004 J/0.01 U	0.003 J	-	-	-	-
Cadmium	0.0004 J	0.005 U/0.005 U	0.005 U	-	-	-	-
Cadmium (Dissolved)	0.0004 J	0.005 U/0.005 U	0.005 U	-	-	-	-
Lead	0.003 U	0.003 U/0.003 U	0.003 U	-	-	-	-
Lead (Dissolved)	0.003 U	0.003 U/0.003 U	0.003 U	-	-	-	-
Manganese	0.84	0.32/0.31	0.36 J	0.35	0.3	-	0.45/0.36
Manganese (Dissolved)	0.22	0.16/0.17	0.17 J	-	-	-	-
Mercury	0.0002 U	0.0002 U/0.0002 U	0.0002 U	-	-	-	-
Mercury (Dissolved)	0.0002 U	0.0002 U/0.0002 U	0.0002 U	-	-	-	-

N

0 40 120ft

LEGEND

MAD RIVER SHORELINE

MONITORING WELL

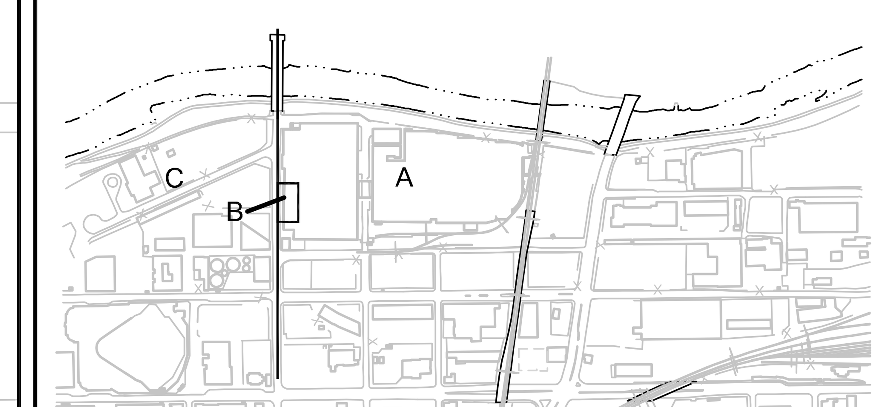
MW-53B-06	11/10/06 UA:RK
VOAs	
cis-1,2-Dichloroethene	0.001 U
Tetrachloroethene	0.001 U
Trichloroethene	0.001 U
Vinyl chloride	0.001 U

SAMPLE LOCATION
SAMPLE DATE
WELL ZONE
RESULT (mg/L)
PARAMETER
EXCEEDANCE

- J Estimated concentration
- U Not present at or above the associated value
- UJ Estimated reporting limit
- \- Not analyzed

Chemical Name	A	B	C	D	E
VOAs					
1,1-Dichloroethene	7.00E-03	2.44E+02	1.25E+02	8.52E+01	8.82E+01
Benzene	5.00E-03	6.41E+00	4.88E+00	1.77E+00	6.39E-01
cis-1,2-Dichloroethene	7.00E-02	6.38E+01	2.29E+01	2.05E+01	2.44E+01
Methylene chloride	5.00E-03	1.27E+02	8.94E+01	3.18E+01	1.28E+01
Tetrachloroethene	5.00E-03	1.49E+01	1.41E+01	4.32E+00	6.02E-01
Trichloroethene	5.00E-03	2.73E+01	2.68E+01	7.76E+00	2.23E+00
Vinyl chloride	2.00E-03	3.29E+00	2.02E+00	9.53E-01	4.90E-02
SVOAs					
Benzo(a)anthracene	1.17E-03	1.43E+02	6.17E-02	2.18E+01	3.92E-04
Benzo(a)pyrene	2.00E-04	4.20E+01	4.35E-03	6.39E+00	2.50E-05
Benzo(b)fluoranthene	1.17E-03	7.70E+00	3.71E-02	1.67E+00	4.04E-04
bis(2-Ethylhexyl)phthalate	6.00E-03	1.00E+05	1.82E+00	1.49E+04	9.97E-03
Dibenz(a,h)anthracene	1.17E-04	2.81E+03	2.78E-03	3.67E+02	1.52E-05
PCBs					
Total PCBs	5.00E-04	2.52E-01	9.35E-03	6.95E-02	1.96E-04
Total PCBs (Dissolved)	5.00E-04	2.52E-01	9.35E-03	6.95E-02	1.96E-04
Metals					
Arsenic	1.00E-02	-	1.44E+01	-	3.85E-02
Arsenic (Dissolved)	1.00E-02	-	1.44E+01	-	3.85E-02
Cadmium	5.00E-03	-	1.80E+01	-	2.88E-01
Cadmium (Dissolved)	5.00E-03	-	1.80E+01	-	2.88E-01
Lead	1.50E-02	-	7.40E+01	-	-
Lead (Dissolved)	1.50E-02	-	7.40E+01	-	-
Manganese	5.11E+00	-	5.96E+03	-	8.55E+01
Manganese (Dissolved)	5.11E+00	-	5.96E+03	-	8.55E+01
Mercury	2.00E-03	8.33E-01	2.88E-01	2.86E-01	1.53E+00
Mercury (Dissolved)	2.00E-03	8.33E-01	2.88E-01	2.86E-01	1.53E+00

A: Drinking Water Criteria
B: Commercial/Industrial GW Volatilization into Indoor Air Criteria
C: Maintenance GW Contact Criteria
D: Off-site Residential GW Volatilization into Indoor Air Criteria
E: Off-site Residential Nonpotable GW Use Criteria



KEY PLAN

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY

Dayton, Ohio

OTHER CONSTITUENTS IN UPPER AQUIFER GROUNDWATER - AREA C

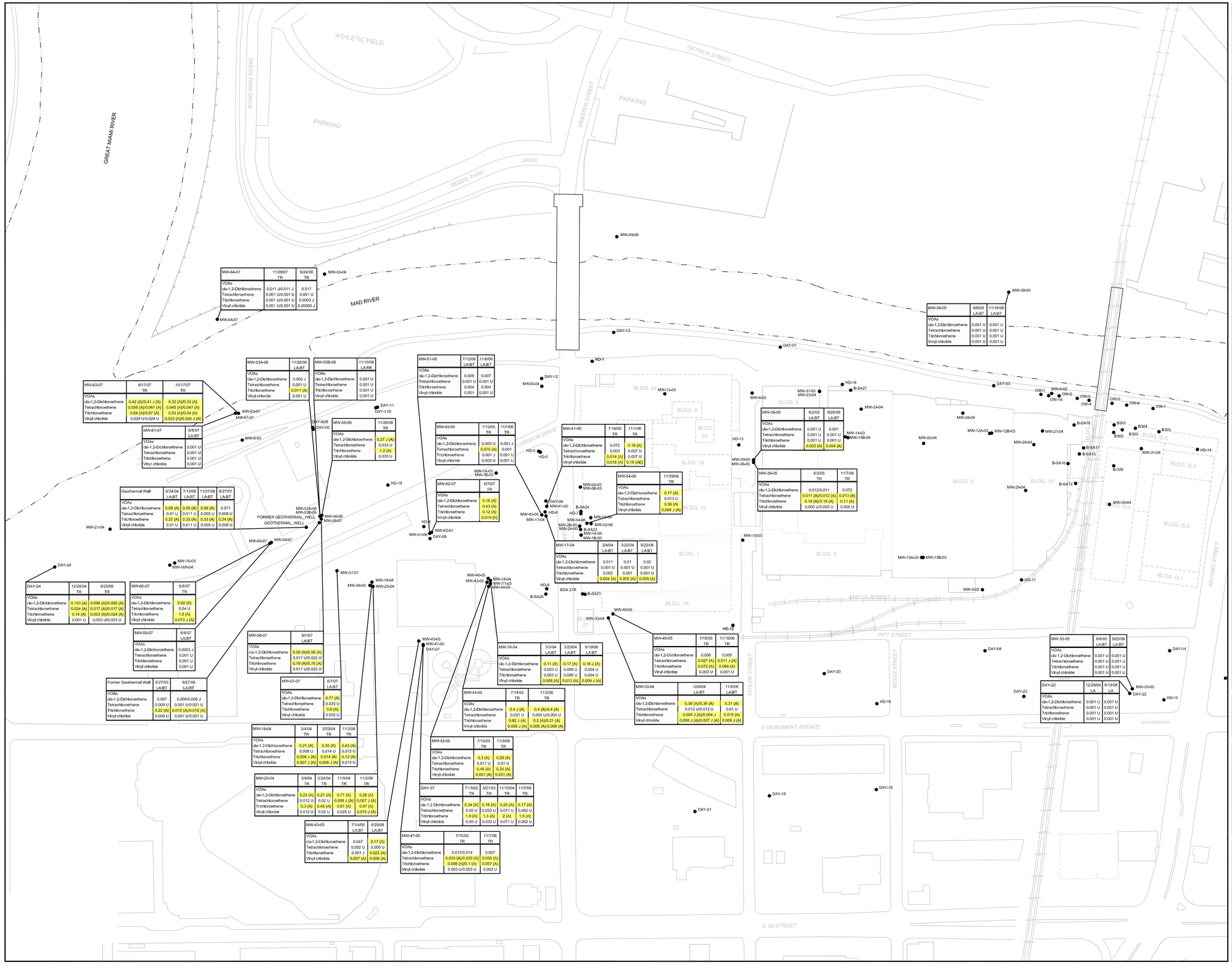
CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

Project Manager:	Reviewed By:	Date:
IKR	SE	SEPTEMBER 2008

Scale:	Project Nº:	Report Nº:	Drawing Nº:
1:120	12638-03	021	2.14

12638-03(021)GN-WA025 SEP 15/2008



0 40 120ft

LEGEND

- MAD RIVER SHORELINE
- MONITORING WELL
- SOIL BORING LOCATION
- SOIL GAS PROBE LOCATION

MW-53B-06	11/10/06 LA:RK
VOAs	
cis-1,2-Dichloroethene	0.001 U
Tetrachloroethene	0.001 U
Trichloroethene	0.001 U
Vinyl chloride	0.001 U

- SAMPLE LOCATION
- SAMPLE DATE
- WELL ZONE
- RESULT (mg/L)
- PARAMETER
- EXCEEDANCE

J Estimated concentration
U Not present at or above the associated value
UJ Estimated reporting limit
- Not analyzed

Chemical Name	A	B	C	D	E
VOAs					
1,1-Dichloroethene	7.00E-03	2.44E+02	1.25E+02	8.52E+01	8.82E+01
Benzene	5.00E-03	6.41E+00	4.88E+00	1.77E+00	6.39E-01
cis-1,2-Dichloroethene	7.00E-02	6.38E+01	2.29E+01	2.05E+01	2.44E+01
Methylene chloride	5.00E-03	1.27E+02	8.94E+01	3.18E+01	1.28E+01
Tetrachloroethene	5.00E-03	1.49E+01	1.41E+01	4.32E+00	6.02E-01
Trichloroethene	5.00E-03	2.73E+01	2.68E+01	7.76E+00	2.23E+00
Vinyl chloride	2.00E-03	3.29E+00	2.02E+00	9.53E-01	4.90E-02
SVOAs					
Benzo(a)anthracene	1.17E-03	1.43E+02	6.17E-02	2.18E+01	3.92E-04
Benzo(a)pyrene	2.00E-04	4.20E+01	4.35E-03	6.39E+00	2.50E-05
Benzo(b)fluoranthene	1.17E-03	7.70E+00	3.71E-02	1.67E+00	4.04E-04
bis(2-Ethylhexyl)phthalate	6.00E-03	1.00E+05	1.82E+00	1.49E+04	9.97E-03
Dibenz(a,h)anthracene	1.17E-04	2.81E+03	2.78E-03	3.67E+02	1.52E-05
PCBs					
Total PCBs	5.00E-04	2.52E-01	9.35E-03	6.95E-02	1.96E-04
Total PCBs (Dissolved)	5.00E-04	2.52E-01	9.35E-03	6.95E-02	1.96E-04
Metals					
Arsenic	1.00E-02	-	1.44E+01	-	3.85E-02
Arsenic (Dissolved)	1.00E-02	-	1.44E+01	-	3.85E-02
Cadmium	5.00E-03	-	1.80E+01	-	2.88E-01
Cadmium (Dissolved)	5.00E-03	-	1.80E+01	-	2.88E-01
Lead	1.50E-02	-	7.40E+01	-	-
Lead (Dissolved)	1.50E-02	-	7.40E+01	-	-
Manganese	5.11E+00	-	5.96E+03	-	8.55E+01
Manganese (Dissolved)	5.11E+00	-	5.96E+03	-	8.55E+01
Mercury	2.00E-03	8.33E-01	2.88E-01	2.86E-01	1.53E+00
Mercury (Dissolved)	2.00E-03	8.33E-01	2.88E-01	2.86E-01	1.53E+00

A: Drinking Water Criteria
B: Commercial/Industrial GW Volatilization into Indoor Air Criteria
C: Maintenance GW Contact Criteria
D: Off-site Residential GW Volatilization Into Indoor Air Criteria
E: Off-site Residential Nonpotable GW Use Criteria

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY

Dayton, Ohio

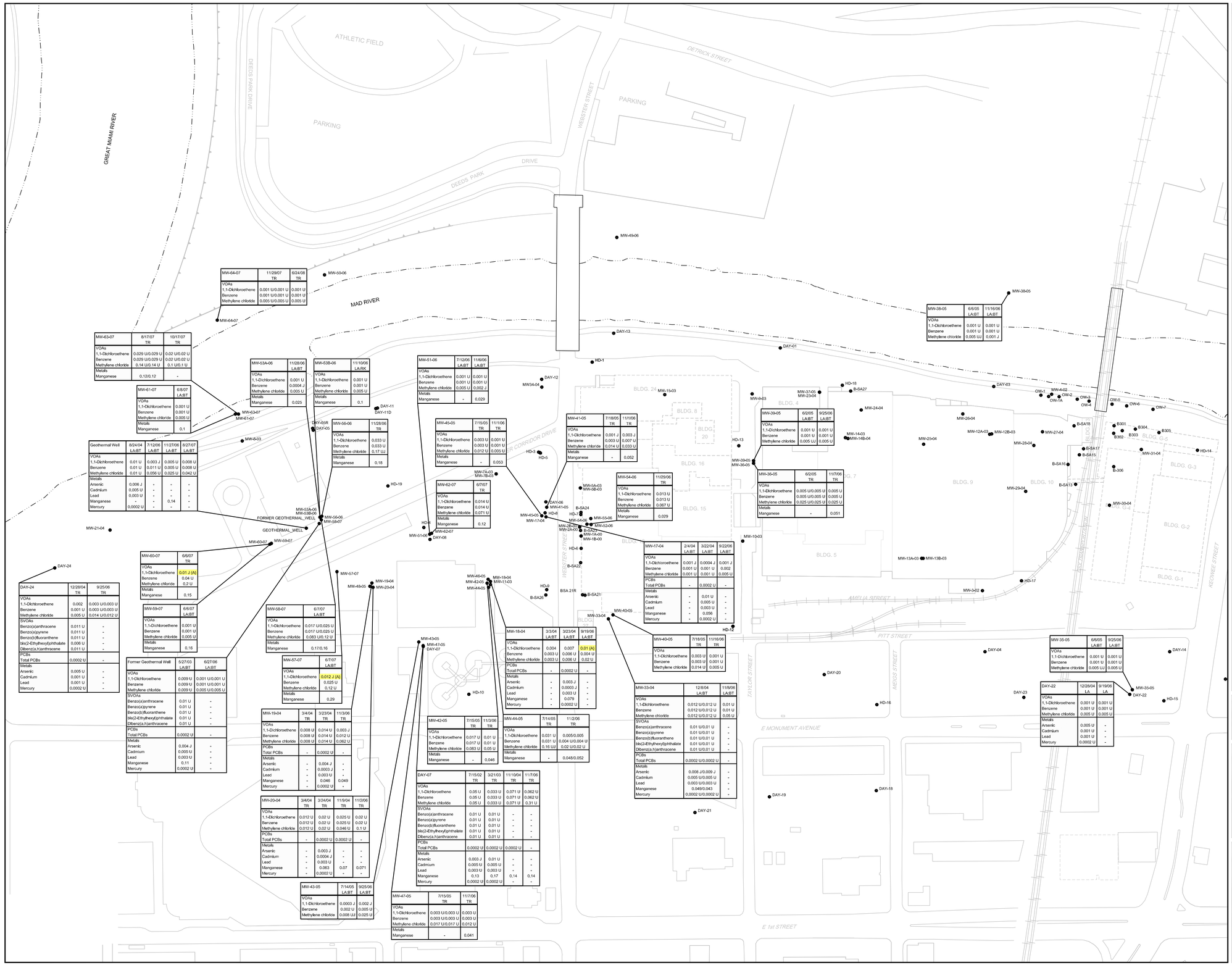
PRIMARY CVOC IN GROUNDWATER TILL RICH ZONE/LOWER AQUIFER

CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

Project Manager:	Reviewed By:	Date:	
IKR	SE	SEPTEMBER 2008	
Scale: 1:120	Project №: 12638-03	Report №: 021	Drawing №: 2.15

12638-03(021)GN-WA018 SEP 15/2008



0 40 120ft

LEGEND

- MAD RIVER SHORELINE
- MONITORING WELL
- SOIL BORING LOCATION
- SOIL GAS PROBE LOCATION

MW-53B-06	11/10/06 LA;RK
VOAs	
cis-1,2-Dichloroethene	0.001 U
Tetrachloroethene	0.001 U
Trichloroethene	0.001 U
Vinyl chloride	0.001 U

- SAMPLE LOCATION
- SAMPLE DATE / WELL ZONE
- RESULT (mg/L)
- PARAMETER
- EXCEEDANCE

J Estimated concentration
U Not present at or above the associated value
UJ Estimated reporting limit
- Not analyzed

Chemical Name	A	B	C	D	E
VOAs					
1,1-Dichloroethene	7.00E-03	2.44E+02	1.25E+02	8.52E+01	8.82E+01
Benzene	5.00E-03	6.41E+00	4.88E+00	1.77E+00	6.39E-01
cis-1,2-Dichloroethene	7.00E-02	6.38E+01	2.29E+01	2.05E+01	2.44E+01
Methylene chloride	5.00E-03	1.27E+02	8.94E+01	3.18E+01	1.28E+01
Tetrachloroethene	5.00E-03	1.49E+01	1.41E+01	4.32E+00	6.02E-01
Trichloroethene	5.00E-03	2.73E+01	2.68E+01	7.76E+00	2.23E+00
Vinyl chloride	2.00E-03	3.29E+00	2.02E+00	9.53E-01	4.90E-02
SVOAs					
Benzo(a)anthracene	1.17E-03	1.43E+02	6.17E-02	2.18E+01	3.92E-04
Benzo(a)pyrene	2.00E-04	4.20E+01	4.35E-03	6.39E+00	2.50E-05
Benzo(b)fluoranthene	1.17E-03	7.70E+00	3.71E-02	1.67E+00	4.04E-04
bis(2-Ethylhexyl)phthalate	6.00E-03	1.00E+05	1.82E+00	1.49E+04	9.97E-03
Dibenz(a,h)anthracene	1.17E-04	2.81E+03	2.78E-03	3.67E+02	1.52E-05
PCBs					
Total PCBs	5.00E-04	2.52E-01	9.35E-03	6.95E-02	1.96E-04
Total PCBs (Dissolved)	5.00E-04	2.52E-01	9.35E-03	6.95E-02	1.96E-04
Metals					
Arsenic	1.00E-02	-	1.44E+01	-	3.85E-02
Arsenic (Dissolved)	1.00E-02	-	1.44E+01	-	3.85E-02
Cadmium	5.00E-03	-	1.80E+01	-	2.88E-01
Cadmium (Dissolved)	5.00E-03	-	1.80E+01	-	2.88E-01
Lead	1.50E-02	-	7.40E+01	-	-
Lead (Dissolved)	1.50E-02	-	7.40E+01	-	-
Manganese	5.11E+00	-	5.96E+03	-	8.55E+01
Manganese (Dissolved)	5.11E+00	-	5.96E+03	-	8.55E+01
Mercury	2.00E-03	8.33E-01	2.88E-01	2.86E-01	1.53E+00
Mercury (Dissolved)	2.00E-03	8.33E-01	2.88E-01	2.86E-01	1.53E+00

A: Drinking Water Criteria
B: Commercial/Industrial GW Volatilization into Indoor Air Criteria
C: Maintenance GW Contact Criteria
D: Off-site Residential GW Volatilization into Indoor Air Criteria
E: Off-site Residential Nonpotable GW Use Criteria

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY

Dayton, Ohio

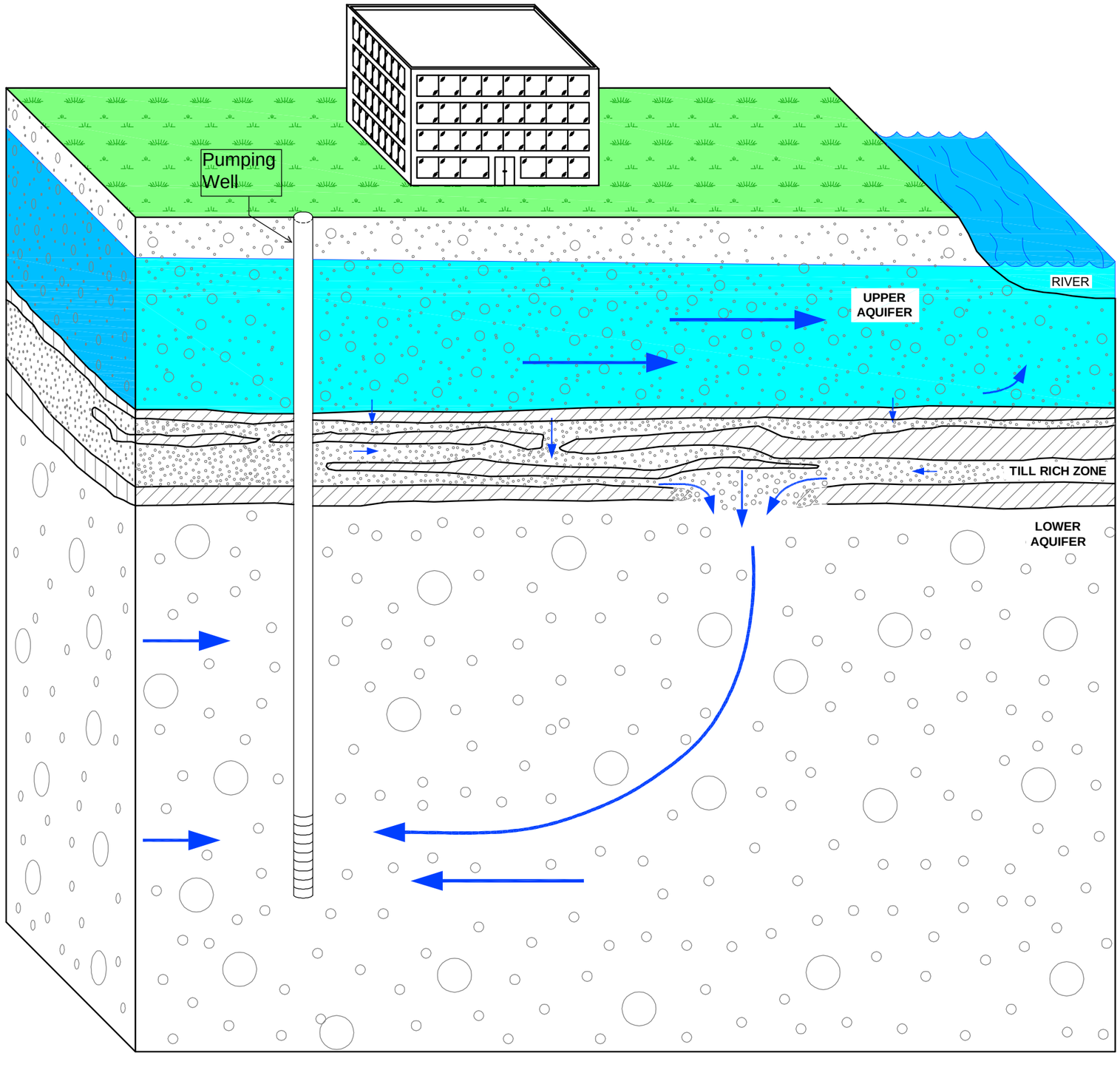
OTHER CONSTITUENTS IN GROUNDWATER TILL RICH ZONE/LOWER AQUIFER

CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

Project Manager:	Reviewed By:	Date:	
IKR	SE	SEPTEMBER 2008	
Scale: 1:120	Project N°: 12638-03	Report N°: 021	Drawing N°: 2.16

12638-03(021)GN-WA019 SEP 15/2008



Notes:
1) This is a schematic depiction intended for illustrative purposes and is not to scale nor intended to represent actual site conditions.

HALEY & ALDRICH

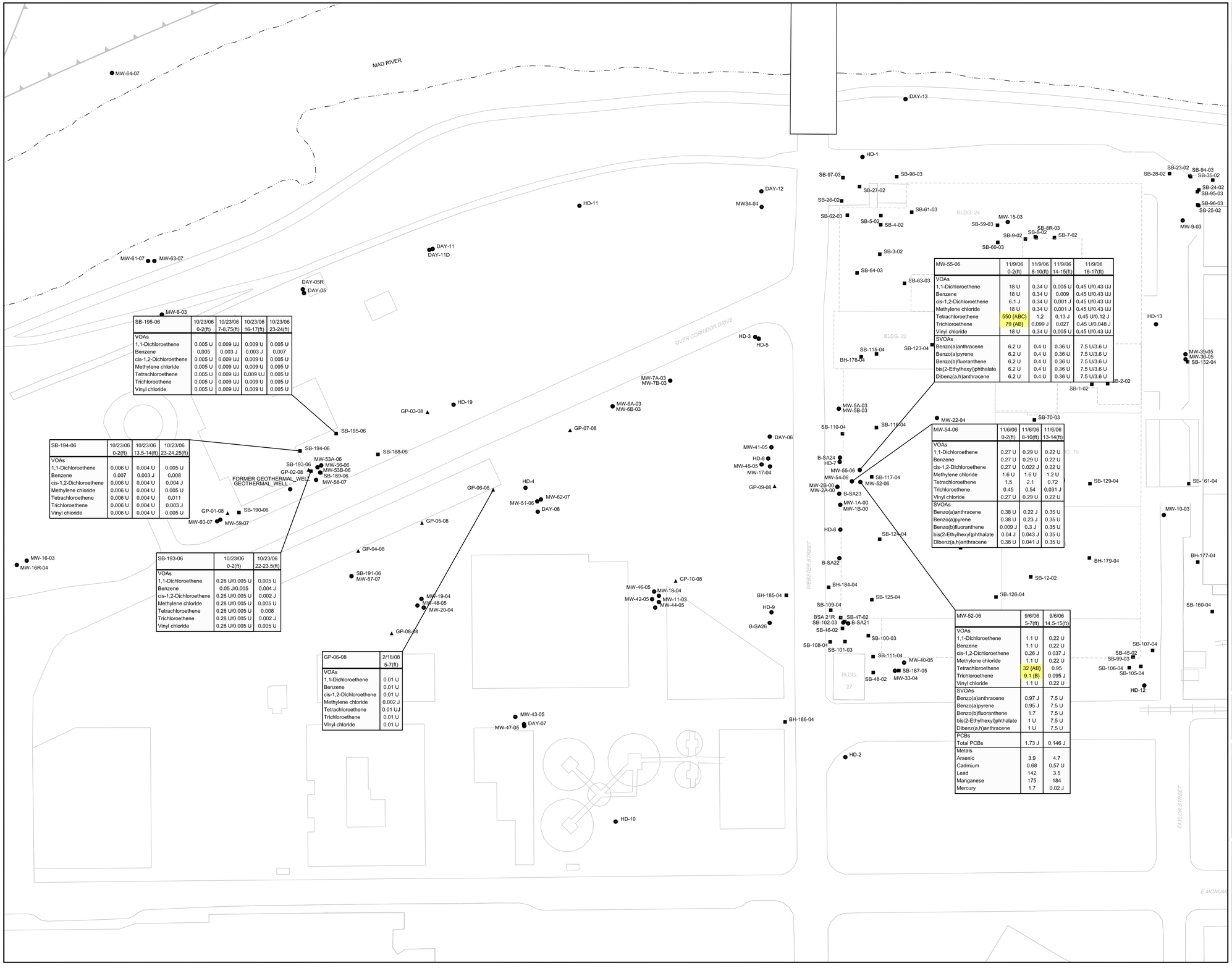
FORMER DELPHI THERMAL SYSTEMS FACILITY
300 TAYLOR STREET
DAYTON, OHIO

SCHEMATIC DEPICTION OF VERTICAL FLOW SYSTEM

SCALE: NOT TO SCALE
AUGUST 2008

FIGURE 2.17

G:\79032\ACAD\79032-BLOCK-DIAGRAM.DWG



SB-195-06	10/23/06 0-2(ft)	10/23/06 7-8.75(ft)	10/23/06 16-17(ft)	10/23/06 23-24(ft)
VOAs				
1,1-Dichloroethene	0.005 U	0.009 UJ	0.009 U	0.005 U
Benzene	0.005	0.003 J	0.003 J	0.007
cis-1,2-Dichloroethene	0.005 U	0.009 UJ	0.009 U	0.005 U
Methylene chloride	0.005 U	0.009 UJ	0.009 U	0.005 U
Tetrachloroethene	0.005 U	0.009 UJ	0.009 UJ	0.005 U
Trichloroethene	0.005 U	0.009 UJ	0.009 U	0.005 U
Vinyl chloride	0.005 U	0.009 UJ	0.009 U	0.005 U

SB-194-06	10/23/06 0-2(ft)	10/23/06 13.5-14(ft)	10/23/06 23-24.25(ft)
VOAs			
1,1-Dichloroethene	0.006 U	0.004 U	0.005 U
Benzene	0.007	0.003 J	0.008
cis-1,2-Dichloroethene	0.006 U	0.004 U	0.004 J
Methylene chloride	0.006 U	0.004 U	0.005 U
Tetrachloroethene	0.006 U	0.004 U	0.011
Trichloroethene	0.006 U	0.004 U	0.003 J
Vinyl chloride	0.006 U	0.004 U	0.005 U

SB-193-06	10/23/06 0-2(ft)	10/23/06 22-23.5(ft)
VOAs		
1,1-Dichloroethene	0.28 U/0.005 U	0.005 U
Benzene	0.05 J/0.005	0.004 J
cis-1,2-Dichloroethene	0.28 U/0.005 U	0.002 J
Methylene chloride	0.28 U/0.005 U	0.005 U
Tetrachloroethene	0.28 U/0.005 U	0.008
Trichloroethene	0.28 U/0.005 U	0.002 J
Vinyl chloride	0.28 U/0.005 U	0.005 U

GP-06-08	2/18/08 5-7(ft)
VOAs	
1,1-Dichloroethene	0.01 U
Benzene	0.01 U
cis-1,2-Dichloroethene	0.01 U
Methylene chloride	0.002 J
Tetrachloroethene	0.01 UJ
Trichloroethene	0.01 U
Vinyl chloride	0.01 U

MW-55-06	11/9/06 0-2(ft)	11/9/06 8-10(ft)	11/9/06 14-15(ft)	11/9/06 16-17(ft)
VOAs				
1,1-Dichloroethene	18 U	0.34 U	0.005 U	0.45 U/0.43 UJ
Benzene	18 U	0.34 U	0.009	0.45 U/0.43 UJ
cis-1,2-Dichloroethene	6.1 J	0.34 U	0.001 J	0.45 U/0.43 UJ
Methylene chloride	18 U	0.34 U	0.001 J	0.45 U/0.43 UJ
Tetrachloroethene	550 (ABC)	1.2	0.13 J	0.45 U/0.12 J
Trichloroethene	79 (AB)	0.099 J	0.027	0.45 U/0.048 J
Vinyl chloride	18 U	0.34 U	0.005 U	0.45 U/0.43 UJ
SVOAs				
Benzo(a)anthracene	6.2 U	0.4 U	0.36 U	7.5 U/3.6 U
Benzo(a)pyrene	6.2 U	0.4 U	0.36 U	7.5 U/3.6 U
Benzo(b)fluoranthene	6.2 U	0.4 U	0.36 U	7.5 U/3.6 U
bis(2-Ethylhexyl)phthalate	6.2 U	0.4 U	0.36 U	7.5 U/3.6 U
Dibenz(a,h)anthracene	6.2 U	0.4 U	0.36 U	7.5 U/3.6 U

MW-54-06	11/6/06 0-2(ft)	11/6/06 8-10(ft)	11/6/06 13-14(ft)
VOAs			
1,1-Dichloroethene	0.27 U	0.29 U	0.22 U
Benzene	0.27 U	0.29 U	0.22 U
cis-1,2-Dichloroethene	0.27 U	0.022 J	0.22 U
Methylene chloride	1.6 U	1.6 U	1.2 U
Tetrachloroethene	1.5	2.1	0.72
Trichloroethene	0.45	0.54	0.031 J
Vinyl chloride	0.27 U	0.29 U	0.22 U
SVOAs			
Benzo(a)anthracene	0.38 U	0.22 J	0.35 U
Benzo(a)pyrene	0.38 U	0.23 J	0.35 U
Benzo(b)fluoranthene	0.009 J	0.3 J	0.35 U
bis(2-Ethylhexyl)phthalate	0.04 J	0.043 J	0.35 U
Dibenz(a,h)anthracene	0.38 U	0.041 J	0.35 U

MW-52-06	9/6/06 5-7(ft)	9/6/06 14.5-15(ft)
VOAs		
1,1-Dichloroethene	1.1 U	0.22 U
Benzene	1.1 U	0.22 U
cis-1,2-Dichloroethene	0.26 J	0.037 J
Methylene chloride	1.1 U	0.22 U
Tetrachloroethene	32 (AB)	0.95
Trichloroethene	9.1 (B)	0.095 J
Vinyl chloride	1.1 U	0.22 U
SVOAs		
Benzo(a)anthracene	0.97 J	7.5 U
Benzo(a)pyrene	0.95 J	7.5 U
Benzo(b)fluoranthene	1.7	7.5 U
bis(2-Ethylhexyl)phthalate	1 U	7.5 U
Dibenz(a,h)anthracene	1 U	7.5 U
PCBs		
Total PCBs	1.73 J	0.146 J
Metals		
Arsenic	3.9	4.7
Cadmium	0.68	0.57 U
Lead	142	3.5
Manganese	175	184
Mercury	1.7	0.02 J

0 20 60ft

LEGEND

- MAD RIVER SHORELINE
- MONITORING WELL
- SOIL BORING LOCATION
- SOIL GAS PROBE LOCATION

GP-06-08	2/18/08	← SAMPLE LOCATION
	5-7(ft)	← SAMPLE DATE / SAMPLE DEPTH
VOAs		
1,1-Dichloroethene	0.01 U	
Benzene	0.01 U	← RESULT (mg/kg)
cis-1,2-Dichloroethene	0.01 U	
Methylene chloride	0.002 J	
Tetrachloroethene	0.01 UJ	
Trichloroethene	0.01 U	
Vinyl chloride	0.01 U	

← PARAMETER

EXCEEDANCE

J Estimated concentration
U Not present at or above the associated value
UJ Estimated reporting limit
- Not analyzed

Chemical Name	A	B	C
VOAs			
1,1-Dichloroethene	4.13E+02	6.30E+01	2.40E+01
Benzene	1.41E+01	1.13E+00	1.15E+01
cis-1,2-Dichloroethene	1.46E+02	1.10E+01	7.25E+01
Methylene chloride	2.05E+02	1.88E+01	2.63E+02
Tetrachloroethene	1.31E+01	2.88E+00	4.26E+01
Trichloroethene	6.12E+01	5.19E+00	9.40E+01
Vinyl chloride	7.46E+00	1.00E+00	7.49E+00
SVOAs			
Benzo(a)anthracene	2.11E+01	9.32E+04	3.21E+02
Benzo(a)pyrene	2.11E+00	6.99E+04	3.35E+01
Benzo(b)fluoranthene	2.11E+01	8.86E+03	3.00E+02
bis(2-Ethylhexyl)phthalate	1.23E+03	2.54E+09	7.66E+03
Dibenz(a,h)anthracene	2.11E+00	1.98E+07	3.42E+01
PCBs			
Total PCBs	7.44E+00	1.51E+02	1.75E+01
Metals			
Arsenic	1.59E+01	-	2.08E+02
Cadmium	4.51E+02	-	4.44E+02
Lead	8.00E+02	-	
Manganese	1.95E+04	-	1.43E+03
Mercury	1.36E+01	5.25E+01	6.01E+00

A: Region 9 Industrial PRGs
B: On-site Commercial/Industrial Soil Volatilization into Indoor Air Criteria
C: Construction Worker Soil Contact Criteria

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY

Dayton, Ohio

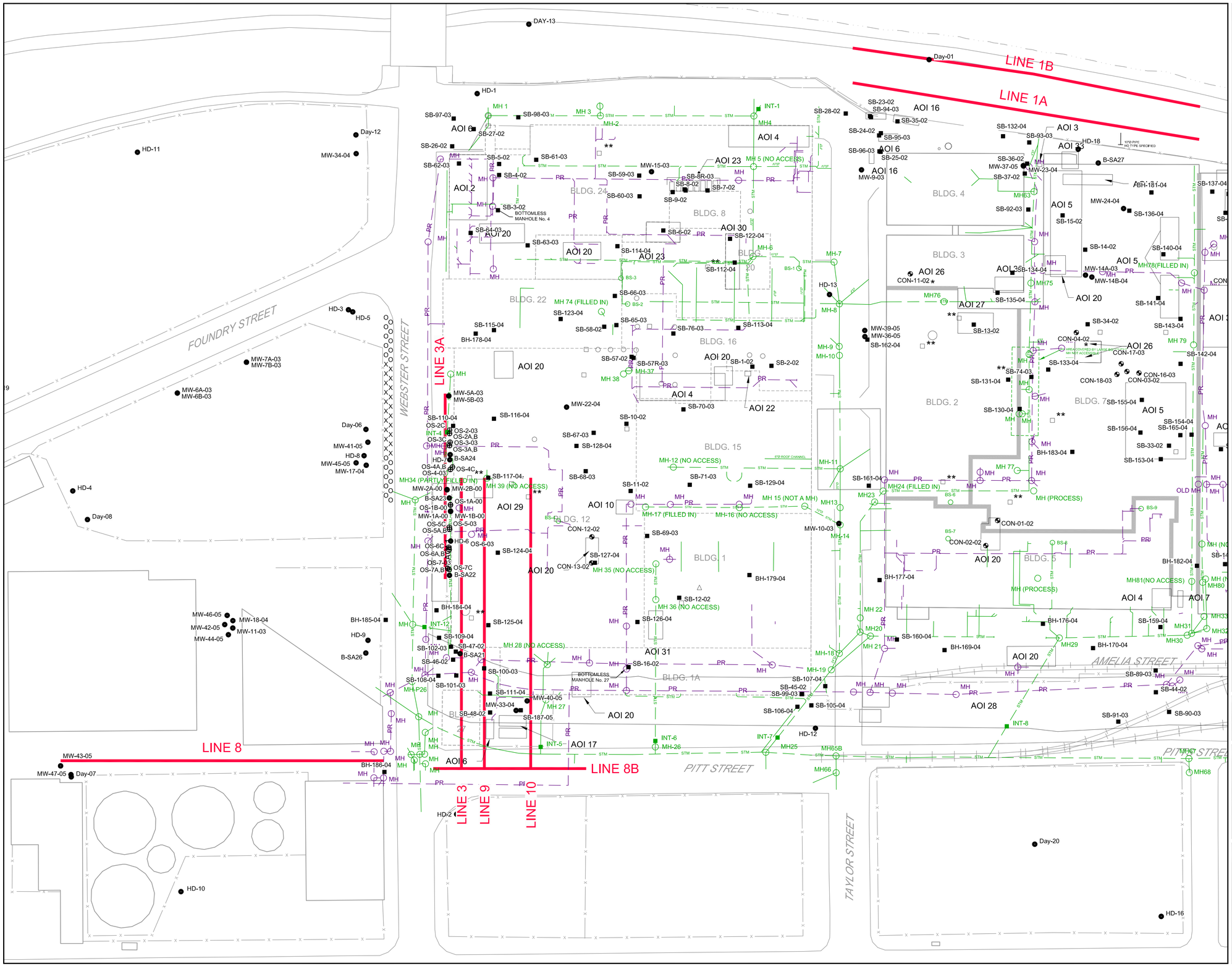
SOIL ANALYTICAL RESULTS

CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

Project Manager:	Reviewed By:	Date:	
IKR	SE	SEPTEMBER 2008	
Scale: 1:60	Project Nº: 12638-03	Report Nº: 021	Drawing Nº: 3.1

12638-03(021)GN-WA016 SEP 15/2008



SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY

Dayton, Ohio

GROUND PENETRATING RADAR SURVEY COVERAGE

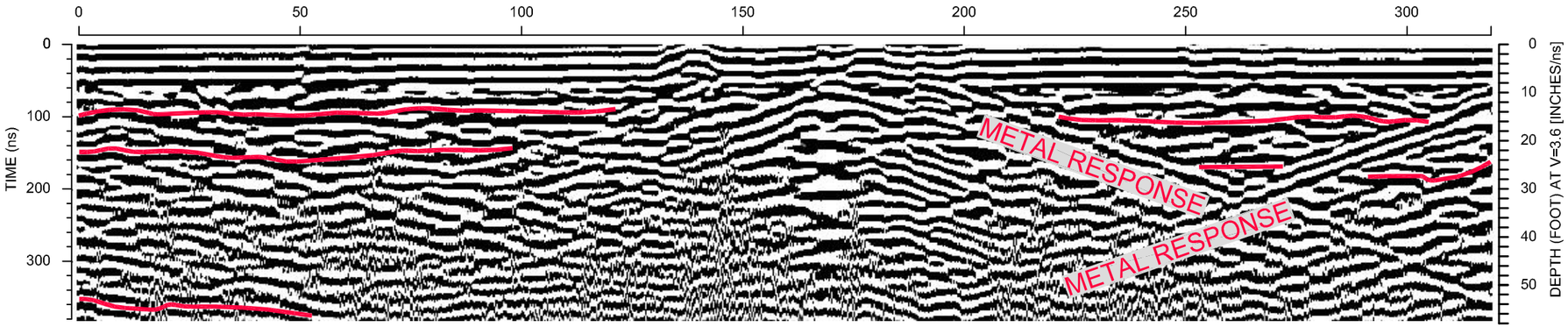
CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

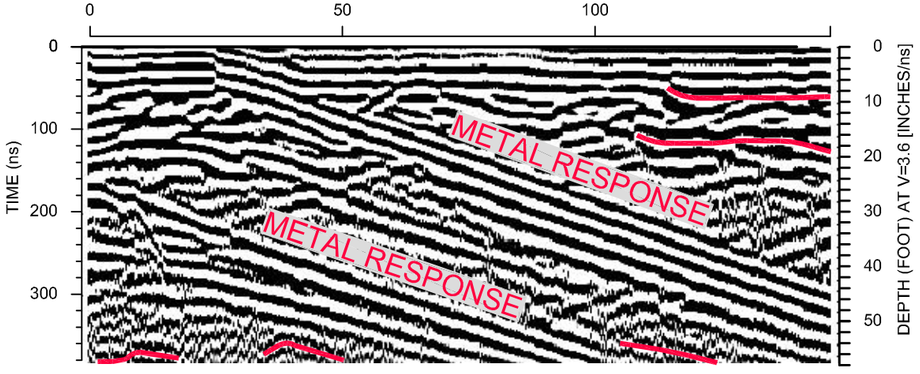
Project Manager:	Reviewed By:	Date:	
IKR	SE	SEPTEMBER 2008	
Scale: 1" = 50'	Project №: 12638-03	Report №: 021	Drawing №: 4.1

12638-03(021)GN-WA012 SEP 15/2008

LINE 8



LINE 8B



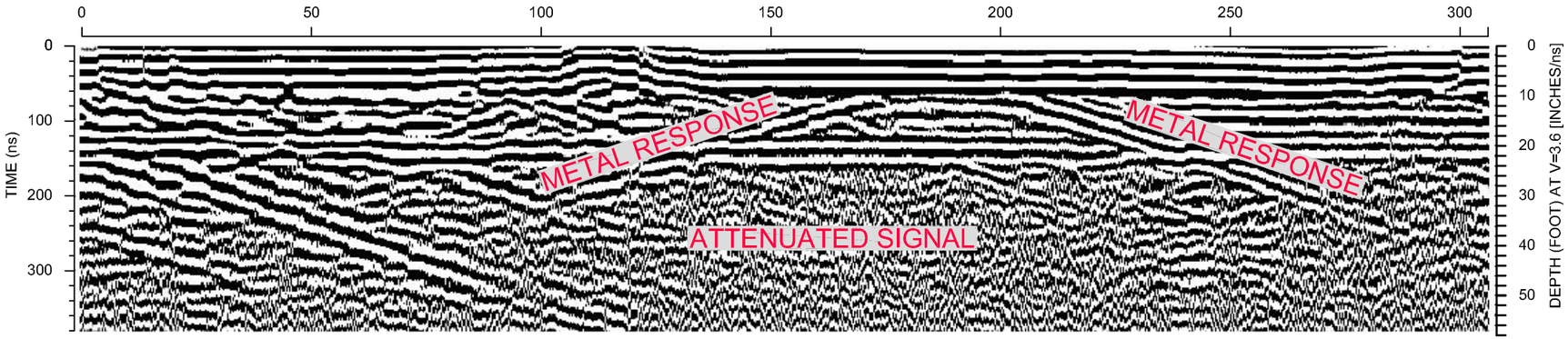
LEGEND

GPR REFLECTOR AT TOP OF CLAY

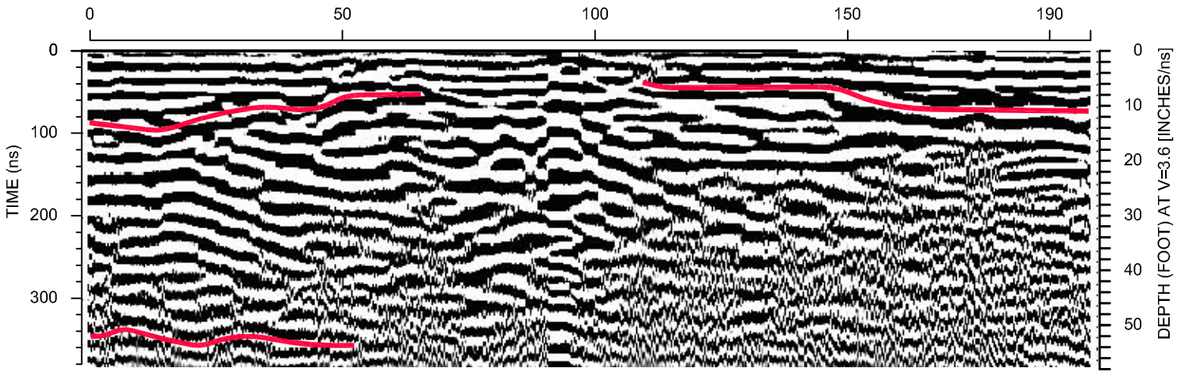
figure 4.2

GPR SURVEY RESULTS
FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY
Dayton, Ohio

LINE 3



LINE 3A



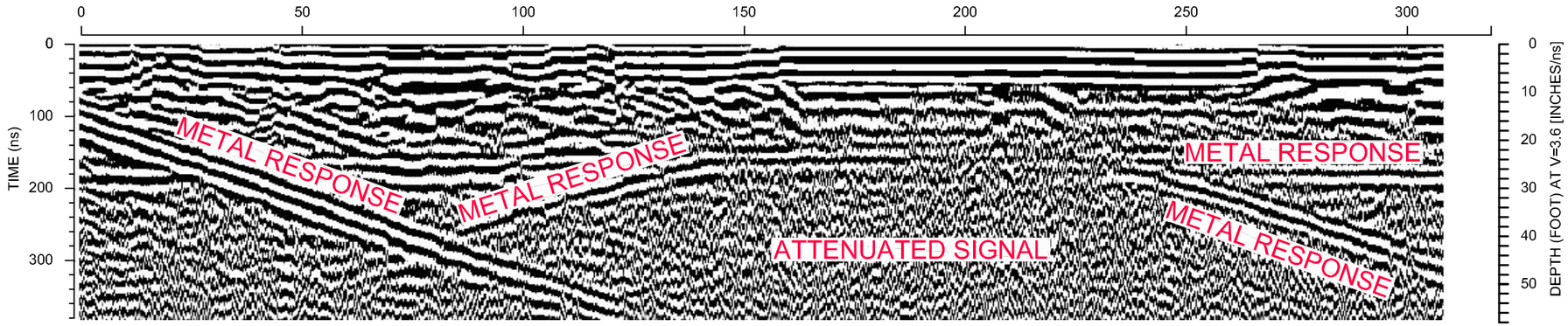
LEGEND

GPR REFLECTOR AT TOP OF CLAY

figure 4.3

GPR SURVEY RESULTS
FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY
Dayton, Ohio

LINE 9



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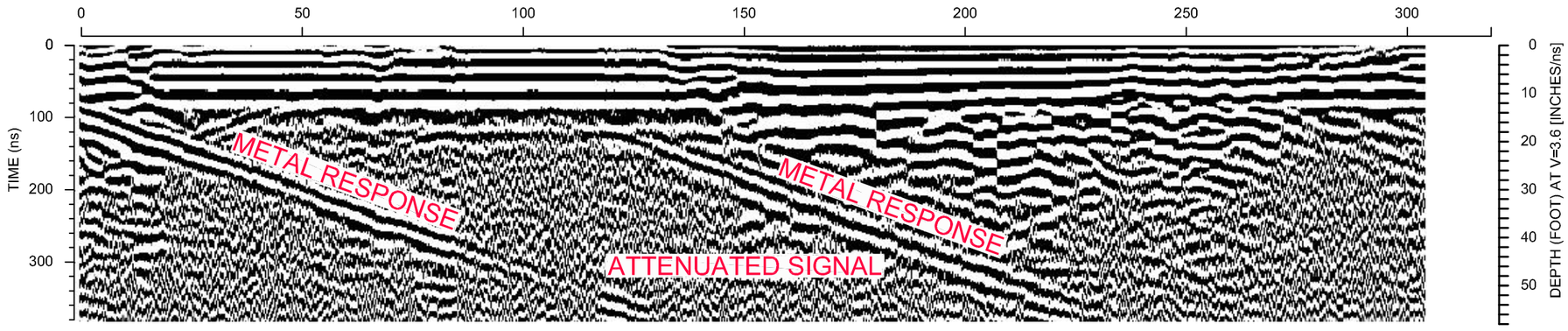


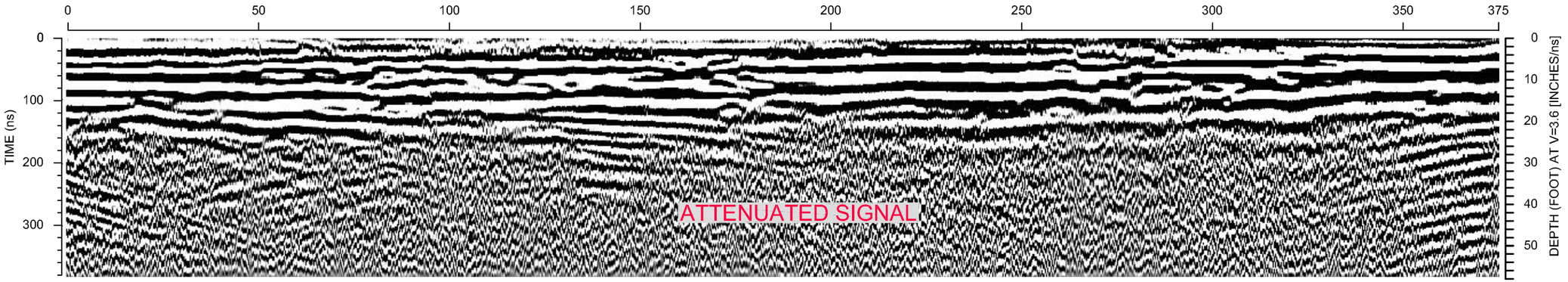
LEGEND

GPR REFLECTOR AT TOP OF CLAY

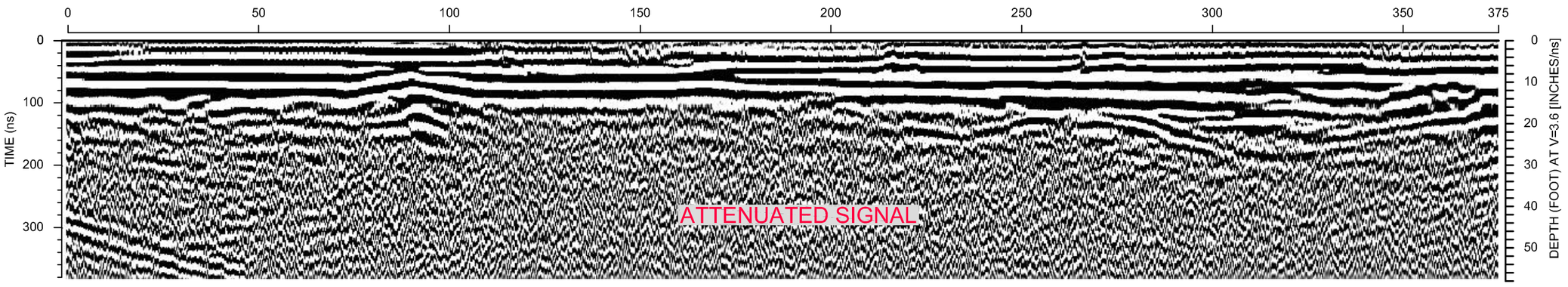
figure 4.4

GPR SURVEY RESULTS
FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY
Dayton, Ohio

LINE 1A



LINE 1B



LEGEND

GPR REFLECTOR AT TOP OF CLAY

figure 4.5

GPR SURVEY RESULTS
FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY
Dayton, Ohio

AERIAL PHOTO DATED 2006, FROM MONTGOMERY COUNTY.

LEGEND

APPROXIMATE SITE BOUNDARY

GP-01-08 ▲ SOIL GAS SAMPLING LOCATION

figure 5.1

SOIL GAS SAMPLING LOCATIONS
FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY
Dayton, Ohio

12638-03(021)GN-WA015 AUG 26/2008

GP-02-08	2/28/08 (6.5-8) ft BGS mg/m3	2/28/08 (6.5-8) ft BGS ppbv
cis-1,2-Dichloroethene	0.004 U	1 U
Tetrachloroethene	0.007 U	1 U
Trichloroethene	0.005 U	1 U
Vinyl chloride	0.003 U	1 U

GP-03-08	2/28/08 (6.5-8) ft BGS mg/m3	2/28/08 (6.5-8) ft BGS ppbv
cis-1,2-Dichloroethene	0.004 U	1 U
Tetrachloroethene	0.014	2
Trichloroethene	0.027	5
Vinyl chloride	0.003 U	1 U

GP-07-08	2/28/08 (6.5-8) ft BGS mg/m3	2/28/08 (6.5-8) ft BGS ppbv
cis-1,2-Dichloroethene	0.004 U	1 U
Tetrachloroethene	0.12	17
Trichloroethene	0.49	90
Vinyl chloride	0.003 U	1 U

GP-09-08	2/28/08 (6.5-8) ft BGS mg/m3	2/28/08 (6.5-8) ft BGS ppbv
cis-1,2-Dichloroethene	0.099	25
Tetrachloroethene	30 (A)	3000
Trichloroethene	1.7	320
Vinyl chloride	0.003 U	1 U

GP-01-08	2/28/08 (6.5-8) ft BGS mg/m3	2/28/08 (6.5-8) ft BGS ppbv
cis-1,2-Dichloroethene	0.004 U	1 U
Tetrachloroethene	0.007 U	1 U
Trichloroethene	0.005 U	1 U
Vinyl chloride	0.003 U	1 U

GP-04-08	2/29/08 (6.5-8) ft BGS mg/m3	2/29/08 (6.5-8) ft BGS ppbv
cis-1,2-Dichloroethene	0.004 U	1 U
Tetrachloroethene	0.014 U	2 U
Trichloroethene	0.005 U	1 U
Vinyl chloride	0.003 U	1 U

GP-06-08	2/29/08 (6.5-8) ft BGS mg/m3	2/29/08 (6.5-8) ft BGS ppbv
cis-1,2-Dichloroethene	0.004 U	1 U
Tetrachloroethene	0.007 U	1 U
Trichloroethene	0.005 U	1 U
Vinyl chloride	0.003 U	1 U

GP-10-08	2/29/08 (6.5-8) ft BGS mg/m3	2/29/08 (6.5-8) ft BGS ppbv
cis-1,2-Dichloroethene	0.004 U	1 U
Tetrachloroethene	0.005 J	0.7 J
Trichloroethene	0.005 U	1 U
Vinyl chloride	0.003 U	1 U

GP-08-08	2/29/08 (6.5-8) ft BGS mg/m3	2/29/08 (6.5-8) ft BGS ppbv
cis-1,2-Dichloroethene	0.028/0.028	7/7
Tetrachloroethene	5.3 (A)/3.3	780/480
Trichloroethene	2.1/1.5	380/280
Vinyl chloride	0.003 U/0.003 U	1 U/1 U

0 40 80ft

LEGEND

- BUILDING WALL
- BUILDING BOUNDARY
- FORMER BUILDING WALL
- SHORELINE
- RAILROAD
- SOIL BORING LOCATION
- MONITORING WELL LOCATION
- WIPE/CONCRETE CORE SAMPLE LOCATION
- OZONE SPARGE WELL LOCATION
- INJECTION BORING FOR HRC BARRIER
- SOIL GAS SAMPLING LOCATION
- BSM BASEMENT SUMP LOCATION
- MH PROCESS SEWER MANHOLE LOCATION
- MH STORM SEWER MANHOLE LOCATION
- INT-1 STORM SEWER INTERCEPTOR LOCATION
- PR PROCESS SEWER LINE
- STM STORM SEWER LINE
- APPROXIMATE SANITARY LINE
- APPROXIMATE STORM LINE
- APPROXIMATE WATER LINE

GP-09-08	2/28/08 (6.5-8) ft BGS mg/m3	2/28/08 (6.5-8) ft BGS ppbv
cis-1,2-Dichloroethene	0.099	25
Tetrachloroethene	30 (A)	3000
Trichloroethene	1.7	320
Vinyl chloride	0.003 U	1 U

SAMPLE LOCATION
SAMPLE DATE
SAMPLE DEPTH
SAMPLE RESULT UNIT
RESULT
PARAMETER

30 (A) EXCEEDS CRITERIA

J Estimated concentration
U Not present at or above the associated value
UJ Estimated reporting limit
- Not analyzed

Chemical name	A	B	unit
cis-1,2-Dichloroethene	18	210	mg/m^3
Tetrachloroethene	4.0	55	mg/m^3
Trichloroethene	7.2	99	mg/m^3
Vinyl chloride	1.4	1.9	mg/m^3

A: Residential Semi-site-specific Soil Gas Screening Levels
B: Industrial Semi-site-specific Soil Gas Screening Levels

NOTE:
THE LAB REPORTED RESULTS IN ppbv AND mg/m^3. THE SGSLS ARE ONLY IDENTIFIED IN mg/m^3. THEREFORE ANY EXCEEDANCE IS ONLY HIGHLIGHTED AS THE mg/m^3 RESULT.

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY

Dayton, Ohio

PRIMARY CVOC IN SOIL GAS

CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

Project Manager:	Reviewed By:	Date:	
IKR	SE	SEPTEMBER 2008	
Scale: 1"=80'	Project N^o: 12638-03	Report N^o: 021	Drawing N^o: 5.2

12638-03(021)GN-WA021 SEP 15/2008

N

100 0 100 Feet

Mad River

Railway

Webster Street

Taylor Street

Keowee Street

Pitt Street

SB-94-03 SB-24-02 SB-95-03 SB-96-03 SB-97-03 SB-98-03 SB-27-02 SB-26-02 SB-5-02 SB-61-03 SB-62-03 SB-4-02 SB-3-02 SB-64-03 SB-63-03 MW-15-03 SB-59-03 SB-8-02 SB-60-03 SB-9-02 SB-7-02 SB-114-04 SB-6-02 SB-122-04 SB-112-04 SB-66-03 SB-123-04 SB-65-03 SB-115-04 BH-178-04 SB-58-02 SB-76-03 SB-113-04 SB-57-02 SB-2-02 MW-5-03 MW-22-04 SB-1-02 SB-70-03 SB-110-04 SB-116-04 SB-67-03 SB-10-02 OS-2-03 OS-3-03 SB-128-04 OS-4-03 SB-117-04 SB-68-03 SB-11-02 SB-71-03 SB-129-04 OS-5-03 OS-6-03 OS-7-03 SB-124-04 SB-69-03 SB-127-04 BH-184-04 SB-125-04 SB-126-04 SB-12-02 BH-179-04 SB-109-04 SB-102-03 SB-108-04 SB-47-02 SB-16-02 SB-100-03 SB-101-03 SB-111-04 SB-48-02 SB-16-02 SB-99-03 SB-106-04 SB-105-04 SB-45-02 SB-28-02 SB-23-02 SB-35-02 SB-25-02 MW-9-03 SB-162-04 SB-161-04 MW-10-03 BH-177-04 BH-176-04 SB-160-04 BH-169-04 SB-132-04 SB-93-03 MW-23-04 SB-36-02 SB-37-02 SB-92-03 SB-15-02 SB-14-02 SB-134-04 SB-135-04 MW-14B-04 SB-13-02 SB-34-02 SB-133-04 SB-131-04 SB-74-03 SB-130-04 BH-183-04 BH-170-04 SB-159-04 SB-89-03 SB-44-02 SB-91-03 BH-181-04 MW-24-04 SB-136-04 SB-140-04 SB-141-04 SB-143-04 SB-142-04 SB-155-04 SB-156-04 SB-165-04 SB-33-02 SB-153-04 SB-154-04 SB-144-04 SB-90-03 SB-54-02 SB-137-04 SB-138-04 SB-17-02 MW-25-04 SB-139-04 SB-73-03 SB-147-04 SB-146-04 BH-182-04 SB-145-04 MW-13-03 SB-159-04 SB-88-03 BH-180-04 MW-26-04 SB-53-02 SB-163-04 SB-72-03 MW-12-03 SB-148-04 SB-149-04 SB-18-02 SB-150-04 SB-19-02 SB-164-04 SB-152-04 SB-151-04 SB-75-03 SB-22-02 SB-38-02 SB-55-02 SB-41-02 SB-39-02 SB-40-02 SB-43-02 SB-42-02 BH-171-04 MW-3-02 SB-56-02 SB-87-03 SB-158-04 OW-1 MW-4-02 OW-2 OW-3 OW-4 SB-166-04 BH-175-04 MW-27-04 SB-167-04 MW-28-04 SB-103-03 SB-84-03 SB-20-02 SB-85-03 SB-168-04 SB-104-03 SB-157-04 SB-21-02 SB-86-03 MW-29-04 SB-49-02 SB-32-02 OW-5 OW-6 OW-7 SB-118-04 SB-119-04 SB-120-04 SB-78-03 SB-79-03 SB-52-02 SB-51-02 SB-81-03 SB-31-02 SB-82-03 SB-83-03 SB-30-02 SB-29-02 BH-174-04 SB-77-03 BH-173-04 SB-121-04 BH-172-04 SB-80-03 SB-50-02

ENVIRON Date: 9/16/2008	RFI Boring Locations and Associated Soil Sub-Areas for Purposes of the Human Health Risk Assessment Former GM Delphi Harrison Thermal Systems Facility, Dayton, Ohio	Figure 6.1 Arcview Plot

40 0 40 80 Feet

Mad River

N

Webster Street

Taylor Street

Pitt Street

SB-95-03 SB-94-03 SB-24-02 SB-96-03 SB-23-02 SB-97-03 SB-98-03 MW-15-03 SB-28-02 SB-132-04 SB-27-02 SB-59-03 SB-35-02 SB-26-02 SB-7-02 MW-37-05 SB-5-02 SB-61-03 MW-23-04 SB-62-03 SB-4-02 SB-8-02 MW-9-03 SB-25-02 SB-37-02 SB-60-03 SB-9-02 SB-3-02 SB-92-03 SB-122-04 SB-64-03 SB-114-04 SB-6-02 SB-63-03 SB-134-04 Bldg 22 Elevator Piston AOI 37 SB-112-04 Bldg 22 UST 2 AOI 43 SB-123-04 SB-66-03 SB-135-04 SB-115-04 S-014 S-016 SB-65-03 SB-113-04 BH-178-04 SB-76-03 SB-162-04 SB-13-02 S-018 S-017 SB-58-02 Bldg 12B Sump AOI 39 S-015 S-012 T-025 SB-57-02 SP-1 FP-4 Bldg 12B Free Product AOI 44 BLDG 12B T-Trench AOI 47 SB-1-02 SB-2-02 SB-74 MW-5-03 FP-3 SB-131-04 MW-22-04 Bldg 15 Holding Tank AOI 46 FP-2 FP-1 S-010 S-011 SB-116-04 S-021 SB-70-03 SB-110-04 SB-10-02 Bldg 12B UST 3 AOI 48 S-009 S-019 SB-67-03 S-007 S-008 OS-2-03 OS-3-03 SB-128-04 SB-161-04 SB-130-04 S-006 T-024 Bldg 12B UST 1 AOI 42 Bldg 15 T-Trench AOI 36 OS-4-03 SB-117-04 SB-68-03 SB-11-02 SB-129-04 MW-55-06 SB-71-03 MW-54-06 OS-5-03 MW-10-03 SB-124-04 SB-69-03 MW-52-06 OS-6-03 SB-127-04 OS-7-03 Bldg 1 Vertical Pipe AOI 41 SB 1 SB 2 BH-179-04 BH-177-04 BH-184-04 Blue-Green Soil Area AOI 45 SB-12-02 SB 3 SB-125-04 Bldg 1 Elevator Piston AOI 38 SB-126-03 BH-1 SB-109-04 SB-102-03 SB-47-02 SB-107-04 SB-46-02 SB-100-03 SB-16-02 SB-99-03 BH-169-04 SB-108-04 Bldg 12A Concrete Vault AOI 40 SB-101-03 SB-111-04 SB-187-05 SB-106-04 SB-48-02 SB-105-04 SB-45-02

Legend

- RFI Soil Boring Location (SB-45-02)
- Approx. Location of Soil Borings Evaluated in RFI Add. 1 (S-019)
- Approx. Location of Soil Borings Evaluated in RFI Add. 3 (MW-55-06)
- RFI Sub-Area
- Approx. Outline of Subsurface Structure (Bldg 1 Elevator Piston)
- Approx. Extent of Excavation

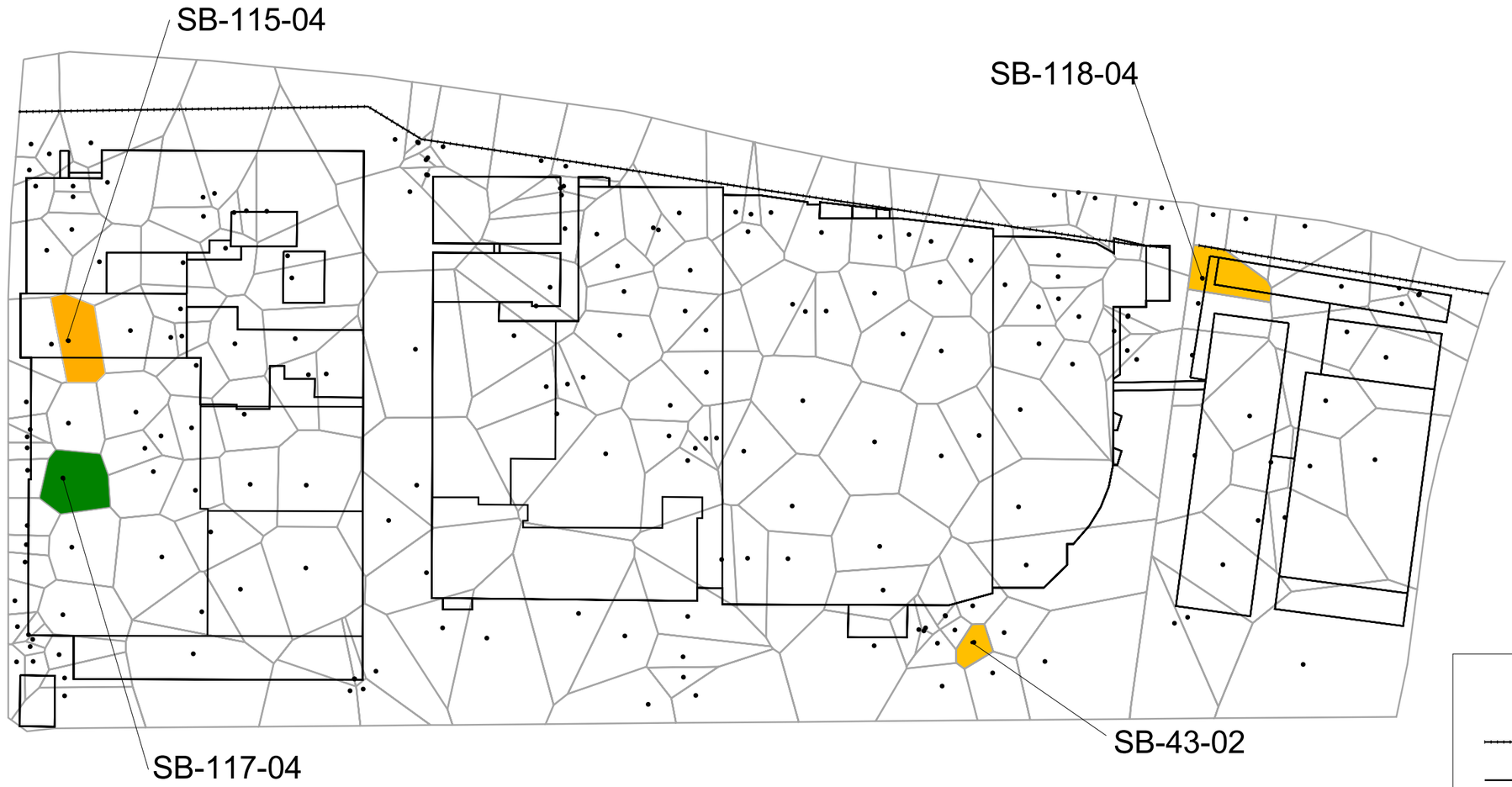
ENVIRON

Date: 9/16/2008

Locations of Additional Soil Samples Evaluated in RFI Addenda In Relation to RFI Sub-Areas
Former GM Delphi Harrison Thermal Systems Facility, Dayton, Ohio

Figure 6.2

Arcview Plot



100 0 100 Feet

N

Legend

- Fence
- Former Buildings
- RFI Soil boring locations
- Area with acceptable cumulative cancer risk and HI
- Areas with HI > 1, but acceptable cancer risk
- Area with cumulative cancer risk >1E-4 and HI>1

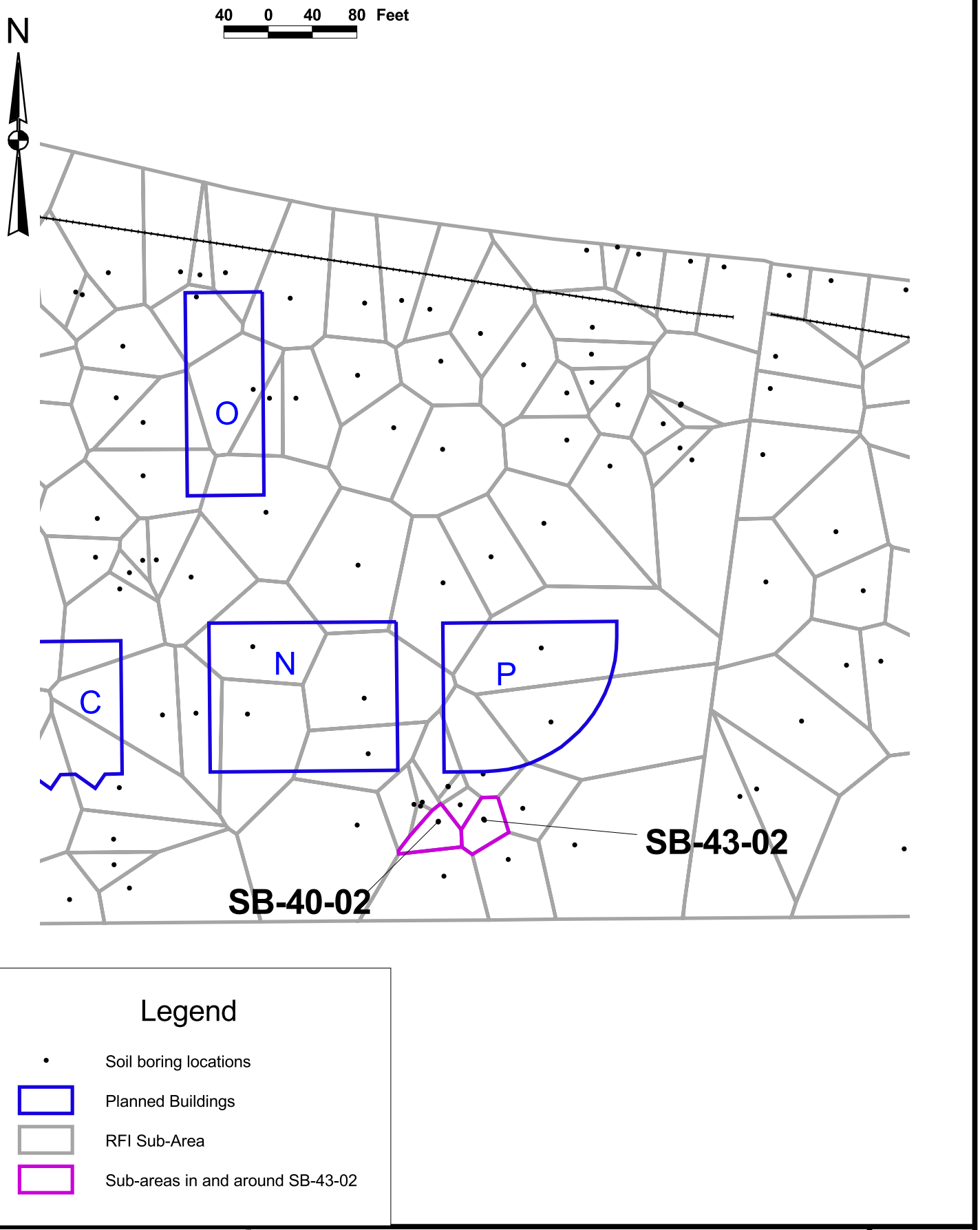
Based upon risk estimates shown in Table 6.6A.

ENVIRON

Date: 9/16/2008

Upper-Bound Cumulative Cancer Risk and HI Estimates for Routine Workers' Exposure to Surface Soil
Former GM Delphi Harrison Thermal Systems Facility, Dayton, Ohio

Figure 6.3A
Arcview Plot



ENVIRON

Date: 9/16/2008

RFI Sub-Areas Used in Area-Weight Calculation for Routine Worker Exposure to Soil
Former GM Delphi Harrison Thermal Systems Facility, Dayton, Ohio

Figure 6.3B
Arcview Plot

100 0 100 Feet

N

Legend

- Outline of former buildings
- Fence
- RFI soil boring locations
- Areas with Lead Concentrations <750 mg/kg
- Areas with Lead Concentrations 750 -1750 mg/kg
- Areas with Lead Concentrations >1750 mg/kg

Based upon lead concentrations shown in Table 6.6B.

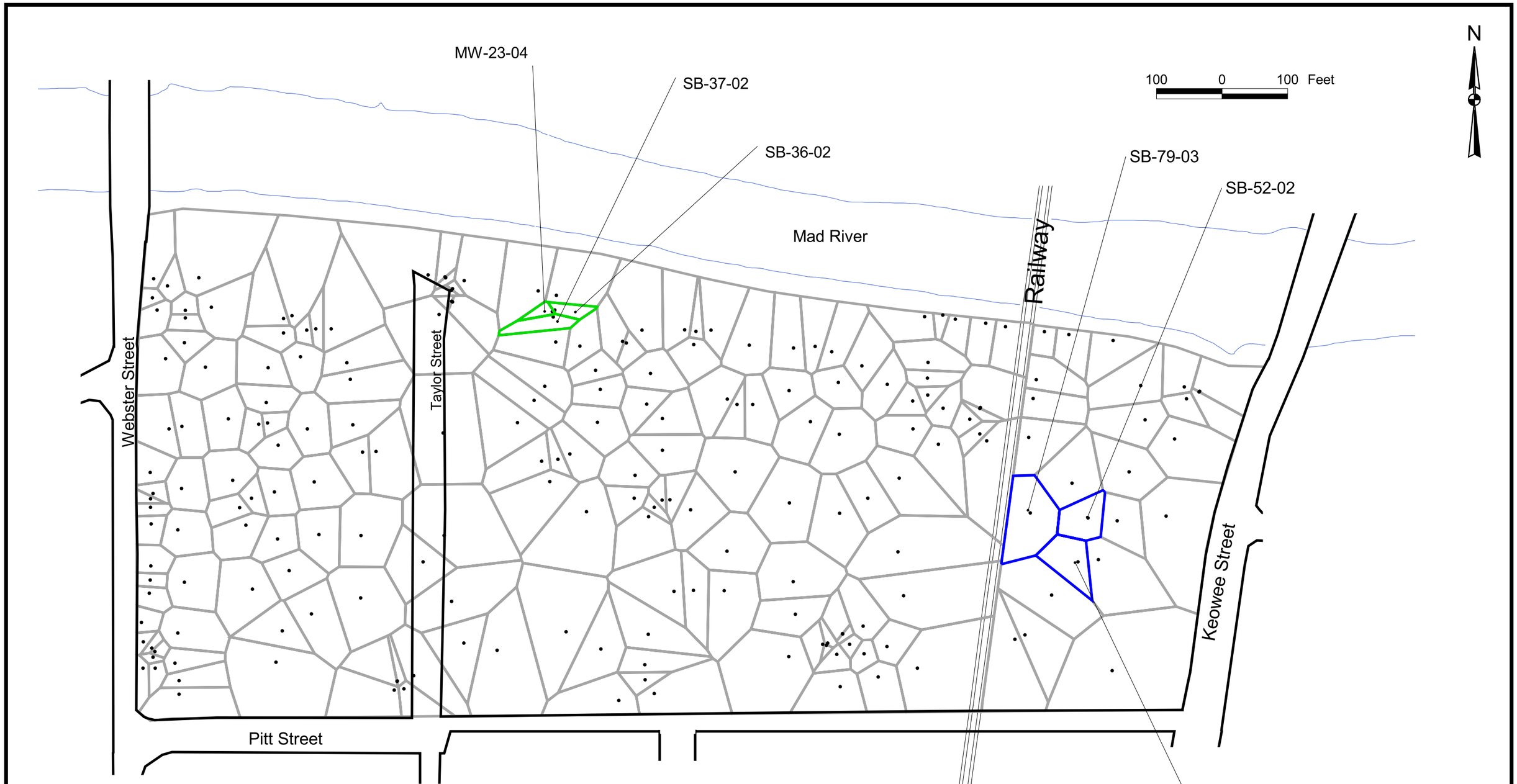
ENVIRON

Date: 9/16/2008

Lead Concentrations in Surface Soil Compared to U.S. EPA Lead Screening Levels Protective of Industrial Workers
Former GM Delphi Harrison Thermal Systems Facility, Dayton, Ohio

Figure 6.4A

Arcview Plot

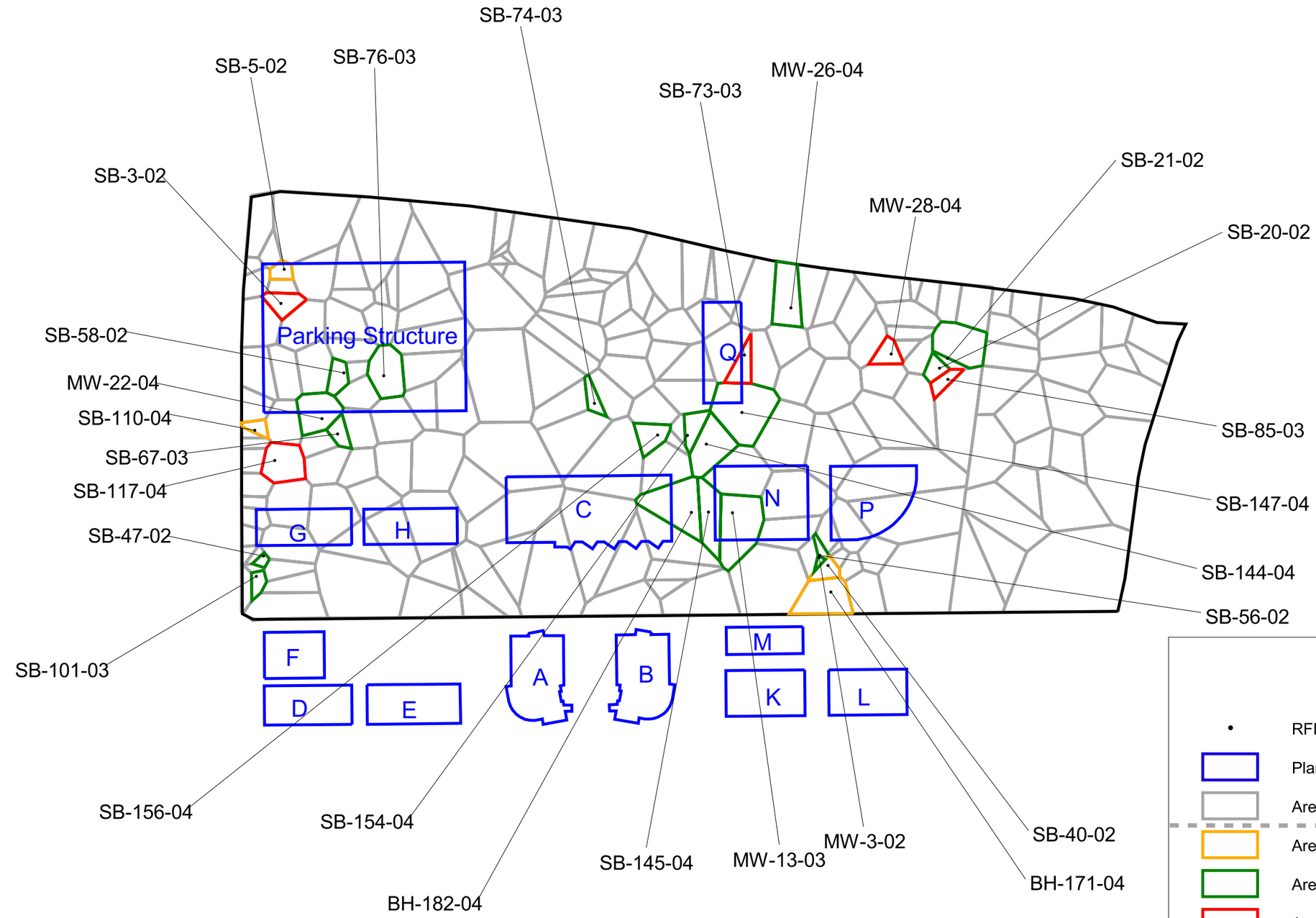


ENVIRON

Date: 9/16/2008

RFI Sub-Areas Used in Area-Weight Calculation for Soil Lead Concentrations
Former GM Delphi Harrison Thermal Systems Facility, Dayton, Ohio

Figure 6.4B
Arcview Plot



200 0 200 Feet

N

Legend

- RFI soil boring location
- Planned Buildings
- Area with acceptable cumulative cancer risk and HI
- Areas with HI > 1
- Areas with cumulative cancer risk > 1E-4
- Areas with cumulative cancer risk > 1E-4 and HI > 1

Based upon risk estimates shown in Table 6.6A

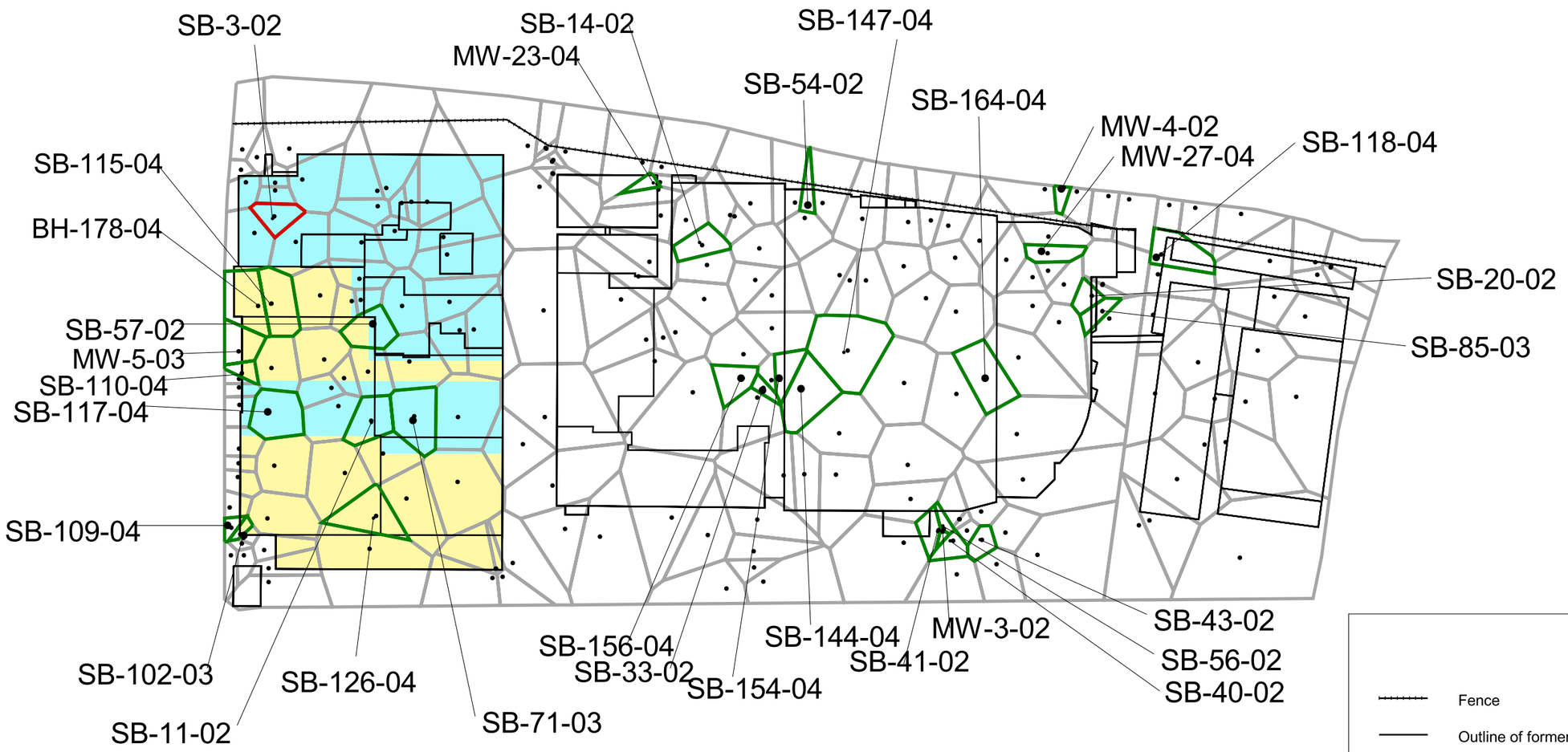
ENVIRON

Date: 9/16/2008

Upper-Bound Cumulative Cancer Risk and HI Estimates for Routine Workers' Exposure via Vapor Intrusion from Soil into Commercial Buildings
Former GM Delphi Harrison Thermal Systems Facility, Dayton, Ohio

Figure 6.5

Arcview Plot



100 0 100 Feet

N

Legend

- Fence
- Outline of former buildings
- Remaining floor slabs
- Removed floor slabs
- RFI soil boring location
- Area with acceptable cumulative cancer risk and HI for 250 days/yr
- Area with HI > 1 for 250 days/yr
- Area with cumulative cancer risk > 1E-4 and HI > 1 for 250 days/yr

Based upon risk estimates shown in Table 6.6A

ENVIRON

Date: 9/16/2008

Upper-Bound Cumulative Cancer Risk and HI Estimates for Construction Workers' Exposure to Soil
Former GM Delphi Harrison Thermal Systems Facility, Dayton, Ohio

Figure 6.6
Arcview Plot

Mad River

Webster Street

Railway

Keowee Street

Pitt Street

Taylor St.

Meigs St.

100 0 100 Feet

N

Legend

- Floor slabs to remain
- Floor slabs to be removed
- RFI Soil Boring Location
- RFI Sub-Area
- Area of Site Preparation

SB-94-03 SB-24-02 SB-95-03 SB-96-03 SB-97-03 SB-98-03 SB-28-02 SB-23-02 SB-35-02 SB-93-03 SB-132-04 SB-27-02 SB-26-02 SB-5-02 SB-61-03 MW-15-03 SB-62-03 SB-4-02 SB-59-03 SB-8-02 SB-7-02 SB-3-02 SB-60-03 SB-9-02 MW-9-03 SB-64-03 SB-63-03 SB-114-04 SB-6-02 SB-122-04 SB-112-04 SB-66-03 SB-123-04 SB-65-03 SB-76-03 SB-113-04 BH-178-04 SB-115-04 SB-58-02 SB-57-02 SB-2-02 SB-1-02 MW-5-03 MW-22-04 SB-110-04 SB-116-04 SB-67-03 SB-70-03 OS-2-03 SB-10-02 OS-3-03 SB-128-04 OS-4-03 SB-117-04 SB-68-03 SB-11-02 SB-71-03 SB-129-04 MW-10-03 OS-5-03 SB-69-03 OS-6-03 SB-124-04 OS-7-03 SB-127-04 BH-179-04 BH-184-04 SB-126-04 SB-12-02 SB-125-04 SB-109-04 SB-47-02 SB-102-03 SB-46-02 SB-100-03 SB-99-03 SB-108-04 SB-101-03 SB-111-04 SB-16-02 SB-48-02 SB-106-04 SB-107-04 SB-105-04 SB-45-02 SB-162-04 SB-13-02 SB-133-04 SB-131-04 SB-74-03 SB-34-02 SB-130-04 BH-183-04 SB-161-04 SB-155-04 SB-142-04 SB-154-04 SB-165-04 SB-156-04 SB-33-02 SB-153-04 SB-144-04 SB-146-04 BH-177-04 BH-176-04 BH-169-04 BH-170-04 SB-159-04 SB-160-04 SB-89-03 SB-44-02 SB-90-03 SB-91-03 SB-25-02 SB-37-02 SB-92-03 SB-15-02 SB-14-02 SB-134-04 SB-135-04 MW-14B-04 SB-141-04 SB-143-04 SB-36-02 MW-23-04 MW-24-04 SB-136-04 SB-140-04 SB-17-02 SB-54-02 SB-137-04 SB-138-04 BH-181-04 BH-180-04 MW-26-04 SB-53-02 SB-163-04 SB-72-03 OW-1 MW-4-02 OW-2 OW-3 OW-4 OW-5 OW-6 OW-7 SB-166-04 MW-27-04 SB-167-04 MW-12-03 BH-175-04 SB-21-02 SB-118-04 SB-31-02 SB-82-03 SB-83-03 SB-119-04 SB-30-02 SB-29-02 BH-174-04 SB-120-04 SB-77-03 BH-173-04 SB-78-03 SB-79-03 SB-52-02 SB-121-04 BH-172-04 SB-51-02 SB-80-03 SB-81-03 SB-49-02 SB-32-02 SB-50-02 SB-158-04 SB-42-02 BH-171-04 SB-43-02 SB-40-02 SB-39-02 SB-41-02 SB-86-03 SB-38-02 SB-22-02 SB-75-03 SB-88-03 MW-13-03 SB-145-04 BH-182-04 SB-151-04 SB-55-02 SB-152-04 SB-19-02 SB-164-04 MW-29-04 SB-103-03 SB-84-03 SB-20-02 SB-85-03 SB-157-04 SB-104-03 SB-168-04 SB-18-02 SB-148-04 SB-149-04 SB-150-04 SB-147-04 SB-139-04 SB-73-03 MW-25-04 SB-143-04 SB-148-04 SB-56-02 SB-87-03 MW-3-02

ENVIRON

Date: 9/15/2008

Areas of Site Redevelopment Preparation Scheduled for as Early as During Second Half of 2008
Former GM Delphi Harrison Thermal Systems Facility, Dayton, Ohio

Figure 6.7
Arcview Plot

N

100 0 100 Feet

SB-71-03

SB-109-04

Legend

- Former Buildings
- Fence
- RFI Soil Boring Locations
- Areas with acceptable cumulative cancer risk and HI
- Areas with HI >1, but acceptable cancer risk

Based upon risk estimates shown on Table 6.6A.

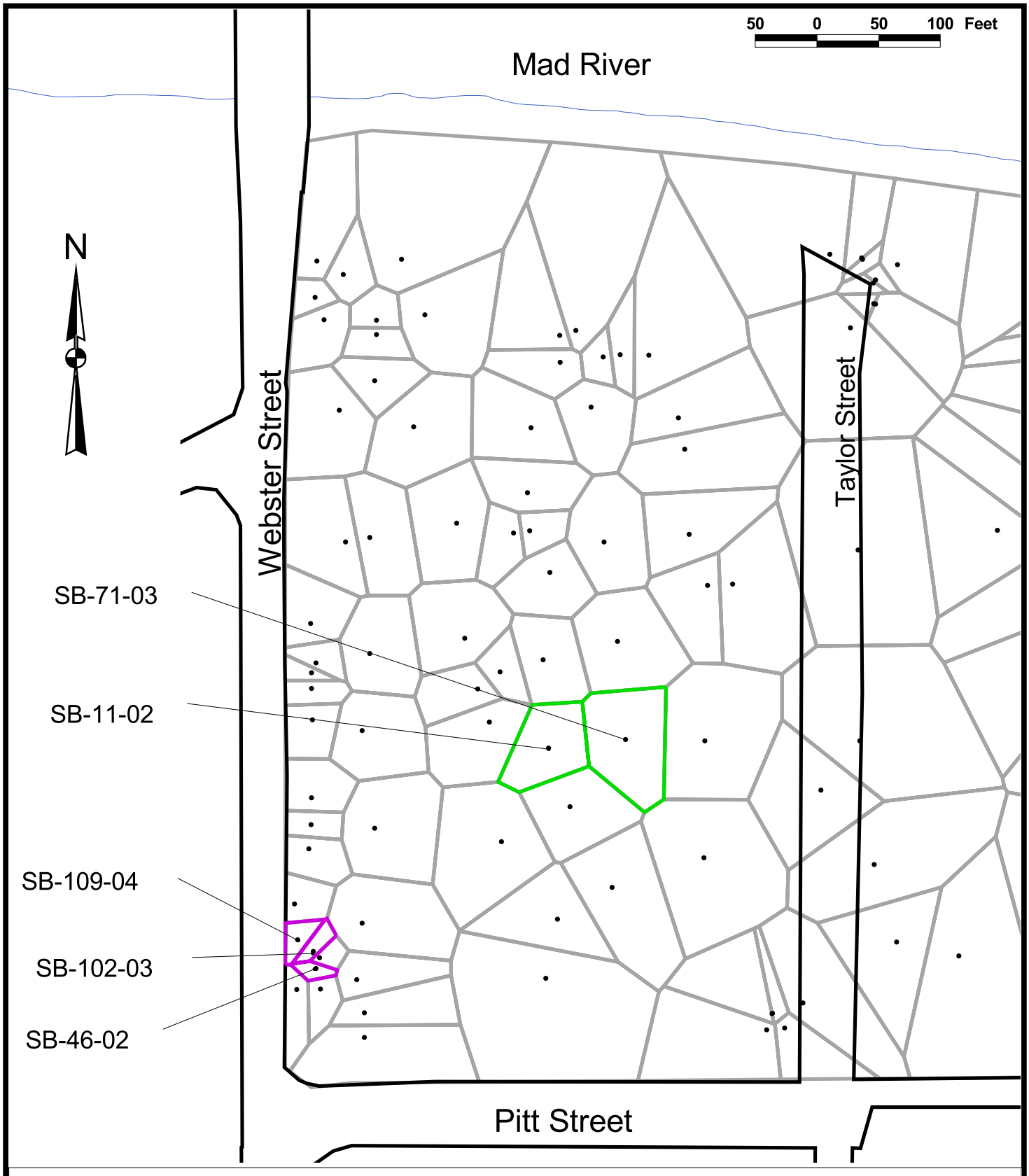
ENVIRON

Date: 9/16/2008

Upper-Bound Cumulative Cancer and HI Estimate for Maintenance Workers' Exposure to Soil
Former GM Delphi Harrison Thermal Systems Facility, Dayton, Ohio

Figure 6.8A

Arcview Plot



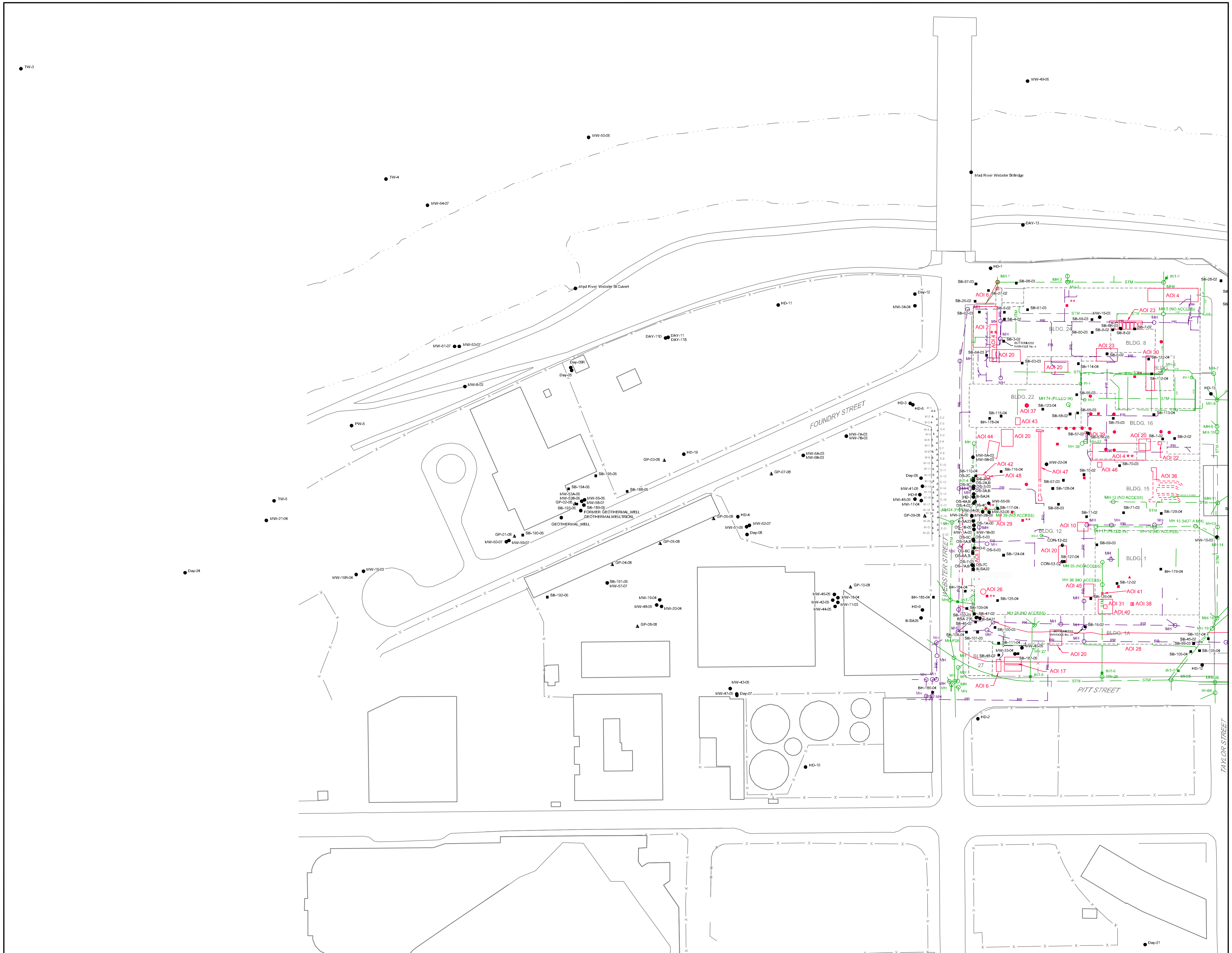
ENVIRON

Date: 9/16/2008

RFI Sub-Areas Used in Area-Weight Calculation
for Maintenance Workers' Exposure to Soil
Former GM Delphi Harrison Thermal Systems Facility, Dayton, Ohio

Figure 6.8B

Arcview Plot



0 40 80ft

LEGEND

- BUILDING WALL
- BUILDING BOUNDARY
- FORMER BUILDING WALL
- SHORELINE
- RAILROAD
- SOIL BORING LOCATION
- MONITORING WELL LOCATION
- WIPE/CONCRETE CORE SAMPLE LOCATION
- OZONE SPARGE WELL LOCATION
- SOIL GAS PROBE LOCATION
- INJECTION BORING FOR HRC BARRIER
- BS-8 BASEMENT SUMP LOCATION
- MH PROCESS SEWER MANHOLE LOCATION
- MH STORM SEWER MANHOLE LOCATION
- INT-1 STORM SEWER INTERCEPTOR LOCATION
- PR PROCESS SEWER LINE
- STM STORM SEWER LINE

AOI 1 - SOLVENT RELEASE AREA
AOI 2 - STILL ROOM
AOI 3 - WASTE TANKS
AOI 4 - HAZARDOUS WASTE STAGING AND STORING AREAS
** ON UPPER FLOOR
AOI 5 - ELECTROPLATING
AOI 6 - SPILL INTERCEPTORS
AOI 7 - SOLVENT STORAGE TANK
AOI 8 - DEGREASING UNITS:
STODDARD SOLVENT
TCE/PCE/TCA SOLVENT
FREON SOLVENT
** ON UPPER FLOOR
AOI 9 - SATELLITE CLEANING AREA (VARIOUS LOCATIONS THROUGHOUT SITE)
AOI 10 - PAINT WASTE ACCUMULATION AREAS
AOI 11 - CHIP HANDLING AREAS
AOI 12 - CUTTING OIL UST'S
AOI 13 - OIL HOUSE
AOI 14 - HYDRAULIC OIL AND COOLANT UST'S
AOI 15 - HYDRAULIC OIL UST
AOI 16 - FUEL UST'S
AOI 17 - REFRIGERANT UST'S
AOI 18 - STORM SEWERS (VARIOUS LOCATIONS THROUGHOUT SITE)
AOI 19 - PROCESS SEWERS (VARIOUS LOCATIONS THROUGHOUT SITE)
AOI 20 - PCB RELEASES FROM ELECTRICAL EQUIPMENT
AOI 21 - HYDROMATION PIT
AOI 22 - INCINERATOR
AOI 23 - UST'S AND FORMER STILL
AOI 24 - FORMER MACHINE GUN TESTING AREA
AOI 25 - HYDROCHLORIC ACID SPILLS
AOI 26 - PCB RELEASES FORM PROCESS EQUIPMENT:
* PROCESS DUCT
No.2 VAILL MACHINE
TOOL GRIND ROOM
GEAR BOX
AOI 27 - BATTERY CHARGING STATION (A SECOND STATION MAY HAVE BEEN LOCATED IN BLDG. 5)
AOI 28 - FORMER MIAMI CANAL EXTENSION
AOI 29 - BUILDING 12 STILL
AOI 30 - EXPERIMENTAL AIR CONDITIONING
AOI 31 - BUILDING 1 SPRAY BOOTHS
AOI 32 - BUILDING 3 TRANSFORMER (GROUND LEVEL)
AOI 33 - PAINT AND ENAMEL STORAGE
AOI 34 - PARTS GRINDING
AOI 35 - STORAGE TANKS
AOI 36 - BUILDING 15 T-TRENCH
AOI 37 - BUILDING 22 ELEVATOR PISTON
AOI 38 - BUILDING 1 ELEVATOR PISTON
AOI 39 - BUILDING 12B SUMP
AOI 40 - BUILDING 12A CONCRETE VAULT
AOI 41 - BUILDING 1 VERTICAL PIPE
AOI 42 - BUILDING 12B UST 1
AOI 43 - BUILDING 22 UST
AOI 44 - BUILDING 12 FREE PRODUCT
AOI 45 - BLUE-GREEN SOIL
AOI 46 - BUILDING 15 HOLDING TANK
AOI 47 - BUILDING 12B T-TRENCH
AOI 48 - BUILDING 12B UST 3

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY

Dayton, Ohio

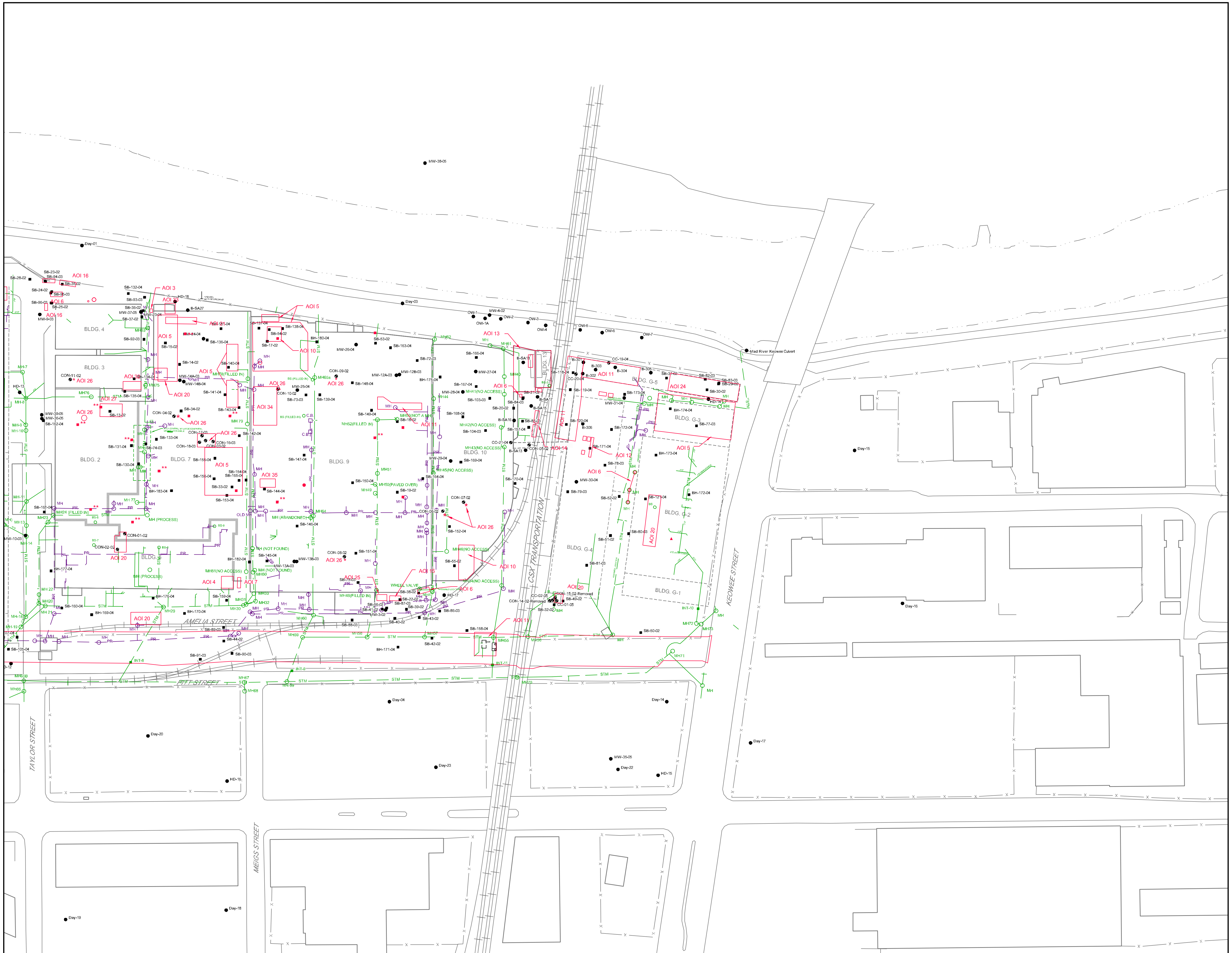
AOI LOCATIONS - WEST SIDE

CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

Project Manager: IKR	Reviewed By: SE	Date: SEPTEMBER 2008	
Scale: 1"=80'	Project Nº: 12638-03	Report Nº: 021	Drawing Nº: PLAN 1A

12638-03(021)GN-WA026 SEP 15/2008



0 40 80ft

LEGEND

BUILDING WALL
BUILDING BOUNDARY
FORMER BUILDING WALL
SHORELINE
RAILROAD
SOIL BORING LOCATION
MONITORING WELL LOCATION
WIPE/CONCRETE CORE SAMPLE LOCATION
OZONE SPARGE WELL LOCATION
INJECTION BORING FOR HRC BARRIER
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AOI 8 - DEGREASING UNITS:
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TCE/PCE/TCA SOLVENT
FREON SOLVENT
** ON UPPER FLOOR
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AOI 13 - OIL HOUSE
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AOI 15 - HYDRAULIC OIL UST
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AOI 18 - STORM SEWERS (VARIOUS LOCATIONS THROUGHOUT SITE)
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AOI 23 - UST'S AND FORMER STILL
AOI 24 - FORMER MACHINE GUN TESTING AREA
AOI 25 - HYDROCHLORIC ACID SPILLS
AOI 26 - PCB RELEASES FORM PROCESS EQUIPMENT:
* PROCESS DUCT
No.2 VAILL MACHINE
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AOI 34 - PARTS GRINDING
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AOI 37 - BUILDING 22 ELEVATOR PISTON
AOI 38 - BUILDING 1 ELEVATOR PISTON
AOI 39 - BUILDING 12B SUMP
AOI 40 - BUILDING 12A CONCRETE VAULT
AOI 41 - BUILDING 1 VERTICAL PIPE
AOI 42 - BUILDING 12B UST
AOI 43 - BUILDING 22 UST
AOI 44 - BUILDING 12 FREE PRODUCT
AOI 45 - BLUE-GREEN SOIL
AOI 46 - BUILDING 15 HOLDING TANK
AOI 47 - BUILDING 12B T-TRENCH
AOI 48 - BUILDING 12B UST 3

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY

Dayton, Ohio

AOI LOCATIONS - EAST SIDE

CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

Project Manager:	Reviewed By:	Date:	
IKR	SE	SEPTEMBER 2008	
Scale: 1"=80'	Project №: 12638-03	Report №: 021	Drawing №: PLAN 1B

12638-03(021)GN-WA027 SEP 15/2008

Table 6.1A: On-Site Soil Screening Results for Data Collected after RFI Addendum 1
Former GM Delphi Harrison Thermal Systems Facility, Dayton, Ohio

Area	Chem Group	Chemical	CASRN	Analyzed	Detected	Min Detect (mg/kg)	Max Detect (mg/kg)	Site-Specific Background (mg/kg)	Comm/Ind PRG Based Criteria (mg/kg)	Ratio of Max Detect[2] to Comm/Ind Criteria	Construction Worker Contact Criteria (mg/kg)	Ratio of Max Detect[2] to Construction Worker Contact Criteria	Comm/Ind Vol Indoor Air Criteria (mg/kg)	Ratio of Max Detect[2] to Comm/Ind Vol Ind Air Criteria
1~Webster to Taylor	VOC	Acetone	67-64-1	9	1	3.90E-02	3.90E-02		5.4E+04	7.2E-07	2.9E+03	1.4E-05	3.5E+03	1.1E-05
1~Webster to Taylor	VOC	Benzene	71-43-2	9	1	9.20E-03	9.20E-03		1.4E+01	6.5E-04	1.2E+01	8.0E-04	1.1E+00	8.1E-03
1~Webster to Taylor	VOC	2-Butanone	78-93-3	9	1	6.80E-03	6.80E-03		1.1E+05	6.0E-08	4.4E+03	1.5E-06	4.2E+03	1.6E-06
1~Webster to Taylor	VOC	Carbon Disulfide	75-15-0	9	1	1.90E-03	1.90E-03		1.2E+03	1.6E-06	7.3E+01	2.6E-05	2.2E+02	8.6E-06
1~Webster to Taylor	VOC	Cumene	98-82-8	9	2	1.90E-03	4.73E-02		2.0E+03	2.4E-05	4.6E+01	1.0E-03	1.3E+02	3.8E-04
1~Webster to Taylor	VOC	Cyclohexane	110-82-7	9	1	1.20E-02	1.20E-02		9.4E+03	1.3E-06	7.7E+02	1.6E-05	1.9E+03	6.3E-06
1~Webster to Taylor	VOC	cis-1,2-Dichloroethene	156-59-2	9	5	1.30E-03	6.10E+00		1.5E+02	4.2E-02	7.3E+01	8.4E-02	1.1E+01	5.5E-01
1~Webster to Taylor	VOC	Ethyl Benzene	100-41-4	9	1	1.00E-02	1.00E-02		7.4E+03	1.3E-06	3.6E+02	2.8E-05	3.2E+02	3.2E-05
1~Webster to Taylor	VOC	Methylcyclohexane	108-87-2	9	4	1.80E-02	1.39E+00		8.7E+03	1.6E-04	3.3E+02	4.2E-03	9.5E+02	1.5E-03
1~Webster to Taylor	VOC	Methylene Chloride	75-09-2	9	1	1.40E-03	1.40E-03		2.1E+02	6.8E-06	2.6E+02	5.3E-06	1.9E+01	7.5E-05
1~Webster to Taylor	VOC	Tetrachloroethene	127-18-4	9	9	6.40E-02	5.50E+02		1.3E+01	**4.2E+01**	4.3E+01	**1.3E+01**	2.9E+00	**1.9E+02**
1~Webster to Taylor	VOC	Toluene	108-88-3	9	2	1.30E-02	2.10E-02		2.2E+03	9.5E-06	1.3E+03	1.6E-05	1.6E+03	1.3E-05
1~Webster to Taylor	VOC	Trichloroethene	79-01-6	9	9	2.70E-02	7.90E+01		6.1E+01	**1.3E+00**	9.4E+01	8.4E-01	5.2E+00	**1.5E+01**
1~Webster to Taylor	VOC	Xylenes (total)	1330-20-7	9	1	2.60E-02	2.60E-02		9.0E+02	2.9E-05	1.2E+02	2.2E-04	3.2E+01	8.2E-04
1~Webster to Taylor	SVOC	Acenaphthene	83-32-9	9	1	1.60E-02	1.60E-02		2.9E+04	5.5E-07	2.6E+04	6.0E-07	2.4E+04	6.7E-07
1~Webster to Taylor	SVOC	Acenaphthylene	208-96-8	9	2	1.70E-02	9.60E-02		2.9E+04	3.3E-06	1.5E+04	6.4E-06	1.7E+04	5.6E-06
1~Webster to Taylor	SVOC	Anthracene	120-12-7	9	2	5.60E-02	1.60E-01		2.4E+05	6.7E-07	1.1E+06	1.5E-07		
1~Webster to Taylor	SVOC	Benzo(a)anthracene	56-55-3	9	2	2.20E-01	9.70E-01		2.1E+01	4.6E-02	3.2E+02	3.0E-03	9.3E+04	1.0E-05
1~Webster to Taylor	SVOC	Benzo(a)pyrene	50-32-8	9	2	2.30E-01	9.50E-01		2.1E+00	4.5E-01	3.4E+01	2.8E-02	7.0E+04	1.4E-05
1~Webster to Taylor	SVOC	Benzo(b)fluoranthene	205-99-2	9	3	9.00E-03	1.70E+00		2.1E+01	8.1E-02	3.0E+02	5.7E-03	8.9E+03	1.9E-04
1~Webster to Taylor	SVOC	Benzo(g,h,i)perylene	191-24-2	9	2	1.60E-01	9.70E-01		2.9E+04	3.3E-05	1.1E+05	9.1E-06	2.4E+10	4.1E-11
1~Webster to Taylor	SVOC	Benzo(k)fluoranthene	207-08-9	9	2	9.20E-02	6.70E-01		2.1E+02	3.2E-03	3.4E+03	2.0E-04	1.2E+07	5.7E-08
1~Webster to Taylor	SVOC	Biphenyl	92-52-4	9	1	1.60E+00	1.60E+00		2.3E+04	6.9E-05	2.0E+03	8.0E-04	1.5E+04	1.1E-04
1~Webster to Taylor	SVOC	bis(2-Ethylhexyl)phthalate	117-81-7	9	2	4.00E-02	4.30E-02		1.2E+03	3.5E-05	7.7E+03	5.6E-06	2.5E+09	1.7E-11
1~Webster to Taylor	SVOC	Carbazole	86-74-8	9	1	8.10E-02	8.10E-02		8.6E+02	9.4E-05	1.2E+04	6.9E-06	2.7E+06	3.0E-08
1~Webster to Taylor	SVOC	Chrysene	218-01-9	9	2	2.10E-01	9.50E-01		2.1E+03	4.5E-04	2.8E+04	3.4E-05	3.3E+05	2.8E-06
1~Webster to Taylor	SVOC	Dibenz(a,h)anthracene	53-70-3	9	1	4.10E-02	4.10E-02		2.1E+00	1.9E-02	3.4E+01	1.2E-03	2.0E+07	2.1E-09
1~Webster to Taylor	SVOC	Dibenzofuran	132-64-9	9	2	2.20E-01	4.70E-01		1.6E+03	3.0E-04	3.9E+02	1.2E-03	2.9E+04	1.6E-05
1~Webster to Taylor	SVOC	Fluoranthene	206-44-0	9	4	3.70E-01	2.10E+00		2.2E+04	9.5E-05	9.5E+04	2.2E-05	2.3E+06	9.0E-07
1~Webster to Taylor	SVOC	Fluorene	86-73-7	9	1	1.50E-02	1.50E-02		2.6E+04	5.7E-07	3.5E+04	4.2E-07	7.5E+04	2.0E-07
1~Webster to Taylor	SVOC	Indeno(1,2,3-cd)pyrene	193-39-5	9	2	1.50E-01	8.60E-01		2.1E+01	4.1E-02	3.4E+02	2.5E-03	1.7E+06	5.0E-07
1~Webster to Taylor	SVOC	2-Methylnaphthalene	91-57-6	9	3	7.30E-02	1.10E+01		1.9E+02	5.9E-02	2.0E+01	5.4E-01	8.9E+01	1.2E-01
1~Webster to Taylor	SVOC	Naphthalene	91-20-3	9	3	5.90E-02	4.10E+00		1.9E+02	2.2E-02	1.1E+01	3.7E-01	3.1E+01	1.3E-01
1~Webster to Taylor	SVOC	Phenanthrene	85-01-8	9	3	2.30E-01	1.40E+00		2.9E+04	4.8E-05	4.4E+04	3.1E-05	2.7E+05	5.2E-06
1~Webster to Taylor	SVOC	Pyrene	129-00-0	9	4	3.20E-01	1.70E+00		2.9E+04	5.8E-05	7.7E+04	2.2E-05	2.5E+06	6.8E-07
1~Webster to Taylor	PCB	PCBs (total)	1336-36-3	2	2	1.40E-01	1.70E+00		7.4E+00	2.3E-01	1.7E+01	9.7E-02	1.5E+02	1.1E-02
1~Webster to Taylor	INORG	Antimony	7440-36-0	2	1	9.90E-01	9.90E-01	3.10E-01	4.1E+02	1.7E-03	2.0E+02	3.3E-03		
1~Webster to Taylor	INORG	Arsenic	7440-38-2	2	2	3.90E+00	4.70E+00	1.16E+01	1.6E+01		2.1E+02			
1~Webster to Taylor	INORG	Barium	7440-39-3	2	2	7.60E+00	8.82E+01	1.09E+02	6.7E+04		3.6E+04			
1~Webster to Taylor	INORG	Beryllium	7440-41-7	2	1	6.40E-01	6.40E-01	5.75E-01	1.9E+03	3.3E-05	3.7E+02	1.7E-04		
1~Webster to Taylor	INORG	Cadmium	7440-43-9	2	1	6.80E-01	6.80E-01	1.50E+00	4.5E+02		4.4E+02			
1~Webster to Taylor	INORG	Chromium (total)	7440-47-3	2	2	3.40E+00	5.80E+00	1.58E+01	2.5E+03		1.7E+03			
1~Webster to Taylor	INORG	Cobalt	7440-48-4	2	2	2.10E+00	2.90E+00	7.49E+00	1.3E+04		5.5E+02			
1~Webster to Taylor	INORG	Copper	7440-50-8	2	2	8.80E+00	3.24E+02	2.48E+01	4.1E+04	7.3E-03	2.0E+04	1.5E-02		
1~Webster to Taylor	INORG	Lead	7439-92-1	2	2	3.50E+00	1.42E+02		8.0E+02	1.8E-01				
1~Webster to Taylor	INORG	Manganese	7439-96-5	2	2	1.75E+02	1.84E+02	8.16E+02	1.9E+04		1.4E+03			
1~Webster to Taylor	INORG	Mercury	7439-97-6	2	2	2.00E-02	1.70E+00	1.00E-01	1.4E+01	1.2E-01	6.0E+00	2.7E-01	5.3E+01	3.0E-02
1~Webster to Taylor	INORG	Nickel	7440-02-0	2	2	7.20E+00	7.50E+00	1.65E+01	2.0E+04		1.0E+04			

Table 6.1A: On-Site Soil Screening Results for Data Collected after RFI Addendum 1
Former GM Delphi Harrison Thermal Systems Facility, Dayton, Ohio

Area	Chem Group	Chemical	CASRN	Analyzed	Detected	Min Detect (mg/kg)	Max Detect (mg/kg)	Site-Specific Background (mg/kg)	Comm/Ind PRG Based Criteria (mg/kg)	Ratio of Max Detect[2] to Comm/Ind Criteria	Construction Worker Contact Criteria (mg/kg)	Ratio of Max Detect[2] to Construction Worker Contact Criteria	Comm/Ind Vol Indoor Air Criteria (mg/kg)	Ratio of Max Detect[2] to Comm/Ind Vol Ind Air Criteria
1~Webster to Taylor	INORG	Selenium	7782-49-2	2	2	1.10E-01	3.30E-01	1.00E+00	5.1E+03		2.5E+03			
1~Webster to Taylor	INORG	Thallium	7440-28-0	2	2	8.30E-02	1.30E-01	2.20E+00	6.7E+01		3.6E+01			
1~Webster to Taylor	INORG	Vanadium	7440-62-2	2	2	6.30E+00	1.08E+01	2.99E+01	1.0E+03		3.6E+03			
1~Webster to Taylor	INORG	Zinc	7440-66-6	2	2	2.07E+01	2.40E+02	1.22E+02	3.1E+05	3.9E-04	1.5E+05	7.7E-04		

Notes:

1. Only constituents detected are shown.
2. Ratios are calculated using site-related concentrations, which are those in excess of site-specific background concentrations for inorganics.
3. The screening criteria for soil are the lower of the screening criteria at either a cancer risk level of $1x10^{-5}$ or a hazard quotient of 1.
4. Shaded cells represent ratios of concentration to the screening criteria greater than 1.
5. Soil data included in screening were collected after September 5, 2006.
6. Comm/Ind PRGs are based on EPA Region 9 values. Comm/Ind vol indoor air criteria and construction worker contact criteria were calculated by ENVIRON as discussed in Appendix F of the RFI Report Addendum 3.
7. The screening criteria for pyrene were used as surrogates for phenanthrene and benzo(g,h,i)perylene.
8. The screening criteria for naphthalene were used as surrogates for 2-methylnaphthalene.
9. The screening criteria for chromium VI were used as a surrogate for chromium (total).
10. The concentrations for all polychlorinated biphenyls (PCBs) Aroclors were summed before comparing to the screening criteria for PCBs (total). Comm/Ind PRG criteria for PCBs are based on PCBs (total) for cancer effects and and Aroclor 1254 for noncancer effects.
11. The Comm/Ind PRG Based screening criteria for mercury were calculated by ENVIRON to account for the vapor inhalation pathway using: EPA Region 9 equations, RfC from IRIS, and chemical properties from EPA's Soil Screening Guidance.

Abbreviations:

Chem Group - Chemical Group
CASRN - Chemical Abstract Service Registry Number
Carc Class - EPA Weight-of-Evidence Cancer Classification
Comm/Ind - Commercial/Industrial
PRG - Preliminary Remediation Goal
Vol - Volatilization

Table 6.1B: On-Site Soil Concentrations that Exceed Screening Criteria for Data Collected after RFI Report Addendum 1
Former GM Delphi Harrison Thermal Systems Facility, Dayton, Ohio

Area	Station ID	Top Depth (ft)	Bottom Depth (ft)	Sample Date	Chem Group	Chemical	CASRN	Concentration (mg/kg)	Comm/Ind PRG Based Criteria (mg/kg)	Ratio of Concentration[1] to Comm/Ind PRG Based Criteria	Construction Worker Contact Criteria (mg/kg)	Ratio of Concentration[1] to Construction Worker Contact Criteria	Comm/Ind Vol Indoor Air Criteria (mg/kg)	Ratio of Concentration[1] to Comm/Ind Vol Ind Air Criteria
1~Webster to Taylor	MW-52-06	5	7	09/06/06	VOC	Tetrachloroethene	127-18-4	3.20E+01	1.3E+01	**2.4E+00**	4.3E+01	7.5E-01	2.9E+00	**1.1E+01**
1~Webster to Taylor	MW-52-06	5	7	09/06/06	VOC	Trichloroethene	79-01-6	9.10E+00	6.1E+01	1.5E-01	9.4E+01	9.7E-02	5.2E+00	**1.8E+00**
1~Webster to Taylor	MW-55-06	0	2	11/09/06	VOC	Tetrachloroethene	127-18-4	5.50E+02	1.3E+01	**4.2E+01**	4.3E+01	**1.3E+01**	2.9E+00	**1.9E+02**
1~Webster to Taylor	MW-55-06	0	2	11/09/06	VOC	Trichloroethene	79-01-6	7.90E+01	6.1E+01	**1.3E+00**	9.4E+01	8.4E-01	5.2E+00	**1.5E+01**

Notes:

1. Ratios are calculated using site-related concentrations, which are those in excess of site-specific background concentrations for inorganics.
2. The screening criteria for soil are the lower of the screening criteria at either a cancer risk level of $1x10^{-5}$ or a hazard quotient of 1.
3. Shaded cells represent ratios of concentration to the screening criteria greater than 1.
4. Soil data included in screening were collected after September 5, 2006.
5. Comm/Ind PRGs are based on EPA Region 9 values. Comm/Ind Vol Indoor Air Criteria and Construction Worker Contact Criteria were calculated by ENVIRON as discussed in Appendix F of the RFI Report Addendum 3.

Abbreviations:

Chem Group - Chemical Group
CASRN - Chemical Abstract Service Registry Number
Comm/Ind - Commercial/Industrial
PRG - Preliminary Remediation Goal
Vol - Volatilization

Table 6.1C: Off-Site Soil Screening Results for Data Collected after RFI Report Addendum 1
Former GM Delphi Harrison Thermal Systems Facility, Dayton, Ohio

Area	Chem Group	Chemical	CASRN	Carc Class	Analyzed	Detected	Min Detect (mg/kg)	Max Detect (mg/kg)	Comm/Ind PRG Based Criteria (mg/kg)	Ratio of Max Detect to Comm/Ind Criteria
5~Off Site West	VOC	Acetone	67-64-1	ID	10	1	3.90E-01	3.90E-01	5.4E+04	7.2E-06
5~Off Site West	VOC	Benzene	71-43-2	A	10	9	2.90E-03	2.77E-02	1.4E+01	2.0E-03
5~Off Site West	VOC	2-Butanone	78-93-3	ID	10	8	3.30E-03	8.80E-02	1.1E+05	7.8E-07
5~Off Site West	VOC	Carbon Disulfide	75-15-0		10	2	3.10E-03	5.00E-02	1.2E+03	4.2E-05
5~Off Site West	VOC	Cyclohexane	110-82-7	ID	10	10	2.10E-03	1.44E-01	9.4E+03	1.5E-05
5~Off Site West	VOC	1,4-Dichlorobenzene	106-46-7	C	10	1	3.30E-03	3.30E-03	7.9E+01	4.2E-05
5~Off Site West	VOC	Dichlorodifluoromethane	75-71-8		10	1	8.70E-03	8.70E-03	3.1E+02	2.8E-05
5~Off Site West	VOC	cis-1,2-Dichloroethene	156-59-2	ID	10	2	1.50E-03	3.60E-03	1.5E+02	2.5E-05
5~Off Site West	VOC	Ethyl Benzene	100-41-4	D	10	9	2.40E-03	2.73E-02	7.4E+03	3.7E-06
5~Off Site West	VOC	Methylcyclohexane	108-87-2		10	10	5.90E-03	3.89E-01	8.7E+03	4.5E-05
5~Off Site West	VOC	Methylene Chloride	75-09-2	B2	10	1	2.20E-03	2.20E-03	2.1E+02	1.1E-05
5~Off Site West	VOC	Tetrachloroethene	127-18-4	C-B2	10	2	8.00E-03	1.10E-02	1.3E+01	8.4E-04
5~Off Site West	VOC	Toluene	108-88-3	ID	10	10	7.30E-04	1.56E-01	2.2E+03	7.0E-05
5~Off Site West	VOC	Trichloroethene	79-01-6	C-B2	10	2	2.10E-03	3.30E-03	6.1E+01	5.4E-05
5~Off Site West	VOC	Xylenes (total)	1330-20-7	ID	10	9	3.20E-03	2.79E-01	9.0E+02	3.1E-04

Notes:

1. Only constituents detected are shown.
2. The screening criteria for soil are the lower of the screening criteria at either a cancer risk level of $1x10^{-5}$ or a hazard quotient of 1.
3. Shaded cells represent ratios of concentration to the screening criteria greater than 1.
4. Soil data included in screening were collected after September 5, 2006.
5. Comm/Ind PRGs are based on EPA Region 9 values.
6. The Comm/Ind PRG based screening criteria for mercury were calculated by ENVIRON to account for the vapor inhalation pathway using: EPA Region 9 equations, RfC from IRIS, and chemical properties from EPA's Soil Screening Guidance.

Abbreviations:

Chem Group - Chemical Group
CASRN - Chemical Abstract Service Registry Number
Carc Class - EPA Weight-of-Evidence Cancer Classification
Comm/Ind - Commercial/Industrial
PRG - Preliminary Remediation Goal

Table 6.2A: Groundwater Screening Results for All RFI Data: Upper Aquifer On-site
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

Area	Chem Group	Chemical	CASRN	Meas Basis	Carc Class	Analyzed	Detected	Min Detect (mg/L)	Max Detect (mg/L)	Drinking Water Criteria (mg/L)	Ratio of Max Detect to DW Criteria	Maintenance Worker Contact Criteria (mg/L)	Ratio of Max Detect to Maintenance Worker Contact Criteria	Comm/Ind Vol Indoor Air Criteria (mg/L)	Ratio of Max Detect to Comm/Ind Vol Indoor Air Criteria
1~Webster to Taylor	VOC	Acetone	67-64-1	T	ID	125	5	1.70E-03	7.60E-02	3.29E+01	2.3E-03	6.78E+03	1.1E-05	1.20E+05	6.3E-07
1~Webster to Taylor	VOC	Benzene	71-43-2	T	A	125	2	2.30E-04	8.80E-03	5.00E-03	**1.8E+00**	4.88E+00	1.8E-03	6.41E+00	1.4E-03
1~Webster to Taylor	VOC	Bromodichloromethane	75-27-4	T	B2	125	1	3.10E-04	3.10E-04	8.00E-02	3.9E-03	3.47E+00	8.9E-05	5.18E+00	6.0E-05
1~Webster to Taylor	VOC	Carbon Disulfide	75-15-0	T		125	1	1.20E-03	1.20E-03	3.65E+00	3.3E-04	3.76E+02	3.2E-06	8.45E+02	1.4E-06
1~Webster to Taylor	VOC	Chloroform	67-66-3	T	B2	125	44	3.00E-04	9.50E-03	8.00E-02	1.2E-01	2.29E+00	4.1E-03	2.37E+00	4.0E-03
1~Webster to Taylor	VOC	Cumene	98-82-8	T	D	125	7	3.00E-04	2.00E-03	3.65E+00	5.5E-04	2.14E+02	9.4E-06	4.30E+02	4.6E-06
1~Webster to Taylor	VOC	Cyclohexane	110-82-7	T	ID	125	1	5.80E-04	5.80E-04			3.68E+03	1.6E-07	6.22E+03	9.3E-08
1~Webster to Taylor	VOC	Dibromochloromethane	124-48-1	T	C	125	1	2.45E-04	2.45E-04	8.00E-02	3.1E-03	3.06E+00	8.0E-05	6.32E+00	3.9E-05
1~Webster to Taylor	VOC	1,2-Dichlorobenzene	95-50-1	T	D	125	1	2.10E-03	2.10E-03	6.00E-01	3.5E-03	1.45E+02	1.4E-05	6.08E+02	3.5E-06
1~Webster to Taylor	VOC	1,1-Dichloroethane	75-34-3	T	SC	125	2	2.95E-04	3.90E-04	7.30E+00	5.3E-05	3.32E+02	1.2E-06	8.70E+02	4.5E-07
1~Webster to Taylor	VOC	1,1-Dichloroethene	75-35-4	T	C	125	4	4.90E-04	2.70E-02	7.00E-03	**3.9E+00**	1.25E+02	2.2E-04	2.44E+02	1.1E-04
1~Webster to Taylor	VOC	cis-1,2-Dichloroethene	156-59-2	T	ID	125	124	2.90E-04	2.10E+01	7.00E-02	**3.0E+02**	2.29E+01	9.2E-01	6.38E+01	3.3E-01
1~Webster to Taylor	VOC	trans-1,2-Dichloroethene	156-60-5	T		125	2	2.80E-04	2.20E-02	1.00E-01	2.2E-01	3.81E+01	5.8E-04	8.31E+01	2.6E-04
1~Webster to Taylor	VOC	Ethyl Benzene	100-41-4	T	D	125	6	1.50E-03	3.60E-03	7.00E-01	5.1E-03	4.41E+02	8.2E-06	1.99E+03	1.8E-06
1~Webster to Taylor	VOC	Methyl Acetate	79-20-9	T		125	1	1.30E-02	1.30E-02	3.65E+01	3.6E-04	4.69E+03	2.8E-06	6.42E+04	2.0E-07
1~Webster to Taylor	VOC	Methylcyclohexane	108-87-2	T		125	6	4.40E-04	2.70E-02			1.99E+03	1.4E-05	3.04E+03	8.9E-06
1~Webster to Taylor	VOC	Methylene Chloride	75-09-2	T	B2	125	9	5.00E-04	1.40E-01	5.00E-03	**2.8E+01**	8.94E+01	1.6E-03	1.27E+02	1.1E-03
1~Webster to Taylor	VOC	Tetrachloroethene	127-18-4	T	C-B2	125	122	5.70E-04	6.50E+00	5.00E-03	**1.3E+03**	1.41E+01	4.6E-01	1.49E+01	4.4E-01
1~Webster to Taylor	VOC	1,2,4-Trichlorobenzene	120-82-1	T	D	125	1	1.18E-03	1.18E-03	7.00E-02	1.7E-02	4.31E+01	2.7E-05	7.92E+02	1.5E-06
1~Webster to Taylor	VOC	1,1,1-Trichloroethane	71-55-6	T	ID	125	21	2.10E-04	9.40E-04	2.00E-01	4.7E-03	1.47E+03	6.4E-07	3.38E+03	2.8E-07
1~Webster to Taylor	VOC	Trichloroethene	79-01-6	T	C-B2	125	122	5.85E-04	1.20E+01	5.00E-03	**2.4E+03**	2.68E+01	4.5E-01	2.73E+01	4.4E-01
1~Webster to Taylor	VOC	1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	T		125	1	2.60E-04	2.60E-04	1.10E+03	2.4E-07	2.63E+04	9.9E-09	3.08E+04	8.4E-09
1~Webster to Taylor	VOC	Vinyl Chloride	75-01-4	T	A	125	43	4.50E-04	1.45E+00	2.00E-03	**7.3E+02**	2.02E+00	7.2E-01	3.29E+00	4.4E-01
1~Webster to Taylor	VOC	Xylenes (total)	1330-20-7	T	ID	125	1	6.18E-04	6.18E-04	1.00E+01	6.2E-05	6.80E+01	9.1E-06	1.88E+02	3.3E-06
1~Webster to Taylor	SVOC	bis(2-Ethylhexyl)phthalate	117-81-7	T	B2	38	3	2.00E-03	3.80E-03	6.00E-03	6.3E-01	1.82E+00	2.1E-03	1.00E+05	3.8E-08
1~Webster to Taylor	SVOC	Caprolactam	105-60-2	T		38	2	3.00E-02	3.00E-01	1.83E+01	1.6E-02	2.01E+05	1.5E-06	4.29E+08	7.0E-10
1~Webster to Taylor	SVOC	Diethylphthalate	84-66-2	T	D	38	1	2.00E-03	2.00E-03	2.92E+01	6.8E-05	4.70E+04	4.3E-08	1.00E+07	2.0E-10
1~Webster to Taylor	PCB	PCBs (total)	1336-36-3	T	B2	40	6	1.05E-04	7.76E-02	5.00E-04	**1.6E+02**	9.35E-03	**8.3E+00**	2.52E-01	3.1E-01
1~Webster to Taylor	INORG	Arsenic	7440-38-2	T	A	38	23	1.83E-03	9.50E-03	1.00E-02	9.5E-01	1.44E+01	6.6E-04		
1~Webster to Taylor	INORG	Arsenic	7440-38-2	D	A	6	3	2.30E-03	7.00E-03	1.00E-02	7.0E-01	1.44E+01	4.9E-04		
1~Webster to Taylor	INORG	Barium	7440-39-3	T	NC	38	38	3.10E-02	3.60E-01	2.00E+00	1.8E-01	3.43E+03	1.0E-04		
1~Webster to Taylor	INORG	Barium	7440-39-3	D	NC	6	6	9.50E-02	3.10E-01	2.00E+00	1.6E-01	3.43E+03	9.0E-05		
1~Webster to Taylor	INORG	Cadmium	7440-43-9	T	B1	38	12	2.90E-04	6.60E-03	5.00E-03	**1.3E+00**	1.80E+01	3.7E-04		
1~Webster to Taylor	INORG	Chromium (total)	7440-47-3	T		38	19	1.18E-03	1.60E-02	1.00E-01	1.6E-01	2.85E+01	5.6E-04		
1~Webster to Taylor	INORG	Chromium (total)	7440-47-3	D		6	1	1.80E-03	1.80E-03	1.00E-01	1.8E-02	2.85E+01	6.3E-05		
1~Webster to Taylor	INORG	Cobalt	7440-48-4	T	B1	38	11	7.80E-04	3.60E-03	7.30E-01	4.9E-03	8.09E+03	4.5E-07		
1~Webster to Taylor	INORG	Cobalt	7440-48-4	D	B1	6	1	1.00E-03	1.00E-03	7.30E-01	1.4E-03	8.09E+03	1.2E-07		
1~Webster to Taylor	INORG	Copper	7440-50-8	T	D	38	7	2.30E-03	2.40E-02	1.30E+00	1.8E-02	1.23E+04	1.9E-06		
1~Webster to Taylor	INORG	Cyanide (total)	57-12-5	T	D	35	6	2.50E-03	1.30E-02	2.00E-01	6.5E-02	6.16E+03	2.1E-06		
1~Webster to Taylor	INORG	Lead	7439-92-1	T	B2	39	5	8.80E-04	4.90E-02	1.50E-02	**3.3E+00**	7.40E+01	6.6E-04		
1~Webster to Taylor	INORG	Manganese	7439-96-5	T	D	46	45	6.00E-03	7.80E-01	5.11E+00	1.5E-01	5.96E+03	1.3E-04		
1~Webster to Taylor	INORG	Manganese	7439-96-5	D	D	8	8	2.20E-03	3.70E-01	5.11E+00	7.2E-02	5.96E+03	6.2E-05		
1~Webster to Taylor	INORG	Mercury	7439-97-6	T	D	38	2	1.00E-04	1.60E-04	2.00E-03	8.0E-02	2.88E-01	5.6E-04	8.33E-01	1.9E-04
1~Webster to Taylor	INORG	Nickel	7440-02-0	T	A	38	14	3.00E-03	1.10E-02	7.30E-01	1.5E-02	2.38E+03	4.6E-06		
1~Webster to Taylor	INORG	Nickel	7440-02-0	D	A	6	2	3.50E-03	5.20E-03	7.30E-01	7.1E-03	2.38E+03	2.2E-06		
1~Webster to Taylor	INORG	Selenium	7782-49-2	T	D	38	1	5.00E-03	5.00E-03	5.00E-02	1.0E-01	1.54E+03	3.2E-06		
1~Webster to Taylor	INORG	Silver	7440-22-4	T	D	38	1	1.60E-03	1.60E-03	1.83E-01	8.8E-03	2.34E+02	6.8E-06		
1~Webster to Taylor	INORG	Silver	7440-22-4	D	D	6	1	1.10E-03	1.10E-03	1.83E-01	6.0E-03	2.34E+02	4.7E-06		
1~Webster to Taylor	INORG	Thallium	7440-28-0	T		38	2	3.90E-05	4.50E-05	2.00E-03	2.3E-02	2.15E+01	2.1E-06		
1~Webster to Taylor	INORG	Thallium	7440-28-0	D		6	1	3.50E-05	3.50E-05	2.00E-03	1.8E-02	2.15E+01	1.6E-06		
1~Webster to Taylor	INORG	Vanadium	7440-62-2	T		38	12	6.80E-04	4.80E-03	3.65E-02	1.3E-01	1.94E+01	2.5E-04		
1~Webster to Taylor	INORG	Zinc	7440-66-6	T	ID	38	9	5.95E-03	6.20E-02	1.10E+01	5.7E-03	1.10E+05	5.6E-07		

Table 6.2A: Groundwater Screening Results for All RFI Data: Upper Aquifer On-site
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

Area	Chem Group	Chemical	CASRN	Meas Basis	Carc Class	Analyzed	Detected	Min Detect (mg/L)	Max Detect (mg/L)	Drinking Water Criteria (mg/L)	Ratio of Max Detect to DW Criteria	Maintenance Worker Contact Criteria (mg/L)	Ratio of Max Detect to Maintenance Worker Contact Criteria	Comm/Ind Vol Indoor Air Criteria (mg/L)	Ratio of Max Detect to Comm/Ind Vol Indoor Air Criteria
1~Webster to Taylor	INORG	Zinc	7440-66-6	D	ID	6	1	3.90E-02	3.90E-02	1.10E+01	3.6E-03	1.10E+05	3.6E-07		
2~Taylor to Railway	VOC	Acetone	67-64-1	T	ID	42	1	1.40E-01	1.40E-01	3.29E+01	4.3E-03	6.78E+03	2.1E-05	1.20E+05	1.2E-06
2~Taylor to Railway	VOC	Benzene	71-43-2	T	A	42	1	4.20E-04	4.20E-04	5.00E-03	8.4E-02	4.88E+00	8.6E-05	6.41E+00	6.5E-05
2~Taylor to Railway	VOC	Bromodichloromethane	75-27-4	T	B2	42	1	1.60E-03	1.60E-03	8.00E-02	2.0E-02	3.47E+00	4.6E-04	5.18E+00	3.1E-04
2~Taylor to Railway	VOC	Chloroform	67-66-3	T	B2	42	19	1.20E-03	1.80E-02	8.00E-02	2.3E-01	2.29E+00	7.9E-03	2.37E+00	7.6E-03
2~Taylor to Railway	VOC	Cumene	98-82-8	T	D	42	3	1.50E-04	1.80E-03	3.65E+00	4.9E-04	2.14E+02	8.4E-06	4.30E+02	4.2E-06
2~Taylor to Railway	VOC	Cyclohexane	110-82-7	T	ID	42	2	3.20E-04	4.60E-04			3.68E+03	1.2E-07	6.22E+03	7.4E-08
2~Taylor to Railway	VOC	Dibromochloromethane	124-48-1	T	C	42	1	8.60E-04	8.60E-04	8.00E-02	1.1E-02	3.06E+00	2.8E-04	6.32E+00	1.4E-04
2~Taylor to Railway	VOC	1,1-Dichloroethane	75-34-3	T	SC	42	11	4.20E-04	1.20E-02	7.30E+00	1.6E-03	3.32E+02	3.6E-05	8.70E+02	1.4E-05
2~Taylor to Railway	VOC	cis-1,2-Dichloroethene	156-59-2	T	ID	42	38	2.30E-04	3.45E+01	7.00E-02	**4.9E+02**	2.29E+01	**1.5E+00**	6.38E+01	5.4E-01
2~Taylor to Railway	VOC	trans-1,2-Dichloroethene	156-60-5	T		42	4	3.00E-03	2.90E-02	1.00E-01	2.9E-01	3.81E+01	7.6E-04	8.31E+01	3.5E-04
2~Taylor to Railway	VOC	Methylene Chloride	75-09-2	T	B2	42	2	2.60E-03	7.00E-02	5.00E-03	**1.4E+01**	8.94E+01	7.8E-04	1.27E+02	5.5E-04
2~Taylor to Railway	VOC	Tetrachloroethene	127-18-4	T	C-B2	42	34	5.30E-04	4.60E+00	5.00E-03	**9.2E+02**	1.41E+01	3.3E-01	1.49E+01	3.1E-01
2~Taylor to Railway	VOC	1,2,4-Trichlorobenzene	120-82-1	T	D	42	1	2.60E-04	2.60E-04	7.00E-02	3.7E-03	4.31E+01	6.0E-06	7.92E+02	3.3E-07
2~Taylor to Railway	VOC	1,1,1-Trichloroethane	71-55-6	T	ID	42	6	2.10E-04	2.90E-03	2.00E-01	1.5E-02	1.47E+03	2.0E-06	3.38E+03	8.6E-07
2~Taylor to Railway	VOC	Trichloroethene	79-01-6	T	C-B2	42	36	5.00E-04	1.30E+00	5.00E-03	**2.6E+02**	2.68E+01	4.8E-02	2.73E+01	4.8E-02
2~Taylor to Railway	VOC	Vinyl Chloride	75-01-4	T	A	42	15	2.80E-04	2.90E+00	2.00E-03	**1.5E+03**	2.02E+00	**1.4E+00**	3.29E+00	8.8E-01
2~Taylor to Railway	SVOC	bis(2-Ethylhexyl)phthalate	117-81-7	T	B2	13	2	9.90E-04	4.70E-03	6.00E-03	7.8E-01	1.82E+00	2.6E-03	1.00E+05	4.7E-08
2~Taylor to Railway	SVOC	Caprolactam	105-60-2	T		13	7	3.40E-02	4.70E-01	1.83E+01	2.6E-02	2.01E+05	2.3E-06	4.29E+08	1.1E-09
2~Taylor to Railway	SVOC	Diethylphthalate	84-66-2	T	D	13	2	7.80E-04	8.60E-04	2.92E+01	2.9E-05	4.70E+04	1.8E-08	1.00E+07	8.6E-11
2~Taylor to Railway	PCB	PCBs (total)	1336-36-3	T	B2	32	5	9.75E-05	5.80E-03	5.00E-04	**1.2E+01**	9.35E-03	6.2E-01	2.52E-01	2.3E-02
2~Taylor to Railway	INORG	Arsenic	7440-38-2	T	A	20	10	2.10E-03	2.00E-02	1.00E-02	**2.0E+00**	1.44E+01	1.4E-03		
2~Taylor to Railway	INORG	Arsenic	7440-38-2	D	A	4	1	2.70E-03	2.70E-03	1.00E-02	2.7E-01	1.44E+01	1.9E-04		
2~Taylor to Railway	INORG	Barium	7440-39-3	T	NC	20	20	6.20E-02	1.10E+00	2.00E+00	5.5E-01	3.43E+03	3.2E-04		
2~Taylor to Railway	INORG	Barium	7440-39-3	D	NC	4	4	1.00E-01	1.70E-01	2.00E+00	8.5E-02	3.43E+03	5.0E-05		
2~Taylor to Railway	INORG	Cadmium	7440-43-9	T	B1	20	4	2.80E-04	2.80E-03	5.00E-03	5.6E-01	1.80E+01	1.6E-04		
2~Taylor to Railway	INORG	Cadmium	7440-43-9	D	B1	4	1	3.10E-04	3.10E-04	5.00E-03	6.2E-02	1.80E+01	1.7E-05		
2~Taylor to Railway	INORG	Chromium (total)	7440-47-3	T		20	1	1.80E-03	1.80E-03	1.00E-01	1.8E-02	2.85E+01	6.3E-05		
2~Taylor to Railway	INORG	Cobalt	7440-48-4	T	B1	20	2	7.70E-04	1.00E-03	7.30E-01	1.4E-03	8.09E+03	1.2E-07		
2~Taylor to Railway	INORG	Copper	7440-50-8	T	D	20	3	2.30E-03	3.60E-03	1.30E+00	2.8E-03	1.23E+04	2.9E-07		
2~Taylor to Railway	INORG	Cyanide (total)	57-12-5	T	D	19	1	2.40E-02	2.40E-02	2.00E-01	1.2E-01	6.16E+03	3.9E-06		
2~Taylor to Railway	INORG	Lead	7439-92-1	T	B2	20	2	9.00E-04	2.00E-03	1.50E-02	1.3E-01	7.40E+01	2.7E-05		
2~Taylor to Railway	INORG	Manganese	7439-96-5	T	D	25	22	5.90E-03	1.50E+00	5.11E+00	2.9E-01	5.96E+03	2.5E-04		
2~Taylor to Railway	INORG	Manganese	7439-96-5	D	D	4	4	1.80E-02	1.20E-01	5.11E+00	2.3E-02	5.96E+03	2.0E-05		
2~Taylor to Railway	INORG	Nickel	7440-02-0	T	A	20	4	3.30E-03	9.30E-03	7.30E-01	1.3E-02	2.38E+03	3.9E-06		
2~Taylor to Railway	INORG	Selenium	7782-49-2	T	D	20	1	9.10E-04	9.10E-04	5.00E-02	1.8E-02	1.54E+03	5.9E-07		
2~Taylor to Railway	INORG	Silver	7440-22-4	T	D	20	1	8.90E-04	8.90E-04	1.83E-01	4.9E-03	2.34E+02	3.8E-06		
2~Taylor to Railway	INORG	Vanadium	7440-62-2	T		20	1	1.30E-03	1.30E-03	3.65E-02	3.6E-02	1.94E+01	6.7E-05		
2~Taylor to Railway	INORG	Zinc	7440-66-6	T	ID	20	2	1.70E-02	1.70E-02	1.10E+01	1.6E-03	1.10E+05	1.5E-07		
3~Railway to Keowee	VOC	Chloroform	67-66-3	T	B2	13	4	1.10E-03	8.55E-03	8.00E-02	1.1E-01	2.29E+00	3.7E-03	2.37E+00	3.6E-03
3~Railway to Keowee	VOC	1,1-Dichloroethane	75-34-3	T	SC	13	1	5.10E-04	5.10E-04	7.30E+00	7.0E-05	3.32E+02	1.5E-06	8.70E+02	5.9E-07
3~Railway to Keowee	VOC	cis-1,2-Dichloroethene	156-59-2	T	ID	13	6	2.80E-04	1.40E-02	7.00E-02	2.0E-01	2.29E+01	6.1E-04	6.38E+01	2.2E-04
3~Railway to Keowee	VOC	Tetrachloroethene	127-18-4	T	C-B2	13	1	5.70E-04	5.70E-04	5.00E-03	1.1E-01	1.41E+01	4.1E-05	1.49E+01	3.8E-05
3~Railway to Keowee	VOC	Trichloroethene	79-01-6	T	C-B2	13	6	3.90E-04	1.00E-02	5.00E-03	**2.0E+00**	2.68E+01	3.7E-04	2.73E+01	3.7E-04
3~Railway to Keowee	VOC	Vinyl Chloride	75-01-4	T	A	13	4	2.40E-04	3.30E-03	2.00E-03	**1.7E+00**	2.02E+00	1.6E-03	3.29E+00	1.0E-03
3~Railway to Keowee	SVOC	Caprolactam	105-60-2	T		7	2	3.50E-02	8.10E-02	1.83E+01	4.4E-03	2.01E+05	4.0E-07	4.29E+08	1.9E-10
3~Railway to Keowee	PCB	PCBs (total)	1336-36-3	T	B2	13	4	3.13E-04	8.43E-04	5.00E-04	**1.7E+00**	9.35E-03	9.0E-02	2.52E-01	3.3E-03
3~Railway to Keowee	INORG	Arsenic	7440-38-2	D	A	2	1	2.20E-03	2.20E-03	1.00E-02	2.2E-01	1.44E+01	1.5E-04		
3~Railway to Keowee	INORG	Barium	7440-39-3	T	NC	9	9	1.00E-01	2.90E-01	2.00E+00	1.5E-01	3.43E+03	8.5E-05		
3~Railway to Keowee	INORG	Barium	7440-39-3	D	NC	2	2	1.00E-01	1.10E-01	2.00E+00	5.5E-02	3.43E+03	3.2E-05		
3~Railway to Keowee	INORG	Cadmium	7440-43-9	T	B1	9	1	2.40E-04	2.40E-04	5.00E-03	4.8E-02	1.80E+01	1.3E-05		
3~Railway to Keowee	INORG	Chromium (total)	7440-47-3	T		9	4	2.00E-03	3.20E-03	1.00E-01	3.2E-02	2.85E+01	1.1E-04		

Table 6.2A: Groundwater Screening Results for All RFI Data: Upper Aquifer On-site
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

Area	Chem Group	Chemical	CASRN	Meas Basis	Carc Class	Analyzed	Detected	Min Detect (mg/L)	Max Detect (mg/L)	Drinking Water Criteria (mg/L)	Ratio of Max Detect to DW Criteria	Maintenance Worker Contact Criteria (mg/L)	Ratio of Max Detect to Maintenance Worker Contact Criteria	Comm/Ind Vol Indoor Air Criteria (mg/L)	Ratio of Max Detect to Comm/Ind Vol Indoor Air Criteria
3~Railway to Keowee	INORG	Copper	7440-50-8	T	D	9	1	2.30E-03	2.30E-03	1.30E+00	1.8E-03	1.23E+04	1.9E-07		
3~Railway to Keowee	INORG	Copper	7440-50-8	D	D	2	1	2.40E-03	2.40E-03	1.30E+00	1.8E-03	1.23E+04	1.9E-07		
3~Railway to Keowee	INORG	Cyanide (total)	57-12-5	T	D	9	4	1.00E-02	3.30E-02	2.00E-01	1.7E-01	6.16E+03	5.4E-06		
3~Railway to Keowee	INORG	Manganese	7439-96-5	T	D	9	8	9.00E-04	3.30E-01	5.11E+00	6.5E-02	5.96E+03	5.5E-05		
3~Railway to Keowee	INORG	Manganese	7439-96-5	D	D	2	1	8.10E-04	8.10E-04	5.11E+00	1.6E-04	5.96E+03	1.4E-07		
3~Railway to Keowee	INORG	Zinc	7440-66-6	T	ID	9	1	1.10E-01	1.10E-01	1.10E+01	1.0E-02	1.10E+05	1.0E-06		
Notes:															
1. Among RFI groundwater data collected through June 2008, only constituents detected in each respective area are shown.															
2. The drinking water criteria are based on the following hierarchy: state MCL, federal MCL, equivalent drinking water concentration limits at the lower of the criteria calculated at either the target cancer risk of 1E-5 or target hazard quotient of 1.															
3. The criteria for non-drinking water are the lower of the criteria at either the target cancer risk of 1E-5 or target hazard quotient of 1.															
4. Shaded cells represent ratios of concentration to the screening criteria greater than 1.															
5. Maintenance worker contact criteria, and comm/ind vol indoor air criteria were calculated as discussed in Appendix F of the RFI Report Addendum 3.															
6. The screening criteria for chromium VI were used as a surrogate for chromium (total).															
7. The concentrations for all polychlorinated biphenyls (PCBs) Aroclors were summed before comparing to the screening criteria for PCBs (total).															
Abbreviations:															
Chem Group - Chemical Group															
CASRN - Chemical Abstract Service Registry Number															
Carc Class - EPA Weight-of-Evidence Cancer Classification															
Comm/Ind - Commercial/Industrial															
Vol - Volatilization															
Meas Basis - Measured Basis; T = Total, D = Dissolved															

Table 6.2B: Groundwater Screening Results for All RFI Data: Upper Aquifer Off-site
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

Area	Chem Group	Chemical	CASRN	Meas Basis	Carc Class	Analyzed	Detected	Min Detect (mg/L)	Max Detect (mg/L)	Drinking Water Criteria (mg/L)	Ratio of Max Detect to DW Criteria	Maintenance Worker Contact Criteria (mg/L)	Ratio of Max Detect to Maintenance Worker Contact Criteria	Comm/Ind Vol Indoor Air Criteria (mg/L)	Ratio of Max Detect to Comm/Ind Vol Indoor Air Criteria	Residential Vol of Indoor Air Criteria (mg/L)	Ratio of Max Detect to Vol Indoor Air Criteria	Residential Nonpotable Criteria (mg/L)	Ratio of Max Detect to Res Nonpotable Criteria
1~Webster to Taylor	VOC	2-Butanone	78-93-3	T	ID	5	1	2.40E-03	2.40E-03	2.19E+01	1.1E-04	8.70E+03	2.8E-07	1.16E+05	2.1E-08	2.87E+04	8.4E-08	3.13E+03	7.7E-07
1~Webster to Taylor	VOC	cis-1,2-Dichloroethene	156-59-2	T	ID	5	5	1.60E-03	7.50E-03	7.00E-02	1.1E-01	2.29E+01	3.3E-04	6.09E+01	1.2E-04	2.05E+01	3.7E-04	2.44E+01	3.1E-04
1~Webster to Taylor	VOC	Tetrachloroethene	127-18-4	T	C-B2	5	5	9.00E-02	1.50E-01	5.00E-03	**3.0E+01**	1.41E+01	1.1E-02	1.47E+01	1.0E-02	4.32E+00	3.5E-02	6.02E-01	2.5E-01
1~Webster to Taylor	VOC	1,1,1-Trichloroethane	71-55-6	T	ID	5	2	7.00E-04	1.10E-03	2.00E-01	5.5E-03	1.47E+03	7.5E-07	3.34E+03	3.3E-07	1.17E+03	9.4E-07	3.94E+02	2.8E-06
1~Webster to Taylor	VOC	Trichloroethene	79-01-6	T	C-B2	5	5	1.10E-02	2.70E-02	5.00E-03	**5.4E+00**	2.68E+01	1.0E-03	2.67E+01	1.0E-03	7.76E+00	3.5E-03	2.23E+00	1.2E-02
1~Webster to Taylor	SVOC	Caprolactam	105-60-2	T		2	1	4.60E-02	4.60E-02	1.83E+01	2.5E-03	2.01E+05	2.3E-07	3.09E+08	1.5E-10	6.16E+07	7.5E-10	1.40E+03	3.3E-05
1~Webster to Taylor	INORG	Barium	7440-39-3	T	NC	2	2	1.10E-01	1.10E-01	2.00E+00	5.5E-02	3.43E+03	3.2E-05					4.83E+01	2.3E-03
1~Webster to Taylor	INORG	Cobalt	7440-48-4	T	B1	2	1	1.20E-03	1.20E-03	7.30E-01	1.6E-03	8.09E+03	1.5E-07					5.60E+01	2.1E-05
1~Webster to Taylor	INORG	Manganese	7439-96-5	T	D	3	3	2.70E-01	1.60E+00	5.11E+00	3.1E-01	5.96E+03	2.7E-04					8.55E+01	1.9E-02
1~Webster to Taylor	INORG	Nickel	7440-02-0	T	A	2	1	3.80E-03	3.80E-03	7.30E-01	5.2E-03	2.38E+03	1.6E-06					2.78E+01	1.4E-04
1~Webster to Taylor	INORG	Thallium	7440-28-0	T		2	1	3.80E-05	3.80E-05	2.00E-03	1.9E-02	2.15E+01	1.8E-06					1.73E-01	2.2E-04
1~Webster to Taylor	INORG	Vanadium	7440-62-2	T		2	1	2.00E-03	2.00E-03	3.65E-02	5.5E-02	1.94E+01	1.0E-04					2.98E-01	6.7E-03
1~Webster to Taylor	INORG	Zinc	7440-66-6	T	ID	2	1	1.80E-02	1.80E-02	1.10E+01	1.6E-03	1.10E+05	1.6E-07					8.05E+02	2.2E-05
2~Taylor to Railway	VOC	1,1-Dichloroethane	75-34-3	T	SC	14	1	1.20E-03	1.20E-03	7.30E+00	1.6E-04	3.32E+02	3.6E-06	8.40E+02	1.4E-06	2.87E+02	4.2E-06	5.15E+02	2.3E-06
2~Taylor to Railway	VOC	cis-1,2-Dichloroethene	156-59-2	T	ID	14	8	3.10E-04	1.60E-02	7.00E-02	2.3E-01	2.29E+01	7.0E-04	6.09E+01	2.6E-04	2.05E+01	7.8E-04	2.44E+01	6.6E-04
2~Taylor to Railway	VOC	trans-1,2-Dichloroethene	156-60-5	T		14	1	2.10E-04	2.10E-04	1.00E-01	2.1E-03	3.81E+01	5.5E-06	8.10E+01	2.6E-06	2.80E+01	7.5E-06	3.94E+01	5.3E-06
2~Taylor to Railway	VOC	Tetrachloroethene	127-18-4	T	C-B2	14	2	2.70E-04	2.30E-03	5.00E-03	4.6E-01	1.41E+01	1.6E-04	1.47E+01	1.6E-04	4.32E+00	5.3E-04	6.02E-01	3.8E-03
2~Taylor to Railway	VOC	Trichloroethene	79-01-6	T	C-B2	14	5	1.30E-03	7.80E-03	5.00E-03	**1.6E+00**	2.68E+01	2.9E-04	2.67E+01	2.9E-04	7.76E+00	1.0E-03	2.23E+00	3.5E-03
2~Taylor to Railway	VOC	Vinyl Chloride	75-01-4	T	A	14	3	2.40E-04	4.80E-03	2.00E-03	**2.4E+00**	2.02E+00	2.4E-03	3.25E+00	1.5E-03	9.53E-01	5.0E-03	4.90E-02	9.8E-02
2~Taylor to Railway	SVOC	Caprolactam	105-60-2	T		5	3	2.70E-02	2.00E-01	1.83E+01	1.1E-02	2.01E+05	1.0E-06	3.09E+08	6.5E-10	6.16E+07	3.2E-09	1.40E+03	1.4E-04
2~Taylor to Railway	PCB	PCBs (total)	1336-36-3	T	B2	12	4	4.10E-04	5.83E-04	5.00E-04	**1.2E+00**	9.35E-03	6.2E-02	2.43E-01	2.4E-03	6.95E-02	8.4E-03	1.96E-04	**3.0E+00**
2~Taylor to Railway	INORG	Arsenic	7440-38-2	T	A	5	2	2.80E-03	6.50E-03	1.00E-02	6.5E-01	1.44E+01	4.5E-04					3.85E-02	1.7E-01
2~Taylor to Railway	INORG	Barium	7440-39-3	T	NC	5	5	6.70E-02	3.70E-01	2.00E+00	1.9E-01	3.43E+03	1.1E-04					4.83E+01	7.7E-03
2~Taylor to Railway	INORG	Cadmium	7440-43-9	T	B1	5	1	3.00E-04	3.00E-04	5.00E-03	6.0E-02	1.80E+01	1.7E-05					2.88E-01	1.0E-03
2~Taylor to Railway	INORG	Chromium (total)	7440-47-3	T		5	2	2.20E-03	1.40E-02	1.00E-01	1.4E-01	2.85E+01	4.9E-04					4.53E-01	3.1E-02
2~Taylor to Railway	INORG	Cobalt	7440-48-4	T	B1	5	5	7.80E-04	1.80E-03	7.30E-01	2.5E-03	8.09E+03	2.2E-07					5.60E+01	3.2E-05
2~Taylor to Railway	INORG	Manganese	7439-96-5	T	D	8	8	3.00E-02	4.40E-01	5.11E+00	8.6E-02	5.96E+03	7.4E-05					8.55E+01	5.1E-03
2~Taylor to Railway	INORG	Mercury	7439-97-6	T	D	5	1	3.50E-04	3.50E-04	2.00E-03	1.8E-01	2.88E-01	1.2E-03	8.19E-01	4.3E-04	2.86E-01	1.2E-03	1.53E+00	2.3E-04
2~Taylor to Railway	INORG	Nickel	7440-02-0	T	A	5	2	4.40E-03	1.20E-02	7.30E-01	1.6E-02	2.38E+03	5.0E-06					2.78E+01	4.3E-04
2~Taylor to Railway	INORG	Selenium	7782-49-2	T	D	5	1	5.20E-03	5.20E-03	5.00E-02	1.0E-01	1.54E+03	3.4E-06					1.24E+01	4.2E-04
2~Taylor to Railway	INORG	Vanadium	7440-62-2	T		5	1	1.70E-03	1.70E-03	3.65E-02	4.7E-02	1.94E+01	8.8E-05					2.98E-01	5.7E-03
2~Taylor to Railway	INORG	Zinc	7440-66-6	T	ID	5	1	1.40E-02	1.40E-02	1.10E+01	1.3E-03	1.10E+05	1.3E-07					8.05E+02	1.7E-05
4~Off Site South	VOC	Chloroform	67-66-3	T	B2	24	11	4.70E-04	6.10E-03	8.00E-02	7.6E-02	2.29E+00	2.7E-03	2.25E+00	2.7E-03	6.31E-01	9.7E-03	2.53E+01	2.4E-04
4~Off Site South	VOC	cis-1,2-Dichloroethene	156-59-2	T	ID	24	20	3.60E-04	5.90E-03	7.00E-02	8.4E-02	2.29E+01	2.6E-04	6.09E+01	9.7E-05	2.05E+01	2.9E-04	2.44E+01	2.4E-04
4~Off Site South	VOC	trans-1,2-Dichloroethene	156-60-5	T		24	1	4.70E-04	4.70E-04	1.00E-01	4.7E-03	3.81E+01	1.2E-05	8.10E+01	5.8E-06	2.80E+01	1.7E-05	3.94E+01	1.2E-05
4~Off Site South	VOC	Methylene Chloride	75-09-2	T	B2	24	2	8.40E-04	8.80E-04	5.00E-03	1.8E-01	8.94E+01	9.8E-06	1.18E+02	7.5E-06	3.18E+01	2.8E-05	1.28E+01	6.9E-05
4~Off Site South	VOC	Tetrachloroethene	127-18-4	T	C-B2	24	15	4.30E-04	4.80E-02	5.00E-03	**9.6E+00**	1.41E+01	3.4E-03	1.47E+01	3.3E-03	4.32E+00	1.1E-02	6.02E-01	8.0E-02
4~Off Site South	VOC	1,1,1-Trichloroethane	71-55-6	T	ID	24	4	4.40E-04	8.70E-04	2.00E-01	4.4E-03	1.47E+03	5.9E-07	3.34E+03	2.6E-07	1.17E+03	7.4E-07	3.94E+02	2.2E-06
4~Off Site South	VOC	Trichloroethene	79-01-6	T	C-B2	24	24	5.90E-04	1.07E-01	5.00E-03	**2.1E+01**	2.68E+01	4.0E-03	2.67E+01	4.0E-03	7.76E+00	1.4E-02	2.23E+00	4.8E-02
4~Off Site South	SVOC	bis(2-Ethylhexyl)phthalate	117-81-7	T	B2	19	2	6.10E-03	6.90E-03	6.00E-03	**1.2E+00**	1.82E+00	3.8E-03	7.69E+04	9.0E-08	1.49E+04	4.6E-07	9.97E-03	6.9E-01
4~Off Site South	SVOC	Caprolactam	105-60-2	T		18	5	3.30E-03	1.30E-01	1.83E+01	7.1E-03	2.01E+05	6.5E-07	3.09E+08	4.2E-10	6.16E+07	2.1E-09	1.40E+03	9.3E-05
4~Off Site South	PCB	PCBs (total)	1336-36-3	T	B2	23	1	1.93E-04	1.93E-04	5.00E-04	3.9E-01	9.35E-03	2.1E-02	2.43E-01	7.9E-04	6.95E-02	2.8E-03	1.96E-04	9.9E-01
4~Off Site South	INORG	Arsenic	7440-38-2	T	A	19	2	2.80E-03	3.80E-03	1.00E-02	3.8E-01	1.44E+01	2.6E-04					3.85E-02	9.9E-02
4~Off Site South	INORG	Barium	7440-39-3	D	NC	6	6	1.20E-01	2.00E-01	2.00E+00	1.0E-01	3.43E+03	5.8E-05					4.83E+01	4.1E-03
4~Off Site South	INORG	Barium	7440-39-3	T	NC	19	19	8.20E-02	2.10E-01	2.00E+00	1.1E-01	3.43E+03	6.1E-05					4.83E+01	4.3E-03
4~Off Site South	INORG	Cadmium	7440-43-9	T	B1	19	2	3.20E-04	3.90E-04	5.00E-03	7.8E-02	1.80E+01	2.2E-05					2.88E-01	1.4E-03
4~Off Site South	INORG	Chromium (total)	7440-47-3	T		19	7	1.70E-03	1.10E-02	1.00E-01	1.1E-01	2.85E+01	3.9E-04					4.53E-01	2.4E-02
4~Off Site South	INORG	Chromium (total)	7440-47-3	D		6	2	1.70E-03	2.00E-03	1.00E-01	2.0E-02	2.85E+01	7.0E-05					4.53E-01	4.4E-03
4~Off Site South	INORG	Cobalt	7440-48-4	T	B1	18	2	1.40E-03	2.20E-03	7.30E-01	3.0E-03	8.09E+03	2.7E-07					5.60E+01	3.9E-05
4~Off Site South	INORG	Copper	7440-50-8	T	D	18	3	2.50E-03	3.10E-02	1.30E+00	2.4E-02	1.23E+04	2.5E-06					9.89E+01	3.1E-04
4~Off Site South	INORG	Lead	7439-92-1	T	B2	19	2	1.90E-03	2.10E-03	1.50E-02	1.4E-01	7.40E+01	2.8E-05						
4~Off Site South	INORG	Manganese	7439-96-5	D	D	6	4	2.70E-02	8.80E-02	5.11E+00	1.7E-02	5.96E+03	1.5E-05					8.55E+01	1.0E-03
4~Off Site South	INORG	Manganese	7439-96-5	T	D	19	17	2.80E-03	8.50E-01	5.11E+00	1.7E-01	5.96E+03	1.4E-04					8.55E+01	9.9E-03
4~Off Site South	INORG	Nickel	7440-02-0	T	A	18	4	3.80E-03	9.00E-03	7.30E-01	1.2E-02	2.38E+03	3.8E-06					2.78E+01	3.2E-04
4~Off Site South	INORG	Thallium	7440-28-0	T		18	1	4.20E-05	4.20E-05	2.00E-03	2.1E-02	2.15E+01	1.9E-06					1.73E-01	2.4E-04

Table 6.2B: Groundwater Screening Results for All RFI Data: Upper Aquifer Off-site
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

Area	Chem Group	Chemical	CASRN	Meas Basis	Carc Class	Analyzed	Detected	Min Detect (mg/L)	Max Detect (mg/L)	Drinking Water Criteria (mg/L)	Ratio of Max Detect to DW Criteria	Maintenance Worker Contact Criteria (mg/L)	Ratio of Max Detect to Maintenance Worker Contact Criteria	Comm/Ind Vol Indoor Air Criteria (mg/L)	Ratio of Max Detect to Comm/Ind Vol Indoor Air Criteria	Residential Vol of Indoor Air Criteria (mg/L)	Ratio of Max Detect to Vol Indoor Air Criteria	Residential Nonpotable Criteria (mg/L)	Ratio of Max Detect to Res Nonpotable Criteria
4~Off Site South	INORG	Vanadium	7440-62-2	T		18	3	9.20E-04	4.00E-03	3.65E-02	1.1E-01	1.94E+01	2.1E-04					2.98E-01	1.3E-02
4~Off Site South	INORG	Zinc	7440-66-6	T	ID	18	2	1.60E-02	4.30E-02	1.10E+01	3.9E-03	1.10E+05	3.9E-07					8.05E+02	5.3E-05
5~Off Site West	VOC	Acetone	67-64-1	T	ID	123	1	1.10E-03	1.10E-03	3.29E+01	3.3E-05	6.78E+03	1.6E-07	9.19E+04	1.2E-08	2.14E+04	5.1E-08	5.23E+03	2.1E-07
5~Off Site West	VOC	Benzene	71-43-2	T	A	123	1	3.40E-04	3.40E-04	5.00E-03	6.8E-02	4.88E+00	7.0E-05	6.19E+00	5.5E-05	1.77E+00	1.9E-04	6.39E-01	5.3E-04
5~Off Site West	VOC	2-Butanone	78-93-3	T	ID	123	1	1.00E-03	1.00E-03	2.19E+01	4.6E-05	8.70E+03	1.2E-07	1.16E+05	8.7E-09	2.87E+04	3.5E-08	3.13E+03	3.2E-07
5~Off Site West	VOC	Chloroethane	75-00-3	T	LC	123	1	8.80E-04	8.80E-04	2.94E-01	3.0E-03	2.09E+03	4.2E-07	1.17E+04	7.5E-08	4.03E+03	2.2E-07	2.51E+01	3.5E-05
5~Off Site West	VOC	Chloroform	67-66-3	T	B2	123	15	2.70E-04	3.10E-03	8.00E-02	3.9E-02	2.29E+00	1.4E-03	2.25E+00	1.4E-03	6.31E-01	4.9E-03	2.53E+01	1.2E-04
5~Off Site West	VOC	Chloromethane	74-87-3	T	D	123	4	1.50E-04	3.30E-04			4.34E+01	7.6E-06	1.85E+02	1.8E-06	6.46E+01	5.1E-06	3.79E+03	8.7E-08
5~Off Site West	VOC	Cyclohexane	110-82-7	T	ID	123	4	1.40E-04	5.40E-04			3.68E+03	1.5E-07	6.21E+03	8.7E-08	2.21E+03	2.4E-07	2.70E+05	2.0E-09
5~Off Site West	VOC	Dichlorodifluoromethane	75-71-8	T		123	10	3.60E-04	1.20E-02	7.30E+00	1.6E-03	1.45E+02	8.3E-05	2.18E+02	5.5E-05	7.77E+01	1.5E-04	3.57E+02	3.4E-05
5~Off Site West	VOC	1,1-Dichloroethane	75-34-3	T	SC	123	2	5.20E-04	1.70E-03	7.30E+00	2.3E-04	3.32E+02	5.1E-06	8.40E+02	2.0E-06	2.87E+02	5.9E-06	5.15E+02	3.3E-06
5~Off Site West	VOC	1,1-Dichloroethene	75-35-4	T	C	123	2	1.90E-04	2.30E-04	7.00E-03	3.3E-02	1.25E+02	1.8E-06	2.42E+02	9.5E-07	8.52E+01	2.7E-06	8.82E+01	2.6E-06
5~Off Site West	VOC	cis-1,2-Dichloroethene	156-59-2	T	ID	123	120	5.60E-04	3.10E+00	7.00E-02	**4.4E+01**	2.29E+01	1.4E-01	6.09E+01	5.1E-02	2.05E+01	1.5E-01	2.44E+01	1.3E-01
5~Off Site West	VOC	trans-1,2-Dichloroethene	156-60-5	T		123	22	1.60E-04	4.85E-03	1.00E-01	4.9E-02	3.81E+01	1.3E-04	8.10E+01	6.0E-05	2.80E+01	1.7E-04	3.94E+01	1.2E-04
5~Off Site West	VOC	Methylcyclohexane	108-87-2	T		123	1	4.30E-04	4.30E-04			1.99E+03	2.2E-07	3.04E+03	1.4E-07	1.08E+03	4.0E-07	1.33E+05	3.2E-09
5~Off Site West	VOC	Methylene Chloride	75-09-2	T	B2	123	12	6.10E-04	1.45E-02	5.00E-03	**2.9E+00**	8.94E+01	1.6E-04	1.18E+02	1.2E-04	3.18E+01	4.6E-04	1.28E+01	1.1E-03
5~Off Site West	VOC	Tetrachloroethene	127-18-4	T	C-B2	123	104	4.40E-04	6.95E-01	5.00E-03	**1.4E+02**	1.41E+01	4.9E-02	1.47E+01	4.7E-02	4.32E+00	1.6E-01	6.02E-01	**1.2E+00**
5~Off Site West	VOC	Toluene	108-88-3	T	ID	123	1	1.90E-04	1.90E-04	1.00E+00	1.9E-04	1.69E+03	1.1E-07	9.16E+03	2.1E-08	3.17E+03	6.0E-08	5.90E+01	3.2E-06
5~Off Site West	VOC	1,2,4-Trichlorobenzene	120-82-1	T	D	123	1	3.90E-04	3.90E-04	7.00E-02	5.6E-03	4.31E+01	9.1E-06	7.44E+02	5.2E-07	2.46E+02	1.6E-06	2.24E+00	1.7E-04
5~Off Site West	VOC	1,1,1-Trichloroethane	71-55-6	T	ID	123	12	2.10E-04	5.30E-04	2.00E-01	2.7E-03	1.47E+03	3.6E-07	3.34E+03	1.6E-07	1.17E+03	4.5E-07	3.94E+02	1.3E-06
5~Off Site West	VOC	Trichloroethene	79-01-6	T	C-B2	123	103	2.20E-04	9.40E-01	5.00E-03	**1.9E+02**	2.68E+01	3.5E-02	2.67E+01	3.5E-02	7.76E+00	1.2E-01	2.23E+00	4.2E-01
5~Off Site West	VOC	Vinyl Chloride	75-01-4	T	A	123	44	3.00E-04	7.90E-01	2.00E-03	**4.0E+02**	2.02E+00	3.9E-01	3.25E+00	2.4E-01	9.53E-01	8.3E-01	4.90E-02	**1.6E+01**
5~Off Site West	SVOC	Caprolactam	105-60-2	T		33	1	2.90E-03	2.90E-03	1.83E+01	1.6E-04	2.01E+05	1.4E-08	3.09E+08	9.4E-12	6.16E+07	4.7E-11	1.40E+03	2.1E-06
5~Off Site West	SVOC	Di-n-octylphthalate	117-84-0	T		33	1	1.60E-03	1.60E-03	1.46E+00	1.1E-03	1.31E+01	1.2E-04					3.52E-01	4.5E-03
5~Off Site West	SVOC	Methylphenol (total)	1319-77-3	T		33	1	4.20E-03	4.20E-03	1.83E+00	2.3E-03	2.63E+03	1.6E-06	2.11E+05	2.0E-08	4.70E+04	8.9E-08	4.47E+01	9.4E-05
5~Off Site West	INORG	Arsenic	7440-38-2	D	A	20	15	2.60E-03	1.40E-02	1.00E-02	**1.4E+00**	1.44E+01	9.7E-04					3.85E-02	3.6E-01
5~Off Site West	INORG	Arsenic	7440-38-2	T	A	43	24	2.50E-03	5.00E-02	1.00E-02	**5.0E+00**	1.44E+01	3.5E-03					3.85E-02	**1.3E+00**
5~Off Site West	INORG	Barium	7440-39-3	T	NC	43	43	1.00E-01	4.50E-01	2.00E+00	2.3E-01	3.43E+03	1.3E-04					4.83E+01	9.3E-03
5~Off Site West	INORG	Barium	7440-39-3	D	NC	20	20	1.20E-01	3.95E-01	2.00E+00	2.0E-01	3.43E+03	1.2E-04					4.83E+01	8.2E-03
5~Off Site West	INORG	Cadmium	7440-43-9	D	B1	20	2	4.20E-04	5.80E-04	5.00E-03	1.2E-01	1.80E+01	3.2E-05					2.88E-01	2.0E-03
5~Off Site West	INORG	Cadmium	7440-43-9	T	B1	43	7	3.00E-04	7.70E-04	5.00E-03	1.5E-01	1.80E+01	4.3E-05					2.88E-01	2.7E-03
5~Off Site West	INORG	Chromium (total)	7440-47-3	T		43	19	1.33E-03	2.25E-02	1.00E-01	2.3E-01	2.85E+01	7.9E-04					4.53E-01	5.0E-02
5~Off Site West	INORG	Cobalt	7440-48-4	D	B1	20	7	5.90E-04	3.80E-03	7.30E-01	5.2E-03	8.09E+03	4.7E-07					5.60E+01	6.8E-05
5~Off Site West	INORG	Cobalt	7440-48-4	T	B1	43	19	6.85E-04	7.05E-03	7.30E-01	9.7E-03	8.09E+03	8.7E-07					5.60E+01	1.3E-04
5~Off Site West	INORG	Copper	7440-50-8	T	D	43	6	1.33E-03	8.20E-03	1.30E+00	6.3E-03	1.23E+04	6.7E-07					9.89E+01	8.3E-05
5~Off Site West	INORG	Copper	7440-50-8	D	D	20	2	1.48E-03	2.20E-03	1.30E+00	1.7E-03	1.23E+04	1.8E-07					9.89E+01	2.2E-05
5~Off Site West	INORG	Cyanide (total)	57-12-5	T	D	35	6	2.00E-03	2.80E-02	2.00E-01	1.4E-01	6.16E+03	4.5E-06					4.95E+01	5.7E-04
5~Off Site West	INORG	Lead	7439-92-1	T	B2	43	3	1.60E-03	3.40E-03	1.50E-02	2.3E-01	7.40E+01	4.6E-05						
5~Off Site West	INORG	Manganese	7439-96-5	D	D	27	27	3.10E-02	9.35E-01	5.11E+00	1.8E-01	5.96E+03	1.6E-04					8.55E+01	1.1E-02
5~Off Site West	INORG	Manganese	7439-96-5	T	D	89	88	8.30E-03	1.20E+00	5.11E+00	2.3E-01	5.96E+03	2.0E-04					8.55E+01	1.4E-02
5~Off Site West	INORG	Mercury	7439-97-6	T	D	43	4	8.80E-05	2.00E-04	2.00E-03	1.0E-01	2.88E-01	7.0E-04	8.19E-01	2.4E-04	2.86E-01	7.0E-04	1.53E+00	1.3E-04
5~Off Site West	INORG	Nickel	7440-02-0	D	A	20	7	2.38E-03	5.80E-03	7.30E-01	7.9E-03	2.38E+03	2.4E-06					2.78E+01	2.1E-04
5~Off Site West	INORG	Nickel	7440-02-0	T	A	43	20	2.38E-03	1.80E-02	7.30E-01	2.5E-02	2.38E+03	7.6E-06					2.78E+01	6.5E-04
5~Off Site West	INORG	Thallium	7440-28-0	D		20	1	3.40E-05	3.40E-05	2.00E-03	1.7E-02	2.15E+01	1.6E-06					1.73E-01	2.0E-04
5~Off Site West	INORG	Thallium	7440-28-0	T		43	4	3.60E-05	4.70E-05	2.00E-03	2.4E-02	2.15E+01	2.2E-06					1.73E-01	2.7E-04
5~Off Site West	INORG	Vanadium	7440-62-2	T		43	11	5.78E-04	2.30E-03	3.65E-02	6.3E-02	1.94E+01	1.2E-04					2.98E-01	7.7E-03
5~Off Site West	INORG	Zinc	7440-66-6	D	ID	20	4	1.40E-02	2.20E-02	1.10E+01	2.0E-03	1.10E+05	2.0E-07					8.05E+02	2.7E-05
5~Off Site West	INORG	Zinc	7440-66-6	T	ID	43	12	1.10E-02	4.55E-02	1.10E+01	4.2E-03	1.10E+05	4.1E-07					8.05E+02	5.7E-05
6~Off Site East	VOC	Chloroform	67-66-3	T	B2	4	3	8.70E-04	4.90E-03	8.00E-02	6.1E-02	2.29E+00	2.1E-03	2.25E+00	2.2E-03	6.31E-01	7.8E-03	2.53E+01	1.9E-04
6~Off Site East	SVOC	Caprolactam	105-60-2	T		4	2	8.80E-03	5.30E-02	1.83E+01	2.9E-03	2.01E+05	2.6E-07	3.09E+08	1.7E-10	6.16E+07	8.6E-10	1.40E+03	3.8E-05
6~Off Site East	INORG	Arsenic	7440-38-2	T	A	4	1	3.60E-03	3.60E-03	1.00E-02	3.6E-01	1.44E+01	2.5E-04					3.85E-02	9.4E-02
6~Off Site East	INORG	Barium	7440-39-3	T	NC	4	4	7.60E-02	2.10E-01	2.00E+00	1.1E-01	3.43E+03	6.1E-05					4.83E+01	4.3E-03
6~Off Site East	INORG	Cadmium	7440-43-9	T	B1	4	1	2.80E-04	2.80E-04	5.00E-03	5.6E-02	1.80E+01	1.6E-05					2.88E-01	9.7E-04
6~Off Site East	INORG	Cyanide (total)	57-12-5	T	D	4	1	1.90E-03	1.90E-03	2.00E-01	9.5E-03	6.16E+03	3.1E-07					4.95E+01	3.8E-05
6~Off Site East	INORG	Manganese	7439-96-5	T	D	4	2	5.30E-02	1.40E-01	5.11E+00	2.7E-02	5.96E+03	2.3E-05					8.55E+01	1.6E-03

Table 6.2B: Groundwater Screening Results for All RFI Data: Upper Aquifer Off-site
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

Area	Chem Group	Chemical	CASRN	Meas Basis	Carc Class	Analyzed	Detected	Min Detect (mg/L)	Max Detect (mg/L)	Drinking Water Criteria (mg/L)	Ratio of Max Detect to DW Criteria	Maintenance Worker Contact Criteria (mg/L)	Ratio of Max Detect to Maintenance Worker Contact Criteria	Comm/Ind Vol Indoor Air Criteria (mg/L)	Ratio of Max Detect to Comm/Ind Vol Indoor Air Criteria	Residential Vol of Indoor Air Criteria (mg/L)	Ratio of Max Detect to Vol Indoor Air Criteria	Residential Nonpotable Criteria (mg/L)	Ratio of Max Detect to Res Nonpotable Criteria
6~Off Site East	INORG	Zinc	7440-66-6	T	ID	4	1	6.90E-02	6.90E-02	1.10E+01	6.3E-03	1.10E+05	6.3E-07					8.05E+02	8.6E-05
7~North of River	VOC	1,1-Dichloroethane	75-34-3	T	SC	1	1	9.50E-04	9.50E-04	7.3E+00	1.3E-04	3.3E+02	2.9E-06	8.4E+02	1.1E-06	2.87E+02	3.3E-06	5.15E+02	1.8E-06
7~North of River	VOC	cis-1,2-Dichloroethene	156-59-2	T	ID	1	1	1.00E-02	1.00E-02	7.0E-02	1.4E-01	2.3E+01	4.4E-04	6.1E+01	1.6E-04	2.05E+01	4.9E-04	2.44E+01	4.1E-04
7~North of River	VOC	trans-1,2-Dichloroethene	156-60-5	T		1	1	1.43E-04	1.43E-04	1.0E-01	1.4E-03	3.8E+01	3.7E-06	8.1E+01	1.8E-06	2.80E+01	5.1E-06	3.94E+01	3.6E-06
7~North of River	VOC	Tetrachloroethene	127-18-4	T	C-B2	1	1	1.35E-02	1.35E-02	5.0E-03	**2.7E+00**	1.4E+01	9.6E-04	1.5E+01	9.2E-04	4.32E+00	3.1E-03	6.02E-01	2.2E-02
7~North of River	VOC	1,1,1-Trichloroethane	71-55-6	T	ID	1	1	1.40E-03	1.40E-03	2.0E-01	7.0E-03	1.5E+03	9.5E-07	3.3E+03	4.2E-07	1.17E+03	1.2E-06	3.94E+02	3.5E-06
7~North of River	VOC	Trichloroethene	79-01-6	T	C-B2	1	1	1.25E-02	1.25E-02	5.0E-03	**2.5E+00**	2.7E+01	4.7E-04	2.7E+01	4.7E-04	7.76E+00	1.6E-03	2.23E+00	5.6E-03
7~North of River	VOC	1,1,2-Trichloro-1,2,2-trifluoro	76-13-1	T		1	1	5.80E-04	5.80E-04	1.1E+03	5.3E-07	2.6E+04	2.2E-08	3.1E+04	1.9E-08	1.10E+04	5.3E-08	2.39E+04	2.4E-08
7~North of River	VOC	Vinyl Chloride	75-01-4	T	A	1	1	6.65E-04	6.65E-04	2.0E-03	3.3E-01	2.0E+00	3.3E-04	3.2E+00	2.0E-04	9.53E-01	7.0E-04	4.90E-02	1.4E-02

Notes:

1. Among RFI groundwater data collected through June 2008, only constituents detected in each respective area are shown.
2. The drinking water criteria are based on the following hierarchy: state MCL, federal MCL, equivalent drinking water concentration limits at the lower of the criteria calculated at either the target cancer risk of 1 x 10^{-5} or target hazard quotient of 1.
3. The criteria for non-drinking water are the lower of the criteria at either the target cancer risk of 1 x 10^{-5} or target hazard quotient of 1.
4. Shaded cells represent ratios of concentration to the screening criteria greater than 1.
5. Maintenance worker contact criteria, comm/ind vol indoor air criteria, residential vol indoor air criteria, and residential nonpotable criteria were calculated as discussed in Appendix F of the RFI Report Addendum 3.
6. The screening criteria for chromium VI was used as a surrogate for chromium (total).
7. The concentrations for the methylphenol (2, 3, & 4) were summed before comparing to the screening criteria for 4-methylphenol.
8. The concentrations for all polychlorinated biphenyls (PCBs) Aroclors were summed before comparing to the screening criteria for PCBs (total).

Abbreviations:

Chem Group - Chemical Group
CASRN - Chemical Abstract Service Registry Number
Carc Class - EPA Weight-of-Evidence Cancer Classification
Comm/Ind - Commercial/Industrial
Vol - Volatilization
Meas Basis - Measured Basis; T = Total, D = Dissolved

Table 6.2C: Groundwater Screening Results for All RFI Data: Till-Rich Zone
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

On/Off-site	Area	Chem Group	Chemical	CASRN	Carc Class	Analyzed	Detected	Min Detect (mg/L)	Max Detect (mg/L)	Drinking Water Criteria (mg/L)	Ratio of Max Detect to DW Criteria	Residential Nonpotable Criteria (mg/L)	Ratio of Max Detect to Res Nonpotable Criteria
On-site	1~Webster to Taylor	VOC	Dichlorodifluoromethane	75-71-8		3	1	3.80E-01	3.80E-01	7.30E+00	5.2E-02	3.57E+02	1.1E-03
On-site	1~Webster to Taylor	VOC	cis-1,2-Dichloroethene	156-59-2	ID	3	3	5.00E-03	1.70E-01	7.00E-02	**2.4E+00**	2.44E+01	7.0E-03
On-site	1~Webster to Taylor	VOC	trans-1,2-Dichloroethene	156-60-5		3	2	4.10E-04	3.20E-03	1.00E-01	3.2E-02	3.94E+01	8.1E-05
On-site	1~Webster to Taylor	VOC	Tetrachloroethene	127-18-4	C-B2	3	2	1.10E-02	2.70E-02	5.00E-03	**5.4E+00**	6.02E-01	4.5E-02
On-site	1~Webster to Taylor	VOC	1,1,1-Trichloroethane	71-55-6	ID	3	1	3.80E-04	3.80E-04	2.00E-01	1.9E-03	3.94E+02	9.6E-07
On-site	1~Webster to Taylor	VOC	Trichloroethene	79-01-6	C-B2	3	3	6.40E-02	3.60E-01	5.00E-03	**7.2E+01**	2.23E+00	1.6E-01
On-site	1~Webster to Taylor	VOC	Vinyl Chloride	75-01-4	A	3	1	4.10E-03	4.10E-03	2.00E-03	**2.1E+00**	4.90E-02	8.4E-02
On-site	1~Webster to Taylor	INORG	Manganese	7439-96-5	D	1	1	2.90E-02	2.90E-02	5.11E+00	5.7E-03	8.55E+01	3.4E-04
On-site	2~Taylor to Railway	VOC	Chloroform	67-66-3	B2	2	1	6.75E-04	6.75E-04	8.00E-02	8.4E-03	2.53E+01	2.7E-05
On-site	2~Taylor to Railway	VOC	cis-1,2-Dichloroethene	156-59-2	ID	2	2	1.15E-02	7.20E-02	7.00E-02	1.0E+00	2.44E+01	3.0E-03
On-site	2~Taylor to Railway	VOC	trans-1,2-Dichloroethene	156-60-5		2	1	3.20E-03	3.20E-03	1.00E-01	3.2E-02	3.94E+01	8.1E-05
On-site	2~Taylor to Railway	VOC	Tetrachloroethene	127-18-4	C-B2	2	2	1.15E-02	1.30E-02	5.00E-03	**2.6E+00**	6.02E-01	2.2E-02
On-site	2~Taylor to Railway	VOC	Trichloroethene	79-01-6	C-B2	2	2	1.10E-01	1.90E-01	5.00E-03	**3.8E+01**	2.23E+00	8.5E-02
On-site	2~Taylor to Railway	INORG	Manganese	7439-96-5	D	1	1	5.10E-02	5.10E-02	5.11E+00	1.0E-02	8.55E+01	6.0E-04
Off-site	5~Off Site West	VOC	Acetone	67-64-1	ID	29	4	1.80E-02	1.60E-01	3.29E+01	4.9E-03	5.23E+03	3.1E-05
Off-site	5~Off Site West	VOC	2-Butanone	78-93-3	ID	29	1	9.90E-02	9.90E-02	2.19E+01	4.5E-03	3.13E+03	3.2E-05
Off-site	5~Off Site West	VOC	Chloroform	67-66-3	B2	29	2	1.30E-03	1.85E-03	8.00E-02	2.3E-02	2.53E+01	7.3E-05
Off-site	5~Off Site West	VOC	Chloromethane	74-87-3	D	29	1	7.30E-03	7.30E-03			3.79E+03	1.9E-06
Off-site	5~Off Site West	VOC	Dichlorodifluoromethane	75-71-8		29	21	5.75E-04	1.10E-01	7.30E+00	1.5E-02	3.57E+02	3.1E-04
Off-site	5~Off Site West	VOC	1,1-Dichloroethane	75-34-3	SC	29	1	1.20E-03	1.20E-03	7.30E+00	1.6E-04	5.15E+02	2.3E-06
Off-site	5~Off Site West	VOC	1,1-Dichloroethene	75-35-4	C	29	6	1.30E-03	9.90E-03	7.00E-03	**1.4E+00**	8.82E+01	1.1E-04
Off-site	5~Off Site West	VOC	cis-1,2-Dichloroethene	156-59-2	ID	29	28	7.10E-04	7.10E-01	7.00E-02	**1.0E+01**	2.44E+01	2.9E-02
Off-site	5~Off Site West	VOC	trans-1,2-Dichloroethene	156-60-5		29	13	4.60E-04	1.20E-02	1.00E-01	1.2E-01	3.94E+01	3.0E-04
Off-site	5~Off Site West	VOC	Tetrachloroethene	127-18-4	C-B2	29	12	1.10E-03	4.30E-01	5.00E-03	**8.6E+01**	6.02E-01	7.1E-01
Off-site	5~Off Site West	VOC	Trichloroethene	79-01-6	C-B2	29	26	7.20E-04	2.00E+00	5.00E-03	**4.0E+02**	2.23E+00	9.0E-01
Off-site	5~Off Site West	VOC	Vinyl Chloride	75-01-4	A	29	12	5.70E-03	1.50E-01	2.00E-03	**7.5E+01**	4.90E-02	**3.1E+00**
Off-site	5~Off Site West	INORG	Arsenic	7440-38-2	A	5	3	2.50E-03	4.10E-03	1.00E-02	4.1E-01	3.85E-02	1.1E-01
Off-site	5~Off Site West	INORG	Barium	7440-39-3	NC	5	5	1.00E-01	1.50E-01	2.00E+00	7.5E-02	4.83E+01	3.1E-03
Off-site	5~Off Site West	INORG	Cadmium	7440-43-9	B1	5	2	2.90E-04	3.70E-04	5.00E-03	7.4E-02	2.88E-01	1.3E-03
Off-site	5~Off Site West	INORG	Cobalt	7440-48-4	B1	4	1	1.50E-03	1.50E-03	7.30E-01	2.1E-03	5.60E+01	2.7E-05
Off-site	5~Off Site West	INORG	Copper	7440-50-8	D	4	1	2.20E-03	2.20E-03	1.30E+00	1.7E-03	9.89E+01	2.2E-05
Off-site	5~Off Site West	INORG	Manganese	7439-96-5	D	18	18	4.10E-02	1.80E-01	5.11E+00	3.5E-02	8.55E+01	2.1E-03
Off-site	5~Off Site West	INORG	Nickel	7440-02-0	A	4	1	8.90E-03	8.90E-03	7.30E-01	1.2E-02	2.78E+01	3.2E-04
Off-site	5~Off Site West	INORG	Thallium	7440-28-0		4	1	8.10E-05	8.10E-05	2.00E-03	4.1E-02	1.73E-01	4.7E-04
Off-site	5~Off Site West	INORG	Vanadium	7440-62-2		4	2	8.60E-04	1.10E-03	3.65E-02	3.0E-02	2.98E-01	3.7E-03
Off-site	5~Off Site West	INORG	Zinc	7440-66-6	ID	4	1	1.90E-02	1.90E-02	1.10E+01	1.7E-03	8.05E+02	2.4E-05
off-site	7~North of River	VOC	Carbon Disulfide	75-15-0		1	1	4.10E-04	4.10E-04	3.7E+00	1.1E-04	1.75E+02	2.3E-06
off-site	7~North of River	VOC	Dichlorodifluoromethane	75-71-8		1	1	2.30E-02	2.30E-02	7.3E+00	3.2E-03	3.57E+02	6.5E-05
off-site	7~North of River	VOC	1,1-Dichloroethane	75-34-3	SC	1	1	1.10E-03	1.10E-03	7.3E+00	1.5E-04	5.15E+02	2.1E-06
off-site	7~North of River	VOC	cis-1,2-Dichloroethene	156-59-2	ID	1	1	1.70E-02	1.70E-02	7.0E-02	2.4E-01	2.44E+01	7.0E-04
off-site	7~North of River	VOC	trans-1,2-Dichloroethene	156-60-5		1	1	5.00E-04	5.00E-04	1.0E-01	5.0E-03	3.94E+01	1.3E-05
off-site	7~North of River	VOC	Trichloroethene	79-01-6	C-B2	1	1	3.00E-04	3.00E-04	5.0E-03	6.0E-02	2.23E+00	1.3E-04
off-site	7~North of River	VOC	Vinyl Chloride	75-01-4	A	1	1	8.50E-04	8.50E-04	2.0E-03	4.3E-01	4.90E-02	1.7E-02

Notes:

1. Among RFI groundwater data collected through June 2008, only constituents detected in each respective area are shown.
2. The drinking water criteria are based on the following hierarchy: state MCL, federal MCL, equivalent drinking water concentration limits at the lower of the criteria calculated at either the target cancer risk of 1×10^{-5} or target hazard quotient of 1.
3. The criteria for non-drinking water are the lower of the criteria at either the target cancer risk of 1×10^{-5} or target hazard quotient of 1.
4. Shaded cells represent ratios of concentration to the screening criteria greater than 1.
5. Residential nonpotable criteria were calculated as discussed in Appendix F of the RFI Report Addendum 3.

Abbreviations:

Chem Group - Chemical Group
CASRN - Chemical Abstract Service Registry Number
Carc Class - EPA Weight-of-Evidence Cancer Classification

Table 6-2D: Groundwater Screening Results for All RFI Data: Lower Aquifer
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

On/Off-site	Area	Chem Group	Chemical	CASRN	Carc Class	Analyzed	Detected	Min Detect (mg/L)	Max Detect (mg/L)	Drinking Water Criteria (mg/L)	Ratio of Max Detect to DW Criteria	Residenital Nonpotable Criteria (mg/L)	Ratio of Max Detect to Res Nonpotable Criteria
On-site	1~Webster to Taylor	VOC	Dichlorodifluoromethane	75-71-8		2	2	3.20E-01	3.40E-01	7.30E+00	4.7E-02	3.57E+02	9.5E-04
On-site	1~Webster to Taylor	VOC	cis-1,2-Dichloroethene	156-59-2	ID	2	2	3.10E-01	3.60E-01	7.00E-02	**5.1E+00**	2.44E+01	1.5E-02
On-site	1~Webster to Taylor	VOC	trans-1,2-Dichloroethene	156-60-5		2	2	1.70E-03	4.40E-03	1.00E-01	4.4E-02	3.94E+01	1.1E-04
On-site	1~Webster to Taylor	VOC	Trichloroethene	79-01-6	C-B2	2	2	4.80E-03	1.50E-02	5.00E-03	**3.0E+00**	2.23E+00	6.7E-03
On-site	1~Webster to Taylor	VOC	Vinyl Chloride	75-01-4	A	2	2	7.80E-03	8.90E-03	2.00E-03	**4.5E+00**	4.90E-02	1.8E-01
On-site	1~Webster to Taylor	INORG	Arsenic	7440-38-2	A	1	1	8.50E-03	8.50E-03	1.00E-02	8.5E-01	3.85E-02	2.2E-01
On-site	1~Webster to Taylor	INORG	Barium	7440-39-3	NC	1	1	8.45E-02	8.45E-02	2.00E+00	4.2E-02	4.83E+01	1.7E-03
On-site	1~Webster to Taylor	INORG	Manganese	7439-96-5	D	1	1	4.60E-02	4.60E-02	5.11E+00	9.0E-03	8.55E+01	5.4E-04
On-site	1~Webster to Taylor	INORG	Zinc	7440-66-6	ID	1	1	1.25E-02	1.25E-02	1.10E+01	1.1E-03	8.05E+02	1.6E-05
On-site	2~Taylor to Railway	VOC	Dichlorodifluoromethane	75-71-8		2	1	3.30E-03	3.30E-03	7.30E+00	4.5E-04	3.57E+02	9.3E-06
On-site	2~Taylor to Railway	VOC	cis-1,2-Dichloroethene	156-59-2	ID	2	1	1.20E-03	1.20E-03	7.00E-02	1.7E-02	2.44E+01	4.9E-05
On-site	2~Taylor to Railway	VOC	Toluene	108-88-3	ID	2	2	1.70E-04	3.00E-04	1.00E+00	3.0E-04	5.90E+01	5.1E-06
On-site	2~Taylor to Railway	VOC	Vinyl Chloride	75-01-4	A	2	2	3.00E-03	4.10E-03	2.00E-03	**2.1E+00**	4.90E-02	8.4E-02
Off-site	4~Off Site South	VOC	Carbon Disulfide	75-15-0		4	1	3.40E-04	3.40E-04	3.65E+00	9.3E-05	1.75E+02	1.9E-06
Off-site	4~Off Site South	VOC	Toluene	108-88-3	ID	4	1	2.30E-04	2.30E-04	1.00E+00	2.3E-04	5.90E+01	3.9E-06
Off-site	4~Off Site South	INORG	Barium	7440-39-3	NC	1	1	7.54E-02	7.54E-02	2.00E+00	3.8E-02	4.83E+01	1.6E-03
Off-site	4~Off Site South	INORG	Selenium	7782-49-2	D	1	1	6.98E-03	6.98E-03	5.00E-02	1.4E-01	1.24E+01	5.6E-04
Off-site	5~Off Site West	VOC	Acetone	67-64-1	ID	22	5	1.60E-03	8.95E-02	3.29E+01	2.7E-03	5.23E+03	1.7E-05
Off-site	5~Off Site West	VOC	Benzene	71-43-2	A	22	2	3.50E-04	1.50E-03	5.00E-03	3.0E-01	6.39E-01	2.3E-03
Off-site	5~Off Site West	VOC	Bromodichloromethane	75-27-4	B2	22	1	1.80E-04	1.80E-04	8.00E-02	2.3E-03	1.01E+00	1.8E-04
Off-site	5~Off Site West	VOC	Bromomethane	74-83-9	ID	22	1	8.40E-04	8.40E-04	5.11E-02	1.6E-02	6.28E+00	1.3E-04
Off-site	5~Off Site West	VOC	2-Butanone	78-93-3	ID	22	3	7.20E-04	1.30E-02	2.19E+01	5.9E-04	3.13E+03	4.2E-06
Off-site	5~Off Site West	VOC	Chloroform	67-66-3	B2	22	2	5.40E-04	9.40E-04	8.00E-02	1.2E-02	2.53E+01	3.7E-05
Off-site	5~Off Site West	VOC	Chloromethane	74-87-3	D	22	1	1.90E-04	1.90E-04			3.79E+03	5.0E-08
Off-site	5~Off Site West	VOC	Dibromochloromethane	124-48-1	C	22	1	3.00E-04	3.00E-04	8.00E-02	3.8E-03	8.15E-01	3.7E-04
Off-site	5~Off Site West	VOC	1,4-Dichlorobenzene	106-46-7	C	22	4	3.60E-04	1.40E-03	7.50E-02	1.9E-02	4.07E-01	3.4E-03
Off-site	5~Off Site West	VOC	Dichlorodifluoromethane	75-71-8		22	16	1.30E-03	2.60E-01	7.30E+00	3.6E-02	3.57E+02	7.3E-04
Off-site	5~Off Site West	VOC	1,1-Dichloroethene	75-35-4	C	22	10	3.10E-04	1.20E-02	7.00E-03	**1.7E+00**	8.82E+01	1.4E-04
Off-site	5~Off Site West	VOC	cis-1,2-Dichloroethene	156-59-2	ID	22	20	2.90E-04	7.70E-01	7.00E-02	**1.1E+01**	2.44E+01	3.2E-02
Off-site	5~Off Site West	VOC	trans-1,2-Dichloroethene	156-60-5		22	12	1.60E-04	1.70E-02	1.00E-01	1.7E-01	3.94E+01	4.3E-04
Off-site	5~Off Site West	VOC	Methylene Chloride	75-09-2	B2	22	1	1.50E-03	1.50E-03	5.00E-03	3.0E-01	1.28E+01	1.2E-04
Off-site	5~Off Site West	VOC	Toluene	108-88-3	ID	22	2	2.90E-04	4.20E-04	1.00E+00	4.2E-04	5.90E+01	7.1E-06
Off-site	5~Off Site West	VOC	Trichloroethene	79-01-6	C-B2	22	15	6.90E-04	9.00E-01	5.00E-03	**1.8E+02**	2.23E+00	4.0E-01
Off-site	5~Off Site West	VOC	Vinyl Chloride	75-01-4	A	22	9	1.30E-03	1.30E-02	2.00E-03	**6.5E+00**	4.90E-02	2.7E-01
Off-site	5~Off Site West	INORG	Arsenic	7440-38-2	A	4	3	3.30E-03	6.40E-03	1.00E-02	6.4E-01	3.85E-02	1.7E-01
Off-site	5~Off Site West	INORG	Barium	7440-39-3	NC	4	4	9.00E-02	1.70E-01	2.00E+00	8.5E-02	4.83E+01	3.5E-03
Off-site	5~Off Site West	INORG	Cadmium	7440-43-9	B1	4	1	3.30E-04	3.30E-04	5.00E-03	6.6E-02	2.88E-01	1.1E-03
Off-site	5~Off Site West	INORG	Copper	7440-50-8	D	3	1	2.60E-03	2.60E-03	1.30E+00	2.0E-03	9.89E+01	2.6E-05
Off-site	5~Off Site West	INORG	Manganese	7439-96-5	D	11	11	2.50E-02	2.90E-01	5.11E+00	5.7E-02	8.55E+01	3.4E-03
Off-site	5~Off Site West	INORG	Zinc	7440-66-6	ID	3	2	1.50E-02	1.80E-02	1.10E+01	1.6E-03	8.05E+02	2.2E-05
Off-site	7~North of River	VOC	Acetone	67-64-1	ID	2	1	9.10E-04	9.10E-04	3.29E+01	2.8E-05	5.23E+03	1.7E-07
Off-site	7~North of River	VOC	Methylene Chloride	75-09-2	B2	2	1	8.90E-04	8.90E-04	5.00E-03	1.8E-01	1.28E+01	7.0E-05
Off-site	7~North of River	VOC	Toluene	108-88-3	ID	2	2	2.20E-04	6.00E-04	1.00E+00	6.0E-04	5.90E+01	1.0E-05

Notes:

1. Among RFI groundwater data collected through June 2008, only constituents detected in each respective area are shown.
2. The drinking water criteria are based on the following hierarchy: state MCL, federal MCL, equivalent drinking water concentration limits at the lower of the criteria calculated at either the target cancer risk of 1×10^{-5} or target hazard quotient of 1.
3. The criteria for non-drinking water are the lower of the criteria at either the target cancer risk of 1×10^{-5} or target hazard quotient of 1.
4. Shaded cells represent ratios of concentration to the screening criteria greater than 1.
5. Residential nonpotable criteria were calculated as discussed in Appendix F of the RFI Report Addendum 3.

Abbreviations:

Chem Group - Chemical Group
CASRN - Chemical Abstract Service Registry Number
Carc Class - EPA Weight-of-Evidence Cancer Classification

Table 6.2E: Groundwater Concentrations from All RFI Data that Exceed Screening Criteria: Upper Aquifer On-site
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

Area	Location	Sample Date	Chem Group	Chemical	CASRN	Concentration (mg/L)	Drinking Water Criteria (mg/L)	Ratio of Concentration to DW Criteria	Maintenance Worker Contact Criteria (mg/L)	Ratio of Concentration to Maint Worker Contact Criteria	Comm/Ind Vol Indoor Air Criteria (mg/L)	Ratio of Concentration to Comm/Ind Vol Indoor Air Criteria
1~Webster to Taylor	B-SA21	07/17/02	VOC	cis-1,2-Dichloroethene	156-59-2	1.30E-01	7.00E-02	**1.9E+00**	2.29E+01	5.7E-03	6.38E+01	2.0E-03
1~Webster to Taylor	B-SA21	07/17/02	VOC	Vinyl Chloride	75-01-4	3.90E-03	2.00E-03	**2.0E+00**	2.02E+00	1.9E-03	3.29E+00	1.2E-03
1~Webster to Taylor	B-SA21	07/17/02	PCB	PCBs (total)	1336-36-3	7.76E-02	5.00E-04	**1.6E+02**	9.35E-03	**8.3E+00**	2.52E-01	3.1E-01
1~Webster to Taylor	B-SA21	07/17/02	INORG	Cadmium	7440-43-9	6.60E-03	5.00E-03	**1.3E+00**	1.80E+01	3.7E-04		
1~Webster to Taylor	B-SA21	03/20/03	VOC	cis-1,2-Dichloroethene	156-59-2	1.20E-01	7.00E-02	**1.7E+00**	2.29E+01	5.2E-03	6.38E+01	1.9E-03
1~Webster to Taylor	B-SA21	03/20/03	VOC	Vinyl Chloride	75-01-4	3.30E-03	2.00E-03	**1.7E+00**	2.02E+00	1.6E-03	3.29E+00	1.0E-03
1~Webster to Taylor	B-SA21	03/20/03	PCB	PCBs (total)	1336-36-3	1.03E-02	5.00E-04	**2.1E+01**	9.35E-03	**1.1E+00**	2.52E-01	4.1E-02
1~Webster to Taylor	B-SA21	11/23/04	PCB	PCBs (total)	1336-36-3	3.15E-03	5.00E-04	**6.3E+00**	9.35E-03	3.4E-01	2.52E-01	1.3E-02
1~Webster to Taylor	B-SA21	06/07/07	VOC	cis-1,2-Dichloroethene	156-59-2	2.40E-01	7.00E-02	**3.4E+00**	2.29E+01	1.0E-02	6.38E+01	3.8E-03
1~Webster to Taylor	B-SA21	06/07/07	PCB	PCBs (total)	1336-36-3	5.70E-03	5.00E-04	**1.1E+01**	9.35E-03	6.1E-01	2.52E-01	2.3E-02
1~Webster to Taylor	B-SA22	07/08/02	VOC	cis-1,2-Dichloroethene	156-59-2	1.25E-01	7.00E-02	**1.8E+00**	2.29E+01	5.5E-03	6.38E+01	2.0E-03
1~Webster to Taylor	B-SA22	07/08/02	VOC	Methylene Chloride	75-09-2	3.55E-02	5.00E-03	**7.1E+00**	8.94E+01	4.0E-04	1.27E+02	2.8E-04
1~Webster to Taylor	B-SA22	07/08/02	VOC	Tetrachloroethene	127-18-4	2.20E+00	5.00E-03	**4.4E+02**	1.41E+01	1.6E-01	1.49E+01	1.5E-01
1~Webster to Taylor	B-SA22	07/08/02	VOC	Trichloroethene	79-01-6	5.10E-02	5.00E-03	**1.0E+01**	2.68E+01	1.9E-03	2.73E+01	1.9E-03
1~Webster to Taylor	B-SA22	03/18/03	VOC	Tetrachloroethene	127-18-4	1.60E+00	5.00E-03	**3.2E+02**	1.41E+01	1.1E-01	1.49E+01	1.1E-01
1~Webster to Taylor	B-SA22	03/18/03	VOC	Trichloroethene	79-01-6	2.50E-02	5.00E-03	**5.0E+00**	2.68E+01	9.3E-04	2.73E+01	9.2E-04
1~Webster to Taylor	B-SA22	08/15/03	VOC	Tetrachloroethene	127-18-4	1.30E+00	5.00E-03	**2.6E+02**	1.41E+01	9.2E-02	1.49E+01	8.7E-02
1~Webster to Taylor	B-SA22	08/15/03	VOC	Trichloroethene	79-01-6	2.30E-02	5.00E-03	**4.6E+00**	2.68E+01	8.6E-04	2.73E+01	8.4E-04
1~Webster to Taylor	B-SA22	04/21/05	VOC	Tetrachloroethene	127-18-4	8.10E-01	5.00E-03	**1.6E+02**	1.41E+01	5.8E-02	1.49E+01	5.4E-02
1~Webster to Taylor	B-SA22	04/21/05	VOC	Trichloroethene	79-01-6	1.50E-02	5.00E-03	**3.0E+00**	2.68E+01	5.6E-04	2.73E+01	5.5E-04
1~Webster to Taylor	B-SA23	07/17/02	VOC	cis-1,2-Dichloroethene	156-59-2	1.00E+01	7.00E-02	**1.4E+02**	2.29E+01	4.4E-01	6.38E+01	1.6E-01
1~Webster to Taylor	B-SA23	07/17/02	VOC	Methylene Chloride	75-09-2	1.40E-01	5.00E-03	**2.8E+01**	8.94E+01	1.6E-03	1.27E+02	1.1E-03
1~Webster to Taylor	B-SA23	07/17/02	VOC	Tetrachloroethene	127-18-4	5.30E+00	5.00E-03	**1.1E+03**	1.41E+01	3.8E-01	1.49E+01	3.6E-01
1~Webster to Taylor	B-SA23	07/17/02	VOC	Trichloroethene	79-01-6	9.40E+00	5.00E-03	**1.9E+03**	2.68E+01	3.5E-01	2.73E+01	3.4E-01
1~Webster to Taylor	B-SA23	07/17/02	VOC	Vinyl Chloride	75-01-4	7.50E-01	2.00E-03	**3.8E+02**	2.02E+00	3.7E-01	3.29E+00	2.3E-01
1~Webster to Taylor	B-SA23	03/18/03	VOC	cis-1,2-Dichloroethene	156-59-2	1.00E+01	7.00E-02	**1.4E+02**	2.29E+01	4.4E-01	6.38E+01	1.6E-01
1~Webster to Taylor	B-SA23	03/18/03	VOC	Tetrachloroethene	127-18-4	4.90E+00	5.00E-03	**9.8E+02**	1.41E+01	3.5E-01	1.49E+01	3.3E-01
1~Webster to Taylor	B-SA23	03/18/03	VOC	Trichloroethene	79-01-6	8.40E+00	5.00E-03	**1.7E+03**	2.68E+01	3.1E-01	2.73E+01	3.1E-01
1~Webster to Taylor	B-SA23	03/18/03	VOC	Vinyl Chloride	75-01-4	8.20E-01	2.00E-03	**4.1E+02**	2.02E+00	4.1E-01	3.29E+00	2.5E-01
1~Webster to Taylor	B-SA23	08/20/03	VOC	cis-1,2-Dichloroethene	156-59-2	2.10E+01	7.00E-02	**3.0E+02**	2.29E+01	9.2E-01	6.38E+01	3.3E-01
1~Webster to Taylor	B-SA23	08/20/03	VOC	Tetrachloroethene	127-18-4	6.50E+00	5.00E-03	**1.3E+03**	1.41E+01	4.6E-01	1.49E+01	4.4E-01
1~Webster to Taylor	B-SA23	08/20/03	VOC	Trichloroethene	79-01-6	1.20E+01	5.00E-03	**2.4E+03**	2.68E+01	4.5E-01	2.73E+01	4.4E-01
1~Webster to Taylor	B-SA23	08/20/03	VOC	Vinyl Chloride	75-01-4	1.20E+00	2.00E-03	**6.0E+02**	2.02E+00	5.9E-01	3.29E+00	3.6E-01
1~Webster to Taylor	B-SA23	04/22/05	VOC	cis-1,2-Dichloroethene	156-59-2	6.40E+00	7.00E-02	**9.1E+01**	2.29E+01	2.8E-01	6.38E+01	1.0E-01
1~Webster to Taylor	B-SA23	04/22/05	VOC	Tetrachloroethene	127-18-4	2.90E-01	5.00E-03	**5.8E+01**	1.41E+01	2.1E-02	1.49E+01	1.9E-02
1~Webster to Taylor	B-SA23	04/22/05	VOC	Trichloroethene	79-01-6	1.40E+00	5.00E-03	**2.8E+02**	2.68E+01	5.2E-02	2.73E+01	5.1E-02
1~Webster to Taylor	B-SA23	04/22/05	VOC	Vinyl Chloride	75-01-4	1.30E+00	2.00E-03	**6.5E+02**	2.02E+00	6.4E-01	3.29E+00	4.0E-01
1~Webster to Taylor	B-SA23	11/03/06	VOC	cis-1,2-Dichloroethene	156-59-2	1.10E+01	7.00E-02	**1.6E+02**	2.29E+01	4.8E-01	6.38E+01	1.7E-01
1~Webster to Taylor	B-SA23	11/03/06	VOC	Tetrachloroethene	127-18-4	2.40E-01	5.00E-03	**4.8E+01**	1.41E+01	1.7E-02	1.49E+01	1.6E-02
1~Webster to Taylor	B-SA23	11/03/06	VOC	Trichloroethene	79-01-6	1.90E+00	5.00E-03	**3.8E+02**	2.68E+01	7.1E-02	2.73E+01	7.0E-02
1~Webster to Taylor	B-SA23	11/03/06	VOC	Vinyl Chloride	75-01-4	1.10E+00	2.00E-03	**5.5E+02**	2.02E+00	5.4E-01	3.29E+00	3.3E-01
1~Webster to Taylor	B-SA24	07/11/02	VOC	cis-1,2-Dichloroethene	156-59-2	2.00E-01	7.00E-02	**2.9E+00**	2.29E+01	8.7E-03	6.38E+01	3.1E-03
1~Webster to Taylor	B-SA24	07/11/02	VOC	Tetrachloroethene	127-18-4	9.10E-02	5.00E-03	**1.8E+01**	1.41E+01	6.5E-03	1.49E+01	6.1E-03
1~Webster to Taylor	B-SA24	07/11/02	VOC	Trichloroethene	79-01-6	1.70E-02	5.00E-03	**3.4E+00**	2.68E+01	6.3E-04	2.73E+01	6.2E-04

Table 6.2E: Groundwater Concentrations from All RFI Data that Exceed Screening Criteria: Upper Aquifer On-site
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

Area	Location	Sample Date	Chem Group	Chemical	CASRN	Concentration (mg/L)	Drinking Water Criteria (mg/L)	Ratio of Concentration to DW Criteria	Maintenance Worker Contact Criteria (mg/L)	Ratio of Concentration to Maint Worker Contact Criteria	Comm/Ind Vol Indoor Air Criteria (mg/L)	Ratio of Concentration to Comm/Ind Vol Indoor Air Criteria
1~Webster to Taylor	B-SA24	07/11/02	VOC	Vinyl Chloride	75-01-4	5.00E-02	2.00E-03	**2.5E+01**	2.02E+00	2.5E-02	3.29E+00	1.5E-02
1~Webster to Taylor	B-SA24	03/13/03	VOC	Tetrachloroethene	127-18-4	8.80E-02	5.00E-03	**1.8E+01**	1.41E+01	6.3E-03	1.49E+01	5.9E-03
1~Webster to Taylor	B-SA24	03/13/03	VOC	Trichloroethene	79-01-6	3.90E-02	5.00E-03	**7.8E+00**	2.68E+01	1.5E-03	2.73E+01	1.4E-03
1~Webster to Taylor	B-SA24	03/13/03	VOC	Vinyl Chloride	75-01-4	1.30E-02	2.00E-03	**6.5E+00**	2.02E+00	6.4E-03	3.29E+00	4.0E-03
1~Webster to Taylor	B-SA24	08/21/03	VOC	Tetrachloroethene	127-18-4	1.30E-02	5.00E-03	**2.6E+00**	1.41E+01	9.2E-04	1.49E+01	8.7E-04
1~Webster to Taylor	B-SA24	08/21/03	VOC	Vinyl Chloride	75-01-4	6.20E-03	2.00E-03	**3.1E+00**	2.02E+00	3.1E-03	3.29E+00	1.9E-03
1~Webster to Taylor	B-SA24	04/20/05	VOC	Tetrachloroethene	127-18-4	1.60E-01	5.00E-03	**3.2E+01**	1.41E+01	1.1E-02	1.49E+01	1.1E-02
1~Webster to Taylor	B-SA24	04/20/05	VOC	Trichloroethene	79-01-6	1.20E-01	5.00E-03	**2.4E+01**	2.68E+01	4.5E-03	2.73E+01	4.4E-03
1~Webster to Taylor	B-SA24	04/20/05	VOC	Vinyl Chloride	75-01-4	3.60E-03	2.00E-03	**1.8E+00**	2.02E+00	1.8E-03	3.29E+00	1.1E-03
1~Webster to Taylor	HD-12	07/17/02	VOC	Trichloroethene	79-01-6	1.20E-02	5.00E-03	**2.4E+00**	2.68E+01	4.5E-04	2.73E+01	4.4E-04
1~Webster to Taylor	HD-12	03/25/03	VOC	Trichloroethene	79-01-6	1.40E-02	5.00E-03	**2.8E+00**	2.68E+01	5.2E-04	2.73E+01	5.1E-04
1~Webster to Taylor	HD-12	11/12/04	VOC	Trichloroethene	79-01-6	1.10E-02	5.00E-03	**2.2E+00**	2.68E+01	4.1E-04	2.73E+01	4.0E-04
1~Webster to Taylor	HD-12	09/22/06	VOC	Trichloroethene	79-01-6	6.30E-03	5.00E-03	**1.3E+00**	2.68E+01	2.3E-04	2.73E+01	2.3E-04
1~Webster to Taylor	HD-13	07/11/02	VOC	Methylene Chloride	75-09-2	1.50E-02	5.00E-03	**3.0E+00**	8.94E+01	1.7E-04	1.27E+02	1.2E-04
1~Webster to Taylor	HD-13	07/11/02	VOC	Tetrachloroethene	127-18-4	3.70E-01	5.00E-03	**7.4E+01**	1.41E+01	2.6E-02	1.49E+01	2.5E-02
1~Webster to Taylor	HD-13	07/11/02	VOC	Trichloroethene	79-01-6	1.00E-02	5.00E-03	**2.0E+00**	2.68E+01	3.7E-04	2.73E+01	3.7E-04
1~Webster to Taylor	HD-13	03/19/03	VOC	Tetrachloroethene	127-18-4	3.00E-01	5.00E-03	**6.0E+01**	1.41E+01	2.1E-02	1.49E+01	2.0E-02
1~Webster to Taylor	HD-13	03/19/03	VOC	Trichloroethene	79-01-6	1.10E-02	5.00E-03	**2.2E+00**	2.68E+01	4.1E-04	2.73E+01	4.0E-04
1~Webster to Taylor	HD-13	11/11/04	VOC	Tetrachloroethene	127-18-4	2.00E-01	5.00E-03	**4.0E+01**	1.41E+01	1.4E-02	1.49E+01	1.3E-02
1~Webster to Taylor	HD-13	11/11/04	VOC	Trichloroethene	79-01-6	1.00E-02	5.00E-03	**2.0E+00**	2.68E+01	3.7E-04	2.73E+01	3.7E-04
1~Webster to Taylor	HD-1	07/11/02	VOC	Tetrachloroethene	127-18-4	3.80E-02	5.00E-03	**7.6E+00**	1.41E+01	2.7E-03	1.49E+01	2.6E-03
1~Webster to Taylor	HD-1	07/11/02	VOC	Trichloroethene	79-01-6	1.70E-02	5.00E-03	**3.4E+00**	2.68E+01	6.3E-04	2.73E+01	6.2E-04
1~Webster to Taylor	HD-1	04/10/03	VOC	Tetrachloroethene	127-18-4	4.40E-02	5.00E-03	**8.8E+00**	1.41E+01	3.1E-03	1.49E+01	3.0E-03
1~Webster to Taylor	HD-1	04/10/03	VOC	Trichloroethene	79-01-6	2.10E-02	5.00E-03	**4.2E+00**	2.68E+01	7.8E-04	2.73E+01	7.7E-04
1~Webster to Taylor	HD-1	11/11/04	VOC	Tetrachloroethene	127-18-4	5.50E-02	5.00E-03	**1.1E+01**	1.41E+01	3.9E-03	1.49E+01	3.7E-03
1~Webster to Taylor	HD-1	11/11/04	VOC	Trichloroethene	79-01-6	2.50E-02	5.00E-03	**5.0E+00**	2.68E+01	9.3E-04	2.73E+01	9.2E-04
1~Webster to Taylor	HD-1	09/15/06	VOC	Tetrachloroethene	127-18-4	3.20E-02	5.00E-03	**6.4E+00**	1.41E+01	2.3E-03	1.49E+01	2.1E-03
1~Webster to Taylor	HD-1	09/15/06	VOC	Trichloroethene	79-01-6	2.40E-02	5.00E-03	**4.8E+00**	2.68E+01	8.9E-04	2.73E+01	8.8E-04
1~Webster to Taylor	HD-1	08/24/07	VOC	Tetrachloroethene	127-18-4	4.40E-02	5.00E-03	**8.8E+00**	1.41E+01	3.1E-03	1.49E+01	3.0E-03
1~Webster to Taylor	HD-1	08/24/07	VOC	Trichloroethene	79-01-6	3.00E-02	5.00E-03	**6.0E+00**	2.68E+01	1.1E-03	2.73E+01	1.1E-03
1~Webster to Taylor	HD-6	07/08/02	VOC	Tetrachloroethene	127-18-4	6.00E-03	5.00E-03	**1.2E+00**	1.41E+01	4.3E-04	1.49E+01	4.0E-04
1~Webster to Taylor	HD-6	07/08/02	VOC	Trichloroethene	79-01-6	1.60E-02	5.00E-03	**3.2E+00**	2.68E+01	6.0E-04	2.73E+01	5.9E-04
1~Webster to Taylor	HD-6	03/18/03	VOC	Trichloroethene	79-01-6	1.80E-02	5.00E-03	**3.6E+00**	2.68E+01	6.7E-04	2.73E+01	6.6E-04
1~Webster to Taylor	HD-6	11/23/04	VOC	Trichloroethene	79-01-6	1.40E-02	5.00E-03	**2.8E+00**	2.68E+01	5.2E-04	2.73E+01	5.1E-04
1~Webster to Taylor	HD-7	07/08/02	VOC	Tetrachloroethene	127-18-4	1.50E-02	5.00E-03	**3.0E+00**	1.41E+01	1.1E-03	1.49E+01	1.0E-03
1~Webster to Taylor	HD-7	07/08/02	VOC	Trichloroethene	79-01-6	2.80E-02	5.00E-03	**5.6E+00**	2.68E+01	1.0E-03	2.73E+01	1.0E-03
1~Webster to Taylor	HD-7	03/13/03	VOC	Tetrachloroethene	127-18-4	1.40E-02	5.00E-03	**2.8E+00**	1.41E+01	1.0E-03	1.49E+01	9.4E-04
1~Webster to Taylor	HD-7	03/13/03	VOC	Trichloroethene	79-01-6	3.00E-02	5.00E-03	**6.0E+00**	2.68E+01	1.1E-03	2.73E+01	1.1E-03
1~Webster to Taylor	HD-7	11/23/04	VOC	Tetrachloroethene	127-18-4	1.00E-02	5.00E-03	**2.0E+00**	1.41E+01	7.1E-04	1.49E+01	6.7E-04
1~Webster to Taylor	HD-7	11/23/04	VOC	Trichloroethene	79-01-6	2.10E-02	5.00E-03	**4.2E+00**	2.68E+01	7.8E-04	2.73E+01	7.7E-04
1~Webster to Taylor	MW-1A-00	06/26/02	VOC	cis-1,2-Dichloroethene	156-59-2	1.00E-01	7.00E-02	**1.4E+00**	2.29E+01	4.4E-03	6.38E+01	1.6E-03
1~Webster to Taylor	MW-1A-00	06/26/02	VOC	Tetrachloroethene	127-18-4	1.30E-01	5.00E-03	**2.6E+01**	1.41E+01	9.2E-03	1.49E+01	8.7E-03
1~Webster to Taylor	MW-1A-00	06/26/02	VOC	Trichloroethene	79-01-6	2.40E-02	5.00E-03	**4.8E+00**	2.68E+01	8.9E-04	2.73E+01	8.8E-04
1~Webster to Taylor	MW-1A-00	06/26/02	VOC	Vinyl Chloride	75-01-4	9.40E-03	2.00E-03	**4.7E+00**	2.02E+00	4.6E-03	3.29E+00	2.9E-03

Table 6.2E: Groundwater Concentrations from All RFI Data that Exceed Screening Criteria: Upper Aquifer On-site
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

Area	Location	Sample Date	Chem Group	Chemical	CASRN	Concentration (mg/L)	Drinking Water Criteria (mg/L)	Ratio of Concentration to DW Criteria	Maintenance Worker Contact Criteria (mg/L)	Ratio of Concentration to Maint Worker Contact Criteria	Comm/Ind Vol Indoor Air Criteria (mg/L)	Ratio of Concentration to Comm/Ind Vol Indoor Air Criteria
1~Webster to Taylor	MW-1A-00	03/17/03	VOC	Tetrachloroethene	127-18-4	1.60E-01	5.00E-03	**3.2E+01**	1.41E+01	1.1E-02	1.49E+01	1.1E-02
1~Webster to Taylor	MW-1A-00	03/17/03	VOC	Trichloroethene	79-01-6	2.30E-02	5.00E-03	**4.6E+00**	2.68E+01	8.6E-04	2.73E+01	8.4E-04
1~Webster to Taylor	MW-1A-00	08/18/03	VOC	cis-1,2-Dichloroethene	156-59-2	2.20E-01	7.00E-02	**3.1E+00**	2.29E+01	9.6E-03	6.38E+01	3.4E-03
1~Webster to Taylor	MW-1A-00	08/18/03	VOC	Tetrachloroethene	127-18-4	2.40E-01	5.00E-03	**4.8E+01**	1.41E+01	1.7E-02	1.49E+01	1.6E-02
1~Webster to Taylor	MW-1A-00	08/18/03	VOC	Trichloroethene	79-01-6	7.30E-02	5.00E-03	**1.5E+01**	2.68E+01	2.7E-03	2.73E+01	2.7E-03
1~Webster to Taylor	MW-1A-00	08/18/03	VOC	Vinyl Chloride	75-01-4	5.90E-02	2.00E-03	**3.0E+01**	2.02E+00	2.9E-02	3.29E+00	1.8E-02
1~Webster to Taylor	MW-1A-00	04/21/05	VOC	cis-1,2-Dichloroethene	156-59-2	9.20E-02	7.00E-02	**1.3E+00**	2.29E+01	4.0E-03	6.38E+01	1.4E-03
1~Webster to Taylor	MW-1A-00	04/21/05	VOC	Tetrachloroethene	127-18-4	1.70E-01	5.00E-03	**3.4E+01**	1.41E+01	1.2E-02	1.49E+01	1.1E-02
1~Webster to Taylor	MW-1A-00	04/21/05	VOC	Trichloroethene	79-01-6	4.10E-02	5.00E-03	**8.2E+00**	2.68E+01	1.5E-03	2.73E+01	1.5E-03
1~Webster to Taylor	MW-1A-00	04/21/05	VOC	Vinyl Chloride	75-01-4	8.80E-03	2.00E-03	**4.4E+00**	2.02E+00	4.3E-03	3.29E+00	2.7E-03
1~Webster to Taylor	MW-1B-00	06/26/02	VOC	Tetrachloroethene	127-18-4	3.80E-02	5.00E-03	**7.6E+00**	1.41E+01	2.7E-03	1.49E+01	2.6E-03
1~Webster to Taylor	MW-1B-00	06/26/02	VOC	Trichloroethene	79-01-6	3.30E-02	5.00E-03	**6.6E+00**	2.68E+01	1.2E-03	2.73E+01	1.2E-03
1~Webster to Taylor	MW-1B-00	03/17/03	VOC	Tetrachloroethene	127-18-4	2.80E-02	5.00E-03	**5.6E+00**	1.41E+01	2.0E-03	1.49E+01	1.9E-03
1~Webster to Taylor	MW-1B-00	03/17/03	VOC	Trichloroethene	79-01-6	3.00E-02	5.00E-03	**6.0E+00**	2.68E+01	1.1E-03	2.73E+01	1.1E-03
1~Webster to Taylor	MW-1B-00	08/18/03	VOC	Tetrachloroethene	127-18-4	2.60E-02	5.00E-03	**5.2E+00**	1.41E+01	1.8E-03	1.49E+01	1.7E-03
1~Webster to Taylor	MW-1B-00	08/18/03	VOC	Trichloroethene	79-01-6	3.80E-02	5.00E-03	**7.6E+00**	2.68E+01	1.4E-03	2.73E+01	1.4E-03
1~Webster to Taylor	MW-1B-00	11/23/04	VOC	Tetrachloroethene	127-18-4	1.20E-02	5.00E-03	**2.4E+00**	1.41E+01	8.5E-04	1.49E+01	8.1E-04
1~Webster to Taylor	MW-1B-00	11/23/04	VOC	Trichloroethene	79-01-6	2.00E-02	5.00E-03	**4.0E+00**	2.68E+01	7.5E-04	2.73E+01	7.3E-04
1~Webster to Taylor	MW-1B-00	04/22/05	VOC	Tetrachloroethene	127-18-4	1.40E-02	5.00E-03	**2.8E+00**	1.41E+01	1.0E-03	1.49E+01	9.4E-04
1~Webster to Taylor	MW-1B-00	04/22/05	VOC	Trichloroethene	79-01-6	2.10E-02	5.00E-03	**4.2E+00**	2.68E+01	7.8E-04	2.73E+01	7.7E-04
1~Webster to Taylor	MW-22-04	03/25/04	VOC	Tetrachloroethene	127-18-4	4.60E-02	5.00E-03	**9.2E+00**	1.41E+01	3.3E-03	1.49E+01	3.1E-03
1~Webster to Taylor	MW-22-04	03/25/04	VOC	Trichloroethene	79-01-6	2.60E-02	5.00E-03	**5.2E+00**	2.68E+01	9.7E-04	2.73E+01	9.5E-04
1~Webster to Taylor	MW-2A-00	07/16/02	VOC	cis-1,2-Dichloroethene	156-59-2	4.20E-01	7.00E-02	**6.0E+00**	2.29E+01	1.8E-02	6.38E+01	6.6E-03
1~Webster to Taylor	MW-2A-00	07/16/02	VOC	Vinyl Chloride	75-01-4	3.10E-01	2.00E-03	**1.6E+02**	2.02E+00	1.5E-01	3.29E+00	9.4E-02
1~Webster to Taylor	MW-2A-00	03/17/03	VOC	cis-1,2-Dichloroethene	156-59-2	2.40E-01	7.00E-02	**3.4E+00**	2.29E+01	1.0E-02	6.38E+01	3.8E-03
1~Webster to Taylor	MW-2A-00	03/17/03	VOC	Tetrachloroethene	127-18-4	1.30E-01	5.00E-03	**2.6E+01**	1.41E+01	9.2E-03	1.49E+01	8.7E-03
1~Webster to Taylor	MW-2A-00	03/17/03	VOC	Trichloroethene	79-01-6	3.50E-02	5.00E-03	**7.0E+00**	2.68E+01	1.3E-03	2.73E+01	1.3E-03
1~Webster to Taylor	MW-2A-00	03/17/03	VOC	Vinyl Chloride	75-01-4	7.90E-02	2.00E-03	**4.0E+01**	2.02E+00	3.9E-02	3.29E+00	2.4E-02
1~Webster to Taylor	MW-2A-00	08/20/03	VOC	cis-1,2-Dichloroethene	156-59-2	9.50E+00	7.00E-02	**1.4E+02**	2.29E+01	4.2E-01	6.38E+01	1.5E-01
1~Webster to Taylor	MW-2A-00	08/20/03	VOC	Tetrachloroethene	127-18-4	9.00E-02	5.00E-03	**1.8E+01**	1.41E+01	6.4E-03	1.49E+01	6.0E-03
1~Webster to Taylor	MW-2A-00	08/20/03	VOC	Vinyl Chloride	75-01-4	1.45E+00	2.00E-03	**7.3E+02**	2.02E+00	7.2E-01	3.29E+00	4.4E-01
1~Webster to Taylor	MW-2A-00	04/22/05	VOC	cis-1,2-Dichloroethene	156-59-2	6.00E+00	7.00E-02	**8.6E+01**	2.29E+01	2.6E-01	6.38E+01	9.4E-02
1~Webster to Taylor	MW-2A-00	04/22/05	VOC	Tetrachloroethene	127-18-4	7.10E-01	5.00E-03	**1.4E+02**	1.41E+01	5.0E-02	1.49E+01	4.8E-02
1~Webster to Taylor	MW-2A-00	04/22/05	VOC	Trichloroethene	79-01-6	6.10E-01	5.00E-03	**1.2E+02**	2.68E+01	2.3E-02	2.73E+01	2.2E-02
1~Webster to Taylor	MW-2A-00	04/22/05	VOC	Vinyl Chloride	75-01-4	3.10E-01	2.00E-03	**1.6E+02**	2.02E+00	1.5E-01	3.29E+00	9.4E-02
1~Webster to Taylor	MW-2B-00	07/16/02	VOC	Tetrachloroethene	127-18-4	1.70E-02	5.00E-03	**3.4E+00**	1.41E+01	1.2E-03	1.49E+01	1.1E-03
1~Webster to Taylor	MW-2B-00	07/16/02	VOC	Trichloroethene	79-01-6	3.10E-02	5.00E-03	**6.2E+00**	2.68E+01	1.2E-03	2.73E+01	1.1E-03
1~Webster to Taylor	MW-2B-00	03/17/03	VOC	Tetrachloroethene	127-18-4	2.80E-02	5.00E-03	**5.6E+00**	1.41E+01	2.0E-03	1.49E+01	1.9E-03
1~Webster to Taylor	MW-2B-00	03/17/03	VOC	Trichloroethene	79-01-6	3.90E-02	5.00E-03	**7.8E+00**	2.68E+01	1.5E-03	2.73E+01	1.4E-03
1~Webster to Taylor	MW-2B-00	08/20/03	VOC	Tetrachloroethene	127-18-4	1.60E-02	5.00E-03	**3.2E+00**	1.41E+01	1.1E-03	1.49E+01	1.1E-03
1~Webster to Taylor	MW-2B-00	08/20/03	VOC	Trichloroethene	79-01-6	3.00E-02	5.00E-03	**6.0E+00**	2.68E+01	1.1E-03	2.73E+01	1.1E-03
1~Webster to Taylor	MW-2B-00	04/22/05	VOC	Tetrachloroethene	127-18-4	8.50E-03	5.00E-03	**1.7E+00**	1.41E+01	6.0E-04	1.49E+01	5.7E-04
1~Webster to Taylor	MW-2B-00	04/22/05	VOC	Trichloroethene	79-01-6	1.80E-02	5.00E-03	**3.6E+00**	2.68E+01	6.7E-04	2.73E+01	6.6E-04
1~Webster to Taylor	MW-52-06	11/03/06	VOC	Tetrachloroethene	127-18-4	2.00E-01	5.00E-03	**4.0E+01**	1.41E+01	1.4E-02	1.49E+01	1.3E-02

Table 6.2E: Groundwater Concentrations from All RFI Data that Exceed Screening Criteria: Upper Aquifer On-site
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

Area	Location	Sample Date	Chem Group	Chemical	CASRN	Concentration (mg/L)	Drinking Water Criteria (mg/L)	Ratio of Concentration to DW Criteria	Maintenance Worker Contact Criteria (mg/L)	Ratio of Concentration to Maint Worker Contact Criteria	Comm/Ind Vol Indoor Air Criteria (mg/L)	Ratio of Concentration to Comm/Ind Vol Indoor Air Criteria
1~Webster to Taylor	MW-52-06	11/03/06	VOC	Trichloroethene	79-01-6	7.20E-02	5.00E-03	**1.4E+01**	2.68E+01	2.7E-03	2.73E+01	2.6E-03
1~Webster to Taylor	MW-55-06	11/29/06	VOC	Tetrachloroethene	127-18-4	1.00E-02	5.00E-03	**2.0E+00**	1.41E+01	7.1E-04	1.49E+01	6.7E-04
1~Webster to Taylor	MW-55-06	11/29/06	VOC	Trichloroethene	79-01-6	1.70E-02	5.00E-03	**3.4E+00**	2.68E+01	6.3E-04	2.73E+01	6.2E-04
1~Webster to Taylor	MW-5A-03	03/05/03	VOC	cis-1,2-Dichloroethene	156-59-2	2.60E+00	7.00E-02	**3.7E+01**	2.29E+01	1.1E-01	6.38E+01	4.1E-02
1~Webster to Taylor	MW-5A-03	03/05/03	VOC	Tetrachloroethene	127-18-4	6.40E-01	5.00E-03	**1.3E+02**	1.41E+01	4.5E-02	1.49E+01	4.3E-02
1~Webster to Taylor	MW-5A-03	03/05/03	VOC	Trichloroethene	79-01-6	4.70E-01	5.00E-03	**9.4E+01**	2.68E+01	1.8E-02	2.73E+01	1.7E-02
1~Webster to Taylor	MW-5A-03	03/05/03	VOC	Vinyl Chloride	75-01-4	3.90E-01	2.00E-03	**2.0E+02**	2.02E+00	1.9E-01	3.29E+00	1.2E-01
1~Webster to Taylor	MW-5A-03	03/05/03	INORG	Lead	7439-92-1	4.90E-02	1.50E-02	**3.3E+00**	7.40E+01	6.6E-04		
1~Webster to Taylor	MW-5A-03	05/01/03	VOC	cis-1,2-Dichloroethene	156-59-2	1.30E+00	7.00E-02	**1.9E+01**	2.29E+01	5.7E-02	6.38E+01	2.0E-02
1~Webster to Taylor	MW-5A-03	05/01/03	VOC	Tetrachloroethene	127-18-4	6.30E-01	5.00E-03	**1.3E+02**	1.41E+01	4.5E-02	1.49E+01	4.2E-02
1~Webster to Taylor	MW-5A-03	05/01/03	VOC	Trichloroethene	79-01-6	5.10E-01	5.00E-03	**1.0E+02**	2.68E+01	1.9E-02	2.73E+01	1.9E-02
1~Webster to Taylor	MW-5A-03	05/01/03	VOC	Vinyl Chloride	75-01-4	2.80E-01	2.00E-03	**1.4E+02**	2.02E+00	1.4E-01	3.29E+00	8.5E-02
1~Webster to Taylor	MW-5A-03	05/16/03	VOC	cis-1,2-Dichloroethene	156-59-2	1.80E+00	7.00E-02	**2.6E+01**	2.29E+01	7.9E-02	6.38E+01	2.8E-02
1~Webster to Taylor	MW-5A-03	05/16/03	VOC	Methylene Chloride	75-09-2	2.10E-02	5.00E-03	**4.2E+00**	8.94E+01	2.3E-04	1.27E+02	1.7E-04
1~Webster to Taylor	MW-5A-03	05/16/03	VOC	Tetrachloroethene	127-18-4	2.70E-01	5.00E-03	**5.4E+01**	1.41E+01	1.9E-02	1.49E+01	1.8E-02
1~Webster to Taylor	MW-5A-03	05/16/03	VOC	Trichloroethene	79-01-6	2.70E-01	5.00E-03	**5.4E+01**	2.68E+01	1.0E-02	2.73E+01	9.9E-03
1~Webster to Taylor	MW-5A-03	05/16/03	VOC	Vinyl Chloride	75-01-4	2.40E-01	2.00E-03	**1.2E+02**	2.02E+00	1.2E-01	3.29E+00	7.3E-02
1~Webster to Taylor	MW-5A-03	06/05/03	VOC	cis-1,2-Dichloroethene	156-59-2	1.95E+00	7.00E-02	**2.8E+01**	2.29E+01	8.5E-02	6.38E+01	3.1E-02
1~Webster to Taylor	MW-5A-03	06/05/03	VOC	Tetrachloroethene	127-18-4	1.20E+00	5.00E-03	**2.4E+02**	1.41E+01	8.5E-02	1.49E+01	8.1E-02
1~Webster to Taylor	MW-5A-03	06/05/03	VOC	Trichloroethene	79-01-6	8.10E-01	5.00E-03	**1.6E+02**	2.68E+01	3.0E-02	2.73E+01	3.0E-02
1~Webster to Taylor	MW-5A-03	06/05/03	VOC	Vinyl Chloride	75-01-4	2.65E-01	2.00E-03	**1.3E+02**	2.02E+00	1.3E-01	3.29E+00	8.1E-02
1~Webster to Taylor	MW-5A-03	06/19/03	VOC	cis-1,2-Dichloroethene	156-59-2	1.50E+00	7.00E-02	**2.1E+01**	2.29E+01	6.6E-02	6.38E+01	2.3E-02
1~Webster to Taylor	MW-5A-03	06/19/03	VOC	Tetrachloroethene	127-18-4	3.60E-01	5.00E-03	**7.2E+01**	1.41E+01	2.6E-02	1.49E+01	2.4E-02
1~Webster to Taylor	MW-5A-03	06/19/03	VOC	Trichloroethene	79-01-6	2.40E-01	5.00E-03	**4.8E+01**	2.68E+01	8.9E-03	2.73E+01	8.8E-03
1~Webster to Taylor	MW-5A-03	06/19/03	VOC	Vinyl Chloride	75-01-4	2.20E-01	2.00E-03	**1.1E+02**	2.02E+00	1.1E-01	3.29E+00	6.7E-02
1~Webster to Taylor	MW-5A-03	08/14/03	VOC	cis-1,2-Dichloroethene	156-59-2	1.00E+00	7.00E-02	**1.4E+01**	2.29E+01	4.4E-02	6.38E+01	1.6E-02
1~Webster to Taylor	MW-5A-03	08/14/03	VOC	Tetrachloroethene	127-18-4	3.50E-01	5.00E-03	**7.0E+01**	1.41E+01	2.5E-02	1.49E+01	2.4E-02
1~Webster to Taylor	MW-5A-03	08/14/03	VOC	Trichloroethene	79-01-6	2.90E-01	5.00E-03	**5.8E+01**	2.68E+01	1.1E-02	2.73E+01	1.1E-02
1~Webster to Taylor	MW-5A-03	08/14/03	VOC	Vinyl Chloride	75-01-4	1.50E-01	2.00E-03	**7.5E+01**	2.02E+00	7.4E-02	3.29E+00	4.6E-02
1~Webster to Taylor	MW-5A-03	03/19/04	VOC	1,1-Dichloroethene	75-35-4	2.50E-02	7.00E-03	**3.6E+00**	1.25E+02	2.0E-04	2.44E+02	1.0E-04
1~Webster to Taylor	MW-5A-03	03/19/04	VOC	cis-1,2-Dichloroethene	156-59-2	2.30E+00	7.00E-02	**3.3E+01**	2.29E+01	1.0E-01	6.38E+01	3.6E-02
1~Webster to Taylor	MW-5A-03	03/19/04	VOC	Tetrachloroethene	127-18-4	8.00E-01	5.00E-03	**1.6E+02**	1.41E+01	5.7E-02	1.49E+01	5.4E-02
1~Webster to Taylor	MW-5A-03	03/19/04	VOC	Trichloroethene	79-01-6	6.40E-01	5.00E-03	**1.3E+02**	2.68E+01	2.4E-02	2.73E+01	2.3E-02
1~Webster to Taylor	MW-5A-03	03/19/04	VOC	Vinyl Chloride	75-01-4	6.90E-01	2.00E-03	**3.5E+02**	2.02E+00	3.4E-01	3.29E+00	2.1E-01
1~Webster to Taylor	MW-5A-03	06/29/04	VOC	cis-1,2-Dichloroethene	156-59-2	1.10E+00	7.00E-02	**1.6E+01**	2.29E+01	4.8E-02	6.38E+01	1.7E-02
1~Webster to Taylor	MW-5A-03	06/29/04	VOC	Tetrachloroethene	127-18-4	5.20E-01	5.00E-03	**1.0E+02**	1.41E+01	3.7E-02	1.49E+01	3.5E-02
1~Webster to Taylor	MW-5A-03	06/29/04	VOC	Trichloroethene	79-01-6	4.20E-01	5.00E-03	**8.4E+01**	2.68E+01	1.6E-02	2.73E+01	1.5E-02
1~Webster to Taylor	MW-5A-03	06/29/04	VOC	Vinyl Chloride	75-01-4	1.60E-01	2.00E-03	**8.0E+01**	2.02E+00	7.9E-02	3.29E+00	4.9E-02
1~Webster to Taylor	MW-5A-03	10/19/04	VOC	Benzene	71-43-2	8.80E-03	5.00E-03	**1.8E+00**	4.88E+00	1.8E-03	6.41E+00	1.4E-03
1~Webster to Taylor	MW-5A-03	10/19/04	VOC	cis-1,2-Dichloroethene	156-59-2	8.30E-01	7.00E-02	**1.2E+01**	2.29E+01	3.6E-02	6.38E+01	1.3E-02
1~Webster to Taylor	MW-5A-03	10/19/04	VOC	Tetrachloroethene	127-18-4	3.50E-01	5.00E-03	**7.0E+01**	1.41E+01	2.5E-02	1.49E+01	2.4E-02
1~Webster to Taylor	MW-5A-03	10/19/04	VOC	Trichloroethene	79-01-6	2.70E-01	5.00E-03	**5.4E+01**	2.68E+01	1.0E-02	2.73E+01	9.9E-03
1~Webster to Taylor	MW-5A-03	10/19/04	VOC	Vinyl Chloride	75-01-4	1.30E-01	2.00E-03	**6.5E+01**	2.02E+00	6.4E-02	3.29E+00	4.0E-02
1~Webster to Taylor	MW-5A-03	11/19/04	VOC	1,1-Dichloroethene	75-35-4	2.70E-02	7.00E-03	**3.9E+00**	1.25E+02	2.2E-04	2.44E+02	1.1E-04

Table 6.2E: Groundwater Concentrations from All RFI Data that Exceed Screening Criteria: Upper Aquifer On-site
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

Area	Location	Sample Date	Chem Group	Chemical	CASRN	Concentration (mg/L)	Drinking Water Criteria (mg/L)	Ratio of Concentration to DW Criteria	Maintenance Worker Contact Criteria (mg/L)	Ratio of Concentration to Maint Worker Contact Criteria	Comm/Ind Vol Indoor Air Criteria (mg/L)	Ratio of Concentration to Comm/Ind Vol Indoor Air Criteria
1~Webster to Taylor	MW-5A-03	11/19/04	VOC	cis-1,2-Dichloroethene	156-59-2	2.50E+00	7.00E-02	**3.6E+01**	2.29E+01	1.1E-01	6.38E+01	3.9E-02
1~Webster to Taylor	MW-5A-03	11/19/04	VOC	Tetrachloroethene	127-18-4	5.10E-01	5.00E-03	**1.0E+02**	1.41E+01	3.6E-02	1.49E+01	3.4E-02
1~Webster to Taylor	MW-5A-03	11/19/04	VOC	Trichloroethene	79-01-6	5.40E-01	5.00E-03	**1.1E+02**	2.68E+01	2.0E-02	2.73E+01	2.0E-02
1~Webster to Taylor	MW-5A-03	11/19/04	VOC	Vinyl Chloride	75-01-4	3.60E-01	2.00E-03	**1.8E+02**	2.02E+00	1.8E-01	3.29E+00	1.1E-01
1~Webster to Taylor	MW-5A-03	04/27/05	VOC	1,1-Dichloroethene	75-35-4	8.70E-03	7.00E-03	**1.2E+00**	1.25E+02	7.0E-05	2.44E+02	3.6E-05
1~Webster to Taylor	MW-5A-03	04/27/05	VOC	cis-1,2-Dichloroethene	156-59-2	8.70E-01	7.00E-02	**1.2E+01**	2.29E+01	3.8E-02	6.38E+01	1.4E-02
1~Webster to Taylor	MW-5A-03	04/27/05	VOC	Tetrachloroethene	127-18-4	4.20E-02	5.00E-03	**8.4E+00**	1.41E+01	3.0E-03	1.49E+01	2.8E-03
1~Webster to Taylor	MW-5A-03	04/27/05	VOC	Trichloroethene	79-01-6	3.80E-02	5.00E-03	**7.6E+00**	2.68E+01	1.4E-03	2.73E+01	1.4E-03
1~Webster to Taylor	MW-5A-03	04/27/05	VOC	Vinyl Chloride	75-01-4	3.30E-01	2.00E-03	**1.7E+02**	2.02E+00	1.6E-01	3.29E+00	1.0E-01
1~Webster to Taylor	MW-5B-03	03/05/03	VOC	Tetrachloroethene	127-18-4	3.80E-02	5.00E-03	**7.6E+00**	1.41E+01	2.7E-03	1.49E+01	2.6E-03
1~Webster to Taylor	MW-5B-03	03/05/03	VOC	Trichloroethene	79-01-6	4.00E-02	5.00E-03	**8.0E+00**	2.68E+01	1.5E-03	2.73E+01	1.5E-03
1~Webster to Taylor	MW-5B-03	05/01/03	VOC	Tetrachloroethene	127-18-4	4.20E-02	5.00E-03	**8.4E+00**	1.41E+01	3.0E-03	1.49E+01	2.8E-03
1~Webster to Taylor	MW-5B-03	05/01/03	VOC	Trichloroethene	79-01-6	4.60E-02	5.00E-03	**9.2E+00**	2.68E+01	1.7E-03	2.73E+01	1.7E-03
1~Webster to Taylor	MW-5B-03	05/16/03	VOC	Tetrachloroethene	127-18-4	3.50E-02	5.00E-03	**7.0E+00**	1.41E+01	2.5E-03	1.49E+01	2.4E-03
1~Webster to Taylor	MW-5B-03	05/16/03	VOC	Trichloroethene	79-01-6	3.90E-02	5.00E-03	**7.8E+00**	2.68E+01	1.5E-03	2.73E+01	1.4E-03
1~Webster to Taylor	MW-5B-03	06/05/03	VOC	Tetrachloroethene	127-18-4	3.90E-02	5.00E-03	**7.8E+00**	1.41E+01	2.8E-03	1.49E+01	2.6E-03
1~Webster to Taylor	MW-5B-03	06/05/03	VOC	Trichloroethene	79-01-6	4.50E-02	5.00E-03	**9.0E+00**	2.68E+01	1.7E-03	2.73E+01	1.7E-03
1~Webster to Taylor	MW-5B-03	06/19/03	VOC	Tetrachloroethene	127-18-4	4.50E-02	5.00E-03	**9.0E+00**	1.41E+01	3.2E-03	1.49E+01	3.0E-03
1~Webster to Taylor	MW-5B-03	06/19/03	VOC	Trichloroethene	79-01-6	4.70E-02	5.00E-03	**9.4E+00**	2.68E+01	1.8E-03	2.73E+01	1.7E-03
1~Webster to Taylor	MW-5B-03	08/14/03	VOC	Tetrachloroethene	127-18-4	3.60E-02	5.00E-03	**7.2E+00**	1.41E+01	2.6E-03	1.49E+01	2.4E-03
1~Webster to Taylor	MW-5B-03	08/14/03	VOC	Trichloroethene	79-01-6	3.60E-02	5.00E-03	**7.2E+00**	2.68E+01	1.3E-03	2.73E+01	1.3E-03
1~Webster to Taylor	MW-5B-03	03/19/04	VOC	Tetrachloroethene	127-18-4	3.90E-02	5.00E-03	**7.8E+00**	1.41E+01	2.8E-03	1.49E+01	2.6E-03
1~Webster to Taylor	MW-5B-03	03/19/04	VOC	Trichloroethene	79-01-6	3.30E-02	5.00E-03	**6.6E+00**	2.68E+01	1.2E-03	2.73E+01	1.2E-03
1~Webster to Taylor	MW-5B-03	06/29/04	VOC	Tetrachloroethene	127-18-4	3.40E-02	5.00E-03	**6.8E+00**	1.41E+01	2.4E-03	1.49E+01	2.3E-03
1~Webster to Taylor	MW-5B-03	06/29/04	VOC	Trichloroethene	79-01-6	3.20E-02	5.00E-03	**6.4E+00**	2.68E+01	1.2E-03	2.73E+01	1.2E-03
1~Webster to Taylor	MW-5B-03	10/19/04	VOC	Tetrachloroethene	127-18-4	3.90E-02	5.00E-03	**7.8E+00**	1.41E+01	2.8E-03	1.49E+01	2.6E-03
1~Webster to Taylor	MW-5B-03	10/19/04	VOC	Trichloroethene	79-01-6	3.40E-02	5.00E-03	**6.8E+00**	2.68E+01	1.3E-03	2.73E+01	1.2E-03
1~Webster to Taylor	MW-5B-03	11/19/04	VOC	Tetrachloroethene	127-18-4	3.00E-02	5.00E-03	**6.0E+00**	1.41E+01	2.1E-03	1.49E+01	2.0E-03
1~Webster to Taylor	MW-5B-03	11/19/04	VOC	Trichloroethene	79-01-6	3.00E-02	5.00E-03	**6.0E+00**	2.68E+01	1.1E-03	2.73E+01	1.1E-03
1~Webster to Taylor	MW-5B-03	04/27/05	VOC	Tetrachloroethene	127-18-4	2.20E-02	5.00E-03	**4.4E+00**	1.41E+01	1.6E-03	1.49E+01	1.5E-03
1~Webster to Taylor	MW-5B-03	04/27/05	VOC	Trichloroethene	79-01-6	2.10E-02	5.00E-03	**4.2E+00**	2.68E+01	7.8E-04	2.73E+01	7.7E-04
1~Webster to Taylor	OS-1A-00	07/15/02	VOC	Vinyl Chloride	75-01-4	4.50E-03	2.00E-03	**2.3E+00**	2.02E+00	2.2E-03	3.29E+00	1.4E-03
1~Webster to Taylor	OS-1A-00	03/11/03	VOC	Vinyl Chloride	75-01-4	4.70E-03	2.00E-03	**2.4E+00**	2.02E+00	2.3E-03	3.29E+00	1.4E-03
1~Webster to Taylor	OS-1A-00	08/18/03	VOC	Vinyl Chloride	75-01-4	3.50E-03	2.00E-03	**1.8E+00**	2.02E+00	1.7E-03	3.29E+00	1.1E-03
1~Webster to Taylor	OS-1B-00	07/15/02	VOC	Tetrachloroethene	127-18-4	4.70E-02	5.00E-03	**9.4E+00**	1.41E+01	3.3E-03	1.49E+01	3.2E-03
1~Webster to Taylor	OS-1B-00	07/15/02	VOC	Trichloroethene	79-01-6	4.20E-02	5.00E-03	**8.4E+00**	2.68E+01	1.6E-03	2.73E+01	1.5E-03
1~Webster to Taylor	OS-1B-00	03/11/03	VOC	Tetrachloroethene	127-18-4	5.20E-02	5.00E-03	**1.0E+01**	1.41E+01	3.7E-03	1.49E+01	3.5E-03
1~Webster to Taylor	OS-1B-00	03/11/03	VOC	Trichloroethene	79-01-6	4.60E-02	5.00E-03	**9.2E+00**	2.68E+01	1.7E-03	2.73E+01	1.7E-03
1~Webster to Taylor	OS-1B-00	08/20/03	VOC	Tetrachloroethene	127-18-4	3.50E-02	5.00E-03	**7.0E+00**	1.41E+01	2.5E-03	1.49E+01	2.4E-03
1~Webster to Taylor	OS-1B-00	08/20/03	VOC	Trichloroethene	79-01-6	3.50E-02	5.00E-03	**7.0E+00**	2.68E+01	1.3E-03	2.73E+01	1.3E-03
1~Webster to Taylor	OS-1B-00	04/22/05	VOC	Tetrachloroethene	127-18-4	2.30E-02	5.00E-03	**4.6E+00**	1.41E+01	1.6E-03	1.49E+01	1.5E-03
1~Webster to Taylor	OS-1B-00	04/22/05	VOC	Trichloroethene	79-01-6	2.30E-02	5.00E-03	**4.6E+00**	2.68E+01	8.6E-04	2.73E+01	8.4E-04
1~Webster to Taylor	OS-2B-03	03/06/03	VOC	Tetrachloroethene	127-18-4	1.50E-02	5.00E-03	**3.0E+00**	1.41E+01	1.1E-03	1.49E+01	1.0E-03
1~Webster to Taylor	OS-2B-03	03/06/03	VOC	Trichloroethene	79-01-6	4.10E-02	5.00E-03	**8.2E+00**	2.68E+01	1.5E-03	2.73E+01	1.5E-03

Table 6.2E: Groundwater Concentrations from All RFI Data that Exceed Screening Criteria: Upper Aquifer On-site
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

Area	Location	Sample Date	Chem Group	Chemical	CASRN	Concentration (mg/L)	Drinking Water Criteria (mg/L)	Ratio of Concentration to DW Criteria	Maintenance Worker Contact Criteria (mg/L)	Ratio of Concentration to Maint Worker Contact Criteria	Comm/Ind Vol Indoor Air Criteria (mg/L)	Ratio of Concentration to Comm/Ind Vol Indoor Air Criteria
1~Webster to Taylor	OS-2B-03	08/21/03	VOC	Tetrachloroethene	127-18-4	2.10E-02	5.00E-03	**4.2E+00**	1.41E+01	1.5E-03	1.49E+01	1.4E-03
1~Webster to Taylor	OS-2B-03	08/21/03	VOC	Trichloroethene	79-01-6	2.90E-02	5.00E-03	**5.8E+00**	2.68E+01	1.1E-03	2.73E+01	1.1E-03
1~Webster to Taylor	OS-2B-03	04/19/05	VOC	Tetrachloroethene	127-18-4	1.80E-02	5.00E-03	**3.6E+00**	1.41E+01	1.3E-03	1.49E+01	1.2E-03
1~Webster to Taylor	OS-2B-03	04/19/05	VOC	Trichloroethene	79-01-6	1.90E-02	5.00E-03	**3.8E+00**	2.68E+01	7.1E-04	2.73E+01	7.0E-04
1~Webster to Taylor	OS-2C-03	03/11/03	VOC	Tetrachloroethene	127-18-4	3.70E-02	5.00E-03	**7.4E+00**	1.41E+01	2.6E-03	1.49E+01	2.5E-03
1~Webster to Taylor	OS-2C-03	03/11/03	VOC	Trichloroethene	79-01-6	4.00E-02	5.00E-03	**8.0E+00**	2.68E+01	1.5E-03	2.73E+01	1.5E-03
1~Webster to Taylor	OS-2C-03	08/21/03	VOC	Tetrachloroethene	127-18-4	3.40E-02	5.00E-03	**6.8E+00**	1.41E+01	2.4E-03	1.49E+01	2.3E-03
1~Webster to Taylor	OS-2C-03	08/21/03	VOC	Trichloroethene	79-01-6	3.80E-02	5.00E-03	**7.6E+00**	2.68E+01	1.4E-03	2.73E+01	1.4E-03
1~Webster to Taylor	OS-2C-03	04/19/05	VOC	Tetrachloroethene	127-18-4	2.90E-02	5.00E-03	**5.8E+00**	1.41E+01	2.1E-03	1.49E+01	1.9E-03
1~Webster to Taylor	OS-2C-03	04/19/05	VOC	Trichloroethene	79-01-6	3.30E-02	5.00E-03	**6.6E+00**	2.68E+01	1.2E-03	2.73E+01	1.2E-03
1~Webster to Taylor	OS-3B-03	03/06/03	VOC	Tetrachloroethene	127-18-4	1.90E-02	5.00E-03	**3.8E+00**	1.41E+01	1.4E-03	1.49E+01	1.3E-03
1~Webster to Taylor	OS-3B-03	03/06/03	VOC	Trichloroethene	79-01-6	3.70E-02	5.00E-03	**7.4E+00**	2.68E+01	1.4E-03	2.73E+01	1.4E-03
1~Webster to Taylor	OS-3B-03	08/21/03	VOC	Tetrachloroethene	127-18-4	1.90E-02	5.00E-03	**3.8E+00**	1.41E+01	1.4E-03	1.49E+01	1.3E-03
1~Webster to Taylor	OS-3B-03	08/21/03	VOC	Trichloroethene	79-01-6	3.20E-02	5.00E-03	**6.4E+00**	2.68E+01	1.2E-03	2.73E+01	1.2E-03
1~Webster to Taylor	OS-3B-03	04/19/05	VOC	Tetrachloroethene	127-18-4	1.60E-02	5.00E-03	**3.2E+00**	1.41E+01	1.1E-03	1.49E+01	1.1E-03
1~Webster to Taylor	OS-3B-03	04/19/05	VOC	Trichloroethene	79-01-6	2.70E-02	5.00E-03	**5.4E+00**	2.68E+01	1.0E-03	2.73E+01	9.9E-04
1~Webster to Taylor	OS-3C-03	03/10/03	VOC	Tetrachloroethene	127-18-4	2.50E-02	5.00E-03	**5.0E+00**	1.41E+01	1.8E-03	1.49E+01	1.7E-03
1~Webster to Taylor	OS-3C-03	03/10/03	VOC	Trichloroethene	79-01-6	3.40E-02	5.00E-03	**6.8E+00**	2.68E+01	1.3E-03	2.73E+01	1.2E-03
1~Webster to Taylor	OS-3C-03	08/21/03	VOC	Tetrachloroethene	127-18-4	2.40E-02	5.00E-03	**4.8E+00**	1.41E+01	1.7E-03	1.49E+01	1.6E-03
1~Webster to Taylor	OS-3C-03	08/21/03	VOC	Trichloroethene	79-01-6	3.40E-02	5.00E-03	**6.8E+00**	2.68E+01	1.3E-03	2.73E+01	1.2E-03
1~Webster to Taylor	OS-3C-03	04/19/05	VOC	Tetrachloroethene	127-18-4	2.10E-02	5.00E-03	**4.2E+00**	1.41E+01	1.5E-03	1.49E+01	1.4E-03
1~Webster to Taylor	OS-3C-03	04/19/05	VOC	Trichloroethene	79-01-6	2.90E-02	5.00E-03	**5.8E+00**	2.68E+01	1.1E-03	2.73E+01	1.1E-03
1~Webster to Taylor	OS-4B-03	03/07/03	VOC	Tetrachloroethene	127-18-4	1.70E-02	5.00E-03	**3.4E+00**	1.41E+01	1.2E-03	1.49E+01	1.1E-03
1~Webster to Taylor	OS-4B-03	03/07/03	VOC	Trichloroethene	79-01-6	3.80E-02	5.00E-03	**7.6E+00**	2.68E+01	1.4E-03	2.73E+01	1.4E-03
1~Webster to Taylor	OS-4B-03	08/20/03	VOC	Tetrachloroethene	127-18-4	2.10E-02	5.00E-03	**4.2E+00**	1.41E+01	1.5E-03	1.49E+01	1.4E-03
1~Webster to Taylor	OS-4B-03	08/20/03	VOC	Trichloroethene	79-01-6	3.40E-02	5.00E-03	**6.8E+00**	2.68E+01	1.3E-03	2.73E+01	1.2E-03
1~Webster to Taylor	OS-4B-03	04/20/05	VOC	Tetrachloroethene	127-18-4	1.60E-02	5.00E-03	**3.2E+00**	1.41E+01	1.1E-03	1.49E+01	1.1E-03
1~Webster to Taylor	OS-4B-03	04/20/05	VOC	Trichloroethene	79-01-6	3.80E-02	5.00E-03	**7.6E+00**	2.68E+01	1.4E-03	2.73E+01	1.4E-03
1~Webster to Taylor	OS-4C-03	03/10/03	VOC	Tetrachloroethene	127-18-4	4.90E-02	5.00E-03	**9.8E+00**	1.41E+01	3.5E-03	1.49E+01	3.3E-03
1~Webster to Taylor	OS-4C-03	03/10/03	VOC	Trichloroethene	79-01-6	3.30E-02	5.00E-03	**6.6E+00**	2.68E+01	1.2E-03	2.73E+01	1.2E-03
1~Webster to Taylor	OS-4C-03	08/20/03	VOC	Tetrachloroethene	127-18-4	1.00E-02	5.00E-03	**2.0E+00**	1.41E+01	7.1E-04	1.49E+01	6.7E-04
1~Webster to Taylor	OS-4C-03	08/20/03	VOC	Trichloroethene	79-01-6	2.30E-02	5.00E-03	**4.6E+00**	2.68E+01	8.6E-04	2.73E+01	8.4E-04
1~Webster to Taylor	OS-4C-03	04/20/05	VOC	Tetrachloroethene	127-18-4	6.10E-03	5.00E-03	**1.2E+00**	1.41E+01	4.3E-04	1.49E+01	4.1E-04
1~Webster to Taylor	OS-4C-03	04/20/05	VOC	Trichloroethene	79-01-6	1.50E-02	5.00E-03	**3.0E+00**	2.68E+01	5.6E-04	2.73E+01	5.5E-04
1~Webster to Taylor	OS-5B-03	03/10/03	VOC	Tetrachloroethene	127-18-4	3.20E-02	5.00E-03	**6.4E+00**	1.41E+01	2.3E-03	1.49E+01	2.1E-03
1~Webster to Taylor	OS-5B-03	03/10/03	VOC	Trichloroethene	79-01-6	4.20E-02	5.00E-03	**8.4E+00**	2.68E+01	1.6E-03	2.73E+01	1.5E-03
1~Webster to Taylor	OS-5B-03	08/18/03	VOC	Tetrachloroethene	127-18-4	2.40E-02	5.00E-03	**4.8E+00**	1.41E+01	1.7E-03	1.49E+01	1.6E-03
1~Webster to Taylor	OS-5B-03	08/18/03	VOC	Trichloroethene	79-01-6	4.10E-02	5.00E-03	**8.2E+00**	2.68E+01	1.5E-03	2.73E+01	1.5E-03
1~Webster to Taylor	OS-5B-03	04/21/05	VOC	Tetrachloroethene	127-18-4	2.00E-02	5.00E-03	**4.0E+00**	1.41E+01	1.4E-03	1.49E+01	1.3E-03
1~Webster to Taylor	OS-5B-03	04/21/05	VOC	Trichloroethene	79-01-6	2.90E-02	5.00E-03	**5.8E+00**	2.68E+01	1.1E-03	2.73E+01	1.1E-03
1~Webster to Taylor	OS-5C-03	03/12/03	VOC	Tetrachloroethene	127-18-4	1.40E-02	5.00E-03	**2.8E+00**	1.41E+01	1.0E-03	1.49E+01	9.4E-04
1~Webster to Taylor	OS-5C-03	03/12/03	VOC	Trichloroethene	79-01-6	3.50E-02	5.00E-03	**7.0E+00**	2.68E+01	1.3E-03	2.73E+01	1.3E-03
1~Webster to Taylor	OS-5C-03	08/18/03	VOC	Tetrachloroethene	127-18-4	7.00E-03	5.00E-03	**1.4E+00**	1.41E+01	5.0E-04	1.49E+01	4.7E-04
1~Webster to Taylor	OS-5C-03	08/18/03	VOC	Trichloroethene	79-01-6	2.10E-02	5.00E-03	**4.2E+00**	2.68E+01	7.8E-04	2.73E+01	7.7E-04

Table 6.2E: Groundwater Concentrations from All RFI Data that Exceed Screening Criteria: Upper Aquifer On-site
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

Area	Location	Sample Date	Chem Group	Chemical	CASRN	Concentration (mg/L)	Drinking Water Criteria (mg/L)	Ratio of Concentration to DW Criteria	Maintenance Worker Contact Criteria (mg/L)	Ratio of Concentration to Maint Worker Contact Criteria	Comm/Ind Vol Indoor Air Criteria (mg/L)	Ratio of Concentration to Comm/Ind Vol Indoor Air Criteria
1~Webster to Taylor	OS-5C-03	04/21/05	VOC	Trichloroethene	79-01-6	6.40E-03	5.00E-03	**1.3E+00**	2.68E+01	2.4E-04	2.73E+01	2.3E-04
1~Webster to Taylor	OS-6B-03	03/07/03	VOC	Tetrachloroethene	127-18-4	1.60E-01	5.00E-03	**3.2E+01**	1.41E+01	1.1E-02	1.49E+01	1.1E-02
1~Webster to Taylor	OS-6B-03	03/07/03	VOC	Trichloroethene	79-01-6	5.40E-02	5.00E-03	**1.1E+01**	2.68E+01	2.0E-03	2.73E+01	2.0E-03
1~Webster to Taylor	OS-6B-03	08/15/03	VOC	Tetrachloroethene	127-18-4	1.50E-01	5.00E-03	**3.0E+01**	1.41E+01	1.1E-02	1.49E+01	1.0E-02
1~Webster to Taylor	OS-6B-03	08/15/03	VOC	Trichloroethene	79-01-6	5.30E-02	5.00E-03	**1.1E+01**	2.68E+01	2.0E-03	2.73E+01	1.9E-03
1~Webster to Taylor	OS-6B-03	04/20/05	VOC	Tetrachloroethene	127-18-4	1.30E-01	5.00E-03	**2.6E+01**	1.41E+01	9.2E-03	1.49E+01	8.7E-03
1~Webster to Taylor	OS-6B-03	04/20/05	VOC	Trichloroethene	79-01-6	5.30E-02	5.00E-03	**1.1E+01**	2.68E+01	2.0E-03	2.73E+01	1.9E-03
1~Webster to Taylor	OS-6C-03	03/12/03	VOC	Tetrachloroethene	127-18-4	1.70E-02	5.00E-03	**3.4E+00**	1.41E+01	1.2E-03	1.49E+01	1.1E-03
1~Webster to Taylor	OS-6C-03	03/12/03	VOC	Trichloroethene	79-01-6	2.40E-02	5.00E-03	**4.8E+00**	2.68E+01	8.9E-04	2.73E+01	8.8E-04
1~Webster to Taylor	OS-6C-03	08/15/03	VOC	Tetrachloroethene	127-18-4	1.20E-02	5.00E-03	**2.4E+00**	1.41E+01	8.5E-04	1.49E+01	8.1E-04
1~Webster to Taylor	OS-6C-03	08/15/03	VOC	Trichloroethene	79-01-6	2.10E-02	5.00E-03	**4.2E+00**	2.68E+01	7.8E-04	2.73E+01	7.7E-04
1~Webster to Taylor	OS-6C-03	04/20/05	VOC	Tetrachloroethene	127-18-4	7.90E-03	5.00E-03	**1.6E+00**	1.41E+01	5.6E-04	1.49E+01	5.3E-04
1~Webster to Taylor	OS-6C-03	04/20/05	VOC	Trichloroethene	79-01-6	2.00E-02	5.00E-03	**4.0E+00**	2.68E+01	7.5E-04	2.73E+01	7.3E-04
1~Webster to Taylor	OS-7B-03	03/07/03	VOC	cis-1,2-Dichloroethene	156-59-2	2.40E-01	7.00E-02	**3.4E+00**	2.29E+01	1.0E-02	6.38E+01	3.8E-03
1~Webster to Taylor	OS-7B-03	03/07/03	VOC	Tetrachloroethene	127-18-4	9.80E-01	5.00E-03	**2.0E+02**	1.41E+01	7.0E-02	1.49E+01	6.6E-02
1~Webster to Taylor	OS-7B-03	03/07/03	VOC	Trichloroethene	79-01-6	2.20E-01	5.00E-03	**4.4E+01**	2.68E+01	8.2E-03	2.73E+01	8.1E-03
1~Webster to Taylor	OS-7B-03	03/07/03	VOC	Vinyl Chloride	75-01-4	4.10E-02	2.00E-03	**2.1E+01**	2.02E+00	2.0E-02	3.29E+00	1.2E-02
1~Webster to Taylor	OS-7B-03	08/15/03	VOC	cis-1,2-Dichloroethene	156-59-2	1.90E-01	7.00E-02	**2.7E+00**	2.29E+01	8.3E-03	6.38E+01	3.0E-03
1~Webster to Taylor	OS-7B-03	08/15/03	VOC	Tetrachloroethene	127-18-4	2.00E+00	5.00E-03	**4.0E+02**	1.41E+01	1.4E-01	1.49E+01	1.3E-01
1~Webster to Taylor	OS-7B-03	08/15/03	VOC	Trichloroethene	79-01-6	1.20E-01	5.00E-03	**2.4E+01**	2.68E+01	4.5E-03	2.73E+01	4.4E-03
1~Webster to Taylor	OS-7B-03	08/15/03	VOC	Vinyl Chloride	75-01-4	2.90E-02	2.00E-03	**1.5E+01**	2.02E+00	1.4E-02	3.29E+00	8.8E-03
1~Webster to Taylor	OS-7B-03	04/20/05	VOC	cis-1,2-Dichloroethene	156-59-2	1.60E-01	7.00E-02	**2.3E+00**	2.29E+01	7.0E-03	6.38E+01	2.5E-03
1~Webster to Taylor	OS-7B-03	04/20/05	VOC	Methylene Chloride	75-09-2	1.90E-02	5.00E-03	**3.8E+00**	8.94E+01	2.1E-04	1.27E+02	1.5E-04
1~Webster to Taylor	OS-7B-03	04/20/05	VOC	Tetrachloroethene	127-18-4	5.00E-01	5.00E-03	**1.0E+02**	1.41E+01	3.6E-02	1.49E+01	3.4E-02
1~Webster to Taylor	OS-7B-03	04/20/05	VOC	Trichloroethene	79-01-6	3.80E-02	5.00E-03	**7.6E+00**	2.68E+01	1.4E-03	2.73E+01	1.4E-03
1~Webster to Taylor	OS-7B-03	04/20/05	VOC	Vinyl Chloride	75-01-4	3.30E-02	2.00E-03	**1.7E+01**	2.02E+00	1.6E-02	3.29E+00	1.0E-02
1~Webster to Taylor	OS-7C-03	03/13/03	VOC	Tetrachloroethene	127-18-4	2.10E-02	5.00E-03	**4.2E+00**	1.41E+01	1.5E-03	1.49E+01	1.4E-03
1~Webster to Taylor	OS-7C-03	03/13/03	VOC	Trichloroethene	79-01-6	2.70E-02	5.00E-03	**5.4E+00**	2.68E+01	1.0E-03	2.73E+01	9.9E-04
1~Webster to Taylor	OS-7C-03	08/15/03	VOC	Tetrachloroethene	127-18-4	1.30E-02	5.00E-03	**2.6E+00**	1.41E+01	9.2E-04	1.49E+01	8.7E-04
1~Webster to Taylor	OS-7C-03	08/15/03	VOC	Trichloroethene	79-01-6	2.50E-02	5.00E-03	**5.0E+00**	2.68E+01	9.3E-04	2.73E+01	9.2E-04
1~Webster to Taylor	OS-7C-03	04/20/05	VOC	Tetrachloroethene	127-18-4	7.70E-03	5.00E-03	**1.5E+00**	1.41E+01	5.5E-04	1.49E+01	5.2E-04
1~Webster to Taylor	OS-7C-03	04/20/05	VOC	Trichloroethene	79-01-6	1.90E-02	5.00E-03	**3.8E+00**	2.68E+01	7.1E-04	2.73E+01	7.0E-04
2~Taylor to Railway	HD-17	07/11/02	VOC	Trichloroethene	79-01-6	6.10E-02	5.00E-03	**1.2E+01**	2.68E+01	2.3E-03	2.73E+01	2.2E-03
2~Taylor to Railway	HD-17	03/19/03	VOC	Trichloroethene	79-01-6	6.50E-02	5.00E-03	**1.3E+01**	2.68E+01	2.4E-03	2.73E+01	2.4E-03
2~Taylor to Railway	HD-17	11/12/04	VOC	Trichloroethene	79-01-6	6.70E-02	5.00E-03	**1.3E+01**	2.68E+01	2.5E-03	2.73E+01	2.5E-03
2~Taylor to Railway	HD-18	07/16/02	VOC	Tetrachloroethene	127-18-4	3.90E-02	5.00E-03	**7.8E+00**	1.41E+01	2.8E-03	1.49E+01	2.6E-03
2~Taylor to Railway	HD-18	07/16/02	VOC	Trichloroethene	79-01-6	1.50E-02	5.00E-03	**3.0E+00**	2.68E+01	5.6E-04	2.73E+01	5.5E-04
2~Taylor to Railway	HD-18	03/19/03	VOC	Tetrachloroethene	127-18-4	3.60E-02	5.00E-03	**7.2E+00**	1.41E+01	2.6E-03	1.49E+01	2.4E-03
2~Taylor to Railway	HD-18	03/19/03	VOC	Trichloroethene	79-01-6	1.70E-02	5.00E-03	**3.4E+00**	2.68E+01	6.3E-04	2.73E+01	6.2E-04
2~Taylor to Railway	HD-18	11/16/04	VOC	Tetrachloroethene	127-18-4	4.40E-02	5.00E-03	**8.8E+00**	1.41E+01	3.1E-03	1.49E+01	3.0E-03
2~Taylor to Railway	HD-18	11/16/04	VOC	Trichloroethene	79-01-6	1.00E-02	5.00E-03	**2.0E+00**	2.68E+01	3.7E-04	2.73E+01	3.7E-04
2~Taylor to Railway	HD-18	09/15/06	VOC	Tetrachloroethene	127-18-4	3.70E-02	5.00E-03	**7.4E+00**	1.41E+01	2.6E-03	1.49E+01	2.5E-03
2~Taylor to Railway	HD-18	09/15/06	VOC	Trichloroethene	79-01-6	1.20E-02	5.00E-03	**2.4E+00**	2.68E+01	4.5E-04	2.73E+01	4.4E-04
2~Taylor to Railway	HD-18	08/27/07	VOC	Tetrachloroethene	127-18-4	3.90E-02	5.00E-03	**7.8E+00**	1.41E+01	2.8E-03	1.49E+01	2.6E-03

Table 6.2E: Groundwater Concentrations from All RFI Data that Exceed Screening Criteria: Upper Aquifer On-site
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

Area	Location	Sample Date	Chem Group	Chemical	CASRN	Concentration (mg/L)	Drinking Water Criteria (mg/L)	Ratio of Concentration to DW Criteria	Maintenance Worker Contact Criteria (mg/L)	Ratio of Concentration to Maint Worker Contact Criteria	Comm/Ind Vol Indoor Air Criteria (mg/L)	Ratio of Concentration to Comm/Ind Vol Indoor Air Criteria
2~Taylor to Railway	HD-18	08/27/07	VOC	Trichloroethene	79-01-6	6.15E-03	5.00E-03	**1.2E+00**	2.68E+01	2.3E-04	2.73E+01	2.3E-04
2~Taylor to Railway	MW-12A-03	04/15/03	PCB	PCBs (total)	1336-36-3	1.25E-03	5.00E-04	**2.5E+00**	9.35E-03	1.3E-01	2.52E-01	5.0E-03
2~Taylor to Railway	MW-12B-03	04/16/03	VOC	Trichloroethene	79-01-6	1.30E-02	5.00E-03	**2.6E+00**	2.68E+01	4.8E-04	2.73E+01	4.8E-04
2~Taylor to Railway	MW-12B-03	11/17/04	VOC	Trichloroethene	79-01-6	1.00E-02	5.00E-03	**2.0E+00**	2.68E+01	3.7E-04	2.73E+01	3.7E-04
2~Taylor to Railway	MW-13A-03	04/16/03	VOC	Tetrachloroethene	127-18-4	1.20E-02	5.00E-03	**2.4E+00**	1.41E+01	8.5E-04	1.49E+01	8.1E-04
2~Taylor to Railway	MW-13B-03	04/17/03	VOC	Tetrachloroethene	127-18-4	1.70E-02	5.00E-03	**3.4E+00**	1.41E+01	1.2E-03	1.49E+01	1.1E-03
2~Taylor to Railway	MW-13B-03	11/17/04	VOC	Tetrachloroethene	127-18-4	1.20E-02	5.00E-03	**2.4E+00**	1.41E+01	8.5E-04	1.49E+01	8.1E-04
2~Taylor to Railway	MW-14A-03	04/18/03	VOC	cis-1,2-Dichloroethene	156-59-2	2.80E-01	7.00E-02	**4.0E+00**	2.29E+01	1.2E-02	6.38E+01	4.4E-03
2~Taylor to Railway	MW-14A-03	04/18/03	VOC	Trichloroethene	79-01-6	7.90E-03	5.00E-03	**1.6E+00**	2.68E+01	2.9E-04	2.73E+01	2.9E-04
2~Taylor to Railway	MW-14A-03	04/18/03	VOC	Vinyl Chloride	75-01-4	2.60E-02	2.00E-03	**1.3E+01**	2.02E+00	1.3E-02	3.29E+00	7.9E-03
2~Taylor to Railway	MW-14A-03	11/18/04	VOC	cis-1,2-Dichloroethene	156-59-2	5.60E-01	7.00E-02	**8.0E+00**	2.29E+01	2.4E-02	6.38E+01	8.8E-03
2~Taylor to Railway	MW-14A-03	11/18/04	VOC	Vinyl Chloride	75-01-4	4.30E-02	2.00E-03	**2.2E+01**	2.02E+00	2.1E-02	3.29E+00	1.3E-02
2~Taylor to Railway	MW-14B-04	03/30/04	VOC	Tetrachloroethene	127-18-4	4.90E-02	5.00E-03	**9.8E+00**	1.41E+01	3.5E-03	1.49E+01	3.3E-03
2~Taylor to Railway	MW-14B-04	03/30/04	VOC	Trichloroethene	79-01-6	6.70E-03	5.00E-03	**1.3E+00**	2.68E+01	2.5E-04	2.73E+01	2.5E-04
2~Taylor to Railway	MW-14B-04	11/18/04	VOC	Tetrachloroethene	127-18-4	6.50E-02	5.00E-03	**1.3E+01**	1.41E+01	4.6E-03	1.49E+01	4.4E-03
2~Taylor to Railway	MW-14B-04	11/18/04	VOC	Trichloroethene	79-01-6	8.20E-03	5.00E-03	**1.6E+00**	2.68E+01	3.1E-04	2.73E+01	3.0E-04
2~Taylor to Railway	MW-14B-04	01/23/06	VOC	Tetrachloroethene	127-18-4	8.30E-02	5.00E-03	**1.7E+01**	1.41E+01	5.9E-03	1.49E+01	5.6E-03
2~Taylor to Railway	MW-14B-04	01/23/06	VOC	Trichloroethene	79-01-6	8.30E-03	5.00E-03	**1.7E+00**	2.68E+01	3.1E-04	2.73E+01	3.0E-04
2~Taylor to Railway	MW-23-04	03/30/04	VOC	cis-1,2-Dichloroethene	156-59-2	1.10E+00	7.00E-02	**1.6E+01**	2.29E+01	4.8E-02	6.38E+01	1.7E-02
2~Taylor to Railway	MW-23-04	03/30/04	VOC	Tetrachloroethene	127-18-4	1.20E+00	5.00E-03	**2.4E+02**	1.41E+01	8.5E-02	1.49E+01	8.1E-02
2~Taylor to Railway	MW-23-04	03/30/04	VOC	Trichloroethene	79-01-6	3.90E-01	5.00E-03	**7.8E+01**	2.68E+01	1.5E-02	2.73E+01	1.4E-02
2~Taylor to Railway	MW-23-04	03/30/04	VOC	Vinyl Chloride	75-01-4	1.20E-01	2.00E-03	**6.0E+01**	2.02E+00	5.9E-02	3.29E+00	3.6E-02
2~Taylor to Railway	MW-23-04	11/17/04	VOC	cis-1,2-Dichloroethene	156-59-2	2.80E+01	7.00E-02	**4.0E+02**	2.29E+01	**1.2E+00**	6.38E+01	4.4E-01
2~Taylor to Railway	MW-23-04	11/17/04	VOC	Tetrachloroethene	127-18-4	4.60E+00	5.00E-03	**9.2E+02**	1.41E+01	3.3E-01	1.49E+01	3.1E-01
2~Taylor to Railway	MW-23-04	11/17/04	VOC	Trichloroethene	79-01-6	1.30E+00	5.00E-03	**2.6E+02**	2.68E+01	4.8E-02	2.73E+01	4.8E-02
2~Taylor to Railway	MW-23-04	11/17/04	VOC	Vinyl Chloride	75-01-4	2.90E+00	2.00E-03	**1.5E+03**	2.02E+00	**1.4E+00**	3.29E+00	8.8E-01
2~Taylor to Railway	MW-23-04	04/01/05	VOC	cis-1,2-Dichloroethene	156-59-2	3.45E+01	7.00E-02	**4.9E+02**	2.29E+01	**1.5E+00**	6.38E+01	5.4E-01
2~Taylor to Railway	MW-23-04	04/01/05	VOC	Tetrachloroethene	127-18-4	1.30E+00	5.00E-03	**2.6E+02**	1.41E+01	9.2E-02	1.49E+01	8.7E-02
2~Taylor to Railway	MW-23-04	04/01/05	VOC	Trichloroethene	79-01-6	6.00E-01	5.00E-03	**1.2E+02**	2.68E+01	2.2E-02	2.73E+01	2.2E-02
2~Taylor to Railway	MW-23-04	04/01/05	VOC	Vinyl Chloride	75-01-4	8.10E-01	2.00E-03	**4.1E+02**	2.02E+00	4.0E-01	3.29E+00	2.5E-01
2~Taylor to Railway	MW-23-04	11/02/06	VOC	cis-1,2-Dichloroethene	156-59-2	2.10E+01	7.00E-02	**3.0E+02**	2.29E+01	9.2E-01	6.38E+01	3.3E-01
2~Taylor to Railway	MW-23-04	11/02/06	VOC	Methylene Chloride	75-09-2	7.00E-02	5.00E-03	**1.4E+01**	8.94E+01	7.8E-04	1.27E+02	5.5E-04
2~Taylor to Railway	MW-23-04	11/02/06	VOC	Tetrachloroethene	127-18-4	1.70E-01	5.00E-03	**3.4E+01**	1.41E+01	1.2E-02	1.49E+01	1.1E-02
2~Taylor to Railway	MW-23-04	11/02/06	VOC	Vinyl Chloride	75-01-4	2.80E+00	2.00E-03	**1.4E+03**	2.02E+00	**1.4E+00**	3.29E+00	8.5E-01
2~Taylor to Railway	MW-24-04	03/25/04	VOC	cis-1,2-Dichloroethene	156-59-2	3.10E-01	7.00E-02	**4.4E+00**	2.29E+01	1.4E-02	6.38E+01	4.9E-03
2~Taylor to Railway	MW-24-04	03/25/04	VOC	Vinyl Chloride	75-01-4	1.80E-02	2.00E-03	**9.0E+00**	2.02E+00	8.9E-03	3.29E+00	5.5E-03
2~Taylor to Railway	MW-24-04	03/25/04	INORG	Arsenic	7440-38-2	2.00E-02	1.00E-02	**2.0E+00**	1.44E+01	1.4E-03		
2~Taylor to Railway	MW-25-04	03/26/04	VOC	Tetrachloroethene	127-18-4	1.80E-02	5.00E-03	**3.6E+00**	1.41E+01	1.3E-03	1.49E+01	1.2E-03
2~Taylor to Railway	MW-25-04	03/26/04	VOC	Trichloroethene	79-01-6	4.70E-02	5.00E-03	**9.4E+00**	2.68E+01	1.8E-03	2.73E+01	1.7E-03
2~Taylor to Railway	MW-25-04	11/19/04	VOC	Tetrachloroethene	127-18-4	1.40E-02	5.00E-03	**2.8E+00**	1.41E+01	1.0E-03	1.49E+01	9.4E-04
2~Taylor to Railway	MW-25-04	11/19/04	VOC	Trichloroethene	79-01-6	2.50E-02	5.00E-03	**5.0E+00**	2.68E+01	9.3E-04	2.73E+01	9.2E-04
2~Taylor to Railway	MW-26-04	03/26/04	VOC	cis-1,2-Dichloroethene	156-59-2	1.40E-01	7.00E-02	**2.0E+00**	2.29E+01	6.1E-03	6.38E+01	2.2E-03
2~Taylor to Railway	MW-26-04	03/26/04	VOC	Trichloroethene	79-01-6	8.70E-03	5.00E-03	**1.7E+00**	2.68E+01	3.2E-04	2.73E+01	3.2E-04
2~Taylor to Railway	MW-26-04	03/26/04	VOC	Vinyl Chloride	75-01-4	6.20E-03	2.00E-03	**3.1E+00**	2.02E+00	3.1E-03	3.29E+00	1.9E-03

Table 6.2E: Groundwater Concentrations from All RFI Data that Exceed Screening Criteria: Upper Aquifer On-site
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

Area	Location	Sample Date	Chem Group	Chemical	CASRN	Concentration (mg/L)	Drinking Water Criteria (mg/L)	Ratio of Concentration to DW Criteria	Maintenance Worker Contact Criteria (mg/L)	Ratio of Concentration to Maint Worker Contact Criteria	Comm/Ind Vol Indoor Air Criteria (mg/L)	Ratio of Concentration to Comm/Ind Vol Indoor Air Criteria
2~Taylor to Railway	MW-26-04	03/26/04	INORG	Arsenic	7440-38-2	1.10E-02	1.00E-02	**1.1E+00**	1.44E+01	7.7E-04		
2~Taylor to Railway	MW-26-04	11/17/04	VOC	Trichloroethene	79-01-6	1.10E-02	5.00E-03	**2.2E+00**	2.68E+01	4.1E-04	2.73E+01	4.0E-04
2~Taylor to Railway	MW-26-04	11/17/04	VOC	Vinyl Chloride	75-01-4	5.20E-03	2.00E-03	**2.6E+00**	2.02E+00	2.6E-03	3.29E+00	1.6E-03
2~Taylor to Railway	MW-26-04	09/21/06	VOC	cis-1,2-Dichloroethene	156-59-2	1.10E-01	7.00E-02	**1.6E+00**	2.29E+01	4.8E-03	6.38E+01	1.7E-03
2~Taylor to Railway	MW-26-04	09/21/06	VOC	Trichloroethene	79-01-6	9.30E-02	5.00E-03	**1.9E+01**	2.68E+01	3.5E-03	2.73E+01	3.4E-03
2~Taylor to Railway	MW-26-04	09/21/06	VOC	Vinyl Chloride	75-01-4	2.20E-03	2.00E-03	**1.1E+00**	2.02E+00	1.1E-03	3.29E+00	6.7E-04
2~Taylor to Railway	MW-3-02	04/18/03	VOC	Tetrachloroethene	127-18-4	4.00E-02	5.00E-03	**8.0E+00**	1.41E+01	2.8E-03	1.49E+01	2.7E-03
2~Taylor to Railway	MW-3-02	04/18/03	VOC	Trichloroethene	79-01-6	6.20E-03	5.00E-03	**1.2E+00**	2.68E+01	2.3E-04	2.73E+01	2.3E-04
2~Taylor to Railway	MW-3-02	04/18/03	PCB	PCBs (total)	1336-36-3	5.80E-03	5.00E-04	**1.2E+01**	9.35E-03	6.2E-01	2.52E-01	2.3E-02
2~Taylor to Railway	MW-3-02	11/12/04	VOC	Tetrachloroethene	127-18-4	9.10E-03	5.00E-03	**1.8E+00**	1.41E+01	6.5E-04	1.49E+01	6.1E-04
2~Taylor to Railway	MW-3-02	11/12/04	PCB	PCBs (total)	1336-36-3	1.25E-03	5.00E-04	**2.5E+00**	9.35E-03	1.3E-01	2.52E-01	5.0E-03
2~Taylor to Railway	MW-37-05	06/03/05	VOC	cis-1,2-Dichloroethene	156-59-2	4.00E+00	7.00E-02	**5.7E+01**	2.29E+01	1.7E-01	6.38E+01	6.3E-02
2~Taylor to Railway	MW-37-05	06/03/05	VOC	Tetrachloroethene	127-18-4	7.90E-01	5.00E-03	**1.6E+02**	1.41E+01	5.6E-02	1.49E+01	5.3E-02
2~Taylor to Railway	MW-37-05	06/03/05	VOC	Trichloroethene	79-01-6	1.80E-01	5.00E-03	**3.6E+01**	2.68E+01	6.7E-03	2.73E+01	6.6E-03
2~Taylor to Railway	MW-37-05	11/02/06	VOC	cis-1,2-Dichloroethene	156-59-2	2.50E-01	7.00E-02	**3.6E+00**	2.29E+01	1.1E-02	6.38E+01	3.9E-03
2~Taylor to Railway	MW-37-05	11/02/06	VOC	Tetrachloroethene	127-18-4	8.60E-01	5.00E-03	**1.7E+02**	1.41E+01	6.1E-02	1.49E+01	5.8E-02
2~Taylor to Railway	MW-37-05	11/02/06	VOC	Trichloroethene	79-01-6	2.60E-01	5.00E-03	**5.2E+01**	2.68E+01	9.7E-03	2.73E+01	9.5E-03
2~Taylor to Railway	MW-9-03	04/10/03	VOC	Tetrachloroethene	127-18-4	8.40E-03	5.00E-03	**1.7E+00**	1.41E+01	6.0E-04	1.49E+01	5.6E-04
3~Railway to Keowee	B-306	07/16/02	PCB	PCBs (total)	1336-36-3	8.43E-04	5.00E-04	**1.7E+00**	9.35E-03	9.0E-02	2.52E-01	3.3E-03
3~Railway to Keowee	HD-14	11/10/04	VOC	Trichloroethene	79-01-6	1.00E-02	5.00E-03	**2.0E+00**	2.68E+01	3.7E-04	2.73E+01	3.7E-04
3~Railway to Keowee	MW-31-04	03/31/04	VOC	Vinyl Chloride	75-01-4	3.30E-03	2.00E-03	**1.7E+00**	2.02E+00	1.6E-03	3.29E+00	1.0E-03

Notes:

1. The drinking water criteria are based on the following hierarchy: state MCL, federal MCL, equivalent drinking water concentration limits at the lower of the criteria calculated at either the target cancer risk of 1×10^{-5} or target hazard quotient of 1.
2. The criteria for non-drinking water are the lower of the criteria at either the target cancer risk of 1×10^{-5} or target hazard quotient of 1.
3. Shaded cells represent ratios of concentration to the screening criteria greater than 1.
4. Maintenance worker contact criteria and comm/ind vol indoor air criteria were calculated as discussed in Appendix F of the RFI Report Addendum 3.

Abbreviations:

Chem Group - Chemical Group
CASRN - Chemical Abstract Service Registry Number
Comm/Ind - Commercial/Industrial
Vol - Volatilization

Table 6.2F: Groundwater Concentrations from All RFI Data that Exceed Screening Criteria: Upper Aquifer Off-site
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

Area	Location	Sample Date	Chem Group	Chemical	CASRN	Concentration (mg/L)	Drinking Water Criteria (mg/L)	Ratio of Concentration to DW Criteria	Maintenance Worker Contact Criteria (mg/L)	Ratio of Concentration to Maintenance Worker Contact Criteria	Comm/Ind Vol Indoor Air Criteria (mg/L)	Ratio of Concentration to Comm/Ind Vol Indoor Air Criteria	Residential Vol Indoor Air Criteria (mg/L)	Ratio of Concentration to Res Vol Indoor Air Criteria	Residential Nonpotable Criteria (mg/L)	Ratio of Concentration to Res Nonpotable Criteria
1~Webster to Taylor	DAY-13	07/01/02	VOC	Tetrachloroethene	127-18-4	1.50E-01	5.00E-03	**3.0E+01**	1.41E+01	1.1E-02	1.47E+01	1.0E-02	4.32E+00	3.5E-02	6.02E-01	2.5E-01
1~Webster to Taylor	DAY-13	07/01/02	VOC	Trichloroethene	79-01-6	2.60E-02	5.00E-03	**5.2E+00**	2.68E+01	9.7E-04	2.67E+01	9.7E-04	7.76E+00	3.3E-03	2.23E+00	1.2E-02
1~Webster to Taylor	DAY-13	04/08/03	VOC	Tetrachloroethene	127-18-4	1.40E-01	5.00E-03	**2.8E+01**	1.41E+01	1.0E-02	1.47E+01	9.5E-03	4.32E+00	3.2E-02	6.02E-01	2.3E-01
1~Webster to Taylor	DAY-13	04/08/03	VOC	Trichloroethene	79-01-6	2.70E-02	5.00E-03	**5.4E+00**	2.68E+01	1.0E-03	2.67E+01	1.0E-03	7.76E+00	3.5E-03	2.23E+00	1.2E-02
1~Webster to Taylor	DAY-13	11/16/04	VOC	Tetrachloroethene	127-18-4	1.50E-01	5.00E-03	**3.0E+01**	1.41E+01	1.1E-02	1.47E+01	1.0E-02	4.32E+00	3.5E-02	6.02E-01	2.5E-01
1~Webster to Taylor	DAY-13	11/16/04	VOC	Trichloroethene	79-01-6	2.70E-02	5.00E-03	**5.4E+00**	2.68E+01	1.0E-03	2.67E+01	1.0E-03	7.76E+00	3.5E-03	2.23E+00	1.2E-02
1~Webster to Taylor	DAY-13	09/14/06	VOC	Tetrachloroethene	127-18-4	9.00E-02	5.00E-03	**1.8E+01**	1.41E+01	6.4E-03	1.47E+01	6.1E-03	4.32E+00	2.1E-02	6.02E-01	1.5E-01
1~Webster to Taylor	DAY-13	09/14/06	VOC	Trichloroethene	79-01-6	1.10E-02	5.00E-03	**2.2E+00**	2.68E+01	4.1E-04	2.67E+01	4.1E-04	7.76E+00	1.4E-03	2.23E+00	4.9E-03
1~Webster to Taylor	DAY-13	08/22/07	VOC	Tetrachloroethene	127-18-4	1.35E-01	5.00E-03	**2.7E+01**	1.41E+01	9.6E-03	1.47E+01	9.2E-03	4.32E+00	3.1E-02	6.02E-01	2.2E-01
1~Webster to Taylor	DAY-13	08/22/07	VOC	Trichloroethene	79-01-6	1.45E-02	5.00E-03	**2.9E+00**	2.68E+01	5.4E-04	2.67E+01	5.4E-04	7.76E+00	1.9E-03	2.23E+00	6.5E-03
2~Taylor to Railway	DAY-01	04/08/03	VOC	Vinyl Chloride	75-01-4	4.80E-03	2.00E-03	**2.4E+00**	2.02E+00	2.4E-03	3.25E+00	1.5E-03	9.53E-01	5.0E-03	4.90E-02	9.8E-02
2~Taylor to Railway	DAY-01	11/10/04	VOC	Trichloroethene	79-01-6	7.80E-03	5.00E-03	**1.6E+00**	2.68E+01	2.9E-04	2.67E+01	2.9E-04	7.76E+00	1.0E-03	2.23E+00	3.5E-03
2~Taylor to Railway	MW-4-02	04/17/03	PCB	PCBs (total)	1336-36-3	5.83E-04	5.00E-04	**1.2E+00**	9.35E-03	6.2E-02	2.43E-01	2.4E-03	6.95E-02	8.4E-03	1.96E-04	**3.0E+00**
2~Taylor to Railway	MW-4-02	11/23/04	PCB	PCBs (total)	1336-36-3	4.83E-04	5.00E-04	9.7E-01	9.35E-03	5.2E-02	2.43E-01	2.0E-03	6.95E-02	6.9E-03	1.96E-04	**2.5E+00**
2~Taylor to Railway	MW-4-02	09/14/06	PCB	PCBs (total)	1336-36-3	5.60E-04	5.00E-04	**1.1E+00**	9.35E-03	6.0E-02	2.43E-01	2.3E-03	6.95E-02	8.1E-03	1.96E-04	**2.9E+00**
2~Taylor to Railway	MW-4-02	08/23/07	PCB	PCBs (total)	1336-36-3	4.10E-04	5.00E-04	8.2E-01	9.35E-03	4.4E-02	2.43E-01	1.7E-03	6.95E-02	5.9E-03	1.96E-04	**2.1E+00**
4~Off Site South	DAY-14	07/08/02	VOC	Trichloroethene	79-01-6	4.00E-02	5.00E-03	**8.0E+00**	2.68E+01	1.5E-03	2.67E+01	1.5E-03	7.76E+00	5.2E-03	2.23E+00	1.8E-02
4~Off Site South	DAY-14	04/07/03	VOC	Trichloroethene	79-01-6	4.40E-02	5.00E-03	**8.8E+00**	2.68E+01	1.6E-03	2.67E+01	1.6E-03	7.76E+00	5.7E-03	2.23E+00	2.0E-02
4~Off Site South	DAY-18	07/10/02	VOC	Trichloroethene	79-01-6	5.10E-02	5.00E-03	**1.0E+01**	2.68E+01	1.9E-03	2.67E+01	1.9E-03	7.76E+00	6.6E-03	2.23E+00	2.3E-02
4~Off Site South	DAY-18	07/10/02	SVOC	bis(2-Ethylhexyl)phthalate	117-81-7	6.90E-03	6.00E-03	**1.2E+00**	1.82E+00	3.8E-03	7.69E+04	9.0E-08	1.49E+04	4.6E-07	9.97E-03	6.9E-01
4~Off Site South	DAY-18	04/03/03	VOC	Trichloroethene	79-01-6	4.90E-02	5.00E-03	**9.8E+00**	2.68E+01	1.8E-03	2.67E+01	1.8E-03	7.76E+00	6.3E-03	2.23E+00	2.2E-02
4~Off Site South	DAY-19	07/10/02	VOC	Trichloroethene	79-01-6	5.30E-02	5.00E-03	**1.1E+01**	2.68E+01	2.0E-03	2.67E+01	2.0E-03	7.76E+00	6.8E-03	2.23E+00	2.4E-02
4~Off Site South	DAY-19	04/03/03	VOC	Trichloroethene	79-01-6	5.10E-02	5.00E-03	**1.0E+01**	2.68E+01	1.9E-03	2.67E+01	1.9E-03	7.76E+00	6.6E-03	2.23E+00	2.3E-02
4~Off Site South	DAY-20	07/09/02	VOC	Trichloroethene	79-01-6	1.70E-02	5.00E-03	**3.4E+00**	2.68E+01	6.3E-04	2.67E+01	6.4E-04	7.76E+00	2.2E-03	2.23E+00	7.6E-03
4~Off Site South	DAY-20	04/07/03	VOC	Trichloroethene	79-01-6	1.70E-02	5.00E-03	**3.4E+00**	2.68E+01	6.3E-04	2.67E+01	6.4E-04	7.76E+00	2.2E-03	2.23E+00	7.6E-03
4~Off Site South	DAY-20	11/08/04	VOC	Tetrachloroethene	127-18-4	4.80E-02	5.00E-03	**9.6E+00**	1.41E+01	3.4E-03	1.47E+01	3.3E-03	4.32E+00	1.1E-02	6.02E-01	8.0E-02
4~Off Site South	DAY-20	11/08/04	VOC	Trichloroethene	79-01-6	2.00E-02	5.00E-03	**4.0E+00**	2.68E+01	7.5E-04	2.67E+01	7.5E-04	7.76E+00	2.6E-03	2.23E+00	9.0E-03
4~Off Site South	DAY-20	11/10/04	VOC	Trichloroethene	79-01-6	8.20E-03	5.00E-03	**1.6E+00**	2.68E+01	3.1E-04	2.67E+01	3.1E-04	7.76E+00	1.1E-03	2.23E+00	3.7E-03
4~Off Site South	DAY-21	07/17/02	VOC	Trichloroethene	79-01-6	6.30E-02	5.00E-03	**1.3E+01**	2.68E+01	2.3E-03	2.67E+01	2.4E-03	7.76E+00	8.1E-03	2.23E+00	2.8E-02
4~Off Site South	DAY-21	04/08/03	VOC	Trichloroethene	79-01-6	7.30E-02	5.00E-03	**1.5E+01**	2.68E+01	2.7E-03	2.67E+01	2.7E-03	7.76E+00	9.4E-03	2.23E+00	3.3E-02
4~Off Site South	DAY-23*	12/28/04	VOC	Trichloroethene	79-01-6	1.07E-01	5.00E-03	**2.1E+01**	2.68E+01	4.0E-03	2.67E+01	4.0E-03	7.76E+00	1.4E-02	2.23E+00	4.8E-02
4~Off Site South	DAY-23*	09/18/06	VOC	Trichloroethene	79-01-6	9.60E-02	5.00E-03	**1.9E+01**	2.68E+01	3.6E-03	2.67E+01	3.6E-03	7.76E+00	1.2E-02	2.23E+00	4.3E-02
4~Off Site South	HD-15	07/08/02	VOC	Trichloroethene	79-01-6	3.90E-02	5.00E-03	**7.8E+00**	2.68E+01	1.5E-03	2.67E+01	1.5E-03	7.76E+00	5.0E-03	2.23E+00	1.8E-02
4~Off Site South	HD-15	03/27/03	VOC	Trichloroethene	79-01-6	3.80E-02	5.00E-03	**7.6E+00**	2.68E+01	1.4E-03	2.67E+01	1.4E-03	7.76E+00	4.9E-03	2.23E+00	1.7E-02
4~Off Site South	HD-16	07/09/02	VOC	Trichloroethene	79-01-6	2.10E-02	5.00E-03	**4.2E+00**	2.68E+01	7.8E-04	2.67E+01	7.9E-04	7.76E+00	2.7E-03	2.23E+00	9.4E-03
4~Off Site South	HD-16	03/28/03	VOC	Trichloroethene	79-01-6	1.50E-02	5.00E-03	**3.0E+00**	2.68E+01	5.6E-04	2.67E+01	5.6E-04	7.76E+00	1.9E-03	2.23E+00	6.7E-03
4~Off Site South	HD-2	07/09/02	VOC	Tetrachloroethene	127-18-4	1.20E-02	5.00E-03	**2.4E+00**	1.41E+01	8.5E-04	1.47E+01	8.2E-04	4.32E+00	2.8E-03	6.02E-01	2.0E-02
4~Off Site South	HD-2	07/09/02	VOC	Trichloroethene	79-01-6	5.20E-02	5.00E-03	**1.0E+01**	2.68E+01	1.9E-03	2.67E+01	1.9E-03	7.76E+00	6.7E-03	2.23E+00	2.3E-02
4~Off Site South	HD-2	03/27/03	VOC	Tetrachloroethene	127-18-4	1.20E-02	5.00E-03	**2.4E+00**	1.41E+01	8.5E-04	1.47E+01	8.2E-04	4.32E+00	2.8E-03	6.02E-01	2.0E-02
4~Off Site South	HD-2	03/27/03	VOC	Trichloroethene	79-01-6	5.60E-02	5.00E-03	**1.1E+01**	2.68E+01	2.1E-03	2.67E+01	2.1E-03	7.76E+00	7.2E-03	2.23E+00	2.5E-02
4~Off Site South	HD-2	11/16/04	VOC	Tetrachloroethene	127-18-4	1.30E-02	5.00E-03	**2.6E+00**	1.41E+01	9.2E-04	1.47E+01	8.8E-04	4.32E+00	3.0E-03	6.02E-01	2.2E-02
4~Off Site South	HD-2	11/16/04	VOC	Trichloroethene	79-01-6	8.70E-02	5.00E-03	**1.7E+01**	2.68E+01	3.2E-03	2.67E+01	3.3E-03	7.76E+00	1.1E-02	2.23E+00	3.9E-02
5~Off Site West	DAY-05	07/11/02	VOC	Tetrachloroethene	127-18-4	5.35E-01	5.00E-03	**1.1E+02**	1.41E+01	3.8E-02	1.47E+01	3.6E-02	4.32E+00	1.2E-01	6.02E-01	8.9E-01
5~Off Site West	DAY-05	07/11/02	VOC	Trichloroethene	79-01-6	4.60E-02	5.00E-03	**9.2E+00**	2.68E+01	1.7E-03	2.67E+01	1.7E-03	7.76E+00	5.9E-03	2.23E+00	2.1E-02
5~Off Site West	DAY-05	03/21/03	VOC	Tetrachloroethene	127-18-4	4.90E-01	5.00E-03	**9.8E+01**	1.41E+01	3.5E-02	1.47E+01	3.3E-02	4.32E+00	1.1E-01	6.02E-01	8.1E-01
5~Off Site West	DAY-05	03/21/03	VOC	Trichloroethene	79-01-6	4.90E-02	5.00E-03	**9.8E+00**	2.68E+01	1.8E-03	2.67E+01	1.8E-03	7.76E+00	6.3E-03	2.23E+00	2.2E-02
5~Off Site West	DAY-05	11/12/04	VOC	cis-1,2-Dichloroethene	156-59-2	4.65E-01	7.00E-02	**6.6E+00**	2.29E+01	2.0E-02	6.09E+01	7.6E-03	2.05E+01	2.3E-02	2.44E+01	1.9E-02
5~Off Site West	DAY-05	11/12/04	VOC	Tetrachloroethene	127-18-4	6.95E-01	5.00E-03	**1.4E+02**	1.41E+01	4.9E-02	1.47E+01	4.7E-02	4.32E+00	1.6E-01	6.02E-01	**1.2E+00**
5~Off Site West	DAY-05	11/12/04	VOC	Trichloroethene	79-01-6	9.50E-02	5.00E-03	**1.9E+01**	2.68E+01	3.5E-03	2.67E+01	3.6E-03	7.76E+00	1.2E-02	2.23E+00	4.3E-02
5~Off Site West	DAY-05	11/12/04	VOC	Vinyl Chloride	75-01-4	1.20E-02	2.00E-03	**6.0E+00**	2.02E+00	5.9E-03	3.25E+00	3.7E-03	9.53E-01	1.3E-02	4.90E-02	2.4E-01

Table 6.2F: Groundwater Concentrations from All RFI Data that Exceed Screening Criteria: Upper Aquifer Off-site
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

Area	Location	Sample Date	Chem Group	Chemical	CASRN	Concentration (mg/L)	Drinking Water Criteria (mg/L)	Ratio of Concentration to DW Criteria	Maintenance Worker Contact Criteria (mg/L)	Ratio of Concentration to Maintenance Worker Contact Criteria	Comm/Ind Vol Indoor Air Criteria (mg/L)	Ratio of Concentration to Comm/Ind Vol Indoor Air Criteria	Residential Vol Indoor Air Criteria (mg/L)	Ratio of Concentration to Res Vol Indoor Air Criteria	Residential Nonpotable Criteria (mg/L)	Ratio of Concentration to Res Nonpotable Criteria
5~Off Site West	DAY-05	09/14/06	VOC	cis-1,2-Dichloroethene	156-59-2	1.10E-01	7.00E-02	**1.6E+00**	2.29E+01	4.8E-03	6.09E+01	1.8E-03	2.05E+01	5.4E-03	2.44E+01	4.5E-03
5~Off Site West	DAY-05	09/14/06	VOC	Tetrachloroethene	127-18-4	6.00E-01	5.00E-03	**1.2E+02**	1.41E+01	4.3E-02	1.47E+01	4.1E-02	4.32E+00	1.4E-01	6.02E-01	1.0E+00
5~Off Site West	DAY-05	09/14/06	VOC	Trichloroethene	79-01-6	5.50E-02	5.00E-03	**1.1E+01**	2.68E+01	2.1E-03	2.67E+01	2.1E-03	7.76E+00	7.1E-03	2.23E+00	2.5E-02
5~Off Site West	DAY-05	08/24/07	VOC	Tetrachloroethene	127-18-4	5.90E-01	5.00E-03	**1.2E+02**	1.41E+01	4.2E-02	1.47E+01	4.0E-02	4.32E+00	1.4E-01	6.02E-01	9.8E-01
5~Off Site West	DAY-05	08/24/07	VOC	Trichloroethene	79-01-6	3.00E-02	5.00E-03	**6.0E+00**	2.68E+01	1.1E-03	2.67E+01	1.1E-03	7.76E+00	3.9E-03	2.23E+00	1.3E-02
5~Off Site West	DAY-06	07/17/02	VOC	cis-1,2-Dichloroethene	156-59-2	3.10E-01	7.00E-02	**4.4E+00**	2.29E+01	1.4E-02	6.09E+01	5.1E-03	2.05E+01	1.5E-02	2.44E+01	1.3E-02
5~Off Site West	DAY-06	07/17/02	VOC	Tetrachloroethene	127-18-4	3.50E-01	5.00E-03	**7.0E+01**	1.41E+01	2.5E-02	1.47E+01	2.4E-02	4.32E+00	8.1E-02	6.02E-01	5.8E-01
5~Off Site West	DAY-06	07/17/02	VOC	Trichloroethene	79-01-6	1.70E-01	5.00E-03	**3.4E+01**	2.68E+01	6.3E-03	2.67E+01	6.4E-03	7.76E+00	2.2E-02	2.23E+00	7.6E-02
5~Off Site West	DAY-06	03/18/03	VOC	cis-1,2-Dichloroethene	156-59-2	3.10E+00	7.00E-02	**4.4E+01**	2.29E+01	1.4E-01	6.09E+01	5.1E-02	2.05E+01	1.5E-01	2.44E+01	1.3E-01
5~Off Site West	DAY-06	03/18/03	VOC	Vinyl Chloride	75-01-4	8.60E-02	2.00E-03	**4.3E+01**	2.02E+00	4.2E-02	3.25E+00	2.6E-02	9.53E-01	9.0E-02	4.90E-02	**1.8E+00**
5~Off Site West	DAY-06	03/18/03	INORG	Arsenic	7440-38-2	5.00E-02	1.00E-02	**5.0E+00**	1.44E+01	3.5E-03					3.85E-02	**1.3E+00**
5~Off Site West	DAY-06	03/19/04	VOC	cis-1,2-Dichloroethene	156-59-2	2.60E-01	7.00E-02	**3.7E+00**	2.29E+01	1.1E-02	6.09E+01	4.3E-03	2.05E+01	1.3E-02	2.44E+01	1.1E-02
5~Off Site West	DAY-06	03/19/04	VOC	Vinyl Chloride	75-01-4	1.30E-02	2.00E-03	**6.5E+00**	2.02E+00	6.4E-03	3.25E+00	4.0E-03	9.53E-01	1.4E-02	4.90E-02	2.7E-01
5~Off Site West	DAY-06	06/28/04	VOC	cis-1,2-Dichloroethene	156-59-2	2.60E-01	7.00E-02	**3.7E+00**	2.29E+01	1.1E-02	6.09E+01	4.3E-03	2.05E+01	1.3E-02	2.44E+01	1.1E-02
5~Off Site West	DAY-06	06/28/04	VOC	Vinyl Chloride	75-01-4	7.00E-03	2.00E-03	**3.5E+00**	2.02E+00	3.5E-03	3.25E+00	2.2E-03	9.53E-01	7.3E-03	4.90E-02	1.4E-01
5~Off Site West	DAY-06	11/19/04	VOC	Trichloroethene	79-01-6	5.50E-03	5.00E-03	**1.1E+00**	2.68E+01	2.1E-04	2.67E+01	2.1E-04	7.76E+00	7.1E-04	2.23E+00	2.5E-03
5~Off Site West	DAY-06	11/19/04	VOC	Vinyl Chloride	75-01-4	5.70E-03	2.00E-03	**2.9E+00**	2.02E+00	2.8E-03	3.25E+00	1.8E-03	9.53E-01	6.0E-03	4.90E-02	1.2E-01
5~Off Site West	DAY-08	07/15/02	VOC	Tetrachloroethene	127-18-4	5.80E-02	5.00E-03	**1.2E+01**	1.41E+01	4.1E-03	1.47E+01	3.9E-03	4.32E+00	1.3E-02	6.02E-01	9.6E-02
5~Off Site West	DAY-08	07/15/02	VOC	Trichloroethene	79-01-6	4.30E-02	5.00E-03	**8.6E+00**	2.68E+01	1.6E-03	2.67E+01	1.6E-03	7.76E+00	5.5E-03	2.23E+00	1.9E-02
5~Off Site West	DAY-08	03/18/03	VOC	Tetrachloroethene	127-18-4	7.60E-02	5.00E-03	**1.5E+01**	1.41E+01	5.4E-03	1.47E+01	5.2E-03	4.32E+00	1.8E-02	6.02E-01	1.3E-01
5~Off Site West	DAY-08	03/18/03	VOC	Trichloroethene	79-01-6	5.30E-02	5.00E-03	**1.1E+01**	2.68E+01	2.0E-03	2.67E+01	2.0E-03	7.76E+00	6.8E-03	2.23E+00	2.4E-02
5~Off Site West	DAY-08	11/11/04	VOC	Tetrachloroethene	127-18-4	6.30E-02	5.00E-03	**1.3E+01**	1.41E+01	4.5E-03	1.47E+01	4.3E-03	4.32E+00	1.5E-02	6.02E-01	1.0E-01
5~Off Site West	DAY-08	11/11/04	VOC	Trichloroethene	79-01-6	6.10E-02	5.00E-03	**1.2E+01**	2.68E+01	2.3E-03	2.67E+01	2.3E-03	7.76E+00	7.9E-03	2.23E+00	2.7E-02
5~Off Site West	DAY-08	11/01/06	VOC	Tetrachloroethene	127-18-4	4.20E-02	5.00E-03	**8.4E+00**	1.41E+01	3.0E-03	1.47E+01	2.9E-03	4.32E+00	9.7E-03	6.02E-01	7.0E-02
5~Off Site West	DAY-08	11/01/06	VOC	Trichloroethene	79-01-6	3.90E-02	5.00E-03	**7.8E+00**	2.68E+01	1.5E-03	2.67E+01	1.5E-03	7.76E+00	5.0E-03	2.23E+00	1.8E-02
5~Off Site West	DAY-11D	06/24/02	VOC	Tetrachloroethene	127-18-4	2.10E-01	5.00E-03	**4.2E+01**	1.41E+01	1.5E-02	1.47E+01	1.4E-02	4.32E+00	4.9E-02	6.02E-01	3.5E-01
5~Off Site West	DAY-11D	06/24/02	VOC	Trichloroethene	79-01-6	3.00E-02	5.00E-03	**6.0E+00**	2.68E+01	1.1E-03	2.67E+01	1.1E-03	7.76E+00	3.9E-03	2.23E+00	1.3E-02
5~Off Site West	DAY-11D	03/20/03	VOC	Tetrachloroethene	127-18-4	2.80E-01	5.00E-03	**5.6E+01**	1.41E+01	2.0E-02	1.47E+01	1.9E-02	4.32E+00	6.5E-02	6.02E-01	4.6E-01
5~Off Site West	DAY-11D	03/20/03	VOC	Trichloroethene	79-01-6	4.00E-02	5.00E-03	**8.0E+00**	2.68E+01	1.5E-03	2.67E+01	1.5E-03	7.76E+00	5.2E-03	2.23E+00	1.8E-02
5~Off Site West	DAY-11D	11/08/04	VOC	cis-1,2-Dichloroethene	156-59-2	1.50E-01	7.00E-02	**2.1E+00**	2.29E+01	6.6E-03	6.09E+01	2.5E-03	2.05E+01	7.3E-03	2.44E+01	6.2E-03
5~Off Site West	DAY-11D	11/08/04	VOC	Tetrachloroethene	127-18-4	1.60E-01	5.00E-03	**3.2E+01**	1.41E+01	1.1E-02	1.47E+01	1.1E-02	4.32E+00	3.7E-02	6.02E-01	2.7E-01
5~Off Site West	DAY-11D	11/08/04	VOC	Trichloroethene	79-01-6	2.00E-02	5.00E-03	**4.0E+00**	2.68E+01	7.5E-04	2.67E+01	7.5E-04	7.76E+00	2.6E-03	2.23E+00	9.0E-03
5~Off Site West	DAY-11D	11/08/04	VOC	Vinyl Chloride	75-01-4	3.10E-02	2.00E-03	**1.6E+01**	2.02E+00	1.5E-02	3.25E+00	9.5E-03	9.53E-01	3.3E-02	4.90E-02	6.3E-01
5~Off Site West	DAY-11D	09/13/06	VOC	Tetrachloroethene	127-18-4	6.10E-02	5.00E-03	**1.2E+01**	1.41E+01	4.3E-03	1.47E+01	4.1E-03	4.32E+00	1.4E-02	6.02E-01	1.0E-01
5~Off Site West	DAY-11D	09/13/06	VOC	Trichloroethene	79-01-6	7.90E-03	5.00E-03	**1.6E+00**	2.68E+01	2.9E-04	2.67E+01	3.0E-04	7.76E+00	1.0E-03	2.23E+00	3.6E-03
5~Off Site West	DAY-11D	09/13/06	VOC	Vinyl Chloride	75-01-4	2.30E-03	2.00E-03	**1.2E+00**	2.02E+00	1.1E-03	3.25E+00	7.1E-04	9.53E-01	2.4E-03	4.90E-02	4.7E-02
5~Off Site West	DAY-11D	08/20/07	VOC	Tetrachloroethene	127-18-4	3.40E-02	5.00E-03	**6.8E+00**	1.41E+01	2.4E-03	1.47E+01	2.3E-03	4.32E+00	7.9E-03	6.02E-01	5.6E-02
5~Off Site West	DAY-11D	08/20/07	VOC	Trichloroethene	79-01-6	5.90E-03	5.00E-03	**1.2E+00**	2.68E+01	2.2E-04	2.67E+01	2.2E-04	7.76E+00	7.6E-04	2.23E+00	2.7E-03
5~Off Site West	DAY-11S	06/25/02	VOC	cis-1,2-Dichloroethene	156-59-2	4.20E-01	7.00E-02	**6.0E+00**	2.29E+01	1.8E-02	6.09E+01	6.9E-03	2.05E+01	2.0E-02	2.44E+01	1.7E-02
5~Off Site West	DAY-11S	06/25/02	VOC	Methylene Chloride	75-09-2	9.30E-03	5.00E-03	**1.9E+00**	8.94E+01	1.0E-04	1.18E+02	7.9E-05	3.18E+01	2.9E-04	1.28E+01	7.3E-04
5~Off Site West	DAY-11S	06/25/02	VOC	Tetrachloroethene	127-18-4	4.20E-01	5.00E-03	**8.4E+01**	1.41E+01	3.0E-02	1.47E+01	2.9E-02	4.32E+00	9.7E-02	6.02E-01	7.0E-01
5~Off Site West	DAY-11S	06/25/02	VOC	Trichloroethene	79-01-6	5.40E-02	5.00E-03	**1.1E+01**	2.68E+01	2.0E-03	2.67E+01	2.0E-03	7.76E+00	7.0E-03	2.23E+00	2.4E-02
5~Off Site West	DAY-11S	06/25/02	VOC	Vinyl Chloride	75-01-4	4.80E-02	2.00E-03	**2.4E+01**	2.02E+00	2.4E-02	3.25E+00	1.5E-02	9.53E-01	5.0E-02	4.90E-02	9.8E-01
5~Off Site West	DAY-11S	03/20/03	VOC	cis-1,2-Dichloroethene	156-59-2	3.60E-01	7.00E-02	**5.1E+00**	2.29E+01	1.6E-02	6.09E+01	5.9E-03	2.05E+01	1.8E-02	2.44E+01	1.5E-02
5~Off Site West	DAY-11S	03/20/03	VOC	Tetrachloroethene	127-18-4	4.10E-01	5.00E-03	**8.2E+01**	1.41E+01	2.9E-02	1.47E+01	2.8E-02	4.32E+00	9.5E-02	6.02E-01	6.8E-01
5~Off Site West	DAY-11S	03/20/03	VOC	Trichloroethene	79-01-6	5.30E-02	5.00E-03	**1.1E+01**	2.68E+01	2.0E-03	2.67E+01	2.0E-03	7.76E+00	6.8E-03	2.23E+00	2.4E-02
5~Off Site West	DAY-11S	03/20/03	VOC	Vinyl Chloride	75-01-4	2.40E-02	2.00E-03	**1.2E+01**	2.02E+00	1.2E-02	3.25E+00	7.4E-03	9.53E-01	2.5E-02	4.90E-02	4.9E-01
5~Off Site West	DAY-11S	11/09/04	VOC	cis-1,2-Dichloroethene	156-59-2	2.70E-01	7.00E-02	**3.9E+00**	2.29E+01	1.2E-02	6.09E+01	4.4E-03	2.05E+01	1.3E-02	2.44E+01	1.1E-02
5~Off Site West	DAY-11S	11/09/04	VOC	Tetrachloroethene	127-18-4	2.30E-01	5.00E-03	**4.6E+01**	1.41E+01	1.6E-02	1.47E+01	1.6E-02	4.32E+00	5.3E-02	6.02E-01	3.8E-01
5~Off Site West	DAY-11S	11/09/04	VOC	Trichloroethene	79-01-6	1.90E-02	5.00E-03	**3.8E+00**	2.68E+01	7.1E-04	2.67E+01	7.1E-04	7.76E+00	2.4E-03	2.23E+00	8.5E-03

Table 6.2F: Groundwater Concentrations from All RFI Data that Exceed Screening Criteria: Upper Aquifer Off-site
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

Area	Location	Sample Date	Chem Group	Chemical	CASRN	Concentration (mg/L)	Drinking Water Criteria (mg/L)	Ratio of Concentration to DW Criteria	Maintenance Worker Contact Criteria (mg/L)	Ratio of Concentration to Maintenance Worker Contact Criteria	Comm/Ind Vol Indoor Air Criteria (mg/L)	Ratio of Concentration to Comm/Ind Vol Indoor Air Criteria	Residential Vol Indoor Air Criteria (mg/L)	Ratio of Concentration to Res Vol Indoor Air Criteria	Residential Nonpotable Criteria (mg/L)	Ratio of Concentration to Res Nonpotable Criteria
5~Off Site West	DAY-11S	11/09/04	VOC	Vinyl Chloride	75-01-4	1.80E-01	2.00E-03	**9.0E+01**	2.02E+00	8.9E-02	3.25E+00	5.5E-02	9.53E-01	1.9E-01	4.90E-02	**3.7E+00**
5~Off Site West	DAY-11S	09/13/06	VOC	Tetrachloroethene	127-18-4	9.90E-02	5.00E-03	**2.0E+01**	1.41E+01	7.0E-03	1.47E+01	6.7E-03	4.32E+00	2.3E-02	6.02E-01	1.6E-01
5~Off Site West	DAY-11S	09/13/06	VOC	Trichloroethene	79-01-6	8.00E-03	5.00E-03	**1.6E+00**	2.68E+01	3.0E-04	2.67E+01	3.0E-04	7.76E+00	1.0E-03	2.23E+00	3.6E-03
5~Off Site West	DAY-11S	08/20/07	VOC	Tetrachloroethene	127-18-4	1.10E-01	5.00E-03	**2.2E+01**	1.41E+01	7.8E-03	1.47E+01	7.5E-03	4.32E+00	2.5E-02	6.02E-01	1.8E-01
5~Off Site West	DAY-11S	08/20/07	VOC	Trichloroethene	79-01-6	9.80E-03	5.00E-03	**2.0E+00**	2.68E+01	3.7E-04	2.67E+01	3.7E-04	7.76E+00	1.3E-03	2.23E+00	4.4E-03
5~Off Site West	DAY-12	06/27/02	VOC	Tetrachloroethene	127-18-4	6.55E-02	5.00E-03	**1.3E+01**	1.41E+01	4.7E-03	1.47E+01	4.4E-03	4.32E+00	1.5E-02	6.02E-01	1.1E-01
5~Off Site West	DAY-12	06/27/02	VOC	Trichloroethene	79-01-6	2.25E-02	5.00E-03	**4.5E+00**	2.68E+01	8.4E-04	2.67E+01	8.4E-04	7.76E+00	2.9E-03	2.23E+00	1.0E-02
5~Off Site West	DAY-12	03/21/03	VOC	Tetrachloroethene	127-18-4	5.70E-02	5.00E-03	**1.1E+01**	1.41E+01	4.1E-03	1.47E+01	3.9E-03	4.32E+00	1.3E-02	6.02E-01	9.5E-02
5~Off Site West	DAY-12	03/21/03	VOC	Trichloroethene	79-01-6	2.30E-02	5.00E-03	**4.6E+00**	2.68E+01	8.6E-04	2.67E+01	8.6E-04	7.76E+00	3.0E-03	2.23E+00	1.0E-02
5~Off Site West	DAY-12	04/28/05	VOC	Tetrachloroethene	127-18-4	5.30E-02	5.00E-03	**1.1E+01**	1.41E+01	3.8E-03	1.47E+01	3.6E-03	4.32E+00	1.2E-02	6.02E-01	8.8E-02
5~Off Site West	DAY-12	04/28/05	VOC	Trichloroethene	79-01-6	1.80E-02	5.00E-03	**3.6E+00**	2.68E+01	6.7E-04	2.67E+01	6.7E-04	7.76E+00	2.3E-03	2.23E+00	8.1E-03
5~Off Site West	DAY-12	09/15/06	VOC	Tetrachloroethene	127-18-4	3.90E-02	5.00E-03	**7.8E+00**	1.41E+01	2.8E-03	1.47E+01	2.6E-03	4.32E+00	9.0E-03	6.02E-01	6.5E-02
5~Off Site West	DAY-12	09/15/06	VOC	Trichloroethene	79-01-6	1.60E-02	5.00E-03	**3.2E+00**	2.68E+01	6.0E-04	2.67E+01	6.0E-04	7.76E+00	2.1E-03	2.23E+00	7.2E-03
5~Off Site West	DAY-12	08/21/07	VOC	Tetrachloroethene	127-18-4	3.30E-02	5.00E-03	**6.6E+00**	1.41E+01	2.3E-03	1.47E+01	2.2E-03	4.32E+00	7.6E-03	6.02E-01	5.5E-02
5~Off Site West	DAY-12	08/21/07	VOC	Trichloroethene	79-01-6	1.30E-02	5.00E-03	**2.6E+00**	2.68E+01	4.8E-04	2.67E+01	4.9E-04	7.76E+00	1.7E-03	2.23E+00	5.8E-03
5~Off Site West	HD-11	06/26/02	VOC	Tetrachloroethene	127-18-4	5.90E-02	5.00E-03	**1.2E+01**	1.41E+01	4.2E-03	1.47E+01	4.0E-03	4.32E+00	1.4E-02	6.02E-01	9.8E-02
5~Off Site West	HD-11	06/26/02	VOC	Trichloroethene	79-01-6	2.00E-02	5.00E-03	**4.0E+00**	2.68E+01	7.5E-04	2.67E+01	7.5E-04	7.76E+00	2.6E-03	2.23E+00	9.0E-03
5~Off Site West	HD-11	03/25/03	VOC	Tetrachloroethene	127-18-4	7.60E-02	5.00E-03	**1.5E+01**	1.41E+01	5.4E-03	1.47E+01	5.2E-03	4.32E+00	1.8E-02	6.02E-01	1.3E-01
5~Off Site West	HD-11	03/25/03	VOC	Trichloroethene	79-01-6	2.60E-02	5.00E-03	**5.2E+00**	2.68E+01	9.7E-04	2.67E+01	9.7E-04	7.76E+00	3.3E-03	2.23E+00	1.2E-02
5~Off Site West	HD-11	11/08/04	VOC	Tetrachloroethene	127-18-4	6.60E-02	5.00E-03	**1.3E+01**	1.41E+01	4.7E-03	1.47E+01	4.5E-03	4.32E+00	1.5E-02	6.02E-01	1.1E-01
5~Off Site West	HD-11	11/08/04	VOC	Trichloroethene	79-01-6	2.40E-02	5.00E-03	**4.8E+00**	2.68E+01	8.9E-04	2.67E+01	9.0E-04	7.76E+00	3.1E-03	2.23E+00	1.1E-02
5~Off Site West	HD-11	04/28/05	VOC	Tetrachloroethene	127-18-4	6.30E-02	5.00E-03	**1.3E+01**	1.41E+01	4.5E-03	1.47E+01	4.3E-03	4.32E+00	1.5E-02	6.02E-01	1.0E-01
5~Off Site West	HD-11	04/28/05	VOC	Trichloroethene	79-01-6	1.90E-02	5.00E-03	**3.8E+00**	2.68E+01	7.1E-04	2.67E+01	7.1E-04	7.76E+00	2.4E-03	2.23E+00	8.5E-03
5~Off Site West	HD-11	09/14/06	VOC	Tetrachloroethene	127-18-4	4.10E-02	5.00E-03	**8.2E+00**	1.41E+01	2.9E-03	1.47E+01	2.8E-03	4.32E+00	9.5E-03	6.02E-01	6.8E-02
5~Off Site West	HD-11	09/14/06	VOC	Trichloroethene	79-01-6	1.40E-02	5.00E-03	**2.8E+00**	2.68E+01	5.2E-04	2.67E+01	5.2E-04	7.76E+00	1.8E-03	2.23E+00	6.3E-03
5~Off Site West	HD-11	08/21/07	VOC	Tetrachloroethene	127-18-4	3.30E-02	5.00E-03	**6.6E+00**	1.41E+01	2.3E-03	1.47E+01	2.2E-03	4.32E+00	7.6E-03	6.02E-01	5.5E-02
5~Off Site West	HD-11	08/21/07	VOC	Trichloroethene	79-01-6	1.10E-02	5.00E-03	**2.2E+00**	2.68E+01	4.1E-04	2.67E+01	4.1E-04	7.76E+00	1.4E-03	2.23E+00	4.9E-03
5~Off Site West	HD-19	07/10/02	VOC	cis-1,2-Dichloroethene	156-59-2	1.10E-01	7.00E-02	**1.6E+00**	2.29E+01	4.8E-03	6.09E+01	1.8E-03	2.05E+01	5.4E-03	2.44E+01	4.5E-03
5~Off Site West	HD-19	07/10/02	VOC	Tetrachloroethene	127-18-4	9.60E-02	5.00E-03	**1.9E+01**	1.41E+01	6.8E-03	1.47E+01	6.5E-03	4.32E+00	2.2E-02	6.02E-01	1.6E-01
5~Off Site West	HD-19	07/10/02	VOC	Trichloroethene	79-01-6	2.70E-02	5.00E-03	**5.4E+00**	2.68E+01	1.0E-03	2.67E+01	1.0E-03	7.76E+00	3.5E-03	2.23E+00	1.2E-02
5~Off Site West	HD-19	03/26/03	VOC	cis-1,2-Dichloroethene	156-59-2	9.05E-02	7.00E-02	**1.3E+00**	2.29E+01	4.0E-03	6.09E+01	1.5E-03	2.05E+01	4.4E-03	2.44E+01	3.7E-03
5~Off Site West	HD-19	03/26/03	VOC	Tetrachloroethene	127-18-4	1.10E-01	5.00E-03	**2.2E+01**	1.41E+01	7.8E-03	1.47E+01	7.5E-03	4.32E+00	2.5E-02	6.02E-01	1.8E-01
5~Off Site West	HD-19	03/26/03	VOC	Trichloroethene	79-01-6	3.75E-02	5.00E-03	**7.5E+00**	2.68E+01	1.4E-03	2.67E+01	1.4E-03	7.76E+00	4.8E-03	2.23E+00	1.7E-02
5~Off Site West	HD-19	11/08/04	VOC	Tetrachloroethene	127-18-4	8.60E-02	5.00E-03	**1.7E+01**	1.41E+01	6.1E-03	1.47E+01	5.8E-03	4.32E+00	2.0E-02	6.02E-01	1.4E-01
5~Off Site West	HD-19	11/08/04	VOC	Trichloroethene	79-01-6	3.70E-02	5.00E-03	**7.4E+00**	2.68E+01	1.4E-03	2.67E+01	1.4E-03	7.76E+00	4.8E-03	2.23E+00	1.7E-02
5~Off Site West	HD-3	06/26/02	VOC	Tetrachloroethene	127-18-4	3.50E-02	5.00E-03	**7.0E+00**	1.41E+01	2.5E-03	1.47E+01	2.4E-03	4.32E+00	8.1E-03	6.02E-01	5.8E-02
5~Off Site West	HD-3	06/26/02	VOC	Trichloroethene	79-01-6	2.30E-02	5.00E-03	**4.6E+00**	2.68E+01	8.6E-04	2.67E+01	8.6E-04	7.76E+00	3.0E-03	2.23E+00	1.0E-02
5~Off Site West	HD-3	03/24/03	VOC	Tetrachloroethene	127-18-4	1.60E-02	5.00E-03	**3.2E+00**	1.41E+01	1.1E-03	1.47E+01	1.1E-03	4.32E+00	3.7E-03	6.02E-01	2.7E-02
5~Off Site West	HD-3	03/24/03	VOC	Trichloroethene	79-01-6	3.70E-02	5.00E-03	**7.4E+00**	2.68E+01	1.4E-03	2.67E+01	1.4E-03	7.76E+00	4.8E-03	2.23E+00	1.7E-02
5~Off Site West	HD-3	03/24/03	INORG	Arsenic	7440-38-2	1.40E-02	1.00E-02	**1.4E+00**	1.44E+01	9.7E-04					3.85E-02	3.6E-01
5~Off Site West	HD-3	03/24/03	INORG	Arsenic	7440-38-2	1.10E-02	1.00E-02	**1.1E+00**	1.44E+01	7.7E-04					3.85E-02	2.9E-01
5~Off Site West	HD-3	05/01/03	VOC	Tetrachloroethene	127-18-4	3.30E-02	5.00E-03	**6.6E+00**	1.41E+01	2.3E-03	1.47E+01	2.2E-03	4.32E+00	7.6E-03	6.02E-01	5.5E-02
5~Off Site West	HD-3	05/01/03	VOC	Trichloroethene	79-01-6	3.60E-02	5.00E-03	**7.2E+00**	2.68E+01	1.3E-03	2.67E+01	1.3E-03	7.76E+00	4.6E-03	2.23E+00	1.6E-02
5~Off Site West	HD-3	05/16/03	VOC	Tetrachloroethene	127-18-4	3.00E-02	5.00E-03	**6.0E+00**	1.41E+01	2.1E-03	1.47E+01	2.0E-03	4.32E+00	6.9E-03	6.02E-01	5.0E-02
5~Off Site West	HD-3	05/16/03	VOC	Trichloroethene	79-01-6	2.80E-02	5.00E-03	**5.6E+00**	2.68E+01	1.0E-03	2.67E+01	1.0E-03	7.76E+00	3.6E-03	2.23E+00	1.3E-02
5~Off Site West	HD-3	06/05/03	VOC	cis-1,2-Dichloroethene	156-59-2	1.30E-01	7.00E-02	**1.9E+00**	2.29E+01	5.7E-03	6.09E+01	2.1E-03	2.05E+01	6.3E-03	2.44E+01	5.3E-03
5~Off Site West	HD-3	06/05/03	VOC	Tetrachloroethene	127-18-4	2.30E-02	5.00E-03	**4.6E+00**	1.41E+01	1.6E-03	1.47E+01	1.6E-03	4.32E+00	5.3E-03	6.02E-01	3.8E-02
5~Off Site West	HD-3	06/05/03	VOC	Trichloroethene	79-01-6	1.80E-02	5.00E-03	**3.6E+00**	2.68E+01	6.7E-04	2.67E+01	6.7E-04	7.76E+00	2.3E-03	2.23E+00	8.1E-03
5~Off Site West	HD-3	06/19/03	VOC	cis-1,2-Dichloroethene	156-59-2	8.30E-02	7.00E-02	**1.2E+00**	2.29E+01	3.6E-03	6.09E+01	1.4E-03	2.05E+01	4.0E-03	2.44E+01	3.4E-03
5~Off Site West	HD-3	06/19/03	VOC	Tetrachloroethene	127-18-4	1.00E-02	5.00E-03	**2.0E+00**	1.41E+01	7.1E-04	1.47E+01	6.8E-04	4.32E+00	2.3E-03	6.02E-01	1.7E-02

Table 6.2F: Groundwater Concentrations from All RFI Data that Exceed Screening Criteria: Upper Aquifer Off-site
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

Area	Location	Sample Date	Chem Group	Chemical	CASRN	Concentration (mg/L)	Drinking Water Criteria (mg/L)	Ratio of Concentration to DW Criteria	Maintenance Worker Contact Criteria (mg/L)	Ratio of Concentration to Maintenance Worker Contact Criteria	Comm/Ind Vol Indoor Air Criteria (mg/L)	Ratio of Concentration to Comm/Ind Vol Indoor Air Criteria	Residential Vol Indoor Air Criteria (mg/L)	Ratio of Concentration to Res Vol Indoor Air Criteria	Residential Nonpotable Criteria (mg/L)	Ratio of Concentration to Res Nonpotable Criteria
5~Off Site West	HD-3	08/13/03	VOC	Tetrachloroethene	127-18-4	1.00E-02	5.00E-03	**2.0E+00**	1.41E+01	7.1E-04	1.47E+01	6.8E-04	4.32E+00	2.3E-03	6.02E-01	1.7E-02
5~Off Site West	HD-3	08/13/03	VOC	Trichloroethene	79-01-6	7.30E-03	5.00E-03	**1.5E+00**	2.68E+01	2.7E-04	2.67E+01	2.7E-04	7.76E+00	9.4E-04	2.23E+00	3.3E-03
5~Off Site West	HD-3	03/19/04	VOC	Tetrachloroethene	127-18-4	7.70E-03	5.00E-03	**1.5E+00**	1.41E+01	5.5E-04	1.47E+01	5.2E-04	4.32E+00	1.8E-03	6.02E-01	1.3E-02
5~Off Site West	HD-3	06/28/04	VOC	Tetrachloroethene	127-18-4	1.10E-02	5.00E-03	**2.2E+00**	1.41E+01	7.8E-04	1.47E+01	7.5E-04	4.32E+00	2.5E-03	6.02E-01	1.8E-02
5~Off Site West	HD-3	06/28/04	VOC	Trichloroethene	79-01-6	7.90E-03	5.00E-03	**1.6E+00**	2.68E+01	2.9E-04	2.67E+01	3.0E-04	7.76E+00	1.0E-03	2.23E+00	3.6E-03
5~Off Site West	HD-3	10/14/04	VOC	Tetrachloroethene	127-18-4	1.40E-02	5.00E-03	**2.8E+00**	1.41E+01	1.0E-03	1.47E+01	9.5E-04	4.32E+00	3.2E-03	6.02E-01	2.3E-02
5~Off Site West	HD-3	10/14/04	VOC	Trichloroethene	79-01-6	8.70E-03	5.00E-03	**1.7E+00**	2.68E+01	3.2E-04	2.67E+01	3.3E-04	7.76E+00	1.1E-03	2.23E+00	3.9E-03
5~Off Site West	HD-3	11/17/04	VOC	Tetrachloroethene	127-18-4	6.80E-03	5.00E-03	**1.4E+00**	1.41E+01	4.8E-04	1.47E+01	4.6E-04	4.32E+00	1.6E-03	6.02E-01	1.1E-02
5~Off Site West	HD-3	11/17/04	VOC	Trichloroethene	79-01-6	7.70E-03	5.00E-03	**1.5E+00**	2.68E+01	2.9E-04	2.67E+01	2.9E-04	7.76E+00	9.9E-04	2.23E+00	3.5E-03
5~Off Site West	HD-3	04/28/05	VOC	Tetrachloroethene	127-18-4	1.50E-02	5.00E-03	**3.0E+00**	1.41E+01	1.1E-03	1.47E+01	1.0E-03	4.32E+00	3.5E-03	6.02E-01	2.5E-02
5~Off Site West	HD-3	04/28/05	VOC	Trichloroethene	79-01-6	1.10E-02	5.00E-03	**2.2E+00**	2.68E+01	4.1E-04	2.67E+01	4.1E-04	7.76E+00	1.4E-03	2.23E+00	4.9E-03
5~Off Site West	HD-4	07/10/02	VOC	Tetrachloroethene	127-18-4	4.40E-02	5.00E-03	**8.8E+00**	1.41E+01	3.1E-03	1.47E+01	3.0E-03	4.32E+00	1.0E-02	6.02E-01	7.3E-02
5~Off Site West	HD-4	07/10/02	VOC	Trichloroethene	79-01-6	2.60E-02	5.00E-03	**5.2E+00**	2.68E+01	9.7E-04	2.67E+01	9.7E-04	7.76E+00	3.3E-03	2.23E+00	1.2E-02
5~Off Site West	HD-4	03/24/03	VOC	Tetrachloroethene	127-18-4	5.40E-02	5.00E-03	**1.1E+01**	1.41E+01	3.8E-03	1.47E+01	3.7E-03	4.32E+00	1.2E-02	6.02E-01	9.0E-02
5~Off Site West	HD-4	03/24/03	VOC	Trichloroethene	79-01-6	3.60E-02	5.00E-03	**7.2E+00**	2.68E+01	1.3E-03	2.67E+01	1.3E-03	7.76E+00	4.6E-03	2.23E+00	1.6E-02
5~Off Site West	HD-4	11/09/04	VOC	Tetrachloroethene	127-18-4	4.50E-02	5.00E-03	**9.0E+00**	1.41E+01	3.2E-03	1.47E+01	3.1E-03	4.32E+00	1.0E-02	6.02E-01	7.5E-02
5~Off Site West	HD-4	11/09/04	VOC	Trichloroethene	79-01-6	3.10E-02	5.00E-03	**6.2E+00**	2.68E+01	1.2E-03	2.67E+01	1.2E-03	7.76E+00	4.0E-03	2.23E+00	1.4E-02
5~Off Site West	HD-4	04/28/05	VOC	Tetrachloroethene	127-18-4	4.50E-02	5.00E-03	**9.0E+00**	1.41E+01	3.2E-03	1.47E+01	3.1E-03	4.32E+00	1.0E-02	6.02E-01	7.5E-02
5~Off Site West	HD-4	04/28/05	VOC	Trichloroethene	79-01-6	3.20E-02	5.00E-03	**6.4E+00**	2.68E+01	1.2E-03	2.67E+01	1.2E-03	7.76E+00	4.1E-03	2.23E+00	1.4E-02
5~Off Site West	HD-4	10/31/06	VOC	Tetrachloroethene	127-18-4	2.90E-02	5.00E-03	**5.8E+00**	1.41E+01	2.1E-03	1.47E+01	2.0E-03	4.32E+00	6.7E-03	6.02E-01	4.8E-02
5~Off Site West	HD-4	10/31/06	VOC	Trichloroethene	79-01-6	2.70E-02	5.00E-03	**5.4E+00**	2.68E+01	1.0E-03	2.67E+01	1.0E-03	7.76E+00	3.5E-03	2.23E+00	1.2E-02
5~Off Site West	HD-8	07/02/02	VOC	Tetrachloroethene	127-18-4	3.50E-02	5.00E-03	**7.0E+00**	1.41E+01	2.5E-03	1.47E+01	2.4E-03	4.32E+00	8.1E-03	6.02E-01	5.8E-02
5~Off Site West	HD-8	07/02/02	VOC	Trichloroethene	79-01-6	4.00E-02	5.00E-03	**8.0E+00**	2.68E+01	1.5E-03	2.67E+01	1.5E-03	7.76E+00	5.2E-03	2.23E+00	1.8E-02
5~Off Site West	HD-8	03/18/03	VOC	Tetrachloroethene	127-18-4	3.40E-02	5.00E-03	**6.8E+00**	1.41E+01	2.4E-03	1.47E+01	2.3E-03	4.32E+00	7.9E-03	6.02E-01	5.6E-02
5~Off Site West	HD-8	03/18/03	VOC	Trichloroethene	79-01-6	3.90E-02	5.00E-03	**7.8E+00**	2.68E+01	1.5E-03	2.67E+01	1.5E-03	7.76E+00	5.0E-03	2.23E+00	1.8E-02
5~Off Site West	HD-8	03/18/03	INORG	Arsenic	7440-38-2	2.00E-02	1.00E-02	**2.0E+00**	1.44E+01	1.4E-03					3.85E-02	5.2E-01
5~Off Site West	HD-8	04/28/03	VOC	Tetrachloroethene	127-18-4	3.50E-02	5.00E-03	**7.0E+00**	1.41E+01	2.5E-03	1.47E+01	2.4E-03	4.32E+00	8.1E-03	6.02E-01	5.8E-02
5~Off Site West	HD-8	04/28/03	VOC	Trichloroethene	79-01-6	3.90E-02	5.00E-03	**7.8E+00**	2.68E+01	1.5E-03	2.67E+01	1.5E-03	7.76E+00	5.0E-03	2.23E+00	1.8E-02
5~Off Site West	HD-8	08/13/03	VOC	Tetrachloroethene	127-18-4	2.80E-02	5.00E-03	**5.6E+00**	1.41E+01	2.0E-03	1.47E+01	1.9E-03	4.32E+00	6.5E-03	6.02E-01	4.6E-02
5~Off Site West	HD-8	08/13/03	VOC	Trichloroethene	79-01-6	3.40E-02	5.00E-03	**6.8E+00**	2.68E+01	1.3E-03	2.67E+01	1.3E-03	7.76E+00	4.4E-03	2.23E+00	1.5E-02
5~Off Site West	HD-8	03/18/04	VOC	Tetrachloroethene	127-18-4	3.00E-02	5.00E-03	**6.0E+00**	1.41E+01	2.1E-03	1.47E+01	2.0E-03	4.32E+00	6.9E-03	6.02E-01	5.0E-02
5~Off Site West	HD-8	03/18/04	VOC	Trichloroethene	79-01-6	3.90E-02	5.00E-03	**7.8E+00**	2.68E+01	1.5E-03	2.67E+01	1.5E-03	7.76E+00	5.0E-03	2.23E+00	1.8E-02
5~Off Site West	HD-8	06/28/04	VOC	Tetrachloroethene	127-18-4	2.50E-02	5.00E-03	**5.0E+00**	1.41E+01	1.8E-03	1.47E+01	1.7E-03	4.32E+00	5.8E-03	6.02E-01	4.1E-02
5~Off Site West	HD-8	06/28/04	VOC	Trichloroethene	79-01-6	3.30E-02	5.00E-03	**6.6E+00**	2.68E+01	1.2E-03	2.67E+01	1.2E-03	7.76E+00	4.3E-03	2.23E+00	1.5E-02
5~Off Site West	HD-8	10/19/04	VOC	Tetrachloroethene	127-18-4	2.60E-02	5.00E-03	**5.2E+00**	1.41E+01	1.8E-03	1.47E+01	1.8E-03	4.32E+00	6.0E-03	6.02E-01	4.3E-02
5~Off Site West	HD-8	10/19/04	VOC	Trichloroethene	79-01-6	3.40E-02	5.00E-03	**6.8E+00**	2.68E+01	1.3E-03	2.67E+01	1.3E-03	7.76E+00	4.4E-03	2.23E+00	1.5E-02
5~Off Site West	HD-8	11/23/04	VOC	Tetrachloroethene	127-18-4	1.80E-02	5.00E-03	**3.6E+00**	1.41E+01	1.3E-03	1.47E+01	1.2E-03	4.32E+00	4.2E-03	6.02E-01	3.0E-02
5~Off Site West	HD-8	11/23/04	VOC	Trichloroethene	79-01-6	2.80E-02	5.00E-03	**5.6E+00**	2.68E+01	1.0E-03	2.67E+01	1.0E-03	7.76E+00	3.6E-03	2.23E+00	1.3E-02
5~Off Site West	HD-8	04/28/05	VOC	Tetrachloroethene	127-18-4	2.10E-02	5.00E-03	**4.2E+00**	1.41E+01	1.5E-03	1.47E+01	1.4E-03	4.32E+00	4.9E-03	6.02E-01	3.5E-02
5~Off Site West	HD-8	04/28/05	VOC	Trichloroethene	79-01-6	2.60E-02	5.00E-03	**5.2E+00**	2.68E+01	9.7E-04	2.67E+01	9.7E-04	7.76E+00	3.3E-03	2.23E+00	1.2E-02
5~Off Site West	HD-8	11/01/06	VOC	Tetrachloroethene	127-18-4	1.20E-02	5.00E-03	**2.4E+00**	1.41E+01	8.5E-04	1.47E+01	8.2E-04	4.32E+00	2.8E-03	6.02E-01	2.0E-02
5~Off Site West	HD-8	11/01/06	VOC	Trichloroethene	79-01-6	1.80E-02	5.00E-03	**3.6E+00**	2.68E+01	6.7E-04	2.67E+01	6.7E-04	7.76E+00	2.3E-03	2.23E+00	8.1E-03
5~Off Site West	HD-9	06/27/02	VOC	Tetrachloroethene	127-18-4	2.60E-02	5.00E-03	**5.2E+00**	1.41E+01	1.8E-03	1.47E+01	1.8E-03	4.32E+00	6.0E-03	6.02E-01	4.3E-02
5~Off Site West	HD-9	06/27/02	VOC	Trichloroethene	79-01-6	4.70E-02	5.00E-03	**9.4E+00**	2.68E+01	1.8E-03	2.67E+01	1.8E-03	7.76E+00	6.1E-03	2.23E+00	2.1E-02
5~Off Site West	HD-9	03/19/03	VOC	Tetrachloroethene	127-18-4	8.70E-02	5.00E-03	**1.7E+01**	1.41E+01	6.2E-03	1.47E+01	5.9E-03	4.32E+00	2.0E-02	6.02E-01	1.4E-01
5~Off Site West	HD-9	03/19/03	VOC	Trichloroethene	79-01-6	5.55E-02	5.00E-03	**1.1E+01**	2.68E+01	2.1E-03	2.67E+01	2.1E-03	7.76E+00	7.2E-03	2.23E+00	2.5E-02
5~Off Site West	HD-9	05/01/03	VOC	Tetrachloroethene	127-18-4	1.10E-01	5.00E-03	**2.2E+01**	1.41E+01	7.8E-03	1.47E+01	7.5E-03	4.32E+00	2.5E-02	6.02E-01	1.8E-01
5~Off Site West	HD-9	05/01/03	VOC	Trichloroethene	79-01-6	5.60E-02	5.00E-03	**1.1E+01**	2.68E+01	2.1E-03	2.67E+01	2.1E-03	7.76E+00	7.2E-03	2.23E+00	2.5E-02
5~Off Site West	HD-9	08/13/03	VOC	Tetrachloroethene	127-18-4	1.30E-01	5.00E-03	**2.6E+01**	1.41E+01	9.2E-03	1.47E+01	8.8E-03	4.32E+00	3.0E-02	6.02E-01	2.2E-01
5~Off Site West	HD-9	08/13/03	VOC	Trichloroethene	79-01-6	5.80E-02	5.00E-03	**1.2E+01**	2.68E+01	2.2E-03	2.67E+01	2.2E-03	7.76E+00	7.5E-03	2.23E+00	2.6E-02

Table 6.2F: Groundwater Concentrations from All RFI Data that Exceed Screening Criteria: Upper Aquifer Off-site
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

Area	Location	Sample Date	Chem Group	Chemical	CASRN	Concentration (mg/L)	Drinking Water Criteria (mg/L)	Ratio of Concentration to DW Criteria	Maintenance Worker Contact Criteria (mg/L)	Ratio of Concentration to Maintenance Worker Contact Criteria	Comm/Ind Vol Indoor Air Criteria (mg/L)	Ratio of Concentration to Comm/Ind Vol Indoor Air Criteria	Residential Vol Indoor Air Criteria (mg/L)	Ratio of Concentration to Res Vol Indoor Air Criteria	Residential Nonpotable Criteria (mg/L)	Ratio of Concentration to Res Nonpotable Criteria
5~Off Site West	HD-9	10/18/04	VOC	cis-1,2-Dichloroethene	156-59-2	8.10E-02	7.00E-02	**1.2E+00**	2.29E+01	3.5E-03	6.09E+01	1.3E-03	2.05E+01	3.9E-03	2.44E+01	3.3E-03
5~Off Site West	HD-9	10/18/04	VOC	Tetrachloroethene	127-18-4	7.70E-03	5.00E-03	**1.5E+00**	1.41E+01	5.5E-04	1.47E+01	5.2E-04	4.32E+00	1.8E-03	6.02E-01	1.3E-02
5~Off Site West	HD-9	10/18/04	VOC	Trichloroethene	79-01-6	1.10E-02	5.00E-03	**2.2E+00**	2.68E+01	4.1E-04	2.67E+01	4.1E-04	7.76E+00	1.4E-03	2.23E+00	4.9E-03
5~Off Site West	HD-9	10/18/04	VOC	Vinyl Chloride	75-01-4	7.60E-03	2.00E-03	**3.8E+00**	2.02E+00	3.8E-03	3.25E+00	2.3E-03	9.53E-01	8.0E-03	4.90E-02	1.5E-01
5~Off Site West	HD-9	11/16/04	VOC	Tetrachloroethene	127-18-4	1.30E-01	5.00E-03	**2.6E+01**	1.41E+01	9.2E-03	1.47E+01	8.8E-03	4.32E+00	3.0E-02	6.02E-01	2.2E-01
5~Off Site West	HD-9	11/16/04	VOC	Trichloroethene	79-01-6	7.50E-02	5.00E-03	**1.5E+01**	2.68E+01	2.8E-03	2.67E+01	2.8E-03	7.76E+00	9.7E-03	2.23E+00	3.4E-02
5~Off Site West	HD-9	04/28/05	VOC	Tetrachloroethene	127-18-4	1.25E-01	5.00E-03	**2.5E+01**	1.41E+01	8.9E-03	1.47E+01	8.5E-03	4.32E+00	2.9E-02	6.02E-01	2.1E-01
5~Off Site West	HD-9	04/28/05	VOC	Trichloroethene	79-01-6	7.15E-02	5.00E-03	**1.4E+01**	2.68E+01	2.7E-03	2.67E+01	2.7E-03	7.76E+00	9.2E-03	2.23E+00	3.2E-02
5~Off Site West	MW-11-03	03/20/03	VOC	Trichloroethene	79-01-6	1.20E-02	5.00E-03	**2.4E+00**	2.68E+01	4.5E-04	2.67E+01	4.5E-04	7.76E+00	1.5E-03	2.23E+00	5.4E-03
5~Off Site West	MW-11-03	11/30/04	VOC	Tetrachloroethene	127-18-4	7.70E-03	5.00E-03	**1.5E+00**	1.41E+01	5.5E-04	1.47E+01	5.2E-04	4.32E+00	1.8E-03	6.02E-01	1.3E-02
5~Off Site West	MW-11-03	11/30/04	VOC	Trichloroethene	79-01-6	4.00E-02	5.00E-03	**8.0E+00**	2.68E+01	1.5E-03	2.67E+01	1.5E-03	7.76E+00	5.2E-03	2.23E+00	1.8E-02
5~Off Site West	MW-16R-04	03/24/04	VOC	Tetrachloroethene	127-18-4	3.60E-02	5.00E-03	**7.2E+00**	1.41E+01	2.6E-03	1.47E+01	2.4E-03	4.32E+00	8.3E-03	6.02E-01	6.0E-02
5~Off Site West	MW-16R-04	03/24/04	VOC	Trichloroethene	79-01-6	2.00E-02	5.00E-03	**4.0E+00**	2.68E+01	7.5E-04	2.67E+01	7.5E-04	7.76E+00	2.6E-03	2.23E+00	9.0E-03
5~Off Site West	MW-16R-04	11/04/04	VOC	Tetrachloroethene	127-18-4	3.90E-02	5.00E-03	**7.8E+00**	1.41E+01	2.8E-03	1.47E+01	2.6E-03	4.32E+00	9.0E-03	6.02E-01	6.5E-02
5~Off Site West	MW-16R-04	11/04/04	VOC	Trichloroethene	79-01-6	3.10E-02	5.00E-03	**6.2E+00**	2.68E+01	1.2E-03	2.67E+01	1.2E-03	7.76E+00	4.0E-03	2.23E+00	1.4E-02
5~Off Site West	MW-21-04	03/25/04	VOC	cis-1,2-Dichloroethene	156-59-2	2.20E-01	7.00E-02	**3.1E+00**	2.29E+01	9.6E-03	6.09E+01	3.6E-03	2.05E+01	1.1E-02	2.44E+01	9.0E-03
5~Off Site West	MW-21-04	03/25/04	VOC	Tetrachloroethene	127-18-4	1.80E-02	5.00E-03	**3.6E+00**	1.41E+01	1.3E-03	1.47E+01	1.2E-03	4.32E+00	4.2E-03	6.02E-01	3.0E-02
5~Off Site West	MW-21-04	03/25/04	VOC	Trichloroethene	79-01-6	1.60E-02	5.00E-03	**3.2E+00**	2.68E+01	6.0E-04	2.67E+01	6.0E-04	7.76E+00	2.1E-03	2.23E+00	7.2E-03
5~Off Site West	MW-21-04	11/15/04	VOC	cis-1,2-Dichloroethene	156-59-2	2.00E-01	7.00E-02	**2.9E+00**	2.29E+01	8.7E-03	6.09E+01	3.3E-03	2.05E+01	9.7E-03	2.44E+01	8.2E-03
5~Off Site West	MW-21-04	11/15/04	VOC	Tetrachloroethene	127-18-4	3.70E-02	5.00E-03	**7.4E+00**	1.41E+01	2.6E-03	1.47E+01	2.5E-03	4.32E+00	8.6E-03	6.02E-01	6.1E-02
5~Off Site West	MW-21-04	11/15/04	VOC	Trichloroethene	79-01-6	2.90E-02	5.00E-03	**5.8E+00**	2.68E+01	1.1E-03	2.67E+01	1.1E-03	7.76E+00	3.7E-03	2.23E+00	1.3E-02
5~Off Site West	MW-21-04	09/15/06	VOC	Tetrachloroethene	127-18-4	6.80E-03	5.00E-03	**1.4E+00**	1.41E+01	4.8E-04	1.47E+01	4.6E-04	4.32E+00	1.6E-03	6.02E-01	1.1E-02
5~Off Site West	MW-21-04	09/15/06	VOC	Trichloroethene	79-01-6	7.50E-03	5.00E-03	**1.5E+00**	2.68E+01	2.8E-04	2.67E+01	2.8E-04	7.76E+00	9.7E-04	2.23E+00	3.4E-03
5~Off Site West	MW-46-05	07/14/05	VOC	Tetrachloroethene	127-18-4	3.30E-02	5.00E-03	**6.6E+00**	1.41E+01	2.3E-03	1.47E+01	2.2E-03	4.32E+00	7.6E-03	6.02E-01	5.5E-02
5~Off Site West	MW-46-05	07/14/05	VOC	Trichloroethene	79-01-6	6.70E-02	5.00E-03	**1.3E+01**	2.68E+01	2.5E-03	2.67E+01	2.5E-03	7.76E+00	8.6E-03	2.23E+00	3.0E-02
5~Off Site West	MW-46-05	11/03/06	VOC	Tetrachloroethene	127-18-4	3.60E-02	5.00E-03	**7.2E+00**	1.41E+01	2.6E-03	1.47E+01	2.4E-03	4.32E+00	8.3E-03	6.02E-01	6.0E-02
5~Off Site West	MW-46-05	11/03/06	VOC	Trichloroethene	79-01-6	5.50E-02	5.00E-03	**1.1E+01**	2.68E+01	2.1E-03	2.67E+01	2.1E-03	7.76E+00	7.1E-03	2.23E+00	2.5E-02
5~Off Site West	MW-48-05	07/18/05	VOC	Methylene Chloride	75-09-2	1.20E-02	5.00E-03	**2.4E+00**	8.94E+01	1.3E-04	1.18E+02	1.0E-04	3.18E+01	3.8E-04	1.28E+01	9.4E-04
5~Off Site West	MW-48-05	07/18/05	VOC	Tetrachloroethene	127-18-4	6.80E-02	5.00E-03	**1.4E+01**	1.41E+01	4.8E-03	1.47E+01	4.6E-03	4.32E+00	1.6E-02	6.02E-01	1.1E-01
5~Off Site West	MW-48-05	07/18/05	VOC	Trichloroethene	79-01-6	9.40E-01	5.00E-03	**1.9E+02**	2.68E+01	3.5E-02	2.67E+01	3.5E-02	7.76E+00	1.2E-01	2.23E+00	4.2E-01
5~Off Site West	MW-48-05	11/01/06	VOC	Tetrachloroethene	127-18-4	5.80E-02	5.00E-03	**1.2E+01**	1.41E+01	4.1E-03	1.47E+01	3.9E-03	4.32E+00	1.3E-02	6.02E-01	9.6E-02
5~Off Site West	MW-48-05	11/01/06	VOC	Trichloroethene	79-01-6	6.90E-01	5.00E-03	**1.4E+02**	2.68E+01	2.6E-02	2.67E+01	2.6E-02	7.76E+00	8.9E-02	2.23E+00	3.1E-01
5~Off Site West	MW-6A-03	02/05/03	VOC	cis-1,2-Dichloroethene	156-59-2	1.20E+00	7.00E-02	**1.7E+01**	2.29E+01	5.2E-02	6.09E+01	2.0E-02	2.05E+01	5.8E-02	2.44E+01	4.9E-02
5~Off Site West	MW-6A-03	02/05/03	VOC	Vinyl Chloride	75-01-4	2.60E-01	2.00E-03	**1.3E+02**	2.02E+00	1.3E-01	3.25E+00	8.0E-02	9.53E-01	2.7E-01	4.90E-02	**5.3E+00**
5~Off Site West	MW-6A-03	04/25/03	VOC	cis-1,2-Dichloroethene	156-59-2	3.40E-01	7.00E-02	**4.9E+00**	2.29E+01	1.5E-02	6.09E+01	5.6E-03	2.05E+01	1.7E-02	2.44E+01	1.4E-02
5~Off Site West	MW-6A-03	04/25/03	VOC	Vinyl Chloride	75-01-4	7.90E-01	2.00E-03	**4.0E+02**	2.02E+00	3.9E-01	3.25E+00	2.4E-01	9.53E-01	8.3E-01	4.90E-02	**1.6E+01**
5~Off Site West	MW-6A-03	08/13/03	VOC	cis-1,2-Dichloroethene	156-59-2	1.80E-01	7.00E-02	**2.6E+00**	2.29E+01	7.9E-03	6.09E+01	3.0E-03	2.05E+01	8.8E-03	2.44E+01	7.4E-03
5~Off Site West	MW-6A-03	08/13/03	VOC	Vinyl Chloride	75-01-4	2.80E-01	2.00E-03	**1.4E+02**	2.02E+00	1.4E-01	3.25E+00	8.6E-02	9.53E-01	2.9E-01	4.90E-02	**5.7E+00**
5~Off Site West	MW-6A-03	03/18/04	VOC	cis-1,2-Dichloroethene	156-59-2	1.80E-01	7.00E-02	**2.6E+00**	2.29E+01	7.9E-03	6.09E+01	3.0E-03	2.05E+01	8.8E-03	2.44E+01	7.4E-03
5~Off Site West	MW-6A-03	03/18/04	VOC	Vinyl Chloride	75-01-4	3.80E-01	2.00E-03	**1.9E+02**	2.02E+00	1.9E-01	3.25E+00	1.2E-01	9.53E-01	4.0E-01	4.90E-02	**7.7E+00**
5~Off Site West	MW-6A-03	06/28/04	VOC	Vinyl Chloride	75-01-4	1.50E-01	2.00E-03	**7.5E+01**	2.02E+00	7.4E-02	3.25E+00	4.6E-02	9.53E-01	1.6E-01	4.90E-02	**3.1E+00**
5~Off Site West	MW-6A-03	10/18/04	VOC	Vinyl Chloride	75-01-4	2.60E-02	2.00E-03	**1.3E+01**	2.02E+00	1.3E-02	3.25E+00	8.0E-03	9.53E-01	2.7E-02	4.90E-02	5.3E-01
5~Off Site West	MW-6A-03	11/18/04	VOC	cis-1,2-Dichloroethene	156-59-2	3.40E-01	7.00E-02	**4.9E+00**	2.29E+01	1.5E-02	6.09E+01	5.6E-03	2.05E+01	1.7E-02	2.44E+01	1.4E-02
5~Off Site West	MW-6A-03	11/18/04	VOC	Vinyl Chloride	75-01-4	5.00E-01	2.00E-03	**2.5E+02**	2.02E+00	2.5E-01	3.25E+00	1.5E-01	9.53E-01	5.2E-01	4.90E-02	**1.0E+01**
5~Off Site West	MW-6A-03	04/27/05	VOC	cis-1,2-Dichloroethene	156-59-2	3.00E-01	7.00E-02	**4.3E+00**	2.29E+01	1.3E-02	6.09E+01	4.9E-03	2.05E+01	1.5E-02	2.44E+01	1.2E-02
5~Off Site West	MW-6A-03	04/27/05	VOC	Vinyl Chloride	75-01-4	3.60E-01	2.00E-03	**1.8E+02**	2.02E+00	1.8E-01	3.25E+00	1.1E-01	9.53E-01	3.8E-01	4.90E-02	**7.3E+00**
5~Off Site West	MW-6B-03	02/07/03	VOC	Methylene Chloride	75-09-2	7.60E-03	5.00E-03	**1.5E+00**	8.94E+01	8.5E-05	1.18E+02	6.5E-05	3.18E+01	2.4E-04	1.28E+01	5.9E-04
5~Off Site West	MW-6B-03	02/07/03	VOC	Tetrachloroethene	127-18-4	3.10E-01	5.00E-03	**6.2E+01**	1.41E+01	2.2E-02	1.47E+01	2.1E-02	4.32E+00	7.2E-02	6.02E-01	5.1E-01
5~Off Site West	MW-6B-03	02/07/03	VOC	Trichloroethene	79-01-6	1.80E-02	5.00E-03	**3.6E+00**	2.68E+01	6.7E-04	2.67E+01	6.7E-04	7.76E+00	2.3E-03	2.23E+00	8.1E-03
5~Off Site West	MW-6B-03	04/25/03	VOC	cis-1,2-Dichloroethene	156-59-2	1.20E+00	7.00E-02	**1.7E+01**	2.29E+01	5.2E-02	6.09E+01	2.0E-02	2.05E+01	5.8E-02	2.44E+01	4.9E-02

Table 6.2F: Groundwater Concentrations from All RFI Data that Exceed Screening Criteria: Upper Aquifer Off-site
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

Area	Location	Sample Date	Chem Group	Chemical	CASRN	Concentration (mg/L)	Drinking Water Criteria (mg/L)	Ratio of Concentration to DW Criteria	Maintenance Worker Contact Criteria (mg/L)	Ratio of Concentration to Maintenance Worker Contact Criteria	Comm/Ind Vol Indoor Air Criteria (mg/L)	Ratio of Concentration to Comm/Ind Vol Indoor Air Criteria	Residential Vol Indoor Air Criteria (mg/L)	Ratio of Concentration to Res Vol Indoor Air Criteria	Residential Nonpotable Criteria (mg/L)	Ratio of Concentration to Res Nonpotable Criteria
5~Off Site West	MW-6B-03	04/25/03	VOC	Tetrachloroethene	127-18-4	6.90E-02	5.00E-03	**1.4E+01**	1.41E+01	4.9E-03	1.47E+01	4.7E-03	4.32E+00	1.6E-02	6.02E-01	1.1E-01
5~Off Site West	MW-6B-03	04/25/03	VOC	Trichloroethene	79-01-6	1.90E-02	5.00E-03	**3.8E+00**	2.68E+01	7.1E-04	2.67E+01	7.1E-04	7.76E+00	2.4E-03	2.23E+00	8.5E-03
5~Off Site West	MW-6B-03	04/25/03	INORG	Arsenic	7440-38-2	1.30E-02	1.00E-02	**1.3E+00**	1.44E+01	9.0E-04					3.85E-02	3.4E-01
5~Off Site West	MW-6B-03	04/25/03	INORG	Arsenic	7440-38-2	1.40E-02	1.00E-02	**1.4E+00**	1.44E+01	9.7E-04					3.85E-02	3.6E-01
5~Off Site West	MW-6B-03	08/13/03	VOC	cis-1,2-Dichloroethene	156-59-2	8.10E-01	7.00E-02	**1.2E+01**	2.29E+01	3.5E-02	6.09E+01	1.3E-02	2.05E+01	3.9E-02	2.44E+01	3.3E-02
5~Off Site West	MW-6B-03	08/13/03	VOC	Tetrachloroethene	127-18-4	2.90E-01	5.00E-03	**5.8E+01**	1.41E+01	2.1E-02	1.47E+01	2.0E-02	4.32E+00	6.7E-02	6.02E-01	4.8E-01
5~Off Site West	MW-6B-03	08/13/03	VOC	Trichloroethene	79-01-6	1.20E-01	5.00E-03	**2.4E+01**	2.68E+01	4.5E-03	2.67E+01	4.5E-03	7.76E+00	1.5E-02	2.23E+00	5.4E-02
5~Off Site West	MW-6B-03	03/18/04	VOC	cis-1,2-Dichloroethene	156-59-2	1.50E+00	7.00E-02	**2.1E+01**	2.29E+01	6.6E-02	6.09E+01	2.5E-02	2.05E+01	7.3E-02	2.44E+01	6.2E-02
5~Off Site West	MW-6B-03	03/18/04	VOC	Tetrachloroethene	127-18-4	1.70E-01	5.00E-03	**3.4E+01**	1.41E+01	1.2E-02	1.47E+01	1.2E-02	4.32E+00	3.9E-02	6.02E-01	2.8E-01
5~Off Site West	MW-6B-03	03/18/04	VOC	Trichloroethene	79-01-6	9.00E-02	5.00E-03	**1.8E+01**	2.68E+01	3.4E-03	2.67E+01	3.4E-03	7.76E+00	1.2E-02	2.23E+00	4.0E-02
5~Off Site West	MW-6B-03	03/18/04	VOC	Vinyl Chloride	75-01-4	8.20E-02	2.00E-03	**4.1E+01**	2.02E+00	4.1E-02	3.25E+00	2.5E-02	9.53E-01	8.6E-02	4.90E-02	**1.7E+00**
5~Off Site West	MW-6B-03	06/28/04	VOC	cis-1,2-Dichloroethene	156-59-2	1.20E+00	7.00E-02	**1.7E+01**	2.29E+01	5.2E-02	6.09E+01	2.0E-02	2.05E+01	5.8E-02	2.44E+01	4.9E-02
5~Off Site West	MW-6B-03	06/28/04	VOC	Tetrachloroethene	127-18-4	1.80E-01	5.00E-03	**3.6E+01**	1.41E+01	1.3E-02	1.47E+01	1.2E-02	4.32E+00	4.2E-02	6.02E-01	3.0E-01
5~Off Site West	MW-6B-03	06/28/04	VOC	Trichloroethene	79-01-6	1.20E-01	5.00E-03	**2.4E+01**	2.68E+01	4.5E-03	2.67E+01	4.5E-03	7.76E+00	1.5E-02	2.23E+00	5.4E-02
5~Off Site West	MW-6B-03	06/28/04	VOC	Vinyl Chloride	75-01-4	7.60E-02	2.00E-03	**3.8E+01**	2.02E+00	3.8E-02	3.25E+00	2.3E-02	9.53E-01	8.0E-02	4.90E-02	**1.5E+00**
5~Off Site West	MW-6B-03	10/18/04	VOC	cis-1,2-Dichloroethene	156-59-2	1.40E-01	7.00E-02	**2.0E+00**	2.29E+01	6.1E-03	6.09E+01	2.3E-03	2.05E+01	6.8E-03	2.44E+01	5.7E-03
5~Off Site West	MW-6B-03	10/18/04	VOC	Tetrachloroethene	127-18-4	4.70E-02	5.00E-03	**9.4E+00**	1.41E+01	3.3E-03	1.47E+01	3.2E-03	4.32E+00	1.1E-02	6.02E-01	7.8E-02
5~Off Site West	MW-6B-03	10/18/04	VOC	Trichloroethene	79-01-6	2.15E-02	5.00E-03	**4.3E+00**	2.68E+01	8.0E-04	2.67E+01	8.1E-04	7.76E+00	2.8E-03	2.23E+00	9.7E-03
5~Off Site West	MW-6B-03	10/18/04	VOC	Vinyl Chloride	75-01-4	2.50E-02	2.00E-03	**1.3E+01**	2.02E+00	1.2E-02	3.25E+00	7.7E-03	9.53E-01	2.6E-02	4.90E-02	5.1E-01
5~Off Site West	MW-6B-03	11/18/04	VOC	cis-1,2-Dichloroethene	156-59-2	7.70E-01	7.00E-02	**1.1E+01**	2.29E+01	3.4E-02	6.09E+01	1.3E-02	2.05E+01	3.7E-02	2.44E+01	3.2E-02
5~Off Site West	MW-6B-03	11/18/04	VOC	Tetrachloroethene	127-18-4	1.70E-01	5.00E-03	**3.4E+01**	1.41E+01	1.2E-02	1.47E+01	1.2E-02	4.32E+00	3.9E-02	6.02E-01	2.8E-01
5~Off Site West	MW-6B-03	11/18/04	VOC	Trichloroethene	79-01-6	1.30E-01	5.00E-03	**2.6E+01**	2.68E+01	4.8E-03	2.67E+01	4.9E-03	7.76E+00	1.7E-02	2.23E+00	5.8E-02
5~Off Site West	MW-6B-03	11/18/04	VOC	Vinyl Chloride	75-01-4	2.70E-02	2.00E-03	**1.4E+01**	2.02E+00	1.3E-02	3.25E+00	8.3E-03	9.53E-01	2.8E-02	4.90E-02	5.5E-01
5~Off Site West	MW-6B-03	04/27/05	VOC	cis-1,2-Dichloroethene	156-59-2	4.40E-01	7.00E-02	**6.3E+00**	2.29E+01	1.9E-02	6.09E+01	7.2E-03	2.05E+01	2.1E-02	2.44E+01	1.8E-02
5~Off Site West	MW-6B-03	04/27/05	VOC	Tetrachloroethene	127-18-4	6.50E-02	5.00E-03	**1.3E+01**	1.41E+01	4.6E-03	1.47E+01	4.4E-03	4.32E+00	1.5E-02	6.02E-01	1.1E-01
5~Off Site West	MW-6B-03	04/27/05	VOC	Trichloroethene	79-01-6	3.00E-02	5.00E-03	**6.0E+00**	2.68E+01	1.1E-03	2.67E+01	1.1E-03	7.76E+00	3.9E-03	2.23E+00	1.3E-02
5~Off Site West	MW-6B-03	04/27/05	VOC	Vinyl Chloride	75-01-4	1.20E-01	2.00E-03	**6.0E+01**	2.02E+00	5.9E-02	3.25E+00	3.7E-02	9.53E-01	1.3E-01	4.90E-02	**2.4E+00**
5~Off Site West	MW-7A-03	02/07/03	VOC	cis-1,2-Dichloroethene	156-59-2	4.65E-01	7.00E-02	**6.6E+00**	2.29E+01	2.0E-02	6.09E+01	7.6E-03	2.05E+01	2.3E-02	2.44E+01	1.9E-02
5~Off Site West	MW-7A-03	02/07/03	VOC	Methylene Chloride	75-09-2	5.75E-03	5.00E-03	**1.2E+00**	8.94E+01	6.4E-05	1.18E+02	4.9E-05	3.18E+01	1.8E-04	1.28E+01	4.5E-04
5~Off Site West	MW-7A-03	02/07/03	VOC	Vinyl Chloride	75-01-4	2.95E-01	2.00E-03	**1.5E+02**	2.02E+00	1.5E-01	3.25E+00	9.1E-02	9.53E-01	3.1E-01	4.90E-02	**6.0E+00**
5~Off Site West	MW-7A-03	04/28/03	VOC	cis-1,2-Dichloroethene	156-59-2	5.50E-01	7.00E-02	**7.9E+00**	2.29E+01	2.4E-02	6.09E+01	9.0E-03	2.05E+01	2.7E-02	2.44E+01	2.3E-02
5~Off Site West	MW-7A-03	04/28/03	VOC	Vinyl Chloride	75-01-4	4.50E-01	2.00E-03	**2.3E+02**	2.02E+00	2.2E-01	3.25E+00	1.4E-01	9.53E-01	4.7E-01	4.90E-02	**9.2E+00**
5~Off Site West	MW-7A-03	03/18/04	VOC	Vinyl Chloride	75-01-4	8.10E-02	2.00E-03	**4.1E+01**	2.02E+00	4.0E-02	3.25E+00	2.5E-02	9.53E-01	8.5E-02	4.90E-02	**1.7E+00**
5~Off Site West	MW-7A-03	06/29/04	VOC	Vinyl Chloride	75-01-4	2.70E-02	2.00E-03	**1.4E+01**	2.02E+00	1.3E-02	3.25E+00	8.3E-03	9.53E-01	2.8E-02	4.90E-02	5.5E-01
5~Off Site West	MW-7A-03	10/14/04	VOC	cis-1,2-Dichloroethene	156-59-2	3.40E-01	7.00E-02	**4.9E+00**	2.29E+01	1.5E-02	6.09E+01	5.6E-03	2.05E+01	1.7E-02	2.44E+01	1.4E-02
5~Off Site West	MW-7A-03	10/14/04	VOC	Vinyl Chloride	75-01-4	4.00E-01	2.00E-03	**2.0E+02**	2.02E+00	2.0E-01	3.25E+00	1.2E-01	9.53E-01	4.2E-01	4.90E-02	**8.2E+00**
5~Off Site West	MW-7A-03	11/18/04	VOC	Vinyl Chloride	75-01-4	1.40E-02	2.00E-03	**7.0E+00**	2.02E+00	6.9E-03	3.25E+00	4.3E-03	9.53E-01	1.5E-02	4.90E-02	2.9E-01
5~Off Site West	MW-7A-03	04/27/05	VOC	Vinyl Chloride	75-01-4	4.10E-03	2.00E-03	**2.1E+00**	2.02E+00	2.0E-03	3.25E+00	1.3E-03	9.53E-01	4.3E-03	4.90E-02	8.4E-02
5~Off Site West	MW-7B-03	02/06/03	VOC	Tetrachloroethene	127-18-4	2.20E-01	5.00E-03	**4.4E+01**	1.41E+01	1.6E-02	1.47E+01	1.5E-02	4.32E+00	5.1E-02	6.02E-01	3.7E-01
5~Off Site West	MW-7B-03	02/06/03	VOC	Trichloroethene	79-01-6	4.50E-02	5.00E-03	**9.0E+00**	2.68E+01	1.7E-03	2.67E+01	1.7E-03	7.76E+00	5.8E-03	2.23E+00	2.0E-02
5~Off Site West	MW-7B-03	04/28/03	VOC	cis-1,2-Dichloroethene	156-59-2	6.20E-01	7.00E-02	**8.9E+00**	2.29E+01	2.7E-02	6.09E+01	1.0E-02	2.05E+01	3.0E-02	2.44E+01	2.5E-02
5~Off Site West	MW-7B-03	04/28/03	VOC	Tetrachloroethene	127-18-4	5.10E-01	5.00E-03	**1.0E+02**	1.41E+01	3.6E-02	1.47E+01	3.5E-02	4.32E+00	1.2E-01	6.02E-01	8.5E-01
5~Off Site West	MW-7B-03	04/28/03	VOC	Trichloroethene	79-01-6	1.80E-01	5.00E-03	**3.6E+01**	2.68E+01	6.7E-03	2.67E+01	6.7E-03	7.76E+00	2.3E-02	2.23E+00	8.1E-02
5~Off Site West	MW-7B-03	08/12/03	VOC	cis-1,2-Dichloroethene	156-59-2	8.50E-01	7.00E-02	**1.2E+01**	2.29E+01	3.7E-02	6.09E+01	1.4E-02	2.05E+01	4.1E-02	2.44E+01	3.5E-02
5~Off Site West	MW-7B-03	08/12/03	VOC	Methylene Chloride	75-09-2	1.45E-02	5.00E-03	**2.9E+00**	8.94E+01	1.6E-04	1.18E+02	1.2E-04	3.18E+01	4.6E-04	1.28E+01	1.1E-03
5~Off Site West	MW-7B-03	08/12/03	VOC	Tetrachloroethene	127-18-4	4.10E-02	5.00E-03	**8.2E+00**	1.41E+01	2.9E-03	1.47E+01	2.8E-03	4.32E+00	9.5E-03	6.02E-01	6.8E-02
5~Off Site West	MW-7B-03	08/12/03	VOC	Trichloroethene	79-01-6	1.60E-02	5.00E-03	**3.2E+00**	2.68E+01	6.0E-04	2.67E+01	6.0E-04	7.76E+00	2.1E-03	2.23E+00	7.2E-03
5~Off Site West	MW-7B-03	08/12/03	VOC	Vinyl Chloride	75-01-4	4.50E-02	2.00E-03	**2.3E+01**	2.02E+00	2.2E-02	3.25E+00	1.4E-02	9.53E-01	4.7E-02	4.90E-02	9.2E-01
5~Off Site West	MW-7B-03	03/18/04	VOC	cis-1,2-Dichloroethene	156-59-2	3.40E-01	7.00E-02	**4.9E+00**	2.29E+01	1.5E-02	6.09E+01	5.6E-03	2.05E+01	1.7E-02	2.44E+01	1.4E-02
5~Off Site West	MW-7B-03	03/18/04	VOC	Tetrachloroethene	127-18-4	1.60E-02	5.00E-03	**3.2E+00**	1.41E+01	1.1E-03	1.47E+01	1.1E-03	4.32E+00	3.7E-03	6.02E-01	2.7E-02

Table 6.2F: Groundwater Concentrations from All RFI Data that Exceed Screening Criteria: Upper Aquifer Off-site
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

Area	Location	Sample Date	Chem Group	Chemical	CASRN	Concentration (mg/L)	Drinking Water Criteria (mg/L)	Ratio of Concentration to DW Criteria	Maintenance Worker Contact Criteria (mg/L)	Ratio of Concentration to Maintenance Worker Contact Criteria	Comm/Ind Vol Indoor Air Criteria (mg/L)	Ratio of Concentration to Comm/Ind Vol Indoor Air Criteria	Residential Vol Indoor Air Criteria (mg/L)	Ratio of Concentration to Res Vol Indoor Air Criteria	Residential Nonpotable Criteria (mg/L)	Ratio of Concentration to Res Nonpotable Criteria
5~Off Site West	MW-7B-03	03/18/04	VOC	Trichloroethene	79-01-6	1.10E-02	5.00E-03	**2.2E+00**	2.68E+01	4.1E-04	2.67E+01	4.1E-04	7.76E+00	1.4E-03	2.23E+00	4.9E-03
5~Off Site West	MW-7B-03	03/18/04	VOC	Vinyl Chloride	75-01-4	9.10E-02	2.00E-03	**4.6E+01**	2.02E+00	4.5E-02	3.25E+00	2.8E-02	9.53E-01	9.5E-02	4.90E-02	**1.9E+00**
5~Off Site West	MW-7B-03	06/29/04	VOC	cis-1,2-Dichloroethene	156-59-2	2.60E-01	7.00E-02	**3.7E+00**	2.29E+01	1.1E-02	6.09E+01	4.3E-03	2.05E+01	1.3E-02	2.44E+01	1.1E-02
5~Off Site West	MW-7B-03	06/29/04	VOC	Tetrachloroethene	127-18-4	2.10E-02	5.00E-03	**4.2E+00**	1.41E+01	1.5E-03	1.47E+01	1.4E-03	4.32E+00	4.9E-03	6.02E-01	3.5E-02
5~Off Site West	MW-7B-03	06/29/04	VOC	Trichloroethene	79-01-6	1.15E-02	5.00E-03	**2.3E+00**	2.68E+01	4.3E-04	2.67E+01	4.3E-04	7.76E+00	1.5E-03	2.23E+00	5.2E-03
5~Off Site West	MW-7B-03	06/29/04	VOC	Vinyl Chloride	75-01-4	4.60E-02	2.00E-03	**2.3E+01**	2.02E+00	2.3E-02	3.25E+00	1.4E-02	9.53E-01	4.8E-02	4.90E-02	9.4E-01
5~Off Site West	MW-7B-03	06/29/04	INORG	Arsenic	7440-38-2	1.25E-02	1.00E-02	**1.3E+00**	1.44E+01	8.7E-04					3.85E-02	3.2E-01
5~Off Site West	MW-7B-03	10/14/04	VOC	cis-1,2-Dichloroethene	156-59-2	7.30E-01	7.00E-02	**1.0E+01**	2.29E+01	3.2E-02	6.09E+01	1.2E-02	2.05E+01	3.6E-02	2.44E+01	3.0E-02
5~Off Site West	MW-7B-03	10/14/04	VOC	Tetrachloroethene	127-18-4	2.00E-01	5.00E-03	**4.0E+01**	1.41E+01	1.4E-02	1.47E+01	1.4E-02	4.32E+00	4.6E-02	6.02E-01	3.3E-01
5~Off Site West	MW-7B-03	10/14/04	VOC	Trichloroethene	79-01-6	9.80E-02	5.00E-03	**2.0E+01**	2.68E+01	3.7E-03	2.67E+01	3.7E-03	7.76E+00	1.3E-02	2.23E+00	4.4E-02
5~Off Site West	MW-7B-03	10/14/04	VOC	Vinyl Chloride	75-01-4	5.30E-02	2.00E-03	**2.7E+01**	2.02E+00	2.6E-02	3.25E+00	1.6E-02	9.53E-01	5.6E-02	4.90E-02	**1.1E+00**
5~Off Site West	MW-7B-03	11/18/04	VOC	Vinyl Chloride	75-01-4	2.60E-02	2.00E-03	**1.3E+01**	2.02E+00	1.3E-02	3.25E+00	8.0E-03	9.53E-01	2.7E-02	4.90E-02	5.3E-01
5~Off Site West	MW-7B-03	04/27/05	VOC	Vinyl Chloride	75-01-4	1.50E-02	2.00E-03	**7.5E+00**	2.02E+00	7.4E-03	3.25E+00	4.6E-03	9.53E-01	1.6E-02	4.90E-02	3.1E-01
5~Off Site West	MW-8-03	03/28/03	VOC	Tetrachloroethene	127-18-4	2.20E-02	5.00E-03	**4.4E+00**	1.41E+01	1.6E-03	1.47E+01	1.5E-03	4.32E+00	5.1E-03	6.02E-01	3.7E-02
5~Off Site West	MW-8-03	03/28/03	VOC	Trichloroethene	79-01-6	1.90E-02	5.00E-03	**3.8E+00**	2.68E+01	7.1E-04	2.67E+01	7.1E-04	7.76E+00	2.4E-03	2.23E+00	8.5E-03
5~Off Site West	MW-8-03	11/08/04	VOC	cis-1,2-Dichloroethene	156-59-2	7.70E-02	7.00E-02	**1.1E+00**	2.29E+01	3.4E-03	6.09E+01	1.3E-03	2.05E+01	3.7E-03	2.44E+01	3.2E-03
5~Off Site West	MW-8-03	11/08/04	VOC	Tetrachloroethene	127-18-4	3.40E-02	5.00E-03	**6.8E+00**	1.41E+01	2.4E-03	1.47E+01	2.3E-03	4.32E+00	7.9E-03	6.02E-01	5.6E-02
5~Off Site West	MW-8-03	11/08/04	VOC	Trichloroethene	79-01-6	4.50E-02	5.00E-03	**9.0E+00**	2.68E+01	1.7E-03	2.67E+01	1.7E-03	7.76E+00	5.8E-03	2.23E+00	2.0E-02
5~Off Site West	MW-8-03	09/15/06	VOC	Tetrachloroethene	127-18-4	1.10E-02	5.00E-03	**2.2E+00**	1.41E+01	7.8E-04	1.47E+01	7.5E-04	4.32E+00	2.5E-03	6.02E-01	1.8E-02
5~Off Site West	MW-8-03	09/15/06	VOC	Trichloroethene	79-01-6	7.60E-03	5.00E-03	**1.5E+00**	2.68E+01	2.8E-04	2.67E+01	2.8E-04	7.76E+00	9.8E-04	2.23E+00	3.4E-03
5~Off Site West	MW-8-03	08/23/07	VOC	Tetrachloroethene	127-18-4	1.40E-02	5.00E-03	**2.8E+00**	1.41E+01	1.0E-03	1.47E+01	9.5E-04	4.32E+00	3.2E-03	6.02E-01	2.3E-02
5~Off Site West	MW-8-03	08/23/07	VOC	Trichloroethene	79-01-6	1.70E-02	5.00E-03	**3.4E+00**	2.68E+01	6.3E-04	2.67E+01	6.4E-04	7.76E+00	2.2E-03	2.23E+00	7.6E-03
7~North of River	MW-50-06	06/24/08	VOC	Tetrachloroethene	127-18-4	1.35E-02	5.0E-03	**2.7E+00**	1.4E+01	9.6E-04	1.5E+01	9.2E-04	4.32E+00	3.1E-03	6.02E-01	2.2E-02
7~North of River	MW-50-06	06/24/08	VOC	Trichloroethene	79-01-6	1.25E-02	5.0E-03	**2.5E+00**	2.7E+01	4.7E-04	2.7E+01	4.7E-04	7.76E+00	1.6E-03	2.23E+00	5.6E-03

Notes:

* Non-RFI Data were collected by the City of Dayton during installation of monitoring well DAY-23 and have not been independently validated by GM.

1. The drinking water criteria are based on the following hierarchy: state MCL, federal MCL, equivalent drinking water concentration limits at the lower of the criteria calculated at either the target cancer risk of 1 x 10^{-5} or target hazard quotient of 1.

2. The criteria for non-drinking water are the lower of the criteria at either the target cancer risk of 1 x 10^{-5} or target hazard quotient of 1.

3. Shaded cells represent ratios of concentration to the screening criteria greater than 1.

4. Maintenance worker contact criteria, comm/ind vol indoor air criteria, residential vol indoor air criteria, and residential nonpotable criteria were calculated as discussed in Appendix F of the RFI Report Addendum 3.

Abbreviations:

Chem Group - Chemical Group

CASRN - Chemical Abstract Service Registry Number

Comm/Ind - Commercial/Industrial

Vol - Volatilization

Meas Basis - Measured Basis; T = Total, D = Dissolved

Table 6-2G: Groundwater Concentrations from All RFI Data that Exceed Screening Criteria for Residential Nonpotable Exposures: Hypothetical Upper-Aquifer Groundwater Migration from AOI 1
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

Location	Sample Date	Chem Group	Chemical	CASRN	Concentration (mg/L)	Residential Vol Indoor Air Criteria (mg/L)	Ratio of Concentration to Res Vol Indoor Air Criteria	Residential Nonpotable Criteria (mg/L)	Ratio of Concentration to Res Nonpotable Criteria
B-SA21	07/17/02	PCB	PCBs (total)	1336-36-3	7.76E-02	6.95E-02	**1.1E+00**	1.96E-04	**4.0E+02**
B-SA21	03/20/03	PCB	PCBs (total)	1336-36-3	1.03E-02	6.95E-02	1.5E-01	1.96E-04	**5.2E+01**
B-SA21	11/23/04	PCB	PCBs (total)	1336-36-3	3.15E-03	6.95E-02	4.5E-02	1.96E-04	**1.6E+01**
B-SA21	06/07/07	PCB	PCBs (total)	1336-36-3	5.70E-03	6.95E-02	8.2E-02	1.96E-04	**2.9E+01**
B-SA22	07/08/02	VOC	Tetrachloroethene	127-18-4	2.20E+00	4.32E+00	5.1E-01	6.02E-01	**3.7E+00**
B-SA22	03/18/03	VOC	Tetrachloroethene	127-18-4	1.60E+00	4.32E+00	3.7E-01	6.02E-01	**2.7E+00**
B-SA22	08/15/03	VOC	Tetrachloroethene	127-18-4	1.30E+00	4.32E+00	3.0E-01	6.02E-01	**2.2E+00**
B-SA22	04/21/05	VOC	Tetrachloroethene	127-18-4	8.10E-01	4.32E+00	1.9E-01	6.02E-01	**1.3E+00**
B-SA23	07/17/02	VOC	Tetrachloroethene	127-18-4	5.30E+00	4.32E+00	**1.2E+00**	6.02E-01	**8.8E+00**
B-SA23	07/17/02	VOC	Trichloroethene	79-01-6	9.40E+00	7.76E+00	**1.2E+00**	2.23E+00	**4.2E+00**
B-SA23	07/17/02	VOC	Vinyl Chloride	75-01-4	7.50E-01	9.53E-01	7.9E-01	4.90E-02	**1.5E+01**
B-SA23	03/18/03	VOC	Tetrachloroethene	127-18-4	4.90E+00	4.32E+00	**1.1E+00**	6.02E-01	**8.1E+00**
B-SA23	03/18/03	VOC	Trichloroethene	79-01-6	8.40E+00	7.76E+00	**1.1E+00**	2.23E+00	**3.8E+00**
B-SA23	03/18/03	VOC	Vinyl Chloride	75-01-4	8.20E-01	9.53E-01	8.6E-01	4.90E-02	**1.7E+01**
B-SA23	08/20/03	VOC	Tetrachloroethene	127-18-4	6.50E+00	4.32E+00	**1.5E+00**	6.02E-01	**1.1E+01**
B-SA23	08/20/03	VOC	Trichloroethene	79-01-6	1.20E+01	7.76E+00	**1.5E+00**	2.23E+00	**5.4E+00**
B-SA23	08/20/03	VOC	Vinyl Chloride	75-01-4	1.20E+00	9.53E-01	**1.3E+00**	4.90E-02	**2.4E+01**
B-SA23	04/22/05	VOC	Vinyl Chloride	75-01-4	1.30E+00	9.53E-01	**1.4E+00**	4.90E-02	**2.7E+01**
B-SA23	11/03/06	VOC	Vinyl Chloride	75-01-4	1.10E+00	9.53E-01	**1.2E+00**	4.90E-02	**2.2E+01**
MW-1A-00	08/18/03	VOC	Vinyl Chloride	75-01-4	5.90E-02	9.53E-01	6.2E-02	4.90E-02	**1.2E+00**
MW-2A-00	07/16/02	VOC	Vinyl Chloride	75-01-4	3.10E-01	9.53E-01	3.3E-01	4.90E-02	**6.3E+00**
MW-2A-00	03/17/03	VOC	Vinyl Chloride	75-01-4	7.90E-02	9.53E-01	8.3E-02	4.90E-02	**1.6E+00**
MW-2A-00	08/20/03	VOC	Vinyl Chloride	75-01-4	1.45E+00	9.53E-01	**1.5E+00**	4.90E-02	**3.0E+01**
MW-2A-00	04/22/05	VOC	Tetrachloroethene	127-18-4	7.10E-01	4.32E+00	1.6E-01	6.02E-01	**1.2E+00**
MW-2A-00	04/22/05	VOC	Vinyl Chloride	75-01-4	3.10E-01	9.53E-01	3.3E-01	4.90E-02	**6.3E+00**
MW-5A-03	03/05/03	VOC	Tetrachloroethene	127-18-4	6.40E-01	4.32E+00	1.5E-01	6.02E-01	**1.1E+00**
MW-5A-03	03/05/03	VOC	Vinyl Chloride	75-01-4	3.90E-01	9.53E-01	4.1E-01	4.90E-02	**8.0E+00**
MW-5A-03	05/01/03	VOC	Vinyl Chloride	75-01-4	2.80E-01	9.53E-01	2.9E-01	4.90E-02	**5.7E+00**
MW-5A-03	05/16/03	VOC	Vinyl Chloride	75-01-4	2.40E-01	9.53E-01	2.5E-01	4.90E-02	**4.9E+00**
MW-5A-03	06/05/03	VOC	Tetrachloroethene	127-18-4	1.20E+00	4.32E+00	2.8E-01	6.02E-01	**2.0E+00**

Table 6-2G: Groundwater Concentrations from All RFI Data that Exceed Screening Criteria for Residential Nonpotable Exposures: Hypothetical Upper-Aquifer Groundwater Migration from AOI 1
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

Location	Sample Date	Chem Group	Chemical	CASRN	Concentration (mg/L)	Residential Vol Indoor Air Criteria (mg/L)	Ratio of Concentration to Res Vol Indoor Air Criteria	Residential Nonpotable Criteria (mg/L)	Ratio of Concentration to Res Nonpotable Criteria
MW-5A-03	06/05/03	VOC	Vinyl Chloride	75-01-4	2.65E-01	9.53E-01	2.8E-01	4.90E-02	**5.4E+00**
MW-5A-03	06/19/03	VOC	Vinyl Chloride	75-01-4	2.20E-01	9.53E-01	2.3E-01	4.90E-02	**4.5E+00**
MW-5A-03	08/14/03	VOC	Vinyl Chloride	75-01-4	1.50E-01	9.53E-01	1.6E-01	4.90E-02	**3.1E+00**
MW-5A-03	03/19/04	VOC	Tetrachloroethene	127-18-4	8.00E-01	4.32E+00	1.9E-01	6.02E-01	**1.3E+00**
MW-5A-03	03/19/04	VOC	Vinyl Chloride	75-01-4	6.90E-01	9.53E-01	7.2E-01	4.90E-02	**1.4E+01**
MW-5A-03	06/29/04	VOC	Vinyl Chloride	75-01-4	1.60E-01	9.53E-01	1.7E-01	4.90E-02	**3.3E+00**
MW-5A-03	10/19/04	VOC	Vinyl Chloride	75-01-4	1.30E-01	9.53E-01	1.4E-01	4.90E-02	**2.7E+00**
MW-5A-03	11/19/04	VOC	Vinyl Chloride	75-01-4	3.60E-01	9.53E-01	3.8E-01	4.90E-02	**7.3E+00**
MW-5A-03	04/27/05	VOC	Vinyl Chloride	75-01-4	3.30E-01	9.53E-01	3.5E-01	4.90E-02	**6.7E+00**
OS-7B-03	03/07/03	VOC	Tetrachloroethene	127-18-4	9.80E-01	4.32E+00	2.3E-01	6.02E-01	**1.6E+00**
OS-7B-03	08/15/03	VOC	Tetrachloroethene	127-18-4	2.00E+00	4.32E+00	4.6E-01	6.02E-01	**3.3E+00**

Notes:

1. The screening criteria for groundwater are the lower of the screening criteria at either a cancer risk level of $1x10^{-5}$ or a hazard quotient of 1.
2. Shaded cells represent ratios of concentration to the screening criteria greater than 1.
3. Residential vol indoor air criteria and residential nonpotable criteria were calculated as discussed in Appendix F of the RFI Report Addendum 3.

Abbreviations:

Chem Group - Chemical Group
CASRN - Chemical Abstract Service Registry Number
Vol - Volatilization

Table 6-2H: Groundwater Concentrations from All RFI Data that Exceed Screening Criteria: Till-Rich Zone
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

On/Off Site	Area	Location	Sample Date	Chem Group	Chemical	CASRN	Concentration (mg/L)	Drinking Water Criteria (mg/L)	Ratio of Concentration to DW Criteria	Residential Nonpotable Criteria (mg/L)	Ratio of Concentration to Res Nonpotable Criteria
Off-site	5~Off Site West	DAY-07	07/15/02	VOC	cis-1,2-Dichloroethene	156-59-2	3.40E-01	7.00E-02	**4.9E+00**	2.44E+01	1.4E-02
Off-site	5~Off Site West	DAY-07	07/15/02	VOC	Trichloroethene	79-01-6	1.90E+00	5.00E-03	**3.8E+02**	2.23E+00	8.5E-01
Off-site	5~Off Site West	DAY-07	03/21/03	VOC	cis-1,2-Dichloroethene	156-59-2	1.80E-01	7.00E-02	**2.6E+00**	2.44E+01	7.4E-03
Off-site	5~Off Site West	DAY-07	03/21/03	VOC	Trichloroethene	79-01-6	1.30E+00	5.00E-03	**2.6E+02**	2.23E+00	5.8E-01
Off-site	5~Off Site West	DAY-07	11/10/04	VOC	cis-1,2-Dichloroethene	156-59-2	2.50E-01	7.00E-02	**3.6E+00**	2.44E+01	1.0E-02
Off-site	5~Off Site West	DAY-07	11/10/04	VOC	Trichloroethene	79-01-6	2.00E+00	5.00E-03	**4.0E+02**	2.23E+00	9.0E-01
Off-site	5~Off Site West	DAY-07	11/07/06	VOC	cis-1,2-Dichloroethene	156-59-2	1.70E-01	7.00E-02	**2.4E+00**	2.44E+01	7.0E-03
Off-site	5~Off Site West	DAY-07	11/07/06	VOC	Trichloroethene	79-01-6	1.50E+00	5.00E-03	**3.0E+02**	2.23E+00	6.7E-01
Off-site	5~Off Site West	DAY-24*	12/28/04	VOC	Tetrachloroethene	127-18-4	2.38E-02	5.00E-03	**4.8E+00**	6.02E-01	4.0E-02
Off-site	5~Off Site West	DAY-24*	12/28/04	VOC	cis-1,2-Dichloroethene	156-59-2	1.03E-01	7.00E-02	**1.5E+00**	2.44E+01	4.2E-03
Off-site	5~Off Site West	DAY-24*	12/28/04	VOC	Trichloroethene	79-01-6	1.40E-01	5.00E-03	**2.8E+01**	2.23E+00	6.3E-02
Off-site	5~Off Site West	DAY-24*	09/25/06	VOC	Tetrachloroethene	127-18-4	1.70E-02	5.00E-03	**3.4E+00**	6.02E-01	2.8E-02
Off-site	5~Off Site West	DAY-24*	09/25/06	VOC	cis-1,2-Dichloroethene	156-59-2	9.55E-02	7.00E-02	**1.4E+00**	2.44E+01	3.9E-03
Off-site	5~Off Site West	DAY-24*	09/25/06	VOC	Trichloroethene	79-01-6	2.35E-02	5.00E-03	**4.7E+00**	2.23E+00	1.1E-02
Off-site	5~Off Site West	MW-19-04	03/04/04	VOC	cis-1,2-Dichloroethene	156-59-2	2.10E-01	7.00E-02	**3.0E+00**	2.44E+01	8.6E-03
Off-site	5~Off Site West	MW-19-04	03/04/04	VOC	Vinyl Chloride	75-01-4	7.00E-03	2.00E-03	**3.5E+00**	4.90E-02	1.4E-01
Off-site	5~Off Site West	MW-19-04	03/04/04	VOC	Trichloroethene	79-01-6	7.70E-03	5.00E-03	**1.5E+00**	2.23E+00	3.5E-03
Off-site	5~Off Site West	MW-19-04	03/23/04	VOC	cis-1,2-Dichloroethene	156-59-2	3.50E-01	7.00E-02	**5.0E+00**	2.44E+01	1.4E-02
Off-site	5~Off Site West	MW-19-04	03/23/04	VOC	Vinyl Chloride	75-01-4	5.70E-03	2.00E-03	**2.9E+00**	4.90E-02	1.2E-01
Off-site	5~Off Site West	MW-19-04	03/23/04	VOC	Trichloroethene	79-01-6	1.40E-02	5.00E-03	**2.8E+00**	2.23E+00	6.3E-03
Off-site	5~Off Site West	MW-19-04	11/03/06	VOC	cis-1,2-Dichloroethene	156-59-2	4.30E-01	7.00E-02	**6.1E+00**	2.44E+01	1.8E-02
Off-site	5~Off Site West	MW-19-04	11/03/06	VOC	Trichloroethene	79-01-6	1.20E-01	5.00E-03	**2.4E+01**	2.23E+00	5.4E-02
Off-site	5~Off Site West	MW-20-04	03/04/04	VOC	cis-1,2-Dichloroethene	156-59-2	2.30E-01	7.00E-02	**3.3E+00**	2.44E+01	9.4E-03
Off-site	5~Off Site West	MW-20-04	03/04/04	VOC	Trichloroethene	79-01-6	3.00E-01	5.00E-03	**6.0E+01**	2.23E+00	1.3E-01
Off-site	5~Off Site West	MW-20-04	03/24/04	VOC	cis-1,2-Dichloroethene	156-59-2	2.70E-01	7.00E-02	**3.9E+00**	2.44E+01	1.1E-02
Off-site	5~Off Site West	MW-20-04	03/24/04	VOC	Trichloroethene	79-01-6	4.50E-01	5.00E-03	**9.0E+01**	2.23E+00	2.0E-01
Off-site	5~Off Site West	MW-20-04	11/09/04	VOC	Tetrachloroethene	127-18-4	8.00E-03	5.00E-03	**1.6E+00**	6.02E-01	1.3E-02
Off-site	5~Off Site West	MW-20-04	11/09/04	VOC	cis-1,2-Dichloroethene	156-59-2	7.10E-01	7.00E-02	**1.0E+01**	2.44E+01	2.9E-02
Off-site	5~Off Site West	MW-20-04	11/09/04	VOC	Trichloroethene	79-01-6	6.10E-01	5.00E-03	**1.2E+02**	2.23E+00	2.7E-01
Off-site	5~Off Site West	MW-20-04	11/02/06	VOC	Tetrachloroethene	127-18-4	6.70E-03	5.00E-03	**1.3E+00**	6.02E-01	1.1E-02
Off-site	5~Off Site West	MW-20-04	11/02/06	VOC	cis-1,2-Dichloroethene	156-59-2	2.60E-01	7.00E-02	**3.7E+00**	2.44E+01	1.1E-02
Off-site	5~Off Site West	MW-20-04	11/02/06	VOC	Vinyl Chloride	75-01-4	1.50E-02	2.00E-03	**7.5E+00**	4.90E-02	3.1E-01
Off-site	5~Off Site West	MW-20-04	11/02/06	VOC	Trichloroethene	79-01-6	9.70E-01	5.00E-03	**1.9E+02**	2.23E+00	4.4E-01
Off-site	5~Off Site West	MW-41-05	07/18/05	VOC	Vinyl Chloride	75-01-4	1.60E-02	2.00E-03	**8.0E+00**	4.90E-02	3.3E-01
Off-site	5~Off Site West	MW-41-05	07/18/05	VOC	Trichloroethene	79-01-6	1.40E-02	5.00E-03	**2.8E+00**	2.23E+00	6.3E-03
Off-site	5~Off Site West	MW-41-05	11/01/06	VOC	cis-1,2-Dichloroethene	156-59-2	1.60E-01	7.00E-02	**2.3E+00**	2.44E+01	6.6E-03
Off-site	5~Off Site West	MW-41-05	11/01/06	VOC	Vinyl Chloride	75-01-4	1.50E-01	2.00E-03	**7.5E+01**	4.90E-02	**3.1E+00**
Off-site	5~Off Site West	MW-42-05	07/15/05	VOC	cis-1,2-Dichloroethene	156-59-2	3.00E-01	7.00E-02	**4.3E+00**	2.44E+01	1.2E-02
Off-site	5~Off Site West	MW-42-05	07/15/05	VOC	Vinyl Chloride	75-01-4	5.10E-02	2.00E-03	**2.6E+01**	4.90E-02	1.0E+00
Off-site	5~Off Site West	MW-42-05	07/15/05	VOC	Trichloroethene	79-01-6	4.60E-01	5.00E-03	**9.2E+01**	2.23E+00	2.1E-01
Off-site	5~Off Site West	MW-42-05	11/03/06	VOC	cis-1,2-Dichloroethene	156-59-2	2.80E-01	7.00E-02	**4.0E+00**	2.44E+01	1.1E-02
Off-site	5~Off Site West	MW-42-05	11/03/06	VOC	Vinyl Chloride	75-01-4	3.10E-02	2.00E-03	**1.6E+01**	4.90E-02	6.3E-01
Off-site	5~Off Site West	MW-42-05	11/03/06	VOC	Trichloroethene	79-01-6	2.50E-01	5.00E-03	**5.0E+01**	2.23E+00	1.1E-01
Off-site	5~Off Site West	MW-44-05	07/14/05	VOC	cis-1,2-Dichloroethene	156-59-2	4.00E-01	7.00E-02	**5.7E+00**	2.44E+01	1.6E-02
Off-site	5~Off Site West	MW-44-05	07/14/05	VOC	Vinyl Chloride	75-01-4	7.90E-03	2.00E-03	**4.0E+00**	4.90E-02	1.6E-01
Off-site	5~Off Site West	MW-44-05	07/14/05	VOC	Trichloroethene	79-01-6	8.20E-01	5.00E-03	**1.6E+02**	2.23E+00	3.7E-01
Off-site	5~Off Site West	MW-44-05	11/02/06	VOC	cis-1,2-Dichloroethene	156-59-2	4.00E-01	7.00E-02	**5.7E+00**	2.44E+01	1.6E-02
Off-site	5~Off Site West	MW-44-05	11/02/06	VOC	Vinyl Chloride	75-01-4	5.75E-03	2.00E-03	**2.9E+00**	4.90E-02	1.2E-01

Table 6-2H: Groundwater Concentrations from All RFI Data that Exceed Screening Criteria: Till-Rich Zone
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

On/Off Site	Area	Location	Sample Date	Chem Group	Chemical	CASRN	Concentration (mg/L)	Drinking Water Criteria (mg/L)	Ratio of Concentration to DW Criteria	Residential Nonpotable Criteria (mg/L)	Ratio of Concentration to Res Nonpotable Criteria
Off-site	5~Off Site West	MW-44-05	11/02/06	VOC	Trichloroethene	79-01-6	2.05E-01	5.00E-03	**4.1E+01**	2.23E+00	9.2E-02
Off-site	5~Off Site West	MW-45-05	07/15/05	VOC	Tetrachloroethene	127-18-4	7.50E-02	5.00E-03	**1.5E+01**	6.02E-01	1.2E-01
Off-site	5~Off Site West	MW-47-05	07/15/05	VOC	Tetrachloroethene	127-18-4	3.30E-02	5.00E-03	**6.6E+00**	6.02E-01	5.5E-02
Off-site	5~Off Site West	MW-47-05	07/15/05	VOC	Trichloroethene	79-01-6	9.90E-02	5.00E-03	**2.0E+01**	2.23E+00	4.4E-02
Off-site	5~Off Site West	MW-47-05	11/07/06	VOC	Tetrachloroethene	127-18-4	3.50E-02	5.00E-03	**7.0E+00**	6.02E-01	5.8E-02
Off-site	5~Off Site West	MW-47-05	11/07/06	VOC	Trichloroethene	79-01-6	5.70E-02	5.00E-03	**1.1E+01**	2.23E+00	2.6E-02
Off-site	5~Off Site West	MW-56-06	11/28/06	VOC	cis-1,2-Dichloroethene	156-59-2	2.70E-01	7.00E-02	**3.9E+00**	2.44E+01	1.1E-02
Off-site	5~Off Site West	MW-56-06	11/28/06	VOC	Trichloroethene	79-01-6	1.20E+00	5.00E-03	**2.4E+02**	2.23E+00	5.4E-01
Off-site	5~Off Site West	MW-60-07	06/06/07	VOC	cis-1,2-Dichloroethene	156-59-2	6.20E-01	7.00E-02	**8.9E+00**	2.44E+01	2.5E-02
Off-site	5~Off Site West	MW-60-07	06/06/07	VOC	Vinyl Chloride	75-01-4	1.30E-02	2.00E-03	**6.5E+00**	4.90E-02	2.7E-01
Off-site	5~Off Site West	MW-60-07	06/06/07	VOC	1,1-Dichloroethene	75-35-4	9.90E-03	7.00E-03	**1.4E+00**	8.82E+01	1.1E-04
Off-site	5~Off Site West	MW-60-07	06/06/07	VOC	Trichloroethene	79-01-6	1.50E+00	5.00E-03	**3.0E+02**	2.23E+00	6.7E-01
Off-site	5~Off Site West	MW-62-07	06/07/07	VOC	Tetrachloroethene	127-18-4	4.30E-01	5.00E-03	**8.6E+01**	6.02E-01	7.1E-01
Off-site	5~Off Site West	MW-62-07	06/07/07	VOC	cis-1,2-Dichloroethene	156-59-2	1.60E-01	7.00E-02	**2.3E+00**	2.44E+01	6.6E-03
Off-site	5~Off Site West	MW-62-07	06/07/07	VOC	Vinyl Chloride	75-01-4	1.90E-02	2.00E-03	**9.5E+00**	4.90E-02	3.9E-01
Off-site	5~Off Site West	MW-62-07	06/07/07	VOC	Trichloroethene	79-01-6	1.20E-01	5.00E-03	**2.4E+01**	2.23E+00	5.4E-02
Off-site	5~Off Site West	MW-63-07	08/17/07	VOC	Tetrachloroethene	127-18-4	5.85E-02	5.00E-03	**1.2E+01**	6.02E-01	9.7E-02
Off-site	5~Off Site West	MW-63-07	08/17/07	VOC	cis-1,2-Dichloroethene	156-59-2	4.15E-01	7.00E-02	**5.9E+00**	2.44E+01	1.7E-02
Off-site	5~Off Site West	MW-63-07	08/17/07	VOC	Trichloroethene	79-01-6	6.55E-01	5.00E-03	**1.3E+02**	2.23E+00	2.9E-01
Off-site	5~Off Site West	MW-63-07	10/17/07	VOC	Tetrachloroethene	127-18-4	4.60E-02	5.00E-03	**9.2E+00**	6.02E-01	7.6E-02
Off-site	5~Off Site West	MW-63-07	10/17/07	VOC	cis-1,2-Dichloroethene	156-59-2	3.25E-01	7.00E-02	**4.6E+00**	2.44E+01	1.3E-02
Off-site	5~Off Site West	MW-63-07	10/17/07	VOC	Vinyl Chloride	75-01-4	2.35E-02	2.00E-03	**1.2E+01**	4.90E-02	4.8E-01
Off-site	5~Off Site West	MW-63-07	10/17/07	VOC	Trichloroethene	79-01-6	5.35E-01	5.00E-03	**1.1E+02**	2.23E+00	2.4E-01

Notes:

* Non-RFI Data were collected by the City of Dayton during installation of monitoring well DAY-24 and have not been independently validated by GM.

1. Only constituents detected in each respective area are shown.

2. The drinking water criteria are based on the following hierarchy: state MCL, federal MCL, equivalent drinking water concentration limits at the lower of the criteria calculated at either the target cancer risk of 1×10^{-5} or target hazard quotient of 1.

3. The criteria for non-drinking water are the lower of the criteria at either the target cancer risk of 1×10^{-5} or target hazard quotient of 1.

4. Shaded cells represent ratios of concentration to the screening criteria greater than 1.

5. Residential nonpotable criteria were calculated as discussed in Appendix F of the RFI Report Addendum 3

Abbreviations:

Chem Group - Chemical Group

CASRN - Chemical Abstract Service Registry Number

Table 6-2l: Groundwater Concentrations from All RFI Data that Exceed Screening Criteria: Lower Aquifer
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

On/Off Site	Area	Location	Sample Date	Chem Group	Chemical	CASRN	Concentration (mg/L)	Drinking Water Criteria (mg/L)	Ratio of Concentration to DW Criteria	Residential NonPotable Criteria (mg/L)	Ratio of Concentration to Res NonPotable Criteria
On-site	1~Webster to Taylor	MW-33-04	12/08/04	VOC	cis-1,2-Dichloroethene	156-59-2	3.60E-01	7.00E-02	**5.1E+00**	2.44E+01	1.5E-02
On-site	1~Webster to Taylor	MW-33-04	12/08/04	VOC	Vinyl Chloride	75-01-4	7.80E-03	2.00E-03	**3.9E+00**	4.90E-02	1.6E-01
On-site	1~Webster to Taylor	MW-33-04	11/08/06	VOC	cis-1,2-Dichloroethene	156-59-2	3.10E-01	7.00E-02	**4.4E+00**	2.44E+01	1.3E-02
On-site	1~Webster to Taylor	MW-33-04	11/08/06	VOC	Trichloroethene	79-01-6	1.50E-02	5.00E-03	**3.0E+00**	2.23E+00	6.7E-03
On-site	1~Webster to Taylor	MW-33-04	11/08/06	VOC	Vinyl Chloride	75-01-4	8.90E-03	2.00E-03	**4.5E+00**	4.90E-02	1.8E-01
On-site	2~Taylor to Railway	MW-39-05	06/02/05	VOC	Vinyl Chloride	75-01-4	3.00E-03	2.00E-03	**1.5E+00**	4.90E-02	6.1E-02
On-site	2~Taylor to Railway	MW-39-05	09/25/06	VOC	Vinyl Chloride	75-01-4	4.10E-03	2.00E-03	**2.1E+00**	4.90E-02	8.4E-02
Off-site	5~Off Site West	GEOTHERMAL_WELL	05/27/03	VOC	Trichloroethene	79-01-6	2.20E-01	5.00E-03	**4.4E+01**	2.23E+00	9.9E-02
Off-site	5~Off Site West	GEOTHERMAL_WELL	08/24/04	VOC	cis-1,2-Dichloroethene	156-59-2	9.00E-02	7.00E-02	**1.3E+00**	2.44E+01	3.7E-03
Off-site	5~Off Site West	GEOTHERMAL_WELL	08/24/04	VOC	Trichloroethene	79-01-6	3.20E-01	5.00E-03	**6.4E+01**	2.23E+00	1.4E-01
Off-site	5~Off Site West	GEOTHERMAL_WELL	06/27/06	VOC	Trichloroethene	79-01-6	1.55E-02	5.00E-03	**3.1E+00**	2.23E+00	7.0E-03
Off-site	5~Off Site West	GEOTHERMAL_WELL	07/12/06	VOC	cis-1,2-Dichloroethene	156-59-2	9.00E-02	7.00E-02	**1.3E+00**	2.44E+01	3.7E-03
Off-site	5~Off Site West	GEOTHERMAL_WELL	07/12/06	VOC	Trichloroethene	79-01-6	3.30E-01	5.00E-03	**6.6E+01**	2.23E+00	1.5E-01
Off-site	5~Off Site West	GEOTHERMAL_WELL	11/27/06	VOC	cis-1,2-Dichloroethene	156-59-2	8.00E-02	7.00E-02	**1.1E+00**	2.44E+01	3.3E-03
Off-site	5~Off Site West	GEOTHERMAL_WELL	11/27/06	VOC	Trichloroethene	79-01-6	3.30E-01	5.00E-03	**6.6E+01**	2.23E+00	1.5E-01
Off-site	5~Off Site West	GEOTHERMAL_WELL	08/27/07	VOC	Trichloroethene	79-01-6	2.40E-01	5.00E-03	**4.8E+01**	2.23E+00	1.1E-01
Off-site	5~Off Site West	MW-17-04	02/04/04	VOC	Vinyl Chloride	75-01-4	4.10E-03	2.00E-03	**2.1E+00**	4.90E-02	8.4E-02
Off-site	5~Off Site West	MW-17-04	03/22/04	VOC	Vinyl Chloride	75-01-4	4.60E-03	2.00E-03	**2.3E+00**	4.90E-02	9.4E-02
Off-site	5~Off Site West	MW-17-04	09/22/06	VOC	Vinyl Chloride	75-01-4	8.60E-03	2.00E-03	**4.3E+00**	4.90E-02	1.8E-01
Off-site	5~Off Site West	MW-18-04	03/03/04	VOC	cis-1,2-Dichloroethene	156-59-2	1.10E-01	7.00E-02	**1.6E+00**	2.44E+01	4.5E-03
Off-site	5~Off Site West	MW-18-04	03/03/04	VOC	Vinyl Chloride	75-01-4	8.00E-03	2.00E-03	**4.0E+00**	4.90E-02	1.6E-01
Off-site	5~Off Site West	MW-18-04	03/23/04	VOC	cis-1,2-Dichloroethene	156-59-2	1.70E-01	7.00E-02	**2.4E+00**	2.44E+01	7.0E-03
Off-site	5~Off Site West	MW-18-04	03/23/04	VOC	Vinyl Chloride	75-01-4	1.30E-02	2.00E-03	**6.5E+00**	4.90E-02	2.7E-01
Off-site	5~Off Site West	MW-18-04	09/19/06	VOC	1,1-Dichloroethene	75-35-4	9.90E-03	7.00E-03	**1.4E+00**	8.82E+01	1.1E-04
Off-site	5~Off Site West	MW-18-04	09/19/06	VOC	cis-1,2-Dichloroethene	156-59-2	1.80E-01	7.00E-02	**2.6E+00**	2.44E+01	7.4E-03
Off-site	5~Off Site West	MW-18-04	09/19/06	VOC	Vinyl Chloride	75-01-4	9.10E-03	2.00E-03	**4.6E+00**	4.90E-02	1.9E-01
Off-site	5~Off Site West	MW-43-05	07/14/05	VOC	Vinyl Chloride	75-01-4	6.90E-03	2.00E-03	**3.5E+00**	4.90E-02	1.4E-01
Off-site	5~Off Site West	MW-43-05	09/25/06	VOC	cis-1,2-Dichloroethene	156-59-2	1.70E-01	7.00E-02	**2.4E+00**	2.44E+01	7.0E-03
Off-site	5~Off Site West	MW-43-05	09/25/06	VOC	Trichloroethene	79-01-6	2.20E-02	5.00E-03	**4.4E+00**	2.23E+00	9.9E-03
Off-site	5~Off Site West	MW-43-05	09/25/06	VOC	Vinyl Chloride	75-01-4	5.60E-03	2.00E-03	**2.8E+00**	4.90E-02	1.1E-01
Off-site	5~Off Site West	MW-53A-06	11/28/06	VOC	Trichloroethene	79-01-6	1.10E-02	5.00E-03	**2.2E+00**	2.23E+00	4.9E-03
Off-site	5~Off Site West	MW-57-07	06/07/07	VOC	1,1-Dichloroethene	75-35-4	1.20E-02	7.00E-03	**1.7E+00**	8.82E+01	1.4E-04
Off-site	5~Off Site West	MW-57-07	06/07/07	VOC	cis-1,2-Dichloroethene	156-59-2	7.70E-01	7.00E-02	**1.1E+01**	2.44E+01	3.2E-02
Off-site	5~Off Site West	MW-57-07	06/07/07	VOC	Trichloroethene	79-01-6	9.00E-01	5.00E-03	**1.8E+02**	2.23E+00	4.0E-01
Off-site	5~Off Site West	MW-58-07	06/07/07	VOC	cis-1,2-Dichloroethene	156-59-2	5.85E-01	7.00E-02	**8.4E+00**	2.44E+01	2.4E-02
Off-site	5~Off Site West	MW-58-07	06/07/07	VOC	Trichloroethene	79-01-6	7.75E-01	5.00E-03	**1.6E+02**	2.23E+00	3.5E-01

Notes:

1. Only constituents detected in each respective area are shown.
2. The drinking water criteria are based on the following hierarchy: state MCL, federal MCL, equivalent drinking water concentration limits at the lower of the criteria calculated at either the target cancer risk of 1×10^{-5} or target hazard quotient of 1.
3. The criteria for non-drinking water are the lower of the criteria at either the target cancer risk of 1×10^{-5} or target hazard quotient of 1.
4. Shaded cells represent ratios of concentration to the screening criteria greater than 1.
5. Residential nonpotable criteria were calculated as discussed in Appendix F of the RFI Report Addendum 3.

Abbreviations:

Chem Group - Chemical Group

CASRN - Chemical Abstract Service Registry Number

Table 6.3A: Soil Gas Sampling Results Summary
Former GM Delphi Harrison Thermal Systems Facility, Dayton, Ohio

Chemical	CASRN	Soil Gas Sample Statistics				Comparison to Semi-Site-Specfic SGSLs			
		Analyzed	Detected	Min Detected Concentration (mg/m^3)	Max Detected Concentration (mg/m^3)	Residential SGSL (mg/m^3)	Ratio of Max Conc to Res SGSL	Industrial SGSL (mg/m^3)	Ratio of Max Conc to Ind SGSL
Benzene	71-43-2	9	1	1.8E-03	1.8E-03	1.6E+00	1.1E-03	2.2E+01	8.1E-05
2-Butanone	78-93-3	9	6	1.0E-03	4.1E-02	2.6E+03	1.6E-05	3.0E+04	1.4E-06
Carbon Disulfide	75-15-0	9	1	1.6E-02	1.6E-02	3.7E+02	4.4E-05	4.2E+03	3.8E-06
Chloroform	67-66-3	9	3	4.0E-03	2.4E-02	5.3E-01	4.5E-02	7.3E+00	3.3E-03
Cyclohexane	110-82-7	9	1	5.8E-02	5.8E-02	3.1E+03	1.9E-05	3.6E+04	1.6E-06
Dichlorodifluoromethane	75-71-8	9	7	3.5E-02	5.4E-01	1.0E+02	5.2E-03	1.2E+03	4.5E-04
cis-1,2-Dichloroethene	156-59-2	9	2	2.8E-02	9.9E-02	1.8E+01	5.4E-03	2.1E+02	4.7E-04
trans-1,2-Dichloroethene	156-60-5	9	2	3.0E-03	4.0E-03	3.1E+01	1.3E-04	3.6E+02	1.1E-05
n-Heptane	142-82-5	9	4	3.0E-03	8.0E-03				
n-Hexane	110-54-3	9	1	2.5E-02	2.5E-02	3.7E+02	6.8E-05	4.2E+03	5.9E-06
Propylene	115-07-1	9	1	3.6E-02	3.6E-02				
Tetrachloroethene	127-18-4	9	5	5.0E-03	3.0E+01	4.0E+00	**7.5E+00**	5.5E+01	5.5E-01
Toluene	108-88-3	9	2	8.3E-02	1.3E-01	2.6E+03	5.0E-05	3.0E+04	4.3E-06
1,1,1-Trichloroethane	71-55-6	9	3	4.0E-03	3.3E-02	2.6E+03	1.3E-05	3.0E+04	1.1E-06
Trichloroethene	79-01-6	9	4	2.7E-02	1.8E+00	7.2E+00	2.5E-01	9.9E+01	1.8E-02
Trichlorofluoromethane	75-69-4	9	1	5.0E-03	5.0E-03	3.7E+02	1.4E-05	4.2E+03	1.2E-06
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	9	2	1.5E-02	3.1E-02	1.6E+04	2.0E-06	1.8E+05	1.7E-07
Xylenes (total)	1330-20-7	9	3	4.0E-03	6.0E-03	5.2E+01	1.2E-04	6.0E+02	1.0E-05

Notes:

Only detected constituents are shown.

Soil gas samples were collected on 2/28/2008 at a depth interval of 6.5 to 8 feet below ground surface.

The soil vapor attenuation coefficient (alpha value) used to calculate the Residential SGSLs is the most conservative value on Figure 3a of USEPA's 2002 draft vapor intrusion guidance.

The soil vapor attenuation coefficient (alpha value) used to calculate the Industrial SGSLs is based on the building type and characteristics used in the RFI Baseline Risk Assessment (CRA 2006).

Ratios to SGSL greater than 1 are shaded in bold.

SGSLs were calculated by ENVIRON as discussed in Appendix F of the RFI Report Addendum 3.

Acronym:

SGSL = soil gas screening level at the lower of either a risk level of 1×10^{-5} or an HQ of 1.

Table 6.3B: Soil Gas Concentrations That Exceed Screening Criteria
Former GM Delphi Harrison Thermal Systems Facility, Dayton, Ohio

Sample Description and Result							Comparison to Semi-Site-Specfic SGSLs			
Location	Sample Name	Sample Date	Chem Group	Chemical	CASRN	Soil Gas Conc (mg/m^3)	Residential SGSL (mg/m^3)	Ratio of Conc to Res SGSL	Industrial SGSL (mg/m^3)	Ratio of Conc to Ind SGSL
GP-08-08	A-12638-022908-JC-007u	2/29/2008	VOC	Tetrachloroethene	127-18-4	4.30E+00	4.0E+00	**1.1E+00**	5.5E+01	7.8E-02
GP-09-08	A-12638-022808-JC-005u	2/28/2008	VOC	Tetrachloroethene	127-18-4	3.00E+01	4.0E+00	**7.5E+00**	5.5E+01	5.5E-01

Notes:

Soil gas samples were collected on 2/28/2008 at a depth interval of 6.5 to 8 feet below ground surface.

The soil vapor attenuation coefficient (alpha value) used to calculate the Residential SGSLs is the most conservative value on Figure 3a of USEPA's 2002 draft vapor intrusion guidance.

The soil vapor attenuation coefficient (alpha value) used to calculate the Industrial SGSLs is based on the building type and characteristics used in the RFI Baseline Risk Assessment (CRA 2006).

Ratios to SGSL greater than 1 are shaded in bold.

SGSLs were calculated by ENVIRON as discussed in Appendix F of the RFI Report Addendum 3.

Acronym:

SGSL = soil gas screening level at the lower of either HQ of 1 or 1E-5 risk.

Table 6.4: High-End Exposure Factors
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

Exposure Factors		Construction Worker		Maintenance Worker		Routine Worker		Recreational Visitor				Off-Site Resident			
								Age 1-6		Age 7-31		Age 1-6		Age 7-31	
Incidential Ingestion of Soil															
Ingestion Rate (mg/d)	IR	200	d	100	d	50	b								
Conversion Factor (kg/mg)	CF	1E-06		1E-06		1E-06									
Fraction Contacted (unitless)	FC	1.0	d	1.0	d	1.0	d								
Exposure Frequency (d/yr)	EF	250	b	30	d	250	b								
Exposure Duration (yr)	ED	1	d	10	d	25	b								
Body Weight (kg-bw)	BW	70	a	70	a	70	a								
Averaging Time, carc (d)	AT_c	25,550	a	25,550	a	25,550	a								
Averaging Time, noncarc (d)	AT_{nc}	365	a	3,650	a	9,125	a								
Dermal Contact with Soil															
Adherence Factor (mg/cm^2)	AD	0.2	c	0.2	c	0.2	c								
Skin Surface Area (cm^2/d)	SA	3,300	c	3,300	c	3,300	c								
Conversion Factor (kg/mg)	CF	1E-06		1E-06		1E-06									
Fraction Contacted (unitless)	FC	1.0	d	1.0	d	1.0	d								
Exposure Frequency (d/yr)	EF	250	b	30	d	250	b								
Exposure Duration (yr)	ED	1	d	10	d	25	b								
Body Weight (kg-bw)	BW	70	a	70	a	70	a								
Averaging Time, carc (d)	AT_c	25,550	a	25,550	a	25,550	a								
Averaging Time, noncarc (d)	AT_{nc}	365	a	3,650	a	9,125	a								
Ambient Air Inhalation of Vapor and Particulates from Soil															
Exposure Time (h exposed/h in a day)	ET	1.00	d	1.00		1.00									
Exposure Frequency (d/yr)	EF	250	b	30	d	250	b								
Exposure Duration (yr)	ED	1	d	10	d	25	b								
Averaging Time, carc (d)	AT_c	25,550	a	25,550	a	25,550	a								
Averaging Time, noncarc (d)	AT_{nc}	365	a	3,650	a	9,125	a								
Incidential Ingestion of Storm Sewer Sediment															
Ingestion Rate (mg/d)	IR			200	d										
Conversion Factor (kg/mg)	CF			1E-06											
Fraction Contacted (unitless)	FC			1.0	d										
Exposure Frequency (d/yr)	EF			5	d										
Exposure Duration (yr)	ED			10	d										
Body Weight (kg-bw)	BW			70	a										
Averaging Time, carc (d)	AT_c			25,550	a										
Averaging Time, noncarc (d)	AT_{nc}			3,650	a										
Dermal Contact with Storm Sewer Sediment															
Adherence Factor (mg/cm^2)	AD			0.2	c										
Skin Surface Area (cm^2/d)	SA			3,300	c										
Conversion Factor (kg/mg)	CF			1E-06											
Fraction Contacted (unitless)	FC			1.0	d										
Exposure Frequency (d/yr)	EF			5	d										
Exposure Duration (yr)	ED			10	d										
Body Weight (kg-bw)	BW			70	a										
Averaging Time, carc (d)	AT_c			25,550	a										
Averaging Time, noncarc (d)	AT_{nc}			3,650	a										
Incidental Ingestion of Groundwater and/or Storm Sewer Water															
Drinking Rate (L/hr per event)	DR	0.005	f	0.005	d			0.005	d	0.005	d	0.05	a	0.05	a
Fraction Contacted (unitless)	FC	1.0	d	1.0	d			1.0	d	1.0	d	1.0	d	1.0	d
Exposure Time (h)	ET	2	f	2	d			1	d	1	d	2	d	2	d
Exposure Frequency (d/yr)	EF	5	f	5	d			43	d	43	d	48	d	48	d
Exposure Duration (yr)	ED	10	f	10	d			6	b	24	b	6	b	24	b
Body Weight (kg-bw)	BW	70	f	70	a			15	a	70	a	15	b	70	b
Averaging Time, canc (d)	AT_c	25,550	f	25,550	a			25,550	a	25,550	a	25,550	a	25,550	a
Averaging Time, noncanc (d)	AT_{nc}	3,650	f	3,650	a			2,190	a	8,760	a	2,190	a	8,760	a
Dermal Contact with Groundwater, Storm Sewer Water and/or LNAPL															
Event Time (hr)	t	2	f	2	d			1	d	1	d	2	d	2	d
Skin Surface Area (cm^2)	SA	3,300	f	3,300	c			6,880	e	18,150	e	6,880	e	18,150	e
Fraction Contacted (unitless)	FC	1.0	d	1.0	d			1.0	d	1.0	d	1.0	d	1.0	d
Events per Day (event/d)	EV	1	f	1	d			1	d	1	d	1	d	1	d
Exposure Frequency (d/yr)	EF	5	f	5	d			43	d	43	d	48	d	48	d
Exposure Duration (yr)	ED	10	f	10	d			6	b	24	b	6	b	24	b
Body Weight (kg)	BW	70	f	70	a			15	a	70	a	15	a	70	a
Averaging Time, cancer (days)	AT_c	25,550	f	25,550	a			25,550	a	25,550	a	25,550	a	25,550	a
Averaging Time, noncancer (days)	AT_{nc}	3,650	f	3,650	a			2,190	a	8,760	a	2,190	a	8,760	a

Table 6.4: High-End Exposure Factors
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

Exposure Factors		Construction Worker		Maintenance Worker		Routine Worker		Recreational Visitor Age 1-6		Recreational Visitor Age 7-31		Off-Site Resident Age 1-6		Off-Site Resident Age 7-31	
Ambient Air Inhalation of Vapor from Groundwater, Storm Sewer Water and/or LNAPL															
Exposure Time (h exposed/h in a day)	ET	1.00	f	1.00	d			0.13	d	0.13	d	1.00	d	1.00	d
Exposure Frequency (d/yr)	EF	5	f	5	d			43	d	43	d	350	b	350	b
Exposure Duration (yr)	ED	10	f	10	d			6	b	24	b	6	b	24	b
Averaging Time, carc (d)	AT_c	25,550	f	25,550	a			25,550	a	25,550	a	25,550	a	25,550	a
Averaging Time, noncarc (d)	AT_{nc}	3,650	f	3,650	a			2,190	a	8,760	a	2,190	a	8,760	a
Indoor Air Inhalation from Vapor Intrusion															
Exposure Time (h exposed/h in a day)	ET					1.00	d					1.00	d	1.00	d
Exposure Frequency (d/yr)	EF					250	b					350	b	350	b
Exposure Duration (yr)	ED					25	b					6	b	24	b
Averaging Time, carc (d)	AT_c					25,550	a					25,550	a	25,550	a
Averaging Time, noncarc (d)	AT_{nc}					9,125	a					2,190	a	8,760	a
Drinking Water Consumption															
Drinking Rate (L-water/day)	DR											1	b	2	b
Fraction Contacted (unitless)	FC											1.0	d	1.0	d
Exposure Frequency (d/yr)	EF											350	b	350	b
Exposure Duration (yr)	ED											6	b	24	b
Body Weight (kg-bw)	BW											15	b	70	b
Averaging Time, carc (d)	AT_c											25,550	a	25,550	a
Averaging Time, noncarc (d)	AT_{nc}											2,190	a	8,760	a

Notes:

a - Risk Assessment Guidance for Superfund, Volume 1: Human Health Evaluation Manual (Part A) (USEPA 1989)

b - Conservatively based on Human Health Evaluation Manual, Supplemental Guidance: "Standard default exposure factors." OSWER Directive 9285.6-03 (USEPA 1991)

c - Risk Assessment Guidance for Superfund, Volume 1: Human Health Evaluation Manual: Part E, Supplemental Guidance for Dermal Risk Assessment (USEPA 2004)

d - Based on professional judgment and site-specific considerations as follows:

1. Incidental soil ingestion rate is based on recent USEPA studies on soil adherence to hands.
2. Fraction contacted is conservatively assumed to be 1.0.
3. Incidental water ingestion rate is conservatively base on 10% of the rate USEPA (1989) recommends for ingestion while swimming.
4. The exposure time and frequency for maintenance worker exposure to soil and groundwater are based on anticipated excavation time for minor underground repairs.
5. The exposure time and frequency for maintenance worker exposure to storm sewer water and sediment are based on anticipated time for emergency underground repairs.
6. Exposure duration is assumed to be 1 year for construction workers and 10 years for maintenance workers.
7. Event time for maintenance workers is assumed to be 2 hours/event, with 1 event occurring in a day.
8. Exposure frequency for recreational visitors is based on the number of months the average day-time high temperature exceeds 70 °F (5 months per year) and the assumption of 2 recreational visits during each week in that time period.
9. Event time for recreational visitors is assumed to be 1 hours/event, with 1 event occurring in a day.
10. Exposure frequency for off-site residents is based on the number of months the average temperature in Dayton exceeds 70 F (3 months) and the assumption of four events/week in that time period.
12. Exposure time for off-site residents in a backyard "kiddie pool" is 2 hours/event.
13. Event time for off-site residents is assumed to be 1 hours/event, with 1 event occurring in a day.

e - Exposure Factors Handbook (EPA 1997)

f - LNAPL and groundwater exposure factors for maintenance workers were also used to evaluate the construction workers based on the expectation that construction workers would only be exposed to LNAPL and groundwater for a short time, as discussed in Section 6 of RFI Report Addendum 3.

Table 6.5

SCENARIOS FOR POTENTIAL HUMAN EXPOSURE
FORMER GM HARRISON THERMAL SYSTEMS FACILITY, DAYTON, OHIO

Exposed Population	Exposure Medium	Exposure Route	Possible Currently?	Possible in Future?	Type of Analysis	Comments
On-Site						
Routine Workers	surface soil	incidental ingestion of and dermal contact with surface soil	No	Yes	Quantitative	The Site was a former manufacturing facility that is not currently in use but is being redeveloped by the City of Dayton for commercial reuse. After redevelopment, potential exposure of routine workers to soil is possible in unpaved areas. Potential indoor exposure is also possible when new buildings are occupied after redevelopment, if soil-derived vapors migrate through building foundations.
		inhalation of soil-derived vapors and airborne particulates (wind erosion) in ambient air	No	Yes		
		inhalation of soil-derived vapors that migrate through building foundations into indoor air	No	Yes	Quantitative	
	subsurface soil	incidental ingestion of and dermal contact with subsurface soil	No	No	Not Applicable	
		inhalation of soil-derived vapors in ambient air	No	Yes	Quantitative	
		inhalation of soil-derived vapors that migrate through building foundations into indoor air	No	Yes	Quantitative	
	groundwater	ingestion of and dermal contact with groundwater and inhalation of groundwater-derived vapors during use of groundwater for drinking water	No	No	Not Applicable	Groundwater is not used at the Site for drinking water or other purposes. Potable water is obtained from the City of Dayton municipal system.
		incidental ingestion of and dermal contact with groundwater and inhalation of groundwater-derived vapors during use of groundwater for purposes other than drinking water	No	No	Not Applicable	
		inhalation of groundwater-derived vapors that migrate through building foundations into indoor air	No	Yes	Quantitative	Potential indoor exposure is possible when new buildings are occupied after redevelopment, if groundwater-derived vapors migrate through building foundations.
	LNAPL	inhalation of LNAPL-derived vapors that migrate through building foundations into indoor air	No	Yes	Quantitative	LNAPL is in the subsurface at the Chip Handling and Hydromation Pit areas, but the City's redevelopment plan does not include new buildings in these areas.
	concrete floors and walls	dermal contact with concrete floor and wall surfaces	No	No	Not Applicable	All but one of the remaining on-site buildings (Building 5) will be demolished as part of the City of Dayton's redevelopment plans. All building surfaces characterized by GM in the RFI will be removed or made permanently inaccessible during redevelopment of the Site.
Construction Workers	surface and subsurface soil	incidental ingestion of and dermal contact with soil; inhalation of soil-derived vapors and airborne particulate in work-space air	Yes	Yes	Quantitative	Exposure of construction workers to soil is possible where soil is exposed during construction-related site preparation activities in support of redevelopment. The first phase of site preparation for redevelopment is underway between Webster and Taylor Streets, but was suspended throughout the first half of 2008; site preparation may resume as soon as during the second half of 2008 with construction of a utility corridor in the southern portion. The schedule for site preparation in the second phase between Taylor Street and the railway is being developed; site preparation may begin between Taylor Street and Meigs Street as soon as during the second half of 2008 with construction of a utility corridor in the southern portion south of Building 5.
	groundwater	incidental ingestion of and dermal contact with exposed groundwater; inhalation of vapors from exposed groundwater	No	Yes	Inferred from Maintenance Workers	Potential exposure to shallow groundwater is possible in excavations that extend into the water table. No such excavations are expected during the first two phases of redevelopment between Webster Street and the railway, according to the current redevelopment plan provided to GM by the City of Dayton.
	LNAPL	incidental ingestion of and dermal contact with exposed LNAPL; inhalation of vapors from exposed LNAPL	No	Yes	Inferred from Maintenance Workers	The Chip Area and Hydromation Pit LNAPL plumes are in parts of the Site not currently under redevelopment. But potential exposure to LNAPL is possible if future excavations extend into the water table at these areas.
	concrete floors and walls	dermal contact with concrete floor and wall surfaces	No	Yes	Quantitative	No current redevelopment activities occur in an area that is located under concrete floors that were characterized in the RFI. The potential for exposure of construction workers to concrete surfaces during redevelopment is limited to incidental contact during future slab removal activities.
	storm water and sediment	incidental ingestion of and dermal contact with water and sediment in storm sewers; inhalation of vapors from exposed storm water	No	Yes	Quantitative	Potential exposure is possible if redevelopment activities between Taylor and Keowee Streets involve the storm sewer system.

Table 6.5

SCENARIOS FOR POTENTIAL HUMAN EXPOSURE
FORMER GM HARRISON THERMAL SYSTEMS FACILITY, DAYTON, OHIO

Exposed Population	Exposure Medium	Exposure Route	Possible Currently?	Possible in Future?	Type of Analysis	Comments
On-Site (Continued)						
Maintenance Workers	surface and subsurface soil	incidental ingestion of and dermal contact with soil; inhalation of soil-derived vapors and airborne particulate in work-space air	Yes	Yes	Quantitative	Exposure of construction workers to soil is possible where soil is exposed during construction-related utility maintenance activities.
	groundwater	incidental ingestion of and dermal contact with exposed groundwater; inhalation of vapors from exposed groundwater	Yes	Yes	Quantitative	Potential exposure to shallow groundwater is possible in excavations that extend into the water table.
	LNAPL	incidental ingestion of and dermal contact with exposed LNAPL; inhalation of vapors from exposed LNAPL	Yes	Yes	Quantitative	Potential exposure is possible if excavations extend to the water table in the areas of the Chip Area and Hydromation Pit LNAPL plumes.
	concrete floors and walls	dermal contact with concrete floor and wall surfaces	No	Yes	Quantitative	No currently active utilities are located under concrete floors that were characterized in the RFI. The potential for future exposure of maintenance workers to PCBs in concrete is limited to incidental contact during slab removal activities that are necessary to access utilities for maintenance.
	storm water and sediment	incidental ingestion of and dermal contact with water and sediment in storm sewers; inhalation of vapors from exposed storm water	Yes	Yes	Quantitative	Potential exposure is possible during maintenance that requires entry into the storm sewers that still service the Site.
Trespassers	surface soil	incidental ingestion of and dermal contact with surface soil	Yes	Yes	Inferred from Routine Workers	Potential exposure is possible in areas where surface soil is exposed and not enclosed by fencing.
		inhalation of soil-derived vapors and airborne particulates (wind erosion) in ambient air	Yes	Yes		
	subsurface soil	incidental ingestion of and dermal contact with subsurface soil	No	No	Not Applicable	
		inhalation of soil-derived vapors in ambient air	No	Yes	Inferred from Routine Workers	
	concrete floors and walls	dermal contact with concrete floor and wall surfaces	Yes	No	Inferred from Routine Workers	Potential exposure is possible in areas where concrete is exposed and not enclosed by fencing. All building surfaces characterized by GM in the RFI will be removed or made permanently inaccessible during redevelopment of the Site.
Recreational Visitors	surface soil	incidental ingestion of and dermal contact with surface soil	No	Yes	Inferred from Routine Workers	The Site is not currently open to visitors. After redevelopment, potential exposure is possible in areas where surface soil is exposed.
		inhalation of soil-derived vapors and airborne particulates (wind erosion) in ambient air	No	Yes		
	subsurface soil	incidental ingestion of and dermal contact with subsurface soil	No	No	Not Applicable	
		inhalation of soil-derived vapors in ambient air	No	Yes	Inferred from Routine Workers	
	concrete floors and walls	dermal contact with concrete floor and wall surfaces	No	No	Not Applicable	The Site is not currently open to visitors. All building surfaces characterized by GM in the RFI will be removed or made permanently inaccessible during redevelopment of the Site.
Off-Site						
Routine Workers	surface and subsurface soil	inhalation of soil-derived vapors and airborne particulates in ambient air	Yes	Yes	Inferred from On-Site Routine Workers	Airborne exposures off-site are possible via windblown dust from exposed soil or excavation activities at the Site.
	groundwater	ingestion of and dermal contact with groundwater and inhalation of groundwater-derived vapors during use of groundwater for drinking water	No	Yes	Quantitative	Groundwater is not currently used for drinking water within at least a half mile of the Site, and potable water is available from the City of Dayton municipal system. However, groundwater in the lower aquifer is used in the region as a potable and nonpotable water supply.
		incidental ingestion of and dermal contact with groundwater and inhalation of groundwater-derived vapors during use of groundwater for purposes other than drinking water	No	Yes	Quantitative	
		inhalation of groundwater-derived vapors that migrate through building foundations into indoor air	Yes	Yes	Quantitative	

Table 6.5

SCENARIOS FOR POTENTIAL HUMAN EXPOSURE
FORMER GM HARRISON THERMAL SYSTEMS FACILITY, DAYTON, OHIO

Exposed Population	Exposure Medium	Exposure Route	Possible Currently?	Possible in Future?	Type of Analysis	Comments
Off-Site (Continued)						
Maintenance Workers	groundwater	incidental ingestion of and dermal contact with exposed groundwater; inhalation of vapors from exposed groundwater	Yes	Yes	Quantitative	Potential exposure to shallow groundwater is possible if excavations extend into the water table.
					Inferred from Recreational Visitors	Potential exposure to lower aquifer groundwater is possible during Geothermal Well maintenance and Stadium Well irrigation.
	LNAPL	incidental ingestion of and dermal contact with exposed LNAPL; inhalation of vapors from exposed LNAPL	Yes	Yes	Quantitative	Potential exposure is possible if excavations extend to the water table in the off-site area of the Chip Area LNAPL plume.
Recreational Visitors	groundwater	incidental ingestion of and dermal contact with groundwater, and inhalation of groundwater-derived vapors in ambient air	Yes	Yes	Quantitative	Potential exposure to lower aquifer groundwater is possible during recreation at the Fountain Wells.
	surface water	incidental ingestion, dermal contact, and inhalation of vapors	Yes	Yes	Quantitative	Storm sewers and upper aquifer groundwater from the Site discharge into the Mad River. The OEPA-designated uses of the Mad River at the Site are for recreation and agricultural and industrial water supply.
Residents	groundwater	ingestion of and dermal contact with groundwater and inhalation of groundwater-derived vapors during use of groundwater for drinking water	No	Yes	Quantitative	Groundwater is not currently used for drinking water within at least a half mile of the Site, and potable water is available from the City of Dayton municipal system. However, groundwater in the lower aquifer is used in the region as a potable and nonpotable water supply.
		incidental ingestion of and dermal contact with groundwater and inhalation of groundwater-derived vapors during use of groundwater for purposes other than drinking water	No	Yes	Quantitative	
		inhalation of groundwater-derived vapors that migrate through building foundations into indoor air	No	Yes	Quantitative	The off-site areas within approximately a half-mile of the Site consist of commercial/industrial land use. Potential residential land use was evaluated in the off-site area between Webster Street, Pitt Street, and the Mad River.

Table 6.6A: Upper-bound Soil Cumulative Cancer Risk and Noncancer HI Estimates for RFI Sub-Areas Based on All RFI Data
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

			Routine Workers[1]		Vapor Intrusion[2]		Construction Workers[2]		Maintenance Workers[2]	
On/ Off-Site	Area	Location	Risk	HI	Risk	HI	Risk	HI	Risk	HI
On-site	1~Webster to Taylor	BH-178-04	7E-06	4E-02	2E-05	5E-01	5E-06	**2E+01**	3E-06	1E+00
On-site	1~Webster to Taylor	BH-179-04	7E-06	7E-02	5E-06	1E-01	7E-07	3E-01	4E-07	7E-03
On-site	1~Webster to Taylor	BH-184-04	1E-05	4E-02	2E-05	1E-01	3E-06	6E-01	1E-06	1E-01
On-site	1~Webster to Taylor	MW-15-03	4E-07	5E-03	4E-07	3E-03	1E-07	1E-02	1E-07	1E-03
On-site	1~Webster to Taylor	MW-22-04	6E-05	3E-01	**2E-04**	9E-01	1E-05	8E-01	2E-06	3E-02
On-site	1~Webster to Taylor	MW-5-03[4]	2E-05	8E-02	5E-05	1E+00	8E-06	**2E+01**	3E-06	1E+00
On-site	1~Webster to Taylor	OS-2-03	4E-05	1E-01	2E-05	1E-01	6E-06	3E-01	3E-06	3E-02
On-site	1~Webster to Taylor	OS-3-03	1E-05	1E-01	1E-05	9E-02	1E-06	4E-01	6E-07	1E-02
On-site	1~Webster to Taylor	OS-4-03	3E-05	2E-01	7E-05	3E-01	7E-06	6E-01	2E-06	4E-02
On-site	1~Webster to Taylor	OS-5-03	2E-05	1E-01	4E-05	2E-01	3E-06	3E-01	8E-07	2E-02
On-site	1~Webster to Taylor	OS-6-03	1E-06	2E-02	8E-06	7E-02	4E-07	9E-02	9E-08	4E-03
On-site	1~Webster to Taylor	OS-7-03	7E-07	2E-02	5E-06	5E-02	3E-07	5E-02	5E-08	2E-03
On-site	1~Webster to Taylor	SB-100-03	4E-05	2E-01	1E-04	4E-01	1E-05	1E+00	2E-06	1E-01
On-site	1~Webster to Taylor	SB-10-02	5E-06	9E-02	8E-05	4E-01	5E-06	6E-01	1E-06	2E-02
On-site	1~Webster to Taylor	SB-101-03	7E-05	4E-01	**2E-04**	1E+00	1E-05	1E+00	3E-06	6E-02
On-site	1~Webster to Taylor	SB-1-02	5E-07	1E-02	5E-07	4E-03	6E-08	1E-02	3E-08	2E-03
On-site	1~Webster to Taylor	SB-102-03	8E-06	6E-02	9E-06	5E-02	7E-06	**3E+00**	4E-06	5E-01
On-site	1~Webster to Taylor	SB-105-04	1E-06	2E-02	4E-08	1E-02	9E-08	8E-02	7E-08	2E-03
On-site	1~Webster to Taylor	SB-106-04	2E-06	2E-02	4E-08	1E-02	2E-07	8E-02	1E-07	2E-03
On-site	1~Webster to Taylor	SB-107-04	3E-06	2E-02	4E-08	1E-02	2E-07	8E-02	2E-07	2E-03
On-site	1~Webster to Taylor	SB-108-04	1E-05	7E-02	5E-05	3E-01	3E-06	3E-01	7E-07	1E-02
On-site	1~Webster to Taylor	SB-109-04	1E-05	9E-02	4E-05	1E-01	4E-05	**2E+01**	2E-05	**3E+00**
on-site	1~Webster to Taylor	SB-110-04	4E-05	8E-02	7E-05	**2E+00**	1E-05	**2E+00**	5E-06	3E-01
On-site	1~Webster to Taylor	SB-11-02	3E-06	2E-02	1E-05	4E-02	6E-06	**2E+00**	3E-06	4E-01
On-site	1~Webster to Taylor	SB-111-04	3E-06	3E-03	3E-07	1E-02	7E-07	1E-01	5E-07	4E-03
On-site	1~Webster to Taylor	SB-112-04	2E-07	4E-03	5E-07	1E-02	4E-07	8E-02	3E-07	2E-03
On-site	1~Webster to Taylor	SB-113-04	4E-07	2E-03	3E-07	3E-03	5E-08	5E-03	3E-08	3E-04
On-site	1~Webster to Taylor	SB-114-04	3E-06	5E-02	3E-05	2E-01	2E-06	2E-01	5E-07	9E-03
on-site	1~Webster to Taylor	SB-115-04	7E-05	**2E+00**	1E-04	1E+00	1E-05	**2E+00**	4E-06	3E-01
On-site	1~Webster to Taylor	SB-116-04	4E-05	1E-01	8E-06	2E-01	4E-06	8E-01	3E-06	8E-02
On-site	1~Webster to Taylor	SB-117-04	**7E-04**	**2E+00**	**2E-03**	**5E+00**	1E-04	**9E+00**	2E-05	2E-01
On-site	1~Webster to Taylor	SB-12-02	4E-06	5E-02	1E-05	1E-01	7E-07	2E-01	2E-07	4E-03
On-site	1~Webster to Taylor	SB-122-04	2E-06	3E-02	1E-05	8E-02	9E-07	2E-01	4E-07	6E-03
On-site	1~Webster to Taylor	SB-123-04	2E-05	7E-01	2E-05	1E-01	3E-06	8E-01	1E-06	1E-01
On-site	1~Webster to Taylor	SB-124-04	1E-07	2E-03	1E-05	1E-01	7E-07	1E-01	1E-07	5E-03
On-site	1~Webster to Taylor	SB-125-04	1E-05	9E-02	2E-05	1E-01	1E-06	4E-01	5E-07	1E-02
On-site	1~Webster to Taylor	SB-126-04	3E-07	4E-03	1E-05	9E-02	2E-05	**3E+00**	2E-05	6E-01
On-site	1~Webster to Taylor	SB-127-04	1E-06	2E-02	4E-07	1E-02	1E-05	1E+00	2E-05	2E-01
On-site	1~Webster to Taylor	SB-128-04	4E-05	2E-01	1E-04	5E-01	9E-06	7E-01	2E-06	2E-02
On-site	1~Webster to Taylor	SB-129-04	5E-06	3E-02	3E-07	2E-02	4E-07	1E-01	3E-07	3E-03
On-site	1~Webster to Taylor	SB-16-02	4E-07	5E-03	7E-07	5E-03	5E-08	1E-02	2E-08	7E-04
On-site	1~Webster to Taylor	SB-2-02	4E-07	5E-03	6E-07	6E-03	1E-07	4E-02	5E-08	5E-03
On-site	1~Webster to Taylor	SB-26-02	4E-07	4E-03	6E-07	5E-03	2E-07	1E-02	1E-07	5E-04
On-site	1~Webster to Taylor	SB-27-02	8E-06	1E-01	5E-05	3E-01	9E-06	6E-01	6E-06	1E-02
On-site	1~Webster to Taylor	SB-3-02	3E-05	1E+00	**3E-03**	**2E+01**	**2E-04**	**1E+01**	3E-05	6E-01
On-site	1~Webster to Taylor	SB-4-02	1E-06	4E-02	1E-05	2E-01	1E-06	3E-01	2E-07	8E-03
On-site	1~Webster to Taylor	SB-45-02	4E-05	4E-02	6E-07	2E-02	3E-06	1E-01	2E-06	7E-03
On-site	1~Webster to Taylor	SB-46-02	3E-05	9E-02	5E-05	2E-01	4E-06	4E-01	2E-06	2E-02
On-site	1~Webster to Taylor	SB-47-02	5E-05	3E-01	**2E-04**	8E-01	1E-05	1E+00	2E-06	4E-02
On-site	1~Webster to Taylor	SB-48-02	7E-06	5E-02	1E-05	1E-01	1E-06	3E-01	7E-07	7E-03
On-site	1~Webster to Taylor	SB-5-02	8E-06	4E-02	5E-05	**4E+00**	2E-06	8E-01	4E-07	1E-01
On-site	1~Webster to Taylor	SB-57-02	1E-05	5E-02	5E-05	8E-01	1E-05	**4E+00**	6E-06	7E-01
On-site	1~Webster to Taylor	SB-58-02	6E-05	3E-01	**2E-04**	7E-01	1E-05	6E-01	2E-06	3E-02
On-site	1~Webster to Taylor	SB-59-03	3E-07	4E-03	3E-07	2E-03	1E-07	1E-02	1E-07	1E-03
On-site	1~Webster to Taylor	SB-60-03	3E-07	5E-03	1E-06	6E-03	2E-07	2E-02	1E-07	2E-03
On-site	1~Webster to Taylor	SB-6-02	3E-06	6E-02	1E-05	2E-01	7E-07	3E-01	3E-07	8E-03
On-site	1~Webster to Taylor	SB-61-03	2E-06	9E-02	3E-07	8E-03	2E-07	1E-01	1E-07	2E-02
On-site	1~Webster to Taylor	SB-62-03	2E-06	2E-02	6E-06	5E-02	3E-07	6E-02	7E-08	3E-03
On-site	1~Webster to Taylor	SB-63-03	8E-07	2E-02	2E-05	5E-02	8E-07	7E-02	2E-07	5E-03
On-site	1~Webster to Taylor	SB-64-03	2E-07	3E-03	4E-07	3E-03	4E-08	6E-03	1E-08	5E-04
On-site	1~Webster to Taylor	SB-65-03	4E-06	6E-02	1E-05	2E-01	1E-06	3E-01	5E-07	2E-02
On-site	1~Webster to Taylor	SB-66-03	1E-05	6E-02	3E-05	1E-01	2E-06	3E-01	7E-07	1E-02
On-site	1~Webster to Taylor	SB-67-03	6E-05	2E-01	**2E-04**	6E-01	1E-05	9E-01	2E-06	3E-02
On-site	1~Webster to Taylor	SB-68-03	2E-06	3E-02	6E-06	6E-02	4E-07	1E-01	1E-07	3E-03
On-site	1~Webster to Taylor	SB-69-03	1E-06	2E-02	2E-07	1E-02	1E-07	9E-02	9E-08	5E-03
On-site	1~Webster to Taylor	SB-70-03	4E-06	5E-02	9E-06	6E-02	8E-07	2E-01	3E-07	1E-02
On-site	1~Webster to Taylor	SB-7-02	4E-07	1E-02	6E-07	1E-02	5E-08	6E-02	2E-08	1E-03
On-site	1~Webster to Taylor	SB-71-03	3E-06	3E-02	2E-05	6E-02	2E-05	**8E+00**	1E-05	**2E+00**
On-site	1~Webster to Taylor	SB-76-03	3E-06	7E-02	**2E-04**	6E-01	1E-05	1E+00	3E-06	3E-02
On-site	1~Webster to Taylor	SB-8-02	2E-06	4E-02	9E-06	4E-01	8E-07	5E-01	4E-07	2E-02
On-site	1~Webster to Taylor	SB-9-02	2E-06	4E-02	2E-05	2E-01	1E-06	4E-01	3E-07	9E-03
On-site	1~Webster to Taylor	SB-97-03	5E-06	4E-02	1E-05	8E-02	2E-06	2E-01	8E-07	5E-03
On-site	1~Webster to Taylor	SB-98-03	3E-06	2E-02	3E-07	5E-02	3E-07	2E-01	2E-07	5E-03
On-site	1~Webster to Taylor	SB-99-03	2E-05	5E-02	5E-08	2E-02	2E-06	1E-01	2E-06	7E-03
On-site	2~Taylor to Railway	BH-169-04	5E-06	8E-03	4E-08	8E-03	4E-07	3E-02	3E-07	8E-04
On-site	2~Taylor to Railway	BH-170-04	4E-07	2E-03	1E-07	5E-03	4E-08	6E-03	3E-08	3E-04

Table 6.6A: Upper-bound Soil Cumulative Cancer Risk and Noncancer HI Estimates for RFI Sub-Areas Based on All RFI Data
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

			Routine Workers[1]		Vapor Intrusion[2]		Construction Workers[2]		Maintenance Workers[2]	
On/ Off-Site	Area	Location	Risk	HI	Risk	HI	Risk	HI	Risk	HI
On-site	2~Taylor to Railway	BH-171-04	1E-05	6E-01	4E-05	**2E+00**	3E-06	5E-01	6E-07	6E-02
On-site	2~Taylor to Railway	BH-175-04	2E-05	1E-01	6E-05	3E-01	4E-06	9E-01	1E-06	8E-02
On-site	2~Taylor to Railway	BH-176-04	5E-07	3E-03	7E-07	7E-03	6E-08	9E-03	3E-08	4E-04
On-site	2~Taylor to Railway	BH-177-04	5E-06	4E-02	8E-07	2E-02	6E-07	2E-01	4E-07	8E-03
On-site	2~Taylor to Railway	BH-180-04	8E-06	8E-02	3E-05	2E-01	2E-06	3E-01	3E-07	9E-03
On-site	2~Taylor to Railway	BH-181-04	3E-05	2E-01	9E-05	5E-01	6E-06	8E-01	2E-06	4E-02
On-site	2~Taylor to Railway	BH-182-04	5E-05	4E-01	**2E-04**	8E-01	1E-05	1E+00	2E-06	7E-02
On-site	2~Taylor to Railway	BH-183-04	1E-05	1E-01	4E-05	2E-01	3E-06	5E-01	5E-07	2E-02
On-site	2~Taylor to Railway	MW-10-03	2E-07	4E-03	2E-07	2E-02	5E-08	2E-01	2E-08	5E-03
On-site	2~Taylor to Railway	MW-12-03	3E-05	7E-02	6E-05	2E-01	6E-06	5E-01	2E-06	4E-02
On-site	2~Taylor to Railway	MW-13-03	5E-05	3E-01	**2E-04**	9E-01	1E-05	7E-01	2E-06	4E-02
On-site	2~Taylor to Railway	MW-14B-04	4E-05	2E-01	1E-04	5E-01	7E-06	6E-01	1E-06	2E-02
On-site	2~Taylor to Railway	MW-23-04	3E-05	8E-01	1E-04	1E+00	3E-05	**7E+00**	1E-05	1E+00
On-site	2~Taylor to Railway	MW-24-04	4E-05	3E-01	1E-04	8E-01	8E-06	6E-01	2E-06	3E-02
On-site	2~Taylor to Railway	MW-25-04	1E-05	1E-01	3E-05	1E-01	2E-06	6E-01	6E-07	3E-02
On-site	2~Taylor to Railway	MW-26-04	1E-04	4E-01	**3E-04**	1E+00	2E-05	1E+00	3E-06	4E-02
On-site	2~Taylor to Railway	MW-27-04	3E-06	7E-02	1E-05	8E-02	1E-06	**2E+00**	6E-07	2E-01
On-site	2~Taylor to Railway	MW-28-04	9E-05	5E-01	**3E-04**	**2E+00**	2E-05	1E+00	4E-06	1E-01
On-site	2~Taylor to Railway	MW-29-04	2E-06	1E-01	6E-06	9E-02	3E-07	5E-01	1E-07	1E-02
On-site	2~Taylor to Railway	MW-3-02	6E-05	4E-01	**2E-04**	6E-01	2E-05	**5E+00**	8E-06	8E-01
On-site	2~Taylor to Railway	MW-9-03	1E-07	2E-03	2E-07	2E-03	3E-08	8E-03	1E-08	1E-03
On-site	2~Taylor to Railway	SB-103-03	6E-06	3E-02	2E-05	8E-02	2E-06	4E-01	5E-07	5E-02
On-site	2~Taylor to Railway	SB-104-03	8E-07	2E-03	2E-07	3E-03	8E-08	9E-03	5E-08	8E-04
On-site	2~Taylor to Railway	SB-130-04	1E-05	9E-02	2E-05	1E-01	2E-06	4E-01	8E-07	3E-02
On-site	2~Taylor to Railway	SB-13-02	4E-07	3E-03	6E-07	1E-02	8E-07	2E-01	8E-07	3E-02
On-site	2~Taylor to Railway	SB-131-04	3E-05	2E-01	1E-04	5E-01	7E-06	6E-01	1E-06	3E-02
On-site	2~Taylor to Railway	SB-132-04	7E-06	1E-01	2E-05	3E-01	1E-06	2E-01	3E-07	2E-02
On-site	2~Taylor to Railway	SB-133-04	7E-06	6E-02	2E-05	1E-01	1E-06	2E-01	3E-07	6E-03
On-site	2~Taylor to Railway	SB-134-04	3E-07	2E-03	3E-07	1E-02	6E-07	2E-01	7E-07	1E-02
On-site	2~Taylor to Railway	SB-135-04	3E-06	3E-02	1E-05	8E-02	1E-06	2E-01	8E-07	1E-02
On-site	2~Taylor to Railway	SB-136-04	1E-05	1E-01	3E-05	3E-01	3E-06	5E-01	1E-06	4E-02
On-site	2~Taylor to Railway	SB-137-04	1E-05	8E-02	3E-05	1E-01	2E-06	3E-01	8E-07	1E-02
On-site	2~Taylor to Railway	SB-138-04	4E-05	2E-01	1E-04	5E-01	7E-06	7E-01	2E-06	2E-02
On-site	2~Taylor to Railway	SB-139-04	1E-05	1E-01	4E-05	2E-01	3E-06	6E-01	7E-07	3E-02
On-site	2~Taylor to Railway	SB-140-04	5E-06	1E-01	1E-05	1E-01	7E-07	6E-01	2E-07	2E-02
On-site	2~Taylor to Railway	SB-14-02	7E-06	3E-02	1E-04	5E-01	1E-05	**9E+00**	6E-06	7E-01
On-site	2~Taylor to Railway	SB-141-04	3E-06	1E-01	2E-05	1E-01	9E-07	5E-01	2E-07	1E-02
On-site	2~Taylor to Railway	SB-142-04	1E-05	5E-02	4E-05	2E-01	3E-06	6E-01	8E-07	2E-02
On-site	2~Taylor to Railway	SB-143-04	9E-06	4E-02	3E-05	8E-02	2E-06	3E-01	6E-07	3E-02
On-site	2~Taylor to Railway	SB-144-04	9E-05	3E-01	**3E-04**	1E+00	2E-05	**2E+00**	4E-06	2E-01
On-site	2~Taylor to Railway	SB-145-04	5E-05	4E-01	**2E-04**	1E+00	1E-05	8E-01	2E-06	3E-02
On-site	2~Taylor to Railway	SB-146-04	5E-05	1E+00	8E-05	9E-01	7E-06	1E+00	2E-06	2E-01
On-site	2~Taylor to Railway	SB-147-04	9E-05	4E-01	**3E-04**	9E-01	2E-05	**2E+00**	4E-06	2E-01
On-site	2~Taylor to Railway	SB-148-04	2E-05	1E-01	5E-05	2E-01	3E-06	3E-01	7E-07	1E-02
On-site	2~Taylor to Railway	SB-149-04	1E-05	3E-01	1E-05	2E-01	1E-06	4E-01	7E-07	5E-02
On-site	2~Taylor to Railway	SB-150-04	4E-05	5E-01	1E-04	1E+00	7E-06	8E-01	1E-06	4E-02
On-site	2~Taylor to Railway	SB-15-02	2E-06	3E-02	2E-05	5E-01	1E-06	3E-01	5E-07	3E-02
On-site	2~Taylor to Railway	SB-151-04	1E-06	4E-02	9E-07	5E-03	2E-07	1E-01	1E-07	1E-02
On-site	2~Taylor to Railway	SB-152-04	3E-06	3E-02	4E-07	8E-03	4E-07	2E-01	2E-07	2E-02
On-site	2~Taylor to Railway	SB-153-04	4E-05	2E-01	1E-04	4E-01	8E-06	9E-01	2E-06	5E-02
On-site	2~Taylor to Railway	SB-154-04	5E-05	2E-01	**5E-04**	1E+00	3E-05	**2E+00**	6E-06	4E-02
On-site	2~Taylor to Railway	SB-155-04	2E-06	2E-01	1E-05	2E-01	1E-06	1E+00	7E-07	7E-02
On-site	2~Taylor to Railway	SB-156-04	6E-05	5E-01	**2E-04**	9E-01	2E-05	**2E+00**	4E-06	6E-02
On-site	2~Taylor to Railway	SB-157-04	3E-06	4E-02	3E-07	2E-01	4E-07	1E+00	3E-07	5E-02
On-site	2~Taylor to Railway	SB-158-04	5E-06	2E-02	9E-06	6E-02	6E-07	8E-02	3E-07	2E-03
On-site	2~Taylor to Railway	SB-159-04	7E-06	3E-03	2E-07	1E-02	6E-07	9E-02	5E-07	2E-03
On-site	2~Taylor to Railway	SB-160-04	5E-06	8E-03	3E-07	9E-03	4E-07	3E-02	3E-07	8E-04
On-site	2~Taylor to Railway	SB-161-04	2E-07	4E-03	2E-07	2E-02	5E-08	2E-01	2E-08	5E-03
On-site	2~Taylor to Railway	SB-162-04	3E-06	3E-02	1E-05	8E-02	6E-07	1E-01	1E-07	7E-03
On-site	2~Taylor to Railway	SB-163-04	4E-05	2E-01	1E-04	5E-01	9E-06	6E-01	2E-06	1E-02
On-site	2~Taylor to Railway	SB-164-04	1E-05	1E-01	5E-05	2E-01	3E-06	**2E+00**	5E-07	3E-01
On-site	2~Taylor to Railway	SB-165-04	3E-07	3E-02	3E-07	2E-02	5E-08	1E-01	3E-08	4E-03
On-site	2~Taylor to Railway	SB-166-04	7E-07	3E-02	5E-07	3E-03	6E-07	9E-01	3E-07	1E-01
On-site	2~Taylor to Railway	SB-167-04	6E-06	5E-02	2E-05	1E-01	1E-06	4E-01	4E-07	3E-02
On-site	2~Taylor to Railway	SB-168-04	3E-06	3E-02	9E-06	7E-02	7E-07	2E-01	3E-07	2E-02
On-site	2~Taylor to Railway	SB-17-02	3E-06	3E-02	1E-05	1E-01	5E-07	2E-01	1E-07	6E-03
On-site	2~Taylor to Railway	SB-18-02	2E-05	1E-01	8E-05	3E-01	5E-06	5E-01	9E-07	1E-02
On-site	2~Taylor to Railway	SB-19-02	7E-06	1E-01	2E-05	3E-01	1E-06	3E-01	3E-07	1E-02
On-site	2~Taylor to Railway	SB-20-02	5E-05	3E-01	**2E-04**	9E-01	1E-05	**2E+00**	2E-06	7E-02
On-site	2~Taylor to Railway	SB-21-02	5E-05	2E-01	**2E-04**	6E-01	1E-05	9E-01	2E-06	5E-02
On-site	2~Taylor to Railway	SB-22-02	4E-06	4E-02	2E-05	1E-01	1E-06	2E-01	3E-07	4E-03
On-site	2~Taylor to Railway	SB-23-02	2E-06	3E-02	9E-06	1E-01	4E-07	1E-01	8E-08	3E-03
On-site	2~Taylor to Railway	SB-24-02	4E-07	3E-03	1E-06	8E-03	7E-08	1E-02	3E-08	4E-04
On-site	2~Taylor to Railway	SB-25-02	4E-06	4E-02	8E-06	1E-01	5E-07	2E-01	2E-07	4E-03
On-site	2~Taylor to Railway	SB-28-02	4E-07	3E-03	6E-07	2E-02	6E-08	6E-02	3E-08	2E-03
On-site	2~Taylor to Railway	SB-33-02	1E-05	5E-01	2E-05	9E-02	1E-05	**2E+00**	1E-05	2E-01
On-site	2~Taylor to Railway	SB-34-02	4E-05	1E-01	5E-05	2E-01	5E-06	4E-01	2E-06	2E-02

Table 6.6A: Upper-bound Soil Cumulative Cancer Risk and Noncancer HI Estimates for RFI Sub-Areas Based on All RFI Data
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

			Routine Workers[1]		Vapor Intrusion[2]		Construction Workers[2]		Maintenance Workers[2]	
On/ Off-Site	Area	Location	Risk	HI	Risk	HI	Risk	HI	Risk	HI
On-site	2~Taylor to Railway	SB-35-02	4E-07	3E-03	9E-07	6E-03	7E-08	1E-02	3E-08	6E-04
On-site	2~Taylor to Railway	SB-36-02	5E-06	1E-01	2E-05	3E-01	1E-06	5E-01	3E-07	2E-02
On-site	2~Taylor to Railway	SB-37-02	2E-06	8E-02	1E-06	7E-03	2E-07	1E-01	1E-07	1E-02
On-site	2~Taylor to Railway	SB-38-02	5E-06	1E-01	1E-05	1E-01	7E-07	2E-01	2E-07	2E-02
On-site	2~Taylor to Railway	SB-39-02	5E-06	2E-02	3E-05	8E-02	2E-06	1E+00	4E-07	2E-01
On-site	2~Taylor to Railway	SB-40-02	2E-05	7E-01	6E-05	**2E+00**	3E-06	**4E+00**	7E-07	5E-01
On-site	2~Taylor to Railway	SB-41-02	4E-05	2E-01	1E-04	5E-01	1E-05	**2E+00**	3E-06	3E-01
On-site	2~Taylor to Railway	SB-42-02	2E-06	1E-02	6E-07	2E-02	2E-07	1E-01	1E-07	3E-03
On-site	2~Taylor to Railway	SB-43-02	5E-05	**2E+00**	7E-05	3E-01	1E-05	**3E+00**	5E-06	4E-01
On-site	2~Taylor to Railway	SB-44-02	3E-05	2E-02	7E-07	3E-02	3E-06	1E-01	2E-06	4E-03
On-site	2~Taylor to Railway	SB-53-02	3E-05	1E-01	8E-05	4E-01	5E-06	6E-01	1E-06	1E-02
On-site	2~Taylor to Railway	SB-54-02	2E-05	8E-02	5E-05	1E-01	3E-06	**2E+00**	1E-06	2E-01
On-site	2~Taylor to Railway	SB-55-02	3E-05	4E-01	5E-05	3E-01	4E-06	7E-01	1E-06	5E-02
On-site	2~Taylor to Railway	SB-56-02	8E-05	9E-01	**2E-04**	7E-01	2E-05	**4E+00**	6E-06	6E-01
On-site	2~Taylor to Railway	SB-72-03	1E-05	6E-02	4E-05	2E-01	2E-06	7E-01	6E-07	7E-02
On-site	2~Taylor to Railway	SB-73-03	1E-05	1E-01	**3E-04**	**2E+00**	2E-05	1E+00	3E-06	9E-02
On-site	2~Taylor to Railway	SB-74-03	5E-06	6E-02	**2E-04**	1E+00	2E-05	1E+00	5E-06	4E-02
On-site	2~Taylor to Railway	SB-75-03	7E-06	8E-02	1E-05	9E-02	1E-06	1E-01	3E-07	1E-02
On-site	2~Taylor to Railway	SB-84-03	4E-05	2E-01	1E-04	5E-01	8E-06	7E-01	1E-06	2E-02
On-site	2~Taylor to Railway	SB-85-03	2E-05	8E-01	**2E-04**	**3E+00**	1E-05	**2E+00**	2E-06	1E-01
On-site	2~Taylor to Railway	SB-86-03	3E-06	3E-02	9E-06	1E-01	1E-06	7E-01	4E-07	5E-02
On-site	2~Taylor to Railway	SB-87-03	3E-06	4E-02	2E-05	1E-01	1E-06	2E-01	2E-07	4E-03
On-site	2~Taylor to Railway	SB-88-03	9E-06	7E-02	4E-05	2E-01	3E-06	1E+00	9E-07	9E-02
On-site	2~Taylor to Railway	SB-89-03	7E-06	4E-03	6E-08	1E-02	6E-07	9E-02	5E-07	2E-03
On-site	2~Taylor to Railway	SB-90-03	1E-06	4E-03	5E-08	1E-02	1E-07	9E-02	1E-07	2E-03
On-site	2~Taylor to Railway	SB-91-03	8E-06	3E-03	6E-08	1E-02	7E-07	9E-02	6E-07	2E-03
On-site	2~Taylor to Railway	SB-92-03	2E-06	2E-02	2E-05	2E-01	2E-06	2E-01	4E-07	2E-02
On-site	2~Taylor to Railway	SB-93-03	3E-06	1E-01	1E-05	2E-01	7E-07	1E-01	2E-07	1E-02
On-site	2~Taylor to Railway	SB-94-03	2E-07	2E-03	2E-06	9E-02	2E-07	1E-01	4E-08	3E-03
On-site	2~Taylor to Railway	SB-95-03	4E-07	4E-03	8E-08	7E-03	4E-08	1E-02	3E-08	4E-04
On-site	2~Taylor to Railway	SB-96-03	3E-06	4E-02	1E-06	9E-02	3E-07	2E-01	2E-07	4E-03
On-site	3~Railway to Keowee	BH-172-04	2E-05	6E-03	5E-07	1E-02	2E-06	3E-02	1E-06	5E-04
On-site	3~Railway to Keowee	BH-173-04	2E-05	3E-02	6E-06	8E-02	2E-06	2E-01	1E-06	3E-03
On-site	3~Railway to Keowee	BH-174-04	1E-06	2E-03	4E-07	4E-03	1E-07	1E-02	8E-08	2E-03
On-site	3~Railway to Keowee	SB-118-04	1E-04	**7E+00**	2E-05	5E-01	2E-05	**7E+00**	8E-06	1E+00
On-site	3~Railway to Keowee	SB-119-04	2E-05	1E+00	3E-05	4E-01	4E-06	1E+00	2E-06	2E-01
On-site	3~Railway to Keowee	SB-120-04	2E-06	1E-01	8E-06	2E-01	2E-06	1E+00	1E-06	1E-01
On-site	3~Railway to Keowee	SB-121-04	2E-05	1E-01	2E-07	2E-02	2E-06	2E-01	1E-06	2E-02
On-site	3~Railway to Keowee	SB-29-02	1E-06	5E-03	1E-07	3E-03	1E-07	7E-03	7E-08	7E-04
On-site	3~Railway to Keowee	SB-30-02	1E-06	1E-02	1E-07	3E-03	1E-07	1E-02	7E-08	1E-03
On-site	3~Railway to Keowee	SB-31-02	1E-06	2E-03	1E-07	3E-03	9E-08	5E-03	6E-08	2E-04
On-site	3~Railway to Keowee	SB-32-02	1E-05	2E-01	4E-06	1E-01	3E-06	9E-01	3E-06	7E-02
On-site	3~Railway to Keowee	SB-49-02	1E-05	2E-01	4E-06	1E-01	3E-06	9E-01	3E-06	7E-02
On-site	3~Railway to Keowee	SB-50-02	4E-07	4E-03	6E-07	5E-03	2E-07	1E-02	2E-07	7E-04
On-site	3~Railway to Keowee	SB-51-02	2E-05	2E-01	1E-05	1E-01	4E-06	1E+00	3E-06	8E-02
On-site	3~Railway to Keowee	SB-52-02	4E-05	1E-01	7E-07	5E-02	3E-06	3E-01	3E-06	2E-02
On-site	3~Railway to Keowee	SB-77-03	2E-05	6E-03	1E-07	1E-02	2E-06	2E-02	1E-06	6E-04
On-site	3~Railway to Keowee	SB-78-03	1E-07	3E-02	8E-08	2E-02	1E-08	1E-01	7E-09	3E-03
On-site	3~Railway to Keowee	SB-79-03	2E-07	3E-02	8E-08	2E-02	2E-08	1E-01	1E-08	3E-03
On-site	3~Railway to Keowee	SB-80-03	4E-06	2E-01	4E-06	1E-01	3E-06	9E-01	3E-06	7E-02
On-site	3~Railway to Keowee	SB-81-03	1E-05	2E-01	4E-06	1E-01	3E-06	9E-01	3E-06	7E-02
On-site	3~Railway to Keowee	SB-82-03	1E-06	4E-03	1E-07	3E-03	9E-08	7E-03	7E-08	5E-04
On-site	3~Railway to Keowee	SB-83-03	1E-06	2E-03	1E-07	3E-03	9E-08	5E-03	6E-08	2E-04
Off-site	2~Taylor to Railway	MW-4-02	4E-06	3E-02	2E-05	5E-02	1E-05	**3E+00**	5E-06	7E-01
Off-site	2~Taylor to Railway	OW-1	6E-07	8E-03	3E-07	3E-03	5E-07	2E-01	2E-07	3E-02
Off-site	2~Taylor to Railway	OW-2	9E-07	9E-03	2E-07	2E-03	2E-07	2E-02	1E-07	3E-03
Off-site	2~Taylor to Railway	OW-3	3E-06	3E-02	4E-06	5E-02	3E-06	1E+00	1E-06	2E-01
Off-site	2~Taylor to Railway	OW-4	1E-06	1E-02	2E-07	4E-03	1E-07	2E-02	7E-08	2E-03
Off-site	3~Railway to Keowee	OW-5	6E-06	6E-02	2E-07	2E-02	7E-07	1E-01	5E-07	1E-02
Off-site	3~Railway to Keowee	OW-6	8E-07	7E-03	2E-07	3E-03	8E-08	9E-03	5E-08	1E-03
Off-site	3~Railway to Keowee	OW-7	1E-06	2E-02	2E-07	3E-03	1E-07	2E-02	9E-08	3E-03

Notes:

1. Risk and HI estimates are based on highest concentrations in the surface soil at each boring location.
2. Risk and HI estimates are based on highest concentrations among all depths at each boring location.
3. Shaded locations indicate locations with soil data collected after the RFI Report.
4. The samples collected after the RFI report located within RFI sub-area MW-5-03 are from 3 ft bgs. But if the highest concentrations among these samples represent concentrations that are still present in surface soil in the vicinity, the upper-bound estimates of cumulative cancer risk and HI from direct contact to surface soil would be 5×10^{-5} and 5, respectively.
5. Risk and HI estimates are calculated using site-related concentrations, which are those in excess of site-specific background concentrations for inorganics.
6. Cumulative cancer risk or HI estimate for a boring location that is higher than the cancer risk level of 10^{-4} or HI of 1 is shaded in bold.

Abbreviations:

Chem Group - Chemical Group
CASRN - Chemical Abstract Service Registry Number
HI - Hazard Index; Risk - Cumulative Cancer Risk

Table 6.6B: Potential Significance of Highest Soil Lead Concentrations by RFI Sub-Area for All RFI Data
Former Delphi Harrison Thermal Facility, Dayton, Ohio

		All Depth					Surface Only		
Area	Location	Concentration (mg/kg)	Concentration Basis	Category	Top Depth (ft)	Bottom Depth (ft)	Concentration (mg/kg)	Concentration Basis	Category
1~Webster to Taylor	BH-178-04	**4.53E+03**	Interpolated Max Detect	high	3		1.99E+02	Interpolated Max Detect	low
1~Webster to Taylor	BH-179-04	2.75E+01	Max Detect	low	0	2	2.75E+01	Max Detect	low
1~Webster to Taylor	BH-184-04	8.95E+00	Interpolated Max Detect	low	8	10	4.00E+00	Interpolated Max Detect	low
1~Webster to Taylor	MW-15-03	1.68E+01	Max Detect	low	1	3	1.68E+01	Max Detect	low
1~Webster to Taylor	MW-22-04	4.67E+02	Interpolated Max Detect	low	1	3	4.67E+02	Interpolated Max Detect	low
1~Webster to Taylor	MW-5-03	**4.53E+03**	Max Detect	high	3		1.99E+02	Max Detect	low
1~Webster to Taylor	OS-2-03	1.89E+02	Max Detect	low	8	10	8.71E+01	Max Detect	low
1~Webster to Taylor	OS-3-03	1.76E+02	Max Detect	low	0	2	1.76E+02	Max Detect	low
1~Webster to Taylor	OS-4-03	8.55E+01	Max Detect	low	7	9	6.59E+01	Max Detect	low
1~Webster to Taylor	OS-5-03	5.76E+01	Max Detect	low	8	10	2.59E+01	Max Detect	low
1~Webster to Taylor	OS-6-03	8.60E+00	Max Detect	low	0	2	8.60E+00	Max Detect	low
1~Webster to Taylor	OS-7-03	8.95E+00	Max Detect	low	8	10	4.00E+00	Max Detect	low
1~Webster to Taylor	SB-100-03	1.14E+02	Interpolated Max Detect	low	1	3	1.14E+02	Interpolated Max Detect	low
1~Webster to Taylor	SB-10-02	4.67E+02	Max Detect	low	1	3	4.67E+02	Max Detect	low
1~Webster to Taylor	SB-101-03	1.14E+02	Interpolated Max Detect	low	1	3	1.14E+02	Interpolated Max Detect	low
1~Webster to Taylor	SB-1-02	3.60E+01	Max Detect	low	9	11	5.20E+00	Max Detect	low
1~Webster to Taylor	SB-102-03	6.55E+02	Interpolated Max Detect	low	1	3	6.55E+02	Interpolated Max Detect	low
1~Webster to Taylor	SB-105-04	1.04E+02	Interpolated Max Detect	low	1	3	1.04E+02	Interpolated Max Detect	low
1~Webster to Taylor	SB-106-04	1.04E+02	Interpolated Max Detect	low	1	3	1.04E+02	Interpolated Max Detect	low
1~Webster to Taylor	SB-107-04	1.04E+02	Interpolated Max Detect	low	1	3	1.04E+02	Interpolated Max Detect	low
1~Webster to Taylor	SB-108-04	1.14E+02	Interpolated Max Detect	low	1	3	1.14E+02	Interpolated Max Detect	low
1~Webster to Taylor	SB-109-04	6.55E+02	Interpolated Max Detect	low	1	3	6.55E+02	Interpolated Max Detect	low
1~Webster to Taylor	SB-110-04	1.30E+02	Max Detect	low	6		8.71E+01	Interpolated Max Detect	low
1~Webster to Taylor	SB-11-02	8.67E+01	Max Detect	low	1	3	8.67E+01	Max Detect	low
1~Webster to Taylor	SB-111-04	1.67E+02	Interpolated Max Detect	low	15	17	1.17E+01	Interpolated Max Detect	low
1~Webster to Taylor	SB-112-04	1.38E+02	Interpolated Max Detect	low	12	14	9.00E+00	Interpolated Max Detect	low
1~Webster to Taylor	SB-113-04	1.68E+01	Max Detect	low	8	10	3.90E+00	Max Detect	low
1~Webster to Taylor	SB-114-04	8.23E+01	Interpolated Max Detect	low	5	7	4.80E+00	Interpolated Max Detect	low
1~Webster to Taylor	SB-115-04	5.31E+02	Max Detect	low	4		4.30E+02	Max Detect	low
1~Webster to Taylor	SB-116-04	8.71E+01	Interpolated Max Detect	low	0	2	8.71E+01	Interpolated Max Detect	low
1~Webster to Taylor	SB-117-04	1.42E+02	Max Detect	low	5	7	1.17E+02	Max Detect	low
1~Webster to Taylor	SB-12-02	1.05E+01	Max Detect	low	1	3	1.05E+01	Max Detect	low
1~Webster to Taylor	SB-122-04	1.38E+02	Max Detect	low	12	14	9.00E+00	Max Detect	low
1~Webster to Taylor	SB-123-04	8.84E+01	Interpolated Max Detect	low	6	8	8.18E+01	Interpolated Max Detect	low
1~Webster to Taylor	SB-124-04	8.60E+00	Interpolated Max Detect	low	0	2	8.60E+00	Interpolated Max Detect	low
1~Webster to Taylor	SB-125-04	6.55E+02	Interpolated Max Detect	low	1	3	6.55E+02	Interpolated Max Detect	low
1~Webster to Taylor	SB-126-04	4.61E+01	Max Detect	low	6	8	4.80E+00	Interpolated Max Detect	low
1~Webster to Taylor	SB-127-04	8.67E+01	Interpolated Max Detect	low	1	3	8.67E+01	Interpolated Max Detect	low
1~Webster to Taylor	SB-128-04	4.67E+02	Interpolated Max Detect	low	1	3	4.67E+02	Interpolated Max Detect	low
1~Webster to Taylor	SB-129-04	2.75E+01	Interpolated Max Detect	low	0	2	2.75E+01	Interpolated Max Detect	low
1~Webster to Taylor	SB-16-02	4.80E+00	Max Detect	low	1	3	4.80E+00	Max Detect	low
1~Webster to Taylor	SB-2-02	1.06E+01	Max Detect	low	9	11	4.60E+00	Max Detect	low
1~Webster to Taylor	SB-26-02	8.90E+00	Max Detect	low	1	3	8.90E+00	Max Detect	low
1~Webster to Taylor	SB-27-02	1.02E+02	Max Detect	low	3	5	1.83E+01	Max Detect	low
1~Webster to Taylor	SB-3-02	1.39E+01	Max Detect	low	13	15	1.22E+01	Max Detect	low
1~Webster to Taylor	SB-4-02	4.43E+01	Max Detect	low	1	3	4.43E+01	Max Detect	low
1~Webster to Taylor	SB-45-02	1.04E+02	Max Detect	low	1	3	1.04E+02	Max Detect	low
1~Webster to Taylor	SB-46-02	1.14E+02	Max Detect	low	1	3	1.14E+02	Max Detect	low
1~Webster to Taylor	SB-47-02	6.55E+02	Max Detect	low	1	3	6.55E+02	Max Detect	low
1~Webster to Taylor	SB-48-02	1.67E+02	Max Detect	low	15	17	9.99E+01	Max Detect	low
1~Webster to Taylor	SB-5-02	1.53E+01	Max Detect	low	9	11	4.00E+00	Max Detect	low
1~Webster to Taylor	SB-57-02	1.47E+02	Max Detect	low	1	3	1.47E+02	Max Detect	low
1~Webster to Taylor	SB-58-02	8.84E+01	Max Detect	low	6	8	8.18E+01	Max Detect	low
1~Webster to Taylor	SB-59-03	1.68E+01	Interpolated Max Detect	low	1	3	1.68E+01	Interpolated Max Detect	low
1~Webster to Taylor	SB-60-03	1.68E+01	Interpolated Max Detect	low	1	3	1.68E+01	Interpolated Max Detect	low
1~Webster to Taylor	SB-6-02	8.23E+01	Max Detect	low	5	7	4.80E+00	Max Detect	low
1~Webster to Taylor	SB-61-03	1.53E+01	Interpolated Max Detect	low	9	11	4.00E+00	Interpolated Max Detect	low
1~Webster to Taylor	SB-62-03	8.90E+00	Interpolated Max Detect	low	1	3	8.90E+00	Interpolated Max Detect	low
1~Webster to Taylor	SB-63-03	1.39E+01	Interpolated Max Detect	low	13	15	1.22E+01	Interpolated Max Detect	low
1~Webster to Taylor	SB-64-03	1.39E+01	Interpolated Max Detect	low	13	15	1.22E+01	Interpolated Max Detect	low
1~Webster to Taylor	SB-65-03	8.84E+01	Interpolated Max Detect	low	6	8	8.18E+01	Interpolated Max Detect	low
1~Webster to Taylor	SB-66-03	8.84E+01	Interpolated Max Detect	low	6	8	8.18E+01	Interpolated Max Detect	low
1~Webster to Taylor	SB-67-03	4.67E+02	Interpolated Max Detect	low	1	3	4.67E+02	Interpolated Max Detect	low
1~Webster to Taylor	SB-68-03	8.67E+01	Interpolated Max Detect	low	1	3	8.67E+01	Interpolated Max Detect	low
1~Webster to Taylor	SB-69-03	8.67E+01	Interpolated Max Detect	low	1	3	8.67E+01	Interpolated Max Detect	low
1~Webster to Taylor	SB-70-03	4.67E+02	Interpolated Max Detect	low	1	3	4.67E+02	Interpolated Max Detect	low
1~Webster to Taylor	SB-7-02	7.30E+00	Max Detect	low	11	13	5.80E+00	Max Detect	low
1~Webster to Taylor	SB-71-03	8.67E+01	Interpolated Max Detect	low	1	3	8.67E+01	Interpolated Max Detect	low
1~Webster to Taylor	SB-76-03	1.47E+02	Interpolated Max Detect	low	1	3	1.47E+02	Interpolated Max Detect	low
1~Webster to Taylor	SB-8-02	2.26E+02	Max Detect	low	10	12	5.00E+00	Max Detect	low
1~Webster to Taylor	SB-9-02	2.37E+02	Max Detect	low	10	12	4.10E+00	Max Detect	low
1~Webster to Taylor	SB-97-03	1.02E+02	Interpolated Max Detect	low	3	5	1.83E+01	Interpolated Max Detect	low
1~Webster to Taylor	SB-98-03	1.02E+02	Interpolated Max Detect	low	3	5	1.83E+01	Interpolated Max Detect	low
1~Webster to Taylor	SB-99-03	1.04E+02	Interpolated Max Detect	low	1	3	1.04E+02	Interpolated Max Detect	low
2~Taylor to Railway	BH-169-04	2.04E+01	Max Detect	low	0	2	2.04E+01	Max Detect	low
2~Taylor to Railway	BH-170-04	3.20E+00	Max Detect	low	8	10	1.50E+00	Max Detect	low
2~Taylor to Railway	BH-171-04	1.19E+01	Interpolated Max Detect	low	1	3	1.19E+01	Interpolated Max Detect	low

Table 6.6B: Potential Significance of Highest Soil Lead Concentrations by RFI Sub-Area for All RFI Data
Former Delphi Harrison Thermal Facility, Dayton, Ohio

		All Depth					Surface Only		
Area	Location	Concentration (mg/kg)	Concentration Basis	Category	Top Depth (ft)	Bottom Depth (ft)	Concentration (mg/kg)	Concentration Basis	Category
2~Taylor to Railway	BH-175-04	8.41E+01	Interpolated Max Detect	low	0	2	8.41E+01	Interpolated Max Detect	low
2~Taylor to Railway	BH-176-04	4.88E+01	Max Detect	low	0	2	4.88E+01	Max Detect	low
2~Taylor to Railway	BH-177-04	1.60E+02	Max Detect	low	0	2	1.60E+02	Max Detect	low
2~Taylor to Railway	BH-180-04	1.53E+02	Interpolated Max Detect	low	0	2	1.53E+02	Interpolated Max Detect	low
2~Taylor to Railway	BH-181-04	1.16E+02	Interpolated Max Detect	low	8	10	2.82E+01	Interpolated Max Detect	low
2~Taylor to Railway	BH-182-04	2.42E+02	Max Detect	low	0	2	2.42E+02	Max Detect	low
2~Taylor to Railway	BH-183-04	4.51E+02	Max Detect	low	0	2	4.51E+02	Max Detect	low
2~Taylor to Railway	MW-10-03	2.33E+01	Max Detect	low	7	9	4.80E+00	Max Detect	low
2~Taylor to Railway	MW-12-03	3.92E+02	Max Detect	low	1	3	3.92E+02	Max Detect	low
2~Taylor to Railway	MW-13-03	1.30E+02	Interpolated Max Detect	low	0	2	1.30E+02	Interpolated Max Detect	low
2~Taylor to Railway	MW-14B-04	3.20E+01	Max Detect	low	0	2	3.20E+01	Max Detect	low
2~Taylor to Railway	MW-23-04	**3.27E+03**	Max Detect	high	0	2	**3.27E+03**	Max Detect	high
2~Taylor to Railway	MW-24-04	1.22E+02	Max Detect	low	0	2	1.22E+02	Max Detect	low
2~Taylor to Railway	MW-25-04	5.28E+02	Interpolated Max Detect	low	0	2	5.28E+02	Interpolated Max Detect	low
2~Taylor to Railway	MW-26-04	1.53E+02	Max Detect	low	0	2	1.53E+02	Max Detect	low
2~Taylor to Railway	MW-27-04	1.54E+02	Max Detect	low	0	2	1.54E+02	Max Detect	low
2~Taylor to Railway	MW-28-04	8.41E+01	Max Detect	low	0	2	8.41E+01	Max Detect	low
2~Taylor to Railway	MW-29-04	5.65E+01	Max Detect	low	0	2	5.65E+01	Max Detect	low
2~Taylor to Railway	MW-3-02	2.28E+02	Max Detect	low	0	2	2.28E+02	Max Detect	low
2~Taylor to Railway	MW-9-03	6.60E+00	Max Detect	low	9	11	4.90E+00	Max Detect	low
2~Taylor to Railway	SB-103-03	1.05E+02	Interpolated Max Detect	low	0	2	1.05E+02	Interpolated Max Detect	low
2~Taylor to Railway	SB-104-03	5.26E+01	Interpolated Max Detect	low	0	2	5.26E+01	Interpolated Max Detect	low
2~Taylor to Railway	SB-130-04	4.51E+02	Interpolated Max Detect	low	0	2	4.51E+02	Interpolated Max Detect	low
2~Taylor to Railway	SB-13-02	4.13E+01	Max Detect	low	10	12	1.44E+01	Max Detect	low
2~Taylor to Railway	SB-131-04	1.21E+02	Interpolated Max Detect	low	2	4	1.44E+01	Interpolated Max Detect	low
2~Taylor to Railway	SB-132-04	1.33E+01	Interpolated Max Detect	low	1	3	1.33E+01	Interpolated Max Detect	low
2~Taylor to Railway	SB-133-04	2.88E+02	Interpolated Max Detect	low	1	3	2.88E+02	Interpolated Max Detect	low
2~Taylor to Railway	SB-134-04	4.13E+01	Interpolated Max Detect	low	10	12	1.44E+01	Interpolated Max Detect	low
2~Taylor to Railway	SB-135-04	4.13E+01	Interpolated Max Detect	low	10	12	1.44E+01	Interpolated Max Detect	low
2~Taylor to Railway	SB-136-04	1.16E+02	Max Detect	low	8	10	2.82E+01	Max Detect	low
2~Taylor to Railway	SB-137-04	2.86E+02	Interpolated Max Detect	low	1	3	2.86E+02	Interpolated Max Detect	low
2~Taylor to Railway	SB-138-04	2.86E+02	Interpolated Max Detect	low	1	3	2.86E+02	Interpolated Max Detect	low
2~Taylor to Railway	SB-139-04	5.28E+02	Interpolated Max Detect	low	0	2	5.28E+02	Interpolated Max Detect	low
2~Taylor to Railway	SB-140-04	3.27E+02	Max Detect	low	0	2	3.27E+02	Max Detect	low
2~Taylor to Railway	SB-14-02	1.91E+02	Max Detect	low	4	6	4.70E+00	Max Detect	low
2~Taylor to Railway	SB-141-04	3.27E+02	Interpolated Max Detect	low	0	2	3.27E+02	Interpolated Max Detect	low
2~Taylor to Railway	SB-142-04	3.90E+01	Max Detect	low	0	2	3.90E+01	Max Detect	low
2~Taylor to Railway	SB-143-04	3.90E+01	Interpolated Max Detect	low	0	2	3.90E+01	Interpolated Max Detect	low
2~Taylor to Railway	SB-144-04	1.72E+02	Max Detect	low	0	2	1.72E+02	Max Detect	low
2~Taylor to Railway	SB-145-04	1.30E+02	Max Detect	low	0	2	1.30E+02	Max Detect	low
2~Taylor to Railway	SB-146-04	2.40E+02	Max Detect	low	0	2	2.40E+02	Max Detect	low
2~Taylor to Railway	SB-147-04	1.72E+02	Interpolated Max Detect	low	0	2	1.72E+02	Interpolated Max Detect	low
2~Taylor to Railway	SB-148-04	5.28E+02	Max Detect	low	0	2	5.28E+02	Max Detect	low
2~Taylor to Railway	SB-149-04	1.10E+01	Max Detect	low	8	10	1.10E+01	Max Detect	low
2~Taylor to Railway	SB-150-04	1.07E+02	Max Detect	low	0	2	1.07E+02	Max Detect	low
2~Taylor to Railway	SB-15-02	1.56E+01	Max Detect	low	3	5	1.42E+01	Max Detect	low
2~Taylor to Railway	SB-151-04	4.80E+00	Max Detect	low	0	2	4.80E+00	Max Detect	low
2~Taylor to Railway	SB-152-04	4.59E+02	Max Detect	low	0	2	4.59E+02	Max Detect	low
2~Taylor to Railway	SB-153-04	5.78E+01	Max Detect	low	0	2	5.78E+01	Max Detect	low
2~Taylor to Railway	SB-154-04	8.46E+01	Max Detect	low	0	2	8.46E+01	Max Detect	low
2~Taylor to Railway	SB-155-04	2.62E+02	Max Detect	low	0	2	2.62E+02	Max Detect	low
2~Taylor to Railway	SB-156-04	1.20E+02	Max Detect	low	0	2	1.20E+02	Max Detect	low
2~Taylor to Railway	SB-157-04	2.83E+02	Interpolated Max Detect	low	1	3	2.83E+02	Interpolated Max Detect	low
2~Taylor to Railway	SB-158-04	1.02E+02	Max Detect	low	0	2	1.02E+02	Max Detect	low
2~Taylor to Railway	SB-159-04	1.47E+02	Interpolated Max Detect	low	9	11	4.10E+00	Interpolated Max Detect	low
2~Taylor to Railway	SB-160-04	2.04E+01	Interpolated Max Detect	low	0	2	2.04E+01	Interpolated Max Detect	low
2~Taylor to Railway	SB-161-04	2.33E+01	Interpolated Max Detect	low	7	9	4.80E+00	Interpolated Max Detect	low
2~Taylor to Railway	SB-162-04	1.06E+01	Interpolated Max Detect	low	9	11	4.60E+00	Interpolated Max Detect	low
2~Taylor to Railway	SB-163-04	2.09E+02	Max Detect	low	0	2	2.09E+02	Max Detect	low
2~Taylor to Railway	SB-164-04	9.82E+01	Max Detect	low	0	2	9.82E+01	Max Detect	low
2~Taylor to Railway	SB-165-04	9.30E+00	Max Detect	low	0	2	9.30E+00	Max Detect	low
2~Taylor to Railway	SB-166-04	2.19E+01	Max Detect	low	0	2	2.19E+01	Max Detect	low
2~Taylor to Railway	SB-167-04	1.05E+02	Max Detect	low	0	2	1.05E+02	Max Detect	low
2~Taylor to Railway	SB-168-04	5.26E+01	Max Detect	low	0	2	5.26E+01	Max Detect	low
2~Taylor to Railway	SB-17-02	1.02E+01	Max Detect	low	8	10	3.50E+00	Max Detect	low
2~Taylor to Railway	SB-18-02	1.37E+02	Max Detect	low	1	3	1.37E+02	Max Detect	low
2~Taylor to Railway	SB-19-02	2.76E+02	Max Detect	low	1	3	2.76E+02	Max Detect	low
2~Taylor to Railway	SB-20-02	1.03E+02	Max Detect	low	13	15	1.02E+02	Max Detect	low
2~Taylor to Railway	SB-21-02	**5.18E+04**	Max Detect	high	1	3	**5.18E+04**	Max Detect	high
2~Taylor to Railway	SB-22-02	8.30E+00	Max Detect	low	9	11	8.00E+00	Max Detect	low
2~Taylor to Railway	SB-23-02	4.70E+00	Max Detect	low	9	11	1.10E+00	Max Detect	low
2~Taylor to Railway	SB-24-02	8.10E+00	Max Detect	low	9	11	8.60E-01	Max Detect	low
2~Taylor to Railway	SB-25-02	4.65E+01	Max Detect	low	1	3	4.65E+01	Max Detect	low
2~Taylor to Railway	SB-28-02	1.64E+01	Max Detect	low	9	11	1.22E+01	Max Detect	low
2~Taylor to Railway	SB-33-02	2.92E+01	Max Detect	low	1	3	2.92E+01	Max Detect	low
2~Taylor to Railway	SB-34-02	2.88E+02	Max Detect	low	1	3	2.88E+02	Max Detect	low
2~Taylor to Railway	SB-35-02	5.80E+00	Max Detect	low	9	11	2.70E+00	Max Detect	low

Table 6.6B: Potential Significance of Highest Soil Lead Concentrations by RFI Sub-Area for All RFI Data
Former Delphi Harrison Thermal Facility, Dayton, Ohio

		All Depth					Surface Only		
Area	**Location**	**Concentration** (mg/kg)	**Concentration Basis**	**Category**	**Top Depth** (ft)	**Bottom Depth** (ft)	**Concentration** (mg/kg)	**Concentration Basis**	**Category**
2~Taylor to Railway	SB-36-02	5.22E+01	Max Detect	low	1	3	5.22E+01	Max Detect	low
2~Taylor to Railway	SB-37-02	2.16E+02	Max Detect	low	1	3	2.16E+02	Max Detect	low
2~Taylor to Railway	SB-38-02	1.57E+01	Max Detect	low	1	3	1.57E+01	Max Detect	low
2~Taylor to Railway	SB-39-02	1.39E+02	Max Detect	low	1	3	1.39E+02	Max Detect	low
2~Taylor to Railway	SB-40-02	1.19E+01	Max Detect	low	1	3	1.19E+01	Max Detect	low
2~Taylor to Railway	SB-41-02	8.06E+01	Max Detect	low	1	3	8.06E+01	Max Detect	low
2~Taylor to Railway	SB-42-02	8.85E+01	Max Detect	low	6	8	2.47E+01	Max Detect	low
2~Taylor to Railway	SB-43-02	7.12E+01	Max Detect	low	9	11	1.50E+01	Max Detect	low
2~Taylor to Railway	SB-44-02	1.47E+02	Max Detect	low	9	11	4.10E+00	Max Detect	low
2~Taylor to Railway	SB-53-02	2.13E+02	Max Detect	low	1	3	2.13E+02	Max Detect	low
2~Taylor to Railway	SB-54-02	2.86E+02	Max Detect	low	1	3	2.86E+02	Max Detect	low
2~Taylor to Railway	SB-55-02	1.33E+02	Max Detect	low	1	3	1.33E+02	Max Detect	low
2~Taylor to Railway	SB-56-02	9.47E+01	Max Detect	low	1	3	9.47E+01	Max Detect	low
2~Taylor to Railway	SB-72-03	1.34E+02	Max Detect	low	1	3	1.34E+02	Max Detect	low
2~Taylor to Railway	SB-73-03	5.28E+02	Interpolated Max Detect	low	0	2	5.28E+02	Interpolated Max Detect	low
2~Taylor to Railway	SB-74-03	2.88E+02	Interpolated Max Detect	low	1	3	2.88E+02	Interpolated Max Detect	low
2~Taylor to Railway	SB-75-03	6.31E+01	Max Detect	low	1	3	6.31E+01	Max Detect	low
2~Taylor to Railway	SB-84-03	6.86E+02	Max Detect	low	1	3	6.86E+02	Max Detect	low
2~Taylor to Railway	SB-85-03	2.83E+02	Max Detect	low	1	3	2.83E+02	Max Detect	low
2~Taylor to Railway	SB-86-03	7.12E+01	Interpolated Max Detect	low	9	11	1.50E+01	Interpolated Max Detect	low
2~Taylor to Railway	SB-87-03	8.30E+00	Interpolated Max Detect	low	9	11	8.00E+00	Interpolated Max Detect	low
2~Taylor to Railway	SB-88-03	8.06E+01	Interpolated Max Detect	low	1	3	8.06E+01	Interpolated Max Detect	low
2~Taylor to Railway	SB-89-03	1.47E+02	Interpolated Max Detect	low	9	11	4.10E+00	Interpolated Max Detect	low
2~Taylor to Railway	SB-90-03	1.47E+02	Interpolated Max Detect	low	9	11	4.10E+00	Interpolated Max Detect	low
2~Taylor to Railway	SB-91-03	1.47E+02	Interpolated Max Detect	low	9	11	4.10E+00	Interpolated Max Detect	low
2~Taylor to Railway	SB-92-03	2.07E+01	Max Detect	low	9	11	8.70E+00	Max Detect	low
2~Taylor to Railway	SB-93-03	1.33E+01	Max Detect	low	1	3	1.33E+01	Max Detect	low
2~Taylor to Railway	SB-94-03	4.70E+00	Interpolated Max Detect	low	9	11	1.10E+00	Interpolated Max Detect	low
2~Taylor to Railway	SB-95-03	8.10E+00	Interpolated Max Detect	low	9	11	8.60E-01	Interpolated Max Detect	low
2~Taylor to Railway	SB-96-03	4.65E+01	Interpolated Max Detect	low	1	3	4.65E+01	Interpolated Max Detect	low
3~Railway to Keowee	BH-172-04	2.01E+01	Max Detect	low	0	2	2.01E+01	Max Detect	low
3~Railway to Keowee	BH-173-04	1.50E+01	Max Detect	low	8	10	2.90E+00	Max Detect	low
3~Railway to Keowee	BH-174-04	6.20E+00	Max Detect	low	8	10	5.10E+00	Max Detect	low
3~Railway to Keowee	SB-118-04	1.85E+02	Max Detect	low	0	2	1.85E+02	Max Detect	low
3~Railway to Keowee	SB-119-04	3.55E+02	Max Detect	low	8	10	2.04E+02	Max Detect	low
3~Railway to Keowee	SB-120-04	9.14E+01	Max Detect	low	0	2	9.14E+01	Max Detect	low
3~Railway to Keowee	SB-121-04	1.07E+02	Max Detect	low	0	2	1.07E+02	Max Detect	low
3~Railway to Keowee	SB-29-02	**1.17E+03**	Max Detect	medium	1	3	**1.17E+03**	Max Detect	medium
3~Railway to Keowee	SB-30-02	**1.36E+04**	Max Detect	high	1	3	**1.36E+04**	Max Detect	high
3~Railway to Keowee	SB-31-02	2.14E+01	Max Detect	low	1	3	2.14E+01	Max Detect	low
3~Railway to Keowee	SB-32-02	1.22E+02	Interpolated Max Detect	low	1	3	1.22E+02	Interpolated Max Detect	low
3~Railway to Keowee	SB-49-02	1.22E+02	Interpolated Max Detect	low	1	3	1.22E+02	Interpolated Max Detect	low
3~Railway to Keowee	SB-50-02	1.44E+02	Max Detect	low	9	11	4.73E+01	Max Detect	low
3~Railway to Keowee	SB-51-02	**2.09E+03**	Max Detect	high	1	3	**2.09E+03**	Max Detect	high
3~Railway to Keowee	SB-52-02	4.68E+01	Max Detect	low	1	3	4.68E+01	Max Detect	low
3~Railway to Keowee	SB-77-03	5.70E+00	Max Detect	low	0	2	5.70E+00	Max Detect	low
3~Railway to Keowee	SB-78-03	4.68E+01	Interpolated Max Detect	low	1	3	4.68E+01	Interpolated Max Detect	low
3~Railway to Keowee	SB-79-03	7.39E+01	Max Detect	low	1	3	7.39E+01	Max Detect	low
3~Railway to Keowee	SB-80-03	3.78E+01	Max Detect	low	8	10	4.25E+00	Max Detect	low
3~Railway to Keowee	SB-81-03	1.22E+02	Max Detect	low	1	3	1.22E+02	Max Detect	low
3~Railway to Keowee	SB-82-03	**8.60E+04**	Max Detect	high	1	3	**8.60E+04**	Max Detect	high
3~Railway to Keowee	SB-83-03	1.53E+01	Max Detect	low	1	3	1.53E+01	Max Detect	low
2~Taylor to Railway	MW-4-02	5.65E+01	Max Detect	low	0	2	5.65E+01	Max Detect	low
2~Taylor to Railway	OW-1	2.22E+01	Max Detect	low	0	2	2.22E+01	Max Detect	low
2~Taylor to Railway	OW-2	2.91E+01	Max Detect	low	0	2	2.91E+01	Max Detect	low
2~Taylor to Railway	OW-3	1.06E+02	Max Detect	low	0	2	1.06E+02	Max Detect	low
2~Taylor to Railway	OW-4	4.15E+01	Max Detect	low	0	2	4.15E+01	Max Detect	low
3~Railway to Keowee	OW-5	2.34E+02	Max Detect	low	0	2	2.34E+02	Max Detect	low
3~Railway to Keowee	OW-6	2.69E+02	Max Detect	low	0	2	2.69E+02	Max Detect	low
3~Railway to Keowee	OW-7	3.76E+01	Max Detect	low	0	2	3.76E+01	Max Detect	low

Notes:

1. Shaded locations have associated soil sub-areas which contain soil data that were collected after the RFI Report.
2. Lead concentrations are based on data from the RFI Report (CRA 2006a) and reflect consideration of supplemental soil sampling data in accordance with methods described in RFI Report Addendum 1 (CRA 2006b).
3. Category: low = lead concentration < 750 mg/kg; medium = lead concentrations from 750 to 1750 mg/kg; high = lead concentrations >1750 mg/kg
4. Shaded concentration cells represent a lead concentration greater than 750 mg/kg.
5. Max Detect = the highest concentration detected at any depth at each location.
6. Interpolated = If lead was not analyzed at a particular location, the nearest detected concentration was used as a surrogate for that location.

Table 6.7: Derivation of Cumulative Cancer Risk and HI Estimates for Routine Workers' Exposure to Surface Soil for Hypothetical Exposure Unit around SB-43-02 Former GM Delphi Harrison Thermal Systems Facility, Dayton, Ohio

Locations in Exposure Unit	Area (acre)	Risk	HI	Area-Weighted Contribution	
				Risk	HI
SB-40-02	3.3E-02	1.6E-05	6.6E-01	8.3E-06	3.3E-01
SB-43-02	3.3E-02	5.4E-05	1.7E+00	2.7E-05	8.6E-01
Sum for Total Exposure Unit	6.6E-02			4E-05	1E+00
Note:					
Cancer risk and HI estimates for each location are the same as those presented on Table 6.6A.					
Abbreviations:					
HI - Hazard Index; Risk - Cumulative Cancer Risk					

Table 6.8: Soil Lead Concentrations around MW-23 and SB-51
Former GM Delphi Harrison Thermal Systems Facility, Dayton, Ohio

MW-23-04			
Locations in Exposure Unit	**Area** (acres)	**Lead Concentration** (mg/kg)	**Area-Weight Lead Concentration** (mg/kg)
MW-23-04	1.6E-02	3.27E+03	5.50E+02
SB-36-02	2.6E-02	5.22E+01	1.49E+01
SB-37-02	5.0E-02	2.16E+02	1.18E+02
Sum for Total Exposure Unit	9.2E-02		6.83E+02
SB-51-02			
Locations in Exposure Unit	**Area** (acres)	**Lead Concentration** (mg/kg)	**Area-Weight Lead Concentration** (mg/kg)
SB-51-02	1.0E-01	2.09E+03	5.62E+02
SB-52-02	9.0E-02	4.68E+01	1.10E+01
SB-79-03	1.9E-01	7.39E+01	3.66E+01
Sum for Total Exposure Unit	3.8E-01		6.10E+02
Note:			
Lead Concentrations for each location are the same as those presented on Table 6.6B.			

Table 6.9: Upper-Bound Cancer Risks and Noncancer Hazard Quotients for Background Metals in Soil
Former GM Delphi Harrison Thermal Systems Facility, Dayton

				Routine Worker		Maintenance Worker		Construction Worker	
Chemical	**CASRN**	**Cancer Class**	**Background Conc[1] (mg/kg)**	**Cancer Risk**	**HQ**	**Cancer Risk**	**HQ**	**Cancer Risk**	**HQ**
Antimony	7440-36-0		3.05E-01		3.7E-04		9.0E-05		1.5E-03
Arsenic	7440-38-2	A	1.16E+01	4.2E-06	2.6E-02	3.8E-07	5.4E-03	5.6E-07	5.0E-03
Barium	7440-39-3	D	1.09E+02		7.6E-04		1.8E-04		3.1E-03
Beryllium	7440-41-7	B1	5.75E-01	2.7E-10	1.6E-04	8.1E-10	1.5E-04	6.8E-10	1.5E-03
Cadmium	7440-43-9	B1	1.50E+00	5.4E-10	1.1E-03	1.6E-09	2.5E-04	1.3E-09	3.4E-03
Chromium	7440-47-3		1.58E+01	3.8E-08	2.7E-03	1.1E-07	1.3E-03	9.3E-08	6.9E-03
Cobalt	7440-48-4	B1	7.49E+00	4.2E-09	3.9E-04	1.2E-08	1.6E-03	1.0E-08	1.4E-02
Copper	7440-50-8	D	2.48E+01		3.0E-04		7.3E-05		1.2E-03
Manganese	7439-96-5	D	8.16E+02		1.2E-02		6.8E-02		5.7E-01
Mercury	7439-97-6	D	9.92E-02		3.3E-03		3.1E-04		1.7E-02
Nickel	7440-02-0	A	1.65E+01	7.9E-10	4.0E-04	2.3E-09	9.7E-05	1.9E-09	1.6E-03
Selenium	7782-49-2	D	1.00E+00		9.8E-05		2.4E-05		3.9E-04
Silver	7440-22-4	D	2.70E-01		4.1E-05		1.2E-04		1.0E-03
Thallium	7440-28-0		2.23E+00		1.6E-02		3.8E-03		6.3E-02
Vanadium	7440-62-2		2.99E+01		1.5E-02		3.5E-03		8.4E-03
Zinc	7440-66-6	D	1.22E+02		2.0E-04		4.8E-05		8.0E-04
			sum	4E-06	8E-02	5E-07	8E-02	7E-07	7E-01

Note:

1. From RFI Report Table 3.2

Table 6.10: Derivation of Cumulative Cancer Risk and Noncancer HI Estimates for Construction Workers for the Exposure Unit Between Webster Street and Taylor Street Former GM Harrison Thermal Systems Facility, Dayton, Ohio

Locations in Exposure Unit	Area (acres)	Risk[7]	HI[7]	Area-Weighted Contribution	
				Risk	HI
BH-179-04	2.4E-01	1.9E-07	7.1E-02	2.0E-08	7.5E-03
BH-184-04	3.0E-02	7.7E-07	1.6E-01	1.0E-08	2.1E-03
MW-10-03	1.4E-02	1.3E-08	4.1E-02	7.9E-11	2.5E-04
OS-5-03	3.8E-02	7.6E-07	8.4E-02	1.3E-08	1.4E-03
OS-6-03	2.3E-02	1.1E-07	2.3E-02	1.1E-09	2.3E-04
OS-7-03	4.0E-02	6.7E-08	1.4E-02	1.2E-09	2.5E-04
SB-100-03	5.6E-02	2.4E-06	2.7E-01	6.1E-08	6.7E-03
SB-101-03	2.4E-02	3.7E-06	2.8E-01	4.0E-08	3.0E-03
SB-102-03	1.1E-02	1.9E-06	6.6E-01	9.4E-09	3.3E-03
SB-105-04	4.8E-03	2.4E-08	1.9E-02	5.2E-11	4.2E-05
SB-106-04	1.5E-01	3.9E-08	1.9E-02	2.6E-09	1.3E-03
SB-107-04	1.6E-02	5.7E-08	2.1E-02	4.1E-10	1.5E-04
SB-108-04	3.2E-02	7.6E-07	7.9E-02	1.1E-08	1.1E-03
SB-109-04	1.5E-02	1.1E-05	**4.1E+00**	7.6E-08	2.7E-02
SB-11-02	1.2E-02	1.5E-06	5.3E-01	8.1E-09	2.8E-03
SB-111-04	6.8E-02	1.8E-07	3.2E-02	5.6E-09	9.5E-04
SB-117-04	3.7E-03	3.6E-05	**2.3E+00**	5.9E-08	3.8E-03
SB-12-02	1.7E-01	1.7E-07	4.1E-02	1.3E-08	3.1E-03
SB-124-04	1.4E-01	1.8E-07	3.2E-02	1.1E-08	2.0E-03
SB-125-04	1.3E-01	3.7E-07	9.8E-02	2.2E-08	5.8E-03
SB-126-04	1.1E-01	4.8E-06	8.0E-01	2.4E-07	3.9E-02
SB-127-04	1.8E-01	3.3E-06	2.7E-01	2.7E-07	2.2E-02
SB-16-02	3.8E-01	1.4E-08	2.9E-03	2.4E-09	4.8E-04
SB-45-02	1.5E-02	8.4E-07	2.5E-02	5.7E-09	1.7E-04
SB-46-02	8.5E-03	1.1E-06	1.0E-01	4.0E-09	4.0E-04
SB-47-02	1.0E-02	2.6E-06	3.2E-01	1.2E-08	1.5E-03
SB-48-02	1.5E-01	3.7E-07	7.0E-02	2.4E-08	4.6E-03
SB-68-03	1.1E-02	9.6E-08	3.3E-02	4.9E-10	1.6E-04
SB-69-03	7.5E-02	3.7E-08	2.3E-02	1.2E-09	7.6E-04
SB-71-03	5.8E-04	5.6E-06	**2.0E+00**	1.4E-09	5.2E-04
SB-99-03	8.4E-02	5.9E-07	2.6E-02	2.2E-08	9.8E-04
Sum for Total Exposure Unit	**2.2E+00**			**9E-07**	**1E-01**

Notes:

1. Locations listed have associated soil sub-areas that are at least partially contained within the exposure unit (western half of the area outlined in purple on Figure 6.7).
2. Shaded locations have associated soil sub-areas that contain soil data that were collected after the RFI Report.
3. Risk and HI estimates are based on data from the RFI Report (CRA 2006a) and reflect consideration of supplemental soil sampling data in accordance with methods described in RFI Report Addendum 1 (CRA 2006b).
4. Area - portion of sub-area within the exposure unit (western half of the area outlined in purple on Figure 6.7).
5. Risk and HI estimates are calculated using site-related concentrations, which are those in excess of site-specific background concentrations for inorganics.
6. Shaded cells represent a cumulative cancer risk or HI for a boring location that is higher than the cancer risk level of 10^{-4} or HI of 1.
7. Exposure Frequency = 64 days/year for each location. See Table 6.4 of RFI Report Addendum 3 (CRA 2008b) for additional exposure factors used to calculate risk and HI estimates.

Abbreviations:

HI - Hazard Index; Risk - Cancer Risk

Table 6.11: Upper-Bound Soil Cumulative Cancer Risk and Noncancer HI for Construction Workers Between Taylor Street and Meigs Street Former GM Harrison Thermal Systems Facility, Dayton, Ohio		
Location	**Risk**	**HI**
SB-105-04	9E-08	8E-02
SB-107-04	2E-07	8E-02
BH-169-04	4E-07	3E-02
BH-170-04	4E-08	6E-03
BH-176-04	6E-08	9E-03
BH-177-04	6E-07	2E-01
BH-182-04	1E-05	1E+00
SB-145-04	1E-05	8E-01
SB-159-04	6E-07	9E-02
SB-160-04	4E-07	3E-02
SB-44-02	3E-06	1E-01
SB-89-03	6E-07	9E-02
SB-90-03	1E-07	9E-02
SB-91-03	7E-07	9E-02
Notes:		
1. Locations listed have associated soil sub-areas that are at least partially contained within the exposure unit (eastern part of the area outlined in purple on Figure 6.7).		
2. Risk and HI estimates are based on data from the RFI Report (Table 5.3A, CRA 2006a)		
3. Risk and HI estimates are based on highest concentrations among all depths at each boring location.		
4. Risk and HI estimates are calculated using site-related concentrations, which are those in excess of site-specific background concentrations for inorganics.		
5. Exposure Frequency = 250 days/year for each location. See Table 6.4 of RFI Report Addendum 3 (CRA 2008b) for additional exposure factors used to calculate risk and HI estimates.		
Abbreviations:		
HI - Hazard Index; Risk - Cumulative Cancer Risk		

Table 6.12: Upper-Bound Cancer Risk and Noncancer HQ Estimates for Potential Exposure to Concrete Surfaces
Former GM Delphi Harrison Thermal Systems Facility, Dayton, Ohio

Area	Sampling Location	Status	Sample Date	Core Sample (mg/kg)	Routine Worker[5]		Construction Worker		Maintenance Worker		Building ID	Further Description of Sampling Location
					Cancer Risk	HQ	Cancer Risk	HQ	Cancer Risk	HQ		
1~Webster to Taylor	CON-12-02		4/3/2002	5.81E-01	8E-07	4E-02	9E-08	3E-02	5E-08	7E-03	12	Vault 4, Basement
1~Webster to Taylor	CON-13-02		4/3/2002	2.16E+00	3E-06	2E-01	3E-07	1E-01	2E-07	2E-02	12	Vault 4, Basement
2~Taylor to Railway	CC-21-04	to be sealed off[1]	2/18/2004	**2.64E+01**	4E-05	**2E+00**	4E-06	**2E+00**	2E-06	3E-01	10	Tunnel
2~Taylor to Railway	CC-21A		9/22/2005	3.23E-01	4E-07	2E-02	5E-08	2E-02	3E-08	4E-03	10	
2~Taylor to Railway	CC-21B		9/22/2005	2.02E-01	3E-07	1E-02	3E-08	1E-02	2E-08	2E-03	10	
2~Taylor to Railway	CON-01-02		4/2/2002	1.04E+00	1E-06	7E-02	2E-07	6E-02	8E-08	1E-02	5	Vault 1, Basement
2~Taylor to Railway	CON-02-02		4/2/2002	9.05E-02	1E-07	6E-03	1E-08	5E-03	7E-09	1E-03	5	Vault 1, Basement
2~Taylor to Railway	CON-03-02	to be removed[1]	4/2/2002	**2.78E+01**	4E-05	**2E+00**	4E-06	**2E+00**	2E-06	3E-01	7	Tool Grinder Room, Column L32
2~Taylor to Railway	CON-04-02		4/2/2002	4.36E+00	6E-06	3E-01	7E-07	2E-01	3E-07	5E-02	7	Tool Grinder Duct, Column M31
2~Taylor to Railway	CON-05-02		4/3/2002	1.48E+00	2E-06	1E-01	2E-07	8E-02	1E-07	2E-02	10	Tunnel Under Railroad Tracks
2~Taylor to Railway	CON-06-02		4/3/2002	2.15E+00	3E-06	1E-01	3E-07	1E-01	2E-07	2E-02	10	Annealing Oven Duct, Column H48
2~Taylor to Railway	CON-07-02		4/3/2002	1.35E-01	2E-07	9E-03	2E-08	8E-03	1E-08	2E-03	10	Heat Treat Oven Duct, Column I49
2~Taylor to Railway	CON-08-02		4/3/2002	3.82E-01	5E-07	3E-02	6E-08	2E-02	3E-08	4E-03	9	Induction Furnace Duct, Column D43
2~Taylor to Railway	CON-09-02		4/3/2002	5.66E-01	8E-07	4E-02	9E-08	3E-02	4E-08	6E-03	9	Exhaust Manifold, Column S42
2~Taylor to Railway	CON-10-02		4/3/2002	2.66E+00	4E-06	2E-01	4E-07	2E-01	2E-07	3E-02	9	No. 2 Vaill Machine, Column U39
2~Taylor to Railway	CON-11-02		4/3/2002	9.62E-01	1E-06	7E-02	2E-07	5E-02	7E-08	1E-02	3	Tool Shop Duct, Column P24
2~Taylor to Railway	CON-16-03		4/7/2003	1.03E+00	1E-06	7E-02	2E-07	6E-02	8E-08	1E-02	7	Tool Grinder Room, Column L32
2~Taylor to Railway	CON-17-03		4/7/2003	9.86E+00	1E-05	7E-01	2E-06	6E-01	8E-07	1E-01	7	Tool Grinder Room, Column L32
2~Taylor to Railway	CON-18-03		4/7/2003	1.91E+00	3E-06	1E-01	3E-07	1E-01	1E-07	2E-02	7	Tool Grinder Room, Column L32
3~Railway to Keowee	CC-01-05		2/21/2005	1.28E+00	2E-06	9E-02	2E-07	7E-02	1E-07	1E-02	G-4	
3~Railway to Keowee	CC-02-05		2/21/2005	2.33E-01	3E-07	2E-02	4E-08	1E-02	2E-08	3E-03	G-4	
3~Railway to Keowee	CC-19-04		2/18/2004	7.47E+00	1E-05	5E-01	1E-06	4E-01	6E-07	8E-02	G-5	
3~Railway to Keowee	CC-19A		9/20/2005	1.82E+00	2E-06	1E-01	3E-07	1E-01	1E-07	2E-02	G-5	
3~Railway to Keowee	CC-19B		9/20/2005	2.42E+00	3E-06	2E-01	4E-07	1E-01	2E-07	3E-02	G-5	
3~Railway to Keowee	CC-20-04	to be sealed off[1]	2/18/2004	**2.87E+01**	4E-05	**2E+00**	5E-06	**2E+00**	2E-06	3E-01	G-5	Railway Retaining Wall
3~Railway to Keowee	CON-14-02	removed	4/4/2002	**3.52E+01**	NA	NA	NA	NA	NA	NA	G-4	G-Lot Transformer Pad
3~Railway to Keowee	CON-15-02	removed	4/4/2002	**5.82E+01**	NA	NA	NA	NA	NA	NA	G-4	G-Lot Transformer Pad

Notes:

1. Pending approval of Concrete Isolation Plan (BOW Environmental Solutions, Inc. May 23, 2006 as amended April 12, 2007).
2. Core samples are the maximum concentration from any depth per location.
3. Shaded concentrations are higher than the screening criteria.
4. Core sample screening criterion is the TSCA low-occupancy criteria (25 mg/kg).
5. Trespasser exposures to concrete are indirectly and conservatively evaluated using exposure estimates for routine workers, as explained in Section 5.4.3.1 of the RFI Report (CRA 2006a).
6. Cancer risk and HQ estimates were calculated by treating concrete concentrations as if they were soil concentrations and using exposure factors for PCBs in soil. Although these values are useful for indentifying locations that do not pose a significant risk, they cannot be used to conclude that a location poses a significant risk.
7. Cancer risk or HQ estimate for a location that is higher than the cancer risk level of 10^{-4} or HQ of 1 is shaded in bold.

Abbreviations:

NS - not sampled

ND - not detected, quantitation limit in parentheses

NA - sample removed from the Site, therefore risk calculations were not performed.

Table 6.13: Upper-Bound Cumulative Cancer Risk and Noncancer HI Estimates for LNAPL Exposure
Former GM Delphi Harrison Thermal Systems Facility, Dayton, Ohio

LNAPL Contact

Area	Receptor: Maintenance Worker	Cumulative Cancer Risk	Noncancer HI
Chip Area LNAPL Plume	*Smear Zone Soil Ingestion*	5E-07	8E-02
	Smear Zone Soil Dermal Contact	2E-07	4E-02
	LNAPL Dermal Contact	5E-06	6E-01
	LNAPL Vapor Inhalation	7E-07	8E-02
Hydromation Pit LNAPL Plume	*Smear Zone Soil Ingestion*	2E-09	2E-04
	Smear Zone Soil Dermal Contact	6E-10	9E-05
	LNAPL Dermal Contact	4E-07	1E+00
	LNAPL Vapor Inhalation	6E-08	1E-01
Note:			

1. This table is the same as Table 5-4 presented in the RFI Report (CRA 2006a), with the exception that only maintenance workers are shown.

Table 6.14: Derivation of Cumulative Cancer Risk and Noncancer HI Estimates for Maintenance Workers for Hypothetical Exposure Units around SB-109 and SB-71 Former GM Harrison Thermal Systems Facility, Dayton, Ohio

For SB-109					
Locations in Exposure Unit	**Area (acres)**	**Risk**	**HI**	**Area-Weighted Contribution**	
				Risk	**HI**
SB-102-03	1.1E-02	3.7E-06	4.7E-01	1.2E-06	1.5E-01
SB-109-04	1.5E-02	2.2E-05	3.1E+00	9.3E-06	1.3E+00
SB-46-02	8.5E-03	1.6E-06	1.8E-02	4.0E-07	4.5E-03
Sum for Total Exposure Unit	3.4E-02			1E-05	1E+00
For SB-71					
Locations in Exposure Unit	**Area (acres)**	**Risk**	**HI**	**Area-Weighted Contribution**	
				Risk	**HI**
SB-11-02	8.4E-02	2.8E-06	4.0E-01	1.1E-06	1.6E-01
SB-71-03	1.2E-01	1.1E-05	1.5E+00	6.3E-06	9.0E-01
Sum for Total Exposure Unit	2.1E-01			7E-06	1E+00

Note:

Cancer risk and HI estimates for each location are the same as those presented on Table 6.6A.

Abbreviations:

HI - Hazard Index; Risk - Cancer Risk

Table 6.15: Upper-Bound Cumulative Cancer Risk and Noncancer HI Estimates for Maintenance Worker Contact with Upper-Aquifer Groundwater Former GM Harrison Thermal Systems Facility, Dayton, Ohio

Area	Risk	HI
On-Site		
1~Webster to Taylor	1E-05	1E+00
2~Taylor to Railway	2E-05	1E+00
3~Railway to Keowee	6E-07	9E-02
Off-Site		
4~Off Site South	7E-08	1E-03
5~Off Site West	2E-06	4E-02
Notes:		
1. Risk and HI estimates are based on highest concentrations in any upper aquifer groundwater sampled within the respective area, based upon the most recent result for each well.		
2. Exposure Frequency = 5 days/year for each area. See Table 6.4 of RFI Report Addendum 3 (CRA 2008b) for additional exposure factors used to calculate risk and HI estimates.		
Abbreviations:		
HI - Hazard Index; Risk - Cumulative Cancer Risk		

Table 6.16: Estimate and Assessment of Incremental Chemical Concentration in the Mad River from Groundwater and Storm Sewer Discharges Under Current Conditoins Former GM Harrison Thermal Systems Facility, Dayton, Ohio

Chem Group	Chemical	CASRN	C_{river} (mg/L)	Surface Water Quality Criteria (SWQC) (mg/L)	Source for Criteria	Ratio C_{river} to C_{SWQC}	Region 5 Water Ecological Screening Levels (ESL) (mg/L)	Ratio C_{river} to C_{ESL}
VOC	Acetone	67-64-1	2.2E-04				1.7E+00	1.3E-04
VOC	Benzene	71-43-2	3.6E-06	7.1E-01	OH-ND	5.1E-06	1.1E-01	3.2E-05
VOC	Bromodichloromethane	75-27-4	9.1E-07	4.6E-01	OH-ND	2.0E-06		
VOC	Bromoform	75-25-2	2.8E-07	3.6E+00	OH-ND	7.7E-08	2.3E-01	1.2E-06
VOC	Bromomethane	74-83-9	2.0E-06	4.0E+00	OH-ND	5.1E-07		
VOC	2-Butanone	78-93-3	6.2E-06				2.2E+00	2.8E-06
VOC	Carbon Disulfide	75-15-0	8.2E-07				1.5E-02	5.5E-05
VOC	Chloroethane	75-00-3	1.8E-07					
VOC	Chloroform	67-66-3	7.0E-06	4.7E+00	OH-ND	1.5E-06	1.4E-01	5.0E-05
VOC	Chloromethane	74-87-3	2.8E-07					
VOC	Dibromochloromethane	124-48-1	8.6E-07	4.1E-03	OH-D	2.1E-04		
VOC	1,4-Dichlorobenzene	106-46-7	3.4E-06	2.6E+00	OH-ND	1.3E-06	9.4E-03	3.6E-04
VOC	Dichlorodifluoromethane	75-71-8	7.7E-04					
VOC	1,1-Dichloroethane	75-34-3	2.2E-06				4.7E-02	4.7E-05
VOC	1,1-Dichloroethene	75-35-4	2.9E-05	3.2E-02	OH-ND	9.0E-04		
VOC	cis-1,2-Dichloroethene	156-59-2	1.9E-03	7.0E-02	OH-D	2.7E-02	9.1E-01	2.0E-03
VOC	trans-1,2-Dichloroethene	156-60-5	4.1E-05	1.0E-01	OH-D	4.1E-04	9.7E-01	4.2E-05
VOC	Ethyl Benzene	100-41-4	6.4E-07	2.9E+01	OH-ND	2.2E-08	1.4E-02	4.5E-05
VOC	2-Hexanone	591-78-6	3.3E-07				9.9E-02	3.3E-06
VOC	4-Methyl-2-pentanone	108-10-1	2.0E-07				1.7E-01	1.2E-06
VOC	Methylene Chloride	75-09-2	4.5E-06	1.6E+01	OH-ND	2.8E-07	9.4E-01	4.8E-06
VOC	Tetrachloroethene	127-18-4	2.8E-05	8.9E-02	OH-ND	3.2E-04	4.5E-02	6.3E-04
VOC	Toluene	108-88-3	2.4E-06	2.0E+02	OH-ND	1.2E-08	2.5E-01	9.3E-06
VOC	1,2,4-Trichlorobenzene	120-82-1	9.7E-08	9.4E-01	OH-ND	1.0E-07	3.0E-02	3.2E-06
VOC	Trichloroethene	79-01-6	2.2E-03	8.1E-01	OH-ND	2.7E-03	4.7E-02	4.6E-02
VOC	Vinyl Chloride	75-01-4	2.2E-05	5.3E+00	OH-ND	4.2E-06	9.3E-01	2.4E-05
VOC	Xylenes (total)	1330-20-7	3.9E-06	1.0E+01	OH-D	3.9E-07	2.7E-02	1.4E-04
SVOC	Acenaphthene	83-32-9	1.5E-08	2.7E+00	OH-ND	5.7E-09	3.8E-02	4.1E-07
SVOC	Anthracene	120-12-7	5.0E-08	1.1E+02	OH-ND	4.5E-10	3.5E-05	1.4E-03
SVOC	Benzo(a)anthracene	56-55-3	1.4E-07	4.9E-04	OH-ND	2.8E-04	2.5E-05	5.5E-03
SVOC	Benzo(a)pyrene	50-32-8	1.5E-07	4.9E-04	OH-ND	3.0E-04	1.4E-05	1.0E-02
SVOC	Benzo(b)fluoranthene	205-99-2	2.3E-07	4.9E-04	OH-ND	4.8E-04	9.1E-03	2.6E-05
SVOC	Benzo(g,h,i)perylene	191-24-2	1.1E-07				7.6E-03	1.4E-05

Table 6.16: Estimate and Assessment of Incremental Chemical Concentration in the Mad River from Groundwater and Storm Sewer Discharges Under Current Conditoins Former GM Harrison Thermal Systems Facility, Dayton, Ohio

Chem Group	Chemical	CASRN	C_{river} (mg/L)	Surface Water Quality Criteria (SWQC) (mg/L)	Source for Criteria	Ratio C_{river} to C_{SWQC}	Region 5 Water Ecological Screening Levels (ESL) (mg/L)	Ratio C_{river} to C_{ESL}
SVOC	Benzo(k)fluoranthene	207-08-9	1.0E-07	4.9E-04	OH-ND	2.1E-04		
SVOC	bis(2-Ethylhexyl)phthalate	117-81-7	1.7E-06	5.9E-02	OH-ND	2.8E-05	3.0E-04	5.5E-03
SVOC	Butylbenzylphthalate	85-68-7	1.1E-08	5.2E+00	OH-ND	2.2E-09	2.3E-02	4.9E-07
SVOC	Caprolactam	105-60-2	1.0E-04					
SVOC	Carbazole	86-74-8	3.3E-08					
SVOC	Chrysene	218-01-9	1.7E-07	4.9E-04	OH-ND	3.6E-04		
SVOC	Dibenz(a,h)anthracene	53-70-3	2.8E-08	4.9E-04	OH-ND	5.6E-05		
SVOC	Dibenzofuran	132-64-9	1.8E-08				4.0E-03	4.5E-06
SVOC	Di-n-butylphthalate	84-74-2	2.9E-07	1.2E+01	OH-ND	2.4E-08	9.7E-03	3.0E-05
SVOC	Di-n-octylphthalate	117-84-0	9.1E-08				3.0E-02	3.0E-06
SVOC	Fluoranthene	206-44-0	4.1E-07	3.7E-01	OH-ND	1.1E-06	1.9E-03	2.2E-04
SVOC	Fluorene	86-73-7	2.2E-08	1.4E+01	OH-ND	1.5E-09	1.9E-02	1.1E-06
SVOC	Indeno(1,2,3-cd)pyrene	193-39-5	9.4E-08	4.9E-04	OH-ND	1.9E-04	4.3E-03	2.2E-05
SVOC	2-Methylnaphthalene	91-57-6	7.5E-09				3.3E-01	2.3E-08
SVOC	Naphthalene	91-20-3	2.2E-08				1.3E-02	1.7E-06
SVOC	Phenanthrene	85-01-8	2.3E-07				3.6E-03	6.3E-05
SVOC	Pyrene	129-00-0	3.0E-07	1.1E+01	OH-ND	2.8E-08	3.0E-04	1.0E-03
P/PCB	PCBs (total)	1336-36-3	4.2E-07	1.7E-06	OH-ND	2.5E-01	1.2E-07	**3.5E+00**
INORG	Antimony	7440-36-0	9.5E-06	4.3E+00	OH-ND	2.2E-06	8.0E-02	1.2E-04
INORG	Arsenic	7440-38-2	3.9E-06	1.0E-01	OH-AG	3.9E-05	1.5E-01	2.7E-05
INORG	Barium	7440-39-3	6.7E-04	2.0E+00	OH-D	3.3E-04	2.2E-01	3.0E-03
INORG	Beryllium	7440-41-7	5.3E-09	1.0E-01	OH-AG	5.3E-08	3.6E-03	1.5E-06
INORG	Cadmium	7440-43-9	6.7E-05	5.0E-02	OH-AG	1.3E-03	1.5E-04	4.4E-01
INORG	Chromium (total)	7440-47-3	1.7E-05	1.0E-01	OH-D	1.7E-04	4.2E-02	4.1E-04
INORG	Cobalt	7440-48-4	2.6E-06				2.4E-02	1.1E-04
INORG	Copper	7440-50-8	1.9E-03	5.0E-01	OH-AG	3.8E-03	1.6E-03	**1.2E+00**
INORG	Cyanide (total)	57-12-5	2.3E-06	2.2E+02	OH-ND	1.0E-08	5.2E-03	4.3E-04
INORG	Lead	7439-92-1	1.2E-04	1.0E-01	OH-AG	1.2E-03	1.2E-03	1.0E-01
INORG	Manganese	7439-96-5	2.4E-04	5.0E-02	AWQC	4.9E-03		
INORG	Mercury	7439-97-6	3.6E-07	1.2E-05	OH-ND	3.0E-02	1.3E-06	2.8E-01
INORG	Nickel	7440-02-0	2.1E-05	2.0E-01	OH-AG	1.1E-04	2.9E-02	7.3E-04
INORG	Selenium	7782-49-2	1.9E-06	5.0E-02	OH-D	3.9E-05	5.0E-03	3.9E-04
INORG	Silver	7440-22-4	1.6E-06				1.2E-04	1.4E-02

Table 6.16: Estimate and Assessment of Incremental Chemical Concentration in the Mad River from Groundwater and Storm Sewer Discharges Under Current Conditoins Former GM Harrison Thermal Systems Facility, Dayton, Ohio

Chem Group	Chemical	CASRN	C_{river} (mg/L)	Surface Water Quality Criteria (SWQC) (mg/L)	Source for Criteria	Ratio C_{river} to C_{SWQC}	Region 5 Water Ecological Screening Levels (ESL) (mg/L)	Ratio C_{river} to C_{ESL}
INORG	Thallium	7440-28-0	2.6E-06	6.3E-03	OH-ND	4.1E-04	1.0E-02	2.6E-04
INORG	Vanadium	7440-62-2	2.5E-06				1.2E-02	2.1E-04
INORG	Zinc	7440-66-6	1.1E-03	2.5E+01	OH-AG	4.6E-05	6.6E-02	1.7E-02
Notes:								
1. River concentrations are calculated based on the most recent sampling round for each constituent among RFI groundwater data collected through June 2008.								
2. Surface water quality criteria applicable to this segment of the River (OAC 3745-1-07, -21, -34) are based upon the following hierarchy: Ohio non-drinking water or agricultural use criteria, whichever is lower; Ohio drinking water criteria; and federal AWQC, the lower of the drinking water or the organism-consumption criteria.								
3. Federal AWQC are based on USEPA national recommended water quality criteria (revised December 2003) for human consumption of water and organisms.								
4. Shaded cells represent ratios of concentration to the criteria greater than 1.								
5. Ecological Screening Levels from Table 6-1 of the RFI Report.								
Abbreviations:								
OH-AG - Ohio EPA agricultural water source criteria								
OH-ND - Ohio EPA nondrinking water criteria								
OH-D - Ohio EPA drinking water criteria								
AWQC - USEPA ambient water quality criteria								
EPA - Environmental Protection Agency								

Table 6.17: Estimate and Assessment of Incremental Chemical Concentration in the Mad River for a Hypothetical, Worst Case Discharge of Shallow Groundwater
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

Chem Group	Chemical	CASRN	C_{river} (mg/L)	Surface Water Quality Criteria (SWQC) (mg/L)	Source for Criteria	Ratio C_{river} to C_{SWQC}	Region 5 Water Ecological Screening Levels (ESL) (mg/L)	Ratio C_{river} to C_{ESL}
VOC	Acetone	67-64-1	3.5E-02				1.7E+00	2.1E-02
VOC	Benzene	71-43-2	4.0E-06	7.1E-01	OH-ND	5.6E-06	1.1E-01	3.5E-05
VOC	Bromodichloromethane	75-27-4	9.1E-07	4.6E-01	OH-ND	2.0E-06		
VOC	Bromoform	75-25-2	2.8E-07	3.6E+00	OH-ND	7.7E-08	2.3E-01	1.2E-06
VOC	Bromomethane	74-83-9	2.0E-06	4.0E+00	OH-ND	5.1E-07		
VOC	2-Butanone	78-93-3	2.7E-04				2.2E+00	1.2E-04
VOC	Carbon Disulfide	75-15-0	8.2E-07				1.5E-02	5.5E-05
VOC	Chloroethane	75-00-3	3.9E-06					
VOC	Chloroform	67-66-3	7.0E-06	4.7E+00	OH-ND	1.5E-06	1.4E-01	5.0E-05
VOC	Chloromethane	74-87-3	2.3E-06					
VOC	Cumene	98-82-8	2.3E-06					
VOC	Cyclohexane	110-82-7	3.7E-07					
VOC	Dibromochloromethane	124-48-1	8.6E-07	4.1E-03	OH-D	2.1E-04		
VOC	1,2-Dichlorobenzene	95-50-1	7.2E-07	1.7E+01	OH-ND	4.2E-08		
VOC	1,4-Dichlorobenzene	106-46-7	3.4E-06	2.6E+00	OH-ND	1.3E-06	9.4E-03	3.6E-04
VOC	Dichlorodifluoromethane	75-71-8	7.7E-04					
VOC	1,1-Dichloroethane	75-34-3	1.0E-05				4.7E-02	2.2E-04
VOC	1,1-Dichloroethene	75-35-4	3.2E-05	3.2E-02	OH-ND	1.0E-03		
VOC	cis-1,2-Dichloroethene	156-59-2	3.5E-03	7.0E-02	OH-D	5.0E-02	9.1E-01	3.9E-03
VOC	trans-1,2-Dichloroethene	156-60-5	4.2E-05	1.0E-01	OH-D	4.2E-04	9.7E-01	4.4E-05
VOC	Ethyl Benzene	100-41-4	1.9E-06	2.9E+01	OH-ND	6.5E-08	1.4E-02	1.3E-04
VOC	2-Hexanone	591-78-6	3.3E-07				9.9E-02	3.3E-06
VOC	Methyl Acetate	79-20-9	1.4E-04					
VOC	4-Methyl-2-pentanone	108-10-1	1.6E-05				1.7E-01	9.3E-05
VOC	Methylcyclohexane	108-87-2	3.2E-07					
VOC	Methylene Chloride	75-09-2	7.4E-05	1.6E+01	OH-ND	4.6E-06	9.4E-01	7.9E-05
VOC	Tetrachloroethene	127-18-4	1.1E-04	8.9E-02	OH-ND	1.3E-03	4.5E-02	2.5E-03
VOC	Toluene	108-88-3	2.8E-06	2.0E+02	OH-ND	1.4E-08	2.5E-01	1.1E-05
VOC	1,2,4-Trichlorobenzene	120-82-1	5.0E-07	9.4E-01	OH-ND	5.3E-07	3.0E-02	1.7E-05
VOC	1,1,1-Trichloroethane	71-55-6	3.1E-07	2.0E-01	OH-D	1.5E-06	7.6E-02	4.0E-06
VOC	Trichloroethene	79-01-6	2.3E-03	8.1E-01	OH-ND	2.8E-03	4.7E-02	4.9E-02
VOC	Vinyl Chloride	75-01-4	2.2E-04	5.3E+00	OH-ND	4.2E-05	9.3E-01	2.4E-04
VOC	Xylenes (total)	1330-20-7	6.6E-06	1.0E+01	OH-D	6.6E-07	2.7E-02	2.4E-04

Table 6.17: Estimate and Assessment of Incremental Chemical Concentration in the Mad River for a Hypothetical, Worst Case Discharge of Shallow Groundwater
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

Chem Group	Chemical	CASRN	C_{river} (mg/L)	Surface Water Quality Criteria (SWQC) (mg/L)	Source for Criteria	Ratio C_{river} to C_{SWQC}	Region 5 Water Ecological Screening Levels (ESL) (mg/L)	Ratio C_{river} to C_{ESL}
SVOC	Acenaphthene	83-32-9	1.5E-08	2.7E+00	OH-ND	5.7E-09	3.8E-02	4.1E-07
SVOC	Anthracene	120-12-7	5.0E-08	1.1E+02	OH-ND	4.5E-10	3.5E-05	1.4E-03
SVOC	Benzo(a)anthracene	56-55-3	1.4E-07	4.9E-04	OH-ND	2.8E-04	2.5E-05	5.5E-03
SVOC	Benzo(a)pyrene	50-32-8	1.5E-07	4.9E-04	OH-ND	3.0E-04	1.4E-05	1.0E-02
SVOC	Benzo(b)fluoranthene	205-99-2	2.3E-07	4.9E-04	OH-ND	4.8E-04	9.1E-03	2.6E-05
SVOC	Benzo(g,h,i)perylene	191-24-2	1.1E-07				7.6E-03	1.4E-05
SVOC	Benzo(k)fluoranthene	207-08-9	1.0E-07	4.9E-04	OH-ND	2.1E-04		
SVOC	bis(2-Ethylhexyl)phthalate	117-81-7	2.3E-06	5.9E-02	OH-ND	4.0E-05	3.0E-04	7.8E-03
SVOC	Butylbenzylphthalate	85-68-7	1.1E-08	5.2E+00	OH-ND	2.2E-09	2.3E-02	4.9E-07
SVOC	Caprolactam	105-60-2	1.0E-04					
SVOC	Carbazole	86-74-8	3.3E-08					
SVOC	Chrysene	218-01-9	1.7E-07	4.9E-04	OH-ND	3.6E-04		
SVOC	Dibenz(a,h)anthracene	53-70-3	2.8E-08	4.9E-04	OH-ND	5.6E-05		
SVOC	Dibenzofuran	132-64-9	1.8E-08				4.0E-03	4.5E-06
SVOC	Diethylphthalate	84-66-2	6.9E-07	1.2E+02	OH-ND	5.7E-09		
SVOC	Di-n-butylphthalate	84-74-2	2.9E-07	1.2E+01	OH-ND	2.4E-08	9.7E-03	3.0E-05
SVOC	Di-n-octylphthalate	117-84-0	9.1E-08				3.0E-02	3.0E-06
SVOC	Fluoranthene	206-44-0	4.1E-07	3.7E-01	OH-ND	1.1E-06	1.9E-03	2.2E-04
SVOC	Fluorene	86-73-7	2.2E-08	1.4E+01	OH-ND	1.5E-09	1.9E-02	1.1E-06
SVOC	Indeno(1,2,3-cd)pyrene	193-39-5	9.4E-08	4.9E-04	OH-ND	1.9E-04	4.3E-03	2.2E-05
SVOC	2-Methylnaphthalene	91-57-6	7.5E-09				3.30E-01	2.3E-08
SVOC	Methylphenol (total)	1319-77-3	1.4E-06					
SVOC	Naphthalene	91-20-3	2.2E-08				1.3E-02	1.7E-06
SVOC	Phenanthrene	85-01-8	2.3E-07				3.6E-03	6.3E-05
SVOC	Pyrene	129-00-0	3.0E-07	1.1E+01	OH-ND	2.8E-08	3.0E-04	1.0E-03
P/PCB	PCBs (total)	1336-36-3	9.1E-07	1.7E-06	OH-ND	5.3E-01	1.2E-07	**7.5E+00**
INORG	Antimony	7440-36-0	9.5E-06	4.3E+00	OH-ND	2.2E-06	8.0E-02	1.2E-04
INORG	Arsenic	7440-38-2	8.4E-06	1.0E-01	OH-AG	8.4E-05	1.5E-01	5.7E-05
INORG	Barium	7440-39-3	6.7E-04	2.0E+00	OH-D	3.3E-04	2.2E-01	3.0E-03
INORG	Beryllium	7440-41-7	5.3E-09	1.0E-01	OH-AG	5.3E-08	3.6E-03	1.5E-06
INORG	Cadmium	7440-43-9	6.7E-05	5.0E-02	OH-AG	1.3E-03	1.5E-04	4.5E-01
INORG	Chromium (total)	7440-47-3	1.9E-05	1.0E-01	OH-D	1.9E-04	4.2E-02	4.5E-04
INORG	Cobalt	7440-48-4	4.4E-06				2.4E-02	1.8E-04

Table 6.17: Estimate and Assessment of Incremental Chemical Concentration in the Mad River for a Hypothetical, Worst Case Discharge of Shallow Groundwater
Former GM Harrison Thermal Systems Facility, Dayton, Ohio

Chem Group	Chemical	CASRN	C_{river} (mg/L)	Surface Water Quality Criteria (SWQC) (mg/L)	Source for Criteria	Ratio C_{river} to C_{SWQC}	Region 5 Water Ecological Screening Levels (ESL) (mg/L)	Ratio C_{river} to C_{ESL}
INORG	Copper	7440-50-8	1.9E-03	5.0E-01	OH-AG	3.8E-03	1.6E-03	**1.2E+00**
INORG	Cyanide (total)	57-12-5	1.2E-05	2.2E+02	OH-ND	5.6E-08	5.2E-03	2.4E-03
INORG	Lead	7439-92-1	1.4E-04	1.0E-01	OH-AG	1.4E-03	1.2E-03	1.2E-01
INORG	Manganese	7439-96-5	4.2E-04	5.0E-02	AWQC	8.3E-03		
INORG	Mercury	7439-97-6	3.7E-07	1.2E-05	OH-ND	3.1E-02	1.3E-06	2.9E-01
INORG	Nickel	7440-02-0	2.2E-05	2.0E-01	OH-AG	1.1E-04	2.9E-02	7.5E-04
INORG	Selenium	7782-49-2	1.9E-06	5.0E-02	OH-D	3.9E-05	5.0E-03	3.9E-04
INORG	Silver	7440-22-4	2.2E-06				1.2E-04	1.8E-02
INORG	Thallium	7440-28-0	2.6E-06	6.3E-03	OH-ND	4.1E-04	1.0E-02	2.6E-04
INORG	Vanadium	7440-62-2	3.4E-06				1.2E-02	2.9E-04
INORG	Zinc	7440-66-6	1.2E-03	2.5E+01	OH-AG	4.7E-05	6.6E-02	1.8E-02

Notes:

1. River concentrations are calculated based on the most recent sampling round for each constituent among RFI groundwater data collected through June 2008.
2. Surface water quality criteria applicable to this segment of the River (OAC 3745-1-07, -21, -34) are based upon the following hierarchy: Ohio non-drinking water or agricultural use criteria, whichever is lower; Ohio drinking water criteria; and federal AWQC, the lower of the drinking water or the organism-consumption criteria.
3. Federal AWQC are based on USEPA national recommended water quality criteria (revised December 2003) for human consumption of water and organisms.
4. Shaded cells represent ratios of concentration to the criteria greater than 1.
5. Ecological Screening Levels from Table 6-1 of the RFI Report.

Abbreviations:

OH-AG - Ohio EPA agricultural water source criteria
OH-ND - Ohio EPA nondrinking water criteria
OH-D - Ohio EPA drinking water criteria
AWQC - USEPA Ambient Water Quality Criteria
EPA - Environmental Protection Agency

APPENDIX F

RFI WORK PLAN AND SOIL GAS SAMPLING AND ANALYSIS PLAN

RFI WORK PLAN

VOLUME I - TEXT, FIGURES, TABLES, APPENDICES A, B, D, E, F, G

FORMER DELPHI HARRISON THERMAL SYSTEMS
DAYTON, OHIO
EPA ID: OHD017958604

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General Motors
Worldwide Facilities Group
Environmental and Regulatory Support
Remediation Team

February 5, 2002

U.S.EPA Region 5,
Corrective Action Section, DW-8J
77 West Jackson Blvd.
Chicago, IL 60604-3590
Attn: Ms. Patricia Polston

RE: RCRA Facility Investigation Work Plan, Former Delphi Harrison Thermal Systems Facility, Dayton, Ohio. (EPA ID No. OHD 017958604)

Dear Ms. Polston:

Please find enclosed four copies of the RCRA Facility Investigation (RFI) Work Plan for the former Delphi Harrison Thermal Systems Facility located at 300 Taylor Street in Dayton, Ohio. This report was prepared by Conestoga-Rovers & Associates on behalf of General Motors Corporation (GM) and Remediation and Liability Management Company, Inc. (REALM). We look forward to discussing this plan during our meeting at your office on February 12, 2002 at 2:00 PM Central Standard Time. In the meantime, if you have any questions regarding this report, please feel free to call me at (937) 455-2636.

Sincerely,

Pamela L. Stubbs, P.G.
Project Manager

cc: P. Smith, Ohio EPA
J. Caufield, GM

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LIST OF ACRONYMS AND TERMS

Agreement	Voluntary Agreement
amsl	above mean sea level
AOI	Area of Interest
AST	Aboveground Storage Tank
bgs	below ground surface
Brand	Brand Precision Services of Dayton
BTEX	benzene, toluene, ethylbenzene, xylenes
BUSTR	Bureau of Underground Storage Tank Regulations
BVA	Buried Valley Aquifer
cis-1,2-DCE	cis-1,2-dichloroethene
COPC	chemical of potential concern
CRA	Conestoga-Rovers & Associates
CRP	Community Relations Plan
CSXT	CSX Transportation, Inc.
CVOC	chlorinated volatile organic compound
Delphi	Delphi Harrison Thermal Systems
DMP	Data Management Plan
DNAPL	dense non-aqueous phase liquid
EDD	electronic data deliverable
EQ	Environmental Quality Management, Inc.
EWWH	Exceptional Warmwater Habitat
FSP	Field Sampling Plan
G&M	Geraghty & Miller (now ARCADIS G&M)
GIS	geographical information system
GM	General Motors Corporation
gpm	gallons per minute
HASP	Health and Safety Plan
LNAPL	light non-aqueous phase liquid
MCD	Miami Conservancy District
mph	miles per hour
NPDES	National Pollutant Discharge Elimination System
ODNR	Ohio Department of Natural Resources

LIST OF ACRONYMS AND TERMS

Ohio EPA	Ohio Environmental Protection Agency
OHM	O.H. Materials
ORP	oxidation reduction potential
OSHA	Occupational Safety and Health Act
PA/VSI	Preliminary Assessment/Visual Site Inspection
PAH	poly-nuclear aromatic hydrocarbon
PCB	polychlorinated biphenyl
PCE	tetrachloroethylene
Peerless	Peerless Realty Group Ltd., or Peerless Transportation Co.
PID	photoionization detector
PMP	Project Management Plan
POTW	Publicly Owned Treatment Works
QA/QC	Quality Assurance/Quality Control
QAPP	Quality Assurance Project Plan
RCRA	Resource Conservation and Recovery Act
REALM	Remediation and Liability Management Company, Inc.
Reliable	Reliable Construction Services
RFI	RCRA Facility Investigation
RM	river mile
Site	portion of the former Delphi Facility that is bounded by Webster Street, Pitts Street, Keowee Street, and the Mad River levee, and a portion of the block bounded by Webster Street, Monument Avenue, Taylor Street, and Pitts Street
SPCC	Spill Prevention Control and Countermeasures
SVOC	semi-volatile organic compound
SWMU	Solid Waste Management Unit
TAL	Target Analyte List
TCA	1,1,1-trichloroethane
TCE	trichloroethylene
TCL	Target Compound List
TPH	total petroleum hydrocarbons

LIST OF ACRONYMS AND TERMS

TSCA	Toxic Substances Control Act
TSD	treatment, storage and disposal
U.S. EPA	United States Environmental Protection Agency
UST	Underground Storage Tank
VOC	Volatile Organic Compound
WPAFB	Wright Patterson Air Force Base
WWH	Warmwater Habitat
WWTP	wastewater treatment plant formerly owned by Delphi (located southwest of Site)

1.0 INTRODUCTION

This document presents a work plan for the Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) at the portion of the former Delphi Harrison Thermal Systems (Delphi) Facility, a division of the General Motors Corporation (GM), currently owned by Peerless Realty Group Ltd. (Peerless), also known as the Peerless Transportation Company, in Dayton, Ohio. The Delphi Facility has United States Environmental Protection Agency (U.S. EPA) permit OHD0179586054. Environmental activities at the Site are being conducted by the Remediation and Liability Management Company, Inc. (REALM), a wholly owned subsidiary of GM.

The Site was sold by GM to Peerless on May 1, 1996, and is currently used as a warehousing operation. Various materials (including furniture, cardboard, and manufacturing equipment) have been observed at the Site since the property was purchased by Peerless. No evidence of a release of hazardous materials by Peerless has been observed. Frank Miller, the Peerless Site supervisor, identified on April 5, 2001 that he is not aware of any releases at the Site.

1.1 GENERAL

Conestoga-Rovers & Associates (CRA) was retained by GM to prepare this document entitled "RCRA Facility Investigation (RFI) Work Plan – Former Delphi Harrison Thermal Systems Facility" (RFI Work Plan).

The Site is located at 300 Taylor Street in Dayton, Ohio. The Site lies immediately south of the Mad River and is bounded by Webster Street to the west, Pitts Street to the south, and Keowee Street to the east. The Site also includes a portion of the block bounded by Webster Street (west), Monument Avenue (south), Taylor Street (east), and Pitts Street (north), as presented on Figure 1.1. A Site plan is presented on Figure 1.2. Past operations have included metal machining, grinding, and heat treatment; electroplating, coating, and painting; assembly and packaging; and product and materials testing.

The Site is a portion of the former Delphi Facility. In order to facilitate project management, it was decided that the Voluntary Agreement (Agreement) dated May 22, 2001 with the U.S. EPA would address the core property, which was where the main manufacturing took place and which currently belongs to a single owner. This portion was also selected because the majority of the historical operations that may have potentially caused a release of hazardous constituents to the environment are located on this Site. The entire former Delphi Facility is presented on Figure 1.3, with the current

property owners indicated. The other portions of the former Delphi Facility were generally used for parking and wastewater treatment. The Site boundary, as defined in the Agreement, is presented on Figure 1.4.

1.2 AREAS OF INTEREST

This section presents an overview of the Areas of Interest (AOIs) identified at the Site. The AOIs were identified in the following manner:

- nineteen Solid Waste Management Units (SWMUs) were identified by the U.S. EPA in the 1990 Preliminary Assessment/Visual Site Inspection (PA/VSI), including SWMU 11, the wastewater treatment plant (WWTP) southwest of the Site;
- thirteen areas were identified by GM prior to 1996; and
- additional AOIs were identified by GM during a review of historical information for the Site.

Some of the SWMUs identified by U.S. EPA overlapped with the areas identified by GM in 1996. In addition, some of the SWMUs have been combined into a single AOI due to proximity and/or similarity of materials managed. A total of 28 AOIs have been identified at the Site, which include all of the areas identified by U.S. EPA, as summarized in Table 1.1. The only SWMU that has not been included as an AOI is SWMU 11, the WWTP, because it is outside of the Site as defined in the Agreement. The AOI locations are presented on Plan 1. The Current Conditions Report (CRA, June 8, 2001), presents a detailed description of the AOIs and the rationale for further investigation at certain AOIs.

1.3 SCOPE AND OBJECTIVES OF RFI WORK PLAN

The scope of this RFI Work Plan is to detail the investigations necessary to identify the nature and extent of any releases of hazardous waste and/or hazardous constituents at or from the Site. Risks will be evaluated to determine if those release(s) pose an unacceptable risk to human health or the environment. The RFI will also provide support for the Environmental Indicators (EI) determinations and any interim and final corrective measures required.

Specifically, the objectives of the RFI Work Plan are to:

- characterize the nature and extent of any releases of hazardous waste and/or hazardous constituents in environmental media at the Site;
- assess potential risk to human health and the environment associated with any releases of hazardous waste and/or hazardous constituents;
- provide sufficient data to support the EI demonstrations;
- determine whether interim measures are necessary to control current unacceptable risks, if any, to human health; and
- determine whether a corrective measures evaluation is necessary to mitigate all current and future unacceptable risks, if any, to human health and the environment.

1.4 WORK PLAN ORGANIZATION

The RFI Work Plan is organized as follows:

Section 1.0 Introduction

This section presents an introduction to, and organization of, the RFI Work Plan.

Section 2.0 Description of Site

This section summarizes general conditions at the Site, including the Site location, historical property ownership, current and historical operations at the Site, historical waste management practices at the Site, and regulatory history.

Section 3.0 Regional Setting

This section summarizes local land use, water supply, demographics, topography, climate, regional geology, regional hydrogeology, regional hydrology, and regional ecology.

Section 4.0 Site Setting

This section provides Site-specific information regarding topography, geology, and hydrogeology (including groundwater quality).

Section 5.0 Site Conceptual Model

This section describes a conceptual model for environmental media and potential receptors in the vicinity of the Site.

Section 6.0 Sampling and Analysis Plan for Site-Wide Groundwater

This section describes the sampling rationale and proposed investigation to identify the nature and extent of hazardous constituents in groundwater in the vicinity of the Site, and allow evaluation of risks to human health or the environment.

Section 7.0 Sampling and Analysis Plan for Areas of Interest (AOIs)

This section describes a sampling rationale which will provide information to identify the nature and extent of any releases of hazardous waste and/or hazardous constituents, and allow evaluation of risks to human health or the environment. The AOIs to be sampled as part of the RFI are described and the investigation proposed at these AOIs is identified. In certain cases, the proposed investigation may be performed in two or more phases, in the event that the results of investigation of one environmental medium in the first phase suggest potential contamination of other environmental media.

Section 8.0 Data Evaluation

This section describes the proposed method for evaluating the RFI data. This will consist of sample tracking and data management, data validation, use of Site maps and other geographic information, and evaluation of the need for additional investigation.

Section 9.0 Reporting

This section outlines the reporting requirements associated with the RFI, including progress reports, the RFI Report, and the Environmental Indicators Report. These are consistent with the reporting requirements presented in the Agreement.

Section 10.0 RFI Schedule

This section presents the RFI schedule. This schedule is consistent with the requirements of the Agreement.

Appendix A References

Appendix A presents a list of references used in the preparation of this RFI Work Plan.

Appendix B Project Management Plan (PMP)

The PMP presents a discussion of the project team organization and the responsibilities of the project team members. The qualifications of personnel performing or directing the RFI are also included.

Appendix C Quality Assurance Project Plan (QAPP)

The QAPP presents organization, objectives, planned activities, and specific quality assurance/quality control (QA/QC) procedures that will be utilized during implementation of the RFI Work Plan.

Appendix D Data Management Plan (DMP)

The DMP presents procedures to be employed for managing information, reports, and correspondence associated with the implementation of the RFI Work Plan.

Appendix E Site Health and Safety Plan (HASP)

The HASP presents the minimum health and safety standards to be met by all personnel during implementation of the RFI Work Plan.

Appendix F Community Relations Plan (CRP)

The CRP presents the mechanisms for dissemination of information to the public regarding investigation activities, results, and selection of a remedy.

Appendix G Field Sampling Plan (FSP)

The FSP presents procedures for the collection of surface soil, subsurface soil, groundwater, concrete core and/or wipe, and sewer sediment and/or water samples.

1.5 INVESTIGATION SUMMARY

Table 1.2 presents a summary of the investigation plan for the AOIs, which is presented in greater detail in Section 7.0.

2.0 DESCRIPTION OF SITE

2.1 SITE LOCATION

The Site is located in the City of Dayton, Montgomery County, Ohio at 300 Taylor Street. The Site lies immediately south of a levee for the Mad River and is bounded by Webster Street to the west, Pitts Street to the south, and Keowee Street to the east. The Site also includes a portion of the block bounded by Webster Street, Monument Avenue, Taylor Street, and Pitts Street. Both Webster and Keowee Streets are heavily traveled four lane roads with minimal pedestrian traffic. The F.A. Requarth property, located across Webster Street from the Site, is occasionally used for parking for the minor league baseball stadium. Across Webster Street to the west are the Requarth Lumber Yard and the Dayton Career Academy. Across Pitts Street to the south are parking lots and across Monument Avenue to the south are a used automobile dealer, Litho-Print, a vacant building, the City of Dayton Business Incubator Building, the Hallowell building, a parking lot, and Dayton Builder Supply. Across Keowee Street to the east are the City of Dayton Water Department facility and Ottawa Street Yard.

The Site consists of manufacturing buildings, driveways, railroad spurs, and some open space [primarily east of the railway, in the vicinity of the former "G" (Government) Buildings]. The Site is crossed in a north-south direction by Taylor Street (east of Webster Street), Meigs Street (east of Taylor Street), and the railway owned by CSX Transportation, Inc. (CSXT) (east of Meigs Street). The Site is crossed in an east-west direction by Amelia Street (north of Pitts Street). Taylor, Meigs, and Amelia Streets have been vacated within the boundaries of the Site. Figure 1.2 presents the Site plan.

2.2 PROPERTY OWNERSHIP HISTORY

In 1887, S. Stompers and Company Lumber Yard, J.B. Hoglen's Log Yard, Barney & Smith Lumber Yard and Manufacturing Company, Gem City Stove Company, and John Stengel and Company Furniture Manufacturing occupied the area between Webster Street and Keowee Street.

In 1911, the Mutual Manufacturing Furniture Company, SH Rothenberg Leaf Tobacco, the Dayton Biscuit Company, the Stumps Burkart Lumber Company, the M.J. Gibbons Plumbing Supply Company, agricultural implement sales, and domestic properties occupied the area between Webster Street and Taylor Street; the Barney & Smith Car Company and residential properties occupied the area between Taylor Street and the Baltimore & Ohio Railroad (currently CSXT); and the Dayton Car Works Annex

occupied the area between the Baltimore & Ohio Railroad (currently CSXT) and Keowee Street. The flood of 1913 destroyed a number of these structures.

In 1918, the Mutual Manufacturing Furniture Company, the Dayton Biscuit Company, and the M.J. Gibbons Plumbing Supply Company occupied the area between Webster Street and Taylor Street; the Dayton Metal Products Company and the Domestic Engineering Company occupied the area between Taylor Street and the Baltimore and Ohio Railroad (currently CSXT); and the Barney & Smith Car Company West Plant Annex occupied the area between the Baltimore & Ohio Railroad (currently CSXT) and Keowee Street.

The Site was acquired by GM in 1919 after GM purchased the Domestic Engineering Company and changed the name of this company to the Delco Light Company. The Site has been operated by the Delco Light Company (1919 to 1928), the Frigidaire Corporation (1928 to 1936), the Frigidaire Division of General Motors Corporation (1936 to 1975), the Delco Air Conditioning Division (1975 to 1981), the Harrison Radiator Division (1981 to 1994), and Delphi Harrison Thermal Systems (1994 to 1996). The Site was sold to Peerless in 1996.

2.3 HISTORICAL OPERATIONS (PRIOR TO 1996)

Past operations at the Site have included metal machining, grinding, and heat treatment; electroplating, coating, and painting; assembly and packaging; and product and materials testing. Products manufactured have included automotive air conditioning compressors and related components, electric refrigerators, household appliances, and machine guns (during World War II). Figures 2.1 and 2.2 present historical manufacturing operations at the Site in the 1980s and 1970s, respectively. During this time period, only the ground floor of most buildings and the second floor of Building 24 were used for manufacturing. Manufacturing operations at the Site ceased in June 1995. Between 1995 and 1997, plant decommissioning was performed by GM in preparation for sale.

The following historical operations have been performed in buildings at the Site. (The dates refer to the construction/renovation and demolition dates and the square footage refers to the final building size.)

Building 1 (1914/1941 - present) 45,620 ft²	Building 1 is a one-story brick building. Operations included manufacturing (primarily machining), equipment storage, a garage, and testing facilities.
Building 1A (1964 - present)	Building 1A is a one-story metal building. Operations included a shipping dock, a railway siding, a phosphate washer, equipment storage, and raw material storage.
Building 2 (1908/1924/1941 - present) 99,708 ft²	Building 2 is a seven-story concrete building. Operations included manufacturing and engineering (first three floors) and material storage (upper four floors). A tool crib was also located in this building and a battery-charging station was located between Buildings 2 and 3.
Building 3 (1913/1932/1936/ 1963 - present) 17,460 ft²	Building 3 is a two-story concrete building. Operations included administration, research, and maintenance (the "tinners shop"). A battery-charging station was located between Buildings 2 and 3.
Building 4 (1914 - present) 11,810 ft²	Building 4 is a one-story brick building. It was used as a heavy-truck repair garage. A hydraulic hoist was located on the eastern side of the building.
Building 5 (1919 - present) 182,565 ft²	Building 5 is a six-story brick building, with a partial basement. Operations included compressed air, steam lines, sanitary lift station, and main electrical vault (basement) and offices, shipping, manufacturing and storage (upper floors).
Building 7 (1907/1950/1975/ 1977 - present) 109,971 ft²	Building 7 is a one-story brick and metal building, with a partial basement. Operations included metal machining, centerless grinding, inspection, and miscellaneous machining. Three large coolant systems were located in this building. In addition, prior to the early 1970s, cadmium, chromium, zinc, and tin plating occurred in the northern end of the building, and cadmium plating occurred in the central portion of the building.
Building 8 (1927 - 1966)	Building 8 was a former storage area and was replaced by the current Building 24 in approximately 1966.
Structure Southwest of Building 8 (unknown – 1966)	This structure was a former laundry area. The portion closest to former Building 8 was a still for reclaiming Stoddard solvent. This structure was replaced by the current Building 24 in approximately 1966.

Building 9 (1918/1945/1969/ 1970 - present) 152,201 ft²	Building 9 is a one-story concrete, brick, and metal building. Operations included steam-cleaning, heat-treating and case hardening, air compressors, polishing, metal machining, metal grinding, screw machines, punch presses, oil reclamation, zinc and tin plating, and equipment storage.
Building 10 (1917 - present) 77,508 ft²	Building 10 is a two-story brick and concrete building. Operations included stock receiving and storage, metal stamping, new product drum storage, metallurgy laboratories, heat-treating, maintenance, paint booths, tool cribs, and chip handling. Raw material and waste storage was located east of this building.
Building 12 (1920/1949/1964/ 1966 - present) 78,589 ft²	Building 12 is a one-story concrete and brick building with a partial basement. Operations included manufacturing (primarily assembly), equipment storage, and paint booths (on the second floor). An electrical vault was located in the basement. A skid-mounted air drying unit was formerly located on the west side of the building.
Building 13 (1917 - 1989) 500 ft²	Building 13 is a concrete building, with a basement. It was used for oil storage and as a pumphouse to store and move bulk liquids to their usage points throughout the Site. Although the building has been demolished, the basement is still in place.
Building 15 (1870/1917/1947 - present) 40,533 ft²	Building 15 is a two-story frame building. Operations included manufacturing and equipment storage, paint sludge collection, security, and offices.
Building 16 (1870 - 1966)	Building 16 was a former maintenance area that housed a tin shop, a welding shop, and a plumbers work area. It was replaced by the current Building 24 in approximately 1966.
Building 20 (1908 - 1966)	Building 20 was a former maintenance area and was replaced by the current Building 24 in approximately 1966.
Building 22 (1910/1914/1919 - present) 58,827 ft²	Building 22 is a three- and five-story concrete building. Operations included manufacturing and maintenance (first floor), and maintenance and storage areas (upper four floors).
Building 24 (1967 - present) 183,076 ft²	Building 24 is a two-story brick, concrete block, and metal building, with a partial basement. Operations included manufacturing (primarily machining), investment recovery, equipment storage, compressed-gas cylinder storage, and oil storage. A still room for solvent recovery was located in the northwest corner in the basement.

Building 27 (1968 - present) 2,420 ft²	Building 27 is a one-story, unheated, metal storage enclosure.
Building G-1 (1929/1941 - 1996) 21,304 ft²	Building G-1 was a four-story brick building. Operations included personnel and administration offices.
Building G-2 (1941 - 1996) 184,493 ft²	Building G-2 was a five-story brick and concrete building, with a partial basement. Operations included maintenance and product engineering and testing. The maintenance area on the first floor contained hydraulic systems and a tool room area on the eastern side. Testing laboratories were located on the upper floors.
Building G-3 (1870-1991) 22,837 ft²	Operations in Building G-3 included machining and repair (first floor), pattern shop and repair (second floor), and performance testing of refrigerators (third floor). A small chrome plating operation was also located on the first floor, above a basement, prior to 1965. This building burned down in 1991.
Building G-4 (1925-1990) 42,298 ft²	Operations in Building G-4 included machining. Sumps and trenches collected metal chips, oil, and water and routed these materials to Building G-5. This building also contained a hydraulic lift station.
Building G-5 (1900-1988) 8,370 ft²	Operations in Building G-5 included oil reclaim and chip processing. Four sumps and associated piping and trenches directed oil to Underground Storage Tanks (USTs) for reclamation. A small-scale cyanide heat treating process operated until 1978.

Solvent use was also associated with many manufacturing operations throughout the Site. Specifically, the following solvents were used:

1. Bulk chlorinated and Stoddard solvents were used in degreasers between 1971 and 1987. Chlorinated solvents included trichloroethylene (TCE) between 1971 and 1973, tetrachloroethylene (PCE) between 1973 and 1982, and 1,1,1-trichloroethane (TCA) between 1982 and 1987. Between 1971 and 1981, bulk solvents were unloaded from a tank truck in the Building 12 unloading area and routed to 10,000-gallon USTs west of Building 12. Between 1981 and 1987, bulk solvents were unloaded from a tank truck in the Building 24 unloading area and routed to 10,000-gallon USTs in the Building 24 basement. After distillation, the solvent was pumped directly from the Building 24 basement to the degreasers via closed overhead piping. Stoddard solvents were also used prior

to construction of Building 24 in 1967. A Stoddard solvent still was reportedly located near former Building 8. (GM; October 8, 1984).

2. Freon TMC was also used in degreasers. This material was stored in drums at the oil house (Building 13) and transported in drums to the specific degreaser, where it was transferred manually with a drum pump. Waste materials were manually removed from the degreasers into drums and hauled to the hazardous waste storage cage in Building 5. (GM; October 8, 1984).

3. Satellite cleaning units were located throughout the Site. These units were small and mobile and were located in various locations throughout the Site. According to U.S. EPA's 1990 PA/VSI, they contained Stoddard solvent, TCA (until 1990), Solvo-Clean (a non-chlorinated solvent), or Safety-Kleen's petroleum naphtha.

4. Paint thinner was used to adjust the viscosity of paint, as well as for cleaning solvent to flush paint lines and guns. This material was stored in drums at the oil house (Building 13) and transported in drums to the Building 24 still room for paint thinning, to the Building 12 paint room for production system cleaning operations, or to the Building 10 maintenance paint shop. In the still room, paint thinner was manually pumped into the 10,000-gallon paint storage tank. During production system cleaning operations in the paint room, paint thinner was manually pumped into the paint feed lines and recirculated in a closed system using the paint feed pumps; the used paint thinner was collected in drums for disposal. In the maintenance paint shop, paint thinner was used directly from drums and collected in drums for disposal. Used paint thinner was transported to the hazardous waste storage cage in Building 5 prior to transportation off Site for disposal. (GM; October 8, 1984)

2.4 RAW MATERIAL AND WASTE STORAGE AND HANDLING AREAS

2.4.1 UNDERGROUND STORAGE TANKS

Various USTs have historically been located at the Site, and used for storage of raw materials and wastes. Tanks have been regulated under Bureau of Underground Storage Tank Regulations (BUSTR) and/ RCRA under the Ohio Environmental Protection Agency (Ohio EPA), or have been unregulated because they predated BUSTR and RCRA. Table 2.1 presents a summary of the USTs at the Site. Figure 2.3 presents the UST locations.

2.4.2 ABOVEGROUND STORAGE TANKS

Various aboveground storage tanks (ASTs) have historically been located at the Site, and used for storage of raw materials and wastes. Figure 2.4 presents the AST locations at the Site.

2.4.3 DRUM STAGING AND STORAGE AREAS

Various drum staging and storage areas have historically been located at the Site, and used for storage of both raw materials and wastes. Figure 2.5 presents the locations of drum staging and storage areas at the Site.

2.4.4 SPILLS AND RELEASES

A total of six spill interceptors were located at the Site:

1. 1,000-gallon trench drain and tank (Building 10 chip loading area);
2. 10,000-gallon trench drains and tank (Building 9 truck unloading area);
3. 10,000-gallon trench drains and tank (Building 4 ASTs);
4. 10,000-gallon trench drain and tank (Building 12 truck unloading area);
5. 2,000-gallon containment pipe and sumps (between Buildings G-2 and G-4); and
6. 600-gallon trench drain (Building 24 truck unloading area).

Appropriate agencies were contacted in the event of a spill or release. The procedure changed during the course of operations at the Site, and was documented in the Spill Prevention Control and Countermeasure (SPCC) Plans for the Site. For example, spills to storm sewers were verbally reported in the 1970s and a Delphi employee was posted at the outfall to the Mad River to verify that there was no impact to the river.

In addition, the following Release Notifications have been filed by GM for USTs at the Site (although not all of the releases are believed to have originated from the USTs):

578530-01 (Dec. 21, 1988)	Contamination was observed during removal of Tanks 22 and 23, cutting oil USTs located below Building G-4 (north side), on December 19 to 20, 1988. The tanks were believed to be enclosed within a concrete vault so it was not anticipated that a release to the environment had occurred. The excavation was completed on December 21, 1988 without encountering secondary containment, so a Release Notification was made.
578530-02 (Dec. 22, 1988)	Contamination was suspected during removal of Tanks 20 and 21, Stoddard solvent and kerosene USTs located west of Building 12, on December 21, 1988. Sample results identified that the contamination was PCE and was not associated with the former contents of these tanks.
578530-02 (Dec. 7, 1989 to Jan. 18, 1990)	The contamination first identified during removal of Tanks 20 and 21 was found to be associated with Tank 18, which was removed on December 8, 1989. It was not possible to remove all of the contaminated soil associated with this tank due to the proximity of Building 12 and Webster Street. Contamination was also identified based on the soil sample results from Tank 14 (results received on December 7, 1989), Tank 4 (results received on January 18, 1990), and Tanks 8 to 11 (results received on January 18, 1990). A "No Further Action" letter dated August 2, 1993 has been received for Tank 14.
578530-03 (Dec. 14, 1992)	Contamination was observed during removal of Tanks 12 and 13, gasoline and diesel fuel USTs located north and west of Building 4, between December 11 and 14, 1992.
578530-04 (Dec. 18, 1992)	Contamination was observed during removal of Tank 7, a coolant UST located beneath Building 10, on December 18, 1992. Contamination was also identified during removal of Tank 5, a hydraulic oil tank located east of Building 10.
578530-05 (Sept. 24, 1993)	Contamination was identified based on the soil sample results from Tanks 1 and 2, refrigerant oil tanks located south of Building 12, which were received on September 24, 1993. A "No Further Action" letter dated March 9, 1998 has been received for Tanks 1 and 2.

2.5 HISTORICAL WASTE MANAGEMENT PRACTICES

2.5.1 HAZARDOUS WASTE MANAGEMENT

Hazardous wastes historically generated at the Site have included various paint wastes (F017), various waste solvents (F001/D001), plating tank bottoms (F008), oil quench

sludge from heat treatment (F010), and spent salt bath solution from heat treatment (F011). The main areas of hazardous waste generation are presented on Figure 2.6. According to GM's 1993 "We Care" survey, the following hazardous wastes were generated at the Site: petroleum naphtha (D001/D018/D039), paint thinner (D001/F005), paint strip sludge (D002), gasoline and water (D001/D018), diesel fuel and water (D001), storm sewer solids (D039/F001), black paint (D001), paint cans (D001), inks (D001/D026), methyl alcohol (D001), propylene glycol ethyl ether (D001), paint (D001/D035), cutting oil (D001), and mineral spirits (D001). The hazardous wastes generated at the Site were disposed of off Site.

2.5.2 SOLID WASTE MANAGEMENT

According to GM's 1993 "We Care" survey, the following solid wastes were generated at the Site: grease, grinding sludge, wood skids, soil from UST removals, soil from fire line repair, soil from storm sewer repair, demolition debris, medical waste, empty drums, lead-acid batteries, steel encased fork truck batteries, ferrous scrap metal, non-ferrous scrap metal, corrugated cardboard, wood plastic, paper, and miscellaneous plant trash. The wastes were removed from the Site for landfill disposal or recycling.

2.5.3 WASTEWATER MANAGEMENT

Prior to 1981, all process and sanitary wastes were discharged to a combined process/sanitary sewer system. Process wastewater was treated at the WWTP beginning in 1981 (note that the WWTP is outside the Site boundary defined for this project). (GM; 1974 and 1981)

Process wastewater from the manufacturing plant was separated into plating waste and general oily waste. The plating waste contained cadmium, chromium, zinc, and tin from the electroplating operations. The general oily waste consisted of water soluble coolants and oily emulsions from machining operations (primarily alkaline spray cleaning, airless painting, mechanical deburring, and floor cleaning). The plating waste was treated by reducing hexavalent to trivalent chromium with sodium metabisulfite, adjusting pH with lime to precipitate metal hydroxides, and settlement and clarification using a flocculent polymer. The general oily waste was treated by gravity separation to remove free oil, de-emulsification of emulsified oils using polymers, and phase separation using dissolved oil flotation. Free oil was collected and sent off Site for reclamation. The treated effluent from the plating waste and general oily waste streams was combined for equalization and pH adjustment, further treated with gravity sand filtration, and

discharged to the City of Dayton sanitary sewer system, and then to the City of Dayton Publicly Owned Treatment Works (POTW).

Process sewers at the Site are identified on Figures 2.7a and 2.7b.

2.5.4 STORMWATER MANAGEMENT

Non-contact cooling water and stormwater runoff were discharged to the Mad River at several locations. Oil interceptors were installed in major storm sewer lines prior to the outfalls. Information on permitted outfalls is presented in Section 2.6.2.

Storm sewers at the Site are identified on Figures 2.7a and 2.7b.

2.6 REGULATORY HISTORY

2.6.1 WASTEWATER DISCHARGE PERMITS

The Site held Pretreatment Permit No. 00091-1-028 for the WWTP, which began operations in 1981 (note that the WWTP is outside the Site boundary defined for this project). Wastewater was treated as discussed in Section 2.5.3 and discharged to the City of Dayton sanitary sewer system and then to the City of Dayton POTW.

2.6.2 STORMWATER DISCHARGE PERMITS

The Site held National Pollutant Discharge Elimination System (NPDES) permits N131*AD, N131*BD, and N131*CD, for the following outfalls (Ohio EPA; March 7, 1974) (Ohio EPA; February 26, 1979) (Ohio EPA; June 9, 1982):

1. Outfall 001 Storm and non-contact cooling water from Buildings 15, 22, and 24 to Mad River; taken out of service in 2000.
2. Outfall 002 Storm and non-contact cooling water from Building 4 to Mad River; taken out of service prior to 1987.
3. Outfall 003 Storm runoff from G-Building roofs to Mad River; taken out of service in late 1990 during demolition of Building G-3.
4. Outfall 004 Storm and non-contact cooling water from Buildings 12 and 22 to 72-inch City sewer on Pitts Street via 24-inch sewer.

5. Outfall 005 Storm and non-contact cooling water from Building 12 to 72-inch City sewer on Pitts Street via 18-inch sewer.

6. Outfall 006 Storm and non-contact cooling water from Building 1 to 72-inch City sewer on Pitts Street via 15-inch sewer.

7. Outfall 007 Storm and non-contact cooling water from Buildings 1, 2, 3, 4, 5, and 7 to 72-inch City sewer on Pitts Street via 30-inch sewer.

8. Outfall 008 Storm and non-contact cooling water from Buildings 5, 7, 9, 10, and G-4 to 72-inch City sewer on Pitts Street via 24-inch sewer.

9. Outfall 009 Storm and non-contact cooling water from Buildings 9, 10, and G-4 to 72-inch City sewer on Pitts Street via 24-inch sewer.

10. Outfall 010 Storm and non-contact cooling water from Buildings G-1, G-2, G-3, and G-5 to 72-inch City sewer on Pitts Street via 12-inch sewer.

11. Outfall 011 Replaced Outfalls 005 through 010 for sampling purposes in approximately 1987.

In addition, the plant held a permit for Outfalls 012 through 016, which were located outside the Site boundary defined for the CCR. (GM, April 26, 1985)

2.6.3 AIR PERMITS

Air quality control equipment included dry filters and water-walls with wet eliminators on the paint spray booth exhausts, fume scrubbers on the exhaust systems for various electrocleaners and other processes, and oil eliminators on some exhausts from welding and machining operations.

The Site had Ohio EPA air permit 0857040029, which registered the following sources (RAPCA, May 22, 1990) (RAPCA, March 21, 1986):

- F001 - roadways and parking;
- F002 - WWTP limestone handling system (note that the WWTP is outside the Site boundary defined for this project);
- G001 - gasoline and diesel;
- K001 to K006 - various paint spray systems;
- L001 to L033 - various degreasers;
- P001 - MacLeod air conditioning parts washer (Building 12);
- P002 - Ransohoff conveyorized spray washer (compressor shell);

- P003 - soldering wheels (MXN valve assembly);
- P006 - hand dip tanks, bright dip, and tin plating (MXN valve);
- P007 - Panghorn-Wheelabrator tumble blast machine;
- P008 - miscellaneous tool grinders (east);
- P009 - miscellaneous woodshop equipment;
- P010 - conveyorized electroplating dip tank (POA valve plater);
- P011 - miscellaneous tool grinders (west);
- P012 - miscellaneous woodshop equipment (maintenance and carpenter shop);
- P014 - New Shell electrocleaning tank;
- P015 - miscellaneous plating and dip tanks;
- P016 - miscellaneous hand dip degreasers;
- P017 - various degreasers (superceded by permits L001 through L033);
- P018 - various tool grinders;
- P019 - woodworking tools (carpenter shop);
- P020 - various tool grinders (west);
- P021 - oil cooker;
- P022 - prab oil cooker;
- P023 - 3-stage iron phosphate process;
- T001 - 10,000-gallon hydraulic oil; and
- T002 - 10,000-gallon machine coolant.

2.6.4 RCRA HAZARDOUS WASTE PERMITS

A Notification of Hazardous Waste Activity was submitted to U.S. EPA on August 12, 1980, and revised on October 28, 1980.

The interim Part A permit application for the Site, for status as a treatment, storage and disposal (TSD) facility, was submitted on November 19, 1980. The permit application was approved by the Ohio EPA on December 9, 1981 (Permit No. 05-57-0256) and the U.S. EPA on March 12, 1982 (OHD017958604). The permit included the following units:

1	PCE Storage Tank	W of Bldg. 12	AOI 1
2	Dirty PCE Storage Tank	Bldg. 24 Bsmt.	AOI 2
3	Clean PCE Storage Tanks	Bldg. 24 Bsmt.	AOI 2
4	Still Bottom Scrap Tank	Bldg. 24 Bsmt.	AOI 2
5	Waste Tank	N of Bldg. 4	AOI 3
6	Waste Tank Sump	N of Bldg. 4	AOI 3
7	Hazardous Materials Storage Cage	Bldg. 5	AOI 4
8	Hazardous Materials Storage Cage	Bldg. 13	AOI 4
9	Plating Waste Sump	Bldg. 9	AOI 5
25	Building 12 Spill Interceptor	S of Bldg. 12	AOI 6
26	Building 4 Spill Interceptor	N of Bldg. 4	AOI 6

Units 10 through 24 were located in the WWTP and were therefore outside of the Site boundary defined for this report.

The following revisions have been requested to the Part A permit:

1. On November 18, 1981, a revised permit application was filed to relocate the hazardous materials storage cage (Unit 8) from Building 13 to Building 10, thereby increasing the containerized storage capacity. This change had been requested previously in a letter dated August 5, 1981. The U.S. EPA approved the relocation on April 12, 1982. No hazardous wastes were stored in either Buildings 10 or 13. Additional information was submitted to the Ohio EPA on July 15, 1982 and August 18, 1982, and the Ohio EPA approved the relocation on September 24, 1982. Unit 27 was also added to the November 18, 1981 revised permit application for storage of dewatered wastewater treatment sludge. However, a temporary exclusion for the wastewater treatment sludge was granted by the U.S. EPA on December 23, 1981. The Ohio EPA acknowledged the temporary exclusion in a letter dated January 15, 1982. Therefore, a modification to the November 18, 1981 revised permit application was filed on August 18, 1982, deleting Unit 27.
2. Errors were identified by GM in the permits issued by the U.S. EPA and the Ohio EPA. GM requested the permits be corrected in letters dated March 29, 1982 and October 5, 1982. The Ohio EPA corrected and reissued the permit on October 12, 1982.
3. On July 5, 1984, a revised permit application was filed to relocate the hazardous waste storage cage (Unit 8) from Building 10 to Building 24. The storage cage in

Building 10 had been approved for storage of hazardous waste since 1982, but no hazardous wastes had been stored in this area.

4. Consistent with the December 15, 1986 partial closure plan (for Units 5, 6, and 26), a request for permit revision was filed, thereby decreasing the tank storage capacity. This revision was not approved by the Ohio EPA because the closure plan was not approved and therefore closure of these units could not proceed. However, the Ohio EPA acknowledged the request to decrease the tank storage capacity on September 14, 1988, depending on the success of the certification of closure for Units 5, 6, and 26.

5. On February 24, 1987, a request for permit revision was filed to reflect the relocation of Unit 8 from Building 13 to Building 24, to form Units 8A (storage cage) and 8B (staging area). No hazardous wastes had been stored in Building 13, and therefore no closure activities were required. Although Building 10 had also been approved for storage of hazardous waste, no hazardous wastes had been stored in Building 10; and therefore, no closure activities were required.

6. On July 14, 1987, a request for permit revision was filed to reinstate the F006 waste treatment sludge (Unit 27), because the final exclusion of this waste had been denied by the U.S. EPA on November 7, 1986. In addition, the permit revision deleted the Building 12 spill interceptor (Unit 25), thereby decreasing the tank storage capacity. The Building 12 spill interceptor had never contained hazardous waste and was therefore not believed to be subject to RCRA hazardous waste regulations.

7. On November 25, 1987, a request for permit revision was filed to remove the five (four 200-gallon ASTs and one 3,000-gallon UST) clean chlorinated solvent tanks (Unit 3) from the permit. At the request of the Ohio EPA, additional information stating these tanks had never been used to store hazardous wastes was submitted on April 7, 1988. The Ohio EPA denied the request for permit revision in a letter dated May 3, 1988.

8. A request for permit revision was filed on September 27, 1988, deleting the 10,000-gallon clean chlorinated solvent storage UST (Unit 1) and the five (four 200-gallon ASTs and one 3,000-gallon UST) clean chlorinated solvent tanks (Unit 3) because these units never contained RCRA hazardous waste, only new and/or distilled solvents. Several waste codes were also revised to reflect recent EPA clarifications and redefinitions; F008 to D002, F017 to D007, and F017 to F005. The Ohio EPA acknowledged a new tank storage capacity on February 27, 1989, which included only the deletion of Unit 1.

9. A request for permit revision was submitted to the Ohio EPA on July 27, 1989 to clarify all outstanding requests. This summarized all previous requests for closure approval and permit revisions dated December 15, 1986, February 24, 1987, July 14, 1987, and September 27, 1988, which had not yet been resolved. Ohio EPA did not respond to this request and no further permit revisions were made.

2.6.5 RCRA HAZARDOUS WASTE CLOSURES

On December 15, 1986 (received by the Ohio EPA on December 22, 1986), GM filed a partial closure plan with the Ohio EPA for the hazardous waste AST (Unit 5), the hazardous waste sump (Unit 6), and the Building 4 spill interceptor (Unit 26). These units were located north of Building 4.

On September 1, 1988 GM filed a closure plan (dated August 1988) with the Ohio EPA (received by the Ohio EPA on September 6, 1988), which superceded the December 15, 1986 closure plan. This closure plan included the Building 24 tank storage area (Units 2, 3, and 4; AOI 2), the Building 7 tank storage area (AOI 7), the Building 4 tank storage area (Units 5, 6, and 26; AOI 3), the Building 24 drum staging and storage areas (Units 8A and 8B; AOI 4), and the Building 5 container storage area (Unit 7; AOI 4). This closure plan did not include all of the hazardous waste units identified in the original Part A permit application. However, it included all RCRA units at the Site. The PCE storage tank (Unit 1; AOI 1) held only new product and was therefore not covered by RCRA. The plating waste sump (Unit 9; AOI 5) was associated with the WWTP and was therefore exempt from RCRA. The Building 12 spill interceptor tank (AOI 6) never held hazardous waste and was therefore not covered by RCRA.

The Ohio EPA disapproved the September 1, 1988 closure plan in a letter dated December 7, 1989. GM filed a request for adjudication hearing on January 8, 1990. A pre-hearing conference was scheduled for March 22, 1990, but a joint motion was filed by GM and the Ohio EPA on March 12, 1990 for continuance of the pre-hearing, pending further negotiations. Technical meetings between GM and the Ohio EPA were held on April 20, 1990 and March 23, 1992, and joint status reports were filed by GM and the Ohio EPA between May 1990 and October 1994.

A draft closure plan for the Building 24 drum staging and storage areas (Units 8A and 8B; AOI 4) and the Building 5 container storage area (Unit 7; AOI 4) was prepared for settlement discussion purposes on September 11, 1995 (received by the Ohio EPA on September 19, 1995). This closure plan was amended on July 26, 1996 (received by the

Ohio EPA on July 29, 1996). A Partial Stipulation and Settlement Agreement was reached by GM and the Ohio EPA on August 15, 1996. Final Findings & Orders of the Director were filed by the Ohio EPA on November 25, 1996 recommending that the July 29, 1996 closure plan be approved.

In February 1996, a closure plan was prepared for three USTs (10,000-gallon dirty chlorinated solvent, 10,000-gallon dirty Stoddard solvent, and 3,000-gallon still bottoms) and eight ASTs (four 200-gallon chlorinated solvent and four 200-gallon Stoddard solvent) in the Building 24 Still Room (Units 2, 3 and 4; AOI 2); a 2,000-gallon Waste Tank AST, a 200-gallon sump, and a 10,000-gallon Spill Interceptor UST north of Building 4 (Units 5, 6, and 26; AOI 3); and a 10,000-gallon waste Stoddard solvent tank south of Building 7 (AOI 7). This closure plan was amended and submitted to Ohio EPA on April 28, 1997. However, upon further review it was determined that these tanks constituted a "closed loop" solvent recovery system and should be regulated under BUSTR, not RCRA. GM submitted a letter stating this position on June 30, 1997, and Ohio EPA concurred in a letter dated September 9, 1998. Negotiations continued, and GM submitted a closure plan to Ohio EPA on November 10, 1999 for one UST (3,000-gallon still bottoms) in the Building 24 Still Room (Unit 4; AOI 2); and a 2,000-gallon Waste Tank AST, a 200-gallon sump, and a 10,000-gallon Spill Interceptor UST north of Building 4 (Units 5, 6, and 26; AOI 3). The remaining USTs identified in the April 28, 1997 closure plan were to be closed in accordance with BUSTR requirements. A Partial Stipulation and Settlement Agreement was reached by GM and Ohio EPA on November 1, 2000. Final Findings & Orders of the Director were filed by Ohio EPA on November 8, 2000 recommending that the November 10, 1999 closure plan be approved. The approval was granted on November 30, 2000.

Closure of one UST (3,000-gallon still bottoms) in the Building 24 Still Room (Unit 4; AOI 2); and a 2,000-gallon Waste Tank AST, a 200-gallon sump, and a 10,000-gallon Spill Interceptor UST north of Building 4 (Units 5, 6, and 26; AOI 3) has been completed in accordance with the November 10, 1999 Closure Plan. The remainder of the USTs identified in the April 28, 1997 closure plan were closed concurrently, in accordance with BUSTR requirements. The Closure Certification Report was submitted to Ohio EPA on June 25, 2001, and closure was approved in a letter dated January 24, 2002.

3.0 REGIONAL SETTING

3.1 LAND USE

The Site is located in the City of Dayton, Montgomery County, a large industrial city located in southwestern Ohio. The Site is located along the Mad River, in an area of manufacturing, commercial, and residential land use. A large military complex, the Wright Patterson Air Force Base (WPAFB), is located upstream from the Site along the Mad River. The Site is located less than 1/2 mile east of downtown Dayton businesses and government centers.

The area adjacent to the Site is industrial and commercial. A minor league baseball stadium was recently constructed near the Site. Interstate I-75 is located west of the Site, along with a number of interchanges and bridges spanning the Great Miami River and Mad River. The nearest residential land is located approximately 1/4 mile north of the Site. No hospitals are located within 1/2 mile of the Site. Patterson High School is located approximately 1/2 mile southwest of the Site, Webster School is located approximately 1/2 mile northeast of the Site, and ISUS Trade and Technology Prep is located one city block southeast of the Site (southeast corner of Monument Avenue and Keowee Street).

3.2 WATER SUPPLY

According to "Ground Water Resources of Montgomery County" (Schmidt, 1986), the main water supply for this area is groundwater from the Great Miami Buried Valley Aquifer (BVA), which runs generally along the Great Miami River and the Mad River. The City of Dayton Division of Water Works and the Miami Conservancy District (MCD) monitor groundwater quality and enforce local and state regulations. The lower aquifer is designated as a federally protected Sole Source Aquifer; the nearest wellhead protection area to the Site is the Mad River Well Field, which is located upgradient of the Site (see below).

The City of Dayton has two major well fields, located upgradient of the Site, that supply approximately 440,000 people with over 27 billion gallons of water per year. The Miami River Well Field is located in north Dayton, along the Great Miami River. The Mad River Well Field has 70 wells located in three well fields along the Mad River: Rohrer's Island, which is located west of Huffman Dam at about river mile (RM) 6; north of Rohrer's Island; and southwest of Rohrer's Island. The Mad River well field is located approximately 5 1/2 miles east-northeast of the Site. The closest potable-use well to the

Site is over 1 mile upgradient of the Site, upstream of the Findlay Street bridge. Wells in the most productive portions of the lower aquifer can be up to 200 feet deep and produce up to 2,500 gallons per minute (gpm). Many of the Mad River Well Field water supply wells are less than 150 feet deep. Portions of the well field have been in operation since 1870.

The City of Oakwood operates two wells located approximately 2.5 miles south of the Site. Oakwood also purchases water from the City of Dayton approximately 6 months out of the year.

Montgomery County has constructed a fountain as part of the Riverscape redevelopment project, located downgradient of the Site at the confluence of the Great Miami River and the Mad River. This fountain draws water from six wells (150 to 200 feet deep, approximately 3,000 gpm each) in this area.

Mr. Jim Shoemaker, a representative from the Water Department at the City of Dayton, reported in July 2000 that there were no potable use wells within 1/2 mile of the Site. Ohio Department of Natural Resources (ODNR) records indicate that at least 13 located and 16 unlocated wells are present within 1/2 mile of the Site. All of the located wells were for non-potable use, including those located approximately 1/2 mile downgradient of the Site. (Geraghty & Miller (G&M); January 1988). The wells are screened at various depths ranging from 60 to 180 feet below ground surface (bgs), with most wells screened between 100 and 150 feet bgs.

3.3 DEMOGRAPHICS

The 1990 census population for the City of Dayton was 182,044 and the population estimate for 1998 was 169,851. The 1990 census population for all of Montgomery County was 573,809 and the population estimate for 1999 was 565,860. There are approximately 226,000 households in the county. (World Almanac; 2001)

3.4 TOPOGRAPHY

The Dayton area is located within the Central Glaciated Plains Physiographic Province of southwestern Ohio. This area consists of unconsolidated deposits that unconformably overlie sedimentary bedrock. The Great Miami River Valley is bounded by bedrock highs and contains various glacial features. The valley is approximately 2.5 miles wide in the Dayton area. The upland regions, occurring at elevations of greater

than 800 feet above mean sea level (amsl), are characterized by gently rolling topography developed on ground moraine. The valley floor is relatively flat, ranging in elevation from 740 to 770 feet amsl.

3.5 CLIMATE

The Dayton area experiences a humid-continental type climate characterized by large annual and daily temperature changes. Climatological data were obtained from the Dayton International Airport for the period of 1948 to 1993 and the WPAFB for the period of 1981 to 1990 (www.worldclimate.com). Wind data were obtained from the Dayton International Airport for the period of 1968 to 1998. Winds are normally from the southwest.

	Jan	*Feb*	*Mar*	*Apr*	*May*	*Jun*	*July*	*Aug*	*Sep*	*Oct*	*Nov*	*Dec*	*Year*
Avg. Temp. °F (WPAFB)	28.6	32.0	41.5	50.7	62.1	71.1	75.6	73.0	66.2	54.1	44.1	31.3	53.1
Avg. Temp. °F (Airport)	27.1	30.4	39.7	51.3	61.7	70.9	74.7	72.9	65.8	54.3	42.3	32.0	51.8
Avg. Max. Temp. °F (Airport)	34.9	38.7	48.9	61.7	72.3	81.3	84.9	83.1	76.5	64.6	50.5	39.0	61.3
Avg. Min. Temp. °F (Airport)	19.6	21.9	30.6	40.8	51.3	60.3	64.4	62.2	55.0	443.9	33.8	24.4	42.3
Avg. Rainfall inches (Airport)	2.5	2.2	3.2	3.7	4.0	3.9	3.7	3.1	2.5	2.4	3.1	2.8	37.1
Avg. Wind Speed mph (Airport)	11.5	11.2	11.7	11.2	9.6	8.7	7.9	7.3	8.1	9.0	11.0	11.1	9.9
Wind Direction degrees (Airport)	270	260	290	180	220	210	240	220	200	210	210	200	210

3.6 REGIONAL GEOLOGY

The following sub-section presents a description of the regional geology of the Dayton area. The sources of data used in the preparation of this sub-section were published literature, water well records obtained from the Ohio EPA and ODNR, and the City of Dayton's records. Important publications describing the regional geology that were used to develop this subsection are:

- Norris and Spieker, 1966, Ground Water Resources of the Dayton, Ohio Area;
- Ritzi et al., 1994, Geostatistical Modeling of Heterogeneity in Glaciofluvial, Buried Valley Aquifers;
- Ritzi et al., 1995, Hydrofacies Distribution and Correlation in the Miami Valley Aquifer System;

- Dominic et al., 1996, Aquitard Distribution in a Northern Reach of the Miami Valley Aquifer Ohio, USA: Part 2. Interpretation of Facies and Geostatistical Results; and
- Ritzi et al., 1996, Aquitard Distribution in a Northern Reach of the Miami Valley Aquifer, Ohio, USA: Part 1. Three-Dimensional Geostatistical Evaluation of Physical Heterogeneity.

The Dayton area is located within the buried pre-glacial valley system that underlies the present-day Great Miami River and its tributaries in southwestern Ohio. This pre-glacial valley system is known as the Miami Valley Aquifer System (Ritzi et al., 1994, Ritzi et al., 1995, Dominic et al., 1996, Ritzi et al., 1996). The Site is located in the upper north reach of the Miami Valley Aquifer System. Prior to glaciation, a mature and well-integrated drainage system had incised valleys into the bedrock. In the Dayton area, the paleo-drainage system is approximately 300 feet deep and 2.5 miles wide (Ritzi et al., 1995). Contours of the top of the bedrock surface in the Dayton area were prepared by Norris and Spieker (1966). These contours indicated that the bedrock surface elevation in the upland areas is greater than 800 feet amsl. Along the base of the buried bedrock valley the bedrock elevation is approximately 450 feet amsl. These bedrock contours show that the upper surface of the bedrock in the vicinity of the Site is between 500 and 600 feet amsl.

The uppermost bedrock unit in the lowland area is the Ordovician-aged Richmond Group. The Richmond Group consists of inter-bedded shale and limestone and is approximately 500 feet thick. In the highland areas, the Richmond Group is capped by the Brassfield Limestone, a Silurian-aged limestone unit, which is approximately 30 feet thick.

The principal overburden geologic units in the Dayton area are: glacio-fluvial sands and gravels primarily located within the buried bedrock valley; fine-grained, predominantly till-rich units within the glacio-fluvial unit; and ground moraine (glacial till) located primarily in the upland areas. Norris and Spieker (1966) defined these overburden units based on general character and relative positions to be:

- upper aquifer, the saturated glaciofluvial sand and gravel zone located above a major till-rich zone;
- till-rich zone, composed of discontinuous fine-grained glacial till and other fine-grained materials with substantial components of sand and gravel; and
- lower aquifer, the glaciofluvial sand and gravel zone located beneath the till-rich zone.

During the Wisconsin Stage, proglacial meltwaters flowing off the receding glacier in multiple meltwater streams laid down extensive deposits of sand and gravel in the bedrock valleys of the Dayton area. The sand and gravel were deposited by the proglacial fluvial system as a valley-wide outwash plain. These glacio-fluvial outwash deposits partially filled the bedrock valley (Norris and Spieker, 1966). The outwash deposits are mainly cross-bedded sand and gravel, but they do contain fine-grained units. These fine-grained units are composed primarily of glacial till, although glacio-lacustrine and overbank deposits of silt and clay have also been noted, especially to the south of the City of Dayton. The meltwater streams flowed in broad, shallow channels. The shifting of these channels caused both erosion of pre-existing sediment and deposition of outwash sediments (Dominic et al., 1996).

Interspersed with ablation periods were re-advances of the glaciers. This led to the deposition of discontinuous fine-grained till units within the glacio-fluvial sand and gravel. The tills are generally thought to be lodgment till; but ablation and flow tills are also noted (Dominic et al., 1996). Some of the fine-grained material may also be glacio-lacustrine or overbank silt and clay deposits, which are grouped with the till units due to the similar nature of these units. In general, there is a higher percentage of fine-grained material within the sands and gravels at the margins in the bedrock valley than along the centerline of the valley. It is unlikely that a single planar till sheet blanketed the entire valley. However, it should be noted that all borings greater than 30 to 50 feet deep completed at the Site have encountered till, and the ODNR monitoring well logs in the vicinity of the Site indicate several till layers interbedded with sand and gravel.

Norris and Spieker (1966) identified a till-rich zone in the Dayton area at elevations which ranged from about 680 to 720 feet amsl. This till-rich zone was described by Norris and Spieker (1966) as fairly widespread sheets, lenses, and masses of till containing pockets and lenses of sand and gravel. More recent investigations (Ritzi et al., 1994, Ritzi et al., 1995, Dominic et al., 1996, and Ritzi et al., 1996) reveal the till-rich zone to be much more complex than that presented in Norris and Spieker (1966). The till rich zone contains multiple discontinuous till horizons that were subsequently eroded by meltwater streams, and buried by glacio-fluvial sediments.

3.7 REGIONAL HYDROGEOLOGY

The groundwater resources of the Dayton area were originally described in Norris and Spieker (1966). They identified three principal hydrogeologic units in the Dayton area as follows:

- upper aquifer – consisting of glacio-fluvial sand and gravel;
- till-rich zone - a zone of discontinuous low permeability till interspersed with sand and gravel; and
- lower aquifer – consisting of glacio-fluvial sand and gravel.

The upper aquifer is an unconfined aquifer made up primarily of glacio-fluvial sand and gravel that extends from the water table to the top of the till-rich zone. Typically, the upper aquifer ranges in thickness from 30 to 40 feet. The lower aquifer is a semi-confined aquifer that occurs beneath the till-rich zone. It also consists of glacio-fluvial sand and gravel. The thicknesses of the lower aquifer and till-rich zone in the vicinity of the Site are not fully known; for no wells in this area extend to the bedrock surface. Wells in the Mad River Well Field and Miami River Well Field extend to bedrock and indicate a top of bedrock elevation of approximately 550 feet amsl for the Site, indicating a total saturated thickness of approximately 200 feet. The hydraulic conductivity in both of the upper and lower aquifers is in the order of 100 to 300 feet/day (Norris and Spieker, 1966). The porosity in the upper and lower aquifers can range as high as 0.4 to 0.5, resulting in rapid recharge from rivers and infiltration from precipitation. The majority of the recharge to this aquifer is from precipitation, rivers, streams, and lakes (Barner; September 1998).

The distribution of fine-grained material within the upper and lower aquifers and the till-rich zone is a key element in predicting groundwater flow and contaminant transport. The hydraulic conductivity in the till-rich zone is in the order of 0.004 to 0.02 feet/day. Where present, the till-rich zone can act as a barrier to vertical flow, resulting in a confined lower aquifer in some areas. The till-rich zone also modifies the recharge pathways (Barner; September 1998). Where the till-rich zone is absent the upper and lower aquifers form one single aquifer. It was also noted that the till-rich zone may contain sand and gravel layers of varying thicknesses. Therefore, the till-rich zone may not always behave as an aquitard in the locations where it is present.

The commonly used conceptual model of the Miami Valley Aquifer System has been a three-layer system, with an aquitard mostly separating the upper and lower aquifers. Norris and Spieker (1966) recognized that this model is only applicable on a local scale. The work performed by Ritzi et al. (1995) confirmed this opinion. On a regional scale, the Miami Valley Aquifer system is better conceptualized as one aquifer with aquitard materials interspersed at all elevations. Although a till-rich zone does exist, where relatively more aquitard material occurs, the extent of fine-grained units within the till-rich zone is limited. Therefore, the upper and lower aquifers, on a regional basis, are

connected over a larger area than the area they are separated and the conceptual model is more accurately portrayed as a single regional aquifer with localized barriers to flow. It should be noted that all borings greater than 30 to 50 feet deep completed at the Site have encountered till, and that ODNR monitoring well logs in the vicinity of the Site indicate several till layers interbedded with sand and gravel.

Regional groundwater flow within the Miami Valley Aquifer System was originally toward the axis of the buried valley, and then parallel to the valley axis. However, extensive withdrawal of groundwater from the aquifer system has altered natural flow directions. The City Dayton operates two well fields in the study area: the Miami River Well Field and the Mad River Well Field. Extensive pumping from these well fields resulted in localized groundwater flow being oriented towards the major pumping centers.

3.8 REGIONAL HYDROLOGY

The Great Miami River and its tributaries are the main focus for this area. The drainage area covers a total of 16 counties, including the Mad River drainage area. The Great Miami River flows generally south through Dayton towards the Ohio River. The Mad River flows generally southwest through the Dayton area, emptying into the Great Miami River around RM 80, approximately 0.4 mile downstream of the Site.

The nearest river gauge for either river is the Great Miami River gauge at RM 80, 0.8 mile downstream from the confluence of the two rivers. The normal stage for the Great Miami River at this gauge is approximately 725 feet amsl. The normal elevation of the Mad River next to the Site is approximately 726 feet amsl, giving about 1 foot of fall between the Site and the gauge at RM 80.

Yearly peak flows for the Great Miami River are presented on Figure 3.1. The 1913 peak river elevation was 753 feet amsl. In response to the damage caused by the 1913 flood, flood control was implemented. This involved the placement of flood control dams at five locations, including Huffman Dam on the Mad River. Earthen flood control levees were also constructed along the Great Miami River and Mad River, beginning in approximately 1915. The peak elevation of the Great Miami River was 740 feet amsl in 1920, and the highest level recorded since has been 735 feet amsl in 1928 and 1959. The flood stage is currently 741 feet amsl.

3.9 REGIONAL ECOLOGY

The Ohio EPA has published "Biological and Water Quality Study of the Middle and Lower Great Miami River" (1995) and "Biological and Water Quality Study of the Lower Mad River and Hebble Creek" (1992). The Mad River study covered RM 11.6 to RM 1.6. The Site is located at approximately RM 0.4.

The lower reaches of the Mad River have been designated as a Warmwater Habitat (WWH) within 1 mile of the Site. The confluence of the Great Miami River and the Mad River has also been designated a WWH. A stream that is designated a WWH has typical warmwater assemblage of aquatic organisms found in Ohio rivers and streams.

Fish community performance was found to be fair to exceptional in the study region, with the reach from RM 3.8 to 1.6 meeting the Exceptional Warmwater Habitat (EWWH) criteria. Rivers and streams meeting the EWWH criteria support unusual and exceptional assemblages of aquatic organisms, with high diversity of species, including those that are highly intolerant.

The major contaminant found in the sediment of the Mad River during the 1992 study was an elevated level of mercury (0.1 ppm) at one sample point at RM 7.41. Arsenic, cadmium, chromium, copper, and lead concentrations were considered non-elevated. The major tributary to the Mad River in this region is Hebble Creek, which drains WPAFB. Elevated levels of mercury and lead where found in an impounded portion of this creek, along with levels of poly-nuclear aromatic hydrocarbons (PAHs) including benzo(a)anthracene, benzo(b)fluoranthene, and chrysene.

4.0 SITE SETTING

4.1 SITE TOPOGRAPHY

The major topographical feature of the Site is an earthen flood control levee extending along the Mad River along the north edge of the Site. The south side of the levee is bounded by a concrete wall. The elevation of the wall is approximately 750 to 753 feet amsl, approximately 25 feet above the normal elevation of the Mad River. The earthen levee is fairly steep on the north side. The land slopes south from the levee to an elevation of approximately 737 feet amsl at the south edge of the Site. From the south edge of the Site, the land is flat to gently rising, reaching an elevation of 750 feet amsl approximately 1 mile from the Site.

4.2 SITE GEOLOGY

The overburden consists of a complex sequence of coarse sand and gravel with interbedded layers of light brown and light gray, clayey and silty tills. The Soil Survey of Montgomery County indicated Site soils are classified as urban land, alluvial. These soils develop from strata composed primarily of silty and sandy materials, underlain by stream alluvium, and are typically very well drained. According to an on-Site production well log, the overburden stratigraphy is in excess of 175 feet in thickness at the Site, with a probable thickness of approximately 210 feet considering that the ground elevation is approximately 740 feet amsl and the bedrock elevation is approximately 530 feet amsl. The overburden stratigraphy includes (in order of depth):

1. Fill material – Wide variety of materials including building rubble, sand, and/or gravel.
2. Alluvium – Wide variety of textural classes from silt to boulders. Clay is also present in the vicinity of the former Miami Canal Extension along Pitts Street. Due to disturbance of the area with construction over the past 100 years, a distinct alluvial formation is generally not present at the surface.
3. Upper Sand and Gravel – Intermixed and interbedded sand and gravel with thin, discontinuous lenses of clay and silt. This unit may not be visually distinct from the fill material and/or alluvium. Borings at the Site indicate the combined thickness of the fill material, alluvium, and/or sand and gravel is approximately 30 to 60 feet.
4. Till – Gray to reddish/yellow till that may contain silt, sand, and gravel lenses. Site boring HD-5 (the only Site boring completed through the till) indicates that

this unit is approximately 20 feet thick. ODNR monitoring well logs in the vicinity of the Site indicate several till layers interbedded with sand and gravel lenses. The uppermost till layer is generally 5 to 25 feet thick, where present.

5. Lower Sand and Gravel – Intermixed and interbedded sand and gravel with thin, discontinuous lenses of clay and silt. The thickness of this unit is estimated to be approximately 70 to 140 feet based on regional information.

6. Till – Gray to reddish/yellow till that may contain silt, sand, and gravel lenses. Regional information indicates this unit is up to 70 feet thick, where present.

Bedrock in the Site vicinity consists of the Grant Lake Formation. It reportedly consists of interbedded Ordovician age limestone (50 percent to 85 percent) and shale (15 percent to 50 percent). The limestone beds are typically thin (approximately 3 to 4 inches) and the shale beds are less than 1 foot in thickness. The bedrock elevation at the Site dips south to north from approximately 530 feet amsl on the south edge of the Site to 500 feet amsl at the Mad River. However, one elevation of 565 feet amsl was recorded in the middle of the Site (Ohio Geological Survey; 1999).

4.3 SITE HYDROGEOLOGY

The water table at the Site is approximately 727 feet amsl, and the normal elevation of the Mad River is approximately 726 feet amsl. The localized hydraulic gradient is generally to the northwest, from the Site towards the Mad River. However, the groundwater gradient may reverse during high water level events in the Mad River.

Three major hydrostratigraphic units have been identified at the Site (in order of depth), as shown on Figure 4.1:

1. Upper Sand and Gravel – The Upper Sand and Gravel consists of an areally extensive deposit of coarse-grained sand and gravel with localized zones of medium-grained sand to boulders, and corresponds to the saturated portion of the upper sand and gravel unit identified in Section 4.2. Wells completed at the Site indicate the saturated thickness is approximately 20 to 50 feet. Typical depth to the water table ranges from 10 to 25 feet bgs, and groundwater is under unconfined conditions. The hydraulic conductivity of the Upper Sand and Gravel was estimated to be approximately 200 feet/day during previous investigations of the Mad River Valley area approximately 2 to 3 miles east/northeast of the Site. Slug and/or pumping tests have not been conducted at the Site, but the hydraulic conductivity of the sand and gravel has been

estimated as 0.001 m/s (280 feet/day) based on groundwater modeling. Figures 4.2 and 4.3 present groundwater elevation contours for the Upper Sand and Gravel before and after pumping at the nearby Riverscape fountain was initiated on May 19, 2001. Groundwater elevations in 2001 are presented in Table 4.1.

2. Till-Rich Zone – The Till-Rich Zone separates the Upper and Lower Sand and Gravel, acting locally as an aquitard, and corresponds to the upper till unit identified in Section 4.2. This unit generally consists of two till zones. The upper zone consists of a thin, discontinuous till composed of light to medium brown, silty clay with some coarse-grained sand and gravel. The lower zone consists of light gray, silty and clayey till with well-rounded, coarse-grained sand and gravel. Figure 4.4 presents the top of clay contours.

3. Lower Sand and Gravel – The Lower Sand and Gravel is similar in lithology to the Upper Sand and Gravel, and corresponds to the lower sand and gravel unit identified in Section 4.2. Groundwater in the Lower Sand and Gravel is generally under semi-confined conditions; in areas where the till is absent the Upper and Lower Sand and Gravel systems are hydraulically connected. The vertical gradient between the Upper and Lower Sand and Gravel has been estimated as 0.061 to 0.11 based on 1999 monitoring data at HD-5 (now abandoned). Slug and/or pumping tests have not been conducted at the Site, but the hydraulic conductivity of the sand and gravel has been estimated as 0.001 m/s (280 feet/day) based on groundwater modeling.

This Site is located in the high groundwater production area of the BVA, with wells completed in the Lower Sand and Gravel producing 500 to over 1,000 gpm (Schmidt; 1986). Three production wells were located at the Site (Figure 4.5). Wells 42 and 43 were installed near Buildings 3 and 4 in October 1950, and were used to supply water to manufacturing operations until the 1970s. These wells were abandoned in accordance with ODNR regulations in December 1999. (REALM; November 30, 1999). Well 44 was installed near Building 9 in July 1955 and was used to supply water for the fire protection system. Well 44 was abandoned in May 2001. This well may also have been referenced as Well 46.

4.3.1 SITE GROUNDWATER QUALITY

Numerous environmental investigations have been completed at the Site, and have included collection of groundwater samples at various locations both on Site and off Site. Monitoring well locations are presented on Figure 4.5 and historical groundwater

sample results are presented in Table 4.2. Four main groundwater quality issues have been identified at the Site:

1. Chlorinated volatile organic compounds (CVOCs) have been identified predominantly in the Upper Sand and Gravel on Site, and downgradient of the Site (to the west). These consist primarily of PCE and associated degradation products including TCE and cis-1,2-dichloroethene (cis-1,2-DCE). The highest concentrations of these chemicals are located in wells between Building 12 and Webster Street, and are believed to be associated with a 1975 spill of approximately 1,000 gallons of PCE (AOI 1).

   A pilot study was recently conducted to evaluate the feasibility of ozone sparging in this area. Ozone sparging was found to effectively destroy CVOCs and a full-scale treatment system is being developed as part of separate Interim Measures Work Plan.

2. Free product has been identified in two areas at the Site. The first area of light non-aqueous phase liquid (LNAPL) is located in the vicinity of the railroad between Building 13 and former Building G-5, and extends off Site to the north. No visual evidence of LNAPL has been observed in the Mad River. This LNAPL contains polychlorinated biphenyls (PCBs) at concentrations up to 1,330 ppm, and is believed to be associated with chip handling activities in former Buildings G-4 and G-5 (AOI 11).

   The free product removal system is currently operating in this area. A downgradient barrier has been installed to prevent further off-Site migration.

3. The second area of LNAPL is located in the north area of Building 7. This LNAPL does not contain PCBs, and is believed to be associated with the hydromation pit (AOI 21). No hazardous constituents have been managed in the hydromation pit.

4. Benzene, toluene, ethylbenzene, and xylenes (BTEX) have been identified at low levels in various groundwater samples across the Site.

5.0 SITE CONCEPTUAL MODEL

5.1 LAND USE

The Site is currently zoned as Heavy Industrial (designated as I-3 on December 4, 1998 City of Dayton Official Zoning Map), and is currently used for warehousing. Surrounding areas are commercial/industrial or recreational (Mad River). The nearest residential land is located approximately 1/4 mile north of the Site. No hospitals are located within 1/2 mile of the Site. Patterson High School is located approximately 1/2 mile southwest of the Site, Webster School is located approximately 1/2 mile northeast of the Site, and ISUS Trade and Technology Prep is located one city block southeast of the Site (southeast corner of Monument Avenue and Keowee Street).

Other commercial/industrial development may occur at the Site in the future.

5.2 POPULATIONS

On-Site and off-Site workers are potential receptor populations under the current land use scenario. The current exposure pathways are expected to be equivalent under the potential future land use scenario. There are no ecological receptors at the Site because the Site is paved.

5.3 MEDIA

On-Site media consist of building floors and walls, soil, groundwater, air, and stormwater or sediment in sewers:

- Impacts to building floors and walls do not necessarily indicate a release to the environment, and therefore may not be applicable to RCRA. However, worker safety must be protected under the Occupational Safety and Health Act (OSHA) and PCB releases must be addressed under the Toxic Substances Control Act (TSCA);
- Surface soil may be impacted by a release to ground surface. Subsurface soil may be impacted by a release from an underground sewer or UST or by migration from impacted surface soil;
- Groundwater may be impacted by a release from an underground sewer or UST or by migration from impacted subsurface soil. In addition, LNAPL has been identified at two locations at the Site. Dense non-aqueous phase liquid (DNAPL) has not been

identified at the Site, but concentrations of potential DNAPL constituents in groundwater will continue to be evaluated for potential presence of DNAPL;

- Air may be impacted by volatilization of VOCs or soil particulate emissions. It is likely that some form of air modeling will be performed (e.g., assess potential indoor air concentrations based on measured soil and groundwater concentration beneath the building); and
- Water and sediment in storm sewers, USTs, or spill interceptors may be impacted by spills or impacted groundwater from basement sumps that discharge to the sewers.

Off-Site media consist of groundwater and air. The air pathway will be evaluated for off-Site receptors, including vapor intrusion, based on measured off-Site groundwater concentrations.

6.0 SAMPLING AND ANALYSIS PLAN FOR SITE-WIDE GROUNDWATER

6.1 SAMPLING RATIONALE

The purpose of sampling activities will be to characterize the concentrations of any hazardous constituents in groundwater so that risk-based decisions on the need for corrective measures can be made. In addition, any LNAPL or DNAPL will be identified and delineated, if possible.

As discussed in Section 4.3.1, groundwater samples have been collected at and in the vicinity of the Site to support numerous environmental investigations. The three most significant areas of groundwater contamination - an area of elevated CVOC concentrations associated with AOI 1, LNAPL associated with AOIs 11 through 14, and LNAPL associated with AOI 21 - will be addressed separately. It is anticipated that identifying a specific source area associated with the low levels of various volatile organic compounds (VOCs) present in groundwater at the Site would be impractical. Therefore, with the exception of the three significant areas of contamination, groundwater will be investigated on a Site-wide basis, in a phased approach.

6.2 PHASE 1 GROUNDWATER SAMPLING

Phase 1 will consist of Site-wide groundwater sampling to establish current conditions. Table 6.1 presents the proposed groundwater sampling. In addition to the existing City of Dayton wells, if additional wells are installed prior to RFI field work they will be sampled. Groundwater elevation measurements will be collected from all monitoring wells on and in the vicinity of the Site, and all monitoring wells will be inspected and sounded. Monitoring wells may be redeveloped, if necessary. Monitoring wells that were properly installed, are in good repair, and have monitoring well logs available will be sampled using low-flow techniques. Groundwater samples (and associated QA/QC samples) will be analyzed for Target Compound List (TCL) VOCs, TCL semi-volatile compounds (SVOCs), TCL PCBs, and Target Analyte List (TAL) inorganics (except for aluminum, calcium, iron, magnesium, potassium, and sodium due to the low risk to human health and the environmental associated with these parameters).

If free product is encountered, the free product will be sampled instead of groundwater. One sample will be collected from the furthest downgradient well within each plume. At least three samples will be collected (from the west side of the railway, the east side of the railway, and the hydromation pit) and additional samples will be collected if field observations suggest other distinct areas of free product. Samples will be analyzed for

viscosity, TCL VOCs, TCL SVOCs, TCL PCBs, and TAL inorganics (except for aluminum, calcium, iron, magnesium, potassium, and sodium due to the low risk to human health and the environment associated with these parameters).

In addition, monitoring wells HD-14, HD-15, HD-16 (upgradient); HD-12, HD-13, HD-17, HD-18 (on Site); HD-2, HD-10 (cross-gradient); and HD-3, HD-4, HD-8, HD-11, HD-19 (downgradient) will be sampled for the following natural attenuation parameters:

- Redox indicators
  - Nitrate
  - Nitrite
  - Manganese (II)
  - Iron (II)
  - Sulfide
  - Sulfate
  - Methane
- Geochemical indicators
  - Dissolved organic carbon
  - Alkalinity
  - Calcium
  - Magnesium
  - Potassium
  - Sodium
  - Hardness
  - Carbonate hardness

Groundwater from all monitoring wells sampled will also be analyzed for the following parameters in the field:

- Field parameters
  - Dissolved Oxygen
  - Oxidation-reduction potential (ORP)
  - pH
  - temperature
  - conductivity
  - turbidity

6.3 PHASE 2 GROUNDWATER SAMPLING

Phase 2 groundwater sampling will consist of sampling from new monitoring wells, if any, installed to further evaluate groundwater conditions based on the results of Phase 1 groundwater sampling or soil sampling. Groundwater samples (and associated QA/QC samples) will only be analyzed for chemicals of potential concern (COPCs) identified in previous sampling, as discussed in Section 8.3.

Some examples of conditions that might necessitate monitoring well installation and Phase 2 sampling include:

- Potential evidence of LNAPL (e.g., significant sheen, staining, or petroleum odor) may be identified during soil boring completion. In this case, a monitoring well may be installed across the water table in the soil boring;
- COPCs may be identified at concentrations in soil that would indicate potential leaching to groundwater. In this case, a monitoring well may be installed downgradient of the area. The monitoring well would be screened at an appropriate interval to identify probable maximum concentrations of the COPCs;
- The Phase 1 monitoring well location may not be appropriate to identify the most elevated concentrations of COPCs identified. For example, denser-than-water COPCs might be identified in a monitoring well screened at the water table; or
- Site-wide trends in groundwater concentrations may suggest the presence of a source area where monitoring wells are not located.

7.0 SAMPLING AND ANALYSIS PLAN FOR AREAS OF INTEREST

As presented in Table 1.1, a total of 28 AOIs were identified at the Site in the Current Conditions Report (CRA; June 8, 2001), not all of which will be sampled under the RFI. The Current Conditions Report provides the rationale identifying which AOIs will be investigated as part of the RFI. Plan 1 presents the locations of all 28 AOIs at the Site. This section details the RFI sampling activities to investigate specific AOIs. Plan 2 presents the locations of all AOIs to be sampled as part of the RFI.

7.1 SAMPLING RATIONALE

The purpose of sampling activities will be to determine whether a significant release of hazardous waste and/or hazardous constituents has occurred at each AOI and, if so, to characterize the nature and extent of the release so that risk-based decisions on the need for corrective measures can be made. In some cases it may be difficult to determine the source of the release(s), in which case a group of AOIs may be evaluated concurrently. The proposed investigation is designed to identify the presence of contaminants of concern, if any, and to gather sufficient data to characterize exposure concentrations. Additional sampling to determine the extent of contamination or provide additional data for statistical analysis may be required. Sampling activities will generally be completed as follows, although methods will be varied as necessary to accommodate specific features of each AOI.

Samples will generally be analyzed for TCL VOCs, TCL SVOCs, TCL PCBs, and TAL inorganics, unless otherwise noted. TAL inorganic parameters as discussed in this section will not include aluminum, calcium, iron, magnesium, potassium, and sodium due to the low risk to human health and the environment associated with these parameters.

7.1.1 SOIL SAMPLING

Soil sample locations will be selected consistent with the purpose of the investigation for each AOI. Sample locations may be biased based on historical process information (e.g., historical drain, tank, or equipment locations), site-specific physical parameters (e.g., downgradient), observed potential evidence of contamination (e.g., surficial stains), or observed potential evidence of preferential pathways (e.g., cracked concrete). If no information on particular locations of potential contamination is available, then

random sample locations will be selected. Exact sample locations may be modified due to field conditions.

Soil samples will generally be collected to provide data to enable evaluation of risks to potentially exposed populations as listed below. For example, surficial soil data may be used for assessing potential exposures via the direct contact scenario, while data from deeper samples may be used to assess the construction scenario and/or the leaching to groundwater scenario. In some cases, the same sample depth may be used to evaluate more than one scenario. Additional sample depths may be selected if evidence of contamination is observed.

1. The direct contact scenario refers to the potential to contact surface soil during the course of normal activities. The 0- to 2-foot interval below ground surface represents the surface soil likely to be encountered. This sample interval will also be evaluated for the potential to impact air quality. If the soil is overlain by concrete, asphalt, railway ballast, or other material, the direct contact sample will be collected from the first soil interval. This interval also represents the area most likely to be impacted by a release to the ground surface.
2. At UST or spill interceptor locations, surface soil may not be representative of potentially impacted soil. Therefore, an additional sample will be collected at a comparable elevation to potential breaches in the tank, if any, or the bottom of the tank if no breaches are identified or the tank has been removed. This will ensure that the most likely areas of contamination are sampled.
3. The construction worker scenario refers to the potential for construction workers to excavate into subsurface soil during the course of construction or maintenance activities. Construction activities may be completed to a typical depth of 10 feet bgs. The 2-foot interval with the greatest potential evidence of contamination (e.g., staining, odor, or photoionization detector (PID) readings) will be selected for analysis. If no potential evidence of contamination is observed, the default interval from 8 to 10 feet bgs will be selected. However, this default interval may vary if the water table is encountered above or within a few feet below this interval (i.e., the water table is shallower than 15 feet bgs), in which case the sample will be collected from the 2 foot interval immediately above the water table (see item 4 below).
4. The leaching to groundwater scenario refers to the potential for water to infiltrate through contaminated soil to the water table and impact groundwater. The interval at or immediately above the water table represents soil with the greatest potential to leach to groundwater, and will be sampled.

Soil sample results will be evaluated, as discussed in Section 8.3, to determine if further sampling is warranted.

7.1.2 SEWER, SPILL INTERCEPTOR, AND TANK SAMPLING

Sediment and water sample locations will be selected consistent with the purpose of the investigation for AOI 18 (Storm Sewers). Sediment and water samples may also be collected from AOI 6 (Spill Interceptors) and AOI 3 (Waste Tank). Sediment samples will be collected of the fine-grained sediment, if possible, from the 0- to 1-foot interval or the total sediment thickness, whichever is less. Water samples may be collected at sediment sample locations, consistent with the purpose of the investigation in this area. Water samples will be collected prior to sediment samples to represent normal undisturbed conditions. Samples will be collected in a downstream to upstream direction. Sample locations will be selected based on the sewer network, spill interceptor location, or tank location and may be modified due to field conditions.

Sediment and water sample results will be evaluated, as discussed in Section 8.3, to determine if further sampling is warranted.

7.1.3 WIPE AND CONCRETE CORE SAMPLING

PCB wipe and concrete core sample locations will be selected consistent with the purpose of the investigation for AOIs 20 (PCB Releases from Electrical Equipment) and 26 (Potential Releases from Process Equipment). A conservatively biased sampling scheme will be employed, and exact sample locations may be modified due to field conditions. Samples will be collected to provide PCB data for assessing potential exposure via the direct contact scenario and for evaluating the extent of contamination, if any.

1. The direct contact scenario refers to the potential for Site workers to contact PCB-contaminated surfaces during the course of normal work activities. A wipe sample will be collected from metal or concrete surfaces, and a concrete core sample will be collected from the upper 3 inches, to evaluate this exposure concentration.
2. If the upper concrete core sample indicates surficial contamination, a lower concrete core sample from the 3- to 9-inch depth interval may be analyzed to define the vertical extent of contamination.

3. If the lower concrete core sample indicates contaminant migration through the concrete, a soil sample from below the concrete may be collected to identify whether a release to the environment has occurred.

PCB wipe and/or concrete core sample results will be compared to cleanup levels for low occupancy areas defined in 40 CFR §761.61.

7.1.4 GROUNDWATER SAMPLING

Groundwater sampling will generally be conducted as part of the Site-wide groundwater monitoring discussed in Section 6.0. However, groundwater sampling location(s) will be selected consistent with the purpose of the investigation for AOI 25 (Hydrochloric Acid Spills). Sample location(s) will be selected based on historical release locations and may be modified due to field conditions.

Groundwater sample results will be evaluated, as discussed in Section 8.3, to determine if further sampling is warranted.

7.2 AOI 3 - WASTE TANK (EAST OF BUILDING 4)

7.2.1 AOI 3 - DESCRIPTION

AOI 3, the Waste Tank east of Building 4, is presented on Figure 7.1. The 1,000-gallon Waste Tank (UST) between Buildings 4 and 7 was used from approximately 1966 until 1978.

Chlorinated solvent and Stoddard solvent still bottoms were routed to the 3,000-gallon still bottom scrap UST located beneath the basement of Building 24, along with waste oils. The mixture of waste solvent still bottoms and waste oil was then routed to a 1,000-gallon Waste Tank (UST), located between Buildings 4 and 7, and sent off Site for reclamation or disposal. Other wastes discharged to the 1,000-gallon Waste Tank (UST) included scrap oil from the garage in Building 4 and scrap kerosene from Building 12. (GM; July 22, 1977)

On June 30, 1971, a mixture of scrap oil and solvent overflowed from the 1,000-gallon Waste Tank (UST) between Buildings 4 and 7 and entered the storm sewer via an open grate. The oil and solvent mixture on the ground was dammed and removed.

7.2.2 AOI 3 - PROPOSED TANK CONTENTS SAMPLING

If the Waste Tank still exists, the tank contents, if any, will be sampled. Sediment and/or water samples may be collected as discussed in Section 7.1.2.

The sediment and/or water samples (and associated QA/QC samples) will be analyzed for TCL VOCs, TCL SVOCs, TCL PCBs, and TAL inorganics. Sample results will be evaluated as discussed in Section 8.3, to identify COPCs, if any, and evaluate whether further soil and/or groundwater sampling is warranted. Sample results will also be used to identify whether tank cleaning is necessary.

7.2.3 AOI 3 - PROPOSED SOIL INVESTIGATION

Two soil borings will be completed to the water table and samples will be collected as discussed in Section 7.1.1. Boring locations will be selected as follows, and locations may be adjusted due to field conditions:

- if the tank has been removed, one boring will be completed through each end of the approximate former tank location; or
- if the tank is in place two borings will be completed downgradient of the tank (i.e., to the north and west).

The soil samples (and associated QA/QC samples) will be analyzed for TCL VOCs, TCL SVOCs, TCL PCBs, and TAL inorganics. Sample results will be evaluated as discussed in Section 8.3, to identify COPCs, if any, and evaluate whether further soil and/or groundwater sampling is warranted.

7.3 AOI 5 - ELECTROPLATING (BUILDING 7)

7.3.1 AOI 5 - DESCRIPTION

AOI 5, the electroplating area in Building 7, is presented on Figure 7.2. Between 1928 and the early 1970s, plating operations were located in the northwestern portion of Building 7. The plating operation consisted of a series of aboveground tanks and trenches surrounding the tanks. Wastewater from the plating area was discharged to the process/sanitary sewers and then to the City of Dayton POTW. The tanks were removed and the trenches were filled with concrete when the operation was moved to

removed and the trenches were filled with concrete when the operation was moved to Building 9. The only known chemical releases from the Building 7 plating area occurred in October and December 1971, when several hundred pounds of plating solution were discharged to the process/sanitary sewer.

7.3.2 AOI 5 - PROPOSED SOIL INVESTIGATION

The former electroplating area in Building 7 will be inspected to identify locations of potential release. These may include former plating trenches or the former connection to the process sewer. Locations of cracked and stained concrete will also be noted, but these features may have appeared within the past 30 years, after plating operations were relocated from this area.

Two soil borings will be completed to the water table and samples will be collected as discussed in Section 7.1.1. Boring locations will be biased toward locations of potential releases, if any are identified during the inspection. If no locations of potential releases are identified, one boring will be randomly located in each half of the area.

The soil samples (and associated QA/QC samples) will be analyzed for TCL VOCs, TCL SVOCs, TCL PCBs, and TAL inorganics. Sample results will be evaluated as discussed in Section 8.3, to identify COPCs, if any, and evaluate whether further soil and/or groundwater sampling is warranted.

7.4 AOI 6 - SPILL INTERCEPTORS

7.4.1 AOI 6 - DESCRIPTION

The locations and details of each of the five spill interceptors to be investigated during the RFI are presented on Figure 7.3 (a through e).

The following spill interceptors have been located at the Site (GM; September 21, 1992):

1. A chip loading area is located at the steel dock in the northeast corner of Building 10. The spill interceptor located south of this area was installed in 1977 to contain spills of Quaker 568 coolant. A trench and sump, located outside of the steel dock truck doors, can be drained by valves to the storm sewer or the 1,000-gallon spill interceptor tank. During normal operations, both valves are closed and nothing drains from this area. In the event of a spill, the valve to the

spill interceptor is opened. After a rainfall event, the valve to the storm sewer is opened. Overflow from the spill interceptor is routed to a contained area in the Building 13 basement.

2. A truck unloading area is located southeast of Building 9. Hydraulic oil and Quaker 568 coolant are unloaded in this area and routed to a 10,000-gallon AST south of Building 9, and a 10,000-gallon AST northeast of Building 10, respectively. The concrete truck unloading area is sloped towards two trench drains that can be drained by valves to the storm sewer or the 10,000-gallon spill interceptor tank, which was installed in 1977. The valve to the storm sewer is normally open. During truck unloading operations, the valve to the storm sewer is closed and the valve to the spill interceptor is opened. In the event of a spill, the trenches are flushed with water to the spill interceptor prior to returning the valves to the storm sewer position.

3. Three ASTs (2,250-gallon paint, 1,200-gallon paint, and 11,000-gallon Freon R-12) are located between Buildings 12 and 27, beneath a canopy. In addition, fill pipes for the solvent and refrigerant oil USTs located west and south of Building 12 are also located in this area. The 10,000-gallon spill interceptor was constructed in 1977 for emergency containment of spills during truck unloading. A curb is located around the area and the concrete is sloped toward a trench drain that can be drained by valves to the storm sewer or the spill interceptor tank. The valve to the storm sewer is normally open. During truck unloading operations, the valve to the storm sewer is closed and the valve to the spill interceptor is opened. This spill interceptor tank was identified as Unit 25 in the Part A permit. However, a July 14, 1987 request for revision to the Part A permit indicated that solvent had never been spilled to this spill interceptor, and that since solvent would no longer be unloaded in this area the spill interceptor should not be considered a hazardous waste tank. (GM; July 14, 1987)

4. Liquid wastes were normally dumped to the process sewer in the alley between Buildings G-4 and G-2. Accidental spills in this area were intercepted by the spill containment pipe and sumps, which had a combined 2,000-gallon capacity. This spill interceptor was constructed by plugging a portion of the storm sewer that was no longer in use.

5. Fill pipes for USTs (10,000-gallon paint, 3,000-gallon Stoddard solvent, and 3,000-gallon chlorinated solvent) in the Still Room (AOI 2) are located northeast of Building 24. The discharge pipe for the 3,000-gallon still bottom UST is also located in this area. The 600-gallon spill interceptor trench was constructed in 1977 for emergency containment of spills during truck unloading. A curb is located around the area and the concrete is sloped toward the trench drain, which can be drained by a valve to the storm sewer. The valve to the storm

sewer is normally open, but is closed during truck unloading operations. The trench will overflow to the contained window well if the capacity is exceeded.

7.4.2 AOI 6 - PROPOSED SPILL INTERCEPTOR CONTENTS SAMPLING

The spill interceptor contents, if any, will be sampled. Sediment and/or water samples may be collected as discussed in Section 7.1.2.

The sediment and/or water samples (and associated QA/QC samples) will be analyzed for TCL VOCs, TCL SVOCs, TCL PCBs, and TAL inorganics. Sample results will be evaluated as discussed in Section 8.3, to identify COPCs, if any, and evaluate whether further soil and/or groundwater sampling is warranted. Sample results will also be used to identify whether spill interceptor cleaning is necessary.

7.4.3 AOI 6 - PROPOSED SOIL INVESTIGATION

Two soil borings will be completed to the water table downgradient of each spill interceptor system, and samples will be collected as discussed in Section 7.1.1. Locations may be adjusted due to field conditions.

The soil samples (and associated QA/QC samples) will be analyzed for TCL VOCs, TCL SVOCs, TCL PCBs, and TAL inorganics. Sample results will be evaluated as discussed in Section 8.3, to identify COPCs, if any, and evaluate whether further soil and/or groundwater sampling is warranted.

7.5 AOI 8 - DEGREASING UNITS

7.5.1 AOI 8 - DESCRIPTION

AOI 8, the Degreasing Units, is presented on Figure 7.4. Degreasing units were formerly used at the Site between approximately 1971 and 1991. Degreasing solvents used at the Site included Stoddard solvent, chlorinated solvents (TCE in 1971 to 1973, PCE in 1973 to 1982, and TCA in 1982 to 1991), and Freon. A bulk storage and reclaim system was operated in Building 24 for chlorinated solvents and Stoddard solvents (AOI 2) until 1987. TCA continued to be used until July 1991. The degreasing units were phased out between 1988 and 1991 and replaced with smaller portable satellite cleaning units maintained by Safety-Kleen.

As part of decommissioning activities between 1995 and 1997, overhead lines that carried solvent-based material were cut down and sent off Site for disposal along with any remaining residues.

7.5.2 AOI 8 - PROPOSED SOIL INVESTIGATION

The former locations of degreasing units that were located on the ground floor will be inspected and it will be determined whether each location directly overlies soil (as opposed to having a basement beneath the area).

One soil boring will be completed to the water table in the vicinity of each former degreasing unit, or group of degreasing units, that directly overlies soil. Samples will be collected as discussed in Section 7.1.1. Boring locations will be biased towards potential release locations (e.g., cracks in the concrete floor, sumps or trenches near the former degreaser), if any, or will be located downgradient (i.e., northwest) of the former degreaser.

The soil samples (and associated QA/QC samples) will be analyzed for TCL VOCs, TCL SVOCs, TCL PCBs, and TAL inorganics. Sample results will be evaluated as discussed in Section 8.3, to identify COPCs, if any, and evaluate whether further soil and/or groundwater sampling is warranted.

7.6 AOI 10 - PAINT WASTE ACCUMULATION AREAS (BUILDINGS 9, 10, AND 12)

7.6.1 AOI 10 - DESCRIPTION

AOI 10, the Paint Waste Accumulation Areas in Buildings 9, 10, and 12, is presented on Figure 7.5. Since the early 1970s, there were three areas where paint waste was accumulated prior to eventual transfer to the hazardous waste staging/storage areas:

1. Paint buildup was stripped from parts hooks by soaking the hooks in a caustic solution in an unused plating tank in Building 9. The caustic solution was periodically drained to the wastewater sump in this area, and subsequently treated at the WWTP. The paint sludge was drummed and moved to the hazardous waste staging area on the first floor of Building 24 (Unit 8A in the Part A permit; AOI 4). Free liquids were decanted from the drums in the

hazardous waste staging area and the drums were subsequently moved to the hazardous waste storage cage on the second floor of Building 24 (Unit 8B in the Part A permit; AOI 4).

2. Waste paint thinner and paint filters from the maintenance paint room in Building 10 were accumulated in a drum in this area. When full, the drum was moved to the hazardous waste storage cage in Building 5 (Unit 7 in the Part A permit; AOI 4).

3. Waste paint sludge was periodically removed from the production paint room on the second floor of Building 12. The paint sludge was transferred into a drum on the first floor of Building 12 via a chute. The drums of paint sludge were moved to the hazardous waste staging area on the first floor of Building 24 (Unit 8A in the Part A permit; AOI 4). Free liquids were decanted from the drums in the hazardous waste staging area and the drums were subsequently moved to the hazardous waste storage cage on the second floor of Building 24 (Unit 8B in the Part A permit; AOI 4).

Paints historically contained solvent and chromium. In 1990 this material was replaced with a water-based paint.

7.6.2 AOI 10 - PROPOSED SOIL INVESTIGATION

The former locations of paint waste accumulation areas that were located on the ground floor will be inspected and it will be determined whether each location directly overlies soil.

One soil boring will be completed to the water table in the vicinity of each former paint waste accumulation area that directly overlies soil. Samples will be collected as discussed in Section 7.1.1. Boring locations will be biased towards potential release locations (e.g., cracks in the concrete floor), if any. No soil borings will be completed if no potential release locations are identified.

The soil samples (and associated QA/QC samples) will be analyzed for TCL VOCs, TCL SVOCs, TCL PCBs, and TAL inorganics. Sample results will be evaluated as discussed in Section 8.3, to identify COPCs, if any, and evaluate whether further soil and/or groundwater sampling is warranted.

7.7 AOI 16 - FUEL USTs (NEAR BUILDING 4)

7.7.1 AOI 16 - DESCRIPTION

AOI 16, the fuel USTs near Building 4, is presented on Figure 7.6. Three USTs were installed to the north and west of Building 4 in approximately 1974. The 10,000-gallon UST (Tank 12) was used for the storage of unleaded gasoline until January 1992. The 5,500-gallon UST (Tank 13) was used for the storage of regular gasoline until approximately 1989, when diesel fuel storage originally in Tank 14 was transferred to this tank. Diesel fuel was stored in Tank 13 until February 1992. The 2,000-gallon UST (Tank 14) was used for the storage of diesel fuel between approximately 1977 and 1989, when it was removed. The fill ports and fuel pumps associated with these USTs were located beneath a canopy to the north of Building 4. Any spills within the area under the canopy were collected in the trench drains and routed to a 10,000-gallon spill interceptor tank (AOI 6), which has undergone RCRA closure under Ohio EPA (approved in a letter dated January 24, 2002).

The integrity of the fuel USTs was checked on a monthly basis by measuring the actual fuel level change over the month (by sticking at the beginning and end of each month) and comparing this to the inventory change over the month (by subtracting amount dispensed from amount purchased). A leak, if any, would be signified by a consistent negative variance in this comparison. No leaks were identified between installation and June 1982.

A. REMOVAL OF TANK 14

The following activities were performed by O.H. Materials (OHM) in 1989 (OHM; January 22, 1990):

1. Tank 14 was removed between November 20 and 22, 1989. No evidence of contamination was observed.
2. One sample was collected from each end of the Tank 14 excavation and one sample was collected from the pipe trench on November 21, 1989. Sample results were received on December 7, 1989; total petroleum hydrocarbon (TPH) concentrations ranged from 21.7 to 1,400 ppm and BTEX was not detected.
3. Additional soil was excavated and one sample was collected from each end of the Tank 14 excavation and one sample was collected from the pipe trench on December 11, 1989. Sample results were received on January 15, 1990; TPH and BTEX were not detected.

Based on these results, GM notified the Division of State Fire Marshal of a release on December 7, 1989. A follow-up letter was sent on January 25, 1990 (with the January 22, 1990 OHM report attached), indicating that all residual contamination had been removed and that GM believed that no further remediation was necessary. (GM; January 25, 1990)

A Release Notification (578530-02) was amended on December 7, 1989 after receiving sample results from the excavation associated with Tank 14. Additional soil was excavated to remove residual contamination, and a "No Further Action" letter dated August 2, 1993 was received from BUSTR for Tank 14. (Ohio Department of Commerce; August 2, 1993)

B. REMOVAL OF TANKS 12 AND 13

The MCD completed a soil boring on the Mad River levee adjacent to the Site on June 14, 1982. This boring was located downgradient (north) of Tank 12, as shown on Figure 7.6. An odor similar to diesel fuel was encountered at approximately 728 feet (immediately above the water table).

The following activities were performed by Environmental Quality Management (EQ) and their tank removal subcontractor, Reliable Construction Services (Reliable), in 1992 and 1993 (EQ; March 1993):

1. After Tanks 12 and 13 were last used in January and February 1992, GM transferred the remaining product into containers for use at the plant. Tank 12 was cleaned by Brand Precision Services of Dayton (Brand) and Tank 13 was cleaned by Reliable in December 1992; all washwaters were transferred to 55-gallon drums for off-Site disposal.
2. The pavement covering Tanks 12 and 13 was removed and the tanks were excavated in December 1992. Tanks 12 and 13 were observed to be in good condition, with moderate corrosion. Backfill surrounding the tanks was visibly clean and no odors were observed. However, groundwater was encountered at approximately 11 feet bgs; the soil was observed to be stained at the water table and petroleum odors were observed. The tanks were cut into small segments and transported off Site for recycling via smelting.
3. Two soil samples were collected from the excavation for Tanks 12 and 13 (sampling was limited by sheet piling installed to protect building foundations), one soil sample was collected from the suction pipe run, two soil samples were collected from the pump pad, and one water sample was collected from the

bottom of the excavation on December 14, 1992. Samples were analyzed for TPH, BTEX, and/or PAHs and results were received on January 6, 1993. In soil samples TPH concentrations ranged from non-detect (below 5 ppm) to 162 ppm. Elevated detection limits for BTEX were reported in soil samples from the excavation due to non-target organics and the highest detected BTEX concentrations in soil were 0.196, 0.21, 0.22, and 1.58 ppm, respectively. In the water sample, toluene was reported at 2.050 ppm, ethylbenzene was reported at 2.35 ppm, xylenes were reported at 13.42 ppm, naphthalene was reported at 0.11 ppm, and phenanthrene was reported at 0.032 ppm.

4. Five samples were collected from each of the two rolloff boxes and composited into a single sample from each rolloff box for waste characterization. The waste was found to be non-hazardous and disposed of off Site. The waste sample had a TPH concentration of 424 to 2,220 ppm.

A Release Notification (578530-03) was submitted on December 14, 1992 because evidence of contamination was observed during removal of Tanks 12 and 13. Soil contamination in this area may not be due to a release from the USTs. The soil immediately surrounding the tanks showed less evidence of contamination than soil further from the tanks. In addition, non-target organics caused elevated detection limits for BTEX.

7.7.2 AOI 16 - PROPOSED SOIL INVESTIGATION

Four soil borings will be completed around the perimeter of the Tank 12 and Tank 13 footprint, and one boring will be completed at the location of the fuel pumps. Soil borings will not be completed to investigate Tank 14 because impacted soil has been removed from this area and this tank has received "No Further Action" from BUSTR. Soil borings will be completed to the water table and samples will be collected as discussed in Section 7.1.1.

The soil samples (and associated QA/QC samples) will be analyzed for TCL VOCs, TCL SVOCs, TCL PCBs, and TAL inorganics. Sample results will be evaluated as discussed in Section 8.3, to identify COPCs, if any, and evaluate whether further soil and/or groundwater sampling is warranted.

7.8 AOI 18 - STORM SEWERS

7.8.1 AOI 18 - DESCRIPTION

AOI 18, the storm sewers, is presented on Figures 7.7a through 7.7c. Historical outfall and storm sewer interceptor locations are also presented on these figures.

Non-contact cooling water and stormwater runoff were historically discharged to the Mad River via Outfalls 001 through 010. Outfall 011 replaced Outfalls 005 through 010 for monitoring purposes in the late 1980s, although no change occurred to the storm sewer network. Storm sewer interceptors were installed upstream of the outfall locations in approximately 1977. Outfalls 001, 002, and 003 were equipped with valves to ensure that during high levels in the Mad River a backup of river water onto the Site could be prevented. In particular, Outfall 001 could be shut off and water from the basement sumps in Building 24 would then be routed to storm sewers on Taylor Street.

Basement dewatering sumps were used throughout the Site. These sumps generally consisted of a concrete sump equipped with a float switch and sump pump that discharged to the storm sewer. A few of the basement dewatering sumps discharged to the process sewer system. In the Building 13 basement, two sumps are connected via a trench and one sump pump is used for both. Basement sumps located within an area of contaminated groundwater (as identified in Section 4.3.1) may have discharged to the storm sewer system and/or process sewer system. The locations of basement dewatering sumps are presented on Figures 7.7a and 7.7b.

In addition to non-contact cooling water and stormwater runoff, various processes have historically discharged to the storm sewers. In 1971, Delphi identified various connections allowing discharges of process wastewater to the storm sewers. These connections were eliminated and process wastewater was routed to the process/sanitary sewers in approximately 1971. Washwaters were also historically discharged to the storm sewer, notably from the "buggy" cleaning area north of Building 7.

The following releases have occurred, or are suspected to have occurred, to the storm sewers:

1. On June 30, 1971, a mixture of scrap oil and solvent overflowed from the waste tank in the north alley (between Buildings 4 and 7) and entered the storm sewer via an open grate. The oil and solvent mixture on the ground was dammed and removed.

2. On July 31, 1975, approximately 1,000 gallons of PCE overflowed from Tank 18, located east of Webster Street. A portion of the PCE saturated the ground surrounding the vent pipe, and the remainder entered the storm sewer at Outfall 004 and a catchbasin on Webster Street approximately 80 feet to the south. The outfall from the 72-inch City of Dayton storm sewer to the Mad River was observed and no evidence of contamination (e.g., color, oil, odor) was identified.

3. On September 5, 1975, approximately 10 to 15 gallons of refrigerant oil overflowed from Tank 3, located east of Webster Street. A portion of the oil entered the storm sewer at Outfall 004. A smaller portion entered a catchbasin on Webster Street approximately 80 feet to the south. The outfall from the 72-inch City of Dayton storm sewer to the Mad River was observed and no evidence of oil was identified.

4. On May 24, 1990, a white discoloration was observed in the Webster Street 72-inch storm sewer to the Mad River. The source of the release was identified as a rotofinish process within the manufacturing plant. It was estimated that a maximum of 200 gallons could have been discharged. (GM; May 30, 1990).

5. On October 15, 1990 a sump backed up causing a release of process wastewater (including coolant, tramp oil, and rotofinish process water). Process drains in the area were cleaned and a sump was disconnected. (GM; October 19, 1990).

6. On July 1, 1992 a process sewer leaked in the vicinity of a storm sewer manhole, causing a periodic discharge of oily process wastewater (including coolant, tramp oil, and parts cleaning solution). The sewer was repaired and other lines in the area were assessed for damage. (GM; July 6, 1992).

7. On October 23, 1992 a plug between the storm and process sewer lines near Interceptor 9 failed. Approximately 20 gallons of cutting and/or machining oil was discharged to the City storm sewer outfall. The plug was repaired. (GM; October 24, 1992).

8. On March 4, 1993 a catastrophic failure of an 8-inch fire line in Building 24 resulted in flooding of a water soluble oil recirculation system. A portion of this oil may have entered the storm sewer. (GM; March 7, 1993)

9. The concrete pad for the battery charging station between Buildings 2 and 3 was observed to have deteriorated. This may have allowed a release to the storm sewer in this area.

The following investigations have been performed in the storm sewers:

1. Sewer lines were dye-tested in the late 1970s to identify and eliminate cross-connections between storm and process/sanitary sewers.
2. Sediment and water in storm sewers along Taylor Street were sampled in May and June 1993. PCE was detected at 0.036 to 0.426 ppm in sediment and <0.001 to 0.119 ppm in water; TCE was detected in one sediment sample at 0.026 ppm and in water samples at <0.001 to 0.0264 ppm; and TCA was not detected in sediment (below 0.025 ppm) but was detected at <0.001 to 0.0229 ppm in water. The storm sewer interceptors in this area were cleaned of sediment in May 1993, and composite TCLP sample results indicated a PCE concentration of 3.96 ppm.
3. A sewer was excavated in Building 2 in July 1992. PCBs were detected in excavated soil at 1.59 ppm.
4. Wooden sewers were identified along Amelia Street near Buildings 5 and 7 during repair work.
5. Sumps in Building 24 were sampled in February 2000. PCB concentrations ranged from non-detect (at 0.65 ppm) to 23.5 ppm.

The following remedial actions have been performed in the storm sewers:

1. Storm sewer interceptors were installed in approximately 1977 to prevent oil discharges to the City storm sewer and the Mad River.
2. Between September 6 and 18, 2000 the storm sewer interceptor near Outfall 001 (Interceptor 1) was cleaned, plugged, and filled with grout. Outfall 001 is no longer operational. Due to the presence of PCBs and VOCs in sediment in storm sewers at the Site, a rinse sample was collected after cleaning the interceptor and before plugging the pipe. No VOCs were detected, and PCBs were reported at 0.0308 ppm in rinse water.

7.8.2 AOI 18 - PROPOSED SEWER WATER AND SEDIMENT INVESTIGATION

All storm sewer manholes will be located and inspected to identify invert elevations, flow directions, flow quantities, inlet and outlet pipes, presence of sediment, and any potential evidence of contamination. Manhole logs will be prepared for all storm sewer manholes, and the information presented on sewer drawings will be verified. All

basement dewatering sumps will also be inspected to verify the discharge location and identify potential evidence of contamination, if any.

Sediment and/or water from select storm sewer outfalls, manholes, and basement dewatering sumps will be collected in a downstream to upstream direction, as discussed in Section 7.1.2. In addition to the sample locations presented on Figures 7.7a and 7.7b (i.e., all existing outfalls, manholes along Taylor Street, and basement dewatering sumps), samples will be collected from manholes where evidence of potential contamination (e.g., free product, unusual odor, elevated PID readings) was observed during manhole inspection.

The sediment and water samples (and associated QA/QC samples) will be analyzed for TCL VOCs, TCL SVOCs, TCL PCBs, and TAL inorganics. Sample results will be evaluated as discussed in Section 8.3, to identify COPCs, if any, and evaluate whether further sewer water, sediment, soil, and/or groundwater sampling is warranted.

7.9 AOI 19 - PROCESS SEWERS

7.9.1 AOI 19 - DESCRIPTION

AOI 19, the process sewers, is presented on Figures 7.8a and 7.8b. Historically, sanitary and process sewers were combined and discharged to the City of Dayton POTW. In 1981, the WWTP began treating process waste prior to discharging this wastewater to the City of Dayton POTW. To allow operation of the WWTP, process sewer lines were divided into plating waste (from the plating waste sump in Building 9) and general oily waste (including waste coolant, drainage from grinding sludge, and mop water) from the remaining locations at the Site. These waste streams were routed to the WWTP. Overhead sanitary sewers were installed, and sanitary waste was segregated and discharged directly to the City of Dayton POTW.

Process sewers east of Taylor Street were cleaned between October 1995 and January 1996, as part of decommissioning. The sewers were generally cleaned from upstream to downstream sections using a wash truck fitted with a jet nozzle (small diameter sewers), or a sewer jet truck (large diameter sewers). Water generated was decanted from the vacuum trucks to the WWTP, and sludge was disposed off Site.

Process sewer cleaning west of Taylor Street was initiated on February 1, 1996, using the same methods as were employed east of Taylor Street. On February 2, 1996, three of the manholes near the still room in Building 24 were found to contain up to 10 feet of

sludge. As the sludge was being removed, using pressurized hot water and a vacuum truck, a solvent odor was encountered. A grab sample of sludge from each manhole was collected and composited prior to analysis. Sample results indicated concentrations of TCE (11,200 ppm), cis-1,2-DCE (737 ppm), and PCE (7,980 ppm). Manhole #4 in this area does not have a solid bottom. Shortly thereafter, solvents and PCBs were detected in the WWTP, and the sewer cleaning procedure was modified as follows:

1. All remaining process sewer manholes were sampled for PCBs, VOCs, SVOCs, and metals. The solid sludges were collected directly into drums for off-Site disposal.
2. After the solid sludges were collected from manholes, the sewers were cleaned using pressurized water.
3. The sewers were sampled using a "trickle testing" method, which involved passing clean potable water through the sewers and analyzing the water discharged. Ten of the 18 sewer lines tested exhibited detectable levels of PCBs in the "trickle test" sample.

On June 27, 1996, it was identified that Manhole #27 in Building 1A did not have a solid bottom. Soils at the bottom of the manhole were sampled and results indicated the presence of the PCB Aroclor 1254 at 67.8 ppm. A temporary concrete bottom was placed in this manhole to allow sewer cleaning to proceed.

A section of abandoned process sewer projected from the wall in the basement of Building 12. The floor was covered with approximately 1 inch of oily sludge adjacent to this sewer. A grab sample was collected, and found to contain non-hazardous levels of volatiles, hazardous levels of metals (arsenic, cadmium, chromium, and lead), and PCBs at a concentration of 18.6 ppm. The floor was washed with pressurized hot water, and the solids collected were sent off Site for incineration. This sewer line was cut and plugged.

Soil samples collected as part of investigations associated with AOI 15 (Tank 4), south of Building 9, indicated elevated TPH levels. The TPH did not appear to be related to Tank 4 but may have been related to nearby process sewers. No Further Action has been requested for Tank 4. Additional detail is presented in the Current Conditions Report (CRA, June 8, 2001).

7.9.2 AOI 19 - PROPOSED SOIL INVESTIGATION

One soil boring will be completed through each of the three manholes adjacent to the Still Room (AOI 2) in Building 24, including bottomless manhole No. 4, and bottomless manhole No. 27 in Building 1A (see Figure 7.8a). Soil borings will be completed to the water table and samples will be collected as discussed in Section 7.1.1.

Four soil borings will be completed in the vicinity of the process sewers south of Building 9 (see Figure 7.8b). Soil borings will be completed to the water table and samples will be collected as discussed in Section 7.1.1.

The soil samples (and associated QA/QC samples) will be analyzed for TCL VOCs, TCL SVOCs, TCL PCBs, and TAL inorganics. Sample results will be evaluated as discussed in Section 8.3, to identify COPCs, if any, and evaluate whether further soil and/or groundwater sampling is warranted.

7.10 AOI 20 - PCB RELEASES FROM ELECTRICAL EQUIPMENT

7.10.1 AOI 20 - DESCRIPTION

PCBs have been used at the Site in electrical systems (capacitors and transformers). The locations of electrical equipment are presented on Figure 7.9.

Releases from transformers occurred, or are suspected to have occurred, in the following areas:

1. The Main Electrical Switch Vault, in the basement of Building 5, formerly contained PCB equipment. This area was replaced by a switch room on the Building 9 roof during the 1970s. A sooty residue was observed on the ceiling during a Site inspection in 1994 and the vault is currently flooded.
2. Electrical Vault 1, in the basement of Building 5, formerly contained six transformers. Samples of dielectric fluid were collected from transformers in Vault 1 on January 9, 1984. The fluid in the two transformers exceeding 50 ppm was replaced and subsequent PCB sample results ranged from 34 to 37 ppm PCBs. A small leak from a bushing was identified on March 17, 1989. An oily residue was observed in the vault during a site inspection in 1994. The transformers were drained in 1994.
3. Electrical Vault 4, in the basement of Building 12, formerly contained 11 PCB transformers. The fluid in one of the transformers contained 45.9 ppm PCBs and

the fluid in this transformer was replaced in March 1984. The transformers were observed to leak in a later inspection.

4. Electrical Vault 6, in the basement of Building G-2, housed 12 transformers and associated switch gear. On December 27, 1983, a current transformer (on a lighting transformer) and the south transformer oil circuit breaker failed. The oil switch and the secondary volt cables on the south transformer were found to have deteriorated due to oil leakage. The oil was tested and found to contain 210 ppm PCBs. The oil was removed in February 1984. Approximately 40,000 gallons of standing water were observed in Vault 6 in the basement of Building G-2, in 1994. A sample of this water was collected on August 30, 1994 and was found to contain Aroclor 1254 at a concentration of 0.41 ppb. This water was removed and filtered with carbon during building decommissioning between 1995 to 1997. Solids from the floor also contained PCBs and were sent off Site with the carbon for incineration.

5. Electrical Vault 13/14, on the roof of Building 24, formerly housed two PCB transformers. Small leaks from valves and/or bushings were identified on July 24, 1981, November 11, 1981, August 9, 1984, and March 17, 1989. The valves and/or bushings were cleaned and tightened.

6. Electrical Vault 16, on the roof of Building 24, formerly housed two PCB transformers. Small leaks from valves and/or bushings were identified on August 6, 1981, November 11, 1981, and March 17, 1989. The valves and/or bushings were cleaned and tightened.

7. Electrical Vault 18, on the roof of Building 24, formerly housed three PCB transformers. Small leaks from valves and/or bushings were identified on July 24, 1981, May 5, 1982, and January 27, 1994. The valves and/or bushings were cleaned and tightened.

8. Electrical Vault 22, on the roof of Building 12, formerly housed three PCB transformers. Small leaks from valves and/or bushings were identified on October 18, 1983. A pan was placed to catch any leakage.

9. Electrical Vault 23, on the roof of Building 12, formerly housed two PCB transformers. A small leak from a bushing was identified on January 27, 1987.

10. Electrical Vault 33, on the roof of Building 9, formerly housed two PCB transformers. Small leaks from valves and/or bushings were identified on October 18, 1983 and January 3, 1995. A pan was placed to catch any leakage in 1983 and all valves were repaired in 1995.

11. A PCB transformer had been installed in Electrical Vault 51, at the south end of Building G-4, in March 1978 and was equipped with a containment pad with a blind sump. On October 10, 1978, approximately 30 to 45 gallons of fluid leaked

from a broken ceramic bushing on this transformer. The release was contained and was cleaned by triple rinsing with trichlorobenzene. Approximately two drums of material were disposed of off Site. The PCB transformer was immediately taken out of service and replaced with a non-PCB transformer.

Vaults 1, 4, and 6 were cleaned during plant decommissioning during 1995 to 1997. The liquid filled electric transformers were disconnected and removed. The dielectric fluid, from any transformer which was labeled as PCB-containing, was drained and the oil was sent off Site for incineration. The remaining carcasses were landfilled off Site. After the electrical equipment was removed, the vaults were powerwashed. Because water and solids from Vault 6 were found to contain PCBs, wipe samples were collected in this vault after powerwashing. Wipe sample results ranged from 0.39 to 1.27 µg/100 cm^2.

7.10.2 AOI 20 - PROPOSED CONCRETE INVESTIGATION

Two sample locations will be selected in each of Vaults 1 and 4. Sample locations will be biased toward evidence of potential contamination (e.g., stained or cracked concrete). One wipe and two concrete core samples (from 0 to 3 inches and 3 to 9 inches) will be collected from each location. The lower concrete core sample will be held for analysis in the event that the upper concrete core sample exceeds cleanup levels, as discussed in Section 7.1.3.

The wipe and concrete core samples (and associated QA/QC samples) will be analyzed for TCL PCBs. Sample results will be compared to cleanup levels for low occupancy areas defined in 40 CFR 761.61, as discussed in Section 7.1.3, and will be evaluated as discussed in Section 8.3.

7.10.3 AOI 20 - PROPOSED SOIL INVESTIGATION

In the event that the lower concrete core sample(s) exceed cleanup levels, a soil sample will be collected from beneath the floor where the elevated PCB concentrations were identified.

The soil samples (and associated QA/QC samples) will be analyzed for TCL PCBs. Sample results will be compared to cleanup levels for low occupancy areas defined in 40 CFR 761.61, as discussed in Section 7.1.3, and will be evaluated, as discussed in Section 8.3, to determine whether further concrete, soil, and/or groundwater sampling is warranted.

7.11 AOI 22 - INCINERATOR NEAR FORMER BUILDING 16

7.11.1 AOI 22 - DESCRIPTION

AOI 22, the incinerator near former Building 16, is presented on Figure 7.10. A 1,000-gallon incinerator for dirty liquids was formerly located south of Building 16. (GM; March 18, 1966). This incinerator was also used to burn various trash and plant debris. The incinerator was removed during construction of Building 24 in 1966.

7.11.2 AOI 22 - PROPOSED SOIL INVESTIGATION

Two soil borings will be completed at the location of the former incinerator near former Building 16 (within the footprint of existing Building 24). The soil borings will be completed to the water table and samples will be collected as discussed in Section 7.1.1.

The soil samples (and associated QA/QC samples) will be analyzed for TCL VOCs, TCL SVOCs, TCL PCBs, and TAL inorganics. Sample results will be evaluated as discussed in Section 8.3, to identify COPCs, if any, and evaluate whether further soil and/or groundwater sampling is warranted.

7.12 AOI 23 - USTs AND FORMER STILL NEAR FORMER BUILDING 8

7.12.1 AOI 23 - DESCRIPTION

AOI 23, the USTs and former still near former Building 8, is presented on Figure 7.11. Eight USTs were located north of Building 8. This included four 1,500-gallon refrigerant oil USTs, one 1,500-gallon dirty Stoddard solvent UST, one 1,500-gallon dirty naphtholite UST, one 1,500-gallon clean naphtholite UST (for fire), and a 1,260-gallon still dump UST. The Stoddard solvent still was located to the southwest of Building 8. These operations were removed in approximately 1967 during construction of Building 24.

7.12.2 AOI 23 - PROPOSED SOIL INVESTIGATION

Three soil borings will be completed in the vicinity of the former USTs, and one boring will be completed at the location of the former still room. Soil borings will be completed to the water table and samples will be collected as discussed in Section 7.1.1.

The soil samples (and associated QA/QC samples) will be analyzed for TCL VOCs, TCL SVOCs, TCL PCBs, and TAL inorganics. Sample results will be evaluated as discussed in Section 8.3, to identify COPCs, if any, and evaluate whether further soil and/or groundwater sampling is warranted.

7.13 AOI 24 - FORMER MACHINE GUN TESTING AREA (BUILDING G-5)

7.13.1 AOI 24 - DESCRIPTION

AOI 24, the former machine gun testing area, is presented on Figure 7.12. The government, or "G" Buildings were used during WWII for machine gun production. Building G-5 was used for testing the machine guns during this time period. It is believed that the guns were likely fired toward the east wall.

During installation of the Free Product Removal System, machine gun shell casings were encountered.

7.13.2 AOI 24 - PROPOSED SOIL INVESTIGATION

Two surface soil samples will be collected near the east end of former Building G-5, and one surface soil sample will be collected on the west side of former Building G-5.

The soil samples (and associated QA/QC samples) will be analyzed for TCL PCBs and lead. Sample results will be evaluated as discussed in Section 8.3, to identify COPCs, if any, and evaluate whether further soil and/or groundwater sampling is warranted.

7.14 AOI 25 - HYDROCHLORIC ACID SPILLS (SOUTH OF BUILDING 9)

7.14.1 AOI 25 - DESCRIPTION

Hydrochloric acid was stored in ASTs south of Building 9, as presented on Figure 7.13. Releases occurred from the hydrochloric acid AST south of Building 9 on December 4, 1975 (400-500 gallons), May 26, 1981 (1,500 gallons), May 4, 1987 (100 gallons), September 3, 1988 (875 gallons), and October 3, 1988. After each release, the spill containment measures were improved.

7.14.2 AOI 25 - PROPOSED SOIL INVESTIGATION

One soil boring will be completed in the vicinity of the former hydrochloric acid ASTs. The soil boring will be completed to the water table and samples will be collected as discussed in Section 7.1.1.

The soil samples (and associated QA/QC samples) will be analyzed for TCL PCBs, pH, and TAL inorganics. Sample results will be evaluated as discussed in Section 8.3, to identify COPCs, if any, and evaluate whether further soil and/or groundwater sampling is warranted.

7.14.3 AOI 25 - PROPOSED GROUNDWATER INVESTIGATION

One shallow monitoring well may be installed in the soil boring completed in the vicinity of the former hydrochloric acid ASTs, with the screen placed across the water table. If a well is installed, a groundwater sample will be collected using low flow sampling techniques. Alternatively, a groundwater sample may be collected using a Geoprobe or similar equipment.

The groundwater sample (and associated QA/QC samples) will be analyzed for pH, and total and dissolved TAL inorganics. Sample results will be evaluated as discussed in Section 8.3, to identify COPCs, if any, and evaluate whether further soil and/or groundwater sampling is warranted.

7.15 AOI 26 - POTENTIAL PCB RELEASES FROM PROCESS EQUIPMENT

7.15.1 AOI 26 - DESCRIPTION

PCBs have been used at the Site in hydraulic systems and coolants. There is no documented or observed evidence of a PCB release associated with hydraulic systems or coolants. In addition, PCBs were identified during decommissioning activities in various materials at the Site. Figure 7.14 presents the locations of PCBs from process equipment. An oily residue has also been identified on the lower walls of the tunnel beneath the CSXT railway.

Numerous hydraulic systems have been used at the Site. These systems were routinely tested in the late 1970s (1,046 samples were collected in 1980). PCB contamination was not found, with the exception of samples of oil collected from the No. 2 Vaill machine Tanks 3 and 4 (located in Building 9 near column V-39 using the new column identification) on January 31, 1979, which had PCB concentrations of 17.73 and 8.86 ppm, respectively. There is no evidence of a release from the No. 2 Vaill machine.

Process equipment containing PCBs was identified during decommissioning between 1995 and 1997. A grinder found in the Tool Grind Room in Building 7 contained cooling oil with PCBs at a concentration of 409.8 ppm. PCBs were also identified in gearboxes located on the 6th floor of Building 2 and in Building 12. The oil was removed and sent off Site for incineration. The remaining carcasses and gearboxes were shipped off Site for landfill disposal.

Plant air was exhausted through the roof at various locations through the ductwork and exhaust fans. All process venting ductwork was removed during decommissioning in 1995 to 1997 and placed into roll off boxes for disposal off Site. Oily residues had accumulated on the surfaces of the exhaust fans and ductwork. The residue was sampled and found to contain PCBs ranging from 0.332 to 13.456 ppm. All residues collected were drummed and sent off Site for landfill disposal. When the ductwork was removed, residues on the inside of the exhaust fans were dripping back into the plant at some locations. Stainless steel drip pans were installed to contain these drippings.

The tunnel beneath the CSXT railway may have been used to transport materials or equipment between the "G" buildings and the remainder of the Site. An oily residue was observed on the lower portion of the wall, which may be related to LNAPL in this area.

7.15.2 AOI 26 - PROPOSED CONCRETE INVESTIGATION

One sample location will be selected at each location where ductwork residues dripped into the plant. One sample location may be selected in the vicinity of the No. 2 Vaill machine and the tool grinder, if evidence of a release is observed. Two sample locations will be selected in the tunnel. Sample locations will be biased toward evidence of potential contamination (e.g., stained or cracked concrete). One wipe and two concrete core samples (from 0 to 3 inches and 3 to 9 inches) will be collected from each location. The lower concrete core sample will be held for analysis in the event that the upper concrete core sample exceeds cleanup levels, as discussed in Section 7.1.3.

The wipe and concrete core samples (and associated QA/QC samples) will be analyzed for TCL PCBs. Sample results will be compared to cleanup levels for low occupancy areas defined in 40 CFR 761.61, as discussed in Section 7.1.3, and will be evaluated as discussed in Section 8.3.

7.15.3 AOI 26 - PROPOSED SOIL INVESTIGATION

In the event that the lower concrete core sample(s) exceed cleanup levels, a soil sample will be collected from beneath the floor where the elevated PCB concentrations were identified.

The soil samples (and associated QA/QC samples) will be analyzed for TCL PCBs. Sample results will be compared to cleanup levels for low occupancy areas defined in 40 CFR 761.61, as discussed in Section 7.1.3, and will be evaluated, as discussed in Section 8.3, to determine whether further concrete, soil, and/or groundwater sampling is warranted.

7.16 AOI 27 - BATTERY CHARGING STATION(S) IN BUILDINGS 2, 3, AND 5

7.16.1 AOI 27 - DESCRIPTION

AOI 27, the battery charging stations in Buildings 2, 3, and 5, is presented on Figure 7.15. Two battery charging stations were identified in historical documents - one between Buildings 2 and 3 and one in Building 5. Only the battery charging station between Buildings 2 and 3 was identified during employee interviews. The location of the battery charging station in Building 5, if it existed, is unknown.

7.16.2 AOI 27 - PROPOSED SOIL INVESTIGATION

One soil boring will be completed in the vicinity of the Building 2/3 battery charging station. One soil boring will be completed in the vicinity of the Building 5 battery charging station, if the location of this station is identified during additional employee interviews to be immediately above soil (i.e., not underlain by a basement). Soil boring(s) will be completed to the water table and samples will be collected as discussed in Section 7.1.1.

The soil samples (and associated QA/QC samples) will be analyzed for TCL PCBs, pH, and TAL inorganics. Sample results will be evaluated as discussed in Section 8.3, to identify COPCs, if any, and evaluate whether further soil and/or groundwater sampling is warranted.

7.17 AOI 28 - FORMER MIAMI CANAL EXTENSION

7.17.1 AOI 28 - DESCRIPTION

AOI 28, the former Miami Canal Extension, is presented on Figure 7.16. The former Miami Canal Extension was located between the current locations of Pitts Street and Amelia Street in the southernmost portion of the Site. This feature appears in Sanborn maps dated 1887, 1898, 1918, and 1950. By 1950, some filling had occurred near Keowee Street, and the 1955 Sanborn map shows the entire former canal had been filled at the Site.

7.17.2 AOI 28 - PROPOSED SOIL INVESTIGATION

Five soil borings will be completed to the water table along the former Miami Canal Extension. The soil borings will be completed to the bottom of the former Miami Canal Extension, if identifiable. Samples will be collected for analysis as discussed in Section 7.1.1., and lithology will be recorded to the former canal bottom. Boring locations will be selected where historical sewer outfalls to the Miami Canal Extension may have existed (e.g., along north/south streets).

The soil samples (and associated QA/QC samples) will be analyzed for TCL VOCs, TCL SVOCs, TCL PCBs, and TAL inorganics. Sample results will be evaluated as discussed

in Section 8.3, to identify COPCs, if any, and evaluate whether further soil and/or groundwater sampling is warranted.

8.0 DATA EVALUATION

8.1 OBJECTIVES

The purpose of the investigation is to determine whether the potential risk to human health and the environment associated with hazardous waste or constituents released at AOIs identified for investigation warrants interim or corrective measures. Data collected during the investigation will be used for the following:

- determine whether a significant release of hazardous constituents to soil, groundwater, sewer water, sewer sediment, or concrete has occurred at or from the Site;
- determine the nature and extent of constituents in soil and groundwater as necessary to support a baseline risk assessment, where a significant release of hazardous constituents has been confirmed;
- support the RCRA correction action Environmental Indicator Determinations; and
- support the identification of AOIs that warrant interim or corrective measures, and evaluation of interim or corrective measures alternatives for these AOIs.

During the investigation, data collection will be conducted in phases. After each phase, the adequacy of the data for these data uses will be evaluated as discussed in Section 8.3 to determine whether additional data collection is warranted. When data of sufficient quality and quantity have been collected, the data will be used to support decisions regarding the need for interim or corrective measures.

8.2 DATA ASSESSMENT ACTIVITIES

8.2.1 SAMPLE TRACKING AND DATA MANAGEMENT

Sample tracking and data management will be performed as discussed in the QAPP (Appendix C) and DMP (Appendix D) to ensure that the sampling program is completed properly and that the sample turnaround times and requested analyses are appropriate.

Communication between field sampling crews and the laboratory will be provided by the project chemist. The sample tracking and management activities will include:

- coordinating the delivery of sample containers, shipping coolers, and sampling supplies from the laboratory to the Site;

- ensuring that sample shipments from the field arrived at the laboratory properly preserved;
- resolving sample documentation issues;
- identifying samples with unique turnaround time requirements or special analyses;
- maintaining the integrity of field data (e.g., water levels, pH, conductivity) and sample identification information (e.g., field duplicates, MS/MSD samples) through the use of standardized spreadsheet templates that are completed by field sampling crews and electronically transferred to the database management team;
- arranging for recollection of samples (if necessary) before the field sampling crew demobilizes from the Site; and
- distributing preliminary and final data packages to the data users in a timely manner.

The EQuIS database format will be used for storing and managing monitoring data. EQuIS is designed to include all tabular data including sampling and chemistry information for various media, groundwater elevations, well completion and lithology, and other information.

8.2.2 LABORATORY DATA AND DATA VALIDATION

A standardized electronic data deliverable (EDD) is required to ensure that laboratory data is received in a format most efficient for import into an EQuIS database. The data will be validated as discussed in the QAPP (Appendix C) to ensure that the data are consistent and correct. The output from the data validation process will be provided in a memorandum format. In addition, the database created for the project will include the data qualifiers and the reason for data qualification.

Cross-checking between various data sets will be performed to ensure that the data are consistent and correct. This may include comparison between RFI sample results in the same area, comparison between RFI and historical sample results in the same area, and concurrent evaluation of chemical and physical data (for example, groundwater quality data should be consistent with measured groundwater flow directions and velocities).

8.2.3 SITE MAPS/GEOGRAPHIC INFORMATION SYSTEMS (GIS)

A geographical information system (GIS) based data management system may be employed to facilitate data presentation and identification of data trends. The electronic data deliverable in this case would likely be CRA's e:DAT™, which can provide electronic links to maps, aerials, borehole logs, reports, photographs, visualizations and the chemistry and water level databases.

8.3 EVALUATION OF NEED FOR ADDITIONAL INVESTIGATION

The primary purpose of data collection during the investigation is to provide sufficient characterization of the nature and extent of any releases of constituents to allow a reliable quantification of potential exposures. That is, the analytical data collected during the investigation must be adequate for:

- determining whether the concentration of a constituent in soil at an AOI is significantly above background levels (i.e., levels not attributable to the Site's operations) in the medium;
- estimating the exposure concentration of a constituent in the medium in which the constituent was measured; and
- estimating the exposure concentration of a constituent in a medium to which the constituent may migrate (e.g., volatilization of a soil constituent into ambient air).

To ensure adequacy for these intended uses, the analytical data will be evaluated in accordance with the procedures outlined in U.S. EPA guidance on baseline risk assessments (U.S. EPA, 1989).

One element in the evaluation of the analytical data will be a qualitative review of the data with respect to adequacy of the samples in characterizing the average concentrations of constituents for each exposure pathway identified as potentially relevant during the investigation. The qualitative review, using professional judgement, will include an examination of the following:

- consistency in the types of constituents found in all sampled media at each AOI or in Site-wide groundwater vis-à-vis expectations based on history of operations and chemical properties of the constituents, which may indicate potential for false negative or false positive identification of constituents;

- lateral and vertical distribution of constituent concentrations to detect any obvious spatial trends, which may indicate that concentrations significantly higher than the measured concentrations may be likely in unsampled areas of depths; and
- presence of unusually high constituent concentrations, which may indicate the presence of non-aqueous phase liquids.

If the qualitative review identifies conditions that are likely to cause risk-based assessments of the data to provide unreliable conclusions regarding the need for interim or corrective measures, further sampling or other actions (e.g., checking for laboratory errors) will be taken to address such conditions.

In conjunction with the qualitative review, the data will be evaluated using appropriate, conservative human health risk-based screening levels to identify potentially significant concentrations. The screening will be conducted on each data point generated during the investigation. The presence of concentrations higher than screening levels will not necessarily mean that additional investigation is warranted. Similarly, the absence of concentrations higher than screening levels will not necessarily mean that additional investigation is unnecessary. Rather, decisions regarding the need for further investigation will be made based on professional judgment, considering the screening results and results of the qualitative review discussed above, including the magnitude of the concentrations, their spatial distribution, and other factors (e.g., background levels, as discussed below).

The analytical data also will be reviewed to identify constituents that are present at concentrations in soil that are within background levels. The constituent concentrations will be compared with Site-specific background levels in soil, using a statistical prediction interval at a 0.01 level of significance. If a constituent is determined to be within background levels in soil, then it would not be considered for quantitative exposure assessment for soil-related exposure pathways.

Although all laboratory analytical data collected during the investigation will be validated as discussed in the QAPP, the evaluation of data after each phase of investigation will be conducted without waiting for data validation to be completed. This will allow for more timely decisions regarding the need for further field investigations. However, the use of data to support decisions regarding the need for interim or corrective measures will be based on validated data.

8.4 USE OF INVESTIGATION DATA

The objective of the investigation is to determine whether potential risk to human health and the environment associated with hazardous waste or constituents warrants interim or corrective measures. The determination will rely on a risk-based assessment (which could be a baseline risk assessment) that will characterize the potential human health risk associated with each AOI or Site-wide groundwater from reasonable maximum exposures under current and reasonably expected future land and groundwater uses at and near the Site.

The risk assessment will include development of exposure scenarios, consistent with current and reasonably expected future land and groundwater uses, that describe potential exposure pathways by which on-Site and off-Site human populations may become exposed to constituents released from AOI. Documentation to confirm reasonably expected future land and groundwater uses will be developed during the investigation for the baseline risk assessment. The physical characteristics of the Site, including topography, hydrology, hydrogeology, and geology will be evaluated in conjunction with chemical data to assess chemical fate and transport mechanisms. This information will be used to assess the current and potential future impact, if any, of the releases identified at an AOI or Site-wide groundwater.

9.0 REPORTING

The following submittals are required under the Agreement:

- the Current Conditions Report has already been submitted;
- the Progress Reports will continue to be submitted quarterly;
- the RFI Report will be submitted in sufficient time to support completion of other RFI documents;
- the Environmental Indicators Report will be submitted by December 31, 2005;
- the Final Corrective Measures Proposal will be submitted by September 30, 2006;
- the Final Remedy Construction Completion Report will be submitted after all interim measures and final corrective measures have been completed; and
- an Operation and Maintenance Plan will be included with the Final Remedy Construction Report, if necessary.

These documents will be placed in a publicly accessible information repository. In addition, REALM and U.S. EPA will meet at least on a semi-annual basis to discuss findings during the project.

9.1 PROGRESS REPORTS

Progress reports will detail work performed to date, data collected, problems encountered, project schedule, and percent completed. Progress reports will be submitted to U.S. EPA by the 10th day of each month following a quarter.

9.2 RFI REPORT

The RFI Report will present all data that have been gathered as part of the investigation, an analysis of the data, and conclusions about the status of the Site and the need for corrective measures. The RFI Report will include the following information:

- a description of the various field activities performed during the course of the investigation;
- a description of the physical characteristics of the Site, including topography, hydrology, hydrogeology, geology, and ecology;

- a description of the nature and extent of contamination, if any, associated with each AOI;
- a description of the nature and extent of contamination, if any, associated with the Site as a whole if identification of specific source areas is impractical;
- an evaluation of current and potential future risk, if any, to human health and the environment associated with each AOI and the Site as a whole under current and reasonably expected future land use scenarios;
- an identification of AOIs where interim measures are required to address current unacceptable risks to human health and the environment, if any;
- an identification of AOIs where final corrective measures are required to address any potential unacceptable future risk under reasonably expected future land use scenarios; and
- additional relevant information, including but not limited to field forms, analytical data, and risk assessment methods.

The data analysis and conclusions presented in the RFI Report will form the basis for the Environmental Indicators Report and Final Corrective Measures Proposal. Any data deficiencies identified in the RFI that are necessary to complete these reports will be identified and filled by the collection of additional data.

9.3 ENVIRONMENTAL INDICATORS REPORT

The Environmental Indicators Report will consist of two parts: Documentation of Environmental Indicator Determination on Current Human Exposures Under Control (CA725) and Documentation of Environmental Indicator Determination for Migration of Contaminated Groundwater Under Control (CA750). Any interim measures implemented will be documented in separate report(s).

9.4 FINAL CORRECTIVE MEASURES PROPOSAL

The Final Corrective Measures Proposal will describe all interim measures implemented at the Site since the effective date of the Agreement, or may reference previously submitted Interim Measures Reports. If additional final corrective measures are necessary to protect human health and the environment from unacceptable risks due to releases of hazardous waste or hazardous constituents at or from the Site, the proposal will include a description, cost estimate, and proposed implementation schedule.

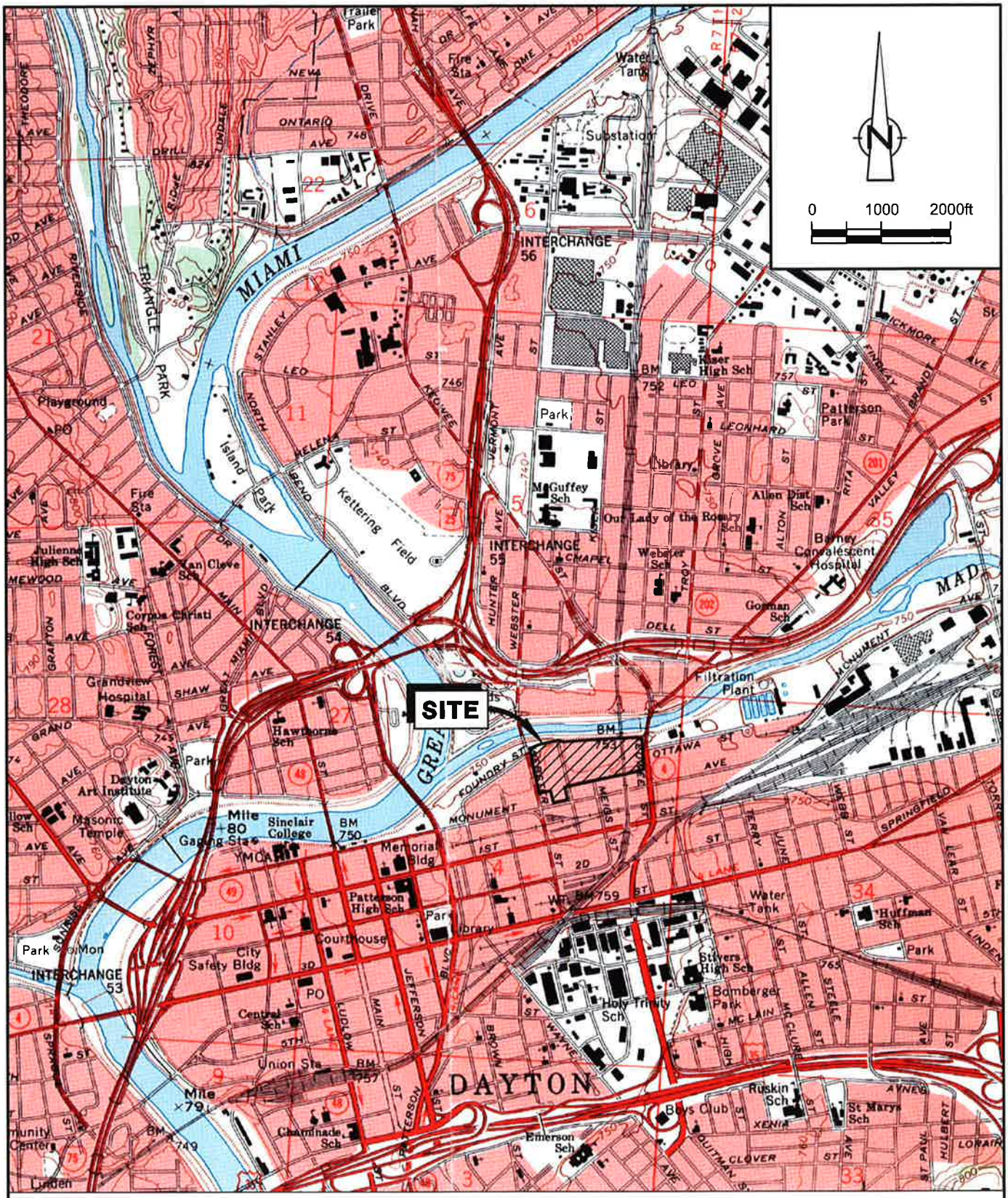
9.5 FINAL REMEDY CONSTRUCTION COMPLETION REPORT

The Final Remedy Construction Completion Report will document all work, if any, performed pursuant to U.S. EPA's Final Decision. An Operation and Maintenance Plan will be included, if ongoing monitoring or operation and maintenance is required after construction.

10.0 RFI SCHEDULE

The RFI will be completed in accordance with the schedule presented on Figure 10.1.

FIGURES

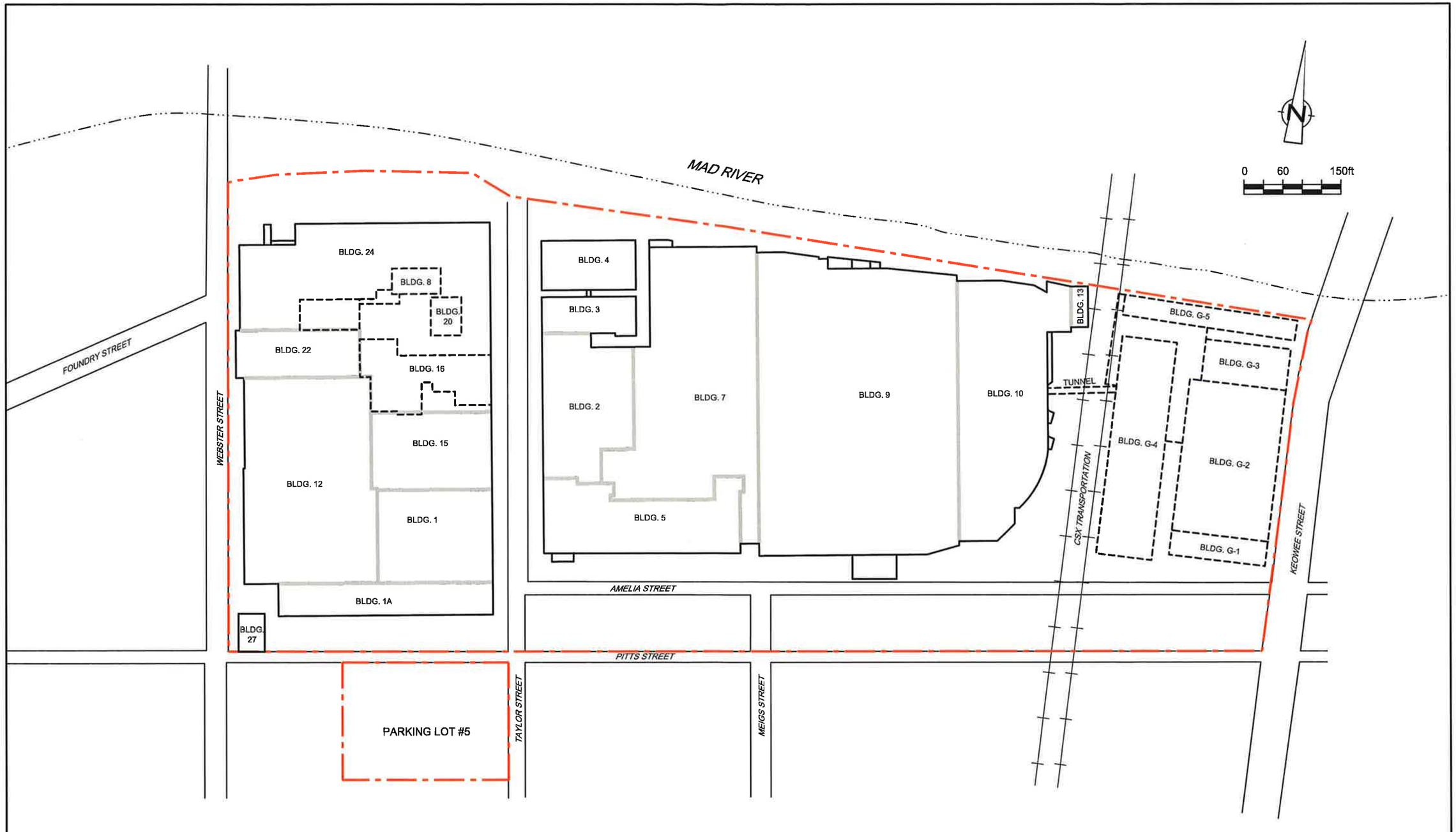


SOURCE: U.S.G.S., DAYTON NORTH, OHIO

figure 1.1

SITE LOCATION
FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY
Dayton, Ohio

12638-03(008)GN-WA001 JUN 25/2001



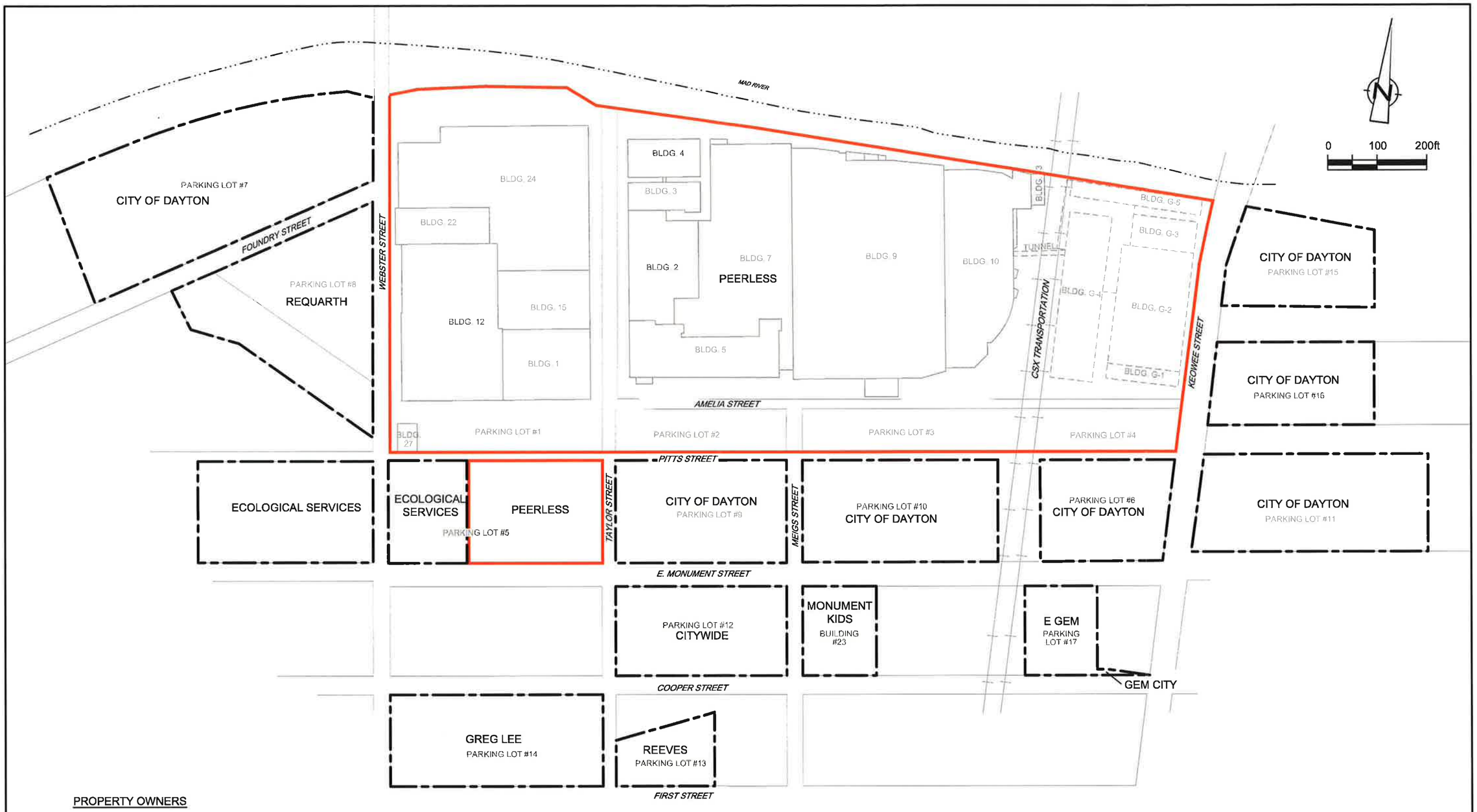
LEGEND

- BUILDING WALL
- BUILDING BOUNDARY
- FORMER BUILDING WALL
- SHORELINE
- RAILROAD
- SITE BOUNDARY

figure 1.2

SITE PLAN
FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY
Dayton, Ohio

12638-03(008)GN-WA002 JUN 25/2001



PROPERTY OWNERS

CITY OF DAYTON
GREG LEE - GREG LEE REALTY
REEVES - REEVES REALTY INC.
CITYWIDE - CITY WIDE DEVELOPMENT CORP.
MONUMENT KIDS - 804 MONUMENT PROPERTIES LLC
E GEM - 848 E. MONUMENT AVE LTD.
GEM CITY - GEM CITY ELEVATION CO. INC.
ECOLOGICAL SERVICES - ECOLOGICAL SERVICES OF AMERICA
REQUARTH - F.A. REQUARTH
PEERLESS - PEERLESS REALTY GROUP, LTD.

LEGEND

PROPERTY BOUNDARY IDENTIFIED IN NOVEMBER 1980 PART A PERMIT

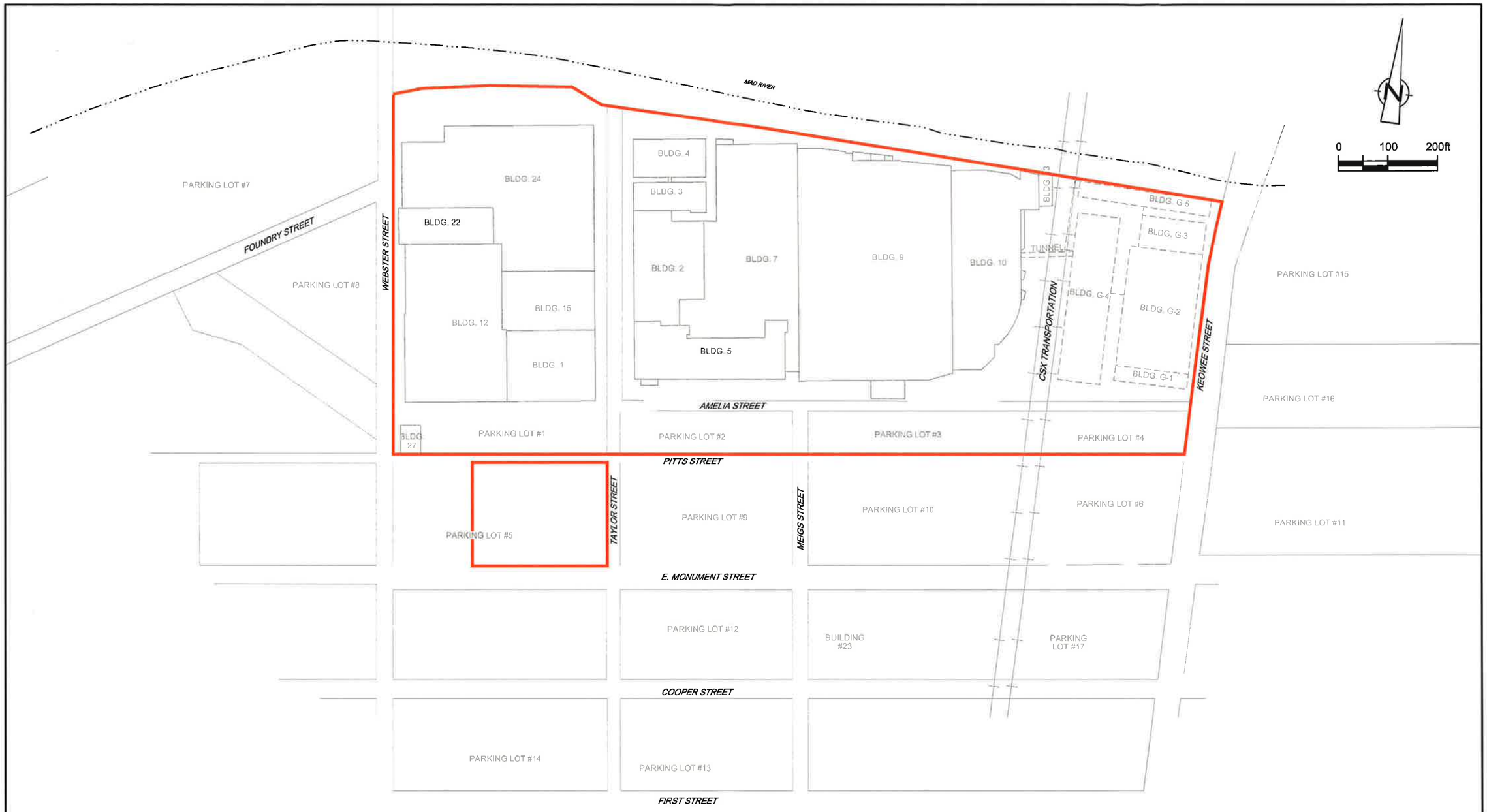
SITE BOUNDARY AS DEFINED IN THE VOLUNTARY AGREEMENT

MAD RIVER SHORELINE

figure 1.3

ENTIRE FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY
FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY
Dayton, Ohio

12638-03(008)GN-WA003 JUN 25/2001



LEGEND

SITE BOUNDARY AS DEFINED IN THE VOLUNTARY AGREEMENT

MAD RIVER SHORELINE

figure 1.4

SITE PLAN AS DEFINED IN VOLUNTARY AGREEMENT
FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY
Dayton, Ohio

CRA

12638-03(008)GN-WA004 JUN 25/2001

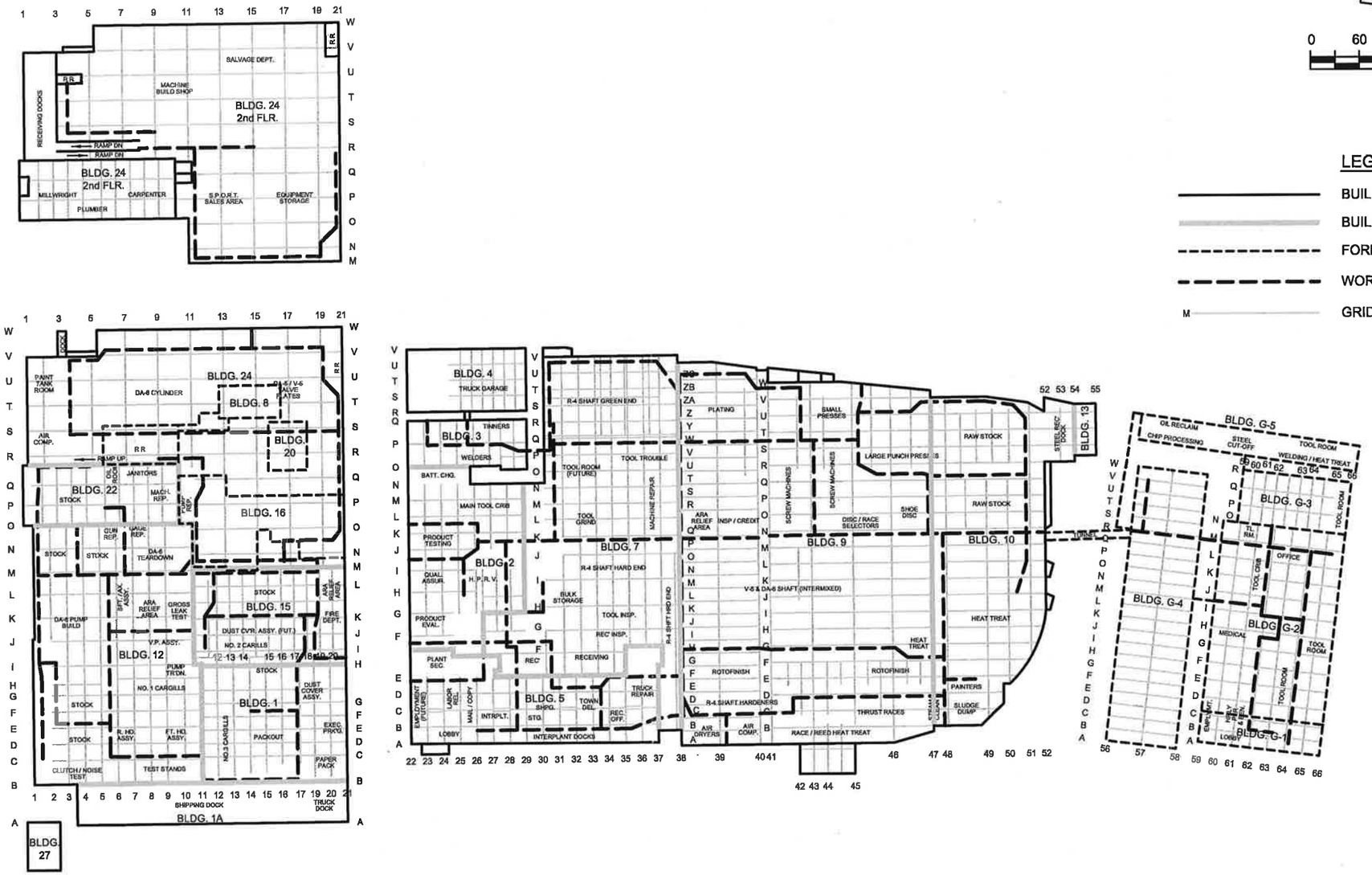


figure 2.1

HISTORICAL OPERATIONS (CIRCA 1980s)
FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY
Dayton, Ohio

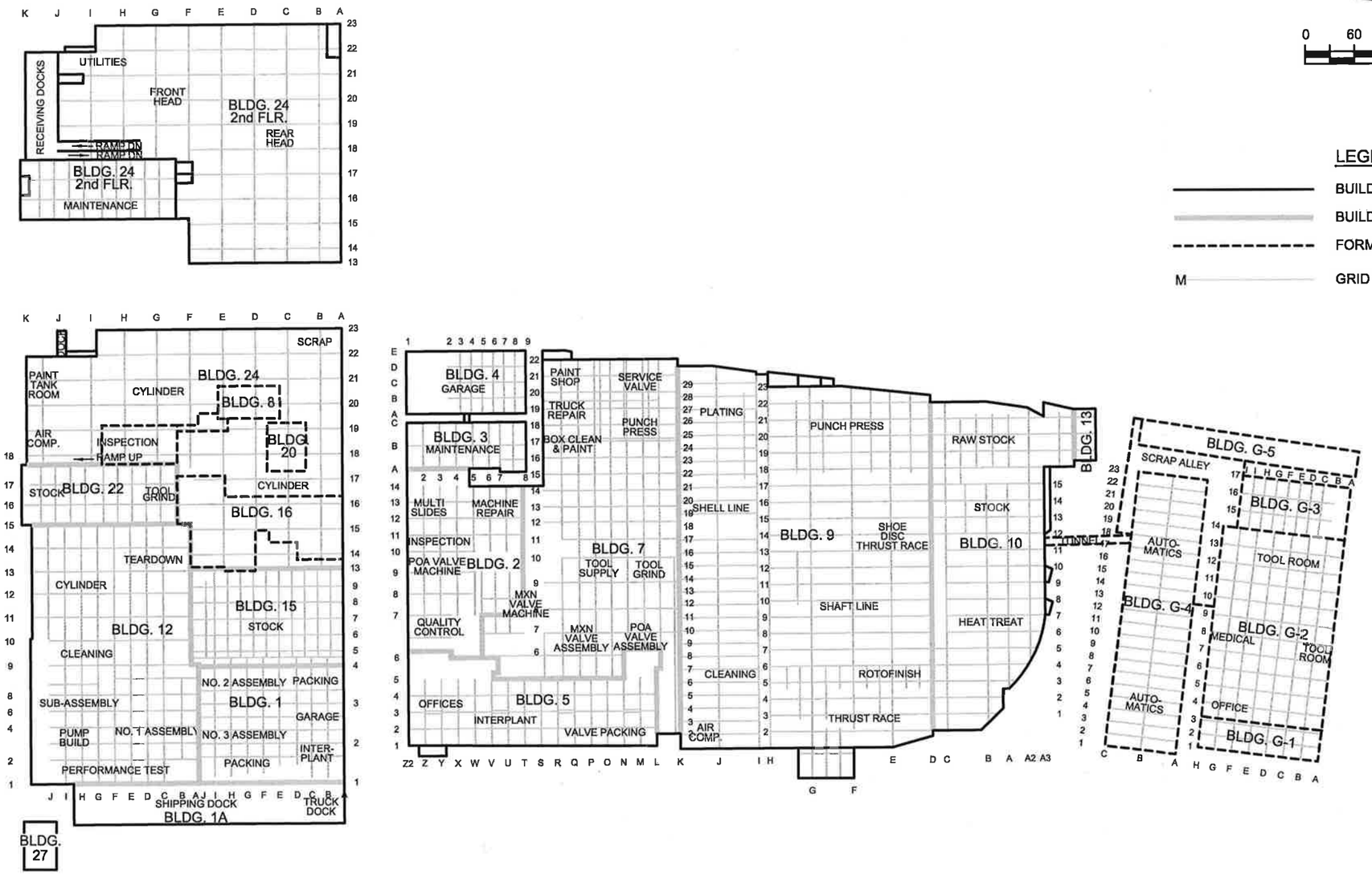
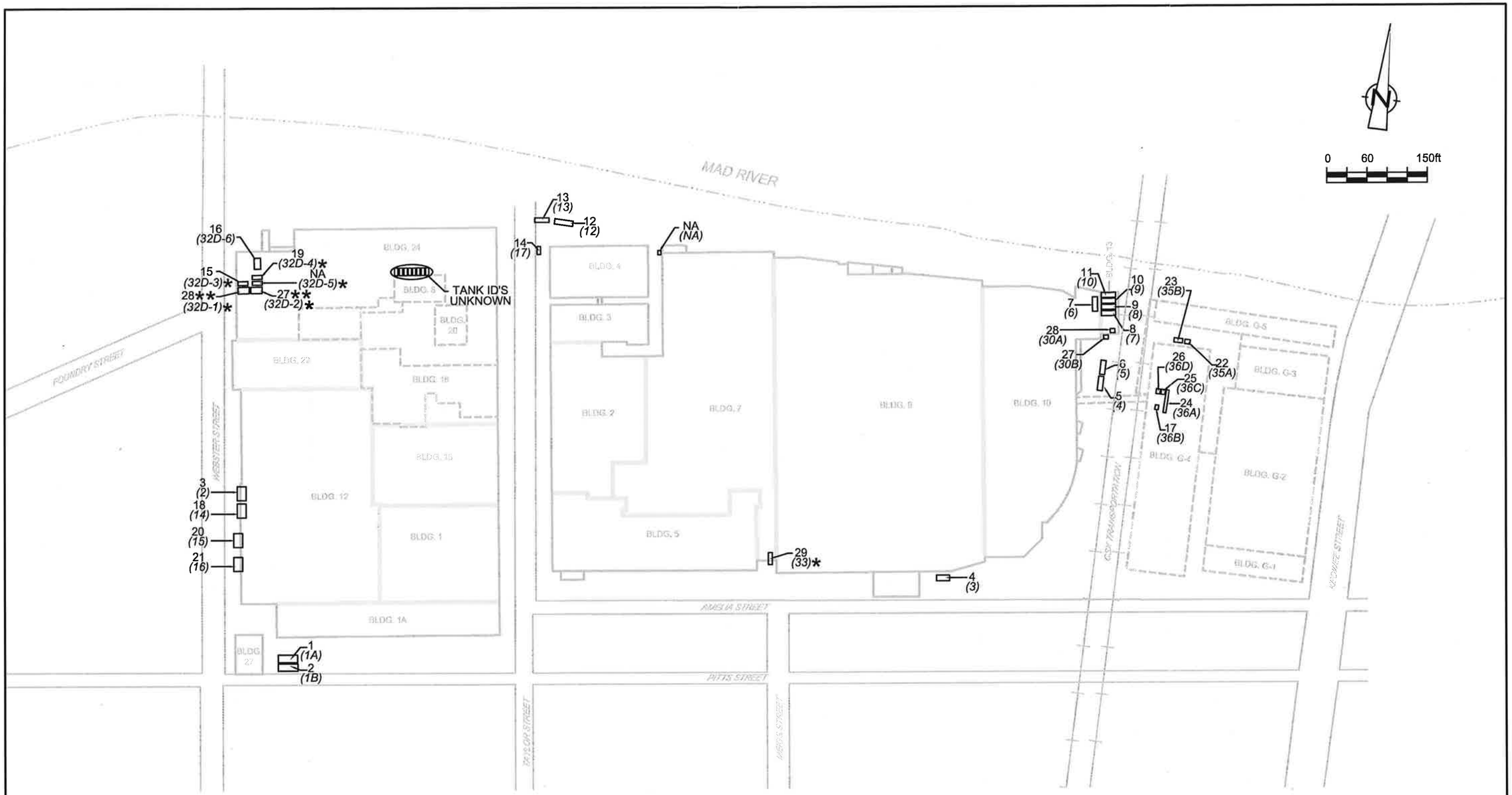


figure 2.2

HISTORICAL OPERATIONS (CIRCA 1970s)
FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY
Dayton, Ohio



LEGEND

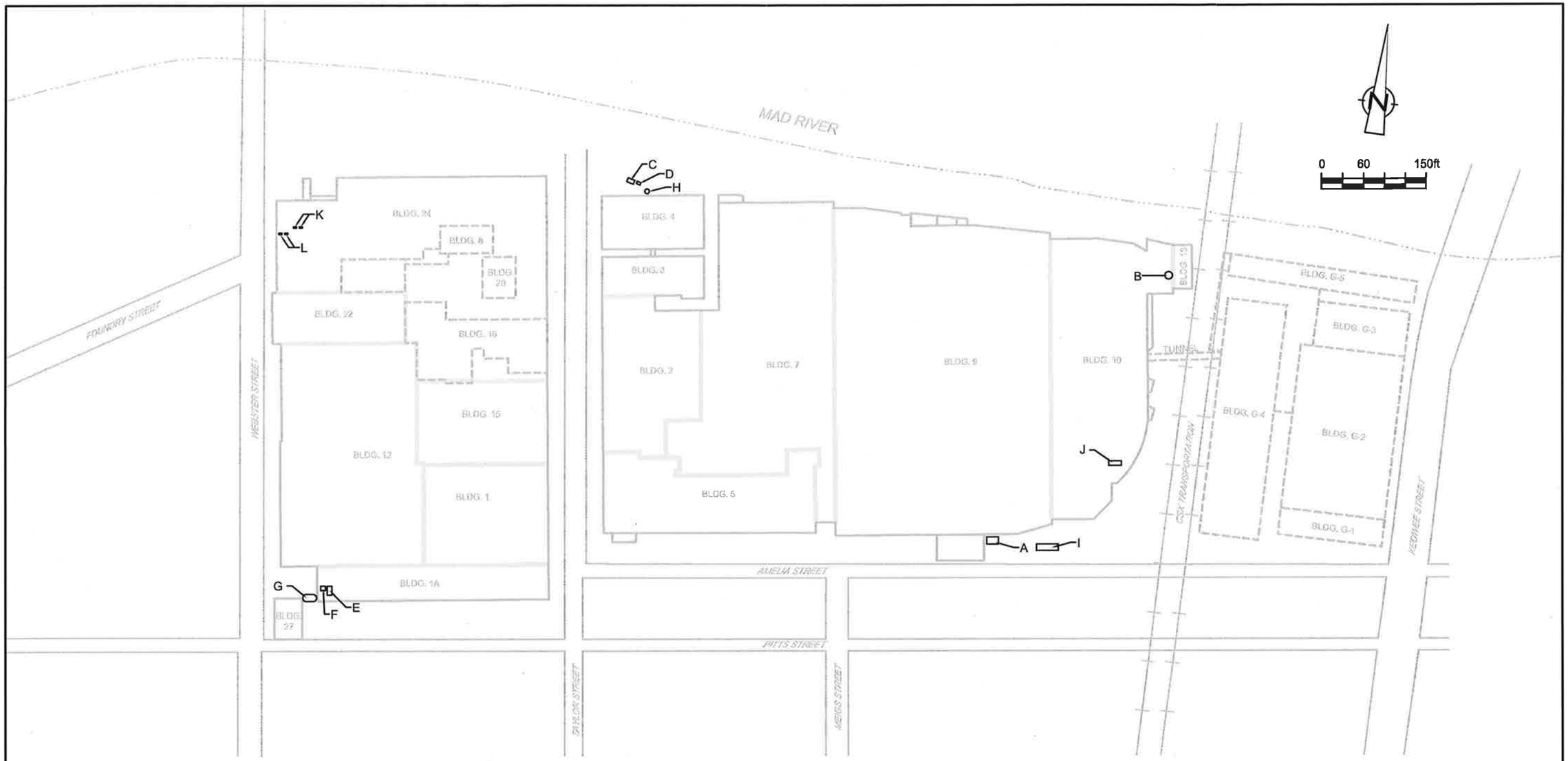
BUILDING WALL		14	BUSTR TANK DESIGNATION (TANKS WITHOUT BUSTR DESIGNATION ARE NOT SUBJECT TO BUSTR RULES)
BUILDING BOUNDARY			
FORMER BUILDING WALL		*(17)*	DELPHI TANK DESIGNATION
SHORELINE		*NA*	NO DESIGNATION
RAILROAD		*	PART OF CLOSED COOP RECYCLING
UST		**	1998 TANK DESIGNATION; TANKS 27 AND 28 NEAR BUILDING 13 ALREADY REMOVED

figure 2.3

UNDERGROUND STORAGE TANKS
FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY
Dayton, Ohio

CRA

12638-03(008)GN-WA007 JUN 25/2001



LEGEND

- BUILDING WALL
- BUILDING BOUNDARY
- FORMER BUILDING WALL
- SHORELINE
- RAILROAD
- AST
- A — TANK DESIGNATION

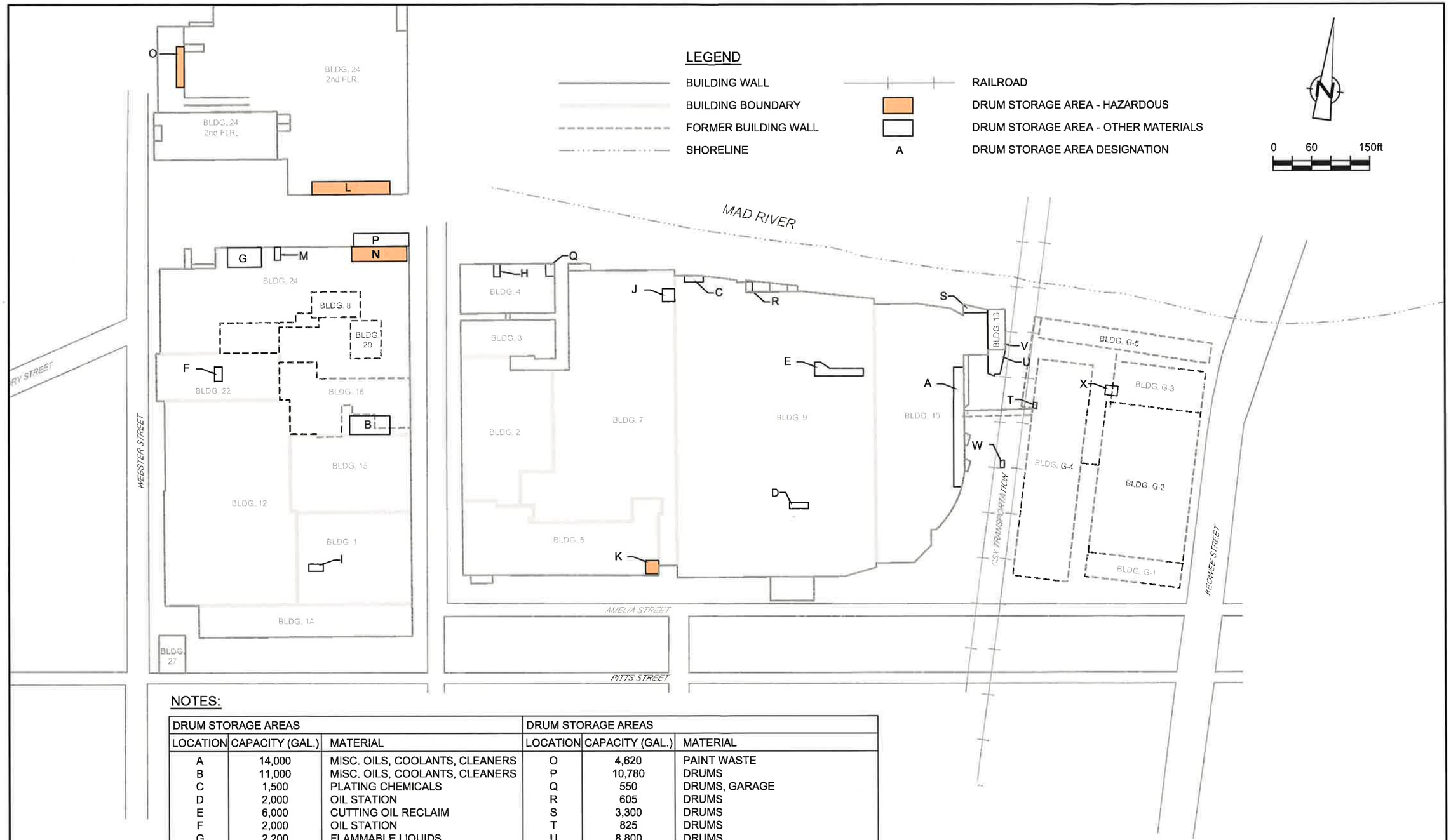
NOTES:

ABOVEGROUND STORAGE TANKS:		
LOCATION	CAPACITY (GAL.)	MATERIAL
A	2x3,000	MURIATIC ACID AND/OR HYDROCHLORIC ACID
B	10,000	QUAKER 568 COOLANT
C	1,000	NON-LEADED GASOLINE
D	250	DIESEL FUEL
E	2,250	EMPTY (BLACK PAINT)
F	1,200	EMPTY (BLACK PAINT)
G	11,000	FREON R-12
H	2,000	WASTE SOLVENT AND OIL
I	10,000	MURIATIC ACID
J	3,000	QUENCH OIL
K	4x200	CLEAN CHLORINATED SOLVENT
L	4x200	CLEAN STODDARD SOLVENT

figure 2.4

ABOVEGROUND STORAGE TANKS
FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY
Dayton, Ohio

12638-03(008)GN-WA008 JUN 25/2001



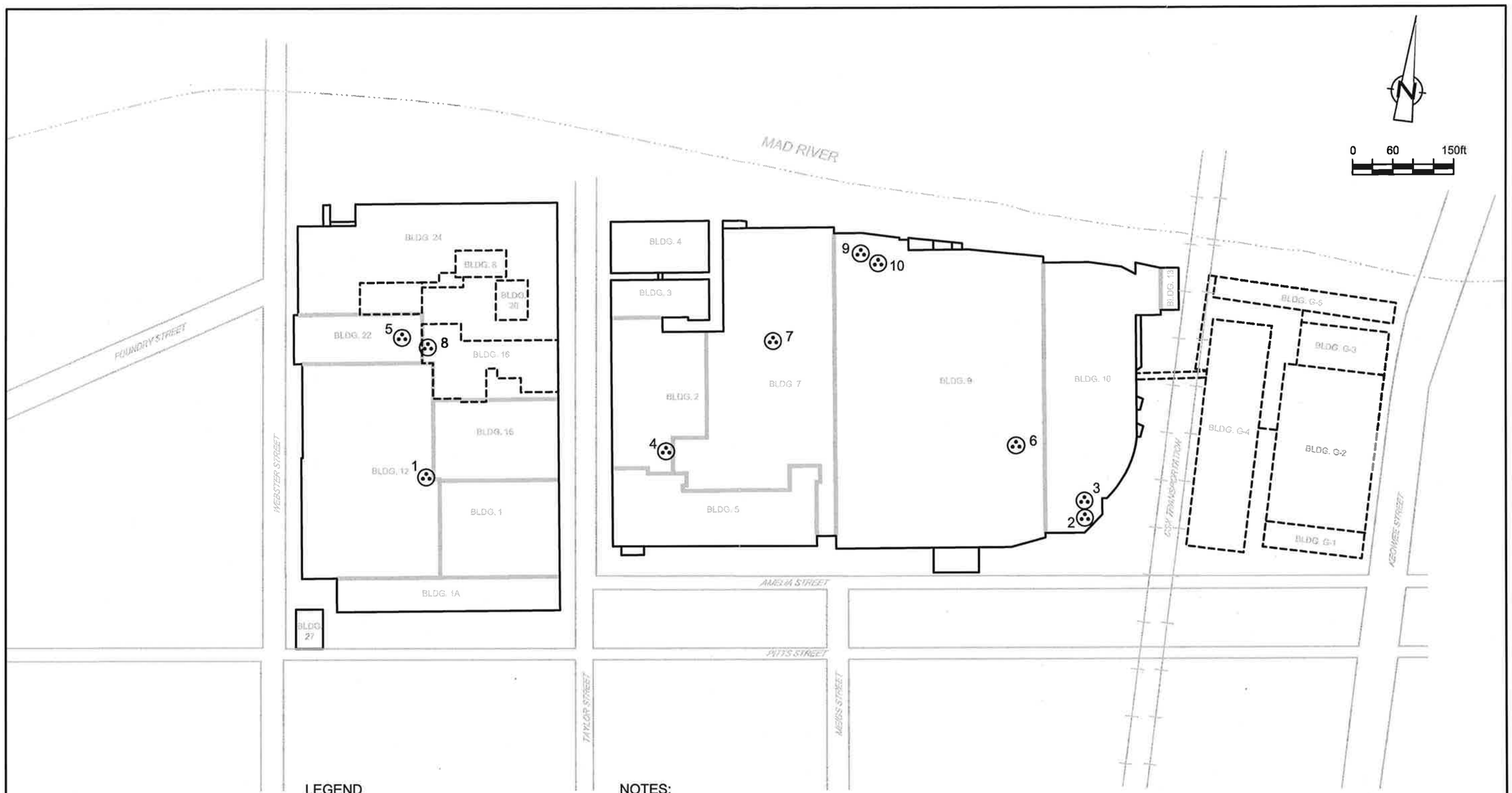
NOTES:

DRUM STORAGE AREAS			DRUM STORAGE AREAS		
LOCATION	CAPACITY (GAL.)	MATERIAL	LOCATION	CAPACITY (GAL.)	MATERIAL
A	14,000	MISC. OILS, COOLANTS, CLEANERS	O	4,620	PAINT WASTE
B	11,000	MISC. OILS, COOLANTS, CLEANERS	P	10,780	DRUMS
C	1,500	PLATING CHEMICALS	Q	550	DRUMS, GARAGE
D	2,000	OIL STATION	R	605	DRUMS
E	6,000	CUTTING OIL RECLAIM	S	3,300	DRUMS
F	2,000	OIL STATION	T	825	DRUMS
G	2,200	FLAMMABLE LIQUIDS	U	8,800	DRUMS
H	660	OILS, GARAGE	V	13,860	DRUMS
I	4,410	REFRIGERANT OIL RECLAIM	W	11,550	DRUMS
J	2,000	OIL STATION	X	1,100	DRUMS
K	2,640	MISC. HAZARDOUS WASTE			
L	11,000	HAZARDOUS WASTE			
M	11,000	NON-HAZ. WASTE STAGING AREA			
N	4,260	PAINT WASTE			

figure 2.5

DRUM STAGING AND STORAGE AREAS
FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY
Dayton, Ohio

12638-03(008)GN-WA009 JUN 25/2001



LEGEND

- BUILDING WALL
- BUILDING BOUNDARY
- FORMER BUILDING WALL
- SHORELINE
- RAILROAD
- 5 HAZARDOUS WASTE GENERATION AREA

NOTES:

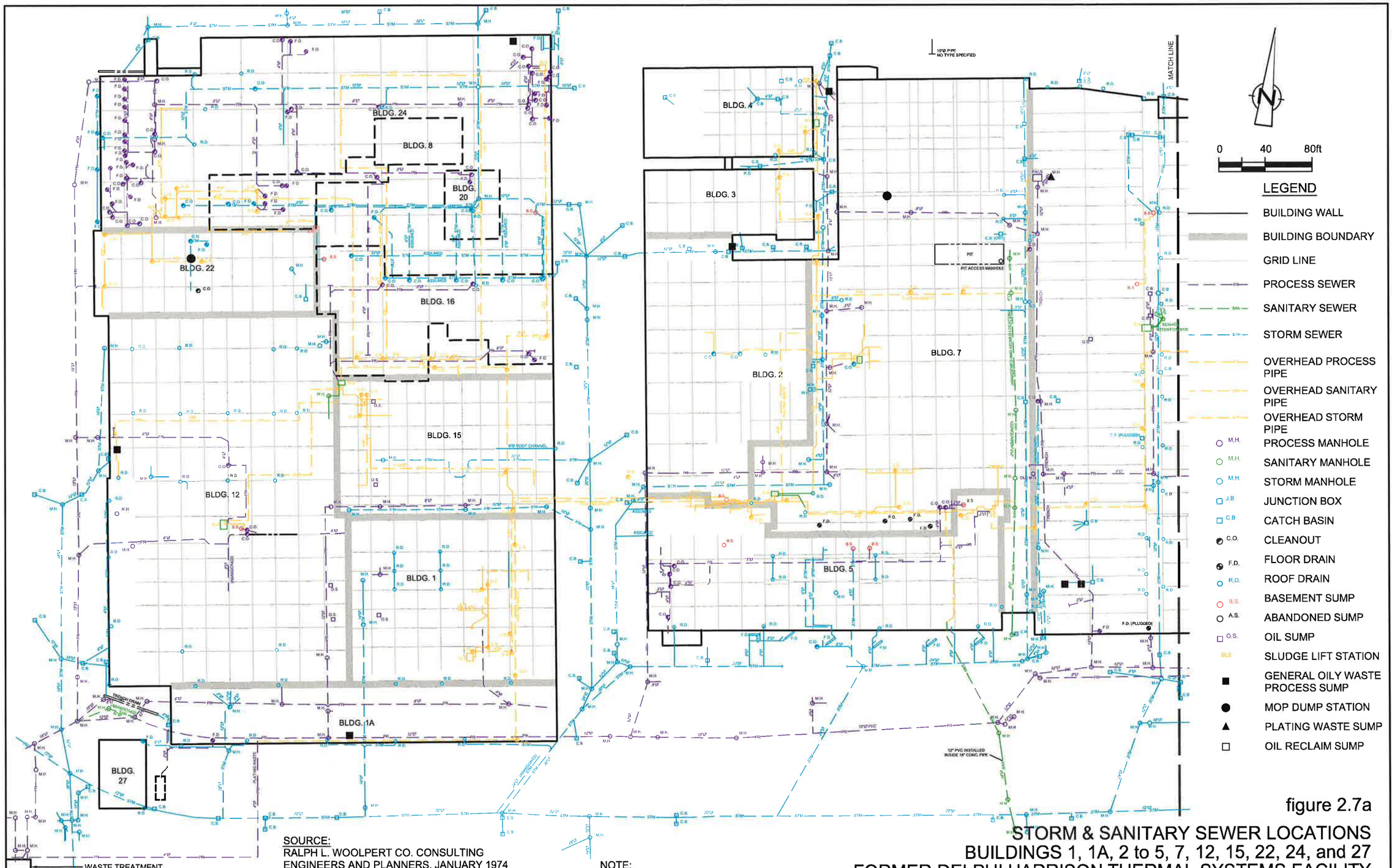
HAZARDOUS WASTE GENERATION AREAS:

No.	BLDG.	DESCRIPTION
1	12	PAINT SLUDGE
2	10	WASTE PAINT THINNER
3	10	PAINT FILTERS
4	2	DIRTY 1,1,1-TRICHLOROETHANE
5	22	DIRTY 1,1,1-TRICHLOROETHANE
6	9	DIRTY 1,1,1-TRICHLOROETHANE
7	7	DIRTY QUAKER SOLVO-CLEAN
8	24	DIRTY QUAKER SOLVO-CLEAN
9	9	PAINT STRIP SLUDGE
10	9	PLATING TANK BOTTOMS

figure 2.6

HAZARDOUS WASTE GENERATION (1990)
FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY
Dayton, Ohio

12638-03(008)GN-WA010 JUN 25/2001



SOURCE:
RALPH L. WOOLPERT CO. CONSULTING ENGINEERS AND PLANNERS. JANUARY 1974
REVISIONS BY:
HELMIG, LIENESCH, DOENCH AND ASSOCIATES. JULY 1980, JUNE 1981

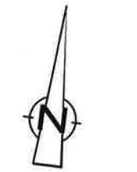
NOTE:
PRIOR TO 1981 ALL PROCESS SEWERS WERE COMBINED PROCESS/SANITARY SEWERS. SEWER LOCATIONS ARE APPROXIMATE.

figure 2.7a

STORM & SANITARY SEWER LOCATIONS BUILDINGS 1, 1A, 2 to 5, 7, 12, 15, 22, 24, and 27 FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY

Dayton, Ohio

12638-03(008)GN-WA011 JAN 25/2002



LEGEND

- BUILDING WALL
- BUILDING BOUNDARY
- FORMER BUILDING WALL
- GRID LINE
- PROCESS SEWER
- SANITARY SEWER
- STORM SEWER
- OVERHEAD PROCESS PIPE
- OVERHEAD SANITARY PIPE
- OVERHEAD STORM PIPE
- M.H. PROCESS MANHOLE
- M.H. SANITARY MANHOLE
- M.H. STORM MANHOLE
- J.B. JUNCTION BOX
- C.B. CATCH BASIN
- C.O. CLEANOUT
- F.D. FLOOR DRAIN
- R.D. ROOF DRAIN
- B.S. BASEMENT SUMP
- A.S. ABANDONED SUMP
- O.S. OIL SUMP
- PWLS PROCESS WASTE LIFT STATION
- GENERAL OILY WASTE PROCESS SUMP
- MOP DUMP STATION
- PLATING WASTE SUMP
- OIL RECLAIM SUMP

NOTE:
PRIOR TO 1981 ALL PROCESS SEWERS WERE COMBINED PROCESS/SANITARY SEWERS.
SEWER LOCATIONS ARE APPROXIMATE.

SOURCE:
RALPH L. WOOLPERT CO. CONSULTING ENGINEERS AND PLANNERS.
JANUARY 1974

REVISIONS BY:
HELMIG, LIENESCH, DOENCH AND ASSOCIATES.
JULY 1980, JUNE 1981

figure 2.7b

STORM & SANITARY SEWER LOCATIONS
BUILDINGS 9, 10, 13, G-2 to G-5
FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY
Dayton, Ohio

12638-03(008)GN-WA011 JAN 25/2002

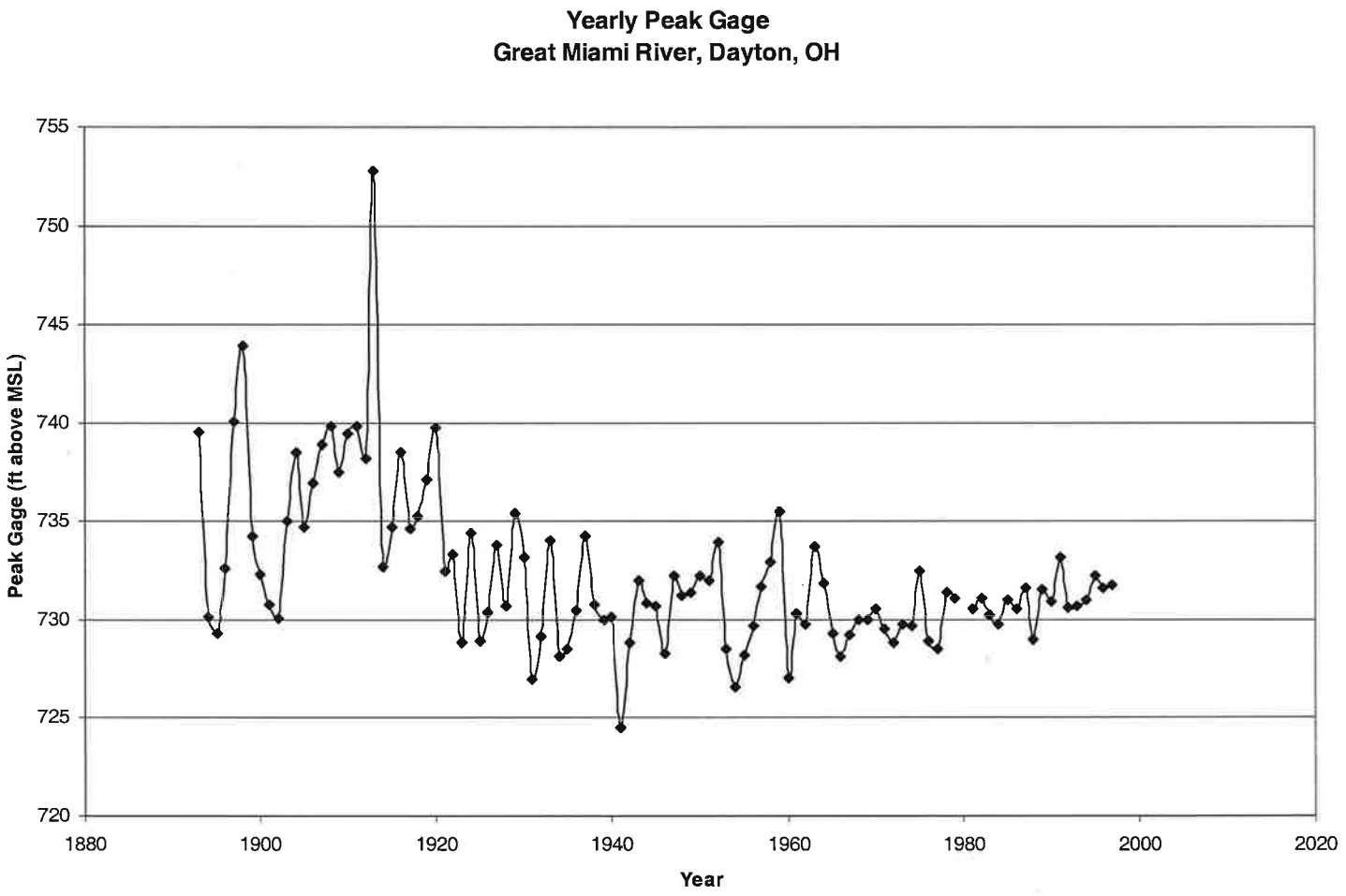


figure 3.1

GREAT MIAMI RIVER PEAK GAGE LEVEL
FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY
Dayton, Ohio

12638-03(008)GN-WA042 OCT 17/2001

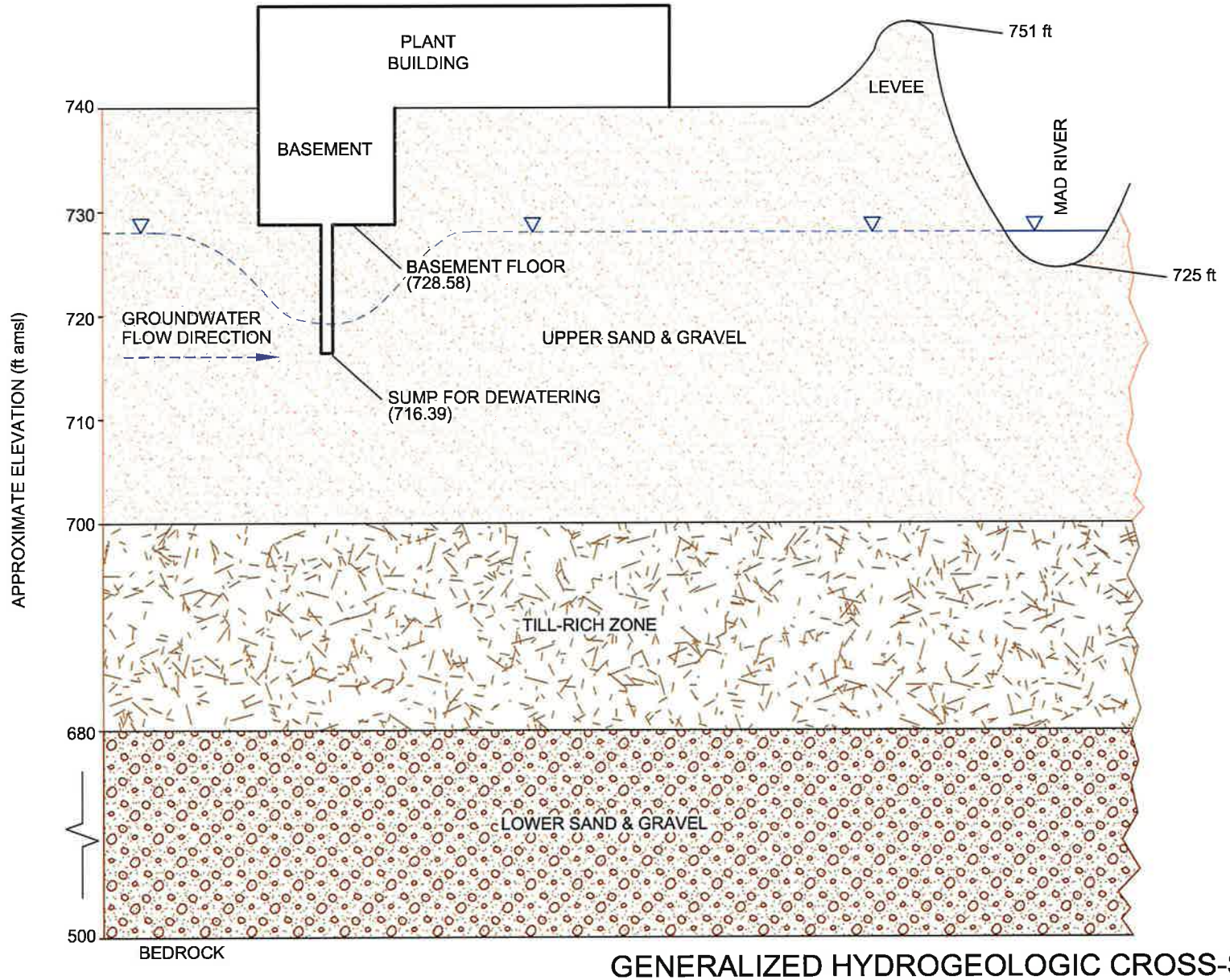
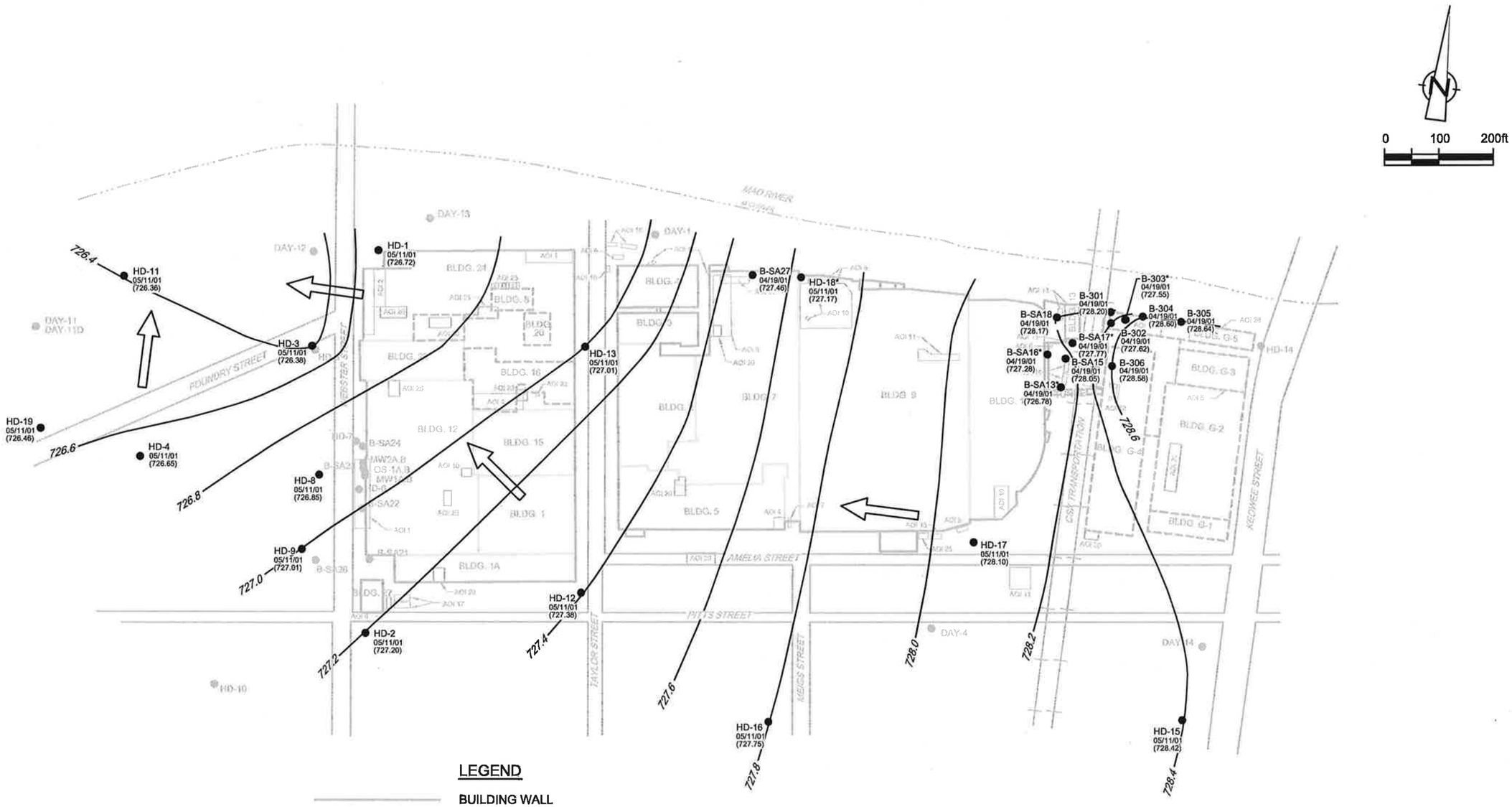


figure 4.1

GENERALIZED HYDROGEOLOGIC CROSS-SECTION
FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY
Dayton, Ohio

SOURCE: 1967 SKETCH FROM THE MIAMI CONSERVANCY DISTRICT

12638-03(008)GN-WA014 OCT 17/2001



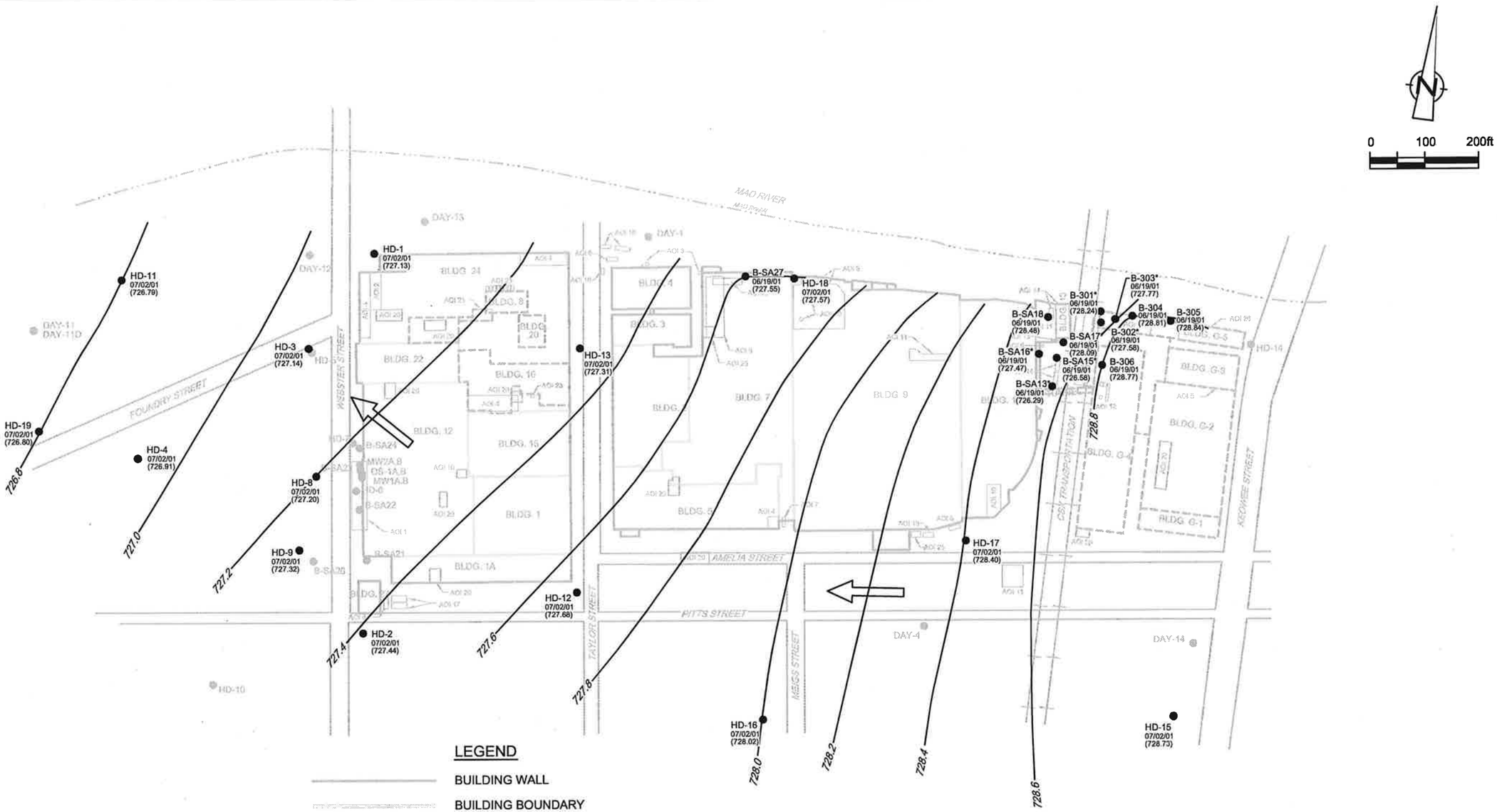
LEGEND

- BUILDING WALL
- BUILDING BOUNDARY
- FORMER BUILDING WALL
- SHORELINE
- 695 — ROUNDWATER CONTOURS (ft AMSL)
- RAILROAD
- HD-16 05/11/01 (727.75) — EXISTING MONITORING WELL LOCATION WITH SAMPLE DATE AND GROUNDWATER ELEVATION (ft AMSL)
- * — LOCATION NOT USED IN CALCULATING CONTOURS
- GROUNDWATER FLOW DIRECTION

figure 4.2

GROUNDWATER ELEVATIONS
PRIOR TO FOUNTAIN STARTUP
FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY
Dayton, Ohio

12638-03(008)GN-WA047 DEC 11/2001



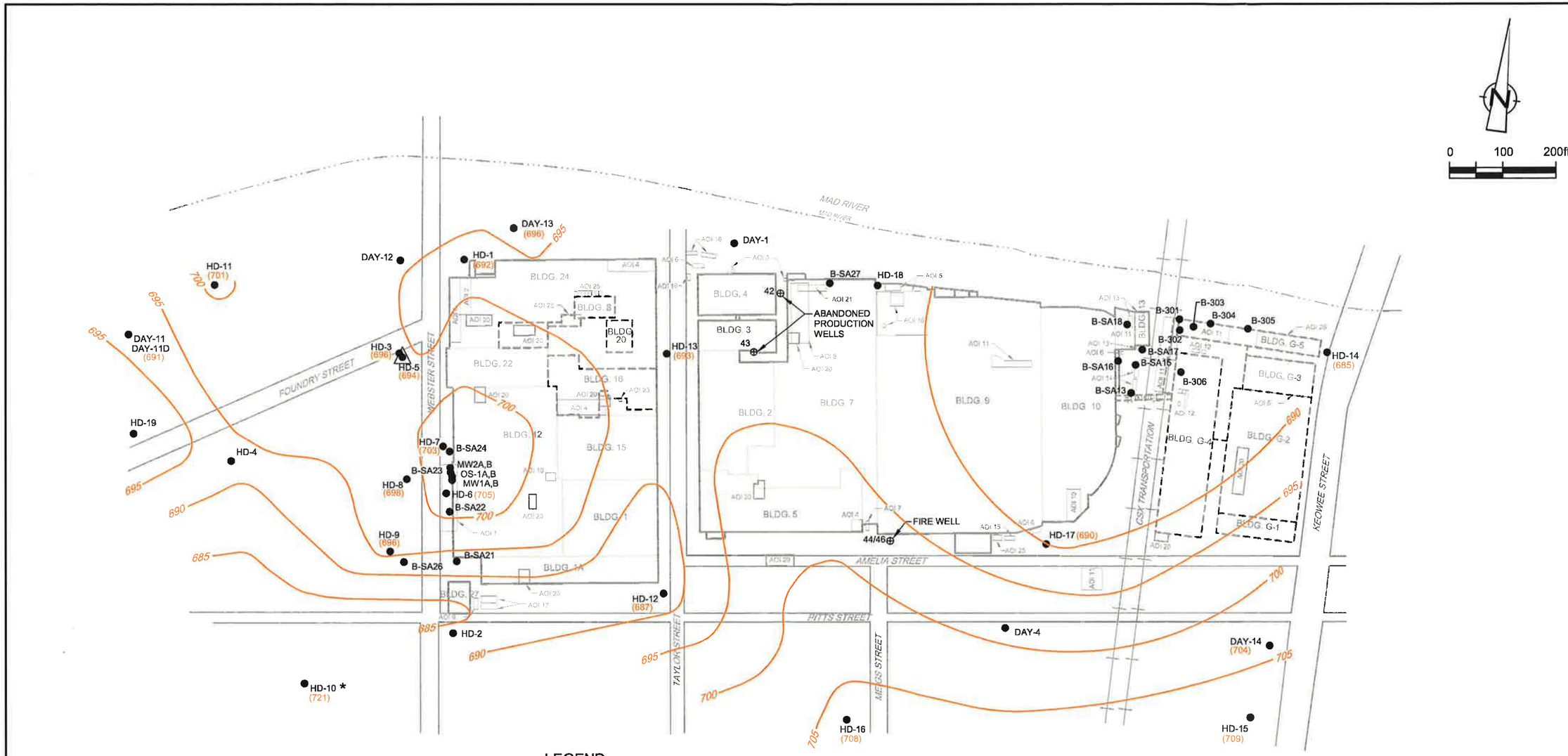
LEGEND

- BUILDING WALL
- BUILDING BOUNDARY
- FORMER BUILDING WALL
- SHORELINE
- 695 — ROUNDWATER CONTOURS (ft AMSL)
- RAILROAD
- HD-16 07/020/01 (728.02) — EXISTING MONITORING WELL LOCATION WITH SAMPLE DATE AND GROUNDWATER ELEVATION (ft AMSL)
- * — LOCATION NOT USED IN CALCULATING CONTOURS
- GROUNDWATER FLOW DIRECTION

figure 4.3

GROUNDWATER ELEVATIONS
AFTER FOUNTAIN STARTUP
FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY
Dayton, Ohio

12638-03(008)GN-WA046 JAN 25/2002



LEGEND

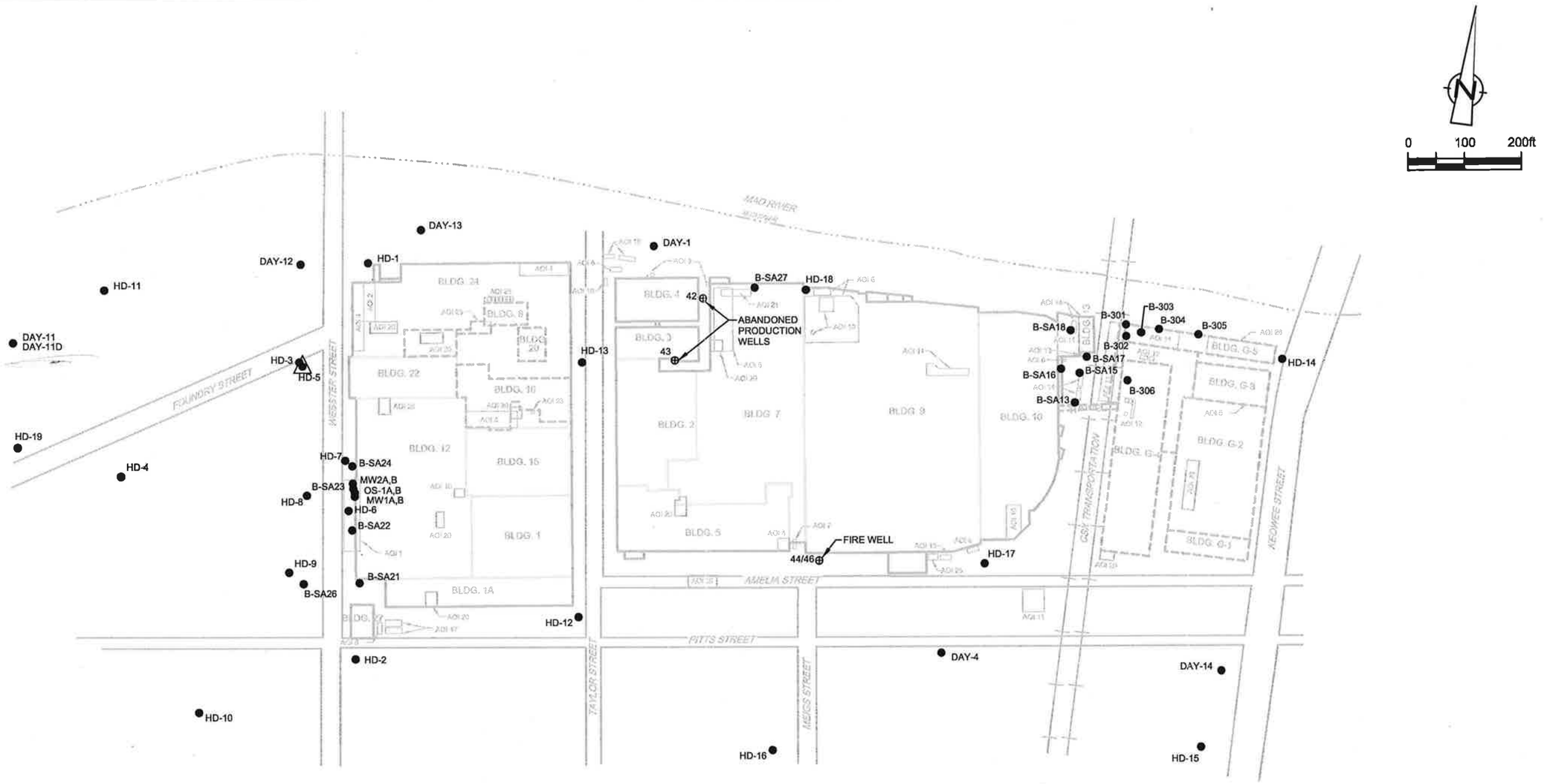
- BUILDING WALL
- BUILDING BOUNDARY
- FORMER BUILDING WALL
- SHORELINE
- 695 — TOP OF CLAY CONTOUR (ft AMSL)
- RAILROAD
- HD-16 (708) — EXISTING MONITORING WELL LOCATION; TOP OF CLAY ELEVATION (ft AMSL)
- ⊕ 43 — FORMER WATER SUPPLY WELL LOCATION
- FORMER MONITORING WELL LOCATION
- * — NOT USED TO CREATE CONTOURS

figure 4.4

TOP OF CLAY CONTOURS
FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY
Dayton, Ohio

CRA

12638-03(008)GN-WA043 DEC 11/2001



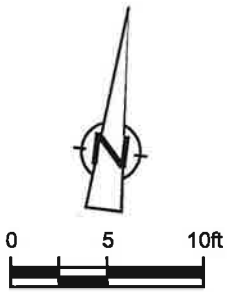
LEGEND

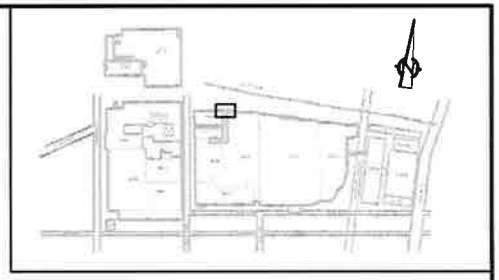
- BUILDING WALL
- BUILDING BOUNDARY
- FORMER BUILDING WALL
- SHORELINE
- RAILROAD
- B-SA26 — MONITORING WELL LOCATION
- 43 — FORMER WATER SUPPLY WELL LOCATION
- FORMER MONITORING WELL LOCATION

figure 4.5

WELL LOCATIONS
FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY
Dayton, Ohio

12638-03(008)GN-WA013 DEC 11/2001





KEY PLAN - SCALE 1":1000'

1,000 GALLON UST
WASTE OIL AND SOLVENT

BLDG. 4

BLDG. 7

LEGEND

BUILDING WALL

AOI 3

PROPOSED BORING LOCATIONS TO BE LOCATED ADJACENT TO POTENTIAL BREACHES IN CONTAINMENT, AT EITHER END OF TANK, OR DOWNGRADIENT OF TANK.

figure 7.1

AOI 3 - WASTE TANK EAST OF BUILDING 4
FORMER DELPHI HARRISON THERMAL SYSTEMS FACITLITY
Dayton, Ohio

12638-03(008)GN-WA024 DEC 12/2001

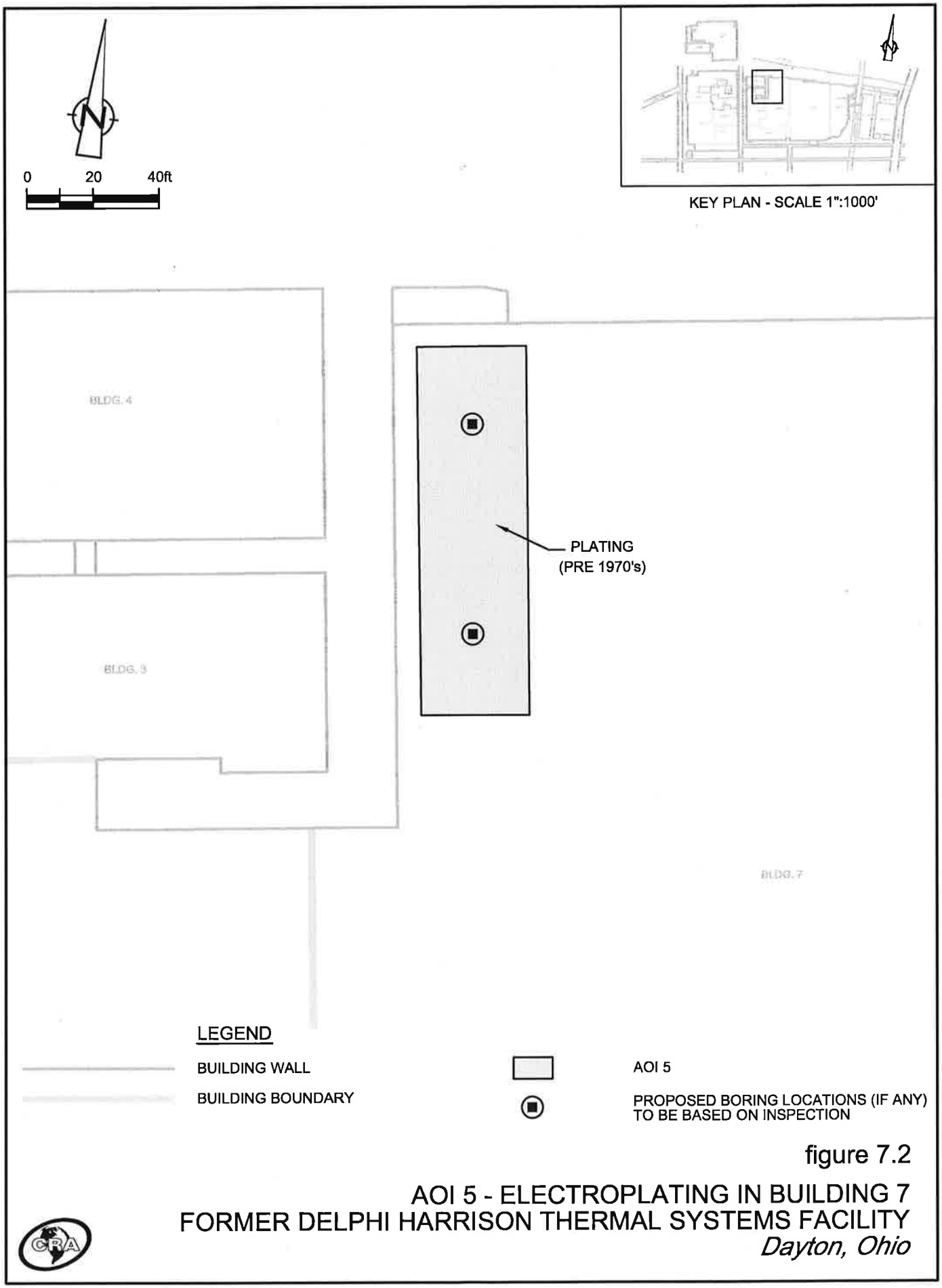


figure 7.2

AOI 5 - ELECTROPLATING IN BUILDING 7
FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY
Dayton, Ohio

12638-03(008)GN-WA033 NOV 16/2001

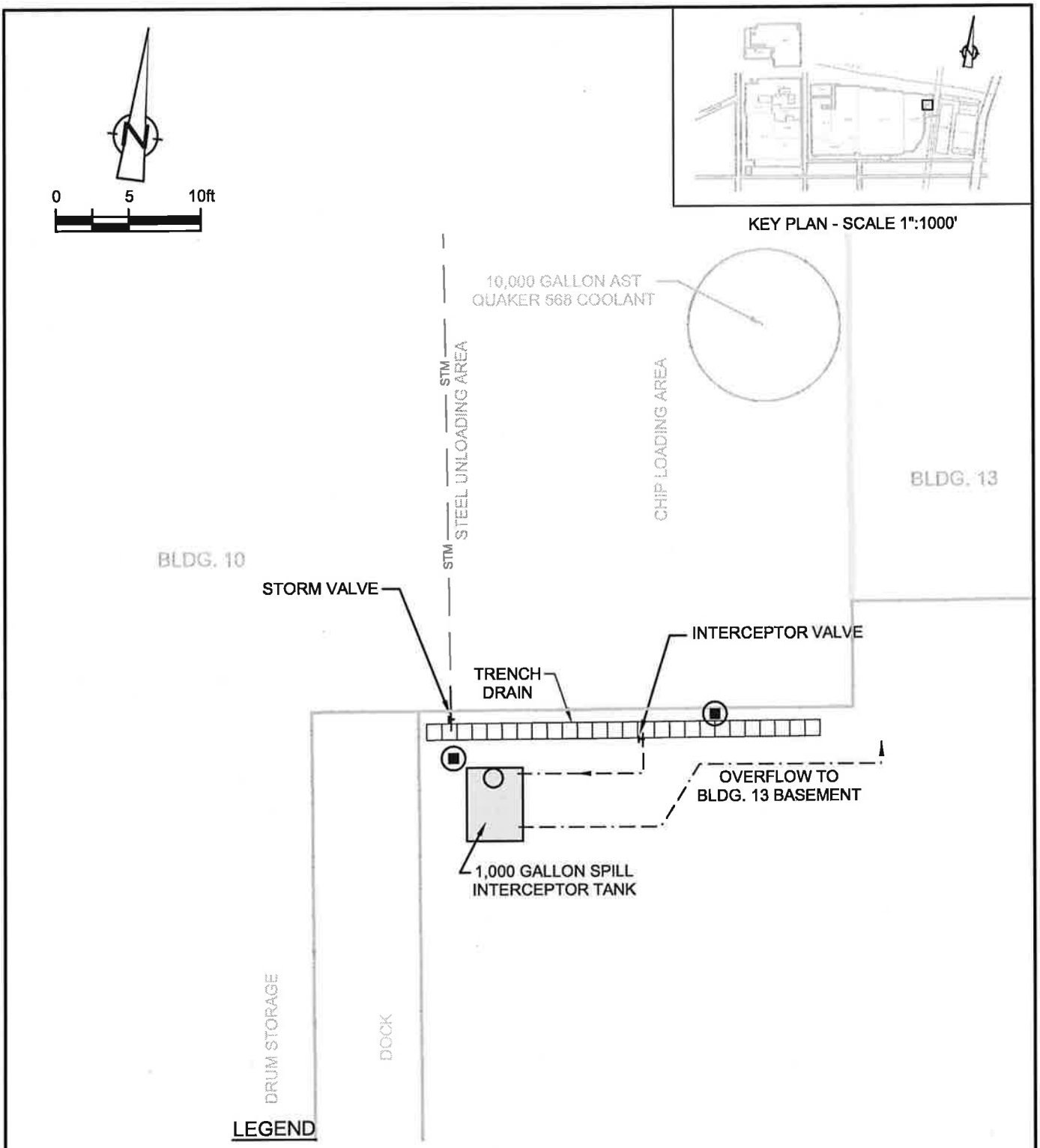


figure 7.3a

AOI 6 - SPILL INTERCEPTOR EAST OF BUILDING 10
FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY
Dayton, Ohio

12638-03(008)GN-WA019 NOV 16/2001

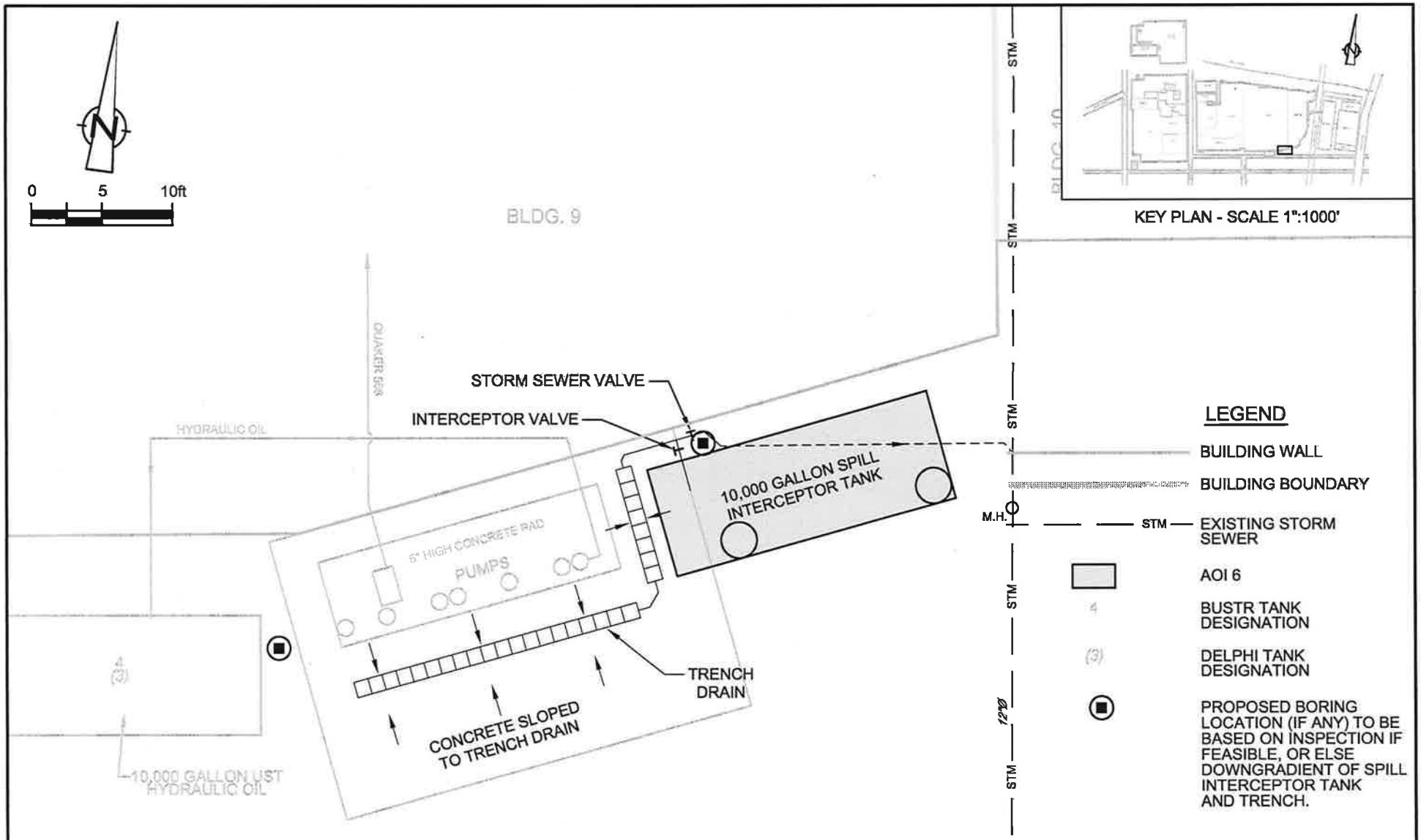


figure 7.3b

AOI 6 - SPILL INTERCEPTOR SOUTH OF BUILDING 9
FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY
Dayton, Ohio

12638-03(008)GN-WA020 DEC 12/2001

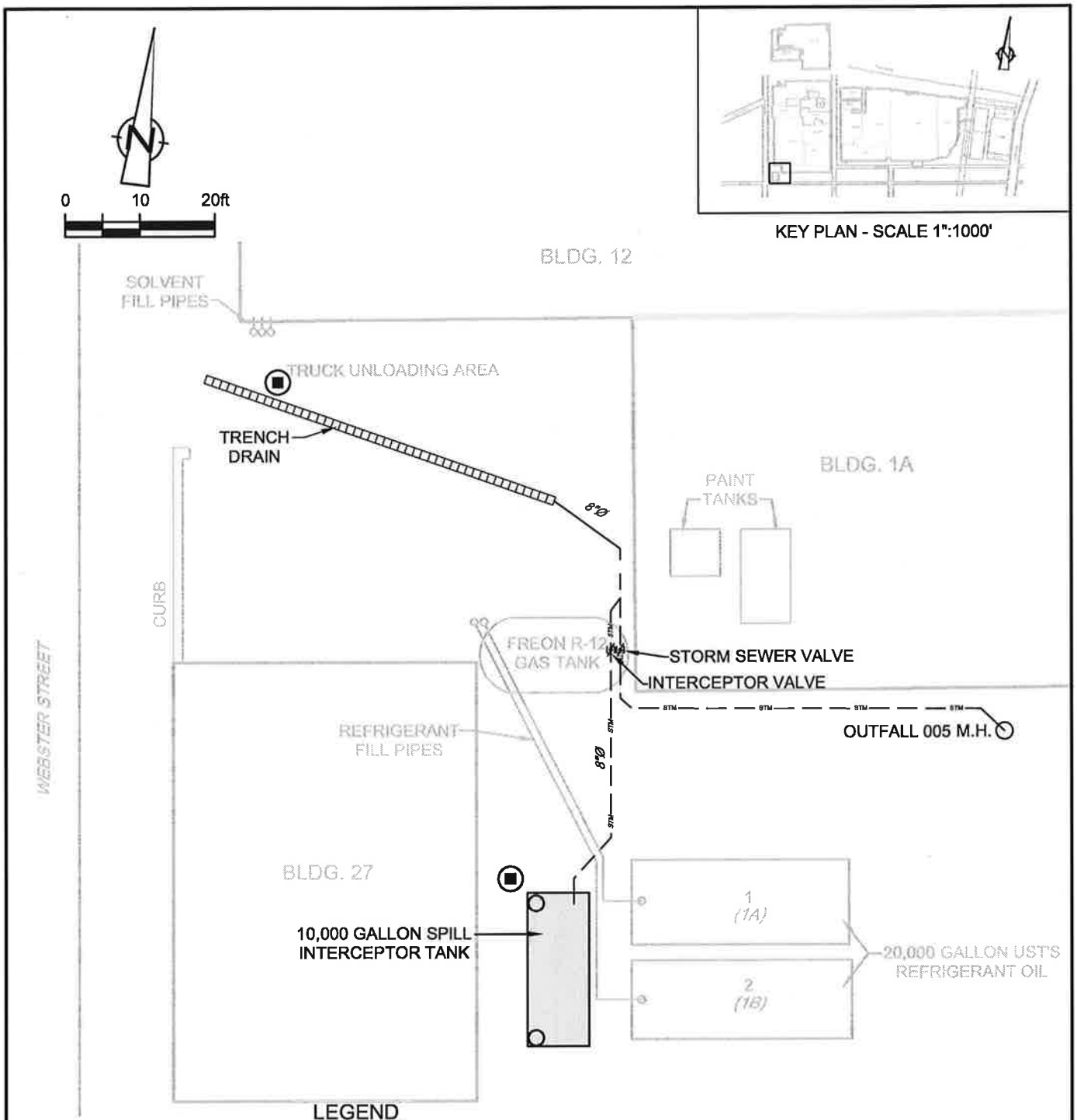


figure 7.3c

AOI 6 - SPILL INTERCEPTOR SOUTH OF BUILDING 12
FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY
Dayton, Ohio

12638-03(008)GN-WA021 NOV 16/2001

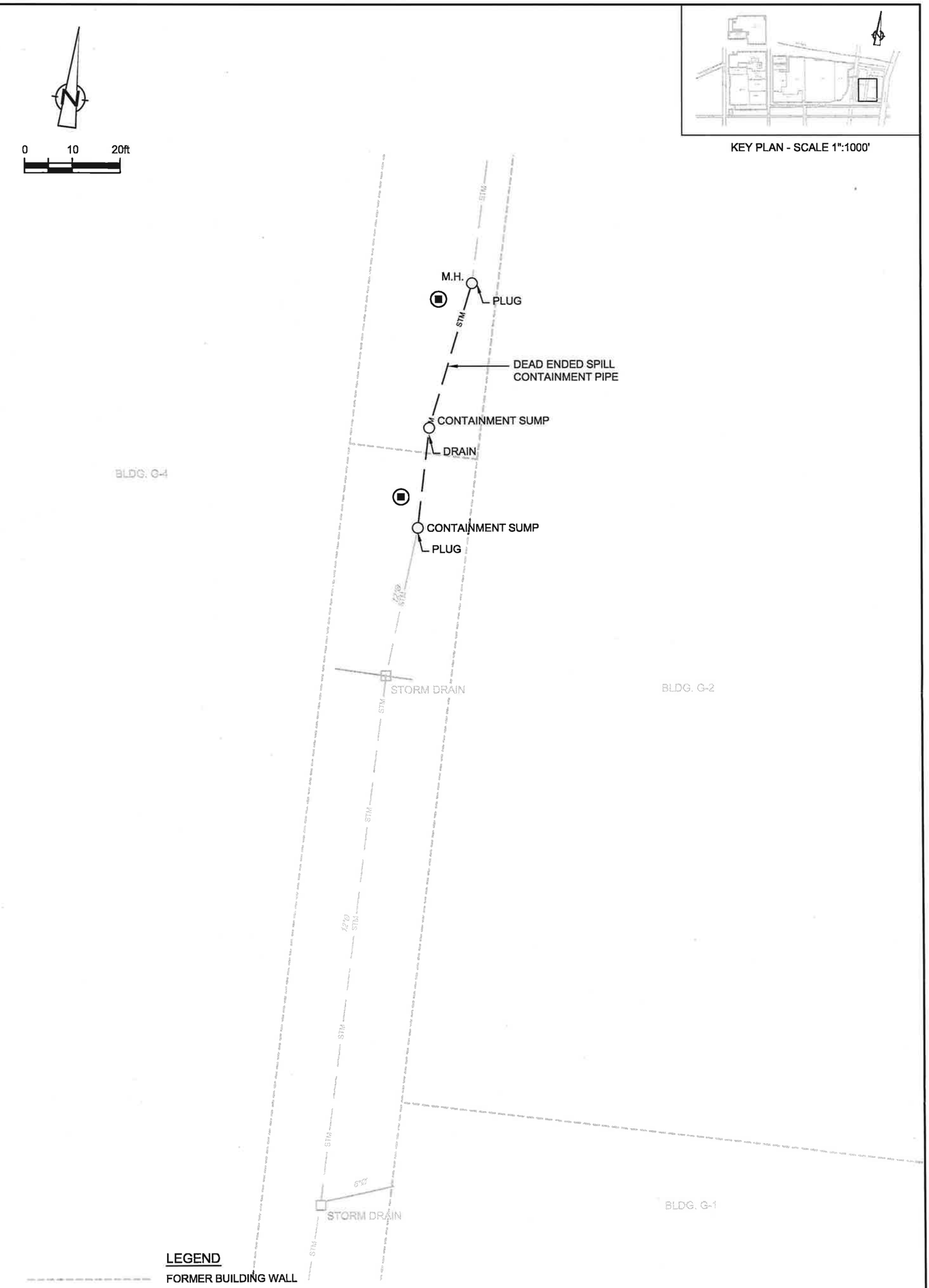


figure 7.3d

AOI 6 - SPILL INTERCEPTOR
BETWEEN BUILDING G-2 AND G-4
FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY
Dayton, Ohio

12638-03(008)GN-WA017 NOV 16/2001

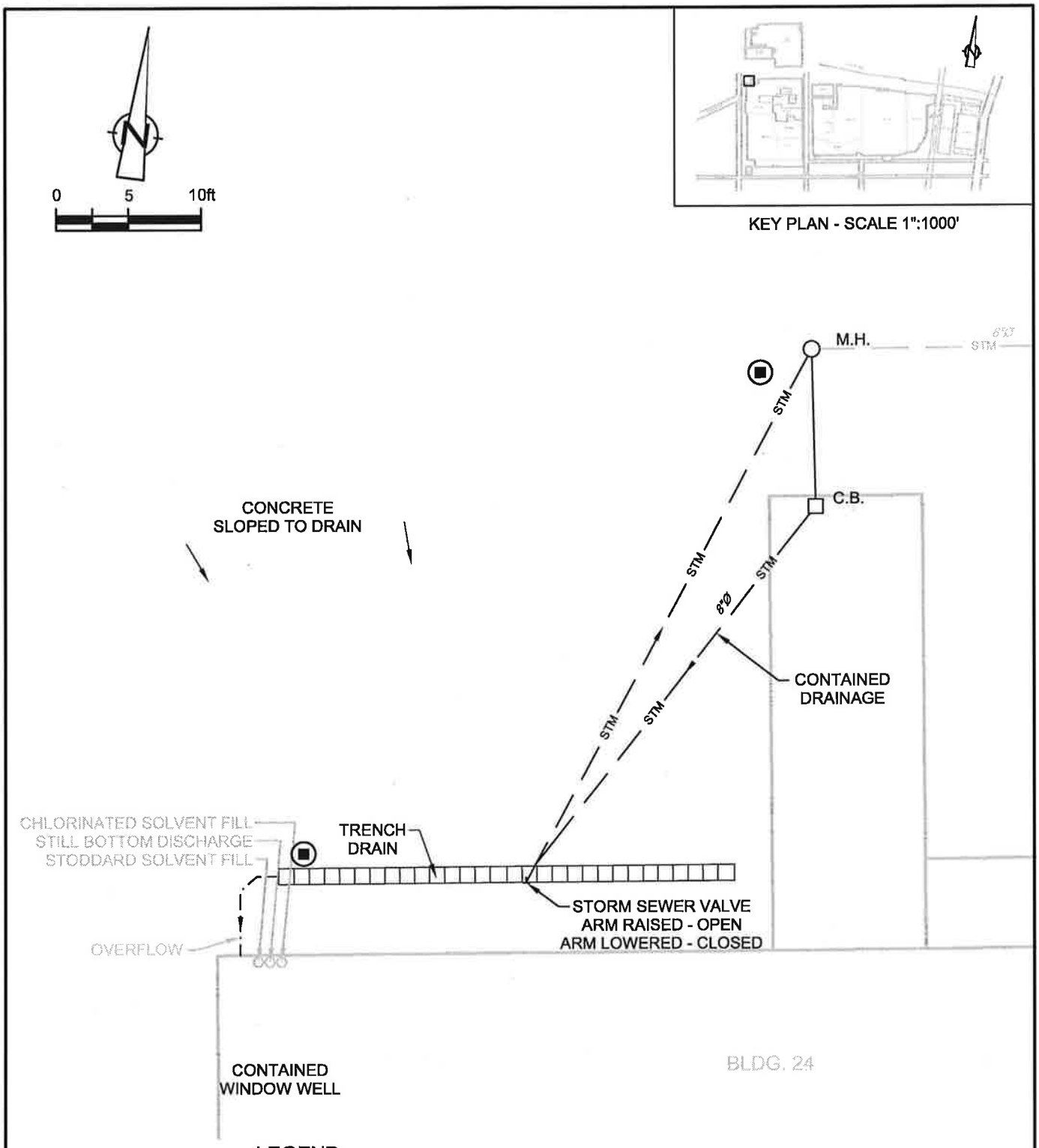
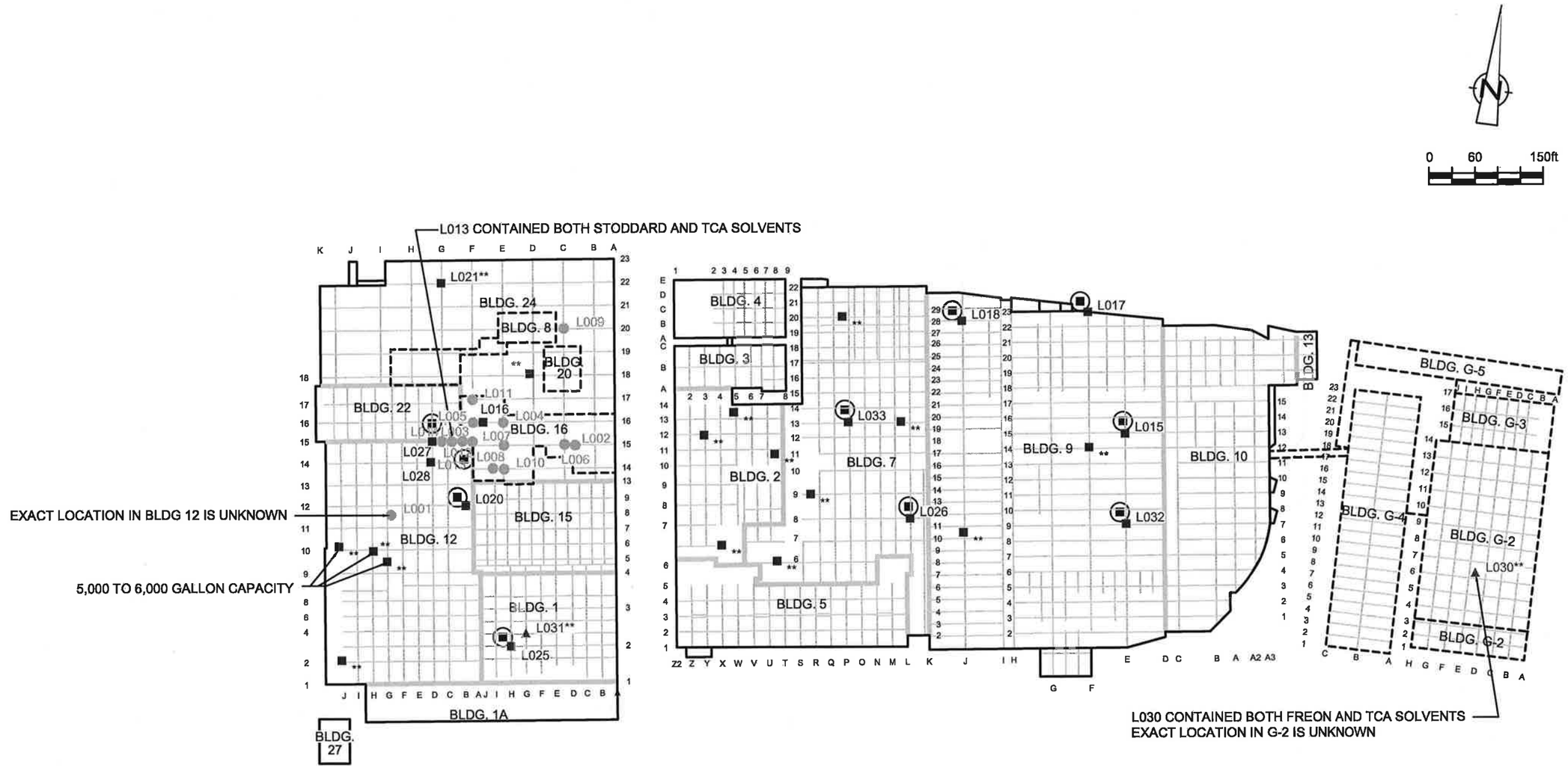


figure 7.3e

AOI 6 - SPILL INTERCEPTOR NORTH OF BUILDING 24
FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY
Dayton, Ohio

12638-03(008)GN-WA018 NOV 16/2001



LEGEND

- BUILDING WALL
- BUILDING BOUNDARY
- FORMER BUILDING WALL
- GRID LINE
- L009 STODDARD SOLVENT LOCATIONS
- L015 TCE/PCE/TCA SOLVENT LOCATIONS
- L029 FREON SOLVENT LOCATIONS
- PROPOSED BORING LOCATION (IF ANY) TO BE BASED ON INSPECTION

NOTE: THE LOCATIONS OF DEGREASERS L019,L022,L023,L024, AND L029 ARE UNKNOWN.

** INDICATES THAT THE DEGREASER IS ON AN UPPER FLOOR

NUMBERING BASED ON RAPCA AIR PERMIT ID
DEGREASERS WITHOUT NUMBERS EXISTED PRE-1980

GRID LABELS ON DRAWING PRE-1981.

figure 7.4

AOI 8 - DEGREASING UNITS
FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY
Dayton, Ohio

12638-03(008)GN-WA022 DEC 12/2001

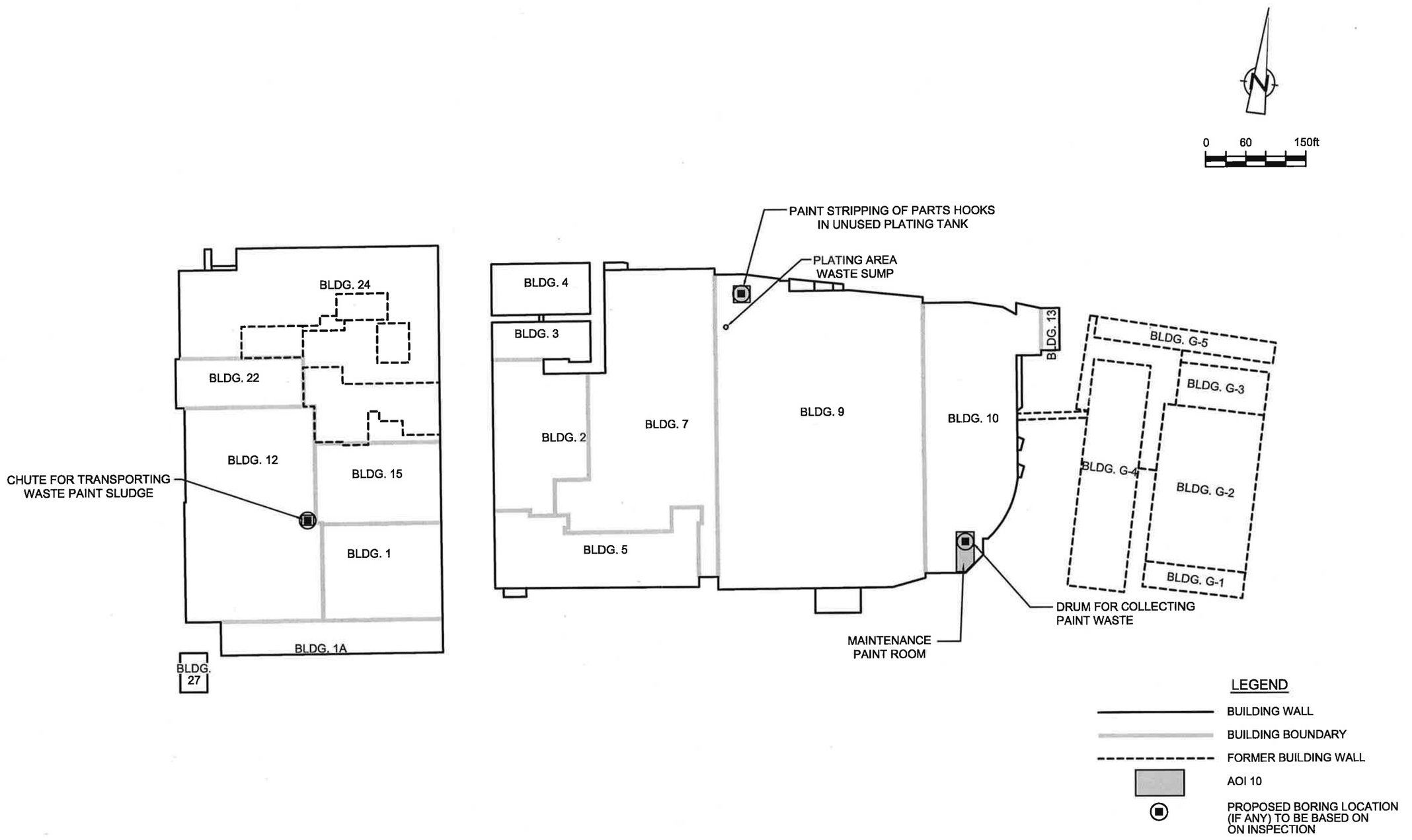


figure 7.5

AOI 10 - PAINT WASTE ACCUMULATION AREAS
FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY
Dayton, Ohio

CRA

12638-03(008)GN-WA023 NOV 16/2001

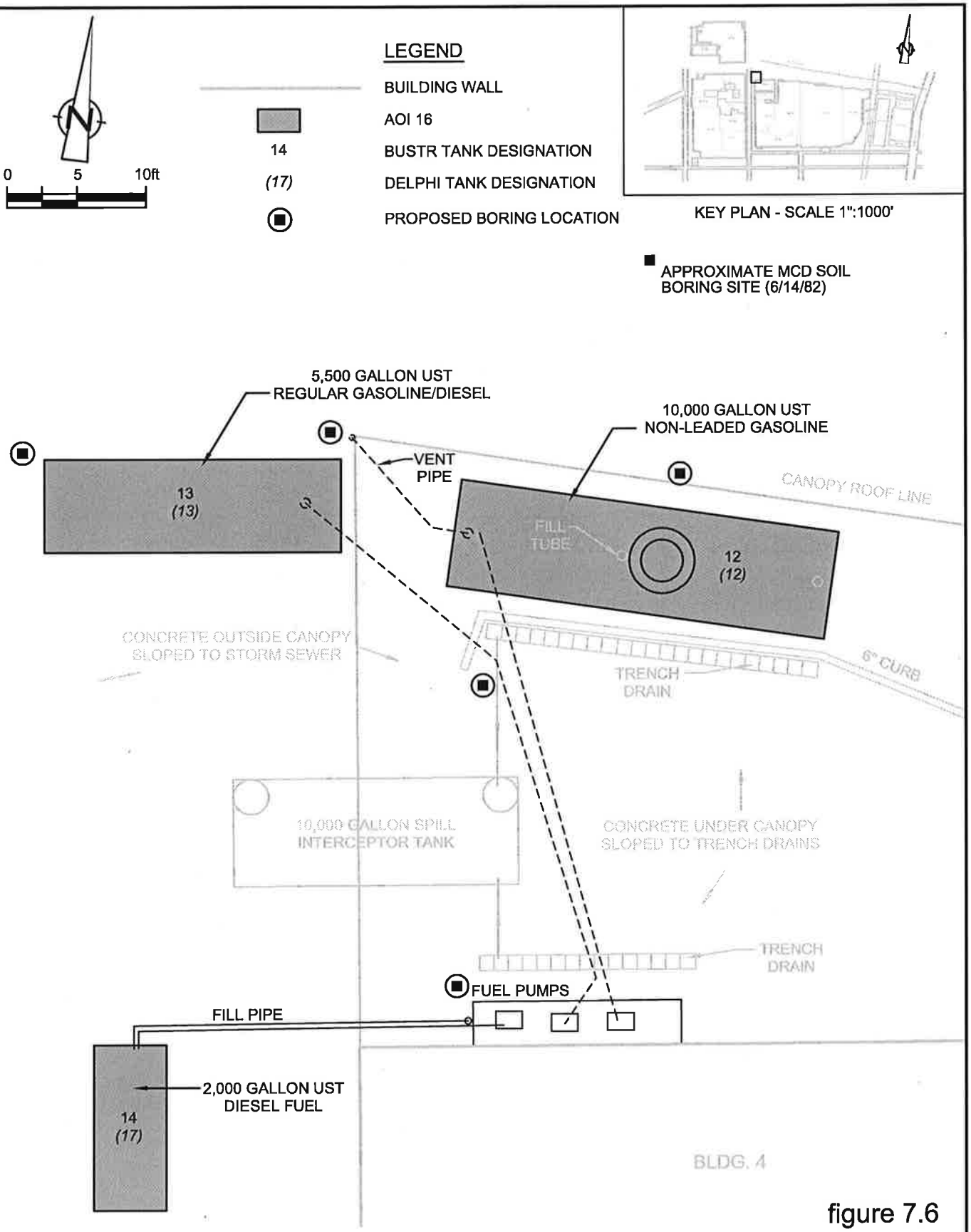
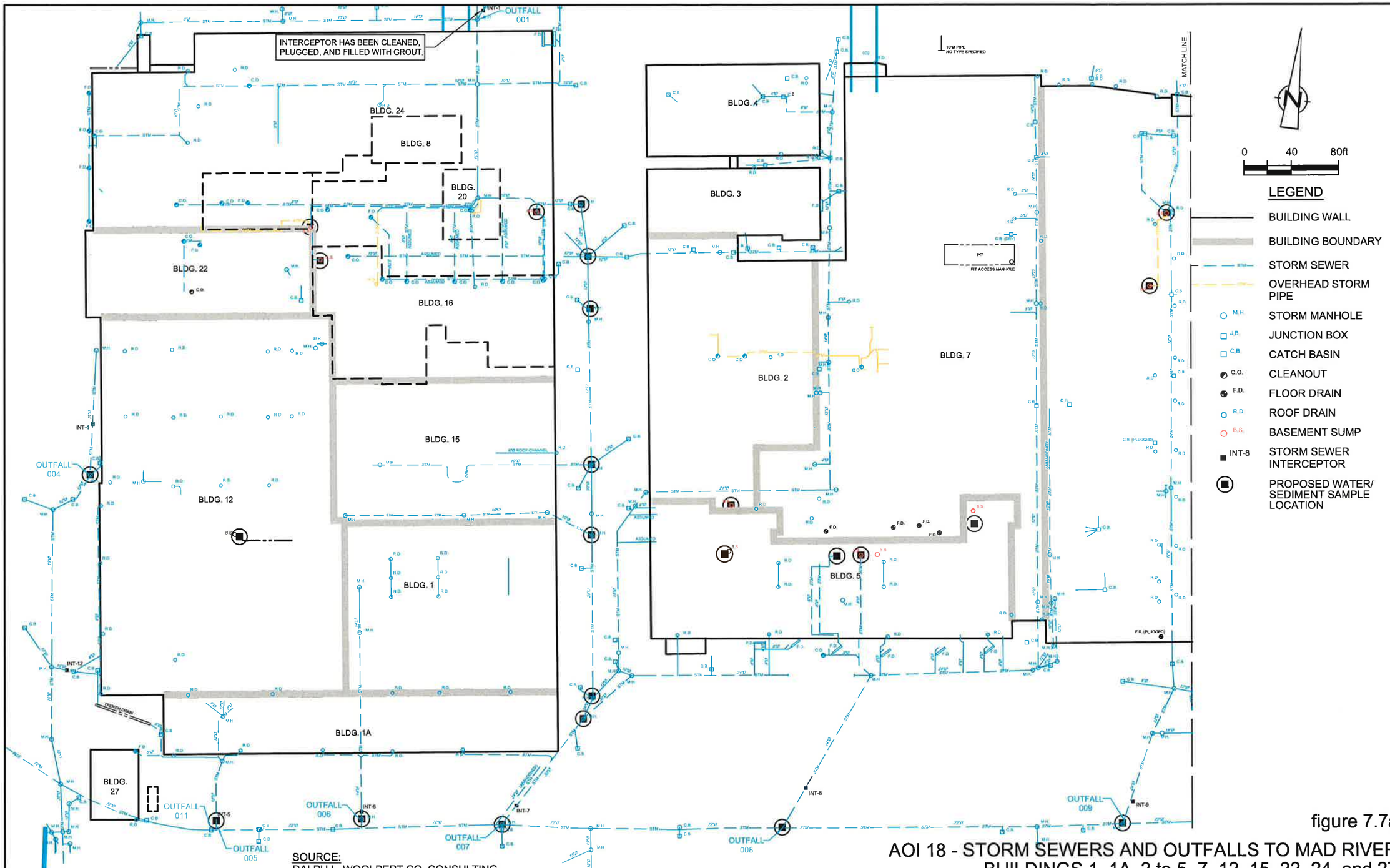


figure 7.6

AOI 16 - FUEL UST'S NEAR BUILDING 4
FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY
Dayton, Ohio



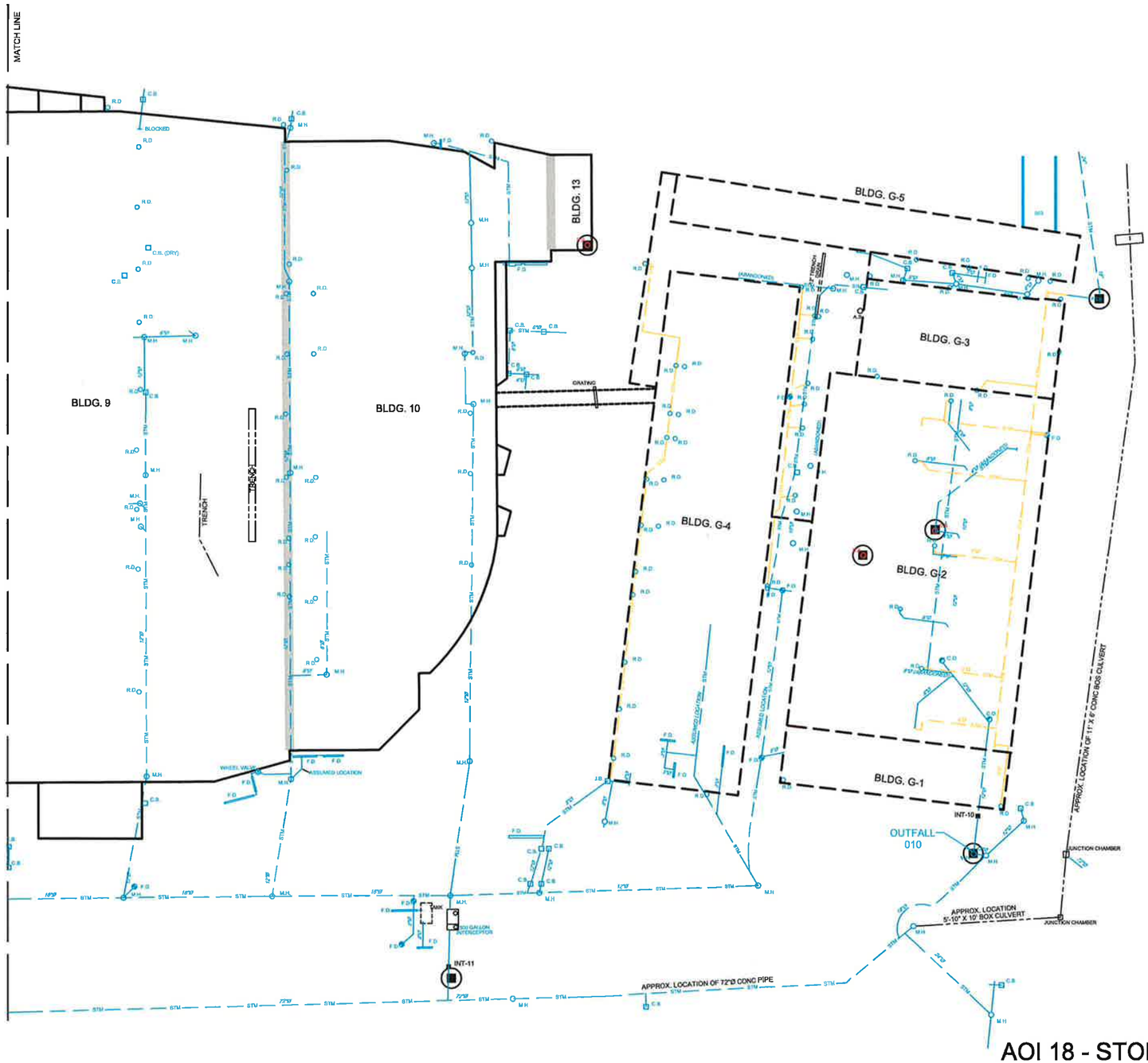
SOURCE:
RALPH L. WOOLPERT CO. CONSULTING ENGINEERS AND PLANNERS. JANUARY 1974
REVISIONS BY:
HELMIG, LIENESCH, DOENCH AND ASSOCIATES. JULY 1980, JUNE 1981

NOTE:
PRIOR TO 1981 ALL PROCESS SEWERS WERE COMBINED PROCESS/SANITARY SEWERS. SEWER LOCATIONS ARE APPROXIMATE.

figure 7.7a

AOI 18 - STORM SEWERS AND OUTFALLS TO MAD RIVER
BUILDINGS 1, 1A, 2 to 5, 7, 12, 15, 22, 24, and 27
FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY
Dayton, Ohio

12638-03(008)GN-WA039 JAN 25/2002



0 40 80ft

LEGEND

- BUILDING WALL
- BUILDING BOUNDARY
- FORMER BUILDING WALL
- STORM SEWER
- OVERHEAD STORM PIPE
- M.H. STORM MANHOLE
- J.B. JUNCTION BOX
- C.B. CATCH BASIN
- C.O. CLEANOUT
- F.D. FLOOR DRAIN
- R.D. ROOF DRAIN
- B.S. BASEMENT SUMP
- A.S. ABANDONED SUMP
- INT-8 STORM SEWER INTERCEPTOR
- PROPOSED WATER/SEDIMENT SAMPLE LOCATION

NOTE:
PRIOR TO 1981 ALL PROCESS SEWERS WERE COMBINED PROCESS/SANITARY SEWERS.
SEWER LOCATIONS ARE APPROXIMATE.

SOURCE:
RALPH L. WOOLPERT CO. CONSULTING ENGINEERS AND PLANNERS.
JANUARY 1974
REVISIONS BY:
HELMIG, LIENESCH, DOENCH AND ASSOCIATES.
JULY 1980, JUNE 1981

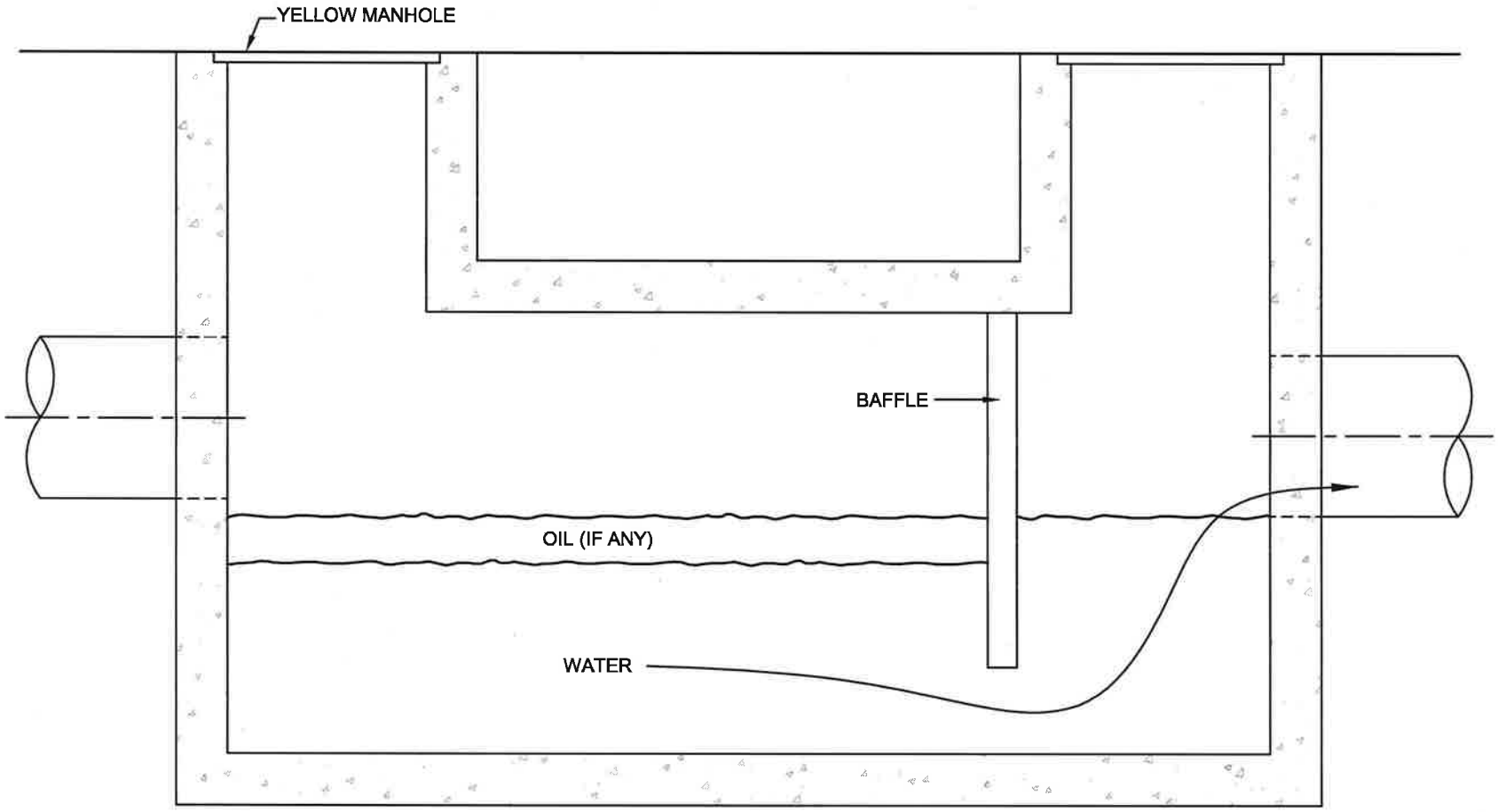
figure 7.7b

AOI 18 - STORM SEWERS AND OUT FALLS TO MAD RIVER BUILDINGS 9, 10, 13, G-2 to G-5 FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY

Dayton, Ohio

CRA

12638-03(008)GN-WA039 JAN 25/2002



NOT TO SCALE

figure 7.7c

AOI 18 - STORM SEWER INTERCEPTOR DETAIL
FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY
Dayton, Ohio

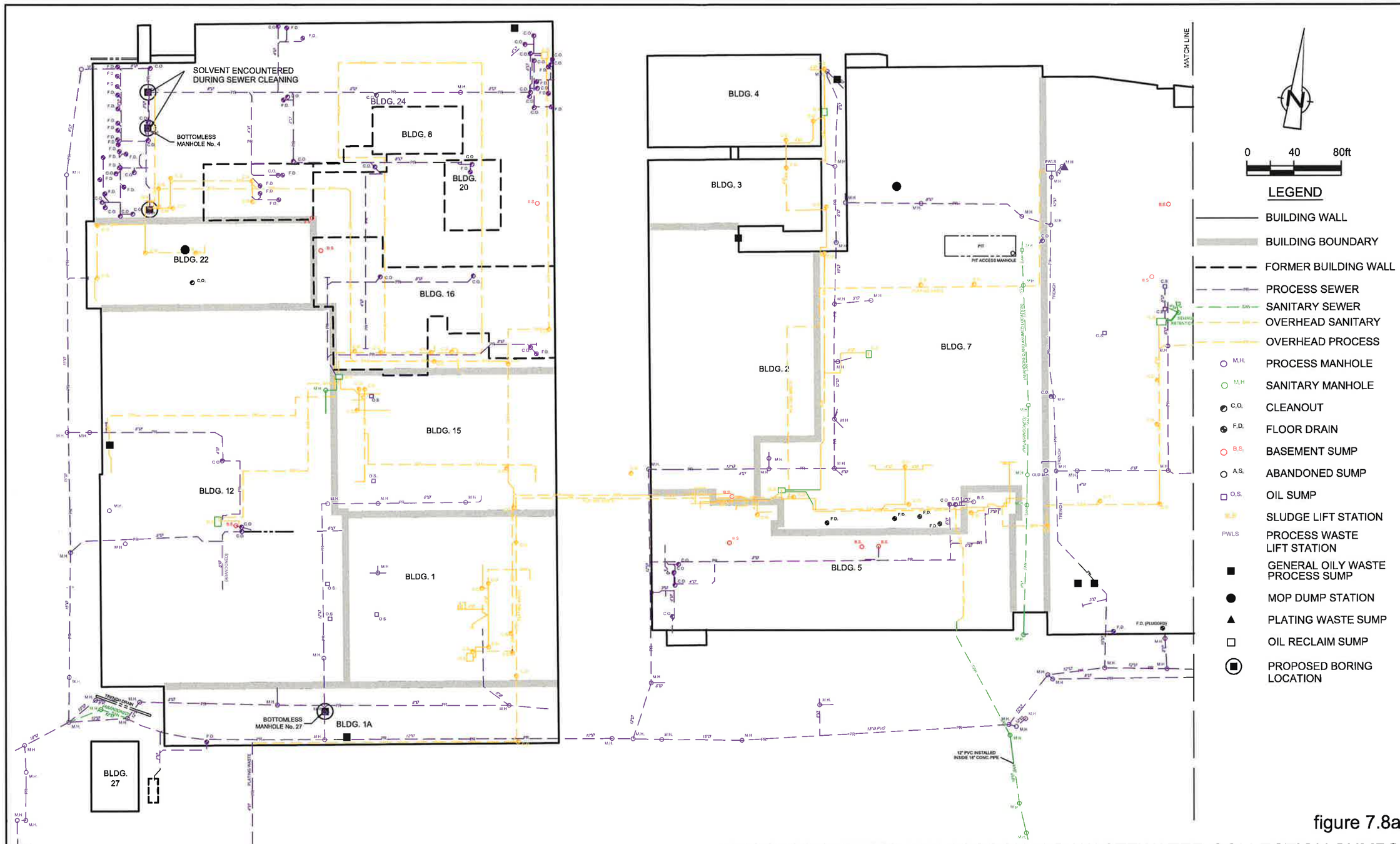


figure 7.8a

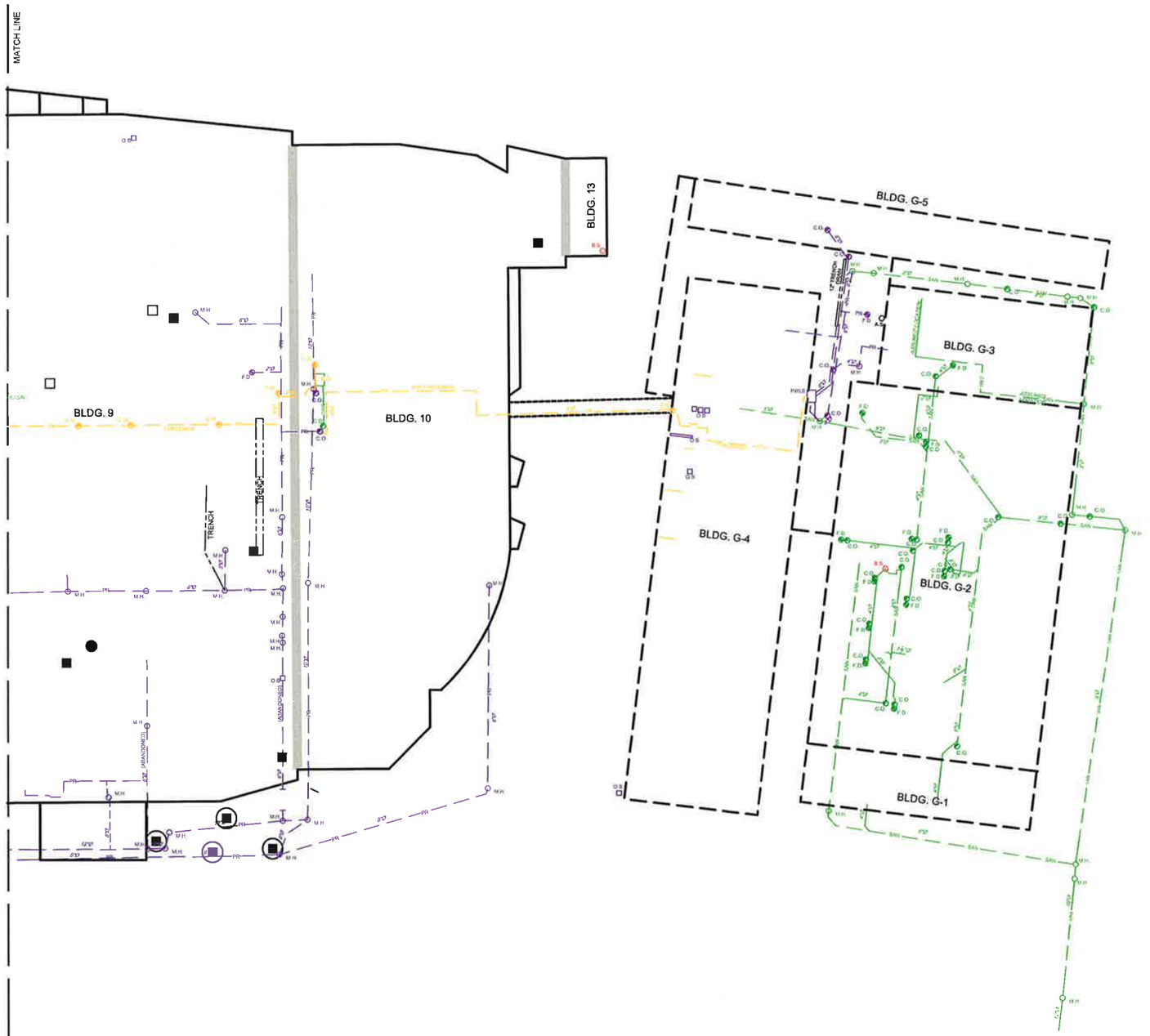
PROCESS SEWERS AND ASSOCIATED WASTEWATER COLLECTION SUMPS BUILDINGS 1, 1A, 2 to 5, 7, 12, 15, 22, 24, and 27 FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY

Dayton, Ohio

SOURCE:
RALPH L. WOOLPERT CO. CONSULTING ENGINEERS AND PLANNERS. JANUARY 1974
REVISIONS BY:
HELMIG, LIENESCH, DOENCH AND ASSOCIATES. JULY 1980, JUNE 1981

NOTE:
PRIOR TO 1981 ALL PROCESS SEWERS WERE COMBINED PROCESS/SANITARY SEWERS. SEWER LOCATIONS ARE APPROXIMATE.

12638-03(008)GN-WA038 JAN 25/2002



LEGEND

- BUILDING WALL
- BUILDING BOUNDARY
- FORMER BUILDING WALL
- PROCESS SEWER
- SANITARY SEWER
- OVERHEAD SANITARY PIPE
- OVERHEAD PROCESS PIPE
- M.H. PROCESS MANHOLE
- M.H SANITARY MANHOLE
- C.O. CLEANOUT
- F.D. FLOOR DRAIN
- B.S. BASEMENT SUMP
- A.S. ABANDONED SUMP
- O.S. OIL SUMP
- PWLS PROCESS WASTE LIFT STATION
- SLUDGE LIFT STATION
- GENERAL OILY WASTE PROCESS SUMP
- MOP DUMP STATION
- PLATING WASTE SUMP
- OIL RECLAIM SUMP
- PROPOSED BORING LOCATION

NOTE:
PRIOR TO 1981 ALL PROCESS SEWERS WERE COMBINED PROCESS/SANITARY SEWERS.
SEWER LOCATIONS ARE APPROXIMATE.

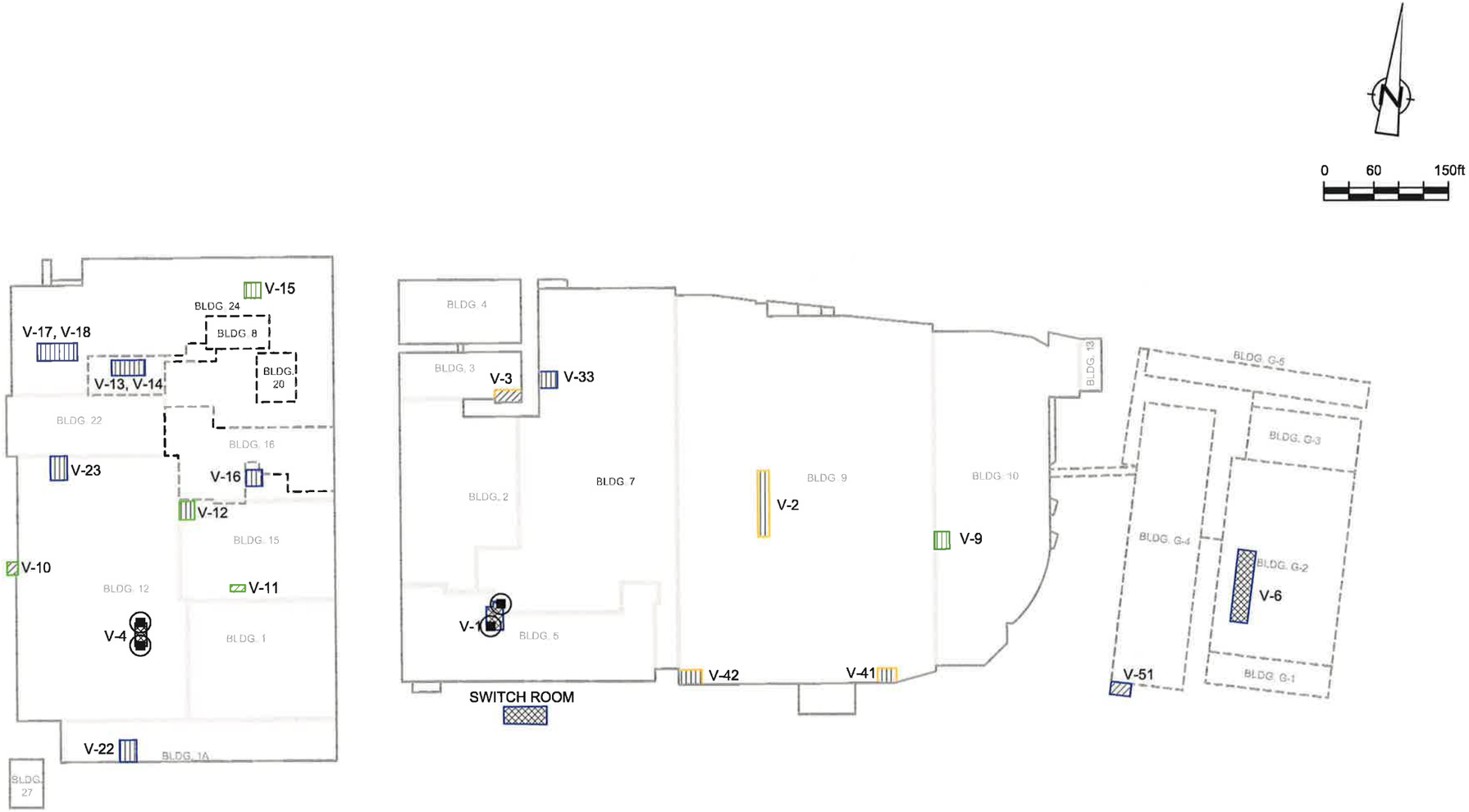
SOURCE:
RALPH L. WOOLPERT CO. CONSULTING ENGINEERS AND PLANNERS.
JANUARY 1974
REVISIONS BY:
HELMIG, LIENESCH, DOENCH AND ASSOCIATES.
JULY 1980, JUNE 1981

figure 7.8b

PROCESS SEWERS AND ASSOCIATED WASTEWATER COLLECTION SUMPS BUILDINGS 9, 10, 13, G-2 to G-5 FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY

Dayton, Ohio

12638-03(008)GN-WA038 JAN 25/2002



LEGEND

- BUILDING WALL
- BUILDING BOUNDARY
- FORMER BUILDING WALL
- FORMER NON-PCB TRANSFORMERS
- FORMER PCB TRANSFORMERS
- RELEASE SUSPECTED FROM FORMER PCB TRANSFORMERS
- VAULT LOCATED ON ROOF LEVEL
- VAULT LOCATED ON GRADE LEVEL
- VAULT LOCATED ON BASEMENT LEVEL
- PROPOSED WIPE AND CONCRETE CORE SAMPLE LOCATION TO BE BASED ON INSPECTION

figure 7.9

AOI 20 - PCB RELEASES FROM ELECTRICAL EQUIPMENT FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY

Dayton, Ohio

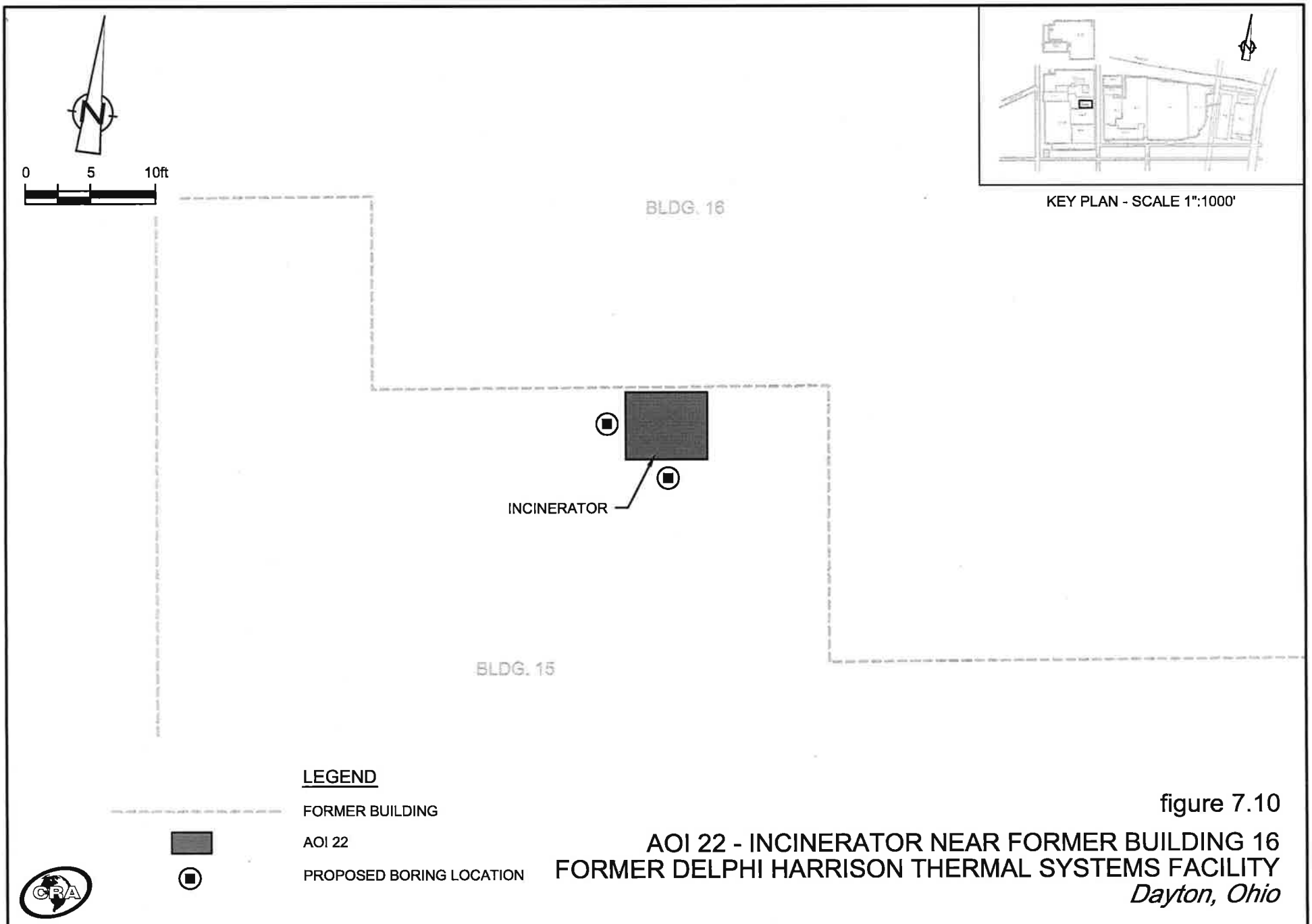


figure 7.10

AOI 22 - INCINERATOR NEAR FORMER BUILDING 16
FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY
Dayton, Ohio

12638-03(008)GN-WA028 NOV 16/2001

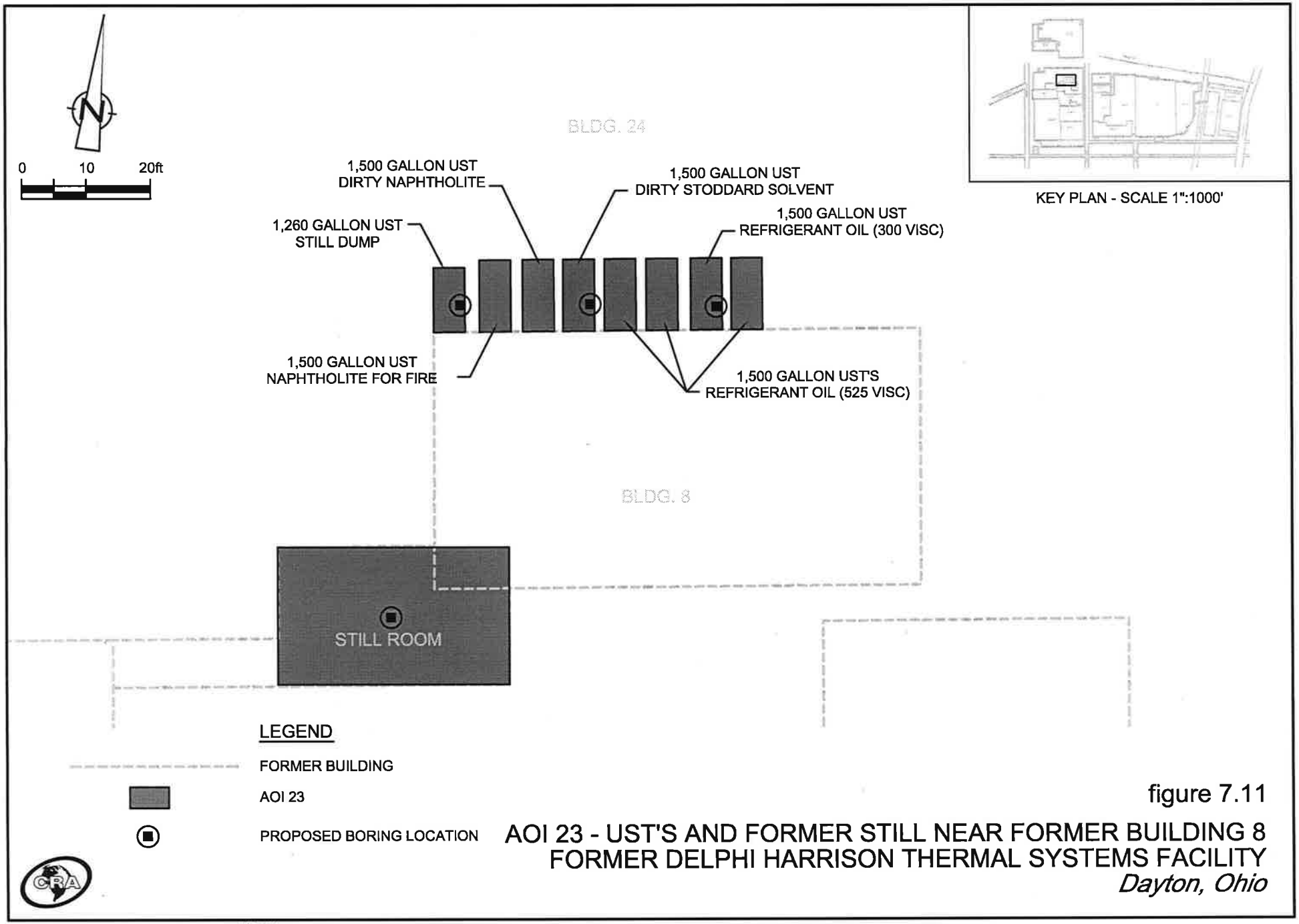


figure 7.11

AOI 23 - UST'S AND FORMER STILL NEAR FORMER BUILDING 8
FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY
Dayton, Ohio

12638-03(008)GN-WA029 NOV 16/2001

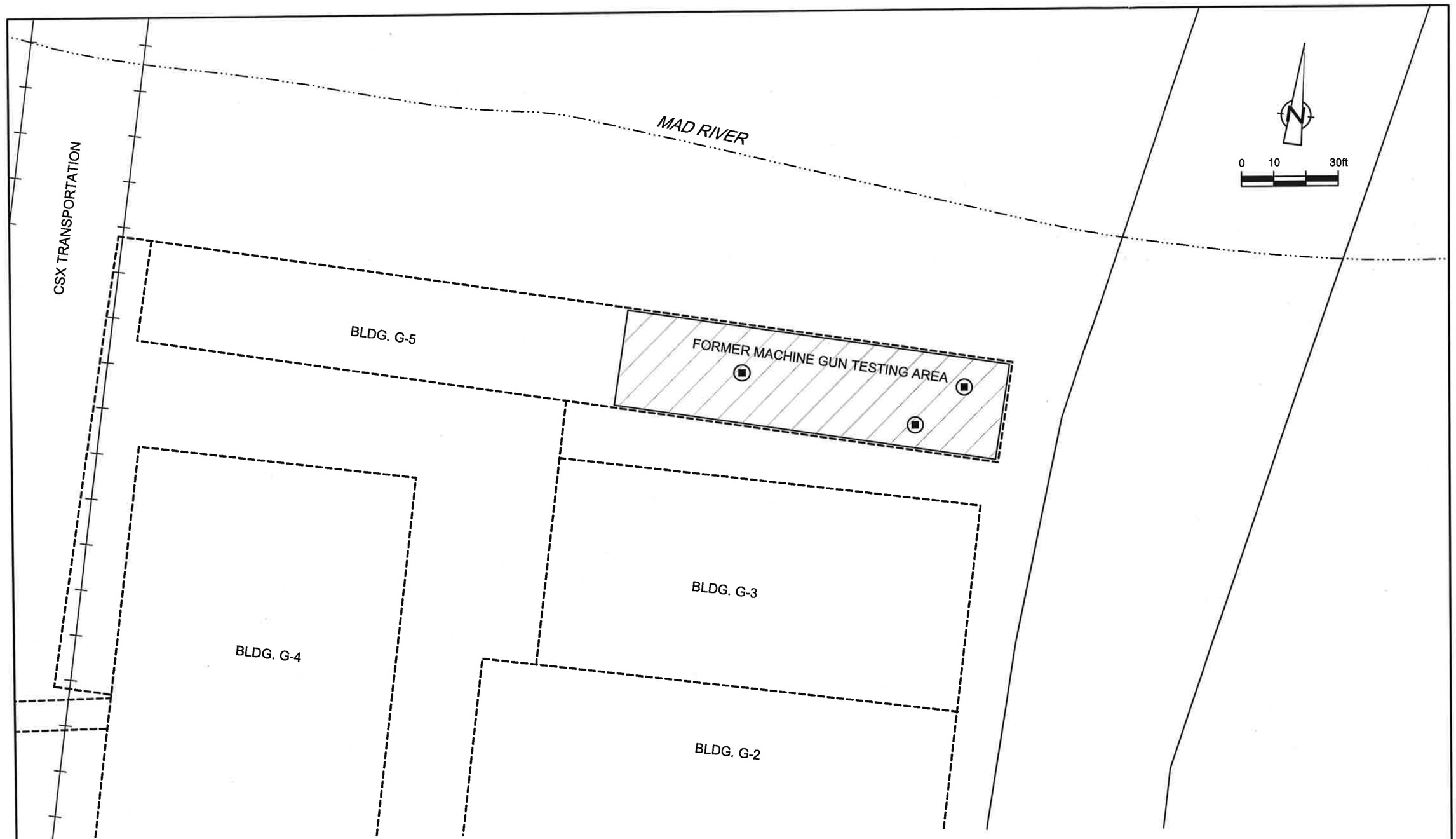


figure 7.12

AOI 24 - FORMER MACHINE GUN TESTING AREA
FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY
Dayton, Ohio

12638-03(008)GN-WA034 NOV 16/2001

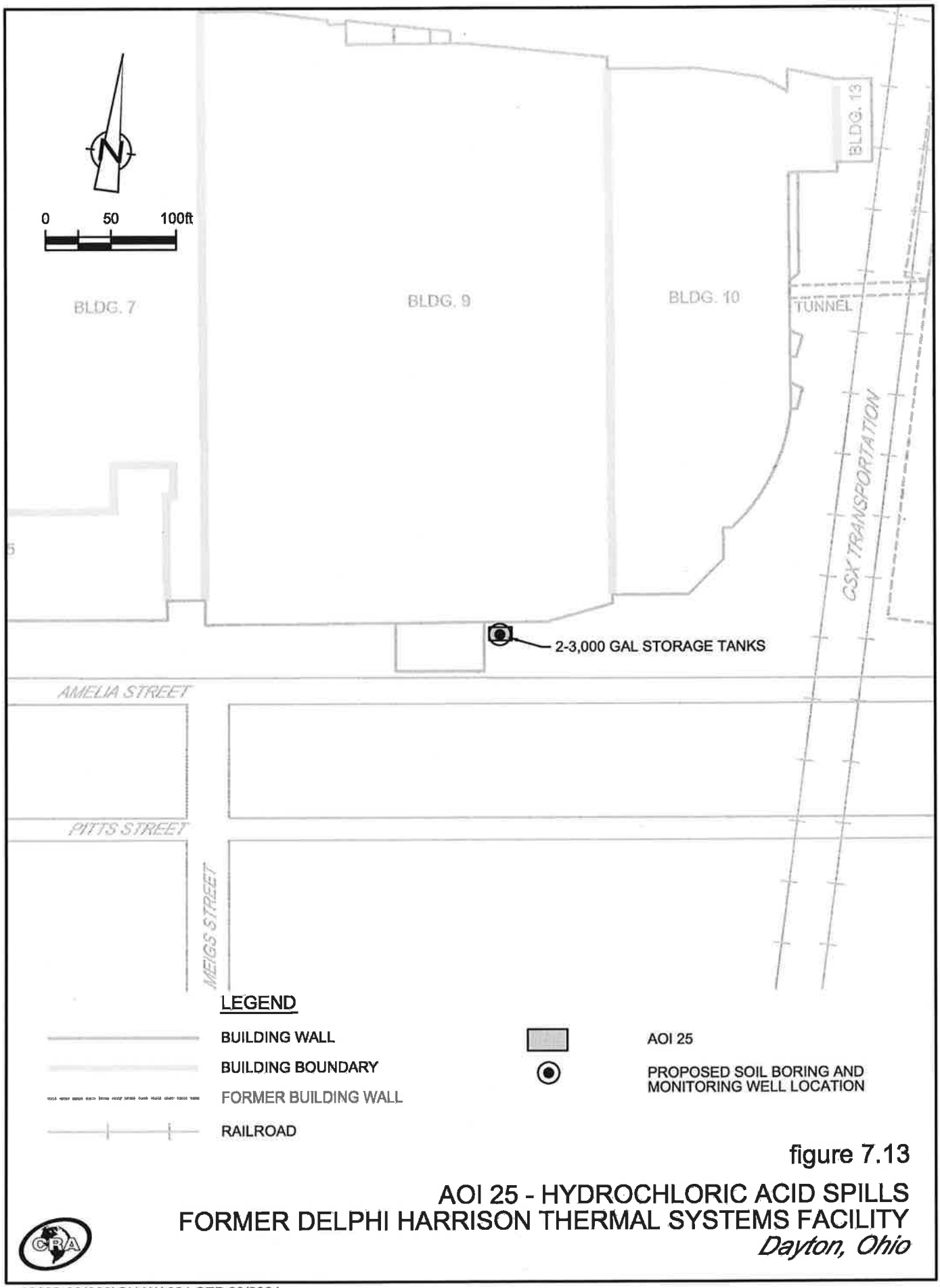


figure 7.13

AOI 25 - HYDROCHLORIC ACID SPILLS
FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY
Dayton, Ohio

12638-03(008)GN-WA031 SEP 20/2001

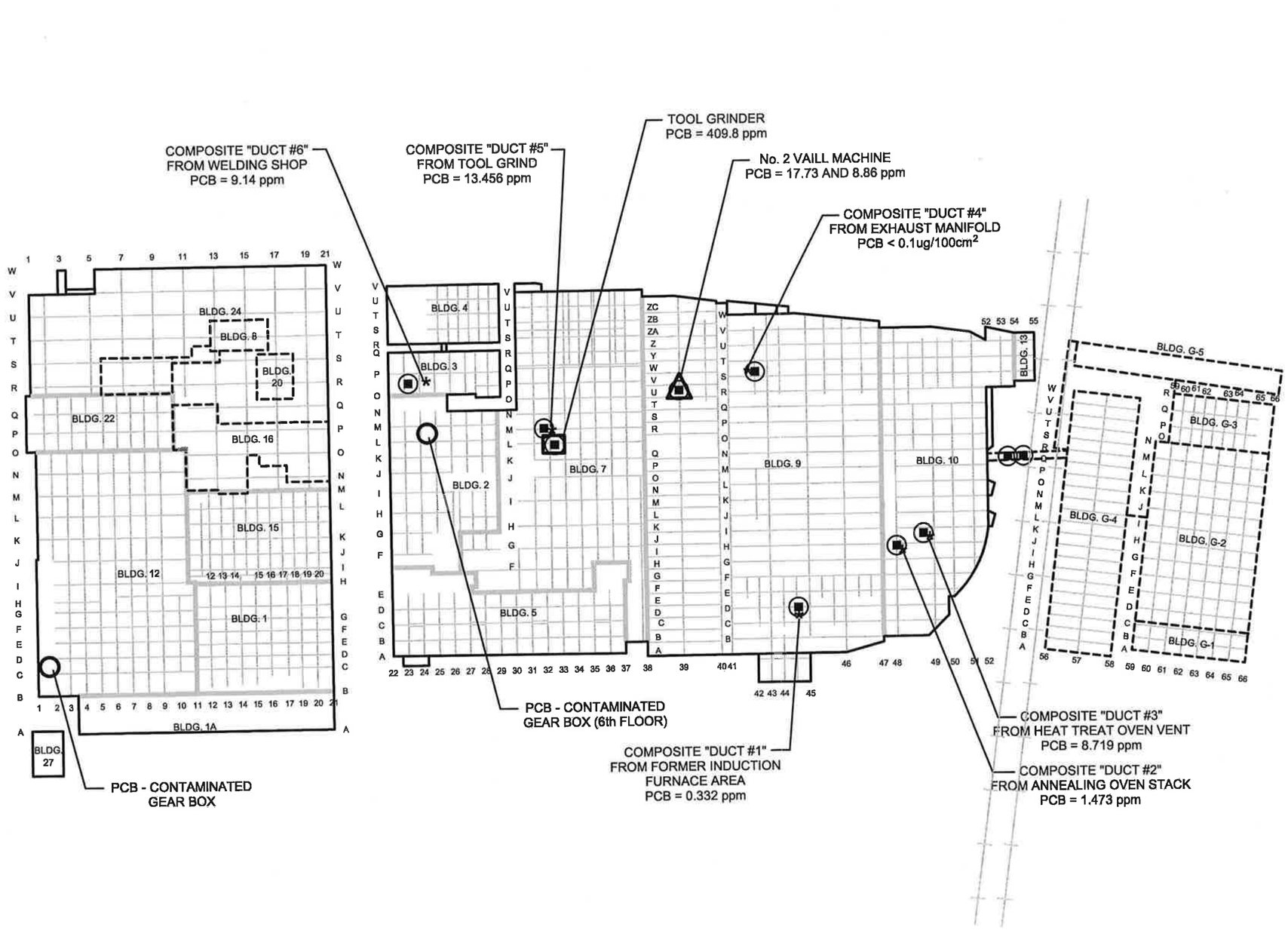
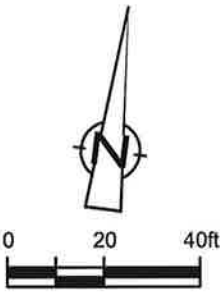
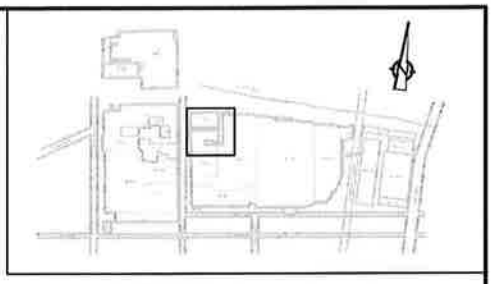


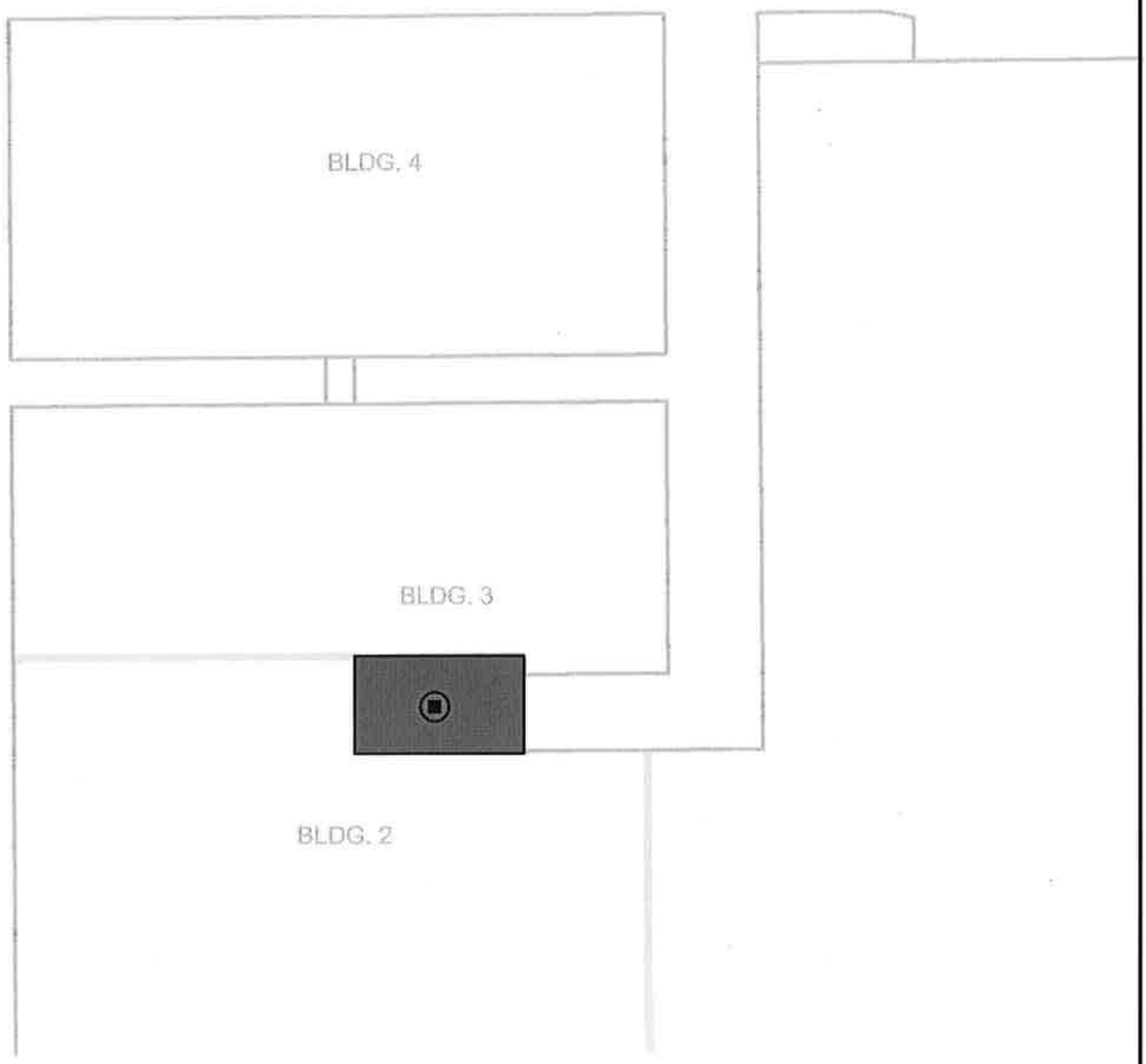
figure 7.14

AOI 26 - POTENTIAL PCB RELEASES FROM PROCESS EQUIPMENT
FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY
Dayton, Ohio





KEY PLAN - SCALE 1"=1000'



LEGEND

BUILDING WALL

BUILDING BOUNDARY

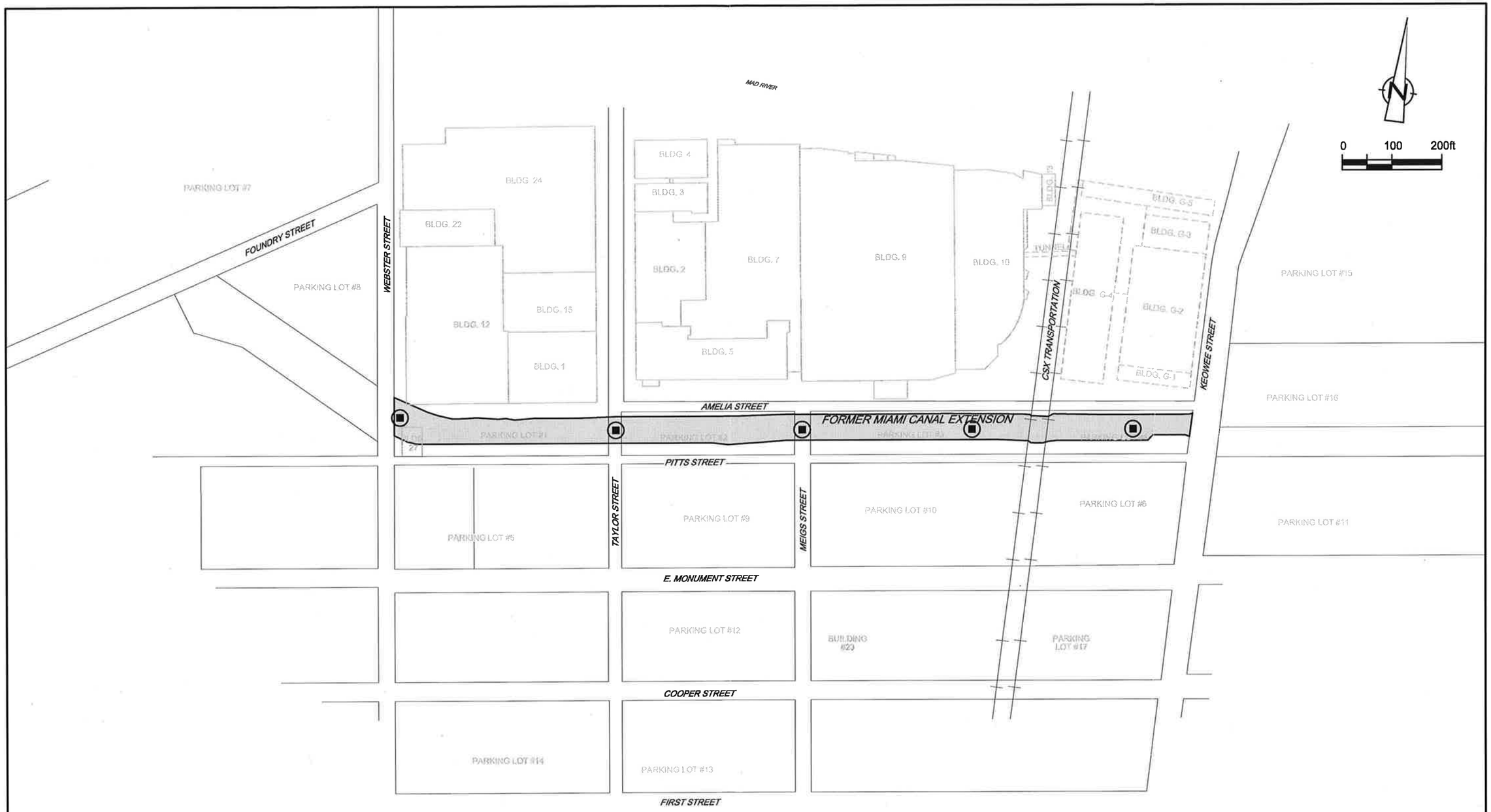
AOI 27

PROPOSED BORING LOCATION (IF ANY) TO BE BASED ON INSPECTION

figure 7.15

AOI 27 - BATTERY CHARGING STATION
FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY
Dayton, Ohio

12638-03(008)GN-WA030 NOV 16/2001



LEGEND

AOI 28

PROPOSED BORING LOCATION

SOURCE: THE SANBORN LIBRARY,LLC 1887

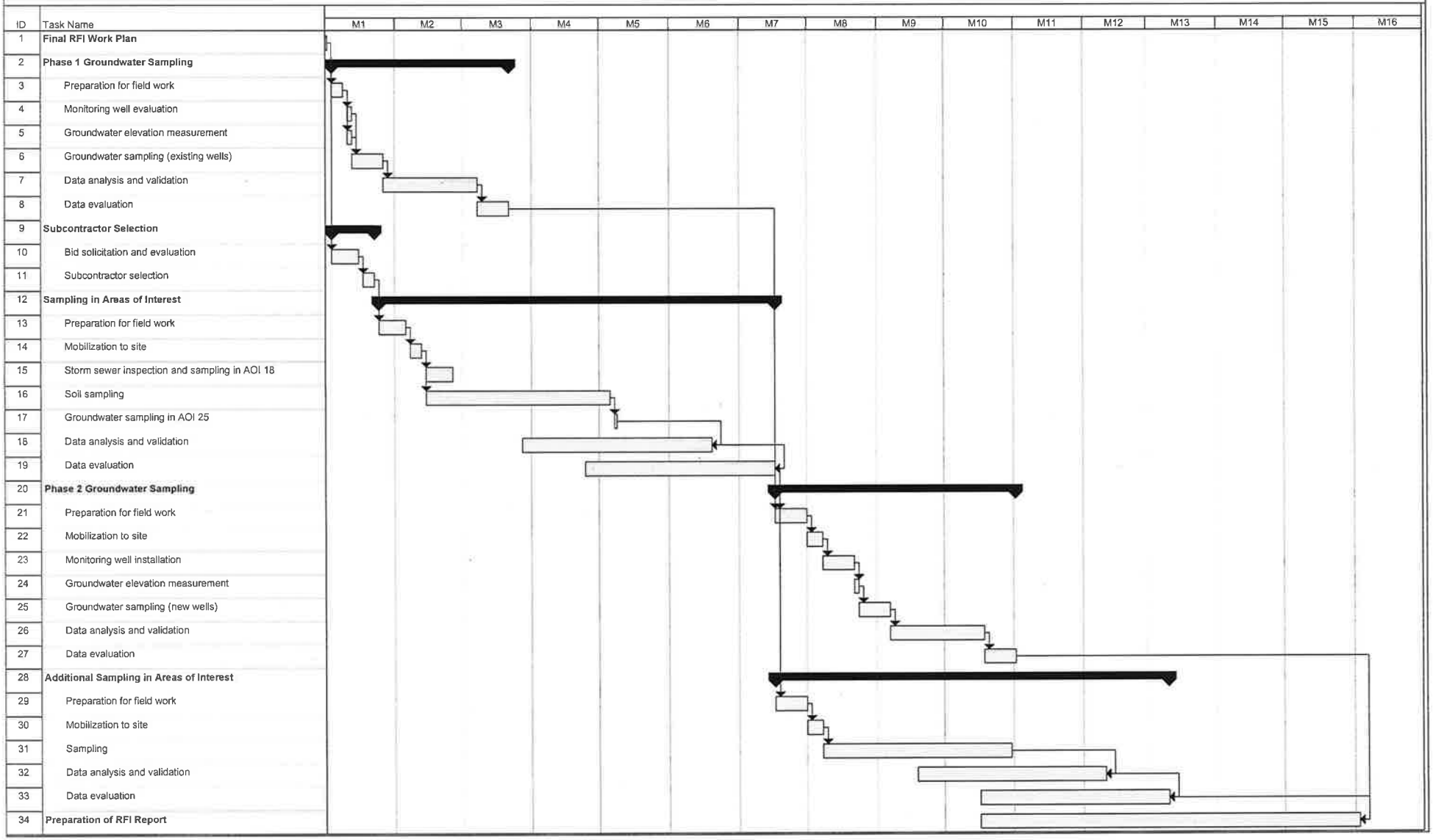
figure 7.16

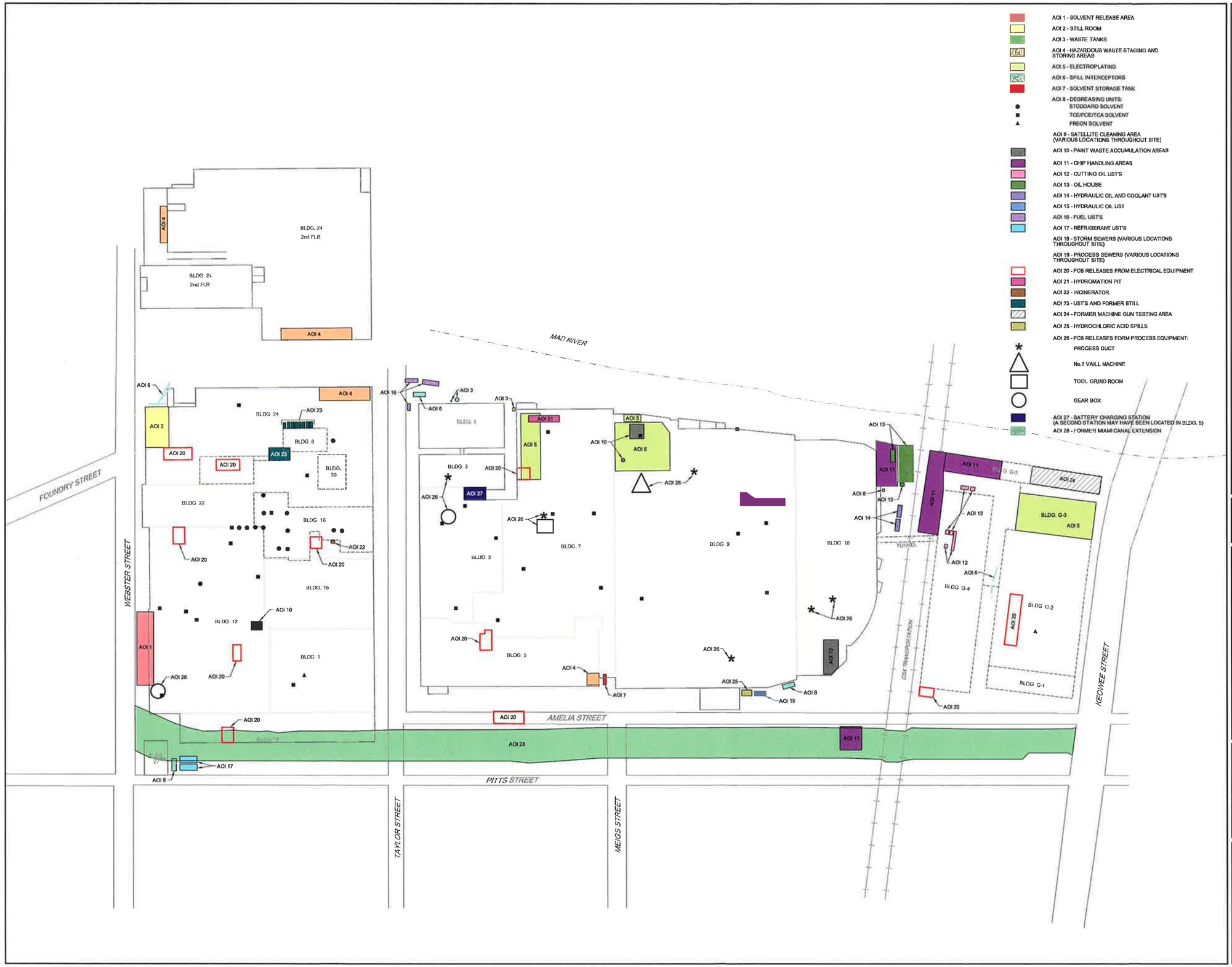
AOI 28 - FORMER MIAMI CANAL EXTENSION
FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY
Dayton, Ohio

12638-03(008)GN-WA036 NOV 16/2001

FIGURE 10.1

RFI SCHEDULE
FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY - DAYTON, OHIO





NO	Revision	Date	Initial

0 40 80ft

LEGEND

- BUILDING WALL
- BUILDING BOUNDARY
- FORMER BUILDING WALL
- SHORELINE
- RAILROAD

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

Approved

DRAWING STATUS

Status	Date	Initial

FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY

DAYTON, OHIO

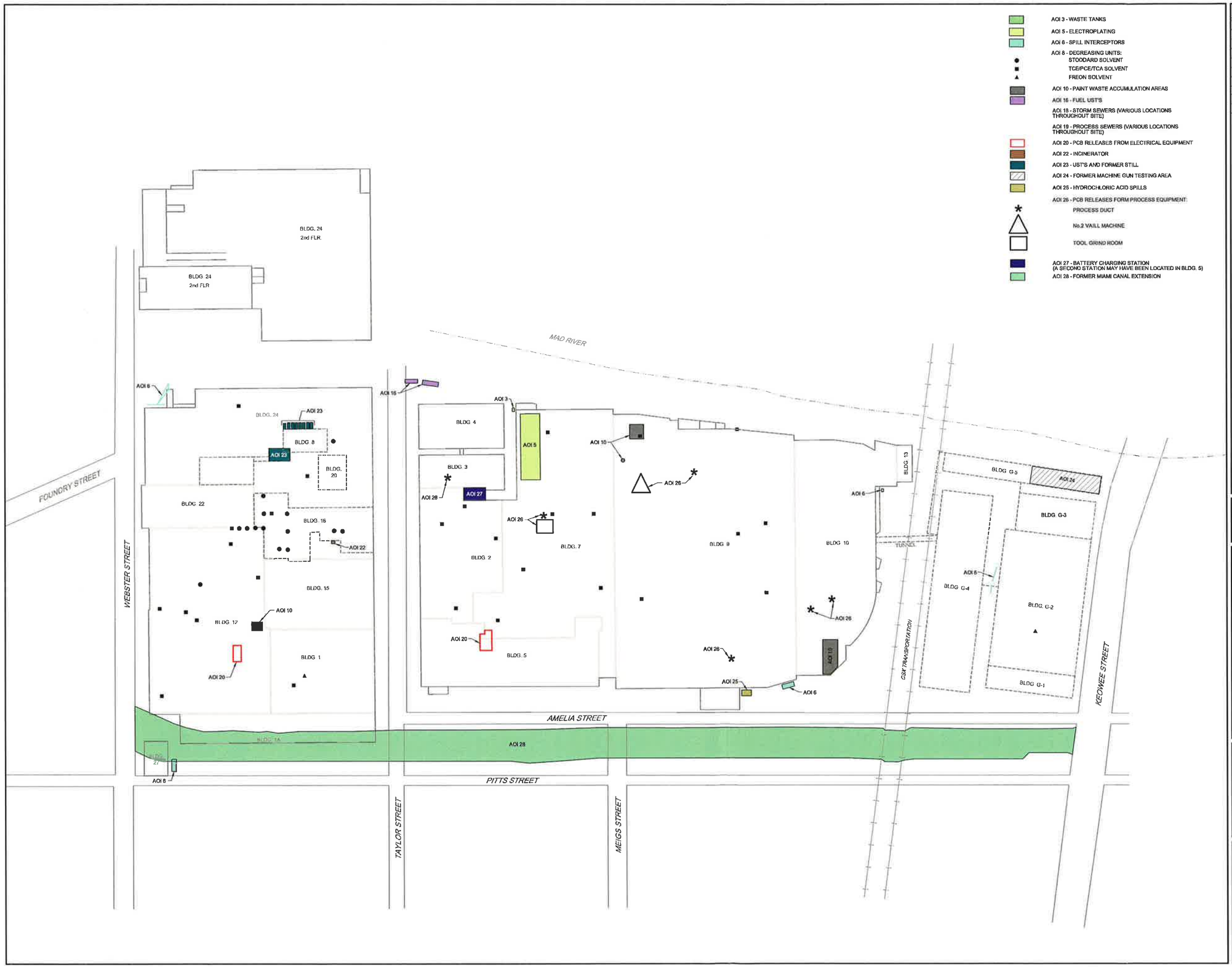
PLAN 1 - AOI LOCATIONS

CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

Project Manager:	Reviewed By:	Date:	
I. RICHARDSON	S. EASTMAN	FEBRUARY 2001	
Scale: 1"=80'	Project No: 12638-03	Report No: 008	Drawing No: 1

12638-03(008)GN-WA044 NOV 19/2001



No	Revision	Date	Initial

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

Approved

DRAWING STATUS

Status	Date	Initial

FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY

DAYTON, OHIO

PLAN 2 - AOI LOCATIONS TO BE SAMPLED

CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

Project Manager:	Reviewed By:	Date:	
I. RICHARDSON	S. EASTMAN	OCTOBER 2001	
Scale: 1"=80'	Project No: 12638-03	Report No: 008	Drawing No: 2

12638-03(008)GN-WA045 NOV 19/2001

TABLES

TABLE 1.1

AOI SUMMARY
FORMER DELPHI HARRISON THERMAL SYSTEMS - DAYTON, OHIO

AOI Designation		*Historical Operations*	*RFI Sampling Proposed*
AOI 1	Solvent Release Area[1]	- 1,000-gal. PCE release - 10 to 15-gal. refrigerant oil release - TCE/PCE/TCA, refrigerant oil, kerosene, and Stoddard storage	No
AOI 2	Still Room[2]	- TCE/PCE and Stoddard recovery RCRA - RCRA closure with Ohio EPA approved	No
AOI 3	Waste Tank (N of Bldg. 4)[2]	- waste oil and still bottom storage - RCRA closure with Ohio EPA approved	No
AOI 3	Waste Tank (E of Bldg. 4)	- waste oil and still bottom storage	Yes
AOI 4	Hazardous Waste Staging/Storage[2]	- hazardous waste staging/storage - clean closed	No
AOI 4	90 Day Hazardous Waste Accumulation[2]	- hazardous waste accumulation - undergoing generator closure	No
AOI 5	Electroplating (Bldg. G-3)[2]	- electroplating - no evidence of release to environment - area has been removed	No
AOI 5	Electroplating (Bldg. 9)[2]	- electroplating - 1995 boring did not identify RCRA metals above action levels	No
AOI 5	Electroplating (Bldg. 7)	- electroplating	Yes
AOI 6	Spill Interceptor (N of Bldg. 4)[2]	- spill interception, various materials - waste oil and still bottom storage - RCRA closure with Ohio EPA approved	No

TABLE 1.1

AOI SUMMARY
FORMER DELPHI HARRISON THERMAL SYSTEMS - DAYTON, OHIO

AOI Designation		*Historical Operations*	*RFI Sampling Proposed*
AOI 6	Spill Interceptors	- spill interception, various materials	Yes
AOI 7	Solvent Storage Tank[2]	- used Stoddard - undergoing BUSTR closure	No
AOI 8	Degreasing Units	- TCE/PCE/TCA, Stoddard, Freon	Yes
AOI 9	Satellite Cleaning Units[2]	- no release to environment	No
AOI 10	Paint Waste Accumulation Areas	- paint waste accumulation	Yes
AOI 11	Chip Handling Areas[1]	- cutting oil/metal chip separation - LNAPL plume contains PCBs	No
AOI 12	Cutting Oil USTs[1] (see AOI 11)	- cutting oil storage	No
AOI 13	Oil House[1] (see AOI 11)	- various petroleum product storage	No
AOI 14	Hydraulic Oil and Coolant USTs1 (see AOI 11)	- hydraulic oil and coolant storage	No
AOI 15	Hydraulic Oil UST[2]	- hydraulic oil storage - no further action requested from BUSTR	No
AOI 16	Fuel USTs	- gasoline and diesel fuel storage	Yes
AOI 17	Refrigerant Oil USTs[2]	- refrigerant storage - BUSTR approved no further action	No
AOI 18	Storm Sewers	- storm water conveyance - historical process sewer cross-connections, also some spills	Yes

TABLE 1.1

AOI SUMMARY
FORMER DELPHI HARRISON THERMAL SYSTEMS - DAYTON, OHIO

AOI Designation		*Historical Operations*	*RFI Sampling Proposed*
AOI 19	Process Sewers	- process water conveyance - abandoned for decommissioning - solvents near still room, PCBs near Bldg. 1A, TPH S of Tank 4 (AOI 15)	Yes
AOI 20	PCB Releases from Electrical Equipment	- historical PCB leaks	Yes
AOI 21	Hydromation Pit[1]	- recirculation of non-hazardous oil	No
AOI 22	Paint Hanger Incinerator[2]	- paint hanger cleaning - no release to environment	No
AOI 22	Incinerator (Bldg. 16)	- used to burn dirty liquids and plant trash	Yes
AOI 23	USTs and Former Still (Bldg. 8)	- still bottom, Stoddard, naphthalite, and refrigerant oil storage tanks - Stoddard solvent stills	Yes
AOI 24	Former Machine Gun Testing Area	- machine gun testing	Yes
AOI 25	Hydrochloric Acid Spills	- hydrochloric acid spills	Yes

TABLE 1.1

AOI SUMMARY
FORMER DELPHI HARRISON THERMAL SYSTEMS - DAYTON, OHIO

AOI Designation		*Historical Operations*	*RFI Sampling Proposed*
AOI 26	Potential PCB Releases from Process Equipment	- No. 2 Vaill machine and grinder in tool grind room contained PCBs - PCBs in process venting ductwork identified during decommissioning	Yes
AOI 27	Battery Charging Stations	- battery charging station between Bldg. 2 and 3, possibly in Bldg. 5	Yes
AOI 28	Former Miami Canal Extension	- former canal filled in early 1950s	Yes

Notes:

1 RFI sampling will not be performed; interim measures are ongoing/proposed.
2 RFI sampling will not be performed; risk to human health and the environment has been addressed.

TABLE 1.2

INVESTIGATION PLAN
FORMER DELPHI HARRISON THERMAL SYSTEMS - DAYTON, OHIO

AOI Designation		*Identify Sample Locations*	*Proposed Sampling*
AOI 3	Waste Tank (E of Bldg. 4)	inspection	2 boreholes (TCL/TAL) up to 1 water/sediment (TCL/TAL)
AOI 5	Electroplating (Bldg. 7)	inspection	2 boreholes (TCL/TAL)
AOI 6	Spill Interceptors	inspection	10 boreholes (TCL/TAL), up to 5 water/sediment (TCL/TAL)
AOI 8	Degreasing Units	inspection	approx. 10 boreholes (TCL/TAL)
AOI 10	Paint Waste Accumulation Areas	inspection	up to 3 boreholes (TCL/TAL), sample only if evidence of release
AOI 16	Fuel USTs	none	5 boreholes (TCL/TAL)
AOI 18	Storm Sewers	manhole/sump inspection	30 water/sediment (TCL/TAL), more depending on inspection
AOI 19	Process Sewers	none	8 boreholes (TCL/TAL)
AOI 20	PCB Releases from Electrical Equipment	inspection	4 wipe/core (TCL PCB)
AOI 22	Incinerator (Bldg. 16)	none	2 boreholes (TCL/TAL)
AOI 23	USTs and Former Still (Bldg. 8)	none	4 boreholes (TCL/TAL)
AOI 24	Former Machine Gun Testing Area	none	3 surface soil (TCL PCB, lead)
AOI 25	Hydrochloric Acid Spills	none	1 borehole (pH, TCL PCB, TAL) 1 monitoring well (pH, TCL/TAL)

TABLE 1.2

INVESTIGATION PLAN
FORMER DELPHI HARRISON THERMAL SYSTEMS - DAYTON, OHIO

AOI Designation		*Identify Sample Locations*	*Proposed Sampling*
AOI 26	Potential PCB Releases from Process Equipment	inspection	10 wipe/core (TCL PCB)
AOI 27	Battery Charging Stations	inspection	up to 2 boreholes (TCL PCB, TAL)
AOI 28	Former Miami Canal Extension	none	5 boreholes (TCL/TAL)

Notes:

TCL	Includes TCL VOCs, TCL SVOCs, and TCL PCBs, unless otherwise specified.
TAL	Includes TAL metals (except Al, Ca, Fe, Mg, K, and Na) and cyanide, unless otherwise specified.

APPENDIX C

QUALITY ASSURANCE PROJECT PLAN

APPENDIX C

QUALITY ASSURANCE PROJECT PLAN (QAPP) RCRA FACILITY INVESTIGATION WORK PLAN

FORMER DELPHI HARRISON THERMAL SYSTEMS DAYTON, OHIO

Prepared for:
General Motors Corporation

FEBRUARY 4, 2002
REF. NO. 12638 (8)

QUALITY ASSURANCE PROJECT PLAN (QAPP)

FOR THE RCRA FACILITY INVESTIGATION WORK PLAN
FORMER DELPHI HARRISON THERMAL SYSTEMS
DAYTON, OHIO
U.S. EPA ID NUMBER – OHD 017958604
REVISION NUMBER 0
FEBRUARY 4, 2002

Prepared By: Conestoga-Rovers & Associates (CRA)

Prepared For: General Motors Corporation (GM)

Approved By: _____ Date: 3/6/02
Pam Stubbs
REALM Project Manager

Approved By: _____ Date: 3/6/02
Sylvie Eastman
CRA Project Manager

Approved By: _____ Date: March 6, 2002
Paul Wiseman
CRA QA Officer

Approved By: _____ Date: 3/6/02.
Sylvie Eastman
CRA Field QA Officer

Approved By: _____ Date: March 6, 2002
Amy McCormick
STL Project Manager

Approved By: _____ Date: March 6, 2002
Opal Davis-Johnson
STL QA Officer

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1.0 PROJECT DESCRIPTION

The following outlines the scope of the RCRA Facility Investigation (RFI) to be performed in accordance with the requirements of the Voluntary Corrective Action Agreement between the United States Environmental Protection Agency (U.S. EPA) and General Motors Corporation (GM) for the portion of the Former Delphi Harrison Thermal Systems (Delphi) Facility in Dayton, Ohio that is currently owned by Peerless Realty Group Ltd. (Peerless), also known as the Peerless Transportation Company. The Site lies immediately south of the Mad River and is bounded by Webster Street to the west, Pitts Street to the south, and Keowee Street to the east. The Site also includes a portion of the block bounded by Webster Street (west), Monument Avenue (south), Taylor Street (east), and Pitts Street (north). Environmental activities at the Site are being conducted by the Remediation and Liability Management Company, Inc. (REALM), a wholly owned subsidiary of GM.

This Quality Assurance Project Plan (QAPP) presents the organization, objectives, planned activities, and specific quality assurance / quality control (QA/QC) procedures associated with the RFI for the Site. Protocols for sample collection, sample handling and storage, chain-of-custody procedures, and laboratory and field analyses are described or specifically referenced to related investigation documents.

This QAPP addresses the QA/QC elements in the U.S. EPA Region 5 QAPP policy presented in the "U. S. EPA RCRA QAPP Instructions" dated April 1998 and other relevant guidance documents, including "The Use of Field Methods to Support RFI Streamlining", U.S. EPA Region 5 Memorandum, June 20, 1999. The QA/QC procedures described in this QAPP are consistent with U.S. EPA guidance in general.

1.1 INTRODUCTION

This Quality Assurance Project Plan (QAPP) has been prepared on behalf of REALM. The QAPP is a component of the Facility Investigation (RFI) Work Plan, that also includes a Field Sampling Plan (FSP), Project Management Plan (PMP), Data Management Plan (DMP), Health and Safety Plan (HASP), and Community Relations Plan (CRP).

1.1.1 PROJECT OBJECTIVES AND DECISION STATEMENT

The primary objectives for data collection activities include:

i) Define the nature and extent of releases of hazardous wastes and/or hazardous constituents in environmental media (soil, sediment, groundwater, and/or surface water) at the Site;

ii) Collect sufficient data and information to evaluate the risk to human health and the environment, if any, associated with any releases of hazardous waste and/or hazardous constituents; and

iii) Collect sufficient data for all contaminated media to support the Environmental Indicators Determination (i.e., actual or potential receptors and migration pathways).

The Decision Statement for the investigation is as follows:

i) Determine whether interim remedial actions are necessary to control current unacceptable risks, if any, to human health or the environment; and

ii) Provide data for the development of a study of appropriate corrective measures (if warranted) to control current and future unacceptable risks to human health and the environment.

Associated specific objectives for field and laboratory data collection are discussed in Section 1.4 of this plan.

1.1.2 PROJECT STATUS/PHASE

The project status and investigation approach is presented in the RFI Work Plan. Section 1.1 summarizes the Site background. Section 7.0 describes the Areas of Interest (AOI) to be investigated and gives a brief description of each area and the proposed investigation for each AOI at the Site. Section 8.0 describes how the data evaluation procedures for this project will be conducted.

The three most significant areas of groundwater contamination – an area of elevated chlorinated organic compounds associated with AOI 1, LNAPL associated with AOIs 11 through 14, and LNAPL associated with AOI 21 – will be addressed by interim measures at the Site. It is expected that identifying a specific source area associated with the low levels of various volatile organic compounds (VOCs) present in groundwater at the Site would be impractical. Therefore, groundwater will be investigated on a Site-wide basis, in a phased approach.

A total of 28 AOIs were identified at the Site in the Current Conditions Report (CRA; June 8, 2001). Samples will be collected at 17 of these AOIs under the RFI. Other areas are being addressed under different mechanisms, as discussed in the Current Conditions Report. The investigation associated with the AOIs will consist of soil, sewer (water and/or sediment), concrete (wipe and core), and groundwater sampling, which will be conducted in a phased approach.

1.1.3 QAPP PREPARATION GUIDELINES

As previously noted, this QAPP has been prepared to address the QA/QC elements in the "U.S. EPA Region 5 QAPP Instructions" dated April 1998.

1.2 SITE DESCRIPTION

The general Site description is provided and is incorporated here by reference to the following RFI Work Plan Sections.

Location	Work Plan Section 2.1
Site Dimensions/Borders	Work Plan Section 2.1 and 3.1
Natural and Manmade Features	Work Plan Section 4.0
Topography	Work Plan Section 4.1
Local Geology and Hydrology	Work Plan Section 4.2, 4.3, and 4.4
Surrounding Land Use	Work Plan Section 3.1
Ecological Habitats	Work Plan Section 4.5

1.3 SITE HISTORY

The Site history is provided in Section 2.0 of the RFI Work Plan and incorporated here by reference.

General History	Work Plan Section 2.2 through 2.6
Past Data Collection Activities	Work Plan Section 7.0 and Current Conditions Report (CRA; June 8, 2001)
Current Status	Work Plan Section 1.0

1.4 PROJECT OBJECTIVES AND INTENDED DATA USE

The objective and intended data uses include:

1.4.1 TARGET PARAMETER LIST

The investigative program includes the sampling and analysis of environmental media for the presence of organic and inorganic constituents based on historical operations at the Site. The field and laboratory parameters are summarized below and presented in Table 1.1.

1.4.1.1 FIELD PARAMETERS

Concurrent with sample collection, several field parameters will be determined by the field sampling personnel. For soils and solid matrices, these field parameters will include visual observations, odor identification, and VOC screening using handheld monitoring equipment. For aqueous samples (groundwater), the following parameters will be determined with field testing equipment: pH, specific conductivity, temperature turbidity, dissolved oxygen, and oxidation/reduction potential (ORP).

1.4.1.2 LABORATORY PARAMETERS

The laboratory parameters include target compound list (TCL) VOCs, TCL semi-volatile organic compounds (SVOCs), TCL polychlorinated biphenyls (PCBs), and target analyte list

(TAL) metals excluding earth metals aluminum, calcium, iron, magnesium, potassium, and sodium. In addition to these parameters, alkalinity, hardness (total and carbonate), nitrate, nitrite, sulfate, sulfide, methane, calcium, iron, magnesium, potassium, sodium and dissolved organic carbon will be included during natural attenuation evaluation at select groundwater monitoring wells. The basis for the selected parameter list is provided in Section 6.0 and 7.0 of the RFI Work Plan. Table 1.2 presents the estimated quantitation limits (EQL) for each compound or analyte. Method detection limit (MDL) studies have been performed by Severn Trent Laboratories (STL) in accordance with their standard operating procedures (SOPs) developed to address the procedures established in the Federal Register, Volume 49, number 209, October 26, 1984 pp. 198-199, the results of these MDL studies are presented in the laboratory reference data provided in Attachment 2.

1.5 SAMPLING LOCATIONS

The RFI Work Plan provides a summary and rationale for the location of soil, concrete, sewer water and/or sediment, and groundwater samples within each AOI at the Site, and for Site-wide groundwater sampling. It is possible, however, that depending on the nature of encountered field conditions, sampling locations may change. The person responsible for making such decisions will be the Field Quality Assurance (QA) Officer whose responsibilities are described in Section 2.0 of this QAPP. Any change of the sampling strategy will only be implemented after approval from the REALM Project Manager.

1.6 PROJECT SCHEDULE

The schedule of projected milestones is presented in the RFI Work Plan.

2.0 PROJECT ORGANIZATION AND RESPONSIBILITIES

The REALM Project Manager will have the primary responsibility for the implementation of the RFI Work Plan. STL in North Canton, Ohio will perform the analyses of environmental samples collected at the Site. This section defines the roles and responsibilities of the individuals who will perform the RFI activities.

Figure D.1 of the Project Management Plan provides the organization chart for the project team.

2.1 MANAGEMENT RESPONSIBILITIES

A description of the project organization and responsibilities of key personnel is presented in detail in the Project Management Plan. Management responsibilities are as follows:

Patricia Polston – U.S. EPA Project Coordinator

The U.S. EPA Project Coordinator has the overall responsibility for oversight of all phases of the Investigation.

Pam Stubbs – REALM Project Manager

The REALM Project Manager is responsible for implementing the project, and has the authority to commit the resources necessary to meet project objectives and requirements. The REALM Project Manager's primary function is to ensure that technical, financial, and scheduling objectives are achieved successfully. The REALM Project Manager will provide the major point of contact and control matters concerning the project and represent the project team at regulatory agency meetings and public hearings. The Project Manager will define project objectives and develop a detailed project schedule. The REALM Project Manager will establish project policy and procedures to address the specific needs of the project as a whole, as well as the objectives of each task.

Ian Richardson - CRA Project Director

The Project Director will provide final review of significant work products and may participate in technical meetings with the U.S. EPA. The Project Director will ensure that

overall technical quality is maintained. He will be actively involved in the direction of the project. The Project Director has overall responsibility for ensuring that the project meets RFI objectives. The Project Director will:

i) Acquire and apply technical and other resources as needed to ensure performance within budget and schedule restraints;
ii) Review work performed on each task to ensure quality, responsiveness, and timeliness;
iii) Be responsible for the preparation and quality of interim and final reports;
iv) Communicate with REALM about the progress of the project.

Sylvie Eastman – CRA Project Manager

The Project Manager is responsible for managing the implementation of the RFI Work Plan and coordinating the collection of data pertaining to the Investigation. The Project Manager is responsible for technical quality control and project oversight. The Project Manager also provides approval of the QAPP. Additional responsibilities include:

i) Assisting in monitoring the RFI progress and quality;
ii) Preparing and reviewing RFI reports; and
iii) Providing technical support of project activities.

2.2 QUALITY ASSURANCE RESPONSIBILITIES

The Quality Assurance team will consist of a Quality Assurance Officer and the Project Manager. Quality Assurance responsibilities are described as follows:

Paul Wiseman – CRA Quality Assurance (QA) Officer

The QA Officer reports directly to the CRA Project Manager and will be responsible for ensuring that all QA/QC procedures are being followed. The CRA QA Officer will be responsible for overseeing the review of all field and laboratory data. Additional responsibilities include :

i) Assuring the application and effectiveness of the QAPP by the analytical laboratory and the project staff;

ii) Conducting internal QA/QC of the investigation activities;
iii) Providing input to the Project Director and the Project Manager as to corrective actions required resulting from the above-mentioned evaluations;
iv) Preparation and review of data validation and audit reports; and
v) Approval of the QAPP.

The QA Officer will be assisted by the data validation staff in the evaluation and validation of field and laboratory generated data. The QA Officer will monitor the performance of the laboratory to ensure that the Data Quality Objectives for the project are met.

U.S. EPA Quality Assurance Officer

The U.S. EPA Quality Assurance Officer may review this QAPP. Additional U.S. EPA Region 5 responsibilities for the project may include:

i) Conducting external performance and system audits of the RFI laboratories; and
ii) Reviewing and evaluating field and analytical laboratory procedures.

2.3 LABORATORY RESPONSIBILITIES

STL will provide laboratory services in support of the RFI Work Plan.

Amy McCormick - Laboratory Project Manager

The Laboratory Project Manager will report directly to the CRA QA Officer and will be responsible for ensuring all resources of the laboratory are available on an as-required basis. The Laboratory Project Manager will also be responsible for the approval of the final analytical reports and approval of the laboratory's ability to adhere to the QAPP.

Chris Oprandi - Laboratory Operations Manager

The Laboratory Operations Manager will report to the Project Manager and will be responsible for coordinating laboratory analysis, supervising in-house chain-of-custody reports, scheduling sample analyses, overseeing data review, and overseeing preparation of analytical reports

Opal Davis-Johnson - Laboratory QA Officer

The Laboratory QA Officer will have sole responsibility for review and validation of the analytical laboratory data generated as part of the RFI. The Laboratory QA Officer will sign all final laboratory data reports provided from the analysis of the project samples and will provide Case Narrative descriptions of any data quality issues encountered during the analyses conducted by the laboratory. The QA Officer will also define appropriate QA procedures, overview QA/QC documentation, and approve this QAPP.

Lois Ezzo - Laboratory Sample Custodian

The Laboratory Sample Custodian will report to the Laboratory Operations Manager and will be responsible for the following:

i) Receiving and inspecting the incoming sample containers;
ii) Recording the condition of the incoming sample containers;
iii) Signing appropriate documents;
iv) Verifying chain-of-custody and its correctness;
v) Notifying the Project Manager and Operations Manager of sample receipt and inspection;
vi) Assigning a unique identification number and customer number, and entering each into the sample receiving log;
vii) Initiating transfer of samples to lab sections; and
viii) Controlling and monitoring access/storage of samples and extracts.

Laboratory Technical Personnel

The laboratory technical staff will have the primary responsibility in the performance of sample analysis and the execution of the QA procedures developed to determine the data quality. These activities will include the proper preparation and analysis of the project samples in accordance with the contract laboratory's Quality Assurance Manual and associated Standard Operating Procedures.

Data Validation Staff

The data validation staff will be independent of the laboratory and familiar with the analytical procedures performed. The validation will include a review of each validation

criterion as prescribed by the guidelines presented in Section 12.2 of this document and be presented in a formal written report for submittal to the CRA Project Manager .

2.4 FIELD RESPONSIBILITIES

Sylvie Eastman – CRA Field QA Officer

The Field QA Officer is responsible for the overall operation of the field team and reports directly to the CRA Project Director . The Field QA Officer works with the project Health & Safety Officer to conduct operations in compliance with the project Health & Safety Plan. The Field QA Officer will facilitate communication and coordinate efforts between the CRA Project Director and the field team members. Other responsibilities include:

i) Developing and implementing field-related work plans, ensuring schedule compliance, and adhering to management-developed project requirements;
ii) Coordinating and managing field staff, including sampling and drilling;
iii) Performing field system audits;
iv) Overseeing quality control for technical data provided by the field staff;
v) Preparing, and approving of text and graphics required for field team efforts;
vi) Coordinating and overseeing technical efforts of subcontractors assisting the field team;
vii) Identifying problems in the field, resolving difficulties in consultation with the CRA Project Director, CRA Project QA Officer and CRA Project Manager, implementing and documenting corrective action procedures;
viii) Approving the QAPP; and
ix) Participating in preparation of the final reports.

Field Team Personnel

Field Team Personnel involved in the RFI will be responsible for:

i) Performance of field activities as detailed in the RFI Work Plan and in compliance with the DQO's outlined in this QAPP; and

ii) Immediately reporting any accidents and/or unsafe conditions to the Site Health & Safety Officer and taking all reasonable precautions to prevent injury.

3.0 QUALITY ASSURANCE OBJECTIVES FOR MEASUREMENT DATA

The RFI Work Plan and associated QAPP are designed to produce data of the quality necessary to achieve the project objectives and meet or exceed the minimum standard requirements for field and analytical methods. The overall QA objective for measurement data is to develop and implement procedures for field sampling, chain-of-custody, lab analyses, and reporting that will provide results which are adequate for supporting the RFI objectives and legally defensible in a court of law. The QAPP program will include:

i) A mechanism for ongoing control of measurements and evaluation of data quality.

ii) A measure of data quality in terms of precision, accuracy, representativeness, completeness, and comparability.

The following section is a general discussion of the criteria used to measure the field and laboratory analytical data quality. The laboratory SOPs and laboratory reference data provided in Attachments 1 and 2, respectively, present the performance criteria for laboratory QC objectives.

3.1 PRECISION

3.1.1 DEFINITION

Precision is defined as a quantitative measure of the degree to which two or more measurements are in agreement. Precision will be stated in terms of relative percent difference (RPD). The overall precision of measurement data is a mixture of sampling and analytical factors. Precision will be determined by collecting and analyzing field duplicate samples and by creating and analyzing laboratory duplicates from one or more of the field samples. The analytical results from the field duplicate samples will provide data on sampling precision. The results from the laboratory created duplicate samples will provide data on analytical precision.

3.1.2 FIELD PRECISION SAMPLE OBJECTIVES

Field precision will be assessed through collection and measurement of field duplicates at a rate of 1 duplicate per 20 investigative samples.

3.1.3 LABORATORY PRECISION SAMPLE OBJECTIVES

Laboratory duplicate analyses will be performed through the use of matrix spike/matrix spike duplicates (MS/MSD) for organic parameters and matrix duplicate (MD) analyses for certain inorganic parameters. The analytical data will be presented in summary table format. The precision criteria for laboratory MS/MSD/MD analyses are provided in the laboratory reference data provided in Attachment 2.

3.2 ACCURACY

3.2.1 DEFINITION

Accuracy relates to the bias in a measurement system. Bias is the difference between the observed and the "true" value. Sources of error are the sampling process, field contamination, preservation techniques, sample handling, sample matrix, sample preparation and analytical procedure limitations.

3.2.2 FIELD ACCURACY OBJECTIVES

Sampling bias will be assessed by evaluating the results of field equipment rinsate and trip blanks. Field equipment rinsate and trip blanks will be collected as appropriate for each sampling effort.

Field equipment rinsate blanks will be collected by passing laboratory purified water over and/or through the respective field equipment utilized during each sampling effort. One rinsate blank will be collected every 20 investigative samples. However, at a minimum one equipment rinsate blank sample will be collected per day for each type of field equipment used for the sampling effort. Field rinsate blanks will be analyzed for each target parameter for the respective sampling effort for which environmental media have been collected.

(Note: If dedicated or disposable sampling equipment is used, equipment rinsate samples may not be collected as part of that field effort.)

Trip blank samples will be prepared by the laboratory and provided with each cooler that includes VOC analysis containers. Trip blank samples will be analyzed for each VOC for which environmental media have been collected for analysis.

3.2.3 LABORATORY ACCURACY SAMPLE OBJECTIVES

Analytical bias will be assessed through the use of known laboratory control samples and site specific matrix spike sample analyses. Laboratory control samples (LCS) and MS/MSD sample analysis will be performed as prescribed by the analytical method SOPs. LCS analyses will be performed with each analytical batch of project samples to determine the accuracy of the analytical system.

One (1) set of MS/MSD analyses will be performed with each batch of 20 project samples to assess the accuracy of identification and quantification of analytes within the Site-specific sample matrices. Additional sample volume will be collected at sample locations selected for MS/MSD analyses so that MDLs and EQLs can be met.

The results of the LCS and MS/MSD analyses will be presented in a summary table reporting format and evaluated versus the acceptance criteria presented in the laboratory analytical reports. Current acceptance criteria are presented in the laboratory reference data provided in Attachment 2.

The accuracy of organic parameter analyses is also monitored through the analysis of system monitoring or surrogate compounds. Surrogate compounds are added to each sample, standard, blank, and QC samples prior to the sample preparation and analysis. Surrogate compound percent recoveries provide information on the effect of the sample matrix on the accuracy of the analyses and are evaluated against the acceptance criteria presented in laboratory analytical reports. Current acceptance criteria are presented in the laboratory reference data provided in Attachment 2.

3.3 REPRESENTATIVENESS

3.3.1 DEFINITION

Representativeness expresses the degree to which sample data accurately and precisely represents a characteristic of a population, a parameter variation at a sampling point, or an environmental condition. Representativeness is a qualitative parameter that is dependent upon the design of the sampling program. The representativeness criterion is satisfied by proper selection of sampling locations and quantity of samples collected.

3.3.2 MEASURES TO ENSURE REPRESENTATIVENESS OF FIELD DATA

Representativeness will be addressed by describing sampling techniques and the rationale used to select sampling locations. Sampling locations may be biased (based on existing data, instrument surveys, observations, etc.) or unbiased (completely random or stratified-random approaches).

For this project, sampling will be biased; that is, sampling associated with the soil and groundwater will be based on the observed presence/absence of site specific contaminants, and/or site knowledge. Specific sampling technique descriptions, which allow consistency, repetitiveness and thus representativeness, are provided as SOPs in the FSP.

3.3.3 MEASURES TO ENSURE REPRESENTATIVENESS OF LABORATORY DATA

Representativeness in the laboratory is ensured by using proper analytical procedures, and analyzing field duplicate samples. By definition, field duplicate samples are collected to be representative of a given point in space and time. Thus, sample duplicates provide both precision and representativeness information.

3.4 COMPLETENESS

3.4.1 DEFINITION

Completeness is a measure of the amount of valid (usable) data obtained from a measuring system compared to the amount that was expected to be obtained under normal conditions. The completeness goal for all data uses is that a sufficient amount of valid data be generated so that determinations can be made related to the intended data use with a high degree of confidence.

3.4.2 FIELD COMPLETENESS OBJECTIVES

Completeness is a measure of the amount of valid measurements obtained from all measurements taken in this project. Field completeness objective for this project will be 90 percent.

3.4.3 LABORATORY COMPLETENESS OBJECTIVES

Laboratory data completeness objective is a measure of the amount of valid data obtained from all laboratory measurements. The evaluation of the data completeness will be performed at the conclusion of each sampling and analysis effort. Corrective actions such as revised sample handling procedures will be implemented if problems are noted.

The completeness of the data generated will be determined by comparing the amount of valid data, based on independent validation, with the total data set. The completeness objective will be 90 percent.

3.5 COMPARABILITY

3.5.1 DEFINITION

Comparability is a qualitative parameter expressing the confidence with which one data set can be compared with another.

3.5.2 MEASURES TO ENSURE COMPARABILITY OF FIELD DATA

Sample data should be comparable with other measurement data for similar samples and sample conditions. This goal is achieved through using standard operating procedures to collect, preserve, store, and analyze representative samples and the reporting of analytical results. The field SOPs for the various activities to be conducted during this investigation provide guidelines to generate reproducible results.

3.5.3 MEASURES TO ENSURE COMPARABILITY OF LABORATORY DATA

Comparability of laboratory data will also be measured with the results from the analysis of Standard Reference Materials (SRM) obtained from either EPA Cooperative Research and Development Agreement (CRADA) suppliers or the National Institute of Standards and Technology (NIST) for instrument initial and continuing calibration verification. The reported analytical data will be presented in standard units of mass of contaminant within a known volume or mass of environmental media.

i) Solid Matrices - micrograms (µg) contaminant per kilogram (kg) for organic analyses, and milligrams (mg) contaminant per kilogram (kg) for inorganic analyses of media (Dry Weight).
ii) Aqueous Matrices – micrograms (µg) contaminant per liter (L) of media for organic analyses, and milligrams (mg) per liter (L) for inorganic analyses .
iii) Non-Aqueous Phase Liquids – (NAPL) – microlligrams (ug) contaminant per kilogram (kg) of media.
iv) Gaseous Matrices – micrograms (µg) contaminant per cubic meter (M^3) of media

Additional guidance on analytical data reporting is contained in the laboratory SOPs.

3.6 DECISION RULES

3.6.1 DEFINITION

The decision rule is a statement that prescribes a course of action or non-action to be taken, based on assumptions to test its logical and empirical consequences.

3.6.2 DECISION RULE OBJECTIVE

The rationale for sample locations, sample number, and analytical parameters is provided in the main text of the RFI Work Plan. The decision rule for the sampling and analysis data collected is also provided in the RFI Work Plan, and supplemented as follows:

1. Define statistical parameters characterizing the population (e.g., mean, maximum, and percentile) and incorporate the scale of decision making (e.g. AOI size). Samples will be collected discreetly and biased towards locations with the highest likelihood to encounter maximum contaminant levels to provide an indication of impacted zones.

2. Identify action levels (e.g., Soil Screening Levels; Risk-based Screening Levels; Preliminary Remediation Goals (PRGs)); or a reference-based standard based on a Site Conceptual Model that will be developed as part of the RFI process.

3. The maximum contaminant concentration or the 95th percent Upper Confidence Limit of the valid data set for each parameter detected within an AOI will be used to conduct a preliminary baseline human health and ecological risk assessment for the determination of appropriate corrective actions.

3.7 LEVEL OF QUALITY CONTROL EFFORT

Equipment rinsate, trip, and method blanks samples, field duplicate samples, laboratory control and MS/MSD samples will be prepared and analyzed to determine the data quality provided by the sampling and analysis activities conducted during the execution of the RFI program.

Equipment rinsate blanks will be prepared by field personnel and submitted for analysis of target parameters. Equipment rinsate blanks will provide the means to assess the quality of data resulting from the field program. Equipment rinsate blank samples will be analyzed to check for contamination of equipment introduced during sampling at the Site. One equipment rinsate blank will be collected for every 20 investigative samples. However, a

minimum of one will be collected each day of sampling activities for each type of non-dedicated or non-disposable equipment.

Trip blanks are used to assess the potential for contamination during sample storage and shipment. The trip blank consists of laboratory purified water that has been purged with an inert gas by the laboratory and provided with the sample containers to be used for the sampling of VOCs. Trip blanks will be preserved and handled in the same manner as the investigation samples. One trip blank will be included along with each shipment cooler containing project samples to be analyzed for VOCs.

Method blank samples will be prepared by the laboratory and analyzed concurrently with all project samples to assess potential contamination introduced during the analytical process.

Field duplicate samples are analyzed to check for sampling and analytical reproducibility. One field duplicate will be collected for every 20 or fewer investigative samples collected per day of sampling activities.

Matrix spikes will provide information to assess the precision and accuracy of the analysis of the target parameters within the environmental media collected at the Site. Matrix spikes will be performed in duplicate for all TCL/TAL parameters. One MS/MSD will be collected for every 20 or fewer investigative samples per sample matrix (i.e. soil, groundwater). Soil MS/MSD samples require a triple sample volume for VOCs only. Aqueous MS/MSD samples require triple the normal sample volume for VOCs analysis and double the volume for the remaining parameters. Select inorganic natural attenuation parameters will be processed by the laboratory as MS/DUP at a frequency of one per 20 or fewer investigative samples.

4.0 SAMPLING PROCEDURES

Samples of groundwater, surface water, soil, and sediment will be obtained during the RFI program. The sampling procedures for the RFI will be consistent for the objectives of the project. The FSP describes each of the sampling tasks and objectives.

Refer to the FSP for the field investigation SOPs.

4.1 SAMPLE CONTAINERS

Sample containers for each sampling task will be provided by the project laboratory. The containers will be cleaned by the manufacturer to meet or exceed the analyte specifications established in the U.S. EPA, "Specifications and Guidance for Obtaining Contaminant-Free Sample Containers", April 1992, OSWER Directive #9240.0-0.5A. Certificates of analysis for each lot of sample containers used during the RFI will be maintained by the laboratory and will be available upon request.

The appropriate sample containers, preservation method, maximum holding times, and shipping information for each target parameter and sampling task are provided in Table 4.1.

4.2 SAMPLE LABELING

Each sample will be labeled with a unique sample number that will facilitate tracking and cross-referencing of sample information. Field blank and field duplicate samples also will be numbered with a unique sample number to prevent analytical bias of field QC samples.

Refer to the FSP for the sample labeling procedures.

4.3 FIELD QC SAMPLE COLLECTION

4.3.1 EQUIPMENT RINSATE BLANK SAMPLE COLLECTION

Equipment rinsate blank samples will be collected when non-dedicated or non-disposable sampling equipment is used to collect samples. Equipment rinsate blanks consist of

purified water that has been routed through decontaminated sampling equipment and collected into the appropriate containers. The containers will be filled in order of decreasing analyte volatility (i.e., VOCs first, SVOCs second, which are followed by the containers for the remaining analyses).

4.3.2 FIELD DUPLICATE SAMPLE COLLECTION

4.3.2.1 WATER SAMPLES

Field duplicate samples will be collected concurrently with the investigative sample alternating the filling of each sample container using the procedures identified in the FSP.

4.3.2.2 SOIL AND SEDIMENT SAMPLES

Soil and sediment field duplicates will be collected as specified in the following:

1. The split-spoon sampler or trowel is retrieved from the sampling point.

2. Soil for VOC analysis is removed from the sampling device utilizing a specialized zero headspace sampling tool (EnCore Sampler™) as specified in the FSP. Sediment samples will typically require collection in a four-ounce jar due to moisture content.

3. Soil for non-VOC analysis is removed from the sampling device and placed in a stainless steel mixing bowl. The soil is thoroughly homogenized using stainless steel utensils and the sample containers are filled in order of decreasing analyte volatility as described in Section 4.3.1.

4.3.3 MS/MSD SAMPLE COLLECTION

MS/MSD sample collection for aqueous samples requires triple the sample volume for VOC analysis and double the volume for all remaining parameters. The sampling procedure specified in Section 4.3.2.1 is used to collect aqueous samples. Soil MS/MSD samples require triple volume for VOC analyses. No additional volume is required for remaining soil parameters. Section 4.3.2.2 describes the sampling procedures for soil sample collection.

5.0 CUSTODY PROCEDURES

Custody is one of several factors necessary for the admissibility of environmental data as evidence in a court of law. Custody procedures help to satisfy the two major requirements for admissibility: relevance and authenticity. Sample custody is addressed in three parts: field sample collection, laboratory analysis, and final evidence files. Final evidence files, including all originals of laboratory reports, are maintained under document control in a secure area.

Custody of a sample begins when it is collected by or transferred to an individual and ends when that individual relinquishes or disposes of the sample. A sample or evidence file is under your custody if:

1. the item is in actual possession of a person;

2. the item is in the view of the person after being in actual possession of the person;

3. the item was in actual possession but is stored to prevent tampering; or

4. the item is in a designated and identified secure area.

5.1 FIELD CUSTODY PROCEDURES

Field personnel will be required to keep written records of field activities on applicable preprinted field forms or in a bound field notebook. The logbooks provide the means of recording data collecting activities. These records will be written legibly in ink and will contain pertinent field data and observations. Entry errors or changes will be crossed out with a single line, dated and initialed by the person making the correction. Field forms and notebooks will be periodically reviewed by the Field QA Officer. Each member of the field team will be assigned a logbook. Each logbook title page should include field team member's name, project name, project start date, project end date, and unique logbook number.

The beginning of each entry in the logbook will contain the following information:

i) Date,
ii) Start ,time
iii) Weather,
iv) Names of field personnel (including subcontractors),
v) Level of personal protection used at the Site, and
vi) Names of all visitors and the purpose of their visit.

For each measurement and sample collected the following will be recorded:

i) Detailed description of sample point,
ii) Equipment used to collect sample or make measurement and the date equipment was last calibrated,
iii) Time sample was collected,
iv) Sample description,
v) Depth sample was collected,
vi) Volume and number of containers, and
vii) Sampler identification.

5.1.1 FIELD PROCEDURES

The data quality can be affected by sample collection activities. If the integrity of collected samples is questionable, the data, regardless of its analytical quality, will also be questionable.

The following procedure describes the process to maintain the integrity of the samples:

i) Upon collection samples are placed in the proper containers. In general, samples collected for organic analysis will be placed in pre-cleaned glass containers, and samples collected for inorganic analysis will be placed in pre-cleaned plastic (polyethylene) bottles. The sample container, preservation methods, shipping, and packaging requirements are presented in Table 4.1.

ii) Samples will be assigned a unique sample number and will be affixed to a sample label. The information to be placed on the sample label will include the sample ID

number, the sample type, the sampler's name, date collected, preservation technique, and analytical parameter and method to be performed. Information on the labels will be completed with a ballpoint pen or indelible marker.

iii) Samples will be properly and appropriately preserved by field personnel in order to minimize loss of the constituent(s) of interest due to physical, chemical or biological mechanisms. Sample aliquots that require preservation (pH adjustment) will be checked with pH paper at the time of preservation. Confirmation of preservation will include capping of the preserved sample, inverting the sample three times, uncapping and confirming the sample pH. If required, additional preservative will be added and the procedure repeated until proper preservation is achieved. Samples for VOC analysis will be collected in pre-preserved containers and will not undergo this procedure.

iv) Appropriate volumes will be collected to ensure that the EQLs can be successfully achieved and that the required QC Sample Analyses can be completed.

5.1.2 TRANSFER OF CUSTODY AND SHIPMENT PROCEDURES

i) A chain-of-custody (COC) record will be completed during sample collection and will accompany each shipment identifying the contents of the shipment. The COC record will accompany the samples to the laboratory. The field personnel collecting the samples will be responsible for the custody of the samples until the samples are relinquished to the laboratory. Sample transfer will require the individuals relinquishing and receiving the samples to sign, date and note the time of sample transfer on the COC record. As few people as possible should handle the samples.

ii) Samples will be shipped or delivered in a timely fashion to the laboratory so that holding-times and/or analysis times as prescribed by the methodology can be met.

iii) Samples will also be transported in containers (coolers) packed with ice to maintain the temperatures prescribed in Table 4.1. Samples will be packaged for shipment and shipped to the appropriate laboratory for analysis with a separate signed chain-of-custody record enclosed in each sample cooler. Water VOC samples will be placed in bubble wrap bags that contain three containers per bag while soil VOC samples will be placed in sealed sample pouches. The remaining samples in glass

containers will be wrapped in bubble wrap and placed in the sample cooler. Samples in polyethylene containers will be placed upright directly in the sample cooler. All samples will be placed in an upright position and limited to one layer of samples per each cooler. Additional bubble wrap or packaging material will be added to fill the cooler. Shipping containers will be secured with strapping tape and custody tape for shipment to the laboratory.

iv) When samples are split with the U.S. EPA and Site representatives, a separate chain-of-custody will be prepared for the samples and marked to indicate to whom the samples are being split. The person relinquishing the samples to the U.S. EPA or the Site will require the representatives signature acknowledging sample receipt.

v) If samples are sent by a commercial carrier, a bill of lading will be used. A copy of the bill of lading will be retained as part of permanent documentation. Commercial carriers are not required to sign the custody record as long as the custody record is sealed inside the sample cooler and the custody tape remains intact.

vi) Samples will be picked up by a laboratory courier or transported overnight by a courier to the laboratory the same day they are collected unless collected on a weekend or holiday. In these cases, the samples will be stored in a secure location until delivery to the lab. Additional ice will be added to the cooler as needed to maintain proper preservation temperatures.

5.2 LABORATORY CHAIN-OF-CUSTODY PROCEDURES

A full-time sample custodian will be assigned the responsibility of sample control. It will be the responsibility of the sample custodian to receive all incoming samples. Once received, the custodian will document that the custody tape on the coolers is unbroken, that each sample is received in good condition (i.e., unbroken, cooled, etc.), that the associated paperwork, such as chain-of-custody forms have been completed and will sign the chain-of-custody forms. In special cases, the custodian will document from appropriate sub-samples that chain-of-custody with proper preservation has been accomplished. The custodian will also document that sufficient sample volume has been received to complete the analytical program. The sample custodian will then place the samples into secure, limited access storage (refrigerated storage, if required). The sample custodian will assign a unique

number to each incoming sample for use in the laboratory. The unique number will then be entered into the sample-receiving log. The laboratory date of receipt will also be noted.

Consistent with the analyses requested on the chain-of-custody form, analyses by the laboratory's analysts will begin in accordance with the appropriate methodologies. Samples will be removed from secure storage only after internal chain-of-custody sign-out procedures have been followed.

5.3 STORAGE OF SAMPLES

Sample containers with volume remaining will be returned to secure and limited access storage. Upon completion of all laboratory analyses for each sample submittal and generation of the laboratory report, samples will be stored by the sample custodian. The length of time that samples are held will be at least thirty (30) days after reports have been submitted. Disposal of remaining samples will be completed in compliance with all Federal, State, and local requirements.

Laboratory custody procedures and document control for those samples analyzed by the project laboratory will be carried out using the laboratory's standard operating procedures.

5.4 FINAL EVIDENCE FILES CUSTODY PROCEDURES

The final evidence file will be the central repository for all documents with information relevant to sampling and analysis activities as described in this QAPP. The Project Manager will be the custodian of the evidence file. The evidence files for the RFI, including all relevant records, reports, logs, field notebooks, pictures, subcontractor reports, and data reviews will be maintained in a secured, limited access area and under custody of the CRA Project Director or his designee.

The final evidence file will include:

i) Project plans and drawings;
ii) Field data records;
iii) Sample identification documents and soil boring/monitoring well logs;
iv) All chain-of-custody documentation;

v) Correspondence;
vi) References, literature;
vii) Laboratory data deliverables;
viii) Data validation and assessment reports;
ix) Progress reports, QA reports; and
x) Final report.

The laboratory will be responsible for maintaining analytical logbooks, laboratory data and sample chain of custody documents. Raw laboratory data files and copies of hard copy reports will be inventoried and maintained by the laboratory for a period of six (6) years at which time the laboratory will contact CRA regarding the disposition of the project related files. GM and U.S. EPA will be given the opportunity to take possession of the files prior to destroying the files.

6.0 CALIBRATION PROCEDURES AND FREQUENCY

This section describes procedures for maintaining the accuracy for all the instruments and measurement equipment, which will be used for conducting field tests and laboratory analyses. These instruments and equipment will be calibrated prior to each use or according to a periodic schedule.

6.1 FIELD INSTRUMENT CALIBRATION PROCEDURES

Instruments and equipment used to gather, generate, or measure environmental data will be calibrated as specified in the field SOPs.

The field instruments are likely to include dissolved oxygen meters, pH meters, turbidity meters, specific conductance meters and PIDs. Field instruments will be used for real-time sample measurement during monitoring well sampling and organics screening for both on-site screening of soil samples and for health and safety air monitoring, as described in the HASP. On-site air monitoring for health and safety purposes and the screening of soil samples may be accomplished using PIDs.

Field instruments will be calibrated prior to use and the calibration will be verified after a maximum of 10 measurements. Specific information concerning calibration frequency, acceptance criteria, and the conditions that require more frequent calibration is contained in the FSP.

Satisfactory completion of the pre-operation inspection will be noted on the Field Sampling Record, along with the results of each field measurement.

6.2 LABORATORY INSTRUMENT CALIBRATION PROCEDURES

Calibration procedures for a specific laboratory instrument will consist of initial calibration, initial calibration verification and continuing calibration verification. The SOPs in Attachment 1 present the specific calibration procedures for each method of analysis. The SOP for each analysis performed in the laboratory describes the calibration procedures, their frequency, acceptance criteria and the conditions that will require calibration. In all cases,

the initial calibration will be verified using an independently prepared calibration verification solution.

The use of materials of known purity and quality will be utilized for the analysis of environmental samples. The laboratory will carefully monitor the use of all laboratory materials including solutions, standards and reagents through well-documented procedures.

All solid chemicals and acids/bases used by the laboratory will be reagent grade or better. All gases will be high purity or better. All Standard Reference Materials (SRMs) or Performance Evaluation (PE) Materials will be obtained from approved vendors of the National Institute of Standards and Technology (formerly National Bureau of Standards), the U.S. EPA Environmental Monitoring Support Laboratories (EMSL), or reliable Cooperative Research and Development Agreement (CRADA) certified commercial sources.

All materials including standards or standard solutions will be dated upon receipt, and will be identified by material name, lot number, purity or concentration, supplier, receipt/preparation date, recipient/preparer's name, expiration date and all other pertinent information.

7.0 ANALYTICAL PROCEDURES

Analytical procedures to be utilized by STL North Canton, 4101 Shuffel Drive NW, North Canton, Ohio 44720 for analysis of environmental samples will be based on referenced U.S. EPA analytical protocols and the laboratory SOPs that implement these methods. These project specific SOPs are provided in Attachment 1 to this QAPP.

7.1 FIELD ANALYTICAL PROCEDURES

Field analytical procedures include the measurement of pH/temperature, specific conductivity, dissolved oxygen, turbidity and ORP during sampling of groundwater, and the qualitative measurement of VOC during the collection of soil samples at the Site. Specific guidance in the measurement of these parameters is presented in the SOPs provided in the FSP.

7.2 LABORATORY ANALYTICAL PROCEDURES

Laboratory preparation and analytical SOPs and the methods upon which they are based are presented in Table 7.1. The referenced SOPs provided in Attachment 1 of this document are based on the U.S. EPA methodology requirements promulgated in:

i) "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846 EPA, U.S. EPA Office of Solid Waste, 3rd Edition and promulgated updates, 1986;
ii) "Standard Methods for the Examination of Water and Wastewater", APHA, AWWA & WEF, 19th Edition, 1995; and
iii) U.S. EPA Robert S. Kerr Environmental Research Laboratory, Ada OK, Standard Operating Procedure.

The EQLs for the target analytes and compounds for the environmental media to be analyzed as part of the investigation are presented in Table 1.2.

7.2.1 LIST OF PROJECT TARGET COMPOUNDS AND LABORATORY DETECTION LIMITS

A complete listing of project target compounds and project EQLs for each analyte group is listed in Table 1.2. MDLs have been experimentally determined by the project laboratory using the procedure identified in 40 CFR, Part 136 Appendix B. The laboratory's MDLs are provided in Attachment 2.

7.2.2 LIST OF METHOD SPECIFIC QUALITY CONTROL (QC) CRITERIA

The laboratory SOPs include a section that presents the minimum QC requirements for the project analyses. Section 8.0 references the frequency of the associated QC samples for each sampling effort and matrix.

8.0 INTERNAL QUALITY CONTROL CHECKS

This section presents the internal quality control checks that will be employed for field and laboratory measurements.

8.1 FIELD QUALITY CONTROL

8.1.1 EQUIPMENT RINSATE BLANKS

Internal quality control checks will include analysis of equipment rinsate blanks to validate successful equipment cleaning activities. Whenever possible, dedicated equipment will be employed to reduce the possibility of cross-contamination of samples.

The frequency of equipment rinsate blank sample preparation will be one for every 20 investigative samples. However, at a minimum, one will be collected each day for each type of sampling equipment on which decontamination procedures have been performed.

8.1.2 TRIP BLANKS

Trip blanks samples will be prepared by the project laboratory using laboratory purified water placed within pre-cleaned 40 milliliter (ml) VOC vials equipped with teflon septa. Trip blanks will accompany each sample delivery group (SDG) of environmental samples collected for analysis of VOCs.

Trip blank samples will be placed in each cooler which stores and transports project samples to be analyzed for VOCs along with the project samples.

8.2 LABORATORY PROCEDURES

Procedures which contribute to maintenance of overall laboratory quality assurance and control include appropriately cleaned sample containers, proper sample identification and logging, applicable sample preservation, storage and analysis within prescribed holding times, and use of controlled materials.

Consistent with general guidance, quality control charts for internal standards and method surrogates will be maintained for each method to be performed as part of the analysis of each project sample.

8.2.1 FIELD DUPLICATE SAMPLES

The precision or reproducibility of the data generated will be monitored through the use of field duplicate samples. Field duplicate analysis will be performed at a frequency of 5 percent of each project sample matrix and each analytical method analyzed by the project laboratory.

Precision will be measured in terms of the absolute value of the relative percent difference (RPD) as expressed by the following equation:

$$RPD = \frac{\left| \frac{R1 - R2}{(R1 + R2)} \right|}{2} X100\%$$

where: R1 = value of first result
R2 = value of second result

Acceptance criteria for duplicate analyses performed on solid matrices will be 50 % and 30% for aqueous matrices. RPD values outside these limits will require an evaluation of the sampling and/or analysis procedures by the CRA QA Officer. Corrective actions may include re-analysis of additional sample aliquots and/or qualification of the data for use in the RFI findings.

8.2.2 MATRIX SPIKE SAMPLES

Ten (10) percent of each project sample matrix for each analytical method performed will be spiked with known concentrations of the specific target compounds/analytes.

The amount of the compound recovered from the sample compared to the amount added will be expressed as a percent recovery. The percent recovery of an analyte is an indication of the accuracy of an analysis within the site specific sample matrix. Percent recovery will be calculated for MS/MSD using the following equation:

$$\%\ Recovery = \frac{Spiked\ Sample - Background}{Known\ Value\ of\ Spike} x\ 100\%$$

Current laboratory quality control limits for matrix spike (MS) recoveries are provided in Attachment 2.

If the quality control value falls outside the control limits (UCL or LCL) due to sample matrix effects, the results will be reported with appropriate data qualifiers. To determine the effect non-compliant MS recoveries have on the reported results, the recovery data will be evaluated as part of the validation process.

8.2.3 LABORATORY CONTROL SAMPLE (LCS) ANALYSES

The laboratory will perform LCS analyses prepared from Standard Reference Materials (SRMs). The SRMs will be supplied from an independent manufacturer and traceable to NIST materials with known concentrations of each target analyte to be determined by the analytical methods performed. In cases where an independently supplied SRM is not available, the LCS may be prepared by the laboratory from a reagent lot other than used for instrument calibration.

The laboratory will evaluate LCS analyses in terms of percent recovery using the most recent laboratory generated control limits.

LCS recoveries that do not meet acceptance criteria will be deemed invalid. Analysis of project samples will cease until an acceptable LCS analysis has been performed. If sample analysis is performed in association with an out-of-control LCS sample analysis, the data will be deemed invalid.

Corrective actions will be initiated by the CRA QA Officer and/or laboratory QA officer to investigate the problem. After the problem has been identified and corrected, the solution will be noted in the instrument run logbook and re-analysis of project samples will be performed, if possible.

The analytical anomaly will be noted in the sample delivery group (SDG) Case Narrative and reviewed by the independent data validator. The data validator will confirm that appropriate corrective actions were implemented and recommend the applicable use of the affected data.

8.2.4 SURROGATE COMPOUND/INTERNAL STANDARD RECOVERIES

For VOCs, surrogates will be added to each sample prior to analysis to establish purge and trap efficiency. Quantitation will be accomplished via internal standardization techniques.

The recovery of surrogate compounds, and internal standards will be monitored by laboratory personnel to assess possible site-specific matrix effects on instrument performance.

For semi-volatile organics and PCB analyses, surrogates will be added to the raw sample to assess extraction efficiency. Internal standards will be added to all sample extracts and instrument calibration standard immediately before analysis for quantitation via internal standardization techniques.

Method specific quality control (QC) limits are provided in the attached laboratory method SOPs. If surrogate compound/internal standard recoveries do not fall within accepted QC limits for the analytical methodology performed, the analytical results will be flagged with data qualifiers as appropriate by the laboratory and noted in the laboratory report Case Narrative.

To ascertain the effect non-compliant surrogate compound/internal standard recoveries may have on the reported results, the recovery data will be evaluated as part of the validation process. The data validator will provide recommendations for corrective actions including but not limited to additional data qualification.

8.2.5 CALIBRATION VERIFICATION STANDARDS

As presented in Section 6.0 of this plan, calibration verification (CV) standards will be utilized to confirm instrument calibrations and performance throughout the analytical process. CV standards will be prepared as prescribed by the respective analytical protocols. Continuing calibration will be verified by compliance with method-specific criteria prior to additional analysis of project samples. Non-compliant analysis of CV standards will require immediate corrective action by the project laboratory QA director and/or designated personnel. Corrective action may include re-analysis of each affected project sample, a detailed description of the problem, the corrective action undertaken, the person who performed the action, and the resolution of the problem.

8.2.6 LABORATORY METHOD BLANK ANALYSES

Method blank sample analysis will be performed as part of each analytical batch for each methodology performed. If target compounds are detected in the method blank samples, the reported results will be flagged by the laboratory in accordance with standard operating procedures. The data validator will provide recommendations for corrective actions including but not limited to additional data qualification.

9.0 DATA REDUCTION, VALIDATION AND REPORTING

All data generated through in field activities or by the laboratory operation shall be reduced and validated prior to reporting in accordance with the following procedures:

9.1 DATA REDUCTION

9.1.1 FIELD DATA REDUCTION PROCEDURES

Field data reduction procedures will be minimal in scope compared to those implemented in the laboratory setting. Only direct read instrumentation will be employed in the field. The pH, conductivity, temperature, turbidity and HNU readings collected in the field will be generated from direct read instruments following calibration per manufacturer's recommendations. Such data will be written into field logbooks immediately after measurements are taken. If errors are made, results will be legibly crossed out, initialed and dated by the field member, and corrected in a space adjacent to the original entry. Later, when the results forms required for this study are being filled out, the Project Coordinator will proof the forms to determine whether any transcription errors have been made by the field crew.

9.1.2 LABORATORY DATA REDUCTION PROCEDURES

For this project, the equations that will be employed in reducing data are found in the appropriate chapter of SW-846, Third Edition. Two of these equations, expressing analytical accuracy and precision, are presented in Section 3 of this QAPP. Such formulae make pertinent allowances for matrix type. All calculations are checked at the conclusion of each operating day. Errors are noted; corrections are made, but the original notations are crossed out legibly. Analytical results for soil samples shall be calculated and reported on a dry weight basis.

Quality control data (e.g., laboratory duplicates, surrogates, matrix spikes, and matrix spike duplicates) will be compared to the method acceptance criteria. Data considered to be acceptable will be entered into the laboratory computer system. Data summaries will be sent to the Laboratory QA Officer for review. If approved, data are logged into the project database format. Unacceptable data shall be appropriately qualified in the project report.

Case narratives will be prepared which will include information concerning data that fell outside acceptance limits and any other anomalous conditions encountered during sample analysis.

9.2 DATA VALIDATION

Data validation procedures shall be performed for both field and laboratory operations as described below:

9.2.1 PROCEDURES USED TO EVALUATE FIELD DATA

Procedures to evaluate field data for this project will include review of field logbooks and checking for transcription errors to project specific documents. This task will be the responsibility of the Field QA Officer.

9.2.2 PROCEDURES TO VALIDATE LABORATORY DATA

Validation of the analytical data will be performed by the CRA QA Officer or designee using the following documents as guidance for the review process:

"U.S. EPA Contract Laboratory Program National Functional Guidelines for Organic Data Review", EPA-540/R-99/008, October 1999 and the "U.S. EPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review ", EPA-540/R-94-013, February 1994.

The specific data qualifiers used will be as presented and defined in the CLP National Functional Guidelines. Validation will be performed, by qualified chemists at the direction of the CRA QA Officer. Data review and validation will consist of two tiers of assessment that incorporates an approach similar to "Innovative Approaches to Data Validation", U.S. EPA Region III, June 1995.

Tier I data validation will be performed on 100% of the laboratory quality control summary data deliverables and will consist of the following components:

Organic Analysis

i) technical holding times;
ii) GC/MS instrument performance check;
iii) initial and continuing calibration;
iv) internal standard performance
v) method, trip and field blanks;
vi) system monitoring compounds (surrogate spikes);
vii) MS/MSD results;
viii) laboratory control samples; and
ix) field duplicate samples.

Inorganic Analysis

i) technical holding times;
ii) initial calibration;
iii) initial and continuing calibration verification;
iv) blanks;
v) ICP interference check samples;
vi) ICP serial dilutions;
vii) laboratory control samples;
viii) MS/MSD and matrix duplicate results; and
ix) field duplicate.

Tier II validation will be completed on 10 percent of the expanded deliverables during the initial investigation activities. The Tier II validation will include the evaluation of all raw data and mass spectra to validate the above components as well as verify sample results.

The completeness of each data package will be evaluated by the Data Validator. Completeness checks will be administered on all data to determine whether deliverables specified in the QAPP are present. At a minimum, deliverables will include sample chain-of-custody forms, analytical results, QC summaries and supporting raw data from instrument printouts. The review will determine whether all required items are present and request copies of missing deliverables.

9.3 DATA REPORTING

Data reporting procedures shall be carried out for field and laboratory operations as indicated below:

9.3.1 FIELD DATA REPORTING

Field data reporting shall be conducted principally through the transmission of report sheets containing tabulated results of all measurements made in the field and documentation of all field calibration activities.

9.3.2 LABORATORY DATA REPORTING

The laboratory data reporting package will be sufficient to perform a data validation in accordance with protocols described in Section 9.2.2. The task of reporting laboratory data by REALM will be initiated after the completion of data validation.

The laboratory Project Manager will perform a final review of the QC data summary packages and case narratives to determine whether the report meets the project requirements. In addition to the record of the chain-of-custody, the final laboratory data report format shall consist of the following.

i) Title Page
- project name and number;
- laboratory project or lot number;
- signature of the Laboratory QA Officer or his designee; and
- date issued.

ii) Table of Contents - laboratory report contents

iii) Case Narrative
- number of samples and respective matrices;;
- laboratory analysis performed;
- any deviations from intended analytical strategy;
- definition of data qualifiers used;

- QC procedures utilized and references to the acceptance criteria;
- condition of samples "as received";
- discussion of whether or not sample holding times were met;
- discussion of technical problems or other observations which may have created analytical difficulties; and
- discussion of laboratory QC checks which failed to meet project criteria.

iv) Analytical Methods Summary - methods of sample preparation and analyses for samples.

v) Analytical Sample Summary - cross-reference table of laboratory sample to project sample identification numbers.

vi) Shipping and Receiving Documents
- sample container documentation; and
- sample reception information and original chain of custody record.

vii) Chemistry Data Package by Analysis
- QC Summary Data with Current Control Limits
  - matrix spike and matrix spike duplicate recoveries, laboratory control samples, method blank results, surrogate recoveries, GC/MS tuning results, and internal standards (organics),
  - matrix spike recoveries and matrix duplicate relative percent differences, laboratory control sample, serial dilutions, method blank results, and reagent blank results and interference check standards (inorganics);

- Sample Results
  - sample quantitation (report) limits (RL), reporting MDL and estimated values between the RL and MDL,
  - methods of sample preparation and analyses for samples,
  - raw data for sample results (dated chromatograms, parameter specific quantitation reports, mass spectra and instrument printouts;

- Standard Data
  - initial calibration data, initial calibration checks, continuing calibration verification/check standards,
  - initial and continuing calibration blanks,

- raw data for calibration data (dated chromatograms, parameter specific quantitation reports, mass spectra and instrument printouts;

- Raw QC Data - dated chromatograms, parameter specific quantitation reports, mass spectra and instrument printouts of QC samples;

- Miscellaneous Data
  - instrument run logs,
  - sample preparation records, and
  - instrument conditions.

Note: Only the TCL parameter list identified in Table 1.2 shall be included in the laboratory chromatographic quantitation reports.

10.0 PERFORMANCE AND SYSTEM AUDITS

A performance audit is an independently obtained quantitative comparison with data routinely obtained in the field or the laboratory. Performance audits include two separate, independent parts: internal and external audits.

10.1 FIELD PERFORMANCE AND SYSTEM AUDITS

10.1.1 INTERNAL FIELD AUDIT RESPONSIBILITIES

Internal audits of field activities include the review of sampling and field measurements conducted by the Field QA Officer. The audits will verify that all procedures are being followed. Internal field audits will be conducted once during each phase of the sampling and at the conclusion of the project. The audits will include examination of the following:

i) Field sampling records, screening results, instrument operating records;
ii) Sample collection;
iii) Handling and packaging in compliance with procedures;
iv) Maintenance of QA procedures; and
v) Chain-of-custody reports.

Follow up audits will be conducted to correct deficiencies and to verify that procedures are maintained throughout the investigation. The field audit checklist is included in Attachment 3.

10.1.2 EXTERNAL FIELD AUDIT RESPONSIBILITIES

External audits may be conducted by the U.S. EPA Project Coordinator at any time during the field operations. These audits may or may not be announced and are at the discretion of the U.S. EPA Region 5. The external field audits can include (but are not limited to) the following:

i) Sampling equipment decontamination procedures;
ii) Sample bottle preparation procedures;
iii) Sampling procedures;

iv) Examination of health and safety plans;
v) Procedures for verification of field duplicates; and
vi) Field screening practices.

10.2 LABORATORY PERFORMANCE AND SYSTEM AUDITS

10.2.1 INTERNAL LABORATORY AUDIT RESPONSIBILITIES

The laboratory system audits will be conducted by the Project QA Officer or designee and performed on an annual basis. Laboratory performance audits will be conducted prior to field activities or on an annual basis, depending on the duration of the project.

The system audit will include an examination of laboratory documentation including: sample receiving logs, sample storage, chain-of-custody procedures, sample preparation and analysis, and instrument operating records.

The performance audits will include submittal of blind performance evaluation samples along with project samples. The Project QA Officer will evaluate the analytical results to ensure the lab is maintaining acceptable QC performance. The laboratory audit checklist is provided in Attachment 4.

System audits, as opposed to performance audits, are strictly qualitative and consist of an on-site review of a laboratory's quality assurance system and physical facilities for calibration and measurement.

At the conclusion of internal or external system audits, reports are provided to the laboratory's operating divisions for appropriate comment and remedial/corrective action where necessary. Written response to internal as well as external audits will be required. Records of audits and corrective actions are maintained by the Laboratory QA Officer.

10.2.2 EXTERNAL LABORATORY AUDIT RESPONSIBILITIES

External audits will be conducted as required, by appropriate QA personnel of the U.S. EPA Region 5 and may be conducted at least once prior to sampling and analysis activities.

External audits may include any of the following:

i) Review of laboratory analytical procedures
ii) Laboratory on-site visits
iii) Submission of performance evaluation samples for analysis

Failure of any of the above audit procedures can lead to laboratory disqualification, and another suitable laboratory will have to be chosen. An on-site review can consist of:

i) Sample receipt procedures
ii) Custody, sample security, and log-in procedures
iii) Review of instrument calibration logs
iv) Review of QA procedures
v) Review of log books
vi) Review of analytical SOPs
vii) Personnel interviews

A review of a data package from samples recently analyzed by the laboratory can include (but not be limited to) the following:

i) Comparison of resulting data to the SOP or method
ii) Verification of initial and continuing calibrations within control limits
iii) Verification of surrogate recoveries and instrument timing results
iv) Review of extended quantitation reports for comparisons of library spectra to instrument spectra, where applicable
v) Assurance that samples are run within holding times.

11.0 PREVENTATIVE MAINTENANCE

11.1 FIELD INSTRUMENT PREVENTATIVE MAINTENANCE

The field equipment preventative maintenance program ensures the effective completion of the sampling effort and is designed to minimize equipment down time. Program implementation is concentrated in three areas:

- Maintenance responsibilities.
- Maintenance schedules.
- Inventory of critical spare parts and equipment.

The maintenance responsibilities for field equipment will be assigned to the task leaders in charge of specific field operations. Field personnel will be responsible for daily field checks and calibrations and for reporting any problems with the equipment. The maintenance schedule will follow the manufacturer's recommendations. In addition, the field personnel will be responsible for determining that critical spare parts are included with the field equipment. An adequate inventory of spare parts will be maintained. The inventory will primarily contain parts that are subject to frequent failure, have limited useful lifetimes and/or cannot be obtained in a timely manner.

11.2 LABORATORY INSTRUMENT PREVENTATIVE MAINTENANCE

Analytical instruments at the laboratory will undergo routine and/or preventative maintenance. The extent of the preventative maintenance will be a function of the complexity of the equipment.

Generally, annual preventative maintenance service will involve cleaning, adjusting, inspecting and testing procedures designed to deduce instrument failure and/or extend useful instrument life. Between visits, routine operator maintenance and cleaning will be performed according to manufacturer's specifications by laboratory personnel.

Maintenance records will be placed on file at the laboratory and can be made available upon request.

12.0 SPECIFIC ROUTINE PROCEDURES USED TO ASSESS DATA PRECISION, ACCURACY, AND COMPLETENESS

12.1 FIELD MEASUREMENTS

Field generated information such as pH and specific conductance data will be reviewed for validity. The review will be performed by the Field QA Officer and typically include bound logbooks/forms, data entry and calculation checks. Field data will be assessed by the Project Field QA Officer who will review the field results for compliance with the established QC criteria that are specified in Section 3.0 of this QAPP. The accuracy of pH and specific conductance will be assessed using daily instrument calibration, calibration check, and blank data. Accuracy will be measured by determining the percent recovery of calibration check standards as defined in Section 12.2.2. Precision of the pH and specific conductance measurements will be assessed on the basis of the reproducibility of duplicate readings of a single sample and will be measured by determining the relative percent difference of the readings as defined in Section 12.2.1. Accuracy and precision of the soil VOC screening will be determined using duplicate readings of calibration checks. Field data completeness will be calculated using the following equation:

$$Completeness = \frac{Valid\ (usable)\ Data\ Obtained}{Total\ Data\ Planned} \quad X\ 100$$

12.2 LABORATORY DATA

Surrogate, internal standard and matrix spike recoveries will be evaluated so trends in data quality can be monitored. The laboratory quality assurance/quality control program will include the following elements:

12.2.1 PRECISION

Precision, in terms of RPD, will be determined by relative sample analysis at a frequency of one duplicate analysis for each batch of twenty project samples or a frequency of five percent (5%). RPD is defined as the absolute difference of duplicate measurements divided by the mean of these analyses normalized to percentage. The RPD is calculated using the formula presented in Section 8.2.1 of this QAPP.

12.2.2 ACCURACY

Accuracy, in terms of percent recovery (recovery of known constituent additions or surrogate recoveries), will be determined by the analysis of spiked and unspiked samples. MS/MSD will be used to determine analytical accuracy. The frequency of MS/MSD analyses will be one project sample MS/MSD per set of twenty (20) project samples. The percent recovery will be calculated using the equation presented in Section 8.2.2.

i) One method blank will be prepared and analyzed with each batch of project samples. The total number of method blank sample analyses will be determined by the laboratory analytical batch size.

ii) Standard Reference Materials (SRMs) will be used for each analysis. Sources of SRM's include the U.S. EPA, commercially available material from CRADA certified vendors and/or laboratory produced solutions. SRMs, when available and appropriate, will be processed and analyzed on a frequency of one per set of samples.

12.2.3 COMPLETENESS

Completeness is the evaluation of the amount of valid data generated versus the total set of data produced from a particular sampling and analysis event. Valid data is determined by independent confirmation of compliance with method-specific and project-specific data quality objectives. The calculation of data set completeness will be performed by the equation presented in Section 12.1.

13.0 CORRECTIVE ACTION

13.1 FIELD CORRECTIVE ACTION

Corrective action is intended to address problems that arise by identification, recommendation, approval, and implementation of measures that counter unacceptable procedures or deficient quality control performance. The Field QA Officer and CRA QA Officer will be responsible for ensuring the quality of the sampling procedures and environmental data and as such, will be responsible for initiating corrective action when appropriate.

The corrective action procedures will be as follows:

i) Identify/define the problem.
ii) Assign responsibility for investigating the problem.
iii) Investigate/determine the cause of the problem.
iv) Determine an appropriate corrective action to eliminate the problem.
v) Implement the corrective action.
vi) Evaluate the effectiveness of the corrective action.
vii) Verify that the corrective action has eliminated the problem.
viii) Prepare a written record detailing the problem, corrective action utilized, and solution of the problem.
ix) Submit the Corrective Action Record (CAR) to the Task Coordinator who initiated the corrective action and the Project QA Officer, and Project Manager.

The above procedures may be implemented through the use of the Systems Audit as described previously. Any Field Team member of the project may initiate corrective action procedures by reporting in writing the nature of the suspected problem to the CRA Project Manager or CRA QA Officer. The CRA Project Manager will begin corrective action by relating the problem to appropriate personnel.

13.2 LABORATORY CORRECTIVE ACTION

The following paragraphs define the corrective action decision process relative to possible non-compliant events encountered during laboratory analysis of the project samples. Corrective actions will be initiated by the laboratory QA personnel and will be implemented

by laboratory staff chemists under the oversight of the laboratory QA personnel. As with field corrective actions, the laboratory QA personnel will document the problem, the corrective action undertaken and the resolution of the problem. The corrective actions will be performed prior to release of the data from the laboratory.

Documentation will be provided to the laboratory QA Officer, CRA QA Officer, CRA Project Manager and REALM Project Manager.

13.3 CORRECTIVE ACTION DURING DATA VALIDATION AND DATA ASSESSMENT

The CRA QA Officer may identify the need for corrective action during either the data validation or data assessment processes. Potential types of corrective action may include resampling by the field team or re-injection/reanalysis of samples by the laboratory (if possible).

These actions are dependent upon the ability to mobilize the field team, whether the data to be collected is necessary to meet the required quality assurance objectives (e.g., the holding time for samples is not exceeded). When the CRA QA Officer identifies a corrective action situation, REALM's Project Manager will be responsible for approving the implementation of corrective action, including resampling, during data assessment. All corrective actions will be documented by the CRA Project Manager.

14.0 QUALITY ASSURANCE (QA) REPORTS

Critically important to the successful implementation of the QA Plan is a reporting system that provides the means by which the program can be reviewed, problems identified and programmatic changes made to improve the plan.

QA reports to management include:

- Audit reports, internal and external audits with responses
- Performance evaluation sample results; internal and external sources
- Daily QA/QC exception reports/corrective actions

QA/QC corrective action reports will be prepared by the CRA QA Officer when appropriate and presented to the project and/or laboratory management personnel so that performance criteria can be monitored for all analyses from each analytical department. The updated trend/QA charts prepared by the laboratory QA personnel will be distributed and reviewed by various levels of the laboratory management.

15.0 REFERENCES

1. United States Environmental Protection Agency, (1999). EPA Requirements for Quality Assurance Project Plans for Environmental Data Operations. EPA QA/R-5 Interim Final, November 1999.

2. United States Environmental Protection Agency (1998). U.S. EPA RCRA QAPP Instructions. U.S. EPA Region 5, Revision, April 1998.

3. United States Environmental Protection Agency (1991). Preparation Aids for the Development of Category I Quality Assurance Project Plans. U.S. EPA/600/8-91/003, Risk Reduction Engineering Laboratory, Office of Research and Development, Cincinnati, Ohio, February 1991.

4. United States Environmental Protection Agency, (1993). Data Quality Objectives Process for Superfund Interim Final Guidance. U.S. EPA/540/R-93-071, Office of Solid Waste and Emergency Response (OSWER), September 1993.

5. United States Environmental Protection Agency, (1992). Specifications and Guidance for Contaminant-Free Sample Containers. OSWER Directive 9240.0-05A, April 1992.

6. United States Environmental Protection Agency. U.S. EPA Contract Laboratory Program National Functional Guidelines for Organic Data Review. U.S. EPA 540/R-99-012.

7. United States Environmental Protection Agency. U.S. EPA Contract Laboratory Program National Functional Guidelines for Organic Data Review. U.S. EPA 540/R-94-013.

8. United States Environmental Protection Agency. Test Methods for Evaluating Solid Waste, Office of Solid Waste, U.S. EPA, SW-846, November 1986, with updates.

TABLE 1.1

**SUMMARY OF SAMPLING AND ANALYSIS PROGRAM
FORMER DELPHI HARRISON THERMAL SYSTEMS
DAYTON, OHIO**

Number	Area of Interest (AOI) Description	Sample Matrix	Field Parameters	Laboratory Parameters	Investigative Samples	Quality Control Samples[1] Field Blanks[2]	Field Duplicates	MS/MSD[3]	Total
AOI 3	Waste Tank (E of Bldg. 4)	Soil	PID VOC Screen	TCL VOC, TCL SVOC, TCL PCB, TAL Metals[5], Total Cyanide	6-8	1/20	1/20	1/20	[4]
		Water	None	TCL VOC, TCL SVOC, TCL PCB, TAL Metals[5], Total Cyanide	up to 1	1/20	1/20	1/20	[4]
		Sediment	None	TCL VOC, TCL SVOC, TCL PCB, TAL Metals[5], Total Cyanide	up to 1	1/20	1/20	1/20	[4]
AOI 5	Electroplating (Bldg. 7)	Soil	PID VOC Screen	TCL VOC, TCL SVOC, TCL PCB, TAL Metals[5], Total Cyanide	4-6	1/20	1/20	1/20	[4]
AOI 6	Spill Interceptors	Soil	PID VOC Screen	TCL VOC, TCL SVOC, TCL PCB, TAL Metals[5], Total Cyanide	30-40	1/20	1/20	1/20	[4]
		Water	None	TCL VOC, TCL SVOC, TCL PCB, TAL Metals[5], Total Cyanide	up to 5	1/20	1/20	1/20	[4]
		Sediment	None	TCL VOC, TCL SVOC, TCL PCB, TAL Metals[5], Total Cyanide	up to 5	1/20	1/20	1/20	[4]
AOI 8	Degreasing Units	Soil	PID VOC Screen	TCL VOC, TCL SVOC, TCL PCB, TAL Metals[5], Total Cyanide	up to 30	1/20	1/20	1/20	[4]
AOI 10	Paint Waste Accumulation Areas	Soil	PID VOC Screen	TCL VOC, TCL SVOC, TCL PCB, TAL Metals[5], Total Cyanide	up to 19	1/20	1/20	1/20	[4]

TABLE 1.1

**SUMMARY OF SAMPLING AND ANALYSIS PROGRAM
FORMER DELPHI HARRISON THERMAL SYSTEMS
DAYTON, OHIO**

Number	Area of Interest (AOI) Description	Sample Matrix	Field Parameters	Laboratory Parameters	Investigative Samples	Quality Control Samples[1]			Total
						Field Blanks[2]	Field Duplicates	MS/MSD[3]	
AOI 16	Fuel USTs	Soil	PID VOC Screen	TCL VOC, TCL SVOC, TCL PCB, TAL Metals[5], Total Cyanide	15-20	1/20	1/20	1/20	4
AOI 18	Storm Sewers	Sediment	None	TCL VOC, TCL SVOC, TCL PCB, TAL Metals[5], Total Cyanide	30+	1/20	1/20	1/20	4
		Water	None	TCL VOC, TCL SVOC, TCL PCB, TAL Metals[5], Total Cyanide	30+	1/20	1/20	1/20	4
AOI 19	Process Sewers	Soil	PID VOC Screen	TCL VOC, TCL SVOC, TCL PCB, TAL Metals[5], Total Cyanide	16-24	1/20	1/20	1/20	4
AOI 20	PCB Releases from Electrical Equipmen	Soil	PID VOC Screen	TCL PCB	0-4	1/20	1/20	1/20	4
		Surface Wipes	None	TCL PCB	4	1/20	1/20	1/20	4
		Concrete Cores	PID VOC Screen	TCL PCB	4-8	1/20	1/20	1/20	4
AOI 22	Incinerator (Bldg. 16)	Soil	PID VOC Screen	TCL VOC, TCL SVOC, TCL PCB, TAL Metals[5], Total Cyanide	4-6	1/20	1/20	1/20	4
AOI 23	USTs and Former Still (Bldg. 8)	Soil	PID VOC Screen	TCL VOC, TCL SVOC, TCL PCB, TAL Metals[5], Total Cyanide	8-12	1/20	1/20	1/20	4
AOI 24	Former Machine Gun Testing Area	Soil	PID VOC Screen	TCL PCB, Lead	3	1/20	1/20	1/20	4

TABLE 1.1

SUMMARY OF SAMPLING AND ANALYSIS PROGRAM
FORMER DELPHI HARRISON THERMAL SYSTEMS
DAYTON, OHIO

Number	Area of Interest (AOI) Description	Sample Matrix	Field Parameters	Laboratory Parameters	Investigative Samples	Quality Control Samples[1] Field Blanks[2]	Field Duplicates	MS/MSD[3]	Total
AOI 25	Hydrochloric Acid Spills	Soil	PID VOC Screen	TCL PCB, TAL Metals[5], Total Cyanide, pH	2-3	1/20	1/20	1/20	[4]
		Groundwater	pH, Temperature, DO, Specific Conductivity, Turbidity, ORP	TAL Metals[5], Total Cyanide, pH	1	1/20	1/20	1/20	[4]
AOI 26	Potential PCB Releases from Process Equipment	Soil	PID VOC Screen	TCL PCB	0-10	1/20	1/20	1/20	[4]
		Surface Wipes	None	TCL PCB	8-10	1/20	1/20	1/20	[4]
		Concrete Cores	PID VOC Screen	TCL PCB	8-20	1/20	1/20	1/20	[4]
AOI 27	Battery Charging Stations	Soil	PID VOC Screen	TCL PCB, TAL Metals[5], Total Cyanide	2-6	1/20	1/20	1/20	[4]
AOI 28	Former Miami Canal Extension	Soil	PID VOC Screen	TCL VOC, TCL SVOC, TCL PCB, TAL Metals[5], Total Cyanide	10-15	1/20	1/20	1/20	[4]
Phase 1	Groundwater Sampling	Groundwater/LNAPL[8]	pH, Temperature, DO, Specific Conductivity, Turbidity, ORP	TCL VOC, TCL SVOC, TCL PCB, TAL Metals[5,6], Total Cyanide	44	1/20	1/20	1/20	[4]
				Natural Attenuation Parameters[6]	14	1/20	1/20	1/20	[4]

TABLE 1.1

**SUMMARY OF SAMPLING AND ANALYSIS PROGRAM
FORMER DELPHI HARRISON THERMAL SYSTEMS
DAYTON, OHIO**

						Quality Control Samples [1]			
Number	*Area of Interest (AOI) Description*	*Sample Matrix*	*Field Parameters*	*Laboratory Parameters*	*Investigative Samples*	*Field Blanks* [2]	*Field Duplicates*	*MS/MSD* [3]	*Total*

Notes:

[1] - A laboratory trip blank will be submitted with each shipping cooler containing samples for TCL VOC analysis.
Field quality control sample quantities will be based on the frequencies detailed above by matrix across all AOIs.

[2] - Field blank samples are equipment rinsate blank samples collected at the frequency detailed above or at a minimum of one per day per type of sampling equipment.
They may not be required if dedicated or disposable sampling equipment is used.

[3] - Matrix Spike/Matrix Spike Duplicate (MS/MSD) analyses are required at a frequency of one per group of twenty (20) or fewer investigative samples by matrix.

[4] - The total will vary depending on the quantity of QC samples collected for each AOI, while meeting the minimum frequencies on a project-wide basis..

[5] - The TAL Metals list is modified eliminating Aluminum, Calcium, Iron, Magnesium, Potassium and Sodium.

[6] - The TCL PCB and TAL metal surface water and groundwater samples will be collected as filtered and unfiltered samples for the determination of dissolved and total TCL PCB and TAL metals.

[7] - Natural Attenuation Parameters include Alkalinity, TOC, Nitrate, Nitrite, Sulfate, Sulfite, Hardness, Methane, Calcium, Iron, Magnesium, Manganese, Potassium, and Sodium

[8] - A number of Monitoring Wells contain LNAPL, a sample of LNAPL only shall be collected from these wells.

TCL = Target Compound List
PCB = Polychlorinated Biphenyls
DO = Dissolved Oxygen
VOC = Volatile Organic Compounds
TAL = Target Analyte List
ORP = Oxidation/Reduction Potential
SVOC = Semi-volatile Organic Compounds
TOC = Total Organic Carbon

TABLE 1.2

RFI PARAMETER LIST
FORMER DELPHI HARRISON THERMAL SYSTEMS
DAYTON, OHIO

Compound	Estimated Quantitation Limits [1] Water (µg/L)	Solid (µg/kg)	LNAPL (µg/kg)	Surface Wipe (µg/sample)
Target Compound List (TCL) Volatile Organic Compounds (VOC)				
Acetone	10	20	2,500	---
Benzene	1	5	620	---
Bromodichloromethane	1	5	620	---
Bromoform	1	5	620	---
Bromomethane	1	10	1,200	---
2-Butanone	10	20	2,500	---
Carbon disulfide	1	5	620	---
Carbon tetrachloride	1	5	620	---
Chlorobenzene	1	5	620	---
Chloroethane	1	10	1,200	---
Chloroform	1	5	620	---
Chloromethane	1	10	1,200	---
Cyclohexane	1	10	2,500	---
Dibromochloromethane	1	5	620	---
1,2-Dibromo-3-chloropropane	2	10	1,200	---
1,2-Dibromoethane	1	5	620	---
1,2-Dichlorobenzene	1	5	1,200	---
1,3-Dichlorobenzene	1	5	1,200	---
1,4-Dichlorobenzene	1	5	1,200	---
Dichlorodifluoromethane	1	10	1,200	---
1,1-Dichloroethane	1	5	620	---
1,2-Dichloroethane	1	5	620	---
1,1-Dichloroethene	1	5	620	---
cis-1,2-Dichloroethene	0.5	2.5	310	---
trans-1,2-Dichloroethene	0.5	2.5	310	---
1,2-Dichloropropane	1	5	620	---
cis-1,3-Dichloropropene	1	5	620	---
trans-1,3-Dichloropropene	1	5	620	---
Ethylbenzene	1	5	620	---
2-Hexanone	10	20	2,500	---
Isopropylbenzene	1	5	1,200	---
Methyl acetate	10	10	1,200	---
Methylene chloride	1	5	620	---
Methylcyclohexane	1	10	620	---
4-Methyl-2-pentanone	10	20	2,500	---
Methyl tert-butyl ether	5	20	2,500	---
Styrene	1	5	620	---
1,1,2,2-Tetrachloroethane	1	5	620	---
Tetrachloroethene	1	5	620	---
Toluene	1	5	620	---

TABLE 1.2

RFI PARAMETER LIST
FORMER DELPHI HARRISON THERMAL SYSTEMS
DAYTON, OHIO

Compound	Estimated Quantitation Limits [1] Water (µg/L)	Solid (µg/kg)	LNAPL (µg/kg)	Surface Wipe (µg/sample)
TCL VOC (continued)				
1,2,4-Trichlorobenzene	1	5		---
1,1,1-Trichloroethane	1	5	620	---
1,1,2-Trichloroethane	1	5	620	---
Trichloroethene	1	5	620	---
Trichlorofluoromethane	1	10	1,200	---
1,1,2-Trichloro-1,2,2-trifluoroethane	1	5	2,500	---
Vinyl chloride	1	10	1,200	---
Xylenes (total)	1	5	1,200	---
TCL Semi-Volatile Organic Compounds (SVOC)				
Acenaphthene	10	330	330	---
Acenaphthylene	10	330	330	---
Acetophenone	10	330	330	---
Anthracene	10	330	330	---
Atrazine	10	330	330	---
Benzaldehyde	10	330	330	---
Benzo(a)anthracene	10	330	330	---
Benzo(a)pyrene	10	330	330	---
Benzo(b)fluoranthene	10	330	330	---
Benzo(g,h,i)perylene	10	330	330	---
Benzo(k)fluoranthene	10	330	330	---
1,1'-Biphenyl	10	330	330	---
4-Bromophenylphenyl ether	10	330	330	---
Butylbenzylphthalate	10	330	330	---
di-n-Butyphthalate	10	330	330	---
Caprolactam	10	330	330	---
Carbazole	10	330	330	---
4-Chloroaniline	10	330	330	---
bis(2-Chloroethoxy)methane	10	330	330	---
bis(2-Chloroethyl)ether	10	330	330	---
bis(2-Chloroisopropyl)ether	10	330	330	---
4-Chloro-3-methylphenol	10	330	330	---
2-Chloronaphthalene	10	330	330	---
2-Chlorophenol	10	330	330	---
4-Chlorophenyl phenyl ether	10	330	330	---
Chrysene	10	330	330	---
Dibenz(a,h)anthracene	10	330	330	---
Dibenzofuran	10	330	330	---
3,3'-Dichlorobenzidine	50	1,600	1,600	---

TABLE 1.2

RFI PARAMETER LIST
FORMER DELPHI HARRISON THERMAL SYSTEMS
DAYTON, OHIO

Compound	Estimated Quantitation Limits [1] Water (µg/L)	Solid (µg/kg)	LNAPL (µg/kg)	Surface Wipe (µg/sample)
TCL Semi-Volatile Organic Compounds (cont'd)				
2,4-Dichorophenol	10	330	330	---
Diethylphthalate	10	330	330	---
2,4-Dimethylphenol	10	330	330	---
Dimethylphthalate	10	330	330	---
4,6-Dinitro-2-methylphenol	50	1,600	1,600	---
2,4-Dinitrophenol	50	1,600	1,600	---
2,4-Dinitrotoluene	10	330	330	---
2,6-Dinitrotoluene	10	330	330	---
bis(2-Ethylhexyl)phthalate	10	330	330	---
Fluoranthene	10	330	330	---
Fluorene	10	330	330	---
Hexachlorobenzene	10	330	330	---
Hexachlorobutadiene	10	330	330	---
Hexachlorocyclopentadiene	50	1,600	1,600	---
Hexachloroethane	10	330	330	---
Indeno(1,2,3-cd)pyrene	10	330	330	---
Isophorone	10	330	330	---
2-Methylnaphthalene	10	330	330	---
2-Methylphenol	10	330	330	---
4-Methylphenol	10	330	330	---
Naphthalene	10	330	330	---
2-Nitroaniline	50	1,600	1,600	---
3-Nitroaniline	50	1,600	1,600	---
4-Nitroaniline	50	1,600	1,600	---
Nitrobenzene	10	330	330	---
2-Nitrophenol	10	330	330	---
4-Nitrophenol	50	1,600	1,600	---
N-Nitroso-di-n-propylamine	10	330	330	---
N-Nitrosodiphenylamine (diphenylamine)	10	330	330	---
di-n-Octylphthalate	10	330	330	---
Pentachlorophenol	10	330	330	---
Phenanthrene	10	330	330	---
Phenol	10	330	330	---
Pyrene	10	330	330	---
2,4,5-Trichlorophenol	10	330	330	---
2,4,6-Trichlorophenol	10	330	330	---

TABLE 1.2

RFI PARAMETER LIST
FORMER DELPHI HARRISON THERMAL SYSTEMS
DAYTON, OHIO

Compound	Estimated Quantitation Limits [1] Water (µg/L)	Solid (µg/kg)	LNAPL (µg/kg)	Surface Wipe (µg/sample)
TCL Polychlorinated Biphenyls (PCB)				
Aroclor 1016	0.2	33	1,000	4
Aroclor 1221	0.4	33	1,000	4
Aroclor 1232	0.2	33	1,000	4
Aroclor 1242	0.2	33	1,000	4
Aroclor 1248	0.2	33	1,000	4
Aroclor 1254	0.2	33	1,000	4
Aroclor 1260	0.2	33	1,000	4
	Water (mg/L)	*Solid (mg/kg)*	*LNAPL (mg/kg)*	*Surface Wipe (µg/sample)*
Site-Specific TAL Inorganics				
Aluminum	0.20	20	20	---
Antimony	0.06	6	6	---
Arsenic	0.01	1	1	---
Barium	0.20	20	20	---
Beryllium	0.005	0.5	0.5	---
Cadmium	0.005	0.5	0.5	---
Chromium	0.01	1	1	---
Cobalt	0.05	5	5	---
Copper	0.025	2.5	2.5	---
Iron	0.10	10	10	---
Lead	0.003	0.3	0.3	---
Manganese	0.015	1.5	1.5	---
Mercury	0.0002	0.1	0.1	---
Nickel	0.04	4	4	---
Selenium	0.005	0.5	0.5	---
Silver	0.01	1	1	---
Thallium	0.01	1	1	---
Vanadium	0.05	5	5	---
Zinc	0.02	2	2	---
Cyanide, Total	0.01	0.5	0.5	---

TABLE 1.2

RFI PARAMETER LIST
FORMER DELPHI HARRISON THERMAL SYSTEMS
DAYTON, OHIO

Compound	Estimated Quantitation Limits [1] Water (mg/L)	Solid (µg/kg)	LNAPL (mg/kg)	Surface Wipe (µg/sample)
Natural Attenuation Parameters				
Inorganics				
Alkalinity, Total	5	---	---	---
Total Organic Carbon	1	---	---	---
Nitrate	0.10	---	---	---
Nitrite	0.10	---	---	---
Sulfate	1	---	---	---
Sulfide	1	---	---	---
Hardness, Total and Carbonate	5	---	---	---
Dissolved Gases				
Methane	0.5 µg/L	---	---	---
Metals				
Calcium	5	---	---	---
Iron	0.1	---	---	---
Magnesium	5	---	---	---
Manganese	0.015	---	---	---
Potassium	5	---	---	---
Sodium	5	---	---	---

Notes:

[1] - Please note that these are estimated quantitation limits and are presented for guidance only. Actual quantitation limits are highly matrix dependent and may be elevated due to matrix effects QA/QC problems and high concentrations of target and non-target analytes.

TABLE 4.1

**SAMPLE CONTAINER, PRESERVATION, SHIPPING AND PACKAGING REQUIREMENTS
FORMER DELPHI HARRISON THERMAL SYSTEMS
DAYTON, OHIO**

Analyses	*Sample Containers*[1]	*Preservation*	*Maximum Holding Time from Sample Collection*[2]	*Volume of Sample*	*Shipping*	*Normal Packaging*
WATER SAMPLES						
VOC	Three 40 mL teflon-lined septum vials	HCl to pH < 2 Iced, 4 ± 2° C	14 days for analysis	Fill completely, no air bubbles	Overnight or Hand Deliver	Foam Liner or Bubble-wrap
SVOC & PCB	Two 1 liter amber glass bottles per analysis	Iced, 4 ± 2° C	7 days for extraction 40 days after extraction for analysis	Fill to neck of bottle	Overnight or Hand Deliver	Bubble Pack or Foam Chips
Metals & Hardness	One 500-ml plastic bottle	HNO_3 to pH < 2 Iced, 4 ± 2° C	180 days (mercury-28 days) for analysis	Fill to neck of bottle	Overnight or Hand Deliver	Bubble Pack or Foam Chips
Total Cyanide	One 500-ml plastic bottle	NaOH to pH ≥ 12 Iced, 4 ± 2° C	14 days for preparation and analysis	Fill to neck of bottle	Overnight or Hand Deliver	Bubble Pack or Foam Chips
Chloride	One 500-ml plastic bottle	Iced, 4 ± 2° C	28 days for analysis	Fill to neck of bottle	Overnight or Hand Deliver	Bubble Pack or Foam Chips
Alkalinity, Chloride, Nitrate, Nitrite, Sulfate	One 1-liter plastic bottle	Iced, 4 ± 2° C	Alkalinity - 14 days, Chloride and Sulfate - 28 days, Nitrate and Nitrite - 48 hours to analysis	Fill to shoulder of bottle	Overnight Courier or Lab pickup	Bubble Pack or equivalent
Dissolved Gases	Three 40 mL VOA vials	Iced, 4 ± 2° C	14 days to analysis	Fill completely, no air bubbles	Overnight Courier or Lab pickup	Bubble Pack or Foam Liner

TABLE 4.1

**SAMPLE CONTAINER, PRESERVATION, SHIPPING AND PACKAGING REQUIREMENTS
FORMER DELPHI HARRISON THERMAL SYSTEMS
DAYTON, OHIO**

Analyses	*Sample Containers* [1]	*Preservation*	*Maximum Holding Time from Sample Collection* [2]	*Volume of Sample*	*Shipping*	*Normal Packaging*
WATER SAMPLES Cont'd						
Total Organic Carbon	Three 40 mL VOA amber vials	HCl to pH <2, Iced, 4 ± 2° C	28 days to analysis	Fill completely, no air bubbles	Overnight Courier or Lab pickup	Bubble Pack or Foam Liner
Sulfide	One 1-liter plastic bottle	NaOH to pH>9 ZnAc and Iced, 4 ± 2° C	7 days to analysis	Fill to shoulder of bottle	Overnight Courier or Lab pickup	Bubble Pack or equivalent
SOLID SAMPLES						
VOC	Three 5g EnCore Sampler™ per analysis or one 2-ounce glass jar	Iced, 4 ± 2° C	48 hours for preservation 7 days after collection for analysis	Fill completely	Overnight or Hand Deliver	Bubble Pack or Foam Chips
SVOC & PCB	One 4-ounce glass jar	Iced, 4 ± 2° C	14 days for extraction 40 days after extraction for analysis	Fill to shoulder of jar	Overnight or Hand Deliver	Bubble Pack or Foam Chips
Metals	One 4-ounce glass jar	Iced, 4 ± 2° C	180 days (mercury 28 days) for analysis	Fill to shoulder of jar	Overnight or Hand Deliver	Bubble Pack or Foam Chips
Total Cyanide	One 4-ounce glass jar	Iced, 4 ± 2° C	14 days for preparation and analysis	Fill to shoulder of jar	Overnight or Hand Deliver	Bubble Pack or Foam Chips

TABLE 4.1

**SAMPLE CONTAINER, PRESERVATION, SHIPPING AND PACKAGING REQUIREMENTS
FORMER DELPHI HARRISON THERMAL SYSTEMS
DAYTON, OHIO**

Analyses	*Sample Containers*[1]	*Preservation*	*Maximum Holding Time from Sample Collection*[2]	*Volume of Sample*	*Shipping*	*Normal Packaging*
SURFACE WIPE SAMPLES						
PCB	One 4-ounce glass jar	Hexane, Iced, 4 ± 2° C	7 days for extraction 40 days after extraction for analysis	100 cm^2	Overnight or Hand Deliver	Bubble Pack or Foam Chips
LNAPL SAMPLES						
VOC, SVOC, PCB, Metals, Total Cyanide	One 4-ounce glass jar	Hexane, Iced, 4 ± 2° C	14 days for preparation and analysis	Fill to shoulder of jar	Overnight or Hand Deliver	Bubble Pack or Foam Chips

Notes:

[1] - Multiple parameters (non-volatile) on a single soil sample may be combined into one single 8-ounce glass jar.

[2] - These are technical holding times, i.e., are based on time elapsed from time of sample collection.

TABLE 7.1

SUMMARY OF ANALYTICAL METHODS
FORMER DELPHI HARRISON THERMAL SYSTEMS
DAYTON, OHIO

Parameter[1]	*Preparation Method*[2]	*Laboratory Preparation SOP*	*Analytical Method*[2]	*Laboratory Analytical SOP*
WATER SAMPLES				
VOC	SW-846 5030B	CORP-MS-0002NC	SW-846 8260B	CORP-MS-0002NC
SVOC	SW-846 3520C	CORP-OP-0001NC	SW-846 8270C	CORP-MS-0001NC
PCB	SW-846 3500C	CORP-OP-0001NC	SW-846 8082	CORP-GC-0001NC
Metals				
ICP Metals	SW-846 3010A/3020A	CORP-IP-0003	SW-846 6010B	CORP-MT-0001NC
mercury	SW-846 7470A	CORP-MT-0005NC	SW-846 7470A	CORP-MT-0005NC
Total Cyanide	SW-846 9012A	NC-WC-0032	SW-846 9012A	NC-WC-0031
Alkalinity	SM 2320B	NC-WC-0003	SM 2320B	NC-WC-0003
Hardness	SM 2340B	NC-WC-0036	SM 2340B	NC-WC-0036
Nitrate	SW-846 9056	NC-WC-0084	SW-846 9056	NC-WC-0084
Nitrite	SW-846 9056	NC-WC-0084	SW-846 9056	NC-WC-0084
Sulfate	SW-846 9056	NC-WC-0084	SW-846 9056	NC-WC-0084
Sulfide	SW-846 9030A	NC-WC-0060	SW-846 9030A	NC-WC-0060
Total Organic Carbon	SW-846 9060	NC-WC-0017	SW-846 9060	NC-WC-0017
Methane	RSKSOP-175	AUS-GC-0002	RSKSOP-175	AUS-GC-0002
SOLID SAMPLES				
VOC	SW-846 5035[3]	CORP-MS-0002NC	SW-846 8260B	CORP-MS-0002NC
SVOC	SW-846 3550B	CORP-OP-0001NC	SW-846 8270C	CORP-MS-0001NC
PCB	SW-846 3550B	CORP-OP-0001NC	SW-846 8082	CORP-GC-0001NC
Metals				
ICP Metals	SW-846 3050A	CORP-IP-0002NC	SW-846 6010B	CORP-MT-0001NC
mercury	SW-846 7471A	CORP-MT-0007NC	SW-846 7471A	CORP-MT-0007NC
Total Cyanide	SW-846 9012A	NC-WC-0032	SW-846 9012A	NC-WC-0031
SURFACE WIPE SAMPLES				
PCB	SW-846 3500C	NC-OP-0021	SW-846 8082	CORP-GC-0001NC
LNAPL SAMPLES				
VOC	SW-846 5030	CORP-MS-0002NC	SW-846 8260B	CORP-MS-0002NC
SVOC	SW-846 3550B	CORP-OP-0001NC	SW-846 8270C	CORP-MS-0001NC
PCB	SW-846 3550B	CORP-OP-0001NC	SW-846 8082	CORP-GC-0001NC
Metals				
ICP Metals	SW-846 3050A	CORP-IP-0002NC	SW-846 6010B	CORP-MT-0001NC
mercury	SW-846 7471A	CORP-MT-0007NC	SW-846 7471A	CORP-MT-0007NC
Total Cyanide	SW-846 9012A	NC-WC-0032	SW-846 9012A	NC-WC-0031

Notes:

[1] Refer to Tables 1.2 for the compounds/elements of each parameter group.

[2] Method References:

- SW-846 - "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods ", SW-846, 3rd Edition, and Promulgated Updates, November 1986.
- EPW-WW - "Methods for the Chemical Analysis of Water and Wastewater", EPA/600/4-79-020, Revised March 1983.
- SM - "Standard Methods for the Examination of Water and Wastewater", APHA, AWWA & WEF, 19th Edition, 1995
- RSKSOP-175 - U.S.EPA Robert S. Kerr Environmental Research Laboratory, Ada OK, Standard Operating Procedure

[3] Sediment samples collected as bulk samples will be prepared in accordance with SW-846 Method 5030B.

VOC = Volatile Organic Compounds
SVOC = Semi-Volatile Organic Compounds
PCB = Polychlorinated Biphenyls
TOC = Total Organic Carbon

APPENDIX D

DATA MANAGEMENT PLAN

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1.0 INTRODUCTION

This Data Management Plan (DMP) is submitted as an appendix to and forms part of the Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) at the portion of the former Delphi Harrison Thermal Systems (Delphi) Facility, a division of the General Motors Corporation (GM), currently owned by Peerless Realty Group Ltd. (Peerless), also known as the Peerless Transportation Company, in Dayton, Ohio.

The Site extends between Webster Street (west), Pitts Street (south), Keowee Street (east) and the Mad River levee (north), and also includes a portion of the block bounded by Webster Street (west), Monument Avenue (south), Taylor Street (east), and Pitts Street (north). Environmental activities at the Site are being conducted by the Remediation and Liability Management Company, Inc. (REALM), a wholly owned subsidiary of GM.

This DMP identifies procedures to be employed for managing information, reports and correspondence (documents) associated with the RFI to be conducted at the Site. These documents must be readily accessible and the integrity and accuracy of these documents must be maintained. This will be achieved by restricting access to the materials and implementing data management procedures.

This DMP has been developed by Conestoga-Rovers & Associates (CRA) and is comprised of two separate tasks which are:

i) data management; and

ii) document control.

The data management task consists of procedures used to collect, handle and safeguard all data generated by field and laboratory programs. The task of document control involves implementing procedures to physically track all documents associated with the RFI which CRA possesses. These two tasks will be expanded upon in the following sections.

Ms. Sylvie Eastman, the Project Manager for CRA, will be responsible for all aspects of this DMP.

2.0 DATA MANAGEMENT

The data management task of this DMP is to implement procedures relating to collection, recording, retrieval, presentation and security of all field and laboratory data generated.

2.1 DATA COLLECTION

2.1.1 FIELD LOGBOOKS AND FIELD FORMS

Data generated in the field will be recorded in the field logbook or on field forms. The field logbook and field forms are the primary means of recording field-related information. The field logbooks and field forms will contain data such as the following:

i) general field observations;
ii) field measurements and observations;
iii) sample location and corresponding sample number;
iv) relevant comments pertaining to the samples collected;
v) weather conditions;
vi) a listing of all personnel involved in Site-related activities;
vii) an accurate log of all telephone conversations and Site meetings; and
viii) field decisions made and pertinent information associated with the decision.

The field logbooks and field forms reviewed will be numbered consecutively and maintained in accordance with the project QAPP (see Appendix C).

2.1.2 STILL PHOTOGRAPHS

Historic still photographs provide a means of visually recording Site conditions and operations. To ensure quick and accurate retrieval, all photographs taken during RFI work will be documented, cataloged and stored. A digital camera may be used. Documentation shall consist of the following:

i) identification of Site and project;
ii) identification of the area and/or activity photographed;
iii) orientation and direction of photograph;

iv) date and time of photograph;

v) photographer's name;

vi) weather conditions; and

vii) a unique number identifying the photograph.

Cataloging of photographs shall be done in a manner that ensures ease of accessibility. Storage of the photographs shall be in a secure location. If a digital camera is used, photographs will form part of the electronic database for the project.

2.1.3 ANALYTICAL DATA

Final analytical data will be submitted by the laboratory in the form of a standardized Electronic Data Deliverable (EDD), and will be imported into an EQuIS database. Final analytical reports will also be submitted in hard copy form. Preliminary data may also be submitted electronically, if necessary for evaluation of the need for additional sampling.

2.1.4 SURVEY DATA

Survey data will be submitted by the surveyor electronically, and will be imported into the Site base drawing. The surveyed points will be compared to the field notes to verify the correctness of the survey.

2.2 DATA STORAGE AND RETRIEVAL

The data collected and/or generated as part of the RFI will be stored in a secure manner in a location where all project materials can easily be retrieved. To the extent practical, an electronic database will be maintained.

Field logbooks, field forms, analytical reports, reference materials, correspondence, reports and other documents will be filed in chronological order in the project file. Computer disks will be stored in a secure area and will back-up any computer information stored on CRA's computer systems. The computer stored information will be filed under the project name and identification number.

2.3 DATA PRESENTATION

The data collected and/or generated as part of the RFI will be presented in tabular, graphical, and/or electronic formats.

Analytical data will be presented in its raw format as an Appendix to the RFI Report. Summary tables of the raw analytical data will be developed to present the data in a useable format. Analytical data will be manipulated using CRA's database management system which uses EQuIS.

Graphical data presentation in the form of figures, plans or charts/graphs will also be included in the RFI Report. Information that will be presented in this format includes: sample areas, sampling locations, contaminant distribution, stratigraphic logs, geologic cross sections, and any other information where a graphical presentation would be appropriate.

Electronic data, including geographical information systems (GIS) will be employed to the extent practical. An EQuIS database will be used for all analytical data and may also include groundwater elevations, well completion and lithology and other information. If a GIS based data management system is employed, CRA's e:DAT™ would be used.

2.4 DATA SECURITY

The integrity of the data generated during the RFI will be maintained by restricting access to the data. Only personnel actively involved in the project will be permitted access to the data. The data will be accessed in accordance with CRA's standard procedures for protecting the integrity of the data.

3.0 DOCUMENT CONTROL

Documents used for and generated during the RFI will be stored and maintained in a unique project file. Access to the documents will be restricted to personnel actively engaged in the project and procedures will be implemented to track the documents. In addition to the document file maintained by CRA, a file of related documents (i.e., RFI Work Plan, analytical data) will be maintained by REALM.

The documents to be covered by the document control procedures can be categorized as follows:

i) background information files;

ii) primary data documents; and

iii) project documents generated during the course of the project.

These three categories will be further discussed in the following sections.

3.1 BACKGROUND INFORMATION FILES

The background information for the RFI consists of the following:

i) reports of previous Site sampling programs;

ii) copies of Site files from the U.S. EPA and other regulatory agencies; and

iii) miscellaneous correspondence.

These documents will be included in the document control system.

3.2 PRIMARY DATA DOCUMENTS

Primary data documents for the RFI may consist of the following:

i) field logbooks;

ii) field forms;

iii) analytical reports;

iv) chain of custody forms;

v) U.S. EPA correspondence;

vi) personnel medical records;

vii) logs of meetings and telephone conversations;

viii) quality assurance/quality control data;

ix) inventory of samples;

x) Site plans; and

xi) survey notes.

These documents will be included in the document control system.

3.3 PROJECT DOCUMENTS

Project documents may include reports generated during the RFI and forwarded to U.S. EPA. These documents will be included in the document control system.

APPENDIX G

FIELD SAMPLING PLAN

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APPENDIX G.2 ADDITIONAL STANDARD OPERATING PROCEDURES

1.0 INTRODUCTION

This Field Sampling Plan (FSP) is submitted as an appendix to and forms part of the RCRA Facility Investigation (RFI) Work Plan for the portion of the former Delphi Harrison Thermal Systems Facility that is currently owned by Peerless Realty Group Ltd. (Peerless). The Site is located at 300 Taylor Street in Dayton, Ohio.

The FSP describes procedures for various activities that will be completed at the Site. The majority of the activities are described in GM's Standard Operating Procedures (SOPs) for environmental investigations. Relevant sections from these SOPs are reproduced in Appendix G.1. Additional SOPs required for this project are presented in Appendix G.2.

APPENDIX G.1

GM STANDARD OPERATING PROCEDURES

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6.6-Sample Handling and Shipping

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9.0 Equipment Decontamination

12.0 Waste Characterization

Note: Only applicable SOPs have been included.

REMEDIATION SECTION	PROCEDURE # **1.1**
WORLDWIDE FACILITIES GROUP	EFFECTIVE DATE:
GENERAL MOTORS CORPORATION	
REVISION #: **0**	REVISION DATE:

Interior and Exterior Inspections

INTRODUCTION

Environmental investigations are performed at GM sites for a variety of reasons, such as RCRA Remedial Facility Investigations, CERCLA Remedial Investigations/Feasibility Studies, Phase I Environmental Site Assessments, or other site-specific or regulatory reasons. These projects involve investigations of various levels of detail; however, in all cases it is advisable, and often required, to perform a formal sitewide visual inspection prior to planning or initiating any other field work. Site inspections provide valuable site information, identify and document conditions of environmental concern, and help to focus an investigation on the appropriate issues.

This SOP has been prepared to serve as a guideline for performing both interior and exterior environmental site inspections, at sites of any size, whether owned, leased or otherwise occupied by GM. The SOP provides a checklist of items to be investigated and observed. All items listed may not be applicable for a given site. In addition, a particular site may have elements that are not on this checklist but should be evaluated. It is up to the individual performing the inspection to consider as many aspects of the site, its history of activity and current conditions as possible to facilitate meaningful results.

Note: Although this SOP deals with the specifics of performing an inspection, it should be done in conjunction with additional site research, including but not limited to:

- interviews with key site personnel;
- review of available site information;
- historic data sources, such as fire insurance maps and aerial photos; and
- requests for information from governmental agencies or other sources.

In addition, although this SOP draws from the requirements in the ASTM Phase I Environmental Site Assessment Standard (see References), it does not replicate all aspects of the Standard; as such, is not to be considered a substitute for an ASTM Assessment or to be used in lieu of an ASTM Phase I Environmental Site Assessment.

PROCEDURES REFERENCED

- Data Recording (SOP 1.5)
- Field Instruments – Usage and Calibration (SOP 8.0)

PROCEDURE

Prior to Performing the Inspection:

1. If the property is not owned by GM, and if required, obtain an access agreement or other form of written permission to enter the site.

2. Determine if a site-specific Health and Safety Plan (HASP) is required or has been developed. If so, follow the requirements of the HASP, especially with regard to areas of the site where oil or hazardous substances may be present. There may also be site-specific safety requirements that must be followed; check with site personnel regarding this. *Do not enter any site location that may be considered a Confined Space, as defined by OSHA Title 29, Part 1910.146*.

3. Contact the identified key site personnel who will provide access to all areas of the site. Make inquiries with the site personnel regarding available relevant site information. Such information may include, but is not limited to: site, building construction or utility drawings; previous environmental site reports; environmental audits; permits; tank registrations; Material Safety Data Sheets; Community Right-to-Know plans; safety plans; hydrogeologic or geotechnical reports; or hazardous waste generator reports.

4. Review all available information in light of the planned site inspection and list specific site locations to investigate.

5. Assemble items listed in the "Equipment And Materials" section below.

Inspection Procedure

6. Inspect the site using the SOP checklist below or other appropriate checklist.

7. If a reasonably accurate drawing of the facility is available, mark the locations of key features observed in the inspection on the drawing. Locate the features accurately by measuring distances from existing features. If no drawing is available, record the measurements systematically in a field book, describing in

detail existing features from which the measurements were taken. Also record accurate dimensions of the features being described.

8. Record observations for all relevant site features in a field book or pre-printed checklist. Be thorough in your observations, keeping in mind the potential environmental effects any given feature or object may have had on the site.

9. Be cognizant of site features that may not be on the checklist but may have environmental significance.

10. Accurately record the content and other pertinent information of labels on containers of suspect substances.

11. If subsurface structures are present, such as catch basins, sumps, floor drains, etc., that contain standing liquid or debris, they can act as collection or dispersion points for subsurface contaminants. Obtain a reading of the vapors in the structure with a PID or other VOC-detection device, and record the readings.

12. Provide a written general description of the site. Include at a minimum:
    - Approximate lot size
    - Grading (level, sloped, terraced, etc.)
    - Building sizes and types
    - Paved, grass, wooded areas, wetlands, etc.
    - Site drainage features
    - Bedrock outcrops

13. Make notes of observations of the following areas on the site. This checklist is not intended to be all-encompassing and may need to be supplemented with other items as appropriate for the site. Record all observations as they pertain to potential environmental issues, making note of visual or olfactory evidence or instrument readings that may indicate the current presence or potential past presence or release of hazardous substances or petroleum products:

Features Potentially Found In Interior or Exterior Areas

a. Raw material/waste storage areas
b. Loading/unloading areas and compactor locations
c. Hydraulic lifts, ramps or pits
d. Drums or other containers of hazardous substances, or petroleum products or unknown substances.
e. Aboveground storage tanks
f. Underground storage tanks
g. Tank fill locations
h. Underground utilities

i. Accumulation of oil or other standing liquid
j. Stains or corrosion
k. Electric transformers or capacitors
l. Emergency generators
m. Potential asbestos-containing materials (note: testing is required to confirm the presence of asbestos-containing materials; samples must be obtained by a certified asbestos technician)
n. Potential lead-based paint (note: testing is required to confirm the presence of lead in paint).

Features Typically Found in Interior Areas

a. Basements and crawl spaces
b. Concrete, dirt or gravel floors
c. Process areas
d. Floor drains or sumps
e. Hydraulic elevators

Features Typically Found in Exterior Areas

a. Septic tanks/leaching fields
b. Sanitary/storm/process wastewater sewers
c. Wastewater treatment facilities
d. Catch basins, drains, manholes
e. Solid waste/areas of waste or soil filling
f. Pits/ponds/lagoons
g. Overhead utilities
h. Stained soil or pavement
i. Stressed vegetation
j. Pavement cuts or patches
k. wells – potable water supply, groundwater monitoring, irrigation, injection

EQUIPMENT AND MATERIALS

- Site drawings and other background information;
- Copy of written access permission (if required);
- A copy of this SOP or a site-specific checklist of items for observation;
- Field book, ball point pen;
- Flashlight;
- Tape measure;
- Camera (if allowed on site);
- Photoionization detector (PID) or other VOC monitoring instrument.
- Lead-paint testing instrument (if required)

REFERENCES

- American Society for Testing and Materials, 2000, Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process, Standard No. E 1527-00.

- Occupational Health And Safety Administration (OSHA), 29 CFR 1910.146, "Permit-Required Confined Spaces"

REMEDIATION SECTION	PROCEDURE # **SOP 1.3**
WORLDWIDE FACILITIES GROUP	EFFECTIVE DATE:
GENERAL MOTORS CORPORATION	
REVISION #: **0**	REVISION DATE:

Utility Clearance

INTRODUCTION

Invasive field investigation activities such as drilling, soil gas surveys, test excavation or remedial construction activities require location of underground utilities prior to initiating work. Such clearance is sound practice in that it minimizes the potential for damage to underground facilities and more importantly, is protective of the health and safety of personnel. Under no circumstances will invasive activities be allowed to proceed without obtaining proper utility clearance by the appropriate public agencies and/or private entities. **This clearance requirement applies to all work on both public and private property, whether located in a dense urban area or a seemingly out-of-the-way rural location.**

The responsibility of obtaining this clearance lies with the Consultant or Contractor performing the work.

In most states such utility clearance is required by law, and obtaining clearance includes contacting a public or private central clearance agency via a "one-call" telephone service and providing them with proposed exploration location information. This is discussed in more detail herein. It is important to note that public utility agencies may not, and usually don't have information regarding utility locations on private property. As such, utility clearance on GM plant property must be cleared using available site drawings, and written approval must be obtained from plant personnel with appropriate knowledge of existing utilities.

PROCEDURES REFERENCED

Interior and Exterior Inspection (SOP 1.1)

Subsurface Investigations (SOP 2.0)

PROCEDURE

- Before marking any proposed exploration or underground construction locations, it is critical that all readily-available information on underground utilities and structures be obtained. This includes publicly-available information as well as information in the possession of private landowners. Any drawings obtained must be reviewed in detail for information pertaining to underground utilities.

- Using the information obtained, the site should be viewed in detail for physical evidence of buried lines or structures, including pavement cuts and patches, variation in or lack of vegetation, variations in grading, etc. (Care must also be taken to avoid overhead utilities as well). Presence of surface elements of buried utilities should be documented, such as manholes, gas or water service valves, catch basins, monuments or other evidence.

- Overhead utility lines must be taken into account when choosing exploration and excavation locations. Most states require a minimum of 10 ft. of clearance between equipment and energized wires. Such separation requirements may also be voltage-based and may vary depending on state or municipality regulations.

  In evaluating clearance from overhead lines, the same restrictions may apply to "drops", or wires on a utility pole connecting overhead and underground lines.

- Using the information obtained and observations made, *proposed* exploration or construction locations should be marked in the field. Marking locations can be accomplished using spray paint on the ground, stakes, or other means. **All markings of proposed locations should be made in white**, in accordance with the generally-accepted universal color code for facilities identification (AWMA 4/99):

  - White: Proposed Excavation or drilling location
  - Pink: Temporary Survey Markings
  - Red: Electrical Power Lines, Cables, Conduit and Lighting Cables
  - Yellow: Gas, Oil, Steam, Petroleum or Gaseous Materials
  - Orange: Communication, Alarm or Signal Lines, Cables or Conduits
  - Blue: Potable Water
  - Purple: Reclaimed Water, Irrigation and Slurry Lines
  - Green: Sewers and Drain Lines

- In order to effectively evaluate the proposed locations with these entities, detailed, accurate measurements between the proposed locations and existing surface features should be obtained. Such features can be buildings, street intersections, utility poles, guardrails, etc.

- Obtaining the utility clearance generally involves two entities:
  - The designated "One-Call" underground facilities protection organization for the area; and
  - The landowner.

  Both entities must be contacted and the proposed locations evaluated in light of information available for existing underground facilities. The detailed measurement information described above will be required by the "one call" agency. The owners of the applicable, participating underground utilities are obligated mark their respective facilities at the site in the colors described above. Utility stake-out activities will typically not commence for approximately 72 hours after the initial request is made.

- The public and private utility entities generally only mark the locations of their respective underground facilities within public rights-of-way. Determination of the locations of these facilities on private property will be the responsibility of the project Consultant or Contractor. If available information does not contain sufficient detail to locate underground facilities with a reasonable amount of confidence, alternate measures may be appropriate, as described below. In some cases, the memory of a long-time employee of a facility on private property may be the best or only source of information. It is incumbent on the Consultant or Contractor to exercise caution and use good judgement when faced with uncertainty.

- **Notes: It is important to note that not all utilities are participants in the "one-call" agency or process. As such, inquiries must be made with the "one-call" agency to determine which entities do not participate, so they can be contacted independently.**

  Most utility Stake-outs have a limited time period for which they remain valid, typically two to three weeks. It is critical that this time period be taken into account to prevent expiration of clearance prior to completion of the invasive activities, and the need to repeat the stake-out process.

- Care must be exercised to document receipt of notice from the involved agencies of the presence or absence of utilities in the vicinity of the proposed locations. The attached form SOP 1.4-01 form can be used to record contacts made and responses received from each entity.

  Most agencies will generally provide a telephone or fax communication indicating the lack of facilities in the project area. **If contact is not made by all of the agencies identified by the "one-call" process, do not assume that such utilities are not present. Re-contact the "one-call" agency to determine the status.**

- For complicated sites with multiple proposed locations and multiple utilities, it is advisable to arrange an on-site meeting with utility representatives. This will minimize the potential for miscommunication amongst the involved parties.

- Completion of the utility stake out process is not a guarantee that underground facilities will not be encountered in excavations or boreholes; in fact, most "one-call" agencies and individual utilities do not offer guarantees, nor do they accept liability for damage that might occur. Accordingly, it is advisable that any invasive activities proceed with extreme caution in the upper four to five feet in the event the clearance has failed to identified an existing facility. This may necessitate hand-excavation or probing to confirm potential presence of shallow utilities. If uncertainty exists for any given utility, extra activities can be initiated to solve utility clearance concerns. These options include:

    - Hand digging, augering or probing to expose or reveal shallow utilities and confirm presence and location. In northern climates this may require advancing to below frost line, typically at least four feet.
    - Screening the proposed work areas with utility locating devices, and/or hiring a utility locating service to perform this task. The private utility locating service is a growing industry that has formed a national organization. The National Utility Locate Contractors Association (NULCA) can be reached at 715-635-6004.

EQUIPMENT

- White Spray paint
- Wooden stakes, painted white or containing white flagging
- Color-code key
- Available drawings
- Utility Clearance Data Sheet (Form 1.4-01)

REFERENCE

- American Public Works Association, April 1999, Uniform Color Code (http://www.apwa.net/)

PROPERTY ACCESS/UTILITY CLEARANCE DATA SHEET

PROJECT NAME: _____ PROJECT NUMBER: _____

CRA REPRESENTATIVE: _____

CLIENT: _____ CLIENT REPRESENTATIVE: _____ PHONE: _____

ON-SITE PROPERTY ACCESS APPROVAL _____ (OWNER OR AUTHORIZED AGENT SIGNATURE)

OFF-SITE PROPERTY ACCESS APPROVAL (if applicable) _____ (OWNER OR AUTHORIZED AGENT SIGNATURE)

UTILITY CLEARANCE APPROVAL _____ (OWNER OR AUTHORIZED AGENT SIGNATURE)

CONTRACTOR VERIFICATION APPROVAL _____ (OWNER OR AUTHORIZED AGENT SIGNATURE)

UTILITIES (INDICATE THAT LOCATION/UTILITY PRESENCE WAS CHECKED) *												
Borehole/ Excavation Location	Date (m/d/y)	Telephone	Water	Storm Sewer	Sanitary Sewer	Process Sewer	Gas	Electrical	Cable	Overhead Utilities	Other	Comments/Warnings

Additional Comments:

_____

_____

_____

White: Field Office
Yellow: Field File
Pink: Owner/Client/Agent

* Note as appropriate, Contractor, Client or Owner, or Agent to sign, indicating no utilities are at the selected borehole/excavation locations.

REMEDIATION SECTION	PROCEDURE # **1.4**
WORLDWIDE FACILITIES GROUP	EFFECTIVE DATE:
GENERAL MOTORS CORPORATION	
REVISION #: **0**	REVISION DATE:

Field Data Recording – Field Books, Log Forms and Electronic Data

INTRODUCTION

This procedure describes protocol for documenting standard investigation activities in the field. Field data serves as the cornerstone for an environmental project, not only for site characterization but for additional phases of investigation or remedial design. Inaccurate or incomplete field data may create significant problems and additional project costs. In addition, recorded field data becomes a legal record of project work, and should be approached with that in mind. Producing legally-defensible data includes proper and appropriate recording of field data as it is obtained in a manner that will preserve it for future use.

This procedure provides guidelines for accurate, thorough collection and preservation of written and electronic field data.

PROCEDURES REFERENCED

- 8.0: Field Instruments: Usage and Calibration

PROCEDURE

Typical field data to be recorded generally includes, but is not limited to, the following:

- general field observations;
- numeric field measurements and instrument readings;
- quantity estimates;
- sample locations and corresponding sample numbers;
- relevant comments and details pertaining to the samples collected;
- documentation of activities, procedures and progress achieved;
- contractor pay item quantities;
- weather conditions;

- a listing of personnel involved in site-related activities;
- a log of conversations, site meetings and other communications; and
- field decisions made and pertinent information associated with the decisions.

Written Field Data

Written field data is generally recorded on one of two media: A standardized, pre-printed field log form, or a bound field log book. In general, use of a field log form is preferable as it prompts field personnel to make appropriate observations and record data in a standardized format. This promotes completeness and consistency from one person to the next. Most of the GM SOPs include standardized field log forms.

In the absence of an appropriate pre-printed form, the data should be recorded in an organized and structured manner in a dedicated project field log book. Log books must be hard-cover, bound so that pages cannot be added or removed, and should be made from high-grade 50% rag paper with a water-resistant surface.

The following are guidelines for use of field log forms and log books:

1. Information must be factual and complete. Do not abbreviate.

2. All entries will be made in black indelible ink with a ballpoint pen and will be written legibly. Do not use "rollerball" or felt tip-style pens, since the water-soluble ink can run or smear in the presence of moisture.

3. All pages in a log book must be consecutively numbered. Field log forms should also be consecutively numbered.

4. Each day's work must start a new log book page.

5. At the end of each day, the current log book page must be *signed and dated* by the field personnel making the entries.

6. When using field log forms, they must also be *signed and dated.*

7. Make data entries immediately upon obtaining the data. Do not make temporary notes in other locations for later transfer to log forms or log books; this only increases the potential for error or loss of data.

8. Entry errors are to be crossed out with a single line, dated and initialed by the person making the correction.

9. Do not leave blanks on log forms, if no entry is applicable for a given data field, indicate so with "NA" or a dash ("--").

10. At the earliest practical time, photocopies of log forms and log book pages should be made and placed in the project file as a backup in the event the book or forms are lost or damaged.

11. Log books should be dedicated to one project only, i.e., do not record data from multiple projects in one log book.

Electronic Data

Electronic data recording is widely used in environmental investigation and remediation projects. In general, it involves electronic measurement of field information through the use of monitoring instruments, sensors, gauges, and equipment controls. The following is a list of guidelines for proper recording and management of electronic field data:

1. Field data management should follow requirements of a project-specific data management plan (DMP), if one exists.

2. Use only instruments that have been calibrated in accordance with manufacturer's recommendations.

3. Usage of instruments, controls and computers for the purpose of obtaining field data should only be performed by personnel properly trained and experienced in the use of the equipment and software.

4. Use only fully-licensed software on PCs and laptops. Software piracy, even if unintentional, *is a felony* and exposes GM, its contractors, and their employees to severe criminal and financial penalties.

5. Loss of electronic files may mean loss of irreplaceable data. Every effort should be made to back up electronic files obtained in the field as soon as practical. A backup file placed on a disk and kept in a separate location from the original will minimize the potential for loss.

6. Electronic files, once transferred from field instruments or laptops to office computers, should be protected if possible to prevent unwanted or inadvertent manipulation or modification of data. Several levels of protection are usually available for spreadsheets, including making a file "read-only" or assigning a password to access the file.

7. Protect floppy disks from exposure to moisture, excessive heat or cold, magnetic fields, or other potentially damaging conditions.

8. Remote monitoring is often used to obtain stored electronic data from site environmental systems. A thorough discussion of this type of electronic field data recording is beyond the scope of this SOP. Such on-site systems are generally capable of storing a limited amount of data as a comma-delimited or spreadsheet file. Users must remotely access the monitoring equipment files via modem or other access, and download the data. In order to minimize the potential for loss of data, access and downloading of data should be performed frequently enough to insure the data storage capacity of the remote equipment is not exceeded.

EQUIPMENT

- 5" by 7" National 407 Field Book, with high-grade 50% rag paper with water-resistant surface, hard-cover, or equivalent;
- Appropriate field log forms;
- Indelible ball point pen (do not use "rollerball" or felt-tip style pens);
- Straight edge;
- Pocket calculator;
- Laptop computer (if required).

REFERENCES

REMEDIATION SECTION	PROCEDURE # SOP-2.1
WORLDWIDE FACILITIES GROUP	EFFECTIVE DATE: May 3, 2001
GENERAL MOTORS CORPORATION	
REVISION #: 0	REVISION DATE:

SUBSURFACE INVESTIGATION ACTIVITIES: TEST PITS

INTRODUCTION

The following describes the methods generally employed for excavating test pits, collecting subsurface soil samples, and recording stratigraphic information obtained from test pits. Test pits are typically excavated to explore and define geologic conditions (or buried waste/debris) and to allow the collection of subsurface soil samples for geotechnical or chemical analysis. Test pits tend to give a more complete view of the subsurface soil conditions than soil borings. Test pits are excavated using either a rubber-tired backhoe or track-mounted excavator and can extend 10 to 15 feet below ground surface (bgs).

Generally, test pits are employed to gather subsurface information only (i.e., a test pit is an investigation, not a removal action). It is GM's policy that all excavated materials be returned to the test pit excavation. No materials are retained for waste disposal and/or waste characterization. Exception is noted for the small amount of waste PPE which will be generated from these activities. Spent PPE will usually be disposed of within the Facilities general trash, or disposed with solid wastes generated from decontamination activities.

In most circumstances test pits are conducted without the need for dewatering pumps or shoring protection. Once groundwater is encountered the test pits are typically considered completed. Information gathered when working below the groundwater table can be limited due to poor visibility and test pit stability issues.

In the event waste drums and/or sub-surface containers are encountered and breached (i.e., damaged) it will be necessary to contain leakage, collect the leaked material and overpack the damaged drum/container for waste characterization and final disposal. Once the leaked material and the damaged drum/container have been dealt with, the excavation will be stopped and the appropriate Project Management/Facility personnel contacted to determine a course of action. In most instances the test pit will be carefully backfilled to avoid further drum/container damage, and a program developed to implement a removal action (if required).

PROCEDURES REFERENCED

- Utility Clearances (SOP-1.3)
- Soil Sample Collection (SOP-6.1)
- Soil Classification (SOP-2.6)
- Equipment Decontamination (SOP-9.0)

TEST PIT PROCEDURES

- Prior to proceeding with test pit excavation a number of activities must be completed in advance:
  1. utility clearances (see SOP 1.3 Utility Clearance);
  2. laboratory arrangements (glassware, shipping details);
  3. land owner/Facility personnel notification; and
  4. material handling procedure should waste and/or drums/sludges be identified.

- <u>Location and Marking of Test Pits/Final Visual Check</u>

  The proposed test pit locations marked in the Work Plan are located in the field and marked.

  Once the final location for the proposed test pit has been selected and utility clearances are complete, one last check of the immediate area should be performed before excavation proceeds. This last visual check should confirm the locations of any adjacent utilities (subsurface or overhead) and verify adequate clearance. If gravity sewers or conduits exist in the area, any access manholes or chambers should be opened and the conduit/sewer alignments confirmed.

CAUTION: DO NOT ASSUME PLAN DETAILS REGARDING PIPE ALIGNMENTS/POSITION ARE CORRECT. VISUALLY CHECK PIPE POSITION WHEN EXCAVATING NEAR SEWERS. PERSONNEL SHOULD ALSO BE ALERT TO THE PRESENCE OF ADDITIONAL PIPING, ESPECIALLY IF THE PLANS ARE OUTDATED!

If it is necessary to relocate any proposed test pit due to terrain, utilities, access etc., the Project Manager must be notified and an alternate location will be selected.

- Equipment Decontamination

Prior to use and between each test pit excavation at an environmental site, the bucket and arm of the backhoe/excavator and sampling equipment must be decontaminated. All decontamination must be conducted in accordance with the project-specific procedures.

The minimum wash procedures for decontamination of this equipment is:

- high pressure, hot water, detergent wash (brushing, as necessary, to remove particulate matter); and
- potable, hot water, high pressure rinse.

For geologic or hydrogeologic studies where contaminants are not present, it is sufficient to clean the excavating equipment simply by removing the excess soils.

- Test Pit Location Setup

The test pit location should be set up as follows:

1. The excavator should be positioned such that the excavation spoils are deposited by the excavator downwind of all staff.
2. A sheet of polyethylene should be placed downwind of the test pit location to accept excavation spoils.
3. To the extent practicable, set up the investigation area such that water or liquids which may be excavated, freely drain back into the excavation.

- Field Sample Screening

Upon the collection of soil samples, the soil is screened with a photoionization detector (PID) for the presence of organic vapor. This is accomplished by running the PID across the soil sample. Record the highest reading and sustained readings.

Note: The PID measurement must be done upwind of the excavating equipment or any running engines so that exhaust fumes will not affect the measurements.

Another method of field screening is head space measurements. This consists of placing a portion of the soil sample in a sealable glass jar, placing aluminum foil over the jar top, and tightening the lid. The jar should only be partially filled. Shake the jar and set aside for at least 30 minutes. After the sample has equilibrated, the lid of the jar can be opened; the foil is punctured with the PID probe and the air (headspace)

above the soil sample is monitored. Record this headspace reading on the field form or in the field book.

Note: Perform all headspace readings in an area that is not subject to wind. *Also, in the winter, it is necessary to allow the samples to equilibrate in a warm area (e.g., site trailer, van, etc.). This requirement is usually dictated by the Work Plan.*

All head space measurements must be completed under similar conditions to allow comparability of results.

- Sample Description and Logging of Test Pits

During the excavation of a test pit, samples may be collected to provide a geologic record, to assist the geologist/engineer in completing or characterizing the stratigraphic units, and to allow for physical or chemical testing.

Soil samples collected are described in the field using the Unified Soil Classification System (USCS). The USCS (modified) is presented in SOP-2.6 (Soil Classification). The soil description is recorded on the field form or field book in the following order:

- USCS Soil Symbol of major component;
- native or fill;
- secondary and minor soil components;
- relative densities/consistency;
- grain-size/plasticity;
- gradation/structure;
- color;
- moisture content; and
- observations of odor or visual chemical presence (i.e., NAPL).

In addition to describing the soil properties, the test pit log should also contain the following information:

- presence of groundwater and the rate of seepage (if groundwater is encountered);
- thickness of each stratigraphic unit;
- description of bedding plane features (i.e., continuous, discontinuous, graded, wavy bedding, fossils);
- description of joints, fractures and faults, if bedrock is encountered (number and orientation); and
- any appearance of weathering.

Note: When describing observed odors, be specific in terms of general odor category and strength of odor noted. Odors may typically be chemical, petroleum, or septic related, varying from slight, to moderate, to strong. Identification of

specific chemical compounds (i.e., TCE or C-56 odor) is usually unnecessary and often inaccurate as a detailed analysis commonly shows an array of chemistry present!

Note: When describing the presence of vegetative matter in the soil sample, do not use the term "organic" as this often leads to confusion with regards to the presence of organic chemicals (i.e., NAPL).

When describing the soil samples and the stratigraphy observed in the test pit, it is imperative that the sampler use consistent terms from one test pit to the next. As test pits are installed, compare the stratigraphy of completed test pits to the stratigraphy of the test pit you are currently excavating. Be aware of patterns and confirm all inconsistencies at the time that the test pit is being excavated. Since the soil stratigraphy is so important to understanding what is going on at a site, soil samples should be collected from each stratigraphic unit, and described in full.

During soil examination and logging, the sampler shall carefully check for the presence of light or dense NAPL. NAPL may be present in gross amounts or present in small/minute quantities. The adjectives and corresponding quantities used when describing NAPL within a soil matrix are as follows:

Visual Description	***Fraction of Soil Pore Volume Containing NAPL***
Saturated	>0.5
Some	0.5 - 0.25
Trace	<0.25

A complete description of NAPL, must describe the following:

- color;
- quantity;
- density (compared to water i.e., light/floats or heavy/sinks);
- odor (if observed); and
- viscosity (i.e., mobile/flowable, non-mobile/highly viscous-tar like).

The presence of an "iridescent sheen" by itself does not constitute 'NAPL presence', but may be an indicator that NAPL is close to the area.

NAPL presence within a soil matrix may be confirmed by placing a small soil sample within water, shaking, and observing for NAPL separation (i.e., light or dense), from the soil matrix.

Trace amounts of NAPL are identified/confirmed by a close visual examination of the soil matrix, [i.e., separate soil by hand (wearing disposable gloves)] and perform a careful inspection of the soil separation planes/soil grains for NAPL presence.

Often during the sample examination with a knife, an iridescent sheen will be noted on the soil surface (i.e., clay/silts) if the knife has passed through an area of NAPL.

There are a number of more sophisticated tests available to confirm/identify NAPL presence, these are:

- UV fluorescent analysis;
- hydrophobic dyes;
- centrifugation; and
- chemical analysis.

Typically consultants will utilize organic vapor detection results, visual examination, soil/water shake testing, and chemical analysis, to confirm NAPL presence. The more complex techniques described may be incorporated on sites where clear colorless NAPL is present and its field identification is critical to the program.

Form 2.1-01 presents the standardized Test Pit Log Form to be employed for documentation of test pit conditions.

On select programs representative portions of the soil sample will be retained as a geologic record along with a description. Place the soil portions into labeled, sealable, sample containers (usually mason jars) without destroying any apparent stratification.

All geologic record samples are to be retained at the Facility.

- Chemical Sample Collection, Preparation and Packaging

Soil samples can be collected from the backhoe/excavation bucket or from the test pit excavation face. Samples which require a discrete depth interval should be collected from the excavation face. Samples are typically collected using a cleaned stainless steel trowel, or stainless steel spoon. Samples should be placed in a stainless steel bowl and mixed (except VOC) if more than one sample container requires collection. If only one sample container is required the sample container may be filled directly from the bucket soil or excavation face.

DO NOT ENTER THE TEST PIT. (Confined Space Entry requirements will apply and proper shoring of the excavation walls may be necessary). Disposable sample gloves will be worn for each sample collected and changed between sample locations.

Safety Concern: Personnel observing or sampling test pit operations must never stand within the "turning radius" or "reach-zone" of the excavation equipment. Operator error, or equipment failure could result in severe injury or death if struck by the backhoe bucket or the backhoe itself.

Also personnel should be alert to test pit side wall conditions which typically undermine the ground surface and create unstable soils surrounding the test pit area.

Subsurface soil samples are usually "grab samples", used to characterize the soil at a specific depth or depth interval (e.g., 2 to 4 feet). On occasion, composite samples are collected from a test pit over a greater depth interval (e.g., 5 to 15 feet).

The following describes the collection of grab samples for chemical analysis:

Clayey Soils

Scrape and/or cut away the surface soils and collect the sample with a pre-cleaned stainless steel spoon and/or sample knife. Remove large stones and natural vegetative debris and homogenize the soil and place it directly into the sample jars.

Note: Samples for VOC analysis must not be homogenized. Collect soil sample by removing the outer layer of soil from the excavation face and then collect the sample and place it in the sample container. Completely fill the container. No air space (headspace) should remain.

Sandy Soils

As sandy soils have less cohesion than clayey soils, with a pre-cleaned stainless steel spoon or other device scrape away surface soils which have likely contacted the backhoe/excavator bucket and then collect a sample.

Note: All soil samples collected for chemical analysis shall be placed immediately in a cooler with ice.

All soil samples shall be recorded in the sample log book as described in procedure SOP-2.6 (Soil Classification). Labeling of samples shall be consistent with procedures identified within SOP-6.1 (Sample Collection for Laboratory Analysis - Soils).

- Documentation

  In addition to completing all field logs and books, it will generally be necessary for test pits to be documented with photographs and/or video tape. This requirement should be fully ascertained and coordinated in advance of field activities.

- Test Pit Abandonment

  Following the completion of the test pit, the excavation should be backfilled using the soil excavated from the pit. To the extent practicable, materials should be replaced into the test pit in the same intervals from which they were extracted.

  It should be noted that the material will tend to "bulk" after excavation. As a result, the excavator operator must be instructed to compact the materials as they are replaced within the excavation.

- Restoration/Cleanup

  The test pit location must be fully restored. Ensure that restoration activities are properly designed and incorporated within the scope of services for the test pit contractor.

  Restoration could include:

  1. landscaping,
  2. paving, and
  3. concrete.

- Test Pit Tie-In/Surveying

  Recording the locations of test pits on the site plan is extremely important. This may be accomplished by manual measurement (i.e., swing ties) and surveying. Manual measurements for each test pit must be tied into three permanent features (e.g., buildings, utility poles, hydrants, etc.). Diagrams with measurements should be included in the field notes.

  In addition to manual measurements, surveying with respect to a geodetic benchmark and a site coordinate system may be necessary at some sites.

  Note: Manual field measurements are always necessary regardless of whether or not a survey is completed!

  Manual measurements allow future identification of the sample/excavation site without the need of a survey crew to locate positions using a grid system.

- Field Notes

The field notes must document all the events, equipment used, and measurements taken during the sampling activities. The field notes must be legible and concise such that the entire excavation and soil sampling event can be reconstructed later for future reference.

The field notes will be recorded on a field form or in a standard bound field book issued for general note taking/field records. All field book/form entries must be made in black ink and any changes/corrections shall be stroked out with a single line and initialed and dated to indicate who and when the correction was made.

The logbook/form should document the following for each excavated test pit:

- identification of test pit,
- depth,
- static water level depth and measurement technique (if groundwater is encountered),
- time started and completed,
- measured field parameters,
- sample appearance,
- sample odors (if respiratory protection is not required),
- types of sample containers and sample identification numbers,
- parameters requested for analysis,
- field analysis data and method(s),
- sample distribution and transporter,
- laboratory shipped to,
- chain-of-custody number for shipment to laboratory,
- field observations on sampling event,
- name of collector(s),
- climatic conditions including air temperature, and
- problems encountered and any deviations made from the established sampling protocol.

EQUIPMENT/MATERIALS

- Excavation Equipment

- Restoration Materials

- Sample Equipment/Materials (spoons, knives, sample containers, log book, coolers, chain-of-custody)

- Test Pit Log Form (2.1-01)
- Tape Measure
- Camera/or Video
- Work Plan
- Health and Safety Plan

REFERENCE

1. American Society for Testing and Materials (1991), Standard D1452-80, "Standard Guide to Site Characterization for Engineering Design and Construction Purposes", Annual Book of ASTM Standard, Section 4, Volume 04.08.
2. American Society for Testing and Materials (1991), Standard D2113-83 (87), "Guide D5434-97 Standard guide for Field Logging of Subsurface Exploration of Soil and Rock", Annual Book of ASTM Standards, Section 4, Volume 04.08.
3. Cohen, Robert M., Mercer, James W. (GeoTrans, Inc.), Robert S. Kerr Environmental Research Laboratory "DNAPL Site Evaluation" Office Research and Development. U.S. Environmental Protection Agency
4. Cohen, R.M., Brayda, A.P., Shaw, S.T., and Spaulding, C.P.; Fall 1992 "Evaluation of Visual Methods to Detect NAPL in Soil and Water", Groundwater Monitoring Review, Vol. 12 No. 4, pp. 132-141.

TEST PIT STRATIGRAPHY LOG

Page ___ of ___

Project Name:	**Contractor:**	**Test Pit Designation:**
Project Number:		**Date Started:**
Client:	**Surface Elevation:**	**Date Completed:**
Location:	**Test Pit Method:**	**Supervisor/Consultant:**

Depth (m/ft)			*Soil Symbol, Primary Component, Secondary Components, Relative Density/Consistency, Grain Size/Plasticity, Gradation/Structure, Colour, Moisture Content, Supplementary Descriptors*	*Sample No.*	*Sample Interval*	*PID*	*Location:* *Geologic Profile*
From	*At*	*To*					

General Motors Corporation - Remediation Section

17300-89-Form 2.1-01

REMEDIATION SECTION	PROCEDURE # SOP 2.2
WORLDWIDE FACILITIES GROUP	EFFECTIVE DATE: May 11, 2001
GENERAL MOTORS CORPORATION	
REVISION #:	REVISION DATE:

DRILLING TECHNIQUES/BACKGROUND INFORMATION

INTRODUCTION

This section will provide a brief description of common methods for conducting subsurface investigations. It should be noted that every drilling technology has its limitations.

PROCEDURES REFERENCED

- Soil Borings (SOP 2.3)
- Soil Classification (SOP 2.6)
- Overburden Wells (SOP 3.2)
- Piezometers (SOP 3.6)

DRILLING METHODS

It is important that the drilling method or methods used minimize disturbance of subsurface materials and not contaminate the subsurface and groundwater. The actual drilling method would be dependent upon site-specific geologic conditions. It is important to note that the drilling equipment selected be decontaminated before and between borehole locations to prevent cross contamination (see SOP 9.0). Where possible drilling methods that minimize waste generation (soil cuttings), and waste water generation (decon water), should be selected for GM investigation/remedial tasks.

In other settings it may be desirable to dictate drilling procedures that minimize turbidity/maximize the ability to achieve sediment-free groundwater. Generally, rotosonic techniques or rotary spun casing techniques achieve these objectives, or oversizing the borehole/sand pack may be considered, as well.

Rotosonic Drilling

This method consists of a combination of rotation with high frequency vibration to advance a core barrel to a desired depth. Once the vibration is stopped, the core barrel is retrieved, and the sample is vibrated or hydraulically extracted into plastic sleeves or sample trays. Monitoring wells shall be installed through the outer casing with minimal formation disturbance and mixing of formation materials. Rotosonic drilling generally requires less time than more traditional methods and minimizes soil mixing and soil disturbance (preferred for well locations where low turbidity is an important objective). Continuous, relatively undisturbed samples can be obtained through virtually any formation. Conventional sampling tools can be employed as attachments (i.e., hydropunch, split spoon, shelby tube, etc.). No mud, air, water, or other circulating medium is required. The rotosonic method can drill easily through formations such as rock, sand, clay, or glacial till. The main limitation of this method is the availability of equipment, the large area required (i.e., drill units are quite large), and costs.

Direct Push (Geoprobe™)

Direct push refers to the sampler being "pushed" into the soil material without the use of drilling to remove the soil. This method relies on the amount of the drill weight combined with percussion for advancement of the tool string. Discrete soil samples are continuously obtained as well groundwater and vapor samples can also be collected utilizing this method. Subsurface investigations typically probe to depths of 30 feet or more, depths will vary based on site-specific geology.

Direct push method is widely used for UST investigations and property investigations. This method is used extensively for initial Site screening activities to delineate vertical and horizontal plume presence and can significantly reduce investigative costs.

This method is becoming more popular due to the limited cuttings that are produced during the sampling process and the sampling process speed.

The use of the Geoprobe™ 6600 also allows for the installation of 2-inch diameter monitoring wells in that the 41/4-inch hollow-stem auger method can be utilized.

Rotary Method

This method consists of a drill rod attached to a drill bit (soils: tricone, drag; rock: button studded, diamond studded) that rotates and cuts through the soils and rock. The cuttings produced are forced to the surface between the borehole wall and the drill rod by drilling fluids which generally consist of water, drilling mud, or air. The drilling fluids not only force the cuttings to the surface but also keep the drilling bit cool. Using rotary methods for well installations can be difficult as it usually requires several steps to complete the installation. First, the borehole is drilled; then temporarily cased; then the well is installed; and then the temporary casing is removed. In some cases, the borehole

may remain open without installing a casing but this will only occur in limited instances (i.e., cohesive soils).

i) Water Rotary

When using water rotary, the potable water supply shall be analyzed for contaminants of concern. Water rotary is the preferred rotary method since the potable water is the only fluid introduced into the borehole during drilling. However, the use of water as a fluid is generally only successful when drilling in cohesive soils. The use of potable water (only) also reduces well development time, when compared to mud rotary.

ii) Air Rotary (typically used in rock)

When using air rotary, the air compressor must have an in-line oil filter system assembly to filter the oil mixed with the air coming from the compressor. This will help eliminate contaminant introduction into the formation. The oil filter system shall be regularly inspected. Air compressors not having an in-line oil filter system are not acceptable for air rotary drilling. A cyclone velocity dissipater or similar air containment system shall also be used to funnel the cuttings to one location rather than letting the cuttings blow uncontrolled out of the borehole. Air rotary may not be an acceptable method for well installation where certain contaminants are present in the formation. Alternatively, it may be necessary to provide treatment for the air being exhausted from the borehole during the installation process.

iii) Mud Rotary

Mud rotary is the least preferred rotary method because contamination can be introduced into the borehole from the constituents in the drilling mud (i.e., Ohio, Michigan). The drilling muds are generally non-toxic and do not introduce contaminants into the borehole, however, it is possible for mud to commonly infiltrate and affect water quality by sorbing metals and polar organic compounds (Aller et al., 1991). Chemical composition and priority pollutants analysis may be obtained from the manufacturer. Mud rotary shall utilize only potable water and pure (no additives) bentonite drilling muds. The viscosity of the drilling mud shall be kept as low as possible in order to expedite well development. Proper well development is essential to ensure the removal of all the drilling mud and to return the formation to its previously undisturbed state.

Hollow-Stem Auger

The hollow-stem continuous-flight auger (HSA) is among the most frequently used in the drilling of monitoring wells (overburden wells) or for placement of overburden casings for bedrock wells.

The primary advantages of hollow-stem augering are that:

- generally, no additional drilling fluids are introduced into the formation;
- representative geologic soil samples can be easily obtained using split-spoon samples in conjunction with the hollow-stem augers; and
- monitoring wells can be installed through the augers eliminating the need for temporary borehole casings.

Disadvantages of hollow-stem augering are:

- creates problems for select parameters;
- large volumes of cuttings are typically generated;
- decon is fairly time consuming/labor intensive; and
- relatively slow when compared to direct-push methods (soil sampling tasks).

Installing monitoring wells through hollow-stem augers is a relatively simple process although precautions need to be taken to ensure that the well is properly backfilled. This can be particularly problematic in cases where flowing sand is present.

Hollow-stem augers are available with inside diameters of 2.5, 3.25, 4.0, 4.25, 6.25, 8.25, and 10.25 inches. The most commonly used are 4.25 inches for 2-inch (5 cm) monitoring wells and 6.25 inches for 4-inch (10 cm) monitoring wells. Boreholes can usually be drilled with hollow-stem augers to depths up to 100 feet (30 m) in unconsolidated clays, silts, and sands. Removing augers in flowing sand conditions while installing monitoring wells may be difficult since the augers have to be removed without being rotated. A bottom plug or pilot bit assembly should be utilized to keep out soils and/or water that have a tendency to plug the bottom of the augers during drilling. If flowing sands are encountered, potable water (analyzed once for contaminants of concern) may be poured into the augers to equalize the pressure to keep the formation materials and water from coming up into the auger once the bottom plug is removed.

Dual-Wall Reverse Circulation Air Method of Drilling

This method consists of two concentric strings of drill pipe (an outer casing and a slightly smaller inner casing). The outer drill pipe is advanced using rotary drilling with a donut-shaped bit attached to the dual casing string cuts an area only the width of the two casings and annulus between. Compressed air is continually forced down the annulus between the inner casing carrying the drill cuttings and groundwater. At the surface, the inner casing is connected to a cyclone hopper where the drill cuttings and groundwater fall out the bottom of the hopper, and air is disbursed out the top. The dual wall provides a fully cased borehole in which to install a monitoring well. The only soil or groundwater materials exposed at any time are those at the drill bit. Therefore, the potential for carrying contamination from one stratum to another is minimal. Depth-specific groundwater samples can be collected during drilling; however, since the groundwater is aerated, analysis for volatile compounds may not be valid.

Well Points

In some limited cases, well points (sand points) are driven into place without the use of augers. This method provides no information on the geologic condition (other than the difficulty of driving which may be related to formation density). Well points are most often used simply to provide dewatering of a geologic unit prior to excavation in the area. Well points are also used in monitoring shallow hydrogeologic conditions such as in stream beds.

REFERENCE

Numerous publications are available describing current monitoring well design and construction procedures.

1. Driscoll, F.G., 1986. Groundwater and Wells, 2nd Edition. Johnson Division.
2. Freeze, R.A. and Cherry, J.A., 1979. Groundwater. Prentice Hall, Inc.
3. EPA/625/6-90/0166 (July 1991), Handbook Ground Water Volume II:Methodology
4. National Water Well Association, 1989. Handbook of Suggested Practices for the Design and Installation of Groundwater Monitoring Wells
5. Environmental Protection Agency (1986), RCRA Groundwater Monitoring Technical Enforcement Guidance Document, OSWER-9950.1

In addition, the following ASTM publications apply:

1. ASTM D5474 Guide for Selection of Data Elements for Ground-Water Investigations
2. ASTM D5787 Practice for Monitoring Well Protection
3. ASTM D5521 Guide for Development of Ground-Water Monitoring Wells in Granular Aquifers
4. ASTM D5978 Guide for Maintenance and Rehabilitation of Ground-Water Monitoring Wells
5. ASTM D5299 Guide for Decommissioning of Ground Water Wells, Vadose Zone Monitoring Devices, Boreholes and Other Devices for Environmental Activities
6. ASTM D5092 Standard Practice for Design and Installation of Ground Water Monitoring Wells in an Aquifer.

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SOIL BORINGS

INTRODUCTION

The following presents a description of the methods generally employed for the installation of boreholes and the collection of subsurface soil samples. Boreholes are typically installed to define geologic conditions for hydrogeologic and geotechnical evaluation; to allow the installation of monitoring wells and piezometers; and to allow the collection of subsurface soil samples (generally above the water table) for chemical analysis.

Several manual methods are available for the collection of shallow subsurface soil samples (e.g., hand augers, post-hole augers, vibratory hammers). However, the most common methods used by GM to advance boreholes are rotosonic drilling techniques, hollow-stem augers (HSA), or the use of direct-push equipment. Rotosonic drilling and direct-push techniques are preferred boring approaches at GM Facilities. SOP 2.2 Drilling Techniques/Background, provides insight into the advantages/disadvantages of these drilling methods.

PROCEDURES REFERENCED

Utility Clearance (SOP 1.3)

Drilling Techniques (SOP 2.2)

Soil Classification (SOP 2.6)

Soil Sample Collection (SOP 6.1)

BOREHOLE REQUIREMENTS

The following activities must be undertaken prior to undertaking a borehole installation and subsurface soil sampling program.

i) Assemble all equipment and supplies required per the Work Plan.

ii) Obtain a site plan and any previous stratigraphic logs. Determine the exact number and location of boreholes to be installed and the depths of samples for chemical analysis.

iii) Contact the analytical group to arrange/determine:
- laboratory;
- glassware/sample jars;
- cooler;
- shipping details;
- start date; and
- expected duration.

iv) Establish borehole locations in field using available landmark or by surveying methods if necessary.

v) Arrange for utility clearance of franchised utilities and site utilities.

vi) Determine notification needs with the Project Manager. Have the regulatory groups, landowner, GM Facility personnel, and laboratory been informed of the sampling event?

vii) Determine the methods for handling and disposal of drill cuttings, wash waters, and spent decontamination fluids.

Once the prior planning and preparation activities are completed, the borehole installation and subsurface soil sampling program can proceed. The typical series of events which takes place is:

- locating and marking of borehole locations (if not already completed);
- equipment decontamination;
- final visual examination of proposed drilling area for utility conflicts/final hand auger or post-hole check to verify utility absence;
- advancement of borehole and collection of the soil sample;
- field screening of soil sample;
- description of soil sample (Form 2.6-01 will be used to record data);
- sample preparation and packaging;
- abandonment of boreholes;
- surveying of borehole locations and elevations; and
- field note completion and review.

i) <u>Location and Marking of Boreholes/Final Visual Check</u>

The proposed borehole locations marked on the site plan are located in the field and staked. On most sites, this will likely be done several days in advance of the drill rig arriving on site. Unless boreholes are to be installed on a fixed grid, the proposed locations are usually strategically placed to assess site conditions.

Once the final location for the proposed boring has been selected and utility clearances are complete, one last visual check of the immediate area should be performed before drilling proceeds. This last visual check should confirm the locations of any adjacent

utilities (subsurface or overhead) and verification of adequate clearance. If gravity sewers or conduits exist in the area, any access manholes or chambers should be opened and the conduit/sewer alignments confirmed. Do not enter manholes unless confined space procedures are followed.

ii) Borehole Advancement

If possible, it is prudent to use a hand auger or post-hole digging equipment to a sufficient depth to verify the absence of buried utilities and pipelines. This procedure should clear the area to the full diameter of the drilling equipment which will follow.

If it is necessary to relocate any proposed borehole due to terrain, utilities, access, etc., the Project Manager must be notified and an alternate location will be selected.

Prior to use and between each borehole location at an environmental site, the drilling and sampling equipment must be decontaminated. All decontamination must be conducted in accordance with the project-specific plans or the methods presented in SOP 9.0.

The clean augers/tooling are covered with clean plastic sheeting to prevent contact with foreign materials. For geotechnical, geologic, or hydrogeologic studies where contaminants will not be present, it is sufficient to clean the drilling equipment simply by removing the excess soils.

Collection of soil samples is one of the most important considerations in selecting drilling methods. Therefore, the need for reviewing drilling techniques (SOP 2.2) and the Site objectives must first be considered. Soil Classification will be completed in accordance with SOP 2.6. Sections iii) and iv) describe borehole soil sampling procedures using direct-push tooling and hollow stem augering/split spoon sampling (Standard Penetration Testing - SPT), respectively.

iii) Direct-Push/Macro-Core™ Soil Sampler

The operation of the direct-push/Macro-Core™ Soil Sampler (or equivalent) consists of "pushing" the sampler into the subsurface and then retrieving it using a direct-push soil probing machine. The collected soil core is contained within an internal soil liner (acetate, polyethylene or teflon) and removed from the sampler once returned to the ground surface. Sampler length is variable depending on equipment available (2 ft., 4 ft., 5 ft.). Once the soil liner has been removed and the outer sampler decontaminated, a new liner is inserted and the sampler reassembled. The clean sampler is then driven back down the same hole to collect the next soil sample.

The Macro-Core™ sampler can be used in either the open-tube or closed-point sampling mode. The open-core sample mode is most commonly used in stable soil conditions. In unstable soils, the piston rod point system prevents collapsed soil from entering the sampler as it is advanced back down the hole. Once at the sample depth, the piston rod is

unthreaded and released. The sampler is then driven into the subsurface to fill the sampler with soil, the piston point rides on top of the soil, as it enters the sampler.

Once recovered the soil liner with collected soils is opened (cut lengthwise) and examined to collect soil screening information, soil logging information, and soils for chemical analysis.

iv) Standard Penetration Testing (SPT) Sampling and Testing Procedure

This method is used to obtain representative samples of subsurface soil materials and to determine a measure of the in situ relative density of the subsurface soils. The test methods described below must be followed to obtain accurate SPT values. The split spoon is typically driven in advance of a hollow stem auger string which allows collection of the disturbed but representative sample.

SPT sampling is performed by using a split barrel sampler in accordance with ASTM D1586. The split barrel sampler, or split spoon, consists of an 18- or 24-inch long, 2-inch outside diameter tube, which comes apart length wise into two halves. The split spoon is typically driven in advance of a hollow stem auger string which allows collection of the disturbed but representative soil sample.

Once the borehole is advanced to the target depth and the borehole cleaned of cuttings, representative soil samples are collected in the following manner:

- the split-spoon sampler should be inspected to ensure it is properly cleaned and decontaminated. The driving shoe (tip) should be relatively sharp and free of severe dents and distortions;
- the cleaned split-spoon sampler is attached to the drill rods and lowered into the borehole. Do not allow the sampler to drop onto the soil;
- after the sampler has been lowered to the bottom of the hole, it is given a single blow to seat it and make sure that it is in undisturbed soil. If there still appear to be excessive cuttings in the bottom of the borehole, remove the sampler from the borehole and remove the cuttings; and
- mark the drill rods in three or four successive 6-inch (0.15 m) increments, depending on sampler length, so that the advance of the sampler under the impact of the hammer can be easily observed for each 6-inch (0.15 m) increment.

The sampler is then driven continuously for either 18 or 24 inches (0.45 or 0.60 m) by use of a 140-pound (63.5 kg) hammer. The hammer may be lifted and dropped by either the cathead and rope method, or by using a trip, automatic, or semi-automatic drop system. The hammer should free-fall a distance of 30 inches (±1 inches) (760 mm, ±25 mm) per blow. Measure the drop at least daily to ensure that the drop is correct. To ensure a free-falling hammer, no more than 2 1/4 turns of the rope may be wound around the cathead (see ASTM D1586). The number of blows applied in each 6-inch (0.15 m) increment is counted until one of the following occurs:

- a total of 50 blows have been applied during any one of the 6-inch (0.15 m) increments described above;
- a total of 100 blows have been applied;
- there is no advancement of the sampler during the application of ten successive blows of the hammer (i.e., the spoon is "bouncing" on a stone or bedrock); or
- the sampler has advanced the complete 18 or 24 inches (0.45 or 0.60 m) without the limiting blow counts occurring as described above.

In some cases where the limiting number of blow counts has been exceeded, the Consultant may direct the driller to attempt to drive the sampler more if collection of a greater sample length is essential.

On the field form, record the number of blows required to drive each 6-inch (0.15 m) increment of penetration. The first 6 inches is considered to be a seating drive. The sum of the number of blows required for the second and third 6 inches (0.15 m) of penetration is termed the "standard penetration resistance" or the "N-value".

Note: If the borehole has sloughed and there is caved material in the bottom, the split spoon may push through this under its own weight, but now the spoon is partially "pre-filled". When the spoon is driven the 18 or 24 inches representing its supposedly empty length, the spoon fills completely before the end of the drive interval. Two problems arise:
1. the top part of the sample is not representative of the in-place soil at that depth; and
2. the SPT value will be artificially higher toward the bottom of the drive interval since the spoon was packed full. These conditions should be noted on the field log.

The sampler is then removed from the borehole and unthreaded from the drill rods. The open shoe (cutting end) and head of the sampler are partially unthreaded by the drill crew and the sampler is transferred to the geologist/engineer work surface.

Note: A table made out of two sawhorses and a piece of plywood is appropriate, or a drum, both covered with plastic sheeting.

The open shoe and head are removed by hand, and the sampler is tapped so that the tube separates.

Note: Handle each split spoon with clean disposable gloves if environmental issues are being investigated.

Measure and record the length of sample recovered making sure to discount any sloughed material that is present on top of the sample core.

Caution must be used when conducting SPT sampling below the groundwater table, particularly in sand or silt soils. These soils tend to heave or "blow back" up the borehole due to the difference in hydraulic pressures between the inside of the HSA and the undisturbed soil. To equalize the hydraulic pressure, the inside of the HSA must be filled with water or drilling mud. The drilling fluid level within the boring or hollow-stem augers needs to be maintained at or above the in situ groundwater level at all times during drilling, removal of drill rods, and sampling. Since heave or blow back is not always obvious to the driller, it is essential that the water level in the borehole always be maintained at or above the groundwater level.

Heaving conditions and the use of water or mud should be noted on the field logs.

SPT sampling below the water table in sands and silt occasionally results in low SPT values being obtained due to the heaving effect disturbing the soil especially if the water level in the hole has not been maintained at the in situ water level. Suspect low N values should be noted on the field logs. If it is critical to have accurate N values below the water table, other methods can be employed, such as conducting a dynamic cone penetration test. This quick and easy test involves attaching a cone shaped tip to the end of the drill rods, and driving the tip into the ground similar to the SPT method, except that the borehole is not pre-augered. Cones may be driven 20 to 40 feet through a formation without augering. Blow counts are recorded for each foot (0.3 m) of advancement.

A variation of split barrel sampling involves the use of a longer barrel in conjunction with hollow stem augers. The sampling barrel is installed inside the auger with a swivel attachment to limit rotation of the barrel. After completion of a 5-foot auger penetration, the auger is left in place and the barrel retrieved from the borehole. The sampler should be handled and the sample retrieved in the same way as described above for SPT sampling.

Thin-Walled Samplers (Shelby Tubes)

Thin-walled samplers are used to collect relatively undisturbed samples (as compared to split-spoon samples) of soft to stiff clayey soils. Shelby tubes are commonly used. The Shelby Tube has an outside diameter of 2 or 3 inches and is 3 feet long. These undisturbed samples are used for certain laboratory tests of structural properties (consolidation, hydraulic conductivity, shear strength) or other tests that might be influenced by sample disturbance. Procedures for conducting thin-walled tube sampling are provided in ASTM D1587, and are briefly described below.

- the soil deposit being sampled must be cohesive in nature, and relatively free of sand, gravel, and cobble materials, as contact with these materials will damage the sampler;
- clean out the borehole to the sampling elevation using whatever method is preferred that will ensure the material to be sampled is not disturbed. If groundwater is

encountered, maintain the liquid level in the borehole at or above groundwater level during the sampling operation;

- bottom discharge bits are not permitted. Side discharge bits may be used, with caution. Jetting through an open-tube sampler to clean out the borehole to sampling elevation is not permitted. Remove loose material from the center of a casing or hollow-stem auger as carefully as possible to avoid disturbance of the material to be sampled;
- place the sample tube so that its bottom rests on the bottom of the hole. Advance the sampler into the formation without rotation by a continuous and relatively rapid motion; usually hydraulic pressure is applied to the top of the drill rods;
- determine the length of advance by the resistance and condition of the formation, but the length shall never exceed 5 to 10 diameters of the tube in sands and 10 to 15 diameters of the tube in clays;
- in no case should the length of advance be greater than the sample-tube length minus an allowance for the sampler head and a minimum of 3 inches for cuttings.
- the tube may be rotated to shear the bottom of the sample 2 to 3 minutes after pressing in, and prior to retrieval to ensure the sample does not slide out of the tube. Lift the weight of the rods off of the tube prior to rotating.
- withdraw the sampler from the formation as carefully as possible in order to minimize disturbance of the sample;
- package and transport the sample in accordance with SOP 6.6.

On occasion it maybe required to extract the sample from the tube in the field.

- a sample extruder, which consists of a clamp arrangement to hold the tube and a hydraulic ram to push the sample through the tube, is usually mounted on the side of the rig. To prevent cross-contamination, be certain that the extruder is field cleaned between each sample;
- the sample is then extruded into a carrying tray; these are often made from a piece of 4-inch or 6-inch diameter PVC pipe cut lengthwise. Be certain that the carrying tray is field cleaned between each sample. The sample is carried to the work station to describe the sample, trim the potentially cross contaminated exterior, and place it in the appropriate container; and
- the Shelby tube may then be thoroughly field cleaned and decontaminated for reuse. Since they are thin-walled, the tubes are easily damaged, crimped, or otherwise distorted during handling or pushing. The Shelby Tube should be inspected before use and any which are significantly damaged should be rejected.

v) Borehole Completion

At the completion of the soil boring, once the soil/groundwater samples have been collected, the borehole annulus is then abandoned. Borehole abandonment options are identified in SOP 2.5 - Borehole Abandonment/Sealing. Each boring will be surveyed to establish vertical/horizontal information; field ties (i.e., swing ties) will also be collected

to document the boring location. Once completed, a stratigraphic log will be prepared for reporting purposes.

EQUIPMENT

- Drilling Equipment
- Stratigraphy Log (Overburden) (Form 2.6-01)
- Tape Measure

REFERENCE

1. ASTM D420-93 — Guide to Site Characterization for Engineering, Design, and Construction Purposes
2. ASTM D1452-80 — Practice for Soil Investigation and Sampling by Auger Borings
3. ASTM D1586-84 — Test Method for Penetration Test and Split-Barrel Sampling of Soils
4. ASTM D1587-94 — Practice for Thin-Walled Tube Geotechnical Sampling of Soils
5. ASTM D2488-93 — Practice for Description and Identification of Soils (Visual-Manual Procedure)
6. National Water Well Association, Handbook of Suggested Practices for the Design and Installation of Ground-Water Monitoring Wells.1989
7. EPA OSWER-9950.1,1986. RCRA Ground-Water Monitoring Technical Enforcement Guidance Document

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SUBSURFACE INVESTIGATION ACTIVITIES: BOREHOLE ABANDONMENT/SEALING

INTRODUCTION

The following procedure describes common techniques for the abandonment/sealing of overburden boreholes. Borehole completion may have been performed by a rotosonic drilling technique, direct push sampling device, hollow stem augering/split spoon sampling, solid stem augering or other soil sample collection techniques. The method of borehole abandonment selected for a program will be dependent on a number of factors such as: depth to groundwater, presence of contamination (and degree of contamination i.e., light or dense non-aqueous phase liquids - NAPL), confining layer presence and/or physical setting (i.e., open field/vacant land, vs. facility setting). The Work Plan guiding these activities (soil boring/boring closure) will dictate which method of borehole abandonment/seating is required. Rotosonic drilling methods are often preferred for soil boring activities on GM sites where appropriate. The borehole abandonment/sealing techniques reviewed in the following consist of:

- soil cutting backfill;
- bentonite chip backfill; or
- cement/bentonite grout backfill using tremie techniques.

Boreholes need to be abandoned and sealed properly to prevent surface water entry to the groundwater regime, to eliminate any physical hazard, and to prevent/protect groundwater movement from one aquifer to another.

PROCEDURES REFERENCED

- Soil Boring (SOP-2.3)

BOREHOLE ABANDONMENT/SEALING PROCEDURE

A. Soil Cutting Backfill

Typically employed when working above groundwater table and at shallow depths (maximum depth 2 feet).

- The final depth of borehole will be measured and recorded.
- Cuttings are dropped into borehole after sample equipment is removed.
- Drill rod and/or probe rodding is used to compact/compress cuttings to allow return of all cuttings back into borehole.
- Mound final surface of cuttings above ground surface to allow settlement and promote surface water runoff away from boring. Final restoration will be completed in accordance with needs of the GM Facilities representative.
- Borehole abandonment will be documented in field records/notes.

B. Bentonite Chip Backfill

Typically employed when working above or just into the groundwater table. It is anticipated that this method will be used at the Site.

- Excess cuttings have been drummed for disposal or excess cuttings have been spread at ground surface.
- The depth of the borehole will be measured and recorded.
- Bentonite chips will be dropped into borehole as hollow stem augers are removed, or after the boring equipment has been removed from the borehole (solid stem auger, probing tools, split spoon samplers).
- Sufficient water will be needed to hydrate bentonite chips as they are placed.
- The bentonite chip backfill will be extended to within 1 foot of ground surface, the final borehole space will be backfilled with native soil and mounded slightly to allow settlement and promote surface water runoff away from the boring. Alternatively, the borehole cuttings may be mixed with bentonite to complete the abandonment/sealing task. Final restoration will be completed in accordance with needs of the GM Facilities representative.
- Borehole abandonment will be documented in field records/notes.

C. Cement/Bentonite Grout Backfill

Typically employed when working below the groundwater table, or in an area where a confining layer exists and the potential for groundwater/NAPL movement along a preferential pathway (i.e., former borehole) must be eliminated.

- The final depth of borehole will be measured and recorded.
- The volume of grout required will be calculated from the above measurements.
- A grout mix of one bag (94 lbs.) of Portland Cement and three pounds of bentonite with approximately 7.5 gallons of clean water will be prepared.
- Using a tremie tube placed at the base of the borehole the grout will be pumped until observed at the required elevation. The tremie tube will be raised as the grout level rises (positive displacement technique).

- The bentonite/grout backfill will be extended to within 1 foot of ground surface, the final borehole space will be backfilled with native soil and mounded slightly to allow settlement and promote surface water runoff away from boring. Final restoration will be completed in accordance with the GM Facilities representative.
- Borehole abandonment will be documented, noting depth of borehole, volume of grout used and mix ratio.
- Groundwater displaced from the borehole may or may not require containment depending on borehole setting and/or water quality.

NOTE: AT THE COMPLETION OF BOREHOLE ABANDONMENT/SEALING ACTIVITIES (REGARDLESS OF METHODOLOGY EMPLOYED) IT IS NECESSARY TO CHECK FOR SURFACE SETTLEMENT A FEW DAYS AFTER WORK COMPLETION TO DETERMINE IF THE BOREHOLE AREA REQUIRES "TOPPING OFF".

Final Restoration

The area around the borehole and the borehole surface shall be restored as directed by the GM Facility representative (e.g., asphalt, concrete, vegetation). Time for borehole settlement may be permitted, then final restoration performed; or alternatively final restoration may be required immediately in active interior work areas.

Cleanup

The area around the borehole shall be completely cleaned up of any investigation related materials (litter, etc.).

EQUIPMENT/MATERIALS

- Grout pump/mixing equipment
- Field logs/forms

REFERENCE

1. United States Environmental Protection Agency (1992) "Guide to Management of Investigation-Derived Wastes", Quick Reference Fact Sheet
2. ASTM D5299 "Guide for Decommissioning of Ground Water Wells, Vadose Zone Monitoring Devices, Boreholes and Other Devices for Environmental Activities

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SOIL CLASSIFICATION

INTRODUCTION

The stratigraphic log is a factual description of the soil at the borehole location and is relied upon to interpret the soil characteristics, and their influence and significance in the subsurface environment. The accuracy of the stratigraphic log is to be verified by the person responsible for interpreting subsurface conditions. An accurate description of the soil stratigraphy is essential for a reasonable understanding of the subsurface conditions. Confirmation of the field description by examination of representative soil samples by the project geologist, hydrogeologist, or geotechnical engineer (whenever practicable) is recommended.

The ability to describe and classify soil correctly is a skill that is learned from a person with experience and by systematic training and comparison of laboratory results to field descriptions.

It is GM's Policy to log soils according to the Unified Soil Classification System (USCS) described in the following.

PROCEDURES REFERENCED

Test Pits (SOP-2.1)
Soil Boring (SOP-2.3)

DESCRIPTIONS

Several methods for classifying and describing soils or unconsolidated sediments are in relatively widespread use. The Unified Soil Classification System (USCS) is the most common. With the USCS, a soil is first classified according to whether it is predominantly coarse-grained or fine-grained.

The description of fill soil is similar to that of natural undisturbed soil except that it is identified as fill and not classified by USCS group, relative density, or consistency. Those logging soils must attempt to distinguish between soils that have been placed (i.e., fill) and not naturally present; or soils that have been naturally present but disturbed (i.e., disturbed native).

It is necessary to identify and group soil samples consistently to determine the subsurface pattern or changes and non-conformities in soil stratigraphy in the field at the time of drilling. The stratigraphy in each borehole during drilling is to be compared to the stratigraphy found at the previously completed boreholes to ensure that pattern or changes in soil stratigraphy are noted and that consistent terminology is used.

Visual examination, physical observations and manual tests (adapted from ASTM D2488, visual-manual procedures) are used to classify and group soil samples in the field and are summarized in this subsection. ASTM D2488 should be reviewed for detailed explanations of the procedures. Visual-manual procedures used for soil identification and classification include:

- visual determination of grain size, soil gradation, and percentage fines;
- dry strength, dilatancy, toughness, and plasticity (thread or ribbon test) tests for identification of inorganic fine grained soil (e.g., CL, CH, ML, or MH); and
- soil compressive strength and consistency estimates based on thumb indent and pocket penetrometer (preferred) methods.

The three main soil divisions are: coarse grained soil (e.g., sand and gravel), fine grained soil (e.g., silt and clay), and soil with high natural organic matter content (e.g., peat and marl).

Coarse Grained Soil

The USCS group symbols for coarse grained soil are primarily based on grain or particle size, grain size distribution (gradation), and percent fines (silt and clay content).

Coarse-grained soils are then further subdivided according to the predominance of sand and gravel. Course grained soil is made up of more than 50 percent, by weight, sand size, or larger (75 μm diameter, No. 200 sieve size or larger). It is noted that there are other definitions for coarse grained or coarse textured soil and for sand size such as soil having greater than 70 percent particles equal to or greater than 50 μm diameter.

Descriptions for grain size distribution of soil include; poorly graded (i.e., soil having a uniform grain size, SP and GP) and well graded (i.e., poorly sorted; having wide range of particle sizes with substantial intermediate sizes, SW and GW).

Coarse grained soils are further classified based on the percentage of silt and clay it contains (fines content). Coarse grained soils containing greater than 12 percent fines is commonly described as dirty. This description arises from the soil particles that adhere when the soil is rubbed between the hands or adhere to the sides of the jar after shaking or rolling the soil in the jar. The jar shake test which results in segregation of the sand and gravel particles is also used as a visual aid in determining gravel and sand percentages.

Examples of the group symbol, name, and adjectives used to describe the primary, secondary, and minor components of soil are; GW - Sandy Gravel (e.g., 70 percent gravel and 30 percent sand) or Sandy Gravel trace silt (less than 10 percent silt), and SP - Sand, uniform.

Relative density is an important parameter in establishing the engineering properties and behavior of coarse grained soil. Relative density of non-cohesive (granular) soil is determined from standard penetration test (SPT) blow counts (N values) (after ASTM Method D1586).

The SPT gives a reliable indication of relative density in sand and fine gravel. N values in coarse grained soil are influenced by a number of factors that can result in overestimates of relative density (e.g., in coarse gravel and dilatent silty fine sand) and can be conservative and underestimate the relative density (e.g., sand below the groundwater table and uniform coarse sand). These effects will be assessed by the project geotechnical engineer, if required, and need not be taken into account by field personnel.

Other dynamic methods, such as modified SPT and cone penetration tests, are used on occasion to supplement or replace the SPT method for certain site-specific conditions. The details of all modifications to the SPT or substitute methods should be recorded as they are required to interpret test results and correlate to relative density.

Fine Grained Soil

A soil is fine grained if it is made up of half or more of clay and silt (i.e., fines greater than 50 percent by weight passing the 75 μm (No. 200) sieve size). A description of visual-manual field methods and criteria (after ASTM D2488) that are used to further characterize and group fine grained soil (e.g., CL, CH, ML, or MH) including dry strength, dilatancy, toughness, and plasticity (thread or ribbon test) follows. Fine grained soils are subdivided on a basis of the liquid limit and the degree of plasticity.

The accurate identification of silts and clays can be aided by the use of some single field tests. Clay is sticky, will smear readily, and can be rolled into a thin thread even when the moisture content is low. When it is dry clay forms hard lumps. Silt on the other hand, has a low dry strength, can be rolled into threads only at high moisture content, and a wet silt sample will puddle when it is tapped.

CRITERIA FOR DESCRIBING DRY STRENGTH

Description	***Criteria***
None	The dry specimen crumbles into powder with mere pressure of handling.
Low	The dry specimen crumbles into powder with some finger pressure.
Medium	The dry specimen breaks into pieces or crumbles with considerable finger pressure.

High	The dry specimen crumbles into powder with finger pressure. Specimen will break into pieces between thumb and a hard surface.
Very High	The dry specimen cannot be broken between the thumb and a hard surface.

CRITERIA FOR DESCRIBING DILATANCY

Description	*Criteria*
None	No visible change in small wetted specimen when rapidly shaken in palm of hand.
Slow	Water appears slowly on the surface of the specimen during shaking and does not disappear or disappears slowly upon squeezing.
Rapid	Water appears quickly on the surface of the specimen during shaking and disappears quickly upon squeezing or stretching.

CRITERIA FOR DESCRIBING TOUGHNESS

Description	*Criteria*
Low	Only slight pressure is required to roll the thread near the plastic limit. The thread and the lump are weak and soft.
Medium	Medium pressure is required to roll the thread to near the plastic limit. The thread and the lump have medium stiffness.
High	Considerable pressure is required to roll the thread to near the plastic limit. The thread and the lump have very high stiffness.

CRITERIA FOR DESCRIBING PLASTICITY

Description	*Criteria*
Nonplastic	A 1/8-inch (3 mm) thread cannot be rolled at any water content.
Low	The thread can barely be rolled and the lump cannot be formed when drier than the plastic limit.
Medium	The thread is easy to roll and not much time is required to reach the plastic limit. The thread cannot be re-rolled after reaching the plastic limit. The lump crumbles when drier than the plastic limit.
High	It takes considerable time rolling and kneading to reach the plastic limit. The thread can be re-rolled several times after reaching the plastic limit. The lump can be formed without crumbling when drier than the plastic limit.

Examples of group symbol identification based on visual-manual procedures and criteria for describing fine grained soil are:

Group Symbol	*Dry Strength Plasticity*	*Dilatancy*	*Toughness*
ML	None to low	Slow to rapid	Low or thread cannot be formed
CL	Slight Medium to high	None to slow	Medium
MH	Low Low to medium	None to slow	Low to medium Low
CH	High to very high	None	High High

A requirement for positive classification by USCS group symbols (as described in Test Method ASTM D2487) is laboratory determination of particle size characteristics, liquid limit and plasticity index. The need for this type of testing will be determined by the project geologist, hydrogeologist, or geotechnical engineer.

Examples of name terminology that accompanies the group symbols are ML - Sandy Silt (e.g., 30 percent sand) and CL - Lean Clay with sand (e.g., 15 to 29 percent sand).

The correlation between N value and consistency for clays is rather unreliable. It is preferable to determine consistency using more appropriate static test methods, particularly for very soft to stiff clay soil. N value estimates of consistency are more reasonable for hard clay.

Unconfined compressive strength (Su) may be estimated in the field from the pocket penetrometer test method. To obtain a pocket penetrometer estimate of consistency and compressive strength, the soil core is cut perpendicular to the core length, the length of core (minimum 4 inches) is held in the hand and a moderate confining pressure is applied to the core (not sufficient to deform the core); the penetrometer piston tip is slowly inserted into the perpendicular face of the core until the penetrometer indents into the soil core to the mark indicated on the tip of the penetrometer piston; the penetrometer estimate of soil compressive strength (Su) is the direct reading of the value mark on the graduated shaft (in tons per square foot or other unit of pressure as indicated) indicated by the shaft ring marker, or in some models, by the graduated piston reading at the shaft body. To obtain an average estimate, this procedure is completed several times on both ends and mid cross-section of the core. For Shelby Tube (or thin wall sampler) samples the pocket penetrometer tip is applied to the exposed bottom of the sample at several locations.

Estimates of compressive strength for clay soil of very soft to stiff consistency are better established by in situ shear vane tests or other static test methods.

The description of consistency (or strength) is an important element in determining the engineering properties and strength characteristics of fine grained cohesive soil. Consistency terms (e.g., soft, hard) are based on the unconfined compressive strength (Su) and shear strength or cohesion (cu) of the soil.

The ease and pattern of soil vapor and groundwater movement in the subsurface is influenced by the natural structure of the soil. Soil structure, for the most part, depends on the deposition method and, to a lesser extent, climate.

Visual Appearance/Other Features

Those logging soils should also note the presence, depth and components of fill soils (if evident), and note the distinction between disturbed native soils (i.e., excavation likely performed) vs. undisturbed native soils.

Other features such as root presence/structure, and soil fractures should also be recorded. Soil fractures should be described noting fracture orientation (i.e., horizontal/vertical), length/aperture and appearance of soil infilling, oxidation and/or weathering (if present).

FIELD SCREENING

Field Sample Screening

Upon the collection of soil samples, the soil is screened with a photoionization detector (PID) for the presence of organic vapor. This is accomplished by running the PID across the soil sample. Record the highest reading and sustained readings.

Note: The PID measurement must be done upwind of the excavating equipment or any running engines so that exhaust fumes will not affect the measurements.

Another method of field screening is head space measurements. This consists of placing a portion of the soil sample in a sealable glass jar, placing aluminum foil over the jar top, and tightening the lid. Alternatively, plastic sealable bags maybe utilized for field screen in lieu of glass containers. The jar should only be partially filled. Shake the jar and set aside for at least 30 minutes. After the sample has equilibrated, the lid of the jar can be opened; the foil is punctured with the PID probe and the air (headspace) above the soil sample is monitored. Record this headspace reading on the field form or in the field book.

Note: Perform all headspace readings in an area that is not subject to wind. Also, in the winter, it is necessary to allow the samples to equilibrate in a warm area (e.g., site trailer, van, etc.). This requirement is dictated by the Work Plan.

All head space measurements must be completed under similar conditions to allow comparability of results.

NAPL DETECTION

During soil examination and logging, the sampler shall carefully check for the presence of light or dense NAPL. NAPL may be present in gross amounts or present in small/minute quantities. The adjectives and corresponding quantities used when describing NAPL within a soil matrix are as follows:

Visual Description	*Fraction of Soil Pore Volume Containing NAPL*
Saturated	>0.5
Some	0.5 - 0.25
Trace	<0.25

A complete description of NAPL, must describe the following:

- color;
- quantity;
- density (compared to water i.e., light/floats or heavy/sinks);
- odor (if observed); and
- viscosity (i.e., mobile/flowable, non-mobile/highly viscous-tar like).

The presence of an "iridescent sheen" by itself does not constitute 'NAPL presence', but may be an indicator that NAPL is close to the area.

NAPL presence within a soil matrix may be confirmed by placing a small soil sample within water, shaking, and observing for NAPL separation (i.e., light or dense), from the soil matrix.

Trace amounts of NAPL are identified/confirmed by a close visual examination of the soil matrix, [i.e., separate soil by hand (wearing disposable gloves)] and perform a careful inspection of the soil separation planes/soil grains for NAPL presence.

Often during the sample examination with a knife, an iridescent sheen will be noted on the soil surface (i.e., clay/silts) if the knife has passed through an area of NAPL.

There are a number of more sophisticated tests available to confirm/identify NAPL presence, these are:

- UV fluorescent analysis;
- hydrophobic dyes;
- centrifugation; and

- chemical analysis.

Typically consultants will utilize organic vapor detection results, visual examination, soil/water shake testing, and chemical analysis, to confirm NAPL presence. The more complex techniques described may be incorporated on sites where clear colorless NAPL is present and its field identification is critical to the program.

Note: When describing the presence of vegetative matter in the soil sample, do not use the term "organic" as this often leads to confusion with regards to the presence of organic chemicals (i.e., NAPL).

EQUIPMENT/MATERIALS

- Pocket knife or small spatula
- Small handheld lense
- Stratigraphic Log (Overburden) (Form 2.6-01)
- Tape Measure

REFERENCE

1. American Society for Testing and Materials (1991), Standard D1452-80, "Practice for Soil Investigation and Sampling by Auger Borings", Annual Book of ASTM Standard, Section 4, Volume 04.08.
2. ASTM Standards on Environmental Sampling (1995), Standard D 2488-93, "Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)"
3. ASTM Standards on Environmental Sampling (1995), Standard D 4700-91, " Guide for Soil Sampling from the Vadose Zone".
4. ASTM Standards on Environmental Sampling (1995), Standard D 1586-92, " Test Method for Penetration Test and Split-Barrel Sampling of Soils".
5. ASTM Standard D 2487, " Classification of Soils for Engineering Purposes (Unified Soil Classification System)".
6. Geotechnical Gauge, Manufactured by W.F. McCollough, Beltsville, MD.
7. Sand Grading Chart, by Geological Specialty Company, Northport, Alabama.

STRATIGRAPHY LOG (OVERBURDEN)

PAGE ____ OF ____

PROJECT NAME _____
PROJECT NUMBER _____
GM SITE _____
LOCATION _____

DRILLING CONTRACTOR _____
DRILLER _____
SURFACE ELEVATION _____
WEATHER (A.M.) _____
(P.M.) _____

HOLE DESIGNATION _____
DATE/TIME STARTED _____
DATE/TIME COMPLETED _____
DRILLING METHOD _____
SUPERVISOR _____

STRATIGRAPHIC INTERVALS (DEPTHS IN ft/m BGS)			SAMPLE DESCRIPTION	SAMPLE DETAILS										
FROM	AT	TO	ORDER OF DESCRIPTORS: SOIL TYPE SYMBOL(S) – MAIN COMPONENT(S), (NATURE OF DEPOSIT), SECONDARY COMPONENTS, RELATIVE DENSITY/CONSISTENCY, GRAIN SIZE/PLASTICITY, GRADATION/STRUCTURE (FRACTURE PRESENCE/APPEARANCE),COLOR, MOISTURE CONTENT, SUPPLEMENTARY DESCRIPTORS (FILL OR NATIVE; ROOT PRESENCE/STRUCTURE). NOTE: PLASTICITY DETERMINATION REQUIRES THE ADDITION OF MOISTURE IF THE SAMPLE IS TOO DRY TO ROLL (INDICATE IF MOISTURE WAS ADDED OR NOT).	SAMPLE #	SAMPLING METHOD	PENETRATION RECORD SPLIT SPOON BLOWS (RECORD N–VALUES & RECOVERIES) 6"	6"	6"	6"	SAMPLE INTERVAL	PID / FID (ppm)	CHEMICAL ANALYSIS	GRAIN SIZE

GENERAL MOTORS CORPORATION
REMEDIATION SECTION

DEPTH OF BOREHOLE CAVING _____ DEPTH OF FIRST GROUNDWATER ENCOUNTER _____ TOPSOIL THICKNESS _____

WATER LEVEL IN OPEN BOREHOLE ON COMPLETION _____, AFTER ____ HOURS ____

COMPLETION DETAILS: _____

NOTE: FOR EACH SPLIT–SPOON SAMPLE, RECORD BLOW COUNTS, N–VALUE, SAMPLE RECOVERY LENGTH, AND SAMPLE INTERVAL.

SOIL CLASSIFICATION SYSTEM (MODIFIED U.S.C.S.)

MAJOR DIVISIONS			GROUP SYMBOL	TYPICAL DESCRIPTION
HIGHLY ORGANIC SOILS			PT	PEAT AND OTHER HIGHLY ORGANIC SOILS
COARSE-GRAINED SOILS (MORE THAN HALF BY WEIGHT LARGER THAN NO. 200 SIEVE SIZE)	GRAVELS MORE THAN HALF OF COARSE FRACTION LARGER THAN NO. 4 SIEVE SIZE	CLEAN GRAVELS	GW	WELL GRADED GRAVEL, GRAVEL-SAND MIXTURES, < 5% FINES
			GP	POORLY GRADED GRAVELS AND GRAVEL-SAND MIXTURES, < 5% FINES
		DIRTY GRAVELS	GM	SILTY GRAVELS, GRAVEL-SAND-SILT MIXTURES, > 12% FINES
			GC	CLAYEY GRAVELS, GRAVEL-SAND-CLAY MIXTURES, > 12% FINES
	SANDS MORE THAN HALF OF COARSE FRACTION SMALLER THAN NO. 4 SIEVE SIZE	CLEAN SANDS	SW	WELL GRADED SANDS, GRAVELLY SANDS, < 5% FINES
			SP	POORLY GRADED SANDS, OR GRAVELLY SAND, < 5% FINES
		DIRTY SANDS	SM	SILTY SANDS, SAND-SILT MIXTURES > 12% FINES
			SC	CLAYEY SANDS, SAND-CLAY MIXTURES > 12% FINES
FINE-GRAINED SOILS (MORE THAN HALF BY WEIGHT PASSES NO. 200 SIEVE SIZE)	SILTS BELOW "A" LINE ON PLASTICITY CHART; NEGLIGIBLE ORGANIC CONTENT		ML	INORGANIC SILTS AND VERY FINE SAND, ROCK FLOUR, SILTY SANDS OF SLIGHT PLASTICITY
			MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS, FINE SANDY OR SILTY SOILS
	CLAYS ABOVE "A" LINE ON PLASTICITY CHART; NEGLIGIBLE ORGANIC CONTENT		CL	INORGANIC CLAYS OF LOW PLASTICITY, GRAVELLY, SANDY, OR SILTY CLAYS, LEAN CLAYS
			CI	INORGANIC CLAYS OF MEDIUM PLASTICITY, SILTY CLAYS
			CH	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS
	ORGANIC SILTS & ORGANIC CLAYS BELOW "A" LINE ON PLASTICITY CHART		OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
			OH	ORGANIC CLAYS OF HIGH PLASTICITY

CONVENTIONAL SOIL DESCRIPTIONS

NON-COHESIVE (GRANULAR) SOIL

RELATIVE DENSITY	BLOWS PER FOOT (N-VALUE)
Very loose	less than 5
Loose	5 to 9
Compact	10 to 29
Dense	30 to 50
Very Dense	greater than 50

COHESIVE (CLAYEY) SOIL

CONSISTENCY	BLOWS PER FOOT (N-VALUE)
Very Soft	0 to 2
Soft	3 to 4
Firm	5 to 8
Stiff	9 to 15
Very Stiff	16 to 30
Hard	greater than 30

GRAIN SIZE CLASSIFICATION

COBBLES	Greater than 3 inches (76 mm)
GRAVEL	3 in. to No. 4 (4.76 mm)
Coarse Gravel	3 in. to 3/4 in.
Fine Gravel	3/4 in. to No. 4 (4.76 mm)
SAND	No. 4 (4.76 mm) to No. 200 (0.074 mm)
Coarse Sand	No. 4 (4.76 mm) to No. 10 (2.0 mm)
Medium Sand	No. 10 (2.0 mm) to No. 40 (0.42 mm)
Fine Sand	No. 40 (0.42 mm) to No. 200 (0.074 mm)
SILT	No. 200 (0.074 mm) to 0.002 mm
CLAY	Less than 0.002 mm

NOTE: The "No. __ " refers to the standard sieve sizes.

COMPONENT PERCENTAGE DESCRIPTORS

Noun(s) (e.g. SAND and GRAVEL)	35 to 50%
Adjective (e.g. SANDY)	20 to 35%
With	10 to 20%
Trace	Less than 10%

SOIL STRUCTURE TERMS

Stratified	Blocky
Laminated	Lenses/Seams
Fissured	Homogeneous

NOTE: The presence of soil fractures and their structure / appearance must be described.
(i.e. length, depth, oxidation, weathering)

REMEDIATION SECTION	PROCEDURE # 3.2
WORLDWIDE FACILITIES GROUP	EFFECTIVE DATE:
GENERAL MOTORS CORPORATION	
REVISION #:	REVISION DATE:

PROCEDURES FOR OVERBURDEN MONITORING WELL INSTALLATION

INTRODUCTION

This procedure presents the drilling, installation, and completion of overburden monitoring wells. The design and installation of monitoring wells involve the drilling of boreholes into various types of geologic formations. Designing and installing monitoring wells may require different drilling methods and installation procedure. This procedure provides the most common type of well installation in the overburden. However due to specific site and monitoring requirements the procedure may be revised as necessary to reflect these site specific needs.

Prior planning is required for the selection of the appropriate drilling method and selection of well materials.

PROCEDURES REFERENCED

- Soil Borings (SOP 2.3)
- Soil Classification (SOP 2.6)
- Well Development (SOP 3.8)
- Equipment decontamination (SOP 9.0)
- Waste Characterization (SOP 12.0)

DRILLING PROCEDURES

- Drilling and sampling equipment arriving on site will be decontaminated prior to drilling in accordance with the Decontamination and Waste Disposal Procedure.

- Drilling generated waste materials will be disposed according to the Decontamination and Waste Disposal Procedure.

- Record construction and geologic information on the stratigraphy log (Form 2.6-01) and overburden instrumentation log (Form 3.2-01).

- The borehole diameter shall be sufficient that well construction may proceed without any major difficulties and to ensure sufficient filtering capability of the sand. At a minimum the final well borehole shall be sufficient to provide a minimum of 3 inch clearance between the well material and sidewalls of the borehole. For most wells the well materials will be 2-inch diameter therefore a borehole of 8 inches will be required.

- The depth to the target interval may be determined from an existing adjacent monitoring well/boring or from information obtained from split spoon sampling of the borehole. The criteria for determining the target interval to be monitored will be presented in the Project Work Plan. A minimum 8-inch diameter borehole will be advanced to the target interval using in the order of preference rotosonic drilling, spun casing drilling or use of 4 1/4 -inch inside diameter hollow stem augers.

- In the instances where the borehole is advanced deeper than the target interval, a bentonite pellet seal will be installed to bring the bottom of the boring to within 6 inches of the target interval. Six inches of filter sand will then be placed above the bentonite seal prior to further well installation.

- In some areas where the water table is known to be at or near the top of bedrock, the base of the overburden well will be installed at the top of bedrock.

- Split-spoon samples may be collected, if required by applicable project Work Plan. (see Subsurface Soil Sampling Procedure). If collected, soil samples will be classified in accordance with the Soil Classification Procedure.

WELL CONSTRUCTION

- The well construction procedures presented below are the recommended standards. However, due to variations in subsurface conditions, changes in these well construction standards may be necessary in order to facilitate the installation of the protective casing.

- Overburden wells will be constructed of either 2-inch Schedule 40 Flush-threaded Virgin PVC or type 316 Stainless Steel. Type of well material to use will be dependent upon known subsurface conditions. Wells constructed of PVC are preferable however in situations where sufficient levels of chlorinated solvents are present to affect the PVC well integrity, stainless steel will be the material of choice. Wells of mixed construction materials are not acceptable. The well screen will consist of machine slot or continuous wrap PVC or Stainless Steel with screen slot size appropriate for the type of subsurface material. It is anticipated that PVC will be used at the Site.

- The bottom of the well screen will be placed to the bottom of the borehole. Ideally, the top of the well screen should be greater than 4 feet below grade. As the augers are slowly removed, clean washed silica sand filter pack will be placed in the annular space around the well screen and casing from the base of the screen to at least 2 feet above the screen.

- In wells that exhibit a water table elevation above the sand pack, a minimum of 2-foot thick layer of bentonite pellets will be placed above the sand pack. The seal will be hydrated and allowed to set for approximately 45 minutes.

- Cement/bentonite grout will be placed from the top of the bentonite seal to a point 5 feet below existing ground surface where conditions allow. The grout will be prepared in the ratio of one bag (94 pounds) of Type I or Type II Portland Cement to 3 to 5 pounds of bentonite powder mixed with approximately 7 gallons of potable water.

- Accurate measurements of the material depths will be made by sounding the annulus during installation. The volume of materials needed will be calculated and compared to the actual volume used. Material depths will be recorded on the subsurface boring logs.

- The well casing will be secured with a vented lockable cap. If the well is located in a high traffic area, the casing will be protected by 9-inch flush-mounted roadway box set in a concrete seal. Alternatively, in low traffic areas, the well casing may be cut

above grade and completed with 4 or 6-inch diameter steel protective casing with approximately 3 feet of stick up, set in a concrete surface seal.

- For flush-mounted wells, a 9-inch diameter, water-tight protector will be installed complete with a sand drain. A lockable gripper plug will top the PVC casing.

- After installation, the monitoring well will be labeled with the well identification and a reference point for water level and depth measurements will be notched into the well casing. The well will be allowed to sit for at least 24 hours prior to well development, and for one week between development and groundwater sampling.

EQUIPMENT

- Drilling Equipment
- Well Supplies
- Tape Measure
- Stratigraphy Log
- Overburden Instrumentation Log

REFERENCE

1. American Society for Testing and Materials (1991), Standard D1452-80, "Practice for Soil Investigation and Sampling by Auger Borings", Annual Book of ASTM Standard, Section 4, Volume 04.08.

2. American Society for Testing and Materials (1991), Standard D2113-83 (87), "Diamond Core Drilling for Site Investigations", Annual Book of ASTM Standards, Section 4, Volume 04.08.

3. American Society for Testing and Materials (1991), Standard D5092, "Practices for Design and Installation of Ground Water Monitoring Wells in Aquifers", Annual Book of ASTM Standard, Section 4, Volume 04.08.

4. New York State Department of Environmental Conservation (1988), Draft Generic Environmental Impact Statement on the Oil, Gas, and Solution Mining Regulatory Program, Division of Mineral Resources.

5. Environmental Protection Agency (1986), RCRA Ground-Water Monitoring Technical Enforcement Guidance Document, OSWER-9950.1.

6. Environmental Protection Agency (1987), A Compendium of Superfund Field Operations Methods, EPA/540/P-87/001.

7. Environmental Protection Agency (1988), Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA, Interim Final, EPA/540/G-89/004.

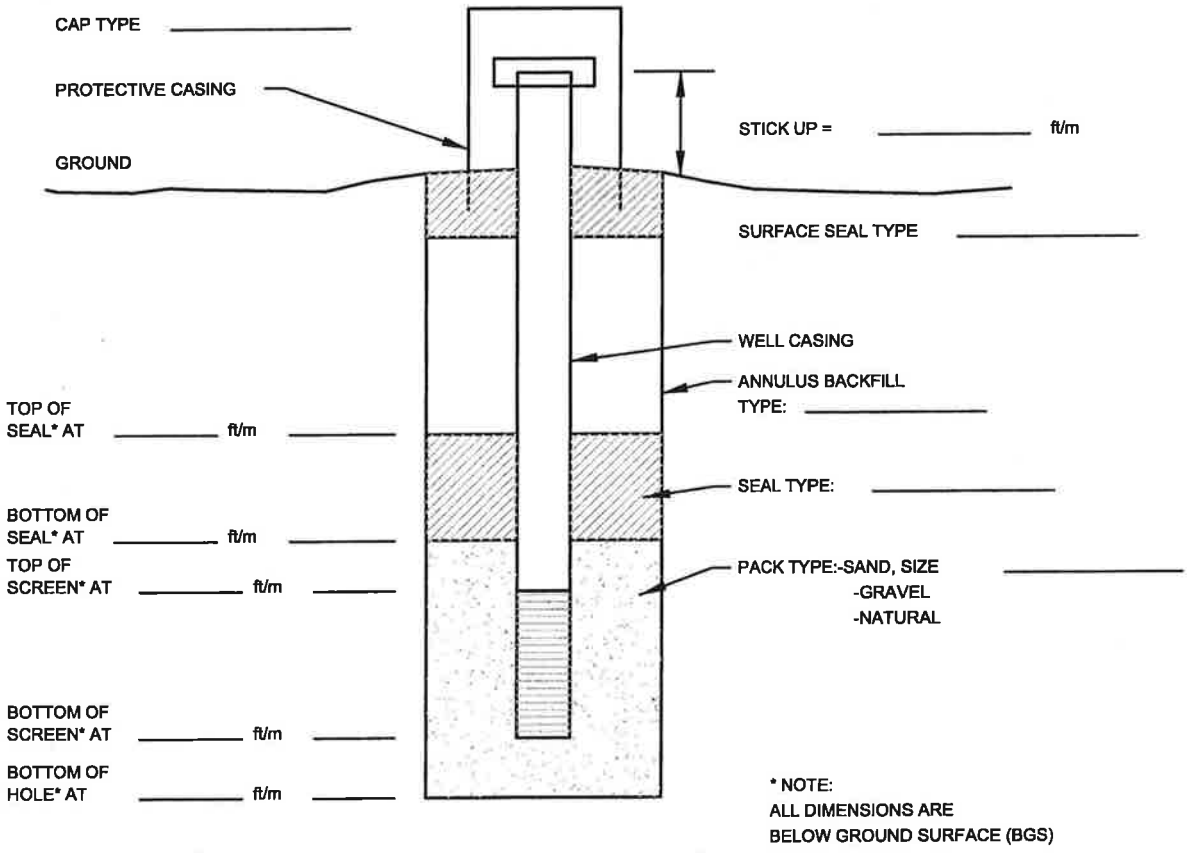
OVERBURDEN INSTRUMENTATION LOG

PROJECT NAME _____ HOLE DESIGNATION _____

PROJECT NUMBER _____ DATE COMPLETED _____

CLIENT _____ DRILLING METHOD _____

LOCATION _____ CRA SUPERVISOR _____



SCREEN TYPE: ☐ continuous slot ☐ perforated ☐ louvre ☐ other: _____

SCREEN MATERIAL: ☐ stainless steel ☐ plastic ☐ other: _____

SCREEN LENGTH: _____ ft/m SCREEN DIAMETER: _____ in/cm SCREEN SLOT SIZE: _____

WELL CASING MATERIAL: _____ WELL CASING DIAMETER: _____ in/cm

HOLE DIAMETER: _____

DEVELOPMENT: METHOD: _____ DURATION: _____

GENERAL MOTORS CORPORATION - REMEDIATION SECTION

REMEDIATION SECTION	PROCEDURE # 3.6
WORLDWIDE FACILITIES GROUP	EFFECTIVE DATE:
GENERAL MOTORS CORPORATION	
REVISION #:	REVISION DATE:

WELL DEVELOPMENT PROCEDURES

INTRODUCTION

This procedure is for the development of groundwater monitoring wells that have been installed in overburden, top of bedrock, or deep bedrock formations. Before a newly constructed well can be used for water-quality sampling, measuring water levels, or aquifer testing, it must be developed. Well development refers to the procedure used to clear the well and formation around the screen of fine-grained materials (sands, silts, and clays) produced during drilling or naturally occurring in the formation.

Well development is completed to remove fine grained materials from the well but in such a manner as to not introduce fines from the formation into the sand pack. Well development continues until the well responds to water level changes in the formation (i.e., a good hydraulic connection is established between the well and formation) and the well produces clear, sediment-free water to the extent practical.

PROCEDURES REFERENCED

- Overburden Wells SOP 3.2
- Waste Characterization SOP 12.0

WELL DEVELOPMENT PROCEDURES

The well development procedures presented below are the recommended standards. However, due to variations in conditions, changes in these well development standards may be necessary in order to facilitate the successful completion of developing the monitoring well.

Well development can be accomplished by using in-place pumps or using manual equipment; either peristaltic, bladder or other appropriate pumps depending on well depth.

In the case of developing wells installed utilizing the mud rotary methods (least preferred method) it would be beneficial to surge the well prior to and during development. By doing so this helps in breaking down the filter cake that may have built up on the well screen.

- Don appropriate safety equipment.

- All equipment used for development purposes entering each monitoring well will be cleaned using a soapy wash (laboratory grade), tap water rinse, isopropyl alcohol rinse, and distilled/deionized water rinse.

- Uncap well and allow water level to stabilize. Attach appropriate pump and lower tubing into well.

- Turn on pump. If well runs dry, shut off pump and allow to recover.

- Collect the groundwater sample in a glass jar to determine relative turbidity, and measure and record the temperature, pH, turbidity and specific electrical conductance.

- The above steps will be repeated until groundwater is relatively silt-free; no further change is noted; the temperature, pH, turbidity and specific conductance readings have stabilized to within 10%.

- After development, the well will not be sampled for at least one week.

WASTE DISPOSAL

- All waste generated will be disposed in accordance to the methods and procedures contained in the Waste Disposal SOP.

- All water generated during cleaning and development procedures will be collected and contained in accordance to the site specific disposal requirements.

- Personal protective equipment, such as gloves, disposable clothing, and other disposable equipment, resulting from personnel cleaning procedures and from soil sampling and handling activities, will be placed in plastic bags. These bags will be transferred into appropriately labeled 55-gallon drums or a covered roll-off box for appropriate disposal.

EQUIPMENT

- Appropriate health and safety equipment
- Knife
- Power source (generator)
- Field book
- Well Development and Stabilization Log (Form 3.6-01)
- Well keys
- Graduated pails
- Pump and tubing
- Cleaning supplies (including non-phosphate soap, buckets, brushes, laboratory-supplied distilled/deionized water, tap water, cleaning solvent, aluminum foil, plastic sheeting, etc.)
- Water level meter
- pH/temperature/conductivity meter
- Clear glass jars (e.g., drillers' jars)

REFERENCE

1. Environmental Protection Agency (1986), RCRA Ground-Water Monitoring Technical Enforcement Guidance Document, OSWER-9950.1.

2. Environmental Protection Agency (1987), A Compendium of Superfund Field Operations Methods, EPA/540/P-87/001.

3. Environmental Protection Agency (1988), Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA, Interim Final, EPA/540/G-89/004.

WELL DEVELOPMENT AND STABILIZATION FORM

PROJECT NAME: _____ PROJECT NO.: _____

DATE OF WELL DEVELOPMENT: _____

DEVELOPMENT CREW MEMBERS: _____

PURGING METHOD: _____

SAMPLE NO.: _____

SAMPLE TIME: _____

WELL INFORMATION

WELL NUMBER: _____

WELL TYPE (diameter/material) _____

MEASURING POINT ELEVATION: _____

STATIC WATER DEPTH: _____ ELEVATION: _____

BOTTOM DEPTH: _____ ELEVATION: _____

WATER COLUMN LENGTH: _____

SCREENED INTERVAL: _____

WELL VOLUME: _____

Note: For 2-inch diameter well: 1 foot = 0.14 gallons (imp) or 0.16 gallons (us)
1 meter = 2 liters

	UNITS	*1*	*2*	*3*	*4*	*5*	*TOTAL/ AVERAGE*
VOLUME PURGED (volume/total volume):							
FIELD pH:							
FIELD TEMPERATURE:							
FIELD CONDUCTIVITY:							
CLARITY/TURBIDITY VALUES:							
COLOR:							
ODOR:							
COMMENTS:							

COPIES TO: _____

GENERAL MOTORS CORPORATION
REMEDIATION SECTION
17300-89 (SOPs) GN-FORM 3.6-01

REMEDIATION SECTION	PROCEDURE # 3.7
WORLDWIDE FACILITIES GROUP	EFFECTIVE DATE:
GENERAL MOTORS CORPORATION	
REVISION #:	REVISION DATE:

WELL DECOMMISSIONING PROCEDURES

INTRODUCTION

This procedure is for the decommissioning/abandonment of groundwater monitoring wells that have been installed in overburden, top of bedrock, or deep bedrock formations. Well decommissioning refers to the procedure used to properly abandon or remove the monitoring well from the formation while taking the proper precautions to help eliminate cross-contamination.

The proper methods for properly abandoning monitoring wells are either by leaving the well materials in place and pressure grouting with a cement/bentonite slurry directly into the well or by over-drilling with augers, removing the well material and back filling with a cement bentonite slurry.

PROCEDURES REFERENCED

- Overburden Wells SOP 3.2
- Decontamination SOP 9.0
- Waste Disposal SOP 12.0

WELL DECOMMISSIONING PROCEDURES

1. Pressure Grouting

- The borehole log from the monitoring well needs to be obtained to determine the well construction in order to prepare the proper materials and calculate the quantity of cement/bentonite slurry that will be required.
- The cement pad and the well protector around the monitoring pad needs to be removed and the immediate area around the monitoring well dug out. The riser pipe is to be cut off approximately one to two-feet below ground surface.

- A tremie pipe will be placed into the well completely to the bottom. A cement/bentonite slurry will then be pressure grouted in to the monitoring well backfilling completely to the surface. The grout will be prepared in the ratio of one bag (94 pounds) of Type I or Type II Portland Cement to 3 to 5 pounds of bentonite powder mixed with approximately 7 gallons of potable water. The grout will be allowed to sit for approximately one hour to allow any settlement of the cement/bentonite slurry and then augment if needed.

2. Overdrilling

- Based on the diameter of the monitoring well, this information can be obtained from the well completion diagram, the proper sized augers need to be specified.

- The cement pad and the well protector around the monitoring pad needs to be removed and the immediate area around the monitoring well dug out. The riser pipe is to be cut off approximately one to two-feet below ground surface.

- The augers are then placed over the riser pipe of the monitoring well and then drilling commences. The drilling continues until the final depth to which the monitoring well was installed is reached. The well materials are then removed (pulled) from the augers.

- A Cement/bentonite grout will be placed from the bottom of the borehole to the top of the augers. As each flight of augers is removed from the ground, the cement/bentonite grout will continue to be placed in the augers, to the top. This will continue until all the augers have been removed from the borehole. The grout will be prepared in the ratio of one bag (94 pounds) of Type I or Type II Portland Cement to 3 to 5 pounds of bentonite powder mixed with approximately 7 gallons of potable water.

- The area final restoration will be completed in accordance with the directions of the GM Facility representative (e.g., asphalt, concrete, vegetation). In active work areas final restoration maybe necessary immediately; or time to allow settlement of the abandoned well area may be permitted prior to final restoration being performed.

- Documentation/Notification requirements include modification of the well log to reflect closure and if necessary notification to the appropriate regulatory agency.

WASTE DISPOSAL

- All waste generated will be disposed in accordance with the methods and procedures contained in Waste Characterization (SOP 12.0).

- All material generated during well decommissioning procedures will be collected and contained on site in roll-off boxes or 55-gallon drums for future analysis and appropriate disposal.

- Personal protective equipment, such as gloves, disposable clothing, and other disposable equipment, resulting from personnel cleaning procedures and from well closure activities, will be placed in plastic bags. These bags will be handled in accordance with the work plan.

EQUIPMENT

- Drilling Equipment

- Well Supplies

- Overburden Instrumentation Log (Form 3.2-01)

- Tape Measure

REFERENCE

1. Michigan Department of Public Health, Ground Water Quality Control Section – Division Of Water Supply (1988), Michigan Water Well Grouting Manual, MDPH GW-3-302
2. ASTM D5229 "Guide for Decommissioning of Ground Water Wells, Vadose Zone Monitoring Devices, Boreholes and other Devices For Environmental Activities".

REMEDIATION SECTION	PROCEDURE # **5.1**
WORLDWIDE FACILITIES GROUP	EFFECTIVE DATE:
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REVISION #: **0**	REVISION DATE:

Manual Water Level Measurement Procedure

INTRODUCTION

This procedure describes measurement of water levels in groundwater monitoring and extraction wells, piezometers and boreholes. This procedure does not cover automated measurement of water levels with a transducer/datalogger, and does not cover measurement of phase-separated liquids.

Water levels in monitoring wells will be measured prior to each sampling event and at other times as indicated in the project Work Plan. Water levels will be acquired in a manner that provide accurate data that can be used to calculate vertical and horizontal hydraulic gradients and other hydrogeologic parameters. Accuracy in obtaining the measurements is critical to insure the useability of the data.

PROCEDURES REFERENCED

- Field Instruments – Usage and Calibration (SOP 8.0)
- Non-Aqueous Phase Liquid (NAPL) Monitoring and Sample Collection For Laboratory Analysis (SOP 6.4)
- Equipment Decontamination (SOP 9.0)

PROCEDURE

In order to provide reliable data, water levels must be collected over as short a period of time as practical. Barometric pressure can affect groundwater levels and, therefore, observation of significant weather changes during the period of water level measurements must be noted. Tidal fluctuations, navigation controls on rivers, rainfall events and groundwater pumping can also affect groundwater level measurements. Personnel collecting water level data must note if any of these controls are in effect during the groundwater level collection period. Due to possible changes during the groundwater level collection period, it is imperative that the time of data collection at each station be accurately recorded.

In conjunction with groundwater level measurements, surface water (e.g., ponds, lakes, rivers, and lagoons) often are monitored as well. This information is very helpful (and can be critical) in understanding the hydrogeologic setting of the site and most importantly how contaminants may move beneath the site.

The depth to groundwater will be measured with an electronic depth-indicating probe. Prior to obtaining a measurement, a fixed reference point on the well casing shall be established for each well to be measured. Unless otherwise established, the reference point is typically established and marked on the north side of the well casing. Avoid using protective casings or flush-mounted roadboxes for reference, due to the greater potential for damage or settlement.

If provided for in the project Work Plan, the elevation of the reference point shall be obtained by accepted surveying methods, to the nearest 0.01 ft.

The water level probe will be lowered into the well until the meter indicates (via indicator light or tone) the water is reached. The probe will be raised above water level and slowly lowered again until water is indicated. The cable will be held against the side of the inner protective casing at the point designated for water level measurements and a depth reading taken. This procedure will be followed three times or until a consistent value is obtained. The value will be recorded to the nearest 0.01 feet on the Groundwater Level Monitoring Report form (Form SOP 5.1-01) or other designated data recording location if specified in the project Work Plan.

Upon completion, the probe will be raised to the surface and together with the amount of cable that entered the well casing, will be decontaminated in accordance with methods described in **Procedure 9.0, Equipment Decontamination**.

EQUIPMENT

- Battery-operated, non-stretch electronic water level probe with permanent markings at 0.01 ft. increments (traceable to national measurement standards), such as the Solinst Model 101 or equivalent.

- The calibrated cable on the depth indicator will be checked against a surveyor's steel tape once per quarter year. A new cable will be installed if the cable has changed by more than 0.01% (0.01 feet for a 100 foot cable). See also Procedure **8.0, Field Instruments – Usage and Calibration**.

REFERENCE

- ASTM 4750 Test Method for Determining Subsurface Liquid Levels in a Borehole or Monitoring Well (Observation Well)
- ASTM D6000 Guide for Presentation of Water-Level Information from Ground-Water Sites

REMEDIATION SECTION	PROCEDURE # SOP 6.1
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SOIL SAMPLE COLLECTION FOR LABORATORY ANALYSIS

INTRODUCTION

The following procedure describes typical soil sample collection methods for submission of samples to a laboratory for chemical analysis. Two sample situations are presented: soil sampling from surficial soils and soil sampling from sub-surface samplers such as a split-spoon sampler or a direct push sampler, and lastly soil sampling from a test pit.

Soil sampling procedures may vary from project to project due to different parameters of concern, different guidance provided by the state/province where the site is located, or the specific objectives for the project. Therefore, it is essential that the sampling team members carefully review the Work Plan requirements and the rationale behind the program. The primary goal of soil sampling is to collect representative samples for examination and chemical analysis (if required).

Grab Versus Composite Samples

A grab sample is collected to identify and quantify compounds at a specific location or interval. The sample shall be comprised of no more than the minimum amount of soil necessary to make up the volume of sample dictated by the required sample analyses. Composite samples are a mixture of a given number of sub-samples and are collected to characterize the average chemical composition in a given surface area or vertical horizon.

PROCEDURES REFERENCED

Test Pits (SOP 2.1)

Soil Borings (SOP 2.3)

Drilling Techniques (SOP 2.2)

Soil Classification (SOP 2.6)

Sample Handling and Shipping (SOP 6.6)

Equipment Decontamination (SOP 9.0)

SAMPLE COLLECTION

1.0 Surficial Soil Sample Collection

1.1 Sample Strategy -Random, Biased, and Grid-Based Sampling

Unless there is a strong indication of contaminant presence, such as staining, then soil sample locations may be randomly selected from several areas within the site.

If any areas show evidence of contamination, such as staining or vegetative stress, biased samples shall be collected from each area to characterize the contamination present in each area. Background and control samples are also biased, since they are collected in locations typical of non-site-impacted conditions.

When soil sampling investigations involve large areas, a grid-based soil sampling program is used. There is no single grid size that is appropriate for all sites. Common grid sizes are developed on 50-foot and 100-foot centers. It is acceptable to integrate several different grid sizes in a single investigation.

For surficial soil sampling programs, it is also important to consider the presence of structures and drainage pathways that might affect contaminant migration. It is sometimes desirable to select sampling locations in low lying areas which are capable of retaining some surface water flow since these areas could provide samples which are representative of historic site conditions (worst-case scenario if surface water flow was a concern).

1.2 Sample Interval

Surficial soils are generally considered to be soil between ground surface and 6 to 12 inches below ground surface. However, for risk assessment purposes, regulatory authorities often consider soil from ground surface to 2 feet below ground surface to be surficial soil. The exact interval to be considered as surficial soil is often a matter of discussion with the regulatory authorities that review the Work Plan. The sample interval is important to the manner in which the data are ultimately interpreted. Another important factor is the type of soil. If there are different types of soil present at the site, this may have a bearing on the sample interval. For example, it may be important to separately sample a layer of material with high organic carbon content which overlies a layer of fine grained soil.

1.3 Surface Sampling Procedure

Soil sampling techniques are dependent upon the sample interval of interest, the type of soil material to be sampled, and the requirements for handling the sample after retrieval. The most common method for collection of surficial soil samples involves the use of a

stainless steel trowel. Soil samples may also be collected with spoons and push The sampling equipment is cleaned between sample locations. A typical surfic sampling protocol is outlined below:

- Surficial soil samples will be collected using a precleaned stainless steel trowel or other appropriate tool. Each sample will consist of soil from the surface to the depth specified within the Work Plan;

- A new pair of disposable gloves will be used at each sample location;

- Any surficial debris (i.e., grass cover, gravel) should be removed from the area where the sample is to be collected using a separate pre-cleaned device. Gravel presents difficulties for the laboratory in terms of sample preparation and is typically not representative of contaminant concentrations in nearby soil.

- A pre-cleaned sampling tool will be used to remove the sample from the layer of exposed soil.

- When only one sample container is required, the collected soil will be placed directly into the clean, pre-labeled sample jar. When more than one sample container requires filling or samples will be split for duplicate analyses; the soils will first be homogenized in a pre-cleaned stainless steel bowl; and then placed into the respective sample containers. It is important that soil samples be mixed as thoroughly as possible to ensure that the sample is as representative as possible of the sample interval. When round bowls are used for sample mixing, mixing is achieved by stirring the material in a circular motion and occasionally turning the material over. Soil samples collected for volatile organic compounds analyses shall not be mixed.

- Samples will be placed on ice or cooler packs in laboratory supplied shipping coolers after collection.

  Exception is noted for the collection of volatile organic compounds (VOC's) which require special sample collection methods. VOC's are collected directly into a sample vial (triplicate volume typically required) without headspace, or collected using an EnCore Sampler™ (triplicate samples collected per manufacturers instructions). Samples for VOC's are typically collected first, without homogenization or extra handling to limit the loss of volatile constituents.

  The VOC sample collection methodology will be identified in the Work Plan, which will dictate the sample method. The methodology for VOC sampling varies from area to area, so carefull review of this issue in advance of the field efforts is required.

2.0 Sub-Surface Sample Collection

Sub-surface soil sample collection is typically performed with the help of a drill unit, direct-push probing unit, or hand-driven/held samplers. Typically a boring is advanced incrementally to permit intermittent or continuous sampling to the required depth of chemical sample collection; or alternatively sampling may be initiated if certain conditions are observed (i.e. chemical presence or volatile presence identified from monitoring). Sample collection criteria and locations, are normally stipulated by the Work Plan.

Any drilling procedure that provides a suitably clean and stable hole before insertion of the sampler and assures that the penetration test or other sampling technique is performed on essentially undisturbed soil is acceptable. The drilling method is to be selected based on the subsurface conditions. Each of the following procedures have proven to be acceptable for specific subsurface conditions:

- Conventional drilling with continuous flight hollow-stem auger method (with inside diameter between 2.2 and 6.5 inches) using split spoon samplers (Standard Penetration Test – STP) or shelby tube samplers; or
- direct - push samplers, advanced using a percussion/vibratory hammer (Geoprobe ™ or equivalent); or
- hand – held/driven split spoon sampling equipment or portable hammer and split spoon sampling equipment (final depth will be limited).

Several drilling methods are not acceptable. These include: jetting through an open tube sampler and then sampling when the desired depth is reached; use of continuous flight solid auger equipment below the groundwater table in non-cohesive soils; casing driven below the sampling depth prior to sampling; and advancing a borehole with bottom discharge bits.

The following subsections describe the specific methods for completing split spoon sampling, shelby tube sampling, and direct-push sampling. Section 2.4 describes the soil sampling procedure for chemical analysis, once a soil core is recovered from any of the above sample collection devices.

2.1 Split – Spoon Sampling Method

This method is used to obtain representative samples of subsurface soil materials for sample collection. The test methods described below must be followed to ensure that the soils captured in the split-spoon or shelby tube are relatively undisturbed/representative of the desired soil interval and obtain accurate Standard Penetration Test (SPT) values. The SPT values reflect the sub-surface soils density and is typically measured when performing geo-technical work or environmental borings. This information although not directly relevant to the collection of chemical samples, is collected because it is beneficail in terms of stratigraphy interpretation and understanding the conditions below grade.

The split barrel sampler, or split spoon, consists of an 18- or 24-inch long, 2-inch outside diameter tube, which comes apart length wise into two halves. Larger spoons are available for use when a larger sample volume is required (4-inch diameter spoons).

Once the borehole (ie hollow stem augers) is advanced to the target depth and the borehole cleaned of cuttings, representative soil samples are collected in the following manner:

- the split-spoon sampler should be inspected to ensure it is properly cleaned and decontaminated. The driving shoe (tip) should be relatively sharp and free of severe dents and distortions;
- the cleaned split-spoon sampler is attached to the drill rods and lowered into the borehole. Do not allow the sampler to drop onto the soil;
- after the sampler has been lowered to the bottom of the hole, it is given a single blow to seat it and make sure that it is in undisturbed soil. If there still appear to be excessive cuttings in the bottom of the borehole, remove the sampler from the borehole and remove the cuttings; and
- mark the drill rods in three or four successive 6-inch (0.15 m) increments, depending on sampler length, so that the advance of the sampler under the impact of the hammer can be easily observed for each 6-inch (0.15 m) increment.

The sampler is then driven continuously for either 18 or 24 inches (0.45 or 0.60 m) by use of a 140-pound (63.5 kg) hammer. The hammer may be lifted and dropped by either the cathead and rope method, or by using a trip, automatic, or semi-automatic drop system. The hammer should free-fall a distance of 30 inches (±1 inches) (760 mm, ±25 mm) per blow. Measure the drop at least daily to ensure that the drop is correct. To ensure a free-falling hammer, no more than 2 1/4 turns of the rope may be wound around the cathead (see ASTM D1586-84). The number of blows applied in each 6-inch (0.15 m) increment is counted until one of the following occurs:

- a total of 50 blows have been applied during any one of the 6-inch (0.15 m) increments described above;
- a total of 100 blows have been applied;
- there is no advancement of the sampler during the application of ten successive blows of the hammer (i.e., the spoon is "bouncing" on a stone or bedrock); or
- the sampler has advanced the complete 18 or 24 inches (0.45 or 0.60 m) without the limiting blow counts occurring as described above.

In some cases where the limiting number of blow counts has been exceeded, the field supervisor may direct the driller to attempt to drive the sampler more if collection of a greater sample length is essential.

On the field form, record the number of blows required to drive each 6-inch (0.15 m) increment of penetration. The first 6 inches is considered to be a seating drive. The sum

of the number of blows required for the second and third 6 inches (0.15 m) of penetration is termed the "standard penetration resistance" or the "N-value".

Note: If the borehole has sloughed and there is caved material in the bottom, the split spoon may push through this under its own weight, but now the spoon is partially "pre-filled". When the spoon is driven the 18 or 24 inches representing its supposedly empty length, the spoon fills completely before the end of the drive interval. Two problems arise:

1. the top part of the sample is not representative of the in-place soil at that depth; and

2. the SPT value will be artificially higher toward the bottom of the drive interval since the spoon was packed full. These conditions should be noted on the field log.

The sampler is then removed from the borehole and unthreaded from the drill rods. The open shoe (cutting end) and head of the sampler are partially unthreaded by the drill crew and the sampler is transferred to the field supervisors work surface.

The open shoe and head are removed by hand, and the sampler is tapped so that the spoon separates.

Measure and record the length of sample recovered making sure to discount any sloughed material that is present on top of the sample core.

Caution must be used when conducting SPT sampling below the groundwater table, particularly in sand or silt soils. These soils tend to heave or "blow back" up the borehole due to the difference in hydraulic pressures between the inside of the HSA and the undisturbed soil. To equalize the hydraulic pressure, the inside of the HSA must be filled with water. The drilling fluid level within the boring or hollow-stem augers needs to be maintained at or above the in situ groundwater level at all times during drilling, removal of drill rods, and sampling. Since heave or blow back is not always obvious to the driller, it is essential that the water level in the borehole always be maintained at or above the groundwater level.

Section 2.4 describes the soil sampling procedure for chemical analysis, once a soil core is recovered from a split spoon sampler.

2.2 Thin-Walled (Shelby Tubes) Sample Method

Thin-walled samplers are used to collect relatively undisturbed samples (as compared to split-spoon samples) of soft to stiff clayey soils. Shelby tubes are commonly used. The shelby tube has an outside diameter of 2 or 3 inches and is 3 feet long. These undisturbed samples are used for certain laboratory tests of structural properties (consolidation, hydraulic conductivity, shear strength) or other tests (such as collection of soils for

chemical analysis) that might be influenced by sample disturbance. Procedures for conducting thin-walled tube sampling are provided in ASTM D1587-94, and are briefly described below.

- the soil deposit being sampled must be cohesive in nature, and relatively free of sand, gravel, and cobble materials, as contact with these materials will damage the sampler;
- clean out the borehole to the sampling elevation using whatever method is preferred that will ensure the material to be sampled is not disturbed. If groundwater is encountered, maintain the liquid level in the borehole at or above groundwater level during the sampling operation;
- bottom discharge bits are not permitted. Side discharge bits may be used, with caution. Jetting through an open-tube sampler to clean out the borehole to sampling elevation is not permitted. Remove loose material from the center of a casing or hollow-stem auger as carefully as possible to avoid disturbance of the material to be sampled;
- place the sample tube so that its bottom rests on the bottom of the hole. Advance the sampler into the formation without rotation by a continuous and relatively rapid motion; usually hydraulic pressure is applied to the top of the drill rods;
- determine the length of advance by the resistance and condition of the formation, but the length shall never exceed 5 to 10 diameters of the tube in sands and 10 to 15 diameters of the tube in clays;
- in no case should the length of advance be greater than the sample-tube length minus an allowance for the sampler head and a minimum of 3 inches for cuttings.
- the tube may be rotated to shear the bottom of the sample 2 to 3 minutes after pressing in, and prior to retrieval to ensure the sample does not slide out of the tube. Lift the weight of the rods off of the tube prior to rotating.
- withdraw the sampler from the formation as carefully as possible in order to minimize disturbance of the sample.

On occasion it maybe required that extraction of the sample from the tube be conducted in the field for chemical sample collection. The following procedure should be followed.

- a sample extruder, which consists of a clamp arrangement to hold the tube and a hydraulic ram to push the sample through the tube, is usually mounted on the side of the rig. To prevent cross-contamination, be certain that the extruder is field cleaned between each sample;
- the sample is then extruded into a carrying tray; these are often made from a piece of 4-inch or 6-inch diameter PVC pipe cut lengthwise. Be certain that the carrying tray is field cleaned between each sample. The sample is carried to the work station to describe the sample, trim the potentially cross-contaminated exterior, and select the area for sample collection (see section 2.4 collection procedure).; and
- the shelby tube may then be thoroughly field cleaned and decontaminated for reuse. Since they are thin-walled, the tubes are easily damaged, crimped, or otherwise distorted during handling or pushing. The shelby tube should be inspected before use and any which are significantly damaged should be rejected.

Section 2.4 describes the soil sampling procedure for chemical analysis, once a soil core is recovered from a shelby tube sampler.

2.3 Direct- Push Sample Method

The operation of the direct-push samplers (i.e. Macro-Core ™ Soil Sampler or equivalent) consists of "pushing and/or vibrating" the sampler into the subsurface using a direct-push unit (i.e. Geoprobe ™ soil probing machine or equivalent). The sampler is typically a hollow tube with a threaded drive head, and threaded cutting shoe; provided with an internal sleeve (i.e. liner) that the soil sample is captured in.

Once driven to the required depth, the sampler body/soil liner and soil core is removed from the borehole for inspection and sample collection. Once above grade the sampler is opened by the probe operator and the liner removed and cut open (opened with a dual blade cutting tool), to expose the soil for inspection and sampling.

The sampler body and ends are decontaminated, and a new liner is inserted and the sampler reassembled for collection of the next interval. The clean sampler is then advanced back down the same hole to collect the next soil sample. The Macro-Core ™ sampler can be used in either the open-tube or closed-point sampling mode. The open-tube is most commonly used method, typically employed in stable soil conditions when the borehole does not collapse. The closed-point system seals the cutting shoe opening until the sampler is at the next sample interval, this prevents collapsed soil from entering the sampler as it is advanced back down the hole. Once at the sample depth, the closed-point is unthreaded and released from the cutting shoe area, such that it rides on top of the soil core as it is being driven into the next interval.

Section 2.4 describes the soil sampling procedure for chemical analysis, once a soil core is recovered from a direct-push sampler.

2.4 Soil Core Chemical Sample Collection Procedure

The following describes the collection of soil samples for chemical analysis from a split spoon soil core, shelby tube soil core, or direct-push sample core. Figure 6.1 shows the soil sample selection details. Sample preparation and selection is as follows:

- record soil core recovery and soil stratigraphy data;
- discard upper and lower ends of sample core (3 inches ±);
- if clayey soils are present use a precleaned stainless steel knife to cut the remaining core longitudinally, alternatively if sandy soils are present, use a clean stainless steel spoon to scrape away the soil surface;
- screen the exposed soil surface with a PID to monitor for the presence of volatile organics;

- with a sample knife or spoon, remove soil from the center portion of the core and place in the sample jar (when only one aliquot is required), or
- when more than one aliquot is required place soils in a pre-cleaned stainless steel bowl for homogenization;
- do not sample large stones and natural vegetative debris;
- homogenize the soil and place directly into the sample jars; and
- place collected samples on ice or cooler packs in laboratory supplied shipping coolers.

When only one sample container is required, the collected soil will be placed directly into the clean, pre-labeled sample jar. When more than one sample container requires filling or samples will be split for duplicate analyses; the soils will first be homogenized in a pre-cleaned stainless steel bowl; and then placed into the respective sample containers. It is important that soil samples be mixed as thoroughly as possible to ensure that the sample is as representative as possible of the sample interval. When round bowls are used for sample mixing, mixing is achieved by stirring the material in a circular motion and occasionally turning the material over. Soil samples collected for volatile organic compounds analyses shall not be mixed.

Exception is noted for the collection of volatile organic compounds (VOC's) which require special sample collection methods. VOC's are collected directly into a sample vial (triplicate volume typically required) without headspace, or collected in triplicate using an EnCore Sampler™ (triplicate samples collected per manufacturers instructions). Samples for VOC's are typically collected first, without homogenization or extra handling to limit the loss of volatile constituents.

The VOC sample collection methodology will be identified in the Work Plan, which will dictate the sample method. The methodology for VOC sampling varies from area to area, so carefull review of this issue in advance of the field efforts is required.

3.0 Test Pit Soil Sample Collection Procedure

Subsurface soil samples from a test pit are usually "grab samples", used to characterize the soil at a specific depth or depth interval (e.g., 2 to 4 feet). On occasion, composite samples are collected from a test pit over a greater depth interval (e.g., 5 to 15 feet) to characterize a soil or fill horizon.

Soil samples can be collected from the soils within the backhoe/excavation bucket or from the test pit excavation face (only after the safety concerns identified below have been addressed). Samples that require a discrete depth interval should be collected from the excavation face. Samples are procured using a cleaned steel trowel, shovel, or stainless steel spoon.

Safety Concerns:

i) Do not enter the test pit unless Confined Space Entry requirements have been reviewed and applied (if required); and proper shoring of the excavation walls has been performed, (if necessary.)

ii) Personnel observing or sampling test pit operations must never stand within the "turning radius" or "reach-zone" of the excavation equipment. Operator error, or equipment failure could result in severe injury or death if struck by the backhoe bucket or the backhoe itself.

iii) Lastly, personnel should be alert to test pit side wall conditions which typically undermine the ground surface and create unstable soils surrounding the test pit area.

The following describes the collection of grab samples for chemical analysis:

- record soil stratigraphy and test pit data/observations, select area from which sample is required;
- direct backhoe operator to scoop up soils from the desired area and place at ground surface;
- if clayey soils are present use a precleaned stainless steel knife to scrape away the surface soils that may have contacted the backhoe bucket; alternatively, if sandy soils are present, use a clean stainless steel spoon to scrape away the soil surface;
- screen the exposed soil surface with a PID to monitor for the presence of volatile organics;
- with a sample knife or spoon, remove soil from the center portion of the area cleared and place in the sample jar (when only one aliquot is required), or
- when more than one aliquot is required place soils in a pre-cleaned stainless steel bowl for homogenization;
- do not sample large stones and natural vegetative debris;
- homogenize the soil and place directly into the sample jars; and
- place collected samples on ice or cooler packs in laboratory supplied shipping coolers.

When only one sample container is required, the collected soil will be placed directly into the clean, pre-labeled sample jar. When more than one sample container requires filling or samples will be split for duplicate analyses; the soils will first be homogenized in a pre-cleaned stainless steel bowl; and then placed into the respective sample containers. It is important that soil samples be mixed as thoroughly as possible to ensure that the sample is as representative as possible of the sample interval. When round bowls are used for sample mixing, mixing is achieved by stirring the material in a circular motion and occasionally turning the material over. Soil samples collected for volatile organic compounds analyses shall <u>not</u> be mixed.

Exception is noted for the collection of volatile organic compounds (VOC's) which require special sample collection methods. VOC's are collected directly into a sample vial (triplicate volume typically required) without headspace, or collected in triplicate using an EnCore Sampler™ (triplicate samples collected per manufacturers instructions). Samples for VOC's are typically collected first, without homogenization or extra handling to limit the loss of volatile constituents.

The VOC sample collection methodology will be identified in the Work Plan, which will dictate the sample method. The methodology for VOC sampling varies from area to area, so carefull review of this issue in advance of the field efforts is required.

FIELD NOTES

All conditions at the time of sample collection should be properly documented in the field log book. This should include a thorough description of the collection method, sample characteristics, including grain size, color, and general appearance, as well as date/time of sampling and labeling information. The location of the sampling point should be described in a sketch and three measurements (swing ties) should be taken to adjacent permanent structures so that the sample location can be readily identified in the field at a future date if necessary. It is often advisable to have a licensed land surveyor accurately survey the locations.

DECONTAMINATION

In all sampling scenarios measures to prevent cross-contamination must be employed. The sampling device selected must be constructed of an inert material with smooth surfaces that can be readily cleaned (See SOP 9.0).
Heavy equipment used for test pit operations must also be cleaned between each location when collecting samples for chemical analysis.

EQUIPMENT

- Drilling equipment and soil sampling tools
- Decontamination fluids and rinse water
- Subsurface Boring Log (Form 2.6-01)
- Tape Measure

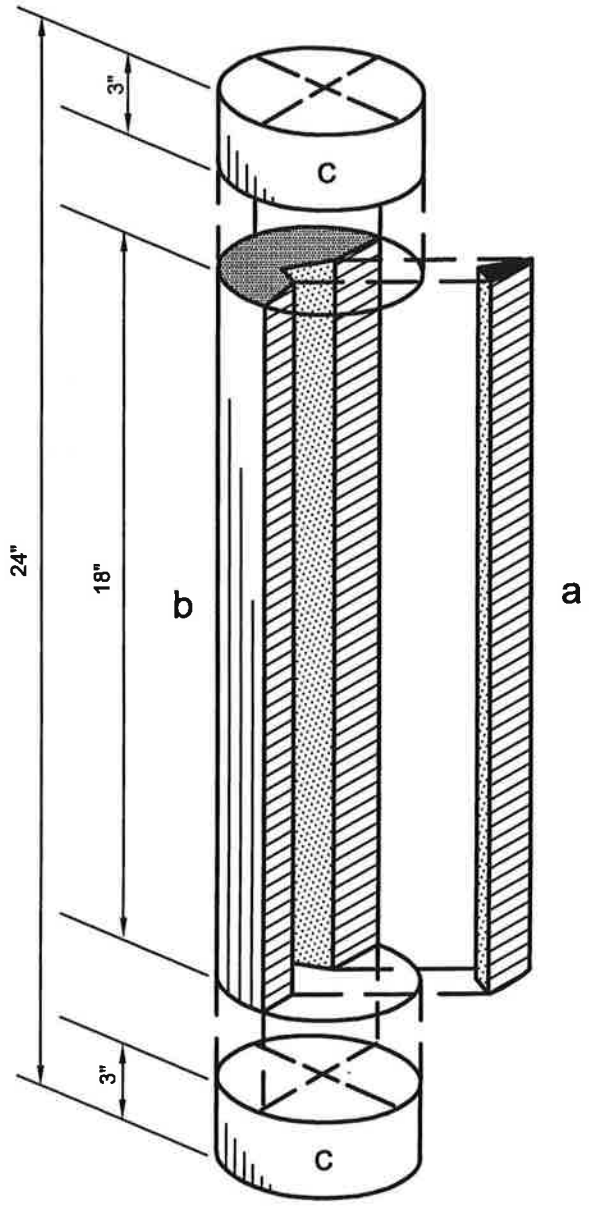
- Water Level Probe

REFERENCE

1. American Society for Testing and Materials (1991), Standard D1452-80, "Practice for Soil Investigation and Sampling by Auger Borings", Annual Book of ASTM Standard, Section 4, Volume 04.08.

2. Environmental Protection Agency (1986), RCRA Ground-Water Monitoring Technical Enforcement Guidance Document, OSWER-9950.1.
3. Environmental Protection Agency (1987), A Compendium of Superfund Field Operations Methods, EPA/540/P-87/001.
4. ASTM D1452-80 Practice for Soil Investigation and Sampling by Auger Borings.
5. ASTM D1586-84 Test Method for Penetration Test and Split-Barrel Sampling of Soils
6. ASTM D1587-94 Practice for Thin Walled Tube Geotechnical Sampling of Soils
7. ASTM D2488-93 Practice for Description and Identification of Soils (Visual-Manual Procedure)
8. ASTM D4700-91 Guide for Soil Sampling from the Vadose Zone

SPLIT SPOON SAMPLE SELECTION DETAILS



TYPICAL SOIL CORE

a

PORTION OF SAMPLE FOR CHEMICAL ANALYSIS

-CONTACT WITH UNSTERILIZED MATERIALS IS NOT ACCEPTABLE

-STORAGE - REFRIGERATED (4°C)

-SHIPPING - ON ICE BY COURIER TO DESIGNATED LAB

b

PORTION OF SAMPLE TO BE RETAINED FOR GEOLOGIC RECORDS

-CONTACT WITH UNSTERILIZED MATERIALS IS NOT A PROBLEM

-CONTAINER: - CLEAN GLASS JAR
- CLEAR GLASS IS SUITABLE

-STORAGE - IN STANDARD SHIPPING CARTON
- NO REFRIGERATION REQUIRED

c

PORTION OF SAMPLE TO BE DISCARDED

-DISCARDED WITHIN 55 GALLON DRUM MAINTAINED ON-SITE

GENERAL MOTORS CORPORATION - REMEDIATION SECTION

REMEDIATION SECTION	PROCEDURE #: SOP-6.3
WORLDWIDE FACILITIES GROUP	EFFECTIVE DATE: May 9, 2001
GENERAL MOTORS CORPORATION	
REVISION #:	REVISION DATE:

GROUNDWATER SAMPLE COLLECTION FOR LABORATORY ANALYSIS

INTRODUCTION

This procedure is for the collection of groundwater samples for laboratory analysis.

The following describes two techniques for groundwater sampling: "Low Stress/Low Flow Methods" and "Typical Sample Methods."

"Low Stress/Low Flow" methods will be employed when it is critical to collect groundwater samples truly representative of the groundwater present, not impacted by sediment/colloid presence. Analysis typically sensitive to turbidity/sediment issues are Polychlorinated-biphenyls (PCBs), Semi-volatile compounds (SVOCs) and metals.

The "Typical Sample Methods" will be employed where the collection of parameters less sensitive to turbidity/sediment issues are being collected (volatile organics - VOCs, and general chemistry).

NOTE: If Non-aqueous phase liquids (NAPL) (light or dense) are detected in a monitoring well, groundwater sample collection will not be conducted and the Project Manager must be contacted to determine a course of action.

PROCEDURES REFERENCED

- Water Level Measurements (SOP-5.1)
- Equipment Decontamination (SOP-9.0)

PREPARATORY REQUIREMENTS

- Verify well identification and location using borehole log details and location layout figures. Note the condition of the well and inform the Project Manager of any necessary repair work required.

- Prior to opening the well cap, measure the breathing space above the well casing with a PID to establish baseline levels. Repeat this measurement once the well cap is opened. If either of these measurements exceeds the air quality criteria in the health and safety plan, field personnel should adjust their PPE accordingly.
- Prior to commencing the groundwater purging/sampling tasks, a water level must be obtained to determine the well volume for hydraulic purposes. Refer to the Water Level Measurements Procedure (SOP 5.1) for details. In some settings it maybe necessary to allow the water level time to equilibrate. This condition exists if a water tight seal exists at the well cap and the water level has fluctuated above the top of screen; creating a vacuum or pressurized area in this air space. Three water level checks will verify static water level conditions or changing conditions.
- Calculate the water volume in the well. Typically overburden well volumes consider only the quantity of water standing in the well screen and riser; bedrock well volumes are calculated on the quantity of water within the open corehole and within the overburden casing.
- Estimate natural groundwater flow rate into well to determine the approximate pumping rate for purging/sampling activities.

WELL PURGING AND STABILIZATION MONITORING (LOW STRESS/LOW FLOW METHOD)

- The GM method of preference for groundwater sampling will be the low stress/low flow method described below.
- Bladder pumps/submersible variable rate pumps (i.e., Grundfos™ Rediflo or equivalent) are typically employed.
- Slowly lower the pump, safety cable, tubing and electrical lines into the well to the depth specified by the project requirements. The pump should be placed in the well approximately 24 hours prior to purging. The pump intake must be at the mid-point of the well to prevent disturbance and resuspension of any sediment in the screen base.
- Before starting the pump, measure the water level again with the pump in the well leaving the water level measuring device in the well when completed.
- Purge the well at 100 to a maximum of 500 milliliters per minute (mL/min). During purging, the water level should be monitored approximately every 5 minutes, or as appropriate. A steady flow rate should be maintained that results in drawdown of 0.3 feet or less. The rate of pumping should not exceed the natural flow rate conditions of the well being sampled. Care should be taken to maintain pump suction and to avoid entrainment of air in the tubing. Record adjustments made to the pumping rates and water levels immediately after each adjustment.
- During the purging of the well, monitor and record the field indicator parameters (pH, temperature, conductivity, oxidation-reduction (redox) reaction potential (ORP), dissolved oxygen (DO), and turbidity) approximately every five minutes. Stabilization is considered to

be achieved when the final groundwater flow rate is achieved, and three consecutive readings for each parameters are within the following limits:

- pH ±0.1 pH units of the average value of the three readings;
- temperature ±3 percent of the average value of the three readings;
- conductivity ±0.005 milliSiemen per centimeter (mS/cm) of the average value of the three readings for conductivity <1 mS/cm and ±0.01 mS/cm of the average value of the three readings for conductivity >1 mS/cm;
- ORP ±10 millivolts (mV) of the average value of the three readings;
- DO ±10 percent of the average value of the three readings; and
- turbidity ±10 percent of the average value of the three readings, or a final value of less than 5 nephelometric turbidity units (NTU).

- Should stabilization not be achieved for all field parameters, purging is continued until a maximum of 20 well screen volumes have been purged from the well. Since low-flow purging (LFP) likely will not draw groundwater from a significant distance above or below the pump intake, the screen volume is based upon a 5-foot (1.4 m) screen length. After purging 20 well screen volumes, purging is continued if the purge water remains visually turbid and appears to be clearing, or if stabilization parameters are varying slightly outside of the stabilization criteria listed above and appear to be approaching stabilization.
- If low-turbidity samples are critical to the project goals, purging will be extended until turbidity has been reduced to 5 NTU or less.
- The pump must not be removed from the well between purging and sampling.

WELL PURGING AND STABILIZATION MONITORING (TYPICAL METHOD)

- Typically peristaltic pumps or bladder pumps or submersible pumps are preferred. In most cases bailer use is not desirable.
- Pump placement is typically performed at the mid-point of the screen.
- Purge the well until three consecutive well volume measurements of temperature and specific conductivity are approximately plus or minus 10 percent and if the pH values are within 1 pH unit of the last three value averages, and the groundwater turbidity values are less than 5 NTU. If stabilization has not occurred within the first five well volumes removed, continue purging and monitoring until eight well volumes have been pumped.
- Groundwater turbidity may be evaluated by a visual examination for sediment/silt presence or use of a nephlometer. Work Plan Specific goals may exist for turbidity values which may require extending the purging, or require an alternate pumping system.
- Monitoring well purging is accomplished by using in-place pumps or by either a peristaltic, bladder or other appropriate pump, depending on the well depth. The pump/hose assembly or bailer used for purging should be lowered into the top of the standing water column and

not deep into the column. Typically pump placement at the mid-point of the screen is adequate.

SAMPLING TECHNIQUES

- If an alternate pump is utilized, the first pump discharge volumes should be discarded to allow the equipment a period of acclimation to the groundwater.
- Samples are typically collected directly from the pump with the groundwater being discharged directly into the appropriate sample container. Avoid handling the interior of the bottle or bottle cap and don new gloves for each well sampled to avoid contamination of the sample.
- Order of sample collection:
  - Volatile organic compounds
  - Semi-volatile organic compounds
  - Total organic carbon (TOC)
  - Total organic halogens (TOX)
  - Extractable organics
  - Total metals
  - Dissolved metals
  - Phenols
  - Cyanide
  - Sulfate and chloride
  - Nitrate and ammonia
  - Radionuclides
- For low stress/low flow sampling, samples should be collected at a flow rate between 100 and 250 mL/min and such that drawdown of the water level within the well does not exceed the maximum allowable drawdown of 0.3 feet.
- The pumping rate used to collect a sample for VOCs should not exceed 100 mL/min. Samples should be transferred directly to the final container 40 mL glass vials completely full and topped with a teflon cap. Once capped the vial must be inverted and tapped to check for headspace/air presence (bubbles). If air is present the sample vial will be discarded, and re-collected until free of air.
- Field filtration will be performed if dictated by the project Work Plan.
- Sample labels/sample identification
- All samples must be labeled with:
  - A unique sample number
  - Date and time
  - Parameters to be analyzed
  - Project Reference ID

- Samplers initials

- Labels should be secured to the bottle and should be written in indelible inks.

EQUIPMENT/MATERIALS

- pH meter, Conductivity meter, Dissolved Oxygen (DO) meter, Oxidation-reduction (redox) reaction potential (ORP) meter, Nephlometer, Temperature gauge
- Field filtration units (if required)
- Purging/sampling equipment
  - Peristaltic Pump (not suitable for VOCs[1]/SVOCs or depths >25 feet);
  - Suction Pumps (not suitable for LFP, VOCs/SVOCs, or depths >25 feet);
  - Submersible Pumps (suitable for VOCs/SVOCs only at low flow rates);
  - Air Lift Pumps (not suitable for VOCs/SVOCs);
  - Bladder Pumps (suitable for LFR and VOCs/SVOCs);
  - Inertia Pumps (gaining acceptability for VOCs/SVOCs generally not suited for GM programs); and
  - Bailers (not suitable for LFP generally not suited for GM programs).
- Water Level Probe
- Sampling Materials (containers, log book/forms, coolers, chain-of-custody)
- Work Plan
- Health and Safety Plan

NOTE[1]: PERISTALTIC PUMP USE FOR VOC COLLECTION IS NOT ACCEPTABLE ON EPA/RCRA SITES; THIS TECHNIQUE HAS GAINED ACCEPTANCE IN SELECT AREAS WHERE IT IS PERMISSIBLE TO COLLECT VOCS USING A PERISTALTIC PUMP AT A LOW FLOW RATE (EX. MICHIGAN).

FIELD NOTES

- Field notes must document all the events, equipment used, and measurements collected during the sampling activities. SOP 1.5 describes the data/recording procedure for field activities. The log book should document the following for each well sampled:
  - Identification of well
  - Well depth
  - Static water level depth and measurement technique
  - Sounded well depth
  - Presence of immiscible layers and detection/collection method

- Well yield – high or low
- Purge volume and pumping rate
- Time well purged
- Measured field parameters
- Purge/sampling device used
- Well sampling sequence
- Sampling appearance
- Sample odors
- Sample volume
- Types of sample containers and sample identification
- Preservative(s) used
- Parameters requested for analysis
- Field analysis data and method(s)
- Sample distribution and transporter
- Laboratory shipped to
- Chain of custody number for shipment to laboratory
- Field observations on sampling event
- Name collector(s)
- Climatic conditions including air temperature
- Problems encountered and any deviations made from the established sampling protocol.

A standard log form for documentation and reporting groundwater purging and sampling events are presented on Form 6.3-01 (Well Purging Field Information Form), 6.3-02 (Sample Collection Data Sheet), and 6.3-03 (Monitoring Well Record for Low-Flow Purging).

GROUNDWATER/DECON FLUID DISPOSAL

- Groundwater disposal methods will vary on a case-by-case basis but may range from:
  - Off-site treatment at private treatment/disposal facilities or public owned treatment facilities
  - On-site treatment at Facility operated facilities
  - Direct discharge to the surrounding ground surface, allowing groundwater infiltration to the underlying subsurface regime
  - Direct discharge to impervious pavement surfaces, allowing evaporation to occur
- Decon fluids should be segregated and collected separately from wash waters/groundwater containers. Often small volumes of solvents used during the day can be allowed to evaporate if left in an open pail. In the event evaporation is not possible or practical, off-site disposal arrangements must be made.

REFERENCE

1. ASTM D5474 Guide for selection of Data Elements for Groundwater Investigations
2. ASTM D4696 Guide for pore-liquid sampling from the vadose zone
3. ASTM D5979 Guide for conceptualization and characterization of groundwater systems
4. ASTM D5903 Guide for planning and preparing for a groundwater sampling event
5. ASTM D4448 Standard guide for sampling groundwater wells
6. ASTM D6001 Standard guide for direct push water sampling for geo-environmental investigations.
7. USEPA Low-flow (minimal drawdown) ground-water sampling procedures (EPA/540/S-95/504)
8. USEPA RCRA Groundwater Monitoring: Draft Technical guidance (EPA/530-R-93-001)

WELL PURGING FIELD INFORMATION FORM

JOB# _____ - _____

SITE/PROJECT NAME: _____ WELL# _____

WELL PURGING INFORMATION

PURGE DATE (MM DD YY) _____

SAMPLE DATE (MM DD YY) _____

WATER VOL. IN CASING (LITRES/GALLONS) _____

ACTUAL VOLUME PURGED (LITRES/GALLONS) _____

PURGING AND SAMPLING EQUIPMENT

PURGING EQUIPMENT.....DEDICATED Y N (CIRCLE ONE)

SAMPLING EQIPMENT.....DEDICATED Y N (CIRCLE ONE)

PURGING DEVICE [ ] A - SUBMERSIBLE PUMP; B - PERISTALTIC PUMP; D - GAS LIFT PUMP; E - PURGE PUMP; G - BAILER; H - WATERRA®; X- _____ PURGING OTHER (SPECIFY)

SAMPLING DEVICE [ ] C - BLADDER PUMP; F - DIPPER BOTTLE; X- _____ SAMPLING OTHER (SPECIFY)

PURGING DEVICE [ ] A - TEFLON; B - STAINLESS STEEL; D - PVC; E - POLYETHYLENE; X- _____ PURGING OTHER (SPECIFY)

SAMPLING DEVICE [ ] C - POLYPROPYLENE; X- _____ SAMPLING OTHER (SPECIFY)

PURGING DEVICE [ ] A - TEFLON; B - TYGON; D - POLYPROPYLENE; E - POLYETHYLENE; F - SILICONE; G - COMBINATION TEFLON/POLYPROPYLENE; X- _____ PURGING OTHER (SPECIFY)

SAMPLING DEVICE [ ] C - ROPE X- _____ (SPECIFY); X- _____ SAMPLING OTHER (SPECIFY)

FILTERING DEVICES 0.45 [ ] A - IN-LINE DISPOSABLE B - PRESSURE C - VACUUM

FIELD MEASUREMENTS

WELL ELEVATION _____ (m/ft)

DEPTH TO WATER _____ (m/ft)

GROUNDWATER ELEVATION _____ (m/ft)

WELL DEPTH _____ (m/ft)

pH	TURBIDITY	CONDUCTIVITY	ORP	DO	SAMPLE TEMPERATURE
(std)	(ntu)	(µm/cm) AT 25°C	(mV)	(mg/L)	(°C)
(std)	(ntu)	(µm/cm) AT 25°C	(mV)	(mg/L)	(°C)
(std)	(ntu)	(µm/cm) AT 25°C	(mV)	(mg/L)	(°C)
(std)	(ntu)	(µm/cm) AT 25°C	(mV)	(mg/L)	(°C)
(std)	(ntu)	(µm/cm) AT 25°C	(mV)	(mg/L)	(°C)

FIELD COMMENTS

SAMPLE APPEARANCE: _____ ODOR: _____ COLOR: _____ TURBIDITY: _____

WEATHER CONDITIONS: WIND SPEED _____ DIRECTION _____ PRECIPITATION Y/N OUTLOOK _____

SPECIFIC COMMENTS _____

I CERTIFY THAT SAMPLING PROCEDURES WERE IN ACCORDANCE WITH APPLICABLE GM PROTOCOLS

DATE _____ PRINT _____ SIGNATURE _____

General Motors Corporation - Remediation Section

SAMPLE COLLECTION DATA SHEET - GROUNDWATER SAMPLING PROGRAM

PROJECT NAME _____ PROJECT NO. _____

SAMPLING CREW MEMBERS _____ SUPERVISOR _____

DATE OF SAMPLE COLLECTION _____

[Note: For 2" dia. well, 1 ft. = 0.14 gal (imp) or 0.16 gal (us)]

Sample I.D. Number	Well Number	Measuring Point Elev. (ft. AMSL)	Bottom Depth (ft. btoc)	Water Depth (ft. btoc)	Water Elevation (ft. AMSL)	Well Volume (gallons)	Bailer Volume No. Bails	Volume Purged (gallons)	Field pH	Field Temp.	Field Cond.	Time	Sample Description & Analysis

Additional Comments: _____

Copies to: _____

General Motors Corporation - Remediation Section

MONITORING WELL RECORD FOR LOW-FLOW PURGING

Project Data:

Project Name: _____ Date: _____

Ref. No.: _____ Personnel: _____

_____

Monitoring Well Data:

Well No.: _____ Screen Length (ft): _____

Measurement Point: _____ Depth to Pump Intake (ft)[1]: _____

Constructed Well Depth (ft): _____ Well Diameter, D (in): _____

Measured Well Depth (ft): _____ Well Screen Volume, V_s (mL)[2]: _____

Depth of Sediment (ft): _____ Initial Depth to Water (ft): _____

Time	*Pumping Rate (mL/min)*	*Depth to Water (ft)*	*Drawdown from Initial Water Level (ft)*[3]	*pH*	*Temperature °C*	*Conductivity (mS/cm)*	*ORP (mV)*	*DO (mg/L)*	*Turbidity (NTU)*	*Volume Purged, Vp (mL)*	*No. of Well Screen Volumes Purged*[4]

Notes:

(1) The pump intake will be placed at the well screen mid-point or at a minimum of 2 ft above any sediment accumulated at the well bottom.

(2) The well screen volume will be based on a 5-foot screen length, $V_s=p*(D/2)^2*(5*12)*(2.54)^3$

(3) The drawdown from the initial water level should not exceed 0.3 ft.

(4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stablization criteria and appear to be stablizing), No. of Well Screen Volumes Purged= Vp/Vs.

General Motors Corporation - Remediation Section

REMEDIATION SECTION	PROCEDURE #: SOP - 6.4
WORLDWIDE FACILITIES GROUP	EFFECTIVE DATE: May 9, 2001
GENERAL MOTORS CORPORATION	
REVISION #:	REVISION DATE:

NON-AQUEOUS PHASE LIQUID (NAPL) MONITORING AND SAMPLE COLLECTION FOR LABORATORY ANALYSIS

INTRODUCTION

This procedure is for monitoring the presence of dense and light non-aqueous phase liquids (DNAPL and LNAPL), and collection of NAPL samples for laboratory analysis in monitoring, observation, and extraction wells.

It should be noted that groundwater sampling and analysis should not be performed in locations where NAPL has been identified.

PROCEDURES REFERENCED

- Water Level Measurements (SOP - 5.1)
- Equipment Decontamination (SOP - 9.0)

NAPL LEVEL MEASUREMENTS

- Conduct well identification, inspection, and opening in accordance with the Water Level Measurement Procedures (SOP 5.1).
- NAPL level measurements are best conducted using a dual phase interface probe. The interface probe uses an optical liquid sensor, in conjunction with an electric circuit to detect the top of a phase-separated liquid and the interface between the phase layer and water (water level). The procedure for use of this probe is:
- For LNAPL:
  - Lower the probe tip into the center of the well until discontinuous beeping is heard (this indicates the top of the LNAPL has been detected). Grasp the calibrated tape at the reference point and note reading. Confirm the reading by slowly raising and lowering the probe to the level of the phase layer.
  - Once the top of the phase layer is confirmed, slowly lower the probe until a continuous sound is heard. This indicates that the water level has been encountered. Grasp the tape at the reference point and note the reading. Confirm this water level measurement.
  - Decontaminate the submerged end of the tape and probe prior to the next use in accordance with the Work Plan requirements.
- For DNAPL:
  - Lower the probe tip in the center of the well to the bottom of the well, a discontinuous beeping will be heard if DNAPL is present. Grasp the calibrated tape at the reference point and note reading.

- Once the bottom of the well is confirmed, slowly raise the probe until a continuous sound is heard. This indicates that the water level has been encountered and represents the top of the DNAPL layer. Grasp the tape at the reference point and note the reading. Confirm this water level measurement.
- Decontaminate the submerged end of the tape and probe prior to the next use.

- Alternative NAPL measurement methods exist in the event an interface probe is unavailable or not functioning properly. These methods tend to be less accurate than the interface probe but may be used to establish an estimated NAPL measurement.
  - Clear Bailer – A clear bottom-loading bailer may be used to estimate NAPL thickness if floating or denser than water. If NAPL presence is suspected, the bailer is carefully lowered to the location of suspected NAPL presence (top of water column/base of water column), and slowly removed and examined for NAPL. If present, the column of NAPL within the clear bailer can be measured to estimate the NAPL thickness within the groundwater column.
  - Weighted Cord – Primarily used for DNAPL measurements, a weighted "cotton" string or cord may be lowered to the base of the well and inspected upon retrieval. Typically, the lower DNAPL layer will "coat" the string indicating the approximate thickness of this layer.

WELL NAPL SAMPLING

- Prior to sampling, the level of NAPL in the well should be measured as identified above.
- Various sampling devices can be employed to acquire fluid samples from the top and bottom of the well, including the following:
  - Bottom-loading bailer;
  - Double check value bailer (produces most reliable results);
  - Peristaltic pump for shallow wells (<25 feet in depth); or
  - Inertia pump for deeper wells (up to 300 feet in depth).
- Transfer NAPL to sample containers for shipment to laboratory. NAPL can be sampled to evaluate the physical properties of the fluid or to evaluate chemical composition.
- Decontaminate equipment prior to next use.

Note: Groundwater sampling shall not be performed in locations where NAPL is present.

EQUIPMENT/MATERIAL

- Interface Probe;
- Bottom-loading bailer;
- Double check valve bailer;
- Peristaltic pump;
- Inertia pump
- Work Plan
- Health and Safety Plan

REFERENCE

1. Cohen, Robert M., Mercer, James W. (GeoTrans, Inc.), Robert S. Kerr Environmental Research Laboratory "DNAPL Site Evaluation" Office Research and Development. U.S. Environmental Protection Agency
2. Cohen, R.M., Brayda, A.P., Shaw, S.T., and Spaulding, C.P.; Fall 1992 "Evaluation of Visual Methods to Detect NAPL in Soil and Water", Groundwater Monitoring Review, Vol. 12 No. 4, pp. 132-141.

REMEDIATION SECTION	PROCEDURE # SOP - 6.6
WORLDWIDE FACILITIES GROUP	EFFECTIVE DATE: October 23, 2001
GENERAL MOTORS CORPORATION	
REVISION #:	REVISION DATE:

SAMPLE HANDLING AND SHIPPING

INTRODUCTION

Sample management is the continuous care given to each sample from the point of collection to receipt at the analytical laboratory. Good sample management ensures that samples are properly recorded, properly labeled, not lost, broken, or exposed to conditions which may affect the sample's integrity.

All sample submissions must be accompanied with a chain-of-custody (COC) document to record sample collection and submission.

The following sections provide the minimum standards for sample management.

PROCEDURES REFERENCED

A) Field Handling

Prior to entering the field area where sampling is to be conducted, especially at sites with defined exclusion zones, the sampler should ensure that all materials necessary to complete the sampling are on hand.

If samples must be maintained at a specified temperature after collection, proper coolers and ice/cool-packs must be brought out to the field. Consideration should be given to keeping reserve cooling media on hand if sampling events will be of long duration. Conversely, when sampling in extremely cold weather, proper protection of water samples, trip blanks, and field blanks must be considered.

Personnel performing groundwater sampling tasks must check the sample preparation and preservation requirements to ensure compliance with the Work Plan QAPP. Typical sample preparation may involve pH adjustment (i.e., preservation), sample filtration and preservation, or simply cooling to 4°C. Sample preparation requirements vary from site to site and vary depending upon the analytical method for which the samples will be analyzed.

The sampling personnel must also confirm before the sample event, the amount of bottle filling required for the respective sample containers. VOC samples must not have any

headspace within the sample collection vial; whereas when collecting select analytes (i.e., metals) a headspace must be provided to allow addition of the required preservative.

B) Sample Labeling

Samples must be properly labeled as soon as practical after collection.

Note that the data shown on the sample label is the minimum data required. The sample label data requirements are listed below for clarity.

i) Project name.
ii) Sample number.
iii) Sampler's initials.
iv) Date of sample collection.
v) Time of sample collection.
vi) Analysis required.
vii) Preservatives.

The Work Plan Quality Assurance/Quality Control (QA/QC) specification should be reviewed to determine any additional requirements.

Quite often the analytical laboratory supplying the containers will provide blank sample labels. If these are adequate and convenient they can be used.

Under certain field conditions it is impractical to complete and attach sample labels to the container at the point of sample collection. However, to ensure that samples are not confused, a clear notation should be made on the container with a permanent marker indicating the last three digits of the sample number. If the containers are too soiled or small for marking, the container can be put into a "zip-lock" bag which can then be labeled.

No one sample number format is adequate for every type of sampling activity. Prior to the start of every project or sub-sampling event within the project, Project Managers and field personnel should devise a sample number format. Sample number formats should be as simple and short as possible. Simple number formats will reduce transcription errors by both Consultants and lab personnel. The sample number format should be comprehensive enough to allow for easy location of detailed sample data within the Site log books. Sample format must also be consistent with any future data management activities.

Unless otherwise instructed, labels should not contain specific names of the sample source (i.e., "Well No. 16"). Provision of such specific data on the label can produce biased lab results.

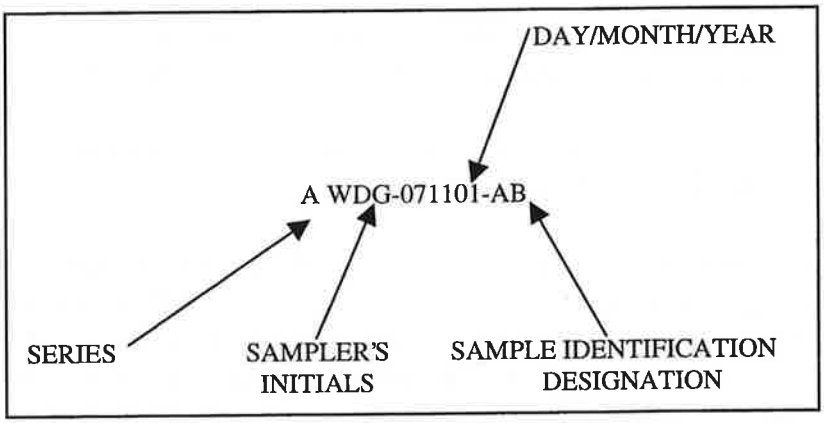
Sample Labels/Sample Identification

All samples must be labeled with:

- a unique sample number (never to be re-used, nor likely to be);
- date and time;
- parameters to be analyzed;
- job number; and
- sampler's initials.

Labels should be secured to the bottle and should be written in indelible inks. It is also desirable to place wide clear tape over the label before packing in a cooler for label protection during transportation.

The unique sample identification number may follow the format recommended below, or a specific sample protocol for labeling may be specified in the project Work Plan.



This format has been selected to maximize the information content of the sample number. Minor modifications are certainly reasonable.

i) Series is a letter which designates a group of samples. This might include sample round, or might designate sample type (e.g., sediment, soil, volatile analysis, Round 2 Lower Aquifer wells), or sample source. For example, "A" might mean samples of influent to some treatment system, "B" might mean samples of effluent. Letters should be used, not numbers. Series is optional.

ii) Job number together with the series number, will allow easier tracking of samples.

iii) Sampler's initials will allow identification of the sampler, and so allow all project personnel to contact the correct person for information regarding that sample and its collection. The use of three initials is requested. Special arrangements will need to be made if two individuals have the same initials.

iv) Sample date will allow monitoring of actual holding time of samples and should ensure that all sample numbers are unique, even if sample location designation is used in a system, as opposed to assigned at random.

v) Sample identification designation will identify the sample, and can be any numerical or letter designation.

The decision of how to assign sample numbers should be made at the beginning of a job or phase, and should be consistent throughout the job.

C) Packaging

When possible, sample container preparation and packing for shipment should be completed in a well organized and clean area, free of any potential cross-contaminants.

Sample containers should be prepared for shipment as follows:

i) Containers should be wiped clean of all debris/water using paper towels (paper towels must be disposed of with other contaminated materials).

ii) Clear, wide packing tape should be placed over the sample label for protection.

While there is no one "best" way to pack samples for shipment, the following packing guidelines should be followed.

i) Plan time to pack your samples (and make delivery to shipper if applicable). Proper packing and manifesting takes time. A day's worth of sampling can be easily wasted due to a few minutes of neglect when packing the samples.

ii) Always opt for more coolers and more padding rather than crowd samples. The cost associated with the packing and shipment of additional coolers is usually always small in comparison with the cost of having to re-sample due to breakage during shipment.

iii) Do not bulk pack. Each sample must be individually padded.

iv) Large glass containers (1 liter and up) require much more space between containers.

v) Ice is not a packing material due to the reduction in volume when it melts.

The following is a list of standard guidelines which must be followed when packing samples for shipment.

i) When using ice for a cooling media, always double bag the ice in "Zip-Lock" bags.

ii) Double-check to ensure trip and temperature blanks have been included for all shipments containing VOCs, or where otherwise specified in the QA/QC plan.

iii) Enclose the Chain-of-Custody form in a "Zip-Lock" bag.

iv) Ensure custody seals (two, minimum) are placed on each cooler. Coolers with hinged lids should have both seals placed on the opening edge of the lid. Coolers with "free" lids should have seals placed on opposite diagonal corners of the lid. Place clear tape over custody seals.

v) Ensure that all "Hazardous Material" stickers/markings have been removed from coolers being used which previously contained such materials.

Note: Never store sterile sample containers in enclosures containing equipment which use any form of fuel or volatile petroleum based product. An alternate means of secure storage must be planned for. When conducting sampling in freezing conditions at sites without a heated storage area (free of potential cross contaminants), trip blanks and temperature blanks not being used in a QA/QC role should be isolated from coolers immediately after receipt. Trip and temperature blanks should be double-bagged and kept from freezing.

D) Chain-of-Custody Records

Chain-of-custody forms will be completed for all samples collected. The form documents the transfer of sample containers.

The chain-of-custody record, completed at the time of sampling, will contain, but not be limited to, the sample number, date and time of sampling, and the name of the sampler. The chain-of-custody document will be signed and dated by the sampler when transferring the samples.

Each sample cooler being shipped to the laboratory will contain a chain-of-custody form. The chain-of-custody form will consist of four copies which will be distributed as follows: The shipper will maintain a copy while the other three copies will be enclosed in a waterproof envelop within the cooler with the samples. The cooler will then be sealed properly for shipment. The laboratory, upon receiving the samples, will complete the three remaining copies. The laboratory will maintain one copy for their records. One copy will be returned to the Field QA/QC Officer upon receipt of the samples by the laboratory. One copy will be returned with the data deliverables package.

Chain-of-custody (COC) records are legal documents. They must be completed and handled accordingly.

The following list provides guidance for the completion and handling of all COCs.

i) COCs used should be Consultant standard forms or those supplied by the analytical laboratory. Do not use any COC forms from other labs, even if the heading is blocked out.

ii) COCs must be completed in black ball-point ink only.

iii) COCs must be completed neatly using printed text.

iv) If a simple mistake is made, line out the error with a single line and initial and date next to it.

v) Each separate sample entry must be sequentially numbered.

vi) The use of "Ditto" or quotation marks to indicate repetitive information in columnar entries should be avoided. If numerous repetitive entries must be made in the same column, place a continuous vertical arrow between the first entry and the next different entry.

vii) When more than one COC form is used for a single shipment, each form must be consecutively numbered using the "Page ___ of ___" format.

viii) If necessary, place additional instructions directly onto the COC. Do not enclose separate loose instructions.

ix) Include a contact name and phone number on the COC in case there is a problem with the shipment.

x) Do not indicate the source of the sample as this may produce a biased lab result.

xi) Before using an acronym on a COC, define clearly the full interpretation of your designation [i.e., Polychlorinated Biphenyls - (PCBs)].

E) Shipment

In all but a few cases the QA/QC plan for the field work will require shipment of samples by overnight carrier. A great many problems can be avoided by proper advance planning.

Prior to the start of the field sampling, the carrier should be contacted to determine if pickup can be made at the field site location. If pickup at the field site can be made, the "no-later-than" time for having the shipment ready must be determined.

If no pickup is available at the site, the nearest pickup or drop-off location should be determined. Again, the "no-later-than" time for each location should be determined.

Sufficient time must be allowed not only for packaging but also for delivery of samples if this becomes necessary. Driving at high rates of speed in order to make the drop time is unacceptable.

Sample shipments must not be left at unsecured or questionable drop locations (i.e., if the cooler will not fit in a remote drop box do not leave the cooler unattended next to the drop box).

Some overnight carriers do not in fact provide "overnight" shipment to/from some locations. Do not assume; call the carrier in advance before the start of the field work.

Copies of all shipment manifests must be maintained in the field file.

REMEDIATION SECTION	PROCEDURE # **SOP 8.0**
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Field Instruments – Use And Calibration

INTRODUCTION

A significant number of field activities involve usage of electronic instruments to monitor for environmental screening and heath and safety purposes. It is imperative the instruments are used and maintained properly to optimize their performance and minimize the potential for inaccuracies in the data obtained, and to insure worker's health and safety is not compromised.

This SOP provides guidance on the usage, maintenance and calibration of electronic field equipment, whether for equipment owned by the Consultant or Contractor, or equipment obtained from a rental agency.

PROCEDURES REFERENCED

- 1.4 - Data Recording

PROCEDURE

- All monitoring equipment will be in proper working order, and operated for the purpose for which it was intended, in accordance manufacturer's recommendations.
- Field personnel will be responsible for insuring the equipment is maintained and calibrated in the field to extent practical, or returned for office or manufacturer maintenance or calibration if warranted. Calibration is discussed in greater detail below.
- A copy of the Operating Instructions, Maintenance and Service manual for each instrument used on a project will be kept on site at all times.
- Instruments will be operated only by personnel trained in the proper usage and calibration. In the event certification of training is required, personnel will have documentation of such certification with them on site at all times.

- Personnel must be aware that certain instruments are rated for operation within a limited range of conditions such as temperature and humidity. Usage of such instruments in conditions outside these ranges will only proceed with proper approval by a project manager and/or Health and Safety supervisor as appropriate.

- Instruments that contain radioactive source material, such as x-ray fluorescence analyzers or moisture-density gauges require specific transportation, handling and usage procedures that are generally associated with a license from the Nuclear Regulatory Commission (NRC) or an NRC-Agreement State. Under no circumstance will operation of such instruments be allowed on site unless by properly authorized and trained personnel, using the proper personal dosimetry badges or monitoring instruments.

- <u>Calibration:</u>

  Calibration of an electronic instrument is critical to insure it is operating properly for it's intended use. Such instruments are often sensitive to changes in temperature or humidity, or chemical vapors in the working atmosphere, and as a result their response and ability to monitor conditions and provide data can change significantly.

  Calibration: Calibration of instruments shall be performed in accordance with the manufacturer's recommendations. This includes the following parameters:

    - Frequency
    - Use of proper calibration Gases or Chemical Standards
    - Requirements for Factory Calibration

  Calibration Gas Safety: Several instruments such as photoionization detectors (PIDs), flame ionization detectors (FIDs), oxygen meters, explosimeters, combustible gas indicators and many others require use of calibration gasses contained in compressed gas cylinders. Many of these gases are combustible or explosive. Care shall be taken to minimize the potential for injury from the use of such compressed gases. Transport, handling and storage of cylinders, where necessary, shall be performed in accordance with applicable DOT regulations and site requirements.

  Calibration will only be performed in areas free of sources of spark, flame or excessive heat. Smoking will not be allowed in the vicinity of calibration gas usage areas.

  Documentation of Calibration: Instrument Calibration activities will be documented. Protocol for documentation outlined in SOP 1.4 will be followed.

- <u>Intrinsically Safe Requirements</u>

Certain work locations may be such that dangerous, ignitable or explosive conditions exist. In such cases, it may be necessary to utilize only equipment that is rated as "Intrinsically Safe." Intrinsically safe instrumentation is designed with limited electrical and thermal energy levels to eliminate the potential for ignition of hazardous mixtures.

For site work requiring operation of monitoring instruments in Class I, Division I locations (as defined by the National Fire Protection Agency (NFPA)) only instrumentation rated as Intrinsically Safe will be used. Such equipment (including all accessories and ancillary equipment) must be rated to conform to Underwriter's Laboratories (UL) Standard 913, for use in a Class I, Division 1 Groups A, B, C, and D locations. It is also recommended the equipment conform with CSA Standard 22.2, No. 157-92.

- Upon completion of the field activities, equipment shall be returned to the possession of the Consultant, Contractor or Rental Agency accompanied by a written summary of any problems encountered with its use or calibration.

- Equipment shall be properly prepared for shipping, including insuring that residual gases (if applicable) are removed from the instrument, and accompanying containers of compressed gases or fluids are properly labeled and sealed.

- Equipment Decontamination

  Equipment that comes in contact with Site media (water level meters, water quality meters) must be cleaned **before** removal from the site to ensure that chemicals are not transferred to other sites. It is the responsibility of the person who requisitioned the equipment to ensure appropriate cleaning before returning the equipment. Equipment decontamination procedures are typically site-specific for unique site compounds.

EQUIPMENT

- Monitoring equipment specific to work plan tasks.
- Manufacturer's instructions, operation and maintenance information.
- Associated calibration gases, aqueous standards, etc.
- Appropriate shipping containers to facilitate transport without damage to equipment.

REFERENCE

- Underwriter's Laboratories, Inc. (http://www.ul.com/hazloc/define.htm) Standard UL 913.
- National Fire Protection Agency (http://www.nfpa.org/index.html)
- Canadian Standards Association (CSA) (http://www.csa.ca) Standard 22.2 No. 157

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Equipment Decontamination

INTRODUCTION

This procedure describes decontamination of field equipment potentially exposed to contaminants. Proper decontamination is required to reduce the risk of transfer of contaminants from areas of contamination to other areas and to minimize the potential for cross-contamination that would compromise sample quality. The degree of decontamination required will be dependent on the nature of the activity, equipment used and on the amount of exposure to contaminants.

PROCEDURES REFERENCED

- 2.0 - Subsurface Investigations
- 5.0 - Aquifer Characterization
- 6.0 - Sample Collection for Laboratory Analysis
- 8.0 - Field Instruments – Usage/Calibration
- 11.0 – Waste Characterization

PROCEDURE

A. General Procedure Discussion

Decontamination activities must be performed in a controlled area outside any exclusion zones established on the site. Care must be taken to minimize the potential for transfer of contaminated materials to the ground or onto other materials. Regardless of the size or nature of the equipment being decontaminated, the process will utilize a series of steps that involve removal of gross material (dirt, grease, oil etc.), washing with a detergent, and multiple rinsing steps. In lieu of a series of washes and rinse steps, steam cleaning with low-volume, high-pressure equipment (i.e. steam cleaner) is acceptable.

Drill rigs, backhoes and other exploration equipment must be decontaminated prior to initiating site activities, in-between exploration locations to minimize cross-contamination potential, and prior to mobilizing off site after completion of site work. Heavy equipment is generally best decontaminated with a combination of steam-cleaning

equipment and detergent scrubbing. Particular attention should be paid to parts in direct contact with contaminants, e.g. shovels, tires, augers, drilling decks, etc

Control and containerization of all decontamination fluids is critical. A decontamination pad must be constructed that is appropriate for the size and type of equipment being decontaminated. At a minimum, the decontamination pad will have the following elements:

- an impermeable barrier capable of containing decontamination fluids;
- a low point where fluids will collect and can be pumped into appropriate containers;
- durability to withstand equipment such as vehicle and foot traffic;
- appropriate ancillary equipment such as racks to place decontaminated equipment to drain without further exposure to contaminated fluids;
- Labels to alert personnel as to the potential presence of contaminated materials.

B. Decontamination of Specific Sampling Equipment

The following specific decontamination procedure is recommended:

- Brush loose soil off of equipment;
- Wash equipment with laboratory grade detergent (i.e. Alconox or equivalent);
- Rinse with tap water (three rinses minimum);
- Rinse equipment with reagent grade methanol for VOC samples (this requirement may not be appropriate for sites where methanol is a contaminant of concern);
- Rinse equipment with nitric acid for metal samples (especially important for sites with potentially high metals concentrations;
- Rinse equipment with distilled water; and
- Allow water to evaporate before reusing equipment

C. Decontamination of Monitoring Equipment

Because monitoring equipment is difficult to decontaminate, care should be exercised to *prevent* contamination. Sensitive monitoring instruments should be protected when they are at risk of exposure to contaminants. This may include enclosing them in plastic bags allowing an opening for the sample intake. Ventilation ports should not be covered.

If contamination does occur, decon of the equipment will be required; however, immersion in decontamination fluids is not possible. As such, care much be taken to wipe the instruments down with detergent-wetted wipes or sponges, and then with deionized water-wetted wipes or sponges.

D. Disposal of Wash Solutions and Contaminated Equipment

All contaminated wash water, rinsates, solids and materials used in the decontamination process that cannot be effectively decontaminated (such as polyethylene sheeting) will be containerized and disposed of in accordance with applicable regulations and GM requirements. All containers will be labeled with an indelible marker as to contents and date of placement in the container, and any appropriate stickers required (such as PCBs).

Sampling of containerized wastes will be performed immediately upon completion of the investigations to minimize storage time on site. Storage of decon wastes on site will not exceed 90 days under any circumstances.

EQUIPMENT

Decontamination equipment and solutions are generally selected based on ease of decontamination and disposability.

- Polyethylene sheeting;
- Metal racks to hold decontaminated equipment;
- Soft-bristle scrub brushes or long-handle brushes for removing gross contamination and scrubbing with wash solutions;
- Large galvanized wash tubs, stock tanks, or wading pools for wash and rinse solutions;
- Plastic buckets or garden sprayers for rinse solutions;
- Large plastic garbage cans or other similar containers lined with plastic bags can be used to store contaminated clothing;
- Contaminated liquids and solids should be segregated and containerized in DOT-approved plastic or metal drums, appropriate for offsite shipping/disposal if necessary.

REFERENCE

- ASTM D5088 - Practice for Decontamination of Field Equipment Used at Non-Radioactive Waste Sites

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WASTE CHARACTERIZATION - INVESTIGATION-DERIVED WASTES (IDW)

INTRODUCTION

The following procedure describes the techniques for characterization of investigation derived waste (IDW) for disposal purposes. IDW may consist of soil cuttings (augering, boring, well installation soils, test pit soils), rock core or rock flour (from coring, reaming operations), groundwater (from well development, purging and sampling activities), personal protective equipment (spent gloves, tyveks), (PPE) and disposal equipment (DE).

This procedure applies when disposition of investigation soils and/or groundwater is required in accordance with the project Work Plan. Generally, this procedure is applicable to Facilities where the Project Manager has assessed the areas of investigation and has developed a waste handling plan. In some areas and/or sections within a Facility it is permitted to return soil cuttings/test pit soils and groundwater to the source area (RCRA guidance allows waste management techniques within an area of concern without 'triggering' new points of waste generation). In other areas it may not be practical to return cutting/soils to their origin, and are better handled by this characterization/disposal procedure. These practice is consistent with USEPA procedure for IDW at RCRA facilities and CERCLA sites (reference 1, 2).

Typically investigative derived wastes are dealt with following "Best Management Practices"; and are not handled under RCRA regulations until proven to be listed and/or identified characteristically hazardous waste. Investigative soils and groundwater cannot be considered a listed waste (in most circumstances) due to the lack of generator knowledge concerning chemical source, chemical origin and timing of chemical introduction to the subsurface. Consequently waste sampling and characterization is performed to determine if the wastes exhibit a characteristic of hazardous waste. Once the waste characterization is complete RCRA regulations apply if determined hazardous, if determined to be non-hazardous solid wastes, best management practices apply.

The disposal of soil cuttings and/or purged groundwater must be reviewed on a case by case basis prior to initiation of field activities. Two scenarios typically exist:

i) Sufficient Facility and/or Site information exists that allows investigative cutting and/or purged groundwater to be placed back into the borehole or spread on the

ground-surface; or discharged or in the case of purged water directly onto the ground surface - No disposal Required.

ii) Site conditions warrant that all materials handled will be contained and disposed - Disposal Procedures Required.

The following outlines the waste characterization procedures to be employed when IDW disposal is required.

PROCEDURES

The procedures for handling and characterization of field activity generated wastes are:

A.) Soil/rock cuttings - Soils removed from boring activities and well construction tasks (including, rock flour from bedrock coring) will be contained within an approved container, suitable for transportation and disposal.

- Once placed into the approved container, any free - liquids (i.e., groundwater) will be poured off for disposal as waste fluids, or solidified within the approved container using a solidification agent such as speedy-dri (or equivalent). No free liquid as determined by the "paint filter test" shall be present.
- Contained soils will be screened for the presence of Volatile Organic Compounds (VOCs), using a Photo-ionization detector (PID); this data will be logged for future reference.
- Once screened, full and closed the container will be labeled in accordance with the Facility labeling requirements and placed into the Facility container storage area. At a minimum the following information will be shown a each container label: date of filling/generation, Facility name, source of soils (i.e., borehole or well), and Facility contact. If necessary, the exterior of the container will be cleaned to remove any lose dirt/cuttings.
- Prior to container closure, representative samples from a percentage of the containers will be collected for waste characterization purposes and submitted to the project laboratory. The waste characterization sampling scheme will be dictated by the Work Plan and establish the volume of soils required for analysis (depending on parameters required), the number of containers considered representative, the homogenization procedure, volatile analysis collection procedure (if required) and preparation handling requirements. Typically at a location where an undetermined site specific parameter group exists, sampling and analysis may consist of the full RCRA Waste Characterization (ignitability, corrosivity, reactivity, toxicity), or a subset of the above based upon data collected, historical information and generator knowledge.

B.) Groundwater - Well construction development, purging and sampling groundwater which requires disposal will be contained. Containment may be performed in 55-gallon drums, tanks suitable for temporary storage (i.e., nalgene or Facility provided tanks 500 to 1,000 gallons) or if large volumes of groundwater are

anticipated, drilling "Frac" tanks may be utilized (20,000 gallons ±), or tanker trailer (5,000 to 10.000 gallons ±). In all cases the container/tank used for groundwater storage must be clean before use such that cross-contamination does not occur.

C.) Decon Waters/Decon Fluids - Decon waters and/or fluids will be segregated, contained and disposed accordingly.

- Decon waters may be disposed of with the contained groundwater once analytical results have been acquired. Depending on the extent of chemistry present it may be appropriate to discharge the decon waters to the Publicly Owned Treatment Works (POTW); or discharge to an On-Site treatment system; or send off-Site for treatment.
- Spend Solvent/Acid Rinses - Solvents and acids used during decon activities must be segregated and disposed separately from the groundwater/decon water. Often if only small amounts of solvents are involved these can be left to evaporate. If large volumes are involved then containerization, labeling and storage is required.
- PPE/DE - a number of disposal options exists for spent PPE/DE generated from investigation tasks. The options typically employed are:
  - i) Immediately disposed of within on-site dumpster/municipal trash; or
  - ii) If known to be contaminated with RCRA hazardous waste, dispose off-Site at a RCRA-Subtitle C facility; or alternatively decontaminated PPE/DE and dispose on-site within dumpster/municipal trash; or
  - iii) contained and store until the final remedy is implemented.

EQUIPMENT/MATERIALS

- Sampling tools.

REFERENCE

1. USEPA RCRA Guidance and Policies: Management of Remediation Waste Under RCRA (October 1998), and Management of Contaminated Media (October 1998).
2. USEPA CERCLA Guidance (Options Relevant to RCRA Facilities): Guide to Management of Investigation - Derived Wastes (January 1992).

APPENDIX G.2

ADDITIONAL STANDARD OPERATING PROCEDURES

TABLE OF CONTENTS

Section 1	Sewer Inspection
Section 2	Sediment or Water Sample Collection from Sewers for Laboratory Analysis
Section 3	Wipe and Concrete Core Sampling Protocols for PCBs

SEWER INSPECTION

INTRODUCTION

The following procedure describes typical sewer inspection methods. It cannot be overemphasized the dangers and hazards that exist within these confined spaces. This applies equally to chemical, sanitary and storm sewer systems. The hazards that exist in sewer systems or subsurface chambers are numerous, ranging from air quality problems (i.e., explosive gases, chemical presence, lack of oxygen) to structural hazards (i.e., faulty ladders, corroded platforms, slippery conditions) which could lead to a serious fall. Therefore, the sewer inspection associated with this work plan will consist of manhole inspection only and will not involve entering manholes or sewers. Should it become necessary to enter the sewer system as part of later phases of investigation or remediation, a separate work plan will be prepared.

VISUAL INSPECTION

i) Visual Inspection

Key issues to consider and to be alert to when conducting a visual sewer inspection program are:

- materials of construction (pipes and manholes);
- pipe sizes;
- orientation of pipes entering manholes;
- areas of infiltration should be noted and quantified (if possible);
- structural deficiencies should be noted and reported to the facility owner's maintenance group;
- manhole/sewer line sediment presence should be noted and quantified (if possible);
- chemical presence (i.e., NAPL, solid material accumulations, oil and grease presence) should be noted and sampled if appropriate; and
- catch basin sumps should be inspected to check for sediment presence and if full of sediment (as facility catch basins usually are) the maintenance department should be notified of this occurrence.

ii) Dye Testing

Unknown sewer sections or unknown sewer discharge points can be identified by use of a sewer tracing dye which when injected into the flow stream can be easily identified in downstream locations.

Sewer dye can also be utilized to establish an average sewer flow velocity for flow measurement calculations.

> *CAUTION: Facility owners, municipality treatment areas, or private property owners downgradient of areas where dye will be used should be notified of the pending dye injection. Although harmless, the presence of fluorescent green water can be quite alarming, initiating unwarranted inspections/unnecessary concern.*

A warning concerning the use of sewer dyes is that they must be handled with care. Incidental spillage onto hands, clothing, vehicles, or floors is very persistent and difficult to clean. It is a good practice to pre-mix the concentrated dye in a controlled area and to avoid handling and transporting the concentrated powder in uncontrolled areas. Once prepared, the mixed stock can be easily handled in a transport cooler or box for secondary containment, then carefully poured at the site of use.

FIELD NOTES

All conditions at the time of inspection should be properly documented in the field logbook. In addition, all information should be included on the manhole/catchbasin inspection log (SP-38).

EQUIPMENT

- Tape measure.
- Compass.
- Pick or other device to open manhole cover.
- PID and/or 4 gas meter, if necessary.

SEDIMENT OR WATER SAMPLE COLLECTION FROM SEWERS FOR LABORATORY ANALYSIS

INTRODUCTION

The following procedure describes typical sediment or water sample collection methods from sewers for submission of samples to a laboratory for chemical analysis.

Grab Versus Composite Samples

A grab sample is collected to identify and quantify compounds at a specific location and time. Composite samples consist of a series of discrete samples which are combined. Various compositing methods may be employed including time composite, flow proportioned composite, areal composite, or vertical composite.

It is anticipated that grab samples will be collected because no processes are potentially discharging to the storm sewer and therefore the composition of sediment and water in storm sewers is expected to be relatively constant. Some variability may be expected after large storm events.

PROCEDURES REFERENCED

Sample Handling and Shipping (GM SOP 6.6)
Equipment Decontamination (GM SOP 9.0)

SAMPLE COLLECTION

i) Sampling Sites

Where applicable, sewer water or sediment samples should be collected at the location specified in the Work Plan. In some instances the sampling location specified in the plan, or the location chosen by the Project Coordinator, may not be acceptable for the collection of a representative sample. In such instances, an alternate representative site should be considered. Recommendations and reasons for a change in sampling location should be noted in the field notes and reported for approval prior to proceeding. Samples should always be collected in a downstream to upstream direction to maintain undisturbed conditions.

ii) Air Monitoring

Prior to sewer water/sludge sampling, measure the breathing space above the sample location with a photoionization detector (PID), should the potential for volatiles be present, and use a hydrogen sulfide meter should hydrogen sulfide be present. Repeat these measurements during sampling. If either of these measurements exceed any of the air quality criteria established in the HASP, the air purifying respirators (APRs), or supplied air systems will be required.

iii) Manual Sampling for Sewer Water

Manual sampling is normally used for collecting grab samples and/or for immediate in situ field analyses.

The best method to manually collect a sample is to use the actual sample container which will be used to transport the sample to the laboratory. This eliminates the possibility of contaminating the sample with an intermediate collection container.

A separate collection container can be used to collect the sample, from which the sample can be redistributed to other containers. However, if this is done, the container used to collect the sample must be properly cleaned and must be made of a material that meets the requirements of the parameter(s) being investigated. Also, a separate container will be used at each sampling station. This will prevent cross-contamination between sampling stations.

If the water stream cannot be physically reached by the sampling personnel or it is not safe to reach for the sample, an intermediate collection container may be used. The sample is collected by lowering a properly cleaned Teflon™, plastic, glass, or stainless steel collection vessel (type of collection vessel used depends on the parameter being investigated) into the material to be sampled. The collection vessel may be lowered by hand or attached to a pole or rope and then lowered into the stream.

In some cases, it may be best to use a pump, either power or hand operated, to withdraw a sample from the water stream. If a pump is used, it is imperative that all components of the pump that come in contact with the liquid are properly cleaned to insure the integrity of the sample.

Samples are manually collected by tipping the collection container in the water stream so the mouth of the container faces upstream. The container should be

rinsed with this procedure at least twice before the sample is collected (exceptions to this rinsing procedure exist if preservatives are present in the sampling container.

iv) Manual Sampling for Sewer Sediment

The easiest way to collect a sediment sample is to scoop the sediment using a stainless steel spoon or scoop. This may be done by scooping the sample from along the bottom in an upstream direction. This method is only practical in very shallow water, but it is anticipated that this method will be applicable for this Site.

Alternatively, core samplers are used to obtain vertical columns of sediment. Coring devices are useful in contaminant monitoring due to the minimal disturbance created during descent. The disadvantage of coring devices is that only a small sampling surface area and sample size is obtained, often necessitating repetitive sampling in order to collect the required amount of sediment for analysis. It is often also difficult to extract the sediment sample back out through the water column without losing the sample. The core tube is pushed/driven into the sediment until only 4 inches (10 cm) or less of tube is above the sediment-water interface. When sampling hard or coarse sediments, a slight rotation of the tube while it is pushed will create greater penetration and reduce compaction. Cap the tube with a Teflon plug or a sheet of Teflon. The tube is then slowly withdrawn, keeping the sample in the tube.

Sediment samples collected for chemical analysis should be thoroughly mixed (except for volatile organic compounds) in a stainless steel bowl prior to placement in the appropriate sample container. Standard procedures exist for preparation of sediment samples (ASTM D3976). These should be followed or the laboratory informed of applicable procedures.

v) Special Sample Collection Procedures

- **Trace Organic Compounds and Metals** - Trace organic compounds and metals detection limits are usually in the parts per billion range, so extreme care must be exercised to insure sample integrity.

  All containers, composite bottles, tubing, etc. used in sample collection for trace organic compounds and metals analyses should be precleaned in accordance with the Work Plan.

  When possible, the sample should be collected directly into the appropriate sample container. If the material to be sampled cannot be physically reached,

an intermediate collection device may be used. This should be a Teflon™, glass, or stainless steel vessel on a pole or rope or Teflon™ tubing via a peristaltic type pump and a Teflon™ vacuum container attachment which converts a sample container into a vacuum container. The device which is used should be cleaned in accordance with the Work Plan.

Personnel handling the sample should always wear a new pair of disposable surgical gloves with each set of samples collected and changed after each sample is collected. This is necessary to prevent cross-contamination.

- **Volatile Organic Compounds Analyses (VOA)** - Samples to be analyzed for volatile organic compounds should be collected in 40 mL septum vials with screw caps with a Teflon™ lined silicone disk in the cap to prevent contamination of the sample. The disks should be placed in the caps (Teflon™ side to be in contact with the sample) in the laboratory prior to the beginning of the sampling program.

  When sampling for volatile organic compounds, triplicate samples should always be collected from each location. The sampler and/or chemist must determine if the water to be sampled contains chlorine. If the water contains no chlorine, three 40 mL vials containing four drops of concentrated HCl should be filled with the sample. The samples may be held up to 14 days before analysis. When preservation (HCl) is not feasible, samples holding times may be limited and should be reviewed (i.e., QAPP). Sample holding times vary depending on analytical methodology and regulatory jurisdiction.

  The volatile organics vials (40 mL) should be completely filled to prevent volatilization, and extreme caution should be exercised when filling a vial to avoid any turbulence which could also produce volatilization. The sample should be carefully poured down the side of the vial to minimize turbulence. As a rule, it is best to gently pour the last few drops into the vial so that surface tension holds the water in a "convex meniscus." The cap is then applied and some overflow is lost, but air space in the bottle is eliminated. After capping, turn the bottle over and tap it to check for bubbles; if any are present, repeat the procedure using a new 40 mL vial.

  Sampling containers with preservatives should be prelabeled (i.e., P) prior to any field activities. This will reduce the chances of confusion during sampling activities by the investigation team.

FIELD NOTES

All conditions at the time of sample collection should be properly documented in the field log book. This should include a thorough description of the collection method, sample characteristics, date/time of sampling, and labeling information.

DECONTAMINATION

In all sampling scenarios measures to prevent cross-contamination must be employed. The sampling device selected must be constructed of an inert material with smooth surfaces that can be readily cleaned (see GM SOP 9.0).

EQUIPMENT

- Sampling tools.
- Decontamination fluids and rinse water.
- Sample logs.
- PID and/or 4 gas meter, if necessary.

REFERENCES

1. NPDES Compliance Inspection Manual, United States Environmental Agency, Enforcement Division, Office of Water Enforcement and Permits, EN-338, 1988.
2. Handbook for Monitoring Industrial Wastewater, United States Environmental Protection Agency, Technology Transfer, 1973.
3. Kittrell, F.W., "A Practical Guide to Water Quality Studies of Streams," United States Department of Interior, Federal Water Pollution Control Administration: Cincinnati, Ohio, 1969.
4. ASTM D5358 Practice for Sampling with a Dipper or Pond Sampler
5. ASTM D4841 Practice for Estimation of Holding Time for Water Samples Containing Organic and Inorganic Constituents
6. ASTM D4411 Guide for Sampling Fluvial Sediment in Motion
7. ASTM D4823 Guide for Core-Sampling Submerged, Unconsolidated Sediments

8. ASTM D3213 Practice for Handling, Storing, and Preparing Soft Undisturbed Marine Soil

9. ASTM D3976 Practice for Preparation of Sediment Samples for Chemical Analysis

10. ASTM E1391 Guide for Collection, Storage, Characterization, and Manipulation of Sediments for Toxicological Testing

WIPE AND CONCRETE CORE SAMPLING PROTOCOLS FOR PCBs

Wipe samples will be collected in accordance with 40 CFR §761.123, as follows:

1. Dust or dirt will be removed from the area to be sampled, as necessary.
2. A 10 cm by 10 cm template will be used to delineate a 100 cm^2 area.
3. A gauze pad or glass wool saturated with hexane will be used to wipe the entire 100 cm^2 area, horizontally and vertically.
4. The gauze pad or glass wool will be sealed in a glass vial and submitted for analysis in accordance with 40 CFR §761.272.
5. The sample locations will be measured from permanent features upon completion.

Concrete core samples will be collected in accordance with the following protocols:

1. A 1- to 2-inch diameter core sample to a depth of 9 inches will be collected from the location of each wipe sample.
2. The concrete core will be divided into two increments for analysis (0- to 3-inch, and 3- to 9-inch).
3. The 3- to 9-inch increment will be selected for analysis in accordance with 40 CFR §761.272, based on the results of the 0- to 3-inch increment (i.e., if the 0- to 3-inch increment exceeds 25 mg/kg). The cleanup levels for low occupancy areas are in accordance with 40 CFR §761.61.
4. The sample locations will be measured from permanent features upon completion.

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DRAFT MEMORANDUM

TO:	Pam Barnett	REF. NO.:	012638-04-305011
FROM:	Sylvie Eastman/ev/73	DATE:	February 5, 2008
C.C.:	Jean Caufield, Terry Conway, Laura Romeo, Chuck Kronbach, Jim Little, Christine Horch, Ian Richardson, Steve Song		
RE:	**Work Plan for Soil Gas Sampling Pilot Test Former Delphi Harrison Thermal Systems Facility - Dayton, Ohio**		

1.0 INTRODUCTION

As discussed during a meeting with US EPA on December 17, 2007, General Motors (GM) has agreed to complete soil gas sampling in the vicinity of the Career Academy, which is located to the east of the Former Delphi Harrison Thermal Systems Facility (the Site).

GM views this sampling as a pilot test that will accomplish the following objectives:

- allow for a more complete evaluation of the soil gas sampling data to be collected by Ohio EPA in the Career Academy;
- evaluate the potential for soil gas migration from the Site or other off site sources to the Career Academy; and
- evaluate whether soil gas in the vicinity of the Career Academy is likely to cause significant health risk to receptors in the Career Academy building.

The following describes the planned procedures for installing, sampling, and analyzing soil gas samples.

2.0 SOIL GAS PORT LOCATION

A total of ten (10) soil gas ports are proposed in the locations identified on Figure 1. REALM has existing access agreements with the property owners (Dayton Public Schools, City of Dayton, and Requarth) at the proposed locations. An attempt will be made to ensure that soil gas ports are not located near any potential surface sources of volatile organic compounds (VOCs) based on field observations (e.g., soil staining, odor, PID readings). The Career Academy is partially underlain by a basement. Therefore, soil gas probes will be installed and screened between six to eight (6 to 8) feet below ground surface (ft bgs), approximately equivalent to the basement depth or shallower based on the water table at each probe location. The base of

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the probe hole will be kept one (1) foot above the water table elevation expected or encountered at each sampling location (see Table 1).

3.0 SOIL GAS PORT INSTALLATION

Temporary soil gas ports will be installed with a direct push drill rig due to the relatively shallow depth and small diameter required, as shown on Figure 2. Soil samples will be collected continuously, described lithologically, and evaluated in the field for evidence of staining or odors. All field observations (especially soil moisture) and PID readings will be recorded. A soil sample will be collected from the center of each screen for soil moisture analysis to confirm that moisture will not collect in the soil gas ports and to provide information that may aid interpretation of the soil gas data. In the event that an elevated PID reading is encountered in the soil vapor probes, a soil sample will be collected for VOC analysis.

The bottom of the probe hole should be kept at least one (1) foot above the expected water table to ensure groundwater or water from the capillary fringe does not intersect the sand pack of the probe. If the water table is encountered, the probe hole will be backfilled with granular or flaked bentonite to one (1) foot above the water table prior to probe installation. The bentonite will be hydrated with a small amount of distilled water. Table 1 shows the expected depth to water table for monitoring wells in the vicinity of the proposed soil gas sampling locations identified on Figure 1.

The ports will consist of ¼-inch outside diameter stainless steel tubing with a 21-inch long 3/8-inch diameter stainless steel screen implant. The screen implant is connected to one end of the sample tubing and the associated tubing is placed on the inside of the probe rod up to the surface during placement. The tubing will be capped during installation with an inert fitting such as brass or nylon. The borehole surrounding the screen, and for 6-inches above and below the screen, will be filled with appropriately-sized silica sand. The borehole annulus will be sealed with granular or flaked bentonite, which will be hydrated with a small amount of distilled water throughout the bentonite placement, to within 6-inches bgs. A 4-inch diameter flush mount cover will be installed to protect the soil vapor point and will be secured in place with concrete. During sampling, the temporary tubing cap will be removed and the tubing will be fitted with a brass or stainless steel compression fitting to accommodate sampling with a Summa® canister.

Upon completion of the installation of the sampling point, valve, and fittings, the volume of air in the tubing and sand pack will be calculated. Approximately three (3) times the calculated volume of air in the tubing and sand pack will be slowly [100 milliliters per minute (mL/min) or less] purged immediately after installation and sealing of the sampling point. Purging will be accomplished using a large graduated syringe, pre-calibrated personnel air sampling pump or hand-operated vacuum pump. Purge volumes will be recorded, and to the extent possible will remain consistent between sample locations.

The soil gas ports will be allowed to set for a minimum of forty-eight (48) hours after installation of the sampling ports and purging of the sand pack.

4.0 VACUUM AND LEAK TESTING

Each of the soil gas ports will be vacuum and leak tested to ensure that surface air is not being introduced into the soil gas port through the surface seal during sample collection. Vacuum and leak testing will be set up as follows:

- Seal off the surface of the soil gas port using a surface shroud with two sealed penetrations and a pressure gauge. The surface shroud should have an outside diameter large enough to cover the flush mount opening (e.g., modified five-gallon plastic bucket, see attached Figure 3).
- Insert the soil gas port sample tubing (securely connected to the screen implant) using a flexible tubing extension through a sealed penetration in the surface shroud and connect to the purge pump.
- Seal the surface shroud against the surface pad using anything that maintains an air-tight seal, and does not introduce contamination, cause other adverse effects to the soil gas port, or compromise sample quality (e.g., modeling clay).

Step 1 - Vacuum Test

- The personal sampling pump will be used to conduct the vacuum test. The vacuum test will consist of opening the valve to the personal sampling pump while leaving closed the valves to the Summa® canister and the soil gas probe. The pump will then be operated to ensure that it draws no air from the sampling assembly (i.e., creates a negative pressure, or vacuum within the sampling assembly), thus establishing that all assembly connections are air-tight. The sampling pump low-flow detect switch will likely activate within ten to fifteen (10 to 15) seconds, turning the pump off. A negative pressure, or vacuum, should be established within the sampling assembly, and should be sustained for at least 1 minute.
- If the pump is capable of drawing flow, or if the vacuum is not sustained for at least 1 minute, all fittings and tubing will be checked for tightness (or replaced) and the vacuum test will be repeated.
- The reading from the vacuum gauge pressure will be recorded in the field logbook to demonstrate that the pump is able to create a vacuum within the sampling assembly (it will also be noted whether the low-flow detect switch on the pump was activated), and that the vacuum is sustained for at least 1 minute.

Step 2 - Leak Test

- Insert ¼ inch diameter flexible tubing connected to the helium gas source (either lab supplied or consumer grade) from the outside of the surface shroud through a sealed penetration.
- Inject helium gas (either lab supplied or consumer grade) within the void of the surface shroud, avoiding pressurization of the shroud and maintaining a target pressure of five (5) pounds per square inch (psi). Higher pressures could force helium into the subsurface and or compromise the integrity of the shroud's surface seal and penetration seals. Due to the inconsistencies in the surface pad itself and the sealing agent used, there may be slight leaks at the base of the surface shroud that will require the sampler to physically maintain the targeted leak test pressure of 5 psi by adjusting the flow valve on the helium source.

- Once stable helium pressures are maintained, slowly (100 mL/min or less) purge approximately three (3) times the calculated volume of air from the soil gas port sample tubing using a large graduated syringe, pre-calibrated personnel air sampling pump or hand-operated vacuum pump. Purge volumes will be recorded, and to the extent possible will remain consistent between sample locations.

- Collect the purged air into a Tedlar® bag. The Tedlar® bag sample is then connected to a pre-calibrated hand held helium detector (Mark Model 9522 or equivalent) to verify the integrity of the surface seal.

- Evaluate, repair, and/or abandon the soil gas port if the leak test fails.

5.0 SAMPLE COLLECTION

5.1 SOIL GAS SAMPLE COLLECTION

Soil gas sampling should not be performed during or within forty-eight (48) hours of a significant rainfall event.

While maintaining the stable helium pressure, disconnect the portable purge pump and connect the sampling apparatus to the dedicated sample tubing (stainless steel, Nylaflow® or similar). The soil is primarily sand and/or gravel, therefore samples will be collected using 6-liter stainless steel SUMMA® canisters equipped with pre-calibrated laboratory supplied time integrated flow controllers (100 mL/min). The canisters will be certified clean by the laboratory in accordance with US EPA Method TO-14A.

Prior to connecting the SUMMA® canister to the dedicated sample tubing for any SVP, the identification number from both the SUMMA® canister and flow controller and the beginning vacuum reading must be recorded in the field book, on the sampling log, and analytical Chain of Custody (COC). If the beginning vacuum is less than -25 inches of mercury (in. Hg), the canister should not be used for sample collection.

Connect the soil gas port sample tubing to the flow controllers using Swagelok compression fittings so that the ferrule seals to the tubing. Turn the SUMMA® canister valve to the "open" position, and immediately record the time as the sample start time in a field book or on a sampling log form, and on the Chain of Custody (COC). For field duplicate sample collection, the procedure described above is followed except for the addition of another flow controller/SUMMA® canister connected to a "T" apparatus designed specifically for duplicate sampling that is provided by the analytical laboratory. In addition, the SUMMA® canisters for the parent and duplicate sample (at one location) will have flow controllers each set at 50 mL/min to keep the overall flow from the probe at a rate of 100 mL/min.

Although a flow regulator has a given flow rate and time associated with sampling, sample times are dependent on soil properties. Cohesive soils (silts and clays) with relatively less interconnected air voids within the soil matrix will not allow the vacuum to pull the soil vapor as readily as a granular soil type (clean sand and gravel). Further, soil moisture can affect the sample time as well. The sampler should monitor the sample tubing and apparatus during collection to ensure that water incursion (from soil moisture) does not occur. Should water incursion occur, the sample integrity is compromised and may result in the permanent fouling of the SUMMA® canister. A wide range of sample times should be expected. Ensuring that the final vacuum is between 2 and 5 in. Hg is more important than the amount of time it takes to collect the sample unless simultaneous sampling is a requirement. In certain situations such

as extremely tight soils, if an appropriate 1-liter sample cannot be obtained within sixty (60) minutes, the location may be described as not yielding soil vapor and sampling should be abandoned.

Terminate sample collection by turning the SUMMA® canister valve to the "close" position. The pressure gauge on the flow controller must be monitored to insure that the vacuum is not completely released. The final vacuum should be 5 in. Hg or less, but greater than zero; 2 in. Hg is a sufficient target vacuum to reach before termination of sample collection. If the SUMMA® canister is allowed to equilibrate to atmospheric pressure (i.e. the vacuum is completely released) sample quality may be compromised and the sample will be re-collected.

Immediately following sampling, the helium source should be disconnected and the tubing used to inject the helium should be used to draw a sample of the gas from within the shroud to determine the source concentration of helium within the shroud. This sample should also be collected in a Tedlar® bag and the helium concentration should be measured with the pre-calibrated hand held helium detector. This source concentration is used to ensure the helium concentration in the sample does not exceed 10% of the source concentration during sample collection. To complete this calculation, the helium concentration in the SUMMA® canister will need to be measured by the laboratory.

The soil gas samples will be shipped to TestAmerica in North Canton, Ohio and then to Knoxville, Tennessee, using proper quality assurance/quality control (QA/QC) procedures and chain-of-custody protocols. To minimize potential effects on the sample integrity, the maximum sample storage time will not exceed fourteen (14) days.

5.2 SOIL SAMPLE COLLECTION

Soil samples from the center of each screen will be collected for soil moisture analysis. In the event that an elevated PID reading is encountered in the soil vapor probes, a soil sample will be collected for TCL VOC analysis.

The soil samples will be shipped to TestAmerica in North Canton, Ohio, using proper QA/QC procedures and chain-of-custody protocols.

6.0 LABORATORY ANALYSIS

The soil gas samples from each port will be submitted for VOC analysis of USEPA Method TO-14A Modified (Table 2 provides TestAmerica's reporting limits for the referenced analytes).

Soil samples will be analyzed for soil moisture and, if collected due to elevated PID readings, for TCL VOC parameters.

7.0 DATA VALIDATION

Analytical data will be validated utilizing the Tier I and Tier II data validation procedures in the RFI Quality Assurance Project Plan (QAPP). After data validation, the data will be reviewed with USEPA.

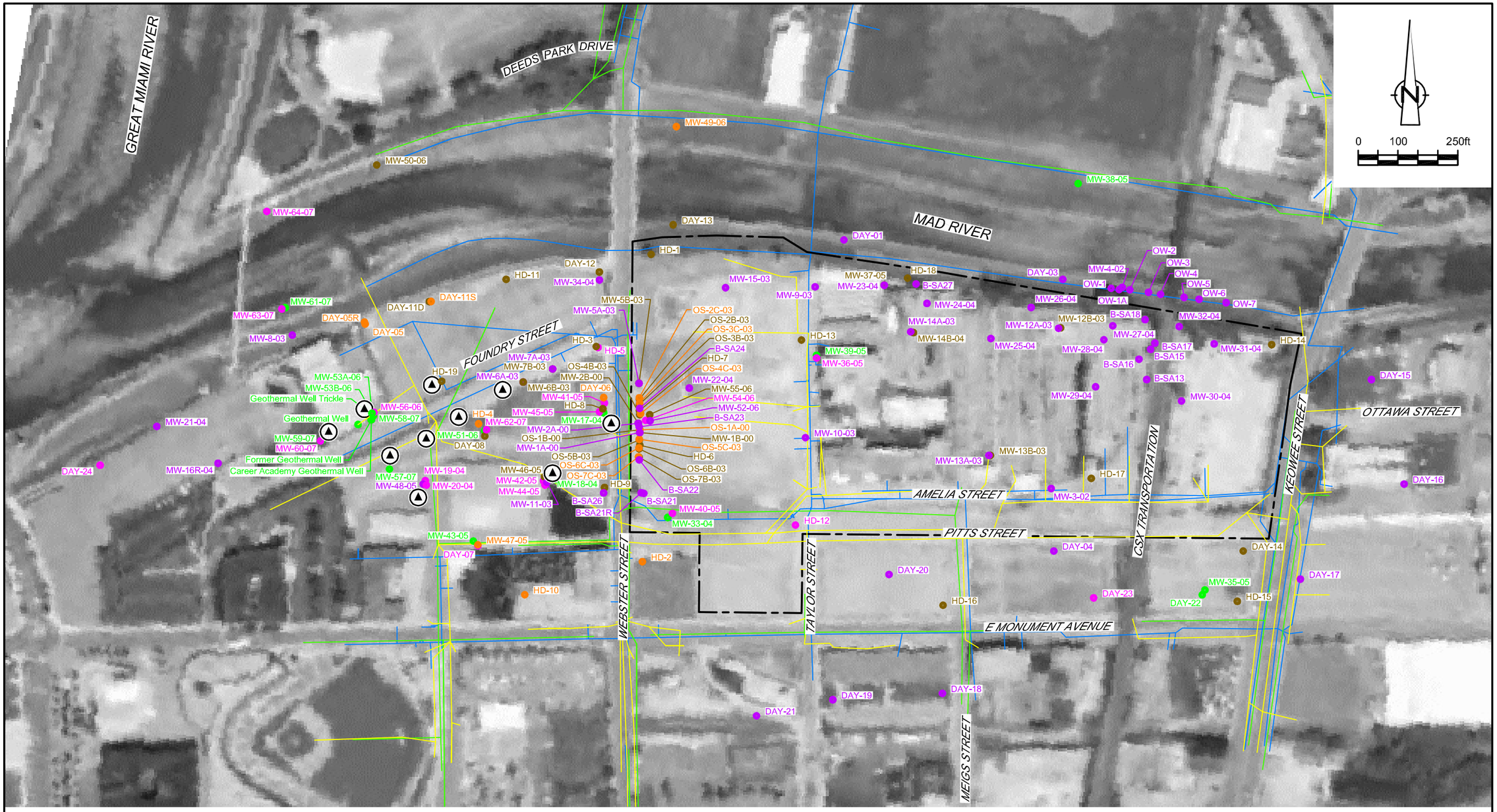
8.0 DATA EVALUATION

The soil gas data will be evaluated using the screening levels identified in Attachment A.

9.0 SCHEDULE

The schedule for the activities identified above will be as follows:

- Install Sample Ports – February 18-19, 2008
- Collect Samples – February 21-22, 2008
- Reporting – April 2008



AERIAL PHOTO DATED 2006, FROM MONTGOMERY COUNTY.

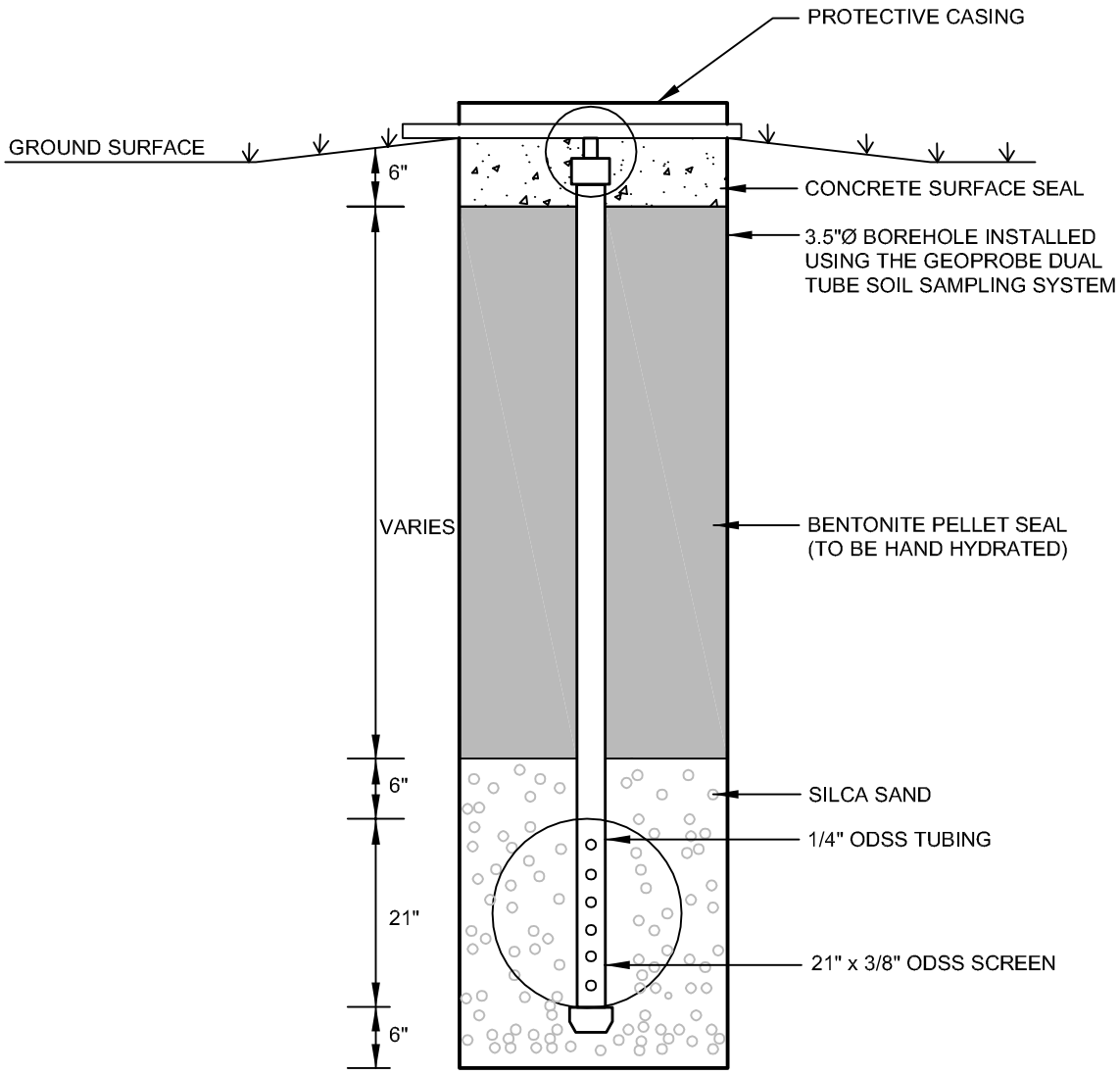
LEGEND

- APPROXIMATE SITE BOUNDARY
- UPPER AQUIFER - WATER TABLE
- UPPER AQUIFER - OTHER - INTERMEDIATE
- UPPER AQUIFER - ABOVE TOP OF TILL
- TILL ZONE
- LOWER AQUIFER
- APPROXIMATE SANITARY LINE
- APPROXIMATE STORM LINE
- APPROXIMATE WATER LINE
- PROPOSED SOIL GAS SAMPLING LOCATION (MAY BE ADJUSTED DUE TO FIELD CONDITIONS)

figure 1

PROPOSED SOIL GAS SAMPLING LOCATIONS
FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY
Dayton, Ohio

12638-12(MEMO073)GN-WA001 JAN 24/2008



NOTE: CONNECTIONS AND ADAPTORS ARE NOT TO BE GLUED

figure 2

TYPICAL TEMPORARY SOIL VAPOR PROBE DETAIL
FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY
Dayton, Ohio

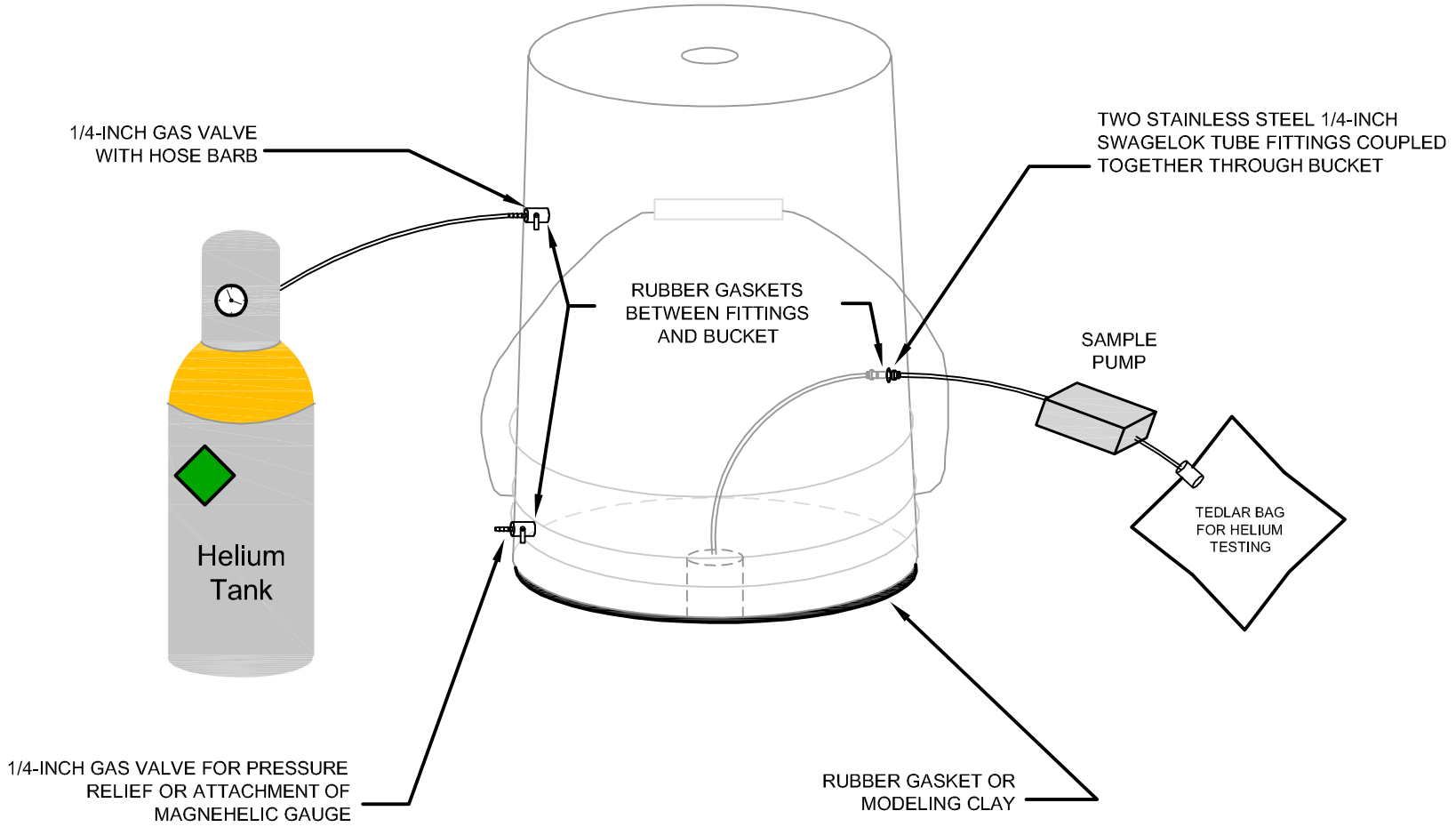


figure 3

HELIUM TRACER TEST SCHEMATIC
FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY
Dayton, Ohio

Table 1
Harrison Dayton
Groundwater Elevation Range 2007
To support Soil Gas Pilot Investigation Work Plan

Location ID	Depth_to_Water	Date	MAX/MIN DTW (ft)	Top_of_Riser	Depth to first water saturated interval	Date Installed	Ground_Elevation	Area
DAY-5R	19.2	Mar-07	MIN	749.19			749.44	
DAY-5R	23.0	Aug-07	MAX	749.19			749.44	
DAY-6	14.2	Mar-07	MIN	744.59				
DAY-6	17.8	Aug-07	MAX	744.59				
DAY-8	11.4	Mar-07	MIN	741.5				
DAY-8	15.0	Aug-07	MAX	741.5				
HD-19	18.2	Mar-07	MIN	748.21				
HD-19	21.9	Aug-07	MAX	748.21				
HD-4	15.3	Mar-07	MIN	745.38				
HD-4	18.9	Aug-07	MAX	745.38				
HD-8	13.5	Mar-07	MIN	743.89				
HD-8	17.1	Aug-07	MAX	743.89				
MW-11-03	7.2	Mar-07	MIN	738.36				
MW-11-03	11.6	Aug-07	MAX	738.36				
MW-16R-04	22.2	Mar-07	MIN	750.12			750.5	
MW-16R-04	26.0	Aug-07	MAX	750.12			750.5	
MW-21-04	24.3	Mar-07	MIN	752.03			752.42	
MW-21-04	28.4	Aug-07	MAX	752.03			752.42	
MW-46-05	7.9	Mar-07	MIN	738.05			738.27	
MW-46-05	11.4	Aug-07	MAX	738.05			738.27	
MW-48-05	7.1	Mar-07	MIN	736.68			736.96	
MW-48-05	11.1	Aug-07	MAX	736.68			736.96	
MW-6A-03	17.8	Mar-07	MIN	748.01				
MW-6A-03	21.5	Aug-07	MAX	748.01				
MW-7A-03	18.1	Mar-07	MIN	748.37				
MW-7A-03	21.8	Aug-07	MAX	748.37				
MW-8-03	12.6	Aug-07	MIN	742.6				
MW-8-03	17.2	Sep-06	MAX	742.6				
SB-188					24.0	Jun-06	748.6	Near CA School:
SB-189					24.0	Jun-06	747.7	Near CA School:
SB-190					24.0	Jun-06	749.3	Near CA School:
SB-193					23.3	Oct-06	748.6	Near CA School:
SB-194					24.3	Oct-06	750.4	Near CA School:
SB-195					24.1	Oct-06	750.3	Near CA School:
SB-191					13.0	Jun-06	737.1	On Requarth:
SB-192					14.5	Jun-06	GSE: similar to SB-191	On Requarth:

TABLE 2

SOIL GAS PARAMETER LIST
TESTAMERICA, KNOXVILLE, TN

Compound	*RL*	*Units*	*MDL*	*Units*
Acetone	5	ppb(v/v)	1.4	ppb(v/v)
Benzene	0.2	ppb(v/v)	0.056	ppb(v/v)
Benzyl chloride	0.4	ppb(v/v)	0.078	ppb(v/v)
Bromodichloromethane	0.2	ppb(v/v)	0.044	ppb(v/v)
Bromoform	0.2	ppb(v/v)	0.048	ppb(v/v)
Bromomethane	0.2	ppb(v/v)	0.032	ppb(v/v)
1,3-Butadiene	0.4	ppb(v/v)	0.064	ppb(v/v)
2-Butanone (MEK)	1	ppb(v/v)	0.2	ppb(v/v)
Carbon disulfide	0.5	ppb(v/v)	0.031	ppb(v/v)
Carbon tetrachloride	0.2	ppb(v/v)	0.038	ppb(v/v)
Chlorobenzene	0.2	ppb(v/v)	0.049	ppb(v/v)
Dibromochloromethane	0.2	ppb(v/v)	0.042	ppb(v/v)
Chloroethane	0.2	ppb(v/v)	0.035	ppb(v/v)
Chloroform	0.2	ppb(v/v)	0.038	ppb(v/v)
Chloromethane	0.5	ppb(v/v)	0.16	ppb(v/v)
Cyclohexane	0.5	ppb(v/v)	0.04	ppb(v/v)
1,2-Dibromoethane (EDB)	0.2	ppb(v/v)	0.044	ppb(v/v)
1,2-Dichlorobenzene	0.2	ppb(v/v)	0.07	ppb(v/v)
1,3-Dichlorobenzene	0.2	ppb(v/v)	0.065	ppb(v/v)
1,4-Dichlorobenzene	0.2	ppb(v/v)	0.064	ppb(v/v)
Dichlorodifluoromethane	0.2	ppb(v/v)	0.068	ppb(v/v)
1,2-Dichloroethane	0.2	ppb(v/v)	0.047	ppb(v/v)
cis-1,2-Dichloroethene	0.2	ppb(v/v)	0.06	ppb(v/v)
trans-1,2-Dichloroethene	0.2	ppb(v/v)	0.05	ppb(v/v)
1,1-Dichloroethene	0.2	ppb(v/v)	0.032	ppb(v/v)
1,2-Dichloropropane	0.2	ppb(v/v)	0.052	ppb(v/v)
cis-1,3-Dichloropropene	0.2	ppb(v/v)	0.074	ppb(v/v)
trans-1,3-Dichloropropene	0.2	ppb(v/v)	0.048	ppb(v/v)
1,2-Dichloro-1,1,2,2-tetrafluoroethane	0.2	ppb(v/v)	0.032	ppb(v/v)
1,4-Dioxane	0.5	ppb(v/v)	0.04	ppb(v/v)
Ethylbenzene	0.2	ppb(v/v)	0.068	ppb(v/v)
4-Ethyltoluene	0.4	ppb(v/v)	0.066	ppb(v/v)
n-Heptane	0.5	ppb(v/v)	0.047	ppb(v/v)
Hexachlorobutadiene	1	ppb(v/v)	0.078	ppb(v/v)
n-Hexane	0.5	ppb(v/v)	0.032	ppb(v/v)
2-Hexanone	0.5	ppb(v/v)	0.058	ppb(v/v)
Methylene chloride	0.5	ppb(v/v)	0.045	ppb(v/v)
4-Methyl-2-pentanone (MIBK)	0.5	ppb(v/v)	0.045	ppb(v/v)
Methyl tert-butyl ether	1	ppb(v/v)	0.17	ppb(v/v)
Styrene	0.2	ppb(v/v)	0.058	ppb(v/v)
1,1,2,2-Tetrachloroethane	0.2	ppb(v/v)	0.061	ppb(v/v)
Tetrachloroethene	0.2	ppb(v/v)	0.04	ppb(v/v)
Toluene	0.2	ppb(v/v)	0.054	ppb(v/v)
1,2,4-Trichlorobenzene	1	ppb(v/v)	0.098	ppb(v/v)

TABLE 2

SOIL GAS PARAMETER LIST
TESTAMERICA, KNOXVILLE, TN

Compound	*RL*	*Units*	*MDL*	*Units*
1,1,1-Trichloroethane	0.2	ppb(v/v)	0.03	ppb(v/v)
1,1,2-Trichloroethane	0.2	ppb(v/v)	0.054	ppb(v/v)
Trichloroethene	0.2	ppb(v/v)	0.036	ppb(v/v)
Trichlorofluoromethane	0.2	ppb(v/v)	0.024	ppb(v/v)
1,2,4-Trimethylbenzene	0.2	ppb(v/v)	0.063	ppb(v/v)
1,3,5-Trimethylbenzene	0.2	ppb(v/v)	0.065	ppb(v/v)
Vinyl acetate	1	ppb(v/v)	0.14	ppb(v/v)
Vinyl chloride	0.2	ppb(v/v)	0.071	ppb(v/v)
m-Xylene & p-Xylene	0.2	ppb(v/v)	0.12	ppb(v/v)
o-Xylene	0.2	ppb(v/v)	0.061	ppb(v/v)

ATTACHMENT A

The soil gas data will be evaluated using a set of initial residential soil gas screening levels that GM has developed in consultation with USEPA for an initial screening-level evaluation of vapor intrusion into hypothetical residential buildings that might be built in the off-site area where soil gas samples will be collected. These initial residential screening levels for the four site-related VOCs that are present in groundwater downgradient of the Site are summarized in the attached table. They were calculated by dividing the risk-based indoor air concentrations by a soil gas attenuation coefficient (α) of 0.002, which is the highest (or most conservative) value for "semi-site-specific screening" from Figure 3a of USEPA's 2002 draft vapor intrusion guidance (page 37) for residential buildings.

The risk-based indoor air concentrations in the attached table were calculated using USEPA's standard inhalation risk equations with standard default exposure factors for residential receptors (see Table 5.2 of the RFI Report), a target cancer risk of 10^{-5}, and a target hazard quotient of 1. The RfCs and URFs used in the calculations are the same as those in the RFI baseline risk assessment (see Attachment E4 of the RFI Report).

GM considers the soil gas screening levels in the attached table to be initial residential screening levels in part because the soil gas attenuation coefficient α used in their derivation includes assumptions that correspond to short-term vapor intrusion conditions (e.g., an air exchange rate that is typical of only winter months), which are more appropriate for assessing short-term rather than long-term risks. This means either: (1) the α should be used with subchronic RfCs (or intermediate MRLs for chemicals without subchronic RfCs), or (2) the α should be adjusted to reflect long-term vapor intrusion conditions so that it is appropriate for use with chronic RfCs and URFs. GM has not made either adjustment, and is not planning to adjust these initial screening levels unless the soil gas data indicate that a more comprehensive site-specific evaluation is warranted.

In addition to the initial residential screening levels in the attached table, GM will be developing a set of initial soil gas screening levels for these same constituents that are appropriate for the conditions at the Career Academy. These initial screening criteria would be for non-residential receptors, which GM would conservatively calculate using an exposure frequency (EF) of 250 days/year and an exposure duration (ED) of 25 years. GM believes these EF and ED assumptions are higher than the actual EF and ED for receptors at the Career Academy. GM will also adjust the α of 0.002 to account for differences between the residential building characteristics used to derive this value and those of the Career Academy building, such as building size and air exchange rate. GM is currently reviewing the characteristics of the Career Academy building and will provide these initial screening levels to USEPA when they have been calculated.

TABLE A1

RESIDENTIAL INDOOR AIR SCREENING LEVELS AND INITIAL SOIL GAS SCREENING LEVELS

				Residential Indoor Air			*Soil Gas*	
Chemical	*Carc Group*	*RfC (mg/m^3)*	*URF $(mg/m^3)^{-1}$*	*HQ of 1 (mg/m^3)*	*10^{-5} Risk (mg/m^3)*	*IASL[1] (mg/m^3)*	*α[2]*	*SGSL[3] (mg/m^3)*
cis-1,2-Dichloroethene	D	3.5E-02	NA	3.7E-02	NA	3.7E-02	2E-03	1.8E+01
Tetrachloroethene	C-B2	4.0E-01	3.1E-03	4.2E-01	8.0E-03	8.0E-03	2E-03	4.0E+00
Trichloroethene	C-B2	NA	1.7E-03	NA	1.4E-02	1.4E-02	2E-03	7.2E+00
Vinyl Chloride	A	1.0E-01	8.8E-03	1.0E-01	2.8E-03	2.8E-03	2E-03	1.4E+00

Notes:

1. IASL = indoor air screening level at the lower of either HQ of 1 or 1E-5 risk.
2. This α is the most conservative value on Figure 3a of USEPA's 2002 draft vapor intrusion guidance.
3. SGSL = soil gas screening level at the lower of either HQ of 1 or 1E-5 risk.

APPENDIX G

SRW WORK PLAN AND QAPP

WORK PLAN/SAMPLING AND ANALYSIS PLAN
FOR
FIELD SAMPLING IN SUPPORT OF A
VOLUNTARY ACTION PROGRAM
PHASE II PROPERTY ASSESSMENTS

OF THE

TOOL TOWN DEVELOPMENT
WEBSTER STATION AREA
DAYTON, OHIO

APRIL 17, 2000

SRW Environmental Services Inc.

55 West TechneCenter Drive, Suite C, Milford, OH 45150

WORK PLAN/SAMPLING AND ANALYSIS PLAN
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TOOL TOWN DEVELOPMENT
WEBSTER STATION AREA
DAYTON, OHIO

APRIL 17, 2000

Prepared for:

CITY OF DAYTON
DEPARTMENT OF PLANNING
101 WEST THIRD STREET, PO BOX 22
DAYTON, OHIO 45401

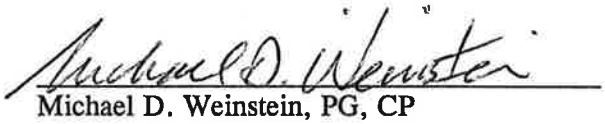
Prepared By:

SRW ENVIRONMENTAL SERVICES, INC.
55 WEST TECHNECENTER DRIVE, SUITE C
MILFORD, OHIO 45150

SRW Environmental Services, Inc. (SRW) prepared this Work Plan following stringent quality assurance and quality control guidelines to ensure that the Proposed Scope follows our Quality Assurance Project Plan and will aid in completion of a Phase II Property Assessment in accordance with Ohio Administrative Code (OAC) Rule §3745-300-07. If you have any questions or comments concerning this Work Plan, please contact any one of the individuals listed below.

SRW ENVIRONMENTAL SERVICES, INC.

Project Manager: Ronald H. Strube, REM, PG
Senior Project Manager



Technical Review: Michael D. Weinstein, PG, CP
Vice President

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WORK PLAN/SAMPLING AND ANALYSIS PLAN
FOR
FIELD SAMPLING IN SUPPORT OF A
VOLUNTARY ACTION PROGRAM
PHASE II PROPERTY ASSESSMENTS

1.0 INTRODUCTION

1.1 General

This Work Plan has been prepared for the City of Dayton, SRW-Hull field personnel, their subcontractors, and other representatives for field sampling as part of an initial Phase II Property Assessment in support of an Ohio Voluntary Action Program (VAP) Phase II Property Assessment at the proposed Tool Town Development. Tool Town is a concept that was created by a tooling and machining task force during the development of the comprehensive plan for the City of Dayton. Tool Town is primarily comprised of two major properties. The first is the Harrison Site which is a 35-acre brownfield site previously occupied by the General Motors Harrison Division Dayton Plant. The second site is GH&R, an 11-acre abandoned foundry. The GH&R property will not be assessed under this Work Plan. The location of the Property is shown in Figure 1. This work is being conducted consistent with Ohio Administrative Code (OAC) Rule §3745-300-01 through §3745-300-15, as applicable.

1.2 Background

SRW-Hull's knowledge of the Property is based on information provided to SRW-Hull by the City of Dayton in the Request for Proposal (RFP). A brief summary of the Property's history and local geology/hydrology and environmental conditions are presented below. This summary is based on information provided by the City of Dayton.

Tool Town is approximately 46-acres consisting or two major properties. The site south of the Mad River was formerly occupied by General Motors (GM) - Harrison Radiator Division, Dayton Plant. The facility developed, manufactured, assembled and tested automotive air conditioner compressors, accumulators/dehydrators, and miscellaneous air conditioning valves. Hazardous wastes were typically generated through parts cleaning operations. Stoddard Solvent and chlorinated solvents such 1,1,1-

trichloroethane, from 1982 to 1987; perchloroethylene (a.k.a. tetrachloroethylene), from 1973 to 1982; and trichloroethylene, from 1971 to 1973, were used to degrease metal parts. In addition, significant amounts of petroleum compounds were stored above and below ground. The site is currently undergoing Resource Conservation and Recovery Act (RCRA) and Bureau of Underground Storage Tank Regulations (BUSTR) closure activities.

The site north of the Mad River was formerly GH&R Foundry. The western third of the site is currently owned and occupied by Digitron Corporation. The GH&R Foundry was in operation from 1946 to 1983 producing gray iron castings. Operations involved salvaging and recycling reusable scrap metal from large electrical transformers and capacitors.

The Groundwater Resource Map of Montgomery County indicates that the site is situated in an area generally characterized by permeable sand and gravel deposits beneath the floodplain of the Miami and Mad Rivers. Properly constructed wells in the sand and gravel deposits may yield more than 1,000 gallons per minute.

1.3 Purpose and Objectives

The work described in this document will be conducted to identify concentrations of volatile organic constituents (VOCs), semi-volatile organic constituents (SVOCs), polychlorinated biphenyls (PCBs), total petroleum hydrocarbons (TPH), and RCRA metals in subsurface soils and groundwater. Existing groundwater monitoring wells installed on contiguous property to the GM property will be sampled during this phase of field work.

Data obtained from the field sampling activities will be used to characterize soil and groundwater contamination migrating off of the Former Harrison Radiator Plant and conduct a voluntary action on the Property.

In general, preliminary assessment activities will consist of the following:

Groundwater Assessment

Hydrogeologic Evaluation

This work will consist of installing fourteen monitoring wells around the Former Harrison Radiator Plant to depths of up to fifty feet below ground surface (bgs) to evaluate stratigraphic conditions (i.e., identify saturated units, evaluate probable vertical permeabilities of potential confining units, etc.) and the vertical distribution of contaminants of concern. Groundwater monitoring wells will be constructed with a screened interval based on observations made during advancement, soil sampling of the well boring and vertical groundwater profiling. A field laboratory will be used to evaluate the vertical distribution of chemicals of concern in 8 borings. Based upon the screening results, these monitoring wells will be screened across the highest observed concentrations of volatile organic compounds. The monitoring wells will be surveyed and water levels will be measured to determine the potentiometric surface of the groundwater and the direction of groundwater flow around the Property.

Groundwater Sampling

Following installation, monitoring wells will be developed to remove fines to improve clarity of groundwater entering the wells and to maximize groundwater yield. The monitoring wells will then be sampled to evaluate current conditions in groundwater.

Soil Assessment

Soil samples from the monitoring well borings will be collected for chemical analysis using hollow-stem augers and split-spoon samplers. Samples for analysis will be collected from depths determined in the field based on screening (i.e., headspace screening using a flame ionization detector) and/or direct observation (i.e., identification of coloration of soils suspected to be due to past industrial activities). Soil samples from the soil borings advanced for monitoring well construction will be collected for chemical analysis using split-spoon samplers. Again, samples for analysis will be collected from depths determined in the field based on screening and/or direct observations. However, no soil samples from below the water table are contemplated.

Locations for the soil borings and monitoring wells are shown in Figure 2. Property location, chemical analyses, and other supporting information are included in Table 1.

1.4 Special Considerations

Quality assurance and control guidelines and specific methodologies in the form of Standard Operating Procedures (SOPs) that apply to this Work Plan are contained within a Quality Assurance Project Plan (QAPP), March 2000.

All laboratory analysis described in this Work Plan will be conducted by a VAP-certified analytical laboratory (as codified at OAC Rule §3745-300-04), DataChem Laboratories Cincinnati, Ohio (CL0022).

All SOPs referenced herein are contained within the QAPP. Laboratory procedures will be conducted in accordance with the substantive requirements of the selected test methods and DataChem's Quality Assurance Plan.

1.5 Project Team

The proposed project team is presented below. The team members were selected based on individual project experience related to the specific tasks required. A brief description of each individual's project responsibilities is provided below:

Mr. Craig Kasper, CP, Certified Professional- Mr. Kasper will issue the No Further Action letter to the Ohio EPA in order to obtain the Covenant Not to Sue.

Mr. Michael D. Weinstein, CP, PG, Project Manager - Mr. Weinstein will be responsible for the team's adherence to the proposed work schedule and project goals and direct employee supervision.

Mr. Lance Turley, PG, Technical Advisor - Mr. Turley will serve as technical advisor during the project to ensure project objectives are met. He will assist with the review of the data obtained throughout the completion of work and assist with the interpretation of results and report development.

Mr. Ron Strube, REM, PG, Hydrogeologist - Mr. Strube will serve as team leader during the project to ensure project objectives are met. He will review data obtained throughout the completion of the work, interpret results and develop the report. He will be the primary contact with field personnel and field contractors during field work.

Mr. J. William Biehl, PG, - Mr. Biehl will be responsible for onsite sampling activities and adherence to the Work Plan.

Mr. Michael Darnell, Field Technician - Mr. Darnell will be responsible for onsite sampling activities and adherence to the Work Plan.

2.0 GROUNDWATER ASSESSMENT

2.1 Objectives

An evaluation of groundwater quality will be completed to characterize hydrogeologic conditions around the Property and to assist with the development of a scope of work for completion of a Phase II Property Assessment consistent with Ohio's VAP. The groundwater assessment will be implemented to determine concentrations of COCs in groundwater by collecting and analyzing groundwater samples in accordance with OAC Rule §3745-300-007(D)(5)(d); and

2.2 Soil Boring/Monitoring Well Construction and Installation Procedures

2.2.1 Monitoring Well Screen Depth

Two types of monitoring wells will be installed. The first is referred to as a "Water Table" well which will be installed with 15 feet of screen installed across the water table. Six (6) Water Table wells are proposed to be installed. The second type of well to be installed is referred to as a "Vertical Profile" well, eight (8) of which are proposed to be installed. These wells will be installed with 10 feet of screen installed at the depth most representative of the highest VOC concentrations as determined from onsite laboratory analysis. The actual depth of the monitoring wells will be determined during advancement of the soil borings based on observations of hydrogeologic conditions and field laboratory data.

2.2.2 Monitoring Well Designation

The monitoring well's designation will be sequential. The proposed monitoring wells will be designated DAY-1 through DAY-14.

2.2.3 Monitoring Well Installation, Equipment, and Procedures

2.2.3.1 Split-Spoon Soil Sampling

Split-barrel soil sampling will be conducted consistent with ASTM Method D 1586-84. Soil samples will be collected at five (5) foot intervals to the water table. Below the water table, soil

samples will be collected continuously. Standard Penetration Test (SPT) data will be documented on the boring log by the field geologist.

2.2.3.2 Headspace Analysis of Soil Samples

All soil samples will be field screened using a flame ionization detector (FID) as described in SOP No. 017V. Soil samples will be screened as soon as possible following sample collection (preferably within ten minutes of sample collection). The FID will be calibrated in the field consistent with the manufacturer's specifications.

2.2.3.3 Hollow-Stem Auger Drilling

The monitoring wells will be installed using hollow-stem augers consistent with SOP No. 010V.

2.2.3.4 Vertical Profiling

Vertical Profile wells will be installed using the same general techniques as the water table wells, with some minor variations. The lead auger is specially constructed with portions of the auger stem cut away and replaced with factory slotted, 0.010-inch slotted 304 stainless steel screen. This allows the formation water adjacent to the lead auger to flow into the drill string. Soil samples will be collected with split-spoon samplers every five (5) feet to the water table. Soil samples will be collected continuously from the water table to total depth. A groundwater sample will be collected though the lead auger at a depth of five (5) feet below the water table. Subsequent water samples will be collected at ten (10) foot intervals or above all low-permeability layers or lenses, through the lead auger.

Groundwater samples will be collected from discrete intervals during borehole advancement and analyzed for VOCs using an onsite laboratory. A five (5) foot factory slotted, 0.020-inch PVC screen attached to PVC riser pipe will be used to construct a temporary well within the augers through which groundwater samples will be collected. Each sampling interval will be developed by pumping with a low flow pump until the groundwater is free from sediment and stabilization of pH, conductivity and temperature has occurred. Stabilization is defined as successive readings within $\pm$ 10%. Once the sample interval has been developed, groundwater samples will be

collected with a low flow pump. Groundwater sampling procedures with a low flow pump are documented in SOP No. 013V. Once the groundwater sample is collected, drilling and soil sampling will proceed to the next groundwater sample interval. Additional information pertaining to development and sampling procedures is detailed in the following sections.

The temporary well screen and low-flow pump will be decontaminated between each sample according to the procedures specified in SOP No. 009V.

2.2.3.5 Monitoring Well Construction Specifications

Each monitoring well will be constructed using two (2)-inch, schedule 40, flush joint, threaded PVC casing and 0.010-inch factory slotted well screens. Well screen lengths will be 10 feet for Vertical Profile wells and 15 feet for Water Table wells, unless hydrogeologic conditions warrant alternative lengths. For all wells, and depending on the hydrogeologic conditions encountered, either a #4 washed silica sand or natural formation sand shall be installed or allowed to collapse around the well to a depth of three feet above the top of the screen. One (1) foot of fine (#7) washed silica sand pack will the installed directly above the #4 or natural sand pack. A two (2) to four (4) foot bentonite seal (sodium bentonite pellets) will be emplaced directly above the sand pack. The remainder of the annulus will be filled with a cement-bentonite grout (90% cement-10% bentonite) to the ground surface. After the grout has settled, a flush mount vault shall be installed in a two (2) feet square concrete pad.

2.2.3.6 Monitoring Well Development

The monitoring wells will be developed in a manner consistent with the Technical Guidance Manual for Hydrogeologic Investigations and Ground Water Monitoring (Ohio EPA, 1995). Monitoring well development methods that may be used include bailing, surging, or over-pumping. The method used will be determined by SRW-Hull based on field conditions; however, it is anticipated that development activities will generally consist of surging and pumping using a submersible pump. Any water generated during development will be contained in DOT-approved, 55-gallon, closed-top, steel drums or a portable polyethylene tank and temporarily stored at a location identified by the City. Monitoring well development will consist of surging, then removing a minimum of three to five well volumes. Development will be

considered complete when the pH, temperature and specific conductance of the discharge water have stabilized or until a maximum of ten (10) well volumes have been removed, and the turbidity of the water is less than 25 nephelometric turbidity units (NTUs) as determined by a nephelometer. Stabilization is achieved when three (3) consecutive pH and specific conductance measurements are within $\pm$10%. Field measurements of temperature, pH, conductivity and turbidity will be taken following each well volume and recorded on the monitoring well development form. If the monitoring well bails dry prior to removing three to five well volumes, then an attempt will be made to redevelop the monitoring well after it recovers. If the monitoring well does not recover within a reasonable time period (four to eight hours), it will be considered developed.

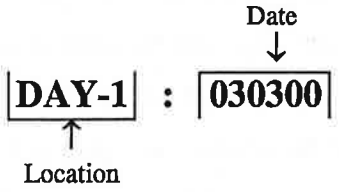
2.3 Monitoring Well Sampling

2.3.1 Sample Locations and Frequency

Groundwater samples will be collected from existing and newly installed monitoring wells and submitted to the laboratory for chemical analysis as described in Table 1. Monitoring well locations are depicted on Figure 2. Sampling activities will include: water level and immiscible layer measurements, well purging, sampling, and field analysis of various groundwater parameters (i.e., pH, conductivity, dissolved oxygen, and temperature). Further details of sampling procedures are included in the following discussions. Additional information is included in the QAPP.

2.3.2 Sample Designation

Groundwater samples will be identified according to the following Sample Identification Number (SIN):



2.3.3 Sampling Equipment and Procedures

The procedures that will be performed at each monitoring well include:

1. measurement for immiscible layers;
2. recording the water level measurement within the monitoring well;
3. purging the monitoring well;
4. measure and record field parameters; and
5. collecting samples.

These items are discussed below and will be performed in the order that they are presented in this document.

2.3.3.1 Detection of Immiscible Layers

Floating (light) and/or sinking (dense) non-aqueous phase liquids, if present, will be measured in all monitoring wells using an interface probe and/or a clear Teflon® bailer. Light, non-aqueous phase liquids (LNAPL) will be detected by carefully lowering the interface probe into the monitoring well until the approximate static water level is reached (i.e., water/immiscible layer interface). Dense, non-aqueous phase liquids (DNAPL) will be detected by carefully lowering the probe to the bottom of each monitoring well. The interface probe will be decontaminated in a manner consistent with the procedure used for the water level indicator as discussed in SOP No. 009V. During well purging and sampling, purge water will be inspected for the presence of LNAPL and/or DNAPL.

2.3.3.2 Water Level Measurements

An electric water level indicator will be used to measure the static water level elevation in each monitoring well. As a substitute, an interface probe may also be used to obtain water level measurements. Groundwater measurements will be conducted consistent with the procedures described in SOP No. 013V. The measurement will be taken to the nearest 0.01 foot using the Property's reference datum from the designated reference point on each monitoring well (e.g., top of PVC riser). When measuring the total depth of the monitoring well with the water level indicator, it is necessary to add the distance from the sensor to the tip of the probe to the tape reading. The total depth of the monitoring well may also be determined using the interface

probe, which does not require the addition of the distance between the sensor to the tip of the probe. In addition, the volume of water present in the monitoring well will be calculated as discussed in SOP No. 013V. A detailed description of the procedures to be followed when collecting groundwater samples is found in SOP No. 013V.

The water level indicator/interface probe will be decontaminated using a non-phosphate detergent wash, followed by rinsing with potable water, and then rinsing with distilled water. SOP No. 009V provides a more detailed description of decontamination procedures.

2.3.3.3 Monitoring Well Evacuation

The monitoring well will be purged prior to sampling, thus allowing a more representative slug of formation water to enter the well screen. All purging procedures will be performed consistent with SOP No. 013V. Clean gloves will be worn by all personnel handling the purging equipment.

A minimum of three well volumes of water will be removed from the monitoring well prior to sampling. The water will be pumped/bailed at a rate that does not cause recharge water to be excessively agitated. If the well is low-yielding, it will be completely evacuated and then sampled after the monitoring well recovers enough to obtain the required volume of sample.

The monitoring well may be purged using any of the following methods: a two-inch *Grundfos* stainless steel submersible pump, a *Keck SP-84 Sampling Pump System, a* peristaltic pump, a low-flow *Micro-Purge Sampling System,* a *Voss* disposable polyethylene bailer, a *Waterra* hand pump or a *Brainard-Kilman* pump, or similar equipment. It may be more efficient to purge the monitoring well by hand using a bailer or a low-flow pump (i.e., *Waterra, Micro-Purge,* etc.) if the total volume to be purged from the monitoring well is less than twenty gallons.

Purging equipment will be decontaminated with a non-phosphate detergent wash, followed by a potable water rinse and a distilled water rinse. In order to further minimize the potential of carryover contamination between monitoring wells, a small volume of potable water will be discharged through the purge pump and hose (if used) to flush the system as discussed in SOP

No. 009V. All purge water will be containerized for proper disposal. The purge water generated from each monitoring well will be temporarily stored at a location specified by the City in DOT-approved, 55-gallon steel drums until disposal is approved.

2.3.3.4 Measure Field Parameters

Temperature, pH, dissolved oxygen and specific conductance will be measured following each well volume purged. All in-situ monitoring equipment will be calibrated according to manufacturer's specifications.

2.3.3.5 Sample Withdrawal

A Voss disposable bottom valve bailer, low-flow sampling pump, or similar device will be used for sampling the monitoring wells. A dedicated polypropylene rope or nylon string will be used to lower the bailer (if used) into the monitoring well to collect the sample. Clean gloves will be worn by each individual handling the sampling equipment. The following steps will be adhered to during sampling:

1. The integrity of the check valve for each bailer (if used) will be tested with distilled water to reduce the potential for fouling problems that could reduce the delivery capability or result in aeration of the sample.

2. The bailer or pump will not be dropped into the monitoring well, as this may cause degassing of the water on impact.

3. Groundwater will be transferred from the bailer or pump into the proper sample container in a manner which will minimize agitation and aeration.

4. In order to preserve sample quality, the sampling order will be as follows: volatile organic compounds, non-volatile organic compounds, metals, and in-situ parameters (e.g., pH, specific conductance, dissolved oxygen, and temperature).

All used sampling equipment, including string, gloves, or other protective clothing, will be properly disposed of following contact with groundwater. Water sampling equipment will be temporarily stored in a plastic trash bag until it can be transported to the dedicated waste receptacle for storage at the Property.

2.3.4 Sample Handling and Analysis

All sample containers and preservatives will be provided by the laboratory. Samples that are to be analyzed for volatile organic compounds will be preserved with hydrochloric acid at a pH less than two and stored in 40-ml glass vials with *Teflon*-lined caps. The QAPP provides further details on sample containers. The groundwater samples will be analyzed for a combination of VOCs, SVOCs, PCBs, and total RCRA metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium and silver). Specific sample analysis is detailed on Table 1.

2.3.4.1 Sample Preservation

Laboratory-supplied containers may be pre-preserved. Alternatively, the laboratory may supply applicable preservatives which would be added to the sample containers in the field by sampling personnel. Further preservation following the collection of each sample will consist of placing the sample on ice in a cooler immediately after the sample is collected and properly labeled.

2.3.4.2 Special Handling Considerations

Volatile Organics

Those samples that are to be analyzed for VOCs will not be transferred from one container to another. Transferring samples between containers may cause a loss of volatile organic compounds onto the walls of the sampling containers. Headspace should not be present in the sample container, thus minimizing the volatilization of organics from the sample. The laboratory will supply the 40-ml glass vials with *Teflon*-lined lids and will also provide the proper preservatives.

Blanks

Both trip blanks and equipment blanks will be collected to verify that sample handling and equipment have not affected the integrity of the field samples.

Trip blanks will be prepared by the laboratory and will consist of filling bottles associated with VOCs with laboratory-supplied reagent water. The trip blank will be subject to the same

handling and transportation procedures as the samples. Trip blanks will be required at the rate of one per shipping container containing samples for VOC analysis. Trip blanks will be analyzed for VOCs only or as directed by the Quality Assurance Officer. Trip blanks must accompany sample containers during sample collection and transportation.

To ensure the sampling device has been effectively cleaned, equipment blanks will be prepared by filling the sampling device with laboratory-supplied reagent water, transferring the sample to bottles, and submitting the sample to the laboratory for analysis. If disposable bailers are used, they should be rinsed and filled with laboratory-supplied reagent water, then emptied prior to collecting the equipment blank.

The number of equipment blanks analyzed for a class of compounds will be equal to at least 10% of the total samples to be analyzed for those methods. It will be the sample team leader's responsibility to collect the appropriate number of equipment blanks for the day's sampling efforts. If contaminants are found in the equipment or trip blanks, the source of the contamination will be identified (if possible) and corrective action, such as modifying the procedure and/or re-sampling if appropriate, will be initiated.

Duplicates

Duplicate groundwater samples will be collected to verify if the project quality assurance objectives are being met. Duplicate samples will not be collected for soil samples due to the non-homogenous nature of soils. A field duplicate will be collected at a rate of 1 per every 10 investigative samples collected.

2.3.4.3 Chain-of-Custody

The chain-of-custody will allow for the tracing of possession and handling of individual samples from the time of field collection through laboratory analysis. The chain-of-custody program will include: sample labels, sample seals, field log book, chain-of-custody form/sample analysis request sheet, and laboratory log book. All chain-of-custody procedures will be performed consistent with SOP No. 015V.

2.3.4.3.1 Sample Labels

All sample labels will contain the following information:

1. sample I.D. number;
2. name of collector;
3. date and time of collection;
4. place of collection; and
5. parameter(s) requested for analysis.

2.3.4.3.2 Sample Seal

A seal will be placed on the sample container or on the shipping container to ensure that samples have not been disturbed during transportation.

2.3.4.3.3 Field Log Book

An up-to-date field log book will be kept by each sampling team to document daily activities. The log book will include a general list of tasks performed, additional data or observations not listed on field data sheets, and document communication with onsite personnel or visitors as it applies to the project.

2.3.4.3.4 Chain-of-Custody Record Sheet

The chain-of-custody record will be maintained to trace sample possession and time of collection. The chain-of-custody will accompany each sample and record the:

1. sample number;
2. signature of collectors;
3. date and time of collection;
4. sample type;
5. sample location identification;
6. number of containers;
7. analytical parameters requested;
8. signature of relinquished and dates of possession by each party; and
9. preservatives.

2.3.4.3.5 Laboratory Log Book

The laboratory will maintain a record of the processing steps that are applied to each sample (i.e., sample preparation techniques, instrumental methods, experimental conditions, QC results). The time, date, and name of the person performing each processing will also be recorded.

3.0 SOIL ASSESSMENT

3.1 Objectives

Soil sampling will be completed to characterize COCs in the subsurface soils. Data obtained from soil sampling and analysis will be used to identify COCs and ultimately support the VAP Phase II Property Assessment.

3.2 Subsurface Investigation

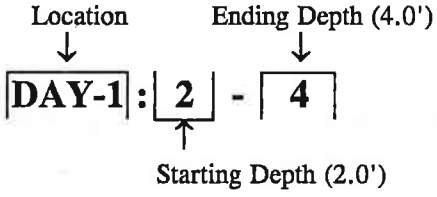
The assessment will consist of installing fourteen (14) soil borings which will be converted to monitoring wells to depths ranging from approximately twenty to fifty feet bgs. Soil samples will be collected for chemical analysis from the soil boring based on field screening (i.e., headspace screening using a flame ionization detector), direct observation (i.e., identification of coloration of soils suspected to be due to past industrial activities), and/or within the two-foot point of compliance. Visual soil descriptions (textural) will be documented on each boring log. A listing of chemical analytical methods for soil samples is summarized in Table I.

3.2.1 Sample Locations and Frequency

Soil boring locations are shown in Figure 2. Sample intervals will be biased towards depths where soils show the greatest evidence of impact by past activities at the Property. If field screening and observations detect little to no variation in apparent impact with depth, samples collected from zero to two feet below grade will be submitted for analysis.

3.2.2 Sample Designation

Soil samples will be identified according to the following SIN:



3.2.3 Sampling Equipment and Procedures

As described in Section 2, the borings which will be advanced using hollow-stem augers and split-spoon samplers. Soil samples will be collected at five (5) foot intervals from ground surface to the water table, then continuously with a two-foot by two-inch-diameter split-spoon sampler consistent with ASTM D 1586-84, Method for Penetration Test and Split-Barrel Sampling of Soils. Alternatively, a three-inch-diameter sampler may be used to collect soils from borings to provide sufficient sample volume quantities for chemical analyses.

3.2.4 Headspace Screening of Soil Samples

All soil samples will be field screened using a FID or PID, as described in SOP No. 017V. The FID or PID will be calibrated in the field consistent with the manufacturer's specifications.

3.2.5 Sample Handling - Chemical Analyses

At a minimum, soil samples will be collected to identify concentrations of COCs in potential source areas and affected material. One soil sample from each borings will be selected for chemical analysis to evaluate the concentration of COCs in soil. Visual observations and additional field screening techniques (i.e., FID screening) will be used to identify samples to submit for laboratory analysis. The sample selection hierarchy will be based on the following: 1) the highest FID reading; 2) visual observations which may indicate chemical impact; and 3) the 0 to 2 foot sample which represents the Ohio VAP commercial/industrial point of compliance. Sample selection may deviate from the above with the approval from the SRW-Hull Certified Professional.

Soil samples will be analyzed for VOCs, SVOCs, PCBs, TPH and RCRA metals. The analytical method for the soil samples is presented in the QAPP and Table I.

3.2.5.1 Sample Preservation

Samples collected for chemical analysis will be stored in a manner to prevent the samples from freezing in cold weather. Samples collected in weather conditions above freezing for chemical

analysis will be stored on ice in a laboratory-supplied cooler immediately after the samples are collected. In addition, the samples must be packed for shipping in a manner to avoid disturbing the sample.

3.2.5.2 Special Handling Considerations

Volatile Organics

Those samples that are to be analyzed for VOCs will not be transferred from one container to another. Transferring samples between containers may cause a loss of VOCs onto the walls of the sampling containers. Headspace should not be present in the sample container, thus minimizing the volatilization of organics from the sample. The laboratory will supply the appropriate glass containers with *Teflon*-lined lids.

Blanks

Both trip blanks and equipment blanks will be collected to verify that sample handling and equipment have not affected the integrity of the field samples.

Trip blanks will be prepared by the laboratory and will consist of filling bottles associated with VOCs with laboratory-supplied reagent water. The trip blank will be subject to the same handling and transportation procedures as the samples. Trip blanks will be required at the rate of one per shipping container containing samples for VOC analysis. Trip blanks must accompany sample containers during sample collection and transportation. Trip blanks will be analyzed for VOCs only or as directed by the Quality Assurance Officer.

To evaluate whether the sampling device has been effectively cleaned, equipment blanks will be prepared by filling the sampling device with laboratory-supplied reagent water, transferring the sample to bottles, and submitting the sample to the laboratory for analysis. The water will be collected in the properly preserved containers specified by the laboratory. The sample will be analyzed for the identical methods as the soil sample. An equipment blank will be collected for each analytical group to be analyzed.

The number of equipment blanks analyzed for a class of compounds will be equal to at least 10% of the total samples to be analyzed for those methods. It will be the sample team leader's responsibility to collect the appropriate number of equipment blanks for the day's sampling efforts.

3.2.6 Chain-of-Custody

The chain-of-custody will allow for the tracing of possession and handling of individual samples from the time of field collection through laboratory analysis. The chain-of-custody program will include: sample labels, sample seals, field log book, chain-of-custody form/sample analysis request sheet, and laboratory log book. All chain-of-custody procedures will be performed in accordance with SOP No. 015V.

3.2.6.1 Sample Labels

All sample labels will contain the following information:

1. sample I.D. number;
2. name of collector;
3. date and time of collection;
4. place of collection; and
5. parameter(s) requested for analysis.

3.2.6.2 Sample Seal

A seal will be placed on the sample container or on the shipping container to ensure that samples have not been disturbed during transportation.

3.2.6.3 Field Log Book

An up-to-date field log book will be kept by each sampling team to document daily. The log book will include a general list of tasks performed, additional data or observations not listed on field data sheets, and document communication with onsite personnel or visitors as it applies to the project.

3.2.6.4 Chain-of-Custody Record Sheet

The chain-of-custody record will be maintained to trace sample possession and time of collection. The chain-of-custody will accompany each sample and record the:

1. sample number;
2. signature of collectors;
3. date and time of collection;
4. sample type;
5. sample location identification;
6. number of containers;
7. analytical parameters requested;
8. signature of relinquished and dates of possession by each party; and
9. preservatives.

3.2.6.5 Laboratory Log Book

The laboratory will maintain a record of the processing steps that are applied to each sample (i.e., sample preparation techniques, instrumental methods, experimental conditions, QC results). The time, date, and name of the person performing each processing will also be recorded.

3.2.7 Soil Classification and Field Descriptions

Samples will be classified in the field consistent with SOP No. 003V. In addition, all pertinent observations noted during installation of the soil borings will be documented on the soil boring logs.

3.2.8 Decontamination of Equipment

All soil sampling equipment, such as the drill rig and related tools, will be decontaminated upon arrival onsite consistent with SOP No. 009V. Decontamination will consist of washing each sampler with non-phosphate detergent and rinsing with distilled water between each sampling interval and decontaminating rods with a high-pressure steam cleaner. All rinseates will be placed in DOT-approved 55-gallon steel drums or a portable polyethylene tank for storage at a location determined by the City pending proper disposal.

3.2.9 Disposal of Cuttings and Unused Soil Samples

Soil cuttings generated during the installation of soil borings will be contained in DTOP approved 55-gallon steel drums. Drums containing soil cuttings will be clearly identified with the monitoring well number, date of generation and identified as investigative derived waste. Drums will then be stored and secured in an area designated by the City of Dayton, pending proper disposal.

4.0 REFERENCES

A variety of technical documents and publications were referred to during the course of this project. Some of the references consulted are presented below. The guidelines and procedures presented in the documents and publications referenced may not have been strictly adhered to unless stated otherwise.

"Technical Guidance Manual for Hydrogeologic Investigations and Ground Water Monitoring," Ohio EPA, February 1995.

"Interim Guidelines and Specifications for Preparing Quality Assurance Project Plans," EPA, 1983.

"A Compendium of Superfund Field Operations Methods," EPA, 1987.

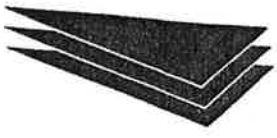
Calabrese, E. J., and Kostecki, P. T., 1989, Petroleum Contaminated Soils, Lewis Publishers, Volume II, Pages 134-135.

"Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," USEPA, SW-846, Third Edition, September 1986.

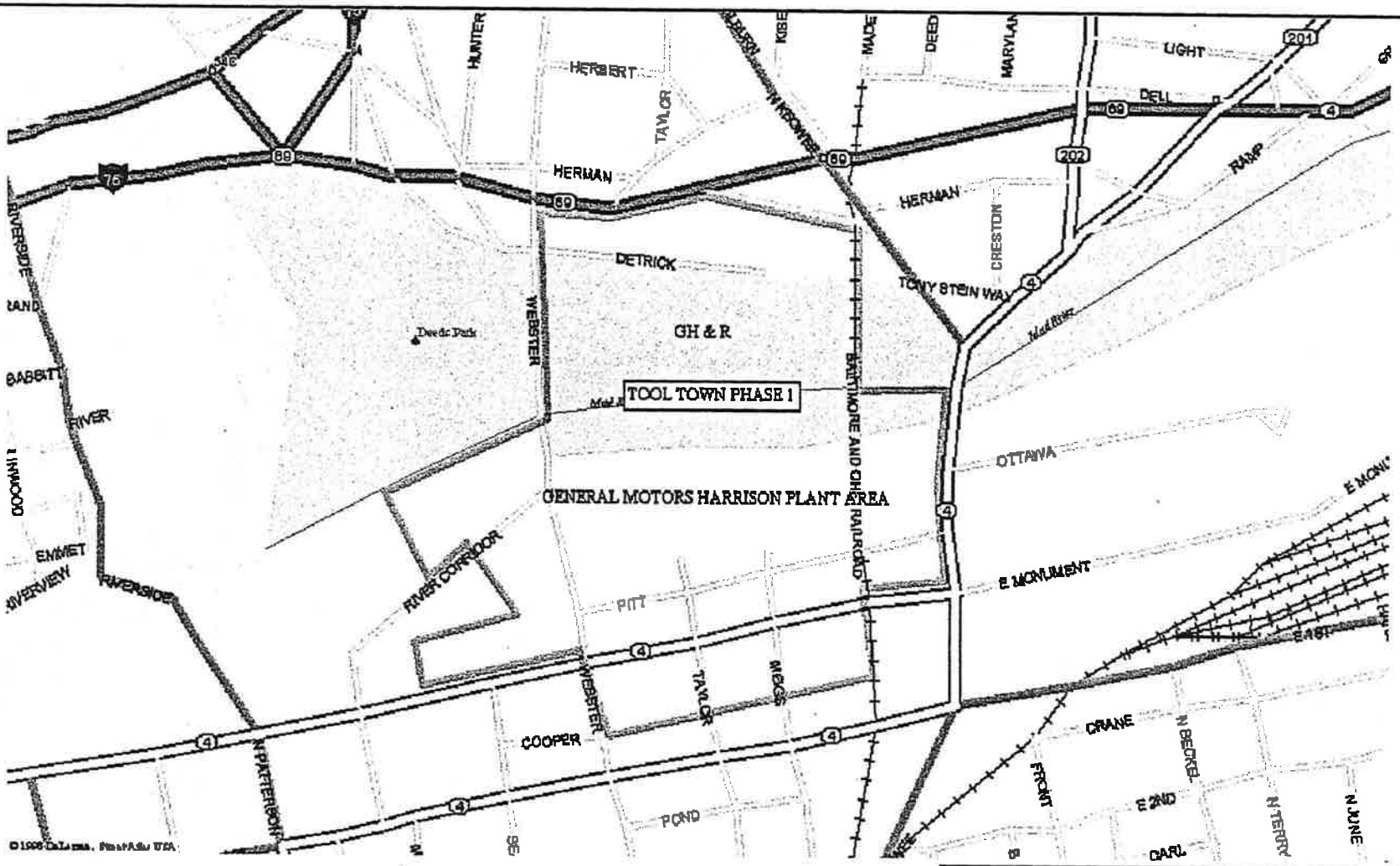
"Methods for Chemical Analysis of Water and Wastes," EPA 600/4-79-020, March 1983.

"Methods for the Determination of Organic Compounds in Drinking Water," EPA/600/4-88/039, December 1988; modified for USEPA Region 1.

State of Ohio Voluntary Action Plan Rules OAC Rule §3745-300-(01 through 15), Effective December 16, 1996.



FIGURES



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NOTE: BASE MAP WAS COPIED FROM THE 1998 DELORME STREET ATLAS USA

NORTH

SITE LOCATION MAP

TOOL TOWN WORK PLAN

DAYTON, OHIO

SRW ENVIRONMENTAL SERVICES, INC.
55 WEST TECHNECENTER DRIVE
SUITE C, MILFORD, OHIO 45150
TELE: 513-576-0009
FAX: 513-576-9756

DRAWN BY/CHECKED BY:	SCALE:	PROJECT No.:
GSY/RHS	1" = 0.25 MI.	DAY-001.02
DIR\FILE:	REVISION DATE:	FIGURE No.:
DAY001\SITELOCT.DWG	3/14/00	1

NORTH

MAD RIVER

LOT #7

HD-11

HD-3

HD-19

FOUNDRY STREET

WEBSTER STREET

LOT #8

HD-4

HD-8

B-SA26

HD-9

BLDG. 24

BLDG. 22

BLDG. 12

BLDG. 15

BLDG. 1

BLDG. 1A

LOT #1

BLDG. 4

BLDG. 3

BLDG. 2

BLDG. 7

BLDG. 5

BLDG. 9

BLDG. 10

HA-12

HA-11

HA-9

HA-8

HA-10

HA-7

HA-6

HA-5

HA-2

HA-3

HA-1

HA-4

DAY-1

DAY-2

DAY-3

BALTIMORE & OHIO RAILROAD

KEOWEE STREET

AMELIA STREET

LOT #2

LOT #3

LOT #4

PITT STREET

PITTS STREET

WASTE TREATMENT FACILITY

LOT #5

TAYLOR STREET

LOT #9

HD-15

MEIGS STREET

DAY-4

LOT #10

LOT #6

HD-15

EAST MONUMENT STREET

EAST MONUMENT AVENUE

Delco Products Asphalt Lot

RIVER CORRIDOR DRIVE

COOPER STREET

Tank #1

Former Delco Products Building No. 1

Former C.C.C. and St. Railroad Tracks

Excavation Area

Tank #4

Tank #6

Tank #12

Tank #2

Tank #3

Tank #5

Delco Products Parking Lot

SEARS STREET

DAY-6

LOT #12

DAY-5

COOPER STREET

HA-9 / HD-4 EXISTING GM MONITORING WELLS, DOCUMENTED

PROPOSED "WATER TABLE" BORING/WELL – APPROXIMATE

PROPOSED "VERTICAL PROFILE" BORING/WELL – APPROXIMATE

WELL LOCATION MAP

TOOL TOWN WORK PLAN
DAYTON
DAYTON, OHIO

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55 WEST TECHNECENTER DRIVE
SUITE C, MILFORD, OHIO 45150
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DRAWN BY/CHECKED BY:	SCALE:	PROJECT No.:
GSY/MDW	1" = 200'	DAY-001.02
DIR\FILE:	REVISION DATE:	FIGURE No.:
DAY001\PROPOSAL.DWG	3/24/00	2

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TOOL TOWN
SAMPLE LOCATIONS AND RECOMMENDED ANALYSES

Monitoring Well Designations	Property/Location	Sample Collection Method	RECOMMENDED CHEMICAL ANALYSES											
			VOCs (8260)		SVOCs (8270)		PCBs (8081)		METALS (6010)		TPH (418.1)		VOCs (Mobile Laboratory)	
			Soil	Water	Soil	Water	Soil	Water	Soil	Water	Soil	Water	Soil	Water
HD-3	Requarth Lumber Company	Disposable Bailer or Low Flow Pump		⊗		⊗				⊗				
HD-4	Requarth Lumber Company	Disposable Bailer or Low Flow Pump		⊗						⊗				
HD-8	Requarth Lumber Company	Direct-push; split-spoons		⊗						⊗				
HD-9	Requarth Lumber Company	Disposable Bailer or Low Flow Pump		⊗		⊗				⊗				
B-SA-26	Requarth Lumber Company	Disposable Bailer or Low Flow Pump		⊗						⊗				
HD-11	City of Dayton	Disposable Bailer or Low Flow Pump		⊗						⊗				
HD-15	City of Dayton	Disposable Bailer or Low Flow Pump		⊗		⊗				⊗				
HD-16	City of Dayton	Disposable Bailer or Low Flow Pump		⊗						⊗				
HD-19	City of Dayton	Disposable Bailer or Low Flow Pump		⊗						⊗				
DAY-1	Miami Conservancy District	Hollow-stem Auger, Split- spoon sampler, bailer and low flow pump	⊗	⊗	⊗		⊗	⊗	⊗	⊗	⊗			
DAY -2	Miami Conservancy District	Hollow-stem Auger, Split- spoon sampler, bailer and low flow pump	⊗	⊗	⊗	⊗	⊗		⊗	⊗	⊗			
DAY -3	Miami Conservancy District	Hollow-stem Auger, Split- spoon sampler, bailer and low flow pump	⊗	⊗	⊗		⊗	⊗	⊗	⊗	⊗			
DAY -4	City of Dayton	Hollow-stem Auger, Split- spoon sampler, bailer and low flow pump	⊗	⊗	⊗		⊗		⊗	⊗	⊗			
DAY -5	City of Dayton	Hollow-stem Auger, Split- spoon sampler, bailer and low flow pump	⊗	⊗	⊗	⊗	⊗	⊗	⊗	⊗	⊗			
DAY -6	Parking Lot SW Corner of Monument and Webster	Hollow-stem Auger, Split- spoon sampler, bailer and low flow pump	⊗	⊗	⊗		⊗		⊗	⊗	⊗			
DAY -7	Requarth Lumber Company	Hollow-stem Auger, Split- spoon sampler, bailer and low flow pump	⊗	⊗	⊗		⊗		⊗	⊗	⊗			⊗
DAY -8	Requarth Lumber Company	Hollow-stem Auger, Split- spoon sampler, bailer and low flow pump	⊗	⊗	⊗		⊗		⊗	⊗	⊗			⊗
DAY -9	Requarth Lumber Company	Hollow-stem Auger, Split- spoon sampler, bailer and low flow pump	⊗	⊗	⊗	⊗	⊗		⊗	⊗	⊗			⊗
DAY -10	Requarth Lumber Company	Hollow-stem Auger, Split- spoon sampler, bailer and low flow pump	⊗	⊗	⊗		⊗		⊗	⊗	⊗			⊗
DAY -11	City of Dayton	Hollow-stem Auger, Split- spoon sampler, bailer and low flow pump	⊗	⊗	⊗		⊗		⊗	⊗	⊗			⊗
DAY -12	City of Dayton	Hollow-stem Auger, Split- spoon sampler, bailer and low flow pump	⊗	⊗	⊗	⊗	⊗	⊗	⊗	⊗	⊗			⊗
DAY -13	Miami Conservancy District	Hollow-stem Auger, Split- spoon sampler, bailer and low flow pump	⊗	⊗	⊗	⊗	⊗		⊗	⊗	⊗			⊗
DAY -14	City of Dayton	Hollow-stem Auger, Split- spoon sampler, bailer and low flow pump	⊗	⊗	⊗	⊗	⊗		⊗	⊗	⊗			⊗
Trip Blank	QA/QC sample; one per cooler per day	Prepared at laboratory		6⊗										
Equipment Blank	QA/QC samples; 10% frequency	Bailers		4⊗		3⊗		3⊗		4⊗		2⊗		2⊗
Duplicate	QA/QC sample; 10% frequency	Bailer		2⊗		⊗		⊗		2⊗				10⊗
Totals			14	35	14	13	14	8	14	29	14	2	0	18

DAY-001.02

FILE COPY

QUALITY ASSURANCE PROJECT PLAN

FOR

VOLUNTARY ACTION PROGRAM
PHASE II INVESTIGATION

March 15, 2000

Prepared for:

CITY OF DAYTON
320 WEST MONUMENT STREET
DAYTON, OHIO 45402

Prepared by:

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QUALITY ASSURANCE PROJECT PLAN
FOR
VOLUNTARY ACTION PROGRAM
PHASE II INVESTIGATION

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SRW Environmental Services, Inc. QA Officer	Date 3/20/00
U.S. EPA Region 5 Quality Assurance Reviewer	Date 4/19/00
U.S. EPA Region V Project Manager	Date 4/19/00

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LIST OF ACRONYMS AND ABBREVIATIONS

ASTM	American Society of Testing and Materials
µg/L	micrograms per Liter
bgs	below ground surface
City	City of Dayton
COC	constituents of concern
C-O-C	chain-of-custody
DBCP	dibromochloropropane
DNAPL	dense nonaqueous phase liquids
DOT	Department of Transportation
DQO	data quality objective
DTW	depth to water
EDB	ethylene dibromide
EPA	environmental protection agency
ESE	Environmental Science & Engineering, Inc.
FID	flame ionization detector
FIV	flame ionizable vapor
FOC	Field Operations Coordinator
GC/MS	gas chromatography/mass spectrometer
GDCS	generic direct contact soil standards
gpm	gallons per minute
HASP	health and safety plan
ID	inside diameter
LEL	lower explosive limit
LNAPL	light nonaqueous phase liquids
mg/Kg	milligrams per kilogram
MS/MSD	matrix spike/matrix spike duplicate
MSPR	matrix spike percent recovery
MW	monitoring well
NAPL	nonaqueous phase liquids
NEIC	National Enforcement Investigations Center
NFA	no further action
NIST	National Institute of Standards & Technology
OAC	Ohio Administrative Code
OD	outside diameter
OVA	organic vapor analyzer
PAH	polynuclear aromatic hydrocarbons
PARCC	precision, accuracy, representativeness, completeness, and comparability
PBM	performance based method
PCB	polychlorinated biphenyls
PCE	tetrachloroethene
Phase I	Phase I Property Assessment
Phase II	Phase II Property Assessment

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LIST OF ACRONYMS AND ABBREVIATIONS (Continued)

PID	Photo Ionization Detector
PM	Project Manager
PPE	personal protective equipment
ppm-v/v	parts per million vapor by volume
PTFE	polytetrafluorethylene
PVC	polyvinyl chloride
QA/QC	quality assurance/quality control
QAO	Qualify Assurance Officer
QAPP	Quality Assurance Project Plan
RCRA	Resource Conservation and Recovery Act
RPD	relative percent difference
SA	spike added
SAP	Sampling & Analysis Plan
SB	soil boring
SGCV	supplemental generic cleanup values
SIN	sample identification number
SOP	standard operating procedure
SR	sample results
SRW	SRW Environmental Services, Inc.
SSR	spike sample results
SVE	Soil Vapor Extraction
SVOC	semi volatile organic constituent
TCE	trichloroethene
THC	total hydrocarbons
TPH	total petroleum hydrocarbons
USCS	Unified Soils Classification System
USEPA	United States Environmental Protection Agency
UV	ultraviolet
VAP	Voluntary Action Plan
VOC	volatile organic constituent

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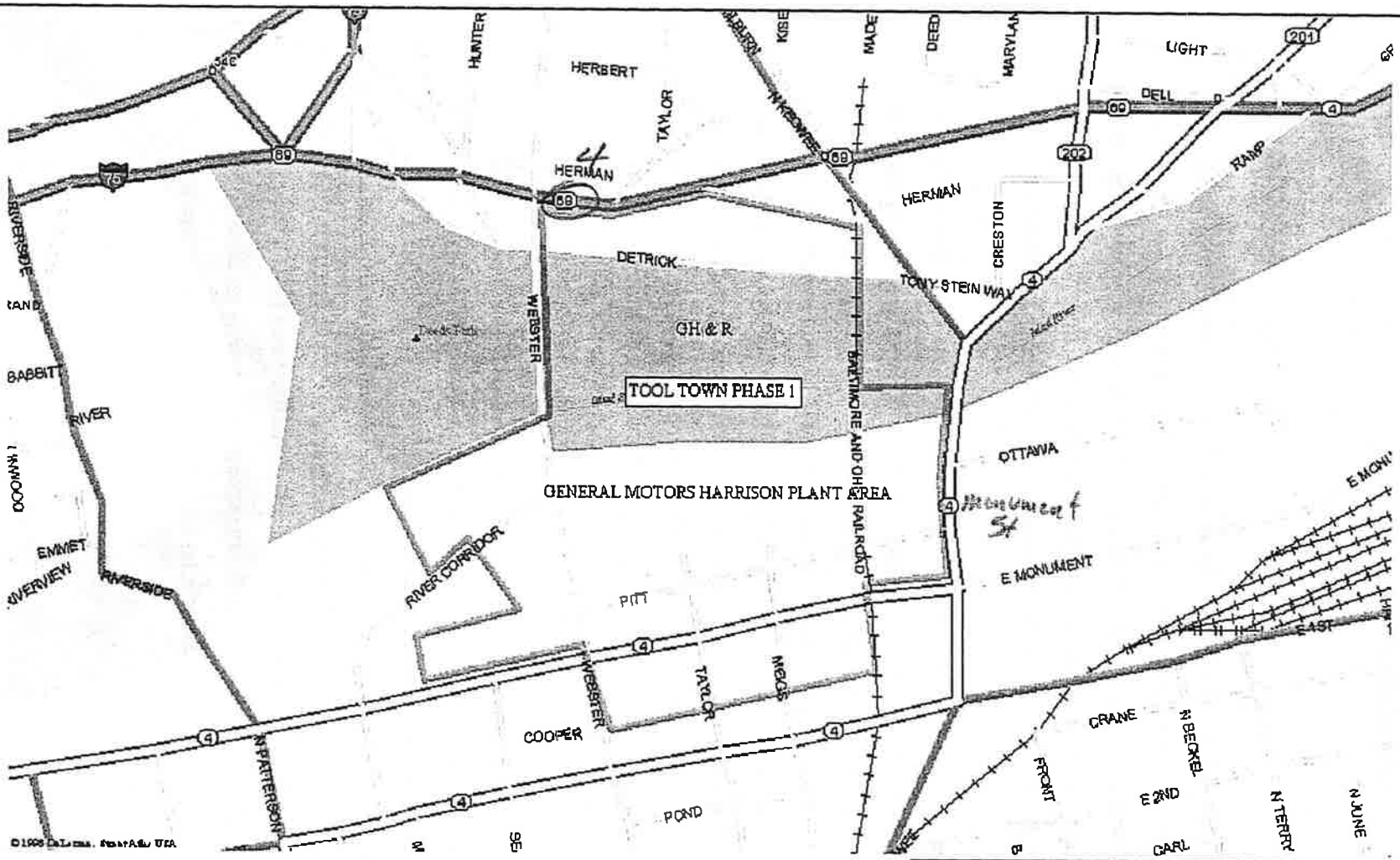
1.0 PROJECT DESCRIPTION

1.1 Introduction

SRW Environmental Services, Inc. (SRW) and Hull & Associates, Inc. (Hull) have joined as partners for the purpose of redeveloping brownfield properties into a campus-like environment known as Tool Town for the City of Dayton (Figure 1). SRW-Hull has prepared this Quality Assurance Project Plan (QAPP) for the City of Dayton (City) as required through their U.S. EPA Brownfield Pilot Grant project. Both SRW and Hull personnel will adhere to the procedures established in this document.

The City of Dayton is an urban and manufacturing community located along the Great Miami River in the Miami Valley approximately 55 miles north of Cincinnati, Ohio. Tool Town is a concept that was created by a tooling and machining task force during the development of the comprehensive plan for the City of Dayton. A Phase I and Phase II environmental site assessment of the brownfield properties that will become Tool Town will be performed for the purpose of gathering data to evaluate and address environmental issues. The ultimate objective is to compile the information necessary to obtain an Urban Setting Designation for the area and prepare a *"No Further Action"* letter for the properties to be submitted to Ohio EPA. This QAPP has been prepared for the City, SRW-Hull field personnel, their subcontractors, and other representatives.

The QAPP provides quality assurance and quality control (QA/QC) guidelines for the Phase II sampling and analysis activities conducted in support of the City's brownfield redevelopment program. This QAPP has been designed to apply to any sampling and analysis activity for the property known as "Tool Town," which is being evaluated by the City through the Brownfield Grant Program. In addition, the QAPP meets the requirements under Ohio EPA's Voluntary Action Program (VAP) for conducting Phase II Property Assessments as codified in Ohio Administrative Code (OAC) Rule §3745-300-07. A property-specific work plan that details the field sampling and analysis information will be developed for the project. A copy of the work plan will be submitted to the USEPA Project Manager for review and approval.



NOTE: BASE MAP WAS COPIED FROM THE 1998 DELORME STREET ATLAS USA

NORTH

SITE LOCATION

DAYTON QAPP

DAYTON, OHIO

SRW ENVIRONMENTAL SERVICES, INC.
55 WEST TECHNECENTER DRIVE
SUITE C, MILFORD, OHIO 45150
TELE: 513-576-0009
FAX: 513-576-9756

DRAWN BY/CHECKED BY:	SCALE:	PROJECT No.:
GSY/RHS	1" = 0.25 MI.	DAY-001.02
DIR\FILE:	REVISION DATE:	FIGURE No.:
DAY001\SITELOCT.DWG	3/14/00	1

The laboratory procedures will be conducted in accordance with the substantive requirements of the selected test methods and the subcontracted laboratory's Quality Assurance Plan. Additional information regarding the analytical subcontractor can be found in Section 1.4.

1.2 General Scope of Work

A Phase II environmental assessment will be conducted at two major properties in Tool Town. The Harrison Site is a 35-acre brownfield site previously occupied by the General Motors Harrison Division Dayton Plant. The second site is GH&R, an 11-acre abandoned foundry.

The environmental scopes of work may differ between properties depending on the findings of preliminary groundwater sampling results of existing wells at the site. Generally, the scopes of work will involve collecting sufficient data to characterize the property's geology, hydrogeology, distribution of chemicals-of-concern, and evaluate potentially complete exposure pathways for human and/or ecological receptors. A property-specific work plan will be developed, which will include the data quality objectives (DQOs) for the investigation. The DQOs process will follow the U.S. EPA. Interim Final Guidance "Data Quality Objectives Process for Superfund" (September 1993). Projects conducted under the VAP are required to establish and employ DQOs consistent with this document. The scope of work under the VAP may include the following:

1. Phase I Property Assessment (OAC §3745-300-06)
2. Phase II Property Assessment (OAC §3745-300-07)
3. Groundwater Classification (OAC §3745-300-10)
4. Risk Assessment (OAC §3745-300-09)

1.3 Data Quality Objectives (DQOs)

The DQO process is a mechanism to translate general project goals into specific tasks that are conducted to produce data needed to support decision-making for the project. The DQO process is typically a seven-step process. The first step is to develop a conceptual site model to provide an understanding of the site based on available data, such as analytical results, historic use, exposure

pathways, cleanup concerns, and future land use. The model is refined as additional data are added. With a well-defined conceptual site model, the goals of the brownfield site assessment are translated into qualitative and quantitative statements that define the type of data needed. These data needs include the number and type of samples to be collected, analytical detection limits, and certainty. Based on the outputs of the DQO process, a detailed sampling and analysis plan can be prepared.

The following provides the general DQO steps that will be involved for the City of Dayton's Tool Town project.

1.3.1 Stating the Problem

Review of existing data and literature indicates that a subject property may pose a threat to human health and the environment from historical activities that occurred on the property. The overall goal for the City of Dayton's Brownfield program is to redevelop the property, providing the identified environmental concerns can be managed economically. The investigation is being performed to determine if these historical activities have impacted the property to the extent that redevelopment is not feasible.

1.3.2 Identifying the Decision

Generally, the data will be used to determine if the property is suitable for redevelopment. Decisions will be based on the following:

1. Will the property require remediation before it can be redeveloped?
2. What cleanup levels must be achieved at the property before it can be redeveloped? (VAP standards will be used if the property is entering the VAP.)
3. Can remediation be built into the redevelopment plans?
4. Can the property be subdivided based on remediation requirements?

1.3.3 Identifying Inputs to the Decision

Samples will be collected that are needed to fill identified data gaps in order to support the decision and answer the questions posed in Section 1.3.2. These decision inputs will be presented in the detailed sampling and analysis plan. If the property is taken through the VAP, then the input parameters will be driven by the VAP sampling and analysis requirements and other necessary demonstrations required under the VAP.

1.3.4 Defining the Boundaries of the Study

The decision to redevelop a property will originally be based on the entire property. However, after working through the DQO process, these boundaries may be changed to include only portions of a property. If the property is taken through the VAP, boundaries may be driven by the eligibility requirements under the VAP. The boundaries will also include the points of compliance locations.

1.3.5 Developing a Decision Rule

A decision rule usually compares an output parameter to an action level, which then is used to determine a course of action for the property. For the Tool Town property being evaluated in the City of Dayton Brownfields program, this will involve a comparison of contaminant concentrations to cleanup levels, such as VAP standards, in order to determine if remediation is needed for redevelopment of the property. A series of "if...then" statements will be developed to define the conditions that would assist in choosing among courses of action for a property.

1.3.6 Specifying Limits on Decision Errors

Limits for decision errors will be based primarily on the redevelopment plans for a property. The decision errors are established by the Certified Professional based on these plans and the allowable uncertainty in the data used to define the representativeness of the data.

1.3.7 Optimizing the Design

In developing the DQOs for a property, cost-effective sampling and analysis methods will be pursued. This will be based on whether a statistical or judgmental sampling design should be employed. If obstacles exist in the process, then the DQO steps will be reassessed until a workable decision tree is produced. Under the VAP, there may be less flexibility in design optimization.

1.4 Data Generation

Ohio's VAP program requires that all chemical analyses for hazardous substances or petroleum to be used in support of an NFA must be performed by a VAP Certified Laboratory as codified at OAC §3745-300-04. To become Certified, a laboratory must submit their quality assurance plan, method detection limit studies, standard operating procedures (SOPs), complete an onsite audit by the Ohio EPA, and demonstrate method proficiency by analyzing semiannual performance evaluation samples. These laboratory certifications are parameter and method-specific. Because it will not necessarily be known if a property will enter the VAP, the analytical work used in support of the NFA will be conducted using a Certified Laboratory. The analytical subcontractor for these projects will be selected based upon their possessing the necessary certifications required to analyze all chemicals-of-concern identified during the Phase I investigation.

During the Phase II investigation, a mobile laboratory will be used to provide qualitative field screening analysis of water samples for volatile organic compounds (VOCs). The data generated from the mobile laboratory will be used to aid in the decision-making process on the vertical placement of well screens. The data generated from the mobile laboratory will not be used in the support of an NFA; and therefore, the mobile laboratory is not, and does not, need to be VAP Certified.

The Quality Assurance Plan for the anticipated analytical subcontractor has been included in Appendix 1. If an alternate analytical subcontractor is selected, then this QAPP will be revised to include their Quality Assurance Plan. All analytical data will be reported on a dry weight basis.

2.0 PROJECT ORGANIZATION AND RESPONSIBILITY

SRW-Hull has overall responsibility for completing the Phase II investigations. SRW-Hull will perform the field investigation, prepare the required reports, and perform any subsequent work required to complete the project. In addition, SRW-Hull will provide project management. The various quality assurance and management responsibilities of key project personnel are defined below.

2.1 Project Organization Chart

The lines of authority for these projects can be found on Figure 2-1. The individual primarily responsible for Quality Assurance (QA) will be the Quality Assurance Officer (QAO), who reports directly to the Project Manager. The responsibilities of key individuals are outlined below.

2.2 Management Responsibilities

Michael D. Weinstein, PG, CP, Senior Project Manager

Mr. Weinstein will be the Senior Project Manager and is responsible for the Phase II investigation meeting the objectives of the City of Dayton Brownfield Program for the individual properties. Mr. Weinstein's primary function is to ensure that technical, quality, financial, and scheduling objectives are achieved successfully. Mr. Weinstein forms the primary communication link between SRW and the City.

Ronald H. Strube, REM, PG., Project Manager

Mr. Strube will be the Project Manager (PM) and has overall responsibility for ensuring that each project meets the appropriate objectives and quality standards. Mr. Strube reports directly to the Senior Project Manager and his responsibilities include technical quality control and project oversight. Duties and responsibilities of the PM consist of the following:

1. administrate and supervise all phases of the project;
2. ensure project objectives are met within financial and time constraints;

3. work with the QAO and field personnel to plan and conduct project operations, progress meetings, etc.; and

4. review reports and other work products prior to being issued.

2.3 Quality Assurance Responsibilities

Kevin Wildman, Quality Assurance Officer

Mr. Wildman will be the QAO and will remain independent of direct job involvement and day-to-day operations. Mr. Wildman will be responsible for enforcing the provisions of the QAPP. Specific functions and duties will be to:

1. establish QA/QC procedures for the project;

2. evaluate data quality and maintain QC records;

3. provide a communication link between project personnel and the laboratory;

4. monitor the progress of the field sampling personnel and provide PMs with periodic QA reports; and

5. stop work at any time that the QAPP is not being adhered to or if the quality of the results are jeopardized by the work in progress.

2.4 Field Responsibilities

The Field Operations Coordinator (FOC) and will be responsible for overseeing the day-to-day conduct of project activities. The FOC will be designated by the PM for each specific field task. Duties and responsibilities of the FOC will be to:

1. ensure the sampling activities are conducted in a manner that follows the procedures outlined in this plan and the property-specific work plan;

2. coordinate the sampling activities with the PM, QAO, and field personnel;

3. oversee the use, maintenance, and operation of sampling equipment; and

4. report daily activities, problems, etc. to the QAO and PM.

Field Sample Custodian

The Field Sample Custodian is the individual(s) who collects environmental samples in the field. The sample custodian is responsible for the proper collection and documentation of samples. Field documentation includes completion of field logs and preparation of chain-of-custody documentation. The sample custodian originates chain-of-custody documents for samples collected in the field and is responsible for samples until relinquished to another sample custodian or the laboratory.

Qualifications and experience of the project team members is documented on their resumes included in Appendix 7.

2.5 Laboratory Responsibilities

The laboratory will have its own project organization with responsibilities similar to that of the field operations personnel.

2.5.1 Laboratory Director

The Laboratory Director will be primarily responsible for the overall operation of the laboratory including all samples analyzed and data reported. The Laboratory Director will also be responsible for initiating corrective action measures when analytical data do not meet the requirements of this plan or the laboratory's QAPP.

2.5.2 Laboratory Project Manager

The Laboratory Project Manager will be the primary communications link between the laboratory and SRW's QAO. The Laboratory Project Manager will be responsible for relating any special needs of the field operations personnel to the laboratory.

2.5.3 Laboratory Section Manager

The Laboratory Section Manager provides final review of all data packages, including raw data, quality control data, and final results, before reporting results.

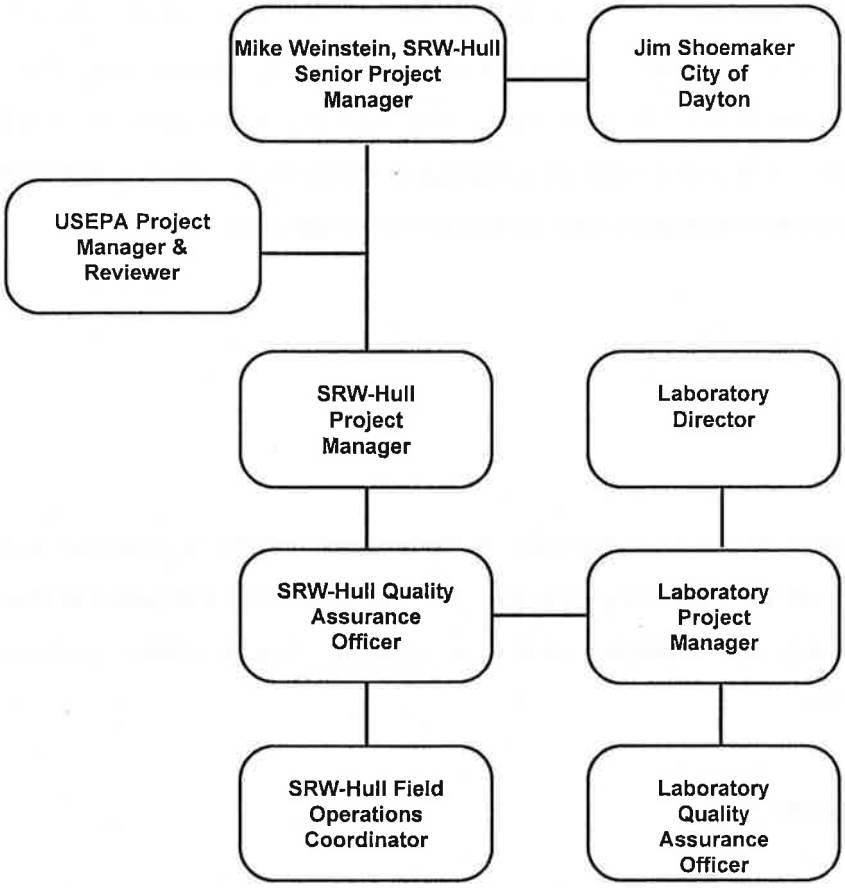
2.5.4 Laboratory Quality Assurance Officer

The Laboratory QAO will be primarily responsible for implementing the laboratory's QAPP within the laboratory and monitoring compliance with the laboratory's QAPP. The Laboratory QAO's duties will also include: conducting audits and reporting problems to the Laboratory Director for corrective action.

CITY OF DAYTON

FIGURE 2-1

PROJECT MANAGEMENT CHART



3.0 QUALITY ASSURANCE OBJECTIVES FOR MEASUREMENT

The overall QA objective for the project is to develop and implement procedures for field sampling, chain-of-custody, laboratory analysis, and reporting that will provide legally defensible results. Specific procedures for sampling, chain-of-custody, laboratory instrument calibration, laboratory analysis, reporting of data, internal quality control, audits, preventive maintenance of field equipment, and corrective action are described in other sections of this QAPP.

Data quality objectives for measurements during this project will be addressed in terms of precision, accuracy, representativeness, completeness, and comparability (PARCC parameters). The numerical PARCC parameters will be determined from the project DQOs to ensure they are met. The DQOs and resulting PARCC parameters will require that the sampling be performed using standard methods, with properly operated and calibrated equipment, and conducted by trained personnel.

3.1 Precision

3.1.1 Definition

Precision is the determination of the reproducibility of measurements under a given set of conditions, or a quantitative measure of the variability of a group of measurements compared to their average value. Precision is either reported, depending on the end use of the data, as relative percent difference (RPD) or standard deviation.

3.1.2 Field Precision Objectives

Field precision will be assessed through the sampling and analysis of field duplicate samples. Field duplicate samples will be collected at a rate of one duplicate sample for every ten investigative samples. Field duplicates will only be collected for aqueous matrices because determination of field precision for soils and sediments is difficult due to the heterogeneous nature of these matrices. The VAP does not require the collection of duplicate soil samples. The collection of duplicate samples is not warranted as the VAP requires multiple samples be collected from each identified area, and these samples must be

biased towards highest concentrations. Also, field duplicate samples may not be collected on preliminary assessments when the City desires to obtain a very preliminary assessment of a site. Additional information regarding field duplicate samples is provided in Section 4.2.9.

3.1.3 Laboratory Precision Objectives

Precision of analytical results generated by the VAP Certified laboratory will be based upon laboratory matrix spike/matrix spike duplicate (MS/MSD) analyses. Precision is reported as Relative Percent Difference (% RPD). Precision goals for the parameters to be analyzed will be in accordance with the provisions of the U S. EPA methods used for analysis. The matrix spike and matrix spike duplicate are prepared at a rate of one per batch of 20 samples as the analytical methodology requires.

For the mobile laboratory, duplicate analysis will be performed on each water sample analyzed by the mobile laboratory.

3.2 Accuracy

3.2.1 Definition

Accuracy is generally defined as the degree of agreement of a measurement or average of measurements with an accepted reference or true value.

3.2.2 Field Accuracy Objectives

Sampling accuracy will be assessed by evaluating the results of field and trip blank samples for contamination. A trip blank will consist of a laboratory-prepared sample of reagent grade water. Trip blanks will accompany sample containers and be subjected to the same procedures as the investigative samples. Trip blanks are only required when volatile organic compounds (VOC) are a chemical-of-concern. Trip blanks will be submitted for analysis at the rate of one trip blank per shipping container (i.e., cooler) containing investigative samples for VOC analyses.

Field blanks (equipment blanks) will be collected by pouring laboratory-prepared water or distilled water over or through the sampling equipment and collecting the rinseate in the proper analytical containers. Field blanks are required at the rate of one per 20 investigative samples for all matrices except groundwater. Field blanks are required at the rate of one per 20 investigative samples with a minimum of one per scheduled groundwater sampling event. A scheduled groundwater sampling event is a routine sampling of all monitoring wells within the monitoring system.

Field and trip blanks may not be collected at a project site when the City is in the very preliminary stages of site evaluation and selection.

3.2.3 Laboratory Accuracy Objectives

Analytical accuracy is assessed in the VAP Certified laboratory by the recovery of analytical spikes and reference standards. Accuracy goals for parameters to be analyzed will be in accordance with the provisions of the U.S. EPA methods used for analysis.

Mobile laboratory data will be used only to assist in the vertical placement of monitoring well screens. This mobile laboratory data, as with other field screening data, i.e., sample headspace screening, does not require an accuracy check. Exact concentrations are not needed in the decision-making process, only the relative difference in concentrations between each water sample to assist in locating the well screen. Whatever inaccuracy is present should apply equally to all samples; and as such, the relative differences will provide a true representation for selecting well screen placement. However, calibration curves will be generated daily and continuing calibration repeated every tenth sample to ensure the system is in control and the data is as accurate as possible.

3.3 Completeness

3.3.1 Definition

Completeness expresses the measure of confidence with which the data, resulting from a data collection activity, meets the specific objectives of the activity. It is the amount of valid data obtained from a

measurement system compared to the amount that was expected to be obtained under correct normal operating conditions. While efforts will be made to have all generated data be valid data (complete), some samples may be lost or broken in transit or at the laboratory. In addition, the results may not be acceptable based on laboratory QC requirements.

3.3.2 Field Completeness Objectives

The field sampling crew will take measures to have data generated in the field be valid data (complete); however, some samples may be lost or broken in transit. Field completeness goals for this project will be to have 95 percent of samples collected be valid data.

3.3.3 Laboratory Completeness Objectives

The laboratory will take measures to have generated data be valid data (complete); however, some samples may be lost or broken at the laboratory or outside of acceptable method criteria. Laboratory completeness goals for this project will be to have 95 percent of samples analyzed be valid data.

3.4 Representativeness

3.4.1 Definition

Representativeness expresses the degree to which data accurately and precisely represent a characteristic of a population, parameter variations at a sampling point, a process condition, or an environmental condition.

3.4.2 Measures to Ensure Representativeness of Field Data

Representativeness will be achieved by establishing the level of allowable uncertainty in the data and then statistically determining the number of samples needed to characterize the population through the DQO process. It will also be achieved by ensuring that sampling locations are properly selected. Representativeness is dependent upon the proper design of the sampling program and will be

accomplished by ensuring that this QAPP, the project-specific Work Plan, and all relevant SOPs are followed. The QA goal will be to have all samples and measurements representative of the media sampled. Field testing for pH, temperature, and conductivity stabilization prior to groundwater sampling will help ensure that representative samples are collected. Homogenization of solid samples, all but VOCs analysis, will help ensure the representative collection of soil and sediment samples.

3.4.3 Measures to Ensure Representativeness of Laboratory Data

Representativeness in the laboratory will be ensured by adherence to the requested EPA methods and following the proper analytical procedures. The QA goal will be to have all measurements representative of the samples submitted for analysis. Additionally, all sample aliquots to be analyzed should be representative of the samples received.

3.5 Comparability

3.5.1 Definition

Comparability expresses the measure of confidence in which data sets can be considered equivalent with regard to the measurement of a specific parameter and/or groups of parameters. The ability to compare data sets is particularly critical when a set of data for a specific parameter is compared to historical data for determining trends.

3.5.2 Measures to Ensure Comparability of Field Data

The comparability of the data will be ensured by using standard sampling techniques. Additionally, an effort will be made to have sampling done in a consistent manner by the same samplers (when possible).

3.5.3 Measures to Ensure Comparability of Laboratory Data

The comparability of laboratory data will be ensured by using standard analytical methods (i.e., SW846, etc.) and reporting limits. Additionally, an effort will be made to minimize the number of analytical subcontractors (when possible) used through the course of the project. Analytical method quality specifications have been established to help ensure the data will produce results which are comparable. The analytical specifications are summarized in the following table.

Table 3-1
Analytical Requirements
City of Dayton

Parameter	Analytical Method	Precision[1]	Accuracy[2]	Completeness[3]
VOCs	SW846-8260 SW846-8015	20%	40 - 150%	90%
SVOCs	SW846-8270 SW846-8151 SW846-8015	20%	40 - 150%	90%
PCBs	SW846-8081	20%	40 - 150%	90&
Metals	SW846-6010 SW846-7470/7471	20%	70 - 130% 80 - 120%	90%
Cyanide	SW846-9010	20%	80 - 120%	90%
Total Organic Carbon	EPA 415.1	20%	70 - 130%	90%
Total Dissolved Solids	EPA 160.1	*	*	90%
TPH	EPA 418.1	20%	70 - 130%	90%
VOCs by Mobile Lab	Field Screening	20%	NA	90%

Notes:
[1] Precision is a measure of the reproducibility of a measurement system. The precision values given for the chemical parameters are the maximum acceptable Relative Percent Difference (RPD) of duplicate analyses. The RPD value is indicative of the analysis at the instrument, as well as the analytical sequence.
[2] Accuracy is a measure of the bias that exists in the measurement system. Accuracy for the chemical parameters is assessed through the evaluation of a known value relative to the calculated value as determined by the measurement. The values given represent the acceptable bias in the measurement as indicated by matrix or method spikes.
[3] Completeness is determined by the amount of valid sample acquisitions and associated data with respect to the total number of data to be acquired.
* EPA 160.1 does not include specifications for measuring the accuracy or precision of the system. The precision of the system can be measured through the use of a duplicate sample, but a valid accuracy determination cannot be performed.
NA - not applicable to decision-making process

4.0 SAMPLING PROCEDURES

4.1 General

The purpose of this section is to describe the general sampling procedures that will be used for each project. SRW-Hull's Standard Operating Procedures (SOPs) that are likely to be employed in the course of this project have been included in Appendix 2. Project-specific sampling procedures will be detailed in the project-specific Work Plan. Sampling efforts will be uniform and follow the project-specific Work Plan, QAPP, and SOPs to ensure the quality of the data collected.

4.2 General Sampling Procedures

4.2.1 Sample Containers and Preservatives

Sample containers will be provided by the analytical subcontractor. The analytical subcontractor will also provide any preservatives required by the analytical method. These sample containers will consist of new and unused Scientific Lab Supplies, Class 3000 (or equivalent) glass or plastic bottles. The glassware is cleaned to meet or exceed the USEPA Analyze Specifications and Guidance for Contaminant-Free Sample Containers, Publication 9240.0-05A. The project-specific Work Plan will include a table that lists the analytical containers and preservatives required for each analytical method to be performed. Glassware is supplied by the analytical subcontractor with the appropriate preservative added to the jar for the requested analysis. Suggested container type, test method, preservative, and holding times for analysis are identified on Table 4-1. The analytical subcontractor's VAP certification has been included as Appendix 3 and represents the analytical methods that are likely to be employed during the majority of projects.

CITY OF DAYTON

TABLE 4-1
SAMPLING AND ANALYTICAL METHOD REQUIREMENTS

Parameter	Test Method SW846	Sample Volume		Container Type		Preservative (Liquid) 4°C and	Holding Time
		Soil[1]	Water	Soil	Water		
Cyanide	9010	10 gm	1 L	4 oz glass	1 L plastic	NaOH to pH 12,	14 days
Hydrogen ion (pH)	9040	100 gm	500 ml	4 oz plastic	60 ml plastic	None	None[2]
Mercury	7470	10 gm	100 ml	4 oz plastic	250 ml plastic	HNO_3 < pH 2	28 days
Other Metals	6010/7000	10 gm	100 ml	4 oz plastic	500 ml plastic	HNO_3 < pH 2	6 months
Organic Carbon	9060	10 gm	1 L	4 oz glass	125 ml glass	H_2SO_4 < pH 2	28 days
Purgeable Aromatic Hydrocarbons (BTEX)	8021	5 gm	2x40 ml	4 oz glass	2x40 ml amber glass	HCl < pH2	14 days
Semivolatile Organics	8270	10 gm	1 L	4 oz glass	1 L amber glass	None	7 days extract/40 days analyze
PCBs	8081	10 gm	1 L	4 oz glass	1 L amber glass	None	7 days extract/40 days analyze
PAHs	8270	10 gm	1 L	4 oz glass	1 L amber glass	None	7 days extract/40 days analyze
Chlorinated Pesticides	8081	10 gm	1 L	4 oz glass	1 L amber glass	pH 5 - 9	7 days extract/40 days analyze
Volatile Organics	8260	5 gm	2x40 ml	4 oz glass	2X40 ml glass	HCl < pH2	14 days
TPH (GRO)	8015	5 gm	40 ml	4 oz glass	2X40 ml glass	None	14 days
TPH (DRO)	8015	5 gm	NA	4 oz glass	2X40 ml glass	None	14 days
TPH (heavy distillate)	418.1	10 gm	1 L	4 oz glass	1 L glass	None	40 days
TCLP - Volatiles	1311&8260	100 gm	NA	4 oz glass	NA	None	14 days extract/14 days analyze
TCLP - Metals	1311 & 6010, 7060, 7740, 7470	100 gm	NA	4 oz glass	NA	None	14 days extract/28 days analyze
TCLP - SVOCs, Pesticides, or Herbicides	1311 & 8270, 8080, or 8150	500 gm	NA	4 oz glass	NA	None	14 days extract/40 days analyze

[1] This is minimal amount needed for analysis; sample container should be full whenever possible.
[2] Field analysis for water.

4.2.2 Sample Labeling

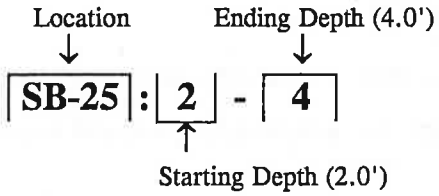
All sample containers will be labeled at the time of sampling. Each label will be completed with the required information and then secured to the container with transparent packing tape to prevent accidental loss or damage. Required information on the sample label includes: project number, sample identification number, date, time, and requested analyses. Additionally, any preservatives or special handling instructions will be clearly displayed on the label. An example label is provided below.

SRW ENVIRONMENTAL SERVICES, INC. 55 WEST TECHNECENTER DRIVE, SUITE C MILFORD, OH 45150 513-576-0009 FAX 513-576-9756		
PROJECT NAME CITY OF DAYTON		
SAMPLE ID MW-15:030300	SAMPLE DATE 03/03/00	SAMPLE TIME 14:10
SAMPLED BY RHS	PRESERVATIVE HCL	
ANALYSIS REQUESTED VOC - 8260		X GRAB ____ COMPOSITE

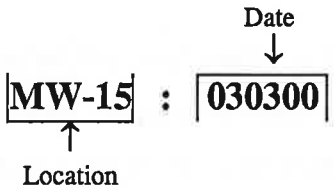
4.2.3 Sample Identification Numbers

All samples collected will be issued a unique Sample Identification Number (SIN) to aid in tracking and record keeping. SINs will be assigned by the QAO prior to sampling efforts. The SINs will be developed in accordance with the property-specific Work Plan and will identify the sample location and the date the sample was collected.

Soil Samples will be labeled as follows:



Groundwater Samples will be labeled as follows:



When duplicate samples are taken in the field, 'DUPLICATE' should be used in the location field; so, for example, a duplicate groundwater sample would read 'DUPLICATE:030300.' The location where the duplicate was prepared will be noted on the Groundwater Sampling Record for both the 'Duplicate' sample and the well where the duplicate was prepared.

The SIN system is very important for accurate tracking and record keeping of data generated during the Phase II investigations. For this reason, the SIN will not be deviated from without authorization of the QAO. Any questions regarding the SIN system will be directed to the QAO.

4.2.4 Sampling Equipment Preparation and Decontamination

Sampling equipment to be reused will be thoroughly decontaminated between sampling locations and at the beginning and end of each day. At a minimum, decontamination will consist of washing the equipment with a mild, non-phosphatic soap and thoroughly rinsing with distilled water. SRW-Hull SOP No. 009V (Appendix 2) provides a more detailed description of decontamination procedures. If complete cleaning of any piece of sampling equipment is not possible, then it will be discarded and replaced with a clean article.

4.2.5 Sample Storage and Transportation

Field samples will be placed on ice in portable coolers immediately following sample collection and remain on ice until being delivered to the laboratory. Ice will be double-bagged to prevent leakage and

possible water damage to samples, sample labels, and documentation. Any samples not placed on ice immediately upon collection will be discarded, and a new sample will be collected.

The level of effort for packaging coolers will depend upon the transportation method used. If the samples will be hand-delivered to the laboratory, the coolers will be minimally packed to prevent accidental breakage. If the samples are to be shipped via a commercial carrier (UPS, Federal Express, etc.), then the cooler will be lined with a large garbage bag and the sample containers may be individually wrapped in bubble wrap or the cooler may be filled with Styrofoam peanuts, vermiculite, or other suitable packing material.

4.2.6 Field Notes

General field notes will be recorded in waterproof surveyors' notebooks using indelible ink. In addition to the field notebooks, certain activities (e.g., drilling and groundwater sampling) will require the completion of field data sheets. Examples of the field data sheets anticipated to be used during these projects have been included in Appendix 4. If additional field data sheets are required for a specific project, they will be identified in the property-specific Work Plan. When weather conditions prohibit the completion of data sheets in the field, data may be recorded in field notebooks and then transferred to data sheets at the end of the day.

Additionally, a Daily Field Report (Appendix 4) will be completed at the end of the day summarizing the day's activities and observations. Copies of the documentation will be forwarded to the QAO on a weekly basis. If copies of previous work are required, then arrangements will be made with the QAO.

Field notebooks, field data sheets, or daily field reports will not be obscured, destroyed, or discarded, even if it contains errors or is illegible. Corrections will be made by drawing a single line through the error and writing in the correct information. Corrections will be dated and initialed by the person making the correction.

4.2.7 Chain-of-Custody

The chain-of-custody is discussed in Section 5.0 of this plan.

4.2.8 Sampling Quality Control

Several sampling quality control measures will be necessary to assess the integrity of samples collected and determine if the QA objectives discussed in Section 3 are being met. These measures include the use of duplicate samples, field blanks, and trip blanks to locate possible sources of sample contamination.

For soil samples, the number of field blanks (e-g., equipment or rinseate blanks) to be analyzed for a class of compounds will be equal or greater than five percent of the total investigative samples analyzed for that class. Field blanks for groundwater and other aqueous sample collection will be analyzed at a frequency of five percent of the investigative samples or one per day, whichever is greater. Field blanks will be collected by running deionized or distilled water through or over the parts of the sampling devices that contacts the samples. The rinseate will be transferred directly to the appropriate laboratory-supplied analytical containers. Field blanks will be analyzed for the same parameters as the field samples. Specific QA/QC requirements and sample collection frequency and media will be specified in the project-specific work plan. It is the sampler's responsibility to collect the appropriate number of field blanks for each sampling activity.

One trip blank will be required per shipping container (e.g., cooler) that contains samples for volatile organic analysis. Trip blanks will be prepared in the laboratory, prior to sampling efforts, using laboratory-prepared deionized water and preserved using the same procedures as the samples. Trip blanks must accompany sample containers at all times during sample collection and transportation.

When sampling groundwater and surface water, a field duplicate sample will be collected. The minimum frequency of field duplicate sample collection is one per every ten investigative samples. It is required that a field duplicate be collected once every scheduled sampling event. A sampling event is defined as a routinely scheduled sample event for all wells in the groundwater monitoring system.

4.3 Property-Specific Sampling Procedures

As previously stated, SRW-Hull's SOPs that are likely to be employed in the course of this project have been included in Appendix 2. Project-specific sampling procedures will be detailed in the property-specific Work Plan.

4.3.1 Vertical Groundwater Profiling

Soil borings will be advanced for the purpose of vertical characterization of groundwater contamination and monitoring well installation. Representative groundwater samples will be collected at discreet intervals and analyzed by an onsite (mobile) laboratory. Analysis shall be performed by gas chromatograph (GC) employing a photoionization detector and flame ionization detector. Analytical results from groundwater samples at various depths will be used to assist in the placement of monitoring well screens. The SOP for collecting vertical profile groundwater samples has not been finalized at this time. However, the procedure will be finalized and included with the project-specific Work Plan for the Phase II investigation.

Mobile analytical services will be provided by Environmental Science & Engineering, Inc. (ESE) located in Miamisburg, Ohio. A copy of their Field Gas Chromatograph Operation SOP (SOP No. ESE-1) is included in Appendix 5.

5.0 CUSTODY PROCEDURES

5.1 General

The intention of chain-of-custody (C-O-C) procedures is to document in a legally defensible manner the transfer of custody of each sample from collection through analysis. Additional information regarding C-O-C procedures is presented in SRW-Hull SOP No. 015V (Appendix 2).

5.2 Chain-of-Custody

The importance of C-O-C procedures cannot be overstated. This documentation records the history of the samples' custody from acquisition to ultimate disposal. Samples collected may be used as legal evidence. As such, the hand-to-hand custody from the point of collection to delivery at the laboratory must be clearly documented. The National Enforcement Investigations Center (NEIC) of the U.S. EPA defines custody as:

1. the sample is in your physical possession;
2. the sample is within view after being in your physical possession;
3. the sample was in your possession and then you locked or sealed it to prevent tampering; and/or
4. the sample is placed in a designated secure place with limited access to authorized personnel only.

A C-O-C form (Appendix 4) must accompany every shipping container. Each C-O-C form will be filled out in triplicate. Information required on the C-O-C form includes:

1. SRW work order number;
2. project information/location;
3. samplers' names;
4. sample identification numbers;
5. date and time of collection;

6. sample location;
7. matrix or matrices;
8. type of sample (grab or composite);
9. field measurements;
10. number of containers;
11. requested analyses;
12. remarks (preservatives); and
13. signatures of anyone relinquishing or accepting custody.

Field samplers will be responsible for the care and custody of the samples collected until the samples are transferred or properly dispatched. After completing a sampling event, sample custody will be transferred to a designated person who will maintain custody of samples until they are dispatched to the laboratory.

If samples are to be delivered to laboratory via a courier, a C-O-C will be signed over to the courier. The courier will keep C-O-C forms until relinquishing custody to the laboratory. One copy of the C-O-C form will be retained before there is a transfer of custody to the courier. Evidence tape or custody seals will be placed so that, when the coolers are opened, the seals will be broken. Transparent tape will be used to guarantee that the seals are not accidentally removed or destroyed.

If samples will be delivered to the laboratory via commercial carriers (i.e., FedEx, UPS), then the C-O-C forms will be placed in a watertight, plastic, resealable bag and sealed inside the sample cooler. The shipping documentation will serve as an extension of the C-O-C. Evidence tape or custody seals will be placed so that, when the coolers are opened, the seals will be broken. Transparent tape will be used to guarantee that the seals are not accidentally removed or destroyed. If seals or evidence tape is broken, then the samples will be discarded and samples within the cooler recollected.

5.3 Laboratory Custody Procedures

Samples will be received in an area designated for sample receipt and storage. Upon receipt, each sample will be assigned a unique laboratory sample identification number. This number, along with the

date received and general description, will be recorded in the laboratory's master log. SRW-Hull's QAO will be immediately notified if there are any problems with the samples received (e.g., discrepancies between the C-O-C and samples submitted, breakage, improper preservation, etc.). Additional information regarding laboratory custody procedures is presented in the laboratory's QAPP (Appendix 1).

5.4 Laboratory Documentation

Workbooks, bench sheets, instrument logbooks, and instrument printouts are used to trace the history of samples through the analytical process and to document and relate important aspects of the work, including the associated quality controls. All logbooks, bench sheets, instrument logs, and instrument printouts are part of the permanent record of the laboratory. Laboratory notebooks will be periodically reviewed by the Laboratory Section Heads for accuracy, completeness, and compliance with the Laboratory Quality Assurance Program Plan. Completed workbooks and instrument logbooks will be submitted to the QAO for storage.

The laboratory's documentation procedures are presented in the laboratory's QAPP (Appendix 1). In general, good laboratory practices require that the following (or equivalent) procedures be used. Each page or, as required, each entry will be dated and initialed by the analyst when the record is made. Errors in entry will be crossed out in indelible ink with a single stroke. The use of white-out, obliterating, or writing directly over the erroneous entry will be prohibited. The individual making the correction will initial all corrections.

6.0 CALIBRATION PROCEDURES AND FREQUENCY

6.1 General

This section details the calibration procedures and frequency for both the field and laboratory instrumentation that will be used during this project. Materials used for instrument calibration will be obtained through the U.S. EPA Pesticide and Industrial Chemicals Repository, or a suitable commercial source.

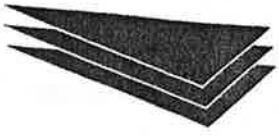
6.2 Field Equipment Calibration Procedures

Equipment to be used during the field sampling will be examined to certify that it is in operating condition. This includes checking the manufacturer's operating manual and instructions for each instrument to ensure that all maintenance requirements are being observed.

Instruments and equipment used to gather, generate, or measure environmental data will be calibrated with sufficient frequency and in such a manner that the accuracy and reproducibility of results are consistent with the manufacturer's specifications. The calibration of field instruments will be performed in strict accordance with the manufacturer's specifications. Field conditions, instrument response, and the manufacturer's recommendations will dictate the frequency of calibration. At a minimum, all instruments will be calibrated at the beginning of each day and after any extended breaks.

It is a requirement of the VAP that records of instrument calibrations be kept for each instrument that is used during the project. SRW-Hull-owned equipment has dedicated logbooks to record calibration data that will accompany the instrument. If equipment is rented, the rental company will provide a record of their calibration. Subsequent field calibrations of rental equipment will be recorded in the sampler's logbooks.

In general, the field instruments that may be used during this project include a pH meter, potentiometer for Eh measurement, thermometer, conductivity meter, organic vapor analyzer (OVA), or organic vapor photoionization detector (PID). General calibration procedures are provided below. For specific



instructions on the calibration frequency, acceptance criteria, and conditions that require more frequent recalibration, refer to the specific SOPs and/or manufacturer's recommendations.

The linearity of the instrument (where applicable) will be checked by using a two-point calibration with reference standards bracketing the expected measurement. All the calibration procedures performed will be documented in the field logbook and will include the date/time of calibration, name of person performing the calibration, reference standard used, temperature at which readings were taken, and the readings. Multiple readings on one sample or standard, as well as readings on replicate samples, will likewise be documented.

pH Meter Calibration

The pH meter will be calibrated with standard buffer solutions before being taken to the field. In the field, the meter will be calibrated daily with two buffer solutions before use. The range of the buffer solutions will be at least three or more pH units apart and will bracket the expected pH of the sample being measured. It is anticipated that these buffers will consist of 4.0, 7.0, and/or 10.0 standard pH units. The calibration procedure will adhere to the following steps:

- Ensure that the buffer temperature is at ambient air temperature.
- Connect pH electrode into pH meter and turn on pH meter.
- Set temperature setting based on the temperature of buffer; place electrode in first buffer solution.
- After reading has stabilized, adjust the reading to display the correct value.
- Repeat procedure for second buffer solution.
- Place pH electrode in the sample, and record the pH as displayed.
- Remove pH electrode from sample and rinse off with distilled water.
- Recalibrate the pH if it starts giving erratic results.

The calibrations performed, standard used, and sample pH values are to be recorded in the field notebook. Appropriate new batteries will be purchased and kept with the meters to facilitate immediate replacement in the field as necessary.

Thermometer Calibration

Temperature readings will be taken electronically using the thermocouple present on the pH or conductivity meters. These thermometers are factory calibrated. If readings are suspect, the meter will be sent to the factory for any necessary maintenance. Field samplers will always have a backup thermometer.

Conductivity Meter Calibration

The conductivity cells of the specific conductivity meter will be cleaned and checked against known conductivity standards before being taken to the field. In the field, the instrument will be checked daily with the National Institute of Standards & Technology (NIST) [or other approved sources] traceable reference standards. The calibration procedure is described below:

- Place the probe in the conductivity calibration standard solution.
- Set temperature knob for temperature of standard solution.
- Turn to appropriate scale and set the instrument for the value of calibration standard.
- Rinse off the electrode with distilled water.
- Measure the conductivity for distilled water to be used for a field blank, making sure temperature is set correctly for temperature of solution to be tested.
- If the conductivity of blank (distilled water) is high, it must be discarded and a new blank sample obtained.

All readings and calibrations should be recorded in the field notebook.

Organic Vapor Analyzer (OVA) and Organic Vapor

Two types of OVAs are commonly used in the field. The first is an OVA Flame Ionization Detector (FID). The second is an OVA Photo Ionization Detector (PID). The FID (if used) will be calibrated to zero air and methane daily, prior to use. The PID will be calibrated daily with isobutylene gas for benzene. SOPs for each type of meter are included in Appendix 2.

6.3 Laboratory Instrumentation Calibration Procedures

Calibration of laboratory equipment will be based on their Ohio EPA VAP approved SOPs and the manufacturer's recommendations. Records of calibration, repairs, or replacement will be filed and maintained by the laboratory's QAO. These records will be filed at the location where the work is performed and will be subject to QA audits. The laboratory will operate in strict accordance with the requirements of the U.S. EPA methods used and their VAP certification.

Field gas chromatograph calibration procedures are documented in Section 4.2.4 of SOP No. ESE-1 located in Appendix 5.

7.0 ANALYTICAL PROCEDURES

The analytical methods used for each project will be listed in the property-specific Work Plan. The VAP requires that any analyses of hazardous substances or petroleum be conducted by a Certified Laboratory. As discussed in Section 1.4 of this document, the laboratory's certifications are parameter and method-specific. As such, the analytical procedures for these projects will be selected based upon the laboratory's certification. A copy of the subcontracted analytical laboratory's VAP certification is located in Appendix 3. It may be necessary to use multiple laboratories depending upon the analytical requirements of a given project. Additionally, if there are no analytical methods available for a hazardous substance or petroleum product that is identified as a potential chemical-of-concern by the property's Phase I Assessment, a performance-based method (PBM) may be developed by the laboratory. If PBMs are developed for use in a Phase II investigation, then the method and supporting documentation must be submitted to the Ohio EPA for approval and certification in accordance with the procedures outlined in OAC §3745-300-04. Table 7-1 provides a list of commonly used analytical procedures that are likely to be employed during the course of these projects. The subcontracted analytical laboratory's method-specific SOPs are submitted to Ohio EPA as part of the VAP Certification process. **A copy of the laboratory VAP-specific SOPs are quite voluminous and are provided under separate cover for review as Appendix 6.**

Analytical procedures for the field GC analysis is documented in the Field Gas Chromatograph SOP (No. ESE-1) included in Appendix 5.

The quantitation limits needed for the investigations must be lower than any one of the direct contact or potable use standards listed in Tables 7-2 and Tables 7-3, respectively. The quantitation limits of the analytical methods are orders of magnitude lower than any single standard and will also be lower than any standard adjusted via the VAP multi-chemical adjustment.

Quantitation limits for the mobile laboratory are identified in the Field Gas Chromatograph SOP (SOP No. ESE-1) located in Appendix 5.

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TABLE 7-1

LIST OF ANTICIPATED ANALYTICAL PROCEDURES

Analyte Group		EPA Method Number
Volatile Organics	Volatiles	8260
	TPH - Gasoline Range Organics	8015
Semi-volatiles	Base/neutral/acid extractable	8270
	PAHs	8270
	Organochlorine Pesticide/PCB	8081
	Herbicides	8151
	TPH - Diesel Range Organics	8015
Metals	Antimony	6010
	Arsenic	6010
	Beryllium	6010
	Cadmium	6010
	Chromium	6010
	Copper	6010
	Lead	6010
	Mercury	7470/7471
	Nickel	6010
	Selenium	6010
	Silver	6010
	Thallium	6010
	Zinc	6010
Miscellaneous	TPH	418.1
	Cyanide	9010
	Total Organic Carbon	415.1
	Total Dissolved Solids	160.1

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TABLE 7-2

SUMMARY OF VAP GENERIC DIRECT CONTACT STANDARDS FOR SOILS (mg/Kg)

Chemical of Concern	RESIDENTIAL	COMMERCIAL	INDUSTRIAL
Volatile Organic Chemicals			
Acetone	4500.00	59000.00	55000.00
Benzene	8.20	68.00	68.00
n-Butyl benzene	250.00	250.00	250.00
sec-Butyl benzene	530.00	530.00	530.00
tert-Butyl benzene	390.00	390.00	390.00
Carbon Tetrachloride	1.80	15.00	15.00
Carbon Disulfide	380.00	720.00	720.00
Chlorobenzene (monochlorobenzene)	160.00	700.00	700.00
Chloroethane (ethyl chloride)	5900.00	5900.00	5900.00
4-Chlorotoluene	230.00	230.00	230.00
Dibromochloromethane	77.00	500.00	470.00
1,1 Dichloroethane	620.00	2300.00	2300.00
1,2 Dichloroethane	9.60	41.00	41.00
1,1 Dichloroethene	1.50	6.40	6.30
trans-1,2 Dichloroethene	910.00	2500.00	2500.00
cis-1,2 Dichloroethene	450.00	1200.00	1200.00
1,2-Dichloropropane	7.00	57.00	59.00
Ethylbenzene	230.00	230.00	230.00
Ethylene glycol	88000.00	120000.00	120000.00
Formaldehyde	8800.00	45000.00	45000.00
n-Hexane	110.00	200.00	200.00
Isopropylbenzene (Cumene)	1000.00	1000.00	1000.00
p-Isopropyltoluene (Cymene)	110.00	110.00	110.00
Methylene Chloride (Dichloromethane)	220.00	1000.00	990.00
Methyl butyl ketone (2-hexanone)	3500.00	16000.00	16000.00
Methyl Ethyl Ketone	6600.00	27000.00	27000.00
Methyl Iso-Butyl Ketone	440.00	3800.00	3800.00
Methanol	22000.00	100000.00	100000.00
n-Propyl benzene	110.00	110.00	110.00
Styrene	1700.00	1700.00	1700.00
Tetrachloroethene (PCE)	94.00	370.00	370.00
Toluene	520.00	520.00	520.00
2,6-Dinitrotoluene	9.40	62.00	61.00
1,1,2,2-Tetrachloroethane	9.20	43.00	43.00
1,1,1-Trichloroethane	1200.00	1400.00	1400.00
1,1,2-Trichloroethane	39.00	180.00	180.00
Trichloroethene (TCE)	77.00	330.00	330.00
Trichlorofluoromethane	400.00	3300.00	3300.00
1,2,3-Trichloropropane	0.92	6.00	5.90
1,2,4-Trimethylbenzene (Pseudocumene)	260.00	260.00	260.00
1,3,5-Trimethylbenzene (Mesitylene)	200.00	200.00	200.00
Vinyl Acetate	470.00	2700.00	2700.00
Vinyl Chloride	0.58	2.60	2.50
Total Xylenes	1500.00	1500.00	1500.00

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TABLE 7-2 (CONT.)

SUMMARY OF VAP GENERIC DIRECT CONTACT STANDARDS FOR SOILS (mg/Kg)

Chemical of Concern	RESIDENTIAL	COMMERCIAL	INDUSTRIAL
Semi-Volatile Organic Compounds			
Acenaphthene	1900.00	19000.00	18000.00
Acenaphthylene	1900.00	19000.00	18000.00
Anthracene	9500.00	94000.00	89000.00
Benzo(a)anthracene	5.50	32.00	31.00
Benzo(b)fluoranthene	5.50	32.00	31.00
Benzo(k)fluoranthene	55.00	320.00	310.00
Benzo(a)pyrene	0.55	3.20	3.10
Benzo(g,h,I)perylene	940.00	9500.00	9100.00
Bis(2-ethylhexyl)phthalate	150.00	870.00	860.00
Butyl benzyl phthalate	220.00	220.00	220.00
Carbazole	320.00	2100.00	2000.00
Chrysene	550.00	3200.00	3100.00
m-Cresol	2200.00	7000.00	7000.00
o-Cresol	2200.00	30000.00	28000.00
p-Cresol	220.00	3000.00	2800.00
Dibenzo(a,h)anthracene	0.55	3.20	3.10
p,p'-Dichlorodiphenyl Dichloroethane (4,4'-DDD)	27.00	180.00	170.00
p,p'-Dichlorodiphenyl Dichloroethene (4,4'-DDE)	19.00	130.00	120.00
p,p'-Dichlorodiphenyl Trichloroethane (4,4'-DDT)	19.00	130.00	120.00
Di-n-butyl phthalate	110.00	110.00	110.00
Di-n-octyl-phthalate	880.00	11000.00	11000.00
Diethyl phthalate	640.00	640.00	640.00
2,4-Dimethylphenol	880.00	11000.00	11000.00
Dimethyl phthalate	2800.00	2800.00	2800.00
1,4 Dioxane	590.00	3800.00	3600.00
Fluoranthene	1300.00	13000.00	12000.00
Fluorene	1300.00	13000.00	12000.00
Indeno(1,2,3-cd)pyrene	5.50	32.00	31.00
Isophorone	4600.00	4600.00	4600.00
1-Methyl naphthalene	290.00	290.00	290.00
2-Methyl naphthalene	6700.00	78000.00	76000.00
Naphthalene	1800.00	24000.00	22000.00
n-Nitrosodiphenylamine	280.00	280.00	280.00
Phenanthrene	9400.00	95000.00	91000.00
Phenol	26000.00	320000.00	300000.00
Pyrene	950.00	9500.00	8900.00

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TABLE 7-2 (CONT.)

SUMMARY OF VAP GENERIC DIRECT CONTACT STANDARDS FOR SOILS (mg/Kg)

Chemical of Concern	RESIDENTIAL	COMMERCIAL	INDUSTRIAL
Inorganic Compounds			
Aluminum	72000.00	1000000.00	1000000.00
Antimony	18.00	240.00	220.00
Arsenic	6.90	110.00	86.00
Barium	5000.00	160000.00	140000.00
Beryllium	2.40	38.00	30.00
Cadmium	32.00	310.00	300.00
Chromium(III)	8800.00	65000.00	63000.00
Chromium(VI)	230.00	2900.00	2800.00
Cobalt	13000.00	110000.00	110000.00
Cyanide	1400.00	50000.00	41000.00
Fluoride	4300.00	150000.00	120000.00
Mercury	16.00	250.00	230.00
Nickel (soluble salts)	450.00	3800.00	3700.00
Selenium	360.00	12000.00	10000.00
Silver	360.00	12000.00	10000.00
Thallium	5.80	200.00	160.00
Vanadium	500.00	18000.00	14000.00
Zinc	19000.00	420000.00	370000.00

Values for chemicals in **bold** type are the Generic Direct Contact Soil Standards (GDCS) as presented in OAC §3745-300-08.

Other values are Supplemental Generic Cleanup Values (SGCVs) that were developed through technical assistance by Ohio EPA and are not applicable standards for any Property until they have been presented in the context of a Property-Specific Risk Assessment under OAC §3745-300-09.

When more than one chemical-of-concern (COC) is present on a Property, the cumulative effects of each COC must be evaluated based on non-carcinogenic and carcinogenic endpoints in accordance with OAC §3745-300-08 (B)(2)(b). As such, it may be necessary to decrease the GDCS or SGCV for one or more COCs in order to meet the Property-specific risk goals.

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TABLE 7-3

GENERIC UNRESTRICTED POTABLE USE GROUNDWATER STANDARDS FOR CARCINOGENIC AND NONCARCINOGENIC CHEMICALS OF CONCERN (VALUES IN µg/L OR MICROGRAMS PER LITER)

CHEMICAL OF CONCERN	UNRESTRICTED POTABLE USE NONCARCINOGENS	UNRESTRICTED POTABLE USE CARCINOGENS	SINGLE CHEMICAL UNRESTRICTED POTABLE USE GROUNDWATER VALUE	MAXIMUM CONTAMINANT LEVEL (MCL) (GENERIC NUMERICAL STANDARD)
VOLATILE ORGANIC CHEMICALS (VOCs)				
Benzene			5.00	5.00
n-Butyl benzene	1,800.00		1,800.00	
sec-Butyl benzene	1,600.00		1,600.00	
tert-Butyl benzene	2,100.00		2,100.00	
Carbon Disulfide	880.00		880.00	
Carbon Tetrachloride			5.00	5.00
Chloroethane (ethyl chloride)	6,100.00		6,100.00	
4-Chlorotoluene	280.00		280.00	
o-Dichlorobenzene			600.00	600.00
p-Dichlorobenzene			75.00	75.00
1,1 Dichloroethane	1,500.00		1,500.00	
1,2 Dichloroethane			5.00	5.00
1,1 Dichloroethene			7.00	7.00
cis-1,2 Dichloroethene			70.00	70.00
trans-1,2 Dichloroethene			100.00	100.00
Dichloromethane (Methylene Chloride)			5.00	5.00
1,2-Dichloropropane	190.00	24.00	24.00	5.00
Ethylbenzene			700.00	700.00
Formaldehyde	3,100.00		3,100.00	
n-Hexane	840.00		840.00	
Isopropylbenzene (Cumene)	1,200.00		1,200.00	
p-Isopropyltoluene (Cymene)	23,000.00		23,000.00	
Methanol	7,900.00		7,900.00	
Methyl butyl ketone (2-hexanone)	800.00		800.00	
Methyl Ethyl Ketone (2-butanone)	8,600.00		8,600.00	
Monochlorobenzene			100.00	100.00
n-Propyl benzene	1,300.00		1,300.00	
Styrene			100.00	100.00
1,1,2,2-Tetrachloroethane		8.30	8.30	
Tetrachloroethene (PCE)			5.00	5.00
Toluene			1,000.00	1,000.00
1,2,4-Trichlorobenzene			70.00	70.00
1,1,1-Trichloroethane			200.00	200.00
1,1,2-Trichloroethane			5.00	5.00
Trichloroethene (TCE)			5.00	5.00
1,2,3-Trichloropropane	93.00	0.80	0.80	
1,2,4-Trimethylbenzene (Pseudocumene)	25,000.00		25,000.00	
1,3,5-Trimethylbenzene (Mesitylene)	28,000.00		28,000.00	
Vinyl Acetate	6,200.00		6,200.00	
Vinyl Chloride			2.00	2.00
Total Xylenes			10,000.00	10,000.00

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QUALITY ASSURANCE PROJECT PLAN

TABLE 7-3 (CONT.)

GENERIC UNRESTRICTED POTABLE USE GROUNDWATER STANDARDS FOR CARCINOGENIC AND NONCARCINOGENIC CHEMICALS OF CONCERN (VALUES IN μG/L OR MICROGRAMS PER LITER)				
CHEMICAL OF CONCERN	UNRESTRICTED POTABLE USE NONCARCINOGENS	UNRESTRICTED POTABLE USE CARCINOGENS	SINGLE CHEMICAL UNRESTRICTED POTABLE USE GROUNDWATER VALUE	MAXIMUM CONTAMINANT LEVEL (MCL) (GENERIC NUMERICAL STANDARD)
SEMI-VOLATILE ORGANIC CHEMICALS (SVOCs)				
Acenaphthene	680.00		680.00	
Acenaphthylene	660.00		660.00	
Alachlor			2.00	2.00
Anthracene	2,600.00		2,600.00	
Atrazine			3.00	3.00
Benzo(a)anthracene			11.00	
Benzo(b)fluoranthene			14.00	
Benzo(k)fluoranthene			27.00	
Benzo(g,h,i)perylene	63.00		63.00	
Benzo(a)pyrene			0.20	0.20
Butyl benzyl phthalate	2,900.00		2,900.00	
Carboturan			40.00	40.00
Chlorotane			2.00	2.00
Chrysene			230.00	
p-Cresol	76.00		76.00	
2,4-D			70.00	70.00
Dalapon			200.00	200.00
Di(2-ethylhexyl)adipate			400.00	400.00
Di(2-ethylhexyl)phthalate (bis(2-ethylhexyl)phthalate)			6.00	6.00
Dibronnochloropropane (DBCP)			0.20	0.20
Di-*n*-butyl phthalate	1,500.00		1,500.00	
Di-*n*-octyl phthalate	38.00		38.00	
Diethyl phthalate	12,000.00		12,000.00	
2,4-Dimethylphenol	310.00		310.00	
Dimethyl phthalate	12,000.00		12,000.00	
2,6-Dinitrotoluene	16.00	2.40	2.40	
Dinoseb			7.00	7.00
1,4 Dioxane		150.00	150.00	
Diquat			20.00	20.00
Endothall			100.00	100.00
Endrin			2.00	2.00
Ethylene Dibromide (EDB)			0.05	0.05
Ethylene Glycol	32,000.00		32,000.00	
Fluoranthene	300.00		300.00	
Fluorene	410.00		410.00	
Glyphosate			700.00	700.00
Heptachlor			0.40	0.40
Heptachlor Epoxide			0.20	0.20
Hexachlorobenzene			1.00	1.00
Hexachlorocyclopentadiene			50.00	50.00
Indeno(1,2,3-cd)pyrene			18.00	
Isophorone	3,100.00	1,700.00	1,700.00	
Lindane			0.20	0.20

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TABLE 7-3 (CONT.)

GENERIC UNRESTRICTED POTABLE USE GROUNDWATER STANDARDS FOR CARCINOGENIC AND NONCARCINOGENIC CHEMICALS OF CONCERN (VALUES IN µG/L OR MICROGRAMS PER LITER)				
CHEMICAL OF CONCERN	UNRESTRICTED POTABLE USE NONCARCINOGENS	UNRESTRICTED POTABLE USE CARCINOGENS	SINGLE CHEMICAL UNRESTRICTED POTABLE USE GROUNDWATER VALUE	MAXIMUM CONTAMINANT LEVEL (MCL) (GENERIC NUMERICAL STANDARD)
SEMI-VOLATILE ORGANIC CHEMICALS (SVOCs) (Continued)				
Methoxychlor			40.00	40.00
1-Methyl naphthalene	2,300.00		2,300.00	
2-Methyl naphthalene	2,300.00		2,300.00	
Naphthalene	570.00		570.00	
n-Nitrosodiphenylamine		340.00	340.00	
Oxamyl (Vydate)			200.00	200.00
Pentachlorophenol			1.00	1.00
Phenanthrene	2,600.00		2,600.00	
Phenol	9,400.00		9,400.00	
Picloram			500.00	500.00
Polychlorinated Biphenyls (PCBs)			0.50	0.50
Pyrene	190.00		190.00	
Simazine			4.00	4.00
Toxaphene			3.00	3.00
2,3,7,8-TODD (Dioxin)			0.00003	0.00003
TRIHALOMETHANES (THMs)				
Total Trihalomethanes			100.00	100.00
INORGANIC COMPOUNDS (METALS)				
Aluminum	16,000.00		16,000.00	
Antimony	6.20		6.20	6.00
Arsenic			50.00	50.00
Asbestos**			7.00	7.00
Barium			2,000.00	2,000.00
Beryllium	79.00	0.47	0.47	4.00
Cadmium			5.00	5.00
Chromium			100.00	100.00
Cobalt	940.00		940.00	
Cyanide	310.00		310.00	200.00
Fluoride	940.00		940.00	4,000.00
Lead*				15.00
Mercury			2.00	2.00
Nickel (soluble salts)			100.00	100.00
Nitrate (as N)			10,000.00	10,000.00
Nitrate-Nitrite (as N)			10,000.00	10,000.00
Nitrite (as N)			1,000.00	1,000.00
Selenium	78.00		78.00	50.00
Silver	78.00		78.00	
Thallium	1.20		1.20	2.00
Vanadium	110.00		110.00	
Zinc	4,700.00		4,700.00	

*Do not use chemical in multi-chemical adjustment.

**Units for this standard are in million fibers per liter for all fibers longer than ten micrometers in length.

8.0 DATA VALIDATION/ASSESSMENT

8.1 Data Reduction

Analytical results will be reduced to the concentration units using the equations specified in the analytical procedure. Senior laboratory staff will check the calculations.

8.2 Data Review

Each laboratory section will provide extensive data review prior to reporting results. In general, there are three levels of data review.

The analyst will be responsible for primary review of data generated from sample analysis. If recoveries of the quality control samples are within the method-specified tolerances, then the data will be presented to data review groups for secondary review. If recoveries of any quality control samples exceed specified tolerances, affected samples will be re-analyzed.

Data review groups will conduct secondary review to determine if the analytical results are acceptable. If recoveries of the quality control samples are within the method-specified tolerances, then the data will be presented to laboratory project managers for final review. If recoveries of quality control samples exceed the specified tolerances, affected samples will be re-analyzed.

Final review of analytical results will consist of the Laboratory Project Director's determination that the analytical results of a sample(s) are consistent. If so, the data will be presented in a final report. If discrepancies or deficiencies exist in the analytical results, corrective action will be taken. Audits of final reports by the Laboratory Quality Assurance Officer may be conducted to determine the precision, accuracy, completeness, and representativeness of sample analyses. Detailed information on method-specific data review procedures can be found in the subcontracted analytical laboratory's SOPs.

8.3 Data Reporting

Data reporting will be in accordance with the appropriate laboratory SOP used for analysis. Laboratory reports shall, at a minimum, include the following:

1. narrative including statement of samples received, description and rationale for any deviations from approved methods/SOPs, summary of data quality, and documentation of any significant problems encountered during analysis;
2. documentation of laboratory events including dates of sample receipt, sample extraction, and sample analysis;
3. analytical data including results, detection limits, dilutions, etc.;
4. a summary of QA/QC results and supporting documentation; and
5. a copy of the signed C-O-C for samples submitted for analysis.

The laboratory's QAO and/or the laboratory director should sign the laboratory reports prior to issue. Reports will be issued to SRW-Hull's QAO. Any draft reports should be clearly identified.

8.4 Data Validation

Analytical data will be reviewed according to the laboratory's data validation procedures outlined in their QAPP. After passing internal data validation, the data will be reported to SRW-Hull's QAO. Data will be reviewed by SRW-Hull's QAO to determine that proper preservation, holding times, and sample analysis procedures have been followed and are clearly documented. The recoveries of surrogates and the internal standards will be checked to ensure accuracy goals have been met. The results of matrix spike/matrix duplicate analysis will be checked to ensure precision goals have been met. Additionally, the analytical results will be reviewed and compared to previous data, if any. Any questions regarding the data will be brought to the laboratory project manager's attention. Detailed information on method-specific data validation procedures can be found in the subcontracted analytical laboratory's SOPs. If additional data validation is deemed necessary, the data will be submitted for validation to an independent third-party data validator. The analytical laboratory is required to address any comments and correct any deficiencies identified in the data validation report.

Data generated from the mobile laboratory field GC procedure will be reviewed by the GC operator and the Project Manager in the field.

8.5 Data Quality Assessment

The Data Quality Assessment (DQA) involves five steps that begin with a review of the planning documentation and end with an answer to the question posed during the planning phase of the study. The five steps are briefly summarized below:

1. **Review the Data Quality Objectives (DQOs) and Sampling Design:** Review the DQOs to assure they are still applicable and the data meets the objectives. Review the sampling design and data collection documentation for consistency with the DQOs. If DQOs are not met, additional samples may be required or DQOs may require modification.

2. **Conduct a Preliminary Data Review:** Review QA reports, plot data on a site map, calculate basic statistics, and generate graphs of the data. Suspect results could include estimated values or elevated detection limits caused by matrix interference; results which exceed Ohio VAP standards; background values which exceed site data; spatial variability, or detections of compounds and/or concentrations which are not supported by field observations. Field QA/QC (duplicates and blanks) will be checked. Duplicate samples will be compared for precision of data; blanks will be checked for contaminants.

   Suspect data values may be evaluated by a variety of methods. Such methods include:

   - re-verify sample location with field notes,
   - question field sampler to identify any unusual field characteristics that may not have been notable at the time of collection,
   - verify sample collection techniques and handling procedures,
   - verify chain-of-custody documentation,
   - re-analysis of the sample by the analytical laboratory,
   - re-collect and re-analyze sample.

3. **Select the Statistical Test:** The most appropriate procedures or statistical tests for evaluating, analyzing, and summarizing the data, based on the review of the DQOs, the sampling design, the objectives of the test, and the preliminary data review will be selected and utilized. Common objectives of the statistical tests are to determine background concentrations, compare site concentrations to

background, compare site data to previously generated data, and determine source variability.

In addition, the statistical hypothesis to be used in the tests will be selected, as well as the underlying assumptions. The hypothesis will be based on the objective of the statistical test but consist of one or two basic assumptions. Typically, this is the null hypothesis such as two populations are equal; and the alternative hypothesis such as two populations are not equal. Other types of assumptions are the data are normal, log normal, the variances are equal, or the means are equal.

4. **Verify the Assumptions of the Statistical Test:** Evaluate whether the underlying assumptions and hypothesis are valid, or whether departures are acceptable, given the actual data, the results of the statistical test, and other information about the study.

   Once the data set is identified, the data can be statistically analyzed. The first step in the data evaluation process is to determine the normality of the data. Data normality is commonly determined from the Shappirro-Wilks test. Data outliers are commonly identified through the Grubbs or Dixon test.

5. **Draw Conclusions from the Data:** Perform the calculations required by the statistical test and document the inferences drawn as a result of the calculations. Commonly Upper Confidence Levels (UCL) are established for the individual parameters. Once the UCLs are determined, data are compared against established standards.

These five steps are presented in a linear sequence, but the DQA process is, by its very nature, iterative. For example, if the preliminary data review reveals patterns or anomalies in the data set that are inconsistent with the DQOs, then some aspects of the study planning may have to be reconsidered. Likewise, if the underlying assumptions of the statistical test are not supported by the data, then previous steps of the DQA process may have to be revisited.

9.0 INTERNAL QUALITY CONTROL

9.1 General

The purpose of internal quality control measures is to document the validity of analytical data generated by the laboratory. Laboratory internal quality control may include, but is not limited to, the analysis of method blanks, reference standards, analytical spikes, and surrogate spikes. Every analytical series will include some of these controls depending on the analytical methods used. The internal quality controls used by the laboratory will be combined so they are completely representative of every aspect of the analytical task from sample preparation to sample analysis.

The following sections present a summary of, and suggested frequencies for, various quality control measures that may be used dependent upon the analytical method(s) selected. The laboratory's QAPP, located in Appendix 1, presents the actual quality control measures and frequencies that will be employed by the laboratory.

9.2 Blank Samples

Blanks are used to assess contamination introduced in transit, storage, or in the laboratory. The types and frequencies of laboratory blank samples are specified in the laboratory SOP for the specific methods used for analysis.

9.2.1 Method Blanks

Method blanks identify sources of contamination throughout the analytical process, whether a contribution of specific analytes or a source of interference, which will need to be identified, isolated, and corrected. To accomplish this, the method blank must be initiated at the beginning of the analytical process and include all aspects of the analytical work. This includes glassware, reagents, and instrumentation, as well as any other possible source of contamination. Minimum method blank analyses will be one method blank per analytical series at a frequency of one per 20 samples.

9.2.2 Container Blank

The same concept for the method blank will apply to the sample bottles furnished from the laboratory. The frequency of analysis will extend to each lot of processed sample containers. At a minimum, the analysis of a container blank should be performed whenever the preparation process, preservation reagent, or the type of container changes. It should be noted that these procedures are only applicable to analytical containers processed (i.e., cleaned and prepared) by the analytical subcontractor.

9.2.3 Holding Blanks

Another type of method blank is a holding blank. Holding blanks are associated with volatile organic analyses and indicate possible cross-contamination among samples while stored at the laboratory.

9.3 Reference Standards

Reference standards are standards of known concentration and independent in origin from the calibration standards. These reference standards are generally available through the U.S. EPA, the NIST, or are specified by analytical methodologies. The purpose of a reference standard is to assess analytical proficiency within an analytical series including the preparation of calibration standards, the validity of calibration, sample preparation, instrument setup, and the premises inherent in quantitation. Reference standards will be used in every analytical series except GC/MS and specific GC analyses, for which there are no reference standards. Typically, reference standards are run at a rate of one per every 20 samples, or batch, whichever is more frequent.

A control chart will be maintained for analytes in which reference standards are used in their analyses. When a reference standard value exceeds the established warning limits, careful scrutiny will be given to the operations system, standards preparation, and procedures that were used in obtaining the result. If the value of the reference standard exceeds the established control limits, then the sample analysis will be stopped and corrective action will be initiated. Samples analyzed since the last passing reference standard will be re-analyzed following instrument recalibration.

9.4 Analytical Spikes

The purpose of an analytical spike is to assess the efficiency and proficiency of an analytical series. This includes quantitation standards, sample preparation, instrument setup, and the premises inherent in quantitation. This control reflects the competency of sample analysis within an analytical series, while it is less sensitive in reflecting the conditions that are within the control of the analyst. The types and frequencies of analytical spikes are specified by the laboratory SOP for the methods used for analysis.

9.4.1 Matrix Spike

Within an analytical series, a representative sample portion is designated as a separate sample and spiked with known concentrations of the analytes under consideration. Advantages of spikes are that the spiked portion is handled and prepared in exactly the same way as the samples. Sample-related interference affecting analysis will be reflected in the results from the spiked sample. Results of spikes exceeding tolerances specified by the methods need to be evaluated thoroughly in conjunction with other measures of control.

9.4.2 Surrogate Spike

Surrogates, which have properties similar to the analytes of interest, are compounds unlikely to be found in nature. The intent of a surrogate spike is to provide broader insight to the proficiency and efficiency of an analytical method on a sample-specific basis. This control reflects analytical conditions which may not be attributable to the sample matrix. If results of a surrogate spike analysis exceed method-specified tolerances, then the analytical results need to be evaluated thoroughly in conjunction with other control measures. Re-analysis of the sample with additional controls, or different analytical methodologies, will be necessary.

9.5 Replicate Analysis

Replicate analysis is a measure of analytical precision and can be limited in its scope. If used in conjunction with reference standards or analytical spikes, it can measure the reliability of the analytical

systems. Replicate analyses can be significant in the interpretation of analytical results for samples with complex matrices.

9.6 Calibration Check Standards

The purpose of a calibration check standard is to assess an instrument's stability. A calibration check standard will be analyzed at the beginning and end of an analytical series or periodically throughout large series of samples. A calibration check standard is run at the beginning of a batch, every 20 samples, and at the conclusion of the batch. If results of the calibration check standard exceed method-specified tolerances, then samples analyzed since the last acceptable calibration check standard will be re-analyzed.

9.7 Internal Standards

Internal standards will be monitored as required by the laboratory SOP for the analytical test method. The response of each internal standard is monitored and must fall within 50% to 200% of its value in the preceding calibration check standard. If internal standard areas in one or more samples exceed the specified tolerances, then the instrument will be recalibrated and all affected samples re-analyzed.

10.0 PERFORMANCE AND SYSTEM AUDITS

10.1 General

Performance and system audits of both field and laboratory activities will be conducted to verify that sampling and analysis are performed within the constraints of this plan. These audits can either be conducted internally by field or laboratory staff or externally by state or federal agencies. The laboratory will participate in any performance or system audit conducted or requested by SRW, appropriate state agencies, or the U.S. EPA. In order for a Certified Laboratory to maintain its VAP certification, they must complete an onsite audit by the Ohio EPA. Additionally, Certified Laboratories must demonstrate method proficiency by analyzing semi-annual performance evaluation samples. The analytical laboratory subcontractor's VAP certification is provided in Appendix 3.

10.2 Performance Audits

Performance audits will be conducted periodically to determine the accuracy of the total measurement system(s) or components. In this program, blind performance evaluation samples, submitted by state and federal agencies, are analyzed and evaluated throughout the year as part of an ongoing participation in their certification programs. Any deficiencies in the results of these analyses are reported to the laboratory and corrective action is initiated.

In addition to blind sample analyses, the laboratory will also participate in any audits from state and federal agencies. These agencies submit a report noting any deficiencies and necessary corrective action. The laboratory will respond with evidence of compliance within a limited time.

The laboratory also maintains a schedule of internal audits whereby the Laboratory Quality Assurance Officer audits each section of the laboratory. When the audit is completed, a formal report will be issued to the Laboratory Director. This report shall note any deficiencies and a follow-up date to confirm corrective action.

10.3 System Audits

A system audit is an evaluation of the various components of the measurement system to asses their proper selection and use. This includes a careful evaluation of all laboratory quality control measures. System audits will be conducted internally by the laboratory.

10.4 Field Audits

SRW-Hull's QAO or his designee will conduct internal audits of field activities involving sampling and measurements. These audits will include a thorough examination of field sampling records, field instrument operating records, sample collection, shipping and handling, C-O-C, etc. These audits will occur at the onset of the project to verify that the established procedures are followed. Follow-up audits will be conducted to correct deficiencies, and to verify the QA/QC procedures are being maintained throughout the project. When an audit is completed, a written report will be submitted to the Project Manager.

SRW-Hull personnel will participate in any external audit requested by state and federal agencies. The results and recommendations of any external audit should be reported to SRW-Hull's QAO and/or Project Manager in a timely manner so that corrective actions may be initiated.

10.5 Internal Audits

SRW-Hull's QAO or his designee will conduct internal audits of activities involving the calibration and documentation of field equipment, sample ID numbers, review of field logbooks and field reports, and data validation. These audits will be performed at any time throughout a project. A written report will be submitted to the Project Manager reporting findings of the audit. Corrective actions and follow-up audits will be conducted as necessary.

11.0 PREVENTATIVE MAINTENANCE

Field instruments and equipment will be maintained and serviced according to the manufacturer's instruction manual. It is a requirement of the VAP that maintenance records be kept for the field instrumentation. A maintenance record for each instrument will be maintained either in the equipment files or in the calibration logbook or both. These records will include dates and descriptions of service and preventive maintenance. Major maintenance on any environmental instruments will only be performed by the manufacturer or trained technicians. Field personnel will be responsible for daily maintenance of the equipment in their possession. Critical spare parts (e.g., batteries/chargers, probes, screws, etc.) and tools will be kept with the equipment. Equipment problems will be reported to the QAO or the PM immediately.

Laboratory instruments will be maintained and serviced according to the individual instrument manuals. The laboratory's preventative maintenance procedures are documented in their QAPP (Appendix 1) or in the method-specific SOPs.

Maintenance procedures for the field GCs are documented in Section 4.4 of the Field Gas Chromatograph SOP.

TABLE 11-1

PREVENTATIVE MAINTENANCE FOR FIELD INSTRUMENTS

INSTRUMENTS	MAINTENANCE PROCEDURES/SCHEDULE	SPARE PARTS IN STOCK
MicroFID Flame Ionization Detector	1. Calibrate beginning and end of each day and as necessary during use. 2. Check battery, and recharge when low. 3. Replace sample inlet filter weekly. 4. Purge hydrogen tank prior to transport, if possible.	1. Battery charger 2. Spare gas bag for zero air 3. Spare inlet filters 4. Charcoal filters and fittings 5. Spare battery
Foxboro Model OVA 128 Flame Ionization Detector	1. Calibrate beginning and end of each day, and as necessary during use. 2. Check battery, and recharge when low. 3. Replace air inlet seals as indicated by flow gauge. 4. Replace porous metal particle filters as needed.	1. Battery charger 2. Spare dust filters. 3. Spare inlet filters 4. Spare teflon seals
pH Meter	1. Calibrate beginning and end of each day, and as necessary during use. 2. Replace electrodes as needed.	1. pH buffers 2. Batteries 3. Spare electrodes
Conductivity Meter	1. Calibrate beginning and end of each day, and as necessary during use. 2. Check redline and replace batteries if does not calibrate.	1. Batteries
HNu Model Photoionization Detector	1. Calibrate beginning and end of each day, and as necessary during use. 2. Check battery, and recharge when low. 3. Clean UV lamp, ion chamber, and fan if calibration falls outside 10% of the calibration standard, or if readings are erratic.	1. Battery charger 2. Spare lamps

12.0 SPECIFIC ROUTINE PROCEDURES USED TO ASSESS DATA PRECISION, ACCURACY, AND COMPLETENESS

12.1 Precision

Precision is a measure of agreement between repetitive measurements under identical conditions. The overall precision of measurement data is a mixture of sampling and analytical factors. Analytical precision is much easier to control and quantify than sampling precision. Sampling precision may be determined by analyzing duplicates or replicate field samples and then creating and analyzing laboratory replicates from one or more of the field samples. The analytical results from the field duplicates or replicates provide data on overall measurement precision. Analytical results from the laboratory replicates provide data on analytical precision. Sampling precision can be calculated by subtracting the analytical precision from the overall measurement precision. For organic analyses, precision is reported as the Relative Percent Difference (%RPD) between matrix spike and matrix spike duplicate analysis. For metal analyses, precision is reported as %RPD between two duplicate samples. Acceptable limits for precision are specified by the U.S. EPA method. In the presence of outliers, corrective action will be taken including repairing instruments and/or re-analysis of the affected sample or samples. The following equation will be used in calculating %RPD:

$$\%RPD = \frac{D_1 - D_2}{\frac{(D_1 + D_2)}{2}} \times 100$$

Where:

RPD = Relative Percent Difference

D_1 = First Sample Value

D_2 = Second Sample Value (duplicate)

Additional information on laboratory precision can be found in the method-specific SOPs.

12.2 Accuracy

Accuracy is the difference between a measured value and the actual value, or the bias in a measurement system. Accuracy is difficult to measure for the entire data collection activity. Sources of error are the sampling process, field contamination, preservation, handling, sample matrix, sample preparation, and analysis techniques. Sampling accuracy can be assessed by evaluating the results of field and trip blanks. For the analytical procedures to be used, accuracy is assessed by Matrix Spike Percent Recovery (MSPR). Acceptable limits for accuracy are specified by the U.S. EPA method. If the MSPR is outside the acceptable limits, corrective action will be taken including fixing instruments and/or re-analysis of the affected sample or samples. MSPR will be calculated by the following equation:

$$MSPR = \frac{SSR - SR}{SA} \times 100$$

Where:

MSPR = Matrix Spike Percent Recovery
SSR = Spike Sample Results
SR = Sample Results
SA = Spike Added (concentration)

Additional information on laboratory accuracy can be found in the method-specific SOPs.

12.3 Completeness

Completeness will be reported as the percentage of the measurements judged to be valid. Completeness goals for this project are presented in Section 3.5. Completeness will be calculated by the following equation:

$$\%C = \frac{M_{valid}}{M_{total}} \times 100$$

Where:

%C = completeness (percent)
M_{valid} = number of valid measurements
M_{total} = total number of measurements

13.0 CORRECTIVE ACTION

13.1 General

Corrective actions may be required for either analytical and equipment problems or noncompliance problems. Analytical and equipment problems may occur during sampling and sample handling, sample preparation, laboratory analysis, and data review. Noncompliance problems are often associated with nonconformance to this plan or the U.S. EPA methods being used.

13.2 Laboratory Corrective Action

When deficiencies or "out-of-control" situations exist, the laboratory will provide a means of detecting and correcting these situations. An "out-of-control" situation is defined as data exceeding Control limits. Samples analyzed during "out-of-control" situations will be re-analyzed prior to reporting results. The laboratory's corrective action procedures are documented in their QAPP (Appendix 1) and their method-specific SOPs. In general, there are several levels of "out-of-control" situations that may occur in the laboratory during analysis.

13.2.1 Bench Level

Corrective action procedures will often be handled at the bench level. If an analyst finds a non-linear response during calibration of an instrument, then the instrument will be recalibrated before sample analysis. The problem may be corrected by a careful examination of the preparation or extraction procedure, spike and calibration mixes, or instrument sensitivity. If the problem persists, it will be brought to the management level.

13.2.2 Management Level

If resolution at the bench level was not achieved, or a deficiency is detected after the data has left the bench level, then corrective action becomes the responsibility of the Laboratory Manager or Director. Unacceptable matrix or surrogate spike recoveries detected by data review will be reported to the

Laboratory Manager. A decision to re-analyze the sample or report results will be made depending on the circumstance.

13.2.3 Receiving Level

If discrepancies exist in either the documentation of a sample or its container, a decision will be made after consulting with the appropriate management personnel. Decisions will be fully documented. Some examples of container discrepancies are broken samples, inappropriate containers, or improper preservation. In these cases, corrective action will involve the Laboratory Project Manager contacting SRW-Hull's QAO.

13.3 Field Corrective Action

Corrective actions for field equipment problems will consist of reporting the problem to the PM and/or the QAO so that maintenance can be performed or new equipment can be acquired. Noncompliance problems will be reported immediately to the QAO. The QAO will consult with the PM, and corrective actions will be initiated. Corrective actions may include resampling when necessary to meet the data quality objectives defined in the property-specific Work Plan. The nature, extent, and corrective action for all noncompliances will be documented.

13.3.1 Field Procedure Corrective Action

Corrective actions of for field procedures (well installation, purging, development, sampling, etc.) will consist of ceasing the task and reviewing of the appropriate SOP with field personnel. If a discrepancy is discovered after the work is performed, the procedure employed will be reviewed by the QAO and a determination made as to the validity on the data generated. The resultant data may be validated or the task repeated and new data collected.

14.0 QUALITY ASSURANCE REPORTS TO MANAGEMENT

14.1 Internal Laboratory Reporting

The Laboratory Quality Assurance Officer will report the status of the laboratory QA/QC program to the laboratory management. Each report should include:

1. periodic assessment of measurement data accuracy, precision, and completeness;
2. results of audits;
3. significant QA/QC problems and recommended solutions; and
4. resolutions of previously stated problems.

The laboratory will determine the content and frequency of these reports in accordance with its QAPP (Appendix 1) and its SOPS. The laboratory will report to SRW-Hull's QAO if the laboratory's internal quality control issues have affected the results of SRW-Hull's samples.

14.2 Additional Reporting

Laboratory analytical reports will include a summary of the quality assurance activities and quality control data for the project as related to sample analysis. The Laboratory Project Manager will report suspected field QA/QC problems to SRW-Hull's QAO. SRW-Hull's QAO will report to SRW-Hull's PM when appropriate. These reports may be either oral or written depending upon the nature and complexity of the issues in the report. In addition, a final Phase II report will be prepared and submitted to the City and the U.S. EPA.

14.3 Internal Reporting

SRW-Hull's QAO will report any known issues potentially affecting the quality of the analytical or field data directly to the PM. The PM is responsible for further dissemination of these reports.

15.0 REFERENCES

A variety of technical manuals, administrative documents, and publications were referred to in preparing this document. Some of the references consulted are presented below. Referenced documents and publications may or may not have been reviewed in their entirety. The guidelines and procedures presented in the documents and publications referenced have not been strictly adhered to unless stated otherwise.

U.S. EPA. Guidance for Data Quality Assessment: Practical Methods for Data Analysis. EPA/600/R-96-084. January 1998.

U.S. EPA. Quality Assurance Guidelines for Conducting Brownfields Site Assessments. EPA/540/R-98-038. September 1998.

U.S. EPA. EPA Requirements for Quality Assurance Project Plans for Environmental Data Operations. EPA QA/R-5 QAPP. Draft Final, October 1997.

U.S. EPA. Guidance for the Data Quality Objectives Process. EPA/600/R-96/055. September 1994.

U.S. EPA. Interim Guidelines and Specifications for Preparing Quality Assurance Project Plans. EPA/600/4-83-004. February 1983.

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APPENDIX H

BORING AND WELL LOGS

STRATIGRAPHIC AND INSTRUMENTATION LOG
(OVERBURDEN)

PROJECT NAME: Delphi Harrison RFI
PROJECT NUMBER: 12638-04
CLIENT: REALM
LOCATION: Dayton, Ohio

HOLE DESIGNATION: SB-01
DATE COMPLETED: April 2, 2002
DRILLING METHOD: 2 1/4"ID HSA
FIELD PERSONNEL: JASON CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	GROUND SURFACE	741.06						
	CONCRETE	740.23	CONCRETE					
2	SM - SAND and SILT, very fine to fine grained sand, poorly graded, dry			1SS		67	>50	0
4			BENTONITE	2SS		0	R	0
	SW - SANDand SILT, trace silt, trace gravel, cohesive, medium to fine grained sand, poorly graded, brown, dry	736.06						
6				3SS		50	77	0
			6" Ø BOREHOLE					
8				4SS		0	R	0
10				5SS		55	31	0
	- wet at 11.5ft BGS		▽					
12				6SS		100	22	0
	END OF BOREHOLE @ 13.0ft BGS	728.06						
14								
16								
18								
20								
22								
24								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638.GPJ CRA_CORP.GDT 5/10/02

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Delphi Harrison RFI
PROJECT NUMBER: 12638-04
CLIENT: REALM
LOCATION: Dayton, Ohio

HOLE DESIGNATION: SB-02
DATE COMPLETED: April 3, 2002
DRILLING METHOD: 2 1/4"ID HSA
FIELD PERSONNEL: JASON CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	GROUND SURFACE	741.06						
	CONCRETE		CONCRETE					
	SM - SILT, trace very fine sand, some gravel, poorly graded, brown, dry	740.23						
2				1SS		33	R	0
4			BENTONITE	2SS		33	51	0
6				3SS		33	52	0
			6" Ø BOREHOLE					
8				4SS		9	R	0
	- clay increase, more gravel at 9.0ft BGS							
10				5SS		18	28	0
	- wet at 11.5ft BGS		▽					
12				6SS			20	0
	END OF BOREHOLE @ 13.0ft BGS	728.06						
14								
16								
18								
20								
22								
24								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638.GPJ CRA_CORP.GDT 5/15/02

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Delphi Harrison RFI
PROJECT NUMBER: 12638-04
CLIENT: REALM
LOCATION: Dayton, Ohio

HOLE DESIGNATION: SB-03
DATE COMPLETED: April 3, 2002
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: N. ZIEGLER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	GROUND SURFACE	741.11						
	CONCRETE	740.28	CONCRETE					
2	SW - SAND, little fine to coarse subrounded/subangular gravel, fine, brown, dry			1GP				31.2
4			BENTONITE					
6				2GP				
8								480
10	- increasing silty clay at 10.0ft BGS		2" Ø BOREHOLE	3GP				1595
12								
	GW/GC - SILTY CLAY and GRAVEL, fine to coarse gravel, gray, moist	728.11						
14				4GP				
			▽					123.7
16	END OF BOREHOLE @ 16.0ft BGS	725.11						
18								
20								
22								
24								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638.GPJ CRA_CORP.GDT 5/10/02

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Delphi Harrison RFI
PROJECT NUMBER: 12638-04
CLIENT: REALM
LOCATION: Dayton, Ohio

HOLE DESIGNATION: SB-04
DATE COMPLETED: April 3, 2002
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: N. ZIEGLER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	GROUND SURFACE	741.14						
0	CONCRETE	740.31	CONCRETE					
2	SW - SAND, little fine to coarse subrounded gravel, fine, grey, dry			1GP				0
4			BENTONITE					
6				2GP				0
8			2" Ø BOREHOLE					
10	CL - SILTY CLAY, trace gravel, brown and black, moist	731.14		3GP				0
12	SW - SAND, little fine to coarse subrounded gravel, fine, gray, dry	729.64						
14	- wet at 14.5ft BGS		▽	4GP				0
16	END OF BOREHOLE @ 16.0ft BGS	725.14						
18								
20								
22								
24								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638.GPJ CRA_CORP.GDT 5/10/02

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Delphi Harrison RFI
PROJECT NUMBER: 12638-04
CLIENT: REALM
LOCATION: Dayton, Ohio

HOLE DESIGNATION: SB-05
DATE COMPLETED: April 3, 2002
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: N. ZIEGLER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	GROUND SURFACE	741.09						
0	CONCRETE	740.26	CONCRETE					
2	SW - SAND, little fine to coarse gravel, fine, gray, dry			1GP				0
4			BENTONITE					
6				2GP				0
8	CL - SANDY CLAY, fine sand, cohesive, gray, moist	734.09	2" Ø BOREHOLE					
10				3GP				39.9
12	- wet at 12.0ft BGS		▽					
14	SW - SAND, little fine to coarse gravel, fine, gray, dry	727.59		4GP				0
16	END OF BOREHOLE @ 16.0ft BGS	725.09						
18								
20								
22								
24								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638.GPJ CRA_CORP.GDT 5/10/02

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Delphi Harrison RFI
PROJECT NUMBER: 12638-04
CLIENT: REALM
LOCATION: Dayton, Ohio

HOLE DESIGNATION: SB-06
DATE COMPLETED: April 3, 2002
DRILLING METHOD: 2 1/4"ID HSA
FIELD PERSONNEL: JASON CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	GROUND SURFACE	741.04						
	CONCRETE	740.21	CONCRETE					
	SP - SAND, fine to medium to coarse sand, poorly graded, brown, dry			1SS		25	>50	0
			BENTONITE	2SS		12	R	0
	CL/ML - CLAY and SILT, some medium poorly graded gravel and sand, cohesive, brown, moist	735.04	6" Ø BOREHOLE	3SS		75	49	30.1
				4SS		85	44	0
				5SS		40	19	0
	SM/GM - SAND and GRAVEL, trace silt, cohesive, medium sand, poorly graded, brown, dry	729.04		6SS		33	30	0
	- wet at 13.0ft BGS	728.04	▽					
	END OF BOREHOLE @ 13.0ft BGS							

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638.GPJ CRA_CORP.GDT 5/10/02

STRATIGRAPHIC AND INSTRUMENTATION LOG
(OVERBURDEN)

PROJECT NAME: Delphi Harrison RFI
PROJECT NUMBER: 12638-04
CLIENT: REALM
LOCATION: Dayton, Ohio

HOLE DESIGNATION: SB-07
DATE COMPLETED: April 3, 2002
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: N. ZIEGLER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	GROUND SURFACE	741.02						
0	CONCRETE		CONCRETE					
	SW - SAND, little fine gravel, fine, gray, dry	740.19		1GP				0
2								
4			BENTONITE					
6				2GP				0
8			2" Ø BOREHOLE					
10				3GP				0
12								
14				4GP				0
	- wet at 15.0ft BGS		▽					
16	END OF BOREHOLE @ 16.0ft BGS	725.02						
18								
20								
22								
24								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638.GPJ CRA_CORP.GDT 5/10/02

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Delphi Harrison RFI
PROJECT NUMBER: 12638-04
CLIENT: REALM
LOCATION: Dayton, Ohio

HOLE DESIGNATION: SB-08
DATE COMPLETED: April 4, 2002
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: JASON CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	GROUND SURFACE	741.03						
0	CONCRETE		CONCRETE					
		740.20						
	SP - SAND, medium to coarse sand, poorly graded, brown, dry			1GP		33		0
2								
4			BENTONITE					
		736.03						
	SP/GP, SAND and GRAVEL, fine gravel, medium to coarse sand, poorly graded, brown, dry			2GP		75		0
6								
8			2" Ø BOREHOLE					
		732.03						
	GW/SM - GRAVELLY SAND and SILT, fine gravel, fine to medium to coarse sand, cohesive, some dark soil, tan, moist			3GP		100		55
10								
12								
								85
14				4GP		100		
	- wet at 15.0ft BGS		▽					
16								
	END OF BOREHOLE @ 16.0ft BGS	725.03						
18								
20								
22								
24								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

STRATIGRAPHIC AND INSTRUMENTATION LOG
(OVERBURDEN)

PROJECT NAME: Delphi Harrison RFI
PROJECT NUMBER: 12638-04
CLIENT: REALM
LOCATION: Dayton, Ohio

HOLE DESIGNATION: SB-09
DATE COMPLETED: April 4, 2002
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: JASON CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	GROUND SURFACE	741.07						
0	CONCRETE	740.24	CONCRETE					
2	SP - SAND, loose, medium to coarse sand, poorly graded, brown, dry			1GP		63		0
4			BENTONITE					
6	SP/GP - SAND and GRAVEL, trace silt, loose, medium to coarse sand, fine gravel, poorly graded, tan brown, dry	736.07		2GP		100		0
8			2" Ø BOREHOLE					
10				3GP		100		0
12								
14	- wet at 14.5ft BGS		▽	4GP		25		445
16	END OF BOREHOLE @ 16.0ft BGS	725.07						
18								
20								
22								
24								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638.GPJ CRA_CORP.GDT 5/10/02

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Delphi Harrison RFI
PROJECT NUMBER: 12638-04
CLIENT: REALM
LOCATION: Dayton, Ohio

HOLE DESIGNATION: SB-10
DATE COMPLETED: April 4, 2002
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: JASON CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	GROUND SURFACE	741.08						
	CONCRETE	740.25	CONCRETE					
2	SP/GP - SAND and GRAVEL, loose, medium to coarse sand, fine gravel, poorly graded, brown-gray, moist			1GP		50		0
4			BENTONITE					
6				2GP		75		0
8			2" Ø BOREHOLE					
10	SM - SAND and SILT, cohesive, medium to fine grained sand, poorly graded, brown, moist	731.08		3GP		75		0
12	SP - SAND, loose, fine to medium grained sand, poorly graded, brown, moist	730.08						
14	ML- SILT, trace sand, cohesive, soft, gray brown, moist	728.08		4GP		75		
	GP - GRAVEL, loose, fine to coarse gravel, poorly graded, tan, wet	726.58	▽					
16	GP/SP - SAND and GRAVEL, loose, fine grained gravel, coarse sand, poorly graded, gray, wet	725.38						66.7
	END OF BOREHOLE @ 16.0ft BGS	725.08						
18								
20								
22								
24								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638.GPJ CRA_CORP.GDT 5/10/02

STRATIGRAPHIC AND INSTRUMENTATION LOG
(OVERBURDEN)

PROJECT NAME: Delphi Harrison RFI
PROJECT NUMBER: 12638-04
CLIENT: REALM
LOCATION: Dayton, Ohio

HOLE DESIGNATION: SB-11
DATE COMPLETED: April 4, 2002
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: JASON CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	GROUND SURFACE	741.06						
0	CONCRETE	740.23	CONCRETE					
	GW/SW - SAND and GRAVEL, medium to coarse sand, fine gravel, well graded, brown-tan, moist	739.06		1GP		75		0
2	SM - SAND and SILT, trace gravel, cohesive, medium poorly graded sand, brown, moist		BENTONITE					
4								
6				2GP		100		0
8			2" Ø BOREHOLE					
10				3GP		100		0
12								
14				4GP		100		0
	SP/GP - SAND and GRAVEL, wet	726.06	▽					
16	END OF BOREHOLE @ 16.0ft BGS	725.06						
18								
20								
22								
24								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638.GPJ CRA_CORP.GDT 5/10/02

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Delphi Harrison RFI
PROJECT NUMBER: 12638-04
CLIENT: REALM
LOCATION: Dayton, Ohio

HOLE DESIGNATION: SB-12
DATE COMPLETED: April 4, 2002
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: JASON CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	GROUND SURFACE	739.11						
0	CONCRETE		CONCRETE					
	SM/GM - SANDY GRAVEL and SILT, cohesive, loose, medium, brown-tan, dry	738.28		1GP		63		0
2								
4			BENTONITE					
	ML - SILT, cohesive, poorly graded, brown, moist	734.11						
6	SP - SAND, loose, medium to coarse, poorly graded, light brown - tan, dry	733.11	2" Ø BOREHOLE	2GP		87		0
8								
10	SP/GP - SAND and GRAVEL, medium to coarse sand, fine gravel, poorly graded, brown, dry	729.11		3GP		75		0
	- wet at 11.5ft BGS		▽					
12	END OF BOREHOLE @ 12.0ft BGS	727.11						
14								
16								
18								
20								
22								
24								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638.GPJ CRA_CORP.GDT 5/10/02

STRATIGRAPHIC AND INSTRUMENTATION LOG
(OVERBURDEN)

PROJECT NAME: Delphi Harrison RFI
PROJECT NUMBER: 12638-04
CLIENT: REALM
LOCATION: Dayton, Ohio

HOLE DESIGNATION: SB-13
DATE COMPLETED: April 5, 2002
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: JASON CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	GROUND SURFACE	740.57						
	CONCRETE		CONCRETE					
	GC - GRAVELLY CLAY, trace fine sand, cohesive, fine gravel, brown, damp	739.74		1GP		50		0
2								
	ML - SILT, little gravel, fine sand, brown, damp	737.57	BENTONITE					
4								
6			2" Ø BOREHOLE	2GP		100		0
8	ML/GC - SILTY CLAY and GRAVEL, little sand, fine gravel, gray, dry	732.57						
10				3GP		75		0
12	- wet at 12.0ft BGS	728.57	▽					
	END OF BOREHOLE @ 12.0ft BGS							
14								
16								
18								
20								
22								
24								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638.GPJ CRA_CORP.GDT 5/10/02

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Delphi Harrison RFI
PROJECT NUMBER: 12638-04
CLIENT: REALM
LOCATION: Dayton, Ohio

HOLE DESIGNATION: SB-14
DATE COMPLETED: April 5, 2002
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: JASON CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	GROUND SURFACE	740.62						
0	CONCRETE	739.79	CONCRETE					
2	SW - SAND, little gravel, fine sand, brown, dry			1GP		50		0
4			BENTONITE					
6	SW/CL - SANDY CLAY, trace silt, fine sand, brown, moist	735.62	2" Ø BOREHOLE	2GP		87		0
8	SP/GP - SAND and GRAVEL, fine to medium sand, fine subangular to angular gravel	732.62						
10				3GP		87		0
12	END OF BOREHOLE @ 12.0ft BGS	728.62						
14								
16								
18								
20								
22								
24								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

OVERBURDEN LOG 12638.GPJ CRA_CORP.GDT 5/10/02

STRATIGRAPHIC AND INSTRUMENTATION LOG
(OVERBURDEN)

PROJECT NAME: Delphi Harrison RFI
PROJECT NUMBER: 12638-04
CLIENT: REALM
LOCATION: Dayton, Ohio

HOLE DESIGNATION: SB-15
DATE COMPLETED: April 5, 2002
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: JASON CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	GROUND SURFACE	740.63						
	CONCRETE	739.80	CONCRETE					
2	SP - SAND, trace fine gravel and silt, fine to medium sand, gray, dry			1GP		50		0
4			BENTONITE					
6				2GP		75		0
8			2" Ø BOREHOLE					
10	CL - CLAY, cohesive, hard, brown	730.63		3GP		75		0
12	SP/GP - GRAVELLY SAND, trace cobbles, fine to medium sand, fine to medium gravel, gray, dry	729.63						
14	- wet at 13.5ft BGS		▽	4GP		75		0
16	END OF BOREHOLE @ 16.0ft BGS	724.63						
18								
20								
22								
24								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

STRATIGRAPHIC AND INSTRUMENTATION LOG
(OVERBURDEN)

PROJECT NAME: Delphi Harrison RFI
PROJECT NUMBER: 12638-04
CLIENT: REALM
LOCATION: Dayton, Ohio

HOLE DESIGNATION: SB-16
DATE COMPLETED: April 8, 2002
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: JASON CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	GROUND SURFACE	742.21						
0	CONCRETE	741.38	CONCRETE					
	GP - GRAVEL, loose, fine, poorly graded, brown, moist	740.21		1GP		63		0
2	SP/GP - SAND and GRAVEL, compact, medium to coarse sand, fine gravel, poorly graded, brown to dark brown, dry		BENTONITE					
4								
6		735.71		2GP		87		0
	SP - SAND, some silt, cohesive, medium to coarse sand, poorly graded, brown, dry		2" Ø BOREHOLE					
8								
10		731.21		3GP		87		0
	SP/GP - SAND and GRAVEL, compact, medium to coarse sand, fine gravel, poorly graded, brown to dark brown, dry							
12								
14				4GP		87		0
	- wet at 15.0ft BGS		▽					
16	END OF BOREHOLE @ 16.0ft BGS	726.21						
18								
20								
22								
24								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638.GPJ CRA_CORP.GDT 5/10/02

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Delphi Harrison RFI
PROJECT NUMBER: 12638-04
CLIENT: REALM
LOCATION: Dayton, Ohio

HOLE DESIGNATION: SB-17
DATE COMPLETED: April 8, 2002
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: JASON CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	GROUND SURFACE	740.62						
0	CONCRETE		CONCRETE					
	SP/GP - SAND and GRAVEL, loose, medium to coarse sand, fine gravel, poorly graded, brown to tan, dry	739.79		1GP		50		0
2								
4			BENTONITE					
6	ML- SILT, trace fine sand, cohesive, soft, poorly graded, dark brown, damp	734.62		2GP		63		0
8			2" Ø BOREHOLE					
	SP/GP - SAND and GRAVEL, loose, medium to coarse sand, fine gravel, poorly graded, brown to tan, dry	731.62		3GP		75		0
10								
12	- wet at 12.0ft BGS		▽					
14				4GP		100		0
16	END OF BOREHOLE @ 16.0ft BGS	724.62						
18								
20								
22								
24								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638.GPJ CRA_CORP.GDT 5/10/02

STRATIGRAPHIC AND INSTRUMENTATION LOG
(OVERBURDEN)

PROJECT NAME: Delphi Harrison RFI
PROJECT NUMBER: 12638-04
CLIENT: REALM
LOCATION: Dayton, Ohio

HOLE DESIGNATION: SB-18
DATE COMPLETED: April 8, 2002
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: JASON CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	GROUND SURFACE	740.58						
	CONCRETE		CONCRETE					
	SP/GP - SAND and GRAVEL, loose, medium to coarse sand, fine gravel, poorly graded, dark brown/gray, moist	739.75		1GP		50		0
2								
4			BENTONITE					
6	ML/CL- SILT and CLAY, cohesive, trace fine sand, poorly graded, moist	734.58	2" Ø BOREHOLE	2GP		50		0
	SP/GP - SAND and GRAVEL, loose, medium to coarse sand, fine gravel, poorly graded, dark brown/gray, moist	733.08						
8								
10				3GP		75		
	- wet at 11.5ft BGS							
12	END OF BOREHOLE @ 11.5ft BGS	728.58	▽					28.4
14								
16								
18								
20								
22								
24								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638.GPJ CRA_CORP.GDT 5/10/02

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Delphi Harrison RFI
PROJECT NUMBER: 12638-04
CLIENT: REALM
LOCATION: Dayton, Ohio

HOLE DESIGNATION: SB-19
DATE COMPLETED: April 9, 2002
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: JASON CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	GROUND SURFACE	740.58						
	CONCRETE	739.75	CONCRETE					
2	SW - SAND and SILT, little fine gravel, fine to medium sand, black, damp			1GP		75		0
4			BENTONITE					
6				2GP		75		0
	SP/GP - SAND and GRAVEL, loose, medium to coarse sand, fine gravel, poorly graded, light brown, dry	734.08	2" Ø BOREHOLE					
8								
10				3GP		75		0
	- wet at 11.5ft BGS		▽					
12	END OF BOREHOLE @ 12.0ft BGS	728.58						
14								
16								
18								
20								
22								
24								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638.GPJ CRA_CORP.GDT 5/15/02

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Delphi Harrison RFI
PROJECT NUMBER: 12638-04
CLIENT: REALM
LOCATION: Dayton, Ohio

HOLE DESIGNATION: SB-20
DATE COMPLETED: April 9, 2002
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: JASON CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	GROUND SURFACE	741.11						
0	ASPHALT	740.91	ASPHALT					
	SP/GP - SAND and GRAVEL, loose, fine to medium sand, fine gravel, light brown to tan, dry							
		739.61						
2	SW - SAND, little fine gravel, fine, black, moist, trace brick			1GP		75		
4			BENTONITE					4.6
		736.11						
	CL- SILTY CLAY, cohesive, little gravel, little fine sand, black, damp							
6				2GP		100		5.1
8								
		732.11						
	SW - SAND, trace silt, cohesive, black							
10			2" Ø BOREHOLE	3GP		100		
								74.6
12								
14				4GP		100		
		726.11						178
	SP/GP - SAND and GRAVEL, trace cobbles, loose, medium to coarse sand, fine gravel, light brown to tan, dry							
16								
	- wet at 17.0ft BGS		▽					71.6
18				5GP		100		
		721.11						
20	END OF BOREHOLE @ 20.0ft BGS							
22								
24								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638.GPJ CRA_CORP.GDT 5/10/02

STRATIGRAPHIC AND INSTRUMENTATION LOG
(OVERBURDEN)

PROJECT NAME: Delphi Harrison RFI
PROJECT NUMBER: 12638-04
CLIENT: REALM
LOCATION: Dayton, Ohio

HOLE DESIGNATION: SB-21
DATE COMPLETED: April 9, 2002
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: JASON CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	GROUND SURFACE	746.00						
0	ASPHALT	745.80	ASPHALT					
	SW - SAND, loose, little fine gravel, fine to medium, black, dry			1GP		75		0
2								
4			BENTONITE					
6				2GP		75		0
8		737.50						
	ML/SL - SANDY SILT, little clay, cohesive, fine sand, black, moist							
10			2" Ø BOREHOLE	3GP		100		
12								12.7
		732.50						
14	SP/GP - SAND and GRAVEL, trace cobbles, medium to coarse sand, fine to coarse gravel, light brown, dry			4GP		100		
16								243
18				5GP				
	- wet at 19.0ft BGS		▽					58.4
20		726.00						
	END OF BOREHOLE @ 20.0ft BGS							
22								
24								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Delphi Harrison RFI
PROJECT NUMBER: 12638-04
CLIENT: REALM
LOCATION: Dayton, Ohio

HOLE DESIGNATION: SB-22
DATE COMPLETED: April 10, 2002
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: JASON CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	GROUND SURFACE	740.49						
	CONCRETE	739.99	CONCRETE					
	GC/CL - GRAVELLY CLAY, cohesive, fine gravel, light brown, damp			1GP		63		0
2								
4			BENTONITE					
6			2" Ø BOREHOLE	2GP		75		0
8								
	SP/GP - SAND and GRAVEL, trace clay, loose, fine to medium sand, fine gravel, light brown, dry	731.49						
10	SP - SAND, loose, fine to medium, poorly graded, black, dry - wet at 11.0ft BGS	730.49	▽	3GP		50		0
12	END OF BOREHOLE @ 12.0ft BGS	728.49						
14								
16								
18								
20								
22								
24								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638.GPJ CRA_CORP.GDT 5/10/02

STRATIGRAPHIC AND INSTRUMENTATION LOG
(OVERBURDEN)

PROJECT NAME: Delphi Harrison RFI
PROJECT NUMBER: 12638-04
CLIENT: REALM
LOCATION: Dayton, Ohio

HOLE DESIGNATION: SB-23
DATE COMPLETED: April 10, 2002
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: JASON CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	GROUND SURFACE	738.33						
	CONCRETE		CONCRETE					
	GP - GRAVEL, loose, fine poorly graded, brown, dry	737.50		1GP		25		0
2								
4			BENTONITE					
	GP/SP - SANDY GRAVEL, trace silt, loose, fine gravel, medium to coarse sand, poorly graded	733.33						
6				2GP		75		0
8			2" Ø BOREHOLE					
10				3GP		50		
	SP - SAND, loose, medium to coarse sand, poorly graded, brown, wet	727.33	▽					
12	GP/SP - SANDY GRAVEL, trace silt, loose, fine gravel, medium to coarse sand, poorly graded, black, odor	726.63 726.33						145
	END OF BOREHOLE @ 12.0ft BGS							
14								
16								
18								
20								
22								
24								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638.GPJ CRA_CORP.GDT 5/10/02

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Delphi Harrison RFI
PROJECT NUMBER: 12638-04
CLIENT: REALM
LOCATION: Dayton, Ohio

HOLE DESIGNATION: SB-24
DATE COMPLETED: April 10, 2002
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: JASON CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	GROUND SURFACE	738.26						
	CONCRETE	737.43	CONCRETE					
2	GP - GRAVEL, loose, trace coarse sand and gravel, fine, brown, dry			1GP		38		0
4			BENTONITE					
6				2GP		75		0
8			2" Ø BOREHOLE					
10	SP - SAND, trace fine gravel, loose, medium to coarse sand, brown/gray, dry	731.26						
12	SP/GP - SAND and GRAVEL, trace cobbles, loose, medium to coarse sand, fine to coarse gravel, brown, wet - wet at 11.0ft BGS - black/gray, wet at 11.5ft BGS	728.26	▽	3GP		63		134
	END OF BOREHOLE @ 12.0ft BGS	726.26						
14								
16								
18								
20								
22								
24								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638.GPJ CRA_CORP.GDT 5/10/02

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Delphi Harrison RFI
PROJECT NUMBER: 12638-04
CLIENT: REALM
LOCATION: Dayton, Ohio

HOLE DESIGNATION: SB-25
DATE COMPLETED: April 10, 2002
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: JASON CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	GROUND SURFACE	738.40						
0	CONCRETE		CONCRETE					
		737.57						
	CL - CLAY, trace silt, little coarse sand, cohesive, brown, damp			1GP		75		0
2								
4			BENTONITE					
		733.40						
	SP - SAND, loose, medium to coarse sand, light brown, dry							
6		732.40		2GP		75		0
	SP/GP - SAND and GRAVEL, loose, medium to coarse sand, fine to coarse gravel, light brown		2" Ø BOREHOLE					
8								
10				3GP		63		193.3
	- wet at 11.0ft BGS		▽					
	- grey at 11.5ft BGS							
12	END OF BOREHOLE @ 12.0ft BGS	726.40						
14								
16								
18								
20								
22								
24								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638.GPJ CRA_CORP.GDT 5/10/02

STRATIGRAPHIC AND INSTRUMENTATION LOG
(OVERBURDEN)

PROJECT NAME: Delphi Harrison RFI
PROJECT NUMBER: 12638-04
CLIENT: REALM
LOCATION: Dayton, Ohio

HOLE DESIGNATION: SB-26
DATE COMPLETED: April 11, 2002
DRILLING METHOD: 2 1/4"ID HSA
FIELD PERSONNEL: JASON CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	GROUND SURFACE	752.89						
	CONCRETE		CONCRETE					
	SP/GP - SAND and GRAVEL, loose, medium to coarse sand, fine gravel, brown, dry	752.06		1SS		50	25	0
2								
4			BENTONITE	2SS		25	10	0
6				3SS		33	21	0
8				4SS		50	65	0
			6" Ø BOREHOLE					
10				5SS		50	42	0
12				6SS		75	38	0
14				7SS		75	21	0
16	- wet at 16.0ft BGS		▽	8SS		25	9	0
	END OF BOREHOLE @ 17.0ft BGS	735.89						
18								
20								
22								
24								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638.GPJ CRA_CORP.GDT 5/10/02

STRATIGRAPHIC AND INSTRUMENTATION LOG
(OVERBURDEN)

PROJECT NAME: Delphi Harrison RFI
PROJECT NUMBER: 12638-04
CLIENT: REALM
LOCATION: Dayton, Ohio

HOLE DESIGNATION: SB-27
DATE COMPLETED: April 11, 2002
DRILLING METHOD: 2 1/4"ID HSA
FIELD PERSONNEL: JASON CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	GROUND SURFACE	752.54						
0	CONCRETE		CONCRETE					
	SW- SAND, trace clay and fine gravel, loose, coarse, black, dry	751.71		1SS		75	28	0
2								
4			BENTONITE	2SS			9	0
6				3SS		63	8	0
8				4SS		13	4	0
	SP - SAND, loose, medium to coarse, black, dry	743.54	6" Ø BOREHOLE					
10				5SS		50	4	0
	CL - CLAY, trace gravel, cohesive, low plasticity, brown, moist	741.54						
12				6SS		0	-	0
14				7SS		8	2	0
	WASTE, loose, wood, paper, brick, clay, fine sand, wet	737.54	▽					
16				8SS		50	2	0
	END OF BOREHOLE @ 17.0ft BGS	735.54						
18								
20								
22								
24								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638.GPJ CRA_CORP.GDT 5/10/02

STRATIGRAPHIC AND INSTRUMENTATION LOG
(OVERBURDEN)

PROJECT NAME: Delphi Harrison RFI
PROJECT NUMBER: 12638-04
CLIENT: REALM
LOCATION: Dayton, Ohio

HOLE DESIGNATION: SB-28
DATE COMPLETED: April 11, 2002
DRILLING METHOD: 2 1/4"ID HSA
FIELD PERSONNEL: JASON CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	GROUND SURFACE	738.79						
0	CONCRETE		CONCRETE					
		737.96						
2	CL - CLAY, little fine gravel and coarse sand, cohesive, brown, dry			1SS		50	9	0
4			BENTONITE	2SS		25	10	0
		733.79						
6	SP - SAND, little fine gravel, loose, medium to coarse, brown, dry			3SS		63	10	0
			6" Ø BOREHOLE					
8				4SS		50	24	0
10				5SS		25	37	512.7
		727.79	▽					
12	SP/GP - SAND and GRAVEL, wet			6SS			9	275.3
		725.79						
14	END OF BOREHOLE @ 13.0ft BGS							
16								
18								
20								
22								
24								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638.GPJ CRA_CORP.GDT 5/10/02

STRATIGRAPHIC AND INSTRUMENTATION LOG
(OVERBURDEN)

PROJECT NAME: Delphi Harrison RFI
PROJECT NUMBER: 12638-04
CLIENT: REALM
LOCATION: Dayton, Ohio

HOLE DESIGNATION: SB-29
DATE COMPLETED: April 11, 2002
DRILLING METHOD: 2 1/4"ID HSA
FIELD PERSONNEL: JASON CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	GROUND SURFACE	740.72						
	CONCRETE		CONCRETE					
		739.39						
2	SP/GP - SAND and GRAVEL, trace cobbles, loose, fine to medium sand, fine gravel, gray, dry		6" Ø BOREHOLE	1SS		50	33	0
4			BENTONITE	2SS		50		0
	END OF BOREHOLE @ 5.0ft BGS	735.72						
6								
8								
10								
12								
14								
16								
18								
20								
22								
24								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

STRATIGRAPHIC AND INSTRUMENTATION LOG
(OVERBURDEN)

PROJECT NAME: Delphi Harrison RFI
PROJECT NUMBER: 12638-04
CLIENT: REALM
LOCATION: Dayton, Ohio

HOLE DESIGNATION: SB-30
DATE COMPLETED: April 11, 2002
DRILLING METHOD: 2 1/4"ID HSA
FIELD PERSONNEL: JASON CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	GROUND SURFACE	740.66						
	CONCRETE	739.54	CONCRETE					
	SP/GP - SAND and GRAVEL, (gravel base)	739.16	BENTONITE					
2	ML - SILT, trace fine sand, cohesive, soft, poorly graded, brown, moist		6" Ø BOREHOLE	1SS		58	41	0
	END OF BOREHOLE @ 3.0ft BGS	737.66						
4								
6								
8								
10								
12								
14								
16								
18								
20								
22								
24								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

STRATIGRAPHIC AND INSTRUMENTATION LOG
(OVERBURDEN)

PROJECT NAME: Delphi Harrison RFI
PROJECT NUMBER: 12638-04
CLIENT: REALM
LOCATION: Dayton, Ohio

HOLE DESIGNATION: SB-31
DATE COMPLETED: April 11, 2002
DRILLING METHOD: 2 1/4"ID HSA
FIELD PERSONNEL: JASON CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	GROUND SURFACE	740.45						
	CONCRETE		CONCRETE					
	ML/SW - SILTY SAND, cohesive, soft, poorly graded, brown,damp	739.62						
2			6" Ø BOREHOLE	1SS		83	14	0
	END OF BOREHOLE @ 3.0ft BGS	737.45	BENTONITE					
4								
6								
8								
10								
12								
14								
16								
18								
20								
22								
24								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

STRATIGRAPHIC AND INSTRUMENTATION LOG
(OVERBURDEN)

PROJECT NAME: Delphi Harrison RFI
PROJECT NUMBER: 12638-04
CLIENT: REALM
LOCATION: Dayton, Ohio

HOLE DESIGNATION: SB-32
DATE COMPLETED: April 12, 2002
DRILLING METHOD: 2 1/4"ID HSA
FIELD PERSONNEL: JASON CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	GROUND SURFACE	737.65						
	CONCRETE		CONCRETE					
	SP/GP - SAND and GRAVEL, trace cobbles, loose, medium to coarse sand, fine to coarse gravel, brown, dry	736.65	6" Ø BOREHOLE	1SS		25	22	0
4			BENTONITE	2SS		50	34	0
	END OF BOREHOLE @ 5.0ft BGS	732.65						

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

OVERBURDEN LOG_12638.GPJ_CRA_CORP.GDT 5/10/02

STRATIGRAPHIC AND INSTRUMENTATION LOG
(OVERBURDEN)

PROJECT NAME: Delphi Harrison RFI
PROJECT NUMBER: 12638-04
CLIENT: REALM
LOCATION: Dayton, Ohio

HOLE DESIGNATION: SB-33
DATE COMPLETED: April 12, 2002
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: JASON CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	GROUND SURFACE	740.56						
0	CONCRETE		CONCRETE					
	SP/ML - SILTY SAND, loose, fine to medium, black, dry	739.56		1GP		67		0
2								
	CL - CLAY, cohesive, medium plasticity, brown, moist	737.56	BENTONITE					
4								
6			2" Ø BOREHOLE	2GP		75		0
8	SP/GP - SAND and GRAVEL, with silt, trace cobbles, fine to medium sand, fine gravel, poorly graded, gray, dry	732.56						
10				3GP		100		0
	- wet at 11.5ft BGS		▽					
12	END OF BOREHOLE @ 12.0ft BGS	728.56						
14								
16								
18								
20								
22								
24								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638.GPJ CRA_CORP.GDT 5/10/02

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Delphi Harrison RFI
PROJECT NUMBER: 12638-04
CLIENT: REALM
LOCATION: Dayton, Ohio

HOLE DESIGNATION: SB-34
DATE COMPLETED: April 12, 2002
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: JASON CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	GROUND SURFACE	740.63						
0	CONCRETE		CONCRETE					
		739.63						
2	ML/SP - SILTY SAND,trace cobbles, loose, fine to medium, brown, dry			1GP		50		0
4			BENTONITE					
6				2GP		75		0
		733.63						
8	SP/GP - SAND and GRAVEL, trace cobbles, medium to coarse sand, fine gravel, grey brown, dry		2" Ø BOREHOLE					
10				3GP		75		0
12								
14	- wet at 14.0ft BGS		▽	4GP		100		0
16	END OF BOREHOLE @ 16.0ft BGS	724.63						
18								
20								
22								
24								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638.GPJ CRA_CORP.GDT 5/10/02

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Delphi Harrison RFI
PROJECT NUMBER: 12638-04
CLIENT: REALM
LOCATION: Dayton, Ohio

HOLE DESIGNATION: SB-35
DATE COMPLETED: April 15, 2002
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: JASON CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	GROUND SURFACE	738.38						
0	CONCRETE	737.38	CONCRETE					
	GP - GRAVEL, fine, gray, dry			1GP		25		0
2								
4			BENTONITE					
6				2GP		75		0
			2" Ø BOREHOLE					
	SW - SAND, fine to medium, brown, dry	731.38						
8								
10				3GP				
	- wet at 11.0ft BGS		▽					
12	END OF BOREHOLE @ 12.0ft BGS	726.38						69.7
14								
16								
18								
20								
22								
24								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Delphi Harrison RFI
PROJECT NUMBER: 12638-04
CLIENT: REALM
LOCATION: Dayton, Ohio

HOLE DESIGNATION: SB-36
DATE COMPLETED: April 15, 2002
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: JASON CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	GROUND SURFACE	739.15						
	CONCRETE		CONCRETE					
	CL - CLAY, trace fine sand and silt, cohesive, low plasticity, brown	738.32		1GP		50		67.9
	CL- CLAY, trace fine to medium sand, cohesive, gray, moist	736.15						
	SP/GP, SAND and GRAVEL, trace cobbles, cohesive, medium to coarse grained sand, fine gravel, light brown-tan, dry	735.15	BENTONITE					
			2" Ø BOREHOLE	2GP		83		10.1
	- wet at 10.5ft BGS		∇	3GP		75		
	END OF BOREHOLE @ 12.0ft BGS	727.15						158

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ∇

OVERBURDEN LOG 12638.GPJ CRA_CORP.GDT 5/10/02

STRATIGRAPHIC AND INSTRUMENTATION LOG
(OVERBURDEN)

PROJECT NAME: Delphi Harrison RFI
PROJECT NUMBER: 12638-04
CLIENT: REALM
LOCATION: Dayton, Ohio

HOLE DESIGNATION: SB-37
DATE COMPLETED: April 15, 2002
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: JASON CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	GROUND SURFACE	739.20						
0	CONCRETE	738.37	CONCRETE					
2	SP/GP, SAND and GRAVEL, little cobbles, cohesive, loose, medium to coarse grained sand, fine gravel, gray-brown, dry			1GP		50		0
4			BENTONITE					
6			2" Ø BOREHOLE	2GP		75		0
8								
10	- wet at 11.0ft BGS		▽	3GP		75		
12	END OF BOREHOLE @ 12.0ft BGS	727.20						121
14								
16								
18								
20								
22								
24								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638.GPJ CRA_CORP.GDT 5/10/02

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Delphi Harrison RFI
PROJECT NUMBER: 12638-04
CLIENT: REALM
LOCATION: Dayton, Ohio

HOLE DESIGNATION: SB-38
DATE COMPLETED: April 15, 2002
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: JASON CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	GROUND SURFACE	741.11						
0	CONCRETE	740.28	CONCRETE					
	SP/GP, SAND and GRAVEL, medium to coarse grained sand, fine gravel, gray-brown, dry			1GP		25		0
2								
4			BENTONITE					
6				2GP		50		0
8			2" Ø BOREHOLE					
10	- wet at 11.0ft BGS		▽	3GP		75		0
12	END OF BOREHOLE @ 12.0ft BGS	729.11						
14								
16								
18								
20								
22								
24								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Delphi Harrison RFI
PROJECT NUMBER: 12638-04
CLIENT: REALM
LOCATION: Dayton, Ohio

HOLE DESIGNATION: SB-39
DATE COMPLETED: April 15, 2002
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: JASON CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	GROUND SURFACE	740.20						
0	CONCRETE		CONCRETE					
	CL/SP - SANDY CLAY, little cobbles, cohesive, low plasticity, fine to medium sand, brown-black, moist	739.20		1GP		100		0
2								
4	ML/SP - SILTY SAND, trace gravel, loose, fine sand, brown, moist	736.20	BENTONITE					
6				2GP		100		0
8			2" Ø BOREHOLE					
	SP/GP - SAND and GRAVEL, trace cobbles, compacted, medium to coarse sand, fine gravel, light brown, dry	731.20						
10	- wet at 10.5ft BGS		▽	3GP		100		0
12	END OF BOREHOLE @ 12.0ft BGS	728.20						
14								
16								
18								
20								
22								
24								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638.GPJ CRA_CORP.GDT 5/10/02

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Delphi Harrison RFI
PROJECT NUMBER: 12638-04
CLIENT: REALM
LOCATION: Dayton, Ohio

HOLE DESIGNATION: SB-40
DATE COMPLETED: April 15, 2002
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: JASON CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	GROUND SURFACE	739.93						
0	CONCRETE	739.10	CONCRETE					
	SP/GP - SAND and GRAVEL, fine to medium sand, fine gravel, loose, gray, dry							
2	CL/ML - CLAY and SILT, trace fine sand and gravel, cohesive, low plasticity, black, dry	737.93		1GP		75		0
4			BENTONITE					
6				2GP		75		0
8			2" Ø BOREHOLE					
10	SP/GP - SAND and GRAVEL	729.93		3GP		75		0
12	END OF BOREHOLE @ 12.0ft BGS	727.93						
14								
16								
18								
20								
22								
24								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

OVERBURDEN LOG 12638.GPJ CRA_CORP.GDT 5/10/02

STRATIGRAPHIC AND INSTRUMENTATION LOG
(OVERBURDEN)

PROJECT NAME: Delphi Harrison RFI
PROJECT NUMBER: 12638-04
CLIENT: REALM
LOCATION: Dayton, Ohio

HOLE DESIGNATION: SB-41
DATE COMPLETED: April 15, 2002
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: JASON CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	GROUND SURFACE	739.87						
0	CONCRETE	738.87	CONCRETE					
2	ML/SP - SILTY SAND, cohesive, fine to medium sand, iron staining, orange black, damp to moist			1GP		75		0
4			BENTONITE					
6				2GP		75		
	SM/ML - SAND and SILT, fine to medium sand, poorly graded, dark gray to black, damp	733.37	2" Ø BOREHOLE					337.7
8	SW/GP - SAND and GRAVEL, medium to coarse sand, fine gravel	732.37						
	SM/ML - SAND and SILT, fine to medium sand, poorly graded, dark gray to black, damp	731.37						
10	SP/GP - SAND and GRAVEL	729.87		3GP		75		
	- wet at 11.0ft BGS		▽					125.3
12	END OF BOREHOLE @ 12.0ft BGS	727.87						
14								
16								
18								
20								
22								
24								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638.GPJ CRA_CORP.GDT 5/10/02

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Delphi Harrison RFI
PROJECT NUMBER: 12638-04
CLIENT: REALM
LOCATION: Dayton, Ohio

HOLE DESIGNATION: SB-42
DATE COMPLETED: April 15, 2002
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: JASON CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	GROUND SURFACE	740.39						
0	CONCRETE		CONCRETE					
	SM/SW - SILTY SAND, cohesive, trace fine gravel, fine to medium sand, poorly graded, light brown, damp	739.56		1GP		75		0
2								
4			BENTONITE					
6				2GP		75		0
8	- wet at 8.0ft BGS		2" Ø BOREHOLE					
10				3GP		50		0
	SP/GP - SAND and GRAVEL, medium to coarse sand, fine gravel, loose, gray, wet	729.89						
12	END OF BOREHOLE @ 12.0ft BGS	728.39						
14								
16								
18								
20								
22								
24								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638.GPJ CRA_CORP.GDT 5/10/02

STRATIGRAPHIC AND INSTRUMENTATION LOG
(OVERBURDEN)

PROJECT NAME: Delphi Harrison RFI
PROJECT NUMBER: 12638-04
CLIENT: REALM
LOCATION: Dayton, Ohio

HOLE DESIGNATION: SB-43
DATE COMPLETED: April 15, 2002
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: JASON CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	GROUND SURFACE	740.30						
0	CONCRETE		CONCRETE					
	SP/GP - SAND and GRAVEL, trace fines, loose, fine to medium sand, fine gravel, poorly graded	739.47		1GP		75		5.6
2								
4			BENTONITE					
	SM/SW - SILTY SAND	735.80						8.6
6			2" Ø BOREHOLE	2GP		75		
8								
	SP/GP - SAND and GRAVEL, loose, medium to coarse sand, fine gravel, poorly graded	730.80		3GP		75		0
10	- wet at 11.0ft BGS		▽					
12	END OF BOREHOLE @ 12.0ft BGS	728.30						
14								
16								
18								
20								
22								
24								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638.GPJ CRA_CORP.GDT 5/10/02

STRATIGRAPHIC AND INSTRUMENTATION LOG
(OVERBURDEN)

PROJECT NAME: Delphi Harrison RFI
PROJECT NUMBER: 12638-04
CLIENT: REALM
LOCATION: Dayton, Ohio

HOLE DESIGNATION: SB-44
DATE COMPLETED: April 15, 2002
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: JASON CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	GROUND SURFACE	739.30						
0	ASPHALT	738.80	ASPHALT					
	SP/GP - SAND and GRAVEL, loose, medium to coarse sand, fine gravel, gray black			1GP		75		0
2								
4			BENTONITE					
	ML/CL - CLAYEY SILT	734.30						
6			2" Ø BOREHOLE	2GP				0
8								
10				3GP				0
	- wet at 11.0ft BGS		▽					
12	END OF BOREHOLE @ 12.0ft BGS	727.30						
14								
16								
18								
20								
22								
24								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638.GPJ CRA_CORP.GDT 5/10/02

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Delphi Harrison RFI
PROJECT NUMBER: 12638-04
CLIENT: REALM
LOCATION: Dayton, Ohio

HOLE DESIGNATION: SB-45
DATE COMPLETED: April 16, 2002
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: JASON CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	GROUND SURFACE	738.67						
0	ASPHALT	738.17	ASPHALT					
	ML/SM - SILTY SAND, little gravel, cohesive, fine medium grained sand, black, damp			1GP		75		0
2								
4			BENTONITE					
6			2" Ø BOREHOLE	2GP		75		0
	SP/GP - SAND and GRAVEL, trace cobbles, loose, medium to coarse sand, fine gravel, light brown-tan, dry	731.67						
8								
10	- wet at 10.5ft BGS		▽	3GP		75		0
12	END OF BOREHOLE @ 12.0ft BGS	726.67						
14								
16								
18								
20								
22								
24								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

STRATIGRAPHIC AND INSTRUMENTATION LOG
(OVERBURDEN)

PROJECT NAME: Delphi Harrison RFI
PROJECT NUMBER: 12638-04
CLIENT: REALM
LOCATION: Dayton, Ohio

HOLE DESIGNATION: SB-46
DATE COMPLETED: April 16, 2002
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: JASON CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	GROUND SURFACE	739.17						
0	CONCRETE		CONCRETE					
	SP/GP - SAND and GRAVEL, (FILL), medium to coarse sand, fine to coarse gravel, dry, gray	738.67						
2	ML/SM - SILTY SAND, little gravel and cobbles, cohesive, fine to medium sand, damp, brown	737.17		1GP		75		0
4			BENTONITE					
6			2" Ø BOREHOLE	2GP		87		0
	SP/GP, trace cobbles, loose, medium to coarse sand, fine to coarse gravel, dry	732.17						
8								
10	- increasing gravel content, wet at 10.5ft BGS		▽	3GP		87		
	- heavy black product at 11.5ft BGS							
12	END OF BOREHOLE @ 12.0ft BGS	727.17						25.5
14								
16								
18								
20								
22								
24								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638.GPJ CRA_CORP.GDT 5/10/02

STRATIGRAPHIC AND INSTRUMENTATION LOG
(OVERBURDEN)

PROJECT NAME: Delphi Harrison RFI
PROJECT NUMBER: 12638-04
CLIENT: REALM
LOCATION: Dayton, Ohio

HOLE DESIGNATION: SB-47
DATE COMPLETED: April 16, 2002
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: JASON CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	GROUND SURFACE	739.20						
	CONCRETE		CONCRETE					
	SP/GP - SAND and GRAVEL, (FILL), loose, medium to coarse sand, fine to coarse gravel, dry, gray	738.70						
	SP - SAND, loose, fine to medium, black, dry	738.20		1GP		63		0
			BENTONITE					
	SM/ML - SANDY SILT, trace clay, cohesive, fine to medium sand, damp, brown	734.20		2GP		75		0
			2" Ø BOREHOLE					
	SP/GP, trace cobbles, loose, medium to coarse sand, fine to coarse gravel, poorly graded, dry	732.20						
	- wet at 11.0ft BGS		▽	3GP		50		
	END OF BOREHOLE @ 12.0ft BGS	727.20						

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638.GPJ CRA_CORP.GDT 5/10/02

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Delphi Harrison RFI
PROJECT NUMBER: 12638-04
CLIENT: REALM
LOCATION: Dayton, Ohio

HOLE DESIGNATION: SB-48
DATE COMPLETED: April 16, 2002
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: JASON CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft
	GROUND SURFACE	740.33
	CONCRETE	739.83
2	SP/GP - SAND and GRAVEL, (FILL), loose, medium to coarse sand, fine to coarse gravel, well graded, dry, gray	
		737.33
4	SP/GP, loose, fine to medium sand, fine gravel, poorly graded, dry	
6		
8		
10		
		729.33
12	ML/SM - SANDY SILT, cohesive, fine sand, black, damp	
14		
16		724.33
	END OF BOREHOLE @ 16.0ft BGS	
18		
20		
22		
24		

MONITOR INSTALLATION: CONCRETE; BENTONITE; 2" Ø BOREHOLE

SAMPLE NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
1GP		50		0
2GP		63		0
3GP		100		0
4GP				

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

OVERBURDEN LOG 12638.GPJ CRA_CORP.GDT 5/10/02

STRATIGRAPHIC AND INSTRUMENTATION LOG
(OVERBURDEN)

PROJECT NAME: Delphi Harrison RFI
PROJECT NUMBER: 12638-04
CLIENT: REALM
LOCATION: Dayton, Ohio

HOLE DESIGNATION: SB-49
DATE COMPLETED: April 16, 2002
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: JASON CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	GROUND SURFACE	739.26						
2	SP/GP - SAND and GRAVEL, medium to coarse sand, fine gravel, poorly graded		2" Ø BOREHOLE; BENTONITE	1GP				0
	ML/SM - SILTY SAND, cohesive, fine to medium sand, brown-red	737.26						
4	END OF BOREHOLE @ 4.0ft BGS	735.26						
6								
8								
10								
12								
14								
16								
18								
20								
22								
24								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

OVERBURDEN LOG 12638.GPJ CRA_CORP.GDT 5/10/02

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Delphi Harrison RFI
PROJECT NUMBER: 12638-04
CLIENT: REALM
LOCATION: Dayton, Ohio

HOLE DESIGNATION: SB-50
DATE COMPLETED: April 16, 2002
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: JASON CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	GROUND SURFACE	740.22						
0	ASPHALT	739.72	CONCRETE					
	SM/ML - SANDY SILT			1GP		63		0
2								
4			BENTONITE					
6			2" Ø BOREHOLE	2GP		50		0
	SP - SAND, loose, little fine gravel, medium to coarse, brown-tan, dry	733.72						
8								
10	SP/GP, trace cobbles, loose, fine to medium sand, fine to coarse gravel, poorly graded, gray-brown, dry - wet at 11.0ft BGS	730.22	▽	3GP				0
12	END OF BOREHOLE @ 12.0ft BGS	728.22						
14								
16								
18								
20								
22								
24								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638.GPJ CRA_CORP.GDT 5/15/02

STRATIGRAPHIC AND INSTRUMENTATION LOG
(OVERBURDEN)

PROJECT NAME: Delphi Harrison RFI
PROJECT NUMBER: 12638-04
CLIENT: REALM
LOCATION: Dayton, Ohio

HOLE DESIGNATION: SB-51
DATE COMPLETED: April 16, 2002
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: JASON CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	GROUND SURFACE	740.46						
0	CONCRETE		CONCRETE					
	SP/GP - SAND and GRAVEL, (FILL), loose, fine to medium sand, fine gravel, dry	739.63		1GP		75		0
2								
	ML/SM -SILTY SAND, cohesive, fine to medium sand, dark brown-black, dry	737.46	BENTONITE					
4								
6			2" Ø BOREHOLE	2GP		100		0
	SW - SAND, fine to medium, brown, moist	733.46						
8								
	SP/GP, SAND and GRAVEL, medium to coarse sand, fine to coarse gravel	731.46						
10	- wet at 10.5ft BGS		▽	3GP		87		0
	END OF BOREHOLE @ 12.0ft BGS	728.46						
12								
14								
16								
18								
20								
22								
24								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638.GPJ CRA_CORP.GDT 5/10/02

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Delphi Harrison RFI
PROJECT NUMBER: 12638-04
CLIENT: REALM
LOCATION: Dayton, Ohio

HOLE DESIGNATION: SB-52
DATE COMPLETED: April 16, 2002
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: JASON CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	GROUND SURFACE	740.28						
2	SP/GP - SAND and GRAVEL, trace cobbles, loose, fine to coarse sand, fine to coarse gravel, poorly graded, grayish brown, dry			1GP		75		0
4			BENTONITE					
6			2" Ø BOREHOLE	2GP				0
		733.28	▽					
8	SW - SAND, loose, medium to coarse, well graded, brown, dry - wet at 7.5ft BGS							
		731.78						
10	ML - SILT, trace clay and fine sand, cohesive, brown, wet			3GP		75		0
		729.28						
12	SP/GP, SAND and GRAVEL, loose, medium to coarse sand, coarse gravel, poorly graded, gray, wet							
		728.28						
14	END OF BOREHOLE @ 12.0ft BGS							
16								
18								
20								
22								
24								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Delphi Harrison RFI
PROJECT NUMBER: 12638-04
CLIENT: REALM
LOCATION: Dayton, Ohio

HOLE DESIGNATION: SB-53
DATE COMPLETED: April 17, 2002
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: JASON CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	GROUND SURFACE	740.60						
0	CONCRETE	740.10	CONCRETE					
	SM/ML -SANDY SILT, trace clay, cohesive, fine to medium sand, brown, damp		2" Ø BOREHOLE	1GP		50		5.7
4			BENTONITE					
	END OF BOREHOLE @ 5.0ft BGS	735.60						
6	Refusal at 5 feet BGS							
8								
10								
12								
14								
16								
18								
20								
22								
24								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

OVERBURDEN LOG 12638.GPJ CRA_CORP.GDT 5/15/02

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Delphi Harrison RFI
PROJECT NUMBER: 12638-04
CLIENT: REALM
LOCATION: Dayton, Ohio

HOLE DESIGNATION: SB-54
DATE COMPLETED: April 17, 2002
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: JASON CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	GROUND SURFACE	740.65						
0	CONCRETE		CONCRETE					
		739.40						
2	SP - SAND, loose, medium to coarse, poorly graded, black, dry							
		738.65		1GP		50		0
	ML - SILT, trace clay, low plasticity, cohesive, brown, damp							
4			BENTONITE					
6		734.65		2GP		100		0
	SP/GP - SAND and GRAVEL, trace cobbles, loose, medium to coarse sand, fine gravel, poorly graded, gray, dry		2" Ø BOREHOLE					
8								
10				3GP		100		0
	- wet at 11.0ft BGS		▽					
12		728.65						
	END OF BOREHOLE @ 12.0ft BGS							
14								
16								
18								
20								
22								
24								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638.GPJ CRA_CORP.GDT 5/15/02

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Delphi Harrison RFI
PROJECT NUMBER: 12638-04
CLIENT: REALM
LOCATION: Dayton, Ohio

HOLE DESIGNATION: SB-55
DATE COMPLETED: April 17, 2002
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: JASON CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	GROUND SURFACE	740.63						
0	CONCRETE	739.80	CONCRETE					
	SP/GP - SAND and GRAVEL, loose, medium to coarse sand, fine gravel, poorly graded, gray, dry							
2	CL - CLAY, trace fine gravel and fine sand, cohesive, low plasticity	738.63		1GP		100		0
4			BENTONITE					
6	SP/GP - SAND and GRAVEL, trace cobbles, loose, fine to coarse sand, fine to coarse gravel, poorly graded, tan-brown, dry	734.63	2" Ø BOREHOLE	2GP		75		0
8								
10				3GP		75		0
	- wet at 11.5ft BGS		▽					
12	END OF BOREHOLE @ 12.0ft BGS	728.63						
14								
16								
18								
20								
22								
24								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638.GPJ CRA_CORP.GDT 5/10/02

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Delphi Harrison RFI
PROJECT NUMBER: 12638-04
CLIENT: REALM
LOCATION: Dayton, Ohio

HOLE DESIGNATION: SB-56
DATE COMPLETED: April 17, 2002
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: JASON CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	GROUND SURFACE	740.06						
	CONCRETE		CONCRETE					
	SP/GP - SAND and GRAVEL, (FILL), loose, fine to medium sand, fine to coarse gravel, gray, dry	739.23						
2	ML - SILT, trace fine to medium sand, cohesive, dark brown, damp	738.06		1GP		63		0
4			BENTONITE					
6				2GP		75		
8			2" Ø BOREHOLE					23
	SP/GP - SAND and GRAVEL, medium to coarse sand, fine to coarse gravel, poorly graded, tan-brown, dry	731.06						
10	- wet at 11.0ft BGS		▽	3GP		75		0
12	END OF BOREHOLE @ 12.0ft BGS	728.06						
14								
16								
18								
20								
22								
24								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638.GPJ CRA_CORP.GDT 5/10/02

STRATIGRAPHIC AND INSTRUMENTATION LOG
(OVERBURDEN)

PROJECT NAME: Delphi Harrison RFI
PROJECT NUMBER: 12638-04
CLIENT: REALM
LOCATION: Dayton, Ohio

HOLE DESIGNATION: SB-57
DATE COMPLETED: April 17, 2002
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: JASON CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	GROUND SURFACE	741.06						
0	CONCRETE		CONCRETE					
	SP/GP - SAND and GRAVEL, trace cobbles, loose, medium to coarse sand, fine to coarse gravel, poorly graded, gray-brown, dry	740.23		1GP		75		0
2								
4			BENTONITE					
6				2GP		75		3.3
			2" Ø BOREHOLE					
	SW - SAND, trace fine gravel, little clay, medium to coarse	734.06						
8								
	SP/GP - SAND and GRAVEL, trace cobbles, loose, medium to coarse sand, fine to coarse gravel, tan-brown, dry	732.06		3GP		75		0
10								
	- wet at 11.5ft BGS		▽					
12	END OF BOREHOLE @ 12.0ft BGS	729.06						
14								
16								
18								
20								
22								
24								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638.GPJ CRA_CORP.GDT 5/10/02

STRATIGRAPHIC AND INSTRUMENTATION LOG
(OVERBURDEN)

PROJECT NAME: Delphi Harrison RFI
PROJECT NUMBER: 12638-04
CLIENT: REALM
LOCATION: Dayton, Ohio

HOLE DESIGNATION: SB-58
DATE COMPLETED: April 17, 2002
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: JASON CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. ft	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	GROUND SURFACE	741.08						
	CONCRETE		CONCRETE					
	SW - SAND, trace fine to medium sand, loose, black, damp	740.25						
2	ML - SILT, trace fine sand, cohesive, brown changing to black, damp	739.08		1GP		33		0
4			BENTONITE					
6				2GP		75		
8			2" Ø BOREHOLE					7.2
10				3GP		100		0
12	- wet at 12.0ft BGS END OF BOREHOLE @ 12.0ft BGS	729.08	▽					
14								
16								
18								
20								
22								
24								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638.GPJ CRA_CORP.GDT 5/10/02

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-08-R
DATE COMPLETED: February 18, 2003
DRILLING METHOD: Geoprobe
FIELD PERSONNEL: J. Close

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	Geoprobe	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CONCRETE							
	SP/GP - SAND and GRAVEL, trace cobbles, medium-coarse grained sand, fine-coarse grained gravel, loose, dry, gray	0.50						
2						50		0
4								
6			← Bentonite			75		0
8								
10	SM/SC - SILTY SAND, with clay, fine-coarse grained, compact, black, moist	10.00				75		5.7
12	END OF BOREHOLE @ 12.0ft BGS	12.00						
14								
16								
18								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

OVERBURDEN LOG 12638 MORE.GPJ CRA_CORP.GDT 5/1/03

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-57-R
DATE COMPLETED: February 19, 2003
DRILLING METHOD: Geoprobe
FIELD PERSONNEL: J. Close

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	Geoprobe	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CONCRETE							
	SP/GP - SAND and GRAVEL, fine gravel, fine-medium-coarse grained, poorly graded, tan, dry	0.66				75		20
2								
	- brown at 3.5ft BGS							
4								
	SM/GM - SAND and GRAVEL, fine-coarse grained sand, orange	5.00				100		14
6								
	SP/GP - SAND and GRAVEL, fine gravel, fine-medium-coarse grained, poorly graded, tan, dry	7.50	Bentonite			63		55
8								
10								
12								
14						75		
	- wet, hydrocarbon staining at 15.0ft BGS		▽					25
16	END OF BOREHOLE @ 16.0ft BGS	16.00						
18								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 MORE.GPJ CRA_CORP.GDT 5/1/03

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-59 (U-11)
DATE COMPLETED: February 18, 2003
DRILLING METHOD: Geoprobe
FIELD PERSONNEL: J. Close

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	Geoprobe	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE
	CONCRETE						
	SP/GP - SAND and GRAVEL, trace cobbles, fine-coarse grained sand, fine-coarse 1" cobbles, subangular-subround, loose, gray, dry	0.50				75	
2							
4							
6			Bentonite			100	
8							
10							
	- wet at 11.5ft BGS		▽				
12	END OF BOREHOLE @ 12.0ft BGS	12.00					
14							
16							
18							

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 MORE.GPJ CRA_CORP.GDT 5/1/03

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-60 (U/T-11)
DATE COMPLETED: February 18, 2003
DRILLING METHOD: Geoprobe
FIELD PERSONNEL: J. Close

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	Geoprobe	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CONCRETE	0.50						
	SP/GP - SAND and GRAVEL, fine-coarse grained sand, fine grained gravel, trace fines, loose, brown, dry					50		0
6	FILL (WASTE), black, gray, white granular material, loose, trace cardboard, trace wood	6.00				100		0
8	CL - CLAY, trace silt, moist, brown, compact	8.00	Bentonite					
	SP/GP - SAND and GRAVEL, fine-coarse grained sand, fine grained gravel, trace fines, loose, brown, dry	8.50				50		0
14	- wet at 15.5ft BGS		▽			50		0
16	END OF BOREHOLE @ 16.0ft BGS	16.00						

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 MORE.GPJ CRA_CORP.GDT 5/1/03

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-61 (V-5)
DATE COMPLETED: February 18, 2003
DRILLING METHOD: Geoprobe
FIELD PERSONNEL: J. Close

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	Geoprobe	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CONCRETE	0.50						
	SM - SILTY SAND, trace fine gravel, fine-coarse grained sand, fine grained gravel, subangular-subround, brown, loose, dry					83		0
2								
4								
6						83		0
8			Bentonite					
10						100		0
12								
14	- increasing coarse gravel, cobbles, gray, fuel odor at 14.5ft BGS - wet at 15.0ft BGS					50		0
16	END OF BOREHOLE @ 16.0ft BGS	16.00						
18								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 MORE.GPJ CRA_CORP.GDT 5/1/03

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-62
DATE COMPLETED: February 18, 2003
DRILLING METHOD: Geoprobe
FIELD PERSONNEL: J. Close

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	Geoprobe	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE
	CONCRETE						
	SP/GP - SAND and GRAVEL, trace cobbles, fine-coarse grained, poorly graded, brown, loose, dry	0.90				87	
2							
4							
6						100	
8	- increasing clay content at 8.0ft BGS		Bentonite				
10						100	
12							
14	- petroleum odor, black staining at 14.0ft BGS - wet at 14.5ft BGS		▽			63	
16	END OF BOREHOLE @ 16.0ft BGS	16.00					
18							

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 MORE.GPJ CRA_CORP.GDT 5/1/03

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-63
DATE COMPLETED: February 18, 2003
DRILLING METHOD: Geoprobe
FIELD PERSONNEL: J. Close

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	Geoprobe	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE
	CONCRETE						
	SP/GP - SAND and GRAVEL, trace fines, fine-coarse grained, subangular-subround, poorly graded, loose, dry, brown	0.50					
2						83	
4							
6						100	
8			Bentonite				
10						100	
12	- gray staining at 11.5ft BGS						
14						63	
	- wet, petroleum odor at 15.0ft BGS		▽				
16	END OF BOREHOLE @ 16.0ft BGS	16.00					
18							

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 MORE.GPJ CRA_CORP.GDT 5/1/03

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-64
DATE COMPLETED: February 18, 2003
DRILLING METHOD: Geoprobe
FIELD PERSONNEL: N. Ziegler

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	Geoprobe	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
2	SP - SAND, with gravel, fine-medium grained sand, fine-grained gravel, trace fines, poorly sorted, loose, brown, dry					83		0
4								
6						100		0
8	- increasing coarse gravel, cobbles at 7.0ft BGS		Bentonite					
10						100		0
12	SP/GP - SAND and GRAVEL, coarse grained sand, medium grained gravel, subangular, dry, brown	12.00						
14	- wet at 15.0ft BGS		▽			100		
16	END OF BOREHOLE @ 16.0ft BGS	16.00						
18								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 MORE.GPJ CRA_CORP.GDT 5/1/03

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-65
DATE COMPLETED: February 19, 2003
DRILLING METHOD: Geoprobe
FIELD PERSONNEL: J. Close

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	Geoprobe	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CONCRETE							
	ML - SILT, cohesive, firm, poorly graded, gray, moist	0.66						
2						17		0
4								
6						0		0
8			Bentonite					
10						63		0
	SP - SAND, fine-medium-coarse grained, poorly graded, brown, slightly moist	11.00						
12								
14						75		
	SP/GP - SAND and GRAVEL, fine grained gravel, coarse-grained sand, medium-poorly graded, gray, wet, hydrocarbon smell	14.50	▽					20
16	END OF BOREHOLE @ 16.0ft BGS	16.00						
18								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 MORE.GPJ CRA_CORP.GDT 5/1/03

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-66
DATE COMPLETED: February 19, 2003
DRILLING METHOD: Geoprobe
FIELD PERSONNEL: J. Close

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS
	CONCRETE	
	SP - SAND, fine-medium-coarse grained, loose, poorly graded, trace gravel, dry, brown	0.66
	SM/GM - SAND and GRAVEL, fine grained sand, fine-medium-coarse grained gravel, medium graded, brown, dry - brown at 5.5ft BGS	4.50
	ML/SM - SILT and SAND, trace gravel, trace clay, fine grained sand	7.00
	SP - SAND, fine-medium-coarse grained, loose, poorly graded, trace gravel, dry, brown	11.00
	CL/ML - CLAY and SILT, cohesive, trace sand	12.00
	SM/GM - SAND and GRAVEL, fine grained sand, fine-medium-coarse grained gravel, medium graded, brown, dry	13.50
	GP/GW - GRAVEL, fine grained, little coarse grained sand, medium graded, loose, gray, very wet, hydrocarbon odor	15.00
	END OF BOREHOLE @ 16.0ft BGS	16.00

Geoprobe: Bentonite

SAMPLE NUMBER	SAMPLE INTERVAL	REC (%)	'N' VALUE	PID (ppm)
		50		1
		100		1.5
		100		2
		87		50

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 MORE.GPJ CRA_CORP.GDT 5/1/03

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-67
DATE COMPLETED: February 19, 2003
DRILLING METHOD: Geoprobe
FIELD PERSONNEL: J. Close

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS
	CONCRETE	
	SW/GW - SAND and GRAVEL, trace silt, fine-coarse grained sand, fine grained gravel, well graded, brown/dark brown, dry	1.00
	SP - SAND, fine-medium grained, loose, poorly graded, brown	9.00
	SP/GP - SAND and GRAVEL, trace silt, fine-coarse grained sand, fine grained gravel, poorly graded, brown/dark brown, dry	10.50
	- wet, hydrocarbon odor at 15.0ft BGS	
	END OF BOREHOLE @ 16.0ft BGS	16.00

Geoprobe: Bentonite

SAMPLE NUMBER	SAMPLE INTERVAL	REC (%)	'N' VALUE	PID (ppm)
		75		15.5
		75		7
		75		3
		75		35

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 MORE.GPJ CRA_CORP.GDT 5/1/03

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-68
DATE COMPLETED: February 19, 2003
DRILLING METHOD: Geoprobe
FIELD PERSONNEL: J. Close

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	Geoprobe	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CONCRETE							
	SW - SAND, trace clay fines, fine-coarse grained, loose, damp, brown	0.66				75		15
	CL - CLAY, with gravel, trace silt, coarse grained gravel, damp, stiff, brown	5.00				100		5
	SW - SAND, trace clay fines, fine-coarse grained, loose, damp, brown, increasing gravel with depth	7.00	Bentonite					8
	- wet at 15.0ft BGS		▽					150
	END OF BOREHOLE @ 16.0ft BGS	16.00						

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 MORE.GPJ CRA_CORP.GDT 5/1/03

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-69
DATE COMPLETED: February 19, 2003
DRILLING METHOD: Geoprobe
FIELD PERSONNEL: J. Close

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	Geoprobe	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CONCRETE							
	SP - SAND, fine-medium grained, trace fine-coarse grained gravel	1.16				0		0
2								
4								
6						63		0
8			Bentonite					
10	GP/SP - SAND and GRAVEL, fine-medium-coarse grained sand, fine grained gravel, poorly graded, loose, brown, moist	10.00				100		2
12								
14						100		
	- wet, hydrocarbon odor, hydrocarbon staining at 15.0ft BGS		▽					60
16	END OF BOREHOLE @ 16.0ft BGS	16.00						
18								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 MORE.GPJ CRA_CORP.GDT 5/1/03

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-70
DATE COMPLETED: February 19, 2003
DRILLING METHOD: Geoprobe
FIELD PERSONNEL: J. Close

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	Geoprobe	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CONCRETE							
		1.66						
2	ML/SM - SILT and SAND, cohesive, dense, poorly graded, brown, dry					63		2
4		4.50						6
	CL/ML - CLAY and SILT, trace sand, cohesive, firm, brown, moist							
6						100		
		7.00						
	GP/SP - SAND and GRAVEL, fine-coarse grained sand, fine grained gravel, poorly graded, brown, dry		Bentonite					5
8								
10						87		
12								
14	- wet, hydrocarbon odor, hydrocarbon staining at 14.0ft BGS		▽			63		3
		16.00						
16	END OF BOREHOLE @ 16.0ft BGS							
18								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 MORE.GPJ CRA_CORP.GDT 5/7/03

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-71
DATE COMPLETED: February 19, 2003
DRILLING METHOD: Geoprobe
FIELD PERSONNEL: J. Close

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	Geoprobe	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CONCRETE	0.66						1.2
2	ML - SILT, cohesive, firm, trace black coarse grained sand, brown, dry - black coarse grained sand at 1.0ft BGS					50		
4		5.00						
6	SP/GP - SAND and GRAVEL, fine-coarse grained sand, fine grained gravel, poorly graded, brown, dry		Bentonite			75		0
8								
10						75		0
12	GP - GRAVEL, fine grained, loose, poorly graded, brown, gray, wet END OF BOREHOLE @ 12.0ft BGS	11.70 12.00	▽					
14								
16								
18								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 MORE.GPJ CRA_CORP.GDT 5/1/03

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-72
DATE COMPLETED: February 20, 2003
DRILLING METHOD: Geoprobe
FIELD PERSONNEL: J. Close

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	Geoprobe	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CONCRETE							
	SW/SM - SAND and SILT, fine-medium-coarse grained sand, poorly graded, brown, slightly moist	0.50				63		3.5
6	- clay brick at 6.0ft BGS					75		0
	- clay brick at 7.5ft BGS		Bentonite					
	SP/GP - SAND and GRAVEL, fine-medium-coarse grained sand, fine grained gravel, poorly graded	9.50				75		34
14	- wet at 14.5ft BGS		▽			87		250
16	END OF BOREHOLE @ 16.0ft BGS	16.00						

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 MORE.GPJ CRA_CORP.GDT 5/1/03

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-73
DATE COMPLETED: February 20, 2003
DRILLING METHOD: Geoprobe
FIELD PERSONNEL: J. Close

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	Geoprobe	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
0	CONCRETE							
2						75		
	SW/SM - SILT and SAND, fine-medium-coarse grained sand, loose, well graded, brown-black, dry	2.50						1.5
4								4
6						75		
	CL - CLAY, cohesive, firm, stiff, brown-black, moist	6.50						
8			Bentonite					
	SP - SAND, fine-medium grained, loose	9.50						4
10	CL - CLAY, cohesive, firm, stiff, brown-black, moist	10.00				75		
	SP/GP - SAND and GRAVEL, fine grained gravel, fine-medium grained sand, loose	10.50						
12								
14						75		0
16	END OF BOREHOLE @ 16.0ft BGS	16.00						
18								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-74
DATE COMPLETED: February 20, 2003
DRILLING METHOD: Geoprobe
FIELD PERSONNEL: J. Close

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS
	CONCRETE	0.66
	SM/SW - SILT and SAND, fine-medium graded, black, dry	
	CL - CLAY, with silt, low plasticity, brown, damp	5.00
	GM/SC - SILT/CLAY, with small-medium subangular gravels, dry	6.50
	GW/SW - SAND/GRAVEL, clean, medium-coarse grained sand, fine-medium subangular gravel, light brown, color, dry	10.50
	GM/SM - GRAVEL and SAND, fine-medium grained sand, fine subangular gravel, brown/black, dry	13.50
	- wet at 15.0ft BGS	
	END OF BOREHOLE @ 16.0ft BGS	16.00

Geoprobe: Bentonite

SAMPLE NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
		50		0
		100		0
		100		2
				13
				200

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 MORE.GPJ CRA_CORP.GDT 5/1/03

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-75
DATE COMPLETED: February 20, 2003
DRILLING METHOD: Geoprobe
FIELD PERSONNEL: J. Close

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	Geoprobe	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CONCRETE							
	SW/SM - SILT and SAND, fine-medium grained sand, loose, dark brown/black, dry	0.50				63		2.5
	ML - SILT, soft, brown, damp	4.50	Bentonite			100		0
	GM/SM - GRAVEL and SAND, fine-medium-coarse grained sand, fine-medium subangular gravel, dry, brown	7.50				75		
	- GP, wet at 11.5ft BGS		▽					4
	END OF BOREHOLE @ 12.0ft BGS	12.00						

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 MORE.GPJ CRA_CORP.GDT 5/1/03

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-76
DATE COMPLETED: February 20, 2003
DRILLING METHOD: Geoprobe
FIELD PERSONNEL: J. Close

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	Geoprobe	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
0	CONCRETE							
	GP/SP - GRAVEL and SAND, with silt, loose, small-medium grained sand, small-medium subangular-subround gravel, dry, brown	0.66				87		1
2								
4								
6						75		1
8			Bentonite					
10						63		4
12	GM/SM - GRAVEL and SAND, with silt, loose, small-medium-coarse grained sand, small subangular-subrounded gravel, black/brown, dry	11.50				25		
14								
16	- wet at 16.0ft BGS END OF BOREHOLE @ 16.0ft BGS	16.00	▽					4
18								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 MORE.GPJ CRA_CORP.GDT 5/1/03

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-77
DATE COMPLETED: March 31, 2003
DRILLING METHOD: Geoprobe
FIELD PERSONNEL: J. Close

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	Geoprobe	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
0	SM - SAND, fine-medium grained, loose, brown, dry-damp		Bentonite			100		0
2	END OF BOREHOLE @ 2.0ft BGS	2.00						
4								
6								
8								
10								
12								
14								
16								
18								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

OVERBURDEN LOG 12638 MORE.GPJ CRA_CORP.GDT 5/1/03

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-78
DATE COMPLETED: March 31, 2003
DRILLING METHOD: Geoprobe
FIELD PERSONNEL: J. Close

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	Geoprobe	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
0	GP/SP - GRAVEL and SAND, fine-medium-coarse grained sand, fine grained gravel, loose, tan, dry							
2						75		11
	SM/ML - SILT and SAND, cohesive, fine-medium grained sand, poorly graded, dark gray-black, damp	2.50						
4								1
6						100		
8			Bentonite					
10						87		0
	GP/SP - GRAVEL and SAND, fine-medium grained sand, fine grained gravel, cohesive-loose, medium-poorly graded, brown-tan, damp	10.50						
12	- wet at 12.0ft BGS		▽					
14						100		
16	END OF BOREHOLE @ 16.0ft BGS	16.00						11
18								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 MORE.GPJ CRA_CORP.GDT 5/1/03

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-79
DATE COMPLETED: March 31, 2003
DRILLING METHOD: Geoprobe
FIELD PERSONNEL: J. Close

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	Geoprobe	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CONCRETE	0.33						
2	SP/ML - SILT and SAND, fine grained sand, some gravel, cohesive, soft, poorly graded, tan, pink, brown, dry, red clay brick					50		0
4		5.00						
6	GP/SP - GRAVEL and SAND, some silt, fine-medium grained sand, fine grained gravel, medium-poorly graded - ~1" CONCRETE chunk, followed by 0.5ft thick SILT, wet, brown-black at 6.0ft BGS		▽ Bentonite			75		0
8								1
10						87		
12	END OF BOREHOLE @ 12.0ft BGS	12.00						
14								
16								
18								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 MORE.GPJ CRA_CORP.GDT 5/1/03

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-80
DATE COMPLETED: March 31, 2003
DRILLING METHOD: Geoprobe
FIELD PERSONNEL: J. Close

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	Geoprobe	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
0	CONCRETE	0.25						
	SP/GP - GRAVEL and SAND, fine-medium grained sand, fine grained gravel, loose, poorly graded, brown, dry					63		0
6			Bentonite			87		0
	SP/ML - SILT and SAND, fine-medium grained sand, trace fine grained gravel, poorly graded, cohesive, dark gray-black, moist	6.50						
10	- wet at 10.5ft BGS		▽			63		0
12	END OF BOREHOLE @ 12.0ft BGS	12.00						

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 MORE.GPJ CRA_CORP.GDT 5/1/03

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-81
DATE COMPLETED: March 31, 2003
DRILLING METHOD: Geoprobe
FIELD PERSONNEL: J. Close

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	Geoprobe	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CONCRETE	0.25						
	SP/GP - GRAVEL and SAND, fine-medium-coarse grained sand, fine grained gravel, poorly graded, black, moist							0.5
2						50		
4	ML - SILT, some fine grained sand, cohesive, poorly graded, brown, damp	4.00						
6			Bentonite			75		0
	SP/GP - GRAVEL and SAND, fine grained gravel, fine-medium grained sand, little silt, loose, medium-poorly graded, brown, dry	7.50						
8								
10						87		0
	- wet, trace shells at 11.5ft BGS		▽					
12	END OF BOREHOLE @ 12.0ft BGS	12.00						
14								
16								
18								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 MORE.GPJ CRA_CORP.GDT 5/1/03

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-82
DATE COMPLETED: March 31, 2003
DRILLING METHOD: Geoprobe
FIELD PERSONNEL: J. Close

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	Geoprobe	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CONCRETE							
	SP - SAND, fine-medium grained, poorly graded, dark brown/slight copper color, damp, trace metals	1.50	Bentonite			50		0
	END OF BOREHOLE @ 4.0ft BGS	4.00						

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

OVERBURDEN LOG 12638 MORE.GPJ CRA_CORP.GDT 5/1/03

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-83
DATE COMPLETED: March 31, 2003
DRILLING METHOD: Geoprobe
FIELD PERSONNEL: J. Close

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	Geoprobe	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CONCRETE	0.66						
2	GP/SP - GRAVEL and SAND, fine-coarse grained sand, fine grained gravel, little silt, slightly cohesive, poorly graded, dark brown, damp		Bentonite			50		0
4	END OF BOREHOLE @ 4.0ft BGS	4.00						
6								
8								
10								
12								
14								
16								
18								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

OVERBURDEN LOG 12638 MORE.GPJ CRA_CORP.GDT 5/1/03

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-84
DATE COMPLETED: March 31, 2003
DRILLING METHOD: Geoprobe
FIELD PERSONNEL: J. Close

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	Geoprobe	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
0	ASPHALT	0.17						
	SP/ML - SILT and SAND, little fine grained gravel, fine-medium grained sand, cohesive, poorly-medium graded, black, damp					75		2
2								
4								
6						75		
	- very moist, wet (perched water) at 7.0ft BGS							
	- fine grained gravel at 7.5ft BGS							5
8	CL/ML - CLAY and SILT, cohesive, firm, dense, poorly graded, damp, black	7.80 8.00	Bentonite					
	SP - SAND, fine-medium grained, loose, poorly graded, black, wet (perched water)	9.00						
	CL/ML - CLAY and SILT, cohesive, firm, dense, poorly graded, black, damp					100		
10								
12	SP/GP - GRAVEL and SAND, fine-medium grained sand, fine-grained gravel, loose, poorly graded, wet	12.00 ▽						4
14						75		0
16	END OF BOREHOLE @ 16.0ft BGS	16.00						
18								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 MORE.GPJ CRA_CORP.GDT 5/1/03

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-85
DATE COMPLETED: March 31, 2003
DRILLING METHOD: Geoprobe
FIELD PERSONNEL: J. Close

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS
	CONCRETE	0.33
	GP/SP - GRAVEL and SAND, little silt, cohesive, loose, fine-medium grained sand, fine grained gravel, dark gray-dark brown, damp	
	ML - SILT, trace sand, cohesive, firm, dense, poorly graded, dark gray-black, damp	10.50
	- increasing sand at 12.0ft BGS	
	GP/SP - GRAVEL and SAND, little silt, cohesive, loose, fine-medium grained sand, fine grained gravel, brown-tan, wet	14.50
	END OF BOREHOLE @ 16.0ft BGS	16.00

Geoprobe: Bentonite

SAMPLE NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
		75		3
		100		5
		75		25
		100		20

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ⊽

OVERBURDEN LOG 12638 MORE.GPJ CRA_CORP.GDT 5/1/03

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-86
DATE COMPLETED: April 1, 2003
DRILLING METHOD: Geoprobe
FIELD PERSONNEL: J. Close

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	Geoprobe	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	ASPHALT	0.17						
	GP/SP - GRAVEL and SAND, fine-medium grained sand, fine grained gravel, poorly graded, loose, dark brown, white, damp, little silt					75		
2								
	- possible top of cardboard fiber pipe at 3.8ft BGS		Bentonite					5
4								
6	ML - SILT, trace fine sand, cohesive, soft, poorly graded, dark brown-black, damp	6.00				75		0
		7.70	▽					
8	GP/SP - GRAVEL and SAND, fine-medium grained sand, fine grained gravel, poorly graded, loose, brown, little silt, wet	8.00						
	END OF BOREHOLE @ 8.0ft BGS							
10								
12								
14								
16								
18								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 MORE.GPJ CRA_CORP.GDT 5/1/03

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-87
DATE COMPLETED: April 1, 2003
DRILLING METHOD: Geoprobe
FIELD PERSONNEL: J. Close

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	Geoprobe	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
0	CONCRETE	0.25						
	ML/SM - SILT and SAND, trace clay, cohesive, soft, dense, fine-medium grained sand, poorly graded, brown, damp					63		0
2								
4								
6	- trace cobbles, coarse grained gravel at 6.0ft BGS		Bentonite			75		0
8								
	GP/SP - GRAVEL and SAND, medium-coarse grained sand, fine grained gravel, poorly graded, brown, moist-wet	9.00						
10	- wet at 11.0ft BGS		▽			75		0
12	END OF BOREHOLE @ 12.0ft BGS	12.00						
14								
16								
18								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 MORE.GPJ CRA_CORP.GDT 5/1/03

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-88
DATE COMPLETED: April 1, 2003
DRILLING METHOD: Geoprobe
FIELD PERSONNEL: J. Close

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	Geoprobe	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	ASPHALT	0.17						
	FILL							
2	GP/SP - GRAVEL and SAND, fine-medium-coarse grained sand, fine grained gravel, loose, poorly graded, brown, wet	2.00				63		0
4			Bentonite					
	- wet at 5.0ft BGS		▽					
6						100		0
8	END OF BOREHOLE @ 8.0ft BGS	8.00						
10								
12								
14								
16								
18								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 MORE.GPJ CRA_CORP.GDT 5/1/03

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-89
DATE COMPLETED: April 1, 2003
DRILLING METHOD: Geoprobe
FIELD PERSONNEL: J. Close

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	Geoprobe	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	ASPHALT	0.41						
2	SP - SAND, medium-coarse grained, some fine grained gravel, poorly graded, loose, dark brown-black, slightly moist	2.50	Bentonite			87		0
4	ML - SILT, cohesive, firm, dense, poorly graded, dark brown-black, burgundy, damp	4.00						
	END OF BOREHOLE @ 4.0ft BGS							
6								
8								
10								
12								
14								
16								
18								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

OVERBURDEN LOG 12638 MORE.GPJ CRA_CORP.GDT 5/1/03

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-90
DATE COMPLETED: April 1, 2003
DRILLING METHOD: Geoprobe
FIELD PERSONNEL: J. Close

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	Geoprobe	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	ASPHALT	0.50						
2	GP/SP - GRAVEL and SAND, fine-medium-coarse grained sand, fine grained gravel, trace silt, poorly-medium graded, dark brown-gray, moist		Bentonite			50		0
4	END OF BOREHOLE @ 4.0ft BGS	4.00						
6								
8								
10								
12								
14								
16								
18								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

OVERBURDEN LOG 12638 MORE.GPJ CRA_CORP.GDT 5/1/03

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-91
DATE COMPLETED: April 1, 2003
DRILLING METHOD: Geoprobe
FIELD PERSONNEL: J. Close

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	Geoprobe	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	ASPHALT	0.50						
	GP/SP - GRAVEL and SAND, fine-medium-coarse grained sand, fine grained gravel, trace silt, poorly graded, brown, damp							
2	SM/ML - SILT and SAND, fine-medium grained sand, cohesive, soft, poorly graded, black, moist	2.00	Bentonite			87		0
4	END OF BOREHOLE @ 4.0ft BGS	4.00						
6								
8								
10								
12								
14								
16								
18								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

OVERBURDEN LOG 12638 MORE.GPJ CRA_CORP.GDT 5/1/03

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-92
DATE COMPLETED: April 1, 2003
DRILLING METHOD: Geoprobe
FIELD PERSONNEL: J. Close

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	Geoprobe	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
0	CONCRETE	0.33						
	SP - SAND, fine-medium-coarse grained sand, poorly graded, unconsolidated, trace silt, brown							
2						50		0
4								
6	- cobbles at 5.9ft BGS	6.00	Bentonite			63		
	GP/SP - GRAVEL and SAND, fine-medium grained sand, trace silt, fine grained gravel, poorly graded, loose, brown, damp							2
8								
10						87		
	- wet at 11.0ft BGS		▽					5
12	END OF BOREHOLE @ 12.0ft BGS	12.00						
14								
16								
18								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 MORE.GPJ CRA_CORP.GDT 5/1/03

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-93
DATE COMPLETED: April 1, 2003
DRILLING METHOD: Geoprobe
FIELD PERSONNEL: J. Close

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	Geoprobe	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
0	CONCRETE	0.25						
	SP/ML - SILT and SAND, fine-medium grained sand, some coarse grained sand, cohesive, soft, poorly graded, offwhite-dark brown, moist							11
2						37		
4								
6	GP/SP - GRAVEL and SAND, trace cobble, loose, fine-medium-coarse grained sand, fine grained gravel, poorly graded, brown, damp-moist	6.00	Bentonite			50		0
8								
10	- wet at 10.5ft BGS		▽			83		
12	END OF BOREHOLE @ 12.0ft BGS	12.00						70
14								
16								
18								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 MORE.GPJ CRA_CORP.GDT 5/1/03

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-94
DATE COMPLETED: April 1, 2003
DRILLING METHOD: Geoprobe
FIELD PERSONNEL: J. Close

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	Geoprobe	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CONCRETE	0.25						
	GP/SP - GRAVEL and SAND, fine-medium grained sand, fine grained gravel, loose, poorly graded, brown, dry					13		0
2								
4								
6			Bentonite			75		0
	SM/ML - SILT and SAND, cohesive, soft, poorly graded, dark gray, damp-moist	7.00						
8								
	GP/SP - GRAVEL and SAND, fine-medium grained sand, fine grained gravel, loose, poorly graded, brown, damp-moist	9.50				100		
10								
	SM/ML - SILT and SAND, cohesive, soft, poorly graded, dark gray, damp-moist - wet at 11.0ft BGS	10.50	▽					
12								35
	END OF BOREHOLE @ 12.0ft BGS	12.00						
14								
16								
18								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 MORE.GPJ CRA_CORP.GDT 5/1/03

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-95
DATE COMPLETED: April 1, 2003
DRILLING METHOD: Geoprobe
FIELD PERSONNEL: J. Close

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	Geoprobe	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CONCRETE	0.25						
	GP/SP - GRAVEL and SAND, fine-medium-coarse grained sand, fine grained gravel, loose, poorly graded, brown, dry					63		0
2								
4		3.80						
	SP - SAND, fine-medium-coarse grained, loose, poorly graded, brown, dry	4.00						
	GP/SP - GRAVEL and SAND, fine-medium-coarse grained sand, fine grained gravel, loose, poorly graded, brown, dry		Bentonite			50		0
6								
8								
10						75		
	- wet, dark gray staining at 11.0ft BGS		▽					
12	END OF BOREHOLE @ 12.0ft BGS	12.00						150
14								
16								
18								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-96
DATE COMPLETED: April 1, 2003
DRILLING METHOD: Geoprobe
FIELD PERSONNEL: J. Close

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	Geoprobe	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CONCRETE	0.33						
2	ML - SILT, little fine sand, cohesive, soft, poorly graded, brown, damp					63		0
4								
6	GP/SP - GRAVEL and SAND, fine-medium grained sand, fine grained gravel, loose-cohesive, trace silt, brown, dry	5.50	Bentonite			63		0
8								
10	- wet, dark gray, odor at 11.0ft BGS		▽			87		
12	END OF BOREHOLE @ 12.0ft BGS	12.00						150
14								
16								
18								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 MORE.GPJ CRA_CORP.GDT 5/1/03

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-97
DATE COMPLETED: April 2, 2003
DRILLING METHOD: Geoprobe
FIELD PERSONNEL: J. Close

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	Geoprobe	SAMPLE NUMBER	SAMPLE INTERVAL	REC (%)	'N' VALUE	PID (ppm)
	CONCRETE	0.33						
2	GP/SP - GRAVEL and SAND, fine-medium grained sand, fine grained gravel, little silt, poorly graded, loose, brown, dark gray, damp					50		0
4								
		5.00						
6	ML/SM - SILT and SAND, trace fine grained gravel, poorly graded, slightly cohesive, dark gray, black, damp, fine-medium grained sand					87		0
8	- red clay colored soil at 8.0ft BGS							
		9.00						
10	GP/SP - GRAVEL and SAND, fine-medium grained sand, fine grained gravel, little silt, poorly graded, loose, brown, dark gray, damp - red clay colored soil at 9.5ft BGS					100		0
		11.50						
12	ML/SM - SILT and SAND, trace fine grained gravel, poorly graded, slightly cohesive, dark gray, black, damp, fine-medium grained sand							
14		14.00				100		4
	GP/SP - GRAVEL and SAND, fine-medium grained sand, fine grained gravel, little silt, poorly graded, loose, brown, dark gray, damp							
16			Bentonite					
18		18.00				75		0
	ML/SM - SILT and SAND, trace fine grained gravel, poorly graded, slightly cohesive, dark gray, dark brown, damp, fine-medium grained sand, little clay							

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-97
DATE COMPLETED: April 2, 2003
DRILLING METHOD: Geoprobe
FIELD PERSONNEL: J. Close

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	Geoprobe	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
22						50		0
24								
26								0
28								
30	GP/SP - GRAVEL and SAND, medium-coarse grained sand, fine grained gravel, dark gray, odor, wet - wet at 31.0ft BGS	30.00	▽			63		
32	END OF BOREHOLE @ 32.0ft BGS	32.00						34
34								
36								
38								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-98
DATE COMPLETED: April 2, 2003
DRILLING METHOD: Geoprobe
FIELD PERSONNEL: J. Close

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	Geoprobe	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CONCRETE	0.33						
	GP/SP - GRAVEL and SAND, fine-medium grained sand, fine grained gravel, loose, poorly graded, tan, dry							
2						63		0
4								
6						63		0
	- medium-coarse grained sand at 7.0ft BGS - increasing silt at 7.5ft BGS							
8								
	- cobbles and sand at 9.0ft BGS							5
10						63		
	- increasing silt, black-dark gray, dark brown at 10.5ft BGS							
12								
14			Bentonite			87		0
16								
18						75		0
	- moist at 18.5ft BGS - red clay colored soil at 19.0ft BGS - wood pieces at 19.5ft BGS							

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 MORE.GPJ CRA_CORP.GDT 5/1/03

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-98
DATE COMPLETED: April 2, 2003
DRILLING METHOD: Geoprobe
FIELD PERSONNEL: J. Close

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	Geoprobe	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
22						75		
	ML - SILT, little clay, cohesive, soft, poorly graded, trace fine grained sand, black, damp, rubber odor	22.50						2
24								
26						25		
	GP/SP - GRAVEL and SAND, fine-medium grained sand, fine grained gravel, loose, poorly graded, dark gray, wet, odor	26.50	▽					37
28	END OF BOREHOLE @ 28.0ft BGS	28.00						
30								
32								
34								
36								
38								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 MORE.GPJ CRA_CORP.GDT 5/1/03

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-99
DATE COMPLETED: April 2, 2003
DRILLING METHOD: Geoprobe
FIELD PERSONNEL: J. Close

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	Geoprobe	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
0	ASPHALT	0.17						
	GP/SP - GRAVEL and SAND, fine grained gravel, fine-medium-coarse grained sand, loose, medium-poorly graded, black-dark brown, dry							
2			Bentonite			87		0
4	END OF BOREHOLE @ 4.0ft BGS	4.00						
6								
8								
10								
12								
14								
16								
18								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

OVERBURDEN LOG 12638 MORE.GPJ CRA_CORP.GDT 5/1/03

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-100
DATE COMPLETED: April 2, 2003
DRILLING METHOD: Geoprobe
FIELD PERSONNEL: J. Close

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	Geoprobe	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
0	CONCRETE	0.33						
	SP - SAND, fine-medium grained, loose, poorly graded, brown, dry, trace silt							
2						50		0
4								
6	GP/SP - GRAVEL and SAND, trace silt, fine-medium grained sand, fine grained gravel, loose, poorly-medium graded, brown, dry	6.00	Bentonite			50		0
8								
10						63		0
	GP - GRAVEL, fine grained, some sand, poorly graded, loose, brown, wet	10.50	▽					
12	END OF BOREHOLE @ 12.0ft BGS	12.00						
14								
16								
18								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 MORE.GPJ CRA_CORP.GDT 5/1/03

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-101
DATE COMPLETED: April 2, 2003
DRILLING METHOD: Geoprobe
FIELD PERSONNEL: J. Close

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	Geoprobe	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CONCRETE	0.33						
2	SP - SAND, medium-coarse grained, loose, medium-poorly graded, gray, dry					37		0
4								
	CL/ML - CLAY and SILT, cohesive, soft, dense, low plasticity, black-dark gray, damp-moist	5.00						
6			Bentonite			100		0
8	GP/SP - GRAVEL and SAND, fine-medium-coarse grained sand, fine grained gravel, poorly graded, loose, brown, dry	8.00						
10						75		0
	- wet at 11.5ft BGS		▽					
12	END OF BOREHOLE @ 12.0ft BGS	12.00						
14								
16								
18								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 MORE.GPJ CRA_CORP.GDT 5/1/03

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-102
DATE COMPLETED: April 2, 2003
DRILLING METHOD: Geoprobe
FIELD PERSONNEL: J. Close

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	Geoprobe	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
0	CONCRETE	0.33						
	SM - SAND and SILT, medium graded, fine-medium-coarse grained sand, loose, brown, dry							
2						63		0
4								
6			Bentonite			63		0
		7.50						
8	GP/SP - GRAVEL and SAND, trace cobble, fine-medium grained sand, fine grained gravel, loose, medium-poorly graded, trace silt, brown, dry							
10						75		
	- wet at 11.5ft BGS		▽					
12	END OF BOREHOLE @ 12.0ft BGS	12.00						
14								
16								
18								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 MORE.GPJ CRA_CORP.GDT 5/1/03

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-103
DATE COMPLETED: April 2, 2003
DRILLING METHOD: Geoprobe
FIELD PERSONNEL: J. Close

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	Geoprobe	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CONCRETE	0.33						
2	SP - SAND, fine-medium grained sand, loose, poorly graded, black, dry					100		0
	ML - SILT, cohesive, dense, soft, poorly graded, dark gray, damp	3.30						
4						100		0
6			Bentonite			75		0
8	GP/SP - GRAVEL and SAND, fine-medium grained sand, fine grained gravel, trace silt, cohesive, medium-poorly graded, dark gray, damp	8.00				75		0
10						100		
	END OF BOREHOLE @ 11.0ft BGS	11.00	▽					70
12								
14								
16								
18								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 MORE.GPJ CRA_CORP.GDT 5/1/03

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-104
DATE COMPLETED: April 2, 2003
DRILLING METHOD: Geoprobe
FIELD PERSONNEL: J. Close

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	Geoprobe	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CONCRETE	0.33						
	SM/ML - SILT and SAND, fine-medium grained sand, loose, poorly graded, brown, tan, damp					100		0
2								
4			Bentonite			50		0
6	ML - SILT, cohesive, soft, dense, poorly graded, gray, damp	6.00				50		0
	GP/SP - GRAVEL and SAND, fine-medium grained sand, fine grained gravel, poorly graded, gray, dry	7.00				75		1
8	- wet at 8.5ft BGS		▽					
	END OF BOREHOLE @ 9.0ft BGS	9.00						
10								
12								
14								
16								
18								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 MORE.GPJ CRA_CORP.GDT 5/1/03

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: BH-169
DATE COMPLETED: November 1, 2004
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: NATE ZIEGLER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CONCRETE						
	FILL - gravel	0.50					
2			1		3.0		0
	SP/GP - SAND and GRAVEL, trace cobbles, trace brick, medium to coarse grained sand, coarse grained gravel, poorly graded, gray, black staining, moist, no PID	3.00					
4							
6							
8			2		4.0		0
	- wet at 9.5ft BGS ▽						
10	END OF BOREHOLE @ 10.0ft BGS	10.00					
12							
14							
16							
18							
20							

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 SB-169 TO 186.GPJ CRA_CORP.GDT 12/17/04

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: BH-170
DATE COMPLETED: November 1, 2004
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: NATE ZIEGLER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CONCRETE						
	FILL	0.50					
2			1		2.5		0
	SW/GW - SAND and GRAVEL, medium to coarse grained sand, fine to coarse (3") grained gravel, well graded, tan-gray, dry	3.00					
4							
6							
8			2		3.5		0
10	- wet at 10.0ft BGS	10.00 ▽					
	END OF BOREHOLE @ 10.0ft BGS						
12							
14							
16							
18							
20							

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 SB-169 TO 186.GPJ CRA_CORP.GDT 12/17/04

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: BH-171
DATE COMPLETED: November 1, 2004
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: NATE ZIEGLER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	ASPHALT	0.17					
	SW/GW - SAND and GRAVEL, medium to coarse grained sand, trace fine grained gravel, poorly graded, brown, damp		1		2.5		0
	SP - SAND, medium grained, poorly graded, brown, dry	4.50					
	ML - SILT, stiff, black, moist	7.50	2		3.0		0
	- coarse gravel, wet at 9.5ft BGS ▽						
	END OF BOREHOLE @ 10.0ft BGS	10.00					

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 SB-169 TO 186.GPJ CRA_CORP.GDT 12/16/04

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: BH-172
DATE COMPLETED: November 1, 2004
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: NATE ZIEGLER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CONCRETE						
	SW/GW - SAND and GRAVEL, medium to coarse grained sand, fine to coarse grained gravel, subangular to subround, well graded, black, brown, dry	0.50	1		2.5		0
	END OF BOREHOLE @ 5.0ft BGS	5.00					

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

OVERBURDEN LOG 12638 SB-169 TO 186.GPJ CRA_CORP.GDT 12/16/04

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: BH-173
DATE COMPLETED: November 1, 2004
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: NATE ZIEGLER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CONCRETE	0.50					
	GW - GRAVEL, pea gravel, trace medium to coarse grained sand, well graded, brown, dry		1		3.0		0
			2		4.0		0
	CL/GC - CLAYEY GRAVEL, trace medium to coarse grained sand, soft, brown, moist	9.00					
	SP/GP - SAND and GRAVEL, wet	10.00 ▽					
	FILL, wood, cardboard, trace sand	10.50	3		2.5		0
	END OF BOREHOLE @ 15.0ft BGS	15.00					

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 SB-169 TO 186.GPJ CRA_CORP.GDT 12/17/04

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: BH-174
DATE COMPLETED: November 1, 2004
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: NATE ZIEGLER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
0	SW/GW - SAND and GRAVEL, medium to coarse grained sand, fine grained gravel, well graded, loose, brown, dry		1		4.0		0
2							
4							
6			2		5.0		0
8							
10							
12			3		5.0		0
14	- wet at 14.0ft BGS ▽						
	END OF BOREHOLE @ 15.0ft BGS	15.00					
16							
18							
20							

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 SB-169 TO 186.GPJ CRA_CORP.GDT 12/16/04

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: BH-175
DATE COMPLETED: November 1, 2004
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: NATE ZIEGLER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CONCRETE						
	SP - SAND, coarse grained, very loose, black, dry	0.83	1		2.0		0
	ML/CL - SILTY CLAY, soft, brown, dry	4.00					
	SW/GW - SAND and GRAVEL, medium to coarse grained sand, fine to coarse grained gravel, subangular, well graded, loose, brown, dry	7.00	2		3.5		0
	- wet at 13.0ft BGS		3		4.0		195
	END OF BOREHOLE @ 15.0ft BGS	15.00					

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 SB-169 TO 186.GPJ CRA_CORP.GDT 12/17/04

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: BH-176
DATE COMPLETED: November 2, 2004
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: NATE ZIEGLER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
0	CONCRETE	0.83					
	SW/GW - SAND and GRAVEL, coarse grained sand, fine to coarse grained gravel, subangular to subrounded, well graded, brown, black, loose, dry		1		1.0		0
10	- wet at 10.0ft BGS ▽		2		3.5		0
			3		4.0		0
15	END OF BOREHOLE @ 15.0ft BGS	15.00					

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 SB-169 TO 186.GPJ CRA_CORP.GDT 12/16/04

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: BH-177
DATE COMPLETED: November 2, 2004
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: NATE ZIEGLER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CONCRETE						
	ML/SW - SILTY SAND, fine to medium grained sand, soft, brown, damp	0.50	1		2.5		0
	SW/GW - SAND and GRAVEL, medium to coarse grained sand, fine to coarse grained gravel, subangular, subround, well graded, gray, dry	7.00	2		3.0		0
	- wet at 9.5ft BGS						
	END OF BOREHOLE @ 10.0ft BGS	10.00					

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 SB-169 TO 186.GPJ CRA_CORP.GDT 12/16/04

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: BH-178
DATE COMPLETED: November 11, 2004
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: JASON CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CONCRETE	0.92					
2	SW - SILTY SAND, medium to coarse grained sand, well graded, loose, dark brown to dark gray to black, rust, dry - clay, brick at 1.5ft BGS		1		3.0		7.5
4							
6							
	- moist at 7.5ft BGS		2		3.0		
8	ML/CL - SILT and CLAY, cohesive, dense, soft to firm, low plasticity, dark brown, damp to moist	8.00					4.7
10							
	GM/SM - GRAVEL and SAND, silty, medium to coarse grained sand, fine grained gravel, loose	11.00					
12			3		3.0		3
14	- black dark gray, wet at 14.2ft BGS						
	END OF BOREHOLE @ 15.0ft BGS	15.00					
16							
18							
20							

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 BH-169 TO 186.GPJ CRA_CORP.GDT 12/23/04

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: BH-179
DATE COMPLETED: November 11, 2004
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: JASON CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	SM/ML - SILT and SAND, fine to medium grained sand, cohesive, dense, dark brown to dark gray, damp		1		3.0		3.8
6	SP - SAND, medium grained sand, poorly graded, loose, brown, dry	6.00					
	ML - SILT, cohesive, dense, firm, brown, damp	7.30	2		4.0		1.7
8	SW/GW - SAND and GRAVEL, medium to coarse grained sand, fine grained gravel, well graded, loose, brown/tan, dry	8.30					
14	- wet at 14.0ft BGS	▽	3		4.0		0
	END OF BOREHOLE @ 15.0ft BGS	15.00					

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 SB-169 TO 186.GPJ CRA_CORP.GDT 12/16/04

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: BH-180
DATE COMPLETED: November 11, 2004
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: JASON CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	SM/GM - SILT and SAND and GRAVEL, fine to medium to coarse grained sand, fine grained gravel, well graded, loose, dark brown to dark gray to black, dry						
2	SW/GW - SAND and GRAVEL, medium to coarse grained sand, fine grained gravel, well graded, loose, tan/light brown, dry	2.00	1		2.0		0
4							
6							
8			2		4.0		3
10							
12			3		4.5		
14	- wet at 14.5ft BGS						12.1
	END OF BOREHOLE @ 15.0ft BGS	15.00					
16							
18							
20							

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 SB-169 TO 186.GPJ CRA_CORP.GDT 12/16/04

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: BH-181
DATE COMPLETED: November 11, 2004
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: JASON CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	SM/ML - SILT and SAND, fine grained sand, cohesive, soft, dark brown, damp		1		2.0		3.5
2							
4							
6			2		4.5		1
8							
10	SW/GW - SAND and GRAVEL, medium to coarse grained sand, fine grained gravel, well graded, loose, tan/light brown, dry	9.80					
12			3		3.8		
	- gray staining, wet at 13.5ft BGS						3.3
14							
	CL - CLAY (TILL), with gravel, cohesive, hard, dense, low plasticity, green/brown, dry	14.50					
	SW/GW - SAND and GRAVEL, medium to coarse grained sand, fine grained gravel, well graded, loose, tan/light brown, very wet	15.00 ▽					
16	CL - CLAY (TILL), with gravel, cohesive, hard, dense, low plasticity, green/brown, dry	16.00					
			4		NR		NR
18							
	SP - SAND, medium grained, poorly graded, loose to consolidated, brown, wet	18.50					
20	END OF BOREHOLE @ 20.0ft BGS	20.00					
	NR - Not Recorded						
22							

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 BH-181.GPJ CRA_CORP.GDT 12/23/04

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: BH-182
DATE COMPLETED: November 11, 2004
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: JASON CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CONCRETE						
	FILL	1.50					
2	ML - SILT, cohesive, dense, soft to firm, dark brown, damp	2.00	1		3.0		0
4							
6							
	SW/GW - SAND and GRAVEL, medium to coarse grained sand, fine grained gravel, well graded, loose, tan/brown, dry	6.50	2		4.5		0
8							
10							
12			3		4.5		
14	- wet at 14.0ft BGS ▽						1.1
	END OF BOREHOLE @ 15.0ft BGS	15.00					
16							
18							
20							

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 SB-169 TO 186.GPJ CRA_CORP.GDT 12/17/04

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: BH-183
DATE COMPLETED: November 29, 2004
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: NATE ZIEGLER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CONCRETE						
	CL/GC - GRAVELLY CLAY, trace coarse grained sand, fine to coarse grained gravel, subangular to subround, cohesive, soft, black	1.67	1		2.0		
	ML/CL - SILTY CLAY, trace fine grained sand and gravel, non cohesive, brown, dry	5.00					1
	SW/GW - SAND and GRAVEL, medium to coarse grained sand, fine grained gravel, well graded, loose, brown	9.00	2		5.0		0
	- wet at 14.0ft BGS	14.00 ▽	3		4.0		0
	END OF BOREHOLE @ 14.0ft BGS						

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 BH-169 TO 186.GPJ CRA_CORP.GDT 12/23/04

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: BH-184
DATE COMPLETED: November 29, 2004
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: NATE ZIEGLER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CONCRETE	0.33					
	SW/GW - SAND and GRAVEL, trace silt, medium to coarse grained sand, fine to coarse grained gravel, well graded, loose, brown, black, moist		1		2.5		0
	- orange sandy crushed material at 4.5ft BGS						
	- decreasing silt, dry, sand and gravel at 8.0ft BGS		2		3.0		0
	- wet, black petroleum odor at 14.0ft BGS ▽		3				4
	END OF BOREHOLE @ 15.0ft BGS	15.00					40

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 SB-169 TO 186.GPJ CRA_CORP.GDT 12/17/04

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: BH-185
DATE COMPLETED: November 29, 2004
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: NATE ZIEGLER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CONCRETE	0.33					
	FILL, sand, gravel, trace fines, cohesive						4
2			1		3.0		
4	GC - GRAVELLY CLAY, trace coarse grained sand, cohesive, brown-black, moist	4.00					
6							
8			2		3.0		0
10							
	SW/GW - SAND and GRAVEL, well graded	11.00					
12			3				NR
14	- wet at 14.0ft BGS						
	END OF BOREHOLE @ 15.0ft BGS	15.00					
16	NR - Not Recorded						
18							
20							

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 SB-169 TO 186.GPJ CRA_CORP.GDT 12/17/04

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: BH-186
DATE COMPLETED: November 29, 2004
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: NATE ZIEGLER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CONCRETE	0.33					
	GC - GRAVELLY CLAY, trace fine grained sand, fine grained gravel, cohesive, brown, soft, moist		1		2.5		0
	- increasing medium to coarse grained sand at 7.0ft BGS		2		2.5		0
	- wet, black, no odor at 14.0ft BGS		3		3.0		0
	END OF BOREHOLE @ 15.0ft BGS	15.00					

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 SB-169 TO 186.GPJ CRA_CORP.GDT 12/16/04

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-105-04
DATE COMPLETED: January 14, 2004
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: NATE ZIEGLER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	ASPHALT	0.33	1		2.0		0
	SP/GP - SAND and GRAVEL, fine to medium grained sand, fine to coarse gravel, poorly graded, brown, dry						
2	END OF BOREHOLE @ 2.0ft BGS	2.00					
4							
6							
8							
10							
12							
14							
16							
18							
20							

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

OVERBURDEN LOG 12638 SB-105 TO 165.GPJ CRA_CORP.GDT 4/22/04

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-106-04
DATE COMPLETED: January 14, 2004
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: NATE ZIEGLER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	ASPHALT	0.33	1		2.0		0
	SP/GP - SAND and GRAVEL, fine to medium grained sand, poorly graded, brown, dry						
2	END OF BOREHOLE @ 2.0ft BGS	2.00					
4							
6							
8							
10							
12							
14							
16							
18							
20							

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

OVERBURDEN LOG 12638 SB-105 TO 165.GPJ CRA_CORP.GDT 4/22/04

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-107-04
DATE COMPLETED: January 14, 2004
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: NATE ZIEGLER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	ASPHALT	0.33	1				0
	SP/GP - SAND and GRAVEL, poorly graded, medium to coarse grained sand, coarse grained gravel, brown, dry						
2	END OF BOREHOLE @ 2.0ft BGS	2.00					
4							
6							
8							
10							
12							
14							
16							
18							
20							

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

OVERBURDEN LOG 12638 SB-105 TO 165.GPJ CRA_CORP.GDT 4/22/04

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-108-04
DATE COMPLETED: January 14, 2004
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: NATE ZIEGLER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CONCRETE						
	FILL SP/GP - SAND and GRAVEL, medium to coarse grained, poorly graded, brown, dry	0.50	1		2.0		0
			2		2.0		0
	SM - SILTY SAND, black, soft, moist	9.00					
	SP/GP - SAND and GRAVEL, poorly graded, medium to coarse grained, brown, dry	11.00					
	- wet at 13.0ft BGS ▽		3		4.0		
	END OF BOREHOLE @ 15.0ft BGS	15.00					

2 4 6 8 10 12 14 16 18 20

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 SB-105 TO 165.GPJ CRA_CORP.GDT 4/22/04

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-109-04
DATE COMPLETED: January 14, 2004
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: NATE ZIEGLER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CONCRETE						
	SM - SILTY SAND, brown-black, damp, soft	0.50					
2			1		3.0		0
4							
6							
8			2		3.0		0
	SP/GP - SAND and GRAVEL, medium to coarse grained, poorly graded, brown, dry	8.00					
10							
12	- wet at 12.5ft BGS ▽		3		3.0		0
14							
	END OF BOREHOLE @ 15.0ft BGS	15.00					
16							
18							
20							

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 SB-105 TO 165.GPJ CRA_CORP.GDT 4/22/04

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-110-04
DATE COMPLETED: January 14, 2004
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: NATE ZIEGLER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CONCRETE	0.50					
	SP - SAND, trace gravel, poorly graded		1		2.0		0
	SP/GP - SAND and GRAVEL, poorly graded, brown	8.00	2		1.0		0
	- water table at 17.0ft BGS ▽		3		2.0		0
	- petroleum odor at 18.0ft BGS		4				20.3
	- black at 19.0ft BGS						
	END OF BOREHOLE @ 20.0ft BGS	20.00					

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 SB-105 TO 165.GPJ CRA_CORP.GDT 4/22/04

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-111-04
DATE COMPLETED: January 14, 2004
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: NATE ZIEGLER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CONCRETE	0.50					
	SW - SAND, trace gravel, well sorted						
2	SP/GP - SAND and GRAVEL, poorly graded, medium to coarse grained, brown, dry	2.00	1		1.5		0
4							
6							
8			2		2.0		0
10							
12			3		3.0		0
	- wet at 13.0ft BGS ▽						
14							
	END OF BOREHOLE @ 15.0ft BGS	15.00					
16							
18							
20							

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 SB-105 TO 165.GPJ CRA_CORP.GDT 4/22/04

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-112-04
DATE COMPLETED: January 15, 2004
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: NATE ZIEGLER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CONCRETE	0.58					
	SP/GP - SAND and GRAVEL, medium to coarse grained, poorly graded, brown, dry		1		3.0		0
			2		5.0		0
			3		5.0		0
	- wet at 14.0ft BGS ▽						
	END OF BOREHOLE @ 15.0ft BGS	15.00					

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 SB-105 TO 165.GPJ CRA_CORP.GDT 4/22/04

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-113-04
DATE COMPLETED: January 15, 2004
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: NATE ZIEGLER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CONCRETE	0.58					
	FILL		1		3.0		0
4	SP/GP - SAND and GRAVEL, medium to coarse grained, poorly graded	4.00					
6	- moist at 7.0ft BGS		2		3.0		0
10							
12			3		3.0		0
14	- wet at 14.0ft BGS ▽						
	END OF BOREHOLE @ 15.0ft BGS	15.00					
16							
18							
20							

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 SB-105 TO 165.GPJ CRA_CORP.GDT 4/22/04

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-114-04
DATE COMPLETED: January 15, 2004
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: NATE ZIEGLER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CONCRETE	0.58					
	SP/GP - SAND and GRAVEL (FILL), trace fines, black		1		2.0		
	- medium to coarse grained, poorly graded, no fill at 8.0ft BGS		2		3.0		10
	- wet at 13.0ft BGS		3		4.0		10
	END OF BOREHOLE @ 15.0ft BGS	15.00					

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 SB-105 TO 165.GPJ CRA_CORP.GDT 4/22/04

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-115-04
DATE COMPLETED: February 4, 2004
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: JASON CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CONCRETE	0.75					
	SM/GM - SILT, SAND, and GRAVEL, fine grained gravel, fine to medium to coarse grained sand, cohesive, dirty, medium graded, brown, dark gray, iron staining, dry		1		2.0		0
			2		1.0		0
	SP/GP - SAND and GRAVEL, fine to medium to coarse grained sand, fine grained gravel, loose, medium to poorly graded, brown-tan, dry	11.00	3		4.0		0
	- wet at 14.0ft BGS - dark gray colour, slight odor at 14.5ft BGS	▽					
			4		4.0		0
	END OF BOREHOLE @ 20.0ft BGS	20.00					

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 SB-105 TO 165.GPJ CRA_CORP.GDT 4/22/04

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-116-04
DATE COMPLETED: January 15, 2004
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: NATE ZIEGLER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CONCRETE						
	GC/CL - GRAVELLY CLAY, trace silt, cohesive, brown, damp	1.00	1		1.7		0
2							
4							
6							
8			2		3.0		0
	SP/GP - SAND and GRAVEL, trace cobbles, poorly graded, brown, dry	9.00					
10							
12			3		2.5		0
14	- wet at 14.0ft BGS ▽						
	END OF BOREHOLE @ 15.0ft BGS	15.00					
16							
18							
20							

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 SB-105 TO 165.GPJ CRA_CORP.GDT 4/22/04

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-117-04
DATE COMPLETED: January 15, 2004
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: NATE ZIEGLER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CONCRETE						
	SP/GP - SAND and GRAVEL, poorly graded, coarse grained, brown, dry	1.00	1		3.0		0
	GC/CL - GRAVELLY CLAY, coarse grained gravel, brown	8.00	2		3.0		0
	- wet at 14.0ft BGS ▽		3		3.0		0
	END OF BOREHOLE @ 15.0ft BGS	15.00					

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 SB-105 TO 165.GPJ CRA_CORP.GDT 4/22/04

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-118-04
DATE COMPLETED: January 16, 2004
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: NATE ZIEGLER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
			3' STICK UP					
	CONCRETE		CONCRETE SEAL					
	FILL, sand and gravel, wood, cohesive, black, petroleum odor	1.00		1		1.5		0
			3 1/4" DIAMETER HOLE					
			2" DIAMETER PVC RISER	2		2.0		0
			BENTONITE CHIPS AND NATURAL COLLAPSE					
				3		3.0		0
			SAND PACK AND NATURAL COLLAPSE					
				4		4.0		
	SP/GP - SAND and GRAVEL, medium to coarse grained sand, coarse grained gravel, poorly graded, brown, moist	19.00						9.8

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 SB-105 TO 165.GPJ CRA_CORP.GDT 4/23/04

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-118-04
DATE COMPLETED: January 16, 2004
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: NATE ZIEGLER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
22	- wet at 21.0ft BGS - increasing fines, black at 22.0ft BGS		WELL SCREEN	5				
24								
26								
28				6				
30	END OF BOREHOLE @ 30.0ft BGS	30.00	WELL DETAILS Screened interval: 14.50 to 29.50ft BGS Length: 15ft Diameter: 2in Slot Size: 10 Material: PVC Seal: 1.00 to 12.50ft BGS Material: BENTONITE CHIPS and NATURAL COLLAPSE Sand Pack: 12.50 to 30.00ft BGS Material: PREPACK SAND and NATURAL COLLAPSE					
32								
34								
36								
38								
40								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 SB-105 TO 165.GPJ CRA_CORP.GDT 4/23/04

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-119-04
DATE COMPLETED: January 16, 2004
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: NATE ZIEGLER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE
	CONCRETE					
	MC/CL - SILTY CLAY (FILL), trace sand, soft, black, moist	1.00	1		0.8	
			2		1.0	
			3		4.0	
	CL - CLAY, trace sand and silt, cohesive, firm, moist, black	14.00	4		4.0	
	SP/GP - SAND and GRAVEL, coarse grained, poorly graded, brown, dry	19.00				

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

OVERBURDEN LOG 12638 SB-105 TO 165.GPJ CRA_CORP.GDT 4/22/04

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-119-04
DATE COMPLETED: January 16, 2004
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: NATE ZIEGLER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE
22			5		4.0	
24	END OF BOREHOLE @ 25.0ft BGS	25.00				
26						
28						
30						
32						
34						
36						
38						
40						

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

OVERBURDEN LOG 12638 SB-105 TO 165.GPJ CRA_CORP.GDT 4/22/04

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-120-04
DATE COMPLETED: January 19, 2004
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: NATE ZIEGLER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CONCRETE						
	MC/CL - SILTY CLAY (FILL), trace sand and gravel, cohesive, black	1.00					
2			1		3.0		
4							
	- petroleum odor at 5.0ft BGS						1.1
6							
			2		2.5		0
8							
	- oil staining present at 9.0ft BGS						
10							
12			3		2.0		0
14							
16							
			4		3.0		0
18							
	- increasing sand at 18.9ft BGS						
	SP/GP - SAND and GRAVEL, medium to coarse grained sand, coarse grained gravel with cobbles, poorly graded, brown, petroleum odor	19.00					25
20							

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 SB-105 TO 165.GPJ CRA_CORP.GDT 4/22/04

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-120-04
DATE COMPLETED: January 19, 2004
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: NATE ZIEGLER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
22	- wet at 23.0ft BGS ▽		5		5.0		
24	END OF BOREHOLE @ 25.0ft BGS	25.00					
26							
28							
30							
32							
34							
36							
38							
40							

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 SB-105 TO 165.GPJ CRA_CORP.GDT 4/22/04

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-121-04
DATE COMPLETED: January 19, 2004
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: NATE ZIEGLER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE
0	SP/GP - SAND and GRAVEL, medium to coarse grained, poorly graded, brown, dry		1		3.0	
5	END OF BOREHOLE @ 5.0ft BGS	5.00				

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

OVERBURDEN LOG 12638 SB-105 TO 165.GPJ CRA_CORP.GDT 4/22/04

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-122-04
DATE COMPLETED: January 20, 2004
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: NATE ZIEGLER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CONCRETE	0.58					
	FILL, sand and gravel		1		3.0		0
	- increasing fines, black, cohesive at 4.0ft BGS		2		2.0		0
	SP/GP - SAND and GRAVEL, medium to coarse grained, poorly graded, brown, dry	8.00	3		2.5		0
	- wet at 13.5ft BGS ▽						
	END OF BOREHOLE @ 15.0ft BGS	15.00					

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 SB-105 TO 165.GPJ CRA_CORP.GDT 4/22/04

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-123-04
DATE COMPLETED: January 20, 2004
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: NATE ZIEGLER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CONCRETE	0.58					
	FILL, sand and gravel, trace fines, brick, metal slag, cohesive, moist, black		1		3.0		0
			2		4.0		0
	SP/GP - SAND and GRAVEL, medium to coarse grained, poorly graded, brown, dry	9.00	3		4.0		0
	- wet at 14.0ft BGS ▽						
	END OF BOREHOLE @ 15.0ft BGS	15.00					

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 SB-105 TO 165.GPJ CRA_CORP.GDT 4/22/04

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-124-04
DATE COMPLETED: January 20, 2004
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: NATE ZIEGLER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CONCRETE	0.83					
	VOID, crawl space between floor and basement, dirt floor		1				0
4	SP/GP - SAND and GRAVEL, trace of cobbles, medium to coarsely grained, poorly graded, brown, dry	4.40					
8			2		1.8		0
12	- wet at 12.5ft BGS - petroleum odor, black staining at 13.0ft BGS		3		3.0		15
	END OF BOREHOLE @ 14.8ft BGS	14.80					

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 SB-105 TO 165.GPJ CRA_CORP.GDT 4/22/04

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-125-04
DATE COMPLETED: January 20, 2004
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: NATE ZIEGLER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CONCRETE	0.83					
	FILL, sand, black, coarse grained		1		2.0		0
	SP/GP - SAND and GRAVEL, trace of cobbles, medium to coarse grained, poorly graded, brown, wet	7.00	2		3.0		0
	- wet at 12.5ft BGS ▽		3		5.0		0
	END OF BOREHOLE @ 15.0ft BGS	15.00					

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 SB-105 TO 165.GPJ CRA_CORP.GDT 4/22/04

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-126-04
DATE COMPLETED: January 20, 2004
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: NATE ZIEGLER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CONCRETE	0.50					
	VOID, crawl space		1		0.0		0
			2		1.0		0
	SP/GP - SAND and GRAVEL, trace of cobbles, medium to coarse grained, poorly graded, brown, dry	8.00					
			3		1.0		0
	- water table at 14.0ft BGS ▽						
	END OF BOREHOLE @ 15.0ft BGS	15.00					

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 SB-105 TO 165.GPJ CRA_CORP.GDT 4/22/04

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-127-04
DATE COMPLETED: January 20, 2004
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: NATE ZIEGLER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CONCRETE	0.75					
	VOID, below concrete						
2	SP/GP - SAND and GRAVEL, trace of cobbles, poorly graded, brown, dry	2.33					
4			1		0.5		0
6							
8							
10			2		0.5		0
12							
14			3		3.0		0
16	- wet at 16.0ft BGS	▽					
	END OF BOREHOLE @ 17.5ft BGS	17.50					
18							
20							

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 SB-105 TO 165.GPJ CRA_CORP.GDT 4/22/04

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-128-04
DATE COMPLETED: January 21, 2004
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: NATE ZIEGLER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CONCRETE						
	FILL, clay brick, sand, gravel, cohesive, black	0.67	1		3.0		0
8	SM - SILTY SAND, brown, cohesive	8.00	2		4.0		0
12	SP/GP - SAND and GRAVEL, poorly graded	12.00	3		4.0		0
14	- wet at 14.0ft BGS ▽						
	- black staining at 15.0ft BGS	15.00					
	END OF BOREHOLE @ 15.0ft BGS						

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 SB-105 TO 165.GPJ CRA_CORP.GDT 4/22/04

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-129-04
DATE COMPLETED: January 21, 2004
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: NATE ZIEGLER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE
	CONCRETE	0.67				
	SP/GP - SAND and GRAVEL, trace of cobbles, poorly graded, brown, dry		1		2.0	
2						
4						
6						
8			2		3.0	
10	- wet at 10.0ft BGS	10.00 ▽				
	END OF BOREHOLE @ 10.0ft BGS					
12						
14						
16						
18						
20						

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 SB-105 TO 165.GPJ CRA_CORP.GDT 4/22/04

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-130-04
DATE COMPLETED: January 21, 2004
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: NATE ZIEGLER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CONCRETE						
	SP/GP - SAND and GRAVEL, poorly graded	0.83	1		2.0		0
4	SM - SILTY SAND, cohesive, dense, brown	4.00					
8	- increasing gravel, cobbles at 8.0ft BGS		2		4.0		0
10							
	SP/GP - SAND and GRAVEL, trace of cobbles, poorly graded, brown, dry	11.00					
12	- wet at 12.0ft BGS ▽		3		4.0		0
14							
	END OF BOREHOLE @ 15.0ft BGS	15.00					
16							
18							
20							

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 SB-105 TO 165.GPJ CRA_CORP.GDT 4/22/04

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-131-04
DATE COMPLETED: January 21, 2004
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: NATE ZIEGLER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CONCRETE						
	SP/GP - SAND and GRAVEL, fine to coarse grained sand, fine grained gravel, poorly graded, black, loose, dry	0.83	1		1.0		0
	CL-ML - SILTY CLAY, trace sand, cohesive, brown, stiff, moist	3.00					
	SP/GP - SAND and GRAVEL, trace cobble, medium to coarse grained sand, coarse grained gravel, poorly graded, brown, dry	5.00	2		5.0		0
	- wet, black staining, petroleum odor at 10.0ft BGS ▽		3		4.0		20
	END OF BOREHOLE @ 12.0ft BGS	12.00					

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-132-04
DATE COMPLETED: January 21, 2004
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: NATE ZIEGLER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CONCRETE						
	FILL, concrete, brick, clay, cohesive	0.67	1		2.0		0
8	SW - SAND, trace gravel, medium to coarse grained	8.00	2		1.7		0
10	- wet at 11.0ft BGS ▽						
12	SP/GP - SAND and GRAVEL, trace cobble, poorly graded, brown, wet	12.00	3				15
	- black staining, petroleum odor at 13.0ft BGS						
	END OF BOREHOLE @ 15.0ft BGS	15.00					

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 SB-105 TO 165.GPJ CRA_CORP.GDT 4/22/04

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-133-04
DATE COMPLETED: January 22, 2004
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: NATE ZIEGLER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CONCRETE	0.75					
	FILL, brick, sand, coarse grained, black		1		3.0		0
	SP/GP - SAND and GRAVEL, poorly graded, brown, dry	7.00	2		3.0		0
	- wet at 13.0ft BGS ▽		3		3.0		0
	- gray-black staining, petroleum odor at 14.5ft BGS						
	END OF BOREHOLE @ 15.0ft BGS	15.00					

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 SB-105 TO 165.GPJ CRA_CORP.GDT 4/22/04

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-134-04
DATE COMPLETED: January 22, 2004
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: NATE ZIEGLER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE
	CONCRETE					
	SP/GP - SAND and GRAVEL, medium to coarse grained sand, coarse grained gravel, poorly graded, brown, dry	0.92	1		2.5	
4	ML/CL - SILTY CLAY, soft, brown, damp	4.00				
6	SP/GP - SAND and GRAVEL, medium to coarse grained sand and gravel, poorly graded, brown, dry	6.00	2		5.0	
8	- increasing cobble at 8.0ft BGS					
10						
12			3			
14						
	END OF BOREHOLE @ 15.0ft BGS	15.00				
16						
18						
20						

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

OVERBURDEN LOG 12638 SB-105 TO 165.GPJ CRA_CORP.GDT 4/22/04

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-135-04
DATE COMPLETED: January 22, 2004
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: NATE ZIEGLER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CONCRETE						
	SP/GP - SAND and GRAVEL, medium to coarse grained, poorly graded, brown, dry	1.17	1		2.0		0
	CL-ML - SILTY CLAY, brown, cohesive, moist	4.00	2		2.0		0
	SP/GP - SAND and GRAVEL, trace cobbles, medium to coarse grained, poorly graded, brown, dry	8.00					
	- wet at 12.0ft BGS ▽		3		3.0		0
	- black staining at 13.5ft BGS						
	END OF BOREHOLE @ 15.0ft BGS	15.00					

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 SB-105 TO 165.GPJ CRA_CORP.GDT 4/22/04

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-136-04
DATE COMPLETED: February 5, 2004
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: JASON CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CONCRETE						
	SP/GP - SAND and GRAVEL, fine to medium to coarse grained sand, fine grained gravel, poorly graded, loose, brown, off-white, dry	1.00	1		0.3		0
	- wet, black, dark gray, odor at 13.5ft BGS ▽		2		0.3		0
			3		3.0		0
	END OF BOREHOLE @ 15.0ft BGS	15.00					

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 SB-105 TO 165.GPJ CRA_CORP.GDT 4/22/04

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-137-04
DATE COMPLETED: January 26, 2004
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: NATE ZIEGLER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CONCRETE						
	SP/GP - SAND and GRAVEL, trace fines, cohesive, poorly graded, black	0.67					
2			1		1.5		0
4							
6			2		2.5		0
8	GC - GRAVELLY CLAY, coarse grained gravel, medium to coarse grained sand, cohesive, poorly graded, brown, damp	8.00					
10	SP/GP - SAND and GRAVEL, poorly graded, brown, wet	10.00	3		5.0		0
12							
	- wet at 13.0ft BGS ▽						
14	END OF BOREHOLE @ 14.0ft BGS	14.00					
16							
18							
20							

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 SB-105 TO 165.GPJ CRA_CORP.GDT 4/22/04

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-138-04
DATE COMPLETED: January 26, 2004
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: NATE ZIEGLER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CONCRETE						
	SM - SILTY SAND, medium to coarse grained sand, poorly graded, black, dry	1.00	1		2.0		0
	SP/GP - SAND and GRAVEL, trace cobbles, medium to coarse grained, poorly graded, brown, dry	6.00	2		3.0		0
	- wet at 13.0ft BGS ▽		3		2.7		0
	END OF BOREHOLE @ 14.0ft BGS	14.00					

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 SB-105 TO 165.GPJ CRA_CORP.GDT 4/22/04

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-139-04
DATE COMPLETED: January 27, 2004
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: NATE ZIEGLER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CONCRETE	0.58					
	SM - SILTY SAND, fine to medium grained sand, cohesive, black, damp, soft		1		2.0		0
	SP/GP - SAND and GRAVEL, poorly graded, loose	6.00	2		1.0		0
	- wet at 13.5ft BGS ▽		3		3.0		0
	END OF BOREHOLE @ 15.0ft BGS	15.00					

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 SB-105 TO 165.GPJ CRA_CORP.GDT 4/22/04

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-140-04
DATE COMPLETED: January 27, 2004
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: NATE ZIEGLER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CONCRETE	0.83					
	SW - SAND, well graded, black, coarse grained, wet	1.25					
	SP/GP - SAND and GRAVEL, poorly graded, brown, dry		1		1.0		0
	GC - GRAVELLY CLAY, trace sand, coarse grained gravel, medium to coarse grained sand, cohesive, brown, moist	9.00	2		3.0		0
	SP/GP - SAND and GRAVEL, medium to coarse grained, poorly graded, brown, dry	12.00	3		3.0		0
	- wet at 14.0ft BGS ▽						
	END OF BOREHOLE @ 15.0ft BGS	15.00					

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-141-04
DATE COMPLETED: January 27, 2004
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: NATE ZIEGLER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CONCRETE	0.58					
	GC - GRAVELLY CLAY, moist, stiff, brown		1		0.5		0
	SP/GP - SAND and GRAVEL, trace cobbles, medium to coarse grained, poorly graded, brown, dry	8.00	2		1.7		0
	- wet at 14.0ft BGS ▽		3		3.0		0
	END OF BOREHOLE @ 15.0ft BGS	15.00					

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 SB-105 TO 165.GPJ CRA_CORP.GDT 4/22/04

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-142-04
DATE COMPLETED: January 27, 2004
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: NATE ZIEGLER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CONCRETE						
	GC - GRAVELLY CLAY, trace sand, cohesive, poorly graded, brown, stiff, moist	0.83	1		3.0		0
10	SP/GP - SAND and GRAVEL, trace cobbles, medium to coarse grained, poorly graded, brown, dry	10.00	2		3.0		0
	- wet at 13.0ft BGS ▽		3		3.0		0
	END OF BOREHOLE @ 15.0ft BGS	15.00					

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-143-04
DATE COMPLETED: January 27, 2004
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: NATE ZIEGLER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CONCRETE	0.83					
	FILL - gravel, coarse material, granular, black		1		0.0		0
	MC - SILTY CLAY, stiff, cohesive, brown	7.00	2		2.5		0
	SP/GP - SAND and GRAVEL, trace cobbles, medium to coarse grained, poorly graded, brown, dry	9.00	3		3.0		0
	- wet at 14.0ft BGS	▽					
	END OF BOREHOLE @ 15.0ft BGS	15.00					

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 SB-105 TO 165.GPJ CRA_CORP.GDT 4/22/04

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-144-04
DATE COMPLETED: January 27, 2004
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: NATE ZIEGLER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CONCRETE	0.67					
	SM - SILTY SAND, black granular, non-cohesive, dry		1		3.0		0
	GC - GRAVELLY CLAY, cohesive, brown	4.00					
	MC/CL - SILTY CLAY, soft, brown, moist	6.00	2		4.0		0
	SP/GP - SAND and GRAVEL, medium to coarse grained, poorly graded, brown, dry	12.00	3		3.0		3.6
	- petroleum odor and staining at 13.0ft BGS						
	- water at 14.5ft BGS ▽						
	END OF BOREHOLE @ 15.0ft BGS	15.00					

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 SB-105 TO 165.GPJ CRA_CORP.GDT 4/22/04

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-145-04
DATE COMPLETED: January 28, 2004
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: NATE ZIEGLER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CONCRETE						
	SM - SILTY SAND, trace brick, granular, cohesive, soft, black, damp	1.00	1		3.0		0
	SP/GP - SAND and GRAVEL, trace cobbles, medium to coarse grained, poorly graded, brown, dry	6.00	2		4.0		0
	- wet, no staining at 13.0ft BGS		3		3.0		0
	END OF BOREHOLE @ 15.0ft BGS	15.00					

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 SB-105 TO 165.GPJ CRA_CORP.GDT 4/22/04

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-146-04
DATE COMPLETED: January 28, 2004
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: NATE ZIEGLER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CONCRETE						
	GC - GRAVELLY CLAY, brown, cohesive, soft, damp	1.00	1		2.0		0
	SP - SAND, trace gravel, coarse grained, poorly graded, black, petroleum odor, staining	4.00	2		1.5		20
	SP/GP - SAND and GRAVEL, poorly graded, petroleum odor, gray and black staining	10.00	3		3.0		24
	- wet at 14.0ft BGS ▽						
	END OF BOREHOLE @ 15.0ft BGS	15.00					

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 SB-105 TO 165.GPJ CRA_CORP.GDT 4/22/04

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-147-04
DATE COMPLETED: January 28, 2004
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: NATE ZIEGLER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CONCRETE						
	No Recovery	0.83	1		0.0		0
	SP/GP - SAND and GRAVEL, trace cobble, poorly graded, brown	5.00	2		1.7		0
	- wet at 14.5ft BGS		3		3.0		0
	Stratigraphy Not Recorded	15.00	4		1.0		0
	END OF BOREHOLE @ 20.0ft BGS	20.00					

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 SB-105 TO 165.GPJ CRA_CORP.GDT 4/22/04

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-148-04
DATE COMPLETED: January 28, 2004
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: NATE ZIEGLER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CONCRETE	0.50					
	SM - SILTY SAND, non-cohesive, black, coarse grained, brick, dry - trace rag at 0.8ft BGS		1		3.3		0
	GC - GRAVELLY CLAY, coarse grained gravel, soft, brown, moist	4.00					
	SP/GP - SAND and GRAVEL, medium to coarse grained, poorly graded, brown, dry	8.00	2		3.0		0
	- wet at 13.0ft BGS ▽		3		3.5		0
	END OF BOREHOLE @ 15.0ft BGS	15.00					

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 SB-105 TO 165.GPJ CRA_CORP.GDT 4/23/04

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-149-04
DATE COMPLETED: January 28, 2004
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: NATE ZIEGLER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CONCRETE	0.50					
	SW - SAND, fine to medium grained, well graded, brown, dry		1		0.5		0
	MC/CL - SILTY CLAY, cohesive, black, wet, with heavy oil, black, soft	7.00	2		3.3		
	SP/GP - SAND and GRAVEL, medium to coarse grained, poorly graded, brown, dry	9.00					2.2
	- wet at 13.0ft BGS		3		3.3		0
	END OF BOREHOLE @ 15.0ft BGS	15.00					

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 SB-105 TO 165.GPJ CRA_CORP.GDT 4/22/04

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-150-04
DATE COMPLETED: January 28, 2004
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: NATE ZIEGLER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CONCRETE	0.50					
	FILL - coarse grained, granular material, black, slag looking		1		2.0		0
	MC/CL - SILTY CLAY, black, soft, damp	4.00					
			2		2.0		0
	SP/GP - SAND and GRAVEL, trace cobbles, medium to coarse grained, poorly graded, brown, dry	9.00					
			3		4.0		
	- wet at 14.0ft BGS ▽						14
	END OF BOREHOLE @ 15.0ft BGS	15.00					

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 SB-105 TO 165.GPJ CRA_CORP.GDT 4/22/04

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-151-04
DATE COMPLETED: February 5, 2004
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: JASON CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CONCRETE		1		0.7		0
	ML - SILT, cohesive, soft-firm, dense, poorly graded, dark brown, dry	3.33					
			2		2.5		0
	SP/GP - SAND and GRAVEL, fine to medium to coarse grained sand, fine grained gravel, loose to slightly consolidated, medium to poorly graded, tan, dry	9.00					
			3		2.5		0
	GP - GRAVEL, fine to coarse grained gravel, loose, with coarse grained sand, medium to poorly graded, brown, wet	13.00 ▽					
	SP - SAND, trace fine grained gravel, medium to coarse grained sand, loose, poorly graded, brown, wet	13.80					
	END OF BOREHOLE @ 15.0ft BGS	15.00					

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 SB-105 TO 165.GPJ CRA_CORP.GDT 4/22/04

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-152-04
DATE COMPLETED: January 30, 2004
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: NATE ZIEGLER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CONCRETE	0.83					
	SP/GP - SAND and GRAVEL						
2	CL-ML- SILTY CLAY, trace fine grained sand, slag	2.00	1		2.0		0
4	SP/GP - SAND and GRAVEL, trace cobbles, coarse grained, poorly graded, brown, dry	4.00					
6							
8			2		2.0		0
10							
12			3		4.0		
	- wet at 13.0ft BGS ▽						5.2
14	- black staining and petroleum odor at 14.0ft BGS						
	END OF BOREHOLE @ 15.0ft BGS	15.00					
16							
18							
20							

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 SB-105 TO 165.GPJ CRA_CORP.GDT 4/22/04

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-153-04
DATE COMPLETED: February 3, 2004
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: NATE ZIEGLER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CONCRETE						
	SP/GP - SAND and GRAVEL, trace yellow granules, coarse grained, black	1.42					
2	ML/CL - SILTY CLAY, soft, brown, cohesive, damp, trace fine grained sand	2.00	1		2.0		0
4							
	SP/GP - SAND and GRAVEL, trace cobbles, coarse grained, poorly graded, brown, dry	5.00					
6							
8			2		3.0		0
10							
12			3		4.0		
	- wet at 13.0ft BGS ▽						
14	- black staining and petroleum odor at 14.0ft BGS						15
	END OF BOREHOLE @ 15.0ft BGS	15.00					
16							
18							
20							

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 SB-105 TO 165.GPJ CRA_CORP.GDT 4/22/04

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-154-04
DATE COMPLETED: February 5, 2004
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: JASON CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CONCRETE						
	SM - SAND and SILT, fine to medium to coarse grained sand, trace fine grained gravel, cohesive, soft, dense, dark brown, damp	1.00	1		2.5		0
	ML - SILT, trace sand, cohesive, soft, low plasticity, dark brown, damp	7.00	2		3.5		0
	SM - SAND and SILT, fine to medium to coarse grained sand, trace fine grained gravel, cohesive, soft, dense, dark brown, damp - odor at 9.5ft BGS	9.00					
	SM/GM - SAND and GRAVEL and SILT, cohesive, fine to medium to coarse grained sand, fine grained gravel, medium graded, dark gray, damp - wet, odor at 13.5ft BGS	12.50 ▽	3		2.5		0
	END OF BOREHOLE @ 15.0ft BGS	15.00					

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 SB-105 TO 165.GPJ CRA_CORP.GDT 4/22/04

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-155-04
DATE COMPLETED: February 3, 2004
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: NATE ZIEGLER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CONCRETE						
	ML/CL - SILTY CLAY, trace fine grained sand and gravel, brown, soft, moist	1.00	1		2.0		0
	SP/GP - SAND and GRAVEL, trace cobbles, fine to coarse grained sand, coarse grained gravel, poorly graded, brown, dry	7.00	2		4.0		0
	- wet at 14.0ft BGS ▽		3		5.0		0
	END OF BOREHOLE @ 15.0ft BGS	15.00					

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 SB-105 TO 165.GPJ CRA_CORP.GDT 4/22/04

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-156-04
DATE COMPLETED: February 3, 2004
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: NATE ZIEGLER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CONCRETE						
	SP - SAND, trace gravel, coarse grained, poorly graded, black	1.00	1		1.7		0
	ML/CL - SILTY CLAY, brown, soft, damp	4.00					
	SP/GP - SAND and GRAVEL, trace cobbles, coarse grained, poorly graded, brown, dry	7.00	2		4.0		0
	- wet at 15.0ft BGS ▽		3		2.0		0
	CL - CLAY, brown-gray, stiff, moist	17.00	4		5.0		0
	END OF BOREHOLE @ 20.0ft BGS	20.00					

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 SB-105 TO 165.GPJ CRA_CORP.GDT 4/22/04

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-157-04
DATE COMPLETED: February 4, 2004
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: JASON CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	SP/GP - SAND and GRAVEL, medium to coarse grained sand, fine grained gravel, poorly graded, loose, tan, dry		1		2.5		0
			2		1.0		0
			3		1.5		0
	GM - GRAVEL and SILT, loose to cohesive, firm, medium graded, tan, off-white, dry	14.50					
	GP - GRAVEL, loose, fine grained, poorly graded, brown, wet	15.00 ▽					
	SP - SAND, medium to coarse grained, loose, poorly graded, brown, wet	17.00	4		5.0		0
	GP - GRAVEL, increasing silt and fine grained sand, loose, poorly graded, brown, wet, odor - gray color starts at 19.0ft BGS	18.00					
	END OF BOREHOLE @ 20.0ft BGS	20.00					

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 SB-105 TO 165.GPJ CRA_CORP.GDT 4/22/04

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-158-04
DATE COMPLETED: February 4, 2004
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: JASON CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CONCRETE	0.50					
2	SM - SAND and SILT, cohesive, fine to medium grained sand, soft, poorly graded, dark brown, damp		1		3.0		0
4	SP/GP - SAND and GRAVEL, fine to medium to coarse grained sand, fine grained gravel, loose to slightly consolidated, medium to poorly graded, brown-tan, wet	4.00					
6							
8			2		4.0		0
10	- wet at 10.0ft BGS ▽						
12			3		2.5		0
14							
	END OF BOREHOLE @ 15.0ft BGS	15.00					
16							
18							
20							

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 SB-105 TO 165.GPJ CRA_CORP.GDT 4/22/04

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-159-04
DATE COMPLETED: February 4, 2004
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: JASON CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CONCRETE	0.58					
	SP/GP - SAND and GRAVEL, fine to medium to coarse grained sand, fine grained gravel, loose, off-white, tan, brown, dry		1		2.5		0
	- water at 9.0ft BGS ▽		2		3.0		0
	END OF BOREHOLE @ 10.0ft BGS	10.00					

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 SB-105 TO 165.GPJ CRA_CORP.GDT 4/22/04

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-160-04
DATE COMPLETED: February 4, 2004
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: JASON CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CONCRETE	0.58					
	SP/GP - SAND and GRAVEL, fine to medium to coarse grained sand, fine grained gravel, poorly graded, loose, tan-brown, damp		1		1.3		0
	SM - SAND, silty, fine to medium grained sand, cohesive, soft, poorly graded, dark brown, damp	4.50					
	- wet at 8.1ft BGS	8.00 ▽	2		2.0		0
	GP - GRAVEL, with silt, fine grained gravel and trace coarse grained gravel, medium to coarsely grained sand, loose, brown, wet						
	END OF BOREHOLE @ 10.0ft BGS	10.00					

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 SB-105 TO 165.GPJ CRA_CORP.GDT 4/22/04

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-161-04
DATE COMPLETED: February 4, 2004
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: JASON CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	ASPHALT	0.33					
2	SP/GP - SAND and GRAVEL, fine to coarse grained sand, fine grained gravel, loose, poorly graded, tan-brown, dry		1		2.5		0
4	ML - SILT, trace fine grained gravel, cohesive, soft-firm, dense, low plasticity, dark brown, damp	4.00					
6							
8	SP/GP - SAND and GRAVEL, fine to coarse grained sand, fine grained gravel, loose, poorly graded, tan-brown, dry	7.50	2		2.5		0
10	GP - GRAVEL, fine grained gravel, trace coarse grained sand, loose, poorly graded, brown, wet	9.50 ▽					
	END OF BOREHOLE @ 10.0ft BGS	10.00					
12							
14							
16							
18							
20							

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 SB-105 TO 165.GPJ CRA_CORP.GDT 4/22/04

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-162-04
DATE COMPLETED: February 4, 2004
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: JASON CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	ASPHALT	0.33					
2	GP/SP - SAND and GRAVEL, fine to coarse grained sand, fine grained gravel, loose, gray, off-white, brown, damp		1		3.0		0
4	SM - SAND and SILT, little silt, fine to medium grained sand, cohesive, soft-firm, dense, low plasticity, dark brown, damp	4.00					
6							
8	GP/SP - GRAVEL and SAND, fine to coarse grained gravel, medium to coarse grained sand, slightly consolidated, medium graded, off-white, tan, damp	7.50	2		3.0		0
	- wet at 9.5ft BGS ▽						
10	END OF BOREHOLE @ 10.0ft BGS	10.00					
12							
14							
16							
18							
20							

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 SB-105 TO 165.GPJ CRA_CORP.GDT 4/22/04

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-163-04
DATE COMPLETED: February 5, 2004
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: JASON CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CONCRETE						
	SP - SAND, fine to medium grained, loose to slightly consolidated, poorly graded, off-white, tan, dry	1.00					
2	FILL - sand, silt, black, coarse grained, granular, dry, poorly graded	2.00	1		2.0		0
4							
	ML/CL - SILTY CLAY, firm, brown, damp	5.00					
6							
			2		3.5		0
8	SP/GP - SAND and GRAVEL, trace cobble, medium to coarse grained sand, coarse grained gravel, poorly graded, brown, dry	8.00					
10							
12			3		3.0		0
	- wet at 13.5ft BGS ▽						
14							
	END OF BOREHOLE @ 15.0ft BGS	15.00					
16							
18							
20							

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 SB-105 TO 165.GPJ CRA_CORP.GDT 4/22/04

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-164-04
DATE COMPLETED: February 6, 2004
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: NATE ZIEGLER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CONCRETE						
	ML/SP - SILTY SAND, fine to coarse grained sand, black, granular, dry	1.00	1		4.0		13
	SP - SAND, poorly graded, fine to coarse grained, brown, dry	8.00	2		3.3		0
	SP/GP - SAND and GRAVEL, trace cobbles, coarse grained sand and gravel, poorly graded, brown, dry	9.00					
	- wet at 13.0ft BGS ▽		3		3.0		
	- black-gray staining and petroleum odor at 14.0ft BGS						
	END OF BOREHOLE @ 15.0ft BGS	15.00					21

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 SB-105 TO 165.GPJ CRA_CORP.GDT 4/22/04

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-165-04
DATE COMPLETED: February 6, 2004
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: JASON CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
	CONCRETE						
2	SP/GP - SAND and GRAVEL, medium to coarse grained sand, fine grained gravel, loose, medium to poorly graded, dark gray, moist, odor	1.50	1		2.0		0
	- concrete at 3.3ft BGS	3.25					
4	END OF BOREHOLE @ 3.3ft BGS						
6							
8							
10							
12							
14							
16							
18							
20							

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

OVERBURDEN LOG 12638 SB-105 TO 165.GPJ CRA_CORP.GDT 4/22/04

TEST BORING REPORT

Boring No. SB166-04

Project Former Delphi Harrison Thermal Systems - Dayton, Ohio
Client REALM/GM
Contractor ALTECH Services LLC

File No. 79032-110
Sheet No. 1 of 1
Start February 9, 2004
Finish February 9, 2004
Driller Johnie Davis
H&A Rep. T. Vanage
Elevation
Datum
Location Bldg 10, approx. 10 ft W of U-50

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	G	-	Rig Make & Model: Geoprobe
Inside Diameter (in.)	-		-	Bit Type: -
Hammer Weight (lb.)	-	-	-	Drill Mud: -
Hammer Fall (in.)	-	-	-	Casing: -
				Hoist/Hammer: - -

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0	ND	S-1 31	0.0 5.0		SP-SM	Loose, dark brown to black, poorly graded SAND with silt (SP-SM), no odor, dry, mps: 0.5 inches.		5	5	20	60	10				
5	ND	S-2 37	5.0 10.0		SM	Loose to medium dense, tan, silty SAND with gravel (SM), no odor, dry, mps: 0.5 inches.		15	20	30	20	15				
10	74	S-3 35	10.0 15.0		GM	Water present at 12.3 ft. Medium dense, dark brown to black, silty GRAVEL with sand (GM), hydrocarbon odor, wet, mps: 1.5 inches. Dark gray staining and sheen at 13.8 ft.	10	40	15	10	10	15				
15						-Bottom of Exploration at 15 feet-										

NO WELL INSTALLED

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification
O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

Well Diagram
Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary
Overburden (lin. ft.) 15
Rock Cored (lin. ft.) -
Samples 3

Boring No. SB166-04

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None
Toughness: L-Low, M-Medium, H-High
Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

NEW USCSLIB3_DTR.GLB DELPHI.GDT G:\PROJECTS\79032\HARRISON\I-110 STAGE 3\GINT\BORINGLOGS.GPJ Feb 19, 04

TEST BORING REPORT

Boring No. SB167-04

Project Former Delphi Harrison Thermal Systems - Dayton, Ohio
Client REALM/GM
Contractor ALTECH Services LLC

File No. 79032-110
Sheet No. 1 of 1
Start February 9, 2004
Finish February 9, 2004
Driller Johnie Davis
H&A Rep. T. Vanage
Elevation
Datum
Location Bldg 10, approx. 10 ft SW of S-50

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	G	-	Rig Make & Model: Geoprobe
Inside Diameter (in.)	-		-	Bit Type: -
Hammer Weight (lb.)	-	-	-	Drill Mud: -
Hammer Fall (in.)	-	-	-	Casing: -
				Hoist/Hammer: - -

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0		S-1 34	0.0 5.0	NO WELL INSTALLED			Concrete										
	ND					SC	No Recovery										
							Loose, dark brown to black, clayey SAND (SC), slight hydrocarbon odor, dry, mps: 0.75 inches.		10	5	40	30	15				
5		S-2 45	5.0 10.0														
	ND					CL	Medium stiff, dark brown, sandy lean CLAY (CL), no odor, moist.			5	20	20	55	N	L-M	M	M
	ND					SC	Medium dense, brown to gray, clayey SAND with gravel (SC), no odor, moist, mps: 0.5 inches.		20	30	20	10	20				
10		S-3 44	10.0 15.0				Water present at 13 ft.										
	ND					GM	Medium dense, dark gray to black, silty GRAVEL with sand (GM), strong hydrocarbon odor, wet, mps: 1.5 inches.	15	35	15	10	10	15				
15							Dark gray staining and sheen present from 13.5 to 15 ft.										
							-Bottom of Exploration at 15 feet-										

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (lin. ft.) 15
Rock Cored (lin. ft.) -
Samples 3

Boring No. SB167-04

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None
Toughness: L-Low, M-Medium, H-High
Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

NEW USCSLIB3_DTR.GLB DELPHI.GDT G:\PROJECTS\79032\HARRISON\-110 STAGE 3\GINT\BORINGLOGS.GPJ Feb 19, 04

TEST BORING REPORT

Boring No. SB168-04

Project Former Delphi Harrison Thermal Systems - Dayton, Ohio
Client REALM/GM
Contractor ALTECH Services LLC

File No. 79032-110
Sheet No. 1 of 1
Start February 9, 2004
Finish February 9, 2004
Driller Johnie Davis
H&A Rep. T. Vanage
Elevation Datum
Location Bldg 10, approx. 10 ft NW of P-49

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	G	-	Rig Make & Model: Geoprobe
Inside Diameter (in.)	-		-	Bit Type: -
Hammer Weight (lb.)	-	-	-	Drill Mud: -
Hammer Fall (in.)	-	-	-	Casing: -
				Hoist/Hammer: - -

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0		S-1 7	0.0 5.0				Concrete No Recovery										
5	ND	S-2 35	5.0 10.0	NO WELL INSTALLED		GP	Loose, dark brown to black, poorly graded GRAVEL with sand (GP), no odor, dry, mps: 1 inch.		55	10	30	5					
							No recovery										
	ND					CL	Medium stiff to stiff, dark brown, lean CLAY with sand (CL), slight hydrocarbon odor, moist.				5	15	80	N	L-M	M	M
10	ND					SP	Loose, brown, poorly graded SAND (SP), hydrocarbon odor, moist, mps: 1.25 inches.		3	7	60	30					
		S-3 39	10.0 15.0				No Recovery										
	240					GM	Gray, silty GRAVEL with sand (GM), strong hydrocarbon odor, wet, mps: 0.75 inches, no visible staining or sheen. Water present at 13 ft.	10	40	15	5	15	15				
15							-Bottom of Exploration at 15 feet-										

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification
O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

Well Diagram
Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary
Overburden (lin. ft.) 15
Rock Cored (lin. ft.) -
Samples 3

Boring No. SB168-04

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None
Toughness: L-Low, M-Medium, H-High
Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

NEW USCSLI83_DTR.GLB DELPHI.GDT G:\PROJECTS\79032\HARRISON\-110 STAGE 3\GINTBORINGLOGS.GPJ Feb 19, 04

TEST BORING REPORT

Boring No. SB169-04

Project Former Delphi Harrison Thermal Systems - Dayton, Ohio
Client REALM/GM
Contractor ALTECH Services LLC

File No. 79032-110
Sheet No. 1 of 1
Start February 9, 2004
Finish February 9, 2004
Driller Johnie Davis
H&A Rep. T. Vanage
Elevation Datum
Location Bldg 10, approx. 10 ft SE of M-49

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	G	-	Rig Make & Model: Geoprobe
Inside Diameter (in.)	-		-	Bit Type: -
Hammer Weight (lb.)	-	-	-	Drill Mud: -
Hammer Fall (in.)	-	-	-	Casing: -
				Hoist/Hammer: - -

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0		S-1 17	0.0 5.0	NO WELL INSTALLED			No Recovery										
	ND					GW	Loose, brown, well graded GRAVEL (GW), no odor, dry, mps: 0.75 inches.	60	40								
5		S-2 23	5.0 10.0														
	ND					CL	Dark brown, lean CLAY with sand (CL), slight hydrocarbon odor, moist, mps: 0.25 inches. Black oil saturation from 9 to 9.5 ft.			5	5	10	80	N	L-M	M	M
10		S-3 20	10.0 15.0				Water present at 13.5 ft.										
	ND					GW	Loose, brown to black, silty GRAVEL with sand (GW), hydrocarbon odor, wet, mps: 1.5 inches.	10	35	5	15	15	20				
15							-Bottom of Exploration at 15 feet-										

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (lin. ft.) 15
Rock Cored (lin. ft.) -
Samples 3

Boring No. SB169-04

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None
Toughness: L-Low, M-Medium, H-High
Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

NEW USCSLIB3_DTR.GLB DELPHI.GDT G:\PROJECTS\79032\HARRISON\-110 STAGE 3\GINT\BORINGLOGS.GPJ Feb 19, 04

TEST BORING REPORT

Boring No. SB170-04

Project Former Delphi Harrison Thermal Systems - Dayton, Ohio
Client REALM/GM
Contractor ALTECH Services LLC

File No. 79032-110
Sheet No. 1 of 1
Start February 10, 2004
Finish February 10, 2004
Driller Johnie Davis
H&A Rep. T. Vanage
Elevation
Datum
Location Approx. 50 ft. S of BSA-13

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	G	-	Rig Make & Model: Geoprobe
Inside Diameter (in.)	-		-	Bit Type: -
Hammer Weight (lb.)	-	-	-	Drill Mud: -
Hammer Fall (in.)	-	-	-	Casing: -
				Hoist/Hammer: - -

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0		S-1 26	0.0 5.0				Asphalt										
							No Recovery										
	ND					SM	Medium dense to loose, black, silty SAND with gravel (SM), no odor, moist, mps: 0.75 inches.		10		10	40	40				
5		S-2 30	5.0 10.0				No Recovery										
	ND					SM	Medium dense to loose, black, silty SAND with gravel (SM), no odor, moist, mps: 0.75 inches.		10		10	40	40				
	ND					CL	Stiff, black, lean CLAY with sand (CL), no odor, moist.				5	10	85	N	M	M	M
10		S-3 36	10.0 15.0	NO WELL INSTALLED			No Recovery										
						MH	Stiff, brown, sandy elastic SILT (MH), no odor, moist.			5	15	20	60	N	M	M	M
15		S-4 34	15.0 20.0														
	ND					SW-SM	Medium dense to loose, brown, well graded SAND with silt (SW-SM), no odor, moist, mps: 1 inch. Water present at 18 ft. Staining from 19.6-19.7 ft.		10	15	25	40	10				
20							-Bottom of Exploration at 20 feet-										

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (lin. ft.) 20
Rock Cored (lin. ft.) -
Samples 4

Boring No. SB170-04

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None
Toughness: L-Low, M-Medium, H-High
Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

NEW USCSLIB3_DTR.GLB DELPHI.GDT G:\PROJECTS\79032\HARRISON\-110 STAGE 3\GINT\BORINGLOGS.GPJ Feb 19, 04

TEST BORING REPORT

Boring No. SB171-04

Project Former Delphi Harrison Thermal Systems - Dayton, Ohio
Client REALM/GM
Contractor ALTECH Services LLC

File No. 79032-110
Sheet No. 1 of 1
Start February 10, 2004
Finish February 10, 2004
Driller Johnie Davis
H&A Rep. T. Vanage
Elevation Datum
Location G-Lot 35 ft E of Tunnel

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	G	-	Rig Make & Model: Geoprobe
Inside Diameter (in.)	-		-	Bit Type: -
Hammer Weight (lb.)	-	-	-	Drill Mud: -
Hammer Fall (in.)	-	-	-	Casing: -
				Hoist/Hammer: - -

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0		S-1 38	0.0 5.0	NO WELL INSTALLED			No Recovery										
	ND					SM	Medium dense to loose, black, silty SAND (SM), no odor, moist, mps: 0.25 inches.		5		15	40	40				
	ND					MH	Black, elastic SILT (MH), no odor, moist, medium stiff.		5		15	20	60	N	M	M	M
5		S-2 32	5.0 10.0				Medium to fine SAND pocket from 8.1 to 8.5 ft.										
10		S-3 34	10.0 15.0														
	ND					SW	Loose, gray to dark gray, well graded SAND with gravel (SW), hydrocarbon odor, wet, mps: 1.25 inches. No visible staining or sheen. Water present at 13.25 ft.	5	15	30	30	15	5				
15							-Bottom of Exploration at 15 feet-										

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (lin. ft.) 15
Rock Cored (lin. ft.) -
Samples 3

Boring No. SB171-04

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None
Toughness: L-Low, M-Medium, H-High
Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

NEW USCSLIB3_DTR.GLB DELPHI.GDT G:\PROJECTS\79032\HARRISON\-110 STAGE 3\GINTBORINGLOGS.GPJ Feb 19, 04

TEST BORING REPORT

Boring No. SB172-04

Project Former Delphi Harrison Thermal Systems - Dayton, Ohio
Client REALM/GM
Contractor ALTECH Services LLC

File No. 79032-110
Sheet No. 1 of 1
Start February 10, 2004
Finish February 10, 2004
Driller Johnie Davis
H&A Rep. T. Vanage
Elevation Datum
Location G-Lot 30 ft SE of Product Recovery Bldg

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	G	-	Rig Make & Model: Geoprobe
Inside Diameter (in.)	-		-	Bit Type: -
Hammer Weight (lb.)	-	-	-	Drill Mud: -
Hammer Fall (in.)	-	-	-	Casing: -
				Hoist/Hammer: - -

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0		S-1 36	0.0 5.0	NO WELL INSTALLED			No Recovery										
	ND					SM	Medium dense, black, silty SAND with gravel (SM), no odor, moist, mps: 0.75 inches.		5		15	40	40				
	ND					MH	Medium stiff, black, sandy elastic SILT (MH), no odor, moist, mps: 0.25 inches.		5		15	20	60	N	M	M	M
5		S-2 30	5.0 10.0				No Recovery										
	ND					MH	Medium stiff, brown, sandy elastic SILT (MH), no odor, moist, mps: 0.25 inches.		5		15	40	40				
	ND					SW-SM	Loose, gray, well graded SAND with silt and gravel (SW-SM), no odor, moist, mps: 1 inch.	5	10	30	30	15	10				
10		S-3 24	10.0 15.0				No Recovery										
	ND					SW-SM	Loose, gray, well graded SAND with silt and gravel (SW-SM), no odor, moist, mps: 1 inch.	5	10	30	30	15	10				
	112					SW	Loose gray, well graded SAND with gravel (SW), strong hydrocarbon odor, wet. Water present at 13.9 ft. Dark gray staining and sheen present from 14.2 to 14.5 ft. -Bottom of Exploration at 15 feet-	10	25	35	15	10	5				
15																	

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (lin. ft.) 15
Rock Cored (lin. ft.) -
Samples 3

Boring No. SB172-04

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None
Toughness: L-Low, M-Medium, H-High
Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

NEW USCSLIB3_DTR.GLB DELPHI.GDT G:\PROJECTS\79032\HARRISON\-110 STAGE 3\GINT\BORING\LOGS.GPJ Feb 19, 04

TEST BORING REPORT

Boring No. SB173-04

Project Former Delphi Harrison Thermal Systems - Dayton, Ohio
Client REALM/GM
Contractor ALTECH Services LLC

File No. 79032-110
Sheet No. 1 of 1
Start February 10, 2004
Finish February 10, 2004
Driller Johnie Davis
H&A Rep. T. Vanage
Elevation
Datum
Location G-Lot 30 ft E of Product Recovery Bldg

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	G	-	Rig Make & Model: Geoprobe
Inside Diameter (in.)	-		-	Bit Type: -
Hammer Weight (lb.)	-	-	-	Drill Mud: -
Hammer Fall (in.)	-	-	-	Casing: -
				Hoist/Hammer: - -

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0		S-1 18	0.0 5.0	NO WELL INSTALLED			Soil										
							Concrete										
							No Recovery										
	ND					MH	Medium stiff, black, sandy elastic SILT (MH), no odor, moist.		5		15	20	60	N	M	M	M
5		S-2 30	5.0 10.0				No Recovery										
	ND					MH	Medium stiff, brown, sandy elastic SILT (MH), no odor, moist.		5		15	20	60	N	M	M	M
	ND					SP-SM	Brown, poorly graded SAND with silt and gravel (SP-SM), no odor, moist, mps: 1.25 inches.	5	20	40	20	10	5				
10		S-3 28	10.0 15.0				No Recovery										
	33.3					SW	Loose, gray to dark gray, well graded SAND with gravel (SW), hydrocarbon odor, wet, mps: 1.75 inches. Water present at 12.8 ft. Gray staining and sheen present from 14 to 14.4 ft.	5	30	30	20	10	5				
15							-Bottom of Exploration at 15 feet-										

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (lin. ft.) 15
Rock Cored (lin. ft.) -
Samples 3

Boring No. SB173-04

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None
Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High
Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

NEW USCSLIB3_DTR.GLB DELPHI.GDT G:\PROJECTS\79032\HARRISON\-110 STAGE 3\GINT\BORINGLOGS.GPJ Feb 19, 04

TEST BORING REPORT

Boring No. SB174-04

Project: Former Delphi Harrison Thermal Systems - Dayton, Ohio
Client: Realm/GM
Contractor: ALTECH

File No.: 79032-347
Sheet No.: 1 of 1
Start: February 11, 2004
Finish: February 11, 2004
Driller: Johnie Davis
H&A Rep.: T. Vanage
Elevation
Datum
Location
N -
E -

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	G	-	Rig Make & Model: Geoprobe
Inside Diameter (in.)	-		-	Bit Type: -
Hammer Weight (lb.)	-	-	-	Drill Mud: -
Hammer Fall (in.)	-	-	-	Casing: -
				Hoist/Hammer: - -

Depth (ft.)	SPT*	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0			S-1 25	0.0 5.0	NO WELL INSTALLED			Concrete										
						0.9		No Recovery										
		ND				3.0	SM	Loose, black silty SAND (SM), no odor, moist, mps: 1.5 inches.		10		30	30	30				
		ND				4.0	MH	Medium stiff, black, elastic SILT with sand (MH), no odor, moist, terestial shells.				10	20	70	N	M	M	M
5			S-2 32	5.0 10.0														
		8.9				8.0	SW	Loose, brown, well graded SAND with gravel (SW), slight hydrocarbon odor, moist, mps: 1.5 inches.	5	30	30	20	10	5				
10			S-3 26	10.0 15.0				Water present at 13.25 ft.										
		64.8				13.5	SW	Loose, gray, well graded SAND with gravel (SW), strong hydrocarbon odor, wet, mps: 1 inch. No visible staining. -Bottom of Exploration at 15 feet-	10	30	30	10	15	5				
15						15.0												

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (lin. ft.) 15
Rock Cored (lin. ft.) -
Samples 3

Boring No. SB174-04

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None
Toughness: L-Low, M-Medium, H-High
Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification and percentages based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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HALEY & ALDRICH

TEST BORING REPORT

Boring No. SB-187-05

Project Former Delphi Harrison Thermal Systems - Dayton, Ohio
Client REALM/GM
Contractor Prosonic

File No. 79032-118
Sheet No. 1 of 1
Start July 7, 2005
Finish July 7, 2005
Driller D. Cunningham
H&A Rep. C. Barnett
Elevation Datum 739.8
Location Approx. 5 feet E. of MW-33-04.

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	Sonic		Rig Make & Model: Rotosonic
Inside Diameter (in.)	-	3.5		Bit Type:
Hammer Weight (lb.)	-		-	Drill Mud:
Hammer Fall (in.)	-		-	Casing:
				Hoist/Hammer:

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0		S1 120	0.0 10.0		738.8		CONCRETE										
	ND					SW-SM	Loose, brown, well graded, SAND with silt (SW/SM), mps: 40 mm, slight petroleum odor, dry.		10	20	40	20	10				
5					733.8												
	ND					MH	Soft, black, elastic SILT (MH), mps: 30 mm, strong petroleum odor, moist, organics present.				10		90	S	M	M	M
10		S2 120	10.0 20.0	NO WELL INSTALLED													
15					723.8												
	ND					GW-GM	Loose, brown, well graded GRAVEL with silt and sand(GW/GM), mps: 50 mm, slight petroleum odor, wet.	30	40	10	10		10				
					720.3												
20					719.8		Bottom of Exploration at 20 Feet										

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (lin. ft.) 20
Rock Cored (lin. ft.) -
Samples 2

Boring No. SB-187-05

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None
Toughness: L-Low, M-Medium, H-High
Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

NEW 116.GLB DELPHI.GDT G:\PROJECTS\79032\HARRISON\~118~S~1\GINT\GINT_116.GPJ Jul 25, 05

TEST BORING REPORT

Boring No. SB-188-06

Project: Former Delphi Harrison Thermal Systems - Dayton, Ohio
Client: Realm/GM
Contractor: ALTECH

File No.: 79032-347
Sheet No.: 1 of 3
Start: June 5, 2006
Finish: June 5, 2006
Driller: J. Davis
H&A Rep.: T. Vanage

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type		G		Rig Make & Model: Geoprobe 6620
Inside Diameter (in.)		1 3/8		Bit Type:
Hammer Weight (lb.)	DRAFT	-	-	Drill Mud:
Hammer Fall (in.)		-	-	Casing:
				Hoist/Hammer:

Elevation Datum 748.6

Location
N - 647853.33
E - 1494866.2

Depth (ft.)	SPT*	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0				0.0 5.0				Hand auger 0-5 feet to clear utilities.										
						743.6												
5		ND ND	S1 43	5.0 10.0	NO WELL INSTALLED	5.0	ML	Soft, brown, SILT (ML), mps: 10 mm, no odor, moist.			5		5	90	S	L	L	L
		ND				741.6 7.0												
								Oil-In-Soil collected at 9 feet was negative.										
10			S2 27	10.0 15.0		738.6 10.0												
		ND																
15			S3 34	15.0 20.0														
						732.1												
		ND ND				16.5	SW	Loose to medium dense, brown, well graded SAND with silt (SW), mps: 20 mm, no odor, moist.		10	10	20	35	25				
20						728.6												

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (lin. ft.) 75
Rock Cored (lin. ft.)
Samples 14

Boring No. SB-188-06

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None
Toughness: L-Low, M-Medium, H-High
Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification and percentages based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

USCS_TB3_DAY USCSLIB3_CLY.GLB USCSTBC3.GDT G:\PROJECTS\79032H~1\HARRISON\-347CM~1\GINT_347.GPJ Jan 4, 07

TEST BORING REPORT

Boring No. SB-188-06
File No. 79032-347
Sheet No. 2 of 3

Depth (ft.)	SPT*	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20			S4 36	20.0 25.0		20.0	SW											
		ND						Oil-In-Soil collected at 24 feet was negative.										
						724.6												
		ND				24.0	GW	Loose, brown, well graded GRAVEL with sand (GW), mps:30 mm, no odor, wet.	25	50	20	5						
25			S5 40	25.0 30.0				Water present at 24 feet.										
								Borehole groundwater screening sample from 24-27.5 feet. WG-060606-TMV-03										
						721.1												
		ND ND				27.5	SW	Loose, brown, well graded SAND with gravel (SW), mps: 15 mm, no odor, wet.		25	40	20	10	5				
						718.6												
30		ND	S6 45	30.0 35.0		30.0												
		ND				715.6 33.0												
35			S7 42	35.0 40.0														
		ND				712.6 36.0												
						710.6 38.0		Borehole groundwater screening sample from 35-39 feet. WG-060606-TMV-02										
						709.3		Oil-In-Soil collected at 39.3 feet was negative.										
		ND				39.3	CL	Stiff, gray, lean CLAY (CL), mps: 5 mm, no odor, moist.			5		5	90	S	M	M	H
40			S8	40.0		708.3												
		ND	42	45.0		40.3	GW	Loose, brown, well graded GRAVEL with sand (GW), mps: 25mm, no odor, wet.	10	50	15	15	5	5				
						704.6												
		ND				44.0	SW	Loose to medium dense, brown, well graded SAND (SW), mps: 25 mm, no odor, wet.	5	15	30	30	15	5				
45		ND	S9 46	45.0 50.0														
		ND				701.6 47.0												

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. SB-188-06

USCS_TB3_DAY USCSLIB3_CLY.GLB USCSTBC3.GDT G:\PROJECTS\79032H~1\HARRISON\-347CM~1\GINT_347.GPJ Jan 4, 07

TEST BORING REPORT

Boring No. SB-188-06
File No. 79032-347
Sheet No. 3 of 3

Depth (ft.)	SPT*	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
50						698.6	SW											
		ND	S10 48	50.0 55.0		50.0												
		ND				695.6 53.0												
55			S11 42	55.0 60.0														
		ND				692.6 56.0												
		1.3				690.6 58.0												
60						688.6												
		2.7	S12 53	60.0 65.0		60.0	SP	Loose, brown, poorly graded SAND (SP), mps:10 mm, no odor, wet.		5	20	60	10	5				
						686.6 62.0												
		1.3						Oil-In-Soil collected at 62 feet was negative.										
65						683.6												
		ND	S13 20	65.0 70.0		65.0												
		ND				680.6 68.0		Similar as above except sand becoming finer										
70						678.6												
		ND	S14 48	70.0 75.0		70.0					5	20	70	5				
								Borehole groundwater screening sample from 71-75 feet bgs. WG-060606-TMV-01										
75						673.6 75.0		Bottom Of Exploration 75 feet.										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. SB-188-06

USCS_TB3_DAY USCSLIB3_CLY.GLB USCSTBC3.GDT G:\PROJECTS\79032H-1\HARRISON\-347CM-1\GINT_347.GPJ Jan 4, 07

TEST BORING REPORT

Boring No. SB-189-06

Project: Former Delphi Harrison Thermal Systems - Dayton, Ohio
Client: Realm/GM
Contractor: ALTECH

File No.: 79032-347
Sheet No.: 1 of 3
Start: May 30, 2006
Finish: May 31, 2006
Driller: J. Davis
H&A Rep.: T. Vanage

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type		G		Rig Make & Model: Geoprobe 6620
Inside Diameter (in.)		1 3/8		Bit Type:
Hammer Weight (lb.)	DRAFT		-	Drill Mud:
Hammer Fall (in.)			-	Casing:
				Hoist/Hammer:

Elevation Datum 748.7

Location
N - 647818.36
E - 1494801.91

Depth (ft.)	SPT*	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0				0.0 5.0				Hand auger to 5 feet to clear utilities. Brown to black sands and small gravel.										
						743.7												
5		ND	S1 33	5.0 10.0		5.0	SP	Loose, browm to gray, poorly graded SAND (SP), mps: 5 mm, no odor, moist.			5	15	70	10				
						739.7												
		ND ND			NO WELL INSTALLED	9.0	ML	Soft to medium stiff, brown with black mottling , sandy SILT (ML), mps: 5 mm, no odor, moist.				5	10	85	N-S	L	L	M
10			S2 35	10.0 15.0														
		ND				736.7 12.0		Oil-In-Soil collected at14 feet was negative.										
						733.7												
15		ND	S3 15	15.0 20.0		15.0												
						729.2												
20		ND				19.5		Loose, brown, well graded SAND (SW), mps: 20 mm, no odor, moist.		10	15	30	40	5				

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (lin. ft.) 70
Rock Cored (lin. ft.)
Samples 13

Boring No. SB-189-06

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None
Toughness: L-Low, M-Medium, H-High
Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification and percentages based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

USCS_TB3_DAY USCSLIB3_CLY.GLB USCSTBC3.GDT G:\PROJECTS\79032H~1\HARRISON\-347CM~1\GINT_347.GPJ Dec 19, 06

TEST BORING REPORT

Boring No. SB-189-06
File No. 79032-347
Sheet No. 2 of 3

Depth (ft.)	SPT*	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20			S4 32	20.0 25.0			SW											
25		ND					SW	Similar as above except wet; mps: 50 mm.										
			S5 47	25.0 30.0				Water present at 24 feet.										
								Oil-In-Soil collected at26 feet was negative.										
								Borehole groundwater screening sample from 24-27 feet bgs. WG-053106-TMV-04										
		ND				721.7 27.0	CL	Medium stiff, gray, lean CLAY (CL), mps: 10 mm, no odor, moist.			5		5	90	N-S	M	M	H
30			S6 50	30.0 35.0														
		ND				717.2 31.5	SP	Soft, gray, poorly graded SAND (SP) mps: 1 mm, no odor, wet.				20	70	10				
		ND				716.2 32.5	CL	Oil-In-Soil collected at32 feet was negative.		5			5	90	S	M	M	H
								Borehole groundwater screening sample from 31.5-32.5 feet bgs. WG-053106-TMV-03										
						713.7		Soft to medium stiff, gray, Lean CLAY (CL), mps: 15 mm, no odor, moist.										
35		ND	S7 47	35.0 40.0		35.0	SP	Medium dense, brown, poorly graded SAND (SP), mps: 5 mm, no odor, moist.				30	35	5				
								Borehole groundwater screening sample from 37-40 feet bgs. WG-053106-TMV-02										
40		ND	S8 51	40.0 45.0		708.7 40.0	ML	Soft, gray, sandy SILT (ML), mps: 5 mm, no odor, moist.			5		20	75	S	L	L	M
		ND				704.2 44.5	SP	Medium dense, brown, poorly graded SAND (SP), mps: 5 mm, no odor, moist.		5			5	90				
45			S9 49	45.0 50.0		703.2 45.5	GP	Loose, brown, poorly graded GRAVEL (GP), mps: 70 mm, no odor, wet.	30	60	5			5				
		ND				700.7 48.0	SW	Loose to medium dense, brown, well graded SAND (SW), mps: 30 mm, no odor, wet.		20	20	30	25	5				

***SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.**

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. SB-189-06

USCS_TB3_DAY USCSLIB3_CLY.GLB USCSTBC3.GDT G:\PROJECTS\79032H~1\HARRISON\-347CM~1\GINT_347.GPJ Dec 19, 06

TEST BORING REPORT

Boring No. SB-189-06
File No. 79032-347
Sheet No. 3 of 3

Depth (ft.)	SPT*	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
						698.7												
50		ND	S10 53	50.0 55.0		50.0	SP	Medium dense to dense, brown, poorly graded SAND (SP), mps: 2 mm, no odor, moist.					95	5				
								Oil-In-Soil collected at52 feet was negative.										
						696.7												
		ND				52.0	SW	Loose, brown, well graded SAND with gravel (SW), mps: 50 mm, no odor, wet.	10	20	30	20	15	5				
								Borehole groundwater screening sample from 56-59 feet bgs. WG-053106-TMV-01										
55			S11 54	55.0 60.0														
						691.2												
		ND				57.5	GW	Loose, brown, well graded GRAVEL (GW), mps: 40 mm, no odor, moist.	10	50	20	10	5	5				
						690.0												
		ND				58.7	SW	Loose to medium dense, gray, well graded SAND (SW), mps: 30 mm, no odor, moist.	5	20	20	20	30	5				
60			S12 36	60.0 65.0				Oil-In-Soil collected at 64.5 feet was negative.										
						683.7												
65		ND	S13 52	65.0 70.0		65.0	CL	Stiff, gray, lean CLAY (CL), mps: 15 mm, no odor, moist.			10	5		85	N	M	M	H
						678.7												
70						70.0		Bottom of Exploration 70 feet.										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

USCS_TB3_DAY USCSLIB3_CLV.GLB USCSTBC3.GDT G:\PROJECTS\79032H~1\HARRISON\-347CM~1\GINT_347.GPJ Dec 19, 06

TEST BORING REPORT

Boring No. SB-190-06

Project: Former Delphi Harrison Thermal Systems - Dayton, Ohio
Client: Realm/GM
Contractor: ALTECH

File No.: 79032-347
Sheet No.: 1 of 3
Start: June 7, 2006
Finish: June 7, 2006
Driller: J. Davis
H&A Rep.: T. Vanage
Elevation Datum: 749.3
Location: N - 647749.38, E - 1494710.61

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type		G		Rig Make & Model: Geoprobe 6620
Inside Diameter (in.)		1 3/8		Bit Type:
Hammer Weight (lb.)	DRAFT		-	Drill Mud:
Hammer Fall (in.)			-	Casing:
				Hoist/Hammer:

Depth (ft.)	SPT*	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0				0.0 5.0				Hand auger to clear utilities.										
5		2.5	S1 18	5.0 10.0	NO WELL INSTALLED	744.3 5.0	SW	Loose, black, well graded SAND with silt and gravel (SW), mps:20 mm, no odor, moist.	5	20	15	20	20	30				
		1.5				742.3 7.0												
		ND				739.8 9.5	ML	Soft to medium stiff, brown, sandy SILT (ML), mps: 15 mm, no odor, wet.				10	30	60	S	L	L	M
10		0.6	S2 36	10.0 15.0				FILL										
						737.3 12.0												
		ND						Similar as above except more fines				5	15	80				
15		ND	S3 12	15.0 20.0		734.3 15.0												
						730.3 19.0	SW	Oil-In-Soil collected at 19 feet was negative. Loose, black, well graded SAND with silt and gravel (SW), mps: 10 mm, no odor, moist.		10	15	35	30	10				
20																		

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (lin. ft.) 65
Rock Cored (lin. ft.)
Samples 12

Boring No. SB-190-06

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None
Toughness: L-Low, M-Medium, H-High
Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification and percentages based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

USCS_TB3_DAY USCSLIB3_CLY.GLB USCSTBC3.GDT G:\PROJECTS\79032H~1\HARRISON\~347CM~1\GINT_347.GPJ Dec 19, 06

TEST BORING REPORT

Boring No. SB-190-06
File No. 79032-347
Sheet No. 2 of 3

Depth (ft.)	SPT*	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20			S4 32	20.0 25.0			SW											
		ND				724.6	SW	Similar as above except Water present at 24 feet.										
25		ND ND	S5 48	25.0 30.0		24.7	CL	Medium stiff, gray, sandy lean CLAY (CL), mps: 5 mm, no odor, moist. Borehole groundwater screening sample from 22-26 feet bgs. WG-060706-TMV-03			5		25	70	S	M	M	M-H
30		ND	S6 48	30.0 35.0		719.3 30.0												
		ND				716.3 33.0 715.6 33.8	CL	Similar as above except less sand and stiff.		5			5	90	N-S	M	M	H
35		ND	S7 46	35.0 40.0		712.3 37.0												
40		ND	S8 56	40.0 45.0		708.3 41.0		Sand lens from 43 to 43.2 feet. Oil-In-Soil collected at 43 feet was negative.										
45		ND	S9 53	45.0 50.0		704.3 45.0		Similar as above except becoming more sandy		5			15	80				
		ND				701.3 48.0												

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. SB-190-06

USCS_TB3_DAY USCSLIB3_CLY.GLB USCSTBC3.GDT G:\PROJECTS\79032H~1\HARRISON\-347CM~1\GINT_347.GPJ Dec 19, 06

TEST BORING REPORT

Boring No. SB-190-06
File No. 79032-347
Sheet No. 3 of 3

Depth (ft.)	SPT*	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
50			S10 58	50.0 55.0		697.6	CL											
		ND 0.7				51.7 697.5	SW	Loose, brown, well graded SAND (SW), mps: 20 mm, no odor, wet.		10	35	30	20	5				
						51.8 696.3		Borehole groundwater screening sample from 51.5-55.5 feet bgs.										
		0.2				53.0		WG-060706-TMV-02 Oil-In-Soil collected at 52.5 feet was negative.										
55			S11 58	55.0 60.0		694.3 55.0 693.8												
		ND ND				55.5	CL	Stiff, gray, lean CLAY (CL), mps: 10 mm, no odor, moist.		5	5			90	N	M	M	H
								Oil-In-Soil collected at 55.5 feet was negative.										
60		ND	S12 58	60.0 65.0		689.3 60.0												
								Oil-In-Soil collected at 62 feet was negative.										
		0.4				684.7 64.6	SW	Loose, brown, well graded SAND (SW), mps: 20 mm, no odor, moist.		10	25	35	20	10				
65						684.3 65.0		Bottom of Exploration 65 feet.										
								Borehole groundwater screening sample from 65-68 feet bgs.										
								WG-060706-TMV-01										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. SB-190-06

USCS_TB3_DAY USCSLIB3_CLY.GLB USCSTBC3.GDT G:\PROJECTS\79032H~1\HARRISON\-347CM~1\GINT_347.GPJ Dec 19, 06

TEST BORING REPORT

Boring No. SB-191-06

Project: Former Delphi Harrison Thermal Systems - Dayton, Ohio
Client: Realm/GM
Contractor: ALTECH

File No.: 79032-347
Sheet No.: 1 of 3
Start: June 1, 2006
Finish: June 2, 2006
Driller: J. Davis
H&A Rep.: T. Vanage

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type		G		Rig Make & Model: Geoprobe 6620
Inside Diameter (in.)		1 3/8		Bit Type:
Hammer Weight (lb.)	DRAFT		-	Drill Mud:
Hammer Fall (in.)			-	Casing:
				Hoist/Hammer:

Elevation Datum 737.1

Location
N - 647695.55
E - 1494863.9

Depth (ft.)	SPT*	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0				0.0				Hand auger to clear utilities.										
				5.0				Sands and gravel										
						732.1												
5		ND	S1 24	5.0 10.0		5.0	ML	Soft, Black, SILT (ML), mps: 20 mm, no odor, moist.		5	5	10	20	10	S	L	L	M
						728.1												
		1.3			NO WELL INSTALLED	9.0	GW	Loose, brown, well graded GRAVEL with sand (GW), mps: 40 mm, no odor, moist.	10	40	15	20	10	5				
						727.1												
10			S2 34	10.0 15.0		10.0		Borehole groundwater screening sample from 11-14 feet bgs. WG-060606-TMV-06										
						724.1												
		2.8				13.0	GW	Similar as above except water present at 13 feet.										
						723.1		Oil-In-Soil collected at 13.9 feet was negative.										
		1.4				14.0	CL	Soft to medium stiff, gray sandy lean CLAY (CL), mps: 10 mm, no odor, moist.		5	5	15	20	55	S	M	M	M
15			S3 37	15.0 20.0		722.1 15.0												
						720.1												
						17.0		Oil-In-Soil collected at 17 feet was negative.										
		1.2																
						718.1												
		0.8				19.0												
20						717.1												

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (lin. ft.) 75
Rock Cored (lin. ft.)
Samples 14

Boring No. SB-191-06

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None
Toughness: L-Low, M-Medium, H-High
Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification and percentages based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

USCS_TB3_DAY USCSLIB3_CLY.GLB USCSTBC3.GDT G:\PROJECTS\79032H~1\HARRISON\-347CM~1\GINT_347.GPJ Dec 19, 06

TEST BORING REPORT

Boring No. SB-191-06
File No. 79032-347
Sheet No. 2 of 3

Depth (ft.)	SPT*	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20		ND	S4 41	20.0 25.0		20.0	CL	Similar as above										
25			S5 58	25.0 30.0		712.1 25.0		Oil-In-Soil collected at 28 feet was negative.										
		0.8				709.1 28.0	SP	Loose to medium dense, brown, poorly graded SAND with silt (SP), mps: 30 mm, no odor, moist.			15	65	10	10				
30		ND	S6 48	30.0 35.0		707.1 30.0												
		3.1				704.1 33.0												
35			S7 48	35.0 40.0		702.1 35.0												
		1.8						Similar as above except more fines. Oil-In-Soil collected at 36.5 feet was negative.		5	5		60	30				
40			S8 46	40.0 45.0		697.1 40.0												
		2.4				693.1 44.0	SW	Loose, gray, well graded SAND (SW), mps: 20 mm, no odor, wet.		10	30	30	20	10				
45		2.7	S9 53	45.0 50.0		692.1 45.0	SW	Similar as above except color change to brown. Borehole groundwater screening sample from 44-48 feet bgs. WG-060606-TMV-05										
		2.1				690.1 47.0												

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

USCS_TB3_DAY USCSLIB3_CLY.GLB USCSTBC3.GDT G:\PROJECTS\79032H-1\HARRISON\-347CM-1\GINT_347.GPJ Dec 19, 06

TEST BORING REPORT

Boring No. SB-191-06
File No. 79032-347
Sheet No. 3 of 3

Depth (ft.)	SPT*	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
						687.1	SW											
50		6.1	S10 56	50.0 55.0		50.0		Oil-In-Soil collected at 52 feet was negative.										
						684.6												
		5.9				52.5	SP	Medium dense, gray, poorly graded SAND (SP), mps: 2 mm, no odor, moist.			10	70	15	5				
						682.1												
55		7.1	S11 52	55.0 60.0		55.0												
		7.9				679.6 57.5												
						677.1												
60		7.1	S12 58	60.0 65.0		60.0		Similar as above except wet.										
		5.4				675.1 62.0		Borehole groundwater screening sample from 61-65 feet bgs. WG-060606-TMV-04										
						672.1												
65		ND	S13 42	65.0 70.0		65.0		Similar as above except moist.										
						667.1												
70		ND	S14 38	70.0 75.0		70.0	SW	Loose, brown, well graded SAND (SW), mps: 20 mm, no odor,moist.		20	35	30	10	5				
								Oil-In-Soil collected at 74 feet was negative.										
						663.1												
		ND				74.0	SC	Medium dense to dense, brown, clayey SAND with gravel (SC), mps: 35 mm, slight petroleum odor, moist.	5	15	10	5	20	45				
75						662.1 75.0		Borehole groundwater screening sample from 74-75 feet bgs. WG-060206-TMV-01 Bottom of Exploration 75 feet.										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. SB-191-06

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TEST BORING REPORT

Boring No. SB-192-06

Project: Former Delphi Harrison Thermal Systems - Dayton, Ohio
Client: Realm/GM
Contractor: ALTECH

File No.: 79032-347
Sheet No.: 1 of 3
Start: June 8, 2006
Finish: June 9, 2006
Driller: J. Davis
H&A Rep.: T. Vanage

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type		G		Rig Make & Model: Geoprobe 6620
Inside Diameter (in.)		1 3/8		Bit Type:
Hammer Weight (lb.)	DRAFT		-	Drill Mud:
Hammer Fall (in.)			-	Casing:
				Hoist/Hammer:

Elevation
Datum

Location
N -
E -

Depth (ft.)	SPT*	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0				0.0 5.0				Hand auger to 5 feet to clear utilities										
5		ND	S1 34	5.0 10.0	NO WELL INSTALLED	5.0	ML	Soft, black, SILT (ML), mps: 15 mm, slight petroleum odor, moist, shells present.			5	5	5	85	S	L	L	M
		ND				7.0												
10		ND	S2 39	10.0 15.0		10.0		Oil-In-Soil collected at 10 feet was negative.										
		ND				13.5	SW	Loose to medium dense, brown, well graded SAND with gravel (SW), mps: 15 mm, no odor,		20	40	20	10	10				
15		ND	S3 29	15.0 20.0		15.0		Water present at 14.5 feet. Borehole groundwater screening sample from 15.3-19.3 feet. WG-060806-TMV-03										
		1.7				19.0	CL	Soft to medium stiff, brown, sandy lean CLAY (CL), mps: 10 mm,		5	5		20	70	S	M	M	M
20																		

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (lin. ft.) 55
Rock Cored (lin. ft.)
Samples 10

Boring No. SB-192-06

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None
Toughness: L-Low, M-Medium, H-High
Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification and percentages based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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TEST BORING REPORT

Boring No. SB-192-06
File No. 79032-347
Sheet No. 2 of 3

Depth (ft.)	SPT*	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20		ND	S4 30	20.0 25.0		19.3	CL	slight petroluem odor, moist.										
						20.0		Oil-In-Soil collected at 19.3 feet was negative.										
25		ND	S5 12	25.0 30.0		25.0												
30		ND	S6 15	30.0 35.0		30.0												
35		0.6	S7 42	35.0 40.0		34.8	SW	Loose, brown, well graded SAND with gravel (SW), mps: 15 mm, no odor, wet.		20	35	30	10	5				
		1.0				37.0		Oil-In-Soil collected at 34.9 feet was negative.										
40		ND	S8 56	40.0 45.0		39.9	SP	Loose to medium dense, brown, poorly graded SAND (SP) mps: 1 mm, no odor, wet.				20	70	10				
						40.0		Borehole groundwater screening sample from 42.4-46.4 feet.										
		1.3				44.0	SW	WG-060806-TMV-02 Loose, brown, well graded SAND (SW), mps: 30 mm, no odor, moist.	10	15	20	30	15	10				
45			S9 50	45.0 50.0		44.1												
		ND				46.4	CL	Stiff, gray-brown, lean CLAY (CL), mps: 30 mm, no odor, moist.	5	5	10		10	70	N-S	M	M	H
								Oil-In-Soil collected at 46.4 feet was negative.										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. SB-192-06

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TEST BORING REPORT

Boring No. SB-192-06
File No. 79032-347
Sheet No. 3 of 3

Depth (ft.)	SPT*	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
50		1.3	S10 54	50.0 55.0		50.0	CL											
		ND				52.0												
55						55.0		Bottom of Exploration 55 feet. Borehole groundwater screening sample from 55-59 feet. WG-060806-TMV-01									

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. SB-192-06

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TEST BORING REPORT

Boring No. SB-193

Project: Former Delphi Harrison Thermal Systems - Dayton, Ohio
Client: Realm/GM
Contractor: Prosonic

File No.: 79032-347
Sheet No.: 1 of 2
Start: October 23, 2006
Finish: October 23, 2006
Driller: E. Geiger
H&A Rep.: T. Vanage
Elevation Datum 748.8
Location
N - 5310.38
E - 4332.43

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	G	-	Rig Make & Model: Geoprobe
Inside Diameter (in.)	-	-	-	Bit Type: -
Hammer Weight (lb.)	-	-	-	Drill Mud: -
Hammer Fall (in.)	-	-	-	Casing:
				Hoist/Hammer: - -

Depth (ft.)	SPT*	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0						748.3		Asphalt										
		ND				0.5	SW	Loose, brown, well graded, SAND (SW), mps= 80 mm, no odor, moist. Hand auger to 5 feet to clear utilities.	5	10	10	50	20	5				
		ND						SO-12638-102306-TV-001 was collected from 0-2 feet for VOC analysis.										
								Oil-In-Soil collected from 3-3.5 feet was negative.										
5		ND	1 34	5.0 10.0	NO WELL INSTALLED	743.8 5.0	ML	Soft, dark brown, SILT (ML), mps= 35 mm, no odor, moist, with glass and brick fragments found. -Fill-	5				15	80	S	L	L	L
		0.1																
10			2 38	10.0 15.0														
		ND																
		ND					ML	Similiar as above.										
15			3 32	15.0 20.0														
		ND																
		ND					ML	Similiar as above.										
						729.0		Oil-In-Soil collected from 19-19.5 feet was negative.										
20																		

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (lin. ft.) 25
Rock Cored (lin. ft.) -
Samples 4

Boring No. SB-193

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None
Toughness: L-Low, M-Medium, H-High
Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification and percentages based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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TEST BORING REPORT

Boring No. SB-193
File No. 79032-347
Sheet No. 2 of 2

Depth (ft.)	SPT*	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20		ND	4 30	20.0 25.0		19.8	SW	Loose, brown, well graded SAND (SW), mps= 20 mm, no odor, moist.		10	20	40	25	5				
						725.5												
		ND				23.3	GW	Oil-In-Soil collected from 23 feet was negative. Wet at 23.25 feet. SO-12638-102306-TV-001 was collected from 22-23.25 feet for VOC analysis.	30	40	15	10	5					
25						723.8 25.0		Loose, brown, well graded GRAVEL (GW) with sand, mps= 40 mm, no odor, wet.										
								Bottom of Exploration at 25 feet.										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. SB-193

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TEST BORING REPORT

Boring No. SB-194

Project: Former Delphi Harrison Thermal Systems - Dayton, Ohio
Client: Realm/GM
Contractor: Prosonic

File No.: 79032-347
Sheet No.: 1 of 2
Start: October 23, 2006
Finish: October 23, 2006
Driller: E. Geiger
H&A Rep.: T. Vanage
Elevation Datum 750.4
Location
N - 5336.38
E - 4318.37

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	G	-	Rig Make & Model: Geoprobe
Inside Diameter (in.)	-		-	Bit Type: -
Hammer Weight (lb.)	-	-	-	Drill Mud: -
Hammer Fall (in.)	-	-	-	Casing:
				Hoist/Hammer: - -

Depth (ft.)	SPT*	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0						749.9		Asphalt										
		ND				0.5	SW	Loose, brown, well graded SAND (SW), mps> 50 mm, slight solvent-like odor, moist. Hand auger to clear utilities. Oil-In-Soil collected from 0-1 feet was negative. SO-12638-102306-TV-004. was collected from 0-2 feet for VOC analysis.	5	15	30	30	15	5				
		ND																
5			1 28	5.0 10.0														
		ND					SW	Similiar as above.										
		ND																
						741.4												
10			2 24	10.0 15.0	NO WELL INSTALLED	9.0	ML	Soft, dark brown SILT (ML), mps= 50 mm, no odor, moist.		5		5	10	80	S	L	L	L
		ND					ML	Similiar as above with a 4-inch pocket of well graded sand (SW) at 13.75 feet. Oil-In-Soil collected from 14 feet was negative. SO-12638-102306-TV-005 was collected from 13.5-14 feet for VOC analysis.										
15			3 28	15.0 20.0														
		ND																
		ND																
20																		

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (lin. ft.) 25
Rock Cored (lin. ft.) -
Samples 4

Boring No. SB-194

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None
Toughness: L-Low, M-Medium, H-High
Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification and percentages based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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TEST BORING REPORT

Boring No. SB-194
File No. 79032-347
Sheet No. 2 of 2

Depth (ft.)	SPT*	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20			4 39	20.0 25.0														
		ND				727.6												
		ND				22.8	SW	Loose, brown, well graded SAND (SW), mps > 150 mm, no odor. Oil-In-Soil collected from 23-24 feet was negative. SO-12638-102306-TV-006. was collected from 23-24.25 feet for VOC analysis. Wet at 24.25 feet.	10	15	40	20	10	5				
25						725.4 25.0		Bottom of Exploration at 25 feet.										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. SB-194

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TEST BORING REPORT

Boring No. SB-195

Project: Former Delphi Harrison Thermal Systems - Dayton, Ohio
Client: Realm/GM
Contractor: Prosonic

File No.: 79032-347
Sheet No.: 1 of 2
Start: October 23, 2006
Finish: October 23, 2006
Driller: E. Geiger
H&A Rep.: T. Vanage
Elevation Datum 750.3
Location
N - 5358.69
E - 4364.73

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	G	-	Rig Make & Model: Geoprobe
Inside Diameter (in.)	-		-	Bit Type: -
Hammer Weight (lb.)	-	-	-	Drill Mud: -
Hammer Fall (in.)	-	-	-	Casing:
				Hoist/Hammer: - -

Depth (ft.)	SPT*	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0						749.8		Asphalt										
		ND				0.5	SW	Loose, brown, well graded SAND (SW), mps> 150 mm, no odor, moist. Oil-In-Soil collected from 0-2 feet was negative. SO-12638-102306-TV-007 was collected from 0-2 feet for VOC analysis.	5	15	30	30	15	5				
5			1 30	5.0 10.0														
		ND						SO-12638-102306-TV-008 was collected from 7-8.75 feet for VOC analysis.										
		ND				741.5 8.8	ML	Soft, dark brown SILT (ML), mps= 30 mm, no odor, moist.		5			10	85	S	L	L	L
10		ND																
			2 60	10.0 15.0	NO WELL INSTALLED	739.3												
		ND				11.0	SM	Medium dense, dark brown, sandy SILT (SM), mps= fine sand, no odor, moist.					60	40				
		ND																
		ND																
15						735.3												
			3 36	15.0 20.0		15.0		Oil-In-Soil collected from 15-16 feet was negative.										
		ND				734.3 16.0		SO-12638-102306-TV-009 was collected from 16-17 feet for VOC analysis.										
		ND																
		ND				731.3 19.0	CL	Medium stiff, black, lean CLAY (CL), mps= fine sand, slight odor, moist.					10	90	N	M	M	M
20																		

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (lin. ft.) 25
Rock Cored (lin. ft.)
Samples 4

Boring No. SB-195

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None
Toughness: L-Low, M-Medium, H-High
Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification and percentages based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

USCS_TB3_DAY USCSLIB3_CLY.GLB USCSTBC3.GDT G:\PROJECTS\79032H~1\HARRISON\-347CM~1\GINT_347.GPJ Dec 20, 06

TEST BORING REPORT

Boring No. SB-195
File No. 79032-347
Sheet No. 2 of 2

Depth (ft.)	SPT*	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20			4 41	20.0 25.0														
		ND				726.9												
		ND				23.4	SW	Loose, brown, well graded SAND (SW), mps= 70 mm, slight odor. Oil-In-Soil collected from 24 feet was negative. SO-12638-102306-TV-010 was collected from 23-24 feet for VOC analysis.	5	10	30	30	20	5				
25						725.3 25.0		Wet at 24.1 feet. Bottom of Exploration at 25 feet.										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. SB-195

USCS_TB3_DAY USCSLIB3_CLV.GLB USCSTBC3.GDT G:\PROJECTS\79032H~1\HARRISON\-347CM~1\GINT_347.GPJ Dec 20, 06

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 012638-12
CLIENT: REALM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: GP01-08
DATE COMPLETED: February 19, 2008
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: J. CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	BOREHOLE	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
0	TOPSOIL		CEMENT					
	SM-SAND, silt, consolidated well graded, medium-coarse sand, dark brown, dry	1.00						
2			BENTONITE CHIPS	1GP		100		0
			3.5" WELL CASING					
	CL-CLAY, cohesive, dense, firm, low plasticity, brown, dry	3.50						
4								
	SW-SAND, medium-coarse grained, trace silt, loose, well graded, dark brown-black, dry	4.20	3.5" BOREHOLE					
6			SAND PACK	2GP 6-8 -011		63		0
			0.5" WELL SCREEN					
8	END OF BOREHOLE @ 8.0ft BGS	8.00						
10								
12								
14								
16								
18								

WELL DETAILS
Screened interval:
6.00 to 8.00ft BGS
Length: 2ft
Diameter: 0.5in
Slot Size: 0.010
Material: STAINLESS STEEL
Sand Pack:
5.50 to 8.00ft BGS
Material: GLOBAL #5

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS (oval)

OVERBURDEN LOG 12638-12.GPJ CRA_CORP.GDT 5/22/08

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 012638-12
CLIENT: REALM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: GP02-08
DATE COMPLETED: February 19, 2008
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: J. CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	BOREHOLE	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
0	ASPHALT	0.25	CEMENT					
	GW/SW-SAND & GRAVEL, medium to coarse sand, fine gravel, loose, well graded, brown, dry		BENTONITE CHIPS	1GP		25		0
2			3.5" WELL CASING					
4			3.5" BOREHOLE					
6			SAND PACK	2GP 6-8 -010		63		0
	SM/SW-SAND & SILT, slightly consolidated, fine to coarse sand, well graded, dark brown, dry	6.50	0.5" WELL SCREEN					
8	END OF BOREHOLE @ 8.0ft BGS	8.00						
10								
12								
14								
16								
18								

WELL DETAILS
Screened interval:
6.00 to 8.00ft BGS
Length: 2ft
Diameter: 0.5in
Slot Size: 0.010
Material: STAINLESS STEEL
Sand Pack:
5.50 to 8.00ft BGS
Material: GLOBAL #5

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS (2GP 6-8 -010)

OVERBURDEN LOG 12638-12.GPJ CRA_CORP.GDT 5/22/08

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 012638-12
CLIENT: REALM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: GP03-08
DATE COMPLETED: February 18, 2008
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: J. CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	BOREHOLE	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
0	ASPHALT	0.33	CEMENT					
	GP-SAND & GRAVEL (FILL)	0.50						
	RED CLAY BRICK	1.00	BENTONITE CHIPS	1GP		75		0
2	SM-SAND & SILT, medium to coarse sand, silt, consolidated, well graded, brown, moist		3.5" WELL CASING					
4			3.5" BOREHOLE					
6			SAND PACK	2GP 6-8 -001		50		0
	- coal pieces, fine gravel at 7.8ft BGS		0.5" WELL SCREEN					
8	END OF BOREHOLE @ 8.0ft BGS	8.00						
10								
12								
14								
16								
18								

WELL DETAILS
Screened interval:
6.00 to 8.00ft BGS
Length: 2ft
Diameter: 0.5in
Slot Size: 0.010
Material: STAINLESS STEEL
Sand Pack:
5.50 to 8.00ft BGS
Material: GLOBAL #5

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS (oval)

OVERBURDEN LOG 12638-12.GPJ CRA_CORP.GDT 5/22/08

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 012638-12
CLIENT: REALM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: GP04-08
DATE COMPLETED: February 18, 2008
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: J. CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	BOREHOLE	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
0	ASPHALT	0.25	CEMENT					
	ML-SILT, cohesive, dense, trace fine gravel, gray-dark gray, damp, trace clay		BENTONITE CHIPS	1GP		100		0
2			3.5" WELL CASING					
4			3.5" BOREHOLE					
6			SAND PACK	2GP 6-8 -007		75		0
8	END OF BOREHOLE @ 8.0ft BGS	8.00	0.5" WELL SCREEN					
10								
12								
14								
16								
18								

WELL DETAILS
Screened interval:
6.00 to 8.00ft BGS
Length: 2ft
Diameter: 0.5in
Slot Size: 0.010
Material: STAINLESS STEEL
Sand Pack:
5.50 to 8.00ft BGS
Material: GLOBAL #5

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS (oval)

OVERBURDEN LOG 12638-12.GPJ CRA_CORP.GDT 5/22/08

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 012638-12
CLIENT: REALM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: GP05-08
DATE COMPLETED: February 18, 2008
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: J. CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	BOREHOLE	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
0	ASPHALT	0.25	CEMENT					
	CL/ML-CLAY & SILT, cohesive, dense, soft, low plasticity, dark gray/ black, damp		BENTONITE CHIPS	1GP		100		0
2			3.5" WELL CASING					
4			3.5" BOREHOLE					
6			SAND PACK	2GP 6-8 -006		75		0
8	END OF BOREHOLE @ 8.0ft BGS	8.00	0.5" WELL SCREEN					
10								
12								
14								
16								
18								

WELL DETAILS
Screened interval:
6.00 to 8.00ft BGS
Length: 2ft
Diameter: 0.5in
Slot Size: 0.010
Material: STAINLESS STEEL
Sand Pack:
5.50 to 8.00ft BGS
Material: GLOBAL #5

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS (oval)

OVERBURDEN LOG 12638-12.GPJ CRA_CORP.GDT 5/22/08

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 012638-12
CLIENT: REALM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: GP06-08
DATE COMPLETED: February 18, 2008
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: J. CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	BOREHOLE	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
0	ASPHALT	0.25	CEMENT					
	GW/SW-GRAVEL & SAND, loose, wel graded, coarse sand, fine gravel, brown, damp (road base)	1.00						
2	SM-SAND & SILT, trace clay, consolidated, well graded, dark brown, dry		BENTONITE CHIPS	1GP		75		0
			3.5" WELL CASING					
4								
		5.00	3.5" BOREHOLE					
6	CL/ML-CLAY & SILT, little fine to medium sand, cohesive soft, damp, dark gray-black, odor - little medium grained sand lenses at 5.8ft BGS		SAND PACK	2GP (5-7'-005, 6-8'-004)		75		3
			0.5" WELL SCREEN					
8	END OF BOREHOLE @ 8.0ft BGS	8.00						
10								
12								
14								
16								
18								

WELL DETAILS
Screened interval:
5.00 to 8.00ft BGS
Length: 3ft
Diameter: 0.5in
Slot Size: 0.010
Material: STAINLESS STEEL
Sand Pack:
5.50 to 8.00ft BGS
Material: GLOBAL #5

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS (oval)

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 012638-12
CLIENT: REALM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: GP07-08
DATE COMPLETED: February 18, 2008
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: J. CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	BOREHOLE	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
0	ASPHALT	0.33	CEMENT					
	GW/SW-SAND & GRAVEL, loose, well graded, little silt, brown, damp		BENTONITE CHIPS	1GP		63		0
2			3.5" WELL CASING					
	- orange clay brick fragments at 3.5ft BGS	3.50						
4	SM-SAND & SILT, trace fine gravel, slightly consolidated, medium to coarse sand, well graded, dark brown, damp		3.5" BOREHOLE					
6			SAND PACK	2GP 6-8 -003		58		0
	concrete fragments & concrete dust	7.00	0.5" WELL SCREEN					
		7.70						
8	SM-SAND & SILT, trace coarse gravel, slightly consolidated, medium to coarse sand, well graded, dark brown, damp	8.00						
	END OF BOREHOLE @ 8.0ft BGS							
10								
12								
14								
16								
18								

WELL DETAILS
Screened interval:
6.00 to 8.00ft BGS
Length: 2ft
Diameter: 0.5in
Slot Size: 0.010
Material: STAINLESS STEEL
Sand Pack:
5.50 to 8.00ft BGS
Material: GLOBAL #5

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS (oval)

OVERBURDEN LOG 12638-12.GPJ CRA_CORP.GDT 5/22/08

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 012638-12
CLIENT: REALM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: GP08-08
DATE COMPLETED: February 18, 2008
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: J. CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	BOREHOLE	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
0	ASPHALT	0.33	CEMENT					
	ML-SILT, trace clay, cohesive, dense, soft, firm, brown, dry		BENTONITE CHIPS	1GP		100		0
2			3.5" WELL CASING					
4			3.5" BOREHOLE					
6			SAND PACK	2GP 6-8 -008		75		0
	SM-SILTY SAND, medium to coarse sand, consolidated, well graded, brown, damp	7.00	0.5" WELL SCREEN					
8	END OF BOREHOLE @ 8.0ft BGS	8.00						
10								
12								
14								
16								
18								

WELL DETAILS
Screened interval:
6.00 to 8.00ft BGS
Length: 2ft
Diameter: 0.5in
Slot Size: 0.010
Material: STAINLESS STEEL
Sand Pack:
5.50 to 8.00ft BGS
Material: GLOBAL #5

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS (oval)

OVERBURDEN LOG 12638-12.GPJ CRA_CORP.GDT 5/22/08

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 012638-12
CLIENT: REALM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: GP09-08
DATE COMPLETED: February 18, 2008
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: J. CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	BOREHOLE	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
0	ASPHALT	0.33	CEMENT					
	SM-SAND & SILT, consolidated, medium to coarse sand, well graded, dark brown/ dark gray, damp		BENTONITE CHIPS	1GP		100		0
2			3.5" WELL CASING					
4	SW/SM- SAND & little silt, fine to coarse sand, well graded, loose, brown, dry	4.00	3.5" BOREHOLE					
6			SAND PACK	2GP 6-8 -002		75		0
	CONCRETE FRAGMENTS, dry, off-white/ gray rock powder	6.50	0.5" WELL SCREEN					
8	END OF BOREHOLE @ 8.0ft BGS	8.00						
10								
12								
14								
16								
18								

WELL DETAILS
Screened interval:
6.00 to 8.00ft BGS
Length: 2ft
Diameter: 0.5in
Slot Size: 0.010
Material: STAINLESS STEEL
Sand Pack:
5.50 to 8.00ft BGS
Material: GLOBAL #5

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS (oval)

OVERBURDEN LOG 12638-12.GPJ CRA_CORP.GDT 5/22/08

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 012638-12
CLIENT: REALM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: GP10-08
DATE COMPLETED: February 18, 2008
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: J. CLOSE

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	BOREHOLE	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
0	ASPHALT	0.25	CEMENT					
	SM-SAND & SILT, consolidated, well graded, fine to medium grained sand, dark gray, dry		BENTONITE CHIPS	1GP		75		0
2			3.5" WELL CASING					
4								
			3.5" BOREHOLE					
6			SAND PACK	2GP 6-8 -009		25		0
			0.5" WELL SCREEN					
8	END OF BOREHOLE @ 8.0ft BGS	8.00						
10								
12								
14								
16								
18								

WELL DETAILS
Screened interval:
6.00 to 8.00ft BGS
Length: 2ft
Diameter: 0.5in
Slot Size: 0.010
Material: STAINLESS STEEL
Sand Pack:
5.50 to 8.00ft BGS
Material: GLOBAL #5

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS (oval)

OVERBURDEN LOG 12638-12.GPJ CRA_CORP.GDT 5/22/08

HALEY & ALDRICH, INC.
UNDERGROUND ENGINEERING &
ENVIRONMENTAL SOLUTIONS

OVERBURDEN GROUNDWATER MONITORING WELL REPORT

PROJECT: BUSTR/Phase III Investigation
LOCATION: Delphi Harrision Thermal Systems Facility, Dayton, Ohio
CLIENT: GM Legal Counsel
CONTRACTOR: Jones Environmental Drilling, Incorporated
DRILLER: Gary Taylor RIG TYPE: Acker Soil Max
INSTALLATION DATE: 6-4-96

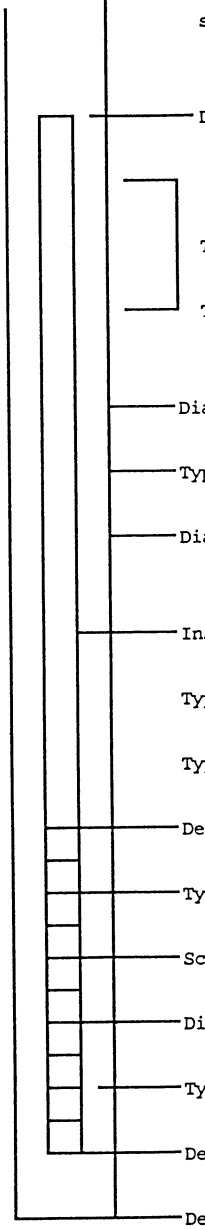
FILE NO.: 79032-001
WELL NO.: B-301
LOCATION: 6049.26 N
7145.11 E
SHEET: 1 OF 1
INSPECTOR: DJK

Survey Datum: VD29

Ground Elevation: 739.85

SUMMARIZE SOIL CONDITIONS

FILL / SAND	2.8	Bentonite Pellets
	5.0	
SILT	8.8	Sand
GRAVEL	17.0	Pack



Depth/stickup above/below ground surface of protective casing	NA
Depth above ground surface of riser pipe	3.7 ft.
Thickness of Surface Seal	NA
Type of Surface Seal	NA
Diameter of PVC	2.0 in.
Type of Protective Casing	NA
Diameter of Borehole	9.5 in.
Inside Diameter of Riser Pipe	2.067 in.
Type of Backfill Around Riser	Bentonite Chips
Type of coupling	Threaded
Depth of Bottom of Riser	7 feet
Type of Wellscreen	PVC
Screen Slot Size	No. 10
Diameter of Wellscreen	2 in.
Type of Backfill Around Wellscreen	Global Filter Pack Silica Sand
Depth of Bottom of Wellscreen	17 feet
Depth of Bottom of Borehole	17 feet

Remarks:

Well No. B-301

C

HALEY & ALDRICH, INC. Geotechnical Engineers, and Environmental Consultants	TEST BORING REPORT	BORING NO. B-SA 301

PROJECT: Delphi Harrison Thermal Systems Facility, BUSTR Site/Phase III Investigation
CLIENT: G.M. Legal Counsel
CONTRACTOR: Jones Environmental Drilling, Incorporated

FILE NO. 79032-001
SHEET NO. 1 OF
LOCATION: 6049.26 .
7145.11 E
GROUND ELEVATION: 739.85

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE		S	
INSIDE DIAMETER (IN)		1 3/8	
HAMMER WEIGHT (LB)		140	
HAMMER FALL (IN)		30	

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Acker Soil Max
METHOD: HSA

OTHER:

DATUM: VD29
START: 6-4-96 1200
FINISH: 6-4-96 1530
DRILLER: Gary Taylor
H&A REP: DJK

DEPTH (FT)	FIELD PID (PPM)	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
						Brown, gray and tan mottled SAND, little clay in frequent pockets, some gravel, wet. - FILL -
	7.7	4 2 6 3	S-1 14"	1 3	2.8	Dark gray SILT, some clay, trace sand with 5% white sand size gastropod shells. - OVERBANK -
	16.4	7 5 5 8	S-2 16"	3 5		
5	4.8	5 5 6 8	S-3 10"	5 7		SAME, brown sand layer from 5.5 to 5.6 feet.
	3.5	6 11 14 17	S-4 20"	7 9		SAME, brown sand layer from 7.2 to 7.4 feet.
	4.3				8.8	
10	24.3	10 19 22 27	S-5 12"	9 11		Tan sandy GRAVEL, occasionally gray below 13 feet. SAME.
	NA	50/2"	S-6 0"	11 13		
	52.7	60/5"	S-7 2"	13 15		SAME.
15	67.8	36 24 22 30	S-8 12"	15 17		SAME. - FLUVIAL -
						BOTTOM OF EXPLORATION AT 17.0 FEET.

NOTES: Water at 12.0 feet.

SAMPLE IDENTIFICATION	SUMMARY
O Open End Rod T Thin Wall Tube U Undisturbed Sample S Split Spoon G Grab Sample with Stainless Steel Trowel	OVERBURDEN (LIN FT): 17.0 ROCK CORED (LIN FT): 0 SAMPLES: 8-S, S-2 sent to lab. BORING NO. B-301

HALEY & ALDRICH, INC. UNDERGROUND ENGINEERING & ENVIRONMENTAL SOLUTIONS	OVERBURDEN GROUNDWATER MONITORING WELL REPORT

PROJECT: BUSTR/Phase III Investigation
LOCATION: Delphi Harrision Thermal Systems Facility, Dayton, Ohio
CLIENT: GM Legal Counsel
CONTRACTOR: Jones Environmental Drilling, Incorporated
DRILLER: Gary Taylor RIG TYPE: Acker Soil Max
INSTALLATION DATE: 6-4-96

FILE NO.: 79032-001
WELL NO.: B-302
LOCATION: 6030.03 N
7148.46 E
SHEET: 1 OF 1
INSPECTOR: DJK

Survey Datum: VD29

Ground Elevation: 739.63

SUMMARIZE Soil Conditions

FILL
SAND
2.0
SILT
7.5
GRAVEL
16.0

Bentonite
Pellets
4.0
Sand
Pack

Not to Scale

Depth/stickup above/below ground surface of protective casing	NA
Depth below ground surface of riser pipe	3.1 ft.
Thickness of Surface Seal	NA
Type of Surface Seal	NA
Diameter of PVC	2.0 in.
Type of Protective Casing	NA
Diameter of Borehole	9.5 in.
Inside Diameter of Riser Pipe	2.067 in.
Type of Backfill Around Riser	Bentonite Chips
Type of coupling	Threaded
Depth of Bottom of Riser	6 feet
Type of Wellscreen	PVC
Screen Slot Size	No. 10
Diameter of Wellscreen	2 in.
Type of Backfill Around Wellscreen	Global Filter Pack Silica Sand
Depth of Bottom of Wellscreen	16 feet
Depth of Bottom of Borehole	16 feet

Remarks:

HALEY & ALDRICH, INC. Geotechnical Engineers, and Environmental Consultants	TEST BORING REPORT	BORING NO. B-302

PROJECT: Delphi Harrison Thermal Systems Facility, BUSTR Site/Phase III Investigation
CLIENT: G.M. Legal Counsel
CONTRACTOR: Jones Environmental Drilling, Incorporated

FILE NO. 79032-001
SHEET NO. 1 OF 1
LOCATION: 6030.03 N
7148.46 E
GROUND ELEVATION: 739.63

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE		S	
INSIDE DIAMETER (IN)		1 3/8	
HAMMER WEIGHT (LB)		140	
HAMMER FALL (IN)		30	

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Acker Soil Max
METHOD: HSA

OTHER:

DATUM: VD29
START: 6-4-96 1330
FINISH: 6-4-96 1445
DRILLER: Gary Taylor
H&A REP: DJK

DEPTH (FT)	FIELD PID (PPM)	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
						Brown and gray mottled silty SAND, some gravel, wet.
	24.9	3 3 3 4	S-1 10"	1 3	2.0	- FILL -
	21.6	3 4 5 7	S-2 12"	3 5		Dark gray SILT, little clay, trace gravel, with white sand size gastropod shells, moist.
5	2.6	2 3 4 2	S-3 8"	5 7		SAME, some gravel, occasional pockets of brown sand. - OVERBANK -
	8.4	12 15 16 18	S-4 18"	7 9	7.5	Tan and gray sandy GRAVEL.
10	22.2	10 12 14 18	S-5 16"	9 11		
	21.2	10 11 15 18	S-6 12"	11 13		SAME, pockets dark gray.
	31.3	8 10 17 12	S-7 13"	13 15		SAME, occasional pockets of sand.
15						
						BOTTOM OF EXPLORATION AT 16.0 FEET.

NOTES: Water at 8.8 feet.

SAMPLE IDENTIFICATION	SUMMARY
O Open End Rod T Thin Wall Tube U Undisturbed Sample S Split Spoon G Grab Sample with Stainless Steel Trowel	OVERBURDEN (LIN FT): 16.0 ROCK CORED (LIN FT): 0 SAMPLES: 7-S, S-1 sent to lab. BORING NO. B-302

HALEY & ALDRICH, INC. UNDERGROUND ENGINEERING & ENVIRONMENTAL SOLUTIONS	OVERBURDEN GROUNDWATER MONITORING WELL REPORT

PROJECT: BUSTR/Phase III Investigation
LOCATION: Delphi Harrision Thermal Systems Facility, Dayton, Ohio
CLIENT: GM Legal Counsel
CONTRACTOR: Jones Environmental Drilling, Incorporated
DRILLER: Gary Taylor RIG TYPE: Acker Soil Max
INSTALLATION DATE: 6-4-96

FILE NO.: 79032-001
WELL NO.: B-303
LOCATION: 6041.71 N
7168.68 E
SHEET: 1 OF 1
INSPECTOR: DJK

Survey Datum: VD29

Ground Elevation: 739.68

SUMMARIZED SOIL CONDITIONS

FILL	0
SAND	3.7
FILL	7.0
SAND	
FILL	10.0
GRAVEL	
GRAVEL	16.0

Inzo Stoo Scale

Bentonite	3.7
Pellets	4.0
Sand	
Pack	

Depth/stickup above/below ground surface of protective casing	NA
Depth below ground surface of riser pipe	3.7 ft.
Thickness of Surface Seal	NA
Type of Surface Seal	NA
Diameter of PVC	2.0 in.
Type of Protective Casing	NA
Diameter of Borehole	9.5 in.
Inside Diameter of Riser Pipe	2.067 in.
Type of Backfill Around Riser	Bentonite Chips
Type of coupling	Threaded
Depth of Bottom of Riser	6 feet
Type of Wellscreen	PVC
Screen Slot Size	No. 10
Diameter of Wellscreen	2 in.
Type of Backfill Around Wellscreen	Global Filter Pack Silica Sand
Depth of Bottom of Wellscreen	16 feet
Depth of Bottom of Borehole	16 feet

Remarks:

Well No. B-303

HALEY & ALDRICH, INC. Geotechnical Engineers, and Environmental Consultants	TEST BORING REPORT	BORING NO. B-303

PROJECT: Delphi Harrison Thermal Systems Facility, BUSTR Site/Phase III Investigation
CLIENT: G.M. Legal Counsel
CONTRACTOR: Jones Environmental Drilling, Incorporated

FILE NO. 79032-001
SHEET NO. 1 OF 1
LOCATION: 6041.71 N
7168.68 E
GROUND ELEVATION: 739.68

DATUM: VD29
START: 6-4-96 1515
FINISH: 6-4-96 1730
DRILLER: Gary Taylor
H&A REP: DJK

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE		S	
INSIDE DIAMETER (IN)		1 3/8	
HAMMER WEIGHT (LB)		140	
HAMMER FALL (IN)		30	

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Acker Soil Max
METHOD: HSA

OTHER:

DEPTH (FT)	FIELD PID (PPM)	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
						Brown SAND, some gravel, moist.
	7.9	10 50/3"	S-1 8"	1 1.75		
	11.4	6 10 12 13	S-2 11"	3 5	3.7	SAME. - FILL -
5						Gray gravely SAND, moist.
	NA	2 4 4 8	S-3 0"	5 7		
	33.7	4 10 10 16	S-4 8"	7 9		Black and gray sandy GRAVEL, little metal shavings, wet.
						- FILL -
10	21.7	20 15 12 11	S-5 14"	9 11	10.0	Dark gray sandy GRAVEL, wet.
	63.1	9 28 36 42	S-6 18"	11 13		SAME.
	57.2	15 15 18 23	S-7 20"	13 15		SAME.
15						
						BOTTOM OF EXPLORATION AT 16.0 FEET.

NOTES: Water at 10.7 feet.

SAMPLE IDENTIFICATION

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Grab Sample with Stainless Steel Trowel

SUMMARY

OVERBURDEN (LIN FT): 16.0

ROCK CORED (LIN FT): 0

SAMPLES: 7-S, S-4 sent to lab.

BORING NO. B-303

HALEY & ALDRICH, INC. Geotechnical Engineers, and Environmental Consultants	GROUNDWATER MONITORING WELL REPORT

PROJECT: Delphi Harrison Thermal Systems, Dayton, OH
LOCATION: Dayton, OH
CLIENT: General Motors Legal Counsel
CONTRACTOR: Northcoast Drilling Services
DRILLER: M. Bentley RIG TYPE: CME 55
INSTALLATION DATE: 4-21-97

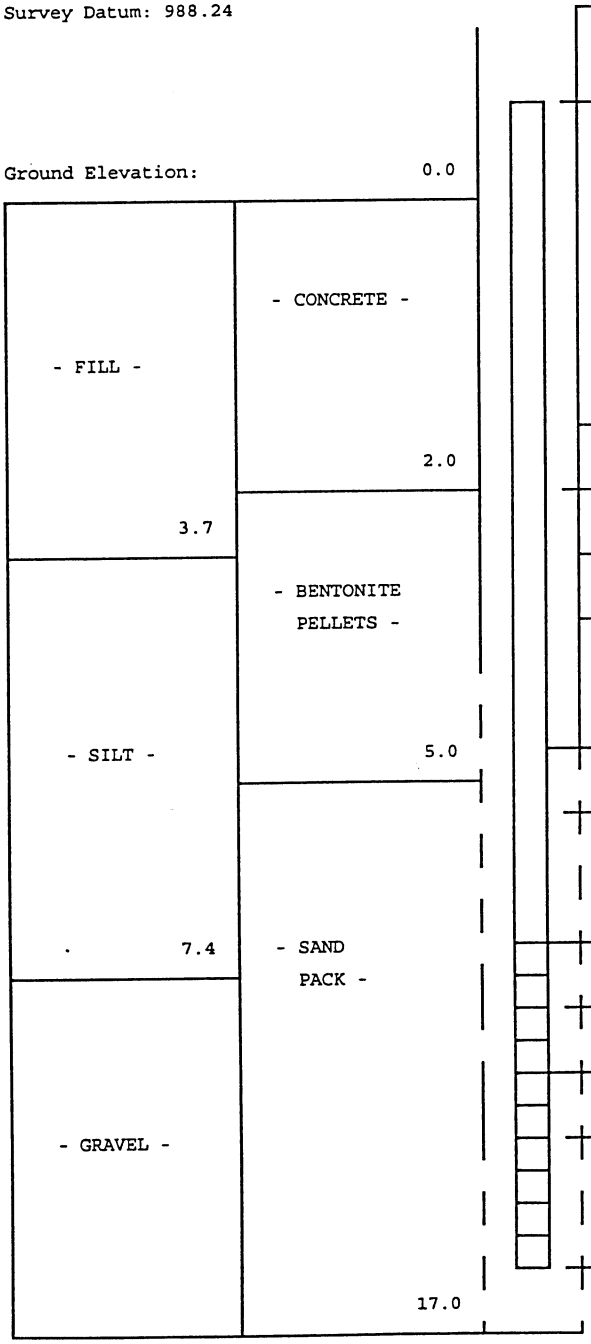
FILE NO.: 79032-005
WELL NO.: B-304
LOCATION:

SHEET: 1 OF 1
INSPECTOR: D. Kreitzburg

SUMMARIZE SOIL CONDITIONS

Survey Datum: 988.24

Ground Elevation: 0.0



Not to Scale

Depth/Stickup above/below ground surface of protective casing	NA
Depth below ground surface of riser pipe	NA
Thickness of Surface Seal	3.0 ft.
Type of Surface Seal (indicated all seals showing depth, thickness and type)	Bentonite Pellets
Type of Protective Casing	NA
Inside Diameter of Protective Casing	NA
Depth of Bottom of Protective Casing	NA
Diameter of Borehole	4.25" ID HSA
Inside Diameter of Riser Pipe	2.0 in.
Type of Backfill Around Riser	Bentonite Pellets
Type of coupling	Threaded
Depth of Bottom of Riser	7.0 ft.
Type of Wellscreen	Slotted PVC
Screen Slot Size	No. 10 (0.010")
Diameter of Wellscreen	2.0 in.
Type of Backfill Around Wellscreen	Silica Sand
Depth of Bottom of Wellscreen	17.0 ft.
Depth of Bottom of Borehole	17.0 ft.

Remarks:

Well No. B-304

HALEY & ALDRICH, INC. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. B-304

PROJECT: Delphi Harrison Thermal Systems, Dayton, OH
CLIENT: G.M. Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-005
SHEET NO. 1 OF 1
-GROUND ELEVATION:
-PVC CASING ELEVATION:
DATUM:
START: 4/21/97 1400
FINISH: 4/21/97 1600
DRILLER: M. Bentley
H&A REP: D. Kreitzburg

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE		S	
INSIDE DIAMETER (IN)		1 3/8	
HAMMER WEIGHT (LB)		140	
HAMMER FALL (IN)		30	

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: CME-55
METHOD: Rotary 4.25 IN. ID HSA
OTHER:

DEPTH (FT)	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
	2 2 2 3	S-1 16"	0.0 2.0		Light brown SAND, trace silt and clay, moist. -FILL- Same.
	3 3 3 3	S-2 9"	2.0 4.0	2.5 3.7	Dark gray silty SAND, little clay, moist. -FILL-
5	3 3 3 3	S-3 18"	4.0 6.0		Brown SILT, some clay, little fine sand. -FLUVIAL- Same.
	3 3 4 5	S-4 20"	6.0 8.0	7.4	
	4 5 6 4	S-5 7"	8.0 10.0		Tan SAND, little gravel, trace silt in occ. pockets, sl. moist.
10	9 10 18 10	S-6 6"	10.0 12.0		Same, gray below 10.5 FT, water at 10.5 FT.
	4 5 7 11	S-7 9"	12.0 14.0		Same. -FLUVIAL-
15	17 24 27 21	S-8 6"	14.0 16.0		Same.
					BOTTOM OF EXPLORATION AT 17.0 FEET

NOTES:

SAMPLE IDENTIFICATION

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

SUMMARY

OVERBURDEN (LIN FT): 17.0
ROCK CORED (LIN FT): ---
SAMPLES: 8-S

BORING NO. B-304

HALEY & ALDRICH, INC. Geotechnical Engineers, and Environmental Consultants	GROUNDWATER MONITORING WELL REPORT

PROJECT: Delphi Harrison Thermal Systems, Dayton, OH
LOCATION: Dayton, OH
CLIENT: General Motors Legal Counsel
CONTRACTOR: Northcoast Drilling Services
DRILLER: M. Bentley RIG TYPE: CME 55
INSTALLATION DATE: 4-21-97

FILE NO.: 79032-005
WELL NO.: B-305
LOCATION:

SHEET: 1 OF 1
INSPECTOR: D. Kreitzburg

Survey Datum: 988.24

Ground Elevation: 0.0

SUMMARIZE Soil Conditions

- FILL - (0.0 to 3.5)
- CONCRETE - (0.0 to 2.0)
- BENTONITE PELLETS - (2.0 to 5.0)
- SILT - (3.5 to 9.8)
- SAND PACK - (5.0 to 17.0)
- GRAVEL - (9.8 to 17.0)

Screen to Scale

Depth/Stickup above/below ground surface of protective casing	NA
Depth below ground surface of riser pipe	NA
Thickness of Surface Seal	3.0 ft.
Type of Surface Seal (indicated all seals showing depth, thickness and type)	Bentonite Pellets
Type of Protective Casing	NA
Inside Diameter of Protective Casing	NA
Depth of Bottom of Protective Casing	NA
Diameter of Borehole	8.0 in.
Inside Diameter of Riser Pipe	2.0 in.
Type of Backfill Around Riser	Bentonite Pellets
Type of coupling	Threaded
Depth of Bottom of Riser	7.0 ft.
Type of Wellscreen	Slotted PVC
Screen Slot Size	No. 10 (0.010")
Diameter of Wellscreen	2.0 in.
Type of Backfill Around Wellscreen	Silica Sand
Depth of Bottom of Wellscreen	17.0 ft.
Depth of Bottom of Borehole	17.0 ft.

Remarks:

Well No. B-305

HALEY & ALDRICH, INC. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. B-305

PROJECT: Delphi Harrison Thermal Systems, Dayton, OH
CLIENT: G.M. Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-005
SHEET NO. 1 OF 1
-GROUND ELEVATION:
-PVC CASING ELEVATION:
DATUM:
START: 4/21/97 1600
FINISH: 4/21/97 1730
DRILLER: M. Bentley
H&A REP: D. Kreitzburg

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE		S	
INSIDE DIAMETER (IN)		1 3/8	
HAMMER WEIGHT (LB)		140	
HAMMER FALL (IN)		30	

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: CME-55
METHOD: Rotary 4.25 IN. ID HSA
OTHER:

DEPTH (FT)	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
	3 3 5 4	S-1 12"	0.0 2.0	1.7	Brown gravely SAND, occ. pockets trace silt and clay, sl. moist. -FILL-
	3 3 5 6	S-2 NSR	2.0 4.0	?	Dark brown SAND, little gravel and silt, trace clay, moist. -FILL-
5	2 2 2 4	S-3 10"	4.0 6.0		Brown clayey SILT, trace fine sand, moist. -FLUVIAL-
	2 2 2 3	S-4 19"	6.0 8.0	7.0	Same.
	1 2 2 3	S-5 21"	8.0 10.0		Grayish tan silty SAND, trace clay, moist. Same. -FLUVIAL-
10	12 15 11 19	S-6 2"	10.0 12.0	9.8	Gray sandy GRAVEL, trace silt in occ. pockets, moist.
	12 8 11 14	S-7 8"	12.0 14.0		Same, tan below 13 feet. -FLUVIAL-
15	12 10 22 13	S-8 10"	14.0 16.0		Same.
					BOTTOM OF EXPLORATION AT 17.0 FEET

NOTES:

SAMPLE IDENTIFICATION	SUMMARY
O Open End Rod T Thin Wall Tube U Undisturbed Sample S Split Spoon G Geoprobe	OVERBURDEN (LIN FT): 17.0 ROCK CORED (LIN FT): --- SAMPLES: 8-S
	BORING NO. B-305

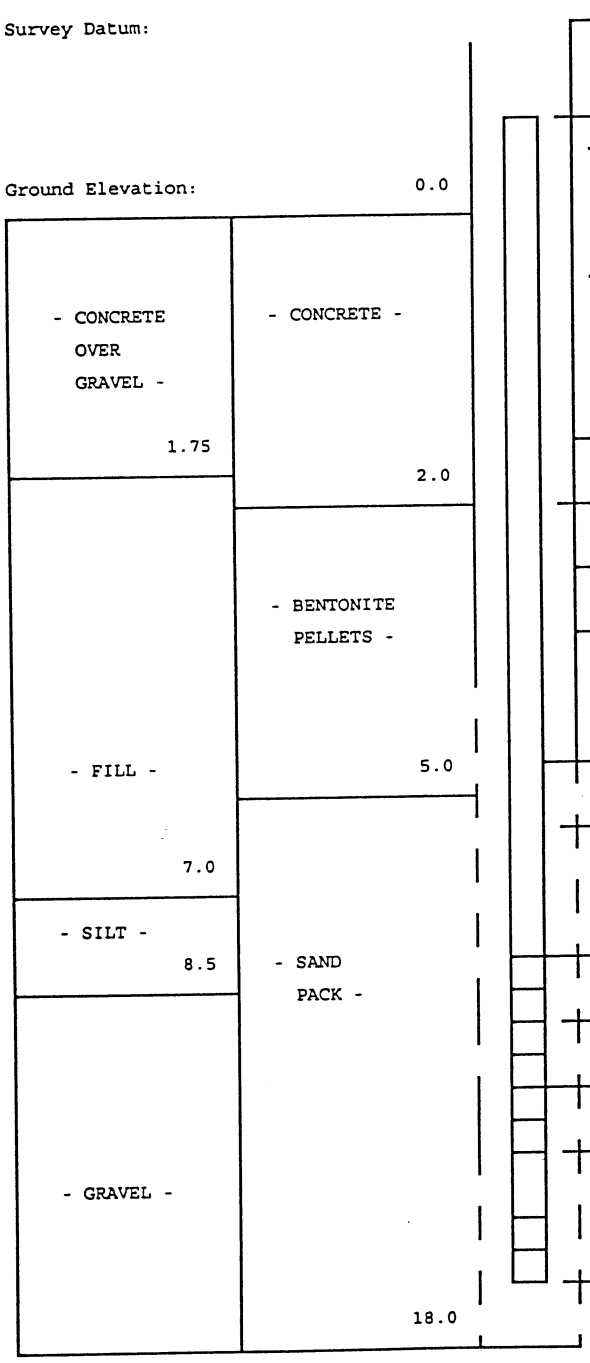
HALEY & ALDRICH, INC. Geotechnical Engineers, and Environmental Consultants	GROUNDWATER MONITORING WELL REPORT

PROJECT: Delphi Harrison Thermal Systems, Dayton, OH
LOCATION: Dayton, OH
CLIENT: General Motors Legal Counsel
CONTRACTOR: Northcoast Drilling Services
DRILLER: M. Bentley RIG TYPE: CME 55
INSTALLATION DATE: 4-29-97

FILE NO.: 79032-005
WELL NO.: B-306
LOCATION:

SHEET: 1 OF 1
INSPECTOR: D. Kreitzburg

SUMMARIZE SOIL CONDITIONS In zone to Escale



Depth/Stickup above/below ground surface of protective casing	NA
Depth above ground surface of riser pipe	NA
Thickness of Surface Seal	3.0 ft.
Type of Surface Seal (indicated all seals showing depth, thickness and type)	Bentonite Pellets
Type of Protective Casing	NA
Inside Diameter of Protective Casing	NA
Depth of Bottom of Protective Casing	NA
Diameter of Borehole	4.25" ID HSA
Inside Diameter of Riser Pipe	2.0 in.
Type of Backfill Around Riser	Bentonite Pellets
Type of coupling	Threaded
Depth of Bottom of Riser	8.0 ft.
Type of Wellscreen	Slotted PVC
Screen Slot Size	No. 10 (0.010")
Diameter of Wellscreen	2.0 in.
Type of Backfill Around Wellscreen	Silica Sand
Depth of Bottom of Wellscreen	18.0 ft.
Depth of Bottom of Borehole	18.0 ft.

Remarks: Monitoring well construction approximate.
Construction log based on Test Boring Report B-306 and similar construction shown in B-301 through B-305.

Well No. B-306

HALEY & ALDRICH, INC. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. B-306

PROJECT: Delphi Harrison Thermal Systems, Dayton, OH
CLIENT: G.M. Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-005
SHEET NO. 1 OF 1
-GROUND ELEVATION:
-PVC CASING ELEVATION:
DATUM:
START: 4/29/97 0900
FINISH: 4/29/97 1130
DRILLER: M. Bentley
H&A REP: D. Kreitzburg

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE		S	
INSIDE DIAMETER (IN)		1 3/8	
HAMMER WEIGHT (LB)		140	
HAMMER FALL (IN)		30	

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: CME-55
METHOD: Rotary 4.25 IN. ID HSA
OTHER:

DEPTH (FT)	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
				1.75	Concret over gray gravel, dry. -FILL-
	1 2 1	S-1 10"	2.0 4.0		Brown SAND, little gravel and silt, trace clay, moist.
5	1 3 3	S-2 14"	4.0 6.0		Same, grading to gray. -FILL-
	3 3 2	S-3 10"	6.0 8.0	7.0	Same.
	3 5 10	S-4 16"	8.0 10.0		Dark grayish brown SILT, little clay and sand, moist. -FLUVIAL-
10	12 13 15	S-5 15"	10.0 12.0	8.5	Tan sandy GRAVEL, moist. Same.
	10 12 18	S-6 20"	12.0 14.0		Same, wet and gray at 11.7 feet.
15	22 15 12	S-7 4"	14.0 16.0		Same. -FLUVIAL-
	16 23 13				
	8 10 11				BOTTOM OF EXPLORATION AT 18.0 FEET

NOTES:

SAMPLE IDENTIFICATION

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

SUMMARY

OVERBURDEN (LIN FT): 18.0
ROCK CORED (LIN FT): ---
SAMPLES: 7-S

BORING NO. B-306

HALEY & ALDRICH, INC. Geotechnical Engineers, and Environmental Consultants	TEST BORING REPORT	BORING NO. B-SA 5

PROJECT: Delphi Harrison Thermal Systems Facility, BUSTR Site/Phase III Investigation
CLIENT: G.M. Legal Counsel
CONTRACTOR: Jones Environmental Drilling, Incorporated

FILE NO. 79032-001
SHEET NO. 1 OF 1
LOCATION: 5567.99 N
6939.60 E
GROUND ELEVATION: 739.96

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE		S	
INSIDE DIAMETER (IN)		1 3/8	
HAMMER WEIGHT (LB)		140	
HAMMER FALL (IN)		30	

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Acker Soil Max
METHOD: HSA
OTHER:

DATUM: VD29
START: 5-30-96 1750
FINISH: 5-30-96 1850
DRILLER: Gary Taylor
H&A REP: DJK

DEPTH (FT)	FIELD PID (PPM)	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
					3.3	8" concrete over dark brown SILT, some sand little clay, trace, brick fragments and gravel, moist.
	25.3	7 8 13 3	S-1 13"	1 3		SAME. - FILL -
	64.0	3 2 3 3	S-2 16"	3 5		SAME, brown, little gravel, trace sand size gastropod shells.
5	33.2	3 3 4 4	S-3 24"	5 7		SAME, no gravel, occasional sand stratum.
	13.6	7 24 50/0"	S-4 14"	7 8		- OVERBANK -
						Tan gravely SAND, moist.
10	14.8	7 14 33 32	S-5 8"	9 11		SAME.
	21.0	50/2"	S-6 2"	11.0-11.2		SAME, trace cobbles.
	8.6	1 5 10 10	S-7 10"	13 15		SAME. - FLUVIAL -
15						BOTTOM OF EXPLORATION AT 15.0 FT.

NOTES: Water at 11.5 feet.

SAMPLE IDENTIFICATION

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Grab Sample with Stainless Steel Trowel

SUMMARY

OVERBURDEN (LIN FT): 15.0
ROCK CORED (LIN FT): 0
SAMPLES: 7-S, S-2 sent to lab.

BORING NO. B-SA 5

HALEY & ALDRICH, INC. Geotechnical Engineers, and Environmental Consultants	TEST BORING REPORT	BORING NO. B-SA 6

PROJECT: Delphi Harrison Thermal Systems Facility, BUSTR Site/Phase III Investigation
CLIENT: G.M. Legal Counsel
CONTRACTOR: Jones Environmental Drilling, Incorporated

FILE NO. 79032-001
SHEET NO. 1 OF 1
LOCATION:
GROUND ELEVATION:
DATUM:
START: 6-3-96 0800
FINISH: 6-3-96 0930
DRILLER: Gary Taylor
H&A REP: DJK

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE		S	
INSIDE DIAMETER (IN)		1 3/8	
HAMMER WEIGHT (LB)		140	
HAMMER FALL (IN)		30	

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Acker Soil Max
METHOD: HSA

OTHER:

DEPTH (FT)	FIELD PID (PPM)	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
						6" concrete over brown SAND, little clay, some clay in occasional pockets, moist.
	36.6	2 3 5 6	S-1 12"	1 3		- FILL -
	NA	6 3 6 5	S-2 0"	3 5		
5	27.6	3 2 1 3	S-3 11"	5 7		SAME.
	42.2	10 12 15 26	S-4 4"	7 9	8.5	SAME, dark brown.
						Dark brown SILT, some sand, little clay, moist, 5% sand grain size gastropod shells. - OVERBANK -
10	81.8	4 3 2 1	S-5 15"	9 11	9.5	Brown SAND, little gravel. - FLUVIAL -
						BOTTOM OF EXPLOARTION AT 11.0 FEET.
15						

NOTES: Water at 10.2 feet.

SAMPLE IDENTIFICATION

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Grab Sample with Stainless Steel Trowel

SUMMARY

OVERBURDEN (LIN FT): 11.0

ROCK CORED (LIN FT): 0

SAMPLES: 5-S sent to lab.

BORING NO. B-SA 6

HALEY & ALDRICH, INC. Geotechnical Engineers, and Environmental Consultants	TEST BORING REPORT	BORING NO. B-SA 7

PROJECT: Delphi Harrison Thermal Systems Facility, BUSTR Site/Phase III Investigation
CLIENT: G.M. Legal Counsel
CONTRACTOR: Jones Environmental Drilling, Incorporated

FILE NO. 79032-001
SHEET NO. 1 OF 1
LOCATION:

GROUND ELEVATION:

DATUM:
START: 6-3-96 0945
FINISH: 6-3-96 1130
DRILLER: Gary Taylor
H&A REP: DJK

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE		S	
INSIDE DIAMETER (IN)		1 3/8	
HAMMER WEIGHT (LB)		140	
HAMMER FALL (IN)		30	

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Acker Soil Max
METHOD: HSA

OTHER:

DEPTH (FT)	FIELD PID (PPM)	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
						1.7' concrete over brown clayey SAND, little silt and gravel, moist.
	10.0	3 3 3 2	S-1 14"	2 4		- FILL - SAME.
5	5.5	1 2 2 4	S-2 19"	4 6	4.7	Brown clayey SILT, slightly moist, vertical bedding.
	6.6	3 3 3 5	S-3 19"	6 8	5.7	Brown clayey SAND, little silt and gravel, occasional pockets of silty CLAY and gravely SAND, moist. - FILL -
	10.2	2 2 3 4	S-4 14"	8 10	9.0	Dark brown SILT, little sand and clay, 5% sand size gastropod shells, moist. - OVERBANK -
10	4.0	3 2 3 3	S-5 14"	10 12	11.0	Brown coarse SAND. - FLUVIAL -
15						BOTTOM OF EXPLORATION AT 12.0 FEET.

NOTES: Water at 11.5 feet.

SAMPLE IDENTIFICATION

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Grab Sample with Stainless Steel Trowel

SUMMARY

OVERBURDEN (LIN FT): 12.0

ROCK CORED (LIN FT): 0

SAMPLES: S-S, S-4 sent to lab.

BORING NO. B-SA 7

HALEY & ALDRICH, INC. Geotechnical Engineers, and Environmental Consultants	TEST BORING REPORT	BORING NO. B-SA 8

PROJECT: Delphi Harrison Thermal Systems Facility, BUSTR Site/Phase III Investigation
CLIENT: G.M. Legal Counsel
CONTRACTOR: Jones Environmental Drilling, Incorporated

FILE NO. 79032-001
SHEET NO. 1 OF 1
LOCATION: 5570.23 N
6921.32 E
ELEVATION: 740.01

DATUM: VD29
START: 6-3-96 1515
FINISH: 6-3-96 1630
DRILLER: Gary Taylor
H&A REP: DJK

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE		S	
INSIDE DIAMETER (IN)		1 3/8	
HAMMER WEIGHT (LB)		140	
HAMMER FALL (IN)		30	

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Acker Soil Max
METHOD: HSA

OTHER:

DEPTH (FT)	FIELD PID (PPM)	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
						8" concrete over dark brown SAND, little silt, clay and gravel, moist.
	58.8	5 5 5 3	S-1 8"	1 3	2.9	- FILL -
	76.4	6 3 2 2	S-2 10"	3 5		Dark brown clayey SILT, some sand trace gravel, gravel size coal at 4.0 feet, moist.
5	51.2	3 3 4 4	S-3 12"	5 7	6.7	Some coal with wood and red decomposed metal fragments.- FILL -
	33.2	9 11 14 10	S-4 16"	7 9	7.0	Brown SAND, some silt and clay, 5% sand size gastropod, shells moist. - OVERBANK -
10	29.6	11 10 14 7	S-5 3"	9 11		Tan and gray sandy GRAVEL, moist, wet below 10.8 feet. - FLUVIAL -
15						BOTTOM OF EXPLORATION AT 11.0 FEET.

NOTES: Water at 10.8 feet.

SAMPLE IDENTIFICATION

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Grab Sample with Stainless Steel Trowel

SUMMARY

OVERBURDEN (LIN FT): 11.0

ROCK CORED (LIN FT): 0

SAMPLES: 5-S, S-2 sent to lab.

BORING NO. B-SA 8

HALEY & ALDRICH, INC. Geotechnical Engineers, and Environmental Consultants	TEST BORING REPORT	BORING NO. B-SA 8 AB

PROJECT: Delphi Harrison Thermal Systems Facility, BUSTR Site/Phase III Investigation
CLIENT: G.M. Legal Counsel
CONTRACTOR: Jones Environmental Drilling, Incorporated

FILE NO. 79032-001
SHEET NO. 1 OF 1
LOCATION:

GROUND ELEVATION:

DATUM:
START: 6-3-96 1230
FINISH: 6-3-96 1300
DRILLER: Gary Taylor
H&A REP: DJK

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE		S	
INSIDE DIAMETER (IN)		1 3/8	
HAMMER WEIGHT (LB)		140	
HAMMER FALL (IN)		30	

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Acker Soil Max
METHOD: HSA

OTHER:

DEPTH (FT)	FIELD PID (PPM)	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
						8" concrete over 4" gray gravel.
	43.5	3 3 3 4	S-1 5"	1 3		Dark brown gravely SAND, little silt, trace clay, moist. - FILL -
	NA	50/2	S-2 0"	3.0 3.2		BOTTOM OF EXPLORATION AT 3.2 FEET.
5						
10						
15						

NOTES:

SAMPLE IDENTIFICATION

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Grab Sample with Stainless Steel Trowel

SUMMARY

OVERBURDEN (LIN FT): 3.2

ROCK CORED (LIN FT): 0

SAMPLES:

BORING NO. B-SA 8 AB

HALEY & ALDRICH, INC. Geotechnical Engineers, and Environmental Consultants	TEST BORING REPORT	BORING NO. B-SA 9

PROJECT: Delphi Harrison Thermal Systems Facility, BUSTR Site/Phase III Investigation
CLIENT: G.M. Legal Counsel
CONTRACTOR: Jones Environmental Drilling, Incorporated

FILE NO. 79032-001
SHEET NO. 1 OF 1
LOCATION:

GROUND ELEVATION:

DATUM:
START: 6-4-96 0730
FINISH: 6-4-96 0815
DRILLER: Gary Taylor
H&A REP: DJK

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE		S	
INSIDE DIAMETER (IN)		1 3/8	
HAMMER WEIGHT (LB)		140	
HAMMER FALL (IN)		30	

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Acker Soil Max
METHOD: HSA

OTHER:

DEPTH (FT)	FIELD PID (PPM)	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
						6" concrete over brown gravely SAND, moist. - FILL -
	1372	7 6 3 2	S-1 9"	1 3	2.5	Dark brown SILT, some clay, 5% white sand size gastropod shells. - OVERBANK -
	1304	3 3 6 7	S-2 8"	3 5		SAME.
5	224*	3 5 5 10	S-3 2"	5 7		SAME.
	687	4 6 10 15	S-4 16"	7 9	7.7 8.0	SAME, 0.02' gray SAND layer at 7.7 feet. Gray silty CLAY, moist. — OVERBANK/LACUSTRINE - Gray and tan sandy GRAVEL, moist.
10	561	12 15 15 19	S-5 9"	9 11		
						BOTTOM OF EXPLOARTION AT 11.0 FEET.
15						

NOTES: Water at 10.6 feet.
* denotes limited sample.

SAMPLE IDENTIFICATION

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Grab Sample with Stainless Steel Trowel

SUMMARY

OVERBURDEN (LIN FT): 11.0

ROCK CORED (LIN FT): 0

SAMPLES: 5-S, S-1 sent to lab.

BORING NO. B-SA 9

HALEY & ALDRICH, INC. Geotechnical Engineers, and Environmental Consultants	TEST BORING REPORT	BORING NO. B-SA 10

PROJECT: Delphi Harrison Thermal Systems Facility, BUSTR Site/Phase III Investigation
CLIENT: G.M. Legal Counsel
CONTRACTOR: Jones Environmental Drilling, Incorporated

FILE NO. 79032-001
SHEET NO. 1 OF 1
LOCATION: 6037.25 N
7203.92 E
GROUND ELEVATION: 739.14

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE		S	
INSIDE DIAMETER (IN)		1 3/8	
HAMMER WEIGHT (LB)		140	
HAMMER FALL (IN)		30	

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Acker Soil Max
METHOD: HSA

OTHER:

DATUM: VD29
START: 6-4-96 0950
FINISH: 6-4-96 1130
DRILLER: Gary Taylor
H&A REP: DJK

DEPTH (FT)	FIELD PID (PPM)	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
	7.2	10 16 18 20	S-1 14"	1 3		Brown and gray mottled SAND, some gravel, trace silt and clay in frequent pockets. - FILL -
	22.2	50/5.5"	S-2 4"	3 5		SAME.
5	8.5	5 5 5 4	S-3 15"	5 7	5.2	Gray clayey SILT, moist, with sand size gastropod shells. - OVERBANK -
	16.0	10 8 14 16	S-4 16"	7 9	7.0	Gray and tan sandy GRAVEL, wet below 8.5 feet. - FLUVIAL -
10						BOTTOM OF EXPLORATION AT 9.0 FEET.
15						

NOTES: Pushed a split spoon from 3 to 5 feet.
Boring completed to obtain sample for lab.
Lab sample was field screened at 25.0 ppm.

SAMPLE IDENTIFICATION

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Grab Sample with Stainless Steel Trowel

SUMMARY

OVERBURDEN (LIN FT): 9.0

ROCK CORED (LIN FT): 0

SAMPLES: 4-S, S-2 sent to lab.

BORING NO. B-SA 10

HALEY & ALDRICH, INC. Geotechnical Engineers, and Environmental Consultants	TEST BORING REPORT	BORING NO. B-SA 11

PROJECT: Delphi Harrison Thermal Systems Facility, BUSTR Site/Phase III Investigation
CLIENT: G.M. Legal Counsel
CONTRACTOR: Jones Environmental Drilling, Incorporated

FILE NO. 79032-001
SHEET NO. 1 OF 1
LOCATION: 6029.66 N
7165.61 E
GROUND ELEVATION: 739.51

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE		S	
INSIDE DIAMETER (IN)		1 3/8	
HAMMER WEIGHT (LB)		140	
HAMMER FALL (IN)		30	

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Acker Soil Max
METHOD: HSA

OTHER:

DATUM: VD29
START: 6-4-96 0905
FINISH: 6-4-96 0945
DRILLER: Gary Taylor
H&A REP: DJK

DEPTH (FT)	FIELD PID (PPM)	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
						Brown gravely SAND, wet.
	19.2	8 9 9 11	S-1 9"	1 3		
	25.0	8 10 11 15	S-2 16"	3 5	4.6	SAME. - FILL -
5	21.4	15 10 10 8	S-3 3"	5 7		Gray gravely SAND, little wood fragments, wet. SAME, with cobbles. - FILL -
	21.4	50/4	S-4 1"	7 9	8.0	SAME.
10	32.6	6 10 12 15	S-5 12"	9 11		Black rounded GRAVEL, some sand, wet. - FLUVIAL -
15						BOTTOM OF EXPLOARTION AT 11.0 FEET.

NOTES:

SAMPLE IDENTIFICATION	SUMMARY
O Open End Rod T Thin Wall Tube U Undisturbed Sample S Split Spoon G Grab Sample with Stainless Steel Trowel	OVERBURDEN (LIN FT): 11.0 ROCK CORED (LIN FT): 0 SAMPLES: 5-S, S-5 sent to lab.
	BORING NO. B-SA 11

HALEY & ALDRICH, INC. Geotechnical Engineers, and Environmental Consultants	TEST BORING REPORT	BORING NO. B-SA 12

PROJECT: Delphi Harrison Thermal Systems Facility, BUSTR Site/Phase III Investigation
CLIENT: G.M. Legal Counsel
CONTRACTOR: Jones Environmental Drilling, Incorporated

FILE NO. 79032-001
SHEET NO. 1 OF 1
LOCATION: 5989.50 N
7164.58 E
GROUND ELEVATION: 741.24

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE		S	
INSIDE DIAMETER (IN)		1 3/8	
HAMMER WEIGHT (LB)		140	
HAMMER FALL (IN)		30	

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Acker Soil Max
METHOD: HSA

OTHER:

DATUM: VD29
START: 6-4-96 0815
FINISH: 6-4-96 0850
DRILLER: Gary Taylor
H&A REP: DJK

DEPTH (FT)	FIELD PID (PPM)	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
						10" concrete over brown and tan mottled SAND, some gravel, little clay in pockets, trace brick and slag fragments, moist to very moist in pockets.
	51.9	2 4 2 2	S-1 5"	1 3		- FILL -
	5.3	13 13 10 8	S-2 4"	3 5		Auger refusal on concrete at 5 feet.
5						BOTTOM OF EXPLORATION AT 5.0 FEET.
10						
15						

NOTES: Water at 2.9 feet.

SAMPLE IDENTIFICATION

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Grab Sample with Stainless Steel Trowel

SUMMARY

OVERBURDEN (LIN FT): 5.0

ROCK CORED (LIN FT): 0

SAMPLES: 2-S, S-1 sent to lab.

BORING NO. B-SA 12

HALEY & ALDRICH, INC. Geotechnical Engineers, and Environmental Consultants	TEST BORING REPORT	BORING NO. B-SA 13

PROJECT: Delphi Harrison Thermal Systems Facility, BUSTR Site/Phase III Investigation
CLIENT: G.M. Legal Counsel
CONTRACTOR: Jones Environmental Drilling, Incorporated

FILE NO. 79032-001
SHEET NO. 1 OF 1
LOCATION: 5880.76 N
7082.90 E
GROUND ELEVATION: 746.80

DATUM: VD29
START: 5-29-96 1240
FINISH: 5-29-96 1700
DRILLER: Gary Taylor
H&A REP: DJK

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE		S	
INSIDE DIAMETER (IN)		1 3/8	
HAMMER WEIGHT (LB)		140	
HAMMER FALL (IN)		30	

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Acker Soil Max
METHOD: HSA

OTHER:

DEPTH (FT)	FIELD PID (PPM)	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
						Asphalt over dark brown SAND, some gravel, little silt, dry. Refusal on cobble.
	ND	36 28 50/0"	S-1 13"	1 2	1.8	Brown silty SAND, little gravel, trace clay, moist.
	ND	4 5 4 3	S-2 14"	3 5	3.1	Dark brown SAND, some silt, trace clay and gravel, trace brick wood and coal fragments, moist. - FILL -
5	ND	3 3 2 3	S-3 16"	5 7	6.9	SAME, very moist, little clay in frequent pockets. - FILL -
	ND	3 3 3 3	S-4 13"	7 9		
10	72.7	3 8 5 3	S-5 15"	9 11	9.4	Dark brown gray SAND, some silt, trace to no clay in frequent pockets, very moist. - OVERBANK -
	364	2 2 2 2	S-6 17"	11 13	13.0	SAME, little clay, little coarse sand size gastropod shells, very moist.
	350	3 2 1 1	S-7 16"	13 15		
15	464	3 1 4 15	S-8 20"	15 17		SAME, occasional pockets of fine to coarse sand size gastropod shells. - OVERBANK -
	97.3	4 15 16 19	S-9 14"	17 19	18.0	Gray sandy GRAVEL, trace silt, wet.
20	291	40 28 25 42	S-10 15"	19 21		SAME, visual evidence of free petroleum product. - FLUVIAL -
	187	12 17 24 24	S-11 13"	21 23	21.7 22.2	SAME.
	49.2	11 13 16 13	S-12 16"	23 25		Dark brown SILT, little clay and gravel, moist.- FLUVIAL Gray sandy GRAVEL, with cobbles, wet. SAME. - FLUVIAL -
25						BOTTOM OF EXPLORATION AT 25 FEET.

NOTES: Water at 18.5 feet.

SAMPLE IDENTIFICATION	SUMMARY
O Open End Rod T Thin Wall Tube U Undisturbed Sample S Split Spoon G Grab Sample with Stainless Steel Trowel	OVERBURDEN (LIN FT): 25.0 ROCK CORED (LIN FT): 0 SAMPLES: 12-S, S-8 sent to lab. BORING NO. B-SA 13

HALEY & ALDRICH, INC.
UNDERGROUND ENGINEERING &
ENVIRONMENTAL SOLUTIONS

OVERBURDEN GROUNDWATER MONITORING WELL REPORT

PROJECT: BUSTR/Phase III Investigation
LOCATION: Delphi Harrision Thermal Systems Facility, Dayton, Ohio
CLIENT: GM Legal Counsel
CONTRACTOR: Jones Environmental Drilling, Incorporated
DRILLER: Gary Taylor RIG TYPE: Acker Soil Max
INSTALLATION DATE: 5-29-96

FILE NO.: 79032-001
WELL NO.: B-SA 13
LOCATION: 5880.76 N
7082.90 E
SHEET: 1 OF 1
INSPECTOR: DJK

Survey Datum: VD29

Ground Elevation: 746.80

SUMMARIZE SOIL CONDITIONS

FILL SAND	0 to 9.4
SAND	11.0 to 18.0
GRAVEL	18.0 to 21.7
SILT	21.7 to 22.2
GRAVEL	22.2 to 25.0

Cement Bentonite Grout: 9.4 to 11.0
Bentonite Chips: 11.0 to 13.0
Silica Sand Pack: 13.0 to 25.0

Depth/Stickup above/below ground surface of protective casing	NA
Depth below ground surface of riser pipe	0 feet
Thickness of Surface Seal	NA
Type of Surface Seal	NA
Diameter of PVC Riser	2 in.
Type of Protective Casing	NA
Diameter of Borehole	9.5 in.
Inside Diameter of Riser Pipe	2.067 in.
Type of Backfill Around Riser	Bentonite Chips and Cement/Bentonite Grout
Type of coupling	Threaded
Depth of Bottom of Riser	15 feet
Type of Wellscreen	PVC
Screen Slot Size	No. 10
Diameter of Wellscreen	2 in.
Type of Backfill Around Wellscreen	Global Filter Pack Silica Sand
Depth of Bottom of Wellscreen	25 feet
Depth of Bottom of Borehole	25 feet

Remarks: Depth to water on 5-30-96 at 0845 was 16.26 feet. Plug was damaged during demoblization.

HALEY & ALDRICH, INC. Geotechnical Engineers, and Environmental Consultants	TEST BORING REPORT	BORING NO. B-SA 14

PROJECT: Delphi Harrison Thermal Systems Facility, BUSTR Site/Phase III Investigation
CLIENT: G.M. Legal Counsel
CONTRACTOR: Jones Environmental Drilling, Incorporated

FILE NO. 79032-001
SHEET NO. 1 OF 1
LOCATION: 5922.65 N
7079.57 E
GROUND ELEVATION: 746.42

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE		S	
INSIDE DIAMETER (IN)		1 3/8	
HAMMER WEIGHT (LB)		140	
HAMMER FALL (IN)		30	

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Acker Soil Max
METHOD: HSA

OTHER:

DATUM: VD29
START: 5-29-96 1700
FINISH: 5-29-96 1830
DRILLER: Gary Taylor
H&A REP: DJK

DEPTH (FT)	FIELD PID (PPM)	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
						Tan GRAVEL, trace sand, dry.
	ND	12 18 10 9	S-1 18"	1 3		SAME. - FILL -
	ND	7 6 5 9	S-2 10"	3 5		SAME.
5	23.0	4 2 2 2	S-3 9"	5 7		SAME, moist.
	63.4	2 2 1 1	S-4 3"	7 9		SAME.
	NA	3 1 1 2	S-5 0"	9 11	9.5	SAME.
10	7.2	7 16 18 11	S-6 8"	11 13		Brown SAND, moist. - FILL -
	8.1	7 50/4	S-7 5"	13 13.9		SAME. Auger refusal on concrete rebar.
15						BOTTOM OF EXPLORATION AT 13.9 FT.

NOTES: Borehole terminated at 13.9 feet, no water encountered, no well set, boring closed with bentonite grout.

SAMPLE IDENTIFICATION

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Grab Sample with Stainless Steel Trowel

SUMMARY

OVERBURDEN (LIN FT): 13.9

ROCK CORED (LIN FT): 0

SAMPLES: 7-S, S-4 sent to lab.

BORING NO. B-SA 14

HALEY & ALDRICH, INC.
UNDERGROUND ENGINEERING &
ENVIRONMENTAL SOLUTIONS

OVERBURDEN GROUNDWATER MONITORING WELL REPORT

PROJECT: BUSTR/Phase III Investigation
LOCATION: Delphi Harrision Thermal Systems Facility, Dayton, Ohio
CLIENT: GM Legal Counsel
CONTRACTOR: Jones Environmental Drilling, Incorporated
DRILLER: Gary Taylor RIG TYPE: Acker Soil Max
INSTALLATION DATE: 5-30-96

FILE NO.: 79032-001
WELL NO.: B-SA 15
LOCATION: 5956.26 N
7076.23 E
SHEET: 1 OF 1
INSPECTOR: DJK

Survey Datum: VD29

Ground Elevation: 746.02

SUMMARIZE SOIL CONDITIONS

FILL	Cement	8.0
SAND	Bentonite Grout	10.0
SANDY SILT	Bentonite Chips	12.0
SANDY GRAVEL	Silica Sand Pack	13.5
		24.0

Scale to Inzet Stone

Depth/stickup above/below ground surface of protective casing	NA
Depth below ground surface of riser pipe	0 feet
Thickness of Surface Seal	NA
Type of Surface Seal	NA
Diameter of PVC Riser	2 in.
Type of Protective Casing	NA
Diameter of Borehole	9.5 in.
Inside Diameter of Riser Pipe	2.067 in.
Type of Backfill Around Riser	Bentonite Chips and Cement/Bentonite Grout
Type of coupling	Threaded
Depth of Bottom of Riser	14 feet
Type of Wellscreen	PVC
Screen Slot Size	No. 10
Diameter of Wellscreen	2 in.
Type of Backfill Around Wellscreen	Global Filter Pack Silica Sand
Depth of Bottom of Wellscreen	24 feet
Depth of Bottom of Borehole	24 feet

Remarks:

HALEY & ALDRICH, INC. Geotechnical Engineers, and Environmental Consultants	TEST BORING REPORT	BORING NO. B-SA 15

PROJECT: Delphi Harrison Thermal Systems Facility, BUSTR Site/Phase III Investigation
CLIENT: G.M. Legal Counsel
CONTRACTOR: Jones Environmental Drilling, Incorporated

FILE NO. 79032-001
SHEET NO. 1 OF 1
LOCATION: 5956.26 N
7075.28 E
GROUND ELEVATION: 746.02

DATUM: VD29
START: 5-30-96 0830
FINISH: 5-30-96 1130
DRILLER: Gary Taylor
H&A REP: DJK

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE		S	
INSIDE DIAMETER (IN)		1 3/8	
HAMMER WEIGHT (LB)		140	
HAMMER FALL (IN)		30	

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Acker Soil Max
METHOD: HSA

OTHER:

DEPTH (FT)	FIELD PID (PPM)	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
						Dark brown SAND, little silt, trace clay, moist.
	30.5	5 7 6 5	S-1 10"	1 3		
	171	10 5 6 5	S-2 12"	3 5		SAME, trace brick fragments, gray in pockets.
5	85.7	11 4 4 15	S-3 13"	5 7		SAME, reddish brown in pockets, very moist below 6.5 feet.
	72.3	5 4 3 4	S-4 16"	7 9	8.0	- FILL - SAME. 7.8 - 8.0 feet no silt or clay.
10	27.6	6 2 3 4	S-5 2"	9 11		Gray sandy SILT, some clay, moist. SAME. Low recovery.
	48.0	2 2 3 4	S-6 17"	11 13		SAME, frequent pockets dark brown sand. - OVERBANK -
	196	5 18 19 18	S-7 17"	13 15	13.5	Gray sandy GRAVEL, moist.
15	213	11 13 19 20	S-8 11"	15 17		SAME, occasional cobble.
	179	23 13 15 18	S-9 10"	17 19		SAME, dark gray below 17.5 feet.
20	135	19 19 24 19	S-10 8"	19 21		SAME, little silt.
	NA	50/2"	S-11 0"	21 21.2		SAME, trace cobbles, refusal on cobble.
	79.0		S-12 5"	23 24		SAME. - FLUVIAL -
25						BOTTOM OF EXPLORATION AT 24 FEET.

NOTES: Water at 16 feet.

SAMPLE IDENTIFICATION	SUMMARY
O Open End Rod T Thin Wall Tube U Undisturbed Sample S Split Spoon G Grab Sample with Stainless Steel Trowel	OVERBURDEN (LIN FT): 24.0 ROCK CORED (LIN FT): 0 SAMPLES: 12-S, S-7 sent to lab.
	BORING NO. B-SA 15

HALEY & ALDRICH, INC. UNDERGROUND ENGINEERING & ENVIRONMENTAL SOLUTIONS	OVERBURDEN GROUNDWATER MONITORING WELL REPORT

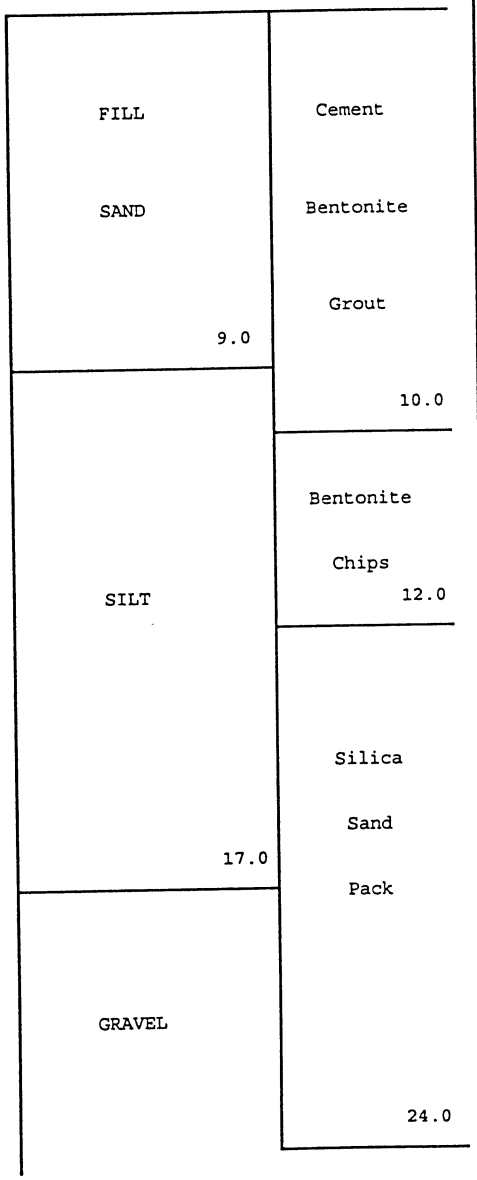
PROJECT: BUSTR/Phase III Investigation
LOCATION: Delphi Harrision Thermal Systems Facility, Dayton, Ohio
CLIENT: GM Legal Counsel
CONTRACTOR: Jones Environmental Drilling, Incorporated
DRILLER: Gary Taylor RIG TYPE: Acker Soil Max
INSTALLATION DATE: 5-31-96

FILE NO.: 79032-001
WELL NO.: B-SA 16
LOCATION: 5926.01 N
7052.62 E
SHEET: 1 OF 1
INSPECTOR: DJK

Survey Datum: VD29

Ground Elevation: 746.07

SUMMARIZE Soil Conditions



Depth/stickup above/below ground surface of protective casing	NA
Depth below ground surface of riser pipe	0 feet
Thickness of Surface Seal	NA
Type of Surface Seal	NA
Diameter of PVC Riser	2 in.
Type of Protective Casing	NA
Diameter of Borehole	9.5 in.
Inside Diameter of Riser Pipe	2.067 in.
Type of Backfill Around Riser	Bentonite Chips and
Type of coupling	Threaded
Depth of Bottom of Riser	14 feet
Type of Wellscreen	PVC
Screen Slot Size	No. 10
Diameter of Wellscreen	2 in.
Type of Backfill Around Wellscreen	Global Filter Pack Silica Sand
Depth of Bottom of Wellscreen	24 feet
Depth of Bottom of Borehole	24 feet

Remarks:

HALEY & ALDRICH, INC. Geotechnical Engineers, and Environmental Consultants	TEST BORING REPORT	BORING NO. B-SA 16

PROJECT: Delphi Harrison Thermal Systems Facility, BUSTR Site/Phase III Investigation
CLIENT: G.M. Legal Counsel
CONTRACTOR: Jones Environmental Drilling, Incorporated

FILE NO. 79032-001
SHEET NO. 1 OF 1
LOCATION: 5926.01 N
7052.62 E
GROUND ELEVATION: 746.07

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE		S	
INSIDE DIAMETER (IN)		1 3/8	
HAMMER WEIGHT (LB)		140	
HAMMER FALL (IN)		30	

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Acker Soil Max
METHOD: HSA
OTHER:

DATUM: VD29
START: 5-31-96 1145
FINISH: 5-31-96 1230
DRILLER: Gary Taylor
H&A REP: DJK

DEPTH (FT)	FIELD PID (PPM)	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
					1.0	3" Asphalt over brown silty SAND, dry.
	54.4	4 5 7 6	S-1 14"	1 2		Dark brown SAND, some silt, trace clay, moist to very moist in pockets.
	1038	1 3 6 13	S-2 12"	3 5		SAME.
5	26.2	29 18 19 16	S-3 15"	5 7		SAME, dry. - FILL -
	228	8 16 26 34	S-4 18"	7 9	8.5	Very moist at 8.0 to 8.5 feet. SAME, gray and brown, mottled. - FILL -
					9.0	
10	82.7	8 6 4 4	S-5 8"	9 11		Dark brown SILT, dry, some sand, little clay.
	206	2 3 3 3	S-6 14"	11 13		SAME, 1" thick saturated sand layer at 12.6.
	109	1 2 3 5	S-7 8"	13 15		SAME, trace gravel, moist, gray in pockets.
15	41.3	3 3 5 7	S-8 8"	15 17		SAME, wet below 16.5 feet. - OVERBANK -
	58.7	8 10 11 12	S-9 12"	17 19	17.0	Brownish dark gray GRAVEL, some sand, wet. - FLUVIAL -
20	93.5	50 50 20 18	S-10 24"	19 21		SAME, sandy in pockets.
	87.2	30 30 28 16	S-11 20"	21 23		SAME. - FLUVIAL -
25						BOTTOM OF EXPLORATION AT 24.0 FEET.

NOTES:

SAMPLE IDENTIFICATION	SUMMARY
O Open End Rod T Thin Wall Tube U Undisturbed Sample S Split Spoon G Grab Sample with Stainless Steel Trowel	OVERBURDEN (LIN FT): 24.0 ROCK CORED (LIN FT): 0 SAMPLES: 11-S, S-2, to lab. BORING NO. B-SA 16

HALEY & ALDRICH, INC.
UNDERGROUND ENGINEERING &
ENVIRONMENTAL SOLUTIONS

OVERBURDEN GROUNDWATER MONITORING WELL REPORT

PROJECT: BUSTR/Phase III Investigation
LOCATION: Delphi Harrision Thermal Systems Facility, Dayton, Ohio
CLIENT: GM Legal Counsel
CONTRACTOR: Jones Environmental Drilling, Incorporated
DRILLER: Gary Taylor RIG TYPE: Acker Soil Max
INSTALLATION DATE: 5-30-96

FILE NO.: 79032-001
WELL NO.: B-SA 17
LOCATION: 5973.76 N
7082.17 E
SHEET: 1 OF 1
INSPECTOR: DJK

Survey Datum: VD29

Ground Elevation: 746.03

SUMMARIZE SOIL CONDITIONS

FILL	
SAND	
7.5	
SILT	
14.2	
SANDY GRAVEL	
24.0	

Inset Stool Schedule

Cement	
Bentonite	
Grout	
10.0	
Bentonite Chips	
12.0	
Silica Sand Pack	

Depth/stickup above/below ground surface of protective casing	NA
Depth below ground surface of riser pipe	0 feet
Thickness of Surface Seal	NA
Type of Surface Seal	NA
Diameter of PVC Riser	2 in.
Type of Protective Casing	NA
Diameter of Borehole	9.5 in.
Inside Diameter of Riser Pipe	2.067 in.
Type of Backfill Around Riser	Bentonite Chips and
Type of coupling	Threaded
Depth of Bottom of Riser	14 feet
Type of Wellscreen	PVC
Screen Slot Size	No. 10
Diameter of Wellscreen	2 in.
Type of Backfill Around Wellscreen	Global Filter Pack Silica Sand
Depth of Bottom of Wellscreen	24 feet
Depth of Bottom of Borehole	24 feet

Remarks:

Well No. B-SA 17

HALEY & ALDRICH, INC. Geotechnical Engineers, and Environmental Consultants	TEST BORING REPORT	BORING NO. B-SA 17

PROJECT: Delphi Harrison Thermal Systems Facility, BUSTR Site/Phase III Investigation
CLIENT: G.M. Legal Counsel
CONTRACTOR: Jones Environmental Drilling, Incorporated

FILE NO. 79032-001
SHEET NO. 1 OF 1
LOCATION: 5973.76 N
7082.17 E
GROUND ELEVATION: 746.03

DATUM: VD29
START: 5-30-96 1140
FINISH: 5-30-96 1300
DRILLER: Gary Taylor
H&A REP: DJK

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE		S	
INSIDE DIAMETER (IN)		1 3/8	
HAMMER WEIGHT (LB)		140	
HAMMER FALL (IN)		30	

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Acker Soil Max
METHOD: HSA

OTHER:

DEPTH (FT)	FIELD PID (PPM)	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
						Brown coarse SAND little gravel, trace clay in occasional pockets, trace wood fragments, moist.
	39.1	5 2 2 4	S-1 4"	1 3		
	36.7	4 2 4 7	S-2 8"	3 5		SAME, dark gray below 4.5 feet.
5	78.0	3 5 8 4	S-3 19"	5 7		SAME, brown from 5.0 to 7.5 feet.
						- FILL -
	50.5	4 3 1 4	S-4 21"	7 9	7.5	Dark gray sandy SILT, little clay, moist.
10	200	3 3 2 1	S-5 23"	9 11		SAME, very moist, little sand size gastropod shells.
	107	1 1 2 1	S-6 13"	11 13		SAME, pockets with some clay.
						- OVERBANK -
	801	1 5 15 15	S-7 19"	13 15	14.2	Tan sandy GRAVEL. Wet below 15.5 feet.
15	379	7 10 11 4	S-8 11"	15 17		
	179	6 18 20 30	S-9 10"	17 19		SAME, occasional cobble.
20	NA	7 13 9 11	S-10 1"	19 21		
	95.1	12 13 16 12	S-11 8"	21 23		SAME, gray.
						- FLUVIAL -
25						BOTTOM OF EXPLORATION AT 24.0 FEET.

NOTES: Water at 15.5 feet.

SAMPLE IDENTIFICATION	SUMMARY
O Open End Rod T Thin Wall Tube U Undisturbed Sample S Split Spoon G Grab Sample with Stainless Steel Trowel	OVERBURDEN (LIN FT): 24.0 ROCK CORED (LIN FT): 0 SAMPLES: 11-S, S-7, to lab. BORING NO. B-SA 17

HALEY & ALDRICH, INC. UNDERGROUND ENGINEERING & ENVIRONMENTAL SOLUTIONS	OVERBURDEN GROUNDWATER MONITORING WELL REPORT

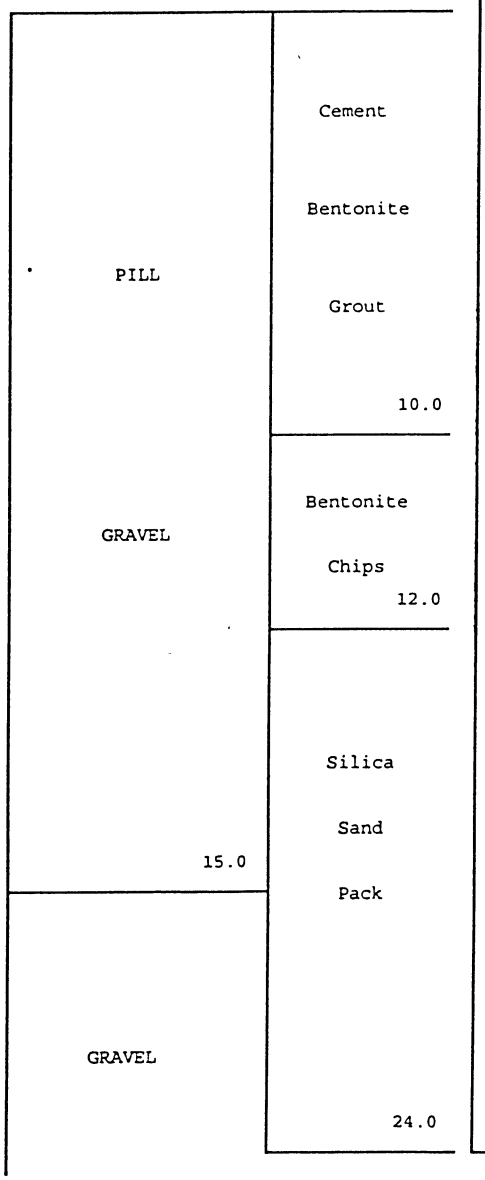
PROJECT: BUSTR/Phase III Investigation
LOCATION: Delphi Harrision Thermal Systems Facility, Dayton, Ohio
CLIENT: GM Legal Counsel
CONTRACTOR: Jones Environmental Drilling, Incorporated
DRILLER: Gary Taylor RIG TYPE: Acker Soil Max
INSTALLATION DATE: 5-31-96

FILE NO.: 79032-001
WELL NO.: B-SA 18
LOCATION: 6025.96 N
7045.67 E
SHEET: 1 OF 1
INSPECTOR: DJK

Survey Datum: VD29

Ground Elevation: 745.67

SUMMARIZED SOIL CONDITIONS



Depth/stickup above/below ground surface of protective casing	NA
Depth below ground surface of riser pipe	0.33 ft.
Thickness of Surface Seal	NA
Type of Surface Seal	NA
Diameter of PVC Riser	2 in.
Type of Protective Casing	NA
Diameter of Borehole	9.5 in.
Inside Diameter of Riser Pipe	2.067 in.
Type of Backfill Around Riser	Bentonite Chips and
Type of coupling	Threaded
Depth of Bottom of Riser	14 feet
Type of Wellscreen	PVC
Screen Slot Size	No. 10
Diameter of Wellscreen	2 in.
Type of Backfill Around Wellscreen	Global Filter Pack Silica Sand
Depth of Bottom of Wellscreen	24 feet
Depth of Bottom of Borehole	24 feet

Remarks:

H A L E Y & A L D R I C H, I N C. Geotechnical Engineers, and Environmental Consultants	TEST BORING REPORT	BORING NO. B-SA 18

PROJECT: Delphi Harrison Thermal Systems Facility, BUSTR Site/Phase III Investigation
CLIENT: G.M. Legal Counsel
CONTRACTOR: Jones Environmental Drilling, Incorporated

FILE NO. 79032-001
SHEET NO. 1 OF 1
LOCATION: 6025.96 N
7045.67 E
GROUND ELEVATION: 745.67

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE		S	
INSIDE DIAMETER (IN)		1 3/8	
HAMMER WEIGHT (LB)		140	
HAMMER FALL (IN)		30	

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Acker Soil Max
METHOD: HSA

OTHER:

DATUM: VD29
START: 5-31-96 0700
FINISH: 5-31-96 1000
DRILLER: Gary Taylor
H&A REP: DJK

DEPTH (FT)	FIELD PID (PPM)	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
						10" concrete over tan GRAVEL, dry.
	23.0	PUSH *	S-1 4"	1 3		
	ND	PUSH *	S-2 1"	3 5		SAME.
5	28.7	PUSH *	S-3 4"	5 7		SAME, little sand.
	58.0	PUSH *	S-4 3"	7 9		SAME, moist.
10	37.5	PUSH *	S-5 3"	9 11		SAME.
	21.1	PUSH *	S-6 4"	11 13		SAME, trace sand, dry.
	30.0	PUSH *	S-7 17"	13 15		- FILL -
15	229	PUSH *	S-8 5"	15 17	15	Gray sandy GRAVEL, trace silt, wet.
	NA	PUSH *	S-9 0"	18 20		Pushed rock.
20	NA	PUSH *	S-10 0"	20 22		Pushed rock.
	NA	PUSH *	S-11 1"	22 24		One rock recovery.
						- FLUVIAL -
25						BOTTOM OF EXPLORATION AT 24 FEET.

NOTES: * Indoor boring; thus could not raise rig tower and sample was pushed.

SAMPLE IDENTIFICATION	SUMMARY
O Open End Rod T Thin Wall Tube U Undisturbed Sample S Split Spoon G Grab Sample with Stainless Steel Trowel	OVERBURDEN (LIN FT): 24.0 ROCK CORED (LIN FT): 0 SAMPLES: 11-S, S-4 sent to lab. BORING NO. B-SA 18

HALEY & ALDRICH, INC. Geotechnical Engineers, and Environmental Consultants	TEST BORING REPORT	BORING NO. B-SA 20

PROJECT: Delphi Harrison Thermal Systems Facility, BUSTR Site/Phase III Investigation
CLIENT: G.M. Legal Counsel
CONTRACTOR: Jones Environmental Drilling, Incorporated

FILE NO. 79032-001
SHEET NO. 1 OF 1
LOCATION: 6022.66 N
7027.44 E
GROUND ELEVATION: 745.68

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE		S	
INSIDE DIAMETER (IN)		1 3/8	
HAMMER WEIGHT (LB)		140	
HAMMER FALL (IN)		30	

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Acker Soil Max
METHOD: HSA

OTHER:

DATUM: VD29
START: 5-31-96 1000
FINISH: 5-31-96 1145
DRILLER: Gary Taylor
H&A REP: DJK

DEPTH (FT)	FIELD PID (PPM)	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
						10" concrete over brown SAND, little silt, trace clay, moist.
	92.2	PUSH *	S-1 5"	1 3		- FILL -
	13.8	PUSH *	S-2 4"	3 5		SAME. Concrete cobbles from 5.0 to 7.0 feet.
5	NA	NA		5 7		Auger refusal at 7.0 feet.
						BOTTOM OF EXLPORATION AT 7.0 FEET.
10						
15						

NOTES: * indoor boring; thus could not raise rig tower and sample was pushed.

SAMPLE IDENTIFICATION

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Grab Sample with Stainless Steel Trowel

SUMMARY

OVERBURDEN (LIN FT): 7.0

ROCK CORED (LIN FT): 0

SAMPLES: 2-S, none sent to lab.

BORING NO. B-SA 20

HALEY & ALDRICH, INC. UNDERGROUND ENGINEERING & ENVIRONMENTAL SOLUTIONS	OVERBURDEN GROUNDWATER MONITORING WELL REPORT

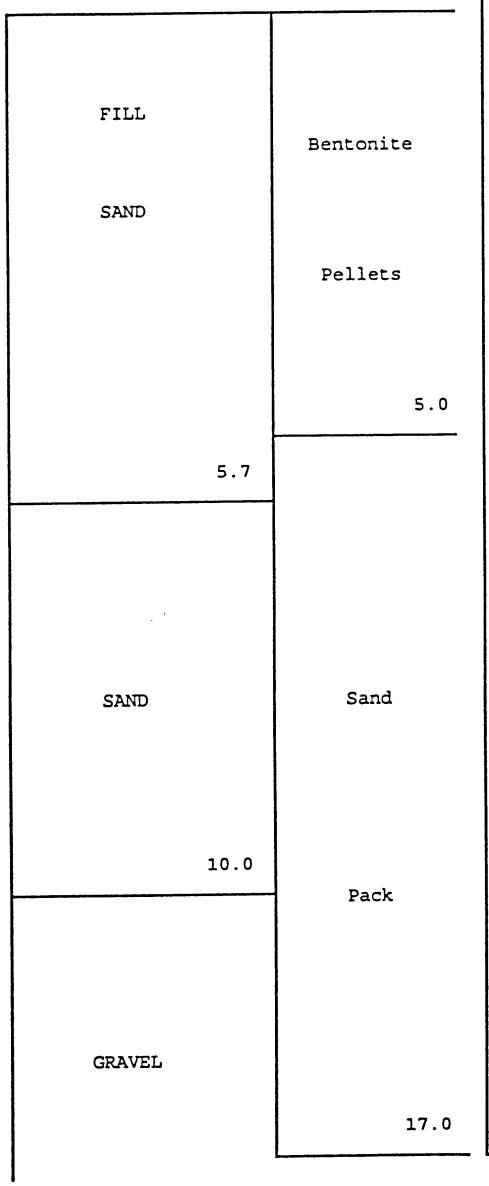
PROJECT: BUSTR/Phase III Investigation
LOCATION: Delphi Harrision Thermal Systems Facility, Dayton, Ohio
CLIENT: GM Legal Counsel
CONTRACTOR: Jones Environmental Drilling, Incorporated
DRILLER: Gary Taylor RIG TYPE: Acker Soil Max
INSTALLATION DATE: 6-11-96

FILE NO.: 79032-001
WELL NO.: B-SA 21
LOCATION: 5206.85 N
5948.03 E
SHEET: 1 OF 1
INSPECTOR: DJK

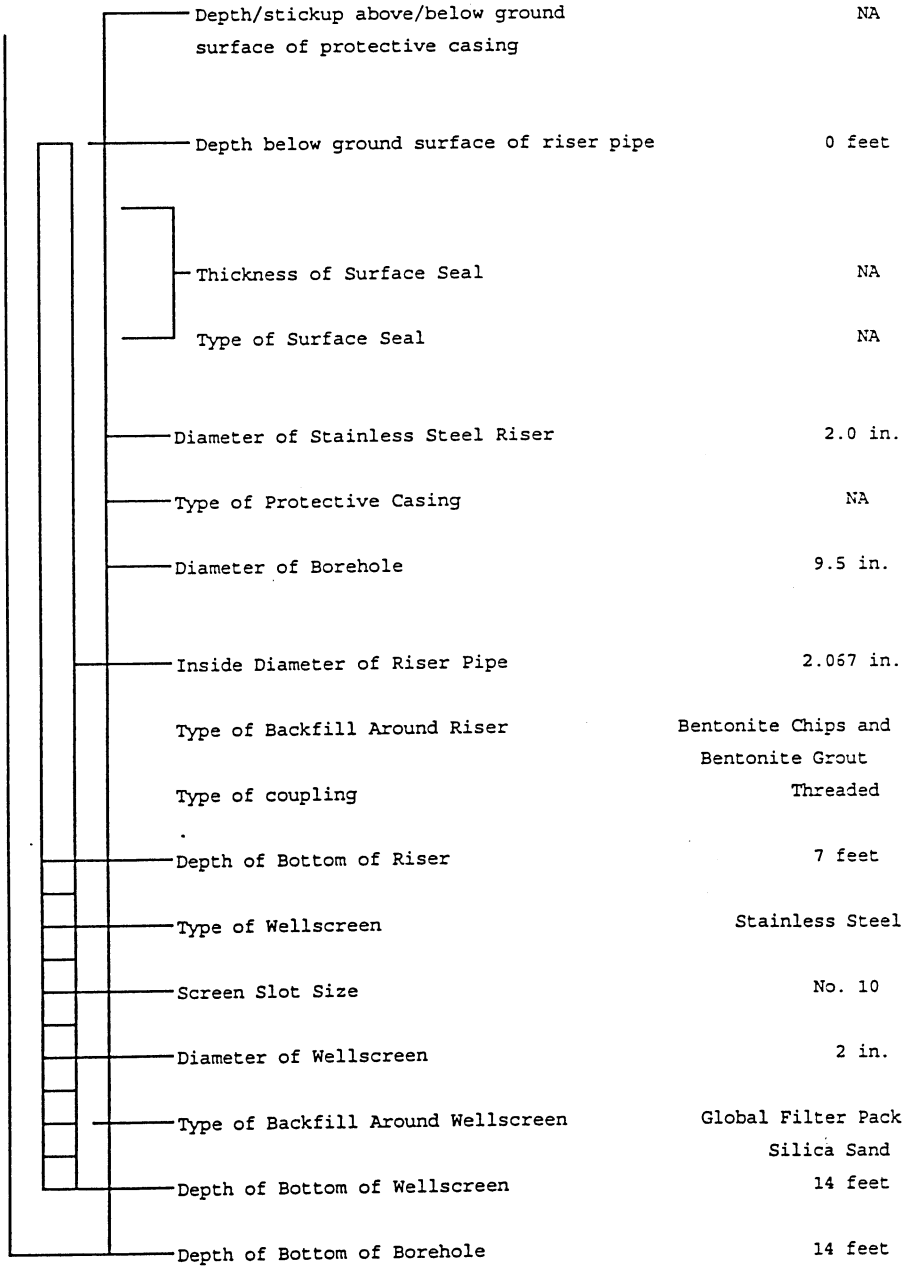
Survey Datum: VD29

Ground Elevation: 738.99

SUMMARIZE Soil Conditions



Scale to Construction



Depth/stickup above/below ground surface of protective casing	NA
Depth below ground surface of riser pipe	0 feet
Thickness of Surface Seal	NA
Type of Surface Seal	NA
Diameter of Stainless Steel Riser	2.0 in.
Type of Protective Casing	NA
Diameter of Borehole	9.5 in.
Inside Diameter of Riser Pipe	2.067 in.
Type of Backfill Around Riser	Bentonite Chips and Bentonite Grout
Type of coupling	Threaded
Depth of Bottom of Riser	7 feet
Type of Wellscreen	Stainless Steel
Screen Slot Size	No. 10
Diameter of Wellscreen	2 in.
Type of Backfill Around Wellscreen	Global Filter Pack Silica Sand
Depth of Bottom of Wellscreen	14 feet
Depth of Bottom of Borehole	14 feet

Remarks:

DRAFT TEST BORING REPORT

Boring No. B-SA-21R

Project: Former Delphi Harrison Thermal Systems - Dayton, Ohio
Client:
Contractor: Boart Longyear

File No.: 79032-347
Sheet No.: 1 of 1
Start: May 13, 2007
Finish: May 14, 2007
Driller: C. Barton
H&A Rep.: T. Vanage
Elevation 740.8
Datum
Location
N - 647749.27
E - 1495494.76

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	Steel	Steel	-	Rig Make & Model: Sonic
Inside Diameter (in.)	12	4	-	Bit Type: -
Hammer Weight (lb.)	-	-	-	Drill Mud: -
Hammer Fall (in.)	-	-	-	Casing:
				Hoist/Hammer: - -

Depth (ft.)	SPT*	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0			S1 72	0.0 7.0														
		ND						Hand Auger to clear utilities from 0-5 feet.										
						736.8												
		ND				4.0	OL/OH	Loose, black, ORGANIC SOIL (OL/OH), mps: 30 mm, no odor, dry.										
5						735.8												
		ND				5.0	ML	Medium dense, dark brown, elastic SILT (ML), mps: 50 mm, no odor, moist.	5	5	10		10	70	N	M	M	M
						733.8												
		ND	S2 120	7.0 17.0		7.0	GW	Loose, well graded GRAVEL with sand and silt (GW), mps: 90 mm, petroleum odor, wet after 6 feet.										
10		ND						Water preesentat 10 feet.	20	30	20	5	5	20				
								Oil-In-Soil collected at 12 feet was negative										
						728.8												
		5.7				12.0	SW	Loose, black to dark gray-brown, well graded SAND with gravel (SW), mps: 90 mm, slight petroleum odor, wet, sheen present.	10	15	40	20	10	5				
		183																
15		3.19																
		209						Oil-In-Soil collected at 16 feet was positive										
						723.8												
						17.0		Bottom of Exploration at 17 feet.										

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

- O Open End Rod
- T Thin Wall Tube
- U Undisturbed Sample
- S Split Spoon
- G Geoprobe

Well Diagram

- Riser Pipe
- Screen
- Filter Sand
- Cuttings
- Grout
- Concrete
- Bentonite Seal

Summary

Overburden (lin. ft.)	17
Rock Cored (lin. ft.)	-
Samples	2

Boring No. B-SA-21R

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None
Toughness: L-Low, M-Medium, H-High
Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification and percentages based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

USCS_TB3_DAY USCSLIB3_CLV.GLB USCSTBC3.GDT G:\PROJECTS\79032H~1\GINT\UPDATE~1\79032-347TB.GPJ Jun 10, 07

HALEY & ALDRICH, INC. UNDERGROUND ENGINEERING & ENVIRONMENTAL SOLUTIONS	OVERBURDEN GROUNDWATER MONITORING WELL REPORT

PROJECT: BUSTR/Phase III Investigation
LOCATION: Delphi Harrision Thermal Systems Facility, Dayton, Ohio
CLIENT: GM Legal Counsel
CONTRACTOR: Jones Environmental Drilling, Incorporated
DRILLER: Gary Taylor RIG TYPE: Acker Soil Max
INSTALLATION DATE: 6-5-96

FILE NO.: 79032-001
WELL NO.: B-SA 22
LOCATION: 5285.94 N
5918.22 E
SHEET: 1 OF 1
INSPECTOR: DJK

Survey Datum: VD29

Ground Elevation: 741.33

SUMMARIZE CONDITIONS

Stoscale not to

FILL

SAND

10.9

SILT

14.5

SAND

Cement/ Bentonite Chips

9.0

Bentonite Chips

11.0

Sand Pack

23.0

Depth/stickup above/below ground surface of protective casing	NA
Depth below ground surface of riser pipe	0.65 ft.
Thickness of Surface Seal	NA
Type of Surface Seal	NA
Diameter of Stainless Steel Riser	2.0 in.
Type of Protective Casing	NA
Diameter of Borehole	9.5 in.
Inside Diameter of Riser Pipe	2.067 in.
Type of Backfill Around Riser	Bentonite Chips and Bentonite Grout
Type of coupling	Threaded
Depth of Bottom of Riser	7 feet
Type of Wellscreen	Stainless Steel
Screen Slot Size	No. 10
Diameter of Wellscreen	2 in.
Type of Backfill Around Wellscreen	Global Filter Pack Silica Sand
Depth of Bottom of Wellscreen	23 feet
Depth of Bottom of Borehole	23 feet

Remarks:

HALEY & ALDRICH, INC. Geotechnical Engineers, and Environmental Consultants	TEST BORING REPORT	BORING NO. B-SA 22

PROJECT: Delphi Harrison Thermal Systems Facility, BUSTR Site/Phase III Investigation
CLIENT: G.M. Legal Counsel
CONTRACTOR: Jones Environmental Drilling, Incorporated

FILE NO. 79032-001
SHEET NO. 1 OF 1
LOCATION: 5285.94 N
5918.22 E
GROUND ELEVATION: 741.33

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE		S	
INSIDE DIAMETER (IN)		1 3/8	
HAMMER WEIGHT (LB)		140	
HAMMER FALL (IN)		30	

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Acker Soil Max
METHOD: HSA

OTHER:

DATUM: VD29
START: 6-5-96 1045
FINISH: 6-5-96 1400
DRILLER: Gary Taylor
H&A REP: DJK

DEPTH (FT)	FIELD PID (PPM)	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
						5" asphalt over brown SAND, dry.
	38.8	6 7 7 8	S-1 18"	1 3		
	46.6	3 3 4 3	S-2 18"	3 5		SAME, moist. - FILL -
5	49.4	3 1 2 1	S-3 17"	5 7		SAME.
	31.2	2 3 2 4	S-4 17"	7 9		SAME.
10	46.2	16 5 4 5	S-5 20"	9 11	10.9	SAME.
	41.2	4 3 2 3	S-6 4"	11 13		Dark grayish brown sandy SILT, little clay, trace gravel, wet. - OVERBANK -
	51.2	2 3 3 7	S-7 6"	13 15	14	SAME.
15						Brown SAND, some gravel, trace silt, moist. - FLUVIAL -
	218	2 3 9 7	S-8 9"	15 17	15.5	SAME, gray, wet.
	1187	10 11 11 12	S-9 20"	17 19		SAME.
20	665	8 9 11 13	S-10 18"	19 21		SAME, brownish gray, gravely. - FLUVIAL -
						BOTTOM OF EXPLORATION AT 23.0 FEET.

NOTES: Water at 15.5 feet.

SAMPLE IDENTIFICATION	SUMMARY
O Open End Rod T Thin Wall Tube U Undisturbed Sample S Split Spoon G Grab Sample with Stainless Steel Trowel	OVERBURDEN (LIN FT): 23.0 ROCK CORED (LIN FT): 0 SAMPLES: 10-S, S-3 & S-8 to lab. BORING NO. B-SA 22

HALEY & ALDRICH, INC. UNDERGROUND ENGINEERING & ENVIRONMENTAL SOLUTIONS	OVERBURDEN GROUNDWATER MONITORING WELL REPORT

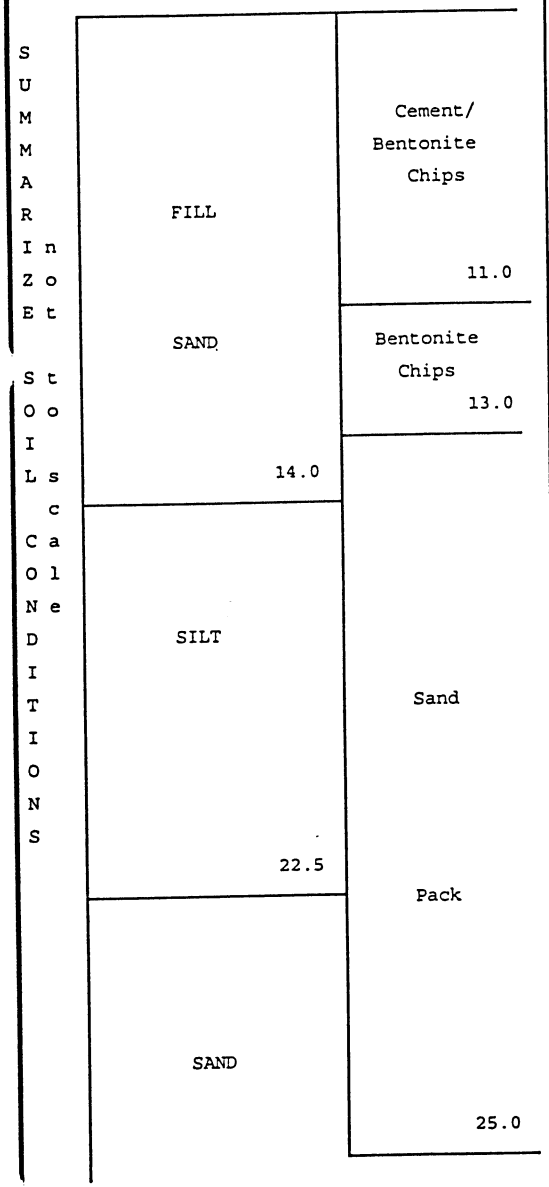
PROJECT: BUSTR/Phase III Investigation
LOCATION: Delphi Harrision Thermal Systems Facility, Dayton, Ohio
CLIENT: GM Legal Counsel
CONTRACTOR: Jones Environmental Drilling, Incorporated
DRILLER: Gary Taylor RIG TYPE: Acker Soil Max
INSTALLATION DATE: 6-5-96

FILE NO.: 79032-001
WELL NO.: B-SA 23
LOCATION: 5367.39 N
5899.95 E
SHEET: 1 OF 1
INSPECTOR: DJK

Survey Datum: VD29

Ground Elevation: 743.56

SUMMARIZE Soil Conditions



Depth/stickup above/below ground surface of protective casing	NA
Depth below ground surface of riser pipe	0.65 ft.
Thickness of Surface Seal	NA
Type of Surface Seal	NA
Diameter of Stainless Steel Riser	2.0 in.
Type of Protective Casing	NA
Diameter of Borehole	9.5 in.
Inside Diameter of Riser Pipe	2.067 in.
Type of Backfill Around Riser	Bentonite Chips and Bentonite Grout
Type of coupling	Threaded
Depth of Bottom of Riser	15.0 ft.
Type of Wellscreen	Stainless Steel
Screen Slot Size	No. 10
Diameter of Wellscreen	2 in.
Type of Backfill Around Wellscreen	Global Filter Pack Silica Sand
Depth of Bottom of Wellscreen	25 feet
Depth of Bottom of Borehole	25 feet

Remarks:

HALEY & ALDRICH, INC. Geotechnical Engineers, and Environmental Consultants	TEST BORING REPORT	BORING NO. B-SA 23

PROJECT: Delphi Harrison Thermal Systems Facility, BUSTR Site/Phase III Investigation
CLIENT: G.M. Legal Counsel
CONTRACTOR: Jones Environmental Drilling, Incorporated

FILE NO. 79032-001
SHEET NO. 1 OF 1
LOCATION: 5366.25 N
5899.33 E
GROUND ELEVATION: 743.56

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE		S	
INSIDE DIAMETER (IN)		1 3/8	
HAMMER WEIGHT (LB)		140	
HAMMER FALL (IN)		30	

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Acker Soil Max
METHOD: HSA

OTHER:

DATUM: VD29
START: 6-5-96 1500
FINISH: 6-5-96 1800
DRILLER: Gary Taylor
H&A REP: DJK

DEPTH (FT)	FIELD PID (PPM)	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
						Asphalt over brown SAND, moist. -FILL-
	11.8	7 6 2 3	S-1 20"	1 3	2.5	Brown clayey SAND, little silt, moist.
	3.2	5 2 1 3	S-2 10"	3 5		SAME.
5	2.2	3 2 4 3	S-3 10"	5 7		SAME, little gravel.
	2.2	3 3 8 7	S-4 12"	7 9		SAME, pockets of gravely or sandy or clayey sand.
10	NA	3 6 4 4	S-5 0"	9 11		
	10.3	8 8 9 10	S-6 3"	11 13		Low recovery, Drove rock. -FILL-
	304	9 6 6 9	S-7 12"	13 15	14.0	SAME.
15	NA	56 20 14 15	S-8 0"	15 17		Dark gray sandy SILT and large (4" x 5") wood fragment. Low recovery due to wood fragments.
	1397	38 34 28 38	S-9 6"	17 19		Low recovery due to wood fragments.
20	2282	26 28 21 22	S-10 20"	19 21		Dark gray SAND, some silt and gravel, trace clay in occasional pockets. -OVERBANK-
	2500	18 23 24 22	S-11 18"	21 23	22.5	12" of wood.
	1757	28 17 20 22	S-12 12"	23 25		Brown gravely SAND, wet. -FLUVIAL-
25						BOTTOM OF EXPLORATION AT 25.0 FEET.

NOTES: Water at 14.5 feet.

SAMPLE IDENTIFICATION	SUMMARY
O Open End Rod T Thin Wall Tube U Undisturbed Sample S Split Spoon G Grab Sample with Stainless Steel Trowel	OVERBURDEN (LIN FT): 25.0 ROCK CORED (LIN FT): 0 SAMPLES: 12-S, S-1, S-7 to lab. BORING NO. B-SA 23

HALEY & ALDRICH, INC. UNDERGROUND ENGINEERING & ENVIRONMENTAL SOLUTIONS	OVERBURDEN GROUNDWATER MONITORING WELL REPORT

PROJECT: BUSTR/Phase III Investigation
LOCATION: Delphi Harrision Thermal Systems Facility, Dayton, Ohio
CLIENT: GM Legal Counsel
CONTRACTOR: Jones Environmental Drilling, Incorporated
DRILLER: Gary Taylor RIG TYPE: Acker Soil Max
INSTALLATION DATE: 6-10-96

FILE NO.: 79032-001
WELL NO.: B-SA 24
LOCATION: 5411.45 N
5889.93 E
SHEET: 1 OF 1
INSPECTOR: DJK

Survey Datum: VD29

Ground Elevation: 744.92

SUMMARIZE SOIL CONDITIONS

FILL

SAND 8.8

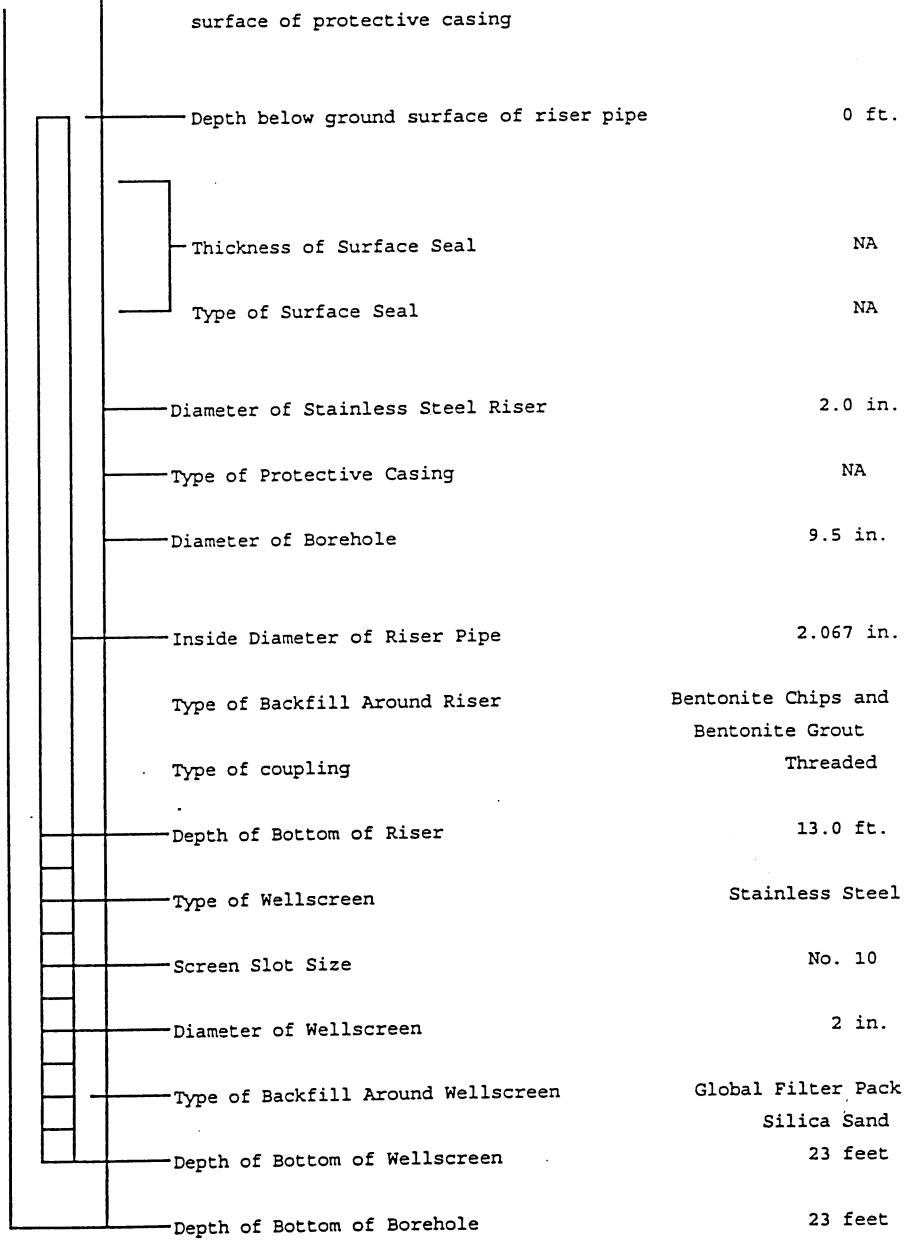
SAND

Cement/ Bentonite Grout 9.0

Bentonite Chips 11.0

Sand

Pack 23.0



Depth/stickup above/below ground surface of protective casing	NA
Depth below ground surface of riser pipe	0 ft.
Thickness of Surface Seal	NA
Type of Surface Seal	NA
Diameter of Stainless Steel Riser	2.0 in.
Type of Protective Casing	NA
Diameter of Borehole	9.5 in.
Inside Diameter of Riser Pipe	2.067 in.
Type of Backfill Around Riser	Bentonite Chips and Bentonite Grout
Type of coupling	Threaded
Depth of Bottom of Riser	13.0 ft.
Type of Wellscreen	Stainless Steel
Screen Slot Size	No. 10
Diameter of Wellscreen	2 in.
Type of Backfill Around Wellscreen	Global Filter Pack Silica Sand
Depth of Bottom of Wellscreen	23 feet
Depth of Bottom of Borehole	23 feet

Remarks:

HALEY & ALDRICH, INC. Geotechnical Engineers, and Environmental Consultants	TEST BORING REPORT	BORING NO. B-SA 24

PROJECT: Delphi Harrison Thermal Systems Facility, BUSTR Site/Phase III Investigation
CLIENT: G.M. Legal Counsel
CONTRACTOR: Jones Environmental Drilling, Incorporated

FILE NO. 79032-001
SHEET NO. 1 OF 1
LOCATION: 5411.45 N
5889.93 E
GROUND ELEVATION: 744.92

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE		S	
INSIDE DIAMETER (IN)		1 3/8	
HAMMER WEIGHT (LB)		140	
HAMMER FALL (IN)		30	

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Acker Soil Max
METHOD: HSA

OTHER:

DATUM: VD29
START: 6-6-96 0900
FINISH: 6-10-96 1030
DRILLER: Gary Taylor
H&A REP: DJK

DEPTH (FT)	FIELD PID (PPM)	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
					0.9	4" concrete over gray gravel.
	25.0	5 5 6 5	S-1 10"	1 3	2.8	Grayish brown gravely CLAY, moist.
	21.1	5 4 3 1	S-2 2"	3 5		Dark brown SAND, some gravel, little clay in pockets, very moist, with brick and coal fragments. SAME.
5	25.2	3 2 3 1	S-3 11"	5 7		SAME. - FILL -
	38.0	3 2 3 1	S-4 6"	7 9	8.8	SAME, reddish brown.
10	29.3	3 2 3 1	S-5 9"	9 11		Brown gravely SAND, trace silt, wet.
	27.4	6 8 8 2	S-6 7"	11 13		SAME.
	35.4	8 8 7 10	S-7 6"	13 15		SAME.
15	35.4	10 12 27 18	S-8 9"	15 17		SAME.
	396	32 36 5 27	S-9 8"	17 19		SAME, little gravel.
20	NA	50/5"	S-10 0"	19 21		SAME, with cobbles.
	363	15 50/3"	S-11 5"	21 23		SAME, gravely. - FLUVIAL -
25						BOTTOM OF EXPLORATION AT 23.0 FEET.

NOTES: Water at 16.8 feet.

SAMPLE IDENTIFICATION	SUMMARY
O Open End Rod T Thin Wall Tube U Undisturbed Sample S Split Spoon G Grab Sample with Stainless Steel Trowel	OVERBURDEN (LIN FT): 17.0 ROCK CORED (LIN FT): 0 SAMPLES: 11-S, S-4 & S-8 to lab. BORING NO. B-SA 24

HALEY & ALDRICH, INC. UNDERGROUND ENGINEERING & ENVIRONMENTAL SOLUTIONS	OVERBURDEN GROUNDWATER MONITORING WELL REPORT

PROJECT: BUSTR/Phase III Investigation	FILE NO.: 79032-001
LOCATION: Delphi Harrision Thermal Systems Facility, Dayton, Ohio	WELL NO.: B-SA 26
CLIENT: GM Legal Counsel	LOCATION: 5184.97 N
CONTRACTOR: Jones Environmental Drilling, Incorporated	5849.75 E
DRILLER: Gary Taylor RIG TYPE: Acker Soil Max	SHEET: 1 OF 1
INSTALLATION DATE: 6-10-96	INSPECTOR: DJK

Survey Datum: VD29

Ground Elevation: 739.13

SUMMARIZE SOIL CONDITIONS

FILL

SAND

6.5

SAND

10.5

GRAVEL

17.0

Bentonite Chips

5.0

Sand Pack

Depth/stickup above/below ground surface of protective casing	NA
Depth below ground surface of riser pipe	0.65 ft.
Thickness of Surface Seal	NA
Type of Surface Seal	NA
Diameter of Stainless Steel Riser	2.0 in.
Type of Protective Casing	NA
Diameter of Borehole	9.5 in.
Inside Diameter of Riser Pipe	2.067 in.
Type of Backfill Around Riser	Bentonite Chips and Bentonite Grout
Type of coupling	Threaded
Depth of Bottom of Riser	7 feet
Type of Wellscreen	Stainless Steel
Screen Slot Size	No. 10
Diameter of Wellscreen	2 in.
Type of Backfill Around Wellscreen	Global Filter Pack Silica Sand
Depth of Bottom of Wellscreen	17 feet
Depth of Bottom of Borehole	17 feet

Remarks:

HALEY & ALDRICH, INC. Geotechnical Engineers, and Environmental Consultants	TEST BORING REPORT	BORING NO. B-SA 26

PROJECT: Delphi Harrison Thermal Systems Facility, BUSTR Site/Phase III Investigation
CLIENT: G.M. Legal Counsel
CONTRACTOR: Jones Environmental Drilling, Incorporated

FILE NO. 79032-001
SHEET NO. 1 OF 1
LOCATION: 5184.97 N
5849.75
GROUND ELEVATION: 739.13

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE		S	
INSIDE DIAMETER (IN)		1 3/8	
HAMMER WEIGHT (LB)		140	
HAMMER FALL (IN)		30	

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Acker Soil Max
METHOD: HSA

OTHER:

DATUM: VD29
START: 6-10-96 1400
FINISH: 6-10-96 1430
DRILLER: Gary Taylor
H&A REP: DJK

DEPTH (FT)	FIELD PID (PPM)	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
						Asphalt over tan gravely SAND, dry.
	21.9	7 7 6 5	S-1 12"	1 3		Same, with bricks and pockets of dark gray moist clayey SILT.
	38.4	3 3 4 4	S-2 6"	3 5	5.0	Same, with cobbles.
5	11.4	1 3 2	S-3 17"	5 7	6.5	Brown clayey SAND, little gravel and silt moist with brick pieces. - FILL -
	11.7	1				Black SAND, some silt.
	11.8	2 2 1 2	S-4 8"	7 9		SAME, little gravel, little silt, 5-10% gastropod and bivalve shells 0.5 inch in size.
10	4.2	2 2 28 10	S-5 12"	9 11	10.0	SAME, silty, trace gravel. - OVERBANK -
	8.7	20 18 19 13	S-6 8"	11 13		Tan and gray sandy GRAVEL, wet. SAME, trace cobbles.
	3.4	28 16 16 18	S-7 11"	13 15		SAME.
15	2.7	43 23 18 8	S-8 14"	15 17		SAME. - FLUVIAL -
						BOTTOM OF EXPLORATION AT 17.0 FEET.

NOTES: Water at 10.0 feet.

SAMPLE IDENTIFICATION

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Grab Sample with Stainless Steel Trowel

SUMMARY

OVERBURDEN (LIN FT): 17.0

ROCK CORED (LIN FT): 0

SAMPLES: 8-S, S-2 & S-4 to lab.

BORING NO. B-SA 26

HALEY & ALDRICH, INC. Geotechnical Engineers, and Environmental Consultants	TEST BORING REPORT	BORING NO. B-SA 26AB

PROJECT: Delphi Harrison Thermal Systems Facility, BUSTR Site/Phase III Investigation
CLIENT: G.M. Legal Counsel
CONTRACTOR: Jones Environmental Drilling, Incorporated

FILE NO. 79032-001
SHEET NO. 1 OF 1
LOCATION: 5325.21 N
5830.13 E
GROUND ELEVATION: 742.00

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE		S	
INSIDE DIAMETER (IN)		1 3/8	
HAMMER WEIGHT (LB)		140	
HAMMER FALL (IN)		30	

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Acker Soil Max
METHOD: HSA

OTHER:

DATUM: VD29
START: 6-10-96 1100
FINISH: 6-10-96 1330
DRILLER: Gary Taylor
H&A REP: DJK

DEPTH (FT)	FIELD PID (PPM)	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
						4" concrete over brown gravely SAND, dry.
	19.3	5 4 8 11	S-1 12"	1 3	2.25	SAME, little silt and clay, moist. - FILL -
	26.2	5 7 2 1	S-2 14"	3 5	4.5	Dark brown gray SILT, little clay, trace gravel, moist.
5	19.4	15 12 19 11	S-3 8"	5 7	6.5	Auger refusal at 6.5 feet, in concrete, trace of brick.
						- FILL -
10						BOTTOM OF EXPLORATION AT 10.0 FEET.
15						

NOTES: No samples submitted to lab based on field screening results.

SAMPLE IDENTIFICATION	SUMMARY
O Open End Rod T Thin Wall Tube U Undisturbed Sample S Split Spoon G Grab Sample with Stainless Steel Trowel	OVERBURDEN (LIN FT): 10.0 ROCK CORED (LIN FT): 0 SAMPLES: S-3, none sent to lab. BORING NO. B-SA 26AB

HALEY & ALDRICH, INC. Geotechnical Engineers, and Environmental Consultants	GROUNDWATER MONITORING WELL REPORT

PROJECT: Delphi Harrison Thermal Systems, Dayton, OH	FILE NO.: 79032-005
LOCATION: Dayton, OH	WELL NO.: B-SA27
CLIENT: General Motors Legal Counsel	LOCATION:
CONTRACTOR: Northcoast Drilling Services	
DRILLER: M. Bentley RIG TYPE: CME 55	SHEET: 1 OF 1
INSTALLATION DATE: 4-28-97	INSPECTOR: D. Kreitzburg

SUMMARIZED SOIL CONDITIONS

Survey Datum:

Ground Elevation: 0.0

- CONCRETE - 1.5
- CEMENT BENTONITE GROUT - 3.5
- BENTONITE PELLETS - 6.0
- SILT - 7.9
- SAND PACK - 18.0
- GRAVEL -

Depth/Stickup above/below ground surface of protective casing	Flushsmount
Depth below ground surface of riser pipe	NA
Thickness of Surface Seal	NA ft.
Type of Surface Seal (indicated all seals showing depth, thickness and type)	Bentonite Pellets
Type of Protective Casing	NA
Inside Diameter of Protective Casing	NA
Depth of Bottom of Protective Casing	NA
Diameter of Borehole	4.25 in. ID HSA
Inside Diameter of Riser Pipe	NA in.
Type of Backfill Around Riser	Bentonite Pellets
Type of coupling	Threaded
Depth of Bottom of Riser	8.0 ft.
Type of Wellscreen	Slotted PVC
Screen Slot Size	No. 10 (0.010")
Diameter of Wellscreen	2.0 in.
Type of Backfill Around Wellscreen	Silica Sand
Depth of Bottom of Wellscreen	18.0 ft.
Depth of Bottom of Borehole	18.0 ft.

Remarks:

Well No. B-SA27

C

HALEY & ALDRICH, INC. Geotechnical Engineers, and Environmental Consultants	TEST BORING REPORT	BORING NO. B-SA 27

PROJECT: Delphi Harrison Thermal Systems Facility, BUSTR Site/Phase III Investigation
CLIENT: G.M. Legal Counsel
CONTRACTOR: Jones Environmental Drilling, Incorporated

FILE NO. 79032-001
SHEET NO. 1 OF
LOCATION: 5978.38 N
7187.84 E
GROUND ELEVATION: 741.45

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE		S	
INSIDE DIAMETER (IN)		1 3/8	
HAMMER WEIGHT (LB)		140	
HAMMER FALL (IN)		30	

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Acker Soil Max
METHOD: HSA

OTHER:

DATUM: VD29
START: 6-5-96 0745
FINISH: 6-5-96 0815
DRILLER: Gary Taylor
H&A REP: DJK

DEPTH (FT)	FIELD PID (PPM)	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
						1.5 feet of concrete, very hard, refusal.
5						
10						
15						

NOTES: Shallow refusal is expected in boring vicinity.

SAMPLE IDENTIFICATION

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Grab Sample with Stainless Steel Trowel

SUMMARY

OVERBURDEN (LIN FT): 1.5

ROCK CORED (LIN FT): 0

SAMPLES: None.

BORING NO. B-SA 27

HALEY & ALDRICH, INC. Geotechnical Engineers, and Environmental Consultants	TEST BORING REPORT	BORING NO. B-SA 27

PROJECT: Delphi Harrison Thermal Systems Facility, BUSTR Site/Phase III Investigation
CLIENT: G.M. Legal Counsel
CONTRACTOR: Northcoast Drilling Services, Inc.

FILE NO. 79032-001
SHEET NO. 1 OF 1
LOCATION: 5978.38 N
7187.84 E
GROUND ELEVATION: 741.45

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE		S	
INSIDE DIAMETER (IN)		1 3/8	
HAMMER WEIGHT (LB)		-----	
HAMMER FALL (IN)		-----	

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: CME-55
BIT TYPE:
DRILL MUD:
OTHER: 4.25 ID HSA

DATUM: VD29
START: 4/28/97 1515
FINISH: 4/29/97 1545
DRILLER: M. Bentley
H&A REP: DJK

DEPTH (FT)	FIELD PID (PPM)	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
					1.5	Concrete over gray GRAVEL, dry.
		4 4 4 5	S-1 22"	2.0 4.0		Dark gray clayey SILT, little sand, trace gravel, moist.
5		2 2 2 2	S-2 16"	4.0 6.0		Same, grading to brown. - FILL -
		1 2 3 2	S-3 24"	6.0 8.0		Same, soft with wood pieces
		2 3 3 4	S-4 NSR	8.0 10.0	7.9	Tan sandy GRAVEL, slightly moist.
10		9 9 12 12	S-5 11"	10.0 12.0		Same, gray below 11.5 feet. Wet at 11.5 feet.
		12 8 6 8	S-6 6"	12.0 14.0		Same.
15		21 15 12 11	S-7 8"	14.0 16.0		Same. - FLUVIAL -
						BOTTOM OF EXPLORATION AT 18.0 FEET

NOTES:

SAMPLE IDENTIFICATION	SUMMARY
O Open End Rod T Thin Wall Tube U Undisturbed Sample S Split Spoon G Geoprobe	OVERBURDEN (LIN FT): 18.0 ROCK CORED (LIN FT): 0 SAMPLES: 7 S.
	BORING NO. B-SA 27

SRW Environmental Services, Inc.
55 W. Technecenter Drive, Suite C
Milford, Ohio 45150
(513) 576-0009

LOG OF BORING DAY-1

TOOL TOWN
DAYTON, OHIO

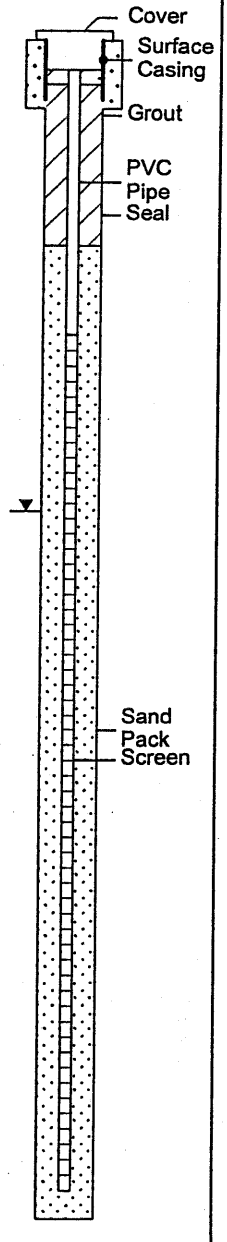
LIMITED SUBSURFACE INVESTIGATION

DAY-001.02

Date Completed	: 5/3/00	Casing Size	: 2"
Drilling Method	: 4 1/4" ID HSA	Immediate Water Level	: 8'
Sampling Method	: Continuous Split Spoon	Final Water Level	: 5'
Field/Office Logged	: MF/CJC		
Hole Diameter	: 8"		

Depth in feet	Surf. Elev. 732.97	USCS	GRAPHIC	DESCRIPTION	Samples	Blow Count	○ TOV △ Methane (0 5 10)	Total FID (ppm)	Sample Recovery (feet)
0									
1	732			Brown CLAYEY SILT, w/ fine to medium subrounded to angular gravel, little organics, soft, moist	1	2 4 4 14		3.9	0.6
2	731								
3	730								
4	729								
5	728	CL			2	2 1 1 1		4.3	0.3
6	727								
7	726								
8	725								
9	724								
10	723			Loose gray fine to coarse, subrounded to rounded,SAND AND GRAVEL, saturated	3	14 18 16 12		-	0.4
11	722								
12	721				4	24 22 16 18		-	1.3
13	720								
14	719			Light brown loose fine to medium SAND w/ few fine to medium rounded gravel, saturated	5	22 13 14 15		-	1.2
15	718	GP							
16	717				6	25 50/5"		-	0.7
17	716			2" brown SILT AND CLAY seam, soft, moist					
18	715			Loose gray fine to medium SAND w/ fine to medium GRAVEL, saturated	7	15 11 10 11		-	0.7
19	714								
20	713								
21	712			Boring complete at 20' bgs.					
22	711								

Well: DAY-1
Elev.: 732.80



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LOG OF BORING DAY-2

TOOL TOWN
DAYTON, OHIO

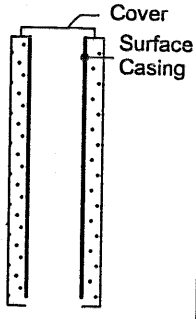
LIMITED SUBSURFACE INVESTIGATION

DAY-001.02

Date Completed	: N/A	Casing Size	: 2"
Drilling Method	: 4 1/4" ID HSA	Immediate Water Level	: -
Sampling Method	: Continuous Split Spoon	Final Water Level	: -
Field/Office Logged	: MF/CJC		
Hole Diameter	: 8"		

Depth in feet	Surf. Elev. 100	USCS	GRAPHIC	DESCRIPTION	Samples	Blow Count	○ TOV △ Methane 0 5 10	Total FID (ppm)	Sample Recovery (inches)
0	100								
		CL		Brown, SILTY CLAY, trace sand, soft, moist	1	5 7 8	⊙	-	-
1	99								
2	98				2	7			
3	97								
4	96								
5				Boring abandoned; drilled through water line.					

Well: DAY-2
Elev.: 100



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LOG OF BORING DAY-3

TOOL TOWN
DAYTON OHIO

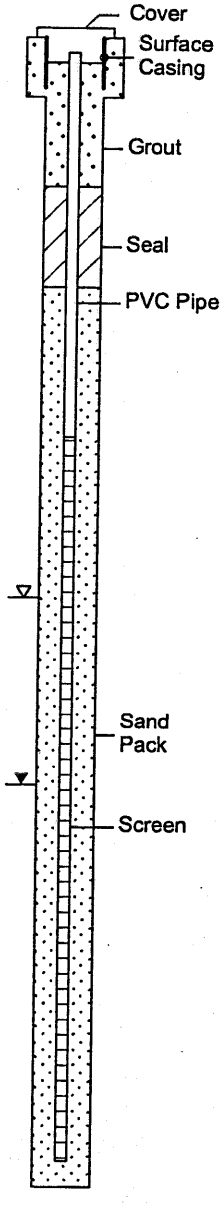
DAY-001.06

LIMITED SUBSURFACE INVESTIGATION

Date Completed	: 12-11-00	Casing Size	: 2"
Drilling Method	: Auger	Immediate Water Level	: 15.0
Sampling Method	: 2 ft. Split Spoon	Final Water Level	: 11.24
Field/Office Logged	: TA/TA	Selected For Analysis	: N/A
Hole Diameter	: 6"		

Depth in feet	Surf. Elev. 740.43	USCS	GRAPHIC	DESCRIPTION	Samples	Blow Count	Total FID (ppm) 0 250 500	Total FID (ppm)	Sample Recovery (inches)
0	740			Brown SAND and GRAVEL, moist-loose	1	4 4 3 6		1.2	12
5	735			brown sand and gravel with silts, moist-loose	2	6 3 4 3		0.2	5
10	730	GW		brown sand and gravel, moist-dense	3	21 48 48 38		24X	13
15	725			brown gravel with sand and silts, wet-loose	4	18 21 17 16		5.9	20
					5	12 16 12 13		35.7	17
					6	6 4 7 10		4.1	17
20	720			brown gravel and sand, wet-loose	7	10 12 18 18		3.0	15
25	715								

Well: DAY-3
Elev.: 740.06



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LOG OF BORING DAY-4

TOOL TOWN
DAYTON, OHIO

LIMITED SUBSURFACE INVESTIGATION

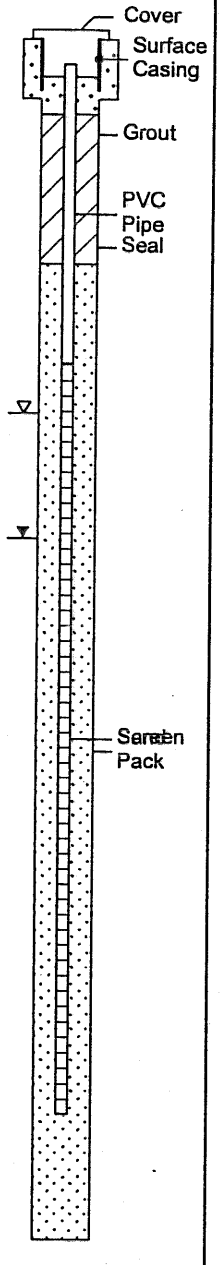
DAY-001.02

Date Completed	: 4/24/00	Casing Size	: 2"
Drilling Method	: 4 1/4" ID HSA	Immediate Water Level	: 10'
Sampling Method	: Continuous Split Spoon	Final Water Level	: 7.5'
Field/Office Logged	: RHS/CJC		
Hole Diameter	: 8"		

Depth in feet	Surf. Elev. 738.21	USCS	GRAPHIC	DESCRIPTION	Samples	Blow Count	Total FID (ppm)	Sample Recovery (feet)
0	738			Aspahlt and base material				
1	737			FILL, dark brown silty clay,firm, moist	1	0 3 3 4	3.5	1.2
2	736							
3	735	FL						
4	734							
5	733			Light brown silty sand, trace clay, pebbles, moist	2	2 3 4 16	1.0	1.5
6	732							
7	731			SAND AND GRAVEL				
8	730							
9	729							
10	728			Medium to coarse SAND, well graded, wet	3	5 15 22 17	8.3	1.5
11	727			Medium to coarse, subrounded, SAND AND GRAVEL, wet				
12	726			Fine to coarse, subangular to angular, SAND AND GRAVEL, well-graded, wet -24.5	4	4 12 23 33	-	1.4
13	725			Boring complete at 24' bgs				
14	724				5	1 5 18 17	-	1.5
15	723	SP						
16	722			GRAVEL content increasing with depth	6	9 13 34 27	-	1.2
17	721							
18	720				7	5 17 22 26	-	1.0
19	719							
20	718				8	2 6 10 19	-	0.8
21	717							
22	716				9	2 31 24 18	-	-
23	715							
24	714							
25	713							
26								

Blow Count: ○ TOV, △ Methane; 0 5 10

Well: DAY-4
Elev.: 737.98



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(513) 576-0009

LOG OF BORING DAY-5

TOOL TOWN
DAYTON OHIO

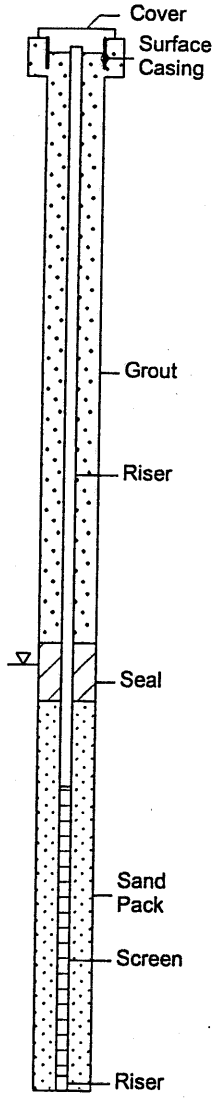
DAY-001.06

LIMITED SUBSURFACE INVESTIGATION

Date Completed	: 12-13-00	Casing Size	: 2"
Drilling Method	: Auger	Immediate Water Level	: 23'
Sampling Method	: 2 ft. Split Spoon	Final Water Level	: 21.76'
Field/Office Logged	: TA/TA	Selected For Analysis	: N/A
Hole Diameter	: 6"		

Depth in feet	Surf. Elev. 749.49	USCS	GRAPHIC	DESCRIPTION	Samples	Blow Count	Total FID (ppm) 0 250 500	Total FID (ppm)	Sample Recovery (inches)
0	749	FL		Brown Clay with silts, gravel, glass shards					
1	748			Augered down to 32 ft bgs, cuttings: brown sand and gravel, moist-loose					
2	747								
3	746								
4	745								
5	744								
6	743								
7	742								
8	741								
9	740								
10	739								
11	738								
12	737								
13	736								
14	735								
15	734								
16	733								
17	732								
18	731								
19	730								
20	729	GW							
21	728								
22	727								
23	726								
24	725								
25	724								
26	723								
27	722								
28	721								
29	720								
30	719								
31	718								
32	717								
33	716								
34	715								
35	714								
36	713								
37	712								
38	711								
39	710								
40	709								
41	708	GW		Brown SAND and GRAVEL, wet-loose	1	14 16 24 50+			24
42	707								
43	706	CL		Grey CLAY with trace gravel, moist-very stiff	2	50+			17
44	705								
45									

Well: DAY-5
Elev.: 749.11



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STEWARDS OF THE GREAT MIAMI RIVER WATERSHED

MIAMI CONSERVANCY DISTRICT

Groundwater Quality Data

Well Description

Well Information for MON10013			
UNID	MON10013	Location	Riverscape Career Academy
Well Name	DAYCA / DAYSC	Latitude	39.76713
Status	Active	Longitude	84.18548
County	Montgomery	Installation Date	5/29/2003
Township		Contact Information	Jim Shoemaker, City of Dayton

Well Details			
Completed Well Depth	36	7.5 Minute Quadrangle	Dayton North
Ground Surface Elevation		Principle Drainage Basin	Mad River
Reference Point Description	Top of PVC	Sub Drainage Basin	Mad River (above Mud Cr. to Great Miami River)
Reference Point Elevation	742	Hydrologic Unit Code	05080001190
Land Surface Correction		Northing	
Period Of Record		Easting	648043.56
Well Log Available		Aquifer Lithology	Buried Valley
	961683		
		Saturated Thickness	
		Horizontal Hydraulic Conductivity	
Pumping Influence			
Additional Comments:	Mad River Watershed Assessment 03		

Well Data

You may choose dates between 7/3/2003 and 7/30/2003 to view groundwater quality data for well MON10013.

Please select a method to query the data you need. You may also download the Entire data for this well during a period.

Data Download Option

Select the date you wish to download groundwater quality data from the box below then choose an option.

7/3/2003 Download Data ?

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(513) 576-0009

LOG OF BORING DAY-6

TOOL TOWN
DAYTON OHIO

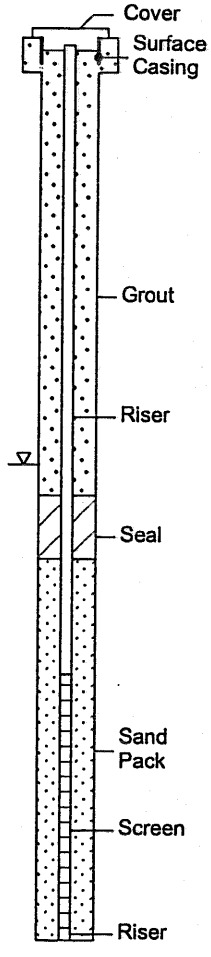
DAY-001.06

LIMITED SUBSURFACE INVESTIGATION

Date Completed	: 12-11-00	Casing Size	: 2"
Drilling Method	: Auger	Immediate Water Level	: 20
Sampling Method	: 2 ft. Split Spoon	Final Water Level	: 16.80
Field/Office Logged	: TA/TA	Selected For Analysis	: N/A
Hole Diameter	: 6"		

Depth in feet	Surf. Elev. 745.03	USCS	GRAPHIC	DESCRIPTION	Samples	Blow Count	Total FID (ppm) 0 250 500	Total FID (ppm)	Sample Recovery (inches)
0	745	FL		Ashpalt Auger cutting: sand and gravel, moist-loose					
1	744								
2	743								
3	742								
4	741								
5	740								
6	739								
7	738								
8	737								
9	736								
10	735								
11	734								
12	733								
13	732								
14	731								
15	730								
16	729								
17	728								
18	727			Concrete footing					
19	726								
20	725								
21	724	GW		Augered between 25ft bgs to 46 ft bgs: sand and gravel, wet-loose					
22	723								
23	722								
24	721								
25	720								
26	719								
27	718								
28	717								
29	716								
30	715								
31	714								
32	713								
33	712								
34	711								
35	710								
36	709								
37	708								
38	707								
39	706								
40	705								
41	704								
42	703								
43	702								
44	701								
45	700								
46	699								
47	698	GW		Brown SAND and GRAVEL, wet-dense	1	18 16 50+		0.0	17
48	697								
49	696	CL		Grey CLAY with trace gravel, moist-very stiff	2	11 20 35 50+		0.0	24
50	695								
51									

Well: DAY-6
Elev.: 744.65



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LOG OF BORING DAY-7

TOOL TOWN
DAYTON OHIO

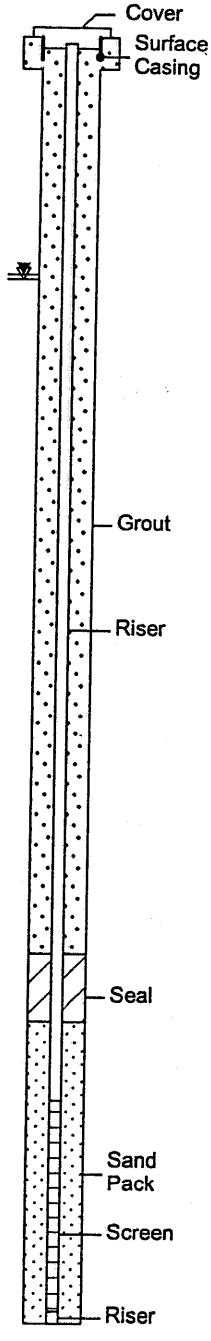
DAY-001.06

LIMITED SUBSURFACE INVESTIGATION

Date Completed	: 12-06-00	Casing Size	: 2"
Drilling Method	: Auger	Immediate Water Level	: 10.6
Sampling Method	: 2 ft. Split Spoon	Final Water Level	: 10.81
Field/Office Logged	: TA/TA	Selected For Analysis	: N/A
Hole Diameter	: 6"		

Depth in feet	Surf. Elev. 736.16	USCS	GRAPHIC	DESCRIPTION	Samples	Blow Count	Total FID (ppm) 0 250 500	Total FID (ppm)	Sample Recovery (inches)
0	736	FL		Asphalt					
1–10	735–726			Augered to 47ft. bgs, cuttings: sand and gravel, moist-loose					
10–23	726–713			sand and gravel, wet-loose					
23–47	713–689	GW		Brown SAND and GRAVEL, wet-dense	1	32		0.0	24
					2	50+		0.0	24
					3	7 50+		0.0	24
					4	15 33 50+		0.0	24
					5	11 43 50+		0.0	24
47–58	689–679	CL		Grey CLAY with trace gravel, moist-very stiff		16 41 43 32		0.0	24

Well: DAY-7
Elev.: 735.55



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LOG OF BORING DAY-8

TOOL TOWN
DAYTON OHIO

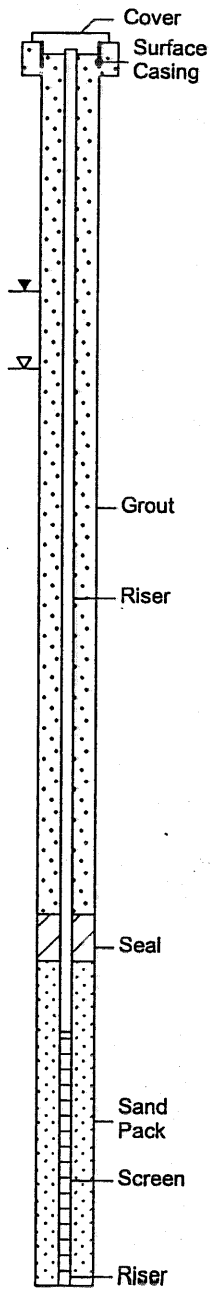
DAY-001.06

LIMITED SUBSURFACE INVESTIGATION

Date Completed	: 12-04-00	Casing Size	: 2"
Drilling Method	: Auger	Immediate Water Level	: 10.6
Sampling Method	: 2 ft. Split Spoon	Final Water Level	: 13.8
Field/Office Logged	: TA/TA	Selected For Analysis	: N/A
Hole Diameter	: 6"		

Depth in feet	Surf. Elev. 741.96	USCS	GRAPHIC	DESCRIPTION	Samples	Blow Count	Total FID (ppm) 0 250 500	Total FID (ppm)	Sample Recovery (inches)
0		FL		Asphalt					
1–55	741–687	GW		Augered to 44ft. bgs, cuttings: sand and gravel, moist-loose					
44–54	698–688	GW		Brown SAND and GRAVEL, wet-dense	1	20 37 33		0.0	24
					2	15 35 40		0.0	17
					3	22 30 40		0.0	18
					4	27 33 50		0.0	19
54–55	688–687	CL		Grey CLAY with trace gravel, moist-very stiff	5	25 50+		0.0	12

Well: DAY-8
Elev.: 741.55



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LOG OF BORING DAY-11D

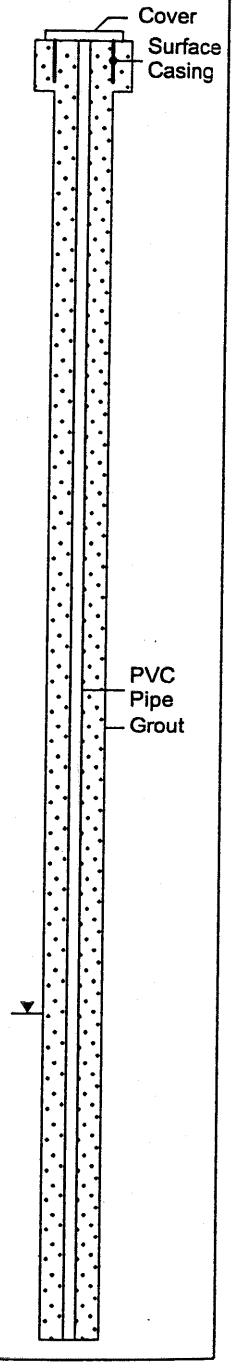
TOOL TOWN
DAYTON, OHIO

LIMITED SUBSURFACE INVESTIGATION
DAY-001.02

Date Completed	: 5/2/00	Casing Size	: 2"
Drilling Method	: 4 1/4" ID HSA	Immediate Water Level	: 24'
Sampling Method	: Continuous Split Spoon	Final Water Level	: 22.94'
Field/Office Logged	: MF/CJC		
Hole Diameter	: 8"		

Depth in feet	Surf. Elev. 749.87	USCS	GRAPHIC	DESCRIPTION	Samples	Blow Count	○ TOV △ Methane (0 – 62 – 124)	Total FID (ppm)	Sample Recovery (feet)
0–1	749	FL		ASPHALT and fill gravel	1	4 9 4		0.0	1.0
2–4	748–746								
5–10	745–740				2	2 2 2 2		0.0	2.0
11–15	739–735	SP		Brown fine to coarse SILTY SAND w/ black SILTY CLAY, moist, organics	3	3 3 7 10		0.0	0.3
16–17	734–733	CL		Brown fine to coarse SAND with subangular gravel	4	9 8 12 31		0.0	0.5
18–25	732–725	SP		Black CLAYEY SILT, some sand, plastic like, moist	5	2 3 33		123.1	2.0
26–32	724–718	GW		Brown fine to coarse SAND and GRAVEL, well graded, quartz present, saturated	6	8 14 18 14		44.1	1.0
					7	5 12 19 17		30.6	1.6
					8	8 9 15 15		28	2.0
					9	18 12		-	0.2

Well: DAY-11D
Elev.: 749.04



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LOG OF BORING DAY-11D

TOOL TOWN
DAYTON, OHIO

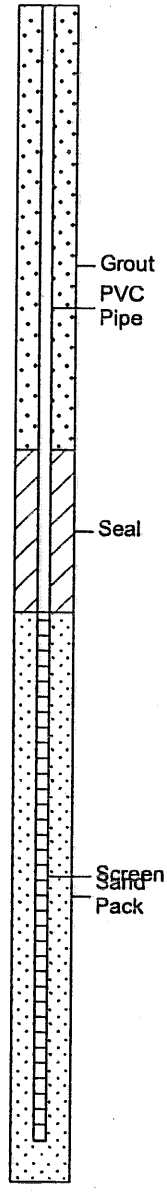
LIMITED SUBSURFACE INVESTIGATION

DAY-001.02

Date Completed	: 5/2/00	Casing Size	: 2"
Drilling Method	: 4 1/4" ID HSA	Immediate Water Level	: 24'
Sampling Method	: Continuous Split Spoon	Final Water Level	: 22.94'
Field/Office Logged	: MF/CJC		
Hole Diameter	: 8"		

Depth in feet	Surf. Elev. 749.87	USCS	GRAPHIC	DESCRIPTION	Samples	Blow Count	TOV / Methane (0 – 62 – 124)	Total FID (ppm)	Sample Recovery (feet)
32									
33	717	GW			9	14 11		-	0.2
34	716				10	50/3		-	0.25
35	715					18			
36	714			Brown fine, subrounded to rounded SAND AND GRAVEL, trace of silt and clay, saturated	11	14 18		-	1.7
37	713					23 18			
38	712				12	27 19		-	2.0
39	711					20			
40	710				13	28 50/3		-	-
41	709					4			
42	708				14	5 12		-	0
43	707					15			
44	706				15	3 9 23		-	0.7
45	705					17			
46	704				16	WH 4		-	1.4
47	703	SP				5 7			
48	702				17	13 17		-	0.9
49	701					19 12			
50	700				18	1 10		-	1.2
51	699					17 18			
52	698					3			
53	697				19	13 16		-	0
54	696					20 6			
55	695				20	7 15		-	1.6
56	694					20			
57	693				21	10 15		-	1.2
58	692					50/5			
59	691				22	9 13		-	1.2
60	690	CL		Gray SILTY CLAY, stiff		20 20			
61	689				23	6 6		-	1.2
62	688					14 21			
63	687			Boring complete at 61.2' bgs.					
64	686								

Well: DAY-11D
Elev.: 749.04



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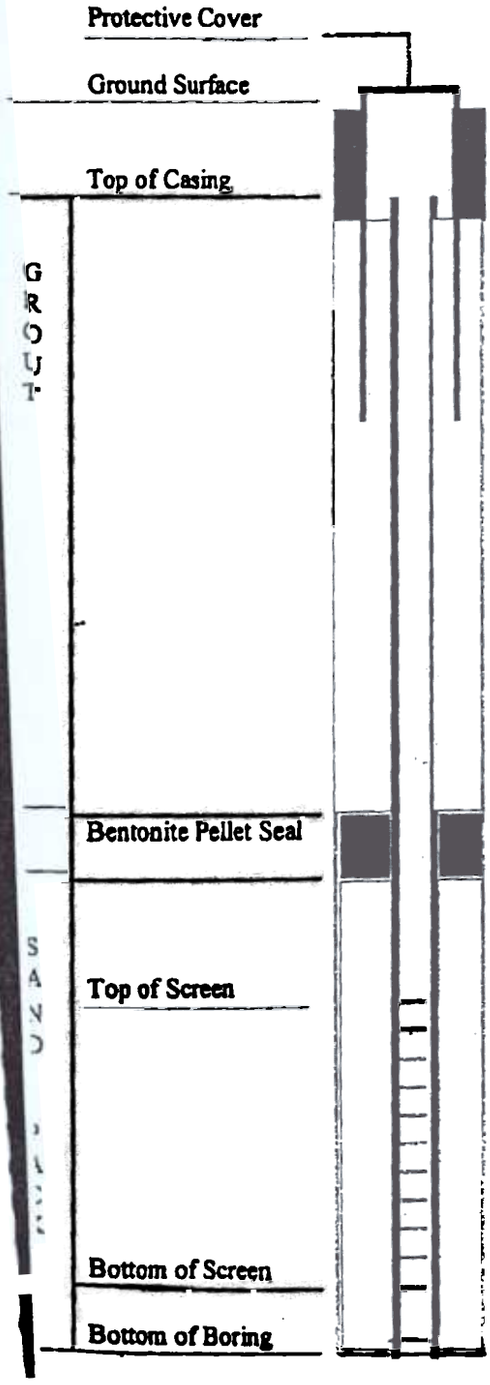
TO CHRISTINE HORCH #
937 384 9946.

SRW ENVIRONMENTAL SERVICES, INC.

WELL COMPLETION DIAGRAM, FLUSH MOUNT

Well No.: DAY-11S

Project	DAY-001.02 TOOL TOWN		
Boring Method:	4.25" HSA		
Installed By:		**Inspected By:**	MF (HAI)
Date Started:		**Date Finished:**	5/2/00



Depth	/	Increment
0	/	749.95
0.35'	/	749.60
22.5'	/	727.45
26.5'	/	723.45
1'		#7 Sand
2'		#4 Sand
29.6	/	720.35
39.6'	/	710.45
40'	/	710.05

STAND PIPE:	2" Diameter
Brand:	Johnson
Type:	Sch. 40 PVC
Length:	29.5'
SCREEN:	2" Diameter
Type	Sch. 40 PVC
Brand	Johnson
Slot Size	0.010 Slot Screen
Total Length	10.2'
Top Blank	0.25'
Bottom Blank	0.4'
Actual Screen	9.55'
BACKFILL:	Baroid drilling fluids "Quik-grout" + 2 shovels fill of Portland casing
PELLET SIZE	Setco 3/8" Bentomite Pellets
SAND PACK:	#4 Qtz. filter sand to 2' above screen; #7 Qtz. filter sand to 1' above #4 + natural cave-in.
COMMENTS:	

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LOG OF BORING DAY-12

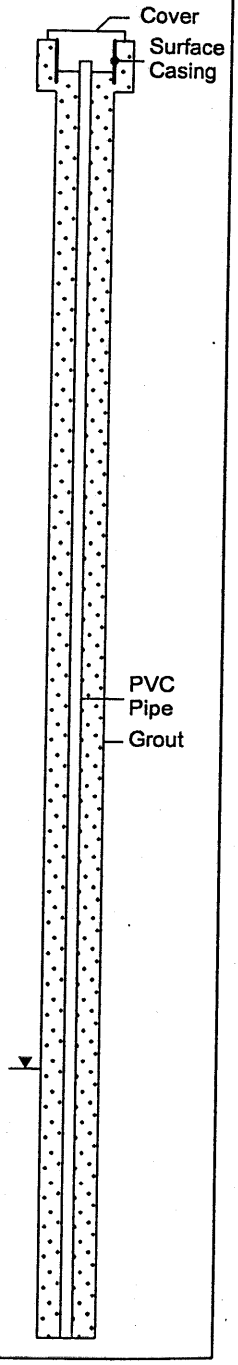
TOOL TOWN
DAYTON, OHIO

LIMITED SUBSURFACE INVESTIGATION
DAY-001.02

Date Completed	: 5/4/00	Casing Size	: 2"
Drilling Method	: 4 1/4" ID HSA	Immediate Water Level	: 25'
Sampling Method	: Continuous Split Spoon	Final Water Level	: 25.05'
Field/Office Logged	: MF/CJC		
Hole Diameter	: 8"		

Depth in feet	Surf. Elev. 752.71	USCS	GRAPHIC	DESCRIPTION	Samples	Blow Count	○ TOV △ Methane (0 5 10)	Total FID (ppm)	Sample Recovery (feet)
0				ASPHALT					
1	752	FL		FILL, black clayey silt (topsoil), few organics and roots, moist	1	4 4 3		0.0	0.5
2	751			Brown silty clay, soft, trace fine angular gravel, moist					
3	750								
4	749								
5	748								
6	747				2	3 2 3 10		0.0	1.3
7	746								
8	745								
9	744								
10	743								
11	742				3	3 3 3 4		0.0	1.1
12	741								
13	740								
14	739								
15	738								
16	737			Brick fragment	4	3 3 4 4		0.0	1.2
17	736								
18	735	CL		Brown SILTY CLAY, soft, trace fine to medium, subangular to angular gravel, moist					
19	734								
20	733								
21	732				5	3 6 8 13		0.0	0
22	731								
23	730								
24	729								
25	728								
26	727	SP		Dark gray, fine to medium, subangular to subrounded,GRAVEL and fine to medium SAND, sheen, heavy odor, saturated	6	1 8 4 11		0.0	0.5
27	726								
28	725				7	9 13 19 23		0.2	0.3
29	724								
30	723				8	6 14 17 11		0.0	0.6
31	722				9	13		0.0	1.1

Well: DAY-12
Elev.: 752.13



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LOG OF BORING DAY-12

TOOL TOWN
DAYTON, OHIO

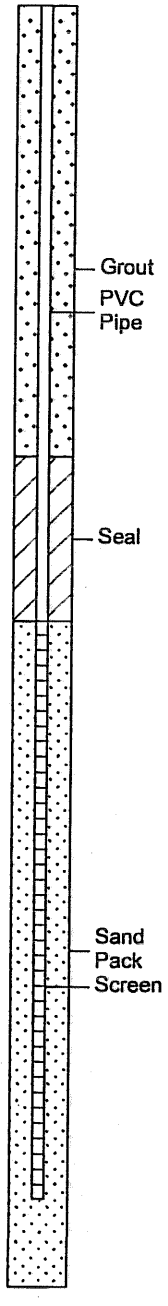
LIMITED SUBSURFACE INVESTIGATION

DAY-001.02

Date Completed	: 5/4/00	Casing Size	: 2"
Drilling Method	: 4 1/4" ID HSA	Immediate Water Level	: 25'
Sampling Method	: Continuous Split Spoon	Final Water Level	: 25.05'
Field/Office Logged	: MF/CJC		
Hole Diameter	: 8"		

Depth in feet	Surf. Elev. 752.71	USCS	GRAPHIC	DESCRIPTION	Samples	Blow Count	○ TOV △ Methane (0 5 10)	Total FID (ppm)	Sample Recovery (feet)
32					9	20 14		0.0	1.1
33	720					12			
34	719				10	10 10		-	0.9
35	718					15 25			
36	717				11	12 20		-	1.1
37	716					30 33			
38	715				12	7 8		-	0.6
39	714					10 36			
40	713				13	18 25		-	-
41	712					32 18			
42	711				14	10 11		-	0.6
43	710					15 19			
44	709				15	18 12		-	0.4
45	708					15 37			
46	707	SP			16	31 19		-	1.2
47	706					31 4			
48	705				17	24 24		-	1.3
49	704					16 15			
50	703				18	6 16		-	0.6
51	702					17 12			
52	701				19	14 16		-	0.4
53	700					17 3			
54	699				20	7 11		-	0.6
55	698					18 2			
56	697				21	5 14		-	0.2
57	696					17 3			
58	695				22	16 20		-	0.2
59	694					15 2			
60	693			Gray CLAYEY SILT, trace fine, subrounded to rounded gravel, moist, soft	23	12 14		-	-
61	692	CL				21 12			
62	691			Boring complete at 63' bgs.	24	20 25		-	1.0
63	690					33			

Well: DAY-12
Elev.: 752.13



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LOG OF BORING DAY-13

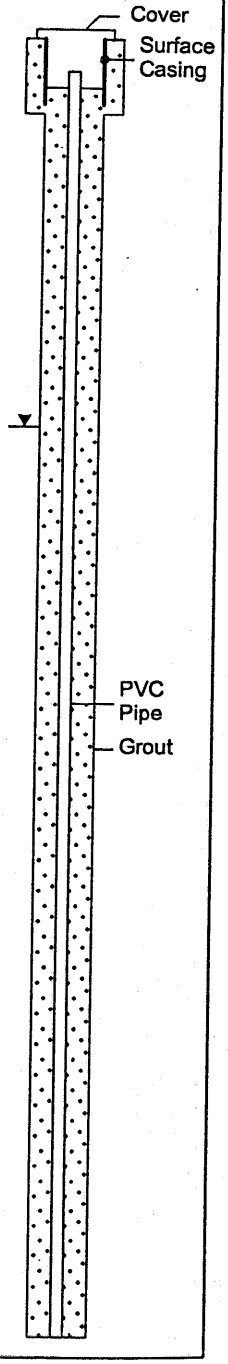
TOOL TOWN
DAYTON, OHIO

LIMITED SUBSURFACE INVESTIGATION
DAY-001.02

Date Completed	: 4/28/00	Casing Size	: 2"
Drilling Method	: 4 1/4" ID HSA	Immediate Water Level	: 6'
Sampling Method	: Continuous Split Spoon	Final Water Level	: 5.64'
Field/Office Logged	: MF/CJC		
Hole Diameter	: 8"		

Depth in feet	Surf. Elev. 732.97	USCS	GRAPHIC	DESCRIPTION	Samples	Blow Count	○ TOV △ Methane (0 5 10)	Total FID (ppm)	Sample Recovery (feet)
0–3	732–730	CL		Brown, CLAYEY SILT, loose, trace SAND,some organics and roots, dry	1	5 13 14 16		0.0	2.7
3–11	730–722	GW		Gray, fine to medium, subangular to subrounded GRAVEL, loose, trace sand, wet	2	8 14 16		-	0.9
					3	11 8 6 15		0.0	0.7
					4	10 7 10 8		-	0.5
11–20	722–713	SP		Gray, medium to coarse, SAND and fine to medium, subrounded to rounded, GRAVEL, loose, saturated	5	13 4 7 12		-	1.1
					6	14 1 3 8		-	1.0
					7	7 7 12 19		-	1.1
					8	17 9 17 19		-	1.5
					9	20 12 28		-	1.4

Well: DAY-13
Elev.: 732.76



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LOG OF BORING DAY-13

TOOL TOWN
DAYTON, OHIO

LIMITED SUBSURFACE INVESTIGATION
DAY-001.02

Date Completed	: 4/28/00	Casing Size	: 2"
Drilling Method	: 4 1/4" ID HSA	Immediate Water Level	: 6'
Sampling Method	: Continuous Split Spoon	Final Water Level	: 5.64'
Field/Office Logged	: MF/CJC		
Hole Diameter	: 8"		

Depth in feet	Surf. Elev. 732.97	USCS	GRAPHIC	DESCRIPTION	Samples	Blow Count	○ TOV △ Methane (0 5 10)	Total FID (ppm)	Sample Recovery (feet)
20					9	38 25 18		-	1.4
21	712								
22	711				10	20 27 31		-	1.5
23	710					7			
24	709				11	14 26 15		-	0.9
25	708								
26	707				12	15 29 34		-	1.3
27	706					21			
28	705	SP			13	15 27 15		-	0.7
29	704					17			
30	703				14	9 7 16		-	1.3
31	702					28			
32	701				15	5 15 17		-	1.4
33	700					18			
34	699				16	3 7 15		-	1.7
35	698					18			
36	697				17	5 9 18			1.8
37	696	CL		Gray,CLAYEY SILT, trace fine subrounded GRAVEL, stiff, dry		16			
38	695	SW		Gray, SAND, fine, trace subrounded GRAVEL	18	2 7 11			1.6
39	694	CL		Gray, CLAYEY SILT, trace fine subrounded GRAVEL, dry		15			
40	693			Boring complete at 38.5' bgs.					

Well: DAY-13
Elev.: 732.76

Seal
PVC Pipe
Sand Pack
Screen

04-11-2001 F:\PROJECTS*AY\001\02*AY-13.BOR

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LOG OF BORING DAY-14

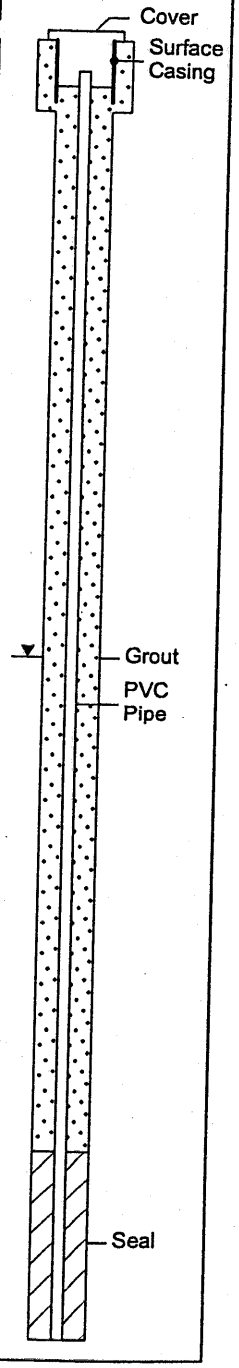
TOOL TOWN
DAYTON, OHIO

LIMITED SUBSURFACE INVESTIGATION
DAY-001.02

Date Completed	: 4/26/00	Casing Size	: 2"
Drilling Method	: 4 1/4" ID HSA	Immediate Water Level	: 10'
Sampling Method	: Continuous Split Spoon	Final Water Level	: 11.11'
Field/Office Logged	: MF/CJC		
Hole Diameter	: 8"		

Depth in feet	Surf. Elev. 740.31	USCS	GRAPHIC	DESCRIPTION	Samples	Blow Count	○ TOV △ Methane (0 5 10)	Total FID (ppm)	Sample Recovery (feet)
0	740	FL		FILL, dark brown,asphalt and base material, Silty sand and clay, traces of brick and coal fragments, moist	1	7 6 5		1.8	1.2
1	739								
2	738			Dark brown sand, fine to medium, rounded, gravel, trace silt and clay					
3	737								
4	736								
5	735			Medium to coarse sand with shell fragments	2	3 5 4 6		0.2	1.5
6	734	SM		Light brown, fine to coarse SAND w/ fine to medium subangular GRAVEL, moist					
7	733								
8	732			Large cobbles					
9	731								
10	730			Dark brown, medium to coarse SAND, trace of fine rounded GRAVEL, wet; faint petroleum odor	3	7 14 18		0.4	1.5
11	729								
12	728			Grey, fine to medium SAND w/ medium rounded GRAVEL; oil-like free product globules (no odor)	4	28 18 13		-	1.2
13	727					19 27 1			
14	726				5	4 8 17		-	1.5
15	725								
16	724								
17	723								
18	722			Brown, fine to coarse SAND, medium rounded GRAVEL, well graded, saturated	6	8 12 22		-	1.4
19	721								
20	720			Brown fine to coarse SAND w/ coarse GRAVEL	7	20 11 15		-	1.6
21									

Well: DAY-14
Elev.: 739.89



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(513) 576-0009

LOG OF BORING DAY-14

TOOL TOWN
DAYTON, OHIO

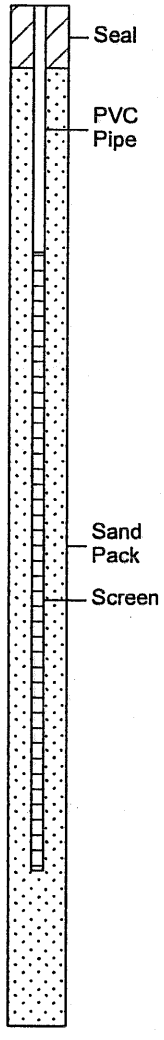
LIMITED SUBSURFACE INVESTIGATION

DAY-001.02

Date Completed	: 4/26/00	Casing Size	: 2"
Drilling Method	: 4 1/4" ID HSA	Immediate Water Level	: 10'
Sampling Method	: Continuous Split Spoon	Final Water Level	: 11.11'
Field/Office Logged	: MF/CJC		
Hole Diameter	: 8"		

Depth in feet	Surf. Elev. 740.31	USCS	GRAPHIC	DESCRIPTION	Samples	Blow Count	○ TOV △ Methane 0 5 10	Total FID (ppm)	Sample Recovery (feet)
21	719				7	20 18		-	1.6
22	718					8			
23	717				8	14 12		-	1.6
24	716			Slight odor		19 20			
25	715				9	28 36		-	1.6
26	714					29			
27	713				10	50/4		-	0.3
28	712	SM				34			
29	711				11	41 38		-	1.0
30	710					40			
31	709				12	29 36		-	1.0
32	708			No odor		35 41			
33	707				13	6 20 26		-	0.6
34	706					18 6			
35	705				14	16 14		-	1.3
36	704			Grey, SILTY CLAY, trace fine to medium SAND, gravel, moist, plastic.		20 5			
37	703				15	7 9		-	1.3
38	702	CL				17 2			
39	701				16	7 13		-	1.5
40	700					6			
41	699			Boring complete at 40' bgs.					
42									

Well: DAY-14
Elev.: 739.89



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LOG OF BORING DAY-15

TOOL TOWN
OTTAWA YARDS STREET
DAYTON, OHIO

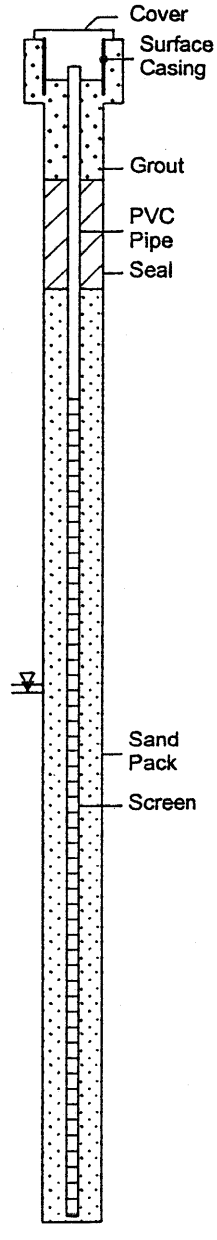
PHASE II INVESTIGATION

Date Completed : 1/7/02
Drilling Method : 4 1/4" ID HSA
Sampling Method : Discrete Split Spoon
Field/Office Logged : JJG/JJG
Hole Diameter : 8"

Casing Size : 2"
Immediate Water Level : 12'
Final Water Level : 11.85

Depth in feet	Surf. Elev. 743.55	USCS	GRAPHIC	DESCRIPTION	Samples	Blow Count	TOV / Methane (0 200 400)	Total FID (ppm)	Sample Recovery (feet)
0									
1	743	FL		FILL, dark brown,asphalt and base material, Dark Brown to Black clay, traces of gravel and brick fragments, firm, moist	1	—		199.0 X	24"
2	742								
3	741								
4	740								
5	739			Brown clay with sand gravel and metal fragments, firm, moist	2	12 7 4 8		42.0	12"
6	738								
7	737								
8	736	SM		Brown, fine to coarse SAND with medium subangular GRAVEL, loose, moist to wet					
9	735								
10	734								
11	733				3	3 3 2 1		0.0	8"
12	732			Saturated		1 1 1 1			
13	731				4	1 1 2 1		0.0 X	8"
14	730								
15	729				5	1 1 4 3		152.0	8"
16	728			Brown, medium to coarse SAND, trace of rounded GRAVEL and wood fibers, loose, wet		1 1 1 1			
17	727				6	1 1 3 1		24.0	14"
18	726			Brown medium fine SAND and rounded gravel, trace of silt, tight, wet becomming gray in color with a faint petroleum odor, tight, wet					
19	725				7	1 1 3 7		0	16"
20	724			Gray medium fine SAND with silt, trace of medium gravel, tight, wet					
21	723				8	6 9 7 11		54.0	16"
22	722			Gray SILTYmedium fine SAND with medium rounded GRAVEL; trace of clay, wood fibers, and organic-like odor, tight, wet					
23	721			Boring refusal at 22.5' bgs.	9	50 5"		0	4"
24	720								

Well: DAY-15
Elev.: 743.12



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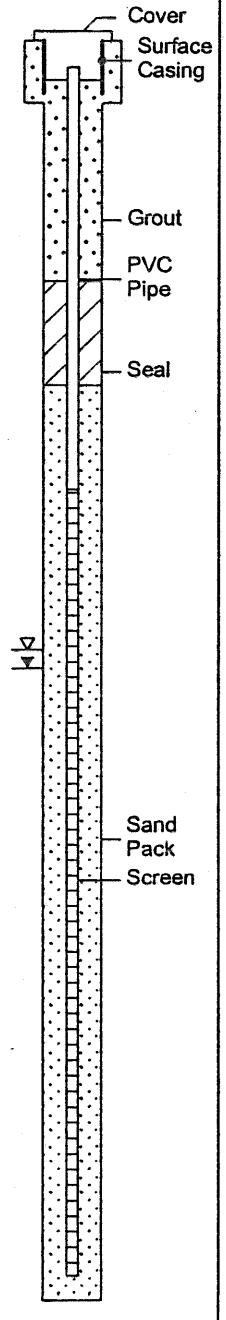
LOG OF BORING DAY-16

TOOL TOWN
OTTAWA YARDS STREET
DAYTON, OHIO

PHASE II INVESTIGATION

Date Completed	: 1/8/02	Casing Size	: 2"
Drilling Method	: 4 1/4" ID HSA	Immediate Water Level	: 12'
Sampling Method	: Discrete Split Spoon	Final Water Level	: 11.65
Field/Office Logged	: JJG/JJG		
Hole Diameter	: 8"		

Depth in feet	Surf. Elev. 742.24	USCS	GRAPHIC	DESCRIPTION	Samples	Blow Count	Total FID (ppm)	Sample Recovery (feet)
0	742	FL		FILL, Asphalt 4" and base material	1		3.0 X	24"
1	741			Brown medium coarse sand and gravel, trace silt and cinder, loose, moist				
2	740							
3	739							
4	738							
5	737			Black and Brown clay with sand, gravel and cinder, firm, moist	2	1 2 3 4	0 X	20"
6	736	SC		Brown SANDY CLAY, trace gravel and silt, firm, moist				
7	735							
8	734							
9	733							
10	732			noted large rounded gravel	3	20 50	0	3"
11	731							
12	730			wet	4	20 21 20 19	6.5	16'
13	729	SM		Brown SILTY, medium coarse SAND with medium subangular GRAVEL, trace petro odor, tight, wet				
14	728				5	9 20 16 21	17.5	15'
15	727			Brown SILTY medium fine SAND, trace finer gravel, tight, wet				
16	726				6	9 13 20 21	15.0	17"
17	725			no petro odor				
18	724			Light Brown SILTY medium fine to coarse SAND and rounded gravel, very tight, wet	7	7 9 18 21	12.0	18'
19	723							
20	722				8	19 21 20 20	4.0	18"
21	721			becomming gray in color with a faint petro odor, tight, wet				
22	720			trace beige silt	9	16 19 19 21	0	20"
23	719			24.25				
24	718			Boring completed at 24' bgs.				
25								



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LOG OF BORING DAY-17

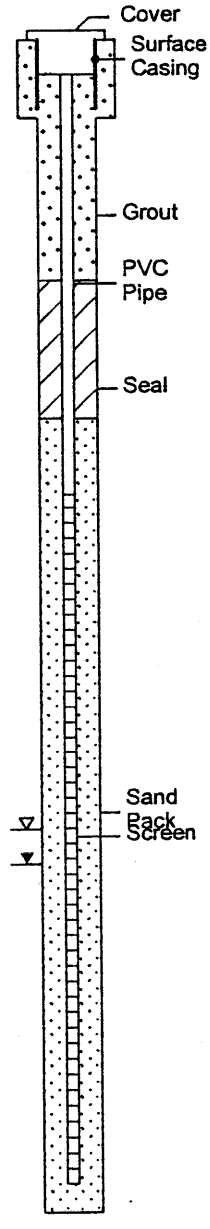
TOOL TOWN
OTTAWA YARDS STREET
DAYTON, OHIO

PHASE II INVESTIGATION

Date Completed	: 1/8/02	Casing Size	: 2"
Drilling Method	: 4 1/4" ID HSA	Immediate Water Level	: 12.5
Sampling Method	: Discrete Split Spoon	Final Water Level	: 11.49
Field/Office Logged	: JJG/JJG		
Hole Diameter	: 8"		

Depth in feet	Surf. Elev. 741.62	USCS	GRAPHIC	DESCRIPTION	Samples	Blow Count	O TOV △ Methane 0 150 300	Total FID (ppm)	Sample Recovery (feet)
0	741	FL		FILL, Asphalt 3, concrete 6" and base material					
1				FILL,Black coarse sand with cinder, red brick, metal fragments and slate, loose, moist	1			10 X	24"
2	740			Brown fine sand with petro odor, loose, dry					
3	739								
4	738								
5	737					2			
6	736			Brown medium fine sand, trace clay and gravel, loose, moist	2	1		5.0	16"
7	735			3" Brown silt seam with gravel, loose, moist		1			
8	734					2			
9	733								
10	732					1			
11	731			Brown silty medium fine sand, loose, moist	3	2		0 X	18"
12	730	SM		Brown SILTY SAND, trace fine gravel and silt, loose, moist to wet		13			
13	729			wet		4			
14	728			Brown, coarse SAND with small subangular GRAVEL and silt, loose, wet Light Olive SILTY coarse SAND and GRAVEL, trace petro odor, loose, wet	4	6 12 18		0	18"
15	727			Dark Olive SILTY coarse SAND and rounded gravel, noted petroleum odor and sheen, loose, wet	5	3 4 7		27.0	20"
16	726					4			
17	725			Black coarse SAND with black staining and sheen tight, wet	6	7 17		135.0	18"
18	724			Brown coarse SAND and large GRAVEL, trace silt, dense, wet		31 45			
19	723			Boring completed at 18' bgs.					

Well: DAY-17
Elev.: 740.96



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LOG OF BORING DAY-18

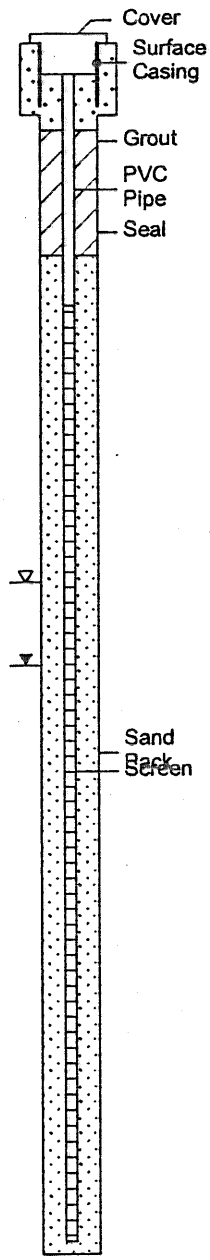
TOOL TOWN
OTTAWA YARDS STREET
DAYTON, OHIO

PHASE II INVESTIGATION

Date Completed	: 1/9/02	Casing Size	: 2"
Drilling Method	: 4 1/4" ID HSA	Immediate Water Level	: 10.0
Sampling Method	: Discrete Split Spoon	Final Water Level	: 8.66
Field/Office Logged	: JJG/JJG		
Hole Diameter	: 8"		

Depth in feet	Surf. Elev. 737.94	USCS	GRAPHIC	DESCRIPTION	Samples	Blow Count	○ TOV △ Methane (0 20 40)	Total FID (ppm)	Sample Recovery (feet)
0									
1	737			FILL, Grass and organic with base gravel material Brown clay with sand and gravel, firm moist	1			2.0 X	24"
2	736			3" crushed red brick					
3	735	FL		FILL, Large limestone fragments					
4	734								
5	733				2	12 20			
6	732			Brown SILTY medium coarse SAND with gravel, trace faint petro odor, loose, moist		35 50		17.0 X	16"
7	731			larger gravel					
8	730								
9	729								
10	728			wet					
11	727			Brown coarse SAND,and medium fine GRAVEL, trace silt, loose, wet	3	18 11 6		6.0	16"
12	726				4	11 12 18			
13	725	SM		Less silt and little gravel Brown, silty coarse SAND with larger subangular GRAVEL, tight, wet		19 22		8.0	20"
14	724				5	16 16			
15	723			Light Olive SILTY coarse SAND and GRAVEL, tight, wet		12 13		11.0	15"
16	722				6	16 15			
17	721			Brown coarse SAND and rounded GRAVEL, trace silt, dense, wet		13 12		6.0	14"
18	720				7	7 17			
19	719					12 25		4.0	15"
20	718			Boring completed at 20' bgs.					
21	717								

Well: DAY-18
Elev.: 737.42



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(513) 576-0009

LOG OF BORING DAY-19

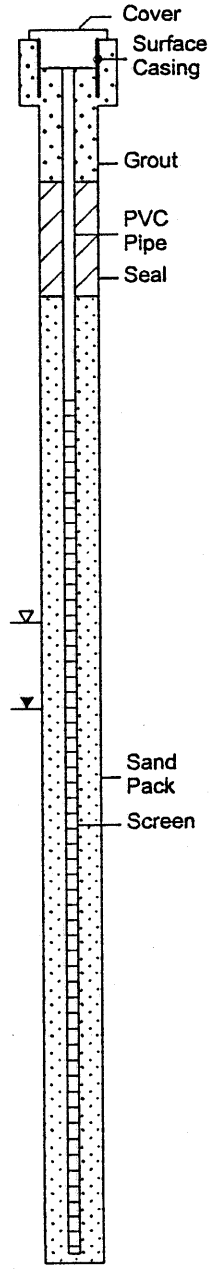
TOOL TOWN
OTTAWA YARDS STREET
DAYTON, OHIO

PHASE II INVESTIGATION

Date Completed	: 1/10/02	Casing Size	: 2"
Drilling Method	: 4 1/4" ID HSA	Immediate Water Level	: 11.75
Sampling Method	: Discrete Split Spoon	Final Water Level	: 10.23
Field/Office Logged	: JJG/JJG		
Hole Diameter	: 8"		

Depth in feet	Surf. Elev. 739.46	USCS	GRAPHIC	DESCRIPTION	Samples	Blow Count	TOV / Methane (0 20 40)	Total FID (ppm)	Sample Recovery (feet)
0	739	FL		FILL, Grass and organics with base gravel material					
1	738	FL		Black sand and gravel with cinder and brick, loose moist	1			10. X	24"
2	737	FL		Brown silty sand and gravel, loose, moist					
3	736	FL							
4	735	FL							
5	734	FL			2	5 2 4 5		5.0 X	17"
6	733	FL		FILL, Dark Brown clay, trace sand, soft, moist					
7	732	FL		Dark Brown sandy clay, trace gravel and iron oxides, firm, moist					
8	731	FL							
9	730	FL							
10	729	FL			3	25 31 16 7		29.0	13"
11	728	SM		Brown medium coarse SAND and large subangular GRAVEL, trace silt, loose, moist wet with more silt					
12	727	SM			4	6 5 10 7		13.0	17"
13	726	SM		Brown silty medium fine SAND,and GRAVEL, loose, wet					
14	725	SM			5	8 18 22 28		7.0	13'
15	724	SM		Brown, medium coarse SAND with larger subangular GRAVEL, trace silt, iron oxides and faint petro odor, tight, wet					
16	723	SM			6	15 16 16 16		5.0	15"
17	722	SM		no odor and larger GRAVEL, tight, wet					
18	721	SM			7	5 6 6 8		17.0	16"
19	720	SM							
20	719	SM			8	3 4 4 6		3.0	10"
21	718	SM							
22	717	SM							
23				Boring completed at 22' bgs.					

Well: DAY-19
Elev.: 738.88



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LOG OF BORING DAY-20

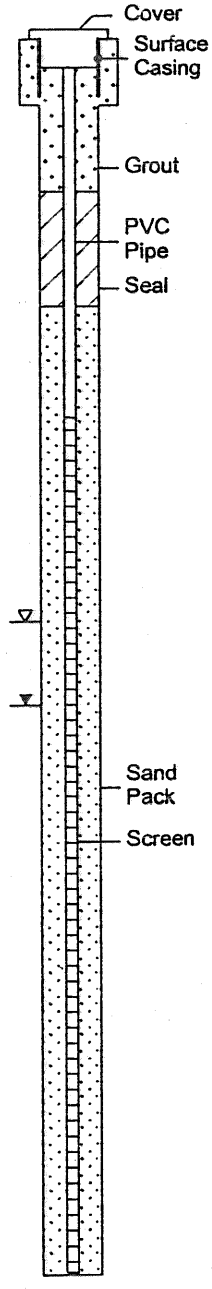
TOOL TOWN
OTTAWA YARDS STREET
DAYTON, OHIO

PHASE II INVESTIGATION

Date Completed	: 1/10/02	Casing Size	: 2"
Drilling Method	: 4 1/4" ID HSA	Immediate Water Level	: 11.75
Sampling Method	: Discrete Split Spoon	Final Water Level	: 10.27
Field/Office Logged	: JJG/JJG		
Hole Diameter	: 8"		

Depth in feet	Surf. Elev. 739.40	USCS	GRAPHIC	DESCRIPTION	Samples	Blow Count	TOV / Methane (0 – 20 – 40)	Total FID (ppm)	Sample Recovery (feet)
0	739	FL		FILL, Asphalt 3" with base gravel material Black to brown silty sand, trace gravel with cinder coal fragments and brick, loose moist	1	—		5.0 X	24"
1	738								
2	737								
3	736			Brown silty sand and gravel, loose, moist					
4	735								
5	734				2	2			
6	733			FILL, Brownish Gray sandy clay, trace rust staining, soft, moist becomming moist to wet Brown medium coarse sand with gravel, loose, moist		1 6 7		7.0 X	18'
7	732								
8	731								
9	730								
10	729				3	15 20			
11	728					21 14		20.0	16"
12	727	SM		Light Brown SILTY medium coarse SAND and GRAVEL, trace silt and faint petro odor, loose, wet	4	8 12 12		13.0	14"
13	726			Light Brown coarse SAND,and medium fine GRAVEL, trace silt, tight, wet		18			
14	725				5	18 18			
15	724			Brown, SILTY coarse SAND with larger subangular GRAVEL, dense, wet		18 21 31		20.0	17"
16	723				6	22 15			
17	722					18 18		26.0	17"
18	721				7	4 8			
19	720					12 19		8.0	10"
20	719			Brown SILTY fine SAND, trace iron oxides, tight wet	8	3 11			
21	718					15		11.0	22"
22	717					23			
23				Boring completed at 22' bgs.					

Well: DAY-20
Elev.: 738.87



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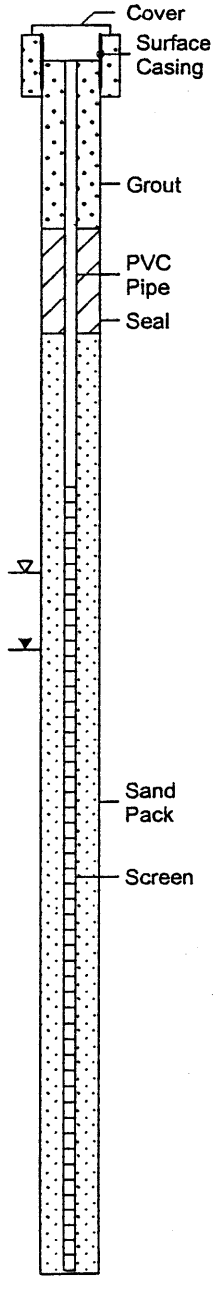
LOG OF BORING DAY-21

TOOL TOWN
OTTAWA YARDS STREET
DAYTON, OHIO

PHASE II INVESTIGATION

Date Completed	: 1/21/01	Casing Size	: 2"
Drilling Method	: 4 1/4" ID HSA	Immediate Water Level	: 11.50
Sampling Method	: Discrete Split Spoon	Final Water Level	: 11.95
Field/Office Logged	: JJG/JJG		
Hole Diameter	: 8"		

Depth in feet	Surf. Elev. 740.72	USCS	DESCRIPTION	Sample	Blow Count	Total FID (ppm)	Sample Recovery (feet)
0							
1	740	FL	FILL, Grass and gravel surface Black to Brown medium coarse sand and gravel with cinder, loose moist	1		8.9 X	24"
2	739						
3	738		Brown only and no cinder				
4	737						
5	736				5		
6	735			2	7	7.8	11"
7	734	SM	Dark Brown SILTY medium coarse SAND and GRAVEL, trace silt, loose, moist		15 18		
8	733						
9	732						
10	731				12		
11	730		Brown coarse SAND,and medium fine GRAVEL, trace silt and iron oxides, tight, moist to wet	3	29 30	14.3 X	16"
12	729				20		
13	728		Brown, SILTY medium coarse SAND with subangular GRAVEL, trace iron oxides, tight, wet	4	12 15 16	11.0	17"
14	727				13		
15	726		larger GRAVEL	5	3 18 21	6.0	14"
16	725				12		
17	724		Light Brown SILTY medium coarse to fine SAND and GRAVEL, tight, wet	6	12 20 21	13.0	16"
18	723				20		
19	722			7	23 18 22	27.3	17"
20	721				16		
21	720		Brownish Gray medium coarse SAND, trace silt and fine gravel, tight, wet	8	18 16 14	3.8	10"
22	719				18		
23	718			9	21 19 18	4.0	16"
24	717		trace gray silt		19		
25	716		Boring completed at 24' bgs.				



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(513) 576-0099

LOG OF BORING DAY-22

City of Dayton, Division of Water
Tech Town
Dayton, Ohio

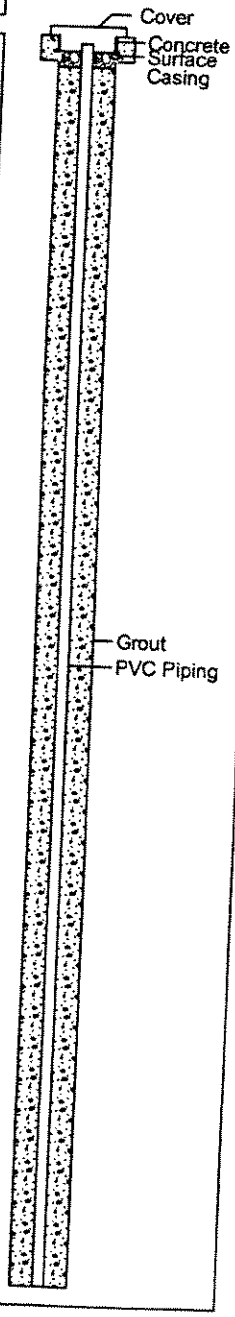
DAY-009.06

Date Completed : 12/15/04
Drilling Method : Rotosonic
Sampling Method : Barrel
Field/Office Logged : AEF
Hole Diameter : 6"

Casing Size : 2"
Immediate Water Level: 18'
Final Water Level :

Depth in feet	Surf. Elev. 100	USCS	GRAPHIC	DESCRIPTION	Samples	Total FID (ppm) 0 5 10	Total FID (ppm)	Rec. (in)
0	100	CG		Asphalt and Gravel, brick fragments	1		0.0	2'
		GM		Sand and Gravel fine to coarse, trace cobbles, moist, loose	2		0.0	2'
10	90	SC		Brown Silty Clay, trace sand and gravel, moist, firm	3		0.0	1'
		GM		Sand and Gravel, fine to coarse, trace cobbles, moist, loose	4		0.0	2'
					5		0.2	1'
20	80	GM		Sand and Gravel, fine to coarse, wet, loose	6		0.0	3'
					7		0.5	4'
				trace cobbles	8		0.0	4'
30	70				9		0.0	3.9'
		SP		Sand, fine to coarse, wet, soft	10		0.0	4'
		SP		Sand, fine to coarse, trace gravel, wet, loose	11		2.4	4'
40	60	SW		Sand, fine, wet, loose	12		5.1	2'
		SP		Sand, fine to coarse, trace gravel, wet, loose	13		0.0	4'
		GM		1" Brown Silt, wet, soft	14		0.0	4'
				Sand and Gravel, fine to coarse, trace cobbles, wet, loose	15		0.0	5'
50	50			Grey Silty Clay, TILL, trace gravel, moist, firm to hard	16		0.0	5'
60	40	SC			17		0.0	5'
					18		0.0	5'
70	30				19		0.0	5'
					20		0.0	5'
80		GM		Sand and Gravel, fine to coarse, trace cobbles, wet, loose	21		0.0	5'

Well: DAY-22
Elev.: 100



SRW Environmental Services, Inc.
56 W. Technecenter Drive, Suite C
Milford, Ohio 45150
(513) 576-0099

LOG OF BORING DAY-22

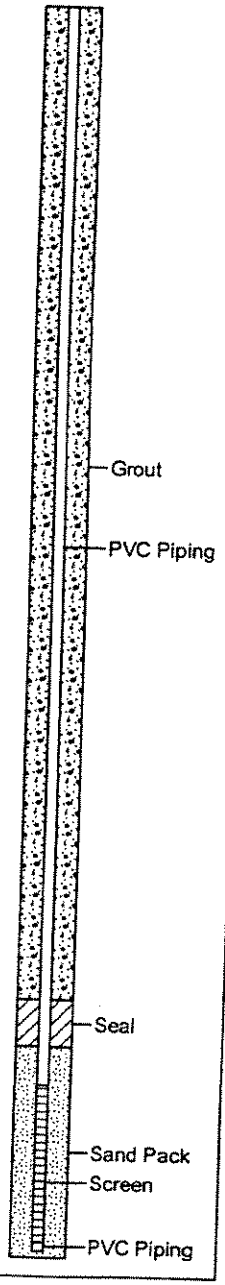
City of Dayton, Division of Water
Tech Town
Dayton, Ohio

DAY-009.06

Date Completed	: 12/15/04	Casing Size	: 2"
Drilling Method	: Rotosonic	Immediate Water Level	: 18'
Sampling Method	: Barrel	Final Water Level	:
Field/Office Logged	: AEF		
Hole Diameter	: 6"		

Depth in feet	Surf. Elev. 100	USCS	GRAPHIC	DESCRIPTION	Samples	Total FID (ppm) 0 5 10	Total FID (ppm)	Rec. (in)
80	20	GM			21		0.0	5'
					22		0.0	5'
90	10	SC		Grey Silty Clay, moist, stiff				
		SM		Grey Silt, trace fine sand and gravel, wet, soft	23		0.0	5'
					24		0.0	5'
100	0	SC		Grey Silty Clay, trace gravel, moist, stiff	25		0.0	5'
					26		0.0	5'
110	-10	GM		Sand and Gravel, fine to coarse, trace cobbles, wet, loose	27		0.0	5'
					28		0.0	5'
120	-20			5" Silty Clay, trace sand and gravel, moist, firm	29		39.9	5'
					30		0.0	5'
130	-30	ML		Grey Silt, moist, dense, firm	31		0.0	5'
					32		0.0	5'
140	-40	GM		Brown Sand and Gravel, fine to coarse, trace cobbles, wet, loose	33		0.0	5'
					34		0.0	5'
150	-50				35		1.0	5'
160				Boring terminated at 159'	36		1.4	5'

Well: DAY-22
Elev.: 100



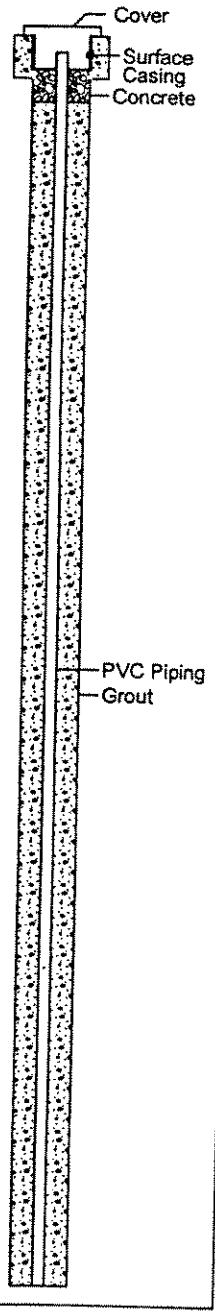
01-14-2005

LOG OF BORING DAY-23

Date Completed	: 12/17/04	Casing Size	: 2"
Drilling Method	: Rotosonic	Immediate Water Level	: 9.5'
Sampling Method	: Barrel	Final Water Level	:
Field/Office Logged	: AEF		
Hole Diameter	: 6"		

Depth in feet	Surf. Elev. 100	USCS	GRAPHIC	DESCRIPTION	Samples	Total FID (ppm) 0 5 10	Total FID (ppm)	Rec. (in)
0–1	100–99	CG		Asphalt and Gravel	1		0.0	1.5'
1–2	99–98	GM		Brown Black Sand and Gravel, trace cobbles, trace clay, moist/wet, loose/stiff				
2–7	98–93	GM		Brown Sand and Gravel, trace cobbles, dry/ moist, loose	2		0.0	3'
7–9	93–91	SC		Brown Silty Clay, sand and gravel, trace concrete, dry/moist, hard	3		0.0	1'
9–22	91–78	GM		Sand and Gravel, fine to coarse, trace cobbles, wet, loose	4		0.0	1.5'
					5		0.0	1'
					6		0.0	2'
					7		0.0	2.5'
22–23	78–77	SC		Brown Silty Clay, trace sand and gravel, wet, stiff				
23–24	77–76	GM		Sand and Gravel, fine to coarse, wet, loose				
24–25	76–75	SM		Grey Silty Sand, fine, wet, soft	8		0.0	4'
25–26	75–74	GM		Sand and Gravel, fine to coarse, wet, soft				
26–33	74–67	SM		Grey Silty Sand, fine, wet, soft	9		0.0	3'
					10		0.0	1'
33–36	67–64	SW		Brown Sand, fine, wet, soft				
36–38	64–62	SM		Grey Silty Sand, fine, wet, soft	11		1.0	3.5'

Well: DAY-23
Elev.: 100



SRW Environmental Services, Inc.
56 W. Technecenter Drive, Suite C
Milford, Ohio 45150
(513) 576-0099

LOG OF BORING DAY-23

City of Dayton, Division of Water
Tech Town
Dayton, Ohio

DAY-009.06

Date Completed : 12/17/04
Drilling Method : Rotosonic
Sampling Method : Barrel
Field/Office Logged : AEF
Hole Diameter : 6"

Casing Size : 2"
Immediate Water Level: 9.5'
Final Water Level :

Well: DAY-23
Elev.: 100

Depth in feet	Surf. Elev. 100	USCS	GRAPHIC	DESCRIPTION	Samples	Total FID (ppm) 0 5 10	Total FID (ppm)	Rec. (in)
38	62	SM			11		1.0	3.5'
39	61							
40	60				12		6.8	2'
41	59							
42	58				13		0.0	4'
43	57							
44	56				14		0.0	3'
45	55							
46	54							
47	53				15		0.0	5'
48	52							
49	51							
50	50							
51	49							
52	48							
53	47							
54	46							
55	45							
56	44	GM		Brown Sand and Gravel, fine to coarse, trace cobbles, wet, loose				
57	43	GM		Grey Sand and Gravel, fine to coarse, trace cobbles, wet, loose	16		0.0	1.5'
58	42							
59	41							
60	40							
61	39							
62	38							
63	37	SP		Brown Sand, fine to coarse, wet, loose				
64	36							
65	35	GM		Sand and Gravel, trace cobbles, trace silty clay, wet, loose	17		0.0	5'
66	34							
67	33							
68	32							
69	31							
70	30				18		0.0	5'
71	29							
72	28	SC		Grey Silty Clay, TILL, trace sand and gravel, moist, firm				
73	27				19		0.0	2'
74	26	SC		Grey Silty Clay, TILL, moist, firm				
75	25			Boring terminated at 75'				
76								

Grout
PVC Piping
Seal
Sand Pack
Screen
PVC Piping

01-14-2005

SRW Environmental Services, Inc.
55 W. Technecenter Drive, Suite C
Milford, Ohio 45150
(513) 576-0099

LOG OF BORING DAY-24

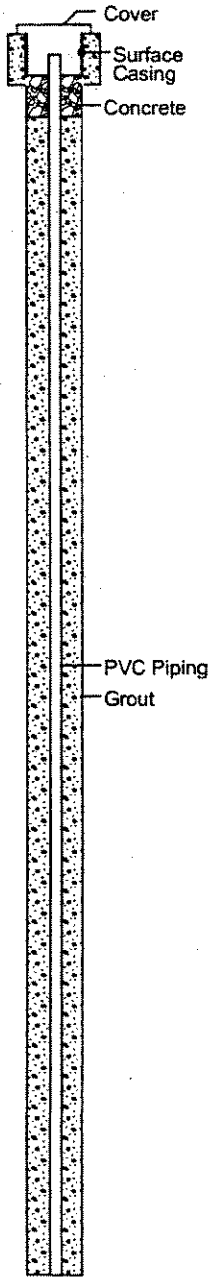
City of Dayton, Division of Water
Tech Town
Dayton, Ohio

DAY-009.06

Date Completed	: 12/20/04	Casing Size	: 2"
Drilling Method	: Rotosonic	Immediate Water Level	: 28'
Sampling Method	: Barrel	Final Water Level	:
Field/Office Logged	: AEF		
Hole Diameter	: 6"		

Depth in feet	Surf. Elev. 100	USCS	GRAPHIC	DESCRIPTION	Samples	Total FID (ppm) 0 10 20	Total FID (ppm)	Rec. (in)
0	100	CG		Asphalt and Gravel	1		0.0	1.5'
1	99							
2	98	AR		Black Brown Cinders, Sand and Gravel, trace silty clay, dry, loose	2		0.0	3'
3	97							
4	96							
5	95							
6	94				3		0.0	1'
7	93							
8	92							
9	91				4		0.0	1.5'
10	90							
11	89				5		0.0	1'
12	88							
13	87							
14	86				6		0.0	1.5'
15	85							
16	84							
17	83				7		2.2	5'
18	82							
19	81							
20	80							
21	79	SC		Black silty Clay, trace fine sand, moist, soft				
22	78							
23	77	GM		Sand and Gravel, fine to coarse, trace cobbles, moist, loose	8		3.7	5'
24	76							
25	75							
26	74							
27	73							
28	72							
29	71			Black	9		9.9	4'
30								

Well: DAY-24
Elev.: 100



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SRW Environmental Services, Inc.
55 W. Technecenter Drive, Suite C
Milford, Ohio 45150
(513) 576-0099

LOG OF BORING DAY-24

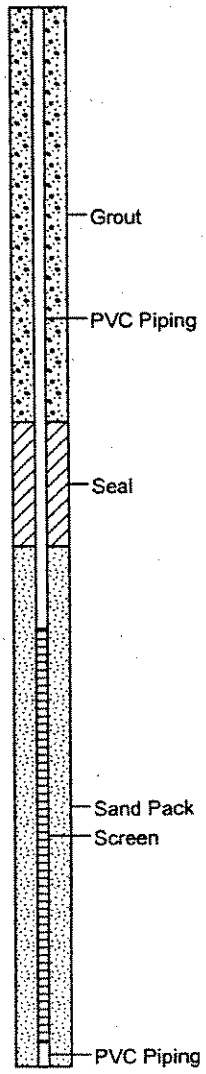
City of Dayton, Division of Water
Tech Town
Dayton, Ohio

DAY-009.06

Date Completed	: 12/20/04	Casing Size	: 2"
Drilling Method	: Rotosonic	Immediate Water Level	: 28'
Sampling Method	: Barrel	Final Water Level	:
Field/Office Logged	: AEF		
Hole Diameter	: 6"		

Depth in feet	Surf. Elev. 100	USCS	GRAPHIC	DESCRIPTION	Samples	Total FID (ppm) 0 10 20	Total FID (ppm)	Rec. (in)
30	70	GM		4" Trace Silty Clay	9		9.9	4'
31	69							
32	68							
33	67							
34	66							
35	65				10		19.0	5'
36	64							
37	63							
38	62							
39	61							
40	60				11		16.2	5'
41	59							
42	58							
43	57							
44	56			5" fine to medium sand				
45	55							
46	54				12		13.3	5'
47	53							
48	52							
49	51							
50	50	SP		Sand, fine to coarse, trace gravel and cobbles, wet, loose	13		9.8	5'
51	49							
52	48							
53	47							
54	46							
55	45							
56	44							
57	43				14		17.8	5'
58	42	SP		Sand, fine to medium, trace fine gravel, wet, loose				
59	41							
60				Boring terminated at 59'				

Well: DAY-24
Elev.: 100



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Water Well Log and Drilling Report

Ohio Department of Natural Resources
Division of Water
Phone: 614-265-6740 Fax: 614-265-6767

Well Log Number: 879102

ORIGINAL OWNER AND LOCATION

Original Owner Name: *DRAGON STADIUM*
County: *MONTGOMERY* | **Township:** *HARRISON* | **Section Number:**
Address: *MONUMENT* | **Lot Number:**
City: *DAYTON* | **State:** *OH* | **Zip Code:**
Location Number: | **Location Map Year:** | **Location Area:**
Latitude: | **Longitude:**

CONSTRUCTION DETAILS

Borehole Diameter: *12 in.* | **Depth to Bedrock:** | **Total Depth:** *148 ft.*
Casing Diameter: *12 in.* | **Casing Thickness:** *0.375 in.* | **Casing Length:**
Well Use: *AGRIC/IRRIG* | **Screen Length:** *20 ft.* | **Date of Completion:** *3/7/01*
Aquifer Type: *CLAY AND GRAVEL* | **Driller's Name:** *REYNOLDS, INC.*

WELL TEST DETAILS

Static Water Level: *21 ft.* | **Test Rate:** *188 gpm* | **Associated Reports**
Drawdown: *18 ft.* | **Test Duration:** *4 hrs.* | *NONE*

COMMENTS:
SEE ATTACHMENT, PAGE 2 FOR PUMPING TEST

WELL LOG

Formations	From	To
FILL MATERIAL	0	9
GRY SAND	9	21
GRY CLAY	21	23
SAND & GRAVEL	23	32
HARDPAN	32	35
SAND & GRAVEL	35	71
HARDPAN	71	84
COBBLES	84	86
SAND	86	86
BRN CLAY & GRAVEL	86	94

Printing Tips (opens in new window)

Conduct Another Search

OR use your browsers back button to see the last list of addresses or roads.

Well log questions - Web site questions - Web policies

Water Well Log and Drilling Report

Career Academy geothermal well

Water Well Log and Drilling Repo
Ohio Department of Natural Resource
Division of Wate
Phone: 614-265-674
email: cleve.brown@dnr.state.oh.u
Water Home: http://www.dnr.state.oh.us/wate

WELL LOG AND DRILLING REPORT

Well Log Number: 547526 [redacted]

ORIGINAL OWNER AND LOCATION

Original Owner Name: *CAREER ACADEMY SCHOO* Lot Number:
County: *MONTGOMERY* Township: *DAYTON* Section Number: *4*
Address: *FOUNDRY STREET*
City: State: *OH* Zip Code:
Location Number: *47* Location Map Year: *1983* Location Area:

CONSTRUCTION DETAILS

Borehole Diameter: Total Depth: *173 ft.* Depth to Bedrock:
Borehole Diameter:
Casing Diameter: *10 in.* Casing Thickness: Casing Length: *152 ft.*
Casing Diameter: Casing Thickness: Casing Length: *152 ft.*
Well Use: Screen Length: Date of Completion: *6/26/80*
Aquifer Type: *GRAVEL* Driller's Name: *MOODY'S OF DAYTON, INC.*

WELL TEST DETAILS

Static Water Level: *35 ft.* Test Rate: **Associated Reports**
Drawdown: Test Duration: NONE

COMMENTS:

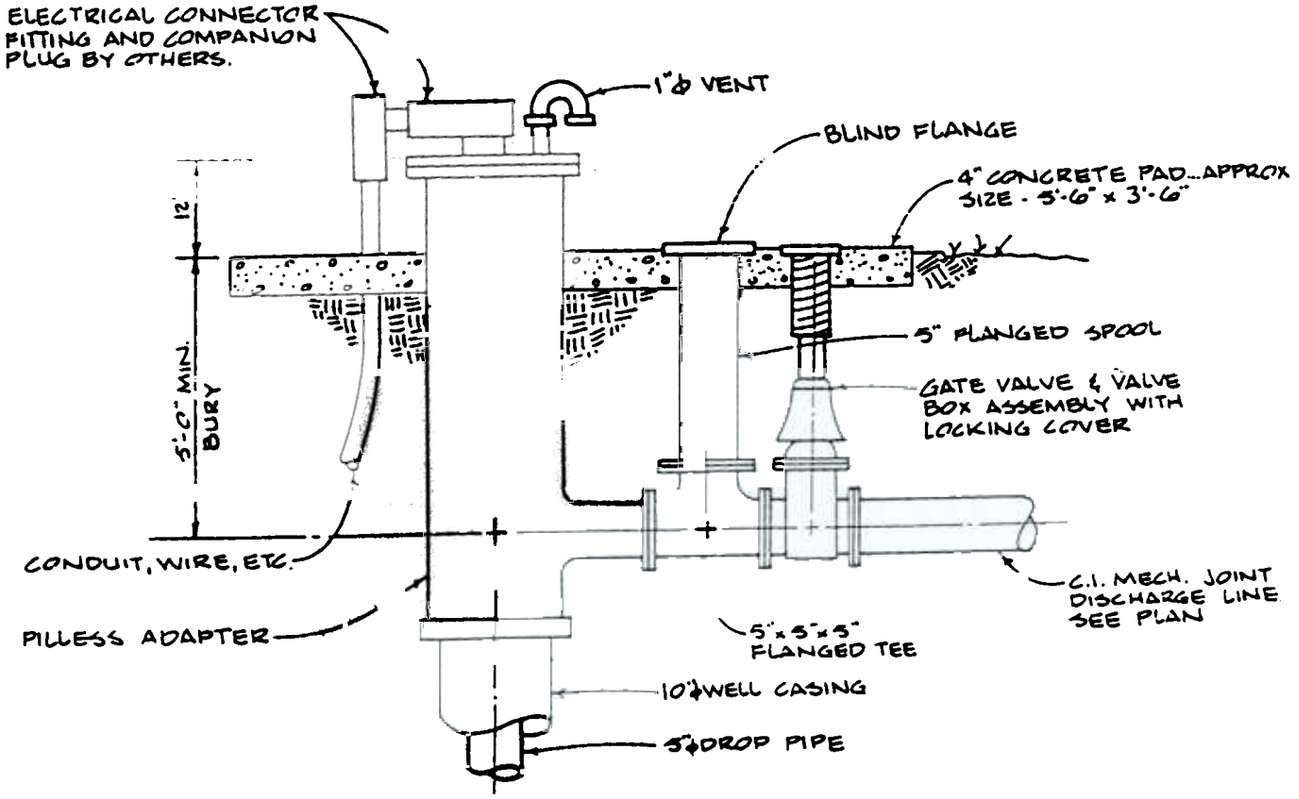
WELL LOG

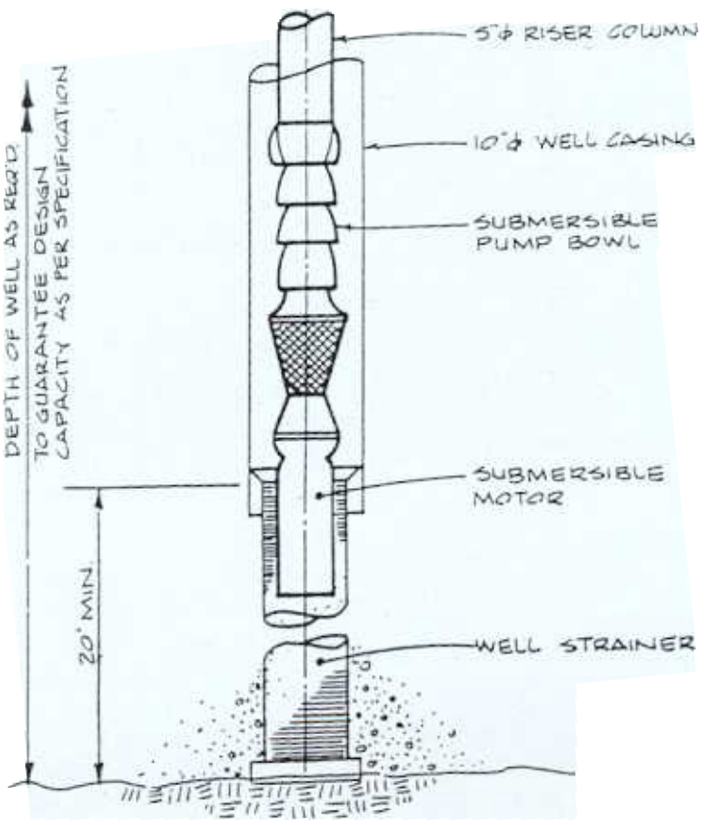
Formations	From	To
FILL MATERIAL	0	- 4
DIRTY GRAVEL	4	- 32
GRAVEL & CLAY	32	- 70
CLAY	70	- 80
GRAVEL & CLAY	80	- 87
GRAVEL & CLAY	87	- 90
GRAVEL	90	- 99
GRAVEL & CLAY	99	- 118
GRAVEL & CLAY	118	- 120
GRAVEL	120	- 173

LLATION

H10-4

LE:





County Permit No. _____

NO CARBON PAPER NECESSARY– SELF-TRANSCRIBING

WELL LOG AND DRILLING REPORT

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
Fountain Square
Columbus, Ohio 43224

ORIGINAL

547526 (A5)

ODNR 47

COUNTY Montgomery TOWNSHIP City of Dayton SECTION OF TOWNSHIP 4

OWNER Career Acadamy School ADDRESS Foundry Street

LOCATION OF PROPERTY Foundry Street

CONSTRUCTION DETAILS

Casing diameter 10" Length of casing 152'

Type of screen S.S. Length of screen 20'

Type of pump Byron Jackson submersible

Capacity of pump 350 gpm @ 150 TDH

Depth of pump setting 100'

Date of completion 4-2-80

BAILING OR PUMPING TEST
(specify one by circling)

Test rate _____ gpm Duration of test _____ hr.

Drawdown _____ ft Date _____

Static level (depth to water) 35' f

Quality (clear, cloudy, taste, odor) _____

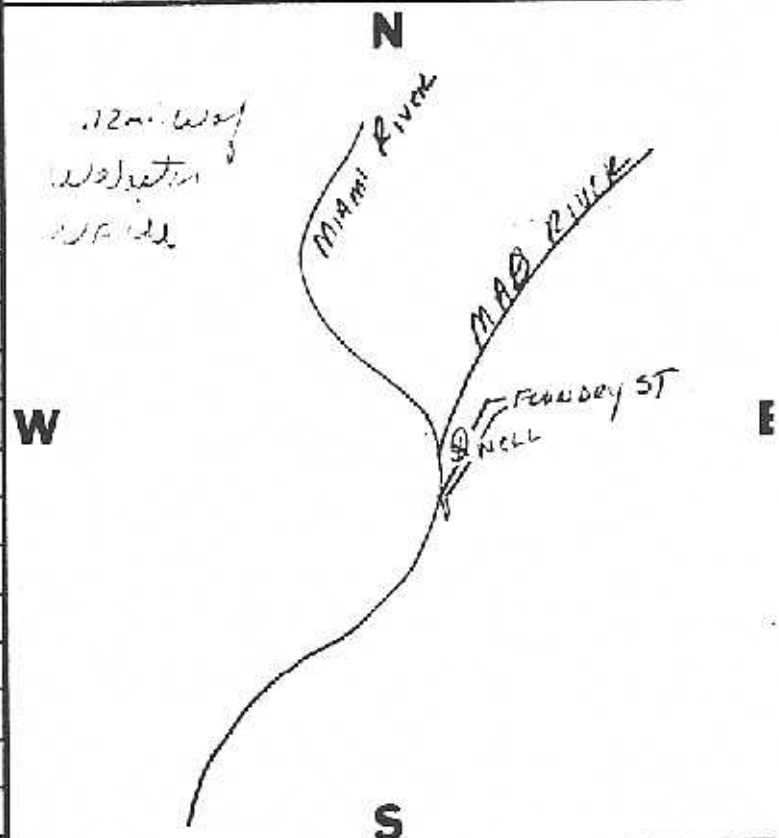
Pump installed by _____

WELL LOG*

Formations: sandstone, shale, limestone, gravel, clay	From	To
Fill	0 ft	4 ft
Dirty gravel	4	32
Clay & gravel	32	70
Clay	70	80
Clay & gravel	80	87
Clay & gravel	87	90
Gravel	90	99
Clay & gravel	99	118
Gravel w/clay chunks	118	120
Gravel	120	173
5412		

SKETCH SHOWING LOCATION

Locate in reference to numbered state highways, street intersections, county roads, etc.



DRILLING FIRM Moody's of Dayton, Inc.

ADDRESS 4359 Infirmary Rd., P.O. Box 123
Miamisburg, Ohio 45342

DATE June 26, 1980

SIGNED [signature]

* If additional space is needed to complete well log, use next consecutive numbered form.

4

ODNR 7502.06
TYPE OR USE PEN
SELF TRANSCRIBING
PRESS HARD

WELL LOG AND DRILLING REPORT

Ohio Department of Natural Resources
Division of Water, 1939 Fountain Square Drive
Columbus, Ohio 43224-9971 Voice (614) 265-6739 Fax (614) 447-9503

966160

WELL LOCATION

County Montgomery Township

Owner/Builder (Circle One or Both) First Dayton Board of Education Last

Address of Well Location Number 441 Street River Corridor

City Dayton Zip Code +4 45401

Permit No. Section/Lot No. (Circle One or Both)

Location of Well in State Plane coordinates, if available: Use of Well HVAC

N ☐ X +/- ft. or m

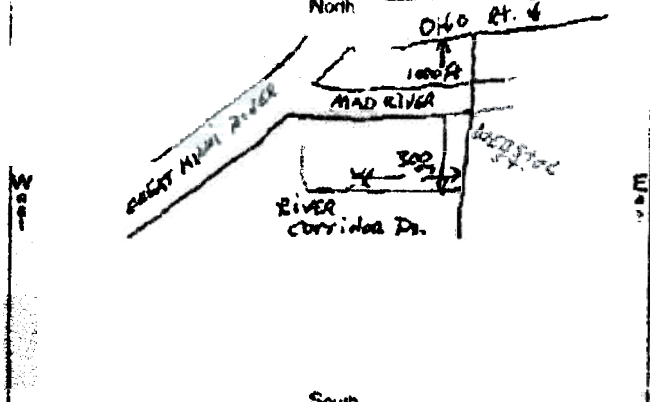
S ☐ Y +/- ft. or m

Elevation of Well +/- ft. or m

Datum: Plain ☐ NAD27 ☐ NAD83 Elevation Source

Source of Coordinates: ☐ GPS ☐ Survey ☐ Other

Sketch a map showing distance well lies from numbered state highways, street intersections, county roads, buildings or other notable landmarks. If latitude and longitude are available please include here: Lat Long



WELL TEST*

Pre-Pumping Static Level 39 ft. Date 9/30/04

Measured from: ☒ Top of Casing ☐ Ground Level ☐ Other

☐ Air ☐ Bailing ☐ Pumping* ☐ Other

Test Rate 590 gpm Duration of Test 1 hrs.

Feet of Drawdown 19 ft. Sustainable Yield 590 gpm

*(Attach a copy of the pumping test record, per section 1521.05, ORC)

Is Copy Attached? ☐ Yes ☒ No Flowing Well? ☐ Yes ☒ No

Quality Clear, odorless

PUMP/PITLESS

Type of pump Submersible Capacity 700 gpm

Pump set at 105 ft. Pitless Type MAAS

Pump installed by Moody's of Dayton, Inc.

I hereby certify the information given is accurate and correct to the best of my knowledge

Drilling Firm Moody's of Dayton, Inc

Address 4359 Infirmary Rd

City, State, Zip Miamisburg, OH 45342

Signed [signature] Date 4/29/04

ODH Registration Number 636

CONSTRUCTION DETAILS

☐ Rotary ☒ Cable ☐ Augered ☐ Driven ☐ Other

BOREHOLE/CASING (measured from ground surface)

1 ☒ Borehole Diameter 12 inches Depth 150 ft

Casing Diameter 12 in. Length 130 ft. Thickness 3/8 in.

2 ☐ Borehole Diameter inches Depth ft

Casing Diameter in Length ft. Thickness in.

Casing Height Above Ground ft.

Type 1 ☒ Steel 1 ☐ Galv. 1 ☐ PVC 1 ☐ 2 ☐ 2 ☐ 2 ☐ 2 ☐ Other

Joints 1 ☐ Threaded 1 ☒ Welded 1 ☐ Solvent 1 ☐ 2 ☐ 2 ☐ 2 ☐ 2 ☐ Other

SCREEN

Diameter 12" Telp Slot Size .060 Screen Length 20 ft

Type Wire Material Stainless Steel

Set Between 130 ft. and 150 ft.

GRAVEL PACK (Size/Type)

Material/Size N/A Volume/Weight Used

Method of Installation

Depth: Placed FROM ft. TO ft.

GROUT

Material N/A Volume/Weight Used

Method of Installation

Depth: Placed FROM ft. TO

DRILLING LOG*

INDICATE DEPTH(S) AT WHICH WATER IS ENCOUNTERED. Show color, texture, hardness, and formation. sandstone, shale, limestone, gravel, clay, sand, etc.	From	To
Top soil	0	3
Gravel and boulders, fill debris,	3	29
Gravel and clay	29	62
Clay	62	66
Gravel	66	80
Clay	80	108
Gravel	108	115
Clay	115	120
Sand and gravel, large rocks	120	130
Sand with large rocks	130	150
Sand	150	160

*(If more space is needed to complete drilling log, use next consecutively numbered form.)

Date of Well Completion 5/28/04 Total Depth of Well 150 ft.

Completion of this form is required by section 1521.05, Ohio Revised Code - file within 30 days after completion of drilling.

ORIGINAL COPY TO - ODNR, DIVISION OF WATER, 1939 FOUNTAIN SQ. DRIVE, COLS., OHIO 43224-9971

Blue - Customer's copy Pink - Driller's copy Green - Local Health Dept. copy

HALEY & ALDRICH, INC. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-1

PROJECT: Delphi Harrison Thermal Systems Facility - BUSTR Site Assessments
CLIENT: G.M. Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-003
SHEET NO. 1 OF 1
-GROUND ELEVATION:
-PVC CASING ELEVATION:
DATUM:
START: 9-18-96 10:57am
FINISH: 9-18-96 11:15am
DRILLER: D. Walmsley
H&A REP: D. Kreitzburg

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE	- -	G	- -
INSIDE DIAMETER (IN)	- -	1	- -
HAMMER WEIGHT (LB)	- -	- -	- -
HAMMER FALL (IN)	- -	- -	- -

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: GeoProbe
METHOD: Direct push/hammer

OTHER:

DEPTH (FT)	PID SCREENING (PPM)	TPH SCREENING (PPM)	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
		ND	G-1 11"	0.0 4.0		Concrete over brown gravely SILT, little sand, little to trace clay, moist. -FILL-
5		184	G-2 14"	4.0 8.0	6.5 ?	Same. Dark brown sandy SILT, trace gravel, moist. -OVERBANK-
10		34	G-3 21"	8.0 12.0		Brown SAND, trace gravel, moist. Wet below 11 ft. -FLUVIAL-
15						BOTTOM OF EXPLORATION AT 12.0 FT.
20						
25						

NOTES:

SAMPLE IDENTIFICATION

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G GeoProbe

SUMMARY

OVERBURDEN (LIN FT): 12.0
ROCK CORED (LIN FT): 0.0
SAMPLES: 3-G, G-2 to lab.

BORING NO. GP-1

HALEY & ALDRICH, INC. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-2

PROJECT: Delphi Harrison Thermal Systems Facility - BUSTR Site Assessments
CLIENT: G.M. Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-003
SHEET NO. 1 OF 1
-GROUND ELEVATION:
-PVC CASING ELEVATION:
DATUM:
START: 9-18-96 11:30am
FINISH: 9-18-96 11:48am
DRILLER: D. Walmsley
H&A REP: D. Kreitzburg

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE	- -	G	- -
INSIDE DIAMETER (IN)	- -	1	- -
HAMMER WEIGHT (LB)	- -	- -	- -
HAMMER FALL (IN)	- -	- -	- -

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: GeoProbe
METHOD: Direct push/hammer

OTHER:

DEPTH (FT)	PID SCREENING (PPM)	TPH SCREENING (PPM)	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
		300	G-1 28"	0.0 4.0	2	Concrete over gray sandy GRAVEL. -FILL- Dark brown SILT, some gravel, trace clay and sand, top 6 in. wet, moist below.
5		220	G-2 27"	4.0 8.0	6.5	-OVERBANK- Tanish brown GRAVEL, little sand, moist.
10		184	G-3 25"	8.0 12.0		-FLUVIAL- Water at 11.8 ft.
15						BOTTOM OF EXPLORATION AT 12.0 FT.
20						
25						

NOTES:

SAMPLE IDENTIFICATION

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G GeoProbe

SUMMARY

OVERBURDEN (LIN FT): 12.0
ROCK CORED (LIN FT): 0.0
SAMPLES: 3-G, G-1 to lab.

BORING NO. GP-2

HALEY & ALDRICH, INC. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-3

PROJECT: Delphi Harrison Thermal Systems Facility - BUSTR Site Assessments
CLIENT: G.M. Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-003
SHEET NO. 1 OF 1
-GROUND ELEVATION:
-PVC CASING ELEVATION:
DATUM:
START: 9-18-96 2:00pm
FINISH: 9-21896 3:00pm
DRILLER: D. Walmsley
H&A REP: D. Kreitzburg

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE	- -	G	- -
INSIDE DIAMETER (IN)	- -	1	- -
HAMMER WEIGHT (LB)	- -	- -	- -
HAMMER FALL (IN)	- -	- -	- -

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: GeoProbe
METHOD: Direct push/hammer

OTHER:

DEPTH (FT)	PID SCREENING (PPM)	TPH SCREENING (PPM)	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
		84	G-1 25"	0.0 4.0	3	Concrete over grayish tan GRAVEL, some sand. -FILL-
						Dark brown SILT, little gravel and sand, trace clay, moist. -FILL-
5		67	G-2 9"	4.0 8.0	6	Tand sandy GRAVEL, moist. -FLUVIAL-
10		59	G-3 16"	8.0 12.0		Wet below 11.7 feet.
						BOTTOM OF EXPLORATION AT 12.0 FT.
15						
20						
25						

NOTES:

SAMPLE IDENTIFICATION

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G GeoProbe

SUMMARY

OVERBURDEN (LIN FT): 12.0
ROCK CORED (LIN FT): 0.0
SAMPLES: 3-G, G-1 to lab.

BORING NO. GP-3

HALEY & ALDRICH, INC. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-4

PROJECT: Delphi Harrison Thermal Systems Facility - BUSTR Site Assessments
CLIENT: G.M. Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-003
SHEET NO. 1 OF 1
-GROUND ELEVATION:
-PVC CASING ELEVATION:
DATUM:
START: 9-18-96 3:00pm
FINISH: 9-18-96 4:15pm
DRILLER: D. Walmsley
H&A REP: D. Kreitzburg

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE	- -	G	- -
INSIDE DIAMETER (IN)	- -	1	- -
HAMMER WEIGHT (LB)	- -	- -	- -
HAMMER FALL (IN)	- -	- -	- -

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: GeoProbe
METHOD: Direct push/hammer

OTHER:

DEPTH (FT)	PID SCREENING (PPM)	TPH SCREENING (PPM)	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
			G-1	0.0		Asphalt over gray GRAVEL.
					1.5	-FILL-
		385				Dark brown gravely SILT, some sand, trace clay, moist.
			33"	4.0	3.5	-FILL-
			G-2	4.0		Brown gravely SAND, trace silt and clay, moist.
5		168				
			27"	8.0		-FLUVIAL-
			G-3	8.0		Same.
10		59				
			25"	12.0		
						BOTTOM OF EXPLORATION AT 12.0 FT.
15						
20						
25						

NOTES:

SAMPLE IDENTIFICATION

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G GeoProbe

SUMMARY

OVERBURDEN (LIN FT): 12.0
ROCK CORED (LIN FT): 0.0
SAMPLES: 3-G, G-1 to lab.

BORING NO. GP-4

HALEY & ALDRICH, INC. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-5

PROJECT: Delphi Harrison Thermal Systems Facility - BUSTR Site Assessments
CLIENT: G.M. Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-003
SHEET NO. 1 OF 1
-GROUND ELEVATION:
-PVC CASING ELEVATION:
DATUM:
START: 9-19-96 8:15am
FINISH: 9-19-96 8:45am
DRILLER: D. Walmsley
H&A REP: D. Kreitzburg

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE	- -	G	- -
INSIDE DIAMETER (IN)	- -	1	- -
HAMMER WEIGHT (LB)	- -	- -	- -
HAMMER FALL (IN)	- -	- -	- -

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: GeoProbe
METHOD: Direct push/hammer

OTHER:

DEPTH (FT)	PID SCREENING (PPM)	TPH SCREENING (PPM)	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
		1089	G-1 27"	0.0 4.0	?	Asphalt over brown gravely SAND, some silt, trace clay, dry. -FILL-
5		528	G-2 16"	4.0 8.0		Dark grayish brown silty CLAY, some sand, trace gravel, very moist. -FILL-
10		1005	G-3 14"	8.0 12.0	11	Same, little gravel. Tan sandy GRAVEL, trace silt. -FLUVIAL-
15						BOTTOM OF EXPLORATION AT 12.0 FT.
20						
25						

NOTES:

SAMPLE IDENTIFICATION

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G GeoProbe

SUMMARY

OVERBURDEN (LIN FT): 12.0
ROCK CORED (LIN FT): 0.0
SAMPLES: 3-G, G-1 to lab.

BORING NO. GP-5

H A-L E Y & A L D R I C H, I N C. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-6

PROJECT: Delphi Harrison Thermal Systems Facility - BUSTR Site Assessments
CLIENT: G.M. Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-003
SHEET NO. 1 OF 1
-GROUND ELEVATION:
-PVC CASING ELEVATION:
DATUM:
START: 9-19-96 8:55am
FINISH: 9-19-96 9:30am
DRILLER: D. Walmsley
H&A REP: D. Kreitzburg

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE	- -	G	- -
INSIDE DIAMETER (IN)	- -	1	- -
HAMMER WEIGHT (LB)	- -	- -	- -
HAMMER FALL (IN)	- -	- -	- -

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: GeoProbe
METHOD: Direct push/hammer

OTHER:

DEPTH (FT)	PID SCREENING (PPM)	TPH SCREENING (PPM)	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
			G-1	0.0	1.2	Concrete over gray sandy GRAVEL, dry. -FILL-
		243			3	Dark grayish brown gravely SAND, trace silt and clay, moist. -FILL-
			30"	4.0		Dark grayish brown sandy SILT, trace gravel and clay, moist. -FILL-
5			G-2	4.0	4.5	Brown SILT, little clay, with shells, moist. -OVERBANK-
		285			5.8	Tan sandy GRAVEL. -FLUVIAL-
			22"	8.0		
			G-3	8.0		
10		75			9.5	Tan SAND. -FLUVIAL-
					10.5	Tan gravely SAND. Wet below 11.5 feet. -FLUVIAL-
			29"	12.0		
15						BOTTOM OF EXPLORATION AT 12.0 FT.
20						
25						

NOTES:

SAMPLE IDENTIFICATION

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G GeoProbe

SUMMARY

OVERBURDEN (LIN FT): 12.0
ROCK CORED (LIN FT): 0.0
SAMPLES: 3-G, G-2 to lab.

BORING NO. GP-6

HALEY & ALDRICH, INC. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-7

PROJECT: Delphi Harrison Thermal Systems Facility - BUSTR Site Assessments
CLIENT: G.M. Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-003
SHEET NO. 1 OF 1
-GROUND ELEVATION:
-PVC CASING ELEVATION:
DATUM:
START: 9-19-96 9:45am
FINISH: 9-19-96 11:00am
DRILLER: D. Walmsley
H&A REP: D. Kreitzburg

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE	- -	G	- -
INSIDE DIAMETER (IN)	- -	1	- -
HAMMER WEIGHT (LB)	- -	- -	- -
HAMMER FALL (IN)	- -	- -	- -

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: GeoProbe
METHOD: Direct push/hammer

OTHER:

DEPTH (FT)	PID SCREENING (PPM)	TPH SCREENING (PPM)	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
		603	G-1 32"	0.0 4.0		Asphalt over brown, gray and tan mottled gravely SAND, trace silt and clay, sl. moist. -FILL-
5			G-2 26"	4.0 7.0		Same, little clay below 5.5 feet. Probe refusal at 7.0 feet.
						BOTTOM OF EXPLORATION AT 7.0 FT.
10						
15						
20						
25						

NOTES: First attempt at this location had probe refusal at 1 foot.

SAMPLE IDENTIFICATION

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G GeoProbe

SUMMARY

OVERBURDEN (LIN FT): 12.0
ROCK CORED (LIN FT): 0.0
SAMPLES: 3-G, G-1 to lab.

BORING NO. GP-7

HALEY & ALDRICH, INC. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-8

PROJECT: Delphi Harrison Thermal Systems Facility - BUSTR Site Assessments
CLIENT: G.M. Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-003
SHEET NO. 1 OF 1
-GROUND ELEVATION:
-PVC CASING ELEVATION:
DATUM:
START: 9-19-96 11:00am
FINISH: 9-19-96 12:00pm
DRILLER: D. Walmsley
H&A REP: D. Kreitzburg

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE	- -	G	- -
INSIDE DIAMETER (IN)	- -	1	- -
HAMMER WEIGHT (LB)	- -	- -	- -
HAMMER FALL (IN)	- -	- -	- -

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: GeoProbe
METHOD: Direct push/hammer

OTHER:

DEPTH (FT)	PID SCREENING (PPM)	TPH SCREENING (PPM)	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
			G-1	0.0	0.8	Asphalt over gray sandy GRAVEL. -FILL-
		675	27"	4.0		Brown and tan SAND, little gravel, trace clay.
5		1025	G-2 32"	4.0 8.0		Same, with slag and white fragments.
		NA	G-3 2"	8.0 -9.0		Same. Probe refusal at 9.0 ft.
10						BOTTOM OF EXPLORATION AT 9.0 FT.
15						
20						
25						

NOTES:

SAMPLE IDENTIFICATION	SUMMARY
O Open End Rod T Thin Wall Tube U Undisturbed Sample S Split Spoon G GeoProbe	OVERBURDEN (LIN FT): 9.0 ROCK CORED (LIN FT): 0.0 SAMPLES: 3-G, G-2 to lab.
	BORING NO. GP-8

HALEY & ALDRICH, INC. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-9

PROJECT: Delphi Harrison Thermal Systems Facility - BUSTR Site Assessments
CLIENT: G.M. Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-003
SHEET NO. 1 OF 1
-GROUND ELEVATION:
-PVC CASING ELEVATION:
DATUM:
START: 9-19-96 2:00pm
FINISH: 9-19-96 3:00pm
DRILLER: D. Walmsley
H&A REP: D. Kreitzburg

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE	- -	G	- -
INSIDE DIAMETER (IN)	- -	1	- -
HAMMER WEIGHT (LB)	- -	- -	- -
HAMMER FALL (IN)	- -	- -	- -

DRILLING EQUIPMENT & PROCEDURES
RIG TYPE: GeoProbe
METHOD: Direct push/hammer
OTHER:

DEPTH (FT)	PID SCREENING (PPM)	TPH SCREENING (PPM)	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
		473	G-1 28"	0.0 4.0	3.8	Concrete over tan sandy GRAVEL, dry. -FILL-
5		690	G-2 25"	4.0 8.0		Brown and tan mottled gravely SAND, little silt and clay in pockets, moist. -FILL-
		690	G-3 30"	8.0 12.0	10.6	Same. Dark grayish brown SILT, little sand, trace clay, moist. -OVERBANK-
10		394	G-4 33"	12.0 16.0	12.1	Tan sandy GRAVEL, moist. -FLUVIAL- Water at 15.8 ft.
15						BOTTOM OF EXPLORATION AT 16.0 FT.
20						
25						

NOTES:

SAMPLE IDENTIFICATION
O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G GeoProbe

SUMMARY
OVERBURDEN (LIN FT): 16.0
ROCK CORED (LIN FT): 0.0
SAMPLES: 4-G, G-2 to lab.

BORING NO. GP-9

HALEY & ALDRICH, INC. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-10

PROJECT: Delphi Harrison Thermal Systems Facility - BUSTR Site Assessments
CLIENT: G.M. Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-003
SHEET NO. 1 OF 1
-GROUND ELEVATION:
-PVC CASING ELEVATION:
DATUM:
START: 9-19-96 3:00pm
FINISH: 9-19-96 4:00pm
DRILLER: D. Walmsley
H&A REP: D. Kreitzburg

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE	- -	G	- -
INSIDE DIAMETER (IN)	- -	1	- -
HAMMER WEIGHT (LB)	- -	- -	- -
HAMMER FALL (IN)	- -	- -	- -

DRILLING EQUIPMENT & PROCEDURES
RIG TYPE: GeoProbe
METHOD: Direct push/hammer
OTHER:

DEPTH (FT)	PID SCREENING (PPM)	TPH SCREENING (PPM)	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
			G-1	0.0	1.2	Concrete over gray sandy GRAVEL, dry. -FILL-
		118	27"	4.0	2.8	Brown sandy GRAVEL, little silt, trace clay, very moist. -FILL-
5		20	G-2 33"	4.0 8.0	7.5	Brown SILT, some gravel and sand, trace clay, moist. -FILL-
10		89	G-3 34"	8.0 12.0		Tan sandy GRAVEL, moist. -FLUVIAL- Water at 11.6 ft.
						BOTTOM OF EXPLORATION AT 12.0 FT.
15						
20						
25						

NOTES:

SAMPLE IDENTIFICATION
O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G GeoProbe

SUMMARY
OVERBURDEN (LIN FT): 12.0
ROCK CORED (LIN FT): 0.0
SAMPLES: 3-G, G-1 to lab.

BORING NO. GP-10

HALEY & ALDRICH, INC. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-11

PROJECT: Delphi Harrison Thermal Systems Facility - BUSTR Site Assessments
CLIENT: G.M. Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-003
SHEET NO. 1 OF 1
-GROUND ELEVATION:
-PVC CASING ELEVATION:
DATUM:
START: 9-20-96 7:30am
FINISH: 9-20-96 8:30am
DRILLER: D. Walmsley
H&A REP: D. Kreitzburg

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE	- -	G	- -
INSIDE DIAMETER (IN)	- -	1	- -
HAMMER WEIGHT (LB)	- -	- -	- -
HAMMER FALL (IN)	- -	- -	- -

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: GeoProbe
METHOD: Direct push/hammer

OTHER:

DEPTH (FT)	PID SCREENING (PPM)	TPH SCREENING (PPM)	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
			G-1	0.0		Concrete over gray GRAVEL, dry. -FILL-
		733	17"	4.0	1.5	Brown silty SAND, little gravel, dry. -FILL-
5		NA	G-2 0"	4.0 7.0	4.2	Punched through something hard at 4.2 ft. and probe fell through 3' void, terminated boring. -VOID-
						BOTTOM OF EXPLORATION AT 7.0 FT.
10						
15						
20						
25						

NOTES:

SAMPLE IDENTIFICATION	
O	Open End Rod
T	Thin Wall Tube
U	Undisturbed Sample
S	Split Spoon
G	GeoProbe

SUMMARY	
OVERBURDEN (LIN FT):	7.0
ROCK CORED (LIN FT):	0.0
SAMPLES: 2-G, G-1 to lab.	
BORING NO.	GP-11

HALEY & ALDRICH, INC. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-12

PROJECT: Delphi Harrison Thermal Systems Facility - BUSTR Site Assessments
CLIENT: G.M. Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-003
SHEET NO. 1 OF 1
-GROUND ELEVATION:
-PVC CASING ELEVATION:
DATUM:
START: 9-20-96 9:00am
FINISH: 9-20-96 10:10am
DRILLER: D. Walmsley
H&A REP: D. Kreitzburg

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE	- -	G	- -
INSIDE DIAMETER (IN)	- -	1	- -
HAMMER WEIGHT (LB)	- -	- -	- -
HAMMER FALL (IN)	- -	- -	- -

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: GeoProbe
METHOD: Direct push/hammer

OTHER:

DEPTH (FT)	PID SCREENING (PPM)	TPH SCREENING (PPM)	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
		1333	G-1 20"	0.0 4.0	1	Asphalt over gray GRAVEL, dry. -FILL- Brown and tan mottled SAND, some gravel, occ. pockets little silt, trace clay, sl. moist.
5		330	G-2 25"	4.0 8.0	7	-FILL- Same. Dark grayish brown SILT, little sand, trace clay, moist.
10		ND	G-3 27"	8.0 12.0	10	-OVERBANK- Tan gravely SAND, moist.
		27	G-4 27"	12.0 16.0		Same. -FLUVIAL- Water at 14.5 ft.
15						
20						BOTTOM OF EXPLORATION AT 16.0 FT.
25						

NOTES:

SAMPLE IDENTIFICATION	SUMMARY
O Open End Rod T Thin Wall Tube U Undisturbed Sample S Split Spoon G GeoProbe	OVERBURDEN (LIN FT): 16.0 ROCK CORED (LIN FT): 0.0 SAMPLES: 4-G, G-1 to lab.
	BORING NO. GP-12

HALEY & ALDRICH, INC. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-13

PROJECT: Delphi Harrison Thermal Systems Facility - BUSTR Site Assessments
CLIENT: G.M. Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-003
SHEET NO. 1 OF 1
-GROUND ELEVATION:
-PVC CASING ELEVATION:
DATUM:
START: 9-20-96 11:00am
FINISH: 9-20-96 12:20am
DRILLER: D. Walmsley
H&A REP: D. Kreitzburg

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE	- -	G	- -
INSIDE DIAMETER (IN)	- -	1	- -
HAMMER WEIGHT (LB)	- -	- -	- -
HAMMER FALL (IN)	- -	- -	- -

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: GeoProbe
METHOD: Direct push/hammer

OTHER:

DEPTH (FT)	PID SCREENING (PPM)	TPH SCREENING (PPM)	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
			G-1	0.0		Concrete over gray sandy GRAVEL, dry. -FILL-
		200			1.3	Dark brown gravely SAND, trace silt and clay, dry. -FILL-
			27"	4.0	3.2	Dark grayish brown SILT, trace sand and clay, moist.
5			G-2	4.0		Same, brown, with shells. -OVERBANK-
		57	32"	8.0	7.5	
			G-3	8.0		Tan sandy GRAVEL, moist. -FLUVIAL-
10		32	30"	12.0		
						BOTTOM OF EXPLORATION AT 12.0 FT.
15						
20						
25						

NOTES:

SAMPLE IDENTIFICATION

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G GeoProbe

SUMMARY

OVERBURDEN (LIN FT): 12.0
ROCK CORED (LIN FT): 0.0
SAMPLES: 3-G, G-1 to lab.

BORING NO. GP-13

HALEY & ALDRICH, INC. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-14

PROJECT: Delphi Harrison Thermal Systems Facility - BUSTR Site Assessments
CLIENT: G.M. Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-003
SHEET NO. 1 OF 1
-GROUND ELEVATION:
-PVC CASING ELEVATION:
DATUM:
START: 9-23-96 11:00am
FINISH: 9-23-96 12:15am
DRILLER: D. Walmsley
H&A REP: D. Kreitzburg

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE	- -	G	- -
INSIDE DIAMETER (IN)	- -	1	- -
HAMMER WEIGHT (LB)	- -	- -	- -
HAMMER FALL (IN)	- -	- -	- -

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: GeoProbe
METHOD: Direct push/hammer

OTHER:

DEPTH (FT)	PID SCREENING (PPM)	TPH SCREENING (PPM)	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
			G-1	0.0	1.3	Asphalt over gray GRAVEL, dry. -FILL-
		1314	27"	4.0		Dark brown SAND, some gravel, trace silt and clay in occ. pockets, moist.
5		136	G-2 30"	4.0 8.0		Same. -FILL-
10		2200	G-3 31"	8.0 12.0	11.4	Same. Wet 10 ft. to 11.4 ft.
15		343	G-4 22"	12.0 16.0		Dark grayish brown SILT, little sand and clay, moist, with shells, occ. brown. -OVERBANK- Water at 15.75 ft.
20						BOTTOM OF EXPLORATION AT 16.0 FT.
25						

NOTES:

SAMPLE IDENTIFICATION

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G GeoProbe

SUMMARY

OVERBURDEN (LIN FT): 16.0
ROCK CORED (LIN FT): 0.0
SAMPLES: 4-G, G-3 to lab.

BORING NO. GP-14

HALEY & ALDRICH, INC. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-15

PROJECT: Delphi Harrison Thermal Systems Facility - BUSTR Site Assessments
CLIENT: G.M. Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-003
SHEET NO. 1 OF 1
-GROUND ELEVATION:
-PVC CASING ELEVATION:
DATUM:
START: 9-23-96 1:00pm
FINISH: 9-23-96 2:00pm
DRILLER: D. Walmsley
H&A REP: D. Kreitzburg

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE	- -	G	- -
INSIDE DIAMETER (IN)	- -	1	- -
HAMMER WEIGHT (LB)	- -	- -	- -
HAMMER FALL (IN)	- -	- -	- -

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: GeoProbe
METHOD: Direct push/hammer

OTHER:

DEPTH (FT)	PID SCREENING (PPM)	TPH SCREENING (PPM)	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
		475	G-1 20"	0.0 4.0		Asphalt over gray and brown mottled GRAVEL, some sand, dry. -FILL-
5		364	G-2 24"	4.0 8.0	7.5	Same. Tan gravely SAND, little silt, trace clay, moist.
10		321	G-3 19"	8.0 12.0		-FILL- Same.
15		42	G-4 20"	12.0 16.0	14.7	Dark grayish brown SILT, little fine sand, trace clay, moist, with shells. -OVERBANK-
		39	G-5 13"	16.0 20.0	17	Tan sandy GRAVEL, moist. Wet below 18.5 ft. -FLUVIAL-
20						BOTTOM OF EXPLORATION AT 20.0 FT.
25						

NOTES:

SAMPLE IDENTIFICATION

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G GeoProbe

SUMMARY

OVERBURDEN (LIN FT): 20.0
ROCK CORED (LIN FT): 0.0
SAMPLES: 5-G, G-1 to lab.

BORING NO. GP-15

HALEY & ALDRICH, INC. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-16

PROJECT: Delphi Harrison Thermal Systems Facility - BUSTR Site Assessments
CLIENT: G.M. Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-003
SHEET NO. 1 OF 1
-GROUND ELEVATION:
-PVC CASING ELEVATION:
DATUM:
START: 9-23-96 2:30pm
FINISH: 9-23-96 3:30pm
DRILLER: D. Walmsley
H&A REP: D. Kreitzburg

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE	- -	G	- -
INSIDE DIAMETER (IN)	- -	1	- -
HAMMER WEIGHT (LB)	- -	- -	- -
HAMMER FALL (IN)	- -	- -	- -

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: GeoProbe
METHOD: Direct push/hammer

OTHER:

DEPTH (FT)	PID SCREENING (PPM)	TPH SCREENING (PPM)	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
	ND	23	G-1 30"	0.0 4.0		Asphalt over brown gravely SAND, trace clay in occ. pockets, moist.
5	ND	NA	G-2 12"	4.0 8.0	7.5	Same?, recovery was mostly tand and brown wood, moist, not enough for jars. -FILL-
10	0.2	872	G-3 18"	8.0 12.0	11	Gray SILT, some clay, trace fine sand, very moist, 5% to 10% shells. -OVERBANK- Tan GRAVEL, little sand, wet. -FLUVIAL-
15						BOTTOM OF EXPLORATION AT 12.0 FT.
20						
25						

NOTES:

SAMPLE IDENTIFICATION

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon

SUMMARY

OVERBURDEN (LIN FT): 12.0
ROCK CORED (LIN FT): 0.0
SAMPLES: 3-G, G-3 to lab.

BORING NO. GP-16

HALEY & ALDRICH, INC. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-17

PROJECT: Delphi Harrison Thermal Systems Facility - BUSTR Site Assessments
CLIENT: G.M. Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-003
SHEET NO. 1 OF 1
-GROUND ELEVATION:
-PVC CASING ELEVATION:
DATUM:
START: 9-23-96 3:30pm
FINISH: 9-23-96 4:45pm
DRILLER: D. Walmsley
H&A REP: D. Kreitzburg

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE	- -	G	- -
INSIDE DIAMETER (IN)	- -	1	- -
HAMMER WEIGHT (LB)	- -	- -	- -
HAMMER FALL (IN)	- -	- -	- -

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: GeoProbe
METHOD: Direct push/hammer

OTHER:

DEPTH (FT)	PID SCREENING (PPM)	TPH SCREENING (PPM)	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
	ND	42	G-1 30"	0.0 4.0	3	Concrete over gray GRAVEL, little sand, dry. Brown sandy GRAVEL, trace clay in occ. pockets, moist.
5	1.5	402	G-2 27"	4.0 8.0		
10	ND	67	G-3 8"	8.0 12.0		Same, with tan mottling. -FILL-
	ND	175	G-4 15"	12.0 14.5		Same, with brick fragments. Probe refusal at 14.5 ft.
15						BOTTOM OF EXPLORATION AT 14.5 FT.
20						
25						

NOTES:

SAMPLE IDENTIFICATION

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G GeoProbe

SUMMARY

OVERBURDEN (LIN FT): 14.5
ROCK CORED (LIN FT): 0.0
SAMPLES: 4-G, G-2 to lab.

BORING NO. GP-17

HALEY & ALDRICH, INC. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-18

PROJECT: Delphi Harrison Thermal Systems Facility - BUSTR Site Assessments
CLIENT: G.M. Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-003
SHEET NO. 1 OF 1
-GROUND ELEVATION:
-PVC CASING ELEVATION:
DATUM:
START: 9-24-96 8:20am
FINISH: 9-24-96 9:30am
DRILLER: D. Walmsley
H&A REP: D. Kreitzburg

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE	- -	G	- -
INSIDE DIAMETER (IN)	- -	1	- -
HAMMER WEIGHT (LB)	- -	- -	- -
HAMMER FALL (IN)	- -	- -	- -

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: GeoProbe
METHOD: Direct push/hammer

OTHER:

DEPTH (FT)	PID SCREENING (PPM)	TPH SCREENING (PPM)	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
		1273	G-1 32"	0.0 4.0		Asphalt over tan, gray and brown mottled sandy GRAVEL, dry.
5		607	G-2 30"	4.0 8.0		Same, moist, trace silt. -FILL-
			G-3	8.0	9.3	Same.
10		335	38"	12.0	11.6	Brown SILT, little clay, trace sand, moist, with shells. -OVERBANK-
		45	G-3 27"	12.0 16.0		Tan sandy GRAVEL, moist. -FLUVIAL-
15		57	G-4	16.0		Same. Water at 18 ft.
			24"	20.0		
20						BOTTOM OF EXPLORATION AT 20.0 FT.
25						

NOTES:

SAMPLE IDENTIFICATION

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G GeoProbe

SUMMARY

OVERBURDEN (LIN FT): 20.0
ROCK CORED (LIN FT): 0.0
SAMPLES: 5-G, G-1 to lab.

BORING NO. GP-18

HALEY & ALDRICH, INC. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-19

PROJECT: Delphi Harrison Thermal Systems Facility - BUSTR Site Assessments
CLIENT: G.M. Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-003
SHEET NO. 1 OF 1
-GROUND ELEVATION:
-PVC CASING ELEVATION:
DATUM:
START: 9-24-96 9:45am
FINISH: 9-24-96 11:00am
DRILLER: D. Walmsley
H&A REP: D. Kreitzburg

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE	- -	G	- -
INSIDE DIAMETER (IN)	- -	1	- -
HAMMER WEIGHT (LB)	- -	- -	- -
HAMMER FALL (IN)	- -	- -	- -

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: GeoProbe
METHOD: Direct push/hammer

OTHER:

DEPTH (FT)	PID SCREENING (PPM)	TPH SCREENING (PPM)	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
	ND	73	G-1 13"	0.0 4.0		Concrete over brown sandy GRAVEL, little silt, trace clay in occ. pockets, moist. -FILL-
	ND		G-2 6"	4.0 -4.8		
5						BOTTOM OF EXPLORATION AT 4.8 FT.
10						
15						
20						
25						

NOTES: Combined G-2 into G-1 to have enough sample for lab analysis.

SAMPLE IDENTIFICATION

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
C GeoProbe

SUMMARY

OVERBURDEN (LIN FT): 4.8
ROCK CORED (LIN FT): 0.0
SAMPLES: 2-G, G-1 to lab.

BORING NO. GP-19

HALEY & ALDRICH, INC. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-20

PROJECT: Delphi Harrison Thermal Systems Facility - BUSTR Site Assessments
CLIENT: G.M. Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-003
SHEET NO. 1 OF 1
-GROUND ELEVATION:
-PVC CASING ELEVATION:
DATUM:
START: 9-24-96 11:10am
FINISH: 9-24-96 11:35am
DRILLER: D. Walmsley
H&A REP: D. Kreitzburg

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE	- -	G	- -
INSIDE DIAMETER (IN)	- -	1	- -
HAMMER WEIGHT (LB)	- -	- -	- -
HAMMER FALL (IN)	- -	- -	- -

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: GeoProbe
METHOD: Direct push/hammer

OTHER:

DEPTH (FT)	PID SCREENING (PPM)	TPH SCREENING (PPM)	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
			G-1	0.0		Asphalt over gray GRAVEL, dry. -FILL-
		110			1.3	Brown SAND, some gravel, little silt, trace clay, moist, occ. brick and glass fragments. -FILL-
			20"	4.0	3.5	Brown SILT, little clay, trace sand, with shells, moist.
5			G-2	4.0		-OVERBANK-
		44			6.5	Transition, mostly shells.
			32"	8.0	7.5	Tan sandy GRAVEL, moist.
			G-3	8.0		-FLUVIAL-
10		4975			10.7	Brown gravely SAND, little silt, trace clay, moist.
			22"	12.0		Water at 11.8 ft. -FLUVIAL-
						BOTTOM OF EXPLORATION AT 12.0 FT.
15						
20						
25						

NOTES:

SAMPLE IDENTIFICATION	SUMMARY
O Open End Rod T Thin Wall Tube U Undisturbed Sample S Split Spoon G GeoProbe	OVERBURDEN (LIN FT): 12.0 ROCK CORED (LIN FT): 0.0 SAMPLES: 3-G, G-3 to lab. BORING NO. GP-20

HALEY & ALDRICH, INC. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-21

PROJECT: Delphi Harrison Thermal Systems Facility - BUSTR Site Assessments
CLIENT: G.M. Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-003
SHEET NO. 1 OF 1
-GROUND ELEVATION:
-PVC CASING ELEVATION:
DATUM:
START: 9-24-96 11:35am
FINISH: 9-24-96 12:15am
DRILLER: D. Walmsley
H&A REP: D. Kreitzburg

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE	- -	G	- -
INSIDE DIAMETER (IN)	- -	1	- -
HAMMER WEIGHT (LB)	- -	- -	- -
HAMMER FALL (IN)	- -	- -	- -

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: GeoProbe
METHOD: Direct push/hammer

OTHER:

DEPTH (FT)	PID SCREENING (PPM)	TPH SCREENING (PPM)	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
			G-1	0.0	1.2	Asphalt over gray sandy GRAVEL, dry. -FILL-
		395	34"	4.0		Dark brown gravely SAND, trace silt and clay, moist. -FILL-
5			G-2	4.0		Same, little clay.
		625	27"	8.0	7	Brown SILT, little clay, trace sand, moist, with wood. -OVERBANK-
10		417	G-3	8.0	10.5	Brown silty SAND, little clay, moist. Water at 11.7 ft. -FLUVIAL-
			25"	12.0		
15						BOTTOM OF EXPLORATION AT 12.0 FT.
20						
25						

NOTES:

SAMPLE IDENTIFICATION	SUMMARY
O Open End Rod T Thin Wall Tube U Undisturbed Sample S Split Spoon G GeoProbe	OVERBURDEN (LIN FT): 12.0 ROCK CORED (LIN FT): 0.0 SAMPLES: 3-G, G-2 to lab.
	BORING NO. GP-21

HALEY & ALDRICH, INC. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-22

PROJECT: Delphi Harrison Thermal Systems Facility - BUSTR Site Assessments
CLIENT: G.M. Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-003
SHEET NO. 1 OF 1
-GROUND ELEVATION:
-PVC CASING ELEVATION:
DATUM:
START: 9-24-96 1:00pm
FINISH: 9-24-96 2:00pm
DRILLER: D. Walmsley
H&A REP: D. Kreitzburg

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE	- -	G	- -
INSIDE DIAMETER (IN)	- -	1	- -
HAMMER WEIGHT (LB)	- -	- -	- -
HAMMER FALL (IN)	- -	- -	- -

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: GeoProbe
METHOD: Direct push/hammer

OTHER:

DEPTH (FT)	PID SCREENING (PPM)	TPH SCREENING (PPM)	SAMPLE NUMBER	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
			G-1	0.0	1.4	Concrete over gray GRAVEL, dry.
	ND	2700		4.0		Dark brown SAND, little gravel, trace silt, dry.
5	ND	678	G-2	4.0 8.0	6.5	Same, occ. tan mottling. Brick fragments 5.5 ft. to 6.5 ft. Dark grayish brown SILT, trace sand and clay, moist.
10	ND	79	G-3	8.0 12.0	9	Tan GRAVEL, some sand, moist. -FILL- -OVERBANK- -FLUVIAL-
	ND	104	G-4	12.0		Same, little gravel 13.5 ft. to 14.2 ft. Water at 14 ft.
15				16.0		
						BOTTOM OF EXPLORATION AT 16.0 FT.
20						
25						

NOTES:

SAMPLE IDENTIFICATION	SUMMARY
O Open End Rod T Thin Wall Tube U Undisturbed Sample S Split Spoon G GeoProbe	OVERBURDEN (LIN FT): 16.0 ROCK CORED (LIN FT): 0.0 SAMPLES: 4-G, G-1 to lab.
	BORING NO. GP-22

HALEY & ALDRICH, INC. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-23

PROJECT: Delphi Harrison Thermal Systems Facility - BUSTR Site Assessments
CLIENT: G.M. Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-003
SHEET NO. 1 OF 1
-GROUND ELEVATION:
-PVC CASING ELEVATION:
DATUM:
START: 9-24-96 3:30pm
FINISH: 9-24-96 4:30pm
DRILLER: D. Walmsley
H&A REP: D. Kreitzburg

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE	- -	G	- -
INSIDE DIAMETER (IN)	- -	1	- -
HAMMER WEIGHT (LB)	- -	- -	- -
HAMMER FALL (IN)	- -	- -	- -

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: GeoProbe
METHOD: Direct push/hammer

OTHER:

DEPTH (FT)	PID SCREENING (PPM)	TPH SCREENING (PPM)	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
			G-1	0.0		Concrete over gray GRAVEL, dry. -FILL-
					1.1	
	ND	4216			2.1	Brown sandy GRAVEL, little silt, trace clay, moist, occ. brick fragments. -FILL-
					2.3	Brick fragments. -FILL-
			36"	4.0		Brown gravely SAND, little silt, trace clay, moist, with shells. -FILL-
5			G-2	4.0		
	ND	3219			6	Same, little clay. -FILL-
			15"	8.0	7.5	
			G-3	8.0	8	Dark brown SILT, trace clay and sand, moist, with shells. -OVERBANK-
10	ND	127				Tan sandy GRAVEL, moist. -FLUVIAL-
			31"	12.0		
	ND	76	G-4	12.0		Same.
			12"	13.8		
15						BOTTOM OF EXPLORATION AT 13.8 FT.
20						
25						

NOTES:

SAMPLE IDENTIFICATION

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G GeoProbe

SUMMARY

OVERBURDEN (LIN FT): 13.8
ROCK CORED (LIN FT): 0.0
SAMPLES: 4-G, G-1 to lab.

BORING NO. GP-23

HALEY & ALDRICH, INC. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-24

PROJECT: Delphi Harrison Thermal Systems Facility - BUSTR Site Assessments
CLIENT: G.M. Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-003
SHEET NO. 1 OF 1
-GROUND ELEVATION:
-PVC CASING ELEVATION:
DATUM:
START: 9-25-96 8:00am
FINISH: 9-25-96 9:00am
DRILLER: D. Walmsley
H&A REP: D. Kreitzburg

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE	- -	G	- -
INSIDE DIAMETER (IN)	- -	1	- -
HAMMER WEIGHT (LB)	- -	- -	- -
HAMMER FALL (IN)	- -	- -	- -

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: GeoProbe
METHOD: Direct push/hammer

OTHER:

DEPTH (FT)	PID SCREENING (PPM)	TPH SCREENING (PPM)	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
	ND	1400	G-1 27"	0.0 4.0		Concrete over brown SAND, some gravel, trace clay in occ. pockets, dry. -FILL-
						Same.
5	0.7	78	G-2 32"	4.0 8.0	5 6	Dark brown SAND, little silt, trace clay, wet. -FILL- Grayish brown SILT, trace sand and clay, with shells, moist. Same. -OVERBANK-
10	ND	945	G-3 31"	8.0 12.0	10.5	Tan GRAVEL, little sand, moist. Water at 11.7 ft. -FLUVIAL-
						BOTTOM OF EXPLORATION AT 12.0 FT.
15						
20						
25						

NOTES:

SAMPLE IDENTIFICATION

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G GeoProbe

SUMMARY

OVERBURDEN (LIN FT): 12.0
ROCK CORED (LIN FT): 0.0
SAMPLES: 3-G, G-3 to lab.

BORING NO. GP-24

HALEY & ALDRICH, INC. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-25

PROJECT: Delphi Harrison Thermal Systems Facility - BUSTR Site Assessments
CLIENT: G.M. Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-003
SHEET NO. 1 OF 1
-GROUND ELEVATION:
-PVC CASING ELEVATION:
DATUM:
START: 9-25-96 9:15am
FINISH: 9-25-96 11:00am
DRILLER: D. Walmsley
H&A REP: D. Kreitzburg

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE	- -	G	- -
INSIDE DIAMETER (IN)	- -	1	- -
HAMMER WEIGHT (LB)	- -	- -	- -
HAMMER FALL (IN)	- -	- -	- -

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: GeoProbe
METHOD: Direct push/hammer

OTHER:

DEPTH (FT)	PID SCREENING (PPM)	TPH SCREENING (PPM)	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
	ND	677	G-1 17"	0.0 4.0		Concrete over brown SAND, some gravel, trace silt and clay, with coal, dry. -FILL-
5	ND	54	G-2 22"	4.0 8.0	6.5	Same, moist. BrownSILT, 40% shells, moist. -OVERBANK-
10	648	1025	G-3 31"	8.0 12.0		Water at 12 ft.
15						BOTTOM OF EXPLORATION AT 12.0 FT.
20						
25						

NOTES:

SAMPLE IDENTIFICATION

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G GeoProbe

SUMMARY

OVERBURDEN (LIN FT): 12.0
ROCK CORED (LIN FT): 0.0
SAMPLES: 3-G, G-3 to lab.

BORING NO. GP-25

C

HALEY & ALDRICH, INC. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-26

PROJECT: Delphi Harrison Thermal Systems Facility - BUSTR Site Assessments
CLIENT: G.M. Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-003
SHEET NO. 1 OF 1
-GROUND ELEVATION:
-PVC CASING ELEVATION:
DATUM:
START: 9-25-96 11:30am
FINISH: 9-25-96 12:30pm
DRILLER: D. Walmsley
H&A REP: D. Kreitzburg

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE	- -	G	- -
INSIDE DIAMETER (IN)	- -	1	- -
HAMMER WEIGHT (LB)	- -	- -	- -
HAMMER FALL (IN)	- -	- -	- -

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: GeoProbe
METHOD: Direct push/hammer

OTHER:

DEPTH (FT)	PID SCREENING (PPM)	TPH SCREENING (PPM)	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
	28.0	NA	G-1 24"	0.0 4.0	3.5	Concrete over gray GRAVEL, dry. -FILL-
5	29.4	237	G-2 17"	4.0 8.0		Brown SAND, little silt, trace clay, moist. -FILL-
10	19.0	79	G-3 29"	8.0 12.0	9	Tan sandy GRAVEL, moist. -FLUVIAL- Water at 12 ft.
15						BOTTOM OF EXPLORATION AT 12.0 FT.
20						
25						

NOTES:

SAMPLE IDENTIFICATION

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G GeoProbe

SUMMARY

OVERBURDEN (LIN FT): 12.0
ROCK CORED (LIN FT): 0.0
SAMPLES: 3-G, G-2 to lab.

BORING NO. GP-26

HALEY & ALDRICH, INC. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-27

PROJECT: Delphi Harrison Thermal Systems Facility - BUSTR Site Assessments
CLIENT: G.M. Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-003
SHEET NO. 1 OF 1
-GROUND ELEVATION:
-PVC CASING ELEVATION:
DATUM:
START: 9-25-96 1:30pm
FINISH: 9-25-96 2:30pm
DRILLER: D. Walmsley
H&A REP: D. Kreitzburg

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE	- -	G	- -
INSIDE DIAMETER (IN)	- -	1	- -
HAMMER WEIGHT (LB)	- -	- -	- -
HAMMER FALL (IN)	- -	- -	- -

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: GeoProbe
METHOD: Direct push/hammer

OTHER:

DEPTH (FT)	PID SCREENING (PPM)	TPH SCREENING (PPM)	SAMPLE NUMBER	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
	1.4	22	G-1	0.0 4.0		Concrete over brown SAND, some gravel, trace clay in pockets sl. moist.
5	1.1	ND	G-2	4.0 8.0		Same, gravely, moist.
10	4.6	175	G-3	8.0 12.0		Same. -FILL-
15						BOTTOM OF EXPLORATION AT 12.0 FT.
20						
25						

NOTES:

SAMPLE IDENTIFICATION

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G GeoProbe

SUMMARY

OVERBURDEN (LIN FT): 12.0
ROCK CORED (LIN FT): 0.0
SAMPLES: 3-G, G-3 to lab.

BORING NO. GP-27

HALEY & ALDRICH, INC. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-28

PROJECT: Delphi Harrison Thermal Systems Facility - BUSTR Site Assessments
CLIENT: G.M. Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-003
SHEET NO. 1 OF 1
-GROUND ELEVATION:
-PVC CASING ELEVATION:
DATUM:
START: 9-25-96 3:30pm
FINISH: 9-25-96 4:30pm
DRILLER: D. Walmsley
H&A REP: D. Kreitzburg

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE	- -	G	- -
INSIDE DIAMETER (IN)	- -	1	- -
HAMMER WEIGHT (LB)	- -	- -	- -
HAMMER FALL (IN)	- -	- -	- -

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: GeoProbe
METHOD: Direct push/hammer

OTHER:

DEPTH (FT)	PID SCREENING (PPM)	TPH SCREENING (PPM)	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
	1.2	108	G-1 18"	0.0 4.0		Concrete over browngravely SAND, trace silt, moist.
5	1.6	78	G-2 16"	4.0 8.0		Same. -FILL-
10	1.2	162	G-3 22"	8.0 12.0		Same. Probe refusal at 12 feet on 4 sampling attempt.
15						BOTTOM OF EXPLORATION AT 12.0 FT.
20						
25						

NOTES:

SAMPLE IDENTIFICATION

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G GeoProbe

SUMMARY

OVERBURDEN (LIN FT): 12.0
ROCK CORED (LIN FT): 0.0
SAMPLES: 3-G, G-3 to lab.

BORING NO. GP-28

HALEY & ALDRICH, INC. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-29

PROJECT: Delphi Harrison Thermal Systems Facility - BUSTR Site Assessments
CLIENT: G.M. Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-003
SHEET NO. 1 OF 1
-GROUND ELEVATION:
-PVC CASING ELEVATION:
DATUM:
START: 9-26-96 8:00am
FINISH: 9-26-96 9:30am
DRILLER: D. Walmsley
H&A REP: D. Kreitzburg

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE	- -	G	- -
INSIDE DIAMETER (IN)	- -	1	- -
HAMMER WEIGHT (LB)	- -	- -	- -
HAMMER FALL (IN)	- -	- -	- -

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: GeoProbe
METHOD: Direct push/hammer

OTHER:

DEPTH (FT)	PID SCREENING (PPM)	TPH SCREENING (PPM)	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
			G-1	0.0	1	Concrete over gray GRAVEL, dry. -FILL-
	ND	417	16"	4.0		Brown SAND, dry. -FILL-
5	3.6	29	G-2 27"	4.0 8.0	7	Same, little silt, sl. moist.
10	6.3	67	G-3 30"	8.0 12.0		Tan GRAVEL, some sand, moist. -FLUVIAL-
15	NA	NA	G-4 26"	12.0 16.0		Same, all recovery below water table. Water at 14 feet.
20						BOTTOM OF EXPLORATION AT 16.0 FT.
25						

NOTES: Borehole restarted 3 times to get through concrete.

SAMPLE IDENTIFICATION

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G GeoProbe

SUMMARY

OVERBURDEN (LIN FT): 16.0
ROCK CORED (LIN FT): 0.0
SAMPLES: 3-G, G-3 to lab.

BORING NO. GP-29

C

HALEY & ALDRICH, INC. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-30

PROJECT: Delphi Harrison Thermal Systems Facility - BUSTR Site Assessments
CLIENT: G.M. Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-003
SHEET NO. 1 OF 1
-GROUND ELEVATION:
-PVC CASING ELEVATION:
DATUM:
START: 9-26-96 9:45am
FINISH: 9-26-96 11:00am
DRILLER: D. Walmsley
H&A REP: D. Kreitzburg

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE	- -	G	- -
INSIDE DIAMETER (IN)	- -	1	- -
HAMMER WEIGHT (LB)	- -	- -	- -
HAMMER FALL (IN)	- -	- -	- -

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: GeoProbe
METHOD: Direct push/hammer

OTHER:

DEPTH (FT)	PID SCREENING (PPM)	TPH SCREENING (PPM)	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
	9.9	448	G-1 20"	0.0 4.0		Concrete over brown gravely SAND, trace clay, moist. -FILL-
5	4.0	371	G-2 18"	4.0 8.0	7	Same. Tan GRAVEL, some sand, moist.
10	10.6	539	G-3 22"	8.0 12.0		-FLUVIAL- Water at 11.5 ft.
15						BOTTOM OF EXPLORATION AT 12.0 FT.
20						
25						

NOTES:

SAMPLE IDENTIFICATION	SUMMARY
O Open End Rod T Thin Wall Tube U Undisturbed Sample S Split Spoon G GeoProbe	OVERBURDEN (LIN FT): 12.0 ROCK CORED (LIN FT): 0.0 SAMPLES: 3-G, G-3 to lab.
	BORING NO. GP-30

HALEY & ALDRICH, INC. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-31

PROJECT: Delphi Harrison Thermal Systems Facility - BUSTR Site Assessments
CLIENT: G.M. Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-003
SHEET NO. 1 OF 1
-GROUND ELEVATION:
-PVC CASING ELEVATION:
DATUM:
START: 9-26-96 11:15am
FINISH: 9-26-96 11:45am
DRILLER: D. Walmsley
H&A REP: D. Kreitzburg

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE	- -	G	- -
INSIDE DIAMETER (IN)	- -	1	- -
HAMMER WEIGHT (LB)	- -	- -	- -
HAMMER FALL (IN)	- -	- -	- -

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: GeoProbe
METHOD: Direct push/hammer

OTHER:

DEPTH (FT)	PID SCREENING (PPM)	TPH SCREENING (PPM)	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
			G-1	0.0		Concrete over gray GRAVEL, dry. -FILL-
	158	383			1.5	Dark brown gravely SAND, little clay, moist. -FILL-
			27"	4.0	3.8	
5			G-2	4.0		Tan sandy GRAVEL, trace clay, moist, with shells.
	5.2	79				-FLUVIAL-
			18"	8.0		
			G-3	8.0		Same.
10	41.7	106				
			20"	12.0		Water at 11.5 ft.
						BOTTOM OF EXPLORATION AT 12.0 FT.
15						
20						
25						

NOTES:

SAMPLE IDENTIFICATION	SUMMARY
O Open End Rod T Thin Wall Tube U Undisturbed Sample S Split Spoon G GeoProbe	OVERBURDEN (LIN FT): 12.0 ROCK CORED (LIN FT): 0.0 SAMPLES: 3-G, G-1 to lab.
	BORING NO. GP-31

HALEY & ALDRICH, INC. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-32

PROJECT: Delphi Harrison Thermal Systems Facility - BUSTR Site Assessments
CLIENT: G.M. Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-003
SHEET NO. 1 OF 1
-GROUND ELEVATION:
-PVC CASING ELEVATION:
DATUM:
START: 9-26-96 1:30pm
FINISH: 9-26-96 2:30pm
DRILLER: D. Walmsley
H&A REP: D. Kreitzburg

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE	- -	G	- -
INSIDE DIAMETER (IN)	- -	1	- -
HAMMER WEIGHT (LB)	- -	- -	- -
HAMMER FALL (IN)	- -	- -	- -

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: GeoProbe
METHOD: Direct push/hammer

OTHER:

DEPTH (FT)	PID SCREENING (PPM)	TPH SCREENING (PPM)	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
	43.2	318	G-1 22"	0.0 4.0		Asphalt over brown and dark brown mottled gravely SAND, trace silt and clay, moist. -FILL-
5	37.6		G-2 4"	4.0 6.5		Same.
						BOTTOM OF EXPLORATION AT 6.5 FT.
10						
15						
20						
25						

NOTES:

SAMPLE IDENTIFICATION

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G GeoProbe

SUMMARY

OVERBURDEN (LIN FT): 6.5
ROCK CORED (LIN FT): 0.0
SAMPLES: 2-G, G-1 to lab.

BORING NO. GP-32

HALEY & ALDRICH, INC. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-34

PROJECT: Delphi Harrison Thermal Systems, Dayton, OH
CLIENT: G.M. Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-005
SHEET NO. 1 OF 1
-GROUND ELEVATION:
-PVC CASING ELEVATION:
DATUM:
START: 4/21/97 1340pm
FINISH: 4/21/97 1415pm
DRILLER: D. Walmsley
H&A REP: D. Kreitzburg

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE		G	
INSIDE DIAMETER (IN)		1.5	
HAMMER WEIGHT (LB)		-------	
HAMMER FALL (IN)		-------	

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Geoprobe
METHOD:

OTHER: Direct Push/Hammer

DEPTH (FT)	TPH Screening	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
	370		G-1	0.0		Concrete over brown sandy GRAVEL, little silt and clay in pockets, moist. - FILL -
			30"	4.0	3.7	
5	66		G-2	4.0		Dark grayish brown silty SAND, little clay, trace fine gravel, moist. - FLUVIAL -
			31"	8.0	6.3	
10	121		G-3	8.0		Tan/brown sandy GRAVEL, occasional pockets trace silt, slightly moist. - FLUVIAL -
			32"	12.0		
15						BOTTOM OF EXPLORATION AT 12.0 FEET

NOTES:

SAMPLE IDENTIFICATION

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

SUMMARY

OVERBURDEN (LIN FT): 12.0

ROCK CORED (LIN FT): 0

SAMPLES: 3G

BORING NO. GP-34

C

HALEY & ALDRICH, INC. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-35

PROJECT: Delphi Harrison Thermal Systems, Dayton, OH
CLIENT: G.M. Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-005
SHEET NO. 1 OF 1
-GROUND ELEVATION:
-PVC CASING ELEVATION:
DATUM:
START: 4/21/97 1430pm
FINISH: 4/21/97 1530pm
DRILLER: D. Walmsley
H&A REP: D. Kreitzburg

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE		G	
INSIDE DIAMETER (IN)		1.5	
HAMMER WEIGHT (LB)		-------	
HAMMER FALL (IN)		-------	

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Geoprobe
METHOD:

OTHER: . Direct Push/Hammer

DEPTH (FT)	TPH Screening	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
	117		G-1	0.0		Concrete over gray sandy GRAVEL, dry.
			24"	4.0	3.0	- FILL -
						Brown clayey SILT, little fine sand, moist.
5	21		G-2	4.0		- FLUVIAL -
			36"	8.0	7.2	
						Tan sandy GRAVEL, slightly moist, occasionally gray.
10	215		G-3	8.0		- FLUVIAL -
			35"	12.0		Wet at 11.2 feet.
15						BOTTOM OF EXPLORATION AT 12.0 FEET

NOTES:

SAMPLE IDENTIFICATION	SUMMARY
O Open End Rod T Thin Wall Tube U Undisturbed Sample S Split Spoon G Geoprobe	OVERBURDEN (LIN FT): 12.0 ROCK CORED (LIN FT): 0 SAMPLES: 3G
	BORING NO. GP-35

HALEY & ALDRICH, INC. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-36

PROJECT: Delphi Harrison Thermal Systems, Dayton, OH
CLIENT: G.M. Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-005
SHEET NO. 1 OF 1
-GROUND ELEVATION:
-PVC CASING ELEVATION:
DATUM:
START: 4/21/97 1545pm
FINISH: 4/21/97 1640pm
DRILLER: D. Walmsley
H&A REP: D. Kreitzburg

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE		G	
INSIDE DIAMETER (IN)		1.5	
HAMMER WEIGHT (LB)		-------	
HAMMER FALL (IN)		-------	

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Geoprobe
METHOD:

OTHER: Direct Push/Hammer

DEPTH (FT)	TPH Screening	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
	590		G-1 29"	0.0 4.0	2.5 3.0	Concrete over brown SAND, little gravel, trace silt, moist. - FILL - Dark brown silty SAND, moist. - FILL -
5	177		G-2 30"	4.0 8.0	6.5	Brown clayey SILT, trace sand, moist. - FLUVIAL - Tan sandy GRAVEL, trace silt in pockets, moist. - FLUVIAL -
10	1059		G-3 30"	8.0 12.0	11.7	Same. Gray and wet below 10.0 feet. Gray clayey SILT, little sand, trace gravel, slightly moist. - GLACIAL TILL -
15						BOTTOM OF EXPLORATION AT 12.0 FEET

NOTES:

SAMPLE IDENTIFICATION

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

SUMMARY

OVERBURDEN (LIN FT): 12.0

ROCK CORED (LIN FT): 0

SAMPLES: 3G

BORING NO. GP-36

C

HALEY & ALDRICH, INC. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-37

PROJECT: Delphi Harrison Thermal Systems, Dayton, OH
CLIENT: G.M. Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-005
SHEET NO. 1 OF 1
-GROUND ELEVATION:
-PVC CASING ELEVATION:
DATUM:
START: 4/22/97 0830am
FINISH: 4/22/97 1600am
DRILLER: D. Walmsley
H&A REP: D. Kreitzburg

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE		G	
INSIDE DIAMETER (IN)		1.5	
HAMMER WEIGHT (LB)		-------	
HAMMER FALL (IN)		-------	

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Geoprobe
METHOD:

OTHER: Direct Push/Hammer

DEPTH (FT)	TPH Screening	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
						Concrete over gravel over concrete.
			G-1	2.5	2.5	Brown sandy GRAVEL, trace silt. (*) - FILL -
5	112		26"	8.0	4.0	Brown clayey SILT, littel sand, trace gravel, moist. - FLUVIAL -
			G-2	8.0		Same.
10	61		48"	12.0	9.5	Tan sandy GRAVEL, dry. - FLUVIAL -
			G-3	12.0		Same, gray below 14.0 feet.
	895					Water at 14.0 feet.
15			48"	16.0		
						BOTTOM OF EXPLORATION AT 16.0 FEET

NOTES: 3 tries to 2 feet on concrete refusal.

(*) G-1 wet from concrete coring water.

SAMPLE IDENTIFICATION	SUMMARY
O Open End Rod T Thin Wall Tube U Undisturbed Sample S Split Spoon G Geoprobe	OVERBURDEN (LIN FT): 16.0 ROCK CORED (LIN FT): 0 SAMPLES: 4G
	BORING NO. GP-37

HALEY & ALDRICH, INC. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-38

PROJECT: Delphi Harrison Thermal Systems, Dayton, OH
CLIENT: G.M. Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-005
SHEET NO. 1 OF 1
-GROUND ELEVATION:
-PVC CASING ELEVATION:
DATUM:
START: 4/22/97 0930am
FINISH: 4/22/97 1030am
DRILLER: D. Walmsley
H&A REP: D. Kreitzburg

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE		G	
INSIDE DIAMETER (IN)		1.5	
HAMMER WEIGHT (LB)		-------	
HAMMER FALL (IN)		-------	

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Geoprobe
METHOD:

OTHER: Direct Push/Hammer

DEPTH (FT)	TPH Screening	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
	201		G-1 30"	0.0 4.0		Concrete over brown SAND, little gravel, dry. 2 - 3 feet, Tan well sorted fine SAND.
5	76		G-2 6"	4.0 8.0		Same. - FILL -
10	76		G-3 23"	8.0 12.0	8.5	Tan sandy GRAVEL, slightly moist. - FLUVIAL -
15	374		G-4 37"	12.0 16.0		Same, gray below 13.5 feet. Water at 13.5 feet.
						BOTTOM OF EXPLORATION AT 16.0 FEET

NOTES:

SAMPLE IDENTIFICATION

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

SUMMARY

OVERBURDEN (LIN FT): 16.0

ROCK CORED (LIN FT): 0

SAMPLES: 4G

BORING NO. GP-38

HALEY & ALDRICH, INC. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-39

PROJECT: Delphi Harrison Thermal Systems, Dayton, OH
CLIENT: G.M. Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-005
SHEET NO. 1 OF 1
-GROUND ELEVATION:
-PVC CASING ELEVATION:
DATUM:
START: 4/22/97 1030am
FINISH: 4/22/97 1130am
DRILLER: D. Walmsley
H&A REP: D. Kreitzburg

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE		G	
INSIDE DIAMETER (IN)		1.5	
HAMMER WEIGHT (LB)		-------	
HAMMER FALL (IN)		-------	

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Geoprobe
METHOD:

OTHER: Direct Push/Hammer

DEPTH (FT)	TPH Screening	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
	87		G-1 26"	0.0 4.0	5.5	Concrete over brown SAND, little gravel, trace silt and clay in occasional pockets, dry, with coal. - FILL -
5	68		G-2 31"	4.0 8.0		Same. Dark grayish brown clayey SILT, trace gravel and sand, slightly moist. - FLUVIAL -
10	ND		G-3 40"	8.0 12.0		Same.
15	1099 (Higher)		G-4 44"	12.0 16.0		Same, gray below 14.5 feet. Water at 14.5 feet.
						BOTTOM OF EXPLORATION AT 16.0 FEET

NOTES:

SAMPLE IDENTIFICATION	SUMMARY
O Open End Rod T Thin Wall Tube U Undisturbed Sample S Split Spoon G Geoprobe	OVERBURDEN (LIN FT): 16.0 ROCK CORED (LIN FT): 0 SAMPLES: 4G
	BORING NO. GP-39

HALEY & ALDRICH, INC. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-40

PROJECT: Delphi Harrison Thermal Systems, Dayton, OH
CLIENT: G.M. Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-005
SHEET NO. 1 OF 1
-GROUND ELEVATION:
-PVC CASING ELEVATION:
DATUM:
START: 4/23/97 1630pm
FINISH: 4/23/97 1745pm
DRILLER: D. Walmsley
H&A REP: D. Kreitzburg

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE		G	
INSIDE DIAMETER (IN)		1.5	
HAMMER WEIGHT (LB)		-------	
HAMMER FALL (IN)		-------	

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Geoprobe
METHOD:

OTHER: Direct Push/Hammer

DEPTH (FT)	TPH Screening	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
	66		G-1 27"	0.0 4.0		Concrete over brown gravely SAND, little silt and clay in occasional pockets, slightly moist, with brick fragments. - FILL -
5	97		G-2 32"	4.0 8.0	5.5	Gray SILT, trace clay and sand, moist. - FLUVIAL -
10	51		G-3 40"	8.0 12.0	8.0	Tan sandy GRAVEL, slightly moist. - FLUVIAL -
15	1284		G-4 37"	12.0 16.0		Same, gray below 15.0 feet. Water at 15.0 feet.
						BOTTOM OF EXPLORATION AT 16.0 FEET

NOTES:

SAMPLE IDENTIFICATION

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

SUMMARY

OVERBURDEN (LIN FT): 16.0

ROCK CORED (LIN FT): 0

SAMPLES: 4G

BORING NO. GP-40

HALEY & ALDRICH, INC. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-41

PROJECT: Delphi Harrison Thermal Systems, Dayton, OH
CLIENT: G.M. Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-005
SHEET NO. 1 OF 1
-GROUND ELEVATION:
-PVC CASING ELEVATION:
DATUM:
START: 4/23/97 0800am
FINISH: 4/23/97 0945am
DRILLER: D. Walmsley
H&A REP: D. Kreitzburg

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE		G	
INSIDE DIAMETER (IN)		1.5	
HAMMER WEIGHT (LB)		-------	
HAMMER FALL (IN)		-------	

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Geoprobe
METHOD:

OTHER: Direct Push/Hammer

DEPTH (FT)	TPH Screening	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
	311		G-1 24"	0.0 4.0	3.75	Concrete over dark brown gravely SAND, trace clay in pockets, with coal fragments, dry. - FILL - Brown SILT, little clay and fine sand, slightly moist.
5	289		G-2 37"	4.0 8.0	7.25	- FLUVIAL -
10	112		G-3 34"	8.0 12.0		Tan sandy GRAVEL, trace silt in occasional pockets, dry. - FLUVIAL - Gray below 11.5 feet.
15	866		G-4 34"	12.0 16.0		Same, gray. Wet at 13.75 feet.
						BOTTOM OF EXPLORATION AT 16.0 FEET

NOTES:

SAMPLE IDENTIFICATION	SUMMARY
O Open End Rod T Thin Wall Tube U Undisturbed Sample S Split Spoon G Geoprobe	OVERBURDEN (LIN FT): 16.0 ROCK CORED (LIN FT): 0 SAMPLES: 4G

HALEY & ALDRICH, INC. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-42

PROJECT: Delphi Harrison Thermal Systems, Dayton, OH
CLIENT: G.M. Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-005
SHEET NO. 1 OF 1
-GROUND ELEVATION:
-PVC CASING ELEVATION:
DATUM:
START: 4/23/97 1000am
FINISH: 4/23/97 1100am
DRILLER: D. Walmsley
H&A REP: D. Kreitzburg

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE		G	
INSIDE DIAMETER (IN)		1.5	
HAMMER WEIGHT (LB)		-------	
HAMMER FALL (IN)		-------	

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Geoprobe
METHOD:

OTHER: Direct Push/Hammer

DEPTH (FT)	TPH Screening	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
	604		G-1 14"	0.0 4.0	2.0	Concrete over gray sandy GRAVEL. Brown, tan and red mottled sandy GRAVEL, little silt and clay in occasional pockets, slightly moist. - FILL -
5	875		G-2 29"	4.0 8.0	7.7	
10	112		G-3 34"	8.0 12.0		Tan sandy GRAVEL, slightly moist. - FLUVIAL -
	396		G-4	12.0		Same, gray below 12.0 feet. Wet at 14.0 feet.
15			33"	16.0		
						BOTTOM OF EXPLORATION AT 16.0 FEET

NOTES:

SAMPLE IDENTIFICATION	SUMMARY
O Open End Rod T Thin Wall Tube U Undisturbed Sample S Split Spoon G Geoprobe	OVERBURDEN (LIN FT): 16.0 ROCK CORED (LIN FT): 0 SAMPLES: 4G
	BORING NO. GP-42

HALEY & ALDRICH, INC. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-43

PROJECT: Delphi Harrison Thermal Systems, Dayton, OH
CLIENT: G.M. Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-005
SHEET NO. 1 OF 1
-GROUND ELEVATION:
-PVC CASING ELEVATION:
DATUM:
START: 4/23/97 1100am
FINISH: 4/23/97 1200pm
DRILLER: D. Walmsley
H&A REP: D. Kreitzburg

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE		G	
INSIDE DIAMETER (IN)		1.5	
HAMMER WEIGHT (LB)		-------	
HAMMER FALL (IN)		-------	

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Geoprobe
METHOD:

OTHER: Direct Push/Hammer

DEPTH (FT)	TPH Screening	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
			G-1	0.0		Concrete over gray GRAVEL, dry.
	21				1.7	Brown gravely SAND, little silt and clay in pockets, slightly moist.
			22"	4.0		
5			G-2	4.0		Same.
	37					- FILL -
			21"	8.0	7.0	
			G-3	8.0		Tan sandy GRAVEL, slightly moist.
10	ND					- FLUVIAL -
			20"	12.0		
			G-4	12.0		Same, gray below 14.0 feet.
	73					Wet below 14.0 feet.
15						Free product oil in water.
			33"	16.0		
						BOTTOM OF EXPLORATION AT 16.0 FEET

NOTES:

SAMPLE IDENTIFICATION

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

SUMMARY

OVERBURDEN (LIN FT): 16.0

ROCK CORED (LIN FT): 0

SAMPLES: 4G

BORING NO. GP-43

HALEY & ALDRICH, INC. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-44

PROJECT: Delphi Harrison Thermal Systems, Dayton, OH
CLIENT: G.M. Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-005
SHEET NO. 1 OF 1
-GROUND ELEVATION:
-PVC CASING ELEVATION:
DATUM:
START: 4/23/97 1400pm
FINISH: 4/23/97 1530pm
DRILLER: D. Walmsley
H&A REP: D. Kreitzburg

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE		G	
INSIDE DIAMETER (IN)		1.5	
HAMMER WEIGHT (LB)		-------	
HAMMER FALL (IN)		-------	

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Geoprobe
METHOD:

OTHER: Direct Push/Hammer

DEPTH (FT)	TPH Screening	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
	20		G-1 18"	0.0 4.0		Asphalt over brown, tan and gray mottled gravely SAND, lillte silt and clay in frequent pockets, moist.
5	992		G-2 25"	4.0 8.0		Same. - FILL -
			G-3	8.0	9.5	Same, wet from 8.25 to 9.5 feet.
10	20,000+		30"	12.0		Brownish gray SILT, little clay, trace fine sand, moist. - FLUVIAL -
	521		G-4	12.0	11.8	Tan sandy GRAVEL, moist.
15			40"	16.0		Wet at 15.8 feet.
						BOTTOM OF EXPLORATION AT 16.0 FEET

NOTES:

SAMPLE IDENTIFICATION	SUMMARY
O Open End Rod T Thin Wall Tube U Undisturbed Sample S Split Spoon G Geoprobe	OVERBURDEN (LIN FT): 16.0 ROCK CORED (LIN FT): 0 SAMPLES: 4G
	BORING NO. GP-44

HALEY & ALDRICH, INC. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-45

PROJECT: Delphi Harrison Thermal Systems, Dayton, OH
CLIENT: G.M. Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-005
SHEET NO. 1 OF 1
-GROUND ELEVATION:
-PVC CASING ELEVATION:
DATUM:
START: 4/23/97 1545pm
FINISH: 4/23/97 1700pm
DRILLER: D. Walmsley
H&A REP: D. Kreitzburg

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE		G	
INSIDE DIAMETER (IN)		1.5	
HAMMER WEIGHT (LB)		-------	
HAMMER FALL (IN)		-------	

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Geoprobe
METHOD:

OTHER: Direct Push/Hammer

DEPTH (FT)	TPH Screening	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
	210		G-1 19"	0.0 4.0	1.75	Asphalt over brown GRAVEL, little sand, dry, GRAVEL is 50% slag. Dark brown silty SAND, little clay, moist, large brick fragment at 3.0 feet.
5	1430		G-2 32"	4.0 8.0		Same. - FILL -
10	72		G-3 12"	8.0 12.0	8.5 10.5	Brown SILT, little clay, trace sand, moist. - FLUVIAL - Tan sandy GRAVEL, moist. - FLUVIAL -
15	68		G-4 28"	12.0 16.0		Same. Wet at 15.9 feet.
						BOTTOM OF EXPLORATION AT 16.0 FEET

NOTES:

SAMPLE IDENTIFICATION	SUMMARY
O Open End Rod T Thin Wall Tube U Undisturbed Sample S Split Spoon G Geoprobe	OVERBURDEN (LIN FT): 16.0 ROCK CORED (LIN FT): 0 SAMPLES: 4G
	BORING NO. GP-45

HALEY & ALDRICH, INC. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-46

PROJECT: Delphi Harrison Thermal Systems, Dayton, OH
CLIENT: G.M. Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-005
SHEET NO. 1 OF 1
-GROUND ELEVATION:
-PVC CASING ELEVATION:
DATUM:
START: 4/24/97 0815am
FINISH: 4/24/97 0945pm
DRILLER: D. Walmsley
H&A REP: D. Kreitzburg

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE		G	
INSIDE DIAMETER (IN)		1.5	
HAMMER WEIGHT (LB)		-------	
HAMMER FALL (IN)		-------	

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Geoprobe
METHOD:

OTHER: Direct Push/Hammer

DEPTH (FT)	PCB Screening	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
	ND		G-1 28"	0.0 4.0	3.7	Tan and brown sandy GRAVEL, little silt and caly in pockets, slightly moist. - FILL -
5	ND		G-2 24"	4.0 8.0		Dark brown silty SAND, little clay, moist. - FLUVIAL -
10	ND		G-3 22"	8.0 12.0		Same.
15	ND		G-4 32"	12.0 16.0	14.0	Same. Tan sandy GRAVEL, moist, wet below 15.0 feet. Water at 15.0 feet. - FLUVIAL -
						BOTTOM OF EXPLORATION AT 16.0 FEET

NOTES:

SAMPLE IDENTIFICATION

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

SUMMARY

OVERBURDEN (LIN FT): 16.0

ROCK CORED (LIN FT): 0

SAMPLES: 4G

BORING NO. GP-46

HALEY & ALDRICH, INC. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-47

PROJECT: Delphi Harrison Thermal Systems, Dayton, OH
CLIENT: G.M. Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-005
SHEET NO. 1 OF 1
-GROUND ELEVATION:
-PVC CASING ELEVATION:
DATUM:
START: 4/24/97 1000am
FINISH: 4/24/97 1130pm
DRILLER: D. Walmsley
H&A REP: D. Kreitzburg

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE		G	
INSIDE DIAMETER (IN)		1.5	
HAMMER WEIGHT (LB)		-------	
HAMMER FALL (IN)		-------	

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Geoprobe
METHOD:

OTHER: Direct Push/Hammer

DEPTH (FT)	PCB Screening	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
	ND		G-1 39"	0.0 4.0		Asphalt over dark brown silty SAND, little gravel and clay, moist. - FILL -
5	ND		G-2 26"	4.0 8.0		Same.
10	ND		G-3 24"	8.0 12.0	10.4	Same. Gray clayey SILT, trace fine sand, moist. - FLUVIAL -
15	ND		G-4 42"	12.0 16.0	13.2	Tan sandy GRAVEL, moist. - FLUVIAL - Wet at 15.8 feet.
						BOTTOM OF EXPLORATION AT 16.0 FEET

NOTES:

SAMPLE IDENTIFICATION

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

SUMMARY

OVERBURDEN (LIN FT): 16.0

ROCK CORED (LIN FT): 0

SAMPLES: 4G

HALEY & ALDRICH, INC. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-48

PROJECT: Delphi Harrison Thermal Systems, Dayton, OH
CLIENT: G.M. Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-005
SHEET NO. 1 OF 1
-GROUND ELEVATION:
-PVC CASING ELEVATION:
DATUM:
START: 4/24/97 1245pm
FINISH: 4/24/97 1415pm
DRILLER: D. Walmsley
H&A REP: D. Kreitzburg

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE		G	
INSIDE DIAMETER (IN)		1.5	
HAMMER WEIGHT (LB)		-------	
HAMMER FALL (IN)		-------	

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Geoprobe
METHOD:

OTHER: Direct Push/Hammer

DEPTH (FT)	PID Screening	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
	76.2		G-1 20"	0.0 4.0		Concrete over brown sandy GRAVEL, little silt, trace clay. (wet from concrete coring). - FILL -
5	262		G-2 22"	4.0 8.0	6.0 7.0	Brownish gray clayey SILT, trace fine sand, moist. - FLUVIAL - Tan sandy GRAVEL, moist.
10	114		G-3 30"	8.0 12.0		Same. - FLUVIAL -
15	56.3		G-4 32"	12.0 16.0		Same. Wet and gray below 14.3 feet.
						BOTTOM OF EXPLORATION AT 16.0 FEET

NOTES:

SAMPLE IDENTIFICATION

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

SUMMARY

OVERBURDEN (LIN FT): 16.0

ROCK CORED (LIN FT): 0

SAMPLES: 4G

BORING NO. GP-48

HALEY & ALDRICH, INC. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-49

PROJECT: Delphi Harrison Thermal Systems, Dayton, OH
CLIENT: G.M. Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-005
SHEET NO. 1 OF 1
-GROUND ELEVATION:
-PVC CASING ELEVATION:
DATUM:
START: 4/24/97 1430pm
FINISH: 4/24/97 1645pm
DRILLER: D. Walmsley
H&A REP: D. Kreitzburg

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE		G	
INSIDE DIAMETER (IN)		1.5	
HAMMER WEIGHT (LB)		-------	
HAMMER FALL (IN)		-------	

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Geoprobe
METHOD:

OTHER: Direct Push/Hammer

DEPTH (FT)	PID Screening	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
	600		G-1 23"	0.0 4.0		Concrete over brown sandy GRAVEL, trace silt, wet from concrete coring. - FILL -
5	821		G-2 18"	4.0 8.0	5.0	Tan sandy GRAVEL, wet (coring water).
10	136		G-3 31"	8.0 12.0		Same. - FLUVIAL -
15	477		G-4 29"	12.0 16.0		Same. Wet and gray below 15.0 feet.
						BOTTOM OF EXPLORATION AT 16.0 FEET

NOTES:

SAMPLE IDENTIFICATION	SUMMARY
O Open End Rod T Thin Wall Tube U Undisturbed Sample S Split Spoon G Geoprobe	OVERBURDEN (LIN FT): 16.0 ROCK CORED (LIN FT): 0 SAMPLES: 4G

HALEY & ALDRICH, INC. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-50

PROJECT: Delphi Harrison Thermal Systems, Dayton, OH
CLIENT: G.M. Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-005
SHEET NO. 1 OF 1
-GROUND ELEVATION:
-PVC CASING ELEVATION:
DATUM:
START: 4/24/97 1700pm
FINISH: 4/24/97 1800pm
DRILLER: D. Walmsley
H&A REP: D. Kreitzburg

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE		G	
INSIDE DIAMETER (IN)		1.5	
HAMMER WEIGHT (LB)		-------	
HAMMER FALL (IN)		-------	

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Geoprobe
METHOD:

OTHER: Direct Push/Hammer

DEPTH (FT)	PID Screening	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
	47		G-1 20"	0.0 4.0	2.5	Concrete over gray GRAVEL. - FILL -
5	53		G-2 36"	4.0 8.0	6.5	Brown silty SAND, little gravel, wet from coring water on top, moist. Tan sandy GRAVEL, slightly moist.
10	ND		G-3 44"	8.0 12.0		Same.
15	622		G-4 48"	12.0 16.0		Same. Wet below 15.0 feet.
						BOTTOM OF EXPLORATION AT 16.0 FEET

NOTES:

SAMPLE IDENTIFICATION	SUMMARY
O Open End Rod T Thin Wall Tube U Undisturbed Sample S Split Spoon G Geoprobe	OVERBURDEN (LIN FT): 16.0 ROCK CORED (LIN FT): 0 SAMPLES: 4G

BORING NO. GP-50

HALEY & ALDRICH, INC. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-51

PROJECT: Delphi Harrison Thermal Systems, Dayton, OH
CLIENT: G.M. Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-005
SHEET NO. 1 OF 1
-GROUND ELEVATION:
-PVC CASING ELEVATION:
DATUM:
START: 4/28/97 1100am
FINISH: 4/28/97 1300pm
DRILLER: D. Walmsley
H&A REP: D. Kreitzburg

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE		G	
INSIDE DIAMETER (IN)		1.5	
HAMMER WEIGHT (LB)		-------	
HAMMER FALL (IN)		-------	

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Geoprobe
METHOD:

OTHER: Direct Push/Hammer

DEPTH (FT)	PID Screening	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
			G-1	0.0		Concrete over gray GRAVEL, dry.
	ND				1.5	Brown gravely SAND, little silt and clay, slightly moist.
			22"	4.0		
5			G-2	4.0		Same. moist.
	ND					- FILL -
			30"	8.0		
			G-3	8.0		Same, wet.
10	ND				9.5	Dark gray silty CLAY, little sand in occasional pockets, moist, with Wood fragments. - FLUVIAL -
			37"	12.0	11.0	Tan SAND, medium grained, well sorted, moist. - FLUVIAL -
			G-4	12.0	12.0	Brown gravely SAND, moist.
	23.1					Water at 14.5 feet.
15			28"	16.0		- FLUVIAL -
						BOTTOM OF EXPLORATION AT 16.0 FEET

NOTES:

SAMPLE IDENTIFICATION	SUMMARY
O Open End Rod T Thin Wall Tube U Undisturbed Sample S Split Spoon G Geoprobe	OVERBURDEN (LIN FT): 16.0 ROCK CORED (LIN FT): 0 SAMPLES: 4G

HALEY & ALDRICH, INC. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-52

PROJECT: Delphi Harrison Thermal Systems, Dayton, OH
CLIENT: G.M. Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-005
SHEET NO. 1 OF 1
-GROUND ELEVATION:
-PVC CASING ELEVATION:
DATUM:
START: 4/28/97 1330pm
FINISH: 4/28/97 1445pm
DRILLER: D. Walmsley
H&A REP: D. Kreitzburg

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE		G	
INSIDE DIAMETER (IN)		1.5	
HAMMER WEIGHT (LB)		-------	
HAMMER FALL (IN)		-------	

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Geoprobe
METHOD:

OTHER: Direct Push/Hammer

DEPTH (FT)	PID Screening	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
	ND		G-1 28"	0.0 4.0	2.0	Concrete over gray sandy GRAVEL, dry.
						Dark gray gravely SILT, little clay and sand, moist, with wood, brown below 3.5 feet.
						- FILL -
5	ND		G-2 32"	4.0 8.0	5.5 6.0	Black SAND, little gravel, slightly moist.
						Tan gravely SAND, slightly moist.
10	ND		G-3 36"	8.0 12.0		Same.
						- FLUVIAL -
	ND		G-4 45"	12.0 16.0		Same.
15						Water at 14.5 feet.
						BOTTOM OF EXPLORATION AT 16.0 FEET

NOTES:

SAMPLE IDENTIFICATION	SUMMARY
O Open End Rod T Thin Wall Tube U Undisturbed Sample S Split Spoon G Geoprobe	OVERBURDEN (LIN FT): 16.0 ROCK CORED (LIN FT): 0 SAMPLES: 4G

BORING NO. GP-52

HALEY & ALDRICH, INC. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-53

PROJECT: Delphi Harrison Thermal Systems, Dayton, OH
CLIENT: G.M. Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-005
SHEET NO. 1 OF 1
-GROUND ELEVATION:
-PVC CASING ELEVATION:
DATUM:
START: 4/29/97 1040am
FINISH: 4/29/97 1130am
DRILLER: D. Walmsley
H&A REP: D. Kreitzburg

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE		G	
INSIDE DIAMETER (IN)		1.5	
HAMMER WEIGHT (LB)		-------	
HAMMER FALL (IN)		-------	

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Geoprobe
METHOD:

OTHER: Direct Push/Hammer

DEPTH (FT)	PID Screening	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
	17.3		G-1 35"	0.0 4.0	1.5	Asphalt over gray sandy GRAVEL, dry.
						Dark brown silty SAND, littel gravel and silt in pockets, moist.
						- FILL -
5	2.6		G-2 29"	4.0 8.0	6.0 7.6	Same.
						Brown sandy GRAVEL, trace silt and clay, very moist.
						Dark grayish brown clayey SILT, little sand in occasional pockets, moist.
10	ND		G-3 34"	8.0 12.0	11.0	- FLUVIAL -
						Tan sandy GRAVEL, moist, wet below 11.7 feet.
						Water at 11.7 feet. - FLUVIAL -
						BOTTOM OF EXPLORATION AT 12.0 FEET
15						

NOTES:

SAMPLE IDENTIFICATION	SUMMARY
O Open End Rod T Thin Wall Tube U Undisturbed Sample S Split Spoon G Geoprobe	OVERBURDEN (LIN FT): 12.0 ROCK CORED (LIN FT): 0 SAMPLES: 3G

BORING NO. GP-53

HALEY & ALDRICH, INC. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-54

PROJECT: Delphi Harrison Thermal Systems, Dayton, OH
CLIENT: G.M. Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-005
SHEET NO. 1 OF 1
-GROUND ELEVATION:
-PVC CASING ELEVATION:
DATUM:
START: 4/29/97 1230pm
FINISH: 4/29/97 1345pm
DRILLER: D. Walmsley
H&A REP: D. Kreitzburg

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE		G	
INSIDE DIAMETER (IN)		1.5	
HAMMER WEIGHT (LB)		-------	
HAMMER FALL (IN)		-------	

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Geoprobe
METHOD:

OTHER: Direct Push/Hammer

DEPTH (FT)	PID Screening	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
	ND		G-1 8"	0.0 4.0	2.0	Concrete over brown sandy GRAVEL, dry.
5	12.4		G-2 10"	4.0 8.0	7.0	Brown silty SAND, little gravel, moist. - FILL - Same.
10	8.2		G-3 29"	8.0 12.0	10.5	Dark grayish brown clayey SILT, sandy in occasional pockets, moist. - FLUVIAL - Tan sandy GRAVEL, wet at 11.5 feet.
15						BOTTOM OF EXPLORATION AT 12.0 FEET

NOTES:

SAMPLE IDENTIFICATION	SUMMARY
O Open End Rod T Thin Wall Tube U Undisturbed Sample S Split Spoon G Geoprobe	OVERBURDEN (LIN FT): 12.0 ROCK CORED (LIN FT): 0 SAMPLES: 3G

HALEY & ALDRICH, INC. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-55

PROJECT: Delphi Harrison Thermal Systems, Dayton, OH
CLIENT: G.M. Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-005
SHEET NO. 1 OF 1
-GROUND ELEVATION:
-PVC CASING ELEVATION:
DATUM:
START: 4/30/97 0800am
FINISH: 4/30/97 0930am
DRILLER: D. Walmsley
H&A REP: D. Kreitzburg

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE		G	
INSIDE DIAMETER (IN)		1.5	
HAMMER WEIGHT (LB)		-------	
HAMMER FALL (IN)		-------	

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Geoprobe
METHOD:

OTHER: Direct Push/Hammer

DEPTH (FT)	Screening TPH	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
	ND		G-1 46"	0.0 4.0		Brown sandy GRAVEL, little silt and clay in pockets, slightly moist. - FILL -
5	ND		G-2 42"	4.0 8.0	6.8	Same. Brown SAND, trace gravel, moist. - FILL -
			G-3	8.0 8.3		probe refusal at 8.3 feet.
10	27					BOTTOM OF EXPLORATION AT 8.3 FEET
15						

NOTES:

SAMPLE IDENTIFICATION	SUMMARY
O Open End Rod T Thin Wall Tube U Undisturbed Sample S Split Spoon G Geoprobe	OVERBURDEN (LIN FT): 8.3 ROCK CORED (LIN FT): 0 SAMPLES: 3G
	BORING NO. GP-55

HALEY & ALDRICH, INC. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-56

PROJECT: Delphi Harrison Thermal Systems, Dayton, OH
CLIENT: G.M. Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-005
SHEET NO. 1 OF 1
-GROUND ELEVATION:
-PVC CASING ELEVATION:
DATUM:
START: 4/30/97 0940am
FINISH: 4/30/97 1030am
DRILLER: D. Walmsley
H&A REP: D. Kreitzburg

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE		G	
INSIDE DIAMETER (IN)		1.5	
HAMMER WEIGHT (LB)		-------	
HAMMER FALL (IN)		-------	

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Geoprobe
METHOD:

OTHER: Direct Push/Hammer

DEPTH (FT)	Screening TPH	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
	ND		G-1 48"	0.0 4.0		Tan and brown sandy GRAVEL, little silt and clay in occasional pockets, slightly moist.
5	ND		G-2 39"	4.0 8.0		Same.
10	27		G-3 37"	8.0 12.0		- FILL - Water at 10.5 feet.
15						BOTTOM OF EXPLORATION AT 12.0 FEET

NOTES:

SAMPLE IDENTIFICATION

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

SUMMARY

OVERBURDEN (LIN FT): 12.0

ROCK CORED (LIN FT): 0

SAMPLES: 3G

HALEY & ALDRICH, INC. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-57

PROJECT: Delphi Harrison Thermal Systems, Dayton, OH
CLIENT: G.M. Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-005
SHEET NO. 1 OF 1
-GROUND ELEVATION:
-PVC CASING ELEVATION:
DATUM:
START: 4/30/97 1045am
FINISH: 4/30/97 1130am
DRILLER: D. Walmsley
H&A REP: D. Kreitzburg

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE		G	
INSIDE DIAMETER (IN)		1.5	
HAMMER WEIGHT (LB)		-------	
HAMMER FALL (IN)		-------	

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Geoprobe
METHOD:

OTHER: Direct Push/Hammer

DEPTH (FT)	Screening TPH	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
	23		G-1 32"	0.0 4.0		Concrete over tan gravely SAND, slightly moist. - FILL -
5	179		G-2 46"	4.0 8.0	4.3 5.5 7.0 7.9	Dark gray clayey SILT, little fine sand in pockets, moist. - FLUVIAL - Same, brown. Brown silty SAND, little silt and clay in pockets, moist.
10	100		G-3 45"	8.0 12.0		Tan sandy GRAVEL, moist. Water at 10.5 feet. - FLUVIAL -
15						BOTTOM OF EXPLORATION AT 12.0 FEET

NOTES:

SAMPLE IDENTIFICATION

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

SUMMARY

OVERBURDEN (LIN FT): 12.0

ROCK CORED (LIN FT): 0

SAMPLES: 3G

BORING NO. GP-57

HALEY & ALDRICH, INC. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-58

PROJECT: Delphi Harrison Thermal Systems, Dayton, OH
CLIENT: G.M. Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-005
SHEET NO. 1 OF 1
-GROUND ELEVATION:
-PVC CASING ELEVATION:
DATUM:
START: 4/30/97 1220pm
FINISH: 4/30/97 1330pm
DRILLER: D. Walmsley
H&A REP: D. Kreitzburg

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE		G	
INSIDE DIAMETER (IN)		1.5	
HAMMER WEIGHT (LB)		-------	
HAMMER FALL (IN)		-------	

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Geoprobe
METHOD:

OTHER: Direct Push/Hammer

DEPTH (FT)	PID Screening	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
	197		G-1 28"	0.0 4.0	3.0	Asphalt over brown and gray sandy GRAVEL, dry. - FILL -
						Dark brown gravely SAND, little silt, trace clay, moist. - FILL -
5	523		G-2 30"	4.0 8.0	5.0	Dark gray SILT, little clay, trace sand, very moist.
10	224		G-3 30"	8.0 12.0	11.0	Tan sandy GRAVEL. Water at 11.5 feet. - FLUVIAL -
15						BOTTOM OF EXPLORATION AT 12.0 FEET

NOTES:

SAMPLE IDENTIFICATION	SUMMARY
O Open End Rod T Thin Wall Tube U Undisturbed Sample S Split Spoon G Geoprobe	OVERBURDEN (LIN FT): 12.0 ROCK CORED (LIN FT): 0 SAMPLES: 39

HALEY & ALDRICH, INC. Underground Engineers and Environmental Solutions	TEST BORING REPORT	BORING NO. GP-1

PROJECT: General Motors - DHTS, Chip Area
CLIENT: General Motors Legal Counsel
CONTRACTOR: AST Environmental, Inc.

FILE NO. 79032-008
SHEET NO. 1 OF 1
LOCATION:

ELEVATION:
DATUM:
START: 30 June 1998
FINISH: 30 June 1998
DRILLER: T. Merk
H&A REP: N. Malakar

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE		GP	
INSIDE DIAMETER (IN)		1 3/8"	
HAMMER WEIGHT (LB)			
HAMMER FALL (IN)			

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Truck-mounted Geoprobe
BIT TYPE:
DRILL MUD:
OTHER:

DEPTH (FT)	PID SCREENING	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
	ND		G-1 24"	0 – 4	1.6	Brown gravel and SAND, damp. 3" brick fragment at 1.4'
						Dark brown silty CLAY, trace gravel, damp.
5	ND		G-2 48"	4 – 8	4.7	Brown CLAY with little coarse sand, moist.
					6.3	Light gray sand and GRAVEL, moist.
10	ND		G-3 48"	8 – 12		Same. Wet.
	ND		G-4 48"	12 – 16		Same. Wet.
15						BOTTOM OF EXPLORATION AT 16.0 FEET.
20						
25						

NOTES:

SAMPLE IDENTIFICATION

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon

SUMMARY

OVERBURDEN (LIN FT): 16.0

ROCK CORED (LIN FT): None

SAMPLES: G-1, G-4

BORING NO. GP-1

HALEY & ALDRICH, INC. Underground Engineers and Environmental Solutions	TEST BORING REPORT	BORING NO. GP-2

PROJECT: General Motors - DHTS, Chip Area
CLIENT: General Motors Legal Counsel
CONTRACTOR: AST Environmental, Inc.

FILE NO. 79032-008
SHEET NO. 1 OF 1
LOCATION:

ELEVATION:
DATUM:
START: 30 June 1998
FINISH: 30 June 1998
DRILLER: T. Merk
H&A REP: N. Malakar

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE		GP	
INSIDE DIAMETER (IN)		1 3/8"	
HAMMER WEIGHT (LB)			
HAMMER FALL (IN)			

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Truck-mounted Geoprobe
BIT TYPE:
DRILL MUD:
OTHER:

DEPTH (FT)	PID SCREENING	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
	ND		G-1 48"	0 – 4	0.7	Brown clayey SAND, little gravel, damp.
						Dark brown clayey SILT, trace gravel, dry.
5	ND		G-2 48"	4 – 8		Same. Becoming brown silty clay with little sand, moist.
10	122		G-3 48"	8 – 12	7.6	Gray, poorly sorted sand and GRAVEL, damp. 11.5': Black liquid mixed with the sand and gravel, wet.
15	161		G-4 48"	12 – 16		Same. Black liquid until 12.5', then gray poorly sorted sand and gravel, wet.
20						BOTTOM OF EXPLORATION AT 16.0 FEET.
25						

NOTES:

SAMPLE IDENTIFICATION

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon

SUMMARY

OVERBURDEN (LIN FT): 16.0

ROCK CORED (LIN FT): None

SAMPLES: G-1, G-2

BORING NO. GP-2

HALEY & ALDRICH, INC. Underground Engineers and Environmental Solutions	TEST BORING REPORT	BORING NO. GP-3

PROJECT: General Motors - DHTS, Chip Area
CLIENT: General Motors Legal Counsel
CONTRACTOR: AST Environmental, Inc.

FILE NO. 79032-008
SHEET NO. 1 OF 1
LOCATION:

ELEVATION:
DATUM:
START: 1 July 1998
FINISH: 1 July 1998
DRILLER: T. Merk
H&A REP: N. Malakar

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE		GP	
INSIDE DIAMETER (IN)		1 3/8"	
HAMMER WEIGHT (LB)			
HAMMER FALL (IN)			

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Truck-mounted Geoprobe
BIT TYPE:
DRILL MUD:
OTHER:

DEPTH (FT)	PID SCREENING	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
				0		Concrete.
	ND		G-1 24"	4	2.0	Gray sand and GRAVEL, dry to damp. 2.4': 1" slag layer.
					2.8	Brown sandy CLAY, trace to little gravel, damp.
5	ND		G-2 48"	4 / 8		Same. Becoming silty clay with little sand and gravel.
					7.5	Tan sand and GRAVEL, moist becoming wet. Black residue on sand and gravel at 11.6'.
10	431		G-3 48"	8 / 12		
	737		G-4 48"	12 / 16		Same. Residual black liquid coating on sand and gravel grains.
15						BOTTOM OF EXPLORATION AT 16.0 FEET.
20						
25						

NOTES:

SAMPLE IDENTIFICATION

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon

SUMMARY

OVERBURDEN (LIN FT): 16.0

ROCK CORED (LIN FT): None

SAMPLES: G-1, G-3, G-4

BORING NO. GP-3

HALEY & ALDRICH, INC. Underground Engineers and Environmental Solutions	TEST BORING REPORT	BORING NO. GP-4

PROJECT: General Motors - DHTS, Chip Area
CLIENT: General Motors Legal Counsel
CONTRACTOR: AST Environmental, Inc.

FILE NO. 79032-008
SHEET NO. 1 OF 1
LOCATION:

ELEVATION:
DATUM:
START: 30 June 1998
FINISH: 30 June 1998
DRILLER: T. Merk
H&A REP: N. Malakar

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE		GP	
INSIDE DIAMETER (IN)		1 3/8"	
HAMMER WEIGHT (LB)			
HAMMER FALL (IN)			

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Truck-mounted Geoprobe
BIT TYPE:
DRILL MUD:
OTHER:

DEPTH (FT)	PID SCREENING	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
	248		G-1 48"	0 4	0.8 2.0	Brown sand and GRAVEL, trace organics, damp. Gray gravel and corase SAND, stained black throughout, damp. Gray clayey SILT, trace gravel with black staining throughout, damp.
5	272		G-2 48"	4 8	6.3	Gray sand and GRAVEL, moist to wet. Black staining throughout.
10	590		G-3 48"	8 12		Same. Dark black staining at 11.6'.
15	369		G-4 48"	12 16		Same. Mainly gravel. Some black staining around 12.0'.
20						BOTTOM OF EXPLORATION AT 16.0 FEET.
25						

NOTES:

SAMPLE IDENTIFICATION

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon

SUMMARY

OVERBURDEN (LIN FT): 16.0

ROCK CORED (LIN FT): None

SAMPLES: G-1, G-3

BORING NO. GP-4

HALEY & ALDRICH, INC. Underground Engineers and Environmental Solutions	TEST BORING REPORT	BORING NO. GP-5

PROJECT: General Motors - DHTS, Chip Area
CLIENT: General Motors Legal Counsel
CONTRACTOR: AST Environmental, Inc.

FILE NO. 79032-008
SHEET NO. 1 OF 1
LOCATION:

ELEVATION:
DATUM:
START: 30 June 1998
FINISH: 30 June 1998
DRILLER: T. Merk
H&A REP: N. Malakar

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE		GP	
INSIDE DIAMETER (IN)		1 3/8"	
HAMMER WEIGHT (LB)			
HAMMER FALL (IN)			

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Truck-mounted Geoprobe
BIT TYPE:
DRILL MUD:
OTHER:

DEPTH (FT)	PID SCREENING	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
	213		G-1 48"	0 – 4	0.7	Brown clayey sand and GRAVEL, damp.
					1.4	Gray GRAVEL, stained black throughout, damp.
5	ND		G-2 48"	4 – 8		Brown clayey SILT, trace coarse sand, damp.
			G-3 48"	8 – 12	6.9	Gray and brown mottled sand and GRAVEL, some orange staining, damp. Same. Damp to moist.
10	ND					
	517		G-4 48"	12 – 16		Same. Oil sheen on water.
15						
						BOTTOM OF EXPLORATION AT 16.0 FEET.
20						
25						

NOTES:

SAMPLE IDENTIFICATION

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon

SUMMARY

OVERBURDEN (LIN FT): 16.0

ROCK CORED (LIN FT): None

SAMPLES: G-1, G-4

BORING NO. GP-5

HALEY & ALDRICH, INC. Underground Engineers and Environmental Solutions	TEST BORING REPORT	BORING NO. GP-6

PROJECT: General Motors - DHTS, Chip Area
CLIENT: General Motors Legal Counsel
CONTRACTOR: AST Environmental, Inc.

FILE NO. 79032-008
SHEET NO. 1 OF 1
LOCATION:

ELEVATION:
DATUM:
START: 30 June 1998
FINISH: 30 June 1998
DRILLER: T. Merk
H&A REP: N. Malakar

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE		GP	
INSIDE DIAMETER (IN)		1 3/8"	
HAMMER WEIGHT (LB)			
HAMMER FALL (IN)			

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Truck-mounted Geoprobe
BIT TYPE:
DRILL MUD:
OTHER:

DEPTH (FT)	PID SCREENING	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
	6.9		G-1 48"	0 – 4	1.2	Brown clayey SAND, trace to little gravel, damp. Becoming stained black at 1.2'.
						Brown clayey SILT, trace coarse sand and gravel, trace black staining.
5	ND		G-2 24"	4 – 8	6.0	Same. Becoming black sandy silt, trace to little gravel, damp.
						Gray medium SAND, trace to little gravel, moist to wet.
	396		G-3 24"	8 – 10		Same. Black staining beginning at 9.4'.
10						GEOPROBE REFUSAL AT 10.0 FEET.
15						
20						
25						

NOTES:

SAMPLE IDENTIFICATION

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon

SUMMARY

OVERBURDEN (LIN FT): 10.0

ROCK CORED (LIN FT): None

SAMPLES: G-1, G-3

BORING NO. GP-6

HALEY & ALDRICH, INC. Underground Engineers and Environmental Solutions	TEST BORING REPORT	BORING NO. GP-7

PROJECT: General Motors - DHTS, Chip Area
CLIENT: General Motors Legal Counsel
CONTRACTOR: AST Environmental, Inc.

FILE NO. 79032-008
SHEET NO. 1 OF 1
LOCATION:

ELEVATION:
DATUM:
START: 1 July 1998
FINISH: 1 July 1998
DRILLER: T. Merk
H&A REP: N. Malakar

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE		GP	
INSIDE DIAMETER (IN)		1 3/8"	
HAMMER WEIGHT (LB)			
HAMMER FALL (IN)			

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Truck-mounted Geoprobe
BIT TYPE:
DRILL MUD:
OTHER:

DEPTH (FT)	PID SCREENING	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
				0	1.0	Concrete.
	324		G-1 36"	4	3.0	Sand and GRAVEL with little clay, moist.
5	ND		G-2 48"	8	7.3	Brown clayey SILT, trace to little coarse sand, damp. 3.6': 1" black coated gravel layer.
10	ND		G-3 48"	12		Brown and gray mottled sandy GRAVEL, damp. Same. Damp to wet.
15	102		G-4 48"	16		Same. Becoming gray in color.
20						BOTTOM OF EXPLORATION AT 16.0 FEET.
25						

NOTES:

SAMPLE IDENTIFICATION

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon

SUMMARY

OVERBURDEN (LIN FT): 16.0

ROCK CORED (LIN FT): None

SAMPLES: G-1, G-3

BORING NO. GP-7

H A-L E Y & A L D R I C H, I N C. Underground Engineers and Environmental Solutions	TEST BORING REPORT	BORING NO. GP-8

PROJECT: General Motors - DHTS, Chip Area
CLIENT: General Motors Legal Counsel
CONTRACTOR: AST Environmental, Inc.

FILE NO. 79032-008
SHEET NO. 1 OF 1
LOCATION:

ELEVATION:
DATUM:
START: 1 July 1998
FINISH: 1 July 1998
DRILLER: T. Merk
H&A REP: N. Malakar

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE		GP	
INSIDE DIAMETER (IN)		1 3/8"	
HAMMER WEIGHT (LB)			
HAMMER FALL (IN)			

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Truck-mounted Geoprobe
BIT TYPE:
DRILL MUD:
OTHER:

DEPTH (FT)	PID SCREENING	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
				0		Concrete.
	ND		G-1 24"	4	2.0 3.1	Brown sand and GRAVEL, poorly sorted, dry. Brown sandy SILT, little coarse sand, dry.
5	ND		G-2 48"	4 8		Same. Becoming tan sandy silty clay, damp.
10	ND		G-3 48"	8 12	7.8	Gray sand and GRAVEL, moist to wet.
15	176		G-4 48"	12 16		Same. Wet. Sand and gravel coated in residual brownish black liquid at 12.5' for 2".
20						BOTTOM OF EXPLORATION AT 16.0 FEET.
25						

NOTES:

SAMPLE IDENTIFICATION

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon

SUMMARY

OVERBURDEN (LIN FT): 16.0

ROCK CORED (LIN FT): None

SAMPLES: G-1, G-4

BORING NO. GP-8

HALEY & ALDRICH, INC. Underground Engineers and Environmental Solutions	TEST BORING REPORT	BORING NO. GP-9

PROJECT: General Motors - DHTS, Chip Area
CLIENT: General Motors Legal Counsel
CONTRACTOR: AST Environmental, Inc.

FILE NO. 79032-008
SHEET NO. 1 OF 1
LOCATION:

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE		GP	
INSIDE DIAMETER (IN)		1 3/8"	
HAMMER WEIGHT (LB)			
HAMMER FALL (IN)			

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Truck-mounted Geoprobe
BIT TYPE:
DRILL MUD:
OTHER:

ELEVATION:
DATUM:
START: 1 July 1998
FINISH: 1 July 1998
DRILLER: T. Merk
H&A REP: N. Malakar

DEPTH (FT)	PID SCREENING	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
	ND		G-1 48"	0 4	2.0	Brown gravel and SAND, trace organics, dry.
						Brown silty CLAY, trace to little sand and gravel, dry.
5	ND		G-2 48"	4 8	5.5	Same. 3" brick at 4.0'.
						Brown sand and GRAVEL, damp.
10	92		G-3 48"	8 12		Same. Black coating on sand and gravel grains.
	ND		G-4 48"	12 16		Same. Trace residual coating around 12.5'. Sand and gravel coated in residual brownish black liquid at 12.5' for 2".
15						BOTTOM OF EXPLORATION AT 16.0 FEET.
20						
25						

NOTES:

SAMPLE IDENTIFICATION

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon

SUMMARY

OVERBURDEN (LIN FT): 16.0

ROCK CORED (LIN FT): None

SAMPLES: G-1, G-4

BORING NO. GP-9

HALEY & ALDRICH, INC. Underground Engineers and Environmental Solutions	TEST BORING REPORT	BORING NO. GP-10

PROJECT: General Motors - DHTS, Chip Area
CLIENT: General Motors Legal Counsel
CONTRACTOR: AST Environmental, Inc.

FILE NO. 79032-008
SHEET NO. 1 OF 1
LOCATION:

ELEVATION:
DATUM:
START: 1 July 1998
FINISH: 1 July 1998
DRILLER: T. Merk
H&A REP: N. Malakar

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE		GP	
INSIDE DIAMETER (IN)		1 3/8"	
HAMMER WEIGHT (LB)			
HAMMER FALL (IN)			

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Truck-mounted Geoprobe
BIT TYPE:
DRILL MUD:
OTHER:

DEPTH (FT)	PID SCREENING	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
				0	1.0	Concrete.
	533		G-1 36"	4	3.1	Brown gravel and SAND, damp.
5	ND		G-2 48"	8		Brown silty CLAY, trace to little sand and gravel. 1" gravel layer at 4.0'. Black residual resinous material covering gravel.
10	190		G-3 48"	12	7.9	Brown sand and GRAVEL, damp. Gravel becoming coated with black material at 11.8'.
15	370		G-4 48"	16		Same. Black liquid on water not in recoverable amounts.
20						BOTTOM OF EXPLORATION AT 16.0 FEET.
25						

NOTES:

SAMPLE IDENTIFICATION

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon

SUMMARY

OVERBURDEN (LIN FT): 16.0

ROCK CORED (LIN FT): None

SAMPLES: G-1, G-4

BORING NO. GP-10

HALEY & ALDRICH, INC. Underground Engineers and Environmental Solutions	TEST BORING REPORT	BORING NO. GP-11

PROJECT: General Motors - DHTS, Chip Area
CLIENT: General Motors Legal Counsel
CONTRACTOR: AST Environmental, Inc.

FILE NO. 79032-008
SHEET NO. 1 OF 1
LOCATION:

ELEVATION:
DATUM:
START: 1 July 1998
FINISH: 1 July 1998
DRILLER: T. Merk
H&A REP: N. Malakar

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE		GP	
INSIDE DIAMETER (IN)		1 3/8"	
HAMMER WEIGHT (LB)			
HAMMER FALL (IN)			

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Truck-mounted Geoprobe
BIT TYPE:
DRILL MUD:
OTHER:

DEPTH (FT)	PID SCREENING	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
	ND		G-1 48"	0 4		Brown gravel and SAND, trace organics, damp. 3.8': Black residual material on grains.
5						GOEPROBE REFUSAL AT 4.0 FEET.
10						
15						
20						
25						

NOTES:

SAMPLE IDENTIFICATION

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon

SUMMARY

OVERBURDEN (LIN FT): 4.0

ROCK CORED (LIN FT): None

SAMPLES: G-1

BORING NO. GP-11

HALEY & ALDRICH, INC. Underground Engineers and Environmental Solutions	TEST BORING REPORT	BORING NO. GP-12

PROJECT: General Motors - DHTS, Chip Area
CLIENT: General Motors Legal Counsel
CONTRACTOR: AST Environmental, Inc.

FILE NO. 79032-008
SHEET NO. 1 OF 1
LOCATION:

ELEVATION:
DATUM:
START: 1 July 1998
FINISH: 1 July 1998
DRILLER: T. Merk
H&A REP: N. Malakar

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE		GP	
INSIDE DIAMETER (IN)		1 3/8"	
HAMMER WEIGHT (LB)			
HAMMER FALL (IN)			

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Truck-mounted Geoprobe
BIT TYPE:
DRILL MUD:
OTHER:

DEPTH (FT)	PID SCREENING	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
	131		G-1 36"	0 4		Brown SAND, trace to little gravel, dry. Becoming stained black at 1.8'. Lens of black stained sandy silt from 2.0 to 2.5'.
5	ND		G-2 24"	4 8	6.2	Same. Becoming black sandy silt, trace to little gravel, damp. Gray sand and GRAVEL, damp. Trace residual black material covering sand and gravel.
10	174		G-3 48"	8 12		Same.
15	936		G-4 48"	12 16		Same. Wet. Black liquid present on water.
20						BOTTOM OF EXPLORATION AT 16.0 FEET.
25						

NOTES:

SAMPLE IDENTIFICATION

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon

SUMMARY

OVERBURDEN (LIN FT): 16.0

ROCK CORED (LIN FT): None

SAMPLES: G-1, G-4

BORING NO. GP-12

HALEY & ALDRICH, INC. Underground Engineers and Environmental Solutions	TEST BORING REPORT	BORING NO. GP-13

PROJECT: General Motors - DHTS, Chip Area
CLIENT: General Motors Legal Counsel
CONTRACTOR: AST Environmental, Inc.

FILE NO. 79032-008
SHEET NO. 1 OF 1
LOCATION:

ELEVATION:
DATUM:
START: 1 July 1998
FINISH: 1 July 1998
DRILLER: T. Merk
H&A REP: N. Malakar

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE INSIDE DIAMETER (IN) HAMMER WEIGHT (LB) HAMMER FALL (IN)		GP 1 3/8"	

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Truck-mounted Geoprobe
BIT TYPE:
DRILL MUD:
OTHER:

DEPTH (FT)	PID SCREENING	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
	216		G-1 48"	0 4	1.3	Brown gravel and SAND, trace organic material, becoming stained black at 1.0'.
5	ND		G-2 12"	4 8	7.5	Brown sandy SILT, trace gravel, stained black, dry. Same.
10	563		G-3 48"	8 12		Gray sand and GRAVEL, dry. Same. Residual black material covering sand and gravel at 11.4'.
15	149		G-4 38"	12 16		Same. Wet. Black liquid present on water.
20						BOTTOM OF EXPLORATION AT 16.0 FEET.
25						

NOTES:

SAMPLE IDENTIFICATION

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon

SUMMARY

OVERBURDEN (LIN FT): 16.0

ROCK CORED (LIN FT): None

SAMPLES: G-1, G-2, G-3

BORING NO. GP-13

H_A L E Y & A L D R I C H, I N C. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-1

PROJECT: Former Delphi Harrison Thermal Systems, Dayton, OH
CLIENT: G.M. Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-010
SHEET NO. 1 OF 1
-GROUND ELEVATION:
-PVC CASING ELEVATION:
DATUM:
START: 2/18/99
FINISH: 2/18/99
DRILLER: T. Kelley
H&A REP: T. Correll

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE		SS	
INSIDE DIAMETER (IN)		1 3/8"	
HAMMER WEIGHT (LB)		140	
HAMMER FALL (IN)		30"	

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Truck-Mounted Geoprobe
METHOD:

OTHER: Direct Push/Hammer

DEPTH (FT)	PID SCREENING (ppm)	HEADSPACE SCREENING (ppm)	SAMPLE NUMBER	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
				0	8.0in.	8.0 inches of concrete.
	ND	NT	S-1 30"	4		
5	*	NT	S-2 0"	4 8		Void. 0.0 inches of recovery.
10	ND	NT	S-3 42"	8 12		Brown SAND and GRAVEL, with Cobbles, Dry.
	48	119	S-4 48"	12 16	15.5	Same. Black Stain at 15.2 ft.
15						Water at 15.5 ft.
						BOTTOM OF EXPLORATION AT 16.0 FEET

NOTES: * S2, spoon sank freely from 4-8 feet with zero recovery.

NT: Not Tested

ND: Not Detected

SAMPLE IDENTIFICATION

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

SUMMARY

OVERBURDEN (LIN FT): 16.0

ROCK CORED (LIN FT): 0

SAMPLES: S4, none to lab

BORING NO. GP-1

HALEY & ALDRICH, INC. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-2

PROJECT: Former Delphi Harrison Thermal Systems, Dayton, OH
CLIENT: G.M. Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-010
SHEET NO. 1 OF 1
-GROUND ELEVATION:
-PVC CASING ELEVATION:
DATUM:
START: 2/18/99
FINISH: 2/18/99
DRILLER: T. Kelley
H&A REP: T. Correll

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE		SS	
INSIDE DIAMETER (IN)		1 3/8"	
HAMMER WEIGHT (LB)		140	
HAMMER FALL (IN)		30"	

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Truck-Mounted Geoprobe
METHOD:

OTHER: Direct Push/Hammer

DEPTH (FT)	PID SCREENING (ppm)	HEADSPACE SCREENING (ppm)	SAMPLE NUMBER	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
				0	8.0in.	8.0 inches of Concrete.
	ND	NT	S-1 30"	4		Black silty SAND and GRAVEL. Black stains.
5	ND	NT	S-2 46"	4 8		Same, becoming damp.
10	ND	NT	S-3 42"	8 12		Brown SAND and GRAVEL, with Cobbles, Dry.
	284	374	S-4 48"	12 16	14.5	Same. Black staining at 14.2 ft.
15						Water at 14.5 ft.
						BOTTOM OF EXPLORATION AT 16.0 FEET

NOTES: NT: Not Tested

ND: Not Detected

SAMPLE IDENTIFICATION	SUMMARY
O Open End Rod T Thin Wall Tube U Undisturbed Sample S Split Spoon G Geoprobe	OVERBURDEN (LIN FT): 16.0 ROCK CORED (LIN FT): 0 SAMPLES: S4, none to lab
	BORING NO. GP-2

HALEY & ALDRICH, INC. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-3

PROJECT: Former Delphi Harrison Thermal Systems, Dayton, OH
CLIENT: G.M. Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-010
SHEET NO. 1 OF 1
-GROUND ELEVATION:
-PVC CASING ELEVATION:
DATUM:
START: 2/18/99
FINISH: 2/18/99
DRILLER: T. Kelley
H&A REP: T. Correll

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE		SS	
INSIDE DIAMETER (IN)		1 3/8"	
HAMMER WEIGHT (LB)		140	
HAMMER FALL (IN)		30"	

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Truck-Mounted Geoprobe
METHOD:

OTHER: Direct Push/Hammer

DEPTH (FT)	PID SCREENING (ppm)	HEADSPACE SCREENING (ppm)	SAMPLE NUMBER	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
				0	8.0in.	8.0 inches of Concrete.
	ND	NT	S-1 40"	4		Black silty, sandy, CLAY with Gravel. 3.3-3.7ft. Orange staining on silty SAND and GRAVEL.
5	ND	NT	S-2 34"	4 8		Brown SAND and GRAVEL, becoming moist.
10	ND	NT	S-3 48"	8 12		Same.
	25.5	95	S-4 42"	12 16	14.2	Same. Water at 14.2 ft.
15						BOTTOM OF EXPLORATION AT 15.0 FEET

NOTES: NT: Not Tested
ND: Not Detected

SAMPLE IDENTIFICATION	SUMMARY
O Open End Rod T Thin Wall Tube U Undisturbed Sample S Split Spoon G Geoprobe	OVERBURDEN (LIN FT): 16.0 ROCK CORED (LIN FT): 0 SAMPLES: S4, none to lab
	BORING NO. GP-3

HALEY & ALDRICH, INC. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-4

PROJECT: Former Delphi Harrison Thermal Systems, Dayton, OH
CLIENT: REALM, INC./G.M. Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-010
SHEET NO. 1 OF 1
-GROUND ELEVATION:
-PVC CASING ELEVATION:
DATUM:
START: 2/17/99
FINISH: 2/17/99
DRILLER: T. Kelley
H&A REP: T. Correll

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE		SS	
INSIDE DIAMETER (IN)		1 3/8"	
HAMMER WEIGHT (LB)		140	
HAMMER FALL (IN)		30"	

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Truck-Mounted Geoprobe
METHOD:

OTHER: Direct Push/Hammer

DEPTH (FT)	PID SCREENING (ppm)	HEADSPACE SCREENING (ppm)	SAMPLE NUMBER	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
				0	3.0in.	3.0 inches of Concrete.
	ND	NT	S-1 26"	4		Black silty CLAY, becoming Sandy.
5	ND	NT	S-2 26"	4 8	7.8	Black silty, sandy SILT with small Gravel.
10	0.2	NT	S-3 16"	8 12		Brown and Orange Mottled Silty CLAY. Same.
15	0.5	ND	S-4 42"	12 16		Brown silty SAND and GRAVEL, damp.
	246	973	S-5 46"	16 20	18.5	Same, wet.
20						Water at 18.5 ft.
						BOTTOM OF EXPLORATION AT 20.0 FEET.

NOTES: NT: Not Tested

Spoon obstructed by medium cobble at 9.4 ft.

ND: Not Detected

SAMPLE IDENTIFICATION	SUMMARY
O Open End Rod T Thin Wall Tube U Undisturbed Sample S Split Spoon G Geoprobe	OVERBURDEN (LIN FT): 20.0 ROCK CORED (LIN FT): 0 SAMPLES: S5, none to lab BORING NO. GP-4

H A L E Y & A L D R I C H, I N C. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-5

PROJECT: Former Delphi Harrison Thermal Systems, Dayton, OH
CLIENT: REALM,INC./G.M. Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-010
SHEET NO. 1 OF 1
-GROUND ELEVATION:
-PVC CASING ELEVATION:
DATUM:
START: 2/17/99
FINISH: 2/17/99
DRILLER: T. Kelley
H&A REP: T. Correll

ITEM	CASING	DRIVE SAMPLER	CORE BARREL	DRILLING EQUIPMENT & PROCEDURES
TYPE		SS		RIG TYPE: Truck-Mounted Geoprobe
INSIDE DIAMETER (IN)		1 3/8"		METHOD:
HAMMER WEIGHT (LB)		140		
HAMMER FALL (IN)		30"		OTHER: Direct Push/Hammer

DEPTH (FT)	PID SCREENING (ppm)	HEADSPACE SCREENING (ppm)	SAMPLE NUMBER	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
				0	2.0in.	2.0 inches of Asphalt.
	ND	NT	S-1			Brown SAND, becoming sandy, silty CLAY with Gravel, damp.
			36"	4		
5				4		Same.
	0.9	NT	S-2			
			28"	8		
				8		Same.
10	ND	NT	S-3			
			32"	12		
				12		Same.
	ND	ND	S-4			
15			18"	16	15.0	
						Black stained SAND and GRAVEL, Damp.
				16		Same.
	498	1043	S-5			
					18.3	
			48"	20		Water at 18.3 ft.
20						BOTTOM OF EXPLORATION AT 20.0 FEET.

NOTES: NT: Not Tested
ND: Not Detected

SAMPLE IDENTIFICATION	SUMMARY
O Open End Rod T Thin Wall Tube U Undisturbed Sample S Split Spoon G Geoprobe	OVERBURDEN (LIN FT): 20.0 ROCK CORED (LIN FT): 0 SAMPLES: S5, none to lab
	BORING NO. GP-5

HALEY & ALDRICH, INC. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-6

PROJECT: Former Delphi Harrison Thermal Systems, Dayton, OH
CLIENT: REALM,INC./G.M. Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-010
SHEET NO. 1 OF 1
-GROUND ELEVATION:
-PVC CASING ELEVATION:
DATUM:
START: 2/17/99
FINISH: 2/17/99
DRILLER: T. Kelley
H&A REP: T. Correll

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE		SS	
INSIDE DIAMETER (IN)		1 3/8"	
HAMMER WEIGHT (LB)		140	
HAMMER FALL (IN)		30"	

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Truck-Mounted Geoprobe
METHOD:

OTHER: Direct Push/Hammer

DEPTH (FT)	PID SCREENING (ppm)	HEADSPACE SCREENING (ppm)	SAMPLE NUMBER	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
					3.0in.	3.0 inches of Asphalt.
	ND	NT	S-1 40"	0 4		Brown SAND, well sorted fine to coarse, damp.
5	ND	NT	S-2 34"	4 8		Same.
10	0.8	NT	S-3 37"	8 12		Same.
	1.3	28	S-4 46"	12 16	14.6	Same.
15						Water, gray in color.
20						BOTTOM OF EXPLORATION AT 16.0 FEET.

NOTES: NT: Not Tested
ND: Not Detected

SAMPLE IDENTIFICATION

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

SUMMARY

OVERBURDEN (LIN FT): 16.0

ROCK CORED (LIN FT): 0

SAMPLES: S4, none to lab

BORING NO. GP-6

HALEY & ALDRICH, INC. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-7

PROJECT: Former Delphi Harrison Thermal Systems, Dayton, OH
CLIENT: REALM, INC./G.M. Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-010
SHEET NO. 1 OF 1
-GROUND ELEVATION:
-PVC CASING ELEVATION:
DATUM:
START: 2/17/99
FINISH: 2/17/99
DRILLER: T. Kelley
H&A REP: T. Correll

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE		SS	
INSIDE DIAMETER (IN)		1 3/8"	
HAMMER WEIGHT (LB)		140	
HAMMER FALL (IN)		30"	

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Truck-Mounted Geoprobe
METHOD:

OTHER: Direct Push/Hammer

DEPTH (FT)	PID SCREENING (ppm)	HEADSPACE SCREENING (ppm)	SAMPLE NUMBER	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
				0	3.0in.	3.0 inches of Concrete.
	ND	NT	S-1 42"	4		Brown SAND, well sorted fine to coarse, damp.
5	ND	NT	S-2 36"	4 8		Same.
10	1.1	NT	S-3 46"	8 12	11.7	Same.
	926	1105	S-4 45"	12 16		Black and gray SAND and GRAVEL, damp. Same.
15					14.9	Water, gray in color.
						BOTTOM OF EXPLORATION AT 16.0 FEET.
20						

NOTES: NT: Not Tested
ND: Not Detected

SAMPLE IDENTIFICATION	SUMMARY
O Open End Rod T Thin Wall Tube U Undisturbed Sample S Split Spoon G Geoprobe	OVERBURDEN (LIN FT): 16.0 ROCK CORED (LIN FT): 0 SAMPLES: S4, none to lab
	BORING NO. GP-7

HALEY & ALDRICH, INC. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-8

PROJECT: Former Delphi Harrison Thermal Systems, Dayton, OH
CLIENT: REALM,INC./G.M. Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-010
SHEET NO. 1 OF 1
-GROUND ELEVATION:
-PVC CASING ELEVATION:
DATUM:
START: 2/17/99
FINISH: 2/17/99
DRILLER: T. Kelley
H&A REP: T. Correll

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE		SS	
INSIDE DIAMETER (IN)		1 3/8"	
HAMMER WEIGHT (LB)		140	
HAMMER FALL (IN)		30"	

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Truck-Mounted Geoprobe
METHOD:

OTHER: Direct Push/Hammer

DEPTH (FT)	PID SCREENING (ppm)	HEADSPACE SCREENING (ppm)	SAMPLE NUMBER	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
				0	2.0in.	2.0 inches of Concrete.
	ND	NT	S-1 30"	4		Brown silty SAND and GRAVEL, dry.
5	ND	NT	S-2 41"	4 8		Same, becoming damp at 6.5 ft.
10	ND	NT	S-3 46"	8 12		Brown SAND and GRAVEL with small Cobbles.
	228	418	S-4 46"	12 16	14.2	Same, becoming wet.
15						Water at 14.2 ft.
						BOTTOM OF EXPLORATION AT 16.0 FEET.
20						

NOTES: NT: Not Tested

ND: Not Detected

SAMPLE IDENTIFICATION	SUMMARY
O Open End Rod T Thin Wall Tube U Undisturbed Sample S Split Spoon G Geoprobe	OVERBURDEN (LIN FT): 16.0 ROCK CORED (LIN FT): 0 SAMPLES: S4, none to lab BORING NO. GP-8

HALEY & ALDRICH, INC. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-9

PROJECT: Former Delphi Harrison Thermal Systems, Dayton, OH
CLIENT: REALM, INC./G.M. Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-010
SHEET NO. 1 OF 1
-GROUND ELEVATION:
-PVC CASING ELEVATION:
DATUM:
START: 2/17/99
FINISH: 2/17/99
DRILLER: T. Kelley
H&A REP: T. Correll

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE		SS	
INSIDE DIAMETER (IN)		1 3/8"	
HAMMER WEIGHT (LB)		140	
HAMMER FALL (IN)		30"	

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Truck-Mounted Geoprobe
METHOD:

OTHER: Direct Push/Hammer

DEPTH (FT)	PID SCREENING (ppm)	HEADSPACE SCREENING (ppm)	SAMPLE NUMBER	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
				0	3.0in.	3.0 inches of Concrete.
	ND	NT	S-1 32"	4		Brown silty SAND and GRAVEL, dry.
5	ND	NT	S-2 36"	4 8		Same, becoming damp at 6.6 ft.
10	ND	NT	S-3 38"	8 12		Same.
	155	220	S-4 42"	12 16	14.8	Same.
15						Water at 14.8 ft.
						BOTTOM OF EXPLORATION AT 16.0 FEET.
20						

NOTES: NT: Not Tested
ND: Not Detected

SAMPLE IDENTIFICATION	SUMMARY
O Open End Rod T Thin Wall Tube U Undisturbed Sample S Split Spoon G Geoprobe	OVERBURDEN (LIN FT): 16.0 ROCK CORED (LIN FT): 0 SAMPLES: S4, none to lab BORING NO. GP-9

HALEY & ALDRICH, INC. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-10

PROJECT: Former Delphi Harrison Thermal Systems, Dayton, OH
CLIENT: REALM,INC./G.M. Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-010
SHEET NO. 1 OF 1
-GROUND ELEVATION:
-PVC CASING ELEVATION:
DATUM:
START: 2/17/99
FINISH: 2/17/99
DRILLER: T. Kelley
H&A REP: T. Correll

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE		SS	
INSIDE DIAMETER (IN)		1 3/8"	
HAMMER WEIGHT (LB)		140	
HAMMER FALL (IN)		30"	

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Truck-Mounted Geoprobe
METHOD:

OTHER: Direct Push/Hammer

DEPTH (FT)	PID SCREENING (ppm)	HEADSPACE SCREENING (ppm)	SAMPLE NUMBER	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
				0	3.0in.	3.0 inches of Concrete.
	ND	NT	S-1 36"	4		Brown and orange mottled silty,sandy CLAY with Gravel, dry.
5	ND	NT	S-2 32"	4 8		Same, becoming brown silty SAND and GRAVEL, dry.
10	1185	2239	S-3 42"	8 12		Same, damp.
					11.0	Black staining at 11.0 ft.
	455	784	S-4 46"	12 16	13.1	Same. Brown SAND and GRAVEL, damp.
15						
	428	229	S-5 40"	16 20	18.2	Same. Water at 18.2 ft.
20						BOTTOM OF EXPLORATION AT 20.0 FEET.

NOTES: NT: Not Tested

1185 ppm reading taken from black stain.

ND: Not Detected

SAMPLE IDENTIFICATION	SUMMARY
O Open End Rod T Thin Wall Tube U Undisturbed Sample S Split Spoon G Geoprobe	OVERBURDEN (LIN FT): 20.0 ROCK CORED (LIN FT): 0 SAMPLES: S3,S4,S5, none to lab
	BORING NO. GP-10

HALEY & ALDRICH, INC. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-11

PROJECT: Former Delphi Harrison Thermal Systems, Dayton, OH
CLIENT: REALM, INC./G.M. Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-010
SHEET NO. 1 OF 1
-GROUND ELEVATION:
-PVC CASING ELEVATION:
DATUM:
START: 2/17/99
FINISH: 2/17/99
DRILLER: T. Kelley
H&A REP: T. Correll

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE		SS	
INSIDE DIAMETER (IN)		1 3/8"	
HAMMER WEIGHT (LB)		140	
HAMMER FALL (IN)		30"	

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Truck-Mounted Geoprobe
METHOD:

OTHER: Direct Push/Hammer

DEPTH (FT)	PID SCREENING (ppm)	HEADSPACE SCREENING (ppm)	SAMPLE NUMBER	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
					3.0in.	3.0 inches of Concrete.
	ND	NT	S-1	0		Brown and orange mottled silty,sandy CLAY, dry.
			36"	4	3.1	Brown SAND and crushed Gravel, dry.
5				4		Same.
	ND	NT	S-2			
			30"	8	7.0	Black stained SAND and GRAVEL, becoming damp.
				8		Same.
					8.8	
10	ND	NT	S-3			Brown silty, sandy CLAY with Gravel, damp.
			45"	12		
				12		Same, becoming brown coarse SAND, trace gravel, damp.
	ND	NT	S-4			
15			48"	16		
				16		Same, becoming black stained at 18.5 ft.
	223	537	S-5			
			48"	20	19.0	
20						Water at 19.0 ft.
						BOTTOM OF EXPLORATION AT 20.0 FEET.

NOTES: NT: Not Tested

ND: Not Detected

SAMPLE IDENTIFICATION	SUMMARY
O Open End Rod T Thin Wall Tube U Undisturbed Sample S Split Spoon G Geoprobe	OVERBURDEN (LIN FT): 20.0 ROCK CORED (LIN FT): 0 SAMPLES: S5, none to lab BORING NO. GP-11

HALEY & ALDRICH, INC. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-12

PROJECT: Former Delphi Harrison Thermal Systems, Dayton, OH
CLIENT: G.M. Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-010
SHEET NO. 1 OF 1
-GROUND ELEVATION:
-PVC CASING ELEVATION:
DATUM:
START: 2/18/99
FINISH: 2/18/99
DRILLER: T. Kelley
H&A REP: T. Correll

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE		SS	
INSIDE DIAMETER (IN)		1 3/8"	
HAMMER WEIGHT (LB)		140	
HAMMER FALL (IN)		30"	

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Truck-Mounted Geoprobe
METHOD:

OTHER: Direct Push/Hammer

DEPTH (FT)	PID SCREENING (ppm)	HEADSPACE SCREENING (ppm)	SAMPLE NUMBER	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
				0	3.0in.	3.0 inches of Asphalt.
	ND	NT	S-1 42"	4		Brown silty, SAND and GRAVEL, dry.
5	ND	NT	S-2 15"	4 8		Same.
10						BOTTOM OF EXPLORATION AT 8.0 FEET.
15						

NOTES: Geoprobe refusal at 8.0 ft. Driller did not want to risk his last spoon.

NT: Not Tested

ND: Not Detected

IDENTIFICATION	SUMMARY
O Open End Rod T Thin Wall Tube U Undisturbed Sample S Split Spoon G Geoprobe	OVERBURDEN (LIN FT): 8.0 ROCK CORED (LIN FT): 0 SAMPLES: none
	BORING NO. GP-12

HALEY & ALDRICH, INC. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-13

PROJECT: Former Delphi Harrison Thermal Systems, Dayton, OH
CLIENT: G.M. Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-010
SHEET NO. 1 OF 1
-GROUND ELEVATION:
-PVC CASING ELEVATION:
DATUM:
START: 2/18/99
FINISH: 2/18/99
DRILLER: T. Kelley
H&A REP: T. Correll

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE		SS	
INSIDE DIAMETER (IN)		1 3/8"	
HAMMER WEIGHT (LB)		140	
HAMMER FALL (IN)		30"	

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Truck-Mounted Geoprobe
METHOD:

OTHER: Direct Push/Hammer

DEPTH (FT)	PID SCREENING (ppm)	HEADSPACE SCREENING (ppm)	SAMPLE NUMBER	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
				0	3.0in.	3.0 inches of Asphalt.
	ND	NT	S-1 42"	4		Black and brown silty SAND and GRAVEL, dry.
5						BOTTOM OF EXPLORATION AT 4.0 FEET.
10						
15						

NOTES: Geoprobe refusal at 4.0 ft. Geoprobe split spoon destroyed.

NT: Not Tested

ND: NOt Detected

IDENTIFICATION	SUMMARY
O Open End Rod T Thin Wall Tube U Undisturbed Sample S Split Spoon G Geoprobe	OVERBURDEN (LIN FT): 4.0 ROCK CORED (LIN FT): 0 SAMPLES: none
	BORING NO. GP-13

HALEY & ALDRICH, INC. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-14

PROJECT: Former Delphi Harrison Thermal Systems, Dayton, OH
CLIENT: G.M. Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-010
SHEET NO. 1 OF 1
-GROUND ELEVATION:
-PVC CASING ELEVATION:
DATUM:
START: 2/18/99
FINISH: 2/18/99
DRILLER: T. Kelley
H&A REP: T. Correll

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE		SS	
INSIDE DIAMETER (IN)		1 3/8"	
HAMMER WEIGHT (LB)		140	
HAMMER FALL (IN)		30"	

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Truck-Mounted Geoprobe
METHOD:

OTHER: Direct Push/Hammer

DEPTH (FT)	PID SCREENING (ppm)	HEADSPACE SCREENING (ppm)	SAMPLE NUMBER	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
				0	3.0in.	3.0 inches of Asphalt.
	ND	NT	S-1			Black and brown silty SAND and GRAVEL, dry.
			42"	4		
5						BOTTOM OF EXPLORATION AT 4.0 FEET.
10						
15						

NOTES: Geoprobe encountered many cobbles and rip-rap. Refusal at 4.0 ft. Geoprobe split spoon destroyed.

NT: Not Tested

ND: Not Detected

IDENTIFICATION	
O	Open End Rod
T	Thin Wall Tube
U	Undisturbed Sample
S	Split Spoon
G	Geoprobe

SUMMARY

OVERBURDEN (LIN FT): 4.0

ROCK CORED (LIN FT): 0

SAMPLES: none

BORING NO. GP-14

H_A L E Y & A L D R I C H, I N C. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-15

PROJECT: Former Delphi Harrison Thermal Systems, Dayton, OH
CLIENT: G.M. Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-010
SHEET NO. 1 OF 1
-GROUND ELEVATION:
-PVC CASING ELEVATION:
DATUM:
START: 2/18/99
FINISH: 2/18/99
DRILLER: T. Kelley
H&A REP: T. Correll

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE		SS	
INSIDE DIAMETER (IN)		1 3/8"	
HAMMER WEIGHT (LB)		140	
HAMMER FALL (IN)		30"	

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Truck-Mounted Geoprobe
METHOD:

OTHER: Direct Push/Hammer

DEPTH (FT)	PID SCREENING (ppm)	HEADSPACE SCREENING (ppm)	SAMPLE NUMBER	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
	ND	NT	S-1 41"	0 4	3.0in. 2.9	3.0 inches of Asphalt. Brown silty SAND and GRAVEL, dry. Black stained SAND and GRAVEL, Dry.
5	ND	NT	S-2 48"	4 8		Same, becoming brown SAND and GRAVEL, damp.
10	ND	NT	S-3 48"	8 12		Same.
	ND	NT	S-4 40"	12 16	14.5	Same. Water at 14.5 ft.
15						BOTTOM OF EXPLORATION AT 16.0 FEET

NOTES: NT: Not Tested

ND: Not Detected

SAMPLE IDENTIFICATION	SUMMARY
O Open End Rod T Thin Wall Tube U Undisturbed Sample S Split Spoon G Geoprobe	OVERBURDEN (LIN FT): 16.0 ROCK CORED (LIN FT): 0 SAMPLES: none
	BORING NO. GP-15

HALEY & ALDRICH, INC. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-301

PROJECT: Delphi Harrison Thermal Systems
CLIENT: REALM/GM Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-010
SHEET NO. 1 OF 1
LOCATION:

ELEVATION:
DATUM: NGVD 1929
START: 6/17/99
FINISH: 6/17/99
DRILLER: T. Kelley
H&A REP: Correll

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE			
INSIDE DIAMETER (IN)			
HAMMER WEIGHT (LB)			
HAMMER FALL (IN)			

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Truck Mounted Geoprobe
BIT TYPE: 48" Macrocore
DRILL MUD: ---
OTHER: ---

DEPTH (FT)	HNu FIELD SCREENING (ppm)	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
			GP-1	0.0	0.80	10.0 inches of CONCRETE
	0.0		17"	4.0		Black silty fine to medium SAND, some gravel, with 'coal like' fragments, dry.
5	0.0		GP-2	4.0	7.0	Brown silty fine SAND, moist.
			41"	8.0		
10	430		GP-3	8.0		Becoming brown silty fine to coarse SAND, some gravel, dry. Lightbrown silty SAND & GRAVEL, moist to damp. Strong odor.
			38"	12.0		
	299		GP-4	12.0		Same, black resinous staining present.
15			20"	15.0		
						BOTTOM OF EXPLORATION AT 15.0 FT.
20						
25						

NOTES:

SAMPLE IDENTIFICATION

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

SUMMARY

OVERBURDEN (LIN FT): 15.0 ft.

ROCK CORED (LIN FT): ---

SAMPLES: 301/2, 301/4

BORING NO. GP-301

HALEY & ALDRICH, INC. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-302

PROJECT: Delphi Harrison Thermal Systems
CLIENT: REALM/GM Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-010
SHEET NO. 1 OF 1
LOCATION: See Plan

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE			
INSIDE DIAMETER (IN)			
HAMMER WEIGHT (LB)			
HAMMER FALL (IN)			

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Truck Mounted Geoprobe
BIT TYPE: 48" Macrocore
DRILL MUD: ---
OTHER: ---

ELEVATION:
DATUM: NGVD 1929
START: 6/16/99
FINISH: 6/16/99
DRILLER: T. Kelley
H&A REP: Correll

DEPTH (FT)	HNu FIELD SCREENING (ppm)	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
					2.0	Refusal at 2.0 ft. 302 a,b,c,d

5
10
15
20
25

NOTES:

SAMPLE IDENTIFICATION	SUMMARY
O Open End Rod T Thin Wall Tube U Undisturbed Sample S Split Spoon G Geoprobe	OVERBURDEN (LIN FT): --- ROCK CORED (LIN FT): --- SAMPLES: 302/1
	BORING NO. GP-302

HALEY & ALDRICH, INC. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-303

PROJECT: Delphi Harrison Thermal Systems
CLIENT: REALM/GM Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-010
SHEET NO. 1 OF 1
LOCATION: See Plan

ELEVATION:
DATUM: NGVD 1929
START: 6/16/99
FINISH: 6/16/99
DRILLER: T. Kelley
H&A REP: Correll

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE			
INSIDE DIAMETER (IN)			
HAMMER WEIGHT (LB)			
HAMMER FALL (IN)			

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Truck Mounted Geoprobe
BIT TYPE: 48" Macrocore
DRILL MUD: ---
OTHER: ---

DEPTH (FT)	HNu FIELD SCREENING (ppm)	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
			GP-1	0.0	0.2	2.0 inches of ASPHALT.
	0.0		34"	4.0	2.0	Brown fine SAND, moist.
5	26.4		GP-2	4.0		Black silty fine to medium SAND, trace gravel, oil coating on grains.
			42"	8.0		Same.
10	24.1		GP-3	8.0		Same with interbedded gray SAND & GRAVEL, damp
			41"	12.0		
	64.7		GP-4	12.0		Black silty fine SAND, trace gravel, damp. Layer of 'oil like' substance 13.1 - 13.3 ft.
15			32"	15.0		
						BOTTOM OF EXPLORATION AT 15.0 FT.
20						
25						

NOTES:

SAMPLE IDENTIFICATION

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

SUMMARY

OVERBURDEN (LIN FT): 15.0

ROCK CORED (LIN FT): ---

SAMPLES: 303/2.303/4

BORING NO. GP-305

H-A L E Y & A L D R I C H, I N C. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-304

PROJECT: Delphi Harrison Thermal Systems
CLIENT: REALM/GM Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-010
SHEET NO. 1 OF 1
LOCATION: See Plan

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE			
INSIDE DIAMETER (IN)			
HAMMER WEIGHT (LB)			
HAMMER FALL (IN)			

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Truck Mounted Geoprobe
BIT TYPE: 48" Macrocore
DRILL MUD: ---
OTHER: ---

ELEVATION:
DATUM: NGVD 1929
START: 6/17/99
FINISH: 6/17/99
DRILLER: T. Kelley
H&A REP: Correll

DEPTH (FT)	HNu FIELD SCREENING (ppm)	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
			GP-1	0.8	0.8	10.0 inches of CONCRETE.
	0.0					Brown fine sand, dry.
			38"	4.0	3.0	
5	38.9		GP-2	4.0		Black & brown mottled silty fine to medium SAND with GRAVEL. Dry to moist. Thinly layered, black asphalt(?) interbedded throughout.
			40"	8.0		
			GP-3	8.0		Same
10	0.0				9.0	Black sandy silt, trace gravel, wet.
			39"	12.0		
			GP-4	12.0		Same.
	46.3				13.0	Gray and light brown mottled SAND and gravel, damp.
15			35"	15.0		
						BOTTOM OF EXPLORATION AT 15.0 FT.
20						
25						

NOTES:

SAMPLE IDENTIFICATION

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

SUMMARY

OVERBURDEN (LIN FT): 15.0
ROCK CORED (LIN FT): ---
SAMPLES: None to lab

BORING NO. GP-304

HALEY & ALDRICH, INC. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-305

PROJECT: Delphi Harrison Thermal Systems
CLIENT: REALM/GM Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-010
SHEET NO. 1 OF 1
LOCATION: See Plan

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE			
INSIDE DIAMETER (IN)			
HAMMER WEIGHT (LB)			
HAMMER FALL (IN)			

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Truck Mounted Geoprobe
BIT TYPE: 48" Macrocore
DRILL MUD: ---
OTHER: ---

ELEVATION:
DATUM: NGVD 1929
START: 6/16/99
FINISH: 6/16/99
DRILLER: T. Kelley
H&A REP: Correll

DEPTH (FT)	HNu FIELD SCREENING (ppm)	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
			GP-1	0.0	0.5	5.0 inches of ASPHALT.
	0.0		45"	4.0		Black, light brown and gray silty SAND and GRAVEL, dry.
5			GP-2	4.0		Same.
	0.0		32"	8.0		
			GP-3	8.0		Black and brown sandy SILT, trace gravel moist to wet, oil sheen present on wet surfaces.
10	0.0		46"	12.0		
			GP-4	12.0		Same. Oil sheen present on wet surfaces.
15			32"	15.0		
						BOTTOM OF EXPLORATION AT 15.0 FT.
20						
25						

NOTES:

SAMPLE IDENTIFICATION

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

SUMMARY

OVERBURDEN (LIN FT): 15.0

ROCK CORED (LIN FT): ---

SAMPLES: None to lab

BORING NO. GP-305

HALEY & ALDRICH, INC. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-306

PROJECT: Delphi Harrison Thermal Systems
CLIENT: REALM/GM Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-010
SHEET NO. 1 OF 1
LOCATION: Dayton, OH

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE			
INSIDE DIAMETER (IN)			
HAMMER WEIGHT (LB)			
HAMMER FALL (IN)			

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Truck Mounted Geoprobe
BIT TYPE: 48" Macrocore
DRILL MUD: ---
OTHER: ---

ELEVATION:
DATUM: NGVD 1929
START: 6/17/99
FINISH: 6/17/99
DRILLER: T. Kelley
H&A REP: Correll

DEPTH (FT)	HNu FIELD SCREENING (ppm)	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
	0.0		GP-1 14"	0.0 4.0		Light brown and gray silty SAND & GRAVEL, moist.
5	0.0		GP-2 13"	4.0 8.0	7.0	Same. Black and brown mottled, clayey SILT, some sand & gravel, trace cinders, moist. Same, less cinders, becoming damp.
10	0.0		GP-3 36"	8.0 12.0	12.0	
	0.0		GP-4 42"	12.0 15.0	14.2	Brown fine GRAVEL, some medium to coarse sand. Light brown fine to medium sand, some gravel, wet.
15						BOTTOM OF EXPLORATION AT 15.0 FT.
20						
25						

NOTES:

SAMPLE IDENTIFICATION

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

SUMMARY

OVERBURDEN (LIN FT): 15.0 ft.

ROCK CORED (LIN FT): ---

SAMPLES: 306/2, 306/4

BORING NO. GP-306

HALEY & ALDRICH, INC. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-307

PROJECT: Delphi Harrison Thermal Systems
CLIENT: REALM/GM Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-010
SHEET NO. 1 OF 1
LOCATION: See Plan

ELEVATION:
DATUM: NGVD 1929
START: 6/17/99
FINISH: 6/17/99
DRILLER: T. Kelley
H&A REP: Correll

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE			
INSIDE DIAMETER (IN)			
HAMMER WEIGHT (LB)			
HAMMER FALL (IN)			

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Truck Mounted Geoprobe
BIT TYPE: 48" Macrocore
DRILL MUD: ---
OTHER: ---

DEPTH (FT)	HNu FIELD SCREENING (ppm)	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
0	0.0		GP-1 36"	0.0 4.0	5.5	Brown fine to coarse SAND & GRAVEL, with silt, damp
						Same.
5	17.4		GP-2 42"	4.0 8.0		Black and orange mottled, becoming black, fine to medium silty SAND with gravel. Moist. Black resinous staining from 6.2 - 6.5 ft.
						Same, becoming wet.
10	12.7		GP-3 45"	8.0 12.0		
						Same.
	7.4		GP-4 46"	12.0 15.0		
15						BOTTOM OF EXPLORATION AT 15.0 FT.
						NOTE: 1.0" Temp. monitoring installed in borehole.
20						
25						

NOTES: Temporary monitoring well installed (1.0" diameter) installed in borehole.

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

SUMMARY

OVERBURDEN (LIN FT): 15.0---

ROCK CORED (LIN FT): ---

SAMPLES: 307/2, 307/4

BORING NO. GP-307

HALEY & ALDRICH, INC. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-308

PROJECT: Delphi Harrison Thermal Systems
CLIENT: REALM/GM Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-010
SHEET NO. 1 OF 1
LOCATION: Dayton, OH

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE			
INSIDE DIAMETER (IN)			
HAMMER WEIGHT (LB)			
HAMMER FALL (IN)			

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Truck Mounted Geoprobe
BIT TYPE: 48" Macrocore
DRILL MUD: ---
OTHER: ---

ELEVATION:
DATUM: NGVD 1929
START: 6/17/99
FINISH: 6/17/99
DRILLER: T. Kelley
H&A REP: Correll

DEPTH (FT)	HNu FIELD SCREENING (ppm)	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
	0.0		GP-1 36"	0.0 4.0	3.2	Light brown sandy SILT & GRAVEL, trace organic material, dry.
5	3.0		GP-2 47"	4.0 8.0	6.6	Black and gray silty SAND & GRAVEL, dry. Same, trace asphalt
10	0.0		GP-3 28"	8.0 12.0		Black and clayey SILT, trace sand & gravel, trace asphalt, dry to moist. Same, becoming wet at 10.9 ft.
15	0.0		GP-4 45"	12.0 15.0		Black clayey SILT, with sand & gravel, wet.
20						BOTTOM OF EXPLORATION AT 15.0 FT.
25						

NOTES:

SAMPLE IDENTIFICATION

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

SUMMARY

OVERBURDEN (LIN FT): 15.0

ROCK CORED (LIN FT): ---

SAMPLES: 308/4

BORING NO. GP-308

HALEY & ALDRICH, INC. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-311

PROJECT: Delphi Harrison Thermal Systems
CLIENT: REALM/GM Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-010
SHEET NO. 1 OF 1
LOCATION: See plan

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE			
INSIDE DIAMETER (IN)			
HAMMER WEIGHT (LB)			
HAMMER FALL (IN)			

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Truck Mounted Geoprobe
BIT TYPE: 48" Macrocore
DRILL MUD: ---
OTHER: ---

ELEVATION:
DATUM: NGVD 1929
START: 6/16/99
FINISH: 6/16/99
DRILLER: T. Kelley
H&A REP: Correll/Johnson

DEPTH (FT)	HNu FIELD SCREENING (ppm)	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
			GP-1	0.0	1.1	Crushed limestone GRAVEL.
						Brown & orange mottled silty SAND with gravel, dry.
			36"	4.0		
			GP-2	4.0		Same, asphalt from 4.5 - 5.1 ft.
5			34"	8.0		
			GP-3	8.0		Brown Silty SAND and GRAVEL, some black resinous coating from 8.8 - 9.1 ft., dry.
					9.1	Brown and black sandy SILT, little gravel, moist.
10			26"	12.0		
			GP-4	12.0		Same, becoming medium to coarse brown SAND and GRAVEL, moist.
					14.1	Gray SAND and GRAVEL, wet.
			28"	15.0		
15						BOTTOM OF EXPLORATION AT 15.0 FT.
20						
25						

NOTES:

SAMPLE IDENTIFICATION

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

SUMMARY

OVERBURDEN (LIN FT): 15.0

ROCK CORED (LIN FT): ---

SAMPLES: GP-1

BORING NO. GP-311

HALEY & ALDRICH, INC. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-312

PROJECT: Delphi Harrison Thermal Systems
CLIENT: REALM/GM Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-010
SHEET NO. 1 OF 1
LOCATION: See Plan

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE			
INSIDE DIAMETER (IN)			
HAMMER WEIGHT (LB)			
HAMMER FALL (IN)			

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Truck Mounted Geoprobe
BIT TYPE: 48" Macrocore
DRILL MUD: ---
OTHER: ---

ELEVATION:
DATUM: NGVD 1929
START: 6/16/99
FINISH: 6/16/99
DRILLER: T. Kelley
H&A REP: Correll

DEPTH (FT)	HNu FIELD SCREENING (ppm)	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
			GP-1	0.0	0.40	4.0 inches of CONCRETE.
	0.0					Brown fine to coarse SAND and GRAVEL. Dry to moist. Black resinous staining throughout.
			35"	4.0	3.7	Black silty fine to medium SAND with gravel, moist.
5			GP-2	4.0		Same with interbedded crushed gravel. Glass, metal cuttings, plastic, wet
	0.0					
			46"	8.0	6.5	Brown to medium SAND, some fine gravel, moist.
			GP-3	8.0		Light brown silty SAND & GRAVEL, moist.
10	0.0					
			32"	12.0		
			GP-4	12.0		Same.
	114				13.3	Gray and medium to coarse SAND & GRAVEL, wet.
			28"			
15						Bottom of exploration at 15.0 feet.
20						
25						

NOTES:

SAMPLE IDENTIFICATION

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

SUMMARY

OVERBURDEN (LIN FT): 15.0
ROCK CORED (LIN FT): ---
SAMPLES: 312/3

BORING NO. GP-312

H.A-L E Y & A L D R I C H, I N C. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-315

PROJECT: Delphi Harrison Thermal Systems
CLIENT: REALM/GM Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-010
SHEET NO. 1 OF 1
LOCATION: See Plan

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE			
INSIDE DIAMETER (IN)			
HAMMER WEIGHT (LB)			
HAMMER FALL (IN)			

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Truck Mounted Geoprobe
BIT TYPE: 48" Macrocore
DRILL MUD: ---
OTHER: ---

ELEVATION:
DATUM: NGVD 1929
START: 6/16/99
FINISH: 6/16/99
DRILLER: T. Kelley
H&A REP: Correll

DEPTH (FT)	HNu FIELD SCREENING (ppm)	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
			GP-1	0.0	0.2	3.0 inches of crushed LIMESTONE.
	0.0					Black, stained, fine to coarse SAND with gravel, black resinous coating, damp.
			32"	4.0		
5			GP-2	4.0		Black sandy SILT, dry to moist.
	0.0				7.0	
			48"	8.0		Light brown fine to medium SAND, moist.
			GP-3	8.0		Light brown SAND & GRAVEL, dry to moist.
10	0.0					
			37"	12.0		
			GP-4	12.0		Same.
	7.6				13.9	
			26"	15.0		Gray SAND & GRAVEL, oil coating throughout.
15						BOTTOM OF EXPLORATION AT 15.0 FT.
20						
25						

NOTES:

SAMPLE IDENTIFICATION	SUMMARY
O Open End Rod T Thin Wall Tube U Undisturbed Sample S Split Spoon G Geoprobe	OVERBURDEN (LIN FT): 15.0 ROCK CORED (LIN FT): --- SAMPLES: 315/1, 315/4 BORING NO. GP-315

HALEY & ALDRICH, INC. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-316a

PROJECT: Delphi Harrison Thermal Systems
CLIENT: REALM/GM Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-010
SHEET NO. 1 OF 1
LOCATION: See Plan

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE			
INSIDE DIAMETER (IN)			
HAMMER WEIGHT (LB)			
HAMMER FALL (IN)			

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Truck Mounted Geoprobe
BIT TYPE: 48" Macrocore
DRILL MUD: ---
OTHER: ---

ELEVATION:
DATUM: NGVD 1929
START: 6/16/99
FINISH: 6/16/99
DRILLER: T. Kelley
H&A REP: Correll

DEPTH (FT)	HNu FIELD SCREENING (ppm)	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
0	60.1		GP-1 44"	0.0 4.0	3.2	Light brown silty SAND and GRAVEL, dry. Brown and black fine to medium SAND with gravel, wet. Same becoming black silty fine sand with glass, metal cuttings, plastic, wet.
5			GP-2 12"	4.0 5.0		Geoprobe refusal at 5.0 ft.
10						
15						
20						
25						

NOTES:

SAMPLE IDENTIFICATION

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

SUMMARY

OVERBURDEN (LIN FT): 5.0

ROCK CORED (LIN FT): ---

SAMPLES: 316a/1, 316a/2

BORING NO. GP-316a

HALEY & ALDRICH, INC. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-316b

PROJECT: Delphi Harrison Thermal Systems
CLIENT: REALM/GM Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-010
SHEET NO. 1 OF 1
LOCATION: See Plan

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE			
INSIDE DIAMETER (IN)			
HAMMER WEIGHT (LB)			
HAMMER FALL (IN)			

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Truck Mounted Geoprobe
BIT TYPE: 48" Macrocore
DRILL MUD: ---
OTHER: ---

ELEVATION:
DATUM: NGVD 1929
START: 6/16/99
FINISH: 6/16/99
DRILLER: T. Kelley
H&A REP: Correll

DEPTH (FT)	HNu FIELD SCREENING (ppm)	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
	40.2		GP-1	0.0		Light brown silty SAND and GRAVEL, dry.
			40"	4.0		Black silty fine SAND with glass, metal cuttings and plastic, wet.
			GP-2	4.0		
5			12"	5.0		Geoprobe refusal at 5.0 ft.
10						
15						
20						
25						

NOTES:

SAMPLE IDENTIFICATION

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

SUMMARY

OVERBURDEN (LIN FT): 5.0

ROCK CORED (LIN FT): ---

SAMPLES: None to lab

BORING NO. GP-316a

H.A-L E Y & A L D R I C H, I N C. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-317

PROJECT: Delphi Harrison Thermal Systems
CLIENT: REALM/GM Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-010
SHEET NO. 1 OF 1
LOCATION: See Plan

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE			
INSIDE DIAMETER (IN)			
HAMMER WEIGHT (LB)			
HAMMER FALL (IN)			

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Truck Mounted Geoprobe
BIT TYPE: 48" Macrocore
DRILL MUD: ---
OTHER: ---

ELEVATION:
DATUM: NGVD 1929
START: 6/16/99
FINISH: 6/16/99
DRILLER: T. Kelley
H&A REP: Correll

DEPTH (FT)	HNu FIELD SCREENING (ppm)	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
			GP-1	0.0	0.50	5.0 inches of CONCRETE.
	0.0		27"	4.0		Black and brown fine to medium SAND with gravel, coated with wet resinous material.
5	0.0		GP-2	4.0		Black sandy SILT, dry to moist.
			48"	8.0		
10	48.1		GP-3	8.0		Same, becoming light brown SAND & GRAVEL with black resinous staining, moist.
			40"	12.0		
	11.2		GP-4	12.0	14.2	Same.
15			31"	15.0		Gray SAND & GRAVE, wet. Coated with oil.
						BOTTOM OF EXPLORATION AT 15.0 FT.
20						
25						

NOTES:

SAMPLE IDENTIFICATION	SUMMARY
O Open End Rod T Thin Wall Tube U Undisturbed Sample S Split Spoon G Geoprobe	OVERBURDEN (LIN FT): 15.0 ROCK CORED (LIN FT): --- SAMPLES: 317/1, 317/4 BORING NO. GP-317

HALEY & ALDRICH, INC. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-318a

PROJECT: Delphi Harrison Thermal Systems
CLIENT: G.M./REALM
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-010
SHEET NO. 1 OF 1
LOCATION: See Plan

ELEVATION:
DATUM: NGVD 1929
START: 6/15/99
FINISH: 6/16/99
DRILLER: T. Kelley
H&A REP: Correll/Johnson

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE			
INSIDE DIAMETER (IN)			
HAMMER WEIGHT (LB)			
HAMMER FALL (IN)			

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Truck Mounted Geoprobe
BIT TYPE: 48" Macrocore
DRILL MUD: ---
OTHER: ---

DEPTH (FT)	HNu FIELD SCREENING (ppm)	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
						2.0 ft. of CONCRETE
						BOTTOM OF EXPLORATION AT 2.0 FT.
5						
10						
15						
20						
25						

NOTES:

SAMPLE IDENTIFICATION

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

SUMMARY

OVERBURDEN (LIN FT): 2.0

ROCK CORED (LIN FT): ---

SAMPLES: None to lab

BORING NO. GP-318a

H A L E Y & A L D R I C H, I N C. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-318b

PROJECT: Delphi Harrison Thermal Systems
CLIENT: G.M./REALM
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-010
SHEET NO. 1 OF 1
LOCATION: See Plan

ELEVATION:
DATUM: NGVD 1929
START: 6/16/99
FINISH: 6/16/99
DRILLER: T. Kelley
H&A REP: Correll/Johnson

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE			
INSIDE DIAMETER (IN)			
HAMMER WEIGHT (LB)			
HAMMER FALL (IN)			

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Truck Mounted Geoprobe
BIT TYPE: 48" Macrocore
DRILL MUD: ---
OTHER: ---

DEPTH (FT)	HNu FIELD SCREENING (ppm)	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
	8.9		GP-1 33"	0.0 4.0	0.4	4.0 inches of CONCRETE. Brown fine to medium SAND, little gravel, dry. Black resinous staining from 3.1 - 3.3 feet.
5	4.2		GP-2 21"	4.0 8.0		Brown fine to medium SAND with gravel, becoming moist.
10	5.6		GP-3 42"	8.0 12.0		Same. Strong odor present.
	2.7		GP-4 30"	12.0 15.0		Brown fine to coarse SAND and GRAVEL, wet.
15						BOTTOM OF EXPLORATION AT 15.0 FT.
20						
25						

NOTES:

SAMPLE IDENTIFICATION

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

SUMMARY

OVERBURDEN (LIN FT): 15.0

ROCK CORED (LIN FT): ---

SAMPLES: 318b/3, 318b/4

BORING NO. GP-318b

H A L E Y & A L D R I C H, I N C. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-319

PROJECT: Delphi Harrison Thermal Systems
CLIENT: G.M./REALM
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-010
SHEET NO. 1 OF 1
LOCATION: See Plan

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE			
INSIDE DIAMETER (IN)			
HAMMER WEIGHT (LB)			
HAMMER FALL (IN)			

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Truck Mounted Geoprobe
BIT TYPE: 48" Macrocore
DRILL MUD: ---
OTHER: ---

ELEVATION:
DATUM: NGVD 1929
START: 6/16/99
FINISH: 6/16/99
DRILLER: T. Kelley
H&A REP: Correll/Johnson

DEPTH (FT)	HNu FIELD SCREENING (ppm)	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
	0.0		GP-1 33"	0.0 4.0	2.3	Gray crushed limestone GRAVEL, dry. Becoming gray and light brown SAND and GRAVEL, dry.
5	4.3		GP-2 21"	4.0 8.0		Same. White and black stained SAND. Wet from 6.6 - 6.8 feet. 6.6 - 6.8 ft., white and black stained SAND, wet.
10	8.0		GP-3 42"	8.0 12.0		Brown and gray SAND and GRAVEL, dry. Becoming dark brown sandy SILT with gravel.
	107		GP-4 30"	12.0 15.0		Light brown SAND & GRAVEL, dry Becoming gray medium to coarse SAND and GRAVEL, wet.
15						BOTTOM OF EXPLORATION AT 15.0 FT.
20						
25						

NOTES:

SAMPLE IDENTIFICATION

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

SUMMARY

OVERBURDEN (LIN FT): 15.0

ROCK CORED (LIN FT): ---

SAMPLES: 319/2, 319/4

BORING NO. GP-319

HALEY & ALDRICH, INC. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-320

PROJECT: Delphi Harrison Thermal Systems
CLIENT: G.M./REALM
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-010
SHEET NO. 1 OF 1
LOCATION: Dayton, OH

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE			
INSIDE DIAMETER (IN)			
HAMMER WEIGHT (LB)			
HAMMER FALL (IN)			

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Truck Mounted Geoprobe
BIT TYPE: 48" Macrocore
DRILL MUD: ---
OTHER: ---

ELEVATION:
DATUM: NGVD 1929
START: 6/16/99
FINISH: 6/16/99
DRILLER: T. Kelley
H&A REP: Correll

DEPTH (FT)	HNu FIELD SCREENING (ppm)	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
			GP-1	0.0	0.3	4.0 inches of CONCRETE.
	6.6		33"	4.0		Light brown silty SAND and GRAVEL, with red brick fragments & debris, dry.
5	6.7		GP-2	4.0 8.0		Light brown fine to medium SAND and GRAVEL, trace brick fragments, dry.
10	2.2		GP-3	8.0 12.0		Same.
	0.0		GP-4	12.0 15.0		Same. Becoming wet at 13.8 ft.
15						BOTTOM OF EXPLORATION AT 15.0 FT.
20						
25						

NOTES:

SAMPLE IDENTIFICATION	SUMMARY
O Open End Rod T Thin Wall Tube U Undisturbed Sample S Split Spoon G Geoprobe	OVERBURDEN (LIN FT): 15.0 ROCK CORED (LIN FT): --- SAMPLES: 320/1, 320/4
	BORING NO. GP-320

HALEY & ALDRICH, INC. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-323

PROJECT: Delphi Harrison Thermal Systems
CLIENT: G.M./REALM
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-010
SHEET NO. 1 OF 1
LOCATION: Dayton, OH

ITEM	CASING	DRIVE SAMPLER	CORE BARREL	DRILLING EQUIPMENT & PROCEDURES
TYPE				RIG TYPE: Truck Mounted Geoprobe
INSIDE DIAMETER (IN)				BIT TYPE: 48" Macrocore
HAMMER WEIGHT (LB)				DRILL MUD: ---
HAMMER FALL (IN)				OTHER: ---

ELEVATION:
DATUM: NGVD 1929
START: 6/16/99
FINISH: 6/16/99
DRILLER: T. Kelley
H&A REP: Correll

DEPTH (FT)	HNu FIELD SCREENING (ppm)	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
			GP-1	0.0	0.5	6.0 inches CONCRETE.
	0.0		19"	4.0		Black & brown sandy SILT, trace gravel, moist.
5			GP-2	4.0		Brown sandy SILT, trace gravel, moist.
	0.0		30"	8.0		
			GP-3	8.0		Gray SAND and GRAVEL, dry. Oil present. Becoming wet at 10.6 feet.
10	0.0		27"	12.0		
			GP-4	12.0		Brown SAND and GRAVEL, wet. Oil coating on grains.
	0.0			15.0		
15						BOTTOM OF EXPLORATION AT 15.0 FT.
20						
25						

NOTES:

Temporary monitoring well (1.0" diameter) installed in borehole.

SAMPLE IDENTIFICATION	SUMMARY
O Open End Rod T Thin Wall Tube U Undisturbed Sample S Split Spoon G Geoprobe	OVERBURDEN (LIN FT): 15.0 ROCK CORED (LIN FT): --- SAMPLES: 323/3, 323/4 BORING NO. GP-323

HALEY & ALDRICH, INC. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-324

PROJECT: Delphi Harrison Thermal Systems
CLIENT: REALM/GM Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-010
SHEET NO. 1 OF 1
LOCATION: Dayton, OH

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE			
INSIDE DIAMETER (IN)			
HAMMER WEIGHT (LB)			
HAMMER FALL (IN)			

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Truck Mounted Geoprobe
BIT TYPE: 48" Macrocore
DRILL MUD: ---
OTHER: ---

ELEVATION:
DATUM: NGVD 1929
START: 6/17/99
FINISH: 6/17/99
DRILLER: T. Kelley
H&A REP: Correll

DEPTH (FT)	HNu FIELD SCREENING (ppm)	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
			GP-1	0.0	0.60	6.0 inches of CONCRETE
	0.0		17"	4.0		Black clayey SILT, some fine to medium sand, trace gravel, black resinous staining present, damp.
5	0.0		GP-2	4.0		Brown silty SAND, some gravel, moist.
			28"	8.0		
10	11.6		GP-3	8.0		Black and gray SAND & GRAVEL, oil throughout, moist.
			34"	12.0		
	103		GP-4	12.0		Gray SAND & GRAVEL, oil present, wet.
15			16"	15.0		
						BOTTOM OF EXPLORATION AT 15.0 FT.
20						
25						

NOTES: Temporary monitoring well (1.0" diameter) installed in borehole.

SAMPLE IDENTIFICATION

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

SUMMARY

OVERBURDEN (LIN FT): 15.0

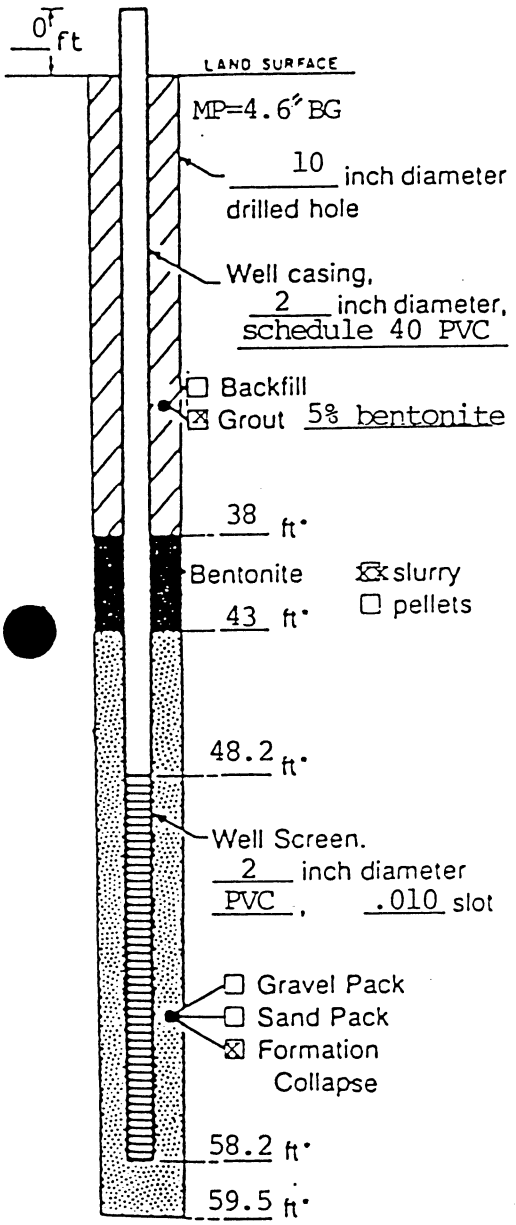
ROCK CORED (LIN FT): ---

SAMPLES: 324/3, 324/4

BORING NO. GP-324

GERAGHTY & MILLER, INC.
Ground-Water Consultants

WELL CONSTRUCTION LOG



Measuring Point is Top of Well Casing Unless Otherwise Noted.

*Depth Below Land Surface

Project Harrison Dayton Well HD-1

Town/City Dayton

County Montgomery State Ohio

Permit No. _____

Land-Surface Elevation and Datum 752.97 feet above mean sea level ☒ surveyed ☐ estimated

Installation Dates(s) 5/2/88 - 5/3/88

Drilling Method Hollow Stem Auger

Drilling Contractor Moody's of Dayton, Inc.

Drilling Fluid None

Development Techniques(s) and Date(s)
Brainard Kilman hand pump and centrifugal pump (5-11-88)

Fluid Loss During Drilling None gallons

Water Removed During Development 500 gallons

Static Depth to Water 25.7 feet below M.P.

Pumping Depth to Water _____ feet below M.P.

Pumping Duration _____ hours

Yield _____ gpm Date _____

Specific Capacity _____ gpm/ft

Well Purpose Monitor well

Remarks Flush mount

Prepared by George H. Colvin

GERAGHTY & MILLER, INC.
Ground-Water Consultants

WELL NO. OH0610DY04	BORE HOLE NO. HD-1
PROJECT: Harrison Dayton Plant	LOCATION: Dayton, Ohio
DRILLING CONTRACTOR: Moody's of Dayton	DRILLING EQUIPMENT: CME 55, Hollow Stem Auger
HYDROGEOLOGIST: George H. Colvin	DRILLER: Don Jones/Herb Williams
DATE START / TIME: 5/2/88	DATE FINISH / TIME: 5/3/88
SURFACE ELEVATION:	TOTAL DEPTH: 60.5'
WELL CASING: Schedule 40 PVC	SCREEN TYPE: Schedule 40 PVC
LENGTH: 10'	SLOT: .010

GROUND WATER			
DATE	TIME	DEPTH	WEATHER

	CASING	CORE	SAMPLER	TUBE
TYPE	PVC		S-Spoon	
DIAMETER	2"		1.6"	
HAMMER WEIGHT			140 lbs	
FALL			30'	

REMARKS

DEPTH (FT.)	SAMPLE NO	BLOW COUNT PER 6 IN.	RECOVERY (FT.)	BORE HOLE LOG — LITHOLOGIC DESCRIPTION	HNU (ppm) SplSp	HNU (ppm) HdSp	GRAPHIC LOG
0				CONCRETE	None detected		
5	1	7-4-4-4	1.1	SILT (80%); tr. gravel; tr. cs. sand; black, damp.			
				CINDERS (80%); silt (20%); blk.; damp (Fill).			
10	2	4-3-4-5	1.5	SILT (60%); cinders, cs. gravel; tr. cs. sand; tr. med. sand; lt. brn.; damp; cohesive (Fill).			
15	3	3-5-4-6	1.8				
				SILT (70%); v. fine sand (15%); tr. gravel; tr. cs. sand; dk. gray; damp.			
20	4	4-5-6-4	1.5				
	5	13-9-6-7	2.0				
				GRAVEL (40%); silt (25%); cs. sand (20%); med. sand (10%); tr. fine sand; lt. brn.; dry and damp.			
30							

GERAGHTY & MILLER, INC.
Ground-Water Consultants

JOB NO OH0610DY04

BORE HOLE NO HD-1

PROJECT Harrison Dayton Plant

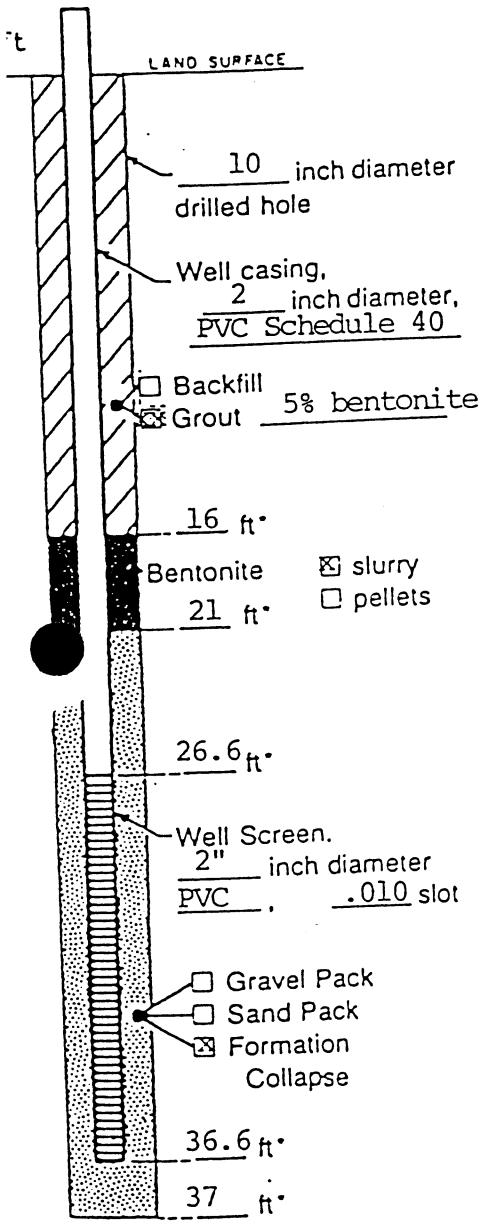
LOCATION Dayton, Ohio

REMARKS

DEPTH (FT.)	SAMPLE NO	BLOW COUNT PER 6 IN.	RECOVERY (FT.)	LITHOLOGIC DESCRIPTION	HNU (ppm) SplSp	HNU (ppm) HdSp	GRAPHIC LOG
	6	9-8-9-10	1.4	GRAVEL (45%); v. cs. sand (20%); cs. sand (15%); med. sand (15%); tr. fine sand; gray; saturated; well rounded; poorly sorted.			
35	7	11-10-7-8	2.0	GRAVEL (60%); v. cs. sand (15%); cs. sand (15%); tr. med. sand; med. brn.; saturated.			
40	8	12-12-14-29	1.7				
45	9	7-4-4-3	1.5	GRAVEL (75%); v. cs. sand (15%); tr. fine sand; tr. med. sand; lt. brn.; saturated.			
50	10	9-7-9-11	1.5	GRAVEL (50%); cs. sand (25%); med. sand (15%); tr. fine sand; lt. brn.; saturated.			
55	11	7-9-12-11	2.0	GRAVEL (45%); cs. sand (30%); med. sand (15%); tr. fine sand; med. brn.; saturated; poorly sorted; moderately rounded.			
60	12	7-9-12-20	1.3				
				Till: CLAY (70%); gravel (25%); cs. sand; tr. med. sand; gray; damp; cohesive.			
				END OF BORING AT 61'			

GERAGHTY & MILLER, INC.
Ground-Water Consultants

WELL CONSTRUCTION LOG



Measuring Point is Top of Well Casing Unless Otherwise Noted.

•Depth Below Land Surface

Project Harrison Dayton Well HD-2

Town/City Dayton

County Montgomery State Ohio

Permit No.

Land-Surface Elevation and Datum 738.575 feet above mean sea level ☒ surveyed ☐ estimated

Installation Dates(s) 5/4/88 - 5/5/88

Drilling Method Hollow Stem Auger

Drilling Contractor Moody's of Dayton

Drilling Fluid None

Development Techniques(s) and Date(s)
Centifugal Pump (5-10-88)

Fluid Loss During Drilling None gallons

Water Removed During Development 650 gallons

Static Depth to Water 12.74 feet below M.P.

Pumping Depth to Water feet below M.P.

Pumping Duration hours

Yield gpm Date

Specific Capacity gpm/ft

Well Purpose

Remarks

Prepared by George H. Colvin

APPENDIX C

APPENDIX D

ELEV TOC 790.19 6" NP

GERAGHTY & MILLER, INC.
Ground-Water Consultants

JOB Nº OH0610DY04	BORE HOLE Nº HD-2
PROJECT Harrison, Dayton	LOCATION Dayton, Ohio
DRILLING CONTRACTOR Moodys of Dayton	DRILLING EQUIPMENT Hollow Stem Auger
HYDROGEOLOGIST George Colvin	DRILLER Herb Williams/Don Jones
DATE START / TIME 5/4/88	DATE FINISH / TIME 5/5/88
SURFACE ELEVATION	TOTAL DEPTH 38.5'
WELL CASING 2" PVC	SCREEN TYPE PVC
LENGTH 10'	SLOT .010

GROUND WATER			
DATE	TIME	DEPTH	WEATHER

	CASING	CORE	SAMPLER	TUBE
TYPE	PVC		S-Spoon	
DIAMETER	2"		1.6"	
HAMMER WEIGHT			140 lbs.	
FALL			30"	

REMARKS

DEPTH (FT.)	SAMPLE Nº	BLOW COUNT PER 6 IN.	RECOVERY (FT.)	BORE HOLE LOG — LITHOLOGIC DESCRIPTION	HNU (ppm) SplSp	HdSp	GRAPHIC LOG
				Fill: Cs. SAND (40%); gravel (25%); med. sand (20%); fine sand (10%); tr. silt; lt. brn; dry; brick fragments.	None detected		
5	1	8-9 -3-7	1.3	SILT (85%); tr. cs. sand; tr. med. sand; gray; damp; organics.			
10	2	2-5- 14-14	1.0	GRAVEL (40%); cs. sand (25%); med. sand (20%); tr. fine sand; tr. silt; med. brn. damp.		Water at 12.5'	
15	3	9-13- 11-10	2.0	Same as above, but wet.			
20	4	9-9- 14-16	2.0	GRAVEL (50%): cs. sand (30%); med. sand (10%); tr. finesand; tr. silt.			
	5	20-26 -24-19	1.8	GRAVEL (40%); med. sand (30%); cs. sand (20%); tr. fine sand; tr. silt; gray; wet			

GERAGHTY & MILLER, INC.
Ground-Water Consultants

JOB NO. OH0610DY04

BORE HOLE NO. HD-2

PROJECT Harrison, Dayton

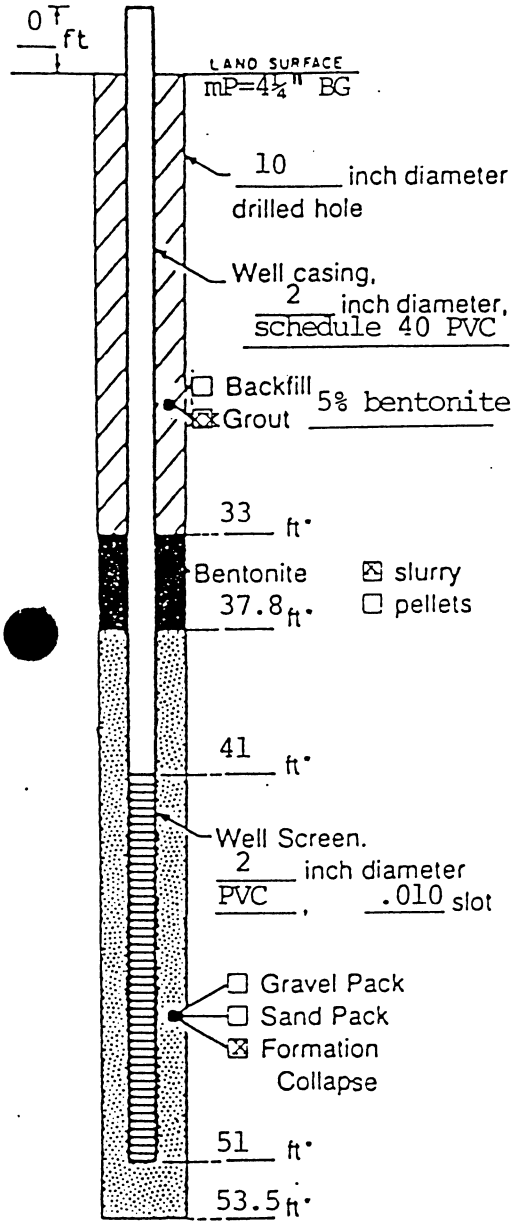
LOCATION Dayton, Ohio

REMARKS

DEPTH (FT.)	SAMPLE NO	BLOW COUNT PER 6 IN.	RECOVERY (FT.)	LITHOLOGIC DESCRIPTION	HNU (ppm) SplSp HdSp	GRAPHIC LOG
	6	8-14-17-15	1.6	Same as above		
35	7	7-8-11-12	1.6	GRAVEL (70%); cs. sand (15%); med. sand (10%): tr. fine sand; tr. silt; gray; saturated.		
	8	10-19-22-28	1.5	SILT (30%): fine sand (25%); med. sand (20%); clay (15%); tr. gravel; gray; moist; consolidated.		
40				END OF BORING AT 38.5'		

GERAGHTY & MILLER, INC.
Ground-Water Consultants

WELL CONSTRUCTION LOG



Measuring Point is Top of Well Casing Unless Otherwise Noted.

*Depth Below Land Surface

Project Harrison Dayton Well HD-3

Town/City Dayton

County Montgomery State Ohio

Permit No. _____

Land-Surface Elevation and Datum 749.470 feet above mean sea level ☒ surveyed ☐ estimated

Installation Dates(s) 5/6/88

Drilling Method Hollow Stem Auger

Drilling Contractor Moody's of Dayton

Drilling Fluid None

Development Techniques(s) and Date(s)
Centrifugal Pump (5-11-88)

Fluid Loss During Drilling None gallons

Water Removed During Development 540 gallons

Static Depth to Water 22.21 feet below M.P.

Pumping Depth to Water _____ feet below M.P.

Pumping Duration _____ hours

Yield _____ gpm Date _____

Specific Capacity _____ gpm/ft

Well Purpose Monitoring well

Remarks Flush Mount

Prepared by George H. Colvin

CLEY JOB #7911 65 7944

GERAGHTY & MILLER, INC.
Ground-Water Consultants

B No OH0610DY04

BORE HOLE No HD-3

PROJECT Harrison Dayton	LOCATION Dayton, Ohio
DRILLING CONTRACTOR Moody's of Dayton	DRILLING EQUIPMENT Hollow Stem Auger
HYDROGEOLOGIST George H. Colvin	DRILLER Herb Williams/Don Jones
DATE START / TIME 5/6/88	DATE FINISH / TIME 5/6/88
SURFACE ELEVATION	TOTAL DEPTH 55'
WELL CASING 2" PVC	SCREEN TYPE PVC
LENGTH 10'	SLOT .010

GROUND WATER			
DATE	TIME	DEPTH	WEATHER

	CASING	CORE	SAMPLER	TUBE
TYPE	PVC		S-Spoon	
DIAMETER	2"		1.6"	
HAMMER WEIGHT			140 lbs.	
FALL			30"	

REMARKS

DEPTH (FT.)	SAMPLE NO	BLOW COUNT PER 6 IN.	RECOVERY (FT.)	BORE HOLE LOG / LITHOLOGIC DESCRIPTION	HNU (ppm) SplSp	HNU (ppm) HdSp	GRAPHIC LOG
5				SILT (60%); gravel (20%); fine sand (10%); tr. cs. sand; tr. med. sand; damp and moist, organic, tree roots and brick.			
10	1	1-1-3-8	1.5	SILT (70%); cs. sand (15%); tr. gravel; tr. med. sand; blk., moist.	0.0		
				SILT (70%); gravel (10%); tr. cs. sand; tr. med. sand; dk. brn., moist, cohesive.			
15	2	4-7-5-6	1.5	GRAVEL (50%); cs. sand (25%); med. sand (10%); silt (10%); tr. fine sand; med. brn., damp			
20	3	7-8-6-7	1.4	GRAVEL (55%); cs. sand (25%); med. sand (10%); tr. fine sand; tr. silt; med. brn., dry.	0.0		
						Water at 22'	
25	4	6-5-6-7	1.8	Same as above, but wet.	0.2	6.5	
30							

GERAGHTY & MILLER, INC.
Ground-Water Consultants

JOB NO OH0610DY04 | BORE HOLE NO HD-3

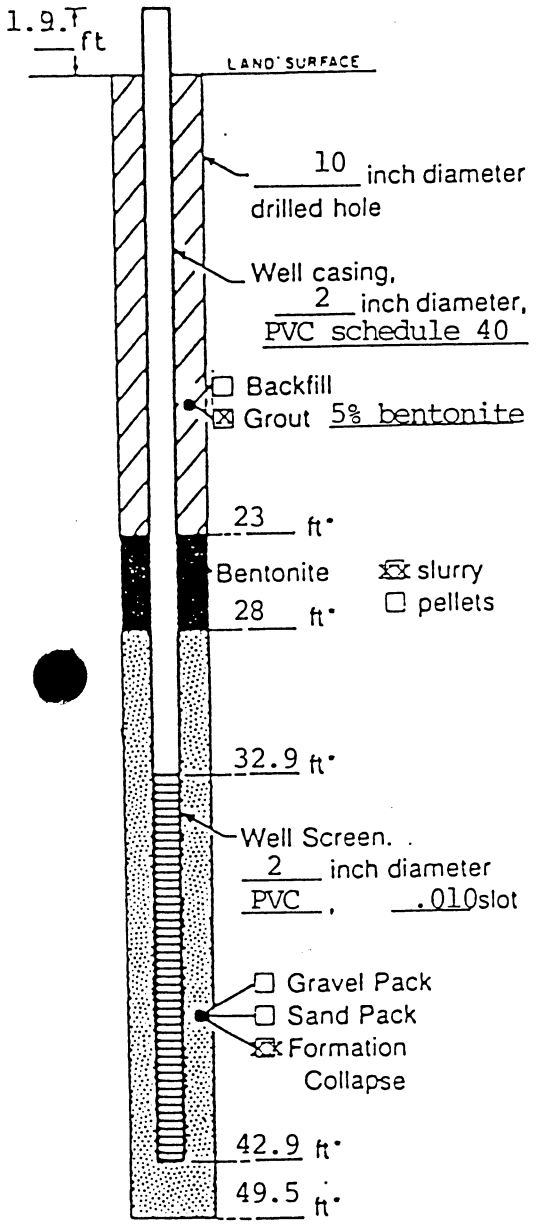
PROJECT Harrison Dayton | LOCATION Dayton, Ohio

REMARKS

DEPTH (FT.)	SAMPLE NO	BLOW COUNT PER 6 IN.	RECOVERY (FT.)	LITHOLOGIC DESCRIPTION	HNU (ppm) SplSp	HNU (ppm) HdSp	GRAPHIC LOG
	5	9-11-16-10	1.8	Same as above; saturated.	0.4	4.	
35	6	9-13-10-9	1.5	GRAVEL (50%); cs. sand (25%); med. sand (20%); tr. sit; lt. red brn.; saturated.	1.	3.5	
40	7	9-8-10-11	0		0.0	7.2	
				Med. SAND (35%); cs. sand (25%); fine sand (20%); gravel (15%); tr. silt; med. brn., saturated, well sorted.			
45	8	6-8-10-11	2.0				
50	9	8-8-9-12	2.0	Same as above			
				Till: CLAY (70%); gravel (15%); cs. sand (10%); tr. fine sand; gray, damp, cohesive.			
55	10	6-9-10-12	1.5				
				END OF BORING AT 55'			

GERAGHTY & MILLER, INC.
Ground-Water Consultants

WELL CONSTRUCTION LOG



Measuring Point is Top of Well Casing Unless Otherwise Noted.

*Depth Below Land Surface

Project Harrison Dayton Well HD-4

Town/City Dayton

County Montgomery State Ohio

Permit No. _____

Land-Surface Elevation and Datum 743.780 feet above mean sea level ☒ surveyed ☐ estimated

Installation Dates(s) 5/9/88 - 5/10/88

Drilling Method Hollow Stem Auger

Drilling Contractor Moody's of Dayton

Drilling Fluid None

Development Techniques(s) and Date(s)
Centrifugal Pump

Fluid Loss During Drilling None gallons

Water Removed During Development 700 gallons

Static Depth to Water 18.46 feet below M.P.

Pumping Depth to Water _____ feet below M.P.

Pumping Duration _____ hours

Yield _____ gpm Date _____

Specific Capacity _____ gpm/ft

Well Purpose Monitor well

Remarks

Prepared by George H. Colvin

W.E. for 745.10/85.78?

GERAGHTY & MILLER, INC.
Ground-Water Consultants

Nº OH0610DY04	BORE HOLE Nº HD-4
PROJECT Harrison, Dayton	LOCATION Dayton, Ohio
DRILLING CONTRACTOR Moody's of Dayton	DRILLING EQUIPMENT Hollow Stem Auger
HYDROGEOLOGIST George H. Colvin	DRILLER Herb Williams/Don Jones
DATE START / TIME 5/9/88	DATE FINISH / TIME 5/10/88
SURFACE ELEVATION	TOTAL DEPTH 51.5'
WELL CASING 2" PVC	SCREEN TYPE PVC
LENGTH 10'	SLOT .010

GROUND WATER					CASING	CORE	SAMPLER	TUBE
DATE	TIME	DEPTH	WEATHER	TYPE	PVC		S-Spoon	
				DIAMETER	2"		1.6"	
				HAMMER WEIGHT			140 lbs	
				FALL			30"	

REMARKS

DEPTH (FT.)	SAMPLE Nº	BLOW COUNT PER 6 IN.	RECOVERY (FT.)	BORE HOLE LOG / LITHOLOGIC DESCRIPTION	HNU (ppm) SplSp	HNU (ppm) HdSp	GRAPHIC LOG
5		22-8-8-10	1.0	Fill			
10	1	7-10-5-3	0.5	Cs. SAND (40%); silt (35%); gravel (15%); tr. med. sand; blk., damp, coke and cinders.			
				CLAY (60%); silt (20%); tr. gravel; tr. shell frag.; blk., cohesive, damp, organic (canal).			
15	2	1-2-16-28	2.0	GRAVEL (50%): cs. sand (25%); med. sand (15%); tr. fine sand; tr. silt; med. brn., damp.			
20	3	12-17-16-16	2.0	med. SAND(30%); gravel (20%); cs. sand (25%); fine sand (20%); tr. silt; med. brn., wet not saturated.	0.0	1.0	
				Water at 20.5'			
	4	14-24-34-38	1.8	Cs. SAND (40%): medium sand (25%); gravel (20%); tr. fine sand; tr. silt; med. brn., saturated.	0.0	0.4	
30							

GERAGHTY & MILLER, INC.
Ground-Water Consultants

JOB NO: OH0610DY04
BORE HOLE NO: HD-4
PROJECT: Harrison, Dayton
LOCATION: Dayton, Ohio
REMARKS:

DEPTH (FT.)	SAMPLE NO	BLOW COUNT PER 6 IN.	RECOVERY (FT.)	LITHOLOGIC DESCRIPTION	HNU (ppm) SplSp	HNU (ppm) HdSp	GRAPHIC LOG
	5	15-14 15-25	2.0	Same as above	.02	2.0	
35	6	16-23 31-30	2.0	Cs. SAND (40%); gravel (30%); med. sand (20%); tr. fine sand; tr. silt; brn., saturated.	0.0	0.8	
40	7	15-15 18-25	2.0		0.0	0.6	
45	8	20-24 25-24	2.0	Med. SAND (30%); gravel (20%); silt (25%); cs. sand (15%); fine sand; dense; med. brn., wet not saturated, Fe staining.	0.0	1.0	
50	9	31-27- 36-42	1.3	Till: CLAY (70%); gravel (20%); tr. cs. sand; gray and light blue, damp, cohesive.	0.0	0.6	

END OF BORING 51.5'

HALEY & ALDRICH, INC. UNDERGROUND ENGINEERING & ENVIRONMENTAL SOLUTIONS	OVERBURDEN GROUNDWATER MONITORING WELL REPORT

PROJECT: BUSTR/Phase III Investigation
LOCATION: Delphi Harrision Thermal Systems Facility, Dayton, Ohio
CLIENT: GM Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.
DRILLER: Mike Bentley RIG TYPE: CME-55
INSTALLATION DATE: 4-28-97

FILE NO.: 79032-005
WELL NO.: HD-5
LOCATION:

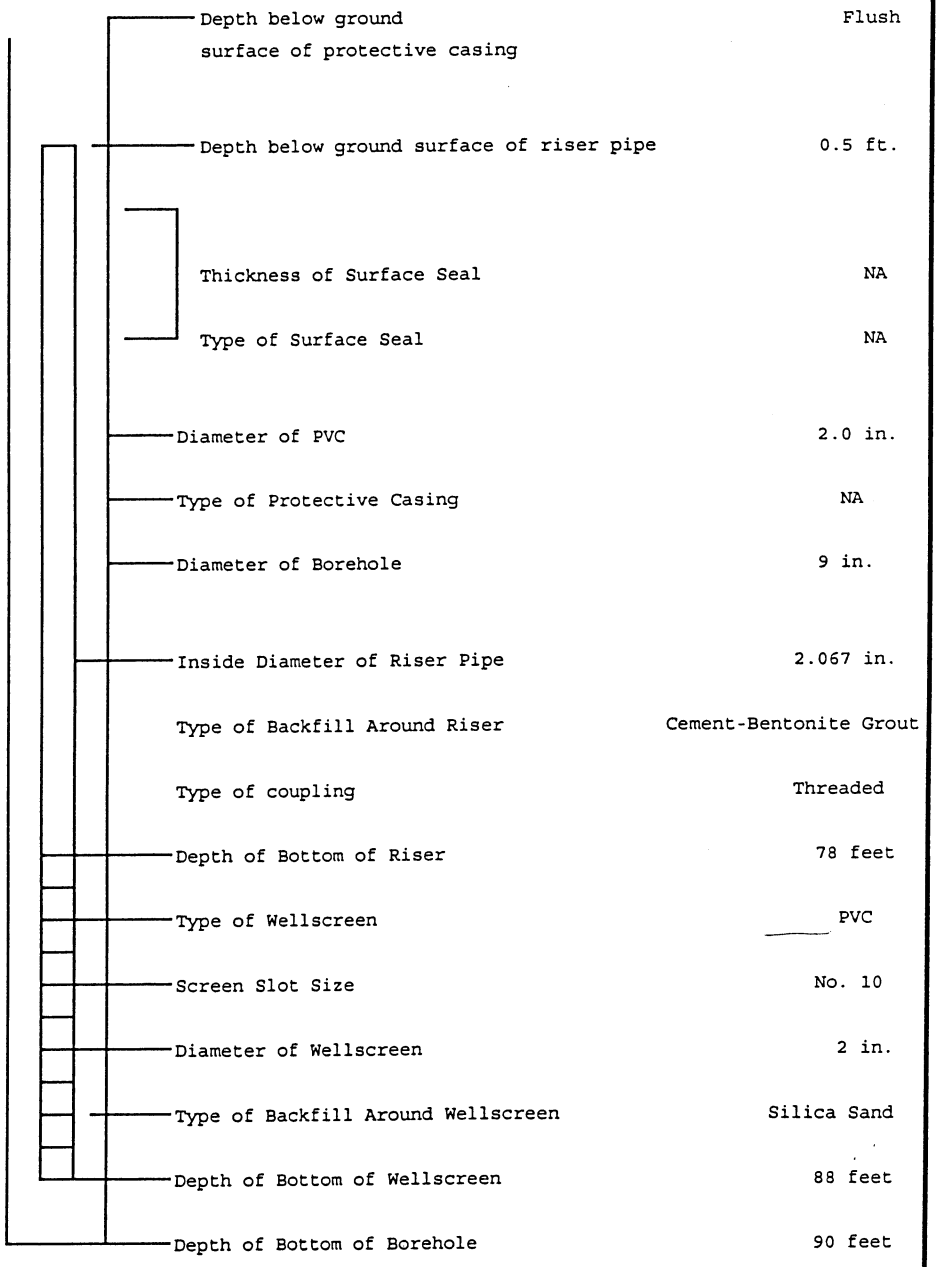
SHEET: 1 OF 1
INSPECTOR: DJK

Survey Datum:

Ground Elevation:

SUMMARIZE SOIL CONDITIONS

FILL — Approx. 19		
FLUVIAL Approx. 54		
GLACIAL TILL Approx. 57.5	Cement-Bentonite Grout	
FLUVIAL Approx. 67		
GLACIAL TILL 75.0		75.0
FLUVIAL 88.5	Sand Pack	
GLACIAL TILL		90.0



Depth below ground surface of protective casing	Flush
Depth below ground surface of riser pipe	0.5 ft.
Thickness of Surface Seal	NA
Type of Surface Seal	NA
Diameter of PVC	2.0 in.
Type of Protective Casing	NA
Diameter of Borehole	9 in.
Inside Diameter of Riser Pipe	2.067 in.
Type of Backfill Around Riser	Cement-Bentonite Grout
Type of coupling	Threaded
Depth of Bottom of Riser	78 feet
Type of Wellscreen	PVC
Screen Slot Size	No. 10
Diameter of Wellscreen	2 in.
Type of Backfill Around Wellscreen	Silica Sand
Depth of Bottom of Wellscreen	88 feet
Depth of Bottom of Borehole	90 feet

Remarks:

Well No. HD-5

H A L E Y
Geotechnical Engineering
Environmental Consultants

TEST BORING REPORT

BORING NO. HD-5

PROJECT: Delphi Harrison Thermal Systems Facility, BUSTR Site/Phase III Investigation
CLIENT: G.M. Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-005
SHEET NO. 1 OF 3
LOCATION:
GROUND ELEVATION:
DATUM:
START: 4-22-97 0900
FINISH: 4-28-97
DRILLER: Mike Bentley
H&A REP: DJK

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE		S	
INSIDE DIAMETER (IN)		1 3/8	
HAMMER WEIGHT (LB)		140	
HAMMER FALL (IN)		30	

DRILLING EQUIPMENT & PROCEDURES
RIG TYPE: CME-55
METHOD: Rotary HSA to 55 FT
OTHER:

DEPTH (FT)	FIELD PID (PPM)	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
5	ND	3 3 4 5	S-1 6"	5.0 7.0		Brown gravely SAND, little clay and silt in pockets, gravel content is 30% brick fragments, wet. -FILL-
10	ND	2 .5 .5 2	S-2 10"	10.0 12.0		Same. -FILL-
15	ND	2 3 3 4	S-3 NSR	15.0 17.0		No sample recovered.
20	ND	5 9 8 7	S-4 10"	20.0 22.0		Gray and brown mottled silty SAND, little clay, moist. -FLUVIAL-
25						

NOTES:

SAMPLE IDENTIFICATION

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Grab Sample with Stainless Steel

SUMMARY

OVERBURDEN (LIN FT): 92.0
ROCK CORED (LIN FT): 0.0
SAMPLES: 18-S

HALEY & ALDRICH, INC. Geotechnical Engineers, and Environmental Consultants	TEST BORING REPORT	BORING NO. HD-5 FILE NO. 79032-005 SHEET NO. 2 OF 3

DEPTH (FT)	PID SCREENING (PPM)	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
	ND	4 3 5 5	S-5 5"	25.0 27.0		Brown sandy GRAVEL, trace silt, wet. -FLUVIAL-
30	ND	6 8 10 9	S-6 18"	30.0 32.0		Same. -FLUVIAL-
35	ND	4 7 9 11	S-7 19"	35.0 37.0		Same. -FLUVIAL-
40	ND	12 10 11 11	S-8 17"	40.0 42.0		Same. -FLUVIAL-
45	ND	16 18 17 18	S-9 20"	45.0 47.0	45.5	Same. Brown SAND, medium grained, well sorted, trace gravel and silt, wet. -FLUVIAL-
50	ND	5 9 8 11	S-10 12"	50.0 52.0		Same. -FLUVIAL-
55	ND	8 9 12 16	S-11 15"	55.0 57.0		Gray SILT, little sand and clay, trace gravel, wet. -GLACIAL TILL-
60	ND	10 10 14 15	S-12 14"	58.0 60.0		Coarse brown GRAVEL, little sand, wet. -FLUVIAL-

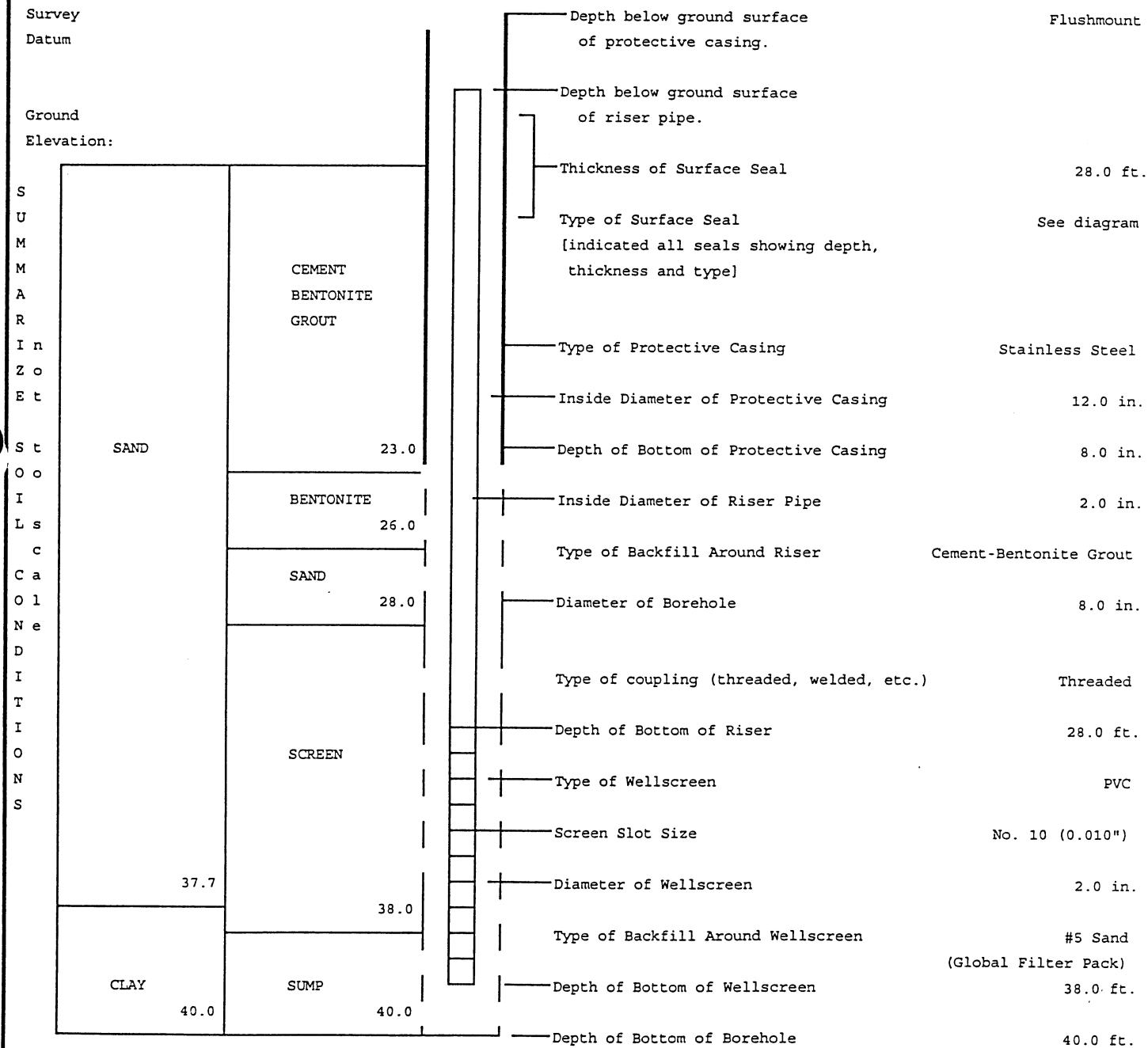
HALEY & ALDRICH, INC. Geotechnical Engineers, and Environmental Consultants	TEST BORING REPORT	BORING NO. HD-5 FILE NO. 79032-005 SHEET NO. 3 OF 3

DEPTH (FT)	PID SCREENING (PPM)	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
						Gray well sorted med. to fine SAND, wet. -FLUVIAL-
	ND	33 22 23 36	S-13 18"	63.0 65.0	64.0	Gray sandy GRAVEL, wet. -FLUVIAL-
65						
	ND	28 18 25 31	S-14 18"	68.0 70.0		Gray sandy SILT, little clay and gravel, moist. -GLACIAL TILL-
70						
	ND	33 36 50 50/5"	S-15 13"	73.0 74.9		Same. -GLACIAL TILL-
75					75.0	-FLUVIAL-
	ND	50 37 27 18	S-16 14"	78.0 80.0		Brown sandy GRAVEL, wet. -FLUVIAL-
80						
	ND	34 40 22 27	S-17 9"	83.0 85.0		Same. -FLUVIAL-
85						
	ND	23 28 20 23	S-18 11"	88.0 90.0	88.5	Same. -FLUVIAL- Gray clayey SILT, little sand and fine gravel, sl. moist. -GLACIAL TILL-
90						BOTTOM OF EXPLORATION 90.0'
95						

HALEY & ALDRICH, INC. Underground Engineers, and Environmental Solutions	OVERBURDEN GROUNDWATER MONITORING WELL REPORT

PROJECT: Delphi Harrison Thermal Systems Facility
LOCATION: Dayton, Ohio
CLIENT: REALM / General Motors Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.
DRILLER: M. Bentley RIG TYPE: CME-75
INSTALLATION DATE: 23 February 1999

FILE NO.: 79032-010
WELL NO.: HD-6
LOCATION:
SHEET: 1 OF 1
INSPECTOR: N. Malakar



Remarks:
Monitoring well outfitted with 2.0 foot sump below wellscreen.

Well No. HD-6

HALEY & ALDRICH, INC. Underground Engineering and Environmental Solutions	TEST BORING REPORT	BORING NO. HD-6

PROJECT: Dayton Harrison Thermal Systems
CLIENT: REALM / General Motors Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

JOE 4201 GS 74239

FILE NO. 79032-010
SHEET NO. 1 OF 2
LOCATION:

ELEVATION:
DATUM:
START: 2/23/1999
FINISH: 2/23/1999
DRILLER: M. Bentley
H&A REP: N. Malakar

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE	HSA	SS	
INSIDE DIAMETER (IN)	4 1/4"	1 3/8"	
HAMMER WEIGHT (LB)		140	
HAMMER FALL (IN)		30"	

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: CME-75 with Autohammer

DEPTH (FT)	PID SCREENING	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
	0.0	2 2 2 3	S-1 18"	2 4		Brown silty SAND and fine GRAVEL, damp.
5	0.0	2 3 3 2	S-2 16"	4 6		Same. Becoming brown medium SAND, trace to little fine gravel, dry.
	0.0	2 3 3 3	S-3 21"	6 8		Same. Damp.
	0.0	2 3 3 4	S-4 18"	8 10		Same.
10	0.0	2 3 4 4	S-5 15"	10 12		Same.
	0.0	3 4 4 3	S-6 17"	12 14		Same. Wet.
15	0.0	9 10 12 15	S-7 8"	14 16		Same. Containg some rock fragments.
	140	4 6 6 9	S-8 17"	16 18		Same. Black oily coating on sand and gravel, wet.
	50.2	5 7 6 6	S-9 16"	18 20		Same.
20	62.1	4 5 5 7	S-10 24"	20 22		Same. Oily coating present.
	43.3	6 6 9 10	S-11 23"	22 24		Same. No oily coating.
25	0.4	5 7	S-12	24		Same. Becoming brown fine to medium SAND, wet.

NOTES:
Borehole converted to monitoring well HD-6.

SAMPLE IDENTIFICATION

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

SUMMARY

OVERBURDEN (LIN FT): 40.0

ROCK CORED (LIN FT): None

SAMPLES: None to lab.

BORING NO. HD-6

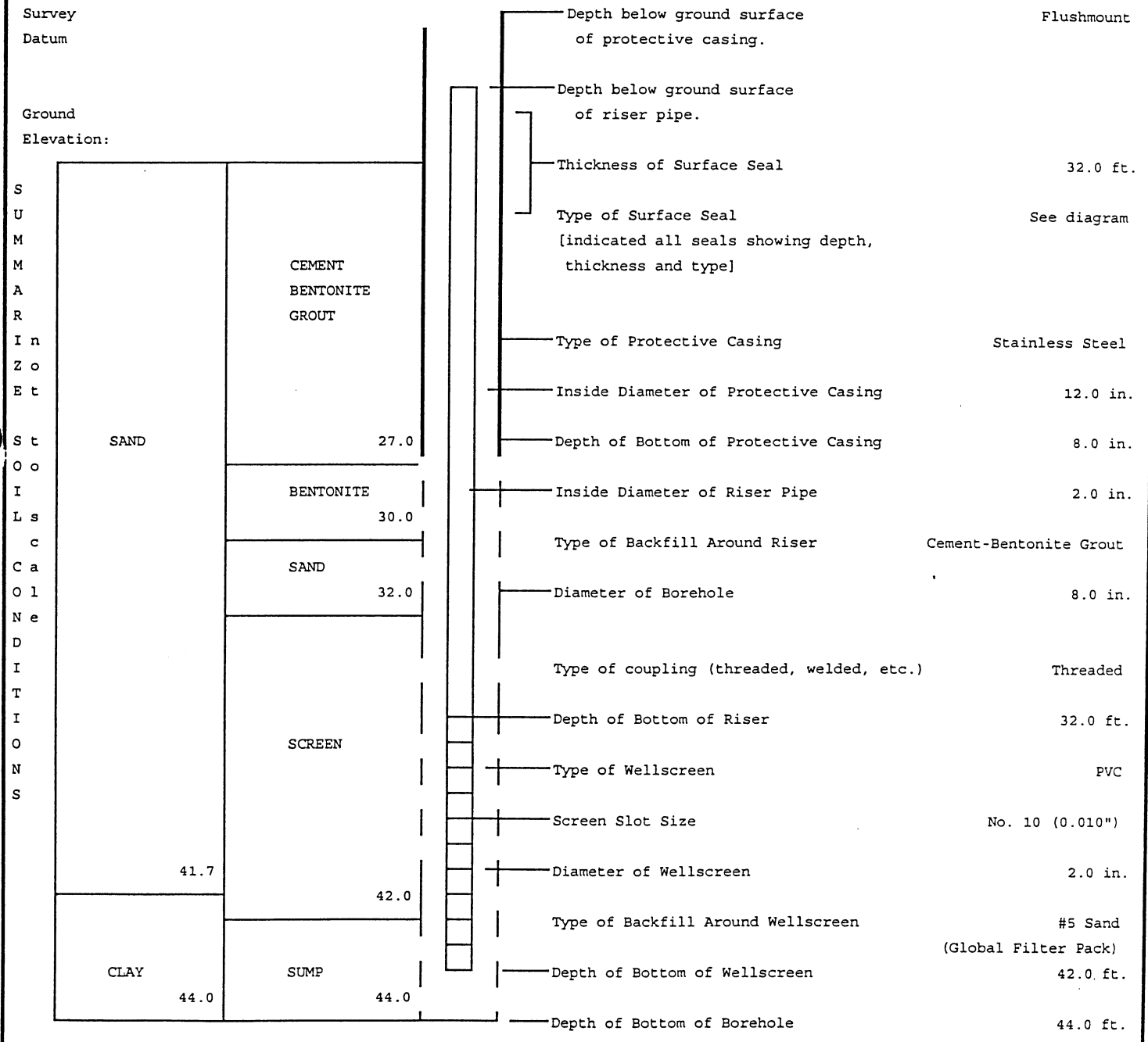
HALEY & ALDRICH, INC. Underground Engineers, and Environmental Solutions	TEST BORING REPORT	BORING NO. HD-6 FILE NO. 79032-010 SHEET NO. 2 OF 2

DEPTH (FT)	PID SCREENING	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
		8 11	24"	26		Same. Brown fine to medium SAND, trace fine gravel, wet.
	0.0	7 8 10 13	S-13 15"	26 28		
	0.0	6 6 8 9	S-14 18"	28 30		Same. Containing little silt.
30	0.0	5 7 7 9	S-15 10"	30 32		Same.
	0.0	4 5 5 5	S-16 20"	32 34		Same.
35	0.0	7 9 12 16	S-17 24"	34 36		Same. Little coarse SAND, trace fine gravel, wet.
	0.0	9 11 13 15	S-18 18"	36 38	37.7	
	0.0	6 8 9 13	S-19 24"	38 40		Brown silty CLAY with some medium sand and fine gravel, damp to dry.
40						BOTTOM OF EXPLORATION AT 40.0 FEET.

HALEY & ALDRICH, INC. Underground Engineers, and Environmental Solutions	OVERBURDEN GROUNDWATER MONITORING WELL REPORT

PROJECT: Delphi Harrison Thermal Systems Facility
LOCATION: Dayton, Ohio
CLIENT: REALM / General Motors Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.
DRILLER: M. Bentley RIG TYPE: CME-75
INSTALLATION DATE: 23 February 1999

FILE NO.: 79032-010
WELL NO.: HD-7
LOCATION:
SHEET: 1 OF 1
INSPECTOR: N. Malakar



Remarks:
Monitoring well outfitted with 2.0 foot sump below wellscreen.

Well No. HD-7

HALEY & ALDRICH, INC. Underground Engineering and Environmental Solutions	TEST BORING REPORT	BORING NO. HD-7

PROJECT: Dayton Harrison Thermal Systems
CLIENT: REALM / General Motors Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

GS 79490 | TOR 79440

FILE NO. 79032-010
SHEET NO. 1 OF 2
LOCATION:

ELEVATION:
DATUM:
START: 2/23/1999
FINISH: 2/23/1999
DRILLER: M. Bentley
H&A REP: N. Malakar

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE	HSA	SS	
INSIDE DIAMETER (IN)	4 1/4"	1 3/8"	
HAMMER WEIGHT (LB)		140	
HAMMER FALL (IN)		30"	

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: CME-75 with Autohammer

DEPTH (FT)	PID SCREENING	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
	0.0	4 5 2 1	S-1 15"	2 4		Brown sandy SILT, little fine gravel, damp.
5	0.0	2 1 1 1	S-2 12"	4 6		Same.
	0.0	1 2 4 2	S-3 16"	6 8		Same. Some brick fragments.
	0.0	3 2 2 2	S-4 10"	8 10		Same.
10	0.0	2 3 3 7	S-5 16"	10 12	11.3	Same.
	0.0	5 7 6 8	S-6 7"	12 14		Brown SAND and GRAVEL, damp to moist. Same. Wet.
15	0.0	6 6 8 10	S-7 17"	14 16		Same.
	36.2	4 6 7 9	S-8 12"	16 18		Same. Black oily coating on sand and gravel, wet.
	177	5 7 8 12	S-9 15"	18 20		Same.
20	47.7	8 17 21 30	S-10 17"	20 22		Same. No oily coating present.
	50.8	5 7 7 10	S-11 16"	22 24		Same.
25	0.0	7 6	S-12	24		Same.

NOTES:
Borehole converted to monitoring well HD-7.

SAMPLE IDENTIFICATION

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

SUMMARY

OVERBURDEN (LIN FT): 44.0

ROCK CORED (LIN FT): None

SAMPLES: None to lab.

BORING NO. HD-7

HALEY & ALDRICH, INC.
Underground Engineers, and
Environmental Solutions

TEST BORING REPORT

BORING NO. HD-7
FILE NO. 79032-010
SHEET NO. 2 OF 2

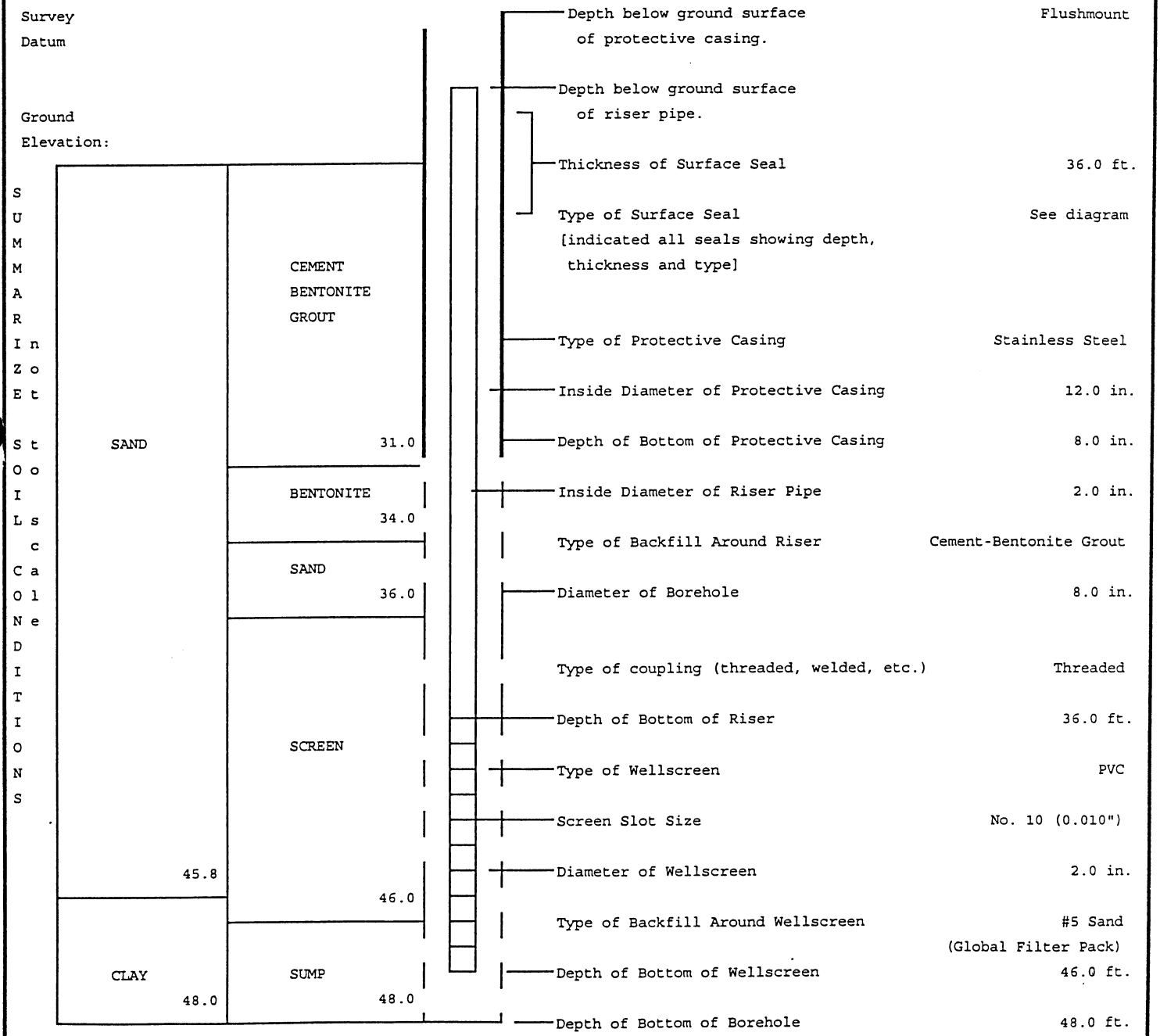
DEPTH (FT)	PID SCREENING	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
		6 8	22"	26		Same. Brown SAND and GRAVEL, some coarse sand, wet.
	0.0	5 5 7 8	S-13 23"	26 28		Same.
	0.0	4 7 8 12	S-14 24"	28 30		Same. Containing little silt.
30	0.0	5 7 7 8	S-15 0"	30 32		No recovery.
	0.0	8 10 11 13	S-16 21"	32 34		Same. Trace silt.
35	0.0	5 7 7 9	S-17 24"	34 36		Same.
	0.0	10 10 10 10	S-18 23"	36 38		Same.
	0.0	7 9 11 14	S-19 24"	38 40		Same.
40	0.0	7 11 12 16	S-20 22"	40 44		Same.
	0.0	8 10 14 22	S-21 21"	42 44	41.7	Brown sandy silty CLAY, trace fine gravel, damp.
						BOTTOM OF EXPLORATION AT 44.0 FEET.

HALEY & ALDRICH, INC. Underground Engineering and Environmental Solutions	OVERBURDEN GROUNDWATER MONITORING WELL REPORT

PROJECT: Delphi Harrison Thermal Systems Facility
LOCATION: Dayton, Ohio
CLIENT: REALM / General Motors Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.
DRILLER: M. Bentley RIG TYPE: CME-75
INSTALLATION DATE: 22 February 1999

FILE NO.: 79032-010
WELL NO.: HD-8
LOCATION:

SHEET: 1 OF 1
INSPECTOR: N. Malakar



Remarks:
Monitoring well outfitted with 2.0 foot sump below wellscreen.

Well No. HD-8

HALEY & ALDRICH, INC. Underground Engineering and Environmental Solutions	TEST BORING REPORT	BORING NO. HD-8

PROJECT: Dayton Harrison Thermal Systems
CLIENT: REALM / General Motors Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

GS 74418 | GW 74388

FILE NO. 79032-010
SHEET NO. 1 OF 2
LOCATION:

ELEVATION:
DATUM:
START: 2/22/1999
FINISH: 2/22/1999
DRILLER: M. Bentley
H&A REP: N. Malakar

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE	HSA	SS	
INSIDE DIAMETER (IN)	4 1/4"	1 3/8"	
HAMMER WEIGHT (LB)		140	
HAMMER FALL (IN)		30"	

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: CME-75 with Autohammer

DEPTH (FT)	PID SCREENING	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
	0.0	8 10 8 13	S-1 18"	2 4		Brown sandy CLAY, little fine gravel, trace rock and brick fragments, damp.
5	0.0	10 15 8 5	S-2 17"	4 6		Brown GRAVEL and SAND, dry.
	0.0	8 10 12 13	S-3 14"	6 8		Same. Some coarse gravel and cobble, dry.
	0.0	8 9 9 9	S-4 8"	8 10		Same. Concrete at 10.7 feet.
10	0.0	23 50/4"	S-5 7"	10 12		Same. Concrete throughout.
	NA	50/2"	S-6 0"	12 14		Same. Concrete throughout.
15	0.0	12 12 12 8	S-7 14"	14 16		Brown fine to medium SAND, little fine gravel, trace rock fragments, dry.
	104	8 9 10 13	S-8 16"	16 18		Same. Becoming wet at 17.3 feet.
	181	38 41 28 19	S-9 17"	18 20		Same. Sand and gravel coated with black substance throughout.
20	93	13 12 18 22	S-10 16"	20 22		Same. No oily coating present, wet.
	46	11 10 13 15	S-11 24"	22 24		Same.
25	11	4 7	S-12	24		Same.

NOTES:
Borehole converted to monitoring well HD-8.
NA: Not Applicable

SAMPLE IDENTIFICATION

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

SUMMARY

OVERBURDEN (LIN FT): 48.0

ROCK CORED (LIN FT): None

SAMPLES: None to lab.

BORING NO. HD-8

HALEY & ALDRICH, INC.
Underground Engineering and
Environmental Solutions

TEST BORING REPORT

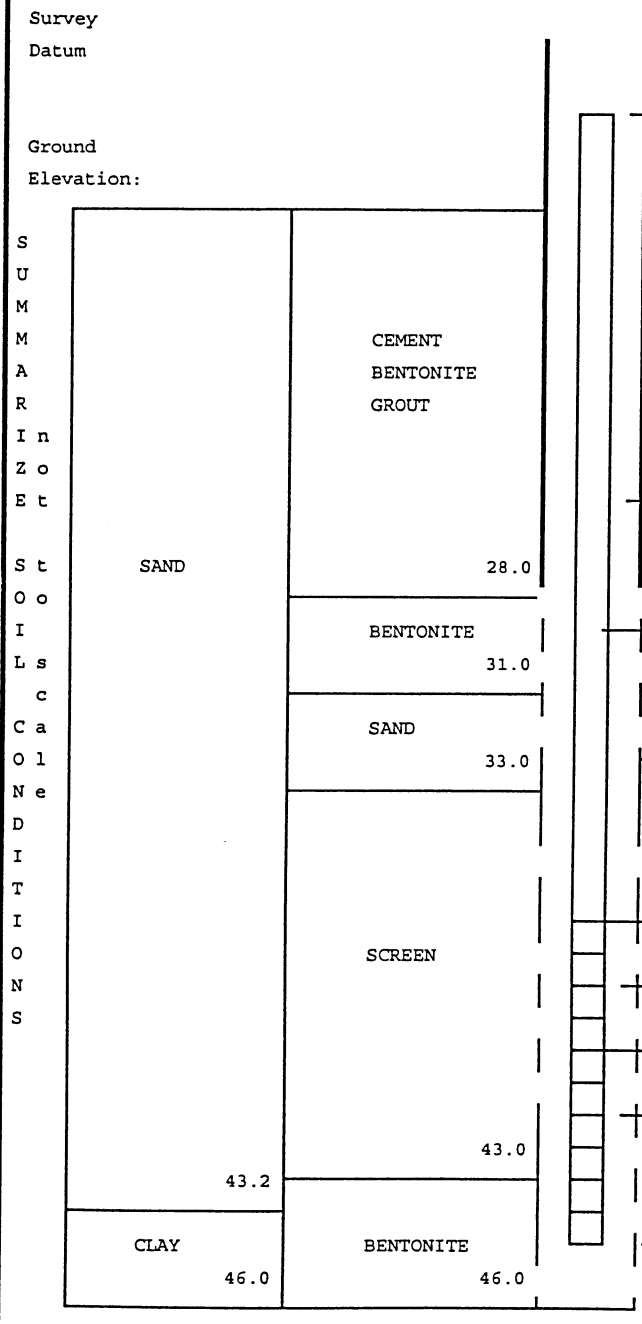
BORING NO. HD-8
FILE NO. 79032-010
SHEET NO. 2 OF 2

DEPTH (FT)	PID SCREENING	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
		8 10	22"	26		Same. Brown medium to coarse SAND and fine GRAVEL, wet.
	7.6	5 7 9 11	S-13 21"	26 28		Same.
	5.2	6 8 7 8	S-14 22"	28 30		Same. Some fine sand throughout.
30	0.0	6 5 7 8	S-15 18"	30 32		Same.
	0.0	4 6 8 9	S-16 12"	32 34		Same.
35	0.0	4 7 7 9	S-17 24"	34 36		Same.
	NA	2 3 3 3	S-18 0"	36 38		No recovery.
	0.0	5 9 9 11	S-19 23"	38 40		Same. Brown fine to medium SAND, little fine gravel, wet.
40	0.0	4 6 6 8	S-20 22"	40 44		Same. Some coarse sand throughout.
	0.0	4 4 4 6	S-21 20"	42 44		Same. Trace coarse gravel throughout.
	0.0	5 9 9 9	S-22 18"	44 46	45.8	Same.
45	0.0	5 9 9 11	S-23 17"	46 48		Gray silty CLAY, little fine sand and gravel, damp to dry.
						BOTTOM OF EXPLORATION AT 48.0 FEET.

HALEY & ALDRICH, INC. Underground Engineering and Environmental Solutions	OVERBURDEN GROUNDWATER MONITORING WELL REPORT

PROJECT: Delphi Harrison Thermal Systems Facility
LOCATION: Dayton, Ohio
CLIENT: REALM / General Motors Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.
DRILLER: M. Bentley RIG TYPE: CME-75
INSTALLATION DATE: 16 February 1999

FILE NO.: 79032-010
WELL NO.: HD-9
LOCATION:
SHEET: 1 OF 1
INSPECTOR: N. Malakar



Depth below ground surface of protective casing.	Flushmount
Depth below ground surface of riser pipe.	
Thickness of Surface Seal	33.0 ft.
Type of Surface Seal [indicated all seals showing depth, thickness and type]	See diagram
Type of Protective Casing	Stainless Steel
Inside Diameter of Protective Casing	12.0 in.
Depth of Bottom of Protective Casing	8.0 in.
Inside Diameter of Riser Pipe	2.0 in.
Type of Backfill Around Riser	Cement-Bentonite Grout
Diameter of Borehole	8.0 in.
Type of coupling (threaded, welded, etc.)	Threaded
Depth of Bottom of Riser	33.0 ft.
Type of Wellscreen	PVC
Screen Slot Size	No. 10 (0.010")
Diameter of Wellscreen	2.0 in.
Type of Backfill Around Wellscreen	#5 Sand (Global Filter Pack)
Depth of Bottom of Wellscreen	43.0 ft.
Depth of Bottom of Borehole	46.0 ft.

Remarks:

Well No. HD-9

HALEY & ALDRICH, INC.
Underground Engineering and
Environmental Solutions

TEST BORING REPORT

BORING NO. HD-9

GS 139511 | TPE 137107

PROJECT: Dayton Harrison Thermal Systems
CLIENT: REALM / General Motors Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-010
SHEET NO. 1 OF 2
LOCATION:

ELEVATION:
DATUM:
START: 2/16/1999
FINISH: 2/16/1999
DRILLER: M. Bentley
H&A REP: N. Malakar

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE	HSA	SS	
INSIDE DIAMETER (IN)	4 1/4"	1 3/8"	
HAMMER WEIGHT (LB)		140	
HAMMER FALL (IN)		30"	

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: CME-75 with Autohammer

DEPTH (FT)	PID SCREENING	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
	0.0	5 4 4 2	S-1 16"	2 4		Brown silty SAND, little fine gravel, damp.
5	0.0	2 2 2 2	S-2 13"	4 6		Same. Becoming brown and black mottled sandy SILT, damp.
	0.0	3 2 1 1	S-3 3"	6 8		Same. Some coarse gravel, wet.
	0.0	8 2 2 2	S-4 4"	8 10		Same.
10	0.0	3 1 6 11	S-5 24"	10 12		Same. Becoming sitly SAND with little coarse gravel, damp.
	0.0	6 7 9 11	S-6 24"	12 14		Same. Wet.
15	0.0	5 7 8 10	S-7 24"	14 16		Same. Wet.
	0.0	7 7 8 8	S-8 24"	16 18		Same. Brown fine to coarse SAND and fine GRAVEL, wet.
	0.0	7 10 16 17	S-9 24"	18 20		Same.
20	0.0	8 12 14 18	S-10 24"	20 22		Same.
	0.0	9 7 10 13	S-11 24"	22 24		Same.
25	0.0	7 10	S-12	24		Same.

NOTES:
Borehole converted to monitoring well HD-9.
Water encountered at approximately 16.5 feet.

SAMPLE IDENTIFICATION

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

SUMMARY

OVERBURDEN (LIN FT): 46.0

ROCK CORED (LIN FT): None

SAMPLES: None to lab.

BORING NO. HD-9

HALEY & ALDRICH, INC.
Underground Engineering and
Environmental Solutions

TEST BORING REPORT

BORING NO. HD-9
FILE NO. 79032-010
SHEET NO. 2 OF 2

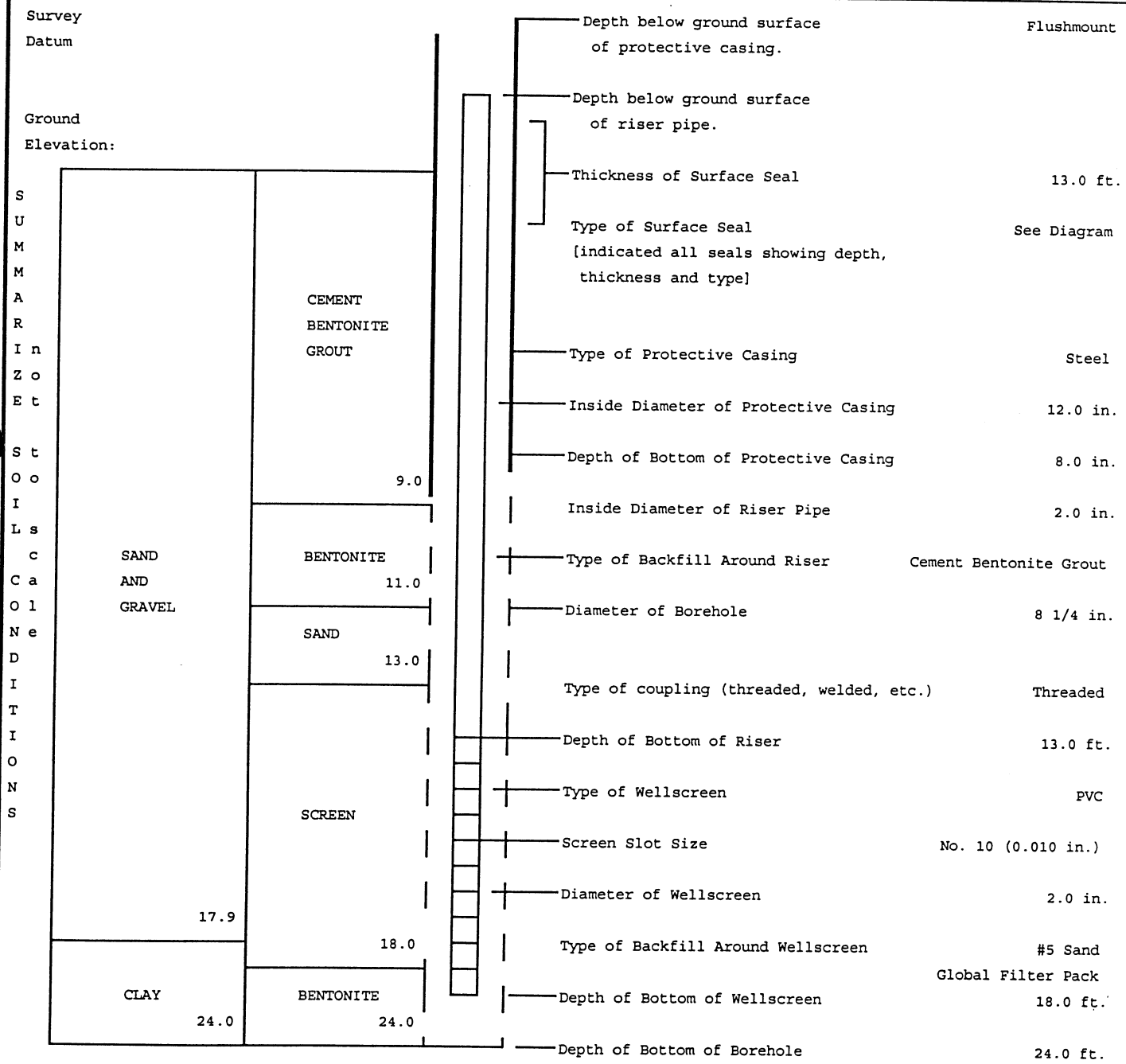
DEPTH (FT)	PID SCREENING	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
		13 17	13"	26		Same. Brown medium to coarse SAND and fine GRAVEL, wet.
	0.0	9 11 18 21	S-13 15"	26 28		Same.
	0.0	7 10 16 19	S-14 22"	28 30		Same.
30	0.0	6 6 8 10	S-15 22"	30 32		Same. Brown medium SAND, little fine gravel, wet.
	0.0	7 10 11 15	S-16 23"	32 34		Same.
35	0.0	9 11 18 14	S-17 24"	34 36		Same. Becoming brown clayey SAND.
	0.0	10 13 16 22	S-18 24"	36 38		Same.
	0.0	14 19 23 28	S-19 24"	38 40		Same.
40	0.0	16 19 21 28	S-20 23"	40 44		Same.
	0.0	8 11 14 18	S-21 24"	42 44	43.2	Same.
45	0.0	10 13 17 19	S-22 20"	44 46		Gray silty CLAY, little fine to coarse gravel, damp to dry.
						BOTTOM OF EXPLORATION AT 46.0 FEET.

HALEY & ALDRICH, INC. Underground Engineers, and Environmental Solutions	OVERBURDEN GROUNDWATER MONITORING WELL REPORT

PROJECT: Former Dayton Harrison Thermal Systems Facility
LOCATION: Dayton, Ohio
CLIENT: GM Counsel/REALM
CONTRACTOR: Northcoast Drilling Services, Inc.
DRILLER: M. Bentley RIG TYPE: CME-75
INSTALLATION DATE: 8 June 1999

FILE NO.: 79032-010
WELL NO.: HD-10
LOCATION: Dayton, OH

SHEET: 1 OF 1
INSPECTOR: N. Malakar/S. Johnson



Remarks:

Well No. HD-10

HALEY & ALDRICH, INC. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. HD-10

PROJECT: Delphi Harrison Thermal Systems
CLIENT: G.M./REALM
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-010
SHEET NO. 1 OF 1
LOCATION: Dayton, OH

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE	HSA	SS	---
INSIDE DIAMETER (IN)	4 1/4"	1 3/8"	---
HAMMER WEIGHT (LB)		140	
HAMMER FALL (IN)		30"	

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: CME-75
OTHER: Autohammer

ELEVATION:
DATUM:
START: 6/8/99
FINISH: 6/8/99
DRILLER: M. Bentley
H&A REP: NJM/SMJ

DEPTH (FT)	HNu FIELD SCREENING (ppm)	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
	0.0	11 29 32 44	S-1 12/24	2 4		Brown fine to medium SAND, some fine to medium gravel, little limestone fragments, dry.
5	0.0	15 16 23 22	S-2 15/24	4 6		Same. Becoming medium to coarse SAND and gravel, dry.
	0.0	23 26 24 25	S-3 24/24	6 8		Same.
	0.0	10 12 20 16	S-4 22/24	8 10		Same.
10	0.0	7 9 11 13	S-5 16/24	10 12		Same. Becoming moist at 11.2 ft.
	0.0	6 8 10 10	S-6 19/24	12 14		Same. Wet 6" Gravel and coarse sand layer at 12.4 ft.
15	0.0	5 7 9 11	S-7 16/24	14 16		Brown medium to course SAND, with fine to coarse gravel, wet.
	0.0	7 9 12 13	S-8 24/24	16 18	17.9	Same.
	0.0	8 10 11 12	S-9 17/24	18 20		Brown, becoming gray silty CLAY, trace fine gravel, damp.
20	0.0	9 11 15 12	S-10 19/24	20 22		Same. Gray medium sand lens 2 in. in thickness at 21.2 feet.
	0.0	8 9 7 4	S-11 14/24	22 24		Same.
25						BOTTOM OF EXPLORATION AT 24.0 FEET

NOTES:

Borehole converted to monitoring well HD-10.

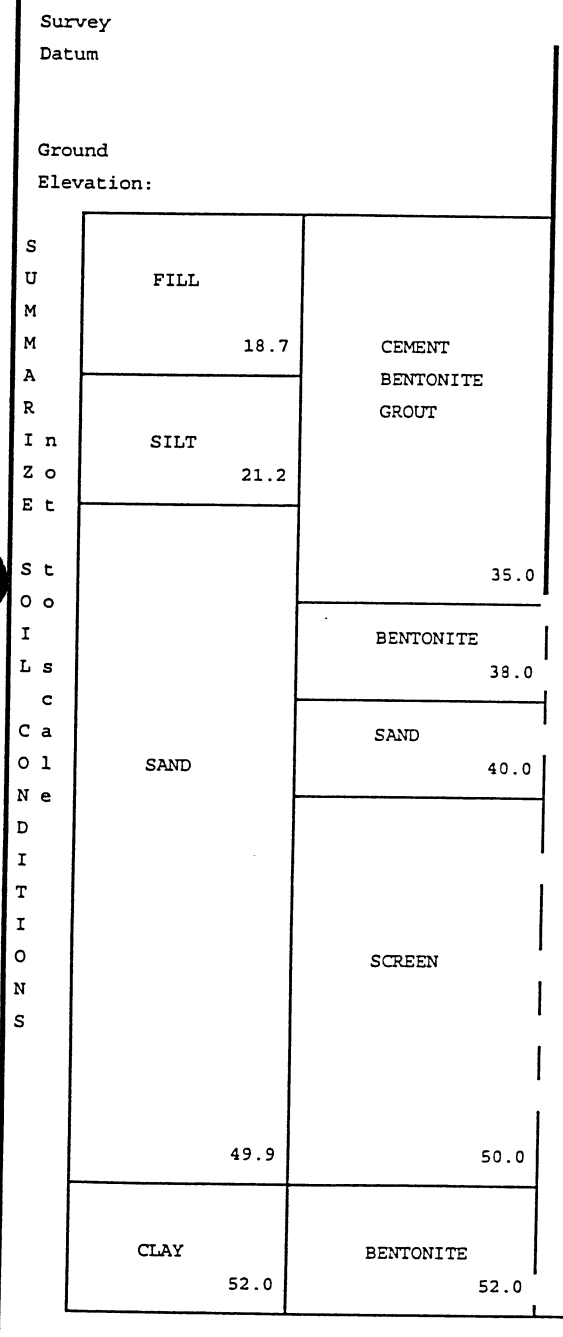
SAMPLE IDENTIFICATION	SUMMARY
O Open End Rod T Thin Wall Tube U Undisturbed Sample S Split Spoon G Geoprobe	OVERBURDEN (LIN FT): 24.0 ROCK CORED (LIN FT): --- SAMPLES: None to lab.

BORING NO. HD-10

HALEY & ALDRICH, INC. Underground Engineering and Environmental Solutions	OVERBURDEN GROUNDWATER MONITORING WELL REPORT

PROJECT: Delphi Harrison Thermal Systems Facility
LOCATION: Dayton, Ohio
CLIENT: REALM / General Motors Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.
DRILLER: M. Bentley RIG TYPE: CME-75
INSTALLATION DATE: 17 February 1999

FILE NO.: 79032-010
WELL NO.: HD-11
LOCATION:
SHEET: 1 OF 1
INSPECTOR: N. Malakar



Depth below ground surface of protective casing.	Flushmount
Depth below ground surface of riser pipe.	
Thickness of Surface Seal	40.0 ft.
Type of Surface Seal [indicated all seals showing depth, thickness and type]	See diagram
Type of Protective Casing	Stainless Steel
Inside Diameter of Protective Casing	12.0 in.
Depth of Bottom of Protective Casing	8.0 in.
Inside Diameter of Riser Pipe	2.0 in.
Type of Backfill Around Riser	Cement-Bentonite Grout
Diameter of Borehole	8.0 in.
Type of coupling (threaded, welded, etc.)	Threaded
Depth of Bottom of Riser	40.0 ft.
Type of Wellscreen	PVC
Screen Slot Size	No. 10 (0.010")
Diameter of Wellscreen	2.0 in.
Type of Backfill Around Wellscreen	#5 Sand (Global Filter Pack)
Depth of Bottom of Wellscreen	50.0 ft.
Depth of Bottom of Borehole	52.0 ft.

Remarks:

Well No. HD-11

HALEY & ALDRICH, INC. Underground Engineering and Environmental Solutions	TEST BORING REPORT	BORING NO. HD-11

PROJECT: Dayton Harrison Thermal Systems
CLIENT: REALM / General Motors Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-010
SHEET NO. 1 OF 2
LOCATION:

ELEVATION:
DATUM:
START: 2/17/1999
FINISH: 2/17/1999
DRILLER: M. Bentley
H&A REP: N. Malakar

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE	HSA	SS	
INSIDE DIAMETER (IN)	4 1/4"	1 3/8"	
HAMMER WEIGHT (LB)		140	
HAMMER FALL (IN)		30"	

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: CME-75 with Autohammer

DEPTH (FT)	PID SCREENING	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
	0.0	7 5 7 9	S-1 10"	2 4		Sandy silty CLAY, little coarse gravel, dry.
5	0.0	50/4"	S-2 0"	4 6		No recovery.
	0.0	WOT/12" 6 7	S-3 6"	6 8		Same.
	0.0	3 5 5 5	S-4 2"	8 10		Same. Cobbles throughout.
10	0.0	3 4 6 5	S-5 2"	10 12		Same.
	0.0	3 5 7 9	S-6 20"	12 14		Same. Containing less gravel, moist.
15	0.0	3 6 7 7	S-7 14"	14 16		Same. Wet.
	0.0	6 6 7 8	S-8 16"	16 18		Same.
	0.0	6 7 3 2	S-9 12"	18 20	18.7	Black clayey SILT, little fine gravel, damp.
20	0.0	2 3 3 2	S-10 17"	20 22		Same. Becoming mottled brown and red sandy SILT.
	0.0	7 9 11 14	S-11 17"	22 24	21.2	Brown SAND and GRAVEL, damp.
25	0.0	5 7	S-12	24		Same. Wet.

NOTES:
Borehole converted to monitoring well HD-11.
Water encountered at approximately 24.0 feet.
WOT: Weight of Tools

SAMPLE IDENTIFICATION

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

SUMMARY

OVERBURDEN (LIN FT): 52.0

ROCK CORED (LIN FT): None

SAMPLES: None to lab.

BORING NO. HD-11

HALEY & ALDRICH, INC. Underground Engineering and Environmental Solutions	TEST BORING REPORT	BORING NO. HD-11 FILE NO. 79032-010 SHEET NO. 2 OF 2

DEPTH (FT)	PID SCREENING	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
	13.4	8 8	14"	26		Same. Brown medium to coarse SAND and fine GRAVEL, wet. Black substance on sand and gravel at 25.0 feet.
	45.8	3 4 4 5	S-13 15"	26 28		
	4.1	7 9 9 12	S-14 16"	28 30		Same. No black substance present.
30	1.8	3 5 5 8	S-15 22"	30 32		Same.
	0.0	3 4 4 5	S-16 24"	32 34		Same. Silty sand layer at 32.9 feet.
35	0.0	4 5 5 8	S-17 24"	34 36		Same. Brown fine to coarse SAND and fine GRAVEL, wet.
	0.0	5 7 7 9	S-18 24"	36 38		Same.
	0.0	4 5 7 8	S-19 12"	38 40		Same.
40	0.0	5 6 6 8	S-20 24"	40 44		Same.
	0.0	8 4 7 9	S-21 20"	42 44		Same.
45	0.0	6 6 6 9	S-22 17"	44 46		Same.
	0.0	9 10 10 16	S-23 23"	46 48		Same. Becoming silty SAND, wet.
	0.0	6 7 7 11	S-24 24"	48 50		Same.
50	0.0	10 11 11 24	S-25 14"	50 52	49.9	Brown and gray silty CLAY, trace fine gravel, damp to dry.
						BOTTOM OF EXPLORATION AT 52.0 FEET.

HALEY & ALDRICH, INC.
Underground Engineering and
Environmental Solutions

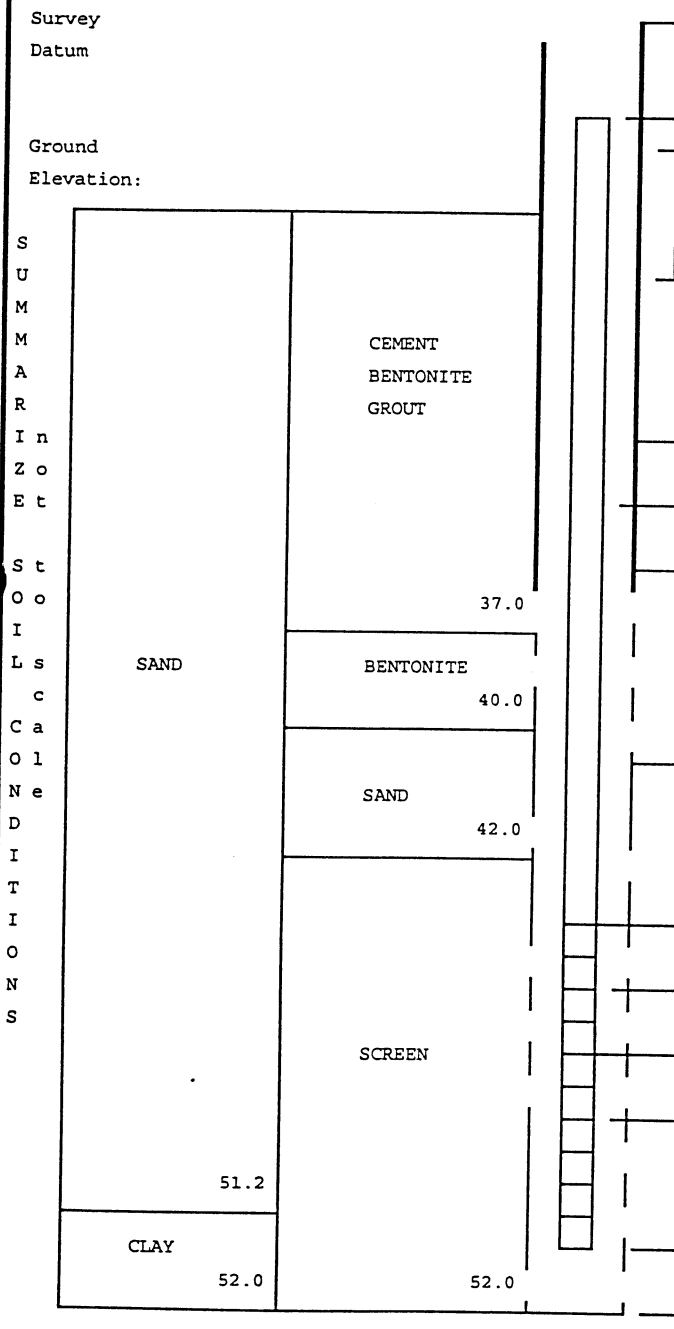
OVERBURDEN GROUNDWATER MONITORING WELL REPORT

PROJECT: Delphi Harrison Thermal Systems Facility
LOCATION: Dayton, Ohio
CLIENT: REALM / General Motors Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.
DRILLER: M. Bentley RIG TYPE: CME-75
INSTALLATION DATE: 17 February 1999

FILE NO.: 79032-010
WELL NO.: HD-12
LOCATION:

SHEET: 1 OF 1
INSPECTOR: N. Malakar

SUMMARIZE SOIL CONDITIONS



Depth below ground surface of protective casing.	Flushmount
Depth below ground surface of riser pipe.	
Thickness of Surface Seal	42.0 ft.
Type of Surface Seal [indicated all seals showing depth, thickness and type]	See diagram
Type of Protective Casing	Stainless Steel
Inside Diameter of Protective Casing	12.0 in.
Depth of Bottom of Protective Casing	8.0 in.
Inside Diameter of Riser Pipe	2.0 in.
Type of Backfill Around Riser	Cement-Bentonite Grout
Diameter of Borehole	8.0 in.
Type of coupling (threaded, welded, etc.)	Threaded
Depth of Bottom of Riser	42.0 ft.
Type of Wellscreen	PVC
Screen Slot Size	No. 10 (0.010")
Diameter of Wellscreen	2.0 in.
Type of Backfill Around Wellscreen	#5 Sand (Global Filter Pack)
Depth of Bottom of Wellscreen	52.0 ft.
Depth of Bottom of Borehole	52.0 ft.

Remarks:

Well No. HD-12

HALEY & ALDRICH, INC. Underground Engineering and Environmental Solutions	TEST BORING REPORT	BORING NO. HD-12

PROJECT: Dayton Harrison Thermal Systems
CLIENT: REALM / General Motors Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

GS 738.30 | 10E 73752

FILE NO. 79032-010
SHEET NO. 1 OF 2
LOCATION:

ELEVATION:
DATUM:
START: 2/17/1999
FINISH: 2/17/1999
DRILLER: M. Bentley
H&A REP: N. Malakar

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE	HSA	SS	
INSIDE DIAMETER (IN)	4 1/4"	1 3/8"	
HAMMER WEIGHT (LB)		140	
HAMMER FALL (IN)		30"	

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: CME-75 with Autohammer

DEPTH (FT)	PID SCREENING	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
	0.0	3 5 2 2	S-1 8"	2 4		Brown fine to medium SAND, little fine gravel, dry.
5	0.0	1 1 1 1	S-2 14"	4 6		Same. Becoming black silty SAND, damp.
	0.0	WOT/24"	S-3 18"	6 8		Same.
	0.0	1 1 1 1	S-4 24"	8 10		Same. Becoming black and brown mottled silty SAND and GRAVEL, damp.
10	0.0	6 7 10 11	S-5 24"	10 12		Same. Containing more silt, moist.
	0.0	8 9 8 9	S-6 18"	12 14		Same. Wet.
15	0.0	3 5 3 3	S-7 21"	14 16		Same.
	0.0	4 5 5 7	S-8 24"	16 18		Same. Coarse gravel layer from 16.8 to 17.1 feet.
	0.0	6 6 7 8	S-9 24"	18 20		Same.
20	0.0	5 5 9 8	S-10 24"	20 22		Same. Brown fine to coarse SAND, wet.
	0.0	5 5 6 7	S-11 24"	22 24		Same.
25	0.0	7 9	S-12	24		Same.

NOTES:
Borehole converted to monitoring well HD-12.
WOT: Weight of Tools

SAMPLE IDENTIFICATION	SUMMARY
O Open End Rod T Thin Wall Tube U Undisturbed Sample S Split Spoon G Geoprobe	OVERBURDEN (LIN FT): 52.0 ROCK CORED (LIN FT): None SAMPLES: None to lab.
	BORING NO. HD-12

HALEY & ALDRICH, INC.
Underground Engineering and Environmental Direction

TEST BORING REPORT

BORING NO. HD-12
FILE NO. 79032-010
SHEET NO. 2 OF 2

DEPTH (FT)	PID SCREENING	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
	0.0	9 11	24"	26		Brown medium to coarse SAND and fine GRAVEL, wet.
	0.0	9 10 14 16	S-13 24"	26 28		Same.
	0.0	7 7 10 11	S-14 24"	28 30		Same.
30	0.0	8 9 11 11	S-15 24"	30 32		Same. Becoming coarse SAND and fine GRAVEL, wet.
	0.0	9 12 10 14	S-16 21"	32 34		Same. Containing rock fragments.
35	0.0	6 9 10 13	S-17 23"	34 36		Same.
	0.0	7 9 9 12	S-18 22"	36 38		Same.
	0.0	8 10 12 16	S-19 21"	38 40		Same. Some coarse gravel throughout.
40	0.0	9 11 13 14	S-20 17"	40 44		Same. Becoming silty SAND with little gravel, wet.
	0.0	5 7 10 17	S-21 12"	42 44		Same.
45	0.0	6 7 9 13	S-22 16"	44 46		Same.
	0.0	9 11 15 19	S-23 18"	46 48		Same. Becoming silty SAND, wet.
	0.0	6 7 11 13	S-24 17"	48 50		Same.
50	0.0	9 10 10 16	S-25 22"	50 52	51.2	Same. Gray silty CLAY, trace fine gravel, damp.
						BOTTOM OF EXPLORATION AT 52.0 FEET.

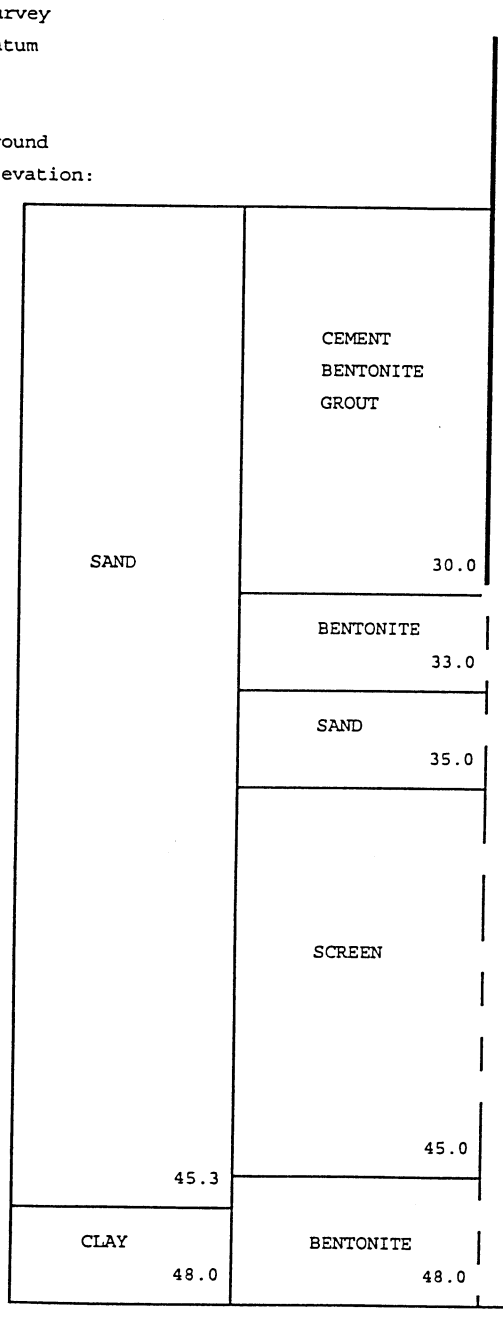
HALEY & ALDRICH, INC. Underground Engineering and Environmental Solutions	OVERBURDEN GROUNDWATER MONITORING WELL REPORT

PROJECT: Delphi Harrison Thermal Systems Facility
LOCATION: Dayton, Ohio
CLIENT: REALM / General Motors Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.
DRILLER: M. Bentley RIG TYPE: CME-75
INSTALLATION DATE: 18 February 1999

FILE NO.: 79032-010
WELL NO.: HD-13
LOCATION:

SHEET: 1 OF 1
INSPECTOR: N. Malakar

SUMMARIZE SOIL CONDITIONS



Depth below ground surface of protective casing.	Flushmount
Depth below ground surface of riser pipe.	
Thickness of Surface Seal	35.0 ft.
Type of Surface Seal [indicated all seals showing depth, thickness and type]	See diagram
Type of Protective Casing	Stainless Steel
Inside Diameter of Protective Casing	12.0 in.
Depth of Bottom of Protective Casing	8.0 in.
Inside Diameter of Riser Pipe	2.0 in.
Type of Backfill Around Riser	Cement-Bentonite Grout
Diameter of Borehole	8.0 in.
Type of coupling (threaded, welded, etc.)	Threaded
Depth of Bottom of Riser	35.0 ft.
Type of Wellscreen	PVC
Screen Slot Size	No. 10 (0.010")
Diameter of Wellscreen	2.0 in.
Type of Backfill Around Wellscreen	#5 Sand (Global Filter Pack)
Depth of Bottom of Wellscreen	45.0 ft.
Depth of Bottom of Borehole	48.0 ft.

Remarks:

Well No. HD-13

HALEY & ALDRICH, INC.
Underground Engineering and
Environmental Solutions

TEST BORING REPORT

BORING NO. HD-13

PROJECT: Dayton Harrison Thermal Systems
CLIENT: REALM / General Motors Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-010
SHEET NO. 1 OF 2
LOCATION:

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE	HSA	SS	
INSIDE DIAMETER (IN)	4 1/4"	1 3/8"	
HAMMER WEIGHT (LB)		140	
HAMMER FALL (IN)		30"	

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: CME-75 with Autohammer

ELEVATION:
DATUM:
START: 2/18/1999
FINISH: 2/18/1999
DRILLER: M. Bentley
H&A REP: N. Malakar

DEPTH (FT)	PID SCREENING	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
	0.0	4 5 3 2	S-1 7"	2 4		Brown SAND and GRAVEL, some crushed limestone, dry.
5	0.0	2 1 2 2	S-2 14"	4 6		Same. Becoming clayey SAND with little fine gravel, moist.
	0.0	2 3 5 5	S-3 6"	6 8		Same. Some coarse gravel.
	0.0	2 3 3 3	S-4 10"	8 10		Same. Medium to coarse SAND throughout.
10	0.0	4 5 7 5	S-5 14"	10 12		Same. Wet.
	0.0	4 4 4 5	S-6 24"	12 14		Same. Fine to coarse SAND, little fine gravel, wet.
15	0.0	5 7 7 10	S-7 14"	14 16		Same.
	0.0	5 5 6 6	S-8 21"	16 18		Same.
	0.0	4 5 7 7	S-9 24"	18 20		Same.
20	0.0	5 7 9 9	S-10 21"	20 22		Same.
	0.0	5 7 7 11	S-11 22"	22 24		Same.
25	0.0	8 10	S-12	24		Same. Some rock fragments throughout.

NOTES:
Borehole converted to monitoring well HD-13.

SAMPLE IDENTIFICATION

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

SUMMARY

OVERBURDEN (LIN FT): 48.0

ROCK CORED (LIN FT): None

SAMPLES: None to lab.

BORING NO. HD-13

HALEY & ALDRICH, INC. Underground Engineering and Environmental Solutions	TEST BORING REPORT	BORING NO. HD-13 FILE NO. 79032-010 SHEET NO. 2 OF 2

DEPTH (FT)	PID SCREENING	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
		13 14	22"	26		Same. Brown medium to coarse SAND and fine GRAVEL, wet.
	0.0	13 18	S-13 21"	26 28		Same.
	0.0	12 13 6	S-14 22"	28 30		Same.
30	0.0	7 9 12 8	S-15 18"	30 32		Same.
	0.0	10 9 13 8	S-16 12"	32 34		Same.
	0.0	8 10 14 6	S-17 24"	34 36		Same.
35	0.0	6 8 9 8	S-18 0"	36 38		Same. Becoming fine sand.
	0.0	11 13 17 5	S-19 23"	38 40		Same. Brown fine SAND, little silt, trace fine gravel, wet.
40	0.0	8 10 11 6	S-20 22"	40 44		Same.
	0.0	9 8 12 11	S-21 20"	42 44		Same. Trace coarse gravel throughout.
	0.0	11 14 13 6	S-22 18"	44 46		Same.
45	0.0	7 9 11 10	S-23 17"	46 48	45.3	Gray silty CLAY, trace fine gravel and medium sand, damp.
	0.0	12 13 14				BOTTOM OF EXPLORATION AT 48.0 FEET.

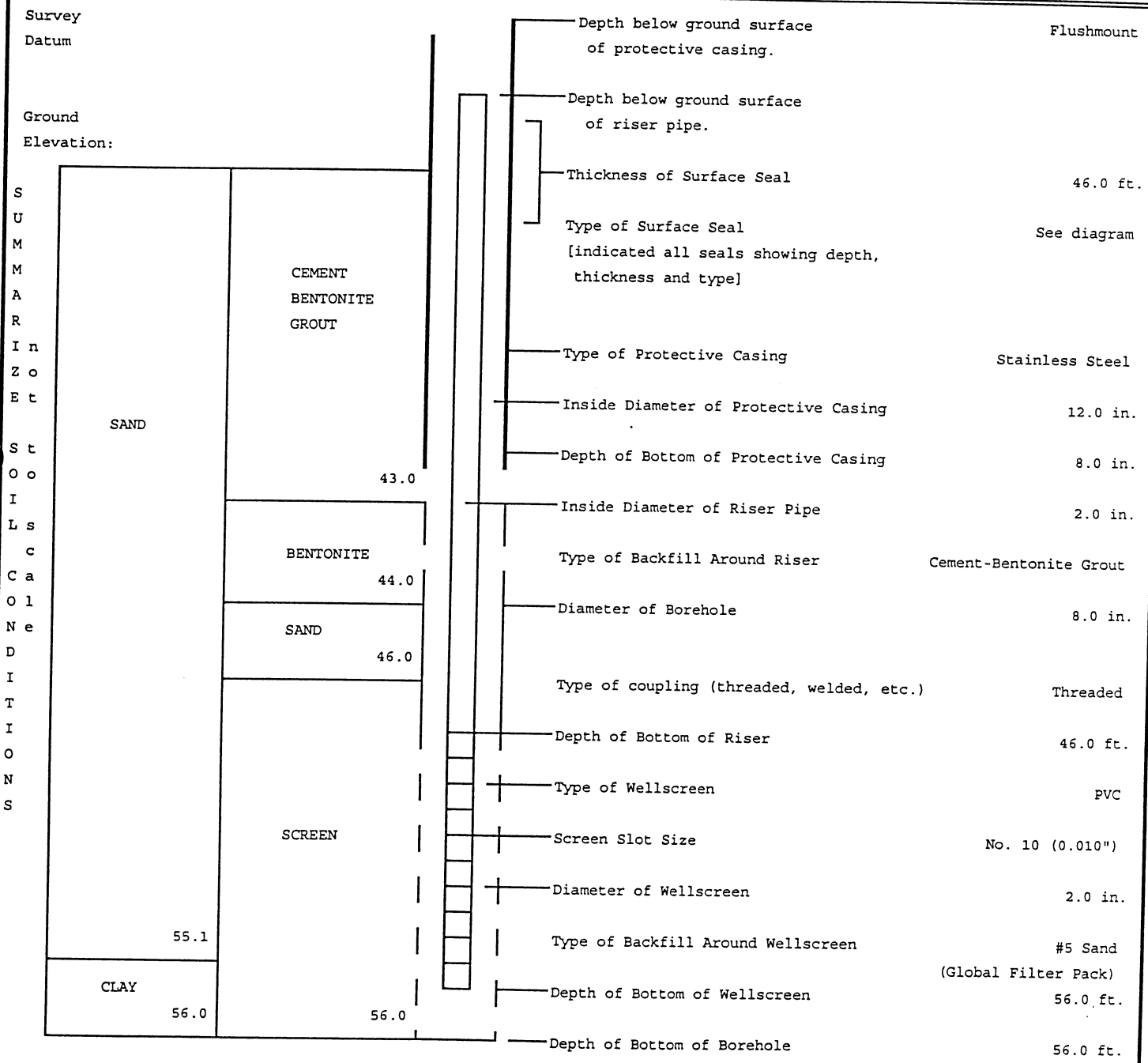
HALEY & ALDRICH, INC.
Underground Engineering and
Environmental Solutions

OVERBURDEN GROUNDWATER MONITORING WELL REPORT

PROJECT: Delphi Harrison Thermal Systems Facility
LOCATION: Dayton, Ohio
CLIENT: REALM / General Motors Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.
DRILLER: M. Bentley RIG TYPE: CME-75
INSTALLATION DATE: 24 February 1999

FILE NO.: 79032-010
WELL NO.: HD-14
LOCATION:

SHEET: 1 OF 1
INSPECTOR: N. Malakar



Remarks:

Well No. HD-14

HALEY & ALDRICH, INC.
Underground Engineering and Environmental Solutions

TEST BORING REPORT

BORING NO. HD-14

PROJECT: Dayton Harrison Thermal Systems
CLIENT: REALM / General Motors Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

65 740 51 1 TOP 74 01

FILE NO. 79032-010
SHEET NO. 1 OF 2
LOCATION:

ELEVATION:
DATUM:
START: 2/24/1999
FINISH: 2/24/1999
DRILLER: M. Bentley
H&A REP: N. Malakar

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE	HSA	SS	
INSIDE DIAMETER (IN)	4 1/4"	1 3/8"	
HAMMER WEIGHT (LB)		140	
HAMMER FALL (IN)		30"	

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: CME-75 with Autohammer

DEPTH (FT)	PID SCREENING	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
	0.0	8 5 5 7	S-1 15"	2 4		Brown silty CLAY, some medium sand and rock fragments, dry.
5	0.0	2 3 3 3	S-2 16"	4 6		Same. No sand or rock fragments, damp.
	0.0	5 5 7 7	S-3 19"	6 8	7.1	Same.
	0.0	6 8 9 11	S-4 15"	8 10		Brown medium SAND with fine to coarse gravel, dry. Same. Moist.
10	0.0	7 10 11 11	S-5 16"	10 12		Same.
	0.0	6 9 13 11	S-6 15"	12 14		Same. Coarse gravel throughout.
15	0.0	6 8 9 13	S-7 16"	14 16		Same. Wet.
	0.0	8 13 16 18	S-8 16"	16 18		Same.
	0.0	10 12 15 17	S-9 17"	18 20		Same.
20	0.0	7 9 12 16	S-10 15"	20 22		Same.
	0.0	6 7 9 11	S-11 20"	22 24		Same.
25	0.0	12 15	S-12	24		Same.

NOTES:
Borehole converted to monitoring well HD-14.

SAMPLE IDENTIFICATION

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

SUMMARY

OVERBURDEN (LIN FT): 56.0

ROCK CORED (LIN FT): None

SAMPLES: None to lab.

BORING NO. HD-14

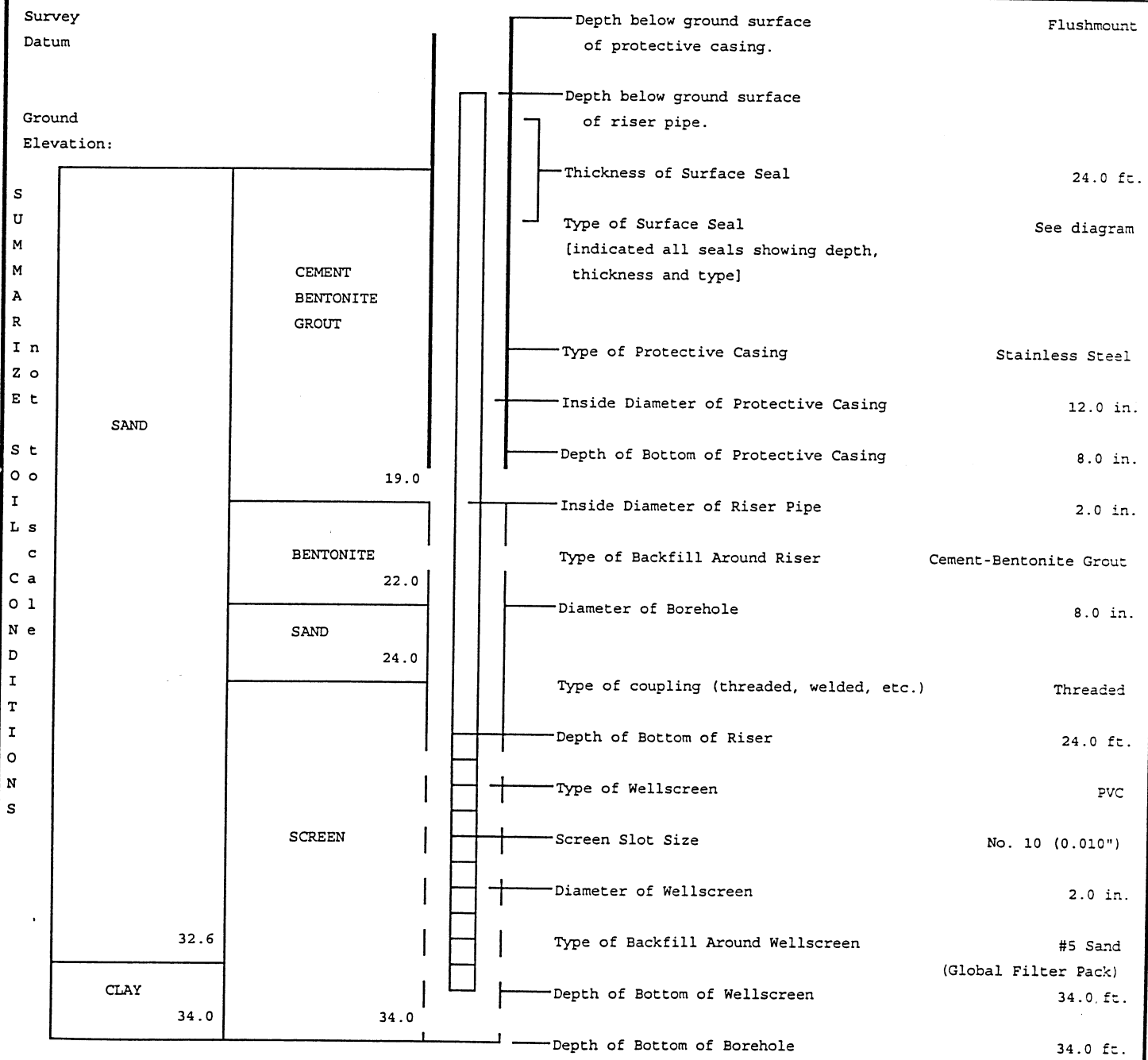
HALEY & ALDRICH, INC. Underground Engineering and Environmental Solutions	TEST BORING REPORT	BORING NO. HD-14 FILE NO. 79032-010 SHEET NO. 2 OF 2

DEPTH (FT)	PID SCREENING	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
	13.4	18 22	15"	26		Brown medium to coarse SAND, little fine gravel, wet.
	45.8	10 11 13 16	S-13 17"	26 28		Same.
	4.1	7 8 10 16	S-14 16"	28 30		Same.
30	1.8	5 8 11 13	S-15 16"	30 32		Same.
	0.0	8 10 13 15	S-16 20"	32 34		Same. Trace to little silt throughout.
35	0.0	8 10 12 13	S-17 10"	34 36		Same. Rock fragments throughout.
	0.0	14 16 19 23	S-18 17"	36 38		Same.
	0.0	15 19 23 29	S-19 17"	38 40		Same.
40	0.0	20 22 25 29	S-20 16"	40 44		Same.
	0.0	21 24 19 29	S-21 17"	42 44		Same.
45	0.0	14 18 17 26	S-22 17"	44 46		Same.
	0.0	11 15 20 30	S-23 19"	46 48		Same.
	0.0	9 12 14 17	S-24 18"	48 50		Same. Medium to coarse SAND and fine GRAVEL, wet.
50	0.0	8 13 14 19	S-25 17"	50 52		Same.
	0.0	9 11 15 17	S-26 15"	52 54		Same.
55	0.0	17 19 20 24	S-27 18"	54 56	55.1	Same. Gray silty sandy CLAY, trace gravel, damp.
						BOTTOM OF EXPLORATION AT 56.0 FEET.

HALEY & ALDRICH, INC. Underground Engineering and Environmental Solutions	OVERBURDEN GROUNDWATER MONITORING WELL REPORT

PROJECT: Delphi Harrison Thermal Systems Facility
LOCATION: Dayton, Ohio
CLIENT: REALM / General Motors Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.
DRILLER: M. Bentley RIG TYPE: CME-75
INSTALLATION DATE: 19 February 1999

FILE NO.: 79032-010
WELL NO.: HD-15
LOCATION:
SHEET: 1 OF 1
INSPECTOR: N. Malakar



Remarks:

Well No. HD-15

HALEY & ALDRICH, INC. Underground Engineering and Environmental Solutions	TEST BORING REPORT	BORING NO. HD-15
PROJECT: Dayton Harrison Thermal Systems CLIENT: REALM / General Motors Legal Counsel CONTRACTOR: Northcoast Drilling Service, Inc.	GS 7413 Tue 7.0.85	FILE NO. 79032-010 SHEET NO. 1 OF 2 LOCATION: ELEVATION: DATUM: START: 2/18/1999 FINISH: 2/19/1999 DRILLER: M. Bentley H&A REP: N. Malakar

ITEM	CASING	DRIVE SAMPLER	CORE BARREL	DRILLING EQUIPMENT & PROCEDURES
TYPE	HSA	SS		RIG TYPE: CME-75 with Autohammer
INSIDE DIAMETER (IN)	4 1/4"	1 3/8"		
HAMMER WEIGHT (LB)		140		
HAMMER FALL (IN)		30"		

DEPTH (FT)	PID SCREENING	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
	0.0	5 7 7 9	S-1 14"	2 4		Brown silty CLAY, trace fine gravel, damp.
5	0.0	6 7 9 6	S-2 15"	4 6		Same. Brick fragment at 4.9 feet.
	0.0	8 7 7 9	S-3 17"	6 8		Same. Becoming medium sand.
	0.0	4 5 6 7	S-4 18"	8 10		Same. Little coarse gravel.
10	0.0	5 6 8 8	S-5 16"	10 12		Same.
	0.0	3 8 9 11	S-6 12"	12 14		Same. Water encountered at 13.5 feet.
15	0.0	4 5 7 8	S-7 14"	14 16		Same. Trace coarse gravel, wet.
	0.0	7 7 6 7	S-8 21"	16 18		Same.
	0.0	8 9 11 14	S-9 18"	18 20		Same.
20	0.0	10 13 16 17	S-10 17"	20 22		Same.
	0.0	8 9 11 14	S-11 21"	22 24		Same.
25	0.0	7 9	S-12	24		Same.

NOTES:
Borehole converted to monitoring well HD-15.

SAMPLE IDENTIFICATION	SUMMARY
O Open End Rod T Thin Wall Tube U Undisturbed Sample S Split Spoon G Geoprobe	OVERBURDEN (LIN FT): 34.0 ROCK CORED (LIN FT): None SAMPLES: None to lab.
	BORING NO. HD-15

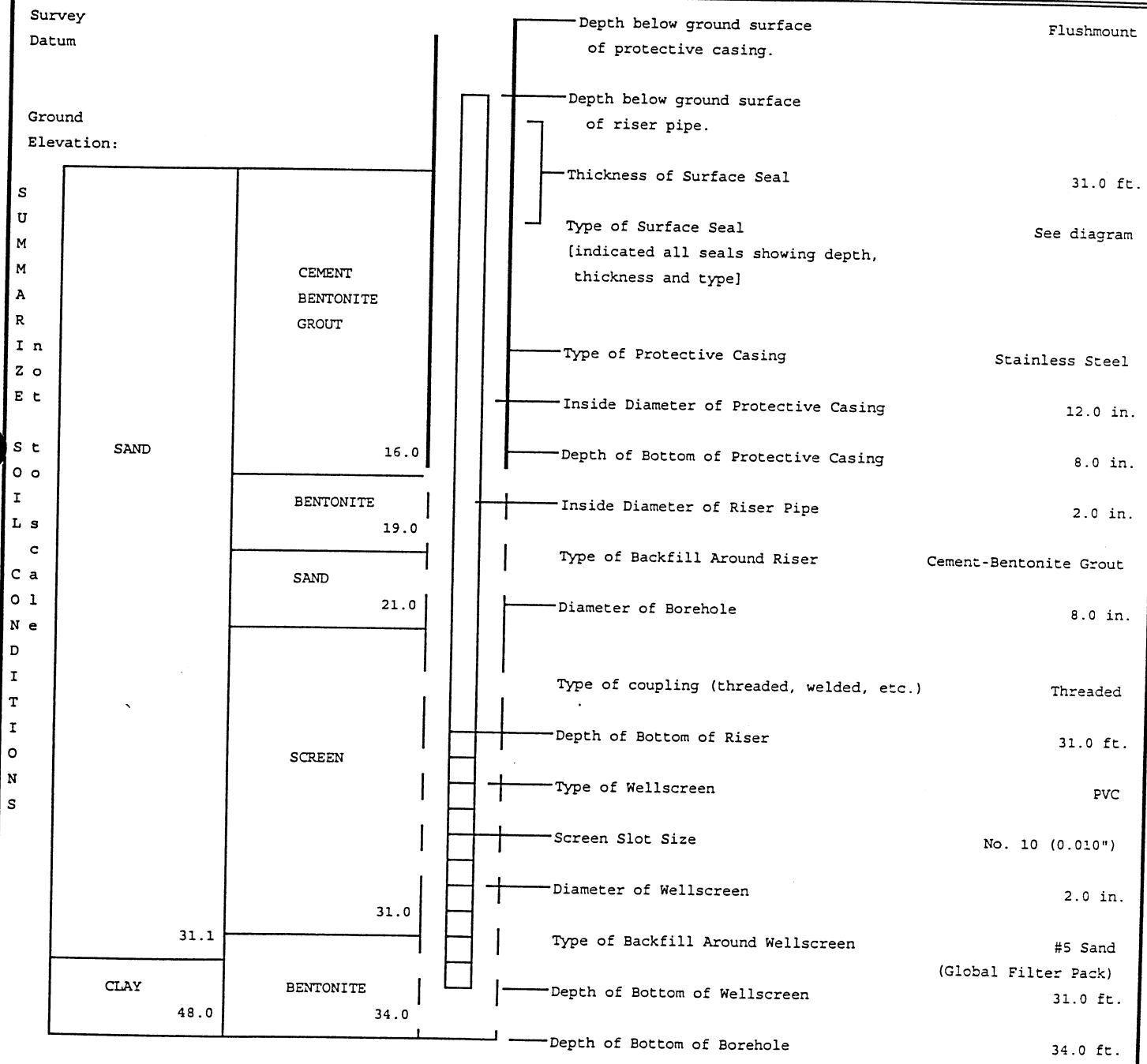
HALEY & ALDRICH, INC. Underground Engineering and Environmental Solutions	TEST BORING REPORT	BORING NO. HD-15 FILE NO. 79032-010 SHEET NO. 2 OF 2

DEPTH (FT)	PID SCREENING	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
	0.0	12 15	15"	26		Same. Brown fine to coarse SAND, little fine gravel, wet.
	0.0	17 22 50/5"	S-13 17"	26 28		
	0.0	4 5 7 10	S-14 20"	28 30		Same. Some silty fine sand.
30	0.0	4 6 7 11	S-15 17"	30 32		Same. Little silty fine sand.
	0.0	7 8 10 13	S-16 22"	32 34	32.6	Brown and gray mottled sandy silty CLAY, little to trace fine gravel, damp.
						BOTTOM OF EXPLORATION AT 34.0 FEET.

HALEY & ALDRICH, INC. Underground Engineering and Environmental Solutions	OVERBURDEN GROUNDWATER MONITORING WELL REPORT

PROJECT: Delphi Harrison Thermal Systems Facility
LOCATION: Dayton, Ohio
CLIENT: REALM / General Motors Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.
DRILLER: M. Bentley RIG TYPE: CME-75
INSTALLATION DATE: 18 February 1999

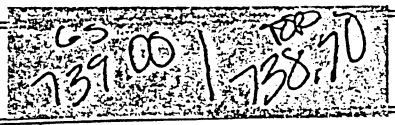
FILE NO.: 79032-010
WELL NO.: HD-16
LOCATION:
SHEET: 1 OF 1
INSPECTOR: N. Malakar



Remarks:

HALEY & ALDRICH, INC. Underground Engineering and Environmental Solutions	TEST BORING REPORT	BORING NO. HD-16

PROJECT: Dayton Harrison Thermal Systems
CLIENT: REALM / General Motors Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.



FILE NO. 79032-010
SHEET NO. 1 OF 2
LOCATION:

ELEVATION:
DATUM:
START: 2/18/1999
FINISH: 2/18/1999
DRILLER: M. Bentley
H&A REP: N. Malakar

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE	HSA	SS	
INSIDE DIAMETER (IN)	4 1/4"	1 3/8"	
HAMMER WEIGHT (LB)		140	
HAMMER FALL (IN)		30"	

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: CME-75 with Autohammer

DEPTH (FT)	PID SCREENING	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
	0.0	2 2 3 3	S-1 14"	2 4		Brown fine to medium SAND and GRAVEL, some rock and brick fragments throughout, dry.
5	0.0	1 1 WOT/12"	S-2 13"	4 6		Same. Some medium sand and brick fragments, little silt, dry.
	0.0	2 2 5 9	S-3 19"	6 8		Same.
	0.0	3 4 10 9	S-4 17"	8 10		Same. Coarse gravel throughout, moist.
10	0.0	6 7 10 13	S-5 14"	10 12		Same. Wet.
	0.0	6 9 9 12	S-6 18"	12 14		Same.
15	0.0	5 7 8 11	S-7 18"	14 16		Same. Medium to coarse sand throughout, wet.
	0.0	5 6 6 7	S-8 24"	16 18		Same.
	0.0	5 7 7 9	S-9 16"	18 20		Same.
20	0.0	7 8 10 12	S-10 18"	20 22		Same.
	0.0	4 7 6 9	S-11 14"	22 24		Same.
25	0.0	3 5	S-12	24		Same.

NOTES:
Borehole converted to monitoring well HD-16.
WOT: Weight of Tools

SAMPLE IDENTIFICATION	SUMMARY
O Open End Rod T Thin Wall Tube U Undisturbed Sample S Split Spoon G Geoprobe	OVERBURDEN (LIN FT): 34.0 ROCK CORED (LIN FT): None SAMPLES: None to lab. BORING NO. HD-16

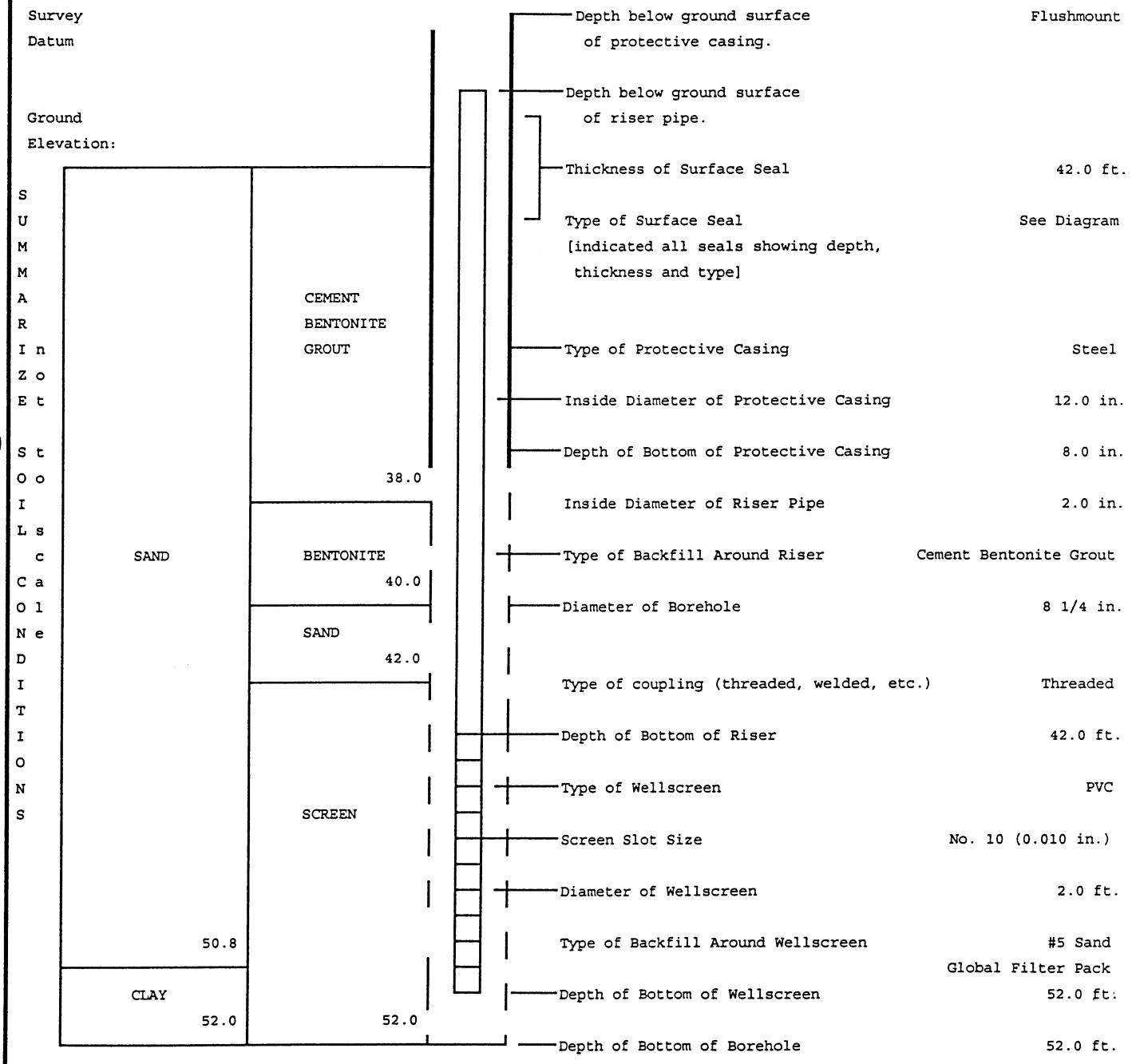
HALEY & ALDRICH, INC. Underground Engineering and Environmental Solutions	TEST BORING REPORT	BORING NO. HD-16 FILE NO. 79032-010 SHEET NO. 2 OF 2

DEPTH (FT)	PID SCREENING	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
	0.0	5 8	16"	26		Same. Brown fine to coarse SAND, little fine gravel, wet.
	0.0	5 7 9 13	S-13 17"	26 28		
	0.0	7 8 10 9	S-14 21"	28 30		Same.
30	0.0	9 12 15 18	S-15 17"	30 32	31.1	Same.
	0.0	8 14 17 16	S-16 20"	32 34		Brown silty CLAY, trace fine gravel, damp. Same. Becoming gray SILT with fine sand throughout.
						BOTTOM OF EXPLORATION AT 34.0 FEET.

HALEY & ALDRICH, INC. Underground Engineers, and Environmental Solutions	OVERBURDEN GROUNDWATER MONITORING WELL REPORT

PROJECT: Former Dayton Harrison Thermal Systems Facility
LOCATION: Dayton, Ohio
CLIENT: GM Counsel/REALM
CONTRACTOR: Northcoast Drilling Services, Inc.
DRILLER: M. Bentley RIG TYPE: CME-75
INSTALLATION DATE: 7 June 1999

FILE NO.: 79032-010
WELL NO.: HD-17
LOCATION: Dayton, OH
SHEET: 1 OF 1
INSPECTOR: N. Malakar/S. Johnson



Remarks:

HALEY & ALDRICH, INC. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. HD-17

PROJECT: Delphi Harrison Thermal Systems
CLIENT: G.M./REALM
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-010
SHEET NO. 1 OF 2
LOCATION: Dayton, OH

ELEVATION:
DATUM:
START: 6/8/99
FINISH: 6/8/99
DRILLER: M. Bentley
H&A REP: NJM/SMJ

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE	HSA	SS	---
INSIDE DIAMETER (IN)	4 1/4"	1 3/8	---
HAMMER WEIGHT (LB)		140	
HAMMER FALL (IN)		30"	

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: CME-75
OTHER: Autohammer

DEPTH (FT)	HNu FIELD SCREENING (ppm)	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
	0.0	41 36 21 19	S-1 15/24	2.0 4.0	3.2	Crushed limestone base and brown CLAY, moist. Brown medium SAND and gravel, moist.
5	0.0	5 4 4 3	S-2 5/24	4.0 6.0		Same. Becoming medium to fine SAND and fine gravel, dry.
	0.0	3 4 4 2	S-3 12/24	6.0 8.0		Same. Dry.
	0.0	2 3 3 4	S-4 13/24	8.0 10.0		Same. Trace silty clay.
10	0.0	3 3 4 4	S-5 8/24	10.0 12.0		Same. Cobble at 10.6 ft.
	0.0	5 5 5 6	S-6 15/24	12.0 14.0		Same. Becoming coarse SAND at 15.0 ft.
15	0.0	5 13 21 17	S-7 19/24	14.0 16.0		Same. Black oily coating from 14.4 to 15.4 ft., wet.
	0.0	5 5 5 9	S-8 16/24	16.0 18.0		Same. Becoming brown medium to coarse SAND and fine gravel, wet at 17.2 ft.
	0.0	5 5 7 9	S-9 19/24	18.0 20.0		Same.
20	0.0	5 6 8 9	S-10 18/24	20.0 22.0		Same. Coarse gravel from 20.6 to 20.9 ft.
	0.0	9 14 16 13	S-11 17/24	22.0 24.0		Same. Containing some coarse gravel, wet.
25	0.0	3 5	S-12	24.0		Same.

NOTES:

Water encountered at approximately 15.3 ft.
Borehole converted to monitoring well HD-17.

SAMPLE IDENTIFICATION

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

SUMMARY

OVERBURDEN (LIN FT): 52.0

ROCK CORED (LIN FT): ---

SAMPLES: None to lab.

BORING NO. HD-17

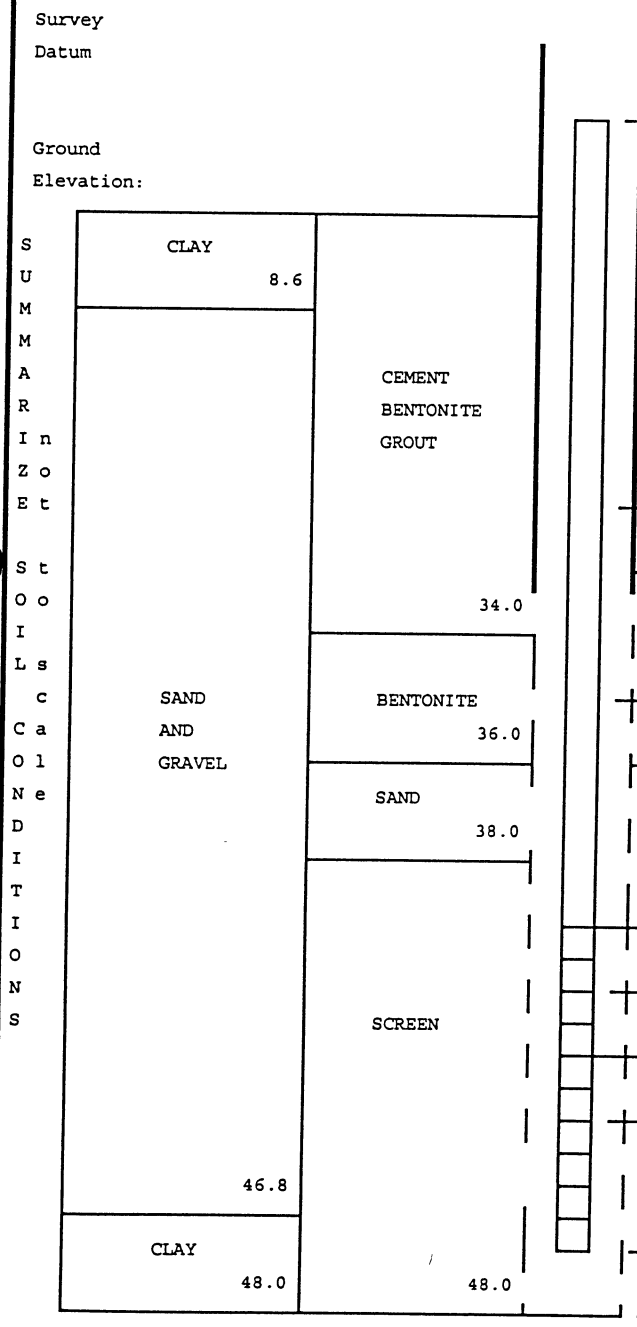
HALEY & ALDRICH, INC. Underground Engineers, and Environmental Solutions	TEST BORING REPORT	BORING NO. HD-17 FILE NO. 79032-010 SHEET NO. 2 OF 2

DEPTH (FT)	PID SCREENING	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
		6 6	15/24	26.0		
	0.0	5 8 11	S-13 16/24	26.0 28.0		Same. Brown coarse SAND and coarse gravel, wet.
	0.0	13 9 8	S-14 15/24	28.0 30.0		Same.
30	0.0	6 5 6	S-15 15/24	30.0 32.0		Same.
	0.0	8 9 11	S-16 19/24	32.0 34.0		Same.
	0.0	11 10 9	S-17 16/24	34.0 36.0		Same. Becoming brown fine to medium SAND at 34.7 ft.
35	0.0	10 9 10	S-18 17/24	36.0 38.0		Same.
	0.0	12 13 15	S-19 15/24	38.0 40.0		Same. Brown fine to medium SAND, wet.
	0.0	19 22 3	S-20 20/24	40.0 42.0		Same. Layer of silty fine sand, 1" thick at 41.5 ft.
40	0.0	4 4 5	S-21 17/24	42.0 44.0		Same.
	0.0	10 10 8	S-22 18/24	44.0 46.0		Same.
45	0.0	11 14 17	S-23 17/24	46.0 48.0		Same. Fine silty sand at 47.6 ft.
	0.0	18 22 13	S-24 18/24	48.0 50.0		Same.
	0.0	15 16 20	S-25 20/24	50.0 52.0	50.8	Gray silty sandy CLAY, trace gravel, moist.
50		13 14 19				BOTTOM OF EXPLORATION AT 52.0 FT.
		21 14 16				
		19 20 16				
		22 26 28				
55						
60						

HALEY & ALDRICH, INC. Underground Engineers, and Environmental Solutions	OVERBURDEN GROUNDWATER MONITORING WELL REPORT

PROJECT: Former Dayton Harrison Thermal Systems Facility
LOCATION: Dayton, Ohio
CLIENT: GM Counsel/REALM
CONTRACTOR: Northcoast Drilling Services, Inc.
DRILLER: M. Bentley RIG TYPE: CME-75
INSTALLATION DATE: 7 June 1999

FILE NO.: 79032-010
WELL NO.: HD-18
LOCATION:
SHEET: 1 OF 1
INSPECTOR: N. Malakar/S. Johnson



SUMMARIZE Soil Conditions

Depth below ground surface of protective casing.	Flushmount
Depth below ground surface of riser pipe.	
Thickness of Surface Seal	38.0 ft.
Type of Surface Seal [indicated all seals showing depth, thickness and type]	See Diagram
Type of Protective Casing	Steel
Inside Diameter of Protective Casing	12.0 in.
Depth of Bottom of Protective Casing	8.0 in.
Inside Diameter of Riser Pipe	2.0 in.
Type of Backfill Around Riser	Cement Bentonite Grout
Diameter of Borehole	8 1/4 in.
Type of coupling (threaded, welded, etc.)	Threaded
Depth of Bottom of Riser	38.0 ft.
Type of Wellscreen	PVC
Screen Slot Size	No. 10 (0.010 in.)
Diameter of Wellscreen	2.0 in.
Type of Backfill Around Wellscreen	#5 Sand Global Filter Pack
Depth of Bottom of Wellscreen	48.0 ft.
Depth of Bottom of Borehole	48.0 ft.

Remarks:

Well No. HD-18

HALEY & ALDRICH, INC. Underground Engineers, and Environmental Solutions	TEST BORING REPORT	BORING NO. HD-18

PROJECT: Former Dayton Harrison Thermal Systems Facility
CLIENT: GM Counsel/REALM
CONTRACTOR: Northcoast Drilling Services, Inc.

FILE NO. 79032-010
SHEET NO. 1 OF 1
LOCATION: Dayton, Ohio

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE	HSA	SS	---
INSIDE DIAMETER (IN)	4 1/4"	1 3/8"	---
HAMMER WEIGHT (LB)		140	
HAMMER FALL (IN)		30"	

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: CME-75
OTHER: Autohammer

ELEVATION:
DATUM:
START: 6/8/99
FINISH: 6/8/99
DRILLER: M. Bentley
H&A REP: NJM/SMJ

DEPTH (FT)	PID SCREENING	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
	0.0	3 3 4 5	S-1 11/24	2.0 4.0		Dark brown silty CLAY, dry.
5	0.0	1 1 1 1	S-2 13/24	4.0 6.0		Same.
	0.0	1 1 1 2	S-3 21/24	6.0 8.0		Same.
	0.0	2 5 12 20	S-4 19/24	8.0 10.0	8.6	Brown medium to coarse SAND and coarse gravel, moist
10	0.0	22 18 12 10	S-5 12/24	10.0 12.0		Same, with petroleum coating at 10.6 ft., wet.
	0.0	5 5 6 6	S-6 12/24	12.0 14.0		Same, petroleum coating, becoming coarse GREVEL at 13.0 ft.
15	0.0	8 10 13 14	S-7 15/24	14.0 16.0		Same, less petroleum.
	0.0	8 8 8 7	S-8 15/24	16.0 18.0		Same. Lens of coarse sand from 16.7 to 16.9 ft.
	0.0	8 9 9 2	S-9 13/24	18.0 20.0		Same. Becoming medium to coarse SAND with fine gravel at 18.4 ft.
20	0.0	7 6 6 6	S-10 23/24	20.0 22.0		Medium to coarse SAND with fine gravel.
	0.0	7 9 11 12	S-11 24/24	22.0 24.0		Same.
25	0.0	7 8	S-12	24.0		Same.

NOTES:

Borehole converted to monitoring well HD-18.

SAMPLE IDENTIFICATION

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

SUMMARY

OVERBURDEN (LIN FT): 48.0

ROCK CORED (LIN FT): ---

SAMPLES: None to lab.

BORING NO. HD-18

HALEY & ALDRICH, INC.
Underground Engineers, and
Environmental Solutions

TEST BORING REPORT

BORING NO. HD-18
FILE NO. 79032-010
SHEET NO. 2 OF 2

DEPTH (FT)	PID SCREENING	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
		8 7	20/24	26.0		Brown, medium to coarse SAND with fine gravel, wet.
	0.0	6 6 6	S-13 22/24	26.0 28.0		Same.
	0.0	9 7 7	S-14 21/24	28.0 30.0		Same.
30	0.0	8 9 9	S-15 22/24	30.0 32.0		Same.
	0.0	12 13 9	S-16 22/24	32.0 34.0		Same.
35	0.0	12 15 17	S-17 14/24	34.0 36.0		Same.
	0.0	6 6 6 6	S-18 16/24	36.0 38.0		Same.
	0.0	8 7 7	S-19 14/24	38.0 40.0		Same.
40	0.0	7 9 13 15	S-20 12/24	40.0 42.0		Same.
	0.0	8 8 6 9	S-21 24/24	42.0 44.0		Same.
45	0.0	8 10 11 14	S-22 19/24	44.0 46.0		Same.
	0.0	9 10 11 11	S-23 18/24	46.0 48.0	46.8	Brown sandy silty CLAY, damp.
50		10 12 11 13				BOTTOM OF EXPLORATION AT 48.0 FT.
55						
60						

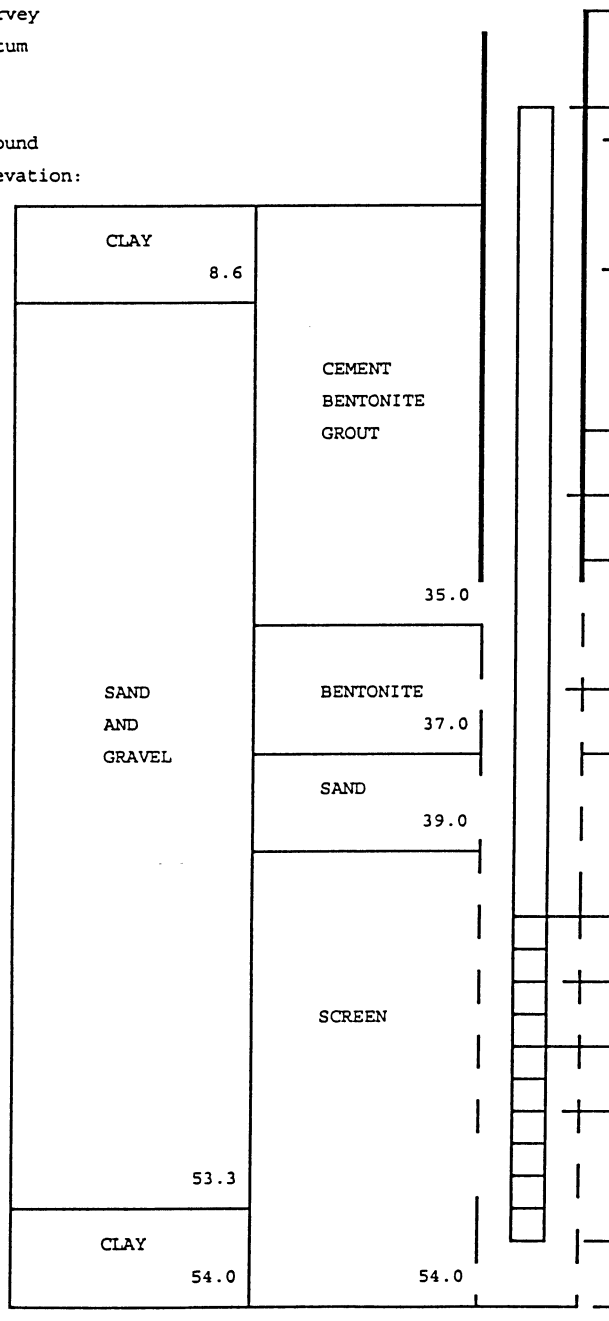
HALEY & ALDRICH, INC.
Underground Engineers, and
Environmental Solutions

OVERBURDEN GROUNDWATER MONITORING WELL REPORT

PROJECT: Former Dayton Harrison Thermal Systems Facility
LOCATION: Dayton, Ohio
CLIENT: GM Counsel/REALM
CONTRACTOR: Northcoast Drilling Services, Inc.
DRILLER: M. Bentley RIG TYPE: CME-75
INSTALLATION DATE: 4 June 1999

FILE NO.: 79032-010
WELL NO.: HD-19
LOCATION:
SHEET: 1 OF 1
INSPECTOR: N. Malakar/J. Cooper

SUMMARIZE STRATIGRAPHY AND CONDITIONS



Depth below ground surface of protective casing.	Flushmount
Depth below ground surface of riser pipe.	
Thickness of Surface Seal	39.0 ft.
Type of Surface Seal [indicated all seals showing depth, thickness and type]	See Diagram
Type of Protective Casing	Steel
Inside Diameter of Protective Casing	12.0 in.
Depth of Bottom of Protective Casing	8.0 in.
Inside Diameter of Riser Pipe	2.0 in.
Type of Backfill Around Riser	Cement Bentonite Grout
Diameter of Borehole	8 1/4 in.
Type of coupling (threaded, welded, etc.)	Threaded
Depth of Bottom of Riser	39.0 ft.
Type of Wellscreen	PVC
Screen Slot Size	No. 10 (0.010 in.)
Diameter of Wellscreen	2.0 in.
Type of Backfill Around Wellscreen	#5 Sand Global Filter Pack
Depth of Bottom of Wellscreen	54.0 ft.
Depth of Bottom of Borehole	54.0 ft.

Remarks:

HALEY & ALDRICH, INC. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. HD-19

PROJECT: Former Delphi Harrison Thermal Systems Facility
CLIENT: General Motors Counsel/REALM
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-010
SHEET NO. 1 OF 2
LOCATION:

ELEVATION:
DATUM:
START: 6/3/99
FINISH: 6/4/99
DRILLER: M. Bentley
H&A REP: Malakar/Cooper

ITEM	CASING	DRIVE SAMPLER	CORE BARREL	DRILLING EQUIPMENT & PROCEDURES
TYPE	HSA	SS		RIG TYPE: CME-75 with Autohammer
INSIDE DIAMETER (IN)	4 1/4	1 3/8"		
HAMMER WEIGHT (LB)		140		
HAMMER FALL (IN)		30"		

DEPTH (FT)	PID FIELD SCREENING (ppm)	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
	0.0	6 5 4 3	S1 21"	2		Black and brown silty SAND and GRAVEL, little asphalt, trace brick fragments, damp.
5	0.0	1/12" 1 1	S2 6"	4		Same.
	0.0	2 2 2 2	S3 13"	6		Same, black discoloration and rock fragments from 6.6-7.2 ft.
	0.0	2 1 1 1	S4 6"	8 10		Same, wet.
10	0.0	2 1 1 1	S5 14"	10 12		Same, containing some silt. White fill material from 10.6 to 10.8 feet.
	0.0	WOT/18" 1	S6 23"	12 14		Brown clayey SAND with silt, some asphalt and brick fragments, moist.
15	0.0	1 1 2 2	S7 23"	14 16		Same. White fill material from 15.5 to 15.7 feet. Asphalt layer from 15.7 to 16.0 feet.
	0.0	2 4 9 3	S8 20"	16 18		Brown, clayey SAND, little silt, trace to little gravel, moist.
	0.0	2 3 3 5	S9 17"	18 20		Same.
20	0.0	10 12 17 16	S10 19"	20 22		Same.
	0.0	7 8 11 12	S11 25"	22 24		Same. Fine sand encountered from 22.6 to 23.0 feet.
25	0.0	6 8	S12	24		Same.

NOTES:

Boring converted to monitoring well HD-19 upon completion.

SAMPLE IDENTIFICATION	SUMMARY
O Open End Rod T Thin Wall Tube U Undisturbed Sample S Split Spoon G Geoprobe	OVERBURDEN (LIN FT): 54.0 ROCK CORED (LIN FT): --- SAMPLES: None to lab.
	BORING NO. HD-19

HALEY & ALDRICH, INC.
Underground Engineers, and
Environmental Solutions

TEST BORING REPORT

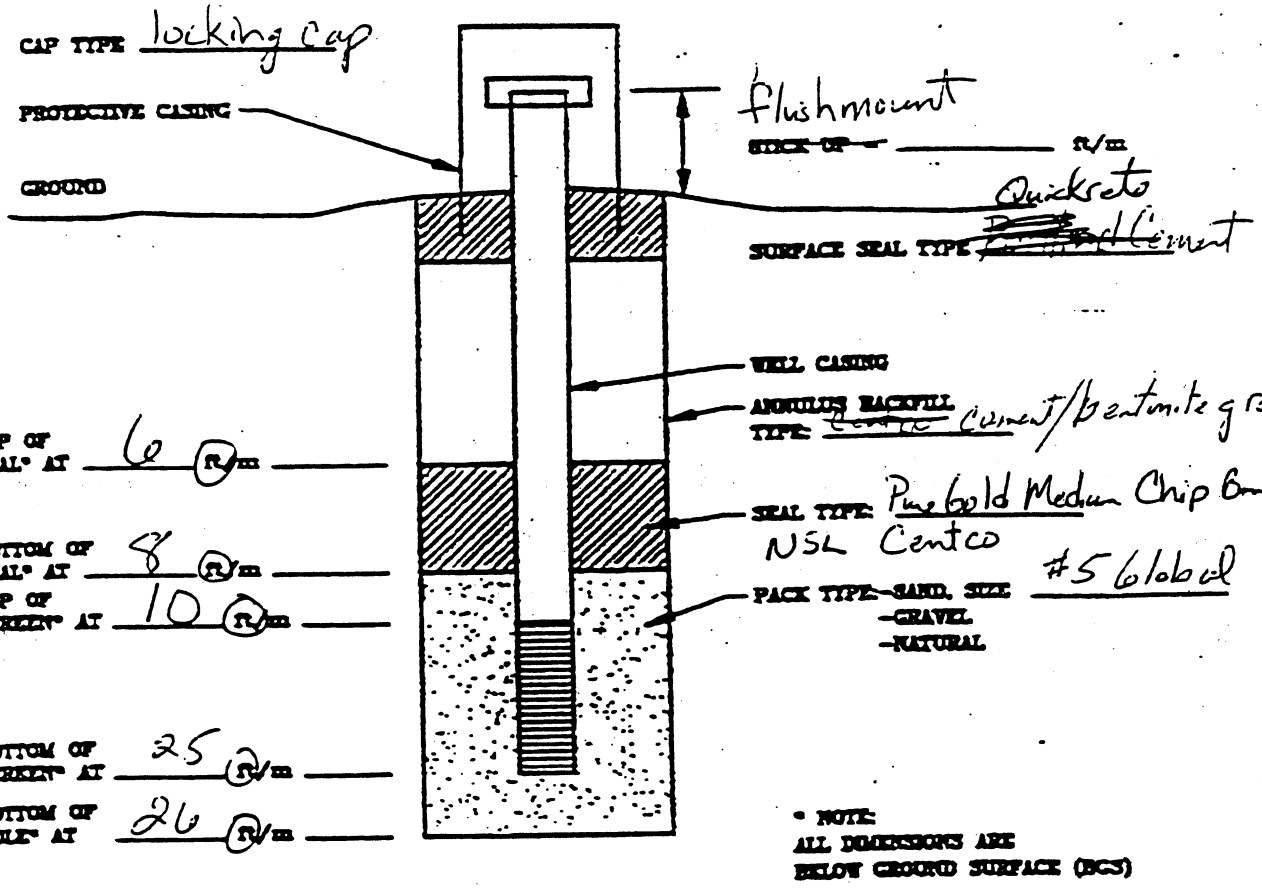
BORING NO. HD-19
FILE NO. 79032-010
SHEET NO. 2 OF 2

DEPTH (FT)	CASING BLOWS PER FT	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER & RECOVERY	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
(25)		10 11	2"	26.0		
	0.0	7 9 9 12	S13 21"	26.0 28.0		Brown medium SAND, some coarse sand, trace fine gravel, wet.
	0.0	6 7 7 11	S14 17"	28.0 30.0		Same.
30	0.0	5 10 14 15	S15 15"	30.0 32.0		Same.
	0.0	5 10 12 13	S16 14"	32.0 34.0		Same.
35	0.0	9 12 14 19	S17 21"	34.0 36.0		Same. Containing little clay.
	0.0	9 13 14 16	S18 21"	36.0 38.0		Same.
	0.0	12 12 14 15	S19 20"	38.0 40.0		Same.
40	0.0	17 18 29 32	S20 25"	40.0 42.0		Same. Gravel layer from 41.8 to 42.0 feet, wet.
	0.0	11 15 20 23	S21 20"	42.0 44.0		Same.
45	0.0	9 12 15 18	S22 18"	44.0 46.0		Same.
	0.0	6 14 24 26	S23 10"	46.0 48.0		Same.
	0.0	12 14 18 24	S24 20"	48.0 50.0		Same.
50	0.0	7 15 24 27	S25 15"	50.0 52.0		Same.
	0.0	19 28 34 50/3"	S26 22"	52.0 54.0	53.3	Same. Brown and gray sandy CLAY, trace to little gravel, moist.
55						BOTTOM OF EXPLORATION AT 54.0 FEET.
60						

OVERBURDEN INSTRUMENTATION LOG

PROJECT NAME Delphi Thermal
PROJECT NUMBER 12638
CLIENT GM - Realm
LOCATION Dayton, Ohio

HOLE DESIGNATION MW-1A
DATE COMPLETED 3-2-00
DRILLING METHOD 6 1/4" ID HSA
CRA SUPERVISOR J. Close



SCREEN TYPE: ☒ continuous slot ☐ perforated ☐ louvre ☐ other: ____

SCREEN MATERIAL: ☐ stainless steel ☐ plastic ☒ other: PVC

SCREEN LENGTH: 15 ft/m SCREEN DIAMETER: 2 in/cm SCREEN SLOT SIZE: 10 slot

WELL CASING MATERIAL: Schedule 40 PVC WELL CASING DIAMETER: 2 in/cm

HOLE DIAMETER: 10"

DEVELOPMENT: METHOD: ____ DURATION: ____

DNR 7802.96

TYPE OR USE PEN
SELF TRANSCRIBING
PRESS HARD

WELL LOG AND DRILLING REPORT

Ohio Department of Natural Resources
Division of Water, 1939 Fountain Square Drive
Columbus, Ohio 43224-9971 Voice (614) 265-6739 Fax (614) 447-9503

915752

MW-1-A

WELL LOCATION

County Montgomery Township _____

Owner/Builder (Circle One or Both) Peerless Realty Group Ltd.
First Last

Address of Well Location 300 Taylor Street
Number Street Name

City Dayton Zip Code +4 45402-1320

Permit No. _____ Section/Lot No. (Circle One or Both) _____

Location of Well in State Plane coordinates, if available: Use of Well Monitoring

N ☐ X _____ . _____ +/- _____ ft. or m

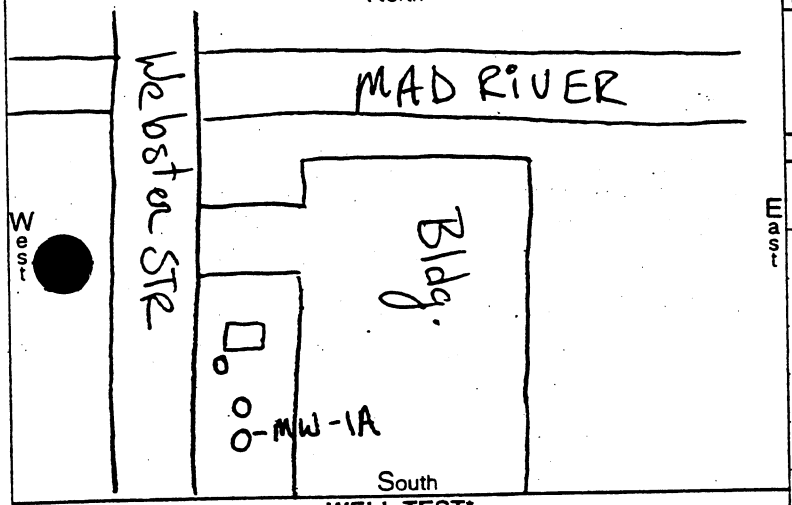
S ☐ Y _____ . _____ +/- _____ ft. or m

Elevation of Well 743 . 16 +/- .01 ft. or m

Datum Plain: ☐ NAD27 ☐ NAD83 Elevation Source _____

Source of Coordinates: ☐ GPS ☐ Survey ☒ Other Microsoft Streets 98

Sketch a map showing distance well lies from numbered state highways, street intersections, county roads, buildings or other notable landmarks. If latitude and longitude are available please include here: Lat: N 39° 45.99 Long: W 84° 10.96



WELL TEST*

Pre-Pumping Static Level _____ ft. Date _____

Measured from: ☐ Top of Casing ☐ Ground Level ☐ Other _____

☐ Air ☐ Bailing ☐ Pumping* ☐ Other _____

Test Rate _____ gpm Duration of Test _____ hrs.

Feet of Drawdown _____ ft. Sustainable Yield _____ gpm

*(Attach a copy of the pumping test record, per section 1521.05, ORC)

Is Copy Attached? ☐ Yes ☐ No Flowing Well? ☐ Yes ☐ No

Quality _____

PUMP/PITLESS

Type of pump _____ Capacity _____ gpm

Pump set at _____ ft. Pitless Type _____

Pump installed by _____

I hereby certify the information given is accurate and correct to the best of my knowledge.

Drilling Firm Boart Longyear

Address 5815 Churchman Ave. Suite #2

City, State, Zip Indianapolis, Ind. 46203

Signed _____ Date _____

ODH Registration Number _____

CONSTRUCTION DETAILS

☐ Rotary ☐ Cable ☒ Augered ☐ Driven ☐ Other _____

BOREHOLE/CASING (measured from ground surface)

1 ☐ Borehole Diameter 10 inches Depth 26 ft.

Casing Diameter 2 IN in. Length 25 N/A ft. Thickness _____ in.

2 ☐ Borehole Diameter _____ inches Depth _____ ft.

Casing Diameter _____ in. Length _____ ft. Thickness _____ in.

Casing Height Above Ground _____ ft.

Type 1 ☐ Steel 2 ☐ 1 ☐ Galv. 2 ☐ 1 ☒ PVC 2 ☐ 1 ☐ 2 ☐ Other _____

Joints 1 ☒ Threaded 2 ☐ 1 ☐ Welded 2 ☐ 1 ☐ Solvent 2 ☐ 1 ☐ 2 ☐ Other _____

SCREEN

Diameter 2 in Slot Size 10 Screen Length 15 ft.

Type Schedule 40 Material PVC

Set Between 10' ft. and 25' ft.

GRAVEL PACK (Filter Pack)

Material/Size #5 Global Volume/Weight Used 18' FT

Method of Installation Tremie pipe

Depth: Placed FROM 8' ft. TO 26' ft.

GROUT

Material Cement / bentonite Volume/Weight Used 2 FT

Method of Installation Tremie pipe

Depth: Placed FROM 6' ft. TO 8' ft.

DRILLING LOG*

INDICATE DEPTH(S) AT WHICH WATER IS ENCOUNTERED. Show color, texture, hardness, and formation: sandstone, shale, limestone, gravel, clay, sand, etc.	From	To
SEE ATTACHED STRATIGRAPHY LOG (3 Pages)		

*(If more space is needed to complete drilling log, use next consecutively numbered form.)

Date of Well Completion 3-2-00 Total Depth of Well 26 ft.

Completion of this form is required by section 1521.05, Ohio Revised Code - file within 30 days after completion of drilling.

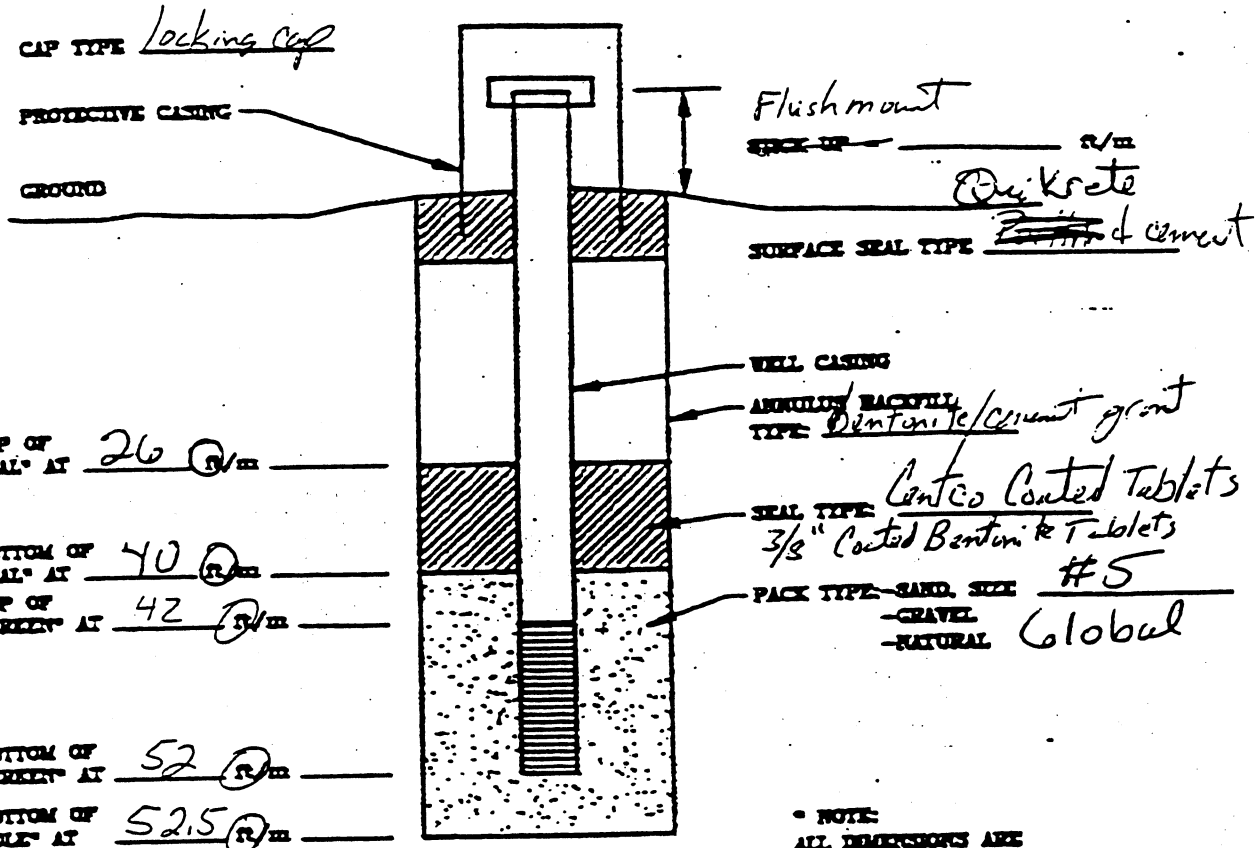
ORIGINAL COPY TO - ODNR, DIVISION OF WATER, 1939 FOUNTAIN SQ. DRIVE, COLS., OHIO 43224-9971

Blue - Customer's copy Pink - Driller's copy Green - Local Health Dept. copy

OVERBURDEN INSTRUMENTATION LOG

PROJECT NAME Delphi Thermal Systems
PROJECT NUMBER 12638
CLIENT GM-Realm
LOCATION Dayton Ohio

HOLE DESIGNATION MW-1B
DATE COMPLETED 3-2-00
DRILLING METHOD 6¼" ID HSA
CRA SUPERVISOR J. Close



SCREEN TYPE: ☒ continuous slot ☐ perforated ☐ louvre ☐ other:
SCREEN MATERIAL: ☐ stainless steel ☐ plastic ☒ other: PVC
SCREEN LENGTH: 10 ft/m SCREEN DIAMETER: 2 in/cm SCREEN SLOT SIZE: 10 slot
WELL CASING MATERIAL: Schedule 40 PVC WELL CASING DIAMETER: 2 in/cm
HOLE DIAMETER: 10"
DEVELOPMENT: METHOD: DURATION:

DNR 7802.96
PE OR USE PEN
F TRANSCRIBING
PRESS HARD

WELL LOG AND DRILLING REPORT

hio Department of Natural Resources
Divison of Water, 1939 Fountain Square Drive
Columbus, Ohio 43224-9971 Voice (614) 265-6739 Fax (614) 447-9503

MW - 1B
915753

WELL LOCATION

unty Montgomery Township

ner/Builder (Circle One or Both) Peerless Realty Group Ltd.
First Last

dress of ll Location 300 Taylor Street
Number Street Name

Dayton, OH Zip Code +4 45402-1320

rmit No. Section/Lot No. (Circle One or Both)

cation of Well in State Plane ordinates, if available: Use of Well Monitoring

☐ X ____ . ____ +/- ____ ft. or m

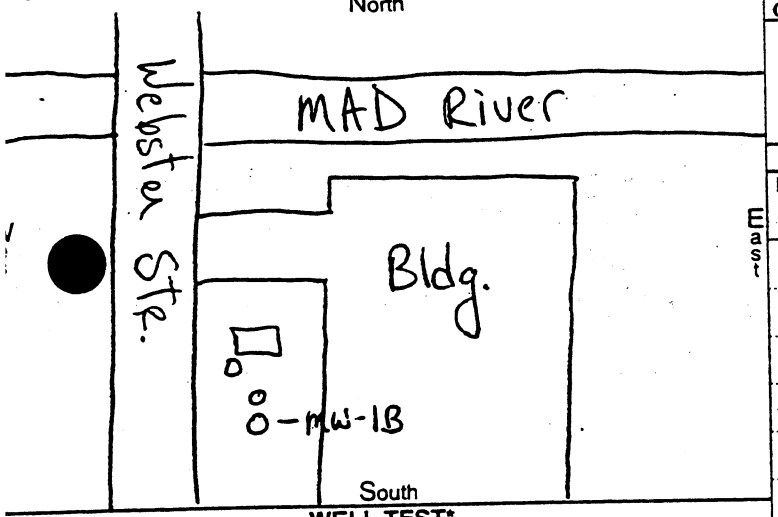
☐ Y ____ . ____ +/- ____ ft. or m

evation of Well 743.02 +/- .01 ft. or m

atum Plain: ☐ NAD27 ☐ NAD83 Elevation Source ____

urce of Coordinates: ☐ GPS ☐ Survey ☒ Other Microsoft Streets

ketch a map showing distance well lies from numbered state highways, street ntersections, county roads, buildings or other notable landmarks. If latitude and ongitude are available please include here: Lat: N 39° 45.99 Long: W 84° 10.96



WELL TEST*

re-Pumping Static Level ____ ft. Date ____

leasured from: ☐ Top of Casing ☐ Ground Level ☐ Other ____

] Air ☐ Bailing ☐ Pumping* ☐ Other ____

est Rate ____ gpm Duration of Test ____ hrs.

eet of Drawdown ____ ft. Sustainable Yield ____ gpm

(Attach a copy of the pumping test record, per section 1521.05, ORC)

; Copy Attached? ☐ Yes ☐ No Flowing Well? ☐ Yes ☐ No

Quality ____

PUMP/PITLESS

ype of pump ____ Capacity ____ gpm

ump set at ____ ft. Pitless Type ____

ump installed by ____

I hereby certify the information given is accurate and correct to the best of my knowledge.

Drilling Firm Boart Longyear

Address 5815 Churchman Ave. Suite #2

City, Zip Indianapolis, Ind. 46203

Signed ____ Date ____

ODH Registration Number ____

CONSTRUCTION DETAILS

☐ Rotary ☐ Cable ☒ Augered ☐ Driven ☐ Other ____

BOREHOLE/CASING (measured from ground surface)

1☒ Borehole Diameter 10 inches Depth 52.5 ft.
Casing Diameter 2 N/A in. Length N/A ft. Thickness ____ in.

2☐ Borehole Diameter ____ inches Depth ____ ft.
Casing Diameter ____ in. Length ____ ft. Thickness ____ in.

Casing Height Above Ground ____ ft.

Type 1 ☐ Steel 2 ☐ 1 ☐ Galv. 2 ☐ 1 ☒ PVC 2 ☐ 1 ☐ 2 ☐ Other ____

Joints 1 ☒ Threaded 2 ☐ 1 ☐ Welded 2 ☐ 1 ☐ Solvent 2 ☐ 1 ☐ 2 ☐ Other ____

SCREEN

Diameter 2 in Slot Size 10 Screen Length 10 ft.
Type Schedule 40 Material PVC
Set Between 42' ft. and 52' ft.

GRAVEL PACK (Filter Pack)

Material/Size #5 Global Volume/Weight Used 12.5' ft
Method of Installation Tremie pipe
Depth: Placed FROM 40 ft. TO 52.5 ft.

GROUT

Material Cement / bentonite Volume/Weight Used 14' ft
Method of Installation Tremie pipe
Depth: Placed FROM 26 ft. TO 40 ft.

DRILLING LOG*

INDICATE DEPTH(S) AT WHICH WATER IS ENCOUNTERED. Show color, texture, hardness, and formation: sandstone, shale, limestone, gravel, clay, sand, etc.	From	To
SEE ATTACHED STRATIGRAPHY LOG (3 Pages)		

*(If more space is needed to complete drilling log, use next consecutively numbered form.)

Date of Well Completion 3-2-00 Total Depth of Well 52.5 ft.

Completion of this form is required by section 1521.05, Ohio Revised Code - file within 30 days after completion of drilling.
ORIGINAL COPY TO - ODNR, DIVISION OF WATER, 1939 FOUNTAIN SQ. DRIVE, COLS., OHIO 43224-9971
Blue - Customer's copy Pink - Driller's copy Green - Local Health Dept. copy

STRATIGRAPHY LOG (OVERBURDEN)

PROJECT NAME Delphi Thermal Systems
PROJECT NUMBER 12638
CLIENT GM Realm
LOCATION Dayton, Ohio

DRILLING CONTRACTOR Boart Longyear
DRILLER Mike Magnin
SURFACE ELEVATION
WEATHER (A.M.) overcast, cool, 40's
(P.M.) overcast, cool, 40's

HOLE DESIGNATION MW-1
DATE/TIME STARTED 3-1-00 1110
DATE/TIME COMPLETED 3-2-00 8:30
DRILLING METHOD 6¼" ID HSA
CRA SUPERVISOR J. CLOSE

	STRATIGRAPHIC INTERVALS (DEPTHS IN ft/m BGS)			SAMPLE DESCRIPTION	SAMPLE DETAILS							PID / FID (ppm)	CHEMICAL ANALYSIS	GRAIN SIZE
	FROM	AT	TO	ORDER OF DESCRIPTORS: SOIL TYPE SYMBOL(S) – MAIN COMPONENT(S), (NATURE OF DEPOSIT), SECONDARY COMPONENTS, RELATIVE DENSITY/CONSISTENCY, GRAIN SIZE/PLASTICITY, GRADATION/STRUCTURE, COLOUR, MOISTURE CONTENT, SUPPLEMENTARY DESCRIPTORS. NOTE: PLASTICITY DETERMINATION REQUIRES THE ADDITION OF MOISTURE IF THE SAMPLE IS TOO DRY TO ROLL (INDICATE IF MOISTURE WAS ADDED OR NOT).	SAMPLE #	SAMPLING METHOD	PENETRATION RECORD SPLIT SPOON BLOWS (RECORD N-VALUES & RECOVERIES) 6"	6"	6"	6"	SAMPLE INTERVAL			
Sand + gravel + silt	0		3"	asphalt	1	SS	–	–	10	15	0-2			
	3"		17.5	GW/SM - gravel + sand, silt, med. dense, well graded,			R=	14"	N=	10				
				fine - coarse grained gravel, med - coarse grained sand,	2	SS	15	10	11	16	2-4			
				brown, v-sl moist			R=	14"	N=	21				
sand + silt		9		silty clay / sand	3	SS	18	17	22	28	4-6			
		13		gray / black			R=	16"	N=	39				
		13.2		trace red clay brick	4	SS	6	10	12	15	6-8			
		17.5		GW Table			R=	22"	N=	22				
sand + gravel	17.5		18	SP - sand, some gravel, coarse grained gravel, dense,	5	SS	13	12	10	7	8-10			
				med - poorly graded, gray, wet, odor			R=	14"	N=	22				
	18		28	GM/SM as above	6	SS	7	5	6	5	10-12			
		20		very saturated			R=	6"	N=	11				
		23		yellow gravel + sand	7	SS	9	7	6	8	12-14			
	28		35.5	SM/SP - sand, little gravel, loose - med dense, med			R=	20"	N=	13				
				graded, med - coarse grained, brown, wet	8	SS	16	13	13	18	14-16			
		32.5		silty clay with the sand			R=	11"	N=	26				
	35.5		36.5	GP/SP gravel + sand, fine grained gravel, loose, coarse	9	SS	24	21	15	14	16-18	20		
				med grained sand, med - poorly graded, brown - offwhite			R=	14"	N=	36				
				gravel, wet										

NOTES AND COMMENTS

CRA

DEPTH OF BOREHOLE CAVING Ø DEPTH OF FIRST GROUNDWATER ENCOUNTER 17.5' BGS TOPSOIL THICKNESS Ø

WATER LEVEL IN OPEN BOREHOLE ON COMPLETION _____ AFTER ____ HOURS ____

COMPLETION DETAILS:

NOTE: FOR EACH SPLIT-SPOON SAMPLE, RECORD BLOW COUNTS, N-VALUE, SAMPLE RECOVERY LENGTH, AND SAMPLE INTERVAL.

STRATIGRAPHY LOG (OVERBURDEN)

PROJECT NAME _____ DRILLING CONTRACTOR _____ HOLE DESIGNATION MW-1

PROJECT NUMBER _____ DRILLER _____ DATE/TIME STARTED _____

CLIENT _____ SURFACE ELEVATION _____ DATE/TIME COMPLETED _____

LOCATION _____ WEATHER (A.M.) _____ DRILLING METHOD _____

(P.M.) _____ CRA SUPERVISOR _____

STRATIGRAPHIC INTERVALS (DEPTHS IN ft/m BGS) FROM	AT	TO	SAMPLE DESCRIPTION	SAMPLE DETAILS: SAMPLE #	SAMPLING METHOD	PENETRATION RECORD SPLIT SPOON BLOWS (RECORD N-VALUES & RECOVERIES) 6"	6"	6"	6"	SAMPLE INTERVAL	PID / FID (ppm)	CHEMICAL ANALYSIS	GRAIN SIZE
36.5		37	GP/SP - gravel + sand, fine grained gravel, loose - med dense, med - coarse sand, med - poorly graded, brown, wet	10	SS	31	25	15	18	18-20	150		
						R=	12"	N=	40				
37		37.5	SP - sand, fine - med. grained, poorly graded, med dense brown, wet, s/ cohesive	11	SS	9	5	9	14	20-22	350		
						R=	24"	N=	14				
37.5		38.5	GP/SP - as above	12	SS	21	25	18	13	22-24	325		
						R=	24"	N=	43				
38.5		39	SP - as above										
39		40	GP/SP - as above	13	SS	21	13	14	17	24-26	106		
						R=	6"	N=	27				
40		41	SP - as above										
41		42	GP/SP - as above	14	SS	11	7	9	15	26-28	52		
						R=	10"	N=	16				
42		43	SP - as above										
43		44	GP/SP - as above	15	SS	7	5	5	6	28-30	56		
						R=	10"	N=	10				
44		45	SP - as above										
45		46	GP/SP - as above	16	SS	5	7	9	14	30-32	38		
						R=	20"	N=	16				
46		47	SP - as above										
47		48	GP/SP - as above	17	SS	5	5	10	18	32-34	36		
						R=	21"	N=	15				
48		48.5	SP - as above										
48.5		50	GP/SP - as above	18	SS	4	6	7	7	34-36	22		
						R=	14	N=	13				
50		50.5	SP - as above										

NOTES AND COMMENTS

CR[redacted]

DEPTH OF BOREHOLE CAVING _____ DEPTH OF FIRST GROUNDWATER ENCOUNTER _____ TOPSOIL THICKNESS _____

WATER LEVEL IN OPEN BOREHOLE ON COMPLETION _____, AFTER ____ HOURS ____

COMPLETION DETAILS: _____

NOTE: FOR EACH SPLIT-SPOON SAMPLE, RECORD BLOW COUNTS, N-VALU[redacted]PLE RECOVERY LENGTH, AND SAMPLE INTERVAL.

STRATIGRAPHY LOG (OVERBURDEN)

PROJECT NAME _____ DRILLING CONTRACTOR _____ HOLE DESIGNATION MW-1

PROJECT NUMBER _____ DRILLER _____ DATE/TIME STARTED _____

CLIENT _____ SURFACE ELEVATION _____ DATE/TIME COMPLETED _____

LOCATION _____ WEATHER (A.M.) _____ DRILLING METHOD _____

(P.M.) _____ CRA SUPERVISOR _____

STRATIGRAPHIC INTERVALS (DEPTHS IN ft/m BGS) FROM	AT	TO	SAMPLE DESCRIPTION ORDER OF DESCRIPTORS: SOIL TYPE SYMBOL(S) - MAIN COMPONENT(S), (NATURE OF DEPOSIT). SECONDARY COMPONENTS, RELATIVE DENSITY/CONSISTENCY, GRAIN SIZE/PLASTICITY, GRADATION/STRUCTURE, COLOUR, MOISTURE CONTENT, SUPPLEMENTARY DESCRIPTORS NOTE: PLASTICITY DETERMINATION REQUIRES THE ADDITION OF MOISTURE IF THE SAMPLE IS TOO DRY TO ROLL. (INDICATE IF MOISTURE WAS ADDED OR NOT).
50.5		52.5	GP/SP - sand & gravel, med dense, med-poorly graded, med-coarse grained sand, fine grained, gravel, brown, wet
	51		yellow staining
	51.8		trace iron staining
52.5		53	CI - clay, some gravel/coarse sand, hard, cohesive, brown, DRY, sl moist

SAMPLE #	SAMPLING METHOD	PENETRATION RECORD SPLIT SPOON BLOWS (RECORD N-VALUES & RECOVERIES) 6"	6"	6"	6"	SAMPLE INTERVAL	PID / FID (ppm)	CHEMICAL ANALYSIS	GRAIN SIZE
19	SS	9	9	17	18	36-38	19		
		R= 24"		N=	26				
20	SS	6	8	13	22	38-40	144		
		R= 19"		N=	21				
21	SS	8	12	18	29	40-42	62		
		R= 24"		N=	30				
22	SS	10	14	21	32	42-44	100		
		R= 24"		N=	35				
23	SS	12	14	21	28	44-46	46		
		R= 22"		N=	35				
24	SS	12	19	24	36	46-48	34		
		R= 24"		N=	43				
25	SS	21	36	25	34	48-50	84		
		R= 24"		N=	61				
26	SS	33	35	38	50	50-52	34		
		R= 24"		N=	73				
27	SS	34	38	35	60	52-53	36		
		R= 24"		N=	73				

NOTES AND COMMENTS

CRA

DEPTH OF BOREHOLE CAVING _____ DEPTH OF FIRST GROUNDWATER ENCOUNTER _____ TOPSOIL THICKNESS _____

WATER LEVEL IN OPEN BOREHOLE ON COMPLETION _____ AFTER ____ HOURS ____

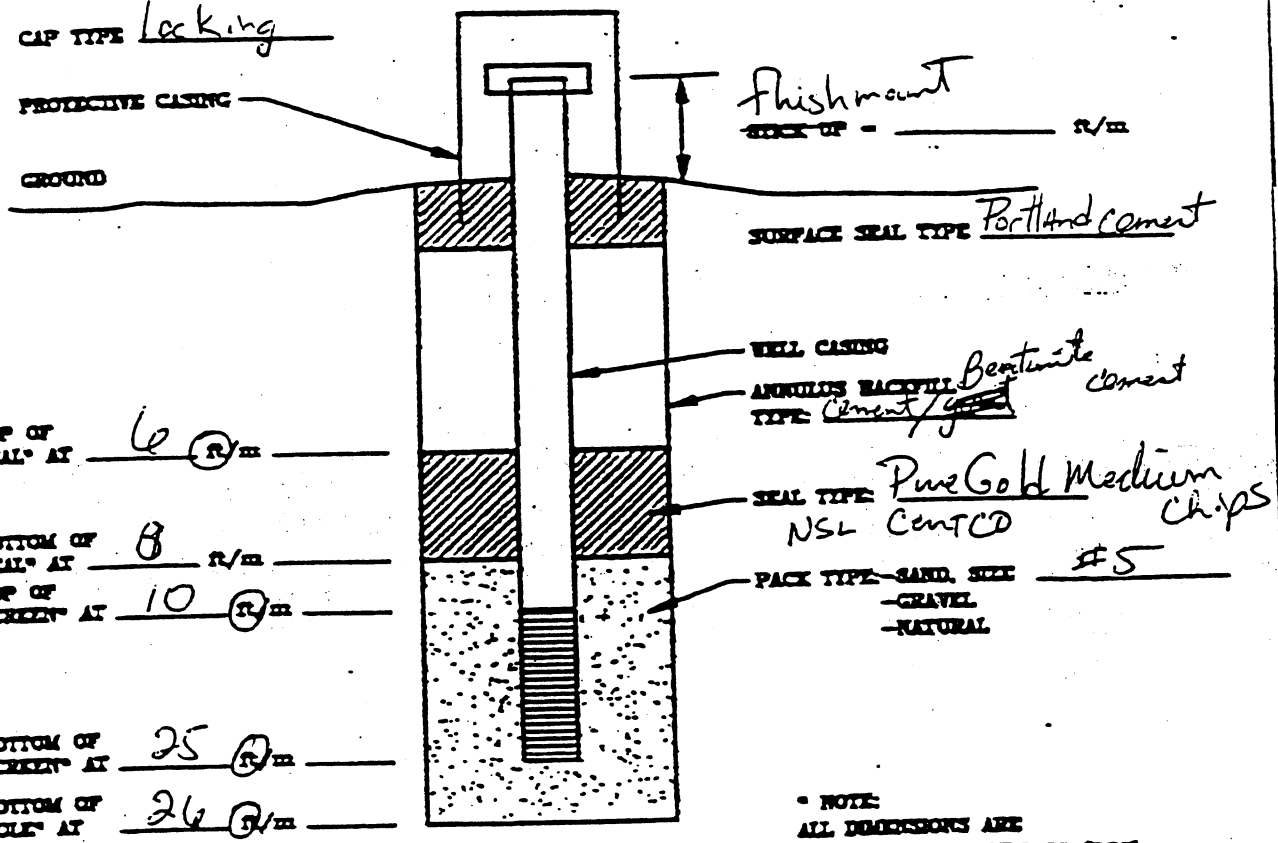
COMPLETION DETAILS: _____

NOTE: FOR EACH SPLIT-SPOON SAMPLE, RECORD BLOW COUNTS, N-VALUE, SAMPLE RECOVERY LENGTH, AND SAMPLE INTERVAL.

OVERBURDEN INSTRUMENTATION LOG

PROJECT NAME Delphi Thermal
PROJECT NUMBER 12638
CLIENT GM Realm
LOCATION DAyton, Ohio

HOLE DESIGNATION MW-2A
DATE COMPLETED 2-29-00
DRILLING METHOD 6¼" ID HSA
CRA SUPERVISOR J. CLOSE



* NOTE:
ALL DIMENSIONS ARE BELOW GROUND SURFACE (BGS)

SCREEN TYPE: ☒ continuous slot ☐ perforated ☐ louvre ☐ other: _____

SCREEN MATERIAL: ☐ stainless steel ☐ plastic ☐ other: PVC

SCREEN LENGTH: 15 ft/m SCREEN DIAMETER: 2 in/cm SCREEN SLOT SIZE: 10 slot

WELL CASING MATERIAL: Schedule 40 PVC WELL CASING DIAMETER: 2 in/cm

HOLE DIAMETER: 10"

DEVELOPMENT: METHOD: _____ DURATION: _____

ONR 7202.96

TYPE OR USE PEN
SELF TRANSCRIBING
PRESS HARD

WELL LOG AND DRILLING REPORT

Ohio Department of Natural Resources
ivison of Water, 1939 Fountain Square Drive
Columbus, Ohio 43224-9971 Voice (614) 265-6739 Fax (614) 447-9503

MW-2A

915765

WELL LOCATION

County Montgomery Township

Owner/Builder (Circle One or Both) Peerless Realty Group Ltd.
First Last

Address of Well Location 300 Taylor Street
Number Street Name

City Dayton Zip Code +4 45402-1302

Permit No. Section/Lot No. (Circle One or Both)

Location of Well in State Plane coordinates, if available: Use of Well

N ☐ X _____ . _____ +/- _____ ft. or m

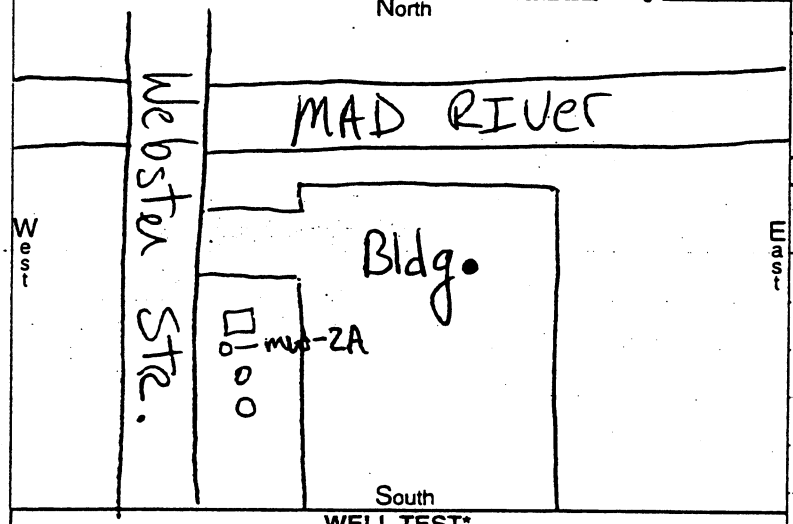
S ☐ Y _____ . _____ +/- _____ ft. or m

Elevation of Well 743 . 46 +/- .01 ft. or m

Datum Plain: ☐ NAD27 ☐ NAD83 Elevation Source

Source of Coordinates: ☐ GPS ☐ Survey ☒ Other Microsoft Streets 98

Sketch a map showing distance well lies from numbered state highways, street intersections, county roads, buildings or other notable landmarks. If latitude and longitude are available please include here: Lat: N39°45.99 Long: W84°10.96



WELL TEST*

Pre-Pumping Static Level _____ ft. Date

Measured from: ☐ Top of Casing ☐ Ground Level ☐ Other

☐ Air ☐ Bailing ☐ Pumping* ☐ Other

Test Rate _____ gpm Duration of Test _____ hrs.

Feet of Drawdown _____ ft. Sustainable Yield _____ gpm

*(Attach a copy of the pumping test record, per section 1521.05, ORC)

Is Copy Attached? ☐ Yes ☐ No Flowing Well? ☐ Yes ☐ No

Quality

PUMP/PITLESS

Type of pump _____ Capacity _____ gpm

Pump set at _____ ft. Pitless Type

Pump installed by

I hereby certify the information given is accurate and correct to the best of my knowledge.

Drilling Firm Boart longyear

Address 5815 Churchman Ave. Suite #2

City, State, Zip Indianapolis, Ind 46203

Signed Date

ODH Registration Number

CONSTRUCTION DETAILS

☐ Rotary ☐ Cable ☒ Augered ☐ Driven ☐ Other

BOREHOLE/CASING (measured from ground surface)

1 ☒ Borehole Diameter 10 inches Depth 26 ft.

Casing Diameter _____ in. Length _____ ft. Thickness _____ in.

2 ☐ Borehole Diameter _____ inches Depth _____ ft.

Casing Diameter _____ in. Length _____ ft. Thickness _____ in.

Casing Height Above Ground _____ ft.

Type 1 ☐ Steel 2 ☐ 1 ☐ Galv. 2 ☐ 1 ☒ PVC 2 ☐ 1 ☐ 2 ☐ Other

Joints 1 ☒ Threaded 2 ☐ 1 ☐ Welded 2 ☐ 1 ☐ Solvent 2 ☐ 1 ☐ 2 ☐ Other

SCREEN

Diameter 2 in Slot Size 10 Screen Length 15' ft.

Type Schedule 40 Material PVC

Set Between 10 ft. and 25 ft.

GRAVEL PACK (Filter Pack)

Material/Size #5 Global Volume/Weight Used 18'

Method of Installation Tremie pipe

Depth: Placed FROM 8' ft. TO 26' ft.

GROUT

Material Cement/bentonite Volume/Weight Used 3'

Method of Installation Tremie pipe

Depth: Placed FROM 3' ft. TO 6 ft.

DRILLING LOG*

INDICATE DEPTH(S) AT WHICH WATER IS ENCOUNTERED. Show color, texture, hardness, and formation: sandstone, shale, limestone, gravel, clay, sand, etc.	From	To
SEE ATTACHED STRATIGRAPHY LOG (3 PAGES)		

*(If more space is needed to complete drilling log, use next consecutively numbered page.)

Date of Well Completion 2-29-00 Total Depth of Well 26 ft.

Completion of this form is required by section 1521.05, Ohio Revised Code - file within 30 days after completion of drilling.

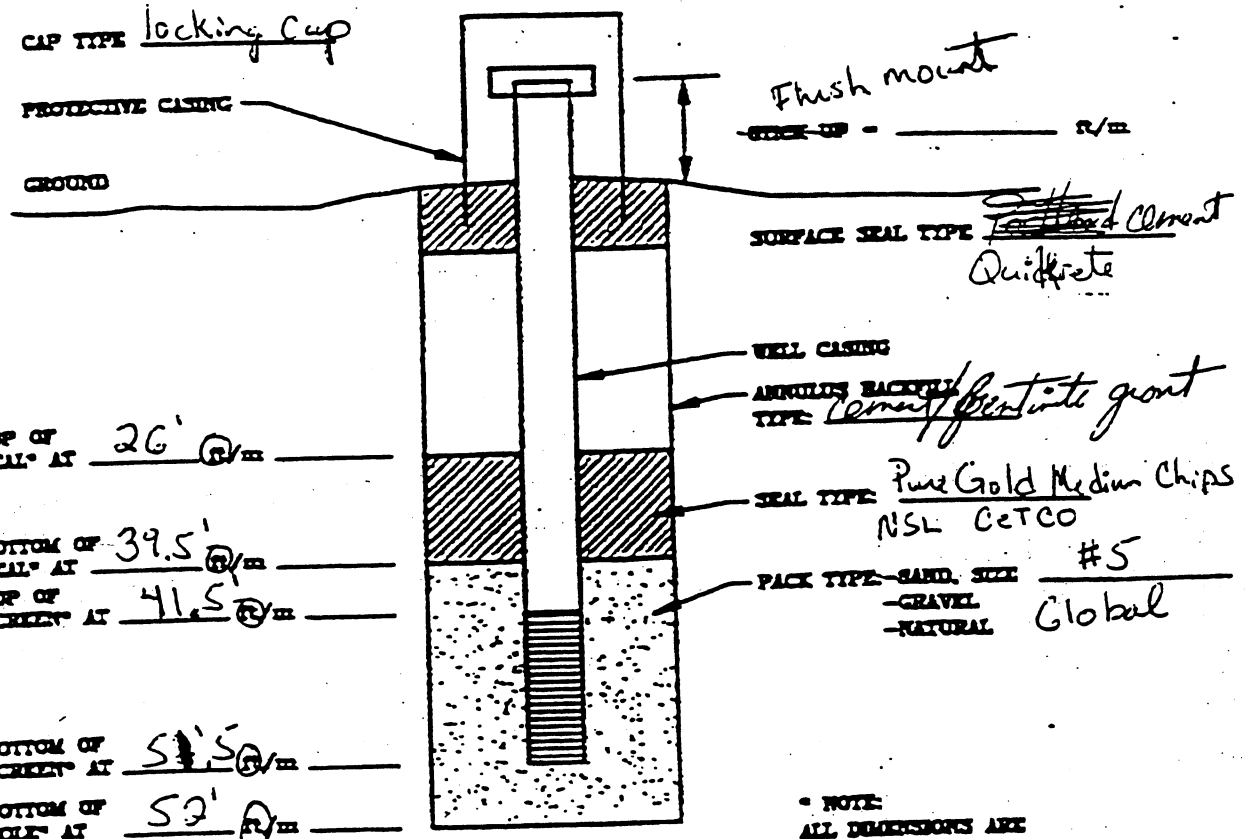
ORIGINAL COPY TO - ODNR, DIVISION OF WATER, 1939 FOUNTAIN SQ. DRIVE, COLS., OHIO 43224-9971

Blue - Customer's copy Pink - Driller's copy Green - Local Health Dept. copy

OVERBURDEN INSTRUMENTATION LOG

PROJECT NAME: Delphi Thermal
PROJECT NUMBER: 12638
CLIENT: GM Realm
LOCATION: Dayton, Ohio

HOLE DESIGNATION: MW-2B
DATE COMPLETED: 2-29-00
DRILLING METHOD: 6¼ ID HSA
CRA SUPERVISOR: J. Close



* NOTE:
ALL DIMENSIONS ARE BELOW GROUND SURFACE (BGS)

SCREEN TYPE: ☒ continuous slot ☐ perforated ☐ louvre ☐ other: _____

SCREEN MATERIAL: ☐ stainless steel ☐ plastic ☐ other: PVC

SCREEN LENGTH: 10 ft/m SCREEN DIAMETER: 2 in/cm SCREEN SLOT SIZE: 10 slot

WELL CASING MATERIAL: schedule 40 PVC WELL CASING DIAMETER: 2 in/cm

HOLE DIAMETER: 10"

DEVELOPMENT: METHOD: Grundfos DURATION: _____

ONR 7802.96

TYPE OR USE PEN
SELF TRANSCRIBING
PRESS HARD

WELL LOG AND DRILLING REPORT

Ohio Department of Natural Resources
vison of Water, 1939 Fountain Square Drive
Columbus, Ohio 43224-9971 Voice (614) 265-6739 Fax (614) 447-9503

9/5/00

nw-2B

WELL LOCATION

County Montgomery Township

Owner/Builder (Circle One or Both) Peerless Realty Group Ltd.
First Last

Address of Well Location 300 Taylor Street
Number Street Name

City Dayton Zip Code +4 45402-1302

Permit No. Section/Lot No. (Circle One or Both)

Location of Well in State Plane Coordinates, if available: Use of Well

N ☐ X _____ . _____ +/- _____ ft. or m

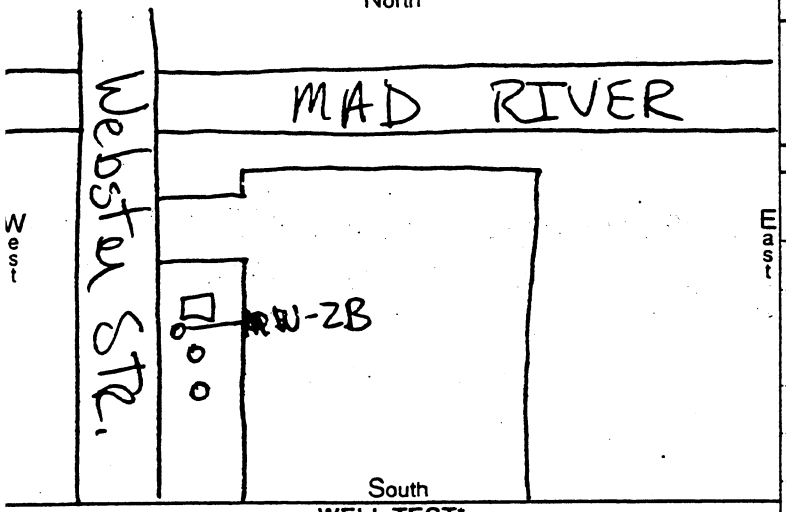
S ☐ Y _____ . 36 +/- _____ ft. or m

Elevation of Well 743 . 77 +/- .01 ft. or m

Datum Plain: ☐ NAD27 ☐ NAD83 Elevation Source

Source of Coordinates: ☐ GPS ☐ Survey ☒ Other Mapsoft streets 98

Sketch a map showing distance well lies from numbered state highways, street intersections, county roads, buildings or other notable landmarks. If latitude and longitude are available please include here: Lat: N 39° 45.99 Long: W 84° 10.96



WELL TEST*

Pre-Pumping Static Level _____ ft. Date

Measured from: ☐ Top of Casing ☐ Ground Level ☐ Other

☐ Air ☐ Bailing ☐ Pumping* ☐ Other

Test Rate _____ gpm Duration of Test _____ hrs.

Feet of Drawdown _____ ft. Sustainable Yield _____ gpm

(Attach a copy of the pumping test record, per section 1521.05, ORC)

Is Copy Attached? ☐ Yes ☐ No Flowing Well? ☐ Yes ☐ No

Quality

PUMP/PITLESS

Type of pump _____ Capacity _____ gpm

Pump set at _____ ft. Pitless Type

Pump installed by

I hereby certify the information given is accurate and correct to the best of my knowledge.

Drilling Firm Boart longyear

Address 5815 Churchman Ave Suite #2

City, State, Zip Indianapolis, Ind. 46203

Signed Date

ODH Registration Number

CONSTRUCTION DETAILS

☐ Rotary ☐ Cable ☒ Augered ☐ Driven ☐ Other

BOREHOLE/CASING (measured from ground surface)

1 ☒ Borehole Diameter 10 inches Depth 52' ft.

Casing Diameter _____ in. Length _____ ft. Thickness _____ in.

2 ☐ Borehole Diameter _____ inches Depth _____ ft.

Casing Diameter _____ in. Length _____ ft. Thickness _____ in.

Casing Height Above Ground _____ ft.

Type: 1 ☐ Steel 2 ☐ | 1 ☐ Galv. 2 ☐ | 1 ☒ PVC 2 ☐ | 1 ☐ 2 ☐ Other

Joints: 1 ☒ Threaded 2 ☐ | 1 ☐ Welded 2 ☐ | 1 ☐ Solvent 2 ☐ | 1 ☐ 2 ☐ Other

SCREEN

Diameter 2in Slot Size 10 Screen Length 10 ft.

Type Schedule 40 Material PVC

Set Between 41.5' ft. and 51.5 ft.

GRAVEL PACK (Filter Pack)

Material/Size #5 Global Volume/Weight Used 12.5'

Method of Installation Tremie Pipe

Depth: Placed FROM 39.5' ft. TO 52' ft.

GROUT

Material ~~Cement~~/bentonite Volume/Weight Used

Method of Installation

Depth: Placed FROM _____ ft. TO _____ ft.

DRILLING LOG*

INDICATE DEPTH(S) AT WHICH WATER IS ENCOUNTERED. Show color, texture, hardness, and formation: sandstone, shale, limestone, gravel, clay, sand, etc.	From	To
SEE ATTACHED STRATIGRAPHY LOG (3 PAGES)		

*(If more space is needed to complete drilling log, use next consecutively numbered page)

Date of Well Completion 2-29-00 Total Depth of Well 52 ft.

Completion of this form is required by section 1521.05, Ohio Revised Code - file within 30 days after completion of drilling.

ORIGINAL COPY TO - ODNR, DIVISION OF WATER, 1939 FOUNTAIN SQ. DRIVE, COLS., OHIO 43224-9971

Blue - Customer's copy Pink - Driller's copy Green - Local Health Dept. copy

HALEY & ALDRICH, INC. Underground Engineering & Environmental Solutions	TEST BORING REPORT	BORING NO. GP-33

PROJECT: Delphi Harrison Thermal Systems, Dayton, OH
CLIENT: G.M. Legal Counsel
CONTRACTOR: Northcoast Drilling Service, Inc.

FILE NO. 79032-005
SHEET NO. 1 OF 1
-GROUND ELEVATION:
-PVC CASING ELEVATION:
DATUM:
START: 4/21/97 1230pm
FINISH: 4/21/97 1330pm
DRILLER: D. Walmsley
H&A REP: D. Kreitzburg

ITEM	CASING	DRIVE SAMPLER	CORE BARREL
TYPE		G	
INSIDE DIAMETER (IN)		1.5	
HAMMER WEIGHT (LB)		-------	
HAMMER FALL (IN)		-------	

DRILLING EQUIPMENT & PROCEDURES

RIG TYPE: Geoprobe
METHOD:

OTHER: Direct Push/Hammer

DEPTH (FT)	TPH Screening	SAMPLER BLOWS PER 6 IN	SAMPLE NUMBER	SAMPLE DEPTH (FT)	STRATA CHANGE (FT)	VISUAL CLASSIFICATION AND REMARKS
			G-1	0.0	1.5	Concrete over gray sandy GRAVEL, slightly moist with iron pieces. - FILL -
	560		33"	4.0		Dark grayish brown silty SAND, little clay, trace fine gravel, moist, occasional wood pieces. - FLUVIAL -
5			G-2	4.0	4.8	
	20		34"	8.0		Tan/brown sandy GRAVEL, occasional pockets trace silt, slightly moist. - FLUVIAL -
			G-3	8.0		Same.
10	75		34"	12.0		Water at 11.2 feet.
15						BOTTOM OF EXPLORATION AT 12.0 FEET

NOTES:

SAMPLE IDENTIFICATION

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

SUMMARY

OVERBURDEN (LIN FT): 12.0

ROCK CORED (LIN FT): 0

SAMPLES: 3G

BORING NO. GP-33

STRATIGRAPHY LOG (OVERBURDEN)

PROJECT NAME Delphi Thermal Systems
PROJECT NUMBER 12638
CLIENT GM Realm
LOCATION Dayton, Ohio

DRILLING CONTRACTOR Boart Longyear
DRILLER Mike Maginn
SURFACE ELEVATION N/A
WEATHER (A.M.) sunny 30's-40's
(P.M.) sunny 50's

HOLE DESIGNATION MW-2
DATE/TIME STARTED 2-28-00 1425
DATE/TIME COMPLETED 2-29-00 1130
DRILLING METHOD 6¼" HSA
CRA SUPERVISOR J. CLOSE

STRATIGRAPHIC INTERVALS (DEPTHS IN ft/m BGS) FROM	AT	TO	SAMPLE DESCRIPTION	SAMPLE #	SAMPLING METHOD	PENETRATION RECORD SPLIT SPOON BLOWS (RECORD N-VALUES & RECOVERIES) 6"	6"	6"	6"	SAMPLE INTERVAL	PID / FID (ppm)	CHEMICAL ANALYSIS	GRAIN SIZE
0		3"	Asphalt	1	SS	—	—	8	7	0-2			
3"		18.5	SP/GP - sand, little gravel, coarse grained sand, loose,			R=	12"	N=	8				
sand, gravel silt			non cohesive, brown, slmoist	2	SS	3	3	3	3	2-4			
	7.5		very moist			R=	8"	N=	6				
	9.5		Trace clay	3	SS	5	4	3	3	4-6			
	11.5		rock - sand stone			R=	4"	N=	7				
	15.2		rock - as above	4	SS	3	4	4	3	6-8			
	15.6		rock - as above			R=	6"	N=	8				
	17.5		GW Table	5	SS	4	3	3	2	8-10			
18.5		19.5	GW/SW - gravel + sand, little clay/silt, medium dense, fine			R=	13"	N=	6				
sand + gravel			grained gravel, coarse grained sand, med - poorly graded, brown, wet	6	SS	5	5	13	—	10-12			
19.5		21.7	SP - sand, med-coarse grained sand, med dense, poorly graded,			R=	12"	N=	18				
			gray, wet, chemical odor	7	SS	No Sample				12-14			
21.7		25	GW - gravel, trace sand, gray chemical odor, wet, coarse			R=	Ø	N=	Ø				
			grained gravel	8	SS	7	15	27	16	14-16			
	22.8		Coarse - fine grained gravel			R=	14"	N=	42				
25		25.5	SM - sand, med-coarse grained, loose, non cohesive, gray	9	SS	12	8	17	18	16-R	6		
			wet, chemical odor			R=	12"	N=	25				

NOTES AND COMMENTS

DEPTH OF BOREHOLE CAVING Ø DEPTH OF FIRST GROUNDWATER ENCOUNTER 17.5' TOPSOIL THICKNESS Ø
WATER LEVEL IN OPEN BOREHOLE ON COMPLETION 14.75' AFTER 20 HOURS
COMPLETION DETAILS: 2 wells see completion logs

NOTE: FOR EACH SPLIT-SPOON SAMPLE, RECORD BLOW COUNTS, N-VALUE, SAMPLE RECOVERY LENGTH, AND SAMPLE INTERVAL.

STRATIGRAPHY LOG (OVERBURDEN)

PROJECT NAME: Delphi Thermal Systems
PROJECT NUMBER: _____
CLIENT: _____
LOCATION: _____

DRILLING CONTRACTOR: _____
DRILLER: _____
SURFACE ELEVATION: _____
WEATHER (A.M.): _____
(P.M.): _____

HOLE DESIGNATION: MW-2
DATE/TIME STARTED: _____
DATE/TIME COMPLETED: _____
DRILLING METHOD: _____
CRA SUPERVISOR: _____

STRATIGRAPHIC INTERVALS (DEPTHS IN ft/m BGS) FROM	AT	TO	SAMPLE DESCRIPTION	SAMPLE DETAILS: SAMPLE #	SAMPLING METHOD	PENETRATION RECORD SPLIT SPOON BLOWS (RECORD N-VALUES & RECOVERIES) 6"	6"	6"	6"	SAMPLE INTERVAL	PID / FID (ppm)	CHEMICAL ANALYSIS	GRAIN SIZE
			ORDER OF DESCRIPTORS: SOIL TYPE SYMBOL(S) - MAIN COMPONENT(S), (NATURE OF DEPOSIT), SECONDARY COMPONENTS, RELATIVE DENSITY/CONSISTENCY, GRAIN SIZE/PLASTICITY, GRADATION/STRUCTURE, COLOUR, MOISTURE CONTENT, SUPPLEMENTARY DESCRIPTORS. NOTE: PLASTICITY DETERMINATION REQUIRES THE ADDITION OF MOISTURE IF THE SAMPLE IS TOO DRY TO ROLL (INDICATE IF MOISTURE WAS ADDED OR NOT).										
25.5		26.7	GP-gravel, poorly graded, loose, fine grained, wet	10	SS	27	12	8	8	18-20	300		
						R=	20"	N=	20				
26.7		27	SP-sand, poorly graded, dense, med grained, gray, wet	11	SS	8	9	9	13	20-22	600		
						R=	3"	N=	18				
27		27.5	GM/SW-gravel+sand, dense, fine grained gravel, coarse grained sand, well-med graded, wet	12	SS	12	7	7	10	22-24	480		
						R=	16"	N=	14				
27.5		29	SP-sand, med grained, dense, med graded, gray/brown, wet	13	SS	5	4	5	5	24-26	200		
						R=	12"	N=	9				
29		29.5	SP/GP-gravel+sand, dense, fine grained gravel, coarse grained sand, med graded, brown, wet	14	SS	9	15	16	18	26-28	200		
						R=	18"	N=	31				
29.5		30.5	SP - as above	15	SS	9	17	16	11	28-30	140		
						R=	20"	N=	33				
30.5		32.5	GP/SP/ - as Above, loose	16	SS	4	5	9	13	30-32	300		
						R=	18"	N=	14				
32.5		33	SP - as Above, gray, med grained	17	SS	17	9	9	14	32-34	340		
						R=	22"	N=	18				
33		34.5	GP/SP - as Above	18	SS	15	13	18	21	34-36	220		
						R=	22"	N=	31				
34.5		35	SP - as above										
35		36.5	GP/SP - as above										
36.5		37	SP - as above										
37		39.8	GP/SP - as Above										
39.8		40.5	GP-gravel, med dense, fine grained gravel, trace coarse grained gravel, poorly graded, brown, wet										

NOTES AND COMMENTS

CRA

DEPTH OF BOREHOLE CAVING: _____ DEPTH OF FIRST GROUNDWATER ENCOUNTER: _____ TOPSOIL THICKNESS: _____

WATER LEVEL IN OPEN BOREHOLE ON COMPLETION: _____ AFTER ____ HOURS ____

COMPLETION DETAILS: _____

NOTE: FOR EACH SPLIT-SPOON SAMPLE, RECORD BLOW COUNTS, N-VALUE, SAMPLE RECOVERY LENGTH, AND SAMPLE INTERVAL.

STRATIGRAPHY LOG (OVERBURDEN)

PROJECT NAME: Delphi Thermal Systems
PROJECT NUMBER: _____
CLIENT: _____
LOCATION: _____

DRILLING CONTRACTOR: _____
DRILLER: _____
SURFACE ELEVATION: _____
WEATHER (A.M.): _____
(P.M.): _____

HOLE DESIGNATION: MW-2
DATE/TIME STARTED: _____
DATE/TIME COMPLETED: _____
DRILLING METHOD: _____
CRA SUPERVISOR: _____

STRATIGRAPHIC INTERVALS (DEPTHS IN ft/m BGS) FROM	AT	TO	SAMPLE DESCRIPTION (ORDER OF DESCRIPTORS: SOIL TYPE SYMBOL(S) – MAIN COMPONENT(S), (NATURE OF DEPOSIT), SECONDARY COMPONENTS, RELATIVE DENSITY/CONSISTENCY, GRAIN SIZE/PLASTICITY, GRADATION/STRUCTURE, COLOUR, MOISTURE CONTENT, SUPPLEMENTARY DESCRIPTORS. NOTE: PLASTICITY DETERMINATION REQUIRES THE ADDITION OF MOISTURE IF THE SAMPLE IS TOO DRY TO ROLL (INDICATE IF MOISTURE WAS ADDED OR NOT).)	SAMPLE DETAILS: SAMPLE #	SAMPLING METHOD	PENETRATION RECORD SPLIT SPOON BLOWS (RECORD N-VALUES & RECOVERIES) 6"	6"	6"	6"	SAMPLE INTERVAL	PID / FID (ppm)	CHEMICAL ANALYSIS	GRAIN SIZE
40.5		41	SP-sand, med dense, fine-med grained sand, trace coarse	19	SS	9	9	17	25	36-38	240		
			grained sand, poorly-med graded, brown, wet			R=	18"	N=	26				
41		44.5	GP/SP - As above	20	SS	9	12	13	15	38-40	10		
44.5		45	SP - as above, med-coarse grained sand.			R=	24"	N=	25				
45		46.5	GP/SP - as above	21	SS	7	9	13	25	40-42	140		
46.5		47	SP - sand as Above			R=	18"	N=	22				
47		48.3	SP/GP - sand & gravel as above	22	SS	13	15	17	19	42-44	90		
48.3		49	SP - as above			R=	20"	N=	22				
49		52	GP/GP - gravel and sand, as Above	23	SS	12	16	18	29	44-46	140		
clay 52		53	CH-24/Ay, Fat, high plasticity, hard, Trace coarse grained			R=	20"	N=	34				
			sand, gray,	24	SS	11	17	29	28	46-48	144		
						R=	20"	N=	46				
				25	SS	8	15	24	27	48-50	150		
						R=	20"	N=	39				
				26	SS	24	28	–	–	50-51	6		
						R=	24"	N=	28				
				27	SS	24	31	47	68	51-53			
						R=	24	N=	78				

NOTES AND COMMENTS

CR[redacted]

DEPTH OF BOREHOLE CAVING _____ DEPTH OF FIRST GROUNDWATER ENCOUNTER _____ TOPSOIL THICKNESS _____

WATER LEVEL IN OPEN BOREHOLE ON COMPLETION _____ AFTER ____ HOURS ____

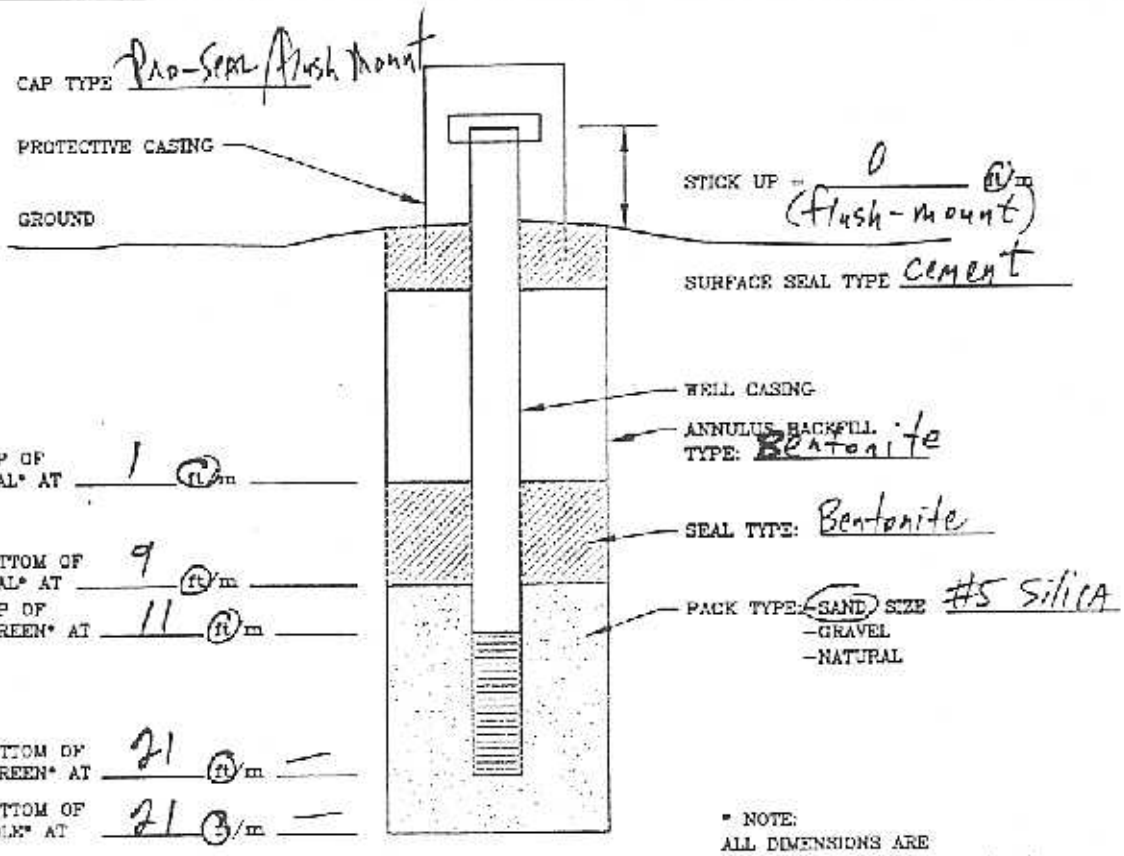
COMPLETION DETAILS: _____

NOTE: FOR EACH SPLIT-SPOON SAMPLE, RECORD BLOW COUNTS, N-VALU[redacted]MPLE RECOVERY LENGTH, AND SAMPLE INTERVAL.

OVERBURDEN INSTRUMENTATION LOG

PROJECT NAME Delphi Harrison
PROJECT NUMBER 12638.
CLIENT Encore, LLC
LOCATION Dayton, Ohio

HOLE DESIGNATION MW3-02
DATE COMPLETED 06/26/2002
DRILLING METHOD Sonic
CRA SUPERVISOR Jason Close



SCREEN TYPE: ☒ continuous slot ☐ perforated ☐ louvre ☐ other: ____

SCREEN MATERIAL: ☐ stainless steel ☐ plastic ☒ other: PVC

SCREEN LENGTH: 10 (ft/m) SCREEN DIAMETER: 2 (in/cm) SCREEN SLOT SIZE: 10

WELL CASING MATERIAL: PVC WELL CASING DIAMETER: 2 (in/cm)

HOLE DIAMETER: 6"

DEVELOPMENT: METHOD: N/A DURATION: N/A

(Not developed on 6/26/2002).

CRA

STRATIGRAPHY LOG (OVERBURDEN)

PROJECT NAME Delphi - Harrison
PROJECT NUMBER 126638
CLIENT Realm
LOCATION Dayton, Ohio

DRILLING CONTRACTOR Prosonic
DRILLER Denzil Roberts
SURFACE ELEVATION —
WEATHER (A.M.) Sunny, ≈ 88°F.
(P.M.) N/A

HOLE DESIGNATION MW-302
DATE/TIME STARTED 6-26-02; 0844
DATE/TIME COMPLETED 6-26-02; ≈ 1030
DRILLING METHOD Sonic
CRA SUPERVISOR T. Close

STRATIGRAPHIC INTERVALS (DEPTHS IN ft/m BGS) FROM	AT	TO	SAMPLE DESCRIPTION	SAMPLE DETAILS: SAMPLE #	SAMPLING METHOD	PENETRATION RECORD SPLIT SPOON BLOWS (RECORD N-VALUES & RECOVERIES) 6"	6"	6"	6"	SAMPLE INTERVAL	PID / FID (ppm)	CHEMICAL ANALYSIS	GRAIN SIZE
0		6"	Concrete	1	RS	R				0-1.5	240	13'	
6"		5	SM/ML - sand + silt, cohesive, predom - poorly graded dk brown - gray, moist										
				2	RS	R				5-8 10-12	2.5	@ 13'	
5		12	ML - silt, cohesive, firm, dense, dark gray moist										
	9		black staining										
12		21	SP/GP - sand + gravel med-coarse sand, fine-coarse gravel, mod graded brown, moist										
	14		wet - GW Table										
			SAMPLES @ 0'-2', 8'-10', and 12'-14'.										

NOTES AND COMMENTS

CRA

DEPTH OF BOREHOLE CAVING N/A DEPTH OF FIRST GROUNDWATER ENCOUNTER 14" TOPSOIL THICKNESS N/A
WATER LEVEL IN OPEN BOREHOLE ON COMPLETION N/A AFTER — HOURS —
COMPLETION DETAILS: Flush - mount.

NOTE: FOR EACH SPLIT-SPOON SAMPLE, RECORD BLOW COUNTS, N-VALUE, SAMPLE RECOVERY LENGTH, AND SAMPLE INTERVAL.

HALEY & ALDRICH

TEST BORING REPORT

Boring No. MW4-02

Project: Former Delphi Harrison Thermal Systems Dayton, OH
Client: REALM
Contractor: Prosonic CORP

File No.: 79032 - 102
Sheet No.: 1 of 1
Location:

ITEM	CASING	DRIVE SAMPLER	CORE BARREL	DRILLING EQUIPMENT & PROCEDURES
Type	Sonic	Sonic		Rig Type: Sonic Drill Rig
Inside Diameter (in.)	6	6		Method: Sonic
Hammer Weight (lb.)	---	---	---	Bit Type: Cutting head
Hammer Fall (in.)	---	---	---	Other:

Elevation:
Datum:
Start: 25 June 2002
Finish: 25 June 2002
Driller: Denzil Roberts
H&A Rep: Greg Laird

DEPTH (FT)	PID FIELD SCREENING (PPM)	SAMPLER BLOWS PER 6 IN.	SAMPLE NUMBER & REC. (IN.)	SAMPLE DEPTH (FT)	ELEV./ DEPTH (FT)	VISUAL DESCRIPTION AND REMARKS
0	ND		So-1 28	0.0 – 3.0		Loose, brown, SAND and GRAVEL, mps=3", no odor, moist - FILL -
5	ND		So-2 26	3.0 – 6.0		Loose, tan, SAND and GRAVEL, mps=3", no odor, moist -FILL-
	ND		So-3 40	6.0 – 10.0		Loose, tan fine SAND and GRAVEL, mps=4", Hydrocarbon odor, moist - FILL -
10	ND		So-4 54	10.0 – 16.0		similar to So-3
					13.0	Loose, tan-brown, FINE SAND, mps=1", no odor, moist - FILL -
15	ND		So-5 48	16.0 – 20.0	16.0	Hard dense, gray CLAY with Gravel, mps=4" no odor, moist - FILL -
20	ND		So-6 48	20.0 – 25.0		
25						

NOTES:

DRAFT

SAMPLE IDENTIFICATION

O	Open End Rod
T	Thin Wall Tube
U	Undisturbed Sample
S	Split Spoon
G	Geoprobe

SUMMARY

Overburden (lin ft):	25
Rock Core (lin ft):	
Samples:	6

Boring No. **MW4-02**

HALEY & ALDRICH

MONITORING WELL REPORT

Well No. MW4-02

Project: Former Delphi Harrison Thermal Systems
Location: Dayton, OH
Client: REALM
Contractor: Prosonic CORP
Driller: Denzil Roberts
Rig Type: Sonic Drill Rig
H&A Rep: Greg Laird
Installation Date: 6/25/02 - 6/25/02

File No.: 79032-102
Location:

Top of Protective Casing: ft.
Top of Riser: ft.
Ground Surface: ft.
Survey Datum:

SUMMARY OF SOIL/ROCK CONDITIONS

Loose, brown, SAND and GRAVEL, mps=3", moist
-FILL-
1.0

similar to above
3.0

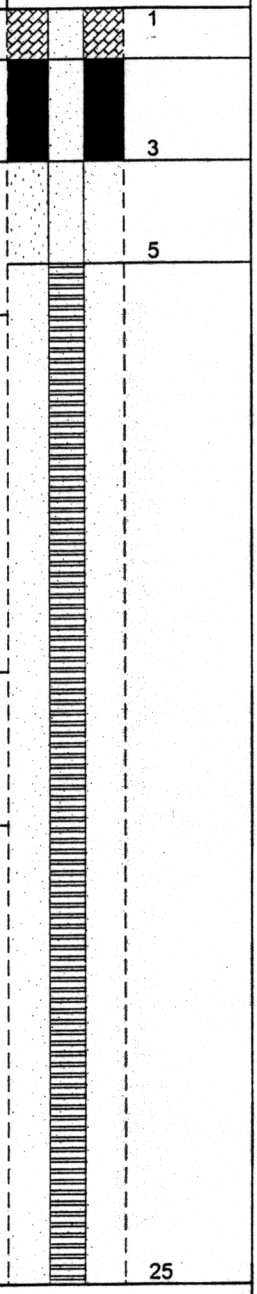
Loose, tan, fine SAND and GRAVEL, mps=3", moist
-FILL-
6.0

Loose, tan, FINE SAND and GRAVEL, mps=4", hydrocarbon odor, moist
-FILL-
13.0

Loose, tan-brown, FINE SAND, mps=1", no odor, moist
-FILL-
16.0

Hard, dense, gray, CLAY with GRAVEL, mps=4", moist
-FILL-
25.0

SUMMARY OF WELL CONSTRUCTION MATERIALS



(NOT TO SCALE)

(NUMBERS REFER TO DEPTH FROM GROUND SURFACE IN FEET)

REMARKS:

DRAFT

SUMMARY OF WELL INSTALLATION SPECIFICATIONS

BOREHOLE
Diameter: 6 in.

SURFACE COMPLETION
Type: Flush Mount
Top (DBGS): 0 ft.

PROTECTIVE CASING
Type: Road box well cover
Diameter: 6 in.
Top (DBGS): 0 ft.
Length: 1 ft.

SURFACE SEAL
Type: concrete
Top: 0 ft.
Length: 1 ft.

RISER
Type: Schedule 40 PVC
Diameter: 2 in.
Top (DBGS) 0 ft.
Length: 5. ft.
Coupling Type: Threaded

SANDPACK SEAL
Type: Bentonite
Top: 1 ft.
Length: 2 ft.

SANDPACK
Type: Quartz Sand #5
Top: 3 ft.
Length: 22 ft.

SCREEN
Type: PVC
Diameter: 2 in.
Slot Size: 10 slot in.
Top (DBGS): 5 ft.
Length: 20 ft.

BOTTOM OF BOREHOLE: 25 ft.

DBGS - Depth Below Ground Surface

Well No. MW4-02

MONITORING WELL REPORT

Well No. MW 5-03A MW 5-03B

Project: Former Delphi Harrison Thermal Systems
Location: Dayton, OH
Client: REALM
Contractor: Sterns Drilling Co. **Driller:** Jim
Rig Type: Sonic Drill Rig
H&A Rep: S. Byerly
Installation Date: 01/23/03 - 01/27/03

File No.: 79032-108
Location:

Top of Protective Casing: NA ft.
Top of Riser: 744.71 ft.
Ground Surface: NA ft.
Survey Datum:

SUMMARY OF SOIL/ROCK CONDITIONS

Loose, grey gravelly SILT and CLAY, trace brick fragments
-FILL-

dark brown ORGANIC SOIL with brick fragments

10.0

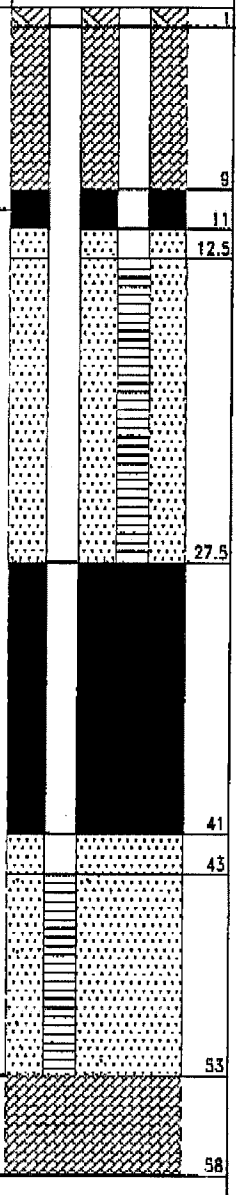
Loose, brown, SAND, gravelly SAND, and sandy SILT
-INTERBEDDED GLACIAL OUTWASH-

53.0

Stiff, grey brown CLAY with trace gravel
-TILL-

58.0

SUMMARY OF WELL CONSTRUCTION MATERIALS



(NOT TO SCALE)
(NUMBERS REFER TO DEPTH FROM GROUND SURFACE IN FEET)

REMARKS:

DRAFT

SUMMARY OF WELL INSTALLATION SPECIFICATIONS

BOREHOLE			
Diameter:	10		in.
SURFACE COMPLETION			
Type:	Flush mount		
Top (DBGS):	0		ft.
PROTECTIVE CASING			
Type:	Road box well cover		
Diameter:	9		in.
Top (DBGS):	0		ft.
Length:	1		ft.
SURFACE SEAL			
Type:	Concrete		
Top:	0		ft.
Length:	1		ft.
RISER			
Type:	Schedule 40 PVC	A / B	
Diameter:	2		in.
Top (DBGS)	0		ft.
Length:	12.5 /	43	ft.
Coupling Type:	Threaded		
RISER BACKFILL			
Type:	Bentonite, Grout	A / B	
Top:	1		ft.
Length:	8 /	26.5	ft.
SANDPACK SEAL			
Type:	Bentonite	A / B	
Top:	9 /	27.5	ft.
Length:	2 /	13.5	ft.
SANDPACK			
Type:	Quartz Sand #6	A / B	
Top:	11 /	41	ft.
Length:	16.5 /	12	ft.
SCREEN			
Type:	PVC	A / B	
Diameter:	2		in.
Slot Size:	.010		in.
Top (DBGS):	12.5 /	43	ft.
Length:	15 /	10	ft.
SUMP			
Type:	-		
Top:	-		ft.
Length:	-		ft.
LOWER SEAL			
Type:	Bentonite, Grout	A / B	
Top:	27.5 /	53	ft.
Length:	13.5 /	5	ft.
BACKFILL			
Type:	-		
Top:	-		ft.
Length:	-		ft.
BOTTOM OF BOREHOLE:	58		ft.

DBGS - Depth Below Ground Surface

Well No. MW 5-03A MW 5-03B

MONITORING WELL REPORT

Well No. MW 6-03A MW 6-03B

Project: Former Delphi Harrison Thermal Systems
Location: Dayton, OH
Client: REALM
Contractor: Sterns Drilling Co. **Driller:** Jim
Rig Type: Sonic Drill Rig
H&A Rep: S. Byerly
Installation Date: 01/14/03 - 01/14/03

File No.: 79032-108
Location:

Top of Protective Casing: NA ft.
Top of Riser: 747.92 ft.
Ground Surface: NA ft.
Survey Datum:

SUMMARY OF SOIL/ROCK CONDITIONS

Stiff, dark brown ORGANIC SOIL and dark and light brown CLAY with little coarse gravel

8.0

Loose, brown, silty SAND and gravelly SAND -INTERBEDDED GLACIAL OUTWASH-

48.5

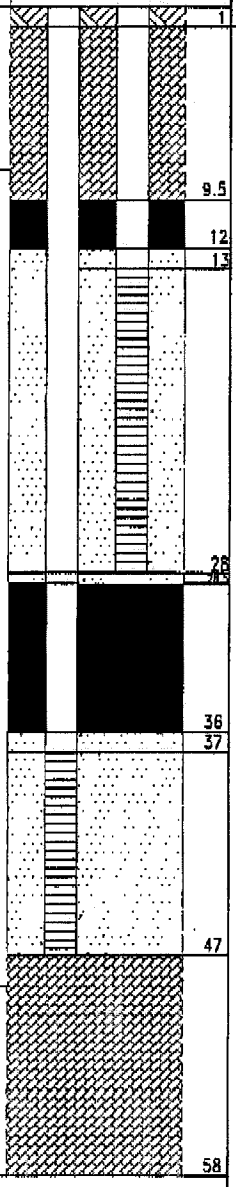
Stiff, brown CLAY with gravel -TILL-

58.0

(NOT TO SCALE)

(NUMBERS REFER TO DEPTH FROM GROUND SURFACE IN FEET)

SUMMARY OF WELL CONSTRUCTION MATERIALS



SUMMARY OF WELL INSTALLATION SPECIFICATIONS

BOREHOLE			
Diameter:	10		in.
SURFACE COMPLETION			
Type:	Flush mount		
Top (DBGS):	0		ft.
PROTECTIVE CASING			
Type:	Road box well cover		
Diameter:	9		in.
Top (DBGS):	0		ft.
Length:	1		ft.
SURFACE SEAL			
Type:	Concrete		
Top:	0		ft.
Length:	1		ft.
RISER			
Type:	Schedule 40 PVC	A / B	
Diameter:	2		in.
Top (DBGS)	0		ft.
Length:	13 / 37		ft.
Coupling Type:	Threaded	Threaded	
RISER BACKFILL			
Type:	Bentonite, Grout	A / B	
Top:	1		ft.
Length:	8.5 / 27.5		ft.
SANDPACK SEAL			
Type:	Bentonite	A / B	
Top:	9.5 / 28.5		ft.
Length:	2.5 / 7.5		ft.
SANDPACK			
Type:	Quartz Sand #5	A / B	
Top:	12 / 36		ft.
Length:	16 / 11		ft.
SCREEN			
Type:	PVC	A / B	
Diameter:	2		in.
Slot Size:	.010		in.
Top (DBGS):	13 / 37		ft.
Length:	15 / 10		ft.
SUMP			
Type:	-		
Top:	-		ft.
Length:	-		ft.
LOWER SEAL			
Type:	Bentonite, Grout	A / B	
Top:	28.5 / 47		ft.
Length:	7.5 / 11		ft.
BACKFILL			
Type:	-		
Top:	-		ft.
Length:	-		ft.
BOTTOM OF BOREHOLE:	58		ft.

REMARKS:

DRAFT

DBGS = Depth Below Ground Surface

Well No. MW 6-03A MW 6-03B

MONITORING WELL REPORT

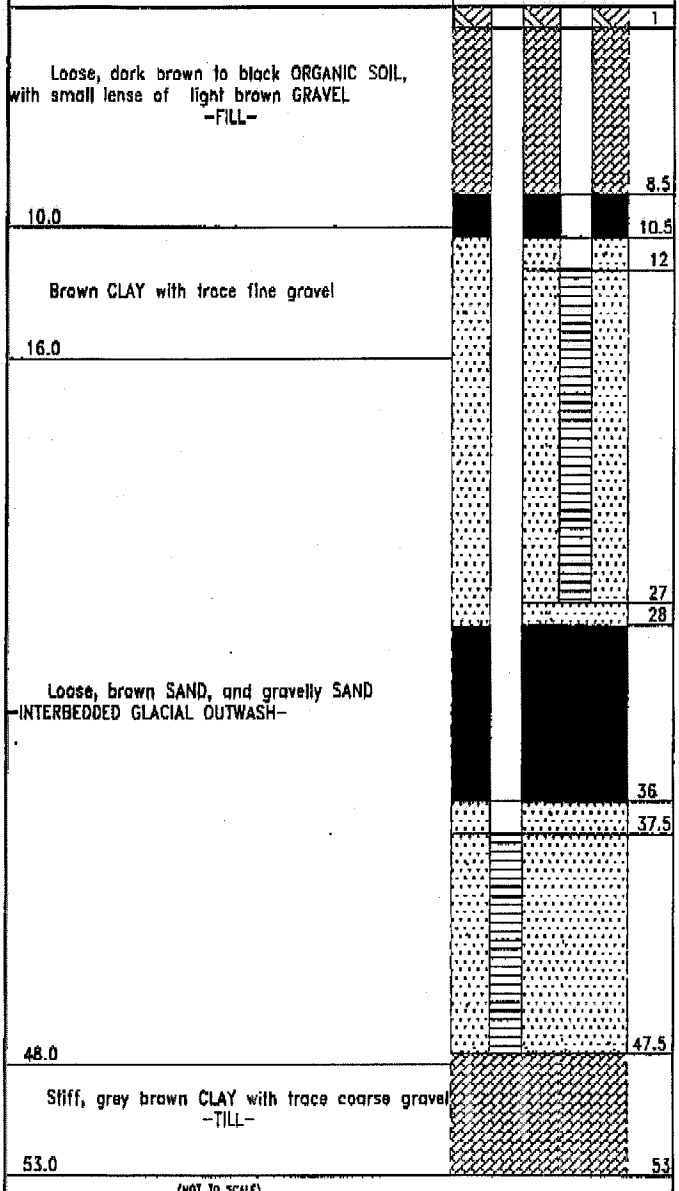
Well No. MW 7-03A MW 7-03B

Project: Former Delphi Harrison Thermal Systems
Location: Dayton, OH
Client: REALM
Contractor: Sterns Drilling Co. **Driller:** Jim
Rig Type: Sonic Drill Rig
H&A Rep: S. Byerly
Installation Date: 01/16/03 - 01/16/03

File No.: 79032-108
Location:

Top of Protective Casing:	NA	ft.
Top of Riser:	748.35	ft.
Ground Surface:	NA	ft.
Survey Datum:		

SUMMARY OF SOIL/ROCK CONDITIONS



(NOT TO SCALE)

(NUMBERS REFER TO DEPTH FROM GROUND SURFACE IN FEET)

REMARKS:

DRAFT

SUMMARY OF WELL CONSTRUCTION MATERIALS

SUMMARY OF WELL INSTALLATION SPECIFICATIONS

BOREHOLE			
Diameter:	10		in.
SURFACE COMPLETION			
Type:	Flush mount		
Top (DBGS):	0		ft.
PROTECTIVE CASING			
Type:	Road box well cover		
Diameter:	9		in.
Top (DBGS):	0		ft.
Length:	1		ft.
SURFACE SEAL			
Type:	Concrete		
Top:	0		ft.
Length:	1		ft.
RISER			
Type:	Schedule 40 PVC	A / B	
Diameter:	2		in.
Top (DBGS)	0		ft.
Length:	12 / 37.5		ft.
Coupling Type:	Threaded		
RISER BACKFILL			
Type:	Bentonite, Grout	A / B	
Top:	1		ft.
Length:	7.5 / 27		ft.
SANDPACK SEAL			
Type:	Bentonite	A / B	
Top:	8.5 / 28		ft.
Length:	2 / 8		ft.
SANDPACK			
Type:	Quartz Sand #6	A / B	
Top:	10.5 / 36		ft.
Length:	16.5 / 11.5		ft.
SCREEN			
Type:	PVC	A / B	
Diameter:	2		in.
Slot Size:	.010		in.
Top (DBGS):	12 / 37.5		ft.
Length:	15 / 10		ft.
SUMP			
Type:	-		
Top:	-		ft.
Length:	-		ft.
LOWER SEAL			
Type:	Bentonite, Grout	A / B	
Top:	28 / 47.5		ft.
Length:	8 / 5.5		ft.
BACKFILL			
Type:	-		
Top:	-		ft.
Length:	-		ft.
BOTTOM OF BOREHOLE:	53		ft.

DBGS = Depth Below Ground Surface

Well No. MW 7-03A MW 7-03B

HALEY & ALDRICH

MONITORING WELL REPORT

Well No. MW 8-03

Project: Former Delphi Harrison Thermal Systems
Location: Dayton, OH
Client: REALM
Contractor: Sterns Drilling Co. **Driller:** Jim
Rig Type: Sonic Drill Rig
H&A Rep: S. Byerly
Installation Date: 01/16/03 - 01/16/03

File No.: 79032-108
Location:

Top of Protective Casing:	NA	ft.
Top of Riser:	742.60	ft.
Ground Surface:	NA	ft.
Survey Datum:		

SUMMARY OF SOIL/ROCK CONDITIONS

Loose, light brown gravelly CLAY, dry

8.0

Loose, brown sandy GRAVEL and SAND, moist, wet at 18 feet bgs

20.0

Stiff, grey brown CLAY with trace gravel, wet -TILL-

28.0

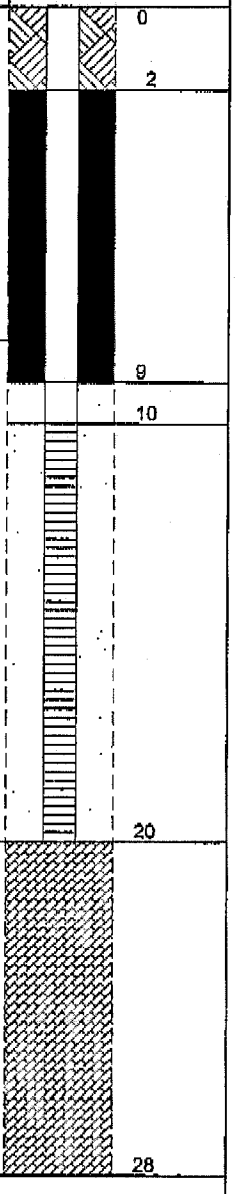
(NOT TO SCALE)

(NUMBERS REFER TO DEPTH FROM GROUND SURFACE IN FEET)

REMARKS:

DRAFT

SUMMARY OF WELL CONSTRUCTION MATERIALS



SUMMARY OF WELL INSTALLATION SPECIFICATIONS

BOREHOLE
Diameter: 6 in.

SURFACE COMPLETION
Type: Flush mount
Top (DBGS): 0 ft.

PROTECTIVE CASING
Type: Road box well cover
Diameter: 9 in.
Top (DBGS): 0 ft.
Length: 1 ft.

SURFACE SEAL
Type: Concrete
Top: 0 ft.
Length: 2 ft.

RISER
Type: Schedule 40 PVC
Diameter: 2 in.
Top (DBGS) 0 ft.
Length: 10. ft.
Coupling Type: Threaded

SANDPACK SEAL
Type: Bentonite
Top: 2 ft.
Length: 7 ft.

SANDPACK
Type: Quartz Sand #6
Top: 9 ft.
Length: 11 ft.

SCREEN
Type: PVC
Diameter: 2 in.
Slot Size: .010 in.
Top (DBGS): 10 ft.
Length: 10 ft.

LOWER SEAL
Type: #6 Sand
Top: 20 ft.
Length: 8 ft.

BACKFILL
Type: -
Top: - ft.
Length: 0 ft.

BOTTOM OF BOREHOLE: 28 ft.

DBGS - Depth Below Ground Surface

Well No. MW 8-03

HALEY & ALDRICH

MONITORING WELL REPORT

Well No. MW 9-03

Project: Former Delphi Harrison Thermal Systems
Location: Dayton, OH
Client: REALM
Contractor: Sterns Drilling Co. **Driller:** Jim
Rig Type: Sonic Drill Rig
H&A Rep: S. Byerly
Installation Date: 01/17/03 - 01/17/03

File No.: 79032-108
Location:

Top of Protective Casing:	NA	ft.
Top of Riser:	737.27	ft.
Ground Surface:	NA	ft.
Survey Datum:		

SUMMARY OF SOIL/ROCK CONDITIONS

Loose, brown medium SAND interbedded with Loose, light brown CLAY, dry

11.0

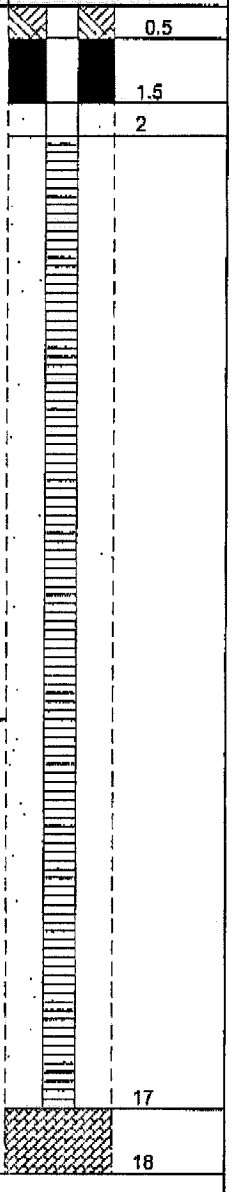
Loose, brown well graded gravelly SAND, wet

18.0

(NOT TO SCALE)

(NUMBERS REFER TO DEPTH FROM GROUND SURFACE IN FEET)

SUMMARY OF WELL CONSTRUCTION MATERIALS



SUMMARY OF WELL INSTALLATION SPECIFICATIONS

BOREHOLE
Diameter: 6 in.

SURFACE COMPLETION
Type: Flush mount
Top (DBGS): 0 ft.

PROTECTIVE CASING
Type: Road box well cover
Diameter: 9 in.
Top (DBGS): 0 ft.
Length: 1 ft.

SURFACE SEAL
Type: Concrete
Top: 0 ft.
Length: 0.5 ft.

RISER
Type: Schedule 40 PVC
Diameter: 2 in.
Top (DBGS) 0 ft.
Length: 2. ft.
Coupling Type: Threaded

SANDPACK SEAL
Type: Bentonite
Top: 0.5 ft.
Length: 1 ft.

SANDPACK
Type: Quartz Sand #6
Top: 1.5 ft.
Length: 15.5 ft.

SCREEN
Type: PVC
Diameter: 2 in.
Slot Size: .010 in.
Top (DBGS): 2 ft.
Length: 15 ft.

LOWER SEAL
Type: #6 Sand
Top: 17 ft.
Length: 1 ft.

BACKFILL
Type: -
Top: - ft.
Length: - ft.

BOTTOM OF BOREHOLE: 18 ft.

REMARKS:

DRAFT

DBGS - Depth Below Ground Surface

Well No. MW 9-03

HALEY & ALDRICH

MONITORING WELL REPORT

Well No. MW 10-03

Project: Former Delphi Harrison Thermal Systems
Location: Dayton, OH
Client: REALM
Contractor: Stems Drilling Co. **Driller:** Jim
Rig Type: Sonic Drill Rig
H&A Rep: S. Byerly
Installation Date: 01/17/03 - 01/17/03

File No.: 79032-108
Location:

Top of Protective Casing:	NA	ft.
Top of Riser:	736.62	ft.
Ground Surface:	NA	ft.
Survey Datum:		

SUMMARY OF SOIL/ROCK CONDITIONS

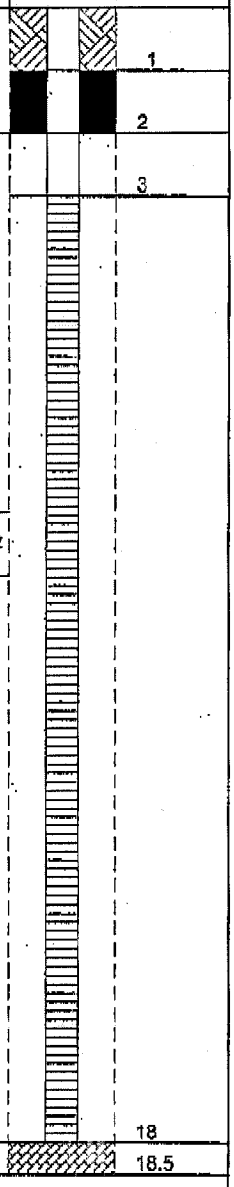
Loose, brown SAND AND GRAVEL FILL and Hard, brown CLAY SOIL, dry — 2.0

Loose, light brown gravelly SAND, dry — 8.0

Stiff, dark brown CLAY with trace gravel, wet — 9.0

Loose, light brown gravelly SAND, wet — 18.0

SUMMARY OF WELL CONSTRUCTION MATERIALS



(NOT TO SCALE)

(NUMBERS REFER TO DEPTH FROM GROUND SURFACE IN FEET)

REMARKS:

DRAFT

SUMMARY OF WELL INSTALLATION SPECIFICATIONS

BOREHOLE
Diameter: 6 in.

SURFACE COMPLETION
Type: Flush mount
Top (DBGS): 0 ft.

PROTECTIVE CASING
Type: Road box well cover
Diameter: 9 in.
Top (DBGS): 0 ft.
Length: 1 ft.

SURFACE SEAL
Type: Concrete
Top: 0 ft.
Length: 1 ft.

RISER
Type: Schedule 40 PVC
Diameter: 2 in.
Top (DBGS) 0 ft.
Length: 3. ft.
Coupling Type: Threaded

SANDPACK SEAL
Type: Bentonite
Top: 1 ft.
Length: 1 ft.

SANDPACK
Type: Quartz Sand #6
Top: 2 ft.
Length: 16 ft.

SCREEN
Type: PVC
Diameter: 2 in.
Slot Size: .010 in.
Top (DBGS): 3 ft.
Length: 15 ft.

LOWER SEAL
Type: #5 Sand
Top: 18 ft.
Length: 0.5 ft.

BACKFILL
Type: -
Top: - ft.
Length: - ft.

BOTTOM OF BOREHOLE: 18.5 ft.

DBGS - Depth Below Ground Surface

Well No. MW 10-03

HALEY & ALDRICH

MONITORING WELL REPORT

Well No. MW 11-03

Project: Former Delphi Harrison Thermal Systems
Location: Dayton, OH
Client: REALM
Contractor: Sterns Drilling Co. **Driller:** Jim
Rig Type: Sonic Drill Rig
H&A Rep: S. Byerly
Installation Date: 01/18/03 - 01/18/03

File No.: 79032-108
Location:

Top of Protective Casing:	NA	ft.
Top of Riser:	738.36	ft.
Ground Surface:	NA	ft.
Survey Datum:		

SUMMARY OF SOIL/ROCK CONDITIONS

Brown SILT wih sand, black ash, and brick fragments, no odor, moist to wet at 8 feet bgs, -FILL-

14.0

Brown well graded SAND with gravel, no odor, wet

18.0

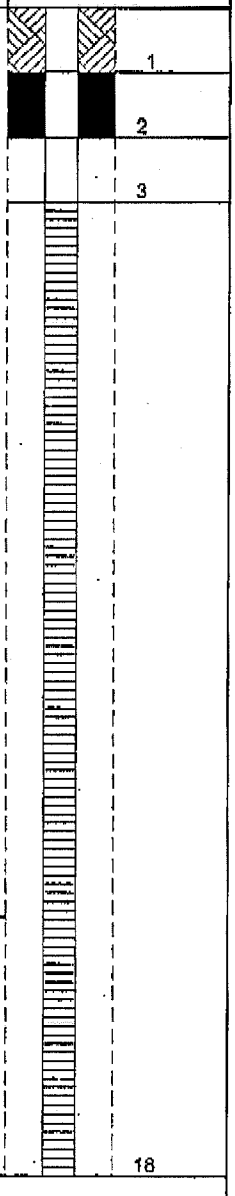
(NOT TO SCALE)

(NUMBERS REFER TO DEPTH FROM GROUND SURFACE IN FEET)

REMARKS:

DRAFT

SUMMARY OF WELL CONSTRUCTION MATERIALS



SUMMARY OF WELL INSTALLATION SPECIFICATIONS

BOREHOLE
Diameter: 6 in.

SURFACE COMPLETION
Type: Flush mount
Top (DBGS): 0 ft.

PROTECTIVE CASING
Type: Road box well cover
Diameter: 9 in.
Top (DBGS): 0 ft.
Length: 1 ft.

SURFACE SEAL
Type: Concrete
Top: 0 ft.
Length: 1 ft.

RISER
Type: Schedule 40 PVC
Diameter: 2 in.
Top (DBGS) 0 ft.
Length: 3. ft.
Coupling Type: Threaded

SANDPACK SEAL
Type: Bentonite
Top: 1 ft.
Length: 1 ft.

SANDPACK
Type: Quartz Sand #6
Top: 2 ft.
Length: 16 ft.

SCREEN
Type: PVC
Diameter: 2 in.
Slot Size: .010 in.
Top (DBGS): 3 ft.
Length: 15 ft.

LOWER SEAL
Type: -
Top: - ft.
Length: - ft.

BACKFILL
Type: -
Top: - ft.
Length: - ft.

BOTTOM OF BOREHOLE: 18 ft.

DBGS - Depth Below Ground Surface

HALEY & ALDRICH

MONITORING WELL REPORT

Well No. MW 12-03A

Project:	Former Delphi Harrison Thermal Systems	**File No.:**	79032-108
Location:	Dayton, OH	**Location:**	
Client:	REALM		
Contractor:	Stems Drilling Co.	**Driller:** M. Hefferan	
Rig Type:	Track mounted HSA	**Top of Protective Casing:**	NA ft.
H&A Rep:	T. Correll	**Top of Riser:**	NA ft.
Installation Date:	03/05/03 - 03/05/03	**Ground Surface:**	NA ft.
		Survey Datum:	

SUMMARY OF SOIL/ROCK CONDITIONS

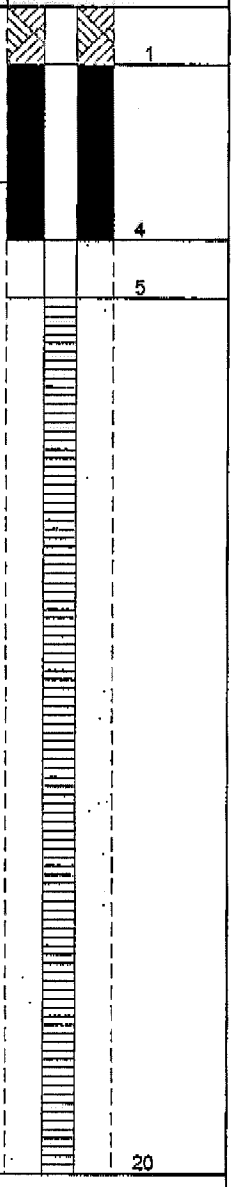
Loose, black poorly graded SAND with gravel and brick fragments

3.0

Loose to dense SAND with gravel and sandy SILT with zones of GRAVEL with sand

20.0

SUMMARY OF WELL CONSTRUCTION MATERIALS



(NOT TO SCALE)

(NUMBERS REFER TO DEPTH FROM GROUND SURFACE IN FEET)

REMARKS:

DRAFT

SUMMARY OF WELL INSTALLATION SPECIFICATIONS

BOREHOLE
- Diameter: 8 in.

SURFACE COMPLETION
- Type: Flush mount
- Top (DBGS): 0 ft.

PROTECTIVE CASING
- Type: Road box well cover
- Diameter: 10 in.
- Top (DBGS): 0 ft.
- Length: 1 ft.

SURFACE SEAL
- Type: Concrete
- Top: 0 ft.
- Length: 1 ft.

RISER
- Type: Schedule 40 PVC
- Diameter: 2 in.
- Top (DBGS) 0 ft.
- Length: 5. ft.
- Coupling Type: Threaded

SANDPACK SEAL
- Type: Bentonite
- Top: 1 ft.
- Length: 3 ft.

SANDPACK
- Type: Quartz Sand #7
- Top: 4 ft.
- Length: 16 ft.

SCREEN
- Type: PVC
- Diameter: 2 in.
- Slot Size: .010 in.
- Top (DBGS): 5 ft.
- Length: 15 ft.

LOWER SEAL
- Type: -
- Top: - ft.
- Length: - ft.

BACKFILL
- Type: -
- Top: - ft.
- Length: - ft.

BOTTOM OF BOREHOLE: 20 ft.

DBGS - Depth Below Ground Surface

HALEY & ALDRICH

MONITORING WELL REPORT

Well No. MW 12-03B

Project: Former Delphi Harrison Thermal Systems
Location: Dayton, OH
Client: REALM
Contractor: H.C. Nutting **Driller:** H. Herd
Rig Type: Track mounted HSA
H&A Rep: T. Correll
Installation Date: 02/28/03 - 02/28/03

File No.: 79032-108
Location:

Top of Protective Casing: NA ft.
Top of Riser: NA ft.
Ground Surface: NA ft.
Survey Datum:

SUMMARY OF SOIL/ROCK CONDITIONS

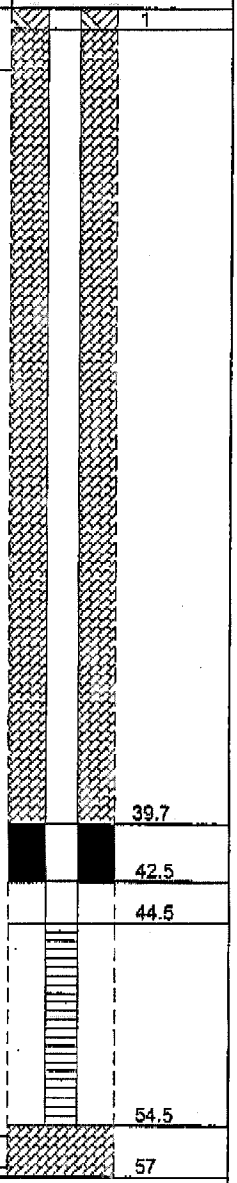
Loose, black poorly graded SAND with gravel and brick fragments
3.0

Loose to dense SAND with gravel and sandy SILT with zones of GRAVEL with sand

55.0
56.5 Hard, grey, lean CLAY with gravel, moist

(NOT TO SCALE)
(NUMBERS REFER TO DEPTH FROM GROUND SURFACE IN FEET)

SUMMARY OF WELL CONSTRUCTION MATERIALS



SUMMARY OF WELL INSTALLATION SPECIFICATIONS

BOREHOLE		
Diameter:	8	in.
SURFACE COMPLETION		
Type:	Flush mount	
Top (DBGS):	0	ft.
PROTECTIVE CASING		
Type:	Road box well cover	
Diameter:	10	in.
Top (DBGS):	0	ft.
Length:	1	ft.
SURFACE SEAL		
Type:	Concrete	
Top:	0	ft.
Length:	1	ft.
RISER		
Type:	Schedule 40 PVC	
Diameter:	2	in.
Top (DBGS)	0	ft.
Length:	44.5	ft.
Coupling Type:	Threaded	
RISER BACKFILL		
Type:	Cement/Bentonite Grout	
Top:	1	ft.
Length:	38.7	ft.
SANDPACK SEAL		
Type:	Bentonite	
Top:	39.7	ft.
Length:	2.8	ft.
SANDPACK		
Type:	Quartz Sand #7	
Top:	42.5	ft.
Length:	12	ft.
SCREEN		
Type:	PVC	
Diameter:	2	in.
Slot Size:	.010	in.
Top (DBGS):	44.5	ft.
Length:	10	ft.
SUMP		
Type:	-	
Top:	-	ft.
Length:	-	ft.
LOWER SEAL		
Type:	#7 Sand	
Top:	54.5	ft.
Length:	2.5	ft.
BACKFILL		
Type:	-	
Top:	-	ft.
Length:	-	ft.
BOTTOM OF BOREHOLE:	57	ft.

REMARKS:

DRAFT

DBGS - Depth Below Ground Surface

Well No. MW 12-03B

HALEY & ALDRICH

MONITORING WELL REPORT

Well No. MW 13-03A

Project:	Former Delphi Harrison Thermal Systems	**File No.:**	79032-108
Location:	Dayton, OH	**Location:**	
Client:	REALM		
Contractor:	Sterns Drilling Co.	**Driller:** M. Hefferan	
Rig Type:	Track mounted HSA	**Top of Protective Casing:**	NA ft.
H&A Rep:	T. Correll	**Top of Riser:**	740.24 ft.
Installation Date:	03/05/03 - 03/05/03	**Ground Surface:**	NA ft.
		Survey Datum:	

SUMMARY OF SOIL/ROCK CONDITIONS

Loose, brown, sandy SILT and SAND with gravel, moist to wet at 11.75 feet bgs

20.0

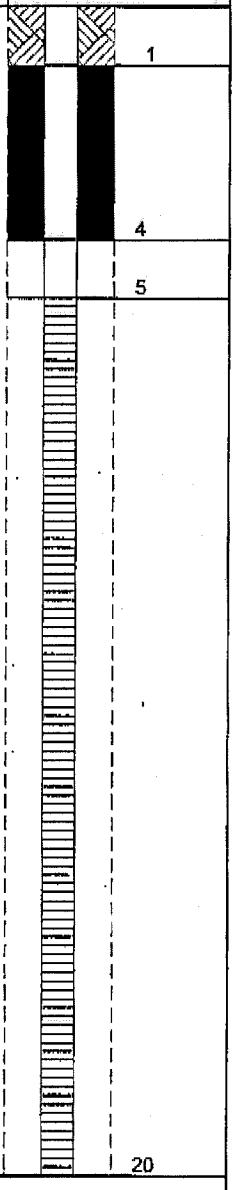
(NOT TO SCALE)

(NUMBERS REFER TO DEPTH FROM GROUND SURFACE IN FEET)

REMARKS:

DRAFT

SUMMARY OF WELL CONSTRUCTION MATERIALS



SUMMARY OF WELL INSTALLATION SPECIFICATIONS

BOREHOLE
- Diameter: 8 in.

SURFACE COMPLETION
- Type: Flush mount
- Top (DBGS): 0 ft.

PROTECTIVE CASING
- Type: Road box well cover
- Diameter: 10 in.
- Top (DBGS): 0 ft.
- Length: 1 ft.

SURFACE SEAL
- Type: Concrete
- Top: 0 ft.
- Length: 1 ft.

RISER
- Type: Schedule 40 PVC
- Diameter: 2 in.
- Top (DBGS) 0 ft.
- Length: 5. ft.
- Coupling Type: Threaded

SANDPACK SEAL
- Type: Bentonite
- Top: 1 ft.
- Length: 3 ft.

SANDPACK
- Type: Quartz Sand #7
- Top: 4 ft.
- Length: 16 ft.

SCREEN
- Type: PVC
- Diameter: 2 in.
- Slot Size: .010 in.
- Top (DBGS): 5 ft.
- Length: 15 ft.

LOWER SEAL
- Type: -
- Top: - ft.
- Length: - ft.

BACKFILL
- Type: -
- Top: - ft.
- Length: - ft.

BOTTOM OF BOREHOLE: 20 ft.

DBGS - Depth Below Ground Surface

HALEY & ALDRICH

MONITORING WELL REPORT

Well No. MW 13-03B

Project:	Former Delphi Harrison Thermal Systems
Location:	Dayton, OH
Client:	REALM
Contractor:	Sterns Drilling Co.
Driller:	M. Hefferan
Rig Type:	Track mounted HSA
H&A Rep:	T. Correll
Installation Date:	03/04/03 - 03/04/03

File No.: 79032-108
Location:

Top of Protective Casing:	NA	ft.
Top of Riser:	740.25	ft.
Ground Surface:	NA	ft.
Survey Datum:		

SUMMARY OF SOIL/ROCK CONDITIONS

Loose, brown, sandy SILT and SAND with gravel, moist to wet at 11.75 feet bgs

52.0

Hard, grey lean CLAY with gravel, moist

54.0

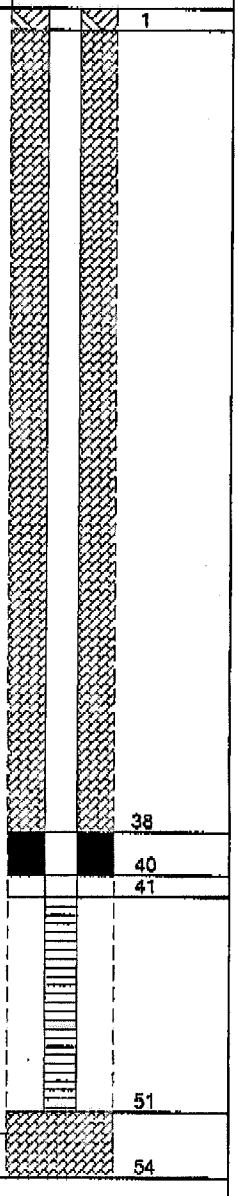
(NOT TO SCALE)

(NUMBERS REFER TO DEPTH FROM GROUND SURFACE IN FEET)

REMARKS:

DRAFT

SUMMARY OF WELL CONSTRUCTION MATERIALS



SUMMARY OF WELL INSTALLATION SPECIFICATIONS

BOREHOLE		
Diameter:	8	in.
SURFACE COMPLETION		
Type:	Flush mount	
Top (DBGS):	0	ft.
PROTECTIVE CASING		
Type:	Road box well cover	
Diameter:	10	in.
Top (DBGS):	0	ft.
Length:	1	ft.
SURFACE SEAL		
Type:	Concrete	
Top:	0	ft.
Length:	1	ft.
RISER		
Type:	Schedule 40 PVC	
Diameter:	2	in.
Top (DBGS)	0	ft.
Length:	41.	ft.
Coupling Type:	Threaded	
RISER BACKFILL		
Type:	Cement/Bentonite Grout	
Top:	1	ft.
Length:	37	ft.
SANDPACK SEAL		
Type:	Bentonite	
Top:	38	ft.
Length:	2	ft.
SANDPACK		
Type:	Quartz Sand #7	
Top:	40	ft.
Length:	11	ft.
SCREEN		
Type:	PVC	
Diameter:	2	in.
Slot Size:	.010	in.
Top (DBGS):	41	ft.
Length:	10	ft.
SUMP		
Type:	-	
Top:	-	ft.
Length:	-	ft.
LOWER SEAL		
Type:	#7 Sand	
Top:	51	ft.
Length:	3	ft.
BACKFILL		
Type:	-	
Top:	-	ft.
Length:	-	ft.
BOTTOM OF BOREHOLE:	54	ft.

DBGS - Depth Below Ground Surface

Well No. MW 13-03B

HALEY & ALDRICH

MONITORING WELL REPORT

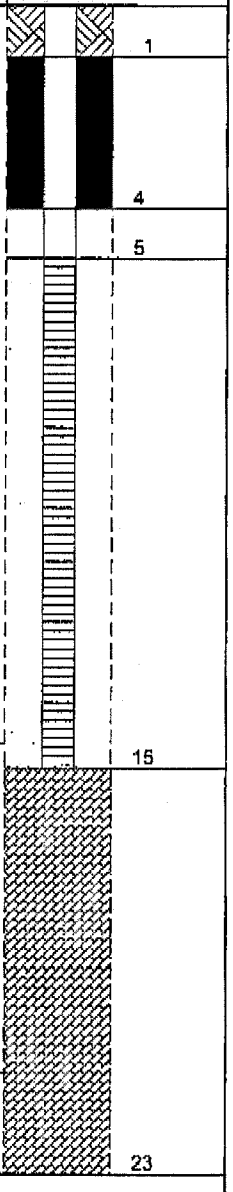
Well No. MW 14-03

Project: Former Delphi Harrison Thermal Systems
Location: Dayton, OH
Client: REALM
Contractor: Stems Drilling Co. **Driller:** M. Hefferan
Rig Type: Track mounted HSA
H&A Rep: T. Correll
Installation Date: 03/05/03 - 03/05/03

File No.: 79032-108
Location:

Top of Protective Casing:	NA	ft.
Top of Riser:	NA	ft.
Ground Surface:	NA	ft.
Survey Datum:		

SUMMARY OF SOIL/ROCK CONDITIONS



Loose, light brown SAND with gravel, red-brown sandy SILT, brown sandy SILT, and grey GRAVEL, moist to wet at 11 feet bgs

14.5

Very stiff, yellow brown silty CLAY with gravel, moist

21.0

Hard, grey lean CLAY with gravel, moist

23.0

(NOT TO SCALE)

(NUMBERS REFER TO DEPTH FROM GROUND SURFACE IN FEET)

REMARKS:

DRAFT

SUMMARY OF WELL CONSTRUCTION MATERIALS

SUMMARY OF WELL INSTALLATION SPECIFICATIONS

BOREHOLE
Diameter: 8 in.

SURFACE COMPLETION
Type: Flush mount
Top (DBGS): 0 ft.

PROTECTIVE CASING
Type: Road box well cover
Diameter: 10 in.
Top (DBGS): 0 ft.
Length: 1 ft.

SURFACE SEAL
Type: Concrete
Top: 0 ft.
Length: 1 ft.

RISER
Type: Schedule 40 PVC
Diameter: 2 in.
Top (DBGS) 0 ft.
Length: 5. ft.
Coupling Type: Threaded

SANDPACK SEAL
Type: Bentonite
Top: 1 ft.
Length: 3 ft.

SANDPACK
Type: Quartz Sand #7
Top: 4 ft.
Length: 11 ft.

SCREEN
Type: PVC
Diameter: 2 in.
Slot Size: .010 in.
Top (DBGS): 5 ft.
Length: 10 ft.

LOWER SEAL
Type: #7 Sand
Top: 15 ft.
Length: 8 ft.

BACKFILL
Type: -
Top: - ft.
Length: - ft.

BOTTOM OF BOREHOLE: 23 ft.

DBGS - Depth Below Ground Surface

Well No. MW 14-03

TEST BORING REPORT

Boring No. MW14B-04

Project Former Delphi Harrison Thermal Systems - Dayton, Ohio
Client REALM/GM
Contractor Boart Longyear

File No. 79032-110
Sheet No. 1 of 3
Start March 8, 2004
Finish March 10, 2004
Driller J. Robinson
H&A Rep. T. Vanage
Elevation Datum
Location BLD. 7, approx. 10 ft. N of P33

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	Steel	Sonic	-	Rig Make & Model: Rotosonic
Inside Diameter (in.)	6	3.5	-	Bit Type: Cutting Head
Hammer Weight (lb.)	-	-	-	Drill Mud: None
Hammer Fall (in.)	-	-	-	Casing: 0-17 ft
				Hoist/Hammer: - -

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0		S1 26	0.0 5.0			Concrete										
	ND				SM	Loose, brown to black, silty SAND (SM), no odor, moist, mps: 6.4 mm.		5	5	20	30	40				
	1.9				MH	Medium stiff, dark brown, elastic SILT (MH), no odor, moist.				5	15	80	S	M	M	L
5		S2 36	5.0 10.0													
	0.3				SM	Loose, brown, silty SAND with gravel (SM), slight hydrocarbon odor, moist, mps: 51mm.	5	10	15	20	20	30				
10		S3	10.0 15.0			Water present at 13 ft. Black staining at 13.9 to 14.75 ft.										
15	ND	S4 30	15.0 17.5		CL	Stiff, dark brown, lean CLAY (CL), no odor, moist, mps: 44mm.		5			5	90	N-S	M	M	M-H
		S5 22	17.5 20.0													
20																

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (lin. ft.) 55
Rock Cored (lin. ft.) -
Samples 11

Boring No. MW14B-04

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None
Toughness: L-Low, M-Medium, H-High
Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

NEW USCSLIB3_DTR.GLB DELPHI.GDT G:\PROJECTS\79032\HARRISON\~110ST~1\GINT\BORINGLOGS.GPJ Jun 22, 04

[redacted]

TEST BORING REPORT

Boring No. **MW14B-04**
File No. 79032-110
Sheet No. 2 of 3

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20		S6 44	20.0 25.0		CL											
25	ND	S7 57	25.0 30.0		SW	Loose, brown, well graded SAND (SW), no odor, moist, mps: 13mm.			15	40	40	5				
30	ND	S8 54	30.0 35.0		SW											
35		S9 57	35.0 40.0													
40	ND	S10 31	40.0 45.0		SW											
45																

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. **MW14B-04**

NEW USCSLIB3_DTR.GLB DELPHI.GDT G:\PROJECTS\79032\HARRISON\-110ST~1\GINT\BORINGLOGS.GPJ Jun 22, 04

HALEY & ALDRICH

MONITORING WELL REPORT

Well No. MW 15-03

Project: Former Delphi Harrison Thermal Systems
Location: Dayton, OH
Client: REALM
Contractor: Sterns Drilling Co. **Driller:** M. Hefferan
Rig Type: Track mounted HSA
H&A Rep: T. Correll
Installation Date: 03/06/03 - 03/06/03

File No.: 79032-108
Location:

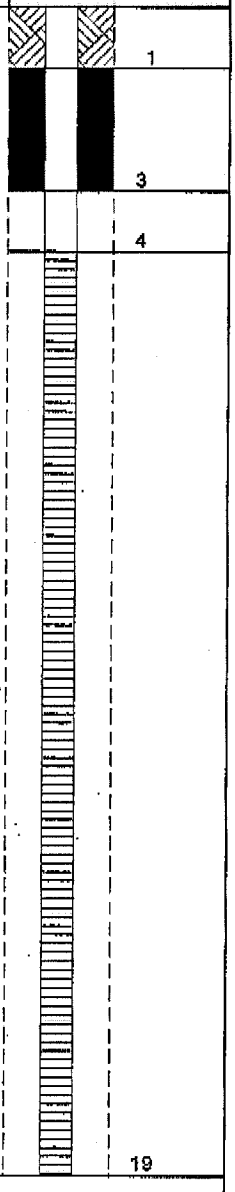
Top of Protective Casing:	NA	ft.
Top of Riser:	740.69	ft.
Ground Surface:	NA	ft.
Survey Datum:		

SUMMARY OF SOIL/ROCK CONDITIONS

Loose, brown SAND with gravel and silt, moist to wet at 11 feet bgs

19.0

SUMMARY OF WELL CONSTRUCTION MATERIALS



(NOT TO SCALE)
(NUMBERS REFER TO DEPTH FROM GROUND SURFACE IN FEET)

REMARKS:

DRAFT

SUMMARY OF WELL INSTALLATION SPECIFICATIONS

BOREHOLE
Diameter: 8 in.

SURFACE COMPLETION
Type: Flush mount
Top (DBGS): 0 ft.

PROTECTIVE CASING
Type: Road box well cover
Diameter: 10 in.
Top (DBGS): 0 ft.
Length: 1 ft.

SURFACE SEAL
Type: Concrete
Top: 0 ft.
Length: 1 ft.

RISER
Type: Schedule 40 PVC
Diameter: 2 in.
Top (DBGS) 0 ft.
Length: 4. ft.
Coupling Type: Threaded

SANDPACK SEAL
Type: Bentonite
Top: 1 ft.
Length: 2 ft.

SANDPACK
Type: Quartz Sand #7
Top: 3 ft.
Length: 16 ft.

SCREEN
Type: PVC
Diameter: 2 in.
Slot Size: .010 in.
Top (DBGS): 4 ft.
Length: 15 ft.

LOWER SEAL
Type: -
Top: - ft.
Length: - ft.

BACKFILL
Type: -
Top: - ft.
Length: - ft.

BOTTOM OF BOREHOLE: 19 ft.

DBGS - Depth Below Ground Surface

Well No. MW 15-03

HALEY & ALDRICH

MONITORING WELL REPORT

Well No. MW 16-03

Project: Former Delphi Harrison Thermal Systems
Location: Dayton, OH
Client: REALM
Contractor: Prosonic CORP **Driller:** Rodney Parr
Rig Type: Sonic Drill Rig
H&A Rep: S. Byerly
Installation Date: 05/01/03 - 05/01/03

File No.: 79032-108
Location:

Top of Protective Casing:	NA	ft.
Top of Riser:	750.13	ft.
Ground Surface:	NA	ft.
Survey Datum:		

SUMMARY OF SOIL/ROCK CONDITIONS

Loose, light brown lean CLAY with some gravel, mps 2", dry — 0.5
2.0

Soft, dark brown to black lean CLAY with some sand and little gravel, mps 1/4", wood and brick fragments, slight hydrocarbon-like odor, moist — 3.5 – 6
8
10.0

Loose, dark brown to black SAND with some clay, mps 1/4", wood and glass fragments, slight hydrocarbon-like odor, several horizons of peat-like material 1/8-1/4" thick between 10 and 20 feet, moist to wet (at 12 feet)
Mild grey staining at 12 feet
23.0 — 23

Stiff, dark brown to black CLAY with no gravel, wet
25.0

Similar to 10 to 23 feet except no peat and the bottom 6" is tan
27.0 — 27

(NOT TO SCALE)
(NUMBERS REFER TO DEPTH FROM GROUND SURFACE IN FEET)

REMARKS:

DRAFT

SUMMARY OF WELL CONSTRUCTION MATERIALS

SUMMARY OF WELL INSTALLATION SPECIFICATIONS

BOREHOLE		
Diameter:	6	in.
SURFACE COMPLETION		
Type:	Flush mount	
Top (DBGS):	0	ft.
PROTECTIVE CASING		
Type:	Road box well cover	
Diameter:	6	in.
Top (DBGS):	0	ft.
Length:	1	ft.
SURFACE SEAL		
Type:	Concrete	
Top:	0	ft.
Length:	0.5	ft.
RISER		
Type:	Schedule 40 PVC	
Diameter:	2	in.
Top (DBGS)	0	ft.
Length:	8.	ft.
Coupling Type:	Threaded	
RISER BACKFILL		
Type:	Cement Grout	
Top:	0.5	ft.
Length:	3	ft.
SANDPACK SEAL		
Type:	Bentonite	
Top:	3.5	ft.
Length:	2.5	ft.
SANDPACK		
Type:	Quartz Sand #5	
Top:	6	ft.
Length:	17	ft.
SCREEN		
Type:	PVC	
Diameter:	2	in.
Slot Size:	.010	in.
Top (DBGS):	8	ft.
Length:	15	ft.
SUMP		
Type:	-	
Top:	-	ft.
Length:	-	ft.
LOWER SEAL		
Type:	#6 Sand	
Top:	23	ft.
Length:	4	ft.
BACKFILL		
Type:	-	
Top:	-	ft.
Length:	-	ft.
BOTTOM OF BOREHOLE:	27	ft.

DBGS - Depth Below Ground Surface

TEST BORING REPORT

Boring No. **MW14B-04**
File No. 79032-110
Sheet No. 3 of 3

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
50		S11 50	50.0 55.0			SW											
	ND					CL	Stiff, brown, lean CLAY (CL), no odor, moist, mps: 6.4mm. TILL		5				95	N	M	M	H
55							Bottom of Exploration 55 ft.										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. **MW14B-04**

NEW USCSLIB3_DTR.GLB DELPHI.GDT G:\PROJECTS\79032\HARRISON\-110ST~1\GINT\BORINGLOGS.GPJ Jun 22, 04

TEST BORING REPORT

Boring No. MW16-R-04

Project Former Delphi Harrison Thermal Systems - Dayton, Ohio
Client REALM/GM
Contractor Boart Longyear

File No. 79032-110
Sheet No. 1 of 2
Start January 26, 2004
Finish January 26, 2004
Driller K. Smith
H&A Rep. T. Vanage
Elevation Datum
Location approx. 20 ft W of MW 16

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type		Sonic	-	Rig Make & Model: Rotosonic
Inside Diameter (in.)		3.5	-	Bit Type: Cutting Head
Hammer Weight (lb.)	-	-	-	Drill Mud: None
Hammer Fall (in.)	-	-	-	Casing: -
				Hoist/Hammer: - -

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0	ND	S-1 20	0.0 2.0		SM	Loose, dark brown to black, silty SAND with gravel (SM), slight hydrocarbon odor, moist, mps: 64 mm. -Fill-	10	20	15	10	5	40				
	ND	S-2 36	2.0 5.0		MH	Soft to medium stiff, black, sandy elastic SILT (MH), no odor, moist.		10		10	30	50	N	M	M	M
5		S-3 108	5.0 15.0													
10	ND				MH	Soft to medium stiff, black, sandy SILT with gravel (MH), hydrocarbon odor, metal piece of wire (possibly rebar), mps: 76 mm. Black oily staining from 10 to 10.4 feet.		5		15	30	50				
15		S-4 120	15.0 25.0													
	ND				SM	Loose, black, silty SAND with gravel (SM), slight hydrocarbon odor, moist, mps: 89mm. Black oily staining from 16 to 16.5 feet.	5	20		5	40	30				
20																

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (lin. ft.) 30
Rock Cored (lin. ft.) -
Samples 5

Boring No. MW16-R-04

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None
Toughness: L-Low, M-Medium, H-High
Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

NEW USCSLIB3_DTR.GLB DELPHI.GDT G:\PROJECTS\79032\HARRISON\~110ST~1\GINT\BORINGLOGS.GPJ Jun 21, 04

TEST BORING REPORT

Boring No. **MW16-R-04**
File No. 79032-110
Sheet No. 2 of 2

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20						SM											
	ND					SM	Loose, black to gray, silty SAND with gravel (SM), mps: 76 mm, slight hydrocarbon odor, moist, mps: 76 mm. Water present at 23.7 feet.	5	10	25	20	20	20				
25	ND	S-5 60	25.0 30.0			GP	Loose, brown, poorly graded GRAVEL with sand (GP), wet, no odor, mps: 89 mm.	10	75	10	5						
	ND					CL	Soft, brown to dark brown, sandy lean CLAY (CL), moist, no odor.							N-S	M	M	M
							-Bottom of Exploration at 30 feet-										
30																	

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. **MW16-R-04**

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TEST BORING REPORT

Boring No. MW17-04

Project Former Delphi Harrison Thermal Systems - Dayton, Ohio
Client REALM/GM
Contractor Boart Longyear

File No. 79032-110
Sheet No. 1 of 7
Start January 21, 2004
Finish
Driller K. Smith
H&A Rep. T. Vanage
Elevation Datum
Location Requarth north parking lot

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	Steel	Sonic	-	Rig Make & Model: Rotosonic
Inside Diameter (in.)	10	3.5	-	Bit Type: Cutting Head
Hammer Weight (lb.)	-	-	-	Drill Mud: None
Hammer Fall (in.)	-	-	-	Casing: 0-47 ft
				Hoist/Hammer: - -

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0		S-1 60	0.0 5.0		SP	-ASPHALT-										
					SP	Loose, yellow brown, medium to coarse, poorly graded SAND and gravel with cobbles, dry.	30	5	40	20	5					
	7.4				ML	Medium stiff, dark brown, gravelly sandy SILT, no odor, moist. -FILL-		10	10	10	40	30				
					SP	Loose, brown, medium to coarse SAND, no odor, mps = 2.25 in., dry.		10	40	40		10				
5		S-2 96	5.0 13.0			Similar to above with small amounts of rebar and concrete.										
					SP	Loose, brown to medium coarse SAND with large gravel and cobbles, dry. -FILL-	20	30	30	15	5					
10	4.0					Same as above, except staining and slight odor. Note: Concrete part of footer.										
15	7.7	S-3 120	15.0 25.0		SP	Loose, brown, medium to coarse SAND with coarse gravel and cobbles, no odor, moist.	25	5	10	60						
	81.5				SP	Loose, gray coarse SAND with gravel and cobbles, staining, hydrocarbon odor, mps = 5 in., wet. Water present at 17.0 feet. -FLUVIAL-										
20																

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (lin. ft.) 170
Rock Cored (lin. ft.) -
Samples
Boring No. MW17-04

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None
Toughness: L-Low, M-Medium, H-High
Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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TEST BORING REPORT

Boring No. **MW17-04**
File No. 79032-110
Sheet No. 2 of 7

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20					SP											
	8.9				SP	Loose, brown, medium to coarse SAND with gravel, no odor, mps = 1.5 in., moist.	5	20	50	25						
25		S-4 78	25.0 35.0													
	ND				GP	Brown, angular to sub-rounded GRAVEL and cobbles, no odor, mps = 4.0 in., wet.										
30	8.5				SP	Loose, brown, medium to coarse, poorly graded SAND with gravel, no odor, moist.	5	20	70	5						
35	ND	S-5 94	35.0 45.0		SP	Similar to above except larger gravel and more abundant.										
40	ND				GP	Loose, brown, coarse, sub-angular to sub-rounded GRAVEL, mps = 1.5 in., wet.										
	ND				CL	Medium stiff, red gray, silty lean CLAY (CL), no odor, mps = 1.5 in., moist.							N-S	L	M	
45		S-6 60	45.0 50.0													

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. **MW17-04**

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TEST BORING REPORT

Boring No. **MW17-04**
File No. 79032-110
Sheet No. 3 of 7

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
50		S-7 60	50.0 55.0		GP	Loose, to medium dense, brown, coarse to fine GRAVEL with silt, no odor, wet.		5	5	10	20	60				
	0.7				SP-SM	Loose, brown coarse SAND to fine gravel with silt, no odor, mps = 2.5 in., moist. -FLUVIAL-	5	15	60	15	5				
55		S-8 115	55.0 65.0													
	ND				SP-SM	Similar to above except finer sand and slight hydrocarbon odor at 56 feet.		5	15	20	60					
60																
	ND				CL	Stiff to very stiff, dark brown sandy lean CLAY, no odor, mps = 2 mm, moist.		5			10	85				
65		S-9 111	65.0 75.0													
	ND				CL	Similar to above except more sand and gravel.										
70						Similar to above. Lean clay interbedded with sand and gravel.										
					SP-SC	Loose, dark brown, coarse to medium, poorly-graded SAND with gravel, no odor, mps = 1.5 in., moist.		15	20	40	20	5				
75		S-10 139	75.0 85.0													
	1.6					Similar to above, except slightly coarse SAND with gravel.		10	40	40	10					
	1.6				SP	Medium dense to loose, dark brown, fine to medium SAND, no odor. Wet				25	75					

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. **MW17-04**

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TEST BORING REPORT

Boring No. **MW17-04**
File No. 79032-110
Sheet No. 4 of 7

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
					SP	at 74 to 80 feet. Moist from 80 to 85.										
80																
85		S-11 72	85.0 91.0		ML	Medium dense, brown, fine to very fine SAND with silt, no odor, wet. (Silt with sand).		5		15	40	40				
	1.1				CL	Hard, dark brown, lean CLAY, no odor, mps = 0.5 in. Breaks apart in layers. -TILL-		2		3	15	80	N-S	M-H	M-H	H
90						Similar to above.										
		S-12 48	91.0 95.0													
95					GM	Medium dense to loose, brown silty GRAVEL with sand, no odor, mps = 1.5 in., wet.		15	10	20	30	25				
		S-13 112	95.0 105.0													
	1.6				GM	Similar to above except no gravel, fine to medium SAND.				30	70	10				
100					SP	Loose, brown, medium to coarse, poorly-graded SAND with gravel, no odor, mps = 0.75 in., moist. -FLUVIAL-		5	70	20	5					
105	1.3	S-14 120	105.0 115.0		SP	Similar to above, except no gravel.			25	60	10	5				

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. **MW17-04**

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TEST BORING REPORT

Boring No. MW17-04
File No. 79032-110
Sheet No. 5 of 7

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
					SP											
110	1.3				SP	Similar to above.										
115	0.7	S-15 120	115.0 125.0		SP	Similar to above.			25	60	10	5				
120																
125	4.0	S-16 120	125.0 135.0		SP	Similar to above.										
130																
135	ND	S-17 120	135.0 145.0		SP	Similar to above.										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. MW17-04

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TEST BORING REPORT

Boring No. **MW17-04**
File No. 79032-110
Sheet No. 6 of 7

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
140						SP											
145	ND	S-18 120	145.0 155.0			SP	Similar to above.										
150																	
155	ND	S-19 120	155.0 165.0			SP	Similar to above.										
160							Similar to above except with 15% gravel, mps = 0.5 in.										
165	ND	S-20 60	165.0 170.0			SP	Similar to above.										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. **MW17-04**

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TEST BORING REPORT

Boring No. **MW17-04**
File No. 79032-110
Sheet No. 7 of 7

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
						SP											
170							-Bottom of Exploration at 170.0 feet.-										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. **MW17-04**

NEW USCSLIB3_DTR.GLB DELPHI.GDT G:\PROJECTS\79032\HARRISON\-110ST~1\GINT\BORINGLOGS.GPJ Jun 21, 04

TEST BORING REPORT

Boring No. MW18-04

Project Former Delphi Harrison Thermal Systems - Dayton, Ohio
Client REALM/GM
Contractor Boart Longyear

File No. 79032-110
Sheet No. 1 of 6
Start January 24, 2004
Finish February 14, 2004
Driller K. Smith
H&A Rep. / T. Vanage
Elevation Datum
Location Requarth Lumber Yard

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	Steel	Sonic	-	Rig Make & Model: Rotosonic
Inside Diameter (in.)	10	3.5	-	Bit Type: Cutting Head
Hammer Weight (lb.)	-	-	-	Drill Mud: None
Hammer Fall (in.)	-	-	-	Casing: 0-46 ft
				Hoist/Hammer: - -

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0						Concrete										
	ND	S-1 48	1.0 5.0		ML	Dark gray to gray, sandy SILT (ML), no odor, moist, mps: 76 mm. -FILL-	5	5	10	10	10	60		L	L	
	ND				ML	Black, sandy SILT with gravel (ML), no odor, moist,contains ash, mps: 51 mm. -FILL-	5	15	10	5	5	60		L	L	
	ND				CH	Yellow brown, FAT CLAY with sand (CH), no odor, moist, mps: 25 mm.		5	5	5	5	80		M	H	
5	ND	S-2 100	5.0 15.0		ML	Dark gray to gray, sandy SILT with gravel (ML), no odor, moist, mps:76 mm.	5	5	10	10	10	60			L	
	ND					Slag										
	ND				ML	Dark gray to gray, sandy SILT (ML), no odor, moist, mps: 76 mm.	5	5	10	10	10	60				
	ND				SW-SM	Light brown, well graded SAND with silt and gravel (SW-SM), moist, no odor, mps: 102 mm.	10	10	20	20	30	10				
10						slight petroleum odor, water present at 12.5'										
						-Bottom of Exploration at 150 feet-										
15	ND	S-3 120	15.0 25.0		SW-SM	Similar to above except no odor										
20																

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water
01/24/2004					12.5

Sample Identification

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (lin. ft.) 150
Rock Cored (lin. ft.) -
Samples 15

Boring No. MW18-04

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None
Toughness: L-Low, M-Medium, H-High
Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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TEST BORING REPORT

Boring No. **MW18-04**
File No. 79032-110
Sheet No. 2 of 6

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20					SW-SM											
25	ND	S-4 120	25.0 35.0		SW-SM	Similar to above										
30																
35	ND	S-5 120	35.0 45.0		SW-SM	Similar to above										
40	ND				SP-SM	Red brown, poorly graded SAND with silt (SP-SM), wet, slight petroleum odor, mps: 13 mm		5	5	10	70	10				
	ND				CL	Gray, sandy lean CLAY (CL), no odor, moist, mps: 13 mm.		10	10	10	10	60		M	M	
45		S-6 48	45.0 55.0													
	ND				CL	Medium dense, gray, sandy lean CLAY (CL), no odor, moist, mps:13 mm.							N	M	M	M

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. **MW18-04**

NEW USCSLIB3_DTR.GLB DELPHI.GDT G:\PROJECTS\79032\HARRISON\-110ST~1\GINT\BORINGLOGS.GPJ Jun 21, 04

TEST BORING REPORT

Boring No. MW18-04
File No. 79032-110
Sheet No. 3 of 6

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
50	ND				CL	Hard, gray, lean CLAY (CL), moist, no odor, mps: 19 mm.		5			5	90	N	M	M	H
	ND				SP	Loose, gray, poorly graded SAND (SP), no odor, moist, mps: 19 mm.		5	60	20	10	5				
55		S-7 120	55.0 65.0													
60	ND				CL	Hard, gray, lean CLAY (CL), no odor, moist, mps: 19 mm.		5			5	90	N	M	M	H
65		S-8 120	65.0 75.0													
	ND				SW	Loose, brown, well graded SAND (SW), no odor, moist, mps: 64 mm.		10	30	45	10	5				
70						-FLUVIAL-										
	ND				GP	Loose, brown, poorly graded GRAVELwith sand (GP), no odor, wet.	5	75	20							
	ND				SP	Medium dense, brown, poorly graded SAND (SP), no odor, moist.				5	90	5				
75	ND	S-9 120	75.0 85.0		SW	Loose, brown, well graded SAND with gravel (SW), no odor, moist, mps: 70 mm.	5	10	30	30	20	5				
	ND				SC	Medium dense, brown, clayey SAND with gravel (SC), no odor, moist, mps: 19 mm.		20		10	60	20				
	ND				SP	Loose to medium dense, brown, poorly graded SAND (SP), no odor, moist.				20	70	10				

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. MW18-04

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TEST BORING REPORT

Boring No. **MW18-04**
File No. 79032-110
Sheet No. 4 of 6

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
80					SP											
85		S-10 120	85.0 95.0													
90	ND				SP	Similar to above										
95		S-11 120	95.0 105.0													
100	ND				SP	Similar to above										
105		S-12 111	105.0 115.0													

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. **MW18-04**

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TEST BORING REPORT

Boring No. **MW18-04**
File No. 79032-110
Sheet No. 5 of 6

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
					SP											
110	ND				SP	Similar to above										
115		S-13 120	115.0 125.0													
120	ND				SP	Similar to above										
125		S-14 120	125.0 135.0													
130	ND				SP	Similar to above										
135		S-15 180	135.0 150.0													

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. **MW18-04**

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TEST BORING REPORT

Boring No. **MW18-04**
File No. 79032-110
Sheet No. 6 of 6

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
						SP											
140	ND					SP	Similar to above										
145							-Bottom of Exploration at 150 feet-										
150																	

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. **MW18-04**

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TEST BORING REPORT

Boring No. MW19-04

Project Former Delphi Harrison Thermal Systems - Dayton, Ohio
Client REALM/GM
Contractor Boart Longyear

File No. 79032-110
Sheet No. 1 of 4
Start January 31, 2004
Finish February 15, 2004
Driller S. Kizewski / K. Smith
H&A Rep. C. Barnett
Elevation Datum
Location Requarth Lumber Yard

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	Steel	Sonic	-	Rig Make & Model: Rotosonic
Inside Diameter (in.)	10	3.5	-	Bit Type: Cutting Head
Hammer Weight (lb.)	-	-	-	Drill Mud: None
Hammer Fall (in.)	-	-	-	Casing: 0-70 ft
				Hoist/Hammer: - -

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0						Concrete										
	ND	S-1 60	1.0 5.0		ML	Black, sandy SILT with gravel (ML), no odor, moist, mps: 38 mm.	5	10	10	10	5	60		L	L	
	3.7				CH	Brown, FAT CLAY with sand (CH), no odor, moist, mps: 25 mm.		5	5	5	5	80		M	H	
5	3.1	S-2 120	5.0 15.0		ML	Red brown, sandy SILT (ML), moist, no odor, mps: 13 mm.		5	5	20	10	60		L	L	
	ND					Similar to above except gray brown, mps: 76 mm.										
	ND				SW-SM	Yellow brown, well graded SAND with silt and gravel (SW-SM), no odor, moist, mps: 102 mm.										
10	ND					Similar to above except tan, water present at 10 ft..										
	ND				CL	Red brown, sandy lean CLAY with gravel (CL), no odor, moist, mps: 25 mm.	10	5	5	10		70		H	M	
15		S-3 120	15.0 25.0													
	ND				SP	Brown, poorly graded SAND (SP), no odor, moist, mps: 6 mm.		20	70	5	5					
						Lean Clay (CL) pocket from 16 to 16.5 ft.										
20	ND					Red brown, sandy lean CLAY with gravel (CL), no odor, moist, mps: 25	10	5	5	10		70				

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (lin. ft.) 95
Rock Cored (lin. ft.) -
Samples 13

Boring No. MW19-04

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None
Toughness: L-Low, M-Medium, H-High
Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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TEST BORING REPORT

Boring No. MW19-04
File No. 79032-110
Sheet No. 2 of 4

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20					CL	mm.										
	ND				SP-SM	Brown, well graded SAND with silt and gravel (SP-SM), no odor, moist,	10	5	15	50	10	10				
	ND				CL	mps: 25 mm.	10	5	5	10		70				
25		S-4 102	25.0 35.0		GW	Red brown, sandy lean CLAY with gravel (CL), no odor, moist, mps: 25 mm.	40	35	10	5	5	5				
					SM	Light brown, well graded GRAVEL with sand (GW), no odor, wet, mps: 76 mm.		5	10	60	10	15				
						Red gray, silty SAND (SW), no odor, moist, mps: 76 mm.										
					GW	Light brown, well graded GRAVEL with sand (GW), no odor, wet, mps: 76 mm.	40	35	10	5	5	5				
					SW	Light brown, well graded SAND (SW), no odor, moist, mps: 76 mm.	5		50	20	20	5				
30					GW	Light brown, well graded GRAVEL with sand (GW), no odor, wet, mps: 76 mm.	40	35	10	5	5	5				
	12.7				SW	Light brown, well graded SAND (SW), no odor, moist, mps: 76 mm.	5		50	20	20	5				
						From 35 to 59.6 ft. more cobbles present, slight petroleum odor, mps: 102 mm.										
35		S-5 120	35.0 45.0													
40	7.3															
45	10.3	S-6 60	45.0 50.0		SW	Similar to above										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. MW19-04

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TEST BORING REPORT

Boring No. **MW19-04**
File No. 79032-110
Sheet No. 3 of 4

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
50		S-7 60	50.0 55.0		SW											
55		S-8 10	55.0 60.0													
60	5.8				CL	Red brown, sandy lean CLAY with gravel (CL) no odor, moist, mps: 25mm	10	10	10	10		60				
	4.3	S-9 60	60.0 65.0		SW	-TILL- Red brown, well graded SAND (SW), slight petroleum odor, wet, mps: 38 mm.		5	50	20	20	5				
65	13.0	S-10 36	65.0 70.0		SP	Gray, poorly graded SAND with silt (SP), slight peteroleum odor, moist, mps: 25 mm.			10	70	10	10				
	9.7				CL	Red gray, sandy lean CLAY with gravel (CL), slight odor, moist, mps: 25 mm.	5	10	15	10	10	50		M-H	M	
70		S-11 60	70.0 75.0													
	ND				SM	Gray, silty SAND with gravel (SM), no odor, wet, mps: 76 mm.	10	10	20	30	15	15				
	ND				CL	Red gray, sandy lean CLAY with gravel (CL), slight odor, moist, mps: 25 mm.	5	10	15	10	10	50				
75	1.2	S-12 120	75.0 85.0		CL	Gray-brown, medium stiff-stiff, gravelly lean CLAY with sand (CL), no odor, moist, mps: 25 mm.	15	5	5	10		65	S	M	H	M
	11.7				SP-SC	Light brown, poorly graded SAND with clay (SP-SC), no odor, moist, mps: 25 mm.	5		10	65	10	10	R			
	13.6				SC	Yellow brown, clayey SAND with gravel (SC), slight petroleum odor, moist.	15	10	20	20	15	20	R			

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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TEST BORING REPORT

Boring No. **MW19-04**
File No. 79032-110
Sheet No. 4 of 4

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
						SC											
80	222.4					SP-SC	Light brown, poorly graded SAND with clay (SP-SC), no odor, moist, mps: 25 mm.	5		10	65	10	10	R			
	482.3					SC	Yellow brown, clayey SAND with gravel (SC), slight petroleum odor, moist.	15	10	20	20	15	20	R			
	450.6					CL	Yellow brown, stiff, lean CLAY with sand (CL), slight petroleum odor, moist, mps: 51 mm.	10		5	10		75	S	M	H	M
85		S-13 120	85.0 95.0														
	137.2																
90																	
	384.6					SW	Light brown, well graded SAND with gravel (SW) no odor, moist, mps: 25 mm.	5	10	20	40	20	5	R			
95							-Bottom of Exploration at 95 feet-										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. **MW19-04**

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TEST BORING REPORT

Boring No. MW20-4

Project Former Delphi Harrison Thermal Systems - Dayton, Ohio
Client REALM/GM
Contractor Boart Longyear

File No. 79032-110
Sheet No. 1 of 3
Start February 7, 2004
Finish February 7, 2004
Driller K. Smith
H&A Rep. J. Davis
Elevation Datum
Location Requarth Lumber Yard

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	Sonic		Rig Make & Model: Rotosonic
Inside Diameter (in.)	-	3.5		Bit Type: Cutting Head
Hammer Weight (lb.)	-	-	-	Drill Mud: None
Hammer Fall (in.)	-	-	-	Casing:
				Hoist/Hammer: - -

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0	ND					Asphalt SAND and GRAVEL Base Coarse Material										
	ND	S-1 44	1.0 5.0		MH	Dark-brown, sandy elastic SILT (MH), no odor, moist, black coloration and orange coloration possibly broken bricks, mps:13 mm.		5	10	10	10	65	N	L	M-H	M
	ND				MH	Dark brown, elastic SILT with sand (MH), no odor, moist, mps: coarse sand.			5	5	5	85	N	L	M-H	M
5	ND	S-2 108	5.0 15.0		ML	Gray-brown, sandy SILT (ML), no odor, moist, mps: coarse sand. -FILL-		5	5	20	70			L	N	
	ND				GW-GM	Yellow-brown, well graded GRAVEL with silt and sand (GW-GM), no odor, mps: 64 mm. Water present at 7 feet.	30	20	10	10	10	10				
	ND				CL	Gray-brown, sandy lean CLAY with gravel (CL), no odor, moist, mps: 25 mm.		15	10	10	10	55	N	L-M	M-H	H
10	ND				GW	Gray-brown, well graded GRAVEL with sand (GW), no odor, wet, mps: 25 mm.	30	40	10	10	5	5				
	ND	S-3 120	15.0 25.0		SP	Loose, brown, poorly graded SAND (SP), no odor, wet, mps: coarse sand.			10	70	15	5				
15	ND				CL	Gray-brown, sandy lean CLAY with gravel (CL), no odor, mps: 50 mm.	5	10	10	10	10	55	N	L	H	M-H
20																

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification
- O Open End Rod
- T Thin Wall Tube
- U Undisturbed Sample
- S Split Spoon
- G Geoprobe

Well Diagram
- Riser Pipe
- Screen
- Filter Sand
- Cuttings
- Grout
- Concrete
- Bentonite Seal

Summary
- Overburden (lin. ft.) 70
- Rock Cored (lin. ft.) -
- Samples 8

Boring No. MW20-4

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None
Toughness: L-Low, M-Medium, H-High
Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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TEST BORING REPORT

Boring No. MW20-4
File No. 79032-110
Sheet No. 2 of 3

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20					CL	Similar to above except at 25 dry, laminations present, becoming more gravelly.										
25		S-4 84	25.0 35.0													
	ND				SM	Gray-brown, silty SAND with gravel (SM), no odor, wet, mps: 64 mm.	5	10	15	30	25	15				
30																
	ND				SW	Loose, brown, well graded SAND (SW), no odor, moist, mps: coarse sand.			20	60	20					
	ND				SW-SM	Gray-brown, well graded SAND with silt and gravel, no odor, wet, mps: 64 mm.	5	10	25	30	20	10				
35		S-5 120	35.0 45.0													
40																
45	8.6	S-6 120	45.0 55.0		SW-SM	Similar to above except slight odor. Increase in fine gravel at 53 feet.										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. MW20-4

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TEST BORING REPORT

Boring No. **MW20-4**
File No. 79032-110
Sheet No. 3 of 3

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
50					SW-SM											
55	ND	S-7 120	55.0 65.0		SW-SM	Similar to above except no odor.										
60	ND				SC	Gray, clayey SAND (SC), no odor, moist, mps: coarse sand.			20	30	30	20				
	ND				SW-SM	Gray-brown, well graded SAND with silt (SW-SM), no odor, moist-wet, mps: 25 mm.		5	15	40	30	10				
65		S-8 60	65.0 70.0													
	ND				CL	Stiff, gray-brown, sandy lean CLAY (CL), no odor, dry. -TILL- Crumbly at 68 feet.		5	5	10	10	70				
70						-Bottom of Exploration at 70 feet-										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. **MW20-4**

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TEST BORING REPORT

Boring No. MW21-04

Project Former Delphi Harrison Thermal Systems - Dayton, Ohio
Client REALM/GM
Contractor Boart Longyear

File No. 79032-110
Sheet No. 1 of 3
Start February 9, 2004
Finish February 10, 2004
Driller K. Smith
H&A Rep. C. Barnett
Elevation Datum
Location Career Academy N lot/near bikeway

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	Sonic	-	Rig Make & Model: Rotosonic
Inside Diameter (in.)	-	3.5	-	Bit Type: Cutting Head
Hammer Weight (lb.)	-	-	-	Drill Mud: None
Hammer Fall (in.)	-	-	-	Casing: -
				Hoist/Hammer: - -

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0	ND	S-1	0.0		ML	Stiff, dark brown, gravelly SILT with sand (ML), no odor, moist, mps: 25 mm.	15	5	5	5	5	65	S	M	L	L
	ND	60	5.0		SM	Brown, silty SAND with gravel (SM), no odor, moist, mps:50 mm.	20	5	10	25	10	30				
	ND				ML	Medium stiff, dark brown, sandy SILT with gravel (ML), no odor, moist, mps: 76 mm.	10	5	5	15	5	60	N	M	L	L
	3.7				MH	Medium stiff, red-brown, elastic SILT with sand (MH), no odor, moist, mps: 76 mm.	5	10	10	10	5	60	N	M	L	L
5		S-2	5.0													
	3.3	84	15.0		SW-SM	Red brown, well graded SAND with silt and gravel (SW-SM), no odor, mosit, mps: 102 mm.	10	15	20	25	20	10				
	2.7				MH	Medium stiff, red-brown, elastic SILT with sand (MH), no odor, moist, mps: 76 mm.	5	10	10	10	5	60	N	M	L	L
10																
	ND				SW-SM	Yellow brown, well graded SAND with silt and gravel (SW-SM), petroleum odor, moist, mps: 102mm.										
15		S-3	15.0			Staining at 17 feet.										
		84	25.0													
20																

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (lin. ft.) 65
Rock Cored (lin. ft.) -
Samples 8

Boring No. MW21-04

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None
Toughness: L-Low, M-Medium, H-High
Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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TEST BORING REPORT

Boring No. MW21-04
File No. 79032-110
Sheet No. 2 of 3

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20					SW-SM											
	ND				CL	Medium stiff to stiff, dark brown, lean CLAY with sand (CL), no odor, moist,	5		5	5		85	S	M	H	M
	ND				SW-SM	mps: 25 mm. Yellow brown, well graded SAND with silt and gravel (SW-SM), petroleum odor, moist, mps: 102 mm.										
25	1.8	S-4 120	25.0 35.0		SW-SM	Red brown, well graded SAND with silt and grave (SW-SM), petroleum odor, moist, mps: 102 mm. Water present at 26.8 feet, color change to gray-brown.	10	10	20	30	20	10				
	7.3				CL	Stiff, gray-brown, lean CLAY (CL), no odor, moist, mps: 13 mm. -Till-				5	5	90	S	M	M	M
30																
	0.4				SP-SC	Gray-brown, clayey SAND, (SC), no odor, moist, mps: 25 mm.	5		10	55	10	20				
35	ND	S-5 120	35.0 45.0		CL	Medium stiff to stiff, brown, sandy lean CLAY with gravel (CL), no odor, moist, mps: 50 mm.	10	5	10	5	5	65	S	M	M	M
40	ND				SP-SC	Red-brown, poorly graded SAND with clay, gravel (SP-SC), no odor, moist, mps: 76 mm.	10	5	10	60	5	10				
	ND				CL	Medium stiff to stiff, brown, sandy lean CLAY with gravel (CL), no odor, moist, mps: 50 mm.	10	5	10	5	5	65	S	M	M	M
	ND				SC	Gray-brown, clayey SAND with gravel (SC), no odor, wet, mps:76 mm.	10	10	20	20	20	20				
45		S-6 120	45.0 55.0													

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. MW21-04

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TEST BORING REPORT

Boring No. MW21-04
File No. 79032-110
Sheet No. 3 of 3

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
50					SC											
	ND				SW	Brown, well graded SAND with gravel (SW), no odor, moist, mps: 25 mm.	10	10	25	25	25	5				
	ND				SP-SC	Brown, poorly graded SAND with clay, no odor, moist, mps: 25 mm.	5	5	10	60	10	10				
55	ND	S-7 60	55.0 60.0		SW-SC	Brown, well graded SAND with clay and gravel (SW-SC), no odor, moist, mps: 50 mm.	5	10	25	25	25	10				
60		S-8 60	60.0 65.0													
	ND				SP-SC	Brown, poorly graded SAND with clay, no odor, moist, mps: 25 mm.	5	5	15	50	15	10				
65						-Bottom of Exploration at 65 feet-										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. MW21-04

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TEST BORING REPORT

Boring No. MW22-04

Project Former Delphi Harrison Thermal Systems - Dayton, Ohio
Client REALM/GM
Contractor Boart Longyear

File No. 79032-110
Sheet No. 1 of 1
Start March 2, 2004
Finish March 2, 2004
Driller J. Robinson
H&A Rep. T. Vanage
Elevation Datum
Location approx. 10 ft S. of M7 in BLD. 12

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	Sonic	-	Rig Make & Model: Rotosonic
Inside Diameter (in.)	-	3.5	-	Bit Type: Cutting Head
Hammer Weight (lb.)	-	-	-	Drill Mud: None
Hammer Fall (in.)	-	-	-	Casing: -
				Hoist/Hammer: - -

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0	ND					Concrete										
	ND	S-1 30	1.0 4.5		MH	Medium stiff, black, sandy elastic SILT (MH), no odor, moist, mps: 63.5 mm.	5	5	5	15	20	50	N-S	M	M	L
5		S-2 48	4.5 9.5													
	ND				SW	Loose, brown, well graded SAND (SW), no odor, moist, mps: 13 mm.		5	25	30	35	5				
10		S-3 31	9.5 14.5													
	0.4				SM	Loose, brown to gray, silty SAND with gravel (SM), slight hydrocarbon odor, moist, mps: 32 mm.	5	10	20	5	35	25				
15		S-4 33	14.5 20.0													
	48.5				GW	Loose, gray, well graded GRAVEL with sand (GW), hydrocarbon odor, wet, mps: 89 mm. Water present at 17.25 ft.	30	20	30	5	10	5				
20																

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (lin. ft.) 25
Rock Cored (lin. ft.) -
Samples 5

Boring No. MW22-04

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None
Toughness: L-Low, M-Medium, H-High
Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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TEST BORING REPORT

Boring No. **MW22-04**
File No. 79032-110
Sheet No. 2 of 1

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel		Sand				Field Test			
								% Coarse	% Fine	% Coarse	% Medium	% Fine	% Fines	Dilatancy	Toughness	Plasticity	Strength
20		S-5 48	20.0 25.0			GW											
						SM	Loose, gray, silty SAND (SM), hydrocarbon odor, moist, mps: 44mm.	5	5	5	10	35	40				
25							Bottom of Exploration.										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. **MW22-04**

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TEST BORING REPORT

Boring No. MW23-04

Project Former Delphi Harrison Thermal Systems - Dayton, Ohio
Client REALM/GM
Contractor Boart Longyear

File No. 79032-110
Sheet No. 1 of 1
Start March 3, 2004
Finish March 3, 2004
Driller J. Robinson
H&A Rep. T. Vanage
Elevation Datum
Location outside near hydromation pit

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	Sonic	-	Rig Make & Model: Rotosonic
Inside Diameter (in.)	-	3.5	-	Bit Type: Cutting Head
Hammer Weight (lb.)	-	-	-	Drill Mud: None
Hammer Fall (in.)	-	-	-	Casing: -
				Hoist/Hammer: - -

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0						Concrete										
	0.4	S1 21	0.7 3.0		MH	Medium stiff, dark brown, sandy elastic SILT (MH), no odor, moist, mps: 25 mm. FILL		5	5	10	20	60	N-S	M	M	M
		S2 45	3.0 8.0													
5	ND				SM	Loose, yellow brown, silty SAND (SM), no odor, moist, mps: 38		5	15	30	30	20				
	ND	S3 20	8.0 10.0		SM	Medium dense, black, silty SAND (SM), slight hydrocarbon odor, moist, mps: 64 mm.	3	2	5	20	30	40				
	ND				SM	Concrete Similar as 7 to 8 ft.										
10	132.0	S4 60	10.0 15.0		GW	Loose, brown, well graded GRAVEL(GW), hydrocarbon odor, wet, mps: 76 mm. Water present at 10 ft.	40	60								
	132.0				SM	Loose, black, silty SAND with gravel (SM), strong hydrocarbon odor, moist, mps: 64mm.	5	10	10	20	30	30				
	64.1				CL	Stiff, light brown, lean CLAY (CL), no odor, moist, mps:13 mm.		5	5	10	10	70	S	M	M	M-H
15	ND	S5 42	15.0 20.0		SW	Loose to medium dense, light brown, well graded SAND (SW), no odor, moist, mps: 13 mm.		5		50	40	5				
20						Bottom of Exploration.										

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (lin. ft.) 20
Rock Cored (lin. ft.) -
Samples 5

Boring No. MW23-04

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None
Toughness: L-Low, M-Medium, H-High
Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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TEST BORING REPORT

Boring No. MW24-04

Project Former Delphi Harrison Thermal Systems - Dayton, Ohio
Client REALM/GM
Contractor Boart Longyear

File No. 79032-110
Sheet No. 1 of 2
Start March 3, 2004
Finish March 4, 2004
Driller J. Robinson
H&A Rep. T. Vanage
Elevation Datum
Location BLD. 7, approx. 50 ft N NE of Q34

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	Sonic	-	Rig Make & Model: Rotosonic
Inside Diameter (in.)	-	3.5	-	Bit Type: Cutting Head
Hammer Weight (lb.)	-	-	-	Drill Mud: None
Hammer Fall (in.)	-	-	-	Casing: -
				Hoist/Hammer: - -

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0		S1 24	0.0 5.0			Concrete										
						No Recovery										
	2.4				SW	Loose, black, well graded SAND (SW), no odor, moist, mps: 13 mm.		5	10	40	40	5				
5	0.6	S2 32	5.0 10.0		MH	Soft, dark brown, elastic SILT with sand (MH), no odor, moist, mps: coarse sand.				10	10	80	N-S	M	M	M
	0.9				SM	Loose, yellow brown, silty SAND (SM), no odor, moist, mps: 38mm.		5	15	30	30	20				
10		S3 30	10.0 15.0													
	0.9				MH	Similar as 5 to 9.3 ft.										
	0.9				SM	Similar as 9.3 to 12.5 ft.										
	0.5				SM	Similar as 13 to 14 ft. except gray. Water present at 15 ft.										
15		S4 52	15.0 20.0													
	0.5				CL	Stiff, light brown, lean CLAY (CL), no odor, moist, mps: 13 mm.		5	5	10	10	70	S	M	M	M-H
	ND				SW	Loose to medium dense, brown, well graded SAND (SW), no odor, moist, mps: coarse sand.			5	40	50	5				
20																

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (lin. ft.) 23
Rock Cored (lin. ft.) -
Samples 5

Boring No. MW24-04

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None
Toughness: L-Low, M-Medium, H-High
Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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TEST BORING REPORT

Boring No. **MW24-04**
File No. 79032-110
Sheet No. 2 of 2

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20		S5 24	20.0 23.0			SW											
	ND					MH	Medium stiff, brown, sandy elastic SILT (MH), no odor, moist, mps: 6.4 mm. Bottom of Exploration at 23 ft.		5	15	10	20	50	S	M	M	M

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. **MW24-04**

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TEST BORING REPORT

Boring No. MW25-04

Project Former Delphi Harrison Thermal Systems - Dayton, Ohio
Client REALM/GM
Contractor Boart Longyear

File No. 79032-110
Sheet No. 1 of 2
Start March 4, 2004
Finish March 4, 2004
Driller J. Robinson
H&A Rep. T. Vanage
Elevation Datum
Location BLD 9, approx. 5 ft. W. of W 40

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	Sonic	-	Rig Make & Model: Rotosonic
Inside Diameter (in.)	-	3.5	-	Bit Type: Cutting Head
Hammer Weight (lb.)	-	-	-	Drill Mud: None
Hammer Fall (in.)	-	-	-	Casing: -
				Hoist/Hammer: - -

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0		S1 20	0.0 5.0			Concrete										
						No Recovery										
5	2.1	S2 51	5.0 10.0		MH	Soft to medium stiff, black, sandy elastic SILT (MH), no odor, moist, mps: 51 mm.	2	3	5	10	25	55	S	M	M	L-M
	0.7				SM	Loose, brown, silty SAND (SM), no odor, moist, mps: 38 mm.	3	2	5	20	50	20				
10		S3 45	10.0 15.0													
	0.9				MH	Soft to medium stiff, black, elastic SILT with sand (MH), no odor, moist, mps: 13 mm.		10		10	15	65	N	M	M	L
	2.5				SM	Loose, brown, silty SAND (SM), slight hydrocarbon odor, moist, mps: 64 mm.	5	5	5	20	35	30				
15	0.6	S4 51	15.0 20.0		SM	Water present at 15 ft.										
20																

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (lin. ft.) 23
Rock Cored (lin. ft.) -
Samples 5

Boring No. MW25-04

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None
Toughness: L-Low, M-Medium, H-High
Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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TEST BORING REPORT

Boring No. **MW25-04**
File No. 79032-110
Sheet No. 2 of 2

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20	0.7	S5 30	20.0 23.0			SM	Similar as 11.8 to 15 ft. Bottom of Exploration										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. **MW25-04**

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TEST BORING REPORT

Boring No. MW26-04

Project Former Delphi Harrison Thermal Systems - Dayton, Ohio
Client REALM/GM
Contractor Boart Longyear

File No. 79032-110
Sheet No. 1 of 1
Start March 4, 2004
Finish March 4, 2004
Driller J. Robinson
H&A Rep. T. Vanage
Elevation Datum
Location BLD 9, approx. 10 ft. NE of V44

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	Sonic	-	Rig Make & Model: Rotosonic
Inside Diameter (in.)	-	3.5	-	Bit Type: Cutting Head
Hammer Weight (lb.)	-	-	-	Drill Mud: None
Hammer Fall (in.)	-	-	-	Casing: -
				Hoist/Hammer: - -

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0		S1 35	0.0 5.0			Concrete										
	4.0				SM	Loose, black, silty SAND (SM), no odor, moist, mps: 45 mm.		5		25	30	40				
5		S2 58	5.0 10.0													
	ND				MH	Soft, brown, elastic SILT with sand (MH), no odor, moist, mps: coarse sand.				5	15	80	S	M	M	L
	ND				SM	Loose, brown, silty SAND (SM), no odor, moist, mps: 70 mm.		10	5	25	30	30				
10		S3 56	10.0 15.0			Water present at 12 ft.										
	ND				GW	Loose, gray, well graded GRAVEL (GW), no odor, wet, mps: 51 mm.	55	40	5							
	ND				SW	Loose, gray, well graded SAND (SW), slight hydrocarbon odor, wet, mps: 51 mm.		5	30	35	25	5				
15		S4 50	15.0 20.0													
	ND				SM	Loose, gray, silty SAND with gravel (SM), no odor, wet, mps: 32mm.		15	5	25	5	20				
20						Bottom of Exploration.										

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (lin. ft.) 20
Rock Cored (lin. ft.) -
Samples 4

Boring No. MW26-04

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None
Toughness: L-Low, M-Medium, H-High
Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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TEST BORING REPORT

Boring No. MW27-04

Project Former Delphi Harrison Thermal Systems - Dayton, Ohio
Client REALM/GM
Contractor Boart Longyear

File No. 79032-110
Sheet No. 1 of 2
Start March 5, 2004
Finish March 5, 2004
Driller J. Robinson
H&A Rep. T. Vanage
Elevation Datum
Location BLD 10, approx. 30 ft. NW of S 50

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	Sonic	-	Rig Make & Model: Rotosonic
Inside Diameter (in.)	-	3.5	-	Bit Type: Cutting Head
Hammer Weight (lb.)	-	-	-	Drill Mud: None
Hammer Fall (in.)	-	-	-	Casing: -
				Hoist/Hammer: - -

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0		S1 44	0.0 5.0			Concrete										
	ND				SM	Loose, black, silty SAND (SM), no odor, moist, mps: 25mm. FILL		5	5	20	30	40				
	ND				MH	Soft to medium stiff, black, sandy elastic SILT (MH), no odor, moist, mps: coarse sand.			5	15	25	55	N-S	M	M	L-M
5		S2 45	5.0 10.0													
	0.3				SM	Loose, light brown, silty SAND (SM), no odor, moist, mps: 51mm.		10	10	25	35	20				
10		S3 43	10.0 15.0													
	189.0				SM	Similar as 9 ft. except gray and strong hydrocarbon odor.										
15	23.4	S4 52	15.0 20.0		SM	Similar as above with dark gray staining and sheen from 15 to 16 ft. Water present at 15 ft.										
	5.4				SW	Loose, gray, well graded SAND (SW), slight hydrocarbon odor, moist, mps: 6mm.		10	30	35	20	5				
20																

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (lin. ft.) 23
Rock Cored (lin. ft.) -
Samples 5

Boring No. MW27-04

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None
Toughness: L-Low, M-Medium, H-High
Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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TEST BORING REPORT

Boring No. **MW27-04**
File No. 79032-110
Sheet No. 2 of 2

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20		S5 31	20.0 23.0			SW	Bottom of Exploration 23 ft.										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. **MW27-04**

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TEST BORING REPORT

Boring No. MW28-04

Project Former Delphi Harrison Thermal Systems - Dayton, Ohio
Client REALM/GM
Contractor Boart Longyear

File No. 79032-110
Sheet No. 1 of 2
Start March 5, 2004
Finish March 8, 2004
Driller J. Robinson
H&A Rep. T. Vanage
Elevation Datum
Location approx 5 ft NW of R49 in Bld. 10

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	Sonic	-	Rig Make & Model: Rotosonic
Inside Diameter (in.)	-	3.5	-	Bit Type: Cutting Head
Hammer Weight (lb.)	-	-	-	Drill Mud: None
Hammer Fall (in.)	-	-	-	Casing: -
				Hoist/Hammer: - -

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0																
	ND	S1 52	1.0 5.0		SM	Loose, black, silty SAND (SM), no odor, moist, mps: 13 mm. FILL		5	5	20	30	40				
	0.8				MH	Medium stiff, dark brown, sandy elastic SILT (MH), no odor, moist, mps: 6.4 mm.				10	20	70	N-S	M	M	M
5		S2 55	5.0 10.0													
	2.7				SM	Loose, brown silty SAND (SM), hydrocarbon odor, moist, mps: 57mm.		5	10	15	35	35				
10		S3 52	10.0 15.0			At 11 ft color change to gray.										
	169					Dark gray staining and sheen from 14.5 to 18.5 ft.										
15	24.2	S4 47	15.0 20.0			Water saturated at 15 ft.										
	3.5					Loose, brown well graded SAND (SW)		5	10	50	30	5				
20																

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (lin. ft.) 23
Rock Cored (lin. ft.) -
Samples 5

Boring No. MW28-04

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None
Toughness: L-Low, M-Medium, H-High
Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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TEST BORING REPORT

Boring No. **MW28-04**
File No. 79032-110
Sheet No. 2 of 2

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20		S5 36	20.0 23.0			SW	Loose, brown well graded SAND (SW), slight hydrocarbon odor, moist, mps: 19mm.										
							Bottom of Exploration at 23 ft.										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. **MW28-04**

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TEST BORING REPORT

Boring No. MW29-04

Project Former Delphi Harrison Thermal Systems - Dayton, Ohio
Client REALM/GM
Contractor Boart Longyear

File No. 79032-110
Sheet No. 1 of 2
Start March 10, 2004
Finish March 10, 2004
Driller J. Robinson
H&A Rep. T. Vanage
Elevation Datum
Location BLD 10, approx. 20 ft. W 6 ft N of L49

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	Sonic	-	Rig Make & Model: Rotosonic
Inside Diameter (in.)	-	3.5	-	Bit Type: Cutting Head
Hammer Weight (lb.)	-	-	-	Drill Mud: None
Hammer Fall (in.)	-	-	-	Casing: -
				Hoist/Hammer: - -

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0		S1 20	0.0 5.0			Concrete										
	0.2				MH	Medium stiff, black, elastic SILT with sand (MH), no odor, moist, mps: 6.4mm.			5	10	25	60	N-S	M	M	L-M
5		S2 38	5.0 10.0													
	ND				SM	Loose, light brown to tan, silty SAND (SM), no odor, moist, mps: 57mm.	5	5	5	20	30	35				
10		S3 40	10.0 15.0													
	27.6				SM	Similar as 9.2 except gray and strong hydrocarbon odor.										
	14.9				GW	Water present at 14 ft. Loose, gray, well graded GRAVEL with sand (GW), strong hydrocarbon odor, wet, mps: 127mm.	25	40	20	5	5	5				
15		S4 46	15.0 20.0													
	2.0				SW-SM	Loose, gray, well graded SAND with silt and gravel (SW/SM), strong hydrocarbon odor, wet, mps: 95mm.	10	30	40	15	5	10				
	ND				SW-SM	Similar to 16 ft. except brown.										
20																

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (lin. ft.) 22
Rock Cored (lin. ft.) -
Samples 5

Boring No. MW29-04

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None
Toughness: L-Low, M-Medium, H-High
Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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TEST BORING REPORT

Boring No. **MW29-04**
File No. 79032-110
Sheet No. 2 of 2

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20		S5 20	20.0 22.0			SW-SM	Bottom of Exploration 22 ft.										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. **MW29-04**

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TEST BORING REPORT

Boring No. MW30-04

Project Former Delphi Harrison Thermal Systems - Dayton, Ohio
Client REALM/GM
Contractor Boart Longyear

File No. 79032-110
Sheet No. 1 of 1
Start March 9, 2004
Finish March 9, 2004
Driller J. Robinson
H&A Rep. T. Vanage
Elevation Datum
Location G-Lot, S of tunnel

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	Sonic	-	Rig Make & Model: Rotosonic
Inside Diameter (in.)	-	3.5	-	Bit Type: Cutting Head
Hammer Weight (lb.)	-	-	-	Drill Mud: None
Hammer Fall (in.)	-	-	-	Casing: -
				Hoist/Hammer: - -

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0		S1 41	0.0 5.0			Concrete										
	ND				SM	Loose, black, silty SAND (SM), no odor, moist, mps: 13mm. Black staining present from 4.25 to 4.4 ft.		5	5	20	40	30				
	ND				MH	Soft to medium stiff, black, elastic SILT (MH), no odor, moist, mps: 32mm.		5			10	85	N-S	M	M	M
5		S2 48	5.0 10.0													
	ND				SM	Loose, brown, silty SAND (SM), no odor, moist, mps: 57mm. Water present at 12 ft.		10	15	30	20	25				
10		S3 50	10.0 15.0													
	4.6				SW-SM	Loose, gray, well graded SAND with silt (SW/SM), strong hydrocarbon odor, wet, mps: 83mm. Sheen present at 12-18.5 ft.	5	5	30	30	20	10				
15		S4 48	15.0 20.0													
	4.6				SW	Loose, brown, well graded SAND (SW), slight hydrocarbon odor, moist, mps: 13mm.		5	5	45	40	5				
20						Bottom of Exploration 20 ft.										

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (lin. ft.) 20
Rock Cored (lin. ft.) -
Samples 4

Boring No. MW30-04

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None
Toughness: L-Low, M-Medium, H-High
Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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TEST BORING REPORT

Boring No. MW31-04

Project Former Delphi Harrison Thermal Systems - Dayton, Ohio
Client REALM/GM
Contractor Boart Longyear

File No. 79032-110
Sheet No. 1 of 2
Start March 9, 2004
Finish March 9, 2004
Driller J. Robinson
H&A Rep. T. Vanage
Elevation Datum
Location G-Lot, NE corner

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	Sonic	-	Rig Make & Model: Rotosonic
Inside Diameter (in.)	-	3.5	-	Bit Type: Cutting Head
Hammer Weight (lb.)	-	-	-	Drill Mud: None
Hammer Fall (in.)	-	-	-	Casing: -
				Hoist/Hammer: - -

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0		S1 29	0.0 5.0			Concrete										
	ND				SM	Loose, black, silty SAND (SM), no odor, moist, mps: 137 mm. FILL		15	5	20	30	40				
	ND				MH	Soft to medium stiff, black, elastic SILT (MH), no odor, moist, mps: 6.4mm.		5			5	90	S	M	L-M	M
5		S2 38	5.0 10.0													
	ND				SM	Loose, light brown, silty SAND (SM), no odor, moist, mps: 83mm.	5	5	5	25	35	25				
10		S3 42	10.0 15.0													
	18.6				SM	Similar as 9 ft. except gray with more gravel, hydrocarbon odor.										
15		S4 44	15.0 20.0			Water present at 15 ft.										
	ND				SW	Loose, brown, well graded SAND (SW)										
20																

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (lin. ft.) 23
Rock Cored (lin. ft.) -
Samples 5

Boring No. MW31-04

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None
Toughness: L-Low, M-Medium, H-High
Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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TEST BORING REPORT

Boring No. **MW31-04**
File No. 79032-110
Sheet No. 2 of 2

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel		Sand			Fines	Field Test			
								% Coarse	% Fine	% Coarse	% Medium	% Fine	% Fines	Dilatancy	Toughness	Plasticity	Strength
20	ND	S5 24	20.0 23.0			SW	Loose, brown, well graded SAND (SW), slight hydrocarbon odor, moist, mps: 13mm.		5	5	45	40	5				
							Bottom of Expolration 23 ft.										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. **MW31-04**

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STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-118-04
DATE COMPLETED: January 16, 2004
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: NATE ZIEGLER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
			3' STICK UP					
	CONCRETE		CONCRETE SEAL					
	FILL, sand and gravel, wood, cohesive, black, petroleum odor	1.00		1		1.5		0
			3 1/4" DIAMETER HOLE					
			2" DIAMETER PVC RISER	2		2.0		0
			BENTONITE CHIPS AND NATURAL COLLAPSE					
				3		3.0		0
			SAND PACK AND NATURAL COLLAPSE					
				4		4.0		
	SP/GP - SAND and GRAVEL, medium to coarse grained sand, coarse grained gravel, poorly graded, brown, moist	19.00						9.8

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 SB-105 TO 165.GPJ CRA_CORP.GDT 4/23/04

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: DELPHI HARRISON
PROJECT NUMBER: 12638-04
CLIENT: REALM / GM
LOCATION: DAYTON, OHIO

HOLE DESIGNATION: SB-118-04
DATE COMPLETED: January 16, 2004
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: NATE ZIEGLER

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE 'N' VALUE	SAMPLE PID (ppm)
22	- wet at 21.0ft BGS - increasing fines, black at 22.0ft BGS		WELL SCREEN	5				
24								
26								
28				6				
30	END OF BOREHOLE @ 30.0ft BGS	30.00	WELL DETAILS Screened interval: 14.50 to 29.50ft BGS Length: 15ft Diameter: 2in Slot Size: 10 Material: PVC Seal: 1.00 to 12.50ft BGS Material: BENTONITE CHIPS and NATURAL COLLAPSE Sand Pack: 12.50 to 30.00ft BGS Material: PREPACK SAND and NATURAL COLLAPSE					
32								
34								
36								
38								
40								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽

OVERBURDEN LOG 12638 SB-105 TO 165.GPJ CRA_CORP.GDT 4/23/04

HALEY & ALDRICH

TEST BORING REPORT

Boring No. MW-33-04

Project Former Delphi Harrison Thermal Systems - Dayton, Ohio
Client REALM/GM
Contractor Boart Longyear

File No. 79032-110
Sheet No. 1 of 5
Start November 15, 2004
Finish November 18, 2004
Driller J. Sigler
H&A Rep. T. Vanage
Elevation Datum
Location approx 30 ft. E of Bld. 27

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	Steel	Sonic	-	Rig Make & Model: Rotosonic
Inside Diameter (in.)	7	3.5	-	Bit Type: Cutting Head
Hammer Weight (lb.)		-	-	Drill Mud: None
Hammer Fall (in.)	-	-	-	Casing: -
				Hoist/Hammer: - -

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0		S1 80	0.0 7.0			CONCRETE										
					SW	Loose, brown, well graded SAND (SW), mps: 19mm, slight odor, moist.		5	20	30	40	5				
	3.5				MH	Soft to medium stiff, black, elastic SILT (ML), mps: fine sand, strong odor, moist.					5	95	N	L	L	M
5						Staining present from 2 to 15 feet bgs.										
	1.4	S2 108	7.0 17.0		MH	Similar as above.										
10																
15	6.9				SW	Loose, brown, well graded SAND (SW), with gravel, mps: 76mm, moderate odor, moist.	5	30	20	20	5					
						Pocket of gravel from 19- 20.5 ft. fine to coarse gravel.										
		S3 78	17.0 27.0			Water present at 19 feet bgs.										
20																

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water
11/19/04	800	14 hr	40	126.5	18.73

Sample Identification

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (lin. ft.) 137
Rock Cored (lin. ft.) -
Samples 17

Boring No. MW-33-04

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None
Toughness: L-Low, M-Medium, H-High
Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

NEW USCSLIB3_DTR.GLB DELPHI.GDT G:\PROJECTS\79032\HARRISON\~110ST~1\GINT\BORINGLOGS.GPJ Feb 1, 05

HALEY & ALDRICH

TEST BORING REPORT

Boring No. **MW-33-04**
File No. 79032-110
Sheet No. 2 of 5

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20					SW	Similar as above.										
25																
	4.5	S4 78	27.0 37.0		SW	Similar as above.										
30																
35																
		S5 60	37.0 42.0													
	0.8				CL	Stiff to very stiff, gray-brown, lean CLAY (CL), mps: 6mm, no odor, moist.				5	10	85	N-S	M	M	H
40																
	59.4	S6 60	42.0 47.0		SM	Medium dense to dense, red-gray SILTY SAND (SM), mps: 51mm, slight odor, moist.		5	30	30	15	20				
45					SP	Medium dense to dense, red-gray, poorly graded SAND (SP), mps: coarse sand, no odor, moist.			5	5	90	5				
	54.1	S7 60	47.0 52.0		SW	Loose, red-gray, well graded SAND (SW), mps: 51mm, slight odor, moist.		5	25	30	30	10				

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. **MW-33-04**

NEW USCSLIB3_DTR.GLB DELPHI.GDT G:\PROJECTS\79032\HARRISON\~110ST~1\GINT\BORINGLOGS.GPJ Feb 1, 05

HALEY & ALDRICH

TEST BORING REPORT

Boring No. **MW-33-04**
File No. 79032-110
Sheet No. 3 of 5

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
50					SW											
	20.7	S8 60	52.0 57.0		SW	Similar as above.										
55																
	0	S9 48	57.0 61.0		CL	Hard, gray, lean CLAY (CL), mps: 19mm, no odor, moist.		5			5	90	N	M	M	H
60																
	0	S10 65	61.0 67.0		SW	Loose, gray, well graded SAND (SW), mps: 127mm, no odor, moist.		10	30	30	20	10				
65																
	13.0	S11 102	67.0 77.0		SW	Similar as above.		10	25	35	20	10				
70	4.2				SW	Similar as above.										
75																
		S12 120	77.0 87.0		CL	Hard, gray, lean CLAY (CL), mps: 19mm, no odor, moist.		10	10	5		75	N	M	M	M-H

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

NEW USCSLIB3_DTR.GLB DELPHI.GDT G:\PROJECTS\79032\HARRISON\~110ST~1\GINT\BORINGLOGS.GPJ Feb 1, 05

HALEY & ALDRICH

TEST BORING REPORT

Boring No. **MW-33-04**
File No. 79032-110
Sheet No. 4 of 5

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
					CL											
80	11.3				SM	Loose, gray, SILTY SAND (SM), mps: 51mm, no odor, moist.		5	15	20	30	30				
85	10.1				SW	Loose, gray, well graded SAND (SW), mps: 45mm, no odor, moist.		20	40	20	10	5	S			
		S13 120	87.0 97.0													
90	6.8				SW	Similar as above.										
95		S14 120	97.0 107.0													
100	5.1				SP	Medium dense, brown, poorly graded SAND (SP), mps: 32mm, very slight odor, moist.		5		20	70	5				
105		S15 120	107.0 117.0													

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. **MW-33-04**

NEW USCSLIB3_DTR.GLB DELPHI.GDT G:\PROJECTS\79032\HARRISON\-110ST~1\GINT\BORINGLOGS.GPJ Feb 1, 05

HALEY & ALDRICH

TEST BORING REPORT

Boring No. **MW-33-04**
File No. 79032-110
Sheet No. 5 of 5

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
					SP											
110	4.4				SP	Similar as above, with small 2-5 inch pockets of medium sand (SP) at 114.5 feet bgs.										
115		S16 120	117.0 127.0													
	0				SW	Loose, brown, well graded SAND (SW), mps: 64 mm, no odor, moist.		10	40	30	15	5				
120																
125	0				SM	Similar as above except more fines, wet.		10	30	25	15	20				
	0	S17 120	127.0 137.0		CL	Stiff, brown, lean CLAY (CL), mps: 13mm, no odor, moist.		5	5			90	N	M	M	H
	0				CL	Stiff to very stiff, dark brown, lean CLAY (CL), mps: 5 mm, no odor, moist.		5	5			90	N	M	M	H
130																
135						Bottom of Exploration at 137 Feet.										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. **MW-33-04**

NEW USCSLIB3_DTR.GLB DELPHI.GDT G:\PROJECTS\79032\HARRISON\-110ST~1\GINT\BORINGLOGS.GPJ Feb 1, 05

TEST BORING REPORT

MW34-04

Project Former Delphi Harrison Thermal Systems - Dayton, Ohio
Client REALM/GM
Contractor Boart Longyear

File No. 79032-110
Sheet No. 1 of 2
Start November 16, 2004
Finish November 16, 2004
Driller J. Sigler
H&A Rep. T. Vanage
Elevation Datum
Location 40 ft. W of Webster St. 30 ft S of bike path

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	Sonic	-	Rig Make & Model: Rotosonic
Inside Diameter (in.)	-	3.5	-	Bit Type: Cutting Head
Hammer Weight (lb.)	-	-	-	Drill Mud: None
Hammer Fall (in.)	-	-	-	Casing: -
				Hoist/Hammer: - -

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0	0.8	S1 84	0.0 7.0		MH	Medium stiff to stiff, black, elastic SILT (MH), mps: 38 mm, no odor, moist.		5	5	10	10	70	S	L	L	L-M
	0.8				SM	Loose, brown, silty SAND with gravel (SM), mps: 178 mm, no odor, moist.	5	10	10	20	40	15				
5	13.9				MH	Medium stiff to stiff, black, elastic SILT (MH), mps: 38 mm, no odor, moist. some larger gravel noted		5	5	10	10	70	S	L	L	L-M
		S2 120	7.0 17.0													
10	13.9				MH	Soft, brown, elastic SILT (MH), mps: coarse sand, slight odor, moist.			5	10	15	70	S	L	L	L-M
	4.5				MH	Similar as above with pockets of sand and gravel. pieces of glass, brick fragments, and wood. FILL			5	10	15	70	S	L	L	L-M
15																
		S3 120	17.0 27.0													
20																

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification	
O	Open End Rod
T	Thin Wall Tube
U	Undisturbed Sample
S	Split Spoon
G	Geoprobe

Well Diagram: Riser Pipe, Screen, Filter Sand, Cuttings, Grout, Concrete, Bentonite Seal

Summary	
Overburden (lin. ft.)	32.5
Rock Cored (lin. ft.)	-
Samples	4

Boring No. MW34-04

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None
Toughness: L-Low, M-Medium, H-High
Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

G:\PROJECTS\79032\HARRISON\110514-1\GINTBORINGLOGS.GPJ Jan 18, 05
REV USCSJB3_DTR.GLB DELPHI.GDT

ALDRICH

TEST BORING REPORT

File No. 79032-110
Sheet No. 2 of 2

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20					MH											
25	134.0				SW-SM	Loose, dark brown, well graded SAND with silt and gravel, mps: 76 mm, strong hydrocarbon odor, wet.	10	30	15	30	5	10				
						Water present at 24.75 feet.										
		S4 60	27.0 32.0													
	39.3				SW	Similar as above except less fines.	5	25	20	30	15	5				
30	4.6				SW	Similar as above	5	25	20	30	15	5				
						Bottom of Exploration 32.5 feet.										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. MW34-04

NEW USCSLIB3_DTR.GLB DELPHI.GDT G:\PROJECTS\79032\HAR\GINT\BORINGLOGS.GPJ Jan 6, 05

TEST BORING REPORT

Boring No. MW35-05

Project Former Delphi Harrison Thermal Systems - Dayton, Ohio
Client REALM/GM
Contractor Prosonic

File No. 79032-116
Sheet No. 1 of 5
Start May 6, 2005
Finish May 12, 2005
Driller Dan O'Mara
H&A Rep. T. Correll
Elevation Datum 740.8
Location approx 10 feet NE of Day 22

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	Steel	Sonic		Rig Make & Model: Rotosonic
Inside Diameter (in.)	8	3.5		Bit Type:
Hammer Weight (lb.)	-		-	Drill Mud:
Hammer Fall (in.)	-		-	Casing: Permanent from 0-51 feet BGS.
				Hoist/Hammer:

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0						Driller used vacuum extraction from 0-3 feet to clear utilities.										
	ND	S1 36	3.0 7.0	737.8	GM	Loose, brown silty GRAVEL with sand (GM), mps: 127 mm, moist, brick fragments and debris present. FILL	25	50	5	5		15				
5				733.8	SW	Medium dense, brown, gravelly SAND (SW), mps: 102 mm, wet.	5	10	25	25	25	10				
	ND	S2 72	7.0 17.0													
10																
	ND			726.8	GW	Loose, brown to gray, well graded GRAVEL with sand (GW), mps: 102mm, wet.	40	40	20							
15																
		S3 96	17.0 27.0													
20				720.8												

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

- O Open End Rod
- T Thin Wall Tube
- U Undisturbed Sample
- S Split Spoon
- G Geoprobe

Well Diagram

- Riser Pipe
- Screen
- Filter Sand
- Cuttings
- Grout
- Concrete
- Bentonite Seal

Summary

Overburden (lin. ft.)	132
Rock Cored (lin. ft.)	
Samples	15

Boring No. MW35-05

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None
Toughness: L-Low, M-Medium, H-High
Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

NEW 116.GLB DELPHI.GDT G:\PROJECTS\79032\HARRISON\-116-S-1\GINT\GINT_116.GPJ Jul 22, 05

HALEY & ALDRICH

TEST BORING REPORT

Boring No. MW35-05
File No. 79032-116
Sheet No. 2 of 5

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Sand % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20	ND				GW	Loose, brown to gray, well graded GRAVEL with sand (GW), mps: 102mm, wet.	40	40	20							
	ND			717.8	GP	Loose, brown to gray, poorly graded GRAVEL with sand (GW), mps: 102mm, wet.	20	70	10							
25																
	ND	S4 84	27.0 37.0	712.8	SW-SM	Loose, brown, well graded silty SAND (SW/SM), mps: 76 mm, wet.			30	30	30	10				
30																
35																
	ND	S5 96	37.0 47.0	703.8	SW-SM	Loose, brown, silty well graded SAND (SW), mps: 102 mm, wet.			30	30	30	10				
40																
	ND			696.8	SW-SM	Becoming loose, brown, well graded SAND with silt and gravel (SW), mps: 76 mm, wet.	5	25	20	20	20	10				
45																
	ND	S6 24	47.0 49.0	693.8	CL	Hard, gray-brown, silty CLAY (CL), mps: 12 mm, moist to dry.		5				95	N	H	H	H

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. MW35-05

NEW 116.GLB DELPHI.GDT G:\PROJECTS\79032\HARRISON\-116-8--1\GINT\GINT_116.GPJ Jul 22, 05

HALEY & ALDRICH

TEST BORING REPORT

Boring No. MW35-05
File No. 79032-116
Sheet No. 3 of 5

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Sand % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
50					CL											
	ND	ST-1 2	51.0 52.5		CL	Permanet casing from 0-51 feet BGS. Very stiff, gray, silty CLAY (CL), mps: 76 mm, moist. Shelby tube collected.										
	ND	S7 66	52.5 57.0	687.8												
55																
	ND	S8 120	57.0 67.0	683.8	CL	Very stiff to hard, gray, silty CLAY (CL), mps: 76 mm, moist.		5				95	N	H	H	H
60																
65																
	ND	S9 120	67.0 77.0	673.8	CL	Very stiff, gray, silty CLAY (CL), moist.		10				90	N	H	H	H
70																
75	ND			665.8	SC	Stiff, gray, sandy CLAY (SC), mps: 76 mm, moist to wet.		10		10	10	70	S	M	H	H
	ND	S10 120	77.0 87.0	662.3	SM	Loose, brown and gray, silty SAND (SM), mps: 64 mm, wet.		10	25	25	25	15				

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. MW35-05

NEW 116.GLB DELPHI.GDT G:\PROJECTS\79032\HARRISON\116-S-11GINTGINT_116.GPJ Jul 22, 05

HALEY & ALDRICH

TEST BORING REPORT

Boring No. MW35-05
File No. 79032-116
Sheet No. 4 of 5

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
80				660.8	SM											
	ND					Loose, brown and gray, silty SAND (SM), mps: 64 mm, wet.		10	25	25	25	15				
85																
		S11 120	87.0 97.0													
90	ND			650.8	CL	Stiff, gray, silty CLAY (CL), mps: 38 mm, moist.		10				90	N	H	H	H
	ND			648.3	ML	Medium stiff, gray, sandy SILT (ML), wet.					10	90	S	L	M	M
95																
		S12 120	97.0 107.0													
100																
105																
	ND	S13 120	107.0 117.0	633.8	SM	Loose, gray, silty SAND (SM), mps: 64 mm, wet.	5	25	25	25	20					

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

NEW 118.GLB DELPH6.GDT G:\PROJECTS\79032\HARRISON\118-S-1\GINT\GINT_118.GPJ Jul 22, 05

HALEY & ALDRICH

TEST BORING REPORT

Boring No. MW35-05
File No. 79032-116
Sheet No. 5 of 5

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
110	ND			631.8		Similar as above		5	25	25	25	20				
	ND			628.3	SW	Loose, gray, silty SAND (SW), mps:64 mm, wet.		10	25	25	35	5				
115																
	ND	S14 108	117.0 127.0	623.8	SW	Loose to medium dense, gray, well graded SAND with gravel(SW), mps: 76 mm, wet.		10	30	30	30					
120																
125	ND			615.8	SW-SM	Similar as above except increased silt content.		15	25	25	25	10				
	ND	S15	127.0 132.5	612.8												
130																
	ND		132.5 134.0	608.3	ML	Stiff, gray, SILT (ML), mps: <2mm, moist.					100	S	L	M	L	
				606.8		Bottom of Exploration 134 feet.										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. MW35-05

NEW 116.GLB DELPHI.GDT G:\PROJECTS\79032\HARRISON\116-S-11\GINT\GINT_116.GPJ Jul 22, 05

TEST BORING REPORT

Boring No. MW36-05

Project Former Delphi Harrison Thermal Systems - Dayton, Ohio
Client REALM/GM
Contractor Prosonic

File No. 79032-116
Sheet No. 1 of 3
Start May 5, 2005
Finish May 12, 2005
Driller Dan O'Mara
H&A Rep. T. Correll
Elevation Datum 737.6
Location Taylor St. , North of Pitt St.

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	Steel	Sonic		Rig Make & Model: Rotosonic
Inside Diameter (in.)	8	3.5		Bit Type:
Hammer Weight (lb.)	-		-	Drill Mud:
Hammer Fall (in.)	-		-	Casing: Permanent from 0-49 feet BGS.
				Hoist/Hammer:

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0						Driller used vaccuum extracted for utility clearance from 0-5 feet.										
5	ND	S1 24	5.0 7.0	732.6	GW	Loose, brown, well graded GRAVEL with sand (GW), mps: 127 mm, wet.	30	40	10	10	10					
	ND	S2 120	7.0 17.0	730.6												
10	ND			727.6												
	ND			725.6												
15	ND			722.6												
	ND	S3 120	17.0 27.0	720.6	GM	Loose, light brown, silty well graded GRAVEL with sand (GM), mps: 102 mm, wet.	30	30	10	10	5	15				
20																

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification
O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

Well Diagram
Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary
Overburden (lin. ft.) 67
Rock Cored (lin. ft.)
Samples 8

Boring No. MW36-05

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None
Toughness: L-Low, M-Medium, H-High
Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

NEW 115.GLB DELPHI.GDT G:\PROJECTS\79032\HARRISON-116-8-1\GINTGINT_116.GPJ Jul 22, 05

HALEY & ALDRICH

TEST BORING REPORT

Boring No. MW36-05
File No. 79032-116
Sheet No. 2 of 3

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20	ND				GM	Loose, light brown, silty well graded GRAVEL with sand (GM), mps: 102 mm, wet.										
25	ND			712.6												
		S4 60	27.0 32.0													
30				707.6												
	ND	SP-1 12	32.0 34.0			Similar as above Simulprobe water sample taken from 32-34 feet BGS. WG-0171-050505-1410.										
				703.6												
	ND	S5 84	34.0 41.0		SM	Loose, brown, gravelly SAND with silt (SM), mps: 76 mm, wet.	10	10	25	25	10	20				
35																
40																
				696.6												
	ND	SP-2 12	41.0 43.0		SM	Medium dense, brown, silty SAND with gravel (SM), mps: 51 mm, wet. Simulprobe water sample taken from 41-43 feet BGS. WG-0171-050505-1500	5	10	20	20	30	15				
		S6 48	43.0 47.0													
45				692.6												
	ND				SM	Similar as above except more gravel.	10	20	20	20	20	10				
				691.6												
	ND				CL	Stiff, brown and gray mottling, silty lean CLAY (CL), moist to wet, becoming all gray at 46.5 feet.										
				690.6												
	ND	S7 69	47.0 57.0		GM	Loose, gray, silty GRAVEL with sand (GM), mps: 102 mm, wet. Permanent casing set at 0 to 49 feet BGS.	20	40	15	15		10				

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. MW36-05

NEW 116.GLB DELPHI.GDT G:\PROJECTS\79032\HARRISON\116-S~1\GINT\GINT_116.GPJ Jul 22, 05

HALEY & ALDRICH

TEST BORING REPORT

Boring No. MW36-05
File No. 79032-116
Sheet No. 3 of 3

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
50	ND				GM	Similar as above except more sand.	10	30	15	15	10	20				
55				682.6		Simulprobe water sample taken from 54-56 feet BGS in adjacent borehole. WG-0171-051005-1100										
		S8 120	57.0 67.0													
				678.6												
	ND				CL	Stiff to very stiff, gray, silty CLAY (CL), mps: 76 mm, moist.	5					95	N	H	H	H
60	ND															
						From 63 to 63.5 feet BGS collected clay sample for vertical hydraulic permeability testing.										
65				672.6												
				670.6		Bottom of Exploration 67 feet.										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. MW36-05

NEW 116.GLB DELPH.GDT G:\PROJECTS\79032\HARRISON-11\$-1\GINTGINT_116.GPJ Jul 22, 05

TEST BORING REPORT

Boring No. MW37-05

Project Former Delphi Harrison Thermal Systems - Dayton, Ohio
Client REALM/GM
Contractor Boart Longyear

File No. 79032-116
Sheet No. 1 of 3
Start May 12, 2005
Finish May 14, 2005
Driller Dale Remmler
H&A Rep. C. Barnett
Elevation
Datum
Location Taylor ST. 2 feet west of MW23-04

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type		S		Rig Make & Model: Dietrich D-50
Inside Diameter (in.)		2		Bit Type: Cutting Head
Hammer Weight (lb.)		140	-	Drill Mud: None
Hammer Fall (in.)		30	-	Casing:
				Hoist/Hammer:

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0						Concrete										
	41.9				SM	Loose, dark brown, silty SAND with gravel (SM), mps: 40 mm, no odor, moist, slag present.	10	10	20	20	20	20				
	300				MH	Soft, gray, elastic SILT with sand (MH), mps: medium sand, strong petroleum odor, moist.				10	10	80	S	M	M	L
	40.2				SM	Loose, gray to black, silty SAND (SM), mps:40 mm, strong petroleum odor, moist.	10	10	20	20	20	20				
5	14.1	S1 6	5.0 7.0		SM	Staining present to 4.5 feet. Loose, gray to black, silty SAND (SM), mps:40 mm, strong petroleum odor, moist.	10	10	20	20	20	20				
	5.1	S2 6	7.0 9.0		SP-SM	Staining present to 4.5 feet. Loose, brown, poorly graded SAND with gravel (SP/SM), mps: 45 mm, slight petroleum odor, dry.	5	5	10	60	10	10				
		S3 8	9.0 11.0													
10	192				GP	Loose, brown, poorly graded GRAVEL with sand (GP), mps: 50 mm, slight petroleum odor, moist. Water present at 12.5 feet.	25	50		20		5				
		S4 8	11.0 13.0													
	0.9				SM	Loose, gray, silty SAND (SM), mps: 10 mm, strong petroleum odor, wet, black staining present.		10	15	40	15	20				
		S5 0	13.0 15.0													
15		S6 14	15.0 17.0													
	0.9				SM	Medium dense, gray, silty SAND (SM), mps: fine sand, slight petroleum odor, wet.					60	40				
	5.5	S7 12	17.0 19.0													
		S8 16	19.0 21.0													
20																

Water Level Data					
Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification		Well Diagram	
O	Open End Rod		Riser Pipe
T	Thin Wall Tube		Screen
U	Undisturbed Sample		Filter Sand
S	Split Spoon		Cuttings
G	Geoprobe		Grout
			Concrete
			Bentonite Seal

Summary	
Overburden (lin. ft.)	51.5
Rock Cored (lin. ft.)	
Samples	29

Boring No. MW37-05

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None
Toughness: L-Low, M-Medium, H-High
Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

NEW USCSLIB3_DTR.GLB DELPHI.GDT G:\PROJECTS\79032\HARRISON\-118-S-1\GINT\GINT_118.GPJ Jul 19, 06

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TEST BORING REPORT

Boring No. MW37-05
File No. 79032-116
Sheet No. 2 of 3

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20	99.3				SM	Medium dense, gray, silty SAND (SM), mps: fine sand, slight petroleum odor, wet.					80	20				
	10.1	S9 14	21.0 23.0		SM	Similar as above.					80	20				
	10.1	S10 24	23.0 25.0													
25	5.5	S11 8	25.0 27.0													
	9.9	S12 6	27.0 29.0		GP	Loose, brown, poorly graded GRAVEL with sand (GP), mps: 20 mm, slight petroleum odor, wet.	25	50		20		5				
					SM	Medium dense, gray, silty SAND (SM), mps: fine sand, slight petroleum odor, wet.					80	20				
	4.7	S13 12	29.0 31.0													
30	4.4	S14 14	31.0 33.0		GP	Loose, brown, poorly graded GRAVEL with sand (GP), mps: 20 mm, slight petroleum odor, wet.	25	50		20		5				
	4.3	S15 14	33.0 35.0													
35	0.6	S16 16	35.0 37.0													
	10.1	S17 6	37.0 39.0		GM	Medium dense, light brown, silty GRAVEL (GM), 40 mm, slight pertoleum odor, wet.	65	10				25				
					SP-SM	Medium dense, brown, poorly graded SAND with silt (SP/SM), mps: medium sand, no odor wet.				80	10	10				
	5.7	S18 12	39.0 40.0													
40		0	40.0 42.0													
	6.4	S19 12	42.0 43.0													
	6.3	S20 24	43.0 45.0													
45	3.0	S21 18	45.0 47.0													
	10.1	S22 24	47.0 49.0													
		S23	49.0													

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

NEW USCSUB3_DTR.GLB DELPHI.GDT G:\PROJECTS\79032\HARRISON\-116-S~1\GINTGINT_116.GPJ Jul 19, 05

TEST BORING REPORT

Boring No. MW37-05
File No. 79032-116
Sheet No. 3 of 3

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
50		24	51.0													
	ND				CL	Very stiff, gray, lean CLAY with sand (CL), mps:10 mm, no odor, moist.		5	10	10		75	S	M	M	M
	ND	S24 12	51.0 53.0													
		S25 12	53.0 55.0													
	1.3				SC	Loose, gray, clayey SAND with gravel (SC), mps: 20 mm, no odor, wet.		20	20	20	5	35				
		S26 12	55.0 57.0													
	0.4				ML	Soft, gray, sandy SILT with gravel mps: 40 mm, no odor, wet.	5	10	10	15		60	S	M	M	L
	5.8	S27 12	57.0 59.0		SM	Medium dense, gray, silty SAND with gravel (SM), mps: 25 mm, no odor, wet.	5	10	25	30		30				
	5.0	S28 10	59.0 61.0													
		0	61.0 62.0													
	71.8	S29 24	62.0 64.0		SM	Medium dense, gray, silty SAND with gravel (SM), mps: 25 mm, no odor, wet.	5	10	25	30		30				
	0.2				CL	Very stiff, gray, lean CLAY (CL), mps: 10 mm, no odor, moist.		5		5		20	N	H	H	H
						Bottom of Exploration 64 feet.										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

NEW USCSLIB3_DTR.GLB DELPHI.GDT G:\PROJECTS\79032\HARRISONN-116-8--1\GINT\GINT_116.GPJ Jul 19, 05

TEST BORING REPORT

Boring No. MW38-05

Project Former Delphi Harrison Thermal Systems - Dayton, Ohio
Client REALM/GM
Contractor Prosonic

File No. 79032-116
Sheet No. 1 of 6
Start May 16, 2005
Finish May 26, 2005
Driller Dan O'Mara
H&A Rep. C. Barnett
Elevation Datum 735.1
Location N of Mad River on levee approx. 200 ft W of CSX railroad bridge

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	Steel	Sonic		Rig Make & Model: Rotosonic
Inside Diameter (in.)	6	3.5		Bit Type:
Hammer Weight (lb.)			-	Drill Mud:
Hammer Fall (in.)			-	Casing: Permanent from 0-63 feet BGS.
				Hoist/Hammer:

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel %	Sand %	Field Test: Plasticity	Field Test: Strength
0	ND	S1 72	0.0 6.0	734.1	ML	Dark brown, soft, SILT with sand (ML), mps: medium sand, no odor, moist. FILL			M	L
	0.2				SM	Loose, dark brown, silty SAND with gravel (SM), mps: 50 mm, no odor, moist, brick fragments present. FILL	20	80		
5	0.5			730.1	SP-SM	Loose, brown, poorly graded SAND with silt and gravel (SP/SM), mps: 50 mm, slight petroleum odor, wet at 6 feet.	30	70		
		S2 96	6.0 16.0							
10	0.3			722.1	SM	Dense, light brown, silty SAND with gravel (SM), mps: 20 mm, slight petroleum odor, moist.	15	85		
	ND			721.1	GP	Loose, dark brown, poorly graded GRAVEL (GP), mps: 80 mm, slight petroleum odor, wet.	85	15		
15		S3 48	16.0 20.0	718.1	MH	Medium stiff, gray, elastic SILT with sand (MH), mps: 50 mm, no odor, moist.	5	95	M	M
	ND									
20				715.1						

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification
O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

Well Diagram
Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary
Overburden (lin. ft.) 168
Rock Cored (lin. ft.)
Samples 20

Boring No. MW38-05

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None
Toughness: L-Low, M-Medium, H-High
Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

NEW 116.GLB DELPHI.GDT G:\PROJECTS\79032\HARRISON\-116-6-1\GINTGINT_116.GPJ Jul 22, 05

TEST BORING REPORT

Boring No. MW38-05
File No. 79032-116
Sheet No. 2 of 6

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20	ND	S4 60	20.0 25.0		MH	Medium stiff, gray, elastic SILT with sand (MH), mps: 50 mm, no odor, moist.	5	5		10		80	N	M	M	M
25		S5 72	25.0 31.0													
	4.1			707.1	SW-SM	Loose, brown, well graded SAND with silt (SW/SM), mps: 20 mm, slight petroleum odor, wet.		10	30	30	20	10				
30		S6 120	31.0 41.0													
	7.0			701.1	SW-SM	Loose, brown, well graded SAND with silt (SW/SM), mps: 20 mm, slight petroleum odor, wet.		10	30	30	20	10				
35																
40																
	0.4	S7 60	41.0 46.0	694.1	GW	Loose, brown, well graded GRAVEL with sand (GW), mps: 50 mm, slight petroleum odor, wet. Simulprobe water sample taken from 41-43 ft. WG-0908-051605-1700.	25	50		20		5				
45	0.4			690.1	SW	Loose, brown, well graded SAND with gravel (SW), mps: 30 mm, slight petroleum odor, wet.	5	10	30	30	20	5				
		S8 120	46.0 56.0													

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. MW38-05

NEW 118.GLB DELPHI.GDT G:\PROJECTS\79032\HARRISON\-118-S-1\GINT\GINT_118.GPJ Jul 22, 05

TEST BORING REPORT

Boring No. MW38-05
File No. 79032-116
Sheet No. 3 of 6

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
50	1.0			685.1	SW	Loose, brown, well graded SAND with gravel (SW), mps: 30 mm, slight petroleum odor, wet.	5	10	30	30	20	5				
						Simulprobe water sample taken from 56-58 ft. WG-0908-051605-1800.										
55	0.8	S9 72	56.0 62.0	678.6	CL	Stiff to very stiff, gray, lean CLAY with sand (CL), mps: 10 mm, no odor, moist.		5		20		75	S	M	M	M
60				673.1		Permanent casing set from 0-63 feet BGS.										
	ND	S10 72	62.0 68.0	672.1	CL	Stiff to very stiff, gray, lean CLAY with sand (CL), mps: 10 mm, no odor, moist.		5		20		75	S	M	M	M
65																
		S11 120	68.0 78.0													
70																
75	ND			659.6	GM	Loose, gray, silty GRAVEL with sand (GM), mps: 30 mm, no odor, wet.	30	30	10	10		20				
	ND			658.6	ML	Medium stiff, gray, SILT (ML), mps: 5 mm, no odor, moist.		5		5		90	S	M	M	L
	ND			657.6	CL	Stiff to very stiff, gray, lean CLAY with sand (CL), mps: 10 mm, no odor, moist.		5		20		75	S	M	M	M
		S12 120	78.0 88.0	656.1												

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. MW38-05

NEW 116.GLB DELPHI.GDT G:\PROJECTS\79032\HARRISON-116-5-11\GINTGINT_116.GPJ Jul 22, 05

HALEY & ALDRICH

TEST BORING REPORT

Boring No. MW38-05
File No. 79032-116
Sheet No. 4 of 6

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
80	ND				CL	Stiff to very stiff, gray, lean CLAY with sand (CL), mps: 10 mm, no odor, moist.		5		20		75	S	M	M	M
85																
	ND	S13 120	88.0 98.0	646.6												
	ND			646.1	ML	Medium stiff, gray, SILT (ML), mps: 5 mm, no odor, moist.		5		5		90	S	M	M	L
	ND				SM	Medium dense, gray, silty SAND (SM), mps: 20 mm, slight petroleum odor, wet.		10	30	30		30				
90	ND			645.1	CL	Very stiff, gray, lean CLAY with sand (CL), mps: 40 mm, no odor, dry to moist, very well bonded.		5		10		85	S	M	M	M
95																
	ND	S14 120	98.0 108.0	637.1												
100																
105																
		S15 120	108.0 118.0	628.1												

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

NEW 116.GLB DELPH8.GDT G:\PROJECTS\79032\HARRISON-116-S-1\GINTYGINT_116.GPJ Jul 22, 05

HALEY & ALDRICH

TEST BORING REPORT

Boring No. MW38-05
File No. 79032-116
Sheet No. 5 of 6

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
110	ND				CL	Very stiff, gray, lean CLAY with sand (CL), mps: 40 mm, no odor, dry to moist.		5		10		85	S	M	M	M
115	ND			619.6	ML	Medium stiff, gray, SILT with sand (ML), mps: 10 mm, no odor, moist.		5			10	85	S	M	M	M
	ND			618.6	CL	Very stiff, gray, lean CLAY with sand (CL), mps: 40 mm, no odor, dry to moist.		5		10		85	S	M	M	M
	ND	S16 120	118.0 128.0	616.1	SP-SM	Loose, gray, poorly gradedSAND with silt (SP/SM), mps: medium sand, no odor, wet.				90		10				
120	ND			613.6	SW	Loose, gray, well graded SAND (SW), mps: coarse sand, No odor, wet.			30	35	30	5				
	ND			611.1	ML	Stiff, gray, sandy SILT with gravel (ML), mps: 80 mm, no odor, moist.	20		5	10		65	S	L	L	L
125	ND	S17 120	128.0 138.0	604.1	SW	Loose, gray-brown, well graded SAND (SW), mps: coarse sand, no odor, wet.			25	45	25	5				
	ND			602.1	SP-SM	Loose, brown, poorly graded SAND with silt (SP/SM), mps: medium sand, no odor, wet.				90		10				
130	ND			598.6	SW	Loose, gray-brown, well graded SAND (SW), mps: coarse sand, no odor, wet.			25	45	25	5				
	ND			597.6	SP-SM	Loose, brown, poorly graded SAND with silt (SP/SM), mps: medium sand, no odor, wet.				90		10				
135	ND	S18	138.0					25	45	25	5					

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. MW38-05

NEW 116.GLB DELPH.GDT G:\PROJECTS\79032\HARRISON\-116-8-10\INTG\INT_116.GPJ Jul 22, 05

HALEY & ALDRICH

TEST BORING REPORT

Boring No. MW38-05
File No. 79032-116
Sheet No. 6 of 6

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
		120	148.0		SW	Loose, gray-brown, well graded SAND (SW), mps: coarse sand, no odor, wet.										
140				594.1												
	ND				SM	Very dense, gray, silty SAND (SM), mps: fine sand, no odor, moist.					60	40				
				591.1												
	ND				ML	Stiff, gray, SILT with sand (ML), mps: fine sand, no odor, moist.					35	65				
145																
		S19	148.0													
		120	158.0	586.1												
	ND				SW-SM	Loose, gray, well graded SAND with silt and gravel (SW/SM), mps: 40 mm, slight petroleum odor, wet.	15	5	30	20	20	10				
150																
155																
				577.1												
	ND	S20	158.0		SW	Loose, gray, well graded SAND with gravel (SW), mps: 40 mm, slight petroleum odor, wet.	15	5	20	40	20	5				
		120	168.0													
160																
165				567.1		Bottom of Exploration 168 feet										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

NEW 116.GLB DELPHI.GDT G:\PROJECTS\79032\HARRISON\-116-S-1\GINT\GINT_116.GPJ Jul 22, 05

TEST BORING REPORT

Boring No. MW39-05

Project: Former Delphi Harrison Thermal Systems - Dayton, Ohio
Client: REALM/GM
Contractor: Prosonic

File No. 79032-116
Sheet No. 1 of 6
Start: May 10, 2005
Finish: May 19, 2005
Driller: Dan O'Mara
H&A Rep.: T. Correll
Elevation Datum: 737.6
Location: Taylor St. North of Pitt St.

	Casing	Sampler	Barrel
Type	Steel	Sonic	
Inside Diameter (in.)	8	3.5	
Hammer Weight (lb.)			-
Hammer Fall (in.)			-

Drilling Equipment and Procedures
Rig Make & Model: Rotosonic
Bit Type:
Drill Mud:
Casing: Permanent from 0-62 feet BGS.
Hoist/Hammer:

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0						Drillers used vacuum extraction from 0-5 feet for utility clearance.										
				732.6												
5	ND				GW	Loose, brown, well graded GRAVEL with sand (GW), mps: 127 mm, wet.	30	40	10	10	10					
	ND			730.6												
10	ND			727.6												
	ND			725.6												
15	ND			722.6												
	ND			720.6	GM	Loose, light brown, silty well graded GRAVEL with sand (GM), mps: 102 mm, wet.	30	30	10	10	5	15				
20				717.6												

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification
O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

Well Diagram
Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary
Overburden (lin. ft.) 157
Rock Cored (lin. ft.)
Samples 14

Boring No. MW39-05

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None
Toughness: L-Low, M-Medium, H-High
Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

NEW 116.GLB DELPHI.GDT G:\PROJECTS\79032\HARRISON\-116-9-11GINTGINT_116.GPJ Jul 22, 05

HALEY & ALDRICH

TEST BORING REPORT

Boring No. MW39-05
File No. 79032-116
Sheet No. 2 of 6

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20	ND				GM	Loose, light brown, silty well graded GRAVEL with sand, mps: 102 mm, wet.	30	30	10	10	5	15				
25	ND															
30				707.6												
	ND			703.6	SM	Loose, brown, gravelly SAND with silt (SM), mps: 76 mm, wet.	10	10	25	25	10	20				
35																
40																
	ND			696.6	SM	Medium dense, brown, silty SAND with gravel (SM), mps: 51 mm, wet. Simulprobe water sample taken from 41-43 feet BGS. WG-0171-050505-1500	10	20	20	20	20	10				
45																
	ND			691.6	CL	Stiff, brown and gray mottling, silty lean CLAY (CL), moist to wet, becoming all gray at 46.5 feet.										
	ND			690.6	GM	Loose, gray, silty GRAVEL with sand (GM), mps: 102 mm, wet.	20	40	15	15		10				
	ND			688.6			20	40	15	15		10				

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. MW39-05

NEW 116.GLB DELPHI.GDT G:\PROJECTS\79032\HARRISON\-116-8-1\GINT\GINT_116.GPJ Jul 22, 05

HALEY & ALDRICH

TEST BORING REPORT

Boring No. MW39-05
File No. 79032-116
Sheet No. 3 of 6

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
50																
55		SP-1	54.0 56.0			Simulprobe water sample taken from 54-56 ft. WG-0171-051005-1100. Loose, gray, silty GRAVEL with sand (GM), mps: 102 mm, wet.										
			56.0 60.0													
	ND			678.6	CL	Stiff to very stiff, gray, silty CLAY (CL), mps: 76 mm, moist.	5					95	N	H	H	H
60		ST-1	60.0 121.5													
	1.0	S1 60	62.0 67.0	675.6	CL	Stiff, gray, lean CLAY (CL) with gravel, mps: 50 mm, slight petroleum odor, moist. Permanent casing set from 0-62 feet BGS.	15	5				80	S	M	M	M
65																
	0.2	S2 60	67.0 72.0		CL	Similar as above										
70																
	0.3	S3 60	72.0 77.0	665.6	CL	Similar as above										
75																
	1.5			661.1 660.6	SC	Dense, gray, clayey SAND (SC), mps: 40 mm, slight petroleum odor, moist.	10			55		35				
	1.7	S4 120	77.0 87.0		SW	Loose, gray, well graded SAND (SW), mps: coarse sand, slight petroleum odor, wet.			35	35	25	5				
				658.6												

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. MW39-05

NEW 116.GLB DELPH.GDT G:\PROJECTS\79032\HARRISON\-116-9-1\GINT\GINT_116.GPJ Jul 22, 05

HALEY & ALDRICH

TEST BORING REPORT

Boring No. MW39-05
File No. 79032-116
Sheet No. 4 of 6

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
80	1.7				SW	Loose, gray, well graded SAND (SW), mps: coarse sand, slight petroleum odor, wet.			35	35	25	5				
85	ND			651.6	SC	Loose, gray, clayey SAND with gravel (SC), mps: 50 mm, slight petroleum odor, wet.	10	20	20	20		30				
	ND	S5 120	87.0 97.0	650.6	SC	Simulprobe water sample taken from 87-89 ft. WG- 0908-051805-1350.										
90																
95																
	ND	S6 120	97.0 107.0	640.6	ML	Stiff, gray, sandy SILT (ML), mps:20 mm, no odor, moist.		10		10	20	60	S	M	M	L
100	ND			636.1	CL	Very stiff, gray, lean CLAY with sand (CL), mps: 20 mm, no odor, moist.		10		15		75	S	M	M	M
	ND			634.6	SC	Dense, gray, clayey sand (SC), mps: 20 mm, no odor, wet.		10		60		30				
105	ND			632.1	CL	Very stiff, gray, lean CLAY with sand (CL), mps: 20 mm, no odor, moist.		10		10		80	S	M	M	M
		S7 120	107.0 117.0													

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

NEW 115.GLB DELPHI.GDT G:\PROJECTS\79032\HARRISON-118-S-11\GINT\GINT_116.GPJ Jul 22, 05

HALEY & ALDRICH

TEST BORING REPORT

Boring No. MW39-05
File No. 79032-116
Sheet No. 5 of 6

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	Sand % Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
				628.1	CL											
110	ND				SC	Loose, gray, clayey SAND with gravel (SC), mps: 30 mm, no odor, wet.	5	10	25	20	20	20				
	ND			627.1	ML	Medium stiff, gray, SILT with sand (ML), mps: 20 mm, slight petroleum odor, moist.		10		15		75	S	M	M	M
				623.1												
115	ND				SC	Loose, gray, clayey SAND with gravel (SC), mps: 30 mm, slight petroleum odor, wet.	10	15	30	25		20				
	ND			622.1	CL	Very stiff, gray, lean CLAY with sand (CL), mps: 20 mm, no odor, moist.		10		10		80	S	M	M	M
	0.1			621.6	SP	Loose, gray, poorly graded SAND (SP), mps: medium sand, no odor, moist.				95		5				
		S8 120	117.0 127.0													
120	0.2			616.6	SW	Loose, brown, well graded SAND with gravel (SW), mps: 40 mm, slight petroleum odor, wet.	10	10	25	25	25	5				
	0.3			612.6	SP	Loose, gray, poorly graded SAND (SP), mps: medium sand, no odor, moist.				95		5				
	0.2	S9 60	127.0 132.0	610.1	SW	Loose, gray-brown, well graded SAND (SW), mps: 20 mm, slight petroleum odor, wet.		10	30	30	25	5				
125	0.5			608.6	SW-SM	Loose, brown, well graded SAND with silt (SW/SM), mps: 40 mm, slight petroleum odor, moist.	5	15	30	30	10	10				
	0.4	S10 60	132.0 137.0	604.6	GW-GM	Loose, brown, well graded GRAVEL with sand and silt (GW/GM), mps: 50 mm, slight petroleum odor, wet.										
130	0.6			602.1	SW-SM	Loose, brown, well graded SAND with silt (SW/SM), mps: 40 mm, slight petroleum odor, moist.										
	ND	S11 60	137.0 142.0	599.6			30	65				5				

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. MW39-05

NEW 116.GLB DELPHI.GDT G:\PROJECTS\79032\HARRISON\-118-S--1\GINT\GINT_118.GPJ Jul 22, 05

HALEY & ALDRICH

TEST BORING REPORT

Boring No. MW39-05
File No. 79032-116
Sheet No. 6 of 6

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
				597.6	GW	Loose, brown, well graded GRAVEL (GW), mps: 60 mm, slight petroleum odor, wet.										
140	0.3				SW	Loose, gray-brown, well graded SAND (SW), mps: 20 mm, slight petroleum odor, wet.		10	30	30	25	5				
		S12 60	142.0 147.0													
145				590.6	SP	Dense, brown, poorly graded SAND (SP), mps: medium sand, no odor, wet.				95		5				
	ND	S13 60	147.0 152.0													
150																
	ND	S14 60	152.0 157.0	584.6	SW-SM	Loose, well graded SAND with silt (SW/SM), mps: 30 mm, slight petroleum odor, wet.	5	15	25	25	20	10				
155				580.6		Bottom of Exploration 157 feet.										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. MW39-05

NEW 116.GLB DELPHI.GDT G:\PROJECTS\79032\HARRISON\116-S-1\GINTVGINT_116.GPJ Jul 22, 05

TEST BORING REPORT

Boring No. MW-40-05

Project Former Delphi Harrison Thermal Systems - Dayton, Ohio
Client REALM/GM
Contractor Prosonic

File No. 79032-118
Sheet No. 1 of 3
Start June 23, 2005
Finish June 23, 2005
Driller Del Cunningham
H&A Rep. C. Barnett
Elevation Datum 739.7
Location approx. 15 ft. NE of MW-33-04

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	Sonic		Rig Make & Model: Rotosonic
Inside Diameter (in.)	-	3.5		Bit Type:
Hammer Weight (lb.)			-	Drill Mud:
Hammer Fall (in.)			-	Casing:
				Hoist/Hammer:

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0	ND		0.0 5.0	739.2		Concrete Medium dense, dark brown to black, sand, gravel, slag, fines. Fill										
	ND			735.7	ML	Soft, brown to dark brown, sandy SILT with gravel (ML), mps:50 mm, strong petroleum odor, moist.	10	10		20		60	S	L	L	N
5		S1 12	5.0 6.0	733.7												
	ND	S2 128	6.0 17.0		MH	Soft, black, elastic SILT with sand (MH), mps: medium sand, strong petroleum odor, moist.				15		85	S	M	M	M
10				726.2												
	ND				GW	Loose, brown, well graded gravel (GW), mps:80 mm, slight petroleum odor, wet.	25	50	20			5				
15	ND			724.7	SW	Loose, brown, well graded SAND with gravel (SW), mps:20 mm, slight petroleum odor, wet.		20	25	25	25	5				
		S3 120	17.0 27.0													
20				719.7												

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification
O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

Well Diagram
Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary
Overburden (lin. ft.) 55.75
Rock Cored (lin. ft.)
Samples 10

Boring No. MW-40-05

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None
Toughness: L-Low, M-Medium, H-High
Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

NEW 115.GLB DELPHI.GDT G:\PROJECTS\79032\HARRISON-118-S~1\GINTG\INT_116.GPJ Jul 22, 05

TEST BORING REPORT

Boring No. MW-40-05
File No. 79032-118
Sheet No. 2 of 3

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20	ND				SW	Loose, brown, well graded SAND with gravel (SW), mps:20 mm, slight petroleum odor, wet.		20	25	25	25	5				
25		S4 120	27.0 37.0													
30	ND			707.7	SW	Similar as above										
35	1.3			704.7	SW	Similar as above										
		S5 48	37.0 41.0	701.7												
	ND															
40	ND					Similar as above										
	ND	S6 48	41.0 45.0	698.7												
45	ND	S7 24	45.0 47.0	694.7												
	ND	S8 24	47.0 49.0	692.7												
		S9	49.0	690.7												

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. MW-40-05

NEW 115 GLB DELPHI.GDT G:\PROJECTS\79032\HARRISON\-118-S~1\GINT\GINT_118.GPJ Jul 22, 05

HALEY & ALDRICH

TEST BORING REPORT

Boring No. MW-40-05
File No. 79032-118
Sheet No. 3 of 3

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
50	7.6	24	51.0	689.7	SW	Loose, brown, well graded SAND with gravel (SW), mps:20 mm, slight petroleum odor, wet.		20	25	25	25	5				
		S10 48	51.0 55.0													
	3.0			686.2	CL	Medium stiff, gray, lean CLAY with sand (CL), mps: 10 mm, no odor, moist.		5		15		80	S	M	M	M
55				683.9		Bottom of Exploration 55.75 feet.										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. MW-40-05

NEW 115.GLB DELPHI.GDT G:\PROJECTS\79032\HARRISON\-118-S-1\GINT\GINT_118.GPJ Jul 22, 05

HALEY & ALDRICH

TEST BORING REPORT

Boring No. MW-41-05

Project Former Delphi Harrison Thermal Systems - Dayton, Ohio
Client REALM/GM
Contractor Prosonic

File No. 79032-118
Sheet No. 1 of 3
Start June 24, 2005
Finish June 27, 2005
Driller Del Cunningham
H&A Rep. C. Barnett
Elevation Datum 744.5
Location approx. 10 ft. NE of MW-17-04

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	steel	Sonic		Rig Make & Model: Rotosonic
Inside Diameter (in.)	6	3.5		Bit Type:
Hammer Weight (lb.)			-	Drill Mud:
Hammer Fall (in.)			-	Casing: Permanent from 0-50 feet bgs.
				Hoist/Hammer:

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0	ND				FILL	Sand and gravel, brown, no odor, moist, bricks, concrete pieces FILL										
5	ND	S1 148	5.0 18.0	739.5		Concrete, part of footer										
	0.8			737.5	FILL	Sand, gravel, fines, brown to dark brown, strong petroleum odor, bricks, concrete.										
10				733.5		Concrete, part of footer										
	5.9			731.5	GM	Loose, brown, silty GRAVEL with sand (GM), mps: 60 mm, slight petroleum odor, moist.	40	20	10	10		20				
15		S2 66	18.0 28.0	725.5												
	0.2			724.5	GW	Loose, gray-brown, well graded GRAVEL (GW), mps: 50 mm, slight petroleum odor, wet.	40	50	5			5				
20																

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (lin. ft.) 68
Rock Cored (lin. ft.)
Samples 5

Boring No. MW-41-05

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None
Toughness: L-Low, M-Medium, H-High
Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

NEW 116.GLB DELPHI.GDT G:\PROJECTS\79032\HARRISON\-116-5-1\GINT\GINT_116.GPJ JUl 22, 05

TEST BORING REPORT

Boring No. MW-41-05
File No. 79032-118
Sheet No. 2 of 3

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20	ND				GW	Loose, gray-brown, well graded GRAVEL (GW), mps: 50 mm, slight petroleum odor, wet.	40	50	5			5				
				720.0												
25	ND				SP	Loose, brown, poorly graded SAND (SP), mps:5 mm, no odor, wet.		5		90		5				
		S3 60	28.0 38.0													
30	ND															
				712.5												
35	0.5			709.5	SP	Similar as above										
		S4 120	38.0 48.0													
40	0.2			703.5												
45	0.2			698.5												
				696.6												
	0.5	S5 24	48.0 50.0		CL	Medium stiff, light brown, lean CLAY with sand (CL), mps: 20 mm, no odor, moist.		5	10	10		75	S	M	M	M

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

NEW 116.GLB DELPHI.GDT G:\PROJECTS\79032\HARRISON\-116-B--1\GINTGINT_116.GPJ Jul 22, 05

HALEY & ALDRICH

TEST BORING REPORT

Boring No. MW-41-05
File No. 79032-118
Sheet No. 3 of 3

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
50	0.6	S6 96	50.0 58.0	694.5	CL	Medium stiff, light brown, lean CLAY with sand (CL), mps: 20 mm, no odor, moist.										
	7.1			693.5	SC	Permanent casing at 50 feet.	10	10	20	25	20	15				
						Loose, gray-brown, clayey SAND with gravel (SC), mps: 20 mm, slight petroleum odor, wet.										
55	5.6			687.5												
		S7 120	58.0 68.0													
	6.2															
60				682.5												
	1.2															
65				678.5												
	ND				CL	Medium stiff, gray, lean CLAY with sand (CL), mps: 10 mm, slight petroleum odor, moist.		5	10	10		75	S	M	M	M
				676.5		Bottom of Exploration 68 feet.										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. MW-41-05

NEW 116 GLB DELPHI GDT G:\PROJECTS\79032\HARRISON\-118-S-1\GINT\GINT_116.GPJ Jul 22, 05

TEST BORING REPORT

Boring No. MW-42-05

Project Former Delphi Harrison Thermal Systems - Dayton, Ohio
Client REALM/GM
Contractor Prosonic

File No. 79032-118
Sheet No. 1 of 3
Start June 25, 2005
Finish July 5, 2005
Driller Del Cunningham
H&A Rep. C. Barnett
Elevation Datum 738.2
Location approx. 10 feet W of MW-18-04

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	Steel	Sonic		Rig Make & Model: Rotosonic
Inside Diameter (in.)	6	3.5		Bit Type:
Hammer Weight (lb.)			-	Drill Mud:
Hammer Fall (in.)			-	Casing: Permanent from 0-48 feet.
				Hoist/Hammer:

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Sand % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0		S1 84	0.0 7.0	737.2		Concrete										
				736.7		Crushed gravel										
	ND				ML	Soft, dark brown, SILT with sand (ML), mps: 20 mm, no odor, moist, brick fragments present. FILL		10	5	10		75	S	M	M	L
5																
		S2 122	7.0 18.0													
10				726.2												
	0.3				GW	Loose, dark brown, well graded GRAVEL with sand (GW), mps: 100 mm, slight petroleum odor, wet.	35	30	15	15		5				
15				723.2												
	1.5				SW	Loose, brown, well graded SAND (SW), mps: 5 mm, slight petroleum odor, wet.		5	30	30	30	5				
	1.8			722.2	GW	Loose, dark brown, well graded GRAVEL with sand (GW), mps: 100 mm, slight petroleum odor, wet.	35	30	15	15	20	5				
		S3 120	18.0 28.0													
20				718.2												

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (lin. ft.) 67
Rock Cored (lin. ft.)
Samples 7

Boring No. MW-42-05

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None
Toughness: L-Low, M-Medium, H-High
Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

NEW 116.GLB DELPHI.GDT G:\PROJECTS\79032\HARRISON-118-B-1\GINTGINT_116.GPJ Jul 22, 05

HALEY & ALDRICH

TEST BORING REPORT

Boring No. MW-42-05
File No. 79032-118
Sheet No. 2 of 3

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20	ND				SW	Loose, dark brown, well graded SAND with gravel (SW), mps: 100 mm, slight petroleum odor, wet.	5	10	20	40	20	5				
25	1.3			713.2												
	ND	S4 120	28.0 38.0	710.2	SW											
30																
35	1.0			703.2	SW											
	0.2	S5 120	38.0 48.0	700.2	SW											
40	0.2			697.7	GW	Loose, gray-brown, well graded GRAVEL (GW), mps: 40 mm, slight petroleum odor, wet.	20	65	10			5				
	8.0			694.2	SC	Medium dense, brown, poorly graded SAND with clay (SC), mps: medium sand, slight petroleum odor, wet.				90		10				
45	ND			691.7	CL	Hard, gray, lean CLAY with sand (CL), mps: 20 mm, no odor, moist. Permanent casing at 48 feet.		5	10	10		75	S	M	M	H
		S6 0	48.0 57.0	690.2		TILL Sample lost out of core barrel - Washed out during recovery attempts.										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. MW-42-05

NEW 116.GLB DELPHI.GDT G:\PROJECTS\79032\HARRISON-116-S-1\GINTVGINT_116.GPJ Jul 22, 05

HALEY & ALDRICH

TEST BORING REPORT

Boring No. MW-42-05
File No. 79032-118
Sheet No. 3 of 3

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Sand % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
50	ND			688.2	CL	Hard, gray, lean CLAY with sand (CL), mps: 20 mm, no odor, moist. Permanent casing at 48 feet. TILL		5	10	10		75	S	M	M	H
55	ND	S7 60	57.0 62.0	681.2	SW-SC	Loose, gray, well graded SAND with clay and gravel (SW/SC), mps: 40 mm, slight petroleum odor, wet.	5	10	25	30	20	10				
60	ND		62.0 67.0	676.2	CL	Hard, gray, sandy lean CLAY (CL), mps: 30 mm, slight petroleum odor, moist.	5	10	10	5		70	S	M	M	M
65				671.2		Bottom of Exploration 67 feet.										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. MW-42-05

NEW 115 GLB DELPHI.GDT G:\PROJECTS\79032\HARRISON\-118-S--1\GINT\GINT_118.GPJ Jul 22, 05

TEST BORING REPORT

Boring No. MW-43-05

Project Former Delphi Harrison Thermal Systems - Dayton, Ohio
Client REALM/GM
Contractor Prosonic

File No. 79032-118
Sheet No. 1 of 4
Start June 26, 2005
Finish July 8, 2005
Driller Del Cunningham
H&A Rep. C. Barnett
Elevation Datum 735.8
Location Approx 8 feet N of Day 7

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	Steel	Sonic		Rig Make & Model: Rotosonic
Inside Diameter (in.)	6	3.5		Bit Type:
Hammer Weight (lb.)			-	Drill Mud:
Hammer Fall (in.)			-	Casing: Permanent from 0-58 feet.
				Hoist/Hammer:

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0	ND	S1 96	0.0 8.0	734.3		Asphalt / sand and gravel										
	ND				SM	Medium dense, dark brown, silty SAND with gravel (SM), mps: 60 mm, slight petroleum odor, moist, brick and glass fragments. FILL	10	10	20	40		20				
5				728.8												
	ND				MH	Soft, dark brown, elastic SILT with sand (MH), mps: 80 mm, no odor, moist.	5	5		15		75	S	M	M	M
		S2 120	8.0 18.0	726.3												
10	28.2				GW	Loose, brown, well graded GRAVEL with sand (GW), mps: 90 mm, slight petroleum odor, wet.	50	25	10	10		5				
				723.8												
	8.3				CL	Hard, gray, sandy lean CLAY with gravel (CL), mps: 100 mm, no odor, moist.	5	10	10	10		65	S	M	M	M
15																
	ND			718.8												
		S3 120	18.0 28.0													
20				715.8												

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (lin. ft.) 91
Rock Cored (lin. ft.)
Samples 10

Boring No. MW-43-05

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None
Toughness: L-Low, M-Medium, H-High
Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

NEW 116 GLB DELPHI GDT G:\PROJECTS\79032\HARRISON\-118-S-11GINTGINT_116.GPJ Jul 22, 05

HALEY & ALDRICH

TEST BORING REPORT

Boring No. MW-43-05
File No. 79032-118
Sheet No. 2 of 4

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20	ND				CL	Hard, gray, sandy lean CLAY with gravel (CL), mps: 100 mm, no odor, moist.	5	10	10	10		65	S	M	M	M
				710.8												
25	ND				SP-SC	Loose, gray, poorly graded SAND with clay (SP/SC), mps: 30 mm, no odor, moist.	5	5	20	60		10				
				707.8												
	ND	S4 96	28.0 38.0		GW	Loose, brown, well graded GRAVEL (GW), mps: 120 mm, no odor, wet.	50	35	10			5				
30																
	1.8			702.8												
35																
	1.5			698.3												
		S5 84	38.0 48.0		SP-SC	Loose, brown, poorly graded SAND with clay (SP/SC), mps: medium sand, no odor, wet.				90		10				
40																
	1.5			693.8	GW	Loose, brown, well graded GRAVEL (GW), mps: 120 mm, no odor, wet.	50	35	10			5				
	1.8			692.8	SW	Loose, brown to gray brown, well graded SAND (SW), mps: 20 mm, slight petroleum odor, wet.										
45																
		S6 120	48.0 58.0													
	10.8			686.8												

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. MW-43-05

NEW 116.GLB DELPHI.GDT G:\PROJECTS\79032\HARRISON\118-S-1GINTGINT_116.GPJ Jul 22, 05

HALEY & ALDRICH

TEST BORING REPORT

Boring No. MW-43-05
File No. 79032-118
Sheet No. 3 of 4

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
50	20.9			685.8	SW	Similar as above.										
55	2.5			680.8	CL	Hard, gray, lean CLAY with sand (CL), mps: 40 mm, no odor, moist.		10	5	10		75	S	M	M	M
	ND	S7 84	58.0 68.0	677.8		Permanent casing at 58 feet.										
60																
	ND			672.3	ML	Medium stiff, gray SILT (ML) with sand, mps: medium sand, no odor, moist.				25		75	S	M	L	L
65	ND			670.8	CL	Hard, gray, lean CLAY with sand (CL), mps: 40 mm, no odor, moist.		10	5	10		75	S	M	M	M
	ND			670.3	SC	Dense, gray clayey SAND (SC), mps: medium sand, no odor, moist.				65		35				
	ND	S8 96	66.0 76.0	669.8	CL	Hard, gray, lean CLAY with sand (CL), mps: 40 mm, no odor, moist.		10	5	10		75	S	M	M	M
	ND			668.8	SC	Dense, gray clayey SAND (SC) with gravel, mps: 40 mm, no odor, wet.	10	10	20	25		35				
70																
75																
	ND	S9 120	76.0 86.0	658.8	SP-SC	Loose, brown, poorly graded SAND (SP-SC) with clay, mps: medium sand, no odor, wet.				90		10				

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. MW-43-05

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HALEY & ALDRICH

TEST BORING REPORT

Boring No. MW-43-05
File No. 79032-118
Sheet No. 4 of 4

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	Sand % Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
80				655.8	SP-SC											
	ND				SP-SC	Loose, brown, poorly graded SAND (SP-SC) with clay, mps: medium sand, no odor, wet.				90		10				
85		S10 60	86.0 91.0													
90				644.8		Bottom of Exploration at 91 Feet										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. MW-43-05

NEW 115.GLB DELPHI.GDT G:\PROJECTS\79032\HARRISON\-118-S-1\GINT\GINT_118.GPJ Jul 22, 05

TEST BORING REPORT

Boring No. MW-44-05

Project Former Delphi Harrison Thermal Systems - Dayton, Ohio
Client REALM/GM
Contractor Prosonic

File No. 79032-118
Sheet No. 1 of 4
Start June 27, 2005
Finish July 6, 2005
Driller Del Cunningham
H&A Rep. C. Barnett
Elevation 738.4
Datum
Location Approx. 10 ft. SW of MW-11-03

	Casing	Sampler	Barrel
Type	Steel	Sonic	
Inside Diameter (in.)	6	3.5	
Hammer Weight (lb.)			-
Hammer Fall (in.)			-

Drilling Equipment and Procedures
Rig Make & Model: Rotosonic
Bit Type:
Drill Mud:
Casing: Permanent from 0-46
Hoist/Hammer:

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0				737.4		Concrete										
	ND				ML	Soft, dark brown, SILT with sand (ML), mps:50 mm, no odor, moist, brick fragments. FILL		5	15	10	5	65	S	M	M	L
5																
		S1 120	7.0 17.0													
	5.5			729.4	ML											
10	ND			728.4	GW	Loose, brown, well graded gravel (GW), mps: 100 mm, slight petroleum odor, moist.	15	30	20	20	10	5				
				723.4												
15	ND				SW	Loose, brown, well graded SAND (SW), mps: 50 mm, no odor, moist.		10	40	30	15	5				
	ND	S2 120	17.0 27.0	721.4												
20				718.4												

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification
O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

Well Diagram
Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary
Overburden (lin. ft.) 81
Rock Cored (lin. ft.)
Samples 8

Boring No. MW-44-05

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None
Toughness: L-Low, M-Medium, H-High
Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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HALEY & ALDRICH

TEST BORING REPORT

Boring No. MW-44-05
File No. 79032-118
Sheet No. 2 of 4

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20	ND				SW	Loose, brown, well graded SAND (SW), mps: 50 mm, no odor, moist.		10	40	30	15	5				
				714.9												
	0.8				SP	Loose to medium dense, brown, poorly graded SAND (SP), mps: 20 mm, no odor, moist.		5	15	60	15	5				
				713.9												
25	6.2				SW	Loose, brown, well graded SAND (SW), mps: 50 mm, no odor, moist.		10	40	30	15	5				
				711.4												
	0.4	S3 48	27.0 37.0		SW											
30																
35	3.3			703.4	SW											
				701.4												
	1.2	S4 120	37.0 47.0		SW											
40	3.9			698.4	SP	Loose, brown, poorly graded SAND (SP), mps: medium sand, slight petroleum odor, wet.				95		5				
				693.9												
45	ND				CL	Hard, gray, lean CLAY with sand (CL), mps: 30 mm, no odor, moist. Permanent casing at 46 feet.		5	10	10		75	S	M	M	M
				691.4		Similar as above										
	6.1	S5 108	47.0 56.0													
				688.9												

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. MW-44-05

NEW 116 GLB DELPHI.GDT G:\PROJECTS\79032\HARRISON\-118-S--1\GINT\GINT_118.GPJ Jul 22, 05

HALEY & ALDRICH

TEST BORING REPORT

Boring No. MW-44-05
File No. 79032-118
Sheet No. 3 of 4

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Sand % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
50	11.7				SW	Loose, gray, well graded SAND with gravel (SW), mps: 30 mm, slight petroleum odor, wet.	10	10	25	40	10	5				
55	1.3			684.4												
	ND	S6 120	56.0 66.0	681.4												
60	ND			676.9	CL	Hard, gray, lean CLAY with sand (CL), mps: 30 mm, no odor, moist.		10	5	10		75	S	M	M	M
65	3.2	S7 120	66.0 76.0	671.4	SP-SC	Loose, gray, poorly graded SAND with clay (SP/SC), mps: medium sand, slight petroleum odor, moist.				90		10				
	4.4			669.4	SW	Loose, gray, well graded SAND with gravel (SW), mps: 20 mm, slight petroleum odor, wet.	5	10	20	40	20	5				
70	ND			663.9	SP-SC	Similar to 67-69 feet.										
75	ND			662.9												
	ND			662.4	ML	Medium stiff, gray, SILT with sand (ML), slight petroleum odor, moist.				25		75	N	L	L	M
	ND	S8 60	76.0 81.0		CL	Hard, gray, sandy lean CLAY (CL), mps:30 mm, slight petroleum odor, moist.		10	10	10		70	S	M	M	M

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. MW-44-05

NEW 116.GLB DELPHI.GDT G:\PROJECTS\79032\HARRISON\-116-S-1\GINT\GINT_116.GPJ Jul 22, 05

HALEY & ALDRICH

TEST BORING REPORT

Boring No. MW-44-05
File No. 79032-118
Sheet No. 4 of 4

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
					658.4	CL											
80	ND					SC	Loose, brown, clayey SAND (SC), mps: 10 mm, slight petroleum odor, wet.		10	20	30	15	25				
					657.4		Bottom of Exploration 81 feet.										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. MW-44-05

NEW 116.GLB DELPHI.GDT G:\PROJECTS\79032\HARRISON\-118-S-1\GINT\GINT_116.GPJ Jul 22, 05

TEST BORING REPORT

Boring No. MW-45-05

Project: Former Delphi Harrison Thermal Systems - Dayton, Ohio
Client: REALM/GM
Contractor: Prosonic

File No. 79032-118
Sheet No. 1 of 4
Start June 29, 2005
Finish July 5, 2005
Driller Del Cunningham
H&A Rep. C. Barnett
Elevation Datum 743.9
Location Approx. 12 ft WNW of MW-17-04

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	Steel	Sonic		Rig Make & Model: Rotosonic
Inside Diameter (in.)	6	3.5		Bit Type:
Hammer Weight (lb.)			-	Drill Mud:
Hammer Fall (in.)			-	Casing: Permanent from 0-51.5 feet.
				Hoist/Hammer:

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0				743.7		Asphalt										
				742.9		Crushed gravel										
					FILL	Dark brown, dense, sand and gravel, bricks, blocks, concrete, and glass. FILL										
5		S1 156	5.0 18.0	738.4		Concrete Footer										
				735.9												
					FILL	Sand and gravel, bricks, and wood. FILL										
10	10.8			730.4												
				729.4		Concrete Footer										
15	52.7			728.4	GW-GC	Loose, brown, well graded with GRAVEL with clay and sand (GW/GC), mps: 40 mm, slight petroleum odor, moist.	40	25	10	10		15				
				725.9												
	199	S2 120	18.0 28.0			Water present at 18 feet, black staining to 25 feet.										
20				723.9												

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification
O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

Well Diagram
Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary
Overburden (lin. ft.) 90
Rock Cored (lin. ft.)
Samples 9

Boring No. MW-45-05

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None
Toughness: L-Low, M-Medium, H-High
Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

NEW 116.GLB DELPHI.GDT G:\PROJECTS\79032\HARRISON\-118-S~1\GINT\GINT_116.GPJ Jul 22, 05

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TEST BORING REPORT

Boring No. MW-45-05
File No. 79032-118
Sheet No. 2 of 4

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20	96.4				GW-GC	Loose, brown, well graded with GRAVEL with clay and sand (GW/GC), mps: 40 mm, slight petroleum odor, moist.	40	25	10	10		15				
	30.0			722.4	GW-GC							15				
25	18.7			718.9	GP	Loose, gray, poorly graded GRAVEL (GP), mps: 30 mm, strong petroleum odor, wet.	10	85				5				
	ND	S3 36	28.0 38.0	715.9	SW-SC	Loose, brown, well graded SAND with clay (SW/SC), mps: 20 mm, no odor, wet.		10	30	30	20	10				
30																
35																
	ND	S4 120	38.0 48.0	705.9	SW	Similar as above except fewer fines.										
40																
45																
	ND			696.4	GW	Loose, gray, well graded GRAVEL (GW), mps: 20 mm, slight petroleum odor, wet.	20	65	10			5				
		S5 60	48.0 53.0													

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

NEW 116.GLB DELPHI.GDT G:\PROJECTS\79032\HARRISON\118-S~1\GINT\GINT_116.GPJ Jul 22, 05

HALEY & ALDRICH

TEST BORING REPORT

Boring No. MW-45-05
File No. 79032-118
Sheet No. 3 of 4

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
50	ND			693.9	CL	Medium stiff, gray, lean CLAY with sand (CL), mps: 20 mm, no odor, moist. Permanent casing at 51.5 feet.		10	10	5		75	S	M	M	M
	ND	S6 36	53.0 57.0	690.9	CL	Similar as above										
55	ND			687.9	SW-SC	Loose, gray, well graded SAND with clay and gravel (SW/SC), mps: 20 mm, no odor, wet.										
		S7 120	57.0 67.0													
	1.6			684.9												
60	ND			683.9												
	ND			681.9												
65	ND			677.9	CL	Medium stiff, gray, lean CLAY with sand (CL), mps: 20 mm, no odor, moist.		10	5	10		75	S	M	M	M
		S8 120	67.0 77.0													
70	ND			671.4	SC	Medium dense, gray, clayey SAND (SC), mps: 40 mm, no odor, moist.		10	20	30	20	20				
75	ND			668.9												
		S9 140	77.0 90.0	664.9												

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

NEW 116.GLB DELPHI.GDT G:\PROJECTS\79032\HARRISON\118-S-1\GINTGINT_116.GPJ Jul 22, 05

HALEY & ALDRICH

TEST BORING REPORT

Boring No. MW-45-05
File No. 79032-118
Sheet No. 4 of 4

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
80	13.4				GP-GC	Loose, gray, poorly graded GRAVEL with sand and clay (GP/GC), mps: 20 mm, no odor, wet.	10	60	10	10		10				
				658.9												
85	90.1				SP-SC	Dense, gray, poorly graded SAND with clay (SP/SC), mps: medium sand, no odor, moist.				90		10				
				655.9												
	23.5				CL	Medium stiff, gray, lean CLAY with sand (CL), mps: 40 mm, no odor, moist.		10	5	10		75	S	M	M	M
90				653.4												
						Bottom of Exploration 90 feet.										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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HALEY & ALDRICH

TEST BORING REPORT

Boring No. MW-46-05

Project Former Delphi Harrison Thermal Systems - Dayton, Ohio
Client REALM/GM
Contractor Prosonic

File No. 79032-118
Sheet No. 1 of 2
Start July 6, 2005
Finish July 6, 2005
Driller D. Cunningham
H&A Rep. C. Barnett
Elevation Datum 738.3
Location Approx 12 feet NW of MW-18-04

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	Steel	Sonic		Rig Make & Model: Rotosonic
Inside Diameter (in.)	5	3.5		Bit Type:
Hammer Weight (lb.)			-	Drill Mud:
Hammer Fall (in.)			-	Casing:
			-	Hoist/Hammer:

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0		S1 84	0.0 7.0	737.3		CONCRETE										
	23.5				CL	Medium stiff, brown to dark brown, lean SANDY CLAY (CL) with gravel, mps: 90 mm, petroleum odor, moist, brick fragments present. -FILL-											
	49.7			735.3												
5	48.1			733.3												
	3.7	S2 120	7.0 17.0	731.3		Staining at 8 feet,										
	2.0			729.3	CH	Soft, dark brown, fat CLAY (CL), mps: 10 mm, strong petroleum odor, moist.		5		5		90	N	M	H	M
10	1.8			728.3	GC	Loose, brown to yellow-brown clayey GRAVEL (GC) with sand, mps: 60 mm, slight petroleum odor, wet.	30	30	10	10		20				
	1.9			726.3												
	1.8			725.3												
15	2.2			722.8	SC	Loose, brown, clayey SAND with gravel (SC), mps: 20 mm, slight petroleum odor, wet.										
	0.5 ND	S3 120	17.0 27.0	721.3	SW-SC	Loose, brown, well graded SAND (SW-SC) with clay and gravel, mps: 40 mm, slight petroleum odor, wet.	5	10	20	35	20	10				
20				718.3												

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (lin. ft.)	47
Rock Cored (lin. ft.)	-
Samples	5

Boring No. MW-46-05

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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HALEY & ALDRICH

TEST BORING REPORT

Boring No. MW-46-05
File No. 79032-118
Sheet No. 2 of 2

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20	ND				SW-SC	Loose, brown, well graded SAND (SW-SC) with clay and gravel, mps: 40 mm, slight petroleum odor, wet.	5	10	20	35	20	10				
	0.4			715.3												
	0.2			714.3		Loose, brown, well graded SAND (SW-SC) with clay and gravel, mps: 40 mm, slight petroleum odor, wet.										
25	0.5			712.3												
	ND	S4 120	27.0 37.0	711.3												
	0.2			709.3												
	1.2			708.3												
30	0.8			707.3												
	1.0			705.3												
	0.5			704.3												
35	1.8	S5 120	37.0 47.0	701.3												
	4.4			699.3	GW	Loose, brown, well graded GRAVEL (GW), mps: 30 mm, slight petroleum odor, wet.	30	55	10			5				
40	1.2			696.8	SP-SC	Loose, brown, poorly graded SAND (SP-SC) with clay, mps: medium sand, slight petroleum odor, wet,			90		10					
	0.7			695.8												
	ND			693.8	CL	Hard, gray, lean CLAY (CL) with sand, mps: 10 mm, no odor, moist.		10	10	5		75	S	M	M	M
45				691.3		Bottom of Exploration at 47 Feet										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. MW-46-05

NEW 116.GLB DELPH.GDT G:\PROJECTS\79032\HARRISON\M-118-9-1\GINT\GINT_116.GPJ Jul 22, 05

TEST BORING REPORT

Boring No. MW-47-05

Project Former Delphi Harrison Thermal Systems - Dayton, Ohio
Client REALM/GM
Contractor Prosonic

File No. 79032-118
Sheet No. 1 of 2
Start July 8, 2005
Finish July 8, 2005
Driller D. Cunningham
H&A Rep. C. Barnett
Elevation Datum 736.0
Location Approx. 3 feet NW of Day 7

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	Steel	Sonic		Rig Make & Model: Rotosonic
Inside Diameter (in.)	5	3.5		Bit Type:
Hammer Weight (lb.)			-	Drill Mud:
Hammer Fall (in.)			-	Casing:
				Hoist/Hammer:

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0		S1 18	0.0 5.0	735.0		ASPHALT and CONCRETE										
	ND				ML	Soft, dark brown sandy SILT (ML) with gravel, mps: 80 mm, no odor, moist, bricks and glass fragments present. -FILL-	10	10	5	10		65	S	L	L	M
5		S2 132	5.0 16.0	729.0												
	ND				GW-GC	Loose, brown, well graded GRAVEL (GW-GC) with clay and sand, mps: 70 mm, slight petroleum odor, Wet at 9.5 feet.	30	40	10	10		10				
10				725.5												
	ND				CL	Medium stiff to stiff, gray, lean CLAY (CL) with sand, mps: 80 mm, slight petroleum odor, moist.		10	5	10		75	S	M	M	M
15																
		S3 120	16.0 26.0													
20				716.0												

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (lin. ft.) 36
Rock Cored (lin. ft.) -
Samples 4

Boring No. MW-47-05

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None
Toughness: L-Low, M-Medium, H-High
Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

NEW 116 GLB DELPHI.GDT G:\PROJECTS\79032\HARRISON-118-S-1\GINTGINT_116.GPJ Jul 22, 05

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TEST BORING REPORT

Boring No. MW-47-05
File No. 79032-118
Sheet No. 2 of 2

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20	ND				CL	Medium stiff to stiff, gray, lean CLAY (CL) with sand, mps: 80 mm, slight petroleum odor, moist.		10	5	10		75	S	M	M	M
				712.0												
	ND				GW-GC	Loose, gray, well graded GRAVEL (GW-GC) with clay, mps: 80 mm, no odor, wet.	50	40				10				
25				710.0												
	ND	S4 64	26.0 30.0													
				706.0												
30	ND	S5 60	30.0 36.0													
35				700.0		Bottom of Exploration at 36 Feet										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. MW-47-05

NEW 116.GLB DELPH8.GDT G:\PROJECTS\79032\HARRISON\-118-B-1\GINT\GINT_118.GPJ Jul 22, 05

TEST BORING REPORT

Boring No. MW-48-05

Project: Former Delphi Harrison Thermal Systems - Dayton, Ohio
Client: REALM/GM
Contractor: Prosonic

File No. 79032-118
Sheet No. 1 of 2
Start: July 8, 2005
Finish: July 8, 2005
Driller: D. Cunningham
H&A Rep.: C. Barnett
Elevation Datum: 737.0
Location: Approx. 7 feet NW of MW-19-04

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	Steel	Sonic		Rig Make & Model: Rotosonic
Inside Diameter (in.)	5	3.5		Bit Type:
Hammer Weight (lb.)			-	Drill Mud:
Hammer Fall (in.)			-	Casing:
				Hoist/Hammer:

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0		S1 60	0.0 7.0	736.0		Concrete										
				735.0		Wood										
	ND				ML	Soft, brown, sandy SILT (ML), mps: medium sand, no odor, moist, brick fragments present. -FILL-				35		65	S	L	L	M
5				730.5												
	ND	S2 96	7.0 17.0		GW-GC	Loose, brown to yellow-brown, well graded GRAVEL (GW-GC) with clay, mps: 60 mm, no odor, moist.	50	30	10			10				
10				725.5												
	ND				CL	Medium stiff, gray, lean CLAY with sand and gravel (CL), mps: 30 mm, no odor, moist.	5	10	5	5		75	S	M	M	M
15																
	ND	S3 120	17.0 27.0	719.0	SP	Loose, brown, poorly graded SAND (SP), mps: medium sand, no odor, wet.				95		5				
20				717.0												

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (lin. ft.): 27
Rock Cored (lin. ft.): -
Samples: 3

Boring No. MW-48-05

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None; Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Toughness: L-Low, M-Medium, H-High; Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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HALEY & ALDRICH

TEST BORING REPORT

Boring No. MW-48-05
File No. 79032-118
Sheet No. 2 of 2

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20	ND				SP	Loose, brown, poorly graded SAND (SP), mps: medium sand, no odor, wet.				95		5				
				713.0												
	ND				CL	Medium stiff, gray, lean CLAY (CL) with sand and gravel, mps: 30 mm, no odor, moist.	5	10	5	5		75	S	M	M	M
25				711.0												
	ND				SC	Dense, gray clayey SAND (SC) with gravel, mps: 60 mm, no odor, moist.	10	10	25	25		30				
				710.0		Bottom of Exploration at 27 Feet										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. MW-48-05

NEW 116 GLB DELPHI.GDT G:\PROJECTS\79032\HARRISON-118-S-1\GINT\GINT_116.GPJ Jul 22, 05

TEST BORING REPORT

Boring No. MW-49-06

Project: Former Delphi Harrison Thermal Systems - Dayton, Ohio
Client: Realm/GM
Contractor: Boart Longyear

File No.: 79032-114
Sheet No.: 1 of 2
Start: February 13, 2006
Finish: February 14, 2006
Driller: W. Imhoff
H&A Rep.: T. Vanage
Elevation Datum 731.9
Location
N - 6033.02
E - 5102.51

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	S	-	Rig Make & Model: Dietrich
Inside Diameter (in.)	-	1 3/8	-	Bit Type: Cutting Head
Hammer Weight (lb.)		140	-	Drill Mud: None
Hammer Fall (in.)		30	-	Casing:
				Hoist/Hammer:

Depth (ft.)	SPT*	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0	8 13 24 34	ND	S1 13	0.0 2.0			ML	Soft to medium stiff, brown, SILT with sand (ML), mps: 20 mm, no odor, dry. FILL		5	10	10		75	S	M	M	L-M
	21 50/3	ND	S2 12	2.0 4.0		729.9 2.0												
						727.9												
	30 29 23 24	ND	S3 10	4.0 6.0		4.0	GP	Loose, brown, poorly graded GRAVEL with sand (GP), mps: 60 mm, no odor, wet. Water present at 4 feet.	55	20	10		5	10				
5	30 30 35 30	ND	S4 15	6.0 8.0		725.9 6.0												
	50/5	ND	S5 9	8.0 10.0		723.7 8.3	SM	Loose, brown, silty SAND (SM), mps: 30 mm, no odor, wet.		10	30	20	10	30				
10	35 28 10 10	ND	S6 24	10.0 12.0		721.2 10.7	SP	Loose, brown, poorly graded SAND (SP), mps: 10 mm, no odor, moist.		5	10	70	10	5				
	25 9 11 18	ND	S7 14	12.0 14.0		719.9 12.0												
15	23 25 17 21	ND	S8 18	14.0 16.0		716.4 15.5	SW	Loose to medium dense, brown, well graded SAND (SW), mps: 15 mm, no odor, moist.		10	15	25	45	5				
	35 13 12 20	ND	S9 13	16.0 18.0		713.9 18.0												
	45 25 31 50	ND	S10 19	18.0 20.0		711.9												
20																		

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (lin. ft.) 44
Rock Cored (lin. ft.)
Samples 22

Boring No. MW-49-06

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None
Toughness: L-Low, M-Medium, H-High
Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification and percentages based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

USCS_TB3_DAY USCSLIB3_CLY.GLB USCSTBC3.GDT G:\PROJECTS\79032H~1\HARRISON~114\EIDRIL~1\GINT\GINT_116.GPJ Mar 17, 06

TEST BORING REPORT

Boring No. MW-49-06
File No. 79032-114
Sheet No. 2 of 2

Depth (ft.)	SPT*	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20	23 23 32 50	0.3	S11 22	20.0 22.0		20.0	SW	Similar as above										
	52 29 27 45	ND	S12 20	22.0 24.0		708.9 23.0 707.9												
25	50/5	ND	S13 5	24.0 26.0		24.0 705.9												
	52 52 37 39	ND	S14 18	26.0 28.0		26.0 703.9	SW	Similar as above										
	47 39 29 41	ND	S15 24	28.0 30.0		28.0	SP	Loose to medium dense, brown, poorly graded SAND (SP), mps:5 mm, no odor, moist.			5	20	70	5				
30	63 20 20 29	ND	S16 24	30.0 32.0		700.9 31.0	SW	Loose, brown, well graded SAND (SW), mps: 15 mm, no odor, wet.		10	20	30	35	5				
	65/4	ND	S17 6	32.0 34.0		697.9												
	37 50/5	ND	S18 10	34.0 36.0		34.0 695.9												
35	37 19 27 50	ND	S19 24	36.0 38.0		36.0 694.4												
		ND	S20 0	38.0 40.0		37.5 691.9	GP	Loose, brown, poorly graded GRAVEL with sand (GP), mps: 40 mm, no odor, moist. Auger refusal at 40 feet.		55	20	15	5	5				
40	18 20 50 50	ND	S21 18	40.0 42.0		40.0 690.9 41.0 689.9	CL	Stiff, brown to gray, lean CLAY (CL), mps: 15 mm, no odor, moist.										
	25 30 33 37	ND	S22	42.0 44.0		42.0 687.9	GP	Loose, brown to gray, poorly graded GRAVEL (GP), mps: 30 mm, no odor, wet.			90	10						
						44.0		Bottom of Exploration 44 feet.										

***SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.**

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. MW-49-06

USCS_TB3_DAY USCSLIB3_CLY.GLB USCSTBC3.GDT G:\PROJECTS\79032H~1\HARRISON~1\14\EIDRIL~1\GINT\GINT_116.GPJ Mar 17, 06

TEST BORING REPORT

Boring No. MW-50-06

Project: Former Delphi Harrison Thermal Systems - Dayton, Ohio
Client: Realm/GM
Contractor: Prosonic

File No.: 79032-114
Sheet No.: 1 of 2
Start: February 20, 2006
Finish: February 21, 2006
Driller: J. Tidwell
H&A Rep.: T. Vanage

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type		Sonic		Rig Make & Model: Rotosonic/Minisonic
Inside Diameter (in.)				Bit Type:
Hammer Weight (lb.)			-	Drill Mud:
Hammer Fall (in.)			-	Casing:
				Hoist/Hammer:

Elevation Datum: 730.9

Location
N - 5936.93
E - 4352.54

Depth (ft.)	SPT*	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0		18.1	S1 68	0.0 8.0			ML	Medium stiff, brown to gray, SILT (ML), mps: 76 mm, no odor, moist. FILL.	5	10	15	5	5	60	S	M	M	L-M
		16.8				728.9 2.0												
		5.7				726.9 4.0												
5						725.9 5.0		Concrete Footer										
		1.4				724.9 6.0	GP	Loose, brown, poorly graded GRAVEL with sand (GP), mps: 76 mm, no odor moist.	40	10	20	20	5	5				
		2.1	S2 115	8.0 18.0		722.9 8.0		Water present at 8 feet.										
10		1.4				720.9 10.0	SP	Loose to medium dense, brown, poorly graded SAND (SP), mps: 60 mm, no odor, moist.		5	10	70	10	5				
		1.6				717.9 13.0	SW	Loose, brown, well graded SAND (SW), mps: 76 mm, no odor, moist.	5	15	25	20	5	5				
15																		
		1.7	S3 42	18.0 28.0		712.9 18.0												
20						710.9												

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (lin. ft.) 35
Rock Cored (lin. ft.)
Samples 5

Boring No. MW-50-06

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None
Toughness: L-Low, M-Medium, H-High
Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification and percentages based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

USCS_TB3_DAY USCSLIB3_CLY.GLB USCSTBC3.GDT G:\PROJECTS\79032H~1\HARRISON~1\14EIDRIL~1\GINT\GINT_116.GPJ Mar 13, 06

TEST BORING REPORT

Boring No. MW-50-06
File No. 79032-114
Sheet No. 2 of 2

Depth (ft.)	SPT*	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20		1.1				20.0	GP	Loose, brown, poorly graded GRAVEL (GP), mps: 127 mm, no odor, wet.	25	75								
						709.4												
		ND				21.5	SP	Loose, brown, poorly graded SAND (SP), mps: 5 mm, no odor, moist.			20	70	5	5				
25						703.4												
		ND				27.5	GP	Loose, brown, poorly graded GRAVEL with sand (GP), no odor, moist.	5	65	20	10						
			S4 60	28.0 33.0														
30						699.9												
		ND				31.0	CL	Soft to medium stiff, gray, sandy lean CLAY (CL), mps: 13 mm, no odor, moist.		5	10		5	80	S	M	M	M
			S5 12	33.0 35.0		697.4												
		ND				33.5	SP	Loose, brown, poorly graded SAND (SP), mps: 13 mm, no odor, moist.		5	75	10	5	5				
35						695.9												
						35.0		Bottom of Exploration 35 feet.										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. MW-50-06

USCS_TB3_DAY USCSLIB3_CLY.GLB USCSTBC3.GDT G:\PROJECTS\79032H~1\HARRISON~114\EIDRIL~1\GINT\GINT_116.GPJ Mar 13, 06

TEST BORING REPORT

Boring No. MW-51-06

Project: Former Delphi Harrison Thermal Systems - Dayton, Ohio
Client: Realm/GM
Contractor: Boart Longyear

File No.: 79032-347
Sheet No.: 1 of 6
Start: June 26, 2006
Finish: June 28, 2006
Driller: J. Weeks
H&A Rep.: T. Vanage

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type		Sonic		Rig Make & Model: Rotosonic
Inside Diameter (in.)		4.5		Bit Type:
				Drill Mud:
Hammer Weight (lb.)			-	Casing: Permanent from 0-92 feet.
Hammer Fall (in.)			-	Hoist/Hammer:

Elevation Datum 742.7

Location
N - 5271.69
E - 4622.48

Depth (ft.)	SPT*	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0				0.0 5.0				Hand auger to clear utilities.										
5		0.3	S1 60	5.0 10.0		737.7 5.0	ML	Soft, black, SILT (ML), mps: 2 mm, no odor, moist.			5		10	85	S	L	L	L
		ND				735.7 7.0												
10		ND	S2 60	10.0 15.0		732.7 10.0												
		ND				729.7 13.0	SW	Loose, brown, well graded SAND (SW), mps: 50 mm, no odor, wet. Water present at 13.5 feet.	5	20	25	35	10	5				
15		ND	S3 105	15.0 25.0		727.7 15.0												
		ND				724.7 18.0												
20						722.7												

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (lin. ft.) 145
Rock Cored (lin. ft.)
Samples 18

Boring No. MW-51-06

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None
Toughness: L-Low, M-Medium, H-High
Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification and percentages based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

USCS_TB3_DAY USCSLIB3_CLY.GLB USCSTBC3.GDT G:\PROJECTS\79032H~1\HARRISON\~347CM~1\GINT_347.GPJ Jul 24, 06

TEST BORING REPORT

Boring No. MW-51-06
File No. 79032-347
Sheet No. 2 of 6

Depth (ft.)	SPT*	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20						20.0	SW											
		ND					SW	Similar as above										
						719.7												
		ND				23.0												
						717.7												
25		ND	S4	25.0		25.0												
			116	35.0														
						715.7												
		ND				27.0												
30						712.7												
		ND				30.0												
						710.2												
		ND				32.5	SW	Similar as above										
35		ND	S5	35.0		707.7												
			100	45.0		35.0												
						705.2												
		ND				37.5												
40						702.7												
		ND				40.0												
						700.2												
		ND				42.5		6-inch pocket of poorly graded sand 43-43.5 feet.										
45						697.7												
		ND	S6	45.0		45.0		6/120 recovery 1st sample recovery attempt : gray, granite cobble, mps: 170 mm, no odor.	100									
		ND	6	55.0		697.2	SP	2nd sample recovery attempt: Loose, brown, poorly graded SAND (SP), mps: 10 mm, no odor, moist.			10	75	10	5				
			S7	45.1		45.5												
			120	55.1														
						694.7												
		ND				48.0	SW	2nd sample recovery attempt: Loose, brown, well graded SAND (SW), mps: 50 mm, no odor, moist.	5	20	25	35	10	5				

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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TEST BORING REPORT

Boring No. MW-51-06
File No. 79032-347
Sheet No. 3 of 6

Depth (ft.)	SPT*	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
50							SW											
						691.7												
		ND				51.0	GP	2nd sample recovery attempt: Loose, brown, poorly graded GRAVEL with clay (GP), mps: 80 mm, no odor, wet.	60	20				20				
								Oil-In-Soil collected at 52.5 feet was negative.										
						689.7												
		ND				53.0												
						687.7												
55		ND	S8	55.0		55.0	SC	Medium dense, brown, clayey SAND with silt and gravel (SC), mps: 60 mm, no odor, moist.	5	15	25	20	10	25				
			50	60.0														
						682.7												
60		0.4	S9	60.0		60.0												
			60	65.0														
						680.7												
		1.1				62.0		Borehole groundwater screening sample from 61-65 feet bgs. WG-062606-TMV-01										
						677.7												
65		2.1	S10	65.0		65.0	SW	Loose, brown, well graded SAND with gravel and silt (SW), mps: 35 mm, slight hydrocarbon odor, moist.	5	15	40	20	10	10				
			60	70.0														
						676.2												
		1.1				66.5												
						674.7												
		0.4				68.0												
						672.7												
70		ND	S11	70.0		70.0												
			60	75.0														
						669.7												
		ND				73.0		Borehole groundwater screening sample from 71-75 feet bgs. WG-062606-TMV-02										
						667.7												
75			S12	75.0		75.0												
		ND	60	80.0		667.2	CL	Medium stiff, brown, sandy lean CLAY with gravel (CL), mps: 15 mm, no odor, moist.		5	10		15	70	S	L	L	M
						75.5												
		ND				666.2	SP	Oil-In-Soil collected at 75.5 feet was negative.		5	15	65	10	5				
						76.5		Loose, brown, well graded SAND (SW), mps:30 mm, no odor, moist.										
						664.0												
		ND				78.7	SW	Loose, brown, well graded SAND (SW), mps:30mm, no odor, moist.	5	10	40	25	15	5				

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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TEST BORING REPORT

Boring No. MW-51-06
File No. 79032-347
Sheet No. 4 of 6

Depth (ft.)	SPT*	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
							SW											
80			S13 60	80.0 85.0														
		ND						Similar as above except more fines.		10	40	30	10	10				
						657.7												
85		0.4	S14 60	85.0 90.0		85.0	CL	Medium stiff to stiff, dark brown, lean CLAY (CL), mps: 10 mm, no odor, moist.			15		10	75	N	M	M	M
						656.2		Oil-In-Soil collected at 85.5 feet was negative.										
		0.6				86.5	SP	Loose, brown, poorly graded SAND (SP), mps: 1 mm, no odor, moist. Oil-In-Soil collected at 87 feet was negative.					90	10				
						655.2												
		0.2				87.5	SW	Loose, brown, well graded SAND (SW), mps: 10mm, no odor, moist. Oil-In-Soil collected at 88.3 feet was negative.			30	40	20	10				
						654.2		Borehole groundwater screening sample from 86-89 feet bgs.										
		0.2				88.5	SP	WG-062606-TMV-03					90	10				
						653.7												
						89.0	CL	Loose, brown, poorly graded SAND (SP), mps: 1mm, no odor, moist. Oil-In-Soil collected at 89 feet was negative.			5		15	80	N	M	M	H
90		ND	S15 60	90.0 95.0				Stiff, dark brown, lean CLAY (CL), mps: 10 mm, no odor, moist.										
								Permanent casing from 0-92 feet.										
						649.7												
		ND				93.0												
						647.7												
95		ND	S16 110	95.0 105.0		95.0												
						645.7												
		ND				97.0												
100		ND				642.7 100.0												
						639.7												
						103.0												
						638.1												
		0.3				104.6	SW-SC	Medium dense, brown, well graded SAND with clay (SW/SC), mps: 30 mm, no odor, moist.	5	5	20	20	20	30				
105			S17 110	105.0 115.0				Oil-In-Soil collected at 106 feet was negative.										
								Borehole groundwater screening sample from 105-110 feet bgs.										
						635.7												
						107.0	SP	WG-062806-TMV-01					20	70	10			
		0.7						Medium dense, brown, poorly graded SAND (SP), mps: 1 mm, no odor, moist. Oil-In-Soil collected at 108.5 feet was negative.										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. MW-51-06

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TEST BORING REPORT

Boring No. MW-51-06
File No. 79032-347
Sheet No. 5 of 6

Depth (ft.)	SPT*	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
							SP											
110		1.1				632.7 110.0												
						628.7												
		1.6				114.0	SP-SC	Medium dense, brown, poorly graded SAND with clay (SP/SC), mps: 1 mm, no odor, moist.					80	20				
						627.7												
115			S18	115.0		115.0	SP	Oil-In-Soil collected at 114.5 feet was negative.										
		0.6	240	135.0				Loose, brown, poorly graded SAND (SP), mps:20 mm, no odor, moist.			20	65	10	5				
		ND				625.7 117.0												
120		ND				622.7 120.0												
						620.0												
		ND				122.8	SP	Similar as above except finer sands.				10	85	5				
125		ND				617.7 125.0												
		ND				615.2 127.5												
130		ND				612.7 130.0												
		ND				609.7 133.0												
135		ND	S19	135.0		607.7 135.0												
			10	145.0														
		ND				605.7 137.0												

***SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.**

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

USCS_TB3_DAY USCSLIB3_CLY.GLB USCSTBC3.GDT G:\PROJECTS\79032H~1\HARRISON\-347CM~1\GINT_347.GPJ Jul 24, 06

TEST BORING REPORT

Boring No. MW-51-06
File No. 79032-347
Sheet No. 6 of 6

Depth (ft.)	SPT*	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
							SP											
140		ND				602.7 140.0		Borehole groundwater screening sample from 137-142 feet bgs. WG-062806-TMV-02										
		ND				600.7 142.0												
145						597.7 145.0		Bottom of Exploration 145 feet.										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. MW-51-06

USCS_TB3_DAY USCSLIB3_CLY.GLB USCSTBC3.GDT G:\PROJECTS\79032H~1\HARRISON\-347CM~1\GINT_347.GPJ Jul 24, 06

TEST BORING REPORT

Boring No. MW-52-06

Project: Former Delphi Harrison Thermal Systems - Dayton, Ohio
Client: Realm/GM
Contractor: Boart Longyear

File No.: 79032-347
Sheet No.: 1 of 2
Start: September 6, 2006
Finish: September 6, 2006
Driller: Ken Gobell
H&A Rep.: T. Vanage

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type		Sonic		Rig Make & Model: Rotosonic
Inside Diameter (in.)		3.5		Bit Type:
Hammer Weight (lb.)			-	Drill Mud:
Hammer Fall (in.)			-	Casing:
				Hoist/Hammer:

Elevation
Datum
Location
N -
E -

Depth (ft.)	SPT*	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0				0.0 5.0				Soft dig 0-5 feet to clear utilities. Approximatelt 6-8 inches of concrete.										
5		2.4	S1 90	5.0 15.0		5.0	SM	Loose, black, silty SAND (SM), mps: 70 mm, strong odor, moist, evidence of black staining. Oil-In-Soil collected from 5-7 feet was negative.	5	30	20	15	10	20				
		2.5				7.0	SM	Similar as above except brown, no staining observed.										
10		4.4				10.0												
						12.0												
15		42.4				14.5		Loose, gray, well graded SAND with gravel (SW/SM), mps: 50 mm,	5	5	20	30	30	10				
		15.1	S2 60	15.0 20.0		15.0	SW-SM	strong odor, moist, clear/light liquid coating grains. Oil-In-Soil collected at 14.5-15 feet was positive. Loose, brown, well graded SAND with gravel (SW/SM), mps: 120 mm, strong odor, wet, clear/light liquid coating grains.	20	20	30	15	5	10				
		347				16.5	SW	Water present at 15 feet. Loose, gray, well graded SAND (SW), mps: 30 mm,very strong odor, moist. Oil-In-Soil collected at 17-20 feet was positive.		5	30	40	20	5				
20																		

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (lin. ft.) 25
Rock Cored (lin. ft.)
Samples 3

Boring No. MW-52-06

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None
Toughness: L-Low, M-Medium, H-High
Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification and percentages based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

USCS_TB3_DAY USCSLIB3_CLV.GLB USCSTBC3.GDT G:\PROJECTS\79032H~1\HARRISON\~347CM~1\GINT_347.GPJ Sep 14, 06

TEST BORING REPORT

Boring No. MW-52-06
File No. 79032-347
Sheet No. 2 of 2

Depth (ft.)	SPT*	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20		ND	S3 60	20.0 25.0		20.0	GW	Loose, brown, well graded gravel (GW), mps: 150 mm, no odor, wet.	40	60								
		ND				22.8	SW	Loose, brown, well graded SAND (SW), mps: 50 mm, no odor, wet. Oil-In-Soil collected from 23-25 feet was negative.	5	30	40	15	5	5				
25						25.0		Bottom of Exploration 25 feet.										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. MW-52-06

USCS_TB3_DAY USCSLIB3_CLV.GLB USCSTBC3.GDT G:\PROJECTS\79032H~1\HARRISON\~347CM~1\GINT_347.GPJ Sep 14, 06

TEST BORING REPORT

Boring No. MW-53-06

Project: Former Delphi Harrison Thermal Systems - Dayton, Ohio
Client: Realm/GM
Contractor: Prosonic Corporation

File No.: 79032-347
Sheet No.: 1 of 10
Start: October 24, 2006
Finish: November 1, 2006
Driller: G. Sealy
H&A Rep.: T. Vanage

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	Steel	Sonic		Rig Make & Model: Sonic
Inside Diameter (in.)	8	6	7	Bit Type:
Hammer Weight (lb.)			-	Drill Mud:
Hammer Fall (in.)			-	Casing: Permanent 8 inch from 0-94 feet.
				Hoist/Hammer:

Elevation Datum 749.0

Location
N - 5315.39
E - 4340.82

Depth (ft.)	SPT*	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0			S-1 84	0.0 7.0				Asphalt surface										
		1.6					SW/SM	Loose, brown to black, well graded SAND with silt (SW/SM), mps= 60 mm, no odor, moist.		10	30	20	30	10				
		1.3																
5		1				743.2												
		0.3				5.8	SM	Loose, dark brown, silty SAND (SM), mps= fine sand, no odor, moist.					60	40				
			S-2 110	7.0 17.0														
		1.0						Oil-In-Soil collected from 8 feet was negative.										
						740.0												
10						9.0	ML	Soft, dark brown, SILT (ML), mps= 40 mm, no odor, moist, with brick fragments and glass.		5			10	85	S	L	L	L
		0.5																
		0.5																
		0.6																
15								Oil-In-Soil collected from 15 feet was negative.										
		0.5					ML	Similiar as above.										
			S-3 120	17.0 27.0														
20		0.5						Fill										

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (lin. ft.) 257
Rock Cored (lin. ft.) 2
Samples S-27

Boring No. MW-53-06

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None
Toughness: L-Low, M-Medium, H-High
Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification and percentages based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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TEST BORING REPORT

Boring No. MW-53-06
File No. 79032-347
Sheet No. 2 of 10

Depth (ft.)	SPT*	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20						728.0												
		0.5				21.0	SW	Loose, brown, well graded, SAND (SW), mps= 90 mm, no odor, wet. Oil-In-Soil collected from 21 feet was negative. Wet at 22 feet.	5	15	30	35	15					
						725.0												
		0.5				24.0	CL	Stiff, brown, lean CLAY (CL), mps= 60 mm, no odor, moist.	5	5				90	N	M	M	M
25		0.5				722.0												
		ND	S-4 120	27.0 37.0		27.0	CL	Soft, brown, sandy CLAY (CL), mps= 60 mm, mo odor, moist.		5			20	75	N	M	M	M
		ND																
30		ND																
		0.1					CL	Similiar as above.										
		0.3																
35		0.5																
		ND	S-5 120	37.0 47.0				Similiar as above except becoming sandier.					45	55				
		ND																
40		ND				708.0												
		ND				41.0	SP	Medium, dense, brown, poorly graded SAND (SP), mps= fine sand, no odor, wet.					95	5				
						705.0												
		ND				44.0	CL	Medium, stiff, brown, sandy CLAY (CL),mps= 20 mm, no odor, wet.		5		10	30	55				
45						703.5												
		ND				45.5	SW	Loose, brown, well graded SAND (SW), mps= 60 mm, no odor, moist.			15	30	25	5				
			S-6 120	47.0 57.0				Oil-In-Soil collected from 47 feet was negative.										
						700.0												
		ND				49.0	SP	Medium dense, brown poorly graded SAND (SP), mps= coarse sand,			5	20	70	5				

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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TEST BORING REPORT

Boring No. MW-53-06
File No. 79032-347
Sheet No. 3 of 10

Depth (ft.)	SPT*	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
50								no odor, moist.										
		ND																
						696.0												
		ND				53.0	SW	Similiar as 45.9 to 49 feet.										
55																		
						693.0												
		1.4				56.0	SP	Similiar as 49 to 53 feet except color change to gray.					95	5				
								Oil-In-Soil collected from 57 feet was negative.										
			S-7	57.0		691.5												
		ND	120	67.0		57.5	CL	Stiff, brown, lean CLAY (CL), mps= 70 mm, no odor, moist.	5	10	5		10	70	N	M	M	H
60																		
		ND																
		ND																
		ND																
65																		
		ND																
			S-8	67.0														
			120	77.0														
		ND																
70																		
		ND																
		ND																
75																		
						673.5												
		0.4				75.5	SW/SM	Loose, brown, well graded SAND with silt (SW-SM), mps> 100 mm, no odor, moist.	5	15	30	30	10	10				
								WG-102506-TV-002 collected from 75.5-78 feet for VOC analysis.										
			S-9	77.0														
			36	80.0														
						671.0												
						78.0	CL	Similiar as 57 to 75.5 feet except more fine sand.	5	10	5		20	60	S	M	M	M

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

USCS_TB3_DAY USCSLIB3_CLY.GLB USCSTBC3.GDT G:\PROJECTS\79032H~1\HARRISON\-347CM~1\GINT_347.GPJ Dec 20, 06

TEST BORING REPORT

Boring No. MW-53-06
File No. 79032-347
Sheet No. 4 of 10

Depth (ft.)	SPT*	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
						669.0	CL											
80			S-10 84	80.0 87.0		80.0	SW	Loose, brown, well graded SAND (SW), mps= 50 mm, no odor, wet.	5	30	40	15	10					
		0.7						Oil-In-Soil collected from 85 feet was negative.										
85		ND				664.0 85.0	CL	Medium stiff, brown, sandy lean CLAY (CL), mps= 20 mm, no odor, moist.		5			20	75	S	M	M	M
		ND	S-11 120	87.0 97.0		662.0 87.0	SW	Similiar as 80 to 85 feet.										
90								WG-102506-TV-003 collected from 90-93.5 feet for VOC analysis.										
						655.5		Oil-In-Soil collected from 93 feet was negative.										
		ND				93.5	CL	Similiar as 85 to 87 feet. Permanent 8-inch steel casing driven to 94 feet below ground surface.										
95						654.0 95.0	SW	Similiar as 87 to 93.5 feet except more fines.	5	20	40	20	5	10				
			S-12 120	97.0 107.0														
100		ND					SW	Similiar as above.										
		ND																
105		ND																
		ND	S-13 120	107.0 117.0														

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. MW-53-06

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TEST BORING REPORT

Boring No. MW-53-06
File No. 79032-347
Sheet No. 5 of 10

Depth (ft.)	SPT*	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
110		ND					SW	Similiar as above.										
		ND																
		ND				635.0												
115						114.0	SW	Loose, brown, well graded SAND (SW), mps= 15 mm, no odor, moist.			40	35	20	5				
		0.4																
			S-14 120	117.0 127.0														
120		ND																
		ND					SW	Similiar as above.										
		ND																
125						622.0												
		ND	S-15 120	127.0 137.0		127.0	SW	Loose, brown, well graded SAND (SW) with gravel, mps= 80 mm, no odor, moist.	5	25	40	25	5					
130		ND																
		ND																
		ND																
		ND					SW											
135		ND																
			S-16 120	137.0 147.0														
						610.5												

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. MW-53-06

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TEST BORING REPORT

Boring No. MW-53-06
File No. 79032-347
Sheet No. 6 of 10

Depth (ft.)	SPT*	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
		ND				138.5		Similiar as above except less gravel.		10	50	30	10					
140		ND																
		ND																
		ND																
145		ND																
		ND	S-17 120	147.0 157.0														
		ND																
150		ND																
		ND				595.0 154.0	SW/SM	Similiar as above except some more fines.		10	40	30	10	10				
155								Oil-In-Soil collected from 157 feet was negative.										
		ND	S-18 108	157.0 167.0														
160		ND						WG-103006-TV-002 collected from 160 feet for VOC analysis.										
		ND					SW/SM	Similiar as above.										
165		ND																
		ND	S-19 120	167.0 177.0														

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

USCS_TB3_DAY USCSLIB3_CLY.GLB USCSTBC3.GDT G:\PROJECTS\79032H~1\HARRISON\-347CM~1\GINT_347.GPJ Dec 20, 06

TEST BORING REPORT

Boring No. MW-53-06
File No. 79032-347
Sheet No. 7 of 10

Depth (ft.)	SPT*	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
170		ND				577.0												
		ND				172.0	SP	Loose, brown, poorly graded SAND (SP), mps= 3 mm, moist, no odor.	5	5		20	65	5				
						575.0		Oil-In-Soil collected from 174 feet was negative.										
175		1.4				174.0	SM	Loose to medium dense, brown, silty SAND (SM), mps= 30 mm, moist, no odor.		5	25	20	30	20				
		ND	S-20 120	177.0 187.0														
180		ND																
		ND				567.5 181.5	SW	Loose, brown, well graded SAND with gravel (SW), mps= 3 inches, no odor, moist.	10	15	20	80	20	5				
						564.5												
185		0.5				184.5	SP-SM	Loose, brown, poorly graded SAND with silt (SP-SM), mps= coarse sand, no odor, moist.			10	70	10	10				
			S-21 120	187.0 197.0														
		ND																
190		ND																
		ND					SP-SM	Similiar as above except slightly more gravel.		5	10	65	10	10				
		ND																
195		ND																
			S-22	197.0														

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. MW-53-06

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TEST BORING REPORT

Boring No. MW-53-06
File No. 79032-347
Sheet No. 8 of 10

Depth (ft.)	SPT*	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
			120	207.0														
		ND						WG-103106-TV-002 collected from 195-200 feet for VOC analysis.										
		ND						Oil-In-Soil collected from 200 feet was negative.										
200						548.8												
		ND				200.2	CL	Stiff, brown, sandy lean CLAY (CL), mps= 20 mm, no odor, moist.		10			15	75	N	M	M	H
						547.8												
		ND				201.2	SP	Loose, brown, poorly graded SAND(SP), mps= 10 mm, no odor, moist.			15	75	10					
		ND																
205																		
		ND																
			S-23	207.0														
			120	217.0														
		ND					SP	Similiar as above.										
210		ND																
		ND																
		ND																
215		ND																
		ND	S-24	217.0			SP	Similiar as above.										
			120	227.0														
		ND																
220		ND																
		ND					SP	Similiar as above.										
		ND																
225		ND																

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

USCS_TB3_DAY USCSLIB3_CLY.GLB USCSTBC3.GDT G:\PROJECTS\79032H~1\HARRISON\~347CM~1\GINT_347.GPJ Dec 20, 06

TEST BORING REPORT

Boring No. MW-53-06
File No. 79032-347
Sheet No. 9 of 10

Depth (ft.)	SPT*	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
			S-25 240	227.0 247.0														
		ND																
230		ND																
235																		
		ND																
240		ND				508.5												
		ND				240.5	SP	Medium dense, gray, poorly graded SAND (SP), mps= medium sand, no odor, moist.					90	10				
						506.0												
		ND				243.0	SW	Loose, gray, well graded SAND (SW), mps= 3 in, no odor, moist.	10	10	40	20	15	5				
245						503.0												
		ND				246.0	SM	Medium stiff, gray, silty SAND (SM), mps= 40 mm, no odor, moist.					60	40				
			S-26 120	247.0 257.0		501.4												
		ND				247.6	SP	Similiar as 240.5 to 243 feet.										
		ND				501.0	CL	Oil-In-Soil collected from 248 feet was negative.		5			15	80	S	M	M	M
						248.0		Medium stiff, sandy, lean CLAY (CL), mps= 30 mm, no odor, moist.										
250						497.1												
		ND				251.9	SW	Loose, gray, poorly graded SAND (SW), mps= 10 mm, no odor, moist.		5	20	55	15	5				
255						492.7		Oil-In-Soil collected from 256 feet was negative.										
		ND				256.3	CL	Medium stiff, gray, lean CLAY (CL), mps= 10 mm, no odor, moist.		5			5	90	N	M	M	H

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

USCS_TB3_DAY USCSLIB3_CLY.GLB USCSTBC3.GDT G:\PROJECTS\79032H~1\HARRISON\-347CM~1\GINT_347.GPJ Dec 20, 06

TEST BORING REPORT

Boring No. MW-53-06
File No. 79032-347
Sheet No. 10 of 10

Depth (ft.)	SPT*	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
		ND	S-27 24	257.0 259.0		492.0 257.0	SH	Extremely fractured, soft, slightly weathered, blue, fine grained SHALE (SH), extremely thin bedding plane.										
						490.0 259.0		Bottom of Exploration at 259 feet.										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. MW-53-06

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TEST BORING REPORT

Boring No. MW-54-06

Project: Former Delphi Harrison Thermal Systems - Dayton, Ohio
Client: Realm/GM
Contractor: Prosonic

File No.: 79032-347
Sheet No.: 1 of 4
Start: November 6, 2006
Finish: November 10, 2006
Driller: G. Sealey
H&A Rep.: T. Vanage
Elevation Datum: 741.1
Location: N - 5297.33, E - 5025.76

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	Steel	Sonic		Rig Make & Model: Sonic
Inside Diameter (in.)	6	3.5		Bit Type:
				Drill Mud:
Hammer Weight (lb.)			-	Casing: 6 in. Permanent steel from 0-56.5 ft. BGS
Hammer Fall (in.)			-	Hoist/Hammer:

Depth (ft.)	SPT*	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0			S1 84	0.0 7.0		740.1		Concrete										
		1.4				1.0	ML	Soft, dark brown, SILT (ML), mps: 50 mm, no odor, moist. Oil-In-Soil collected at 4 feet was negative.		5	5		10	80	S	M	M	L
5		4.7				736.1 5.0													
			S2 108	7.0 17.0															
						732.1													
						9.0	GW	Loose, brown, well graded GRAVEL with sand (GW), mps: 80 mm, slight odor, moist.	30	40	20	10						
10		4.4																	
		17.8				728.6 12.5		Oil-In-Soil collected at 14 feet was negative.										
						726.6													
15		72.8				14.5	SW	Loose, dark gray, well graded SAND (SW), mps: 80 mm, strong petroleum-like odor, wet, clear coating on grains to 22.5 feet. Water present at 14.5 feet. Oil-In-Soil collected at 15.5 feet was positive.	15	25	25	20	10	5				
						724.1													
		99.1	S3 120	17.0 27.0		17.0													
20						721.1													

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (lin. ft.) 87
Rock Cored (lin. ft.)
Samples 10

Boring No. MW-54-06

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None; Toughness: L-Low, M-Medium, H-High; Plasticity: N-Nonplastic, L-Low, M-Medium, H-High; Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification and percentages based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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TEST BORING REPORT

Boring No. MW-54-06
File No. 79032-347
Sheet No. 2 of 4

Depth (ft.)	SPT*	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20		60.0				20.0	SW	Oil-In-Soil collected at 21.5 feet was positive.										
								Oil-In-Soil collected at 22 feet was negative.										
						718.6												
		30.4				22.5	SW	Loose, brown, well graded SAND (SW), mps: 20 mm, no odor, moist. Oil-In-Soil collected at 23 feet was negative.		10	30	30	20	10				
25		ND				716.1 25.0												
						714.1												
		ND	S4 60	27.0 37.0		27.0												
30		ND				711.1 30.0												
35		ND				706.1 35.0												
			S5 120	37.0 47.0														
40		ND				701.1 40.0												
		ND				698.6 42.5												
45		ND				696.1 45.0												
			S6 120	47.0 57.0														
		ND				693.1 48.0	GW	Loose, brown, well graded GRAVEL (GW), mps: 60 mm, no odor, wet. Oil-In-Soil collected at 50 feet was negative.	30	50	15	5						

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

USCS_TB3_DAY USCSLIB3_CLY.GLB USCSTBC3.GDT G:\PROJECTS\79032H~1\HARRISON\-347CM~1\GINT_347.GPJ Dec 20, 06

TEST BORING REPORT

Boring No. MW-54-06
File No. 79032-347
Sheet No. 3 of 4

Depth (ft.)	SPT*	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
						690.8	GW											
50		ND				50.3	CL	Stiff, gray, lean CLAY (CL), mps: 20 mm, no odor, moist.		5	5			90	N	M	M	H
						689.8												
		ND				51.3	SM	Medium dense, gray, silty SAND (SM), mps: 50 mm, no odor, moist.		5	10	15	40	30				
						686.1												
55		ND				55.0	CL	Stiff, gray, lean CLAY (CL), mps: 60 mm, no odor, wet. Oil-In-Soil collected at 55 feet was negative. 6 inch permanent steel casing driven to 56.5 feet.		5	5	5		90	N	M	M	H
			S7 60	57.0 62.0														
						681.6												
60		ND				59.5	SM	Loose, gray, silty SAND (SM), mps: 40 mm, no odor, wet. Borehole groundwater screening sample from 58-62 feet bgs. WG-110806-TV-001.	5	10	20	15	20	30				
						679.6												
		ND				61.5	SP	Medium dense, gray, poorly graded SAND (SP), mps: medium sand, mps: medium sand, no odor, moist.					95	5				
			S8 60	62.0 67.0														
						677.6												
						63.5	SP	Similar as above except medium sands.			10	80	10					
65		ND																
			S9 120	67.0 77.0														
						673.1												
		ND				68.0												
						671.1												
70		ND				70.0												
						666.1												
75		ND				75.0												
			S10 120	77.0 87.0														

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. MW-54-06

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TEST BORING REPORT

Boring No. MW-54-06
File No. 79032-347
Sheet No. 4 of 4

Depth (ft.)	SPT*	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
							SP											
80		ND				661.1 80.0		Borehole groundwater screening sample from 81-85 feet bgs. WG-110806-TV-002.										
		ND				657.1 84.0		Oil-In-Soil collected at 84.5 feet was negative.										
85		ND				656.1 85.0	CH	Stiff, dark brown, fat CLAY (CH), mps: 20 mm, no odor, moist.		5			10	85	N	H	H	H
						654.1 87.0		Bottom of Exploration 87 feet.										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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TEST BORING REPORT

Boring No. MW-55-06

Project: Former Delphi Harrison Thermal Systems - Dayton, Ohio
Client: Realm/GM
Contractor: Prosonic

File No.: 79032-347
Sheet No.: 1 of 3
Start: November 9, 2006
Finish: November 9, 2006
Driller: G. Sealey
H&A Rep.: T. Vanage

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type		Sonic		Rig Make & Model: Sonic
Inside Diameter (in.)	5	3.5		Bit Type:
Hammer Weight (lb.)			-	Drill Mud:
Hammer Fall (in.)			-	Casing:
			-	Hoist/Hammer:

Elevation Datum 741.2

Location
N - 5311.87
E - 5035.88

Depth (ft.)	SPT*	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0			S1 78	0.0 7.0		740.4		Concrete										
		4.9				0.8	GW	Loose, black, crushed gravel (GW), mps: 30 mm, slight odor, wet. Oil-In-Soil collected at 2 feet was negative		45	15	30	10					
		4.9				738.7												
		12.9				2.5 738.2												
						3.0	ML	Soft, brown, SILT (ML), mps: 20 mm, moderate petroleum like odor, moist.		5		20	15	60	N	L	L	L
						736.7		FILL										
5		4.7				4.5												
						735.2												
		2.8				6.0												
						734.2												
			S2 120	7.0 17.0		7.0	GW	Loose, brown, well graded GRAVEL with sand (GW), mps: 100 mm, slight odor, moist.	20	35	30	5	5	5				
		5.7																
10		4.6				731.2 10.0												
		108.0				729.2 12.0		Oil-In-Soil collected at 13-14 feet was negative.										
						727.2												
		70.8				14.0	GP	Loose, gray, poorly graded GRAVEL with sand (GP), mps: 80 mm, strong petroleum-like odor, wet, clear coating on grains. Oil-In-Soil collected at 15 feet was positive. Oil-In-Soil collected at 16 feet was positive.	10	50	30	5	5					
15						725.2												
		70.8				16.0	SP	Water present at 15 feet. Loose, gray, poorly graded SAND (SP), mps: 20 mm, strong petroleum-like odor, moist, clear coating on the grains.		5	15	60	15	5				
						724.2												
		21.6	S3 120	17.0 27.0		17.0	SW	Oil-In-Soil collected at 17 feet was positive. Loose, brown, well graded SAND with gravel (SW), mps: 30 mm, moderate petroleum-like odor, moist, clear coating on grains to 20 feet. Oil-In-Soil collected at 18 feet was positive.		15	30	30	20	5				
						722.2												
		0.7				19.0		Oil-In-Soil collected at 19 .5 feet was negative.										
20																		

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (lin. ft.) 67
Rock Cored (lin. ft.)
Samples 7

Boring No. MW-55-06

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None
Toughness: L-Low, M-Medium, H-High
Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification and percentages based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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TEST BORING REPORT

Boring No. MW-55-06
File No. 79032-347
Sheet No. 2 of 3

Depth (ft.)	SPT*	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20							SW	Oil-In-Soil collected at 21 feet was negative.										
		ND				719.7 21.5												
						716.2												
25		ND				25.0	SM	Similar as above except more fines.		10	35	20	10	25				
						714.2												
		ND	S4 120	27.0 37.0		27.0	SW	Loose, brown, well graded SAND with gravel (SW), mps: 20 mm, no odor, moist.		10	30	35	20	5				
30		ND				711.2 30.0												
		ND				708.2 33.0												
35																		
						704.2												
		ND	S5 120	37.0 47.0		37.0												
40		ND				701.2 40.0												
45		ND				696.2 45.0												
			S6 120	47.0 57.0														
		ND				693.2 48.0												

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. MW-55-06

USCS_TB3_DAY USCSLIB3_CLY.GLB USCSTBC3.GDT G:\PROJECTS\79032H-1\HARRISON\-347CM~1\GINT_347.GPJ Dec 20, 06

TEST BORING REPORT

Boring No. MW-55-06
File No. 79032-347
Sheet No. 3 of 3

Depth (ft.)	SPT*	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
50							SW											
						688.4												
		ND				52.8	GW	Loose, brown, well graded GRAVEL with sand (GW), mps: 80 mm, no odor, wet.	30	50	15	5						
						686.4												
55		ND				54.8	SM	Silty SAND (SM), mps: coarse sand, wet.				30	50	20				
		ND				685.9	SW	Loose, brown, well graded SAND (SW), mps: 30 mm, no odor, moist.		10	40	35	10	5				
						55.3												
								Oil-In-Soil collected at 57 feet was negative										
			S7	57.0														
			120	67.0		683.5												
		ND				57.7	CL	Medium stiff, gray, lean CLAY (CL), mps: 20 mm, no odor, moist.		5	10		5	80	N	M	M	M
						683.2	SP	Oil-In-Soil collected at 58.5 feet was negative					95	5				
						58.0		Medium dense, gray, poorly graded SAND (SP), mps: medium sand, no odor, wet.										
		ND																
60																		
						679.2												
		ND				62.0												
65																		
		ND																
						674.2												
						67.0		Bottom of Exploration 67 feet.										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. MW-55-06

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TEST BORING REPORT

Boring No. MW-56-06

Project: Former Delphi Harrison Thermal Systems - Dayton, Ohio
Client: Realm/GM
Contractor: Prosonic

File No.: 79032-347
Sheet No.: 1 of 4
Start: November 13, 2006
Finish: November 16, 2006
Driller: G. Sealey
H&A Rep.: T. Vanage

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	Steel	Sonic		Rig Make & Model: Sonic
Inside Diameter (in.)	6	3.5		Bit Type:
				Drill Mud:
Hammer Weight (lb.)			-	Casing: 6 in. Permanent steel from 0-62 feet bgs
Hammer Fall (in.)			-	Hoist/Hammer:

Elevation Datum 749.0

Location
N - 5317.76
E - 4345.61

Depth (ft.)	SPT*	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0			S1 84	0.0 7.0		748.5 0.5		Asphalt										
							SW	Loose to medium dense, dark brown, silty SAND (SW), no odor, moist.		10	20	10	40	20				
		ND						Oil-In-Soil collected at 3.5 feet was negative.										
5		1.4				744.0 5.0												
						742.0 7.0												
			S2 120	7.0 17.0														
		ND						Oil-In-Soil collected at 9.5 feet was negative.										
10						739.0 10.0	ML	Soft, dark brown, SILT (ML), mps: 30 mm, no odor, moist, brick fragments found. FILL		5			10	85	S	L	L	L
		ND																
		ND				736.0 13.0												
15		ND				734.0 15.0												
						732.0 17.0												
		0.5	S3 120	17.0 27.0		731.0 18.0												
		0.7																
20						729.0												

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (lin. ft.) 97
Rock Cored (lin. ft.)
Samples 11

Boring No. MW-56-06

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None
Toughness: L-Low, M-Medium, H-High
Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification and percentages based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

USCS_TB3_DAY USCSLIB3_CLY.GLB USCSTBC3.GDT G:\PROJECTS\79032H~1\HARRISON\-347CM~1\GINT_347.GPJ Dec 20, 06

TEST BORING REPORT

Boring No. MW-56-06
File No. 79032-347
Sheet No. 2 of 4

Depth (ft.)	SPT*	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20		0.4				20.0	ML											
						728.0												
		0.3				21.0	SW	Loose, brown, well graded SAND (SW), mps: 70 mm, no odor, moist.	5	15	30	35	15					
								Water present at 21.5 feet.										
								Oil-In-Soil collected at 23.9 feet was negative.										
						725.0												
25		ND				24.0	CL	Stiff, brown, lean CLAY (CL), mps: 50 mm, no odor, moist.	5	5				90	N	M	M	M
						722.0												
			S4 120	27.0 37.0		27.0	CL	Soft, gray-brown, sandy lean CLAY (CL), mps: 40 mm, no odor, moist.		5			20	75	N	M	M	M
		ND																
30																		
						714.0												
35		ND				35.0	SW	Loose, brown, well graded SAND (SW), mps: 40 mm, no odor, moist.		15	35	30	15	5				
						713.0												
		0.6				36.0	SP	Loose, gray-brown, poorly graded SAND (SP), mps: 10 mm, no odor, moist.				10	85	5				
						712.0												
		ND	S5 120	37.0 47.0		37.0												
40		ND				40.0												
						709.0												
								Oil-In-Soil collected at 44 feet was negative.										
						705.0												
		ND				44.0	CL	Similar as 27-35 feet.										
45						702.8												
		ND				46.3	SP	Similar as 36-44 feet except brown.										
						702.0												
		ND	S6 120	47.0 57.0		47.0	SW	Loose, brown, well graded SAND with gravel (SW), mps: 50 mm, no odor, moist.	5	20	35	25	10	5				
						699.8												
		ND				49.3		Medium dense, brown, poorly graded SAND (SP), mps: 160 mm, no	5				90	5				

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

USCS_TB3_DAY USCSLIB3_CLY.GLB USCSTBC3.GDT G:\PROJECTS\79032H-1\HARRISON\-347CM-1\GINT_347.GPJ Dec 20, 06

TEST BORING REPORT

Boring No. MW-56-06
File No. 79032-347
Sheet No. 3 of 4

Depth (ft.)	SPT*	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
50							SP	odor, moist										
						697.5												
		ND				51.5	SW	Loose, brown, well graded SAND with gravel (SW), mps: 80 mm, no odor, wet.	10	20	35	20	10	5				
55																		
						692.8												
		ND				56.3	SP	Medium dense, gray, poorly graded SAND (SP), mps: coarse SAND, no odor, moist.				5	90	5				
			S7 78	57.0 64.5				Oil-In-Soil collected at 60 feet was negative.										
60						688.5												
		ND				60.5	CL	Stiff, gray, lean CLAY (CL), mps: 30 mm, no odor, moist.	5				10	85	N	M	M	H
								6 inch permanent steel casing driven to 62 feet.										
			S8 30	64.5 67.0		684.0												
65						65.0	CL	Similar as above except medium stiff.										
		ND																
			S9 120	67.0 77.0														
70						679.0												
		ND				70.0												
						674.0												
75		ND				75.0	SW-SM	Loose, brown, well graded SAND with silt (SW/SM), mps: 40 mm, no odor, moist.		15	35	30	10	10				
			S10 120	77.0 87.0				Oil-In-Soil collected at 79.4 feet was negative.										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

USCS_TB3_DAY USCSLIB3_CLY.GLB USCSTBC3.GDT G:\PROJECTS\79032H~1\HARRISON\-347CM~1\GINT_347.GPJ Dec 20, 06

TEST BORING REPORT

Boring No. MW-56-06
File No. 79032-347
Sheet No. 4 of 4

Depth (ft.)	SPT*	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
						669.5												
80		ND				79.5	CL	Similar as 65-75 feet.										
		ND				666.0 83.0												
85						663.0												
						86.0	SW-SM	Loose, dark brown, well graded SAND with trace gravel (SW/SM), mps: 100 mm, no odor, moist.	5	10	20	30	25	10				
		ND	S11 120	87.0 97.0														
90		ND				659.0 90.0		Oil-In-Soil collected at 94.4 feet was negative.										
95		ND				654.0 95.0	CL	Medium stiff, brown, sandy lean CLAY with gravel (CL), mps: 55 mm, no odor, moist.	5	10		5	10	60	N	M	M	M
						652.0 97.0												

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. MW-56-06

USCS_TB3_DAY USCSLIB3_CLY.GLB USCSTBC3.GDT G:\PROJECTS\79032H-1\HARRISON\-347CM-1\GINT_347.GPJ Dec 20, 06

DRAFT TEST BORING REPORT

Boring No. MW-57-07

Project: Former Delphi Harrison Thermal Systems - Dayton, Ohio
Client:
Contractor: Boart Longyear

File No.: 79032-347
Sheet No.: 1 of 6
Start: April 25, 2007
Finish: May 12, 2007
Driller: C. Barton/M. Bond
H&A Rep.: T. Vanage
Elevation Datum: 737.0
Location: N - E -

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	Steel	-	-	Rig Make & Model: Sonic
Inside Diameter (in.)	6	-	-	Bit Type: -
Hammer Weight (lb.)	-	-	-	Drill Mud: None
Hammer Fall (in.)	-	-	-	Casing: Permanent from 0 - 81.5 feet
				Hoist/Hammer: - -

Depth (ft.)	SPT*	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0						736.8		Asphalt										
		ND				0.3		Hand auger to 6 feet bgs to clear utilities.										
						735.5		Brown sand										
						1.5		Black sand and gravel										
								Oil-In-Soil collected at 1.5 feet was negative										
						733.5												
						3.5		Oil-In-Soil collected at 3.5 feet was negative				5	10	85	N	L	L	L
								Black silt										
						732.0		-FILL-										
5			S1 120	5.0 17.0		5.0		See log SB-191-06										
						731.0												
						6.0												
						730.8												
						6.2												
10																		
15																		
			S2 240	17.0 37.0														
20																		

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

- O Open End Rod
- T Thin Wall Tube
- U Undisturbed Sample
- S Split Spoon
- G Geoprobe

Well Diagram

Riser Pipe, Screen, Filter Sand, Cuttings, Grout, Concrete, Bentonite Seal

Summary

Overburden (lin. ft.)	140
Rock Cored (lin. ft.)	-
Samples	15

Boring No. MW-57-07

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None
Toughness: L-Low, M-Medium, H-High
Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification and percentages based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

USCS_TB3_DAY USCSLIB3_CLV.GLB USCSTBC3.GDT G:\PROJECTS\79032H~1\GINT\79032-347TB.GPJ Jun 4, 07

TEST BORING REPORT

Boring No. MW-57-07
File No. 79032-347
Sheet No. 2 of 6

Depth (ft.)	SPT*	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20																		
25																		
30																		
35						700.4												
			S3 240	37.0 57.0		36.6												
40								See log SB-191-06										
						695.0												
45						42.0												

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. MW-57-07

USCS_TB3_DAY USCSLIB3_CLV.GLB USCSTBC3.GDT G:\PROJECTS\79032\H-1\GINT\79032-347TB.GPJ Jun 4, 07

TEST BORING REPORT

Boring No. MW-57-07
File No. 79032-347
Sheet No. 3 of 6

Depth (ft.)	SPT*	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
50						685.0		See log SB-191-06										
						52.0												
55																		
		15.5	S4 120	57.0 67.0			SP	Medium dense, dark brown, poorly graded SAND (SP), mps: coarse sand, no odor, moist.			10	75	10	5				
60																		
		42.0																
65						672.0												
						65.0												
		36.6						Oil-In-Soil collected at 67 feet was negative									
			S5 120	67.0 77.0														
						669.0												
						68.0												
70																		
						666.0												
						71.0	SW-SC	Medium stiff, brown, clayey SAND with clay and gravel (SW-SC), mps: 140 mm, no odor, moist.	10	15	25	15	5	30				
		ND						Borehole groundwater screening sample from 72 feet bgs. WB-042702-TMV-01										
		ND																
75																		
		ND																
						660.0												
		ND	S6 18	77.0 78.0		77.0	SW	Loose, brown, well graded SAND (SW), mps: 40 mm, no odor, wet.		10	35	20	30	5				
			S7 48	78.0 82.5		658.5 78.5												

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. MW-57-07

USCS_TB3_DAV USCSLIB3_CLV.GLB USCSTBC3.GDT G:\PROJECTS\79032\F-1\GINT\79032-347TB.GPJ Jun 4, 07

TEST BORING REPORT

Boring No. MW-57-07
File No. 79032-347
Sheet No. 4 of 6

Depth (ft.)	SPT*	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
80		6.1					SW-SC	Similar as above except more fines.	5	10	25	10	10	40				
								Permanent casing from 0 - 81.5 feet.										
		2.7																
		ND	S8	82.5 87.0		654.0 83.0												
							SW	Loose, dark brown, well graded SAND with clay (trace) (SW), mps; 150 mm, no odor, wet.		10	30	40	15	5				
85		ND																
		ND																
			S9 12	87.0 92.0														
90							SW	Similar as above										
		ND						Oil-In-Soil collected at 92 feet was negative										
								Borehole groundwater screening sample from 92-97 feet bgs. WB-042807-TMV-01										
		ND	S10 120	92.0 97.0														
		1.1																
95							SW	Similar as above										
		ND						Oil-In-Soil collected at 97 feet was negative										
			S11 120	97.0 107.0														
		0.4																
100							SW	Similar as above		10	30	40	15	5				
		ND						Borehole groundwater screening sample from 102-107 feet bgs. WG-050707-TMV-01										
		ND																
		ND																
105		ND																
		0.4																
		ND	S12 120	107.0 117.0														

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. MW-57-07

USCS_TB3_DAY USCSLIB3_CLV.GLB USCS7BC3.GDT G:\PROJECTS\79032H~1\GINT\79032-347TB.GPJ Jun 4, 07

TEST BORING REPORT

Boring No. MW-57-07
File No. 79032-347
Sheet No. 5 of 6

Depth (ft.)	SPT*	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
110		ND																
		ND																
		ND																
		ND					SW	Similar as above										
		0.2						Borehole groundwater screening sample from 112-117 feet bgs. WG-050707-TMV-02										
		0.8																
115																		
		0.4																
			S13 96	117.0 127.0				Oil-In-Soil collected at 117 feet was negative										
		ND																
120																		
		ND																
		ND						Borehole groundwater screening sample from 122-127 feet bgs. WG-050707-TMV-03										
		ND																
						613.0												
		ND				124.0												
125							SW	Similar as above except more large gravel	15	10	35	30	5	5				
		ND																
						610.0												
			S14 120	127.0 137.0		127.0		Loose, brown, well graded SAND with silt (SW-SM), mps: 50 mm, no odor, moist, interbedded lens of SP.										
		ND																
130																		
		ND																
		ND						Borehole groundwater screening sample from 132-137 feet bgs. WG-050707-TMV-04										
		ND																
		ND																
135																		
		1.0						Oil-In-Soil collected at 137 feet was negative										
			S15 0	137.0 140.0				No Recovery, Driller indicated sands from drilling conditions.										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. MW-57-07

USCS_TB3_DAY USCSLIB3_CLV.GLB USCSTBC3.GDT G:\PROJECTS\79032\H-IVGINT\79032-347TB.GPJ Jun 4, 07

TEST BORING REPORT

Boring No. MW-57-07
File No. 79032-347
Sheet No. 6 of 6

Depth (ft.)	SPT*	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
						597.0												
140						140.0		Bottom of exploration at 140 feet										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. MW-57-07

USCS_TB3_DAY USCSLIB3_CLV.GLB USCSTBC3.ODT G:\PROJECTS\79032\H-I\GINT\79032-347TB.GPJ Jun 4, 07

DRAFT TEST BORING REPORT

Boring No. MW-58-07

Project: Former Delphi Harrison Thermal Systems - Dayton, Ohio
Client:
Contractor: Boart Longyear

File No.: 79032-347
Sheet No.: 1 of 5
Start: April 30, 2007
Finish: May 10, 2007
Driller: C. Barton
H&A Rep.: T. Vanage
Elevation Datum: 749.0
Location: N - E -

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	Steel	-	-	Rig Make & Model: Sonic
Inside Diameter (in.)	6	-	-	Bit Type: -
Hammer Weight (lb.)	-	-	-	Drill Mud: -
Hammer Fall (in.)	-	-	-	Casing: Permanent from 0 - 94 feet.
				Hoist/Hammer: - -

Depth (ft.)	SPT*	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0						748.6		Asphalt										
		ND				0.4		Hand auger to clear utilities, 0 - 5 feet.										
						747.5		Loose, brown, sand and gravel, mps: 70 mm, no odor, dry.										
		ND				1.5	SP-SM	Loose, black, fine SAND with silt (SP/SM), mps: 5 mm, no odor, moist.										
5						744.0												
						5.0												
			S1 240	7.0 27.0														
10		ND																
15		ND						See log SB-189-06 or MW-56-06										
20		ND																

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (lin. ft.)	109
Rock Cored (lin. ft.)	-
Samples	10

Boring No. MW-58-07

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None
Toughness: L-Low, M-Medium, H-High
Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification and percentages based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

USCS_TB3_DAY USCSLIB3_CLV.GLB USCSTBC3.GDT G:\PROJECTS\79032\H-IVGINT\79032-347TB.GPJ Jun 4, 07

TEST BORING REPORT

Boring No. MW-58-07
File No. 79032-347
Sheet No. 2 of 5

Depth (ft.)	SPT*	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20								Oil-In-Soil collected at 23.3 feet was negative See log for MW-56-06										
25		ND																
		ND	S2 120	27.0 37.0			CL											
30		ND																
		ND																
35		ND																
		0.2				713.0 36.0	SP											
			S3 110	37.0 47.0														
40		ND																
		ND																
45		ND																
			S4 120	47.0 57.0														
		ND																

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. MW-58-07

USCS_TB3_DAY USCSLIB3_CLV.GLB USCSTBC3.GDT G:\PROJECTS\79032H-1\GINT\79032-347TB.GPJ Jun 4, 07

TEST BORING REPORT

Boring No. MW-58-07
File No. 79032-347
Sheet No. 3 of 5

Depth (ft.)	SPT*	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
50		ND						See log for MW-56-06										
		ND																
		ND																
55		ND																
			S5 120	57.0 67.0			SW-SM	Loose, gray, well graded SAND (SW), mps: 80 mm, no odor, wet.	10	20	30	10	20	10				
		1.4																
60																		
		ND				686.5												
						62.5	SP	Loose, gray, poorly graded SAND (SP), mps: 20 mm, no odor, moist.			10	65	20	5				
						685.5		Oil-In-Soil collected at 63.5 feet was negative										
						63.5	CL	Loose, gray, lean CLAY (CL), mps: 50 mm, no odor, moist.	5	5	5		5	80	N	S	H	H
		ND																
65																		
		ND																
			S6 120	67.0 77.0														
		ND																
70																		
		ND																
						676.0												
						73.0	SW	Loose, dark brown, well graded SAND (SW), mps: 60 mm, no odor, moist.		5	35	40	10	5				
		3.5						Oil-In-Soil collected at 73 feet was negative.										
75																		
		ND																
			S7 120	77.0 87.0														
		ND																

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. MW-58-07

USCS_TB3_DAY USCSLIB3_CLV.GLB USCSTBC3.GDT G:\PROJECTS\79032H~1\GINT\79032-347TB.GPJ Jun 4, 07

TEST BORING REPORT

Boring No. MW-58-07
File No. 79032-347
Sheet No. 4 of 5

Depth (ft.)	SPT*	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
						669.0	SW											
80						80.0	CL	Medium stiff, brown, sandy lean CLAY (CL), mps: 50 mm, no odor, moist.		5	10	5	10	70	N	M	M	M
		ND																
		ND																
85						663.7												
						85.3	SW	Loose, dark brown, well graded SAND (SW), mps: 70 mm, no odor, moist.		10	40	30	15	5				
			S8 120	87.0 97.0														
		ND																
90		ND																
		3.7						Oil-In-Soil collected at 93 feet was negative.										
						656.0												
						93.0	CH	Stiff, dark brown, poorly graded FAT CLAY (CH), mps: 10 mm, no odor, moist.				5	10	85				
		ND						Permanent casing from 0-94 feet.										
95						654.0												
						95.0	SP	Loose, dark brown, poorly graded SAND (SP), mps: 50 mm, no odor, moist.		5	60	20	10	5				
		ND																
						652.0												
			S9 120	97.0 107.0		97.0	SW-SM	Loose, dark brown, well graded SAND (SW-SM), mps: 50 mm, no odor, wet.	5	5	20	35	25	10				
		ND																
100		ND																
		ND																
105		ND																
			S10 0	107.0 109.0														

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. MW-58-07

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TEST BORING REPORT

Boring No. MW-58-07
File No. 79032-347
Sheet No. 5 of 5

Depth (ft.)	SPT*	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
						640.0 109.0		Bottom of Exploration 109 feet. No Recovery, driller indicated sand wash out during retrieval.										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. MW-58-07

USCS_TB3_DAY USCSLIB3_CLV.GLB USCSTBC3.GDT G:\PROJECTS\79032H~1\GINT\79032-347TB.GPJ Jun 4, 07

DRAFT TEST BORING REPORT

Boring No. MW-59-07

Project: Former Delphi Harrison Thermal Systems - Dayton, Ohio
Client:
Contractor: Boart Longyear

File No.: 79032-347
Sheet No.: 1 of 6
Start: May 8, 2007
Finish: May 11, 2007
Driller: C. Barton
H&A Rep.: T. Vanage
Elevation
Datum
Location
N -
E -

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	Steel	-	-	Rig Make & Model: Sonic
Inside Diameter (in.)	6	-	-	Bit Type: -
Hammer Weight (lb.)	-	-	-	Drill Mud: -
Hammer Fall (in.)		-	-	Casing: Permanent from 0 - to 78 feet.
				Hoist/Hammer: - -

Depth (ft.)	SPT*	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0								Hand auger to clear utilities from 0 to 5 feet.										
5		ND	S1 24	5.0 7.0		5.0	SW-SM	Loose, brown to black, well graded SAND (SW-SM), mps: 80 mm, no odor, moist.		10	20	20	40	10				
		ND						Oil-In-Soil collected at 5, 7, and 8.5 feet was negative										
			S2 120	7.0 17.0														
		ND				8.5	ML	Medium stiff, brown, elastic SILT (ML), mps: 120 mm, no odor, moist.		5			5	90	N	L	L	L
10		ND																
		ND																
15		ND				14.5	SM	Loose, black, silty SAND (SM), mps: 40 mm, no odor, moist, nail and bricks observed. -FILL-		5	5	15	40	35				
		ND	S3 120	17.0 27.0		17.0	ML	Similar as above										
		ND						Oil-In-Soil collected at 21 feet was negative										
20																		

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (lin. ft.)	150
Rock Cored (lin. ft.)	-
Samples	15

Boring No. MW-59-07

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None
Toughness: L-Low, M-Medium, H-High
Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification and percentages based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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TEST BORING REPORT

Boring No. MW-59-07
File No. 79032-347
Sheet No. 2 of 6

Depth (ft.)	SPT*	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20		ND					ML											
		ND																
						23.0	SW	Loose, brown, well graded SAND (SW), mps: 90 mm, no odor, wet at 25.5 feet.	10	10	40	20	15	5				
		ND						Water present at 23.5 feet. Oil-In-Soil collected at 24 feet was negative										
25						25.0	CL	Stiff, brown, lean CLAY (CL), mps: coarse sand, no odor, moist.			10		5	85	N	M	M	M
		ND																
		ND	S4 120	27.0 37.0														
		ND																
30							CL	Similar as above										
		ND																
		ND																
		ND																
35		ND						3-inch sand lens at 36.5 feet										
		ND						Oil-In-Soil collected at 36.5 feet was negative										
			S5 120	37.0 47.0														
		ND																
40		ND					CL	Similar as above										
		ND																
		ND																
45																		
		ND	S6 120	47.0 57.0														
		ND																

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. MW-59-07

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TEST BORING REPORT

Boring No. MW-59-07
File No. 79032-347
Sheet No. 3 of 6

Depth (ft.)	SPT*	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
50		ND					CL	Similar as above										
		ND																
		0.4				53.0	SW	Loose, dark brown, well graded SAND with gravel (SW), mps: 140 mm, no odor, wet.	20	10	35	25	5	5				
		1.1						Oil-In-Soil collected at 55 feet was negative										
55		ND						Borehole groundwater screening sample from 53-55 feet WG-050807-TMV-001										
		ND				55.0	CH	Very stiff, dark brown, FAT CLAY (CH), mps: 50 mm, no odor, moist.		10	5			85	N	H	H	H
			S7 120	57.0 67.0														
		ND																
60		ND																
		ND																
65		ND				64.5	SW	Loose, dark brown, well graded SAND (SW) mps: 50 mm, no odor, moist.		10	30	35	20	5				
								Borehole groundwater screening sample from 65-72 feet WG-050807-TMV-002										
		ND	S8 120	67.0 77.0														
		ND																
70		ND																
		ND						Oil-In-Soil collected at 72 feet was negative										
						72.0	CH	Stiff, dark brown, FAT CLAY (CH), mps: 40 mm, no odor, moist.	5	5	5			85	N	H	H	H
		ND																
		ND																
75		ND																
								Oil-In-Soil collected at 77 feet was negative										
		ND	S9 120	77.0 87.0				Permanent casing from 0-78 feet.										
						78.0	SM	Medium dense, dark brown, silty SAND (SM), mps: 40 mm, no odor, moist.			5	15	40	40				

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. MW-59-07

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TEST BORING REPORT

Boring No. MW-59-07
File No. 79032-347
Sheet No. 4 of 6

Depth (ft.)	SPT*	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
80		ND					SW-SM	Loose, dark brown to gray, well graded SAND with silt (SW-SM), mps: 70 mm, no odor, wet.	5	5	25	40	15	10				
		ND						Borehole groundwater screening sample from 78-82 feet WG-050907-TMV-001										
		ND				82.0	SM	Medium dense, dark brown, silty SAND (SM), mps: 60 mm, no odor, moist. Interbedded lens of SILT (ML)	5	5		10	40	40				
		ND																
85		ND																
		ND																
		ND	S10 120	87.0 97.0														
		ND																
90							SM	Similar to above except interbedded pockets of (SW).										
		ND						Oil-In-Soil collected at 92.5 feet was negative										
								Borehole groundwater screening sample from 92-97 feet WG-050907-TMV-002										
		ND																
95		ND																
			S11 120	97.0 107.0			SW	Loose, brown, well graded SAND (SW), mps: 60 mm, no odor, moist.		5	40	35	15	5				
		ND																
100		ND																
								Borehole groundwater screening sample from 102-107 feet WG-050907-TMV-003										
		ND																
105		ND																
			S12 120	107.0 117.0														

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. MW-59-07

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TEST BORING REPORT

Boring No. MW-59-07
File No. 79032-347
Sheet No. 5 of 6

Depth (ft.)	SPT*	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
110		ND																
		ND																
		ND																
		ND						Borehole groundwater screening sample from 112-117 feet WG-051107-TMV-001										
115								Oil-In-Soil collected at 115 feet was negative										
						115.0	SW-SM	Similar to above except more fines		5	40	25	20	10				
		ND																
			S13 120	117.0 127.0		117.0	SW	Loose, brown, well graded SAND with gravel (SW), mps: 40 mm, no odor, wet.		25	50	10	10	5				
		ND																
120								Borehole groundwater screening sample from 122-127 feet WG-051107-TMV-002										
		ND																
		ND																
						124.5	GW	Loose, brown, well graded GRAVEL (GW), mps:	65	30	5							
125							SW-SM	Loose, brown, well graded SAND with silt (SW-SM), mps: 30 mm, no odor, wet. Oil-In-Soil collected at 125 feet was negative			20	45	25	10				
						124.8												
		ND				125.8	GP	Loose, brown, poorly graded GRAVEL with sand (GP), mps: 30 mm, no odor, wet.		65	30	5						
			S14 84	127.0 137.0														
130		ND				130.0	SW	Loose, brown, well graded SAND (SW), mps: 50 mm, no odor, wet.		20	40	25	10	5				
								Borehole groundwater screening sample from 132-137 feet WG-051107-TMV-003										
		ND																
		ND																
135						135.0	SP	Loose, brown, poorly graded SAND (SP), mps: 70 mm, no odor, wet.		5	70	20	5					
		ND																
			S15 156	137.0 150.0														
		ND																

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. MW-59-07

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TEST BORING REPORT

Boring No. MW-59-07
File No. 79032-347
Sheet No. 6 of 6

Depth (ft.)	SPT*	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
140								Borehole groundwater screening sample from 142-147 feet WG-051107-TMV-004										
		ND					SP											
		ND																
145		ND						Similar to above except sands becoming finer			10	20	65	5				
								Oil-In-Soil collected at 146.5 feet was negative										
		ND				147.0	CL	Medium stiff to stiff, dark brown, lean CLAY (CL), mps: 40 mm, no odor, moist.		5	10		85	n	m	M	M	
		ND																
150						149.5	SW	Loose, brown, well graded SAND (SW), mps: 30 mm, no odor, moist.		10	40	30	15	5				
						150.0		Bottom of Exploration at 150 feet.										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. MW-59-07

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DRAFT TEST BORING REPORT

Boring No. MW-60-07

Project: Former Delphi Harrison Thermal Systems - Dayton, Ohio
Client:
Contractor: Boart Longyear

File No.: 79032-347
Sheet No.: 1 of 3
Start: May 16, 2007
Finish: May 23, 2007
Driller: C. Barton
H&A Rep.: T. Vanage
Elevation Datum: 650.2
Location: N - 647733.7, E - 1494681.91

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	Steel	-	-	Rig Make & Model: Sonic
Inside Diameter (in.)	6		-	Bit Type: -
Hammer Weight (lb.)	-	-	-	Drill Mud: -
Hammer Fall (in.)	-	-	-	Casing: Permanent from 0-27 feet.
				Hoist/Hammer: - -

Depth (ft.)	SPT*	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0								Hand auger to clear utilities.										
						645.2												
5		ND	S1 24	5.0 7.0		5.0		No soil description										
			S2 120	7.0 17.0														
						641.7												
		ND				8.5	ML	Medium stiff, dark brown, elastic SILT (ML), mps: 100 mm, no odor, moist.	5				5	90	N	L	L	M
10		ND																
						638.2												
						12.0												
						636.2												
		ND				14.0	SM	Loose, black, silty SAND (SM), mps: 40 mm, no odor, moist.		5	30	20	25	20				
15																		
						634.2												
		ND				16.0	ML	Medium stiff, dark brown, elastic SILT (ML), mps: 100 mm, no odor, moist.										
			S3 120	17.0 27.0														
20																		

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

- O Open End Rod
- T Thin Wall Tube
- U Undisturbed Sample
- S Split Spoon
- G Geoprobe

Well Diagram

- Riser Pipe
- Screen
- Filter Sand
- Cuttings
- Grout
- Concrete
- Bentonite Seal

Summary

Overburden (lin. ft.)	57
Rock Cored (lin. ft.)	-
Samples	7

Boring No. MW-60-07

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None
Toughness: L-Low, M-Medium, H-High
Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification and percentages based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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TEST BORING REPORT

Boring No. MW-60-07
File No. 79032-347
Sheet No. 2 of 3

Depth (ft.)	SPT*	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20							ML											
						627.2												
		ND				23.0	SW	Loose, tan-brown, well graded SAND (SW), mps: 140 mm, no odor, wet. Wet at 23.2 feet.	10	10	40	20	15	5				
25						624.7												
		ND				25.5	CL	Medium stiff, brown, lean CLAY (CL), mps: coarse sand, no odor, moist.			10		5	80	N	M	M	M
			S4 120	27.0 37.0				Permanent steel casing from 0-27 feet										
30		ND					CL	Similar as above										
35																		
			S5 120	37.0 47.0														
40																		
		ND					CL	Similar as above										
45																		
			S6 96	47.0 57.0														

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. MW-60-07

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TEST BORING REPORT

Boring No. MW-60-07
File No. 79032-347
Sheet No. 3 of 3

Depth (ft.)	SPT*	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
50							CL											
						596.4												
		ND				53.8	SW	Loose, brown, well graded SAND with gravel (SW), mps: 70 mm, no odor, wet.	15	15	35	25	5	5				
55			S7	55.0		594.7												
		ND	24	57.0		55.5	CH	Stiff, dark brown-gray, fat CLAY (CH), mps: 50 mm, no odor, moist.		10	5			85	N	H	H	H
						593.2												
						57.0		Bottom of Exploration at 57 Feet.										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. MW-60-07

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DRAFT TEST BORING REPORT

Boring No. MW-61-07

Project: Former Delphi Harrison Thermal Systems - Dayton, Ohio
Client:
Contractor: Boart Longyear

File No.: 79032-347
Sheet No.: 1 of 5
Start: May 21, 2006
Finish: May 24, 2007
Driller: C. Barton
H&A Rep.: T. Vanage
Elevation Datum 731.2
Location
N - 648046.33
E - 1494535.38

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	Steel	-	-	Rig Make & Model: Sonic
Inside Diameter (in.)	6		-	Bit Type: -
				Drill Mud: -
Hammer Weight (lb.)	-	-	-	Casing: Permanent from 0-61 feet
Hammer Fall (in.)	-	-	-	Hoist/Hammer: - -

Depth (ft.)	SPT*	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0								Utilities cleared by city of Dayton, Test Pit from 0-12 feet.										
						727.1												
						4.1		0-4 Sands										
5																		
10								4-10 Gravel										
						719.2												
		ND	S1 120	12.0 17.0		12.0	SM	Loose, brown, silty SAND with gravel (SM), mps: 110 mm, glass found. Oil-In-Soil collected at 17 feet was negative -FILL-	5	15	20	10	10	40				
15		ND																
		ND																
			S2 120	17.0 27.0														
		ND																
20							SM	Similar as above except more sands and gravels. Oil-In-Soil collected at 21 feet was negative	10	20	20	20	10	20				

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (lin. ft.) 130
Rock Cored (lin. ft.) -
Samples 14

Boring No. MW-61-07

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None
Toughness: L-Low, M-Medium, H-High
Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification and percentages based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

USCS_TB3_DAY USCSLIB3_CLV.GLB USCSTBC3.GDT G:\PROJECTS\79032H~1\GINT\UPDATE~1\79032-347TB.GPJ Jun 10, 07

TEST BORING REPORT

Boring No. MW-61-07
File No. 79032-347
Sheet No. 2 of 5

Depth (ft.)	SPT*	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20		ND				710.2	SM											
						21.0	ML	Soft to medium stiff, dark brown, sandy SILT (ML), mps: 50 mm, no odor, moist.	10	5		10	15	60	S	L	L	M
		ND																
		ND																
25		ND																
			S3 120	27.0 37.0														
		ND																
30								Oil-In-Soil collected at 31 feet was negative										
		ND																
		ND																
						696.7												
35		ND				34.5	SW-SM	Loose, dark brown, well graded SAND (SW-SM), mps: 50 mm, no odor, wet.		10	40	20	20	10				
			S4 120	37.0 47.0		693.7												
		ND				37.5	GP	Loose, brown, poorly graded GRAVEL with sand (GP), mps: 30 mm, no odor, wet.	5	60	30	5						
40																		
		ND						Oil-In-Soil collected at 42.5 feet was negative										
						688.7												
						42.5	SM	Medium dense, brown, silty SAND (SM), mps: 50 mm, no odor, moist.			20	20	30	30				
		ND																
		ND				686.2												
45						45.0	SW	Loose, brown, well graded SAND (SW), mps: 50 mm, no odor, moist.	10	20	20	30	15	5				
		ND																
			S5 120	47.0 57.0														
		ND																

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. MW-61-07

USCS_TB3_DAY USCSLIB3_CLV.GLB USCSTBC3.GDT G:\PROJECTS\79032H~1\GINT\UPDATE~1\79032-347TB.GPJ Jan 10, 07

TEST BORING REPORT

Boring No. MW-61-07
File No. 79032-347
Sheet No. 3 of 5

Depth (ft.)	SPT*	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
50		ND				680.5	SW											
						50.7	SM	Loose, brown, silty SAND (SM), mps: 40 mm, no odor, wet.		5	35	10	20	30				
		ND																
		ND																
55						675.2												
						56.0	SP	Loose, brown, poorly graded SAND (SP), mps: coarse sand, no odor, moist. Oil-In-Soil collected at 57.5 feet was negative			15	70	10	5				
			S6	57.0		673.7												
		ND	72	63.0		57.5	CL	Stiff, dark brown, lean CLAY with gravel (CL), mps: 110 mm, no odor, moist.	10	5	10			75	N	M	M	H
		ND						Permanent steel casing from 0-61 feet										
60								TILL										
		ND																
		ND																
			S7	63.0														
			45	67.0														
		ND																
65		ND																
			S8	67.0														
			120	77.0														
		ND																
70		ND																
		ND																
		ND				658.7												
						72.5	SM	Loose, dark brown, silty SAND (SW), mps: 180 mm, no odor, moist.	10	10	30	20	5	25				
						656.7												
75		ND				74.5	CL	Medium stiff, brown, very sandy lean CLAY (CL), mps: 70 mm, no odor, moist.		15	10	20	5	50	S	M	M	M
		ND																
						654.2												
	not working		S9	77.0		77.0	SM	Loose, light brown, silty SAND with gravel (SM), mps: 140 mm, no odor, wet.	15	20	20	15	10	20				
			60	82.0														

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. MW-61-07

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TEST BORING REPORT

Boring No. MW-61-07
File No. 79032-347
Sheet No. 4 of 5

Depth (ft.)	SPT*	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
80																		
		ND	S10 60	82.0 87.0														
85		0.1					SM	Similar as above except moist										
		0.4																
		0.3	S11 120	87.0 97.0														
						642.2												
90						89.0	SW-SM	Loose, brown, well graded SAND with silt (SW/SM), mps: 40 mm, no odor, wet.		5	40	30	15	10				
		ND																
		ND																
						637.7												
		ND				93.5	SM	Loose, light brown, silty SAND with gravel (SM), mps: 140 mm, no odor, wet.										
95																		
		ND																
						634.2												
			S12 120	97.0 107.0		97.0	SW	Loose, brown, well graded SAND (SW), mps: 60 mm, no odor, wet.	5	10	40	25	15	5				
		ND																
100		ND																
		ND																
		ND																
105		ND																
			S13 120	107.0 117.0														
		ND																

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. MW-61-07

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TEST BORING REPORT

Boring No. MW-61-07
File No. 79032-347
Sheet No. 5 of 5

Depth (ft.)	SPT*	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
110		ND					SW	Similar as above										
		ND																
		ND																
		ND				616.5												
115						114.7	SP	Loose, brown, poorly graded SAND (SP), mps: coarse sand, no odor, moist.			10	70	20					
		ND																
			S14 1.5	117.0 130.0														
120																		
125																		
130						601.2 130.0		Bottom of Exploration at 130 Feet.										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. MW-61-07

USCS_TB1_DAY USCSJJB3_CLV.GLB USCSTBC3.GDT G:\PROJECTS\79032H-I\QINTUI\PDATE-I\79032-347TB.GPJ Jan 16, 07

DRAFT TEST BORING REPORT

Boring No. MW-62-07

Project: Former Delphi Harrison Thermal Systems - Dayton, Ohio
Client:
Contractor: Boart Longyear

File No.: 79032-347
Sheet No.: 1 of 3
Start: May 22, 2007
Finish: May 23, 2007
Driller: C. Barton
H&A Rep.: T. Vanage
Elevation Datum: 742.8
Location: N - 647835.41, E - 1494085.34

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	Steel	-	-	Rig Make & Model: Sonic
Inside Diameter (in.)	6		-	Bit Type: -
Hammer Weight (lb.)	-	-	-	Drill Mud: -
Hammer Fall (in.)	-	-	-	Casing: Permanent from 0-54.5 feet.
				Hoist/Hammer: - -

Depth (ft.)	SPT*	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0								Hand auger to clear utilities.										
5		1.4	S1 24	5.0 7.0		737.8 5.0	SM	Loose, black, silty SAND (SM), mps: 30 mm, no odor, dry.		15	20	30	20	15				
		0.3																
			S2 120	7.0 17.0				Oil-In-Soil collected at 7 feet was negative										
		0.3				734.8 8.0	ML	Soft, black, SILT (ML), mps: 5 mm, no odor, moist. Shells present			5		10	85	S	L	L	L
10		0.3						Oil-In-Soil collected at 8 feet was negative										
		1.8																
		0.4																
		0.3																
15						726.8 16.0	SW	Loose, brown, well graded SAND with gravel (SW), mps: 60 mm, no odor, wet. Water present at 16 feet. Oil-In-Soil collected at 16 feet was negative	5	20	40	20	10	5				
		0.2																
		0.1	S3 120	17.0 27.0														
		ND																
20																		

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (lin. ft.) 77
Rock Cored (lin. ft.) -
Samples 8

Boring No. MW-62-07

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None
Toughness: L-Low, M-Medium, H-High
Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification and percentages based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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TEST BORING REPORT

Boring No. MW-62-07
File No. 79032-347
Sheet No. 2 of 3

Depth (ft.)	SPT*	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20		ND																
		ND					SW	Similar as above with a 6 inch lens of (SP) from 24-24.5 feet										
25		ND																
		ND																
			S4 120	27.0 37.0														
		0.1																
30		0.1						Similar as above except moist, less gravel, and coarse sand		10	10	40	35	5				
		0.2																
		ND																
		0.1																
35		0.3																
		0.2																
			S5 72	37.0 47.0														
40		ND					SW	Loose, brown, well graded SAND with gravel (SW), mps: 60 mm, no odor, wet.										
		ND																
		ND																
45		ND																
		ND																
			S6 120	47.0 57.0														
		ND																

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. MW-62-07

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TEST BORING REPORT

Boring No. MW-62-07
File No. 79032-347
Sheet No. 3 of 3

Depth (ft.)	SPT*	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
50		ND				691.3 51.5		Oil-In-Soil collected at 53.2 feet was negative										
		0.3				689.6 53.2	CL	Medium stiff to stiff, dark brown-gray, lean CLAY (CL), mps: 50 mm, no odor, moist.		10	5		15	70	N	M	M	M
55		0.7				686.3 56.5	SW-SM	Loose, dark brown, well graded SAND (SW-SM), mps: 70 mm, no odor, moist.										
			S7 120	57.0 67.0														
		ND																
60		ND					SW-SM	Similar as above										
		0.3																
		0.8																
		1.4																
65		5.4						Oil-In-Soil collected at 65.5 feet										
		5.4																
		2.2	S8 120	67.0 77.0														
		2.0																
		1.8																
70		1.6																
		ND																
		ND																
75		ND				666.9 75.9		Loose, brown, poorly graded SAND (SP), mps: 20 mm, no odor, moist.		5	15	65	10	5				
		ND				665.8 77.0		Bottom of Exploration at 77 Feet.										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. MW-62-07

USCS_TB3_DAY USCSLIB3_CLV.GLB USCSTBC3.GDT G:\PROJECTS\79032H-1\GINTUPDATE-1\79032-347TB.GPJ Jan 10, 07

DRAFT TEST BORING REPORT

Boring No. MW-63-07

Project: Former Delphi Harrison Thermal Systems - Dayton, Ohio
Client: Realm/GM
Contractor: Boart Longyear

File No.: 79032-347
Sheet No.: 1 of 3
Start: July 12, 2007
Finish: July 12, 2007
Driller: J. Tidwell
H&A Rep.: T. Vanage
Elevation Datum: 730.4
Location: N - E -

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type		Sonic		Rig Make & Model: Minisonic
Inside Diameter (in.)		3.5		Bit Type:
Hammer Weight (lb.)			-	Drill Mud:
Hammer Fall (in.)			-	Casing:
				Hoist/Hammer:

Depth (ft.)	SPT*	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0		ND	S1 48	0.0 10.0		727.4	ML	Medium stiff, dark brown, SILT (ML), mps: 100 mm, no odor, moist.	10				10	80	S	L	L	L
						3.0		Missing recovery due to large cobble.										
5						721.4												
		ND				9.0	SW	Loose, tan-brown, well graded SAND (SW), mps: 50 mm, no odor, wet.		10	30	40	15	5				
10		ND	S2 120	10.0 20.0		720.4 10.0	GW	Loose, brown, well graded gravel (GW), mps: 150 mm, no odor, wet.	60	30	10							
						716.4												
		ND				14.0	MH	Medium stiff, dark brown, sandy elastic SILT (MH), mps: 50 mm, no odor, moist.		5	5	10	10	70	S	L	L	L
15																		
20						710.4												

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (lin. ft.) 50
Rock Cored (lin. ft.)
Samples 5

Boring No. MW-63-07

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None
Toughness: L-Low, M-Medium, H-High
Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification and percentages based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

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TEST BORING REPORT

Boring No. MW-63-07
File No. 79032-347
Sheet No. 2 of 3

Depth (ft.)	SPT*	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20			S3 24	20.0 30.0		20.0												
		ND					MH	Poor recovery: 1st attempt washed out. 2nd attempt 2 foot recovery. Medium stiff, dark brown, sandy elastic SILT (MH), mps: 50 mm, no odor, moist.										
25																		
30		ND	S4 120	30.0 40.0		700.4 30.0	SW	Loose, brown, well graded SAND (SW), mps: 30 mm, no odor, moist.		10	40	40	10					
35		ND				693.4 37.0		8 inch pocket of poorly graded gravel at 36 feet.										
		ND				692.9 37.5	SW-SM	Medium dense, dark brown, well graded SAND with silt (SW/SM), mps: 40 mm, no odor, moist.		5	30	25	30	10				
40			S5 96	40.0 50.0														
		1.1				686.4 44.0												
45		0.4				685.4 45.0	SM	Medium dense, dark brown, silty SAND (SM), mps: 30 mm, no odor, moist.		5	10		65	20				
		0.5				683.4 47.0	SW	Loose, brown, well graded SAND with gravel (SW), mps: 180 mm, no odor, moist.	20	15	35	20	10					

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. MW-63-07

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TEST BORING REPORT

Boring No. MW-63-07
File No. 79032-347
Sheet No. 3 of 3

Depth (ft.)	SPT*	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
50						680.4 50.0		Bottom of Exploration 50 feet.										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. MW-63-07

USCS_TB3 USCSLIB3_CLV.GLB USCSTBC3.GDT G:\PROJECTS\79032H~1\HARRISON\347CM~1\PHASE1~1\GINT_347.GPJ Jul 18, 07

DRAFT TEST BORING REPORT

Boring No. MW-64-07

Project: Former Delphi Harrison Thermal Systems - Dayton, Ohio
Client: Realm/GM
Contractor: Frontz Drilling company

File No.: 79032-347
Sheet No.: 1 of 2
Start: October 29, 2007
Finish: October 30, 2007
Driller: D. Schrecengost
H&A Rep.: T. Vanage
Elevation Datum 731.0
Location
N -
E -

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	Steel	Sonic		Rig Make & Model: Sonic
Inside Diameter (in.)	8	3.5		Bit Type:
				Drill Mud:
Hammer Weight (lb.)			-	Casing: Permanent 8 in from 0-28.5 ft.
Hammer Fall (in.)			-	Hoist/Hammer:

Depth (ft.)	SPT*	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0		ND	S-1 48	0.0 5.0		729.5	ML	Loose, dark brown, sandy silt with gravel, mps: 150 mm, no odor, moist.	20	15	5	10		50	S-R	L	L	L
		ND		1.5				Similar as above except more fines and less gravel.		10	5	10		75	S	M	M	M
								Oil-In-Soil collected at 5.5 feet was negative.										
5			S-2 30	5.0 10.0		725.0												
		ND				6.0	GP	Loose, brown, poorly graded gravel (GP), mps: 100 mm, no odor, wet. Water present at 6 feet.	10	70	15	5						
10			S-3 60	10.0 15.0		720.2												
		ND				10.8	SP	Loose, brown, poorly graded SAND with gravel (SP), mps: 60 mm, no odor, wet.		20	60	15	5					
		0.3				717.0												
		0.8				14.0												
15			S-4 48	15.0 19.0		716.0 15.0		Similar as above except moist.										
		ND				714.0 17.0												
			S-5 96	19.0 29.0		711.0												
20																		

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water

Sample Identification

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

Well Diagram

Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary

Overburden (lin. ft.) 49
Rock Cored (lin. ft.)
Samples 7

Boring No. MW-64-07

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None
Toughness: L-Low, M-Medium, H-High
Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification and percentages based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

USCS_TB3 USCSLIB3_CLV.GLB USCSTBC3.GDT G:\PROJECTS\79032H~1\GINT\GINT_347.GPJ Nov 19, 07

DRAFT TEST BORING REPORT

Boring No. MW-64-07
File No. 79032-347
Sheet No. 2 of 2

Depth (ft.)	SPT*	PID (ppm)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20		ND				20.0	GP	Loose, brown, poorly graded GRAVEL with sand (GP), mps: 20 mm, no odor, moist.		80	15	5						
25								Oil-In-Soil collected at 26.5 feet was negative.										
						704.5												
		ND				26.5	CL	Stiff, dark brown, sandy lean CLAY (CL), mps: 30 mm, no odor, moist. TILL		5	5	5	10	75	S	L	M	M
								Permanent 8 in steel casing set from 0-28.5 feet.										
						702.0												
		ND	S-6 120	29.0 39.0		29.0	SP	Loose, brown, poorly graded SAND with gravel (SP), mps: 35 mm, no odor, moist.		10	80	10						
30								Oil-In-Soil collected at 31 feet was negative.										
						700.0												
		ND				31.0	CL	Stiff, brown, lean CLAY (CL), mps: 15 mm, no odor, moist. TILL		5		5	10	80	N	M	M	H
35																		
						693.0												
		ND				38.0	SP	Medium dense, brown, poorly graded SAND (SP) mps: 70 mm, no odor, moist.		5		85	10					
			S-7 120	39.0 49.0														
40						690.5												
		ND				40.5	SW	Loose, brown, well graded SAND with gravel (SW), mps: 40 mm, no odor, wet.		20	40	25	10	5				
		ND																
45						686.0												
						45.0												
						682.0												
						49.0		Bottom of Exploration 49 feet.										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler size.

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. MW-64-07

USCS_TB3 USCSLIB3_CLV.GLB USCSTBC3.GDT G:\PROJECTS\79032H~1\GINT\GINT_347.GPJ Nov 19, 07

onsite production well

Water Well Log and Drilling Report
Ohio Department of Natural Resources
Division of Water
Phone: 614-265-674C
email: cleve.brown@dnr.state.oh.u
Water Home: http://www.dnr.state.oh.us/water

WELL LOG AND DRILLING REPORT

Well Log Number: 179356

[redacted]

ORIGINAL OWNER AND LOCATION

Original Owner Name: *FRIG. DIV. OF G.M.C.* **Lot Number:**
County: *MONTGOMERY* **Township:** *DAYTON* **Section Number:**
Address: *300 TAYLOR STREET*
City: **State:** *OH* **Zip Code:**
Location Number: *46* **Location Map Year:** *1983* **Location Area:**
Latitude: **Longitude:**

CONSTRUCTION DETAILS

Borehole Diameter: **Total Depth:** *175 ft.* **Depth to Bedrock:**
Borehole Diameter:
Casing Diameter: *16 in.* **Casing Thickness:** **Casing Length:** *133 ft.*
Casing Diameter: **Casing Thickness:** **Casing Length:** *133 ft.*
Well Use: **Screen Length:** **Date of Completion:** *7/18/57*
Aquifer Type: *SOIL* **Driller's Name:** *ROE DONALD J*

WELL TEST DETAILS

Static Water Level: *29 ft.* **Test Rate:** *1200 gpm*
Drawdown: *10 ft.* **Test Duration:** *8 hrs.*

Associated Reports
NONE

COMMENTS:

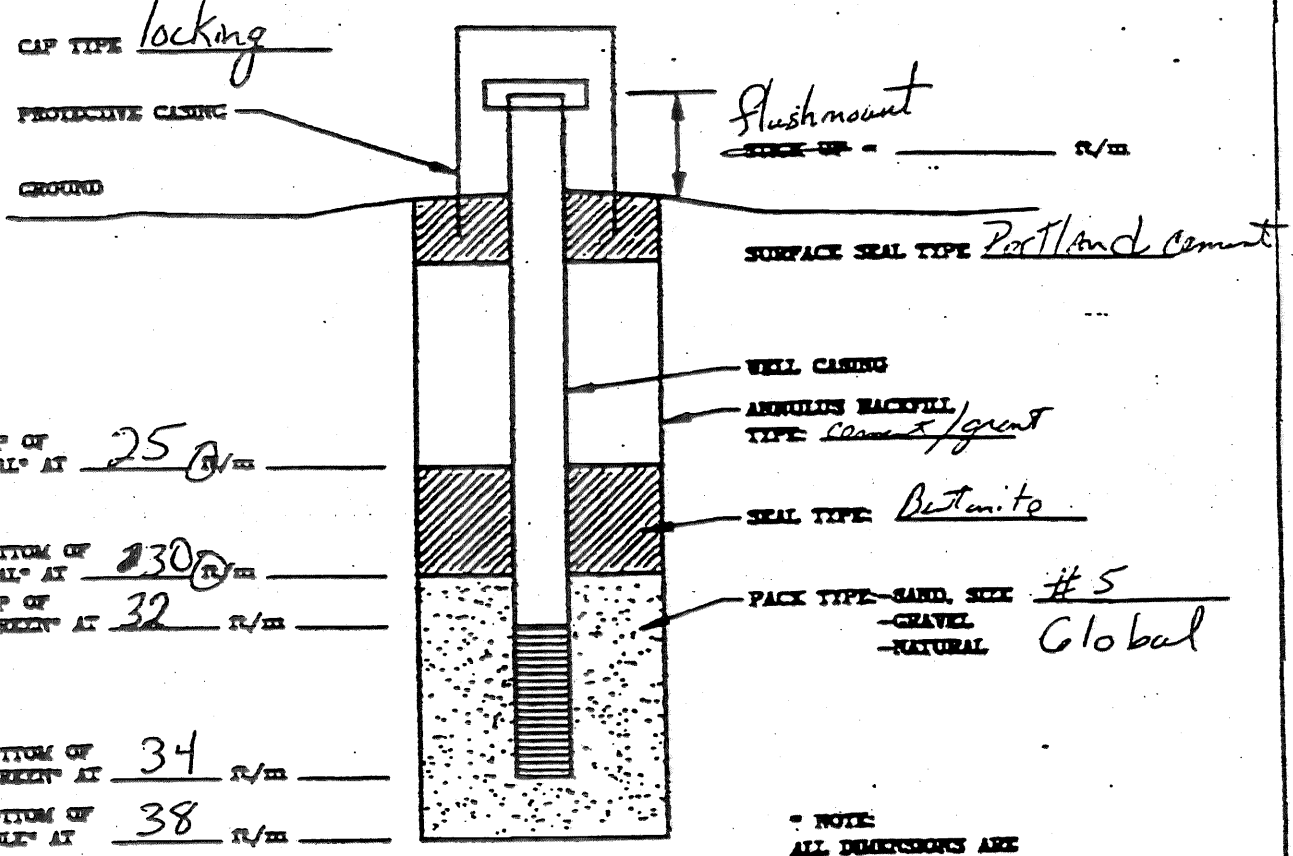
WELL LOG

Formations	From	To
GRAVEL	0	47
TILL	47	58
GRAVEL	58	69
TILL	69	89
GRAVEL	89	116
TILL	116	127
GRAVEL	127	158
SAND	158	161
GRAVEL	161	167
GRAVEL	167	174
SOIL	174	175
TILL	175	175

OVERBURDEN INSTRUMENTATION LOG

PROJECT NAME: Delphi Thermal Systems
PROJECT NUMBER: 12438
CLIENT: GM Realm
LOCATION: Dayton, Ohio

HOLE DESIGNATION: OS-15
DATE COMPLETED: 3/1/00
DRILLING METHOD: 6¼" ID HSA
CRA SUPERVISOR: J. Close



* NOTE:
ALL DIMENSIONS ARE BELOW GROUND SURFACE (BGS)

SCREEN TYPE: ☒ continuous slot ☐ perforated ☐ louvre ☐ other: _____

SCREEN MATERIAL: ☐ stainless steel ☐ plastic ☐ other: PVC

SCREEN LENGTH: 2 ft/m SCREEN DIAMETER: 2 in/cm SCREEN SLOT SIZE: 10 slot

WELL CASING MATERIAL: Schedule 40 PVC WELL CASING DIAMETER: 2 in/cm

HOLE DIAMETER: 10"

DEVELOPMENT: METHOD: _____ DURATION: _____

TYPE OR USE PEN
ELF TRANSCRIBING
PRESS HARD

Ohio Department of Natural Resources
Division of Water, 1939 Fountain Square Drive
Columbus, OH 43224-9971 Voice (614) 265-6739 Fax (614) 447-9503

0515

WELL LOCATION

County Montgomery Township

Owner (Circle One) Peerless Realty Group LTD
First Last

Address of Well Location 300 TAylor Street.
Number Street Name

City Dayton Zip Code +4 45402-1320

Permit No. Section/Lot No. (Circle One or Both)

Location of Well in State Plane coordinates, if available: Use of Well Monitoring

N ☐ X . +/- ft. or m

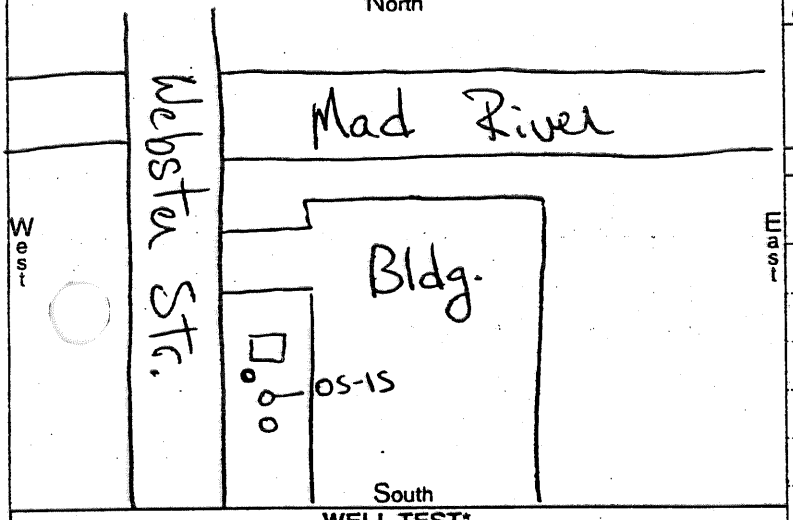
S ☐ Y . +/- ft. or m

Elevation of Well 743 . 09 +/- .01 ft. or m

Datum Plain: ☐ NAD27 ☐ NAD83 Elevation Source

Source of Coordinates: ☐ GPS ☐ Survey ☒ Other Microsoft Streets 98

Sketch a map showing distance well lies from numbered state highways, street intersections, county roads, buildings or other notable landmarks. If latitude and longitude are available please include here: Lat: N39° 45.99 Long: W84° 10.96



WELL TEST*

Pre-Pumping Static Level ft. Date

Measured from: ☐ Top of Casing ☐ Ground Level ☐ Other

☐ Air ☐ Bailing ☐ Pumping* ☐ Other

Test Rate gpm Duration of Test hrs.

Feet of Drawdown ft. Sustainable Yield gpm

*(Attach a copy of the pumping test record, per section 1521.05, ORC)

Is Copy Attached? ☐ Yes ☐ No Flowing Well? ☐ Yes ☐ No

Quality

PUMP/PITLESS

Type of pump Capacity gpm

Pump set at ft. Pitless Type

Pump installed by

I hereby certify the information given is accurate and correct to the best of my knowledge.

Drilling Firm Boart longyear

Address 5815 Churchman Ave. Suite #2

City, State, Zip Indianapolis, Ind. 46203

Sig Date

ODH Registration Number

CONSTRUCTION DETAILS

☐ Rotary ☐ Cable ☒ Augered ☐ Driven ☐ Other

BOREHOLE/CASING (measured from ground surface)

1 ☒ Borehole Diameter 10 inches Depth 38 ft.

Casing Diameter in. Length ft. Thickness in.

2 ☐ Borehole Diameter inches Depth ft.

Casing Diameter in. Length ft. Thickness in.

Casing Height Above Ground ft.

Type 1 ☐ Steel 1 ☐ Galv. 1 ☒ PVC 1 ☐
2 ☐ 2 ☐ 2 ☐ 2 ☐ Other

Joints 1 ☒ Threaded 1 ☐ Welded 1 ☐ Solvent 1 ☐
2 ☐ 2 ☐ 2 ☐ 2 ☐ Other

SCREEN

Diameter 2 in Slot Size 10 Screen Length 2 ft.

Type schedule 40 Material PVC

Set Between 32' ft. and 34' ft.

GRAVEL PACK (Filter Pack)

Material/Size #5 Global Volume/Weight Used 8'

Method of Installation Tremie pipe

Depth: Placed FROM 30' ft. TO 38' ft.

GROUT

Material cement/bentonite Volume/Weight Used 22'

Method of Installation Tremie pipe

Depth: Placed FROM 3' ft. TO 25' ft.

DRILLING LOG*

INDICATE DEPTH(S) AT WHICH WATER IS ENCOUNTERED. Show color, texture, hardness, and formation: sandstone, shale, limestone, gravel, clay, sand, etc.	From	To
See Attached		
Stratigraphy Log (3 pages)		

*(If more space is needed to complete drilling log, use next consecutively numbered form.)

Date of Well Completion 3-1-00 Total Depth of Well 38 ft.

Completion of this form is required by section 1521.05, Ohio Revised Code - file within 30 days after completion of drilling.

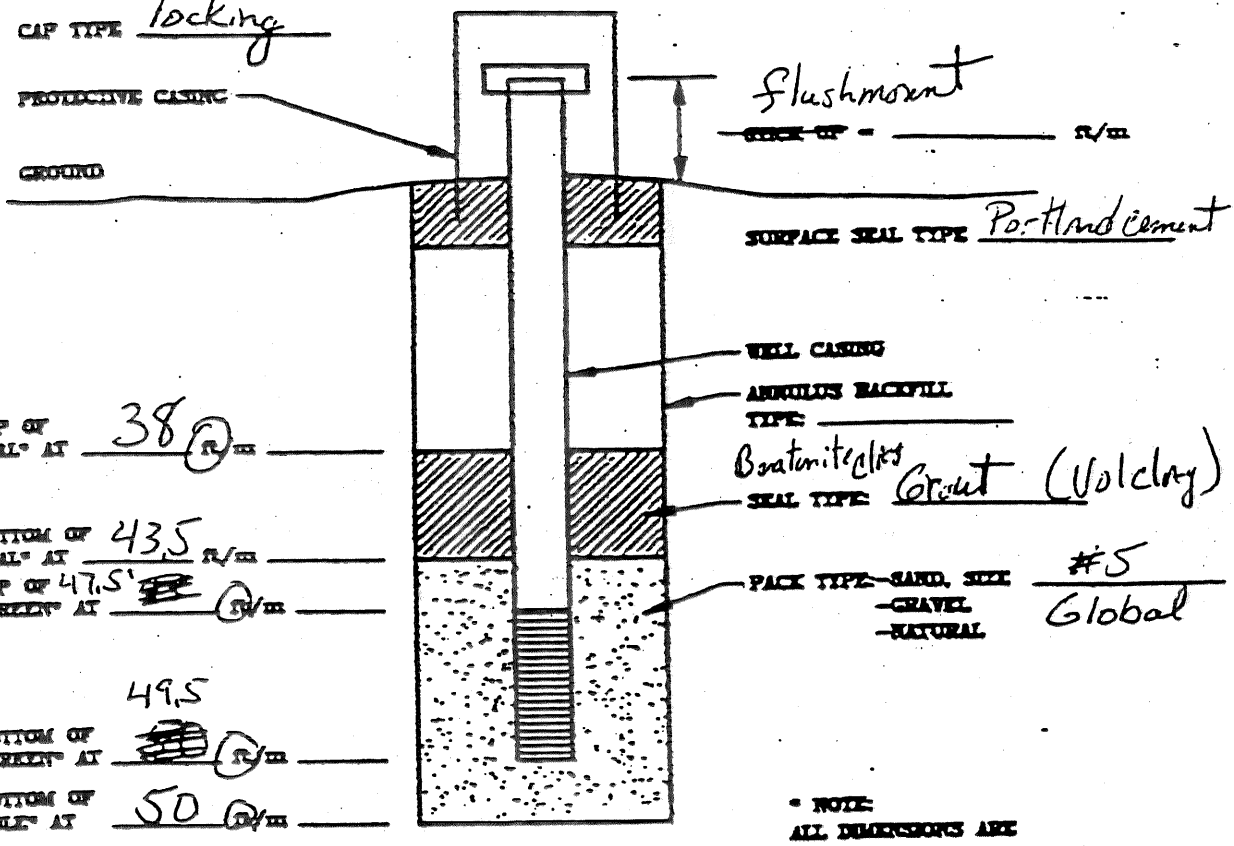
ORIGINAL COPY TO - ODNR, DIVISION OF WATER, 1939 FOUNTAIN SQ. DRIVE, COLS., OHIO 43224-9971

Blue - Customer's copy Pink - Driller's copy Green - Local Health Dept. copy

OVERBURDEN INSTRUMENTATION LOG

PROJECT NAME Delphi Thermal Systems
PROJECT NUMBER 12638
CLIENT GM Realm
LOCATION Dayton, Ohio

HOLE DESIGNATION OS-1D
DATE COMPLETED 3/1/00
DRILLING METHOD 6¼" ID HSA
CRA SUPERVISOR J. CLOSE



SCREEN TYPE: ☒ continuous slot ☐ perforated ☐ louvre ☐ other:
SCREEN MATERIAL: ☐ stainless steel ☐ plastic ☐ other: PVC
SCREEN LENGTH: 2 ft/m SCREEN DIAMETER: 2 in/cm SCREEN SLOT SIZE: 10 slot
WELL CASING MATERIAL: Schedule 40 PVC WELL CASING DIAMETER: 2 in/cm
HOLE DIAMETER: 10"
DEVELOPMENT: METHOD: DURATION:

DNR 7802.96

TYPE OR USE PEN
SELF TRANSCRIBING
PRESS HARD

WELL LOG AND DRILLING REPORT

Ohio Department of Natural Resources
Divison of Water, 1939 Fountain Square Driv
Columbus, Ohio 43224-9971 Voice (614) 265-6739 Fax (614) 447-9503

05-1D

915755

WELL LOCATION

County Montgomery Township

Owner/Builder (Circle One or Both) Peerless Realty Group Ltd.
First Last

Address of Well Location 300 Taylor Street
Number Street Name

City Dayton Zip Code +4 45402-1320

Permit No. Section/Lot No. (Circle One or Both)

Location of Well in State Plane coordinates, if available:

Use of Well Mon Ozone injection

N ☐ X _____ . _____ +/- _____ ft. or m

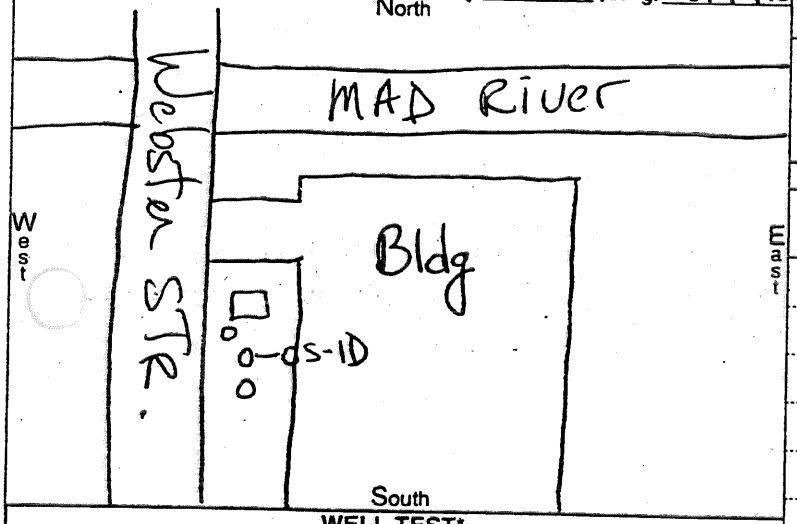
S ☐ Y _____ . _____ +/- _____ ft. or m

Elevation of Well 743 . 17 +/- .01 ft. or m

Datum Plain: ☐ NAD27 ☐ NAD83 Elevation Source

Source of Coordinates: ☐ GPS ☐ Survey ☒ Other Microsoft Streets 98

Sketch a map showing distance well lies from numbered state highways, street intersections, county roads, buildings or other notable landmarks. If latitude and longitude are available please include here: Lat: N39°45.99 Long: W84°10.96



WELL TEST*

Pre-Pumping Static Level _____ ft. Date _____

Measured from: ☐ Top of Casing ☐ Ground Level ☐ Other _____

☐ Air ☐ Bailing ☐ Pumping* ☐ Other _____

Test Rate _____ gpm Duration of Test _____ hrs.

Feet of Drawdown _____ ft. Sustainable Yield _____ gpm

*(Attach a copy of the pumping test record, per section 1521.05, ORC)

Is Copy Attached? ☐ Yes ☐ No Flowing Well? ☐ Yes ☐ No

Quality _____

PUMP/PITLESS

Type of pump _____ Capacity _____ gpm

Pump set at _____ ft. Pitless Type _____

Pump installed by _____

I hereby certify the information given is accurate and correct to the best of my knowledge.

Drilling Firm Boart Longyear

Address 5815 Churchman Ave. Suite #2

City, State, Zip Indianapolis, Ind. 46203

Sig _____ Date _____

ODH Registration Number _____

CONSTRUCTION DETAILS

☐ Rotary ☐ Cable ☒ Augered ☐ Driven ☐ Other _____

BOREHOLE/CASING (measured from ground surface)

1 ☒ Borehole Diameter 10 inches Depth 50 ft

Casing Diameter _____ in. Length _____ ft. Thickness _____ in

2 ☐ Borehole Diameter _____ inches Depth _____ ft

Casing Diameter _____ in. Length _____ ft. Thickness _____ in

Casing Height Above Ground _____ ft

Type 1 ☐ Steel 2 ☐ 1 ☐ Galv. 2 ☐ 1 ☒ PVC 2 ☐ 1 ☐ 2 ☐ Other _____

Joints 1 ☒ Threaded 2 ☐ 1 ☐ Welded 2 ☐ 1 ☐ Solvent 2 ☐ 1 ☐ 2 ☐ Other _____

SCREEN

Diameter 2 in. Slot Size 10 Screen Length 2' ft.

Type Schedule 40 Material PVC

Set Between 47.5' ft. and 49.5' ft.

GRAVEL PACK (Filter Pack)

Material/Size #5 Global Volume/Weight Used 6.5'

Method of Installation Tremie pipe

Depth: Placed FROM 43.5' ft. TO 50 ft.

GROUT

Material ~~Grout~~/Bentonite Volume/Weight Used ~~35~~

Method of Installation _____

Depth: Placed FROM _____ ft. TO _____ ft.

DRILLING LOG*

INDICATE DEPTH(S) AT WHICH WATER IS ENCOUNTERED. Show color, texture, hardness, and formation: sandstone, shale, limestone, gravel, clay, sand, etc.	From	To
SEE ATTACHED STRATIGRAPHY LOG (3 PAGES)		

*(If more space is needed to complete drilling log, use next consecutively numbered form.)

Date of Well Completion 3-1-00 Total Depth of Well 50' ft.

Completion of this form is required by section 1521.05, Ohio Revised Code - file within 30 days after completion of drilling.
ORIGINAL COPY TO - ODNR, DIVISION OF WATER, 1939 FOUNTAIN SQ. DRIVE, COLS., OHIO 43224-9971
Blue - Customer's copy Pink - Driller's copy Green - Local Health Dept. copy

STRATIGRAPHY LOG (OVERBURDEN)

PROJECT NAME: Delphi Thermal Systems
PROJECT NUMBER: 12638
CLIENT: GM Realm
LOCATION: Dayton, Ohio

DRILLING CONTRACTOR: Boart Longyear
DRILLER: Mike Magnin
SURFACE ELEVATION: N/A
WEATHER (A.M.): sunny - 30's-40's
(P.M.): sunny - 40's-50's

HOLE DESIGNATION: OS-1
DATE/TIME STARTED: 2-29-00 - 1140
DATE/TIME COMPLETED: 3-1-00 - 1048
DRILLING METHOD: 6¼" ID HSA
CRA SUPERVISOR: J. Close

STRATIGRAPHIC INTERVALS (DEPTHS IN ft/m BGS) FROM	AT	TO	SAMPLE DESCRIPTION (ORDER OF DESCRIPTORS: SOIL TYPE SYMBOL(S) - MAIN COMPONENT(S), (NATURE OF DEPOSIT), SECONDARY COMPONENTS, RELATIVE DENSITY/CONSISTENCY, GRAIN SIZE/PLASTICITY, GRADATION/STRUCTURE, COLOUR, MOISTURE CONTENT, SUPPLEMENTARY DESCRIPTORS. NOTE: PLASTICITY DETERMINATION REQUIRES THE ADDITION OF MOISTURE IF THE SAMPLE IS TOO DRY TO ROLL. (INDICATE IF MOISTURE WAS ADDED OR NOT).)	SAMPLE #	SAMPLING METHOD	PENETRATION RECORD SPLIT SPOON BLOWS (RECORD N-VALUES & RECOVERIES) 6"	6"	6"	6"	SAMPLE INTERVAL	PID / FID (ppm)	CHEMICAL ANALYSIS	GRAIN SIZE
0		3"	asphalt	1	SS	-	-	9	8	0-2			
3"		7.5	SC/GC - sand-gravel, clay/silt, firm, med-coarse grained sand, fine-coarse grained gravel, well graded, sl moist			R=	8"	N=	9				
				2	SS	9	12	14	16	2-4			
7.5		8.5	SM - sand, some silt, little gravel, med dense, med coarse grained sand, med-well graded, brown, sl moist			R=	2"	N=	26				
				3	SS	6	12	9	13	4-6			
8.5		9.5	GM/SM - sand & gravel, silt, mid dense - stiff, coarse-medium grained sand, fine grained gravel, well graded, sl moist			R=	3"	N=	21				
				4	SS	12	10	10	11	6-8			
9.5		11	SW - sand - gravelly, coarse grained, well graded, brown, sl moist			R=	18"	N=	20				
				5	SS	12	14	7	9	8-10			
11		18	GM/SM - as above			R=	18"	N=	21				
	13.5		moist sand very moist	6	SS	14	13	8	6	10-12			
18		25	GW/SW - sand & gravel, very dense, med-poorly graded, gray, wet strong chemical smell			R=	10"	N=	21				
				7	SS	12	5	3	3	12-14			
	18		GW table			R=	8"	N=	8				
25		27	SP - sand, med-coarse grained, gray, med-well graded, brown-grey, wet	8	SS	12	10	12	14	14-16			
						R=	8"	N=	22				
27		27.5	GM - gravel, little sand, med dense, med graded, gray, brown wet	9	SS	26	24	55	23	16-18	2		
						R=	12"	N=	59				

DEPTH OF BOREHOLE CAVING: 0 DEPTH OF FIRST GROUNDWATER ENCOUNTER: 18' TOPSOIL THICKNESS: 0

WATER LEVEL IN OPEN BOREHOLE ON COMPLETION _____ AFTER ____ HOURS ____

COMPLETION DETAILS: _____

NOTES AND COMMENTS: CRA

NOTE: FOR EACH SPLIT-SPOON SAMPLE, RECORD BLOW COUNTS, N-VALUE, SAMPLE RECOVERY LENGTH, AND SAMPLE INTERVAL.

STRATIGRAPHY LOG (OVERBURDEN)

PROJECT NAME _____ DRILLING CONTRACTOR _____ HOLE DESIGNATION OS-1
PROJECT NUMBER _____ DRILLER _____ DATE/TIME STARTED _____
CLIENT _____ SURFACE ELEVATION _____ DATE/TIME COMPLETED _____
LOCATION _____ WEATHER (A.M.) _____ DRILLING METHOD _____
(P.M.) _____ CRA SUPERVISOR _____

STRATIGRAPHIC INTERVALS (DEPTHS IN ft/m BGS) FROM	AT	TO	SAMPLE DESCRIPTION (ORDER OF DESCRIPTORS: SOIL TYPE SYMBOL(S) - MAIN COMPONENT(S), (NATURE OF DEPOSIT), SECONDARY COMPONENTS, RELATIVE DENSITY/CONSISTENCY, GRAIN SIZE/PLASTICITY, GRADATION/STRUCTURE, COLOUR, MOISTURE CONTENT, SUPPLEMENTARY DESCRIPTORS. NOTE: PLASTICITY DETERMINATION REQUIRES THE ADDITION OF MOISTURE IF THE SAMPLE IS TOO DRY TO ROLL (INDICATE IF MOISTURE WAS ADDED OR NOT).)	SAMPLE #	SAMPLING METHOD	PENETRATION RECORD SPLIT SPOON BLOWS (RECORD N-VALUES & RECOVERIES) 6"	6"	6"	6"	SAMPLE INTERVAL	PID / FID (ppm)	CHEMICAL ANALYSIS	GRAIN SIZE
27.5		31	SP/SW - sand, med dense, med-poorly graded, brown, med-coarse grained sand, wet	10	SS	12	14	17	18	18-20	620		
						R=	12"	N=	31				
31		34.5	SP/SM - sand, some gravel, med-coarse grained sand, med. dense, poorly-med graded, gray/brown, wet	11	SS	12	10	14	12	20-22	540		
						R=	14"	N=	24				
	31.5		some gravel	12	SS	5	6	8	11	23-24	350		
	33.5		some clay			R=	12"	N=	14				
34.5		35.7	SP - sand, fine grained, poorly graded, med dense, gray/brown, wet	13	SS	6	7	7	11	24-26	400		
						R=	12"	N=	14				
35.7		36	GP - gravel, some sand, fine grained gravel, med dense, poorly graded, lt. brown, wet.	14	SS	20	8	8	16	26-28	60		
						R=	18"	N=	16				
36		37	SP - as above	15	SS	6	8	8	11	28-30	80		
37		44	GP/SP - as above			R=	16"	N=	16				
44		46	SP - sand, med-coarse grained sand, poorly graded, med dense, brown, wet.	16	SS	7	7	11	15	30-32	30		
						R=	18"	N=	18				
46		50	SP/GP - as above	17	SS	6	8	11	11	32-34	190		
	50		clay			R=	12"	N=	19				
				18	SS	6	9	10	16	34-36	184		
						R=	14"	N=	19				

NOTES AND COMMENTS

CRA

DEPTH OF BOREHOLE CAVING _____ DEPTH OF FIRST GROUNDWATER ENCOUNTER _____ TOPSOIL THICKNESS _____

WATER LEVEL IN OPEN BOREHOLE ON COMPLETION _____ AFTER ____ HOURS ____

COMPLETION DETAILS: _____

NOTE: FOR EACH SPLIT-SPOON SAMPLE, RECORD BLOW COUNTS, N-VALUE, LE RECOVERY LENGTH, AND SAMPLE INTERVAL.

STRATIGRAPHY LOG (OVERBURDEN)

PROJECT NAME _____ DRILLING CONTRACTOR _____ HOLE DESIGNATION 05-1

PROJECT NUMBER _____ DRILLER _____ DATE/TIME STARTED _____

CLIENT _____ SURFACE ELEVATION _____ DATE/TIME COMPLETED _____

LOCATION _____ WEATHER (A.M.) _____ DRILLING METHOD _____

(P.M.) _____ CRA SUPERVISOR _____

STRATIGRAPHIC INTERVALS (DEPTHS IN ft/m BGS) FROM	AT	TO	SAMPLE DESCRIPTION	SAMPLE DETAILS: SAMPLE #	SAMPLING METHOD	PENETRATION RECORD SPLIT SPOON BLOWS (RECORD N-VALUES & RECOVERIES) 6"	6"	6"	6"	SAMPLE INTERVAL	PID / FID (ppm)	CHEMICAL ANALYSIS	GRAIN SIZE
			ORDER OF DESCRIPTORS: SOIL TYPE SYMBOL(S) - MAIN COMPONENT(S), (NATURE OF DEPOSIT), SECONDARY COMPONENTS, RELATIVE DENSITY/CONSISTENCY, GRAIN SIZE/PLASTICITY, GRADATION/STRUCTURE, COLOUR, MOISTURE CONTENT, SUPPLEMENTARY DESCRIPTORS. NOTE: PLASTICITY DETERMINATION REQUIRES THE ADDITION OF MOISTURE IF THE SAMPLE IS TOO DRY TO ROLL (INDICATE IF MOISTURE WAS ADDED OR NOT).	19	SS	7	8	15	17	36-38	200+		
						R=	22"	N=	23				
				20	SS	10	10	18	16	38-40	7		
						R=	16"	N=	28				
				21	SS	12	10	14	16	40-42	110		
						R=	20"	N=	24				
				22	SS	12	14	18	26	42-44	164		
						R=	20"	N=	32				
				23	SS	13	14	17	17	44-46	160		
						R=	16"	N=	31				
				24	SS	13	15	15	17	46-48	70		
						R=	22"	N=	30				
				25	SS	22	24	29	46	48-50	—		
						R=	24"	N=	53				

NOTES AND COMMENTS

CRA

DEPTH OF BOREHOLE CAVING _____ DEPTH OF FIRST GROUNDWATER ENCOUNTER _____ TOPSOIL THICKNESS _____

WATER LEVEL IN OPEN BOREHOLE ON COMPLETION _____ AFTER _____ HOURS _____

COMPLETION DETAILS: _____

NOTE: FOR EACH SPLIT-SPOON SAMPLE, RECORD BLOW COUNTS, N-VALUE, [illegible]LE RECOVERY LENGTH, AND SAMPLE INTERVAL.

MONITORING WELL REPORT

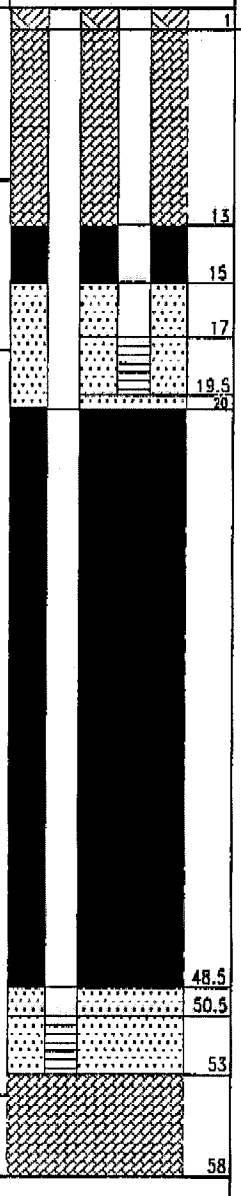
Well No. OS-2A / OS-2B

Project: Former Delphi Harrison Thermal Systems
Location: Dayton, OH
Client: REALM
Contractor: Sterns Drilling Co. **Driller:** Jim
Rig Type: Sonic Drill Rig
H&A Rep: S. Byerly
Installation Date: 01/28/03 - 01/28/03

File No.: 79032-108
Location:

Top of Protective Casing:	NA	ft.
Top of Riser:	NA	ft.
Ground Surface:	NA	ft.
Survey Datum:		

SUMMARY OF SOIL/ROCK CONDITIONS



(NOT TO SCALE)

(NUMBERS REFER TO DEPTH FROM GROUND SURFACE IN FEET)

REMARKS:

DRAFT

SUMMARY OF WELL CONSTRUCTION MATERIALS

SUMMARY OF WELL INSTALLATION SPECIFICATIONS

BOREHOLE			
Diameter:	10		in.
SURFACE COMPLETION			
Type:	Flush mount		
Top (DBGS):	0		ft.
PROTECTIVE CASING			
Type:	Road box well cover		
Diameter:	9		in.
Top (DBGS):	0		ft.
Length:	1		ft.
SURFACE SEAL			
Type:	Concrete		
Top:	0		ft.
Length:	1		ft.
RISER			
Type:	Schedule 40 PVC	A / B	
Diameter:	2		in.
Top (DBGS)	0		ft.
Length:	17 / 50.5		ft.
Coupling Type:	Threaded		
RISER BACKFILL			
Type:	Bentonite, Grout	A / B	
Top:	1		ft.
Length:	12 / 19		ft.
SANDPACK SEAL			
Type:	Bentonite	A / B	
Top:	13 / 20		ft.
Length:	2 / 28.5		ft.
SANDPACK			
Type:	Quartz Sand #6	A / B	
Top:	15 / 48.5		ft.
Length:	4 / 4.5		ft.
SCREEN			
Type:	PVC	A / B	
Diameter:	2		in.
Slot Size:	.010		in.
Top (DBGS):	17 / 50.5		ft.
Length:	2.5 / 2.5		ft.
SUMP			
Type:	-		
Top:	-		ft.
Length:	-		ft.
LOWER SEAL			
Type:	Bentonite, Grout/ Sand	A / B	
Top:	20 / 53		ft.
Length:	28.5 / 5		ft.
BACKFILL			
Type:	-		
Top:	-		ft.
Length:	-		ft.
BOTTOM OF BOREHOLE:	58		ft.

DBGS = Depth Below Ground Surface

Well No. OS-2 A OS-2 B

Water Well Log and Drilling Report

Ohio Department of Natural Resources
Division of Water
Phone: 614-265-6740 Fax: 614-265-6767

Well Log Number: 960298

ORIGINAL OWNER AND LOCATION

Original Owner Name: *PEERLESS STORAGE*

County: *MONTGOMERY*	**Township:** *HARRISON*	**Section Number:**
Address: *300 TAYLOR STREET*		**Lot Number:**
City: *DAYTON*	**State:** *OH*	**Zip Code:** *45402*
Location Number:	**Location Map Year:**	**Location Area:**
Latitude:	**Longitude:**	

CONSTRUCTION DETAILS

Borehole Diameter: *10 in.*	**Depth to Bedrock:**	**Total Depth:** *53 ft.*
Borehole Diameter: *6 in.*		
Casing Diameter:	**Casing Thickness:**	**Casing Length:**
Casing Diameter:	**Casing Thickness:**	**Casing Length:**
Well Use:	**Screen Length:** *2 ft.*	**Date of Completion:** *1/28/03*
Aquifer Type: *NONE*	**Driller's Name:** *STEARNS DRILLING COMPANY*	

WELL TEST DETAILS

Static Water Level:	**Test Rate:**	**Associated Reports**
Drawdown:	**Test Duration:**	*NONE*

COMMENTS:

WELL LOG

Formations	From	To
BRN SANDY CLAY	0	10
GRAVEL	10	19
WET GRAVEL	19	23
BRN FINE SAND & GRAVEL	23	53
GRY SANDY CLAY	53	58

Printing Tips (opens in new window)

Conduct Another Search

OR use your browsers back button to see the last list of addresses or roads.

Well log questions - Web site questions - Web policies

HALEY & ALDRICH

MONITORING WELL REPORT

Well No. OS-2C

Project:	Former Delphi Harrison Thermal Systems
Location:	Dayton, OH
Client:	REALM
Contractor:	H.C. Nutting
Driller:	H. Herd
Rig Type:	Track mounted HSA
H&A Rep:	S. Byerly
Installation Date:	01/28/03 - 01/28/03

File No.:	79032-108	
Location:		
Top of Protective Casing:	NA	ft.
Top of Riser:	NA	ft.
Ground Surface:	NA	ft.
Survey Datum:		

SUMMARY OF SOIL/ROCK CONDITIONS

Loose, brown gravelly/sandy -FILL-

stiff, dark brown ORGANIC SOIL with brick fragments

8.5

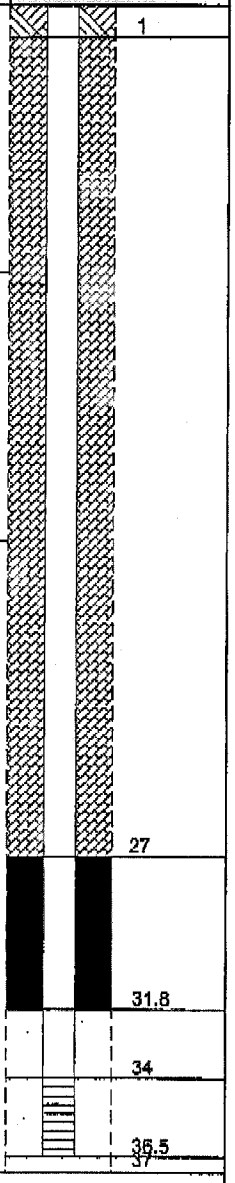
Loose, brown SAND with little gravel, moderately graded, dry

17.0

Loose, brown gravelly SAND, and SAND -INTERBEDDED GLACIAL OUTWASH-

37.0

SUMMARY OF WELL CONSTRUCTION MATERIALS



(NOT TO SCALE)

(NUMBERS REFER TO DEPTH FROM GROUND SURFACE IN FEET)

REMARKS:

DRAFT

SUMMARY OF WELL INSTALLATION SPECIFICATIONS

BOREHOLE		
Diameter:	8	in.
SURFACE COMPLETION		
Type:	Flush Mount	
Top (DBGS):	0	ft.
PROTECTIVE CASING		
Type:	Road box well cover	
Diameter:	8	in.
Top (DBGS):	0	ft.
Length:	1	ft.
SURFACE SEAL		
Type:	Concrete	
Top:	0	ft.
Length:	1	ft.
RISER		
Type:	Schedule 40 PVC	
Diameter:	2	in.
Top (DBGS)	0	ft.
Length:	34.	ft.
Coupling Type:	Threaded	
RISER BACKFILL		
Type:	Bentonite, Grout	
Top:	1	ft.
Length:	26	ft.
SANDPACK SEAL		
Type:	Bentonite	
Top:	27	ft.
Length:	4.8	ft.
SANDPACK		
Type:	Quartz Sand #5	
Top:	31.8	ft.
Length:	4.7	ft.
SCREEN		
Type:	PVC	
Diameter:	2	in.
Slot Size:	10 slot	in.
Top (DBGS):	34	ft.
Length:	2.5	ft.
SUMP		
Type:	-	
Top:	-	ft.
Length:	-	ft.
LOWER SEAL		
Type:	#5 Sand	
Top:	36.5	ft.
Length:	0.5	ft.
BACKFILL		
Type:	-	
Top:	-	ft.
Length:	-	ft.
BOTTOM OF BOREHOLE:	37	ft.

DBGS - Depth Below Ground Surface

Well No. OS-2C

MONITORING WELL REPORT

Well No. OS-3A / OS-3B

Project: Former Delphi Harrison Thermal Systems
Location: Dayton, OH
Client: REALM
Contractor: Sterns Drilling Co. **Driller:** Jim
Rig Type: Sonic Drill Rig
H&A Rep: S. Byerly
Installation Date: 02/02/03 - 02/02/03

File No.: 79032-108
Location:

Top of Protective Casing:	NA	ft.
Top of Riser:	NA	ft.
Ground Surface:	NA	ft.
Survey Datum:		

SUMMARY OF SOIL/ROCK CONDITIONS

Moderately stiff dark brown CLAY with trace cobbles

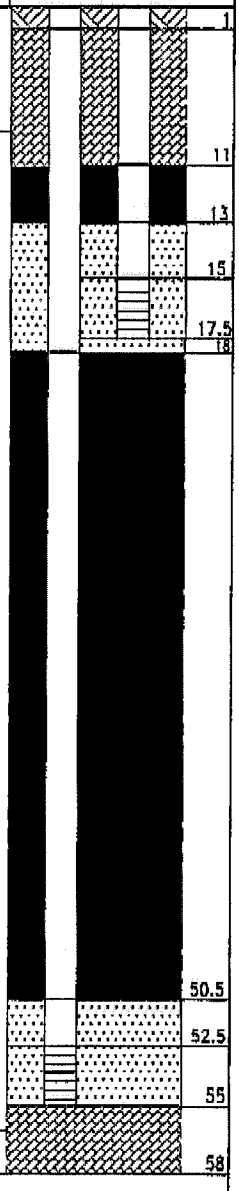
8.0

Loose, brown sandy GRAVEL and SAND
-INTERBEDDED GLACIAL OUTWASH-

56.0

Stiff, grey brown CLAY with trace gravel - TILL-
58.0

SUMMARY OF WELL CONSTRUCTION MATERIALS



(NOT TO SCALE)
(NUMBERS REFER TO DEPTH FROM GROUND SURFACE IN FEET)

REMARKS:

DRAFT

SUMMARY OF WELL INSTALLATION SPECIFICATIONS

BOREHOLE			
Diameter:	10		in.
SURFACE COMPLETION			
Type:	Flush mount		
Top (DBGS):	0		ft.
PROTECTIVE CASING			
Type:	Road box well cover		
Diameter:	9		in.
Top (DBGS):	0		ft.
Length:	1		ft.
SURFACE SEAL			
Type:	Concrete		
Top:	0		ft.
Length:	1		ft.
RISER			
Type:	Schedule 40 PVC	A / B	
Diameter:	2		in.
Top (DBGS)	0		ft.
Length:	15 / 52.5		ft.
Coupling Type:	Threaded		
RISER BACKFILL			
Type:	Bentonite, Grout	A / B	
Top:	1		ft.
Length:	10 / 17		ft.
SANDPACK SEAL			
Type:	Bentonite	A / B	
Top:	11 / 18		ft.
Length:	2 / 32.5		ft.
SANDPACK			
Type:	Quartz Sand #6	A / B	
Top:	13 / 50.5		ft.
Length:	5 / 4.5		ft.
SCREEN			
Type:	PVC	A / B	
Diameter:	2		in.
Slot Size:	.010		in.
Top (DBGS):	15 / 52.5		ft.
Length:	2.5 / 2.5		ft.
SUMP			
Type:	-		
Top:	-		ft.
Length:	-		ft.
LOWER SEAL			
Type:	Bentonite, Grout/ Sand	A / B	
Top:	18 / 55		ft.
Length:	32.5 / 3		ft.
BACKFILL			
Type:	-		
Top:	-		ft.
Length:	-		ft.
BOTTOM OF BOREHOLE:	58		ft.

DBGS = Depth Below Ground Surface

Well No. OS-3A OS-3B

HALEY & ALDRICH

MONITORING WELL REPORT

Well No. OS-3C

Project:	Former Delphi Harrison Thermal Systems
Location:	Dayton, OH
Client:	REALM
Contractor:	H.C. Nutting
Driller:	H. Herd
Rig Type:	Track mounted HSA
H&A Rep:	S. Byerly
Installation Date:	02/02/03 - 02/02/03

File No.:	79032-108	
Location:		
Top of Protective Casing:	NA	ft.
Top of Riser:	NA	ft.
Ground Surface:	NA	ft.
Survey Datum:		

SUMMARY OF SOIL/ROCK CONDITIONS

Moderately stiff dark brown CLAY with trace cobbles

8.0

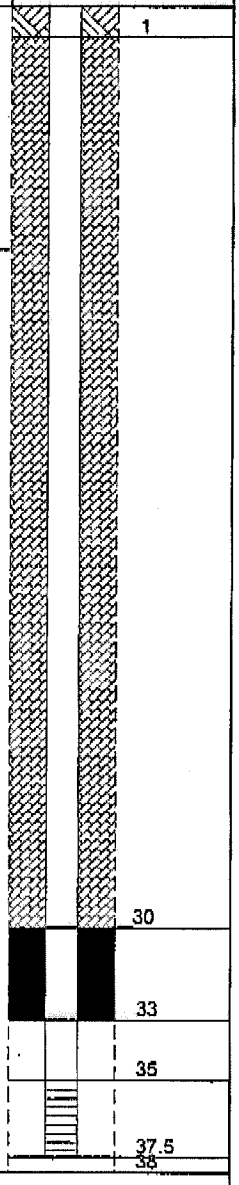
Loose, brown sandy GRAVEL and SAND -INTERBEDDED GLACIAL OUTWASH-

38.0

(NOT TO SCALE)

(NUMBERS REFER TO DEPTH FROM GROUND SURFACE IN FEET)

SUMMARY OF WELL CONSTRUCTION MATERIALS



SUMMARY OF WELL INSTALLATION SPECIFICATIONS

BOREHOLE		
Diameter:	8	in.
SURFACE COMPLETION		
Type:	Flush Mount	
Top (DBGS):	0	ft.
PROTECTIVE CASING		
Type:	Road box well cover	
Diameter:	8	in.
Top (DBGS):	0	ft.
Length:	1	ft.
SURFACE SEAL		
Type:	Concrete	
Top:	0	ft.
Length:	1	ft.
RISER		
Type:	Schedule 40 PVC	
Diameter:	2	in.
Top (DBGS)	0	ft.
Length:	35.	ft.
Coupling Type:	Threaded	
RISER BACKFILL		
Type:	Bentonite, Grout	
Top:	1	ft.
Length:	29	ft.
SANDPACK SEAL		
Type:	Bentonite	
Top:	30	ft.
Length:	3	ft.
SANDPACK		
Type:	Quartz Sand #5	
Top:	33	ft.
Length:	4.5	ft.
SCREEN		
Type:	PVC	
Diameter:	2	in.
Slot Size:	10 slot	in.
Top (DBGS):	35	ft.
Length:	2.5	ft.
SUMP		
Type:	-	
Top:	-	ft.
Length:	-	ft.
LOWER SEAL		
Type:	#5 Sand	
Top:	37.5	ft.
Length:	0.5	ft.
BACKFILL		
Type:	-	
Top:	-	ft.
Length:	-	ft.
BOTTOM OF BOREHOLE:	38	ft.

REMARKS:

DRAFT

DBGS - Depth Below Ground Surface

Well No. OS-3C

MONITORING WELL REPORT

Well No. OS-4A OS-4B

Project: Former Delphi Harrison Thermal Systems
Location: Dayton, OH
Client: REALM
Contractor: Sterns Drilling Co. **Driller:** Jim
Rig Type: Sonic Drill Rig
H&A Rep: S. Byerly
Installation Date: 01/21/03 - 01/21/03

File No.: 79032-108
Location:

Top of Protective Casing: NA ft.
Top of Riser: NA ft.
Ground Surface: NA ft.
Survey Datum:

SUMMARY OF SOIL/ROCK CONDITIONS

Loose, gravelly CLAY and SILT -FILL- (1.0 - 5)

moderately stiff, brown ORGANIC SOIL (5 - 7)

(7 - 9)

(9 - 10.0)

Loose, gravelly SAND and SAND -INTERBEDDED GLACIAL OUTWASH- (11.5/12 - 48.5)

(48.5 - 50.5)

(50.5 - 53)

(53 - 54.0)

Stiff, grey brown CLAY with little gravel - TILL- (54.0 - 58.0)

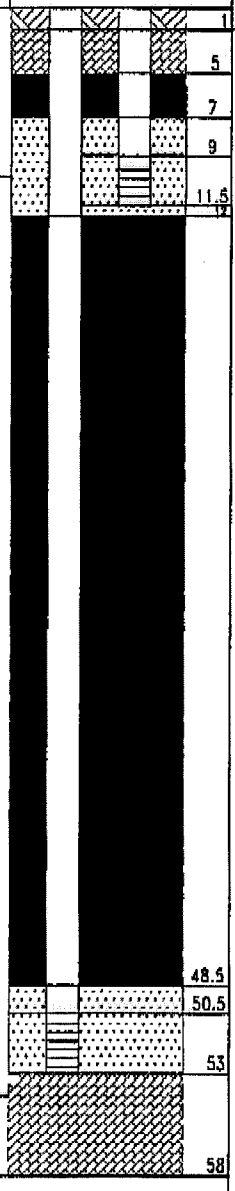
(NOT TO SCALE)

(NUMBERS REFER TO DEPTH FROM GROUND SURFACE IN FEET)

REMARKS:

DRAFT

SUMMARY OF WELL CONSTRUCTION MATERIALS



SUMMARY OF WELL INSTALLATION SPECIFICATIONS

BOREHOLE			
Diameter:	10		in.
SURFACE COMPLETION			
Type:	Flush mount		
Top (DBGS):	0		ft.
PROTECTIVE CASING			
Type:	Road box well cover		
Diameter:	9		in.
Top (DBGS):	0		ft.
Length:	1		ft.
SURFACE SEAL			
Type:	Concrete		
Top:	0		ft.
Length:	1		ft.
RISER			
Type:	Schedule 40 PVC	A / B	
Diameter:	2		in.
Top (DBGS)	0		ft.
Length:	9 / 50.5		ft.
Coupling Type:	Threaded		
RISER BACKFILL			
Type:	Bentonite, Grout	A / B	
Top:	1		ft.
Length:	4 / 11		ft.
SANDPACK SEAL			
Type:	Bentonite	A / B	
Top:	5 / 12		ft.
Length:	2 / 36.5		ft.
SANDPACK			
Type:	Quartz Sand #6	A / B	
Top:	7 / 48.5		ft.
Length:	5 / 4.5		ft.
SCREEN			
Type:	PVC	A / B	
Diameter:	2		in.
Slot Size:	.010		in.
Top (DBGS):	9 / 50.5		ft.
Length:	2.5 / 2.5		ft.
SUMP			
Type:	-		
Top:	-		ft.
Length:	-		ft.
LOWER SEAL			
Type:	Bentonite, Grout/ Sand	A / B	
Top:	12 / 53		ft.
Length:	36.5 / 5		ft.
BACKFILL			
Type:	-		
Top:	-		ft.
Length:	-		ft.
BOTTOM OF BOREHOLE:	58		ft.

DBGS - Depth Below Ground Surface

Well No. OS-4A OS-4B

HALEY & ALDRICH

MONITORING WELL REPORT

Well No. OS-4C

Project:	Former Delphi Harrison Thermal Systems
Location:	Dayton, OH
Client:	REALM
Contractor:	H.C. Nutting
Driller:	H. Herd
Rig Type:	Track mounted HSA
H&A Rep:	S. Byerly
Installation Date:	01/21/03 - 01/21/03

File No.:	79032-108	
Location:		
Top of Protective Casing:	NA	ft.
Top of Riser:	NA	ft.
Ground Surface:	NA	ft.
Survey Datum:		

SUMMARY OF SOIL/ROCK CONDITIONS

Loose, gravelly CLAY and SILT
-FILL-
moderately stiff, brown ORGANIC SOIL

10.0

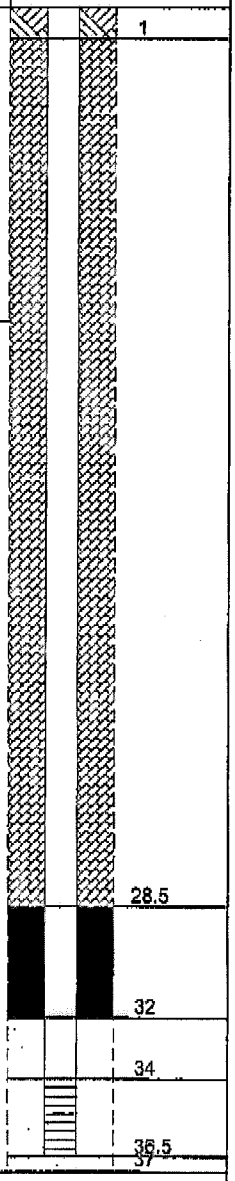
Loose, gravelly SAND and SAND
-INTERBEDDED GLACIAL OUTWASH-

37.0

(NOT TO SCALE)

(NUMBERS REFER TO DEPTH FROM GROUND SURFACE IN FEET)

SUMMARY OF WELL CONSTRUCTION MATERIALS



SUMMARY OF WELL INSTALLATION SPECIFICATIONS

BOREHOLE		
Diameter:	8	in.
SURFACE COMPLETION		
Type:	Flush Mount	
Top (DBGS):	0	ft.
PROTECTIVE CASING		
Type:	Road box well cover	
Diameter:	8	in.
Top (DBGS):	0	ft.
Length:	1	ft.
SURFACE SEAL		
Type:	Concrete	
Top:	0	ft.
Length:	1	ft.
RISER		
Type:	Schedule 40 PVC	
Diameter:	2	in.
Top (DBGS)	0	ft.
Length:	34.	ft.
Coupling Type:	Threaded	
RISER BACKFILL		
Type:	Bentonite, Grout	
Top:	1	ft.
Length:	27.5	ft.
SANDPACK SEAL		
Type:	Bentonite	
Top:	28.5	ft.
Length:	3.5	ft.
SANDPACK		
Type:	Quartz Sand #5	
Top:	32	ft.
Length:	4.5	ft.
SCREEN		
Type:	PVC	
Diameter:	2	in.
Slot Size:	10 slot	in.
Top (DBGS):	34	ft.
Length:	2.5	ft.
SUMP		
Type:	-	
Top:	-	ft.
Length:	-	ft.
LOWER SEAL		
Type:	#5 Sand	
Top:	36.5	ft.
Length:	.5	ft.
BACKFILL		
Type:	-	
Top:	-	ft.
Length:	-	ft.
BOTTOM OF BOREHOLE:	37	ft.

REMARKS:

DRAFT

DBGS - Depth Below Ground Surface

Well No. OS-4C

MONITORING WELL REPORT

Well No. OS-5A OS-5B

Project:	Former Delphi Harrison Thermal Systems	**File No.:**	79032-108
Location:	Dayton, OH	**Location:**	
Client:	REALM		
Contractor:	Sterns Drilling Co. **Driller:** Jim	**Top of Protective Casing:**	NA ft.
Rig Type:	Sonic Drill Rig	**Top of Riser:**	NA ft.
H&A Rep:	S. Byerly	**Ground Surface:**	NA ft.
Installation Date:	02/01/03 - 02/01/03	**Survey Datum:**	

SUMMARY OF SOIL/ROCK CONDITIONS

Loose, silty pea GRAVEL
-FILL-

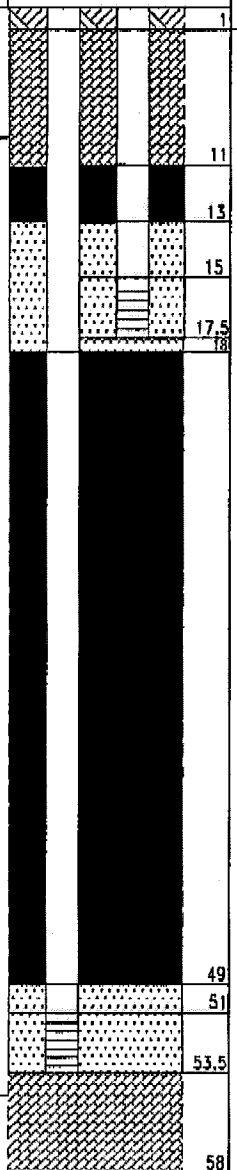
stiff dark brown to black sandy ORGANIC SOIL with coal and brick fragments
9.0

Loose, brown, sandy GRAVEL with some silt, gravelly SAND and SAND
-INTERBEDDED GLACIAL OUTWASH-

54.0

Stiff, grey brown CLAY with trace sand and little gravel - TILL-
58.0

SUMMARY OF WELL CONSTRUCTION MATERIALS



(NOT TO SCALE)

(NUMBERS REFER TO DEPTH FROM GROUND SURFACE IN FEET)

REMARKS:

DRAFT

SUMMARY OF WELL INSTALLATION SPECIFICATIONS

BOREHOLE			
Diameter:	10		in.
SURFACE COMPLETION			
Type:	Flush mount		
Top (DBGS):	0		ft.
PROTECTIVE CASING			
Type:	Road box well cover		
Diameter:	9		in.
Top (DBGS):	0		ft.
Length:	1		ft.
SURFACE SEAL			
Type:	Concrete		
Top:	0		ft.
Length:	1		ft.
RISER			
Type:	Schedule 40 PVC	A / B	
Diameter:	2		in.
Top (DBGS)	0		ft.
Length:	15 / 51		ft.
Coupling Type:	Threaded		
RISER BACKFILL			
Type:	Bentonite, Grout	A / B	
Top:	1		ft.
Length:	10 / 17		ft.
SANDPACK SEAL			
Type:	Bentonite	A / B	
Top:	11 / 18		ft.
Length:	2 / 31		ft.
SANDPACK			
Type:	Quartz Sand #6	A / B	
Top:	13 / 49		ft.
Length:	5 / 4.5		ft.
SCREEN			
Type:	PVC	A / B	
Diameter:	2		in.
Slot Size:	.010		in.
Top (DBGS):	15 / 51		ft.
Length:	2.5 / 2.5		ft.
SUMP			
Type:	-		
Top:	-		ft.
Length:	-		ft.
LOWER SEAL			
Type:	Bentonite, Grout/ Sand	A / B	
Top:	18 / 53.5		ft.
Length:	31 / 4.5		ft.
BACKFILL			
Type:	-		
Top:	-		ft.
Length:	-		ft.
BOTTOM OF BOREHOLE:	58		ft.

DBGS = Depth Below Ground Surface

Well No. OS-5A OS-5B

HALEY & ALDRICH

MONITORING WELL REPORT

Well No. OS-5C

Project:	Former Delphi Harrison Thermal Systems	**File No.:**	79032-108
Location:	Dayton, OH	**Location:**	
Client:	REALM		
Contractor:	H.C. Nutting	**Driller:** H. Herd	**Top of Protective Casing:** NA ft.
Rig Type:	Track mounted HSA		**Top of Riser:** NA ft.
H&A Rep:	S. Byerly		**Ground Surface:** NA ft.
Installation Date:	02/01/03 - 02/01/03		**Survey Datum:**

SUMMARY OF SOIL/ROCK CONDITIONS

Loose silty pea GRAVEL
-FILL-
stiff dark brown to black sandy ORGANIC SOIL with coal and brick fragments

9.0

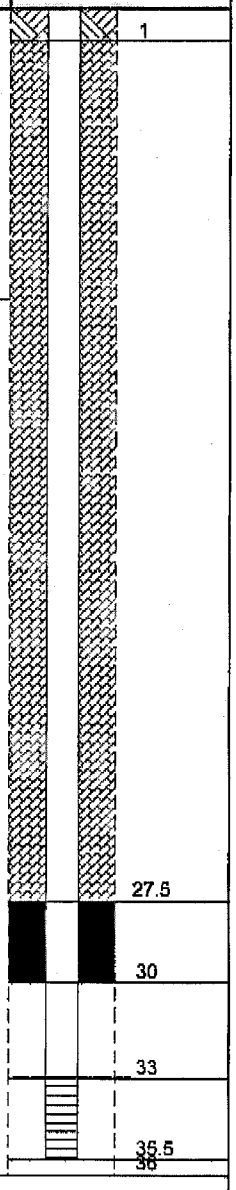
Loose, brown, sandy GRAVEL with some silt,gravelly SAND, and SAND
-INTERBEDDED GLACIAL OUTWASH-

36.0

(NOT TO SCALE)

(NUMBERS REFER TO DEPTH FROM GROUND SURFACE IN FEET)

SUMMARY OF WELL CONSTRUCTION MATERIALS



SUMMARY OF WELL INSTALLATION SPECIFICATIONS

BOREHOLE		
Diameter:	8	in.
SURFACE COMPLETION		
Type:	Flush Mount	
Top (DBGS):	0	ft.
PROTECTIVE CASING		
Type:	Road box well cover	
Diameter:	8	in.
Top (DBGS):	0	ft.
Length:	1	ft.
SURFACE SEAL		
Type:	Concrete	
Top:	0	ft.
Length:	1	ft.
RISER		
Type:	Schedule 40 PVC	
Diameter:	2	in.
Top (DBGS)	0	ft.
Length:	33.	ft.
Coupling Type:	Threaded	
RISER BACKFILL		
Type:	Bentonite, Grout	
Top:	1	ft.
Length:	26.5	ft.
SANDPACK SEAL		
Type:	Bentonite	
Top:	27.5	ft.
Length:	2.5	ft.
SANDPACK		
Type:	Quartz Sand #5	
Top:	30	ft.
Length:	5.5	ft.
SCREEN		
Type:	PVC	
Diameter:	2	in.
Slot Size:	10 slot	in.
Top (DBGS):	33	ft.
Length:	2.5	ft.
SUMP		
Type:	-	
Top:	-	ft.
Length:	-	ft.
LOWER SEAL		
Type:	#5 Sand	
Top:	35.5	ft.
Length:	0.5	ft.
BACKFILL		
Type:	-	
Top:	-	ft.
Length:	-	ft.
BOTTOM OF BOREHOLE:	36	ft.

REMARKS:

DRAFT

DBGS - Depth Below Ground Surface

Well No. OS-5C

MONITORING WELL REPORT

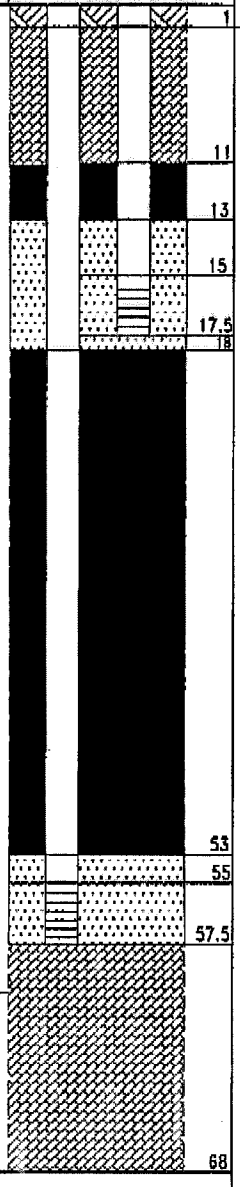
Well No. OS-6A OS-6B

Project: Former Delphi Harrison Thermal Systems
Location: Dayton, OH
Client: REALM
Contractor: Sterns Drilling Co. **Driller:** Jim
Rig Type: Sonic Drill Rig
H&A Rep: S. Byerly
Installation Date: 02/01/03 - 02/01/03

File No.: 79032-108
Location:

Top of Protective Casing: NA ft.
Top of Riser: NA ft.
Ground Surface: NA ft.
Survey Datum:

SUMMARY OF SOIL/ROCK CONDITIONS



Loose, brown, coarse SAND, sandy GRAVEL, GRAVEL and SAND
-INTERBEDDED GLACIAL OUTWASH-

59.0

Stiff, grey brown CLAY with gravel
-TILL-

68.0

(NOT TO SCALE)
(NUMBERS REFER TO DEPTH FROM GROUND SURFACE IN FEET)

REMARKS:

DRAFT

SUMMARY OF WELL CONSTRUCTION MATERIALS

SUMMARY OF WELL INSTALLATION SPECIFICATIONS

BOREHOLE			
Diameter:	10		in.
SURFACE COMPLETION			
Type:	Flush mount		
Top (DBGS):	0		ft.
PROTECTIVE CASING			
Type:	Road box well cover		
Diameter:	9		in.
Top (DBGS):	0		ft.
Length:	1		ft.
SURFACE SEAL			
Type:	Concrete		
Top:	0		ft.
Length:	1		ft.
RISER			
Type:	Schedule 40 PVC	A / B	
Diameter:	2		in.
Top (DBGS)	0		ft.
Length:	15 / 55		ft.
Coupling Type:	Threaded		
RISER BACKFILL			
Type:	Bentonite, Grout	A / B	
Top:	1		ft.
Length:	10 / 17		ft.
SANDPACK SEAL			
Type:	Bentonite	A / B	
Top:	11 / 18		ft.
Length:	2 / 35		ft.
SANDPACK			
Type:	Quartz Sand #6	A / B	
Top:	13 / 53		ft.
Length:	5 / 4.5		ft.
SCREEN			
Type:	PVC	A / B	
Diameter:	2		in.
Slot Size:	.010		in.
Top (DBGS):	15 / 55		ft.
Length:	2.5 / 2.5		ft.
SUMP			
Type:	-		
Top:	-		ft.
Length:	-		ft.
LOWER SEAL			
Type:	Bentonite, Grout/ Sand	A / B	
Top:	18 / 57.5		ft.
Length:	35 / 10.5		ft.
BACKFILL			
Type:	-		
Top:	-		ft.
Length:	-		ft.
BOTTOM OF BOREHOLE:	68		ft.

DBGS - Depth Below Ground Surface

Well No. OS-6A OS-6B

HALEY & ALDRICH

MONITORING WELL REPORT

Well No. OS-6C

Project:	Former Delphi Harrison Thermal Systems	**File No.:**	79032-108
Location:	Dayton, OH	**Location:**	
Client:	REALM		
Contractor:	H.C. Nutting	**Driller:** H. Herd	**Top of Protective Casing:** NA ft.
Rig Type:	Track mounted HSA		**Top of Riser:** NA ft.
H&A Rep:	S. Byerly		**Ground Surface:** NA ft.
Installation Date:	01/30/03 - 01/30/03		**Survey Datum:**

SUMMARY OF SOIL/ROCK CONDITIONS

Loose, brown coarse SAND, sandy GRAVEL, GRAVEL, and SAND
-INTERBEDDED GLACIAL OUTWASH-

38.0

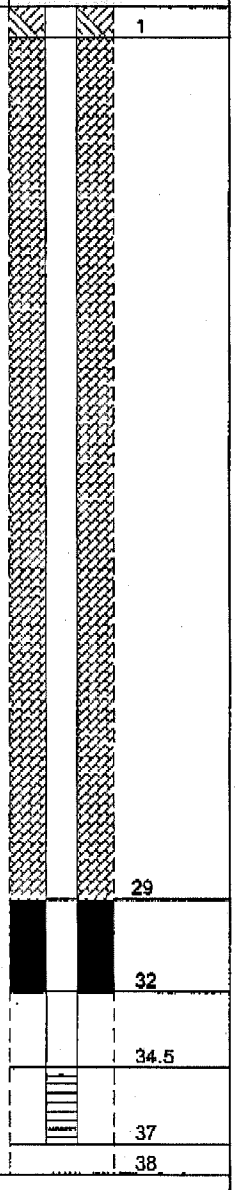
(NOT TO SCALE)

(NUMBERS REFER TO DEPTH FROM GROUND SURFACE IN FEET)

REMARKS:

DRAFT

SUMMARY OF WELL CONSTRUCTION MATERIALS



SUMMARY OF WELL INSTALLATION SPECIFICATIONS

BOREHOLE		
Diameter:	8	in.
SURFACE COMPLETION		
Type:	Flush Mount	
Top (DBGS):	0	ft.
PROTECTIVE CASING		
Type:	Road box well cover	
Diameter:	8	in.
Top (DBGS):	0	ft.
Length:	1	ft.
SURFACE SEAL		
Type:	Concrete	
Top:	0	ft.
Length:	1	ft.
RISER		
Type:	Schedule 40 PVC	
Diameter:	2	in.
Top (DBGS)	0	ft.
Length:	34.5	ft.
Coupling Type:	Threaded	
RISER BACKFILL		
Type:	Bentonite, Grout	
Top:	1	ft.
Length:	28	ft.
SANDPACK SEAL		
Type:	Bentonite	
Top:	29	ft.
Length:	3	ft.
SANDPACK		
Type:	Quartz Sand #5	
Top:	32	ft.
Length:	5	ft.
SCREEN		
Type:	PVC	
Diameter:	2	in.
Slot Size:	10 slot	in.
Top (DBGS):	34.5	ft.
Length:	2.5	ft.
SUMP		
Type:	-	
Top:	-	ft.
Length:	-	ft.
LOWER SEAL		
Type:	#5 Sand	
Top:	37	ft.
Length:	1	ft.
BACKFILL		
Type:	-	
Top:	-	ft.
Length:	-	ft.
BOTTOM OF BOREHOLE:	38	ft.

DBGS - Depth Below Ground Surface

Well No. OS-6C

MONITORING WELL REPORT

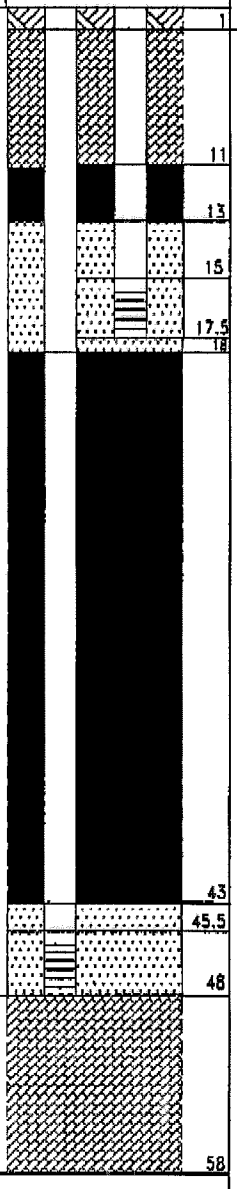
Well No. OS-7A OS-7B

Project: Former Delphi Harrison Thermal Systems
Location: Dayton, OH
Client: REALM
Contractor: Sterns Drilling Co. **Driller:** Jim
Rig Type: Sonic Drill Rig
H&A Rep: S. Byerly
Installation Date: 01/29/03 - 01/29/03

File No.: 79032-108
Location:

Top of Protective Casing:	NA	ft.
Top of Riser:	NA	ft.
Ground Surface:	NA	ft.
Survey Datum:		

SUMMARY OF SOIL/ROCK CONDITIONS



Loose, brown, coarse SAND, sandy GRAVEL, GRAVEL and SAND
-INTERBEDDED GLACIAL OUTWASH-

48.0

Stiff, grey brown CLAY with trace coarse gravel
-TILL-

58.0

(NOT TO SCALE)
(NUMBERS REFER TO DEPTH FROM GROUND SURFACE IN FEET)

REMARKS:

DRAFT

SUMMARY OF WELL CONSTRUCTION MATERIALS

SUMMARY OF WELL INSTALLATION SPECIFICATIONS

BOREHOLE			
Diameter:	10		in.
SURFACE COMPLETION			
Type:	Flush mount		
Top (DBGS):	0		ft.
PROTECTIVE CASING			
Type:	Road box well cover		
Diameter:	9		in.
Top (DBGS):	0		ft.
Length:	1		ft.
SURFACE SEAL			
Type:	Concrete		
Top:	0		ft.
Length:	1		ft.
RISER			
Type:	Schedule 40 PVC	A / B	
Diameter:	2		in.
Top (DBGS)	0		ft.
Length:	15 /	45.5	ft.
Coupling Type:	Threaded		
RISER BACKFILL			
Type:	Bentonite, Grout	A / B	
Top:	1		ft.
Length:	10 /	17	ft.
SANDPACK SEAL			
Type:	Bentonite	A / B	
Top:	11 /	18	ft.
Length:	2 /	25	ft.
SANDPACK			
Type:	Quartz Sand #6	A / B	
Top:	13 /	43	ft.
Length:	5 /	5	ft.
SCREEN			
Type:	PVC	A / B	
Diameter:	2		in.
Slot Size:	.010		in.
Top (DBGS):	15 /	45.5	ft.
Length:	2.5 /	2.5	ft.
SUMP			
Type:	-		
Top:	-		ft.
Length:	-		ft.
LOWER SEAL			
Type:	Bentonite, Grout/ Sand	A / B	
Top:	18 /	48	ft.
Length:	25 /	10	ft.
BACKFILL			
Type:	-		
Top:	-		ft.
Length:	-		ft.
BOTTOM OF BOREHOLE:	58		ft.

DBGS - Depth Below Ground Surface

Well No. OS-7A OS-7B

HALEY & ALDRICH

MONITORING WELL REPORT

Well No. OS-7C

Project: Former Delphi Harrison Thermal Systems
Location: Dayton, OH
Client: REALM
Contractor: H.C. Nutting **Driller:** H. Herd
Rig Type: Track mounted HSA
H&A Rep: S. Byerly
Installation Date: 01/29/03 - 01/29/03

File No.: 79032-108
Location:

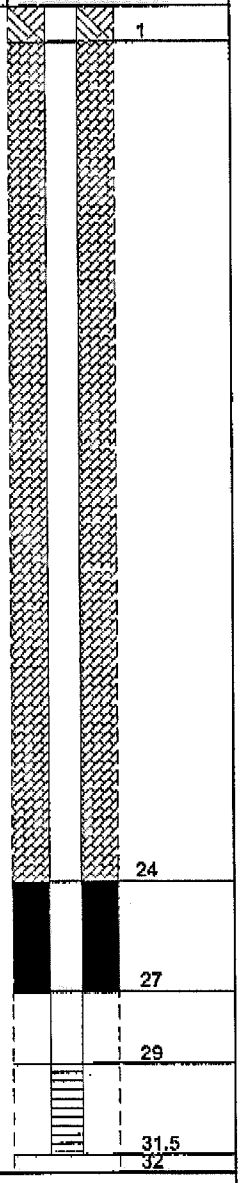
Top of Protective Casing:	NA	ft.
Top of Riser:	NA	ft.
Ground Surface:	NA	ft.
Survey Datum:		

SUMMARY OF SOIL/ROCK CONDITIONS

Loose, brown SAND, GRAVEL, and gravelly SAND
-INTERBEDDED GLACIAL OUTWASH-

32.0

SUMMARY OF WELL CONSTRUCTION MATERIALS



(NOT TO SCALE)

(NUMBERS REFER TO DEPTH FROM GROUND SURFACE IN FEET)

REMARKS:

DRAFT

SUMMARY OF WELL INSTALLATION SPECIFICATIONS

BOREHOLE
Diameter: 8 in.

SURFACE COMPLETION
Type: Flush Mount
Top (DBGS): 0 ft.

PROTECTIVE CASING
Type: Road box well cover
Diameter: 8 in.
Top (DBGS): 0 ft.
Length: 1 ft.

SURFACE SEAL
Type: Concrete
Top: 0 ft.
Length: 1 ft.

RISER
Type: Schedule 40 PVC
Diameter: 2 in.
Top (DBGS) 0 ft.
Length: 29. ft.
Coupling Type: Threaded

RISER BACKFILL
Type: Bentonite, Grout
Top: 1 ft.
Length: 23 ft.

SANDPACK SEAL
Type: Bentonite
Top: 24 ft.
Length: 3 ft.

SANDPACK
Type: Quartz Sand #5
Top: 27 ft.
Length: 4.5 ft.

SCREEN
Type: PVC
Diameter: 2 in.
Slot Size: 10 slot in.
Top (DBGS): 29 ft.
Length: 2.5 ft.

SUMP
Type: -
Top: - ft.
Length: - ft.

LOWER SEAL
Type: #5 Sand
Top: 31.5 ft.
Length: 0.5 ft.

BACKFILL
Type: -
Top: - ft.
Length: - ft.

BOTTOM OF BOREHOLE: 32 ft.

DBGS - Depth Below Ground Surface

Well No. OS-7C

TYPE OR USE PEN
SELF TRANSCRIBING
PRESS HARD

WELL LOG AND DRILLING REPORT

Ohio Department of Natural Resources
Division of Water, 1939 Fountain Square Drive
Columbus, Ohio 43224-9971 Voice (614) 265-6739 Fax (614) 447-9503

874317

WELL LOCATION

County Montgomery Township

Owner/Builder (Circle One or Both) Montgomery County Public Works (First / Last)

Address of Well Location Patterson & Monument (Number / Street Name)

City Dayton Zip Code +4 45422

Permit No. Section/Lot No. (Circle One or Both)

Location of Well in State Plane coordinates, if available: Use of Well Cooling Water

N ☐ X ____ . ____ +/- ____ ft. or m

S ☐ Y ____ . ____ +/- ____ ft. or m

Elevation of Well ____ . ____ +/- ____ ft. or m

Datum Plain: ☐ NAD27 ☐ NAD83 Elevation Source

Source of Coordinates: ☐ GPS ☐ Survey ☐ Other

Sketch a map showing distance well lies from numbered state highways, street intersections, county roads, buildings or other notable landmarks. If latitude and longitude are available please include here: Lat Long:

MONDO607
Test Well #3

North

West

East

South

WELL TEST*

Pre-Pumping Static Level 34 ft. Date 7/18/00

Measured from: ☒ Top of Casing ☐ Ground Level ☐ Other

☐ Air ☐ Bailing ☐ Pumping* ☐ Other

Test Rate 690 gpm Duration of Test 8 hrs.

Feet of Drawdown 23 ft. Sustainable Yield ____ gpm

*(Attach a copy of the pumping test record, per section 1521.05, ORC)

s Copy Attached? ☒ Yes ☐ No Flowing Well? ☐ Yes ☒ No

Quality Clear

PUMP/PITLESS

Type of pump submersible Capacity 25 gpm

Pump set at ____ ft. Pitless Type Baker Moniter

Pump installed by Moody's of Dayton, Inc.

I hereby certify the information given is accurate and correct to the best of my knowledge.

Drilling Firm Moody's of Dayton, Inc.

Address 4359 Infirmary Road

City, State, Zip Miamisburg, OH 45342

Signed Date

ODH Registration Number 636

CONSTRUCTION DETAILS

☐ Rotary ☒ Cable ☐ Augered ☐ Driven ☐ Other

BOREHOLE/CASING (measured from ground surface)

1 ☐ Borehole Diameter 8 inches Depth 210 ft

Casing Diameter 8 in. Length 110 ft. Thickness .322 in

2 ☐ Borehole Diameter ____ inches Depth ____ ft

Casing Diameter ____ in. Length ____ ft. Thickness ____ in

Casing Height Above Ground 24" ft

Type 1 ☒ 2 ☐ Steel; 1 ☐ 2 ☐ Galv.; 1 ☐ 2 ☐ PVC; 1 ☐ 2 ☐ Other

Joints 1 ☐ 2 ☐ Threaded; 1 ☒ 2 ☐ Welded; 1 ☐ 2 ☐ Solvent; 1 ☐ 2 ☐ Other

SCREEN

Diameter 8 Slot Size .040 Screen Length 100 ft.

Type wire wound Material galvanized steel

Set Between 110 ft. and 210 ft.

GRAVEL PACK (Filter Pack)

Material/Size ____ Volume/Weight Used ____

Method of Installation ____

Depth: Placed FROM ____ ft. TO ____ ft.

GROUT

Material Bentonite Volume/Weight Used ____

Method of Installation dry driven

Depth: Placed FROM ____ ft. TO ____ ft.

DRILLING LOG*

INDICATE DEPTH(S) AT WHICH WATER IS ENCOUNTERED. Show color, texture, hardness, and formation: sandstone, shale, limestone, gravel, clay, sand, etc.	From	To
top soil	0	7
clay	7	19
gravel, boulders with clay	19	40
gravel, sand with clay	40	55
coarse sand and gravel	55	80
clay with boulders, gravel, sand	80	100
gravel, coarse sand, medium sand	100	210

*(If more space is needed to complete drilling log, use next consecutively numbered form.)

Date of Well Completion ____ Total Depth of Well 210 ft.

Completion of this form is required by section 1521.05, Ohio Revised Code - file within 30 days after completion of drilling.
ORIGINAL COPY TO - ODNR, DIVISION OF WATER, 1939 FOUNTAIN SQ. DRIVE, COLS., OHIO 43224-9971
Blue - Customer's copy Pink - Driller's copy Green - Local Health Dept. copy

TYPE OR USE PEN
SELF TRANSCRIBING
PRESS HARD

WELL LOG AND DRILLING REPORT

Ohio Department of Natural Resources
Divison of Water, 1939 Fountain Square Drive
Columbus, Ohio 43224-9971 Voice (614) 265-6739 Fax (614) 447-9503

874322

WELL LOCATION

County Montgomery Township

Owner/Builder (Circle One or Both) Montgomery County (First / Last)

Address of Well Location Patterson & Monument (Number / Street Name)

City Dayton Zip Code +4 45422

Permit No. Section/Lot No. (Circle One or Both)

Location of Well in State Plane coordinates, if available: Use of Well Fountain

N ☐ X . +/- ft. or m

S ☐ Y . +/- ft. or m

Elevation of Well . +/- ft. or m

Datum Plain: ☐ NAD27 ☐ NAD83 Elevation Source

Source of Coordinates: ☐ GPS ☐ Survey ☐ Other

Sketch a map showing distance well lies from numbered state highways, street intersections, county roads, buildings or other notable landmarks. If latitude and longitude are available please include here: Lat: Long:

North

Production Well #3

West

East

South

WELL TEST*

Pre-Pumping Static Level 29 ft. Date 1/8/01

Measured from: ☒ Top of Casing ☐ Ground Level ☐ Other

☐ Air ☐ Bailing ☒ Pumping* ☐ Other

Test Rate 3521 gpm Duration of Test 12 hrs.

Feet of Drawdown 57 ft. Sustainable Yield gpm

*(Attach a copy of the pumping test record, per section 1521.05, ORC)

Is Copy Attached? ☐ Yes ☒ No Flowing Well? ☐ Yes ☒ No

Quality Clear

PUMP/PITLESS

Type of pump Submersible Capacity 3000 gpm

Pump set at 150 ft. Pitless Type

Pump installed by Moody's of Dayton, Inc.

I hereby certify the information given is accurate and correct to the best of my knowledge.

Drilling Firm Moody's of Dayton, Inc.

Address 4359 Infirmary Road

City, State, Zip Miamisburg, OH 45342

Signed Date

ODH Registration Number 636

CONSTRUCTION DETAILS

☒ Rotary ☐ Cable ☐ Augered ☐ Driven ☐ Other

BOREHOLE/CASING (measured from ground surface)

1 ☐ Borehole Diameter 40 inches Depth 235 ft.

Casing Diameter 26 in. Length 135 ft. Thickness .375 in.

2 ☐ Borehole Diameter inches Depth ft.

Casing Diameter in. Length ft. Thickness in.

Casing Height Above Ground

Type 1 ☒ Steel 1 ☐ Galv. 1 ☐ PVC 1 ☐ 2 ☐ Other

Joints 1 ☐ Threaded 1 ☒ Welded 1 ☐ Solvent 1 ☐ 2 ☐ Other

SCREEN

Diameter 26 Slot Size .100 Screen Length 100 ft.

Type wire wound Material stainless

Set Between 135 ft. and 235 ft.

GRAVEL PACK (Filter Pack)

Material/Size Parry #2 Volume/Weight Used 30 ton

Method of Installation tremie

Depth: Placed FROM 50 ft. TO 235 ft.

GROUT

Material neat cement Volume/Weight Used

Method of Installation tremie

Depth: Placed FROM 6 ft. TO 50 ft.

DRILLING LOG*

INDICATE DEPTH(S) AT WHICH WATER IS ENCOUNTERED. Show color, texture, hardness, and formation: sandstone, shale, limestone, gravel, clay, sand, etc.	From	To
top soil	0	5
gravel, sand, with some clay	5	80
clay	80	135
sand and gravel	135	235

*(If more space is needed to complete drilling log, use next consecutively numbered form.)

Date of Well Completion Total Depth of Well ft.

Completion of this form is required by section 1521.05, Ohio Revised Code - file within 30 days after completion of drilling.

ORIGINAL COPY TO - ODNR, DIVISION OF WATER, 1939 FOUNTAIN SQ. DRIVE, COLS., OHIO 43224-9971

Blue - Customer's copy Pink - Driller's copy Green - Local Health Dept. copy

Water Well Log and Drilling Report
Ohio Department of Natural Resources
Division of Water
Phone: 614-265-6740
email: cleve.brown@dnr.state.oh.us
Water Home: http://www.dnr.state.oh.us/water

WELL LOG AND DRILLING REPORT

Well Log Number: 874317 MON 00007 / RS-3

ORIGINAL OWNER AND LOCATION

Original Owner Name: *MONTGOMERY COUNTY* **Lot Number:**
County: *MONTGOMERY* **Township:** *DAYTON* **Section Number:**
Address: *PATTERSON/MONUMENT*
City: *DAYTON* **State:** *OH* **Zip Code:**
Location Number: **Location Map Year:** **Location Area:**

CONSTRUCTION DETAILS

Borehole Diameter: *8 in.* **Total Depth:** *210 ft.* **Depth to Bedrock:**
Casing Diameter: *8 in.* **Casing Thickness:** *0.322 in.* **Casing Length:** *110 ft.*
Well Use: *HTG/COOLING* **Screen Length:** *100 ft.* **Date of Completion:** *7/18/00*
Aquifer Type: *NONE* **Driller's Name:** *MOODY'S OF DAYTON, INC.*

WELL TEST DETAILS

Static Water Level: *34 ft.* **Test Rate:** *690 gpm* **Associated Reports**
Drawdown: *23 ft.* **Test Duration:** *8 hrs.* NONE

COMMENTS: *TEST WELL #3*

WELL LOG

Formations	From	To
TOP SOIL	0	- 7
CLAY	7	- 19
CLAYEY GRAVEL & BOULDERS	19	- 40
CLAYEY GRAVEL & SAND	40	- 55
COARSE SAND & GRAVEL	55	- 80
SANDY CLAY/GRAVEL/BOULDERS	80	- 100
GRAVEL & SAND	100	- 210

Water Well Log and Drilling Rep
Ohio Department of Natural Resourc
Division of Wa
Phone: 614-265-67
email: cleve.brown@dnr.state.oh
Water Home: http://www.dnr.state.oh.us/wa

WELL LOG AND DRILLING REPORT

Well Log Number: 874317

ORIGINAL OWNER AND LOCATION

Original Owner Name: *MONTGOMERY COUNTY* **Lot Number:**
County: *MONTGOMERY* **Township:** *DAYTON* **Section Number:**
Address: *PATTERSON/MONUMENT*
City: *DAYTON* **State:** *OH* **Zip Code:**
Location Number: **Location Map Year:** **Location Area:**
Latitude: **Longitude:**

CONSTRUCTION DETAILS

Borehole Diameter: *8 in.* **Total Depth:** *210 ft.* **Depth to Bedrock:**
Casing Diameter: *8 in.* **Casing Thickness:** *0.322 in.* **Casing Length:** *110 ft.*
Well Use: *HTG/COOLING* **Screen Length:** *100 ft.* **Date of Completion:** *7/15/00*
Aquifer Type: *NONE* **Driller's Name:** *MOODY'S OF DAYTON, INC.*

WELL TEST DETAILS

Static Water Level: *34 ft.* **Test Rate:** *690 gpm* **Associated Reports**
Drawdown: *23 ft.* **Test Duration:** *8 hrs.* NONE

COMMENTS: *TEST WELL #3*

WELL LOG

Formations	From	To
TOP SOIL	0	7
CLAY	7	19
CLAYEY GRAVEL & BOULDERS	19	40
CLAYEY GRAVEL & SAND	40	55
COARSE SAND & GRAVEL	55	80
SANDY CLAY/GRAVEL/BOULDERS	80	100
GRAVEL & SAND	100	210

MIAMI CONSERVANCY DISTRICT

STEWARDS OF THE GREAT MIAMI RIVER WATERSHED

Groundwater Level Data

Water Resource Monitoring	Water Resource Data	Water Study Reports	Aquifer Preservation Official Plan	GW Liaison Committee
Groundwater Fundamentals	Library	Surface Water Quality Monitoring	GIS Mapping	Links to related sites

Well Description

Well log data is available for this well. Click HERE to view the well log

Well Information for MON00007			
UNID	MON00007	Location	Patterson and Monument
Well Name	RS3	Latitude	39.76804
Status	Transducer	Longitude	84.18913
County	Montgomery	Installation Date	7/18/2000
Township	Dayton	Contact Information	

Well Details			
Completed Well Depth		7.5 Minute Quadrangle	Dayton North
Ground Surface Elevation	746.75	Principle Drainage Basin	Great Miami River
Reference Point Description	Top of casing	Sub Drainage Basin	Lower Great Miami River
Reference Point Elevation	749.5	Hydrologic Unit Code	
Land Surface Correction	-2.75	Northing	
Period Of Record	2001-current	Easting	
Well Log Available		Aquifer Lithology	Sand and Gravel
Well Log Number	874317		
Casing Material	Steel	Saturated Thickness	
Casing Diameter	8	Transmissivity	
Screened Interval		Storativity	
Reference		Horizontal Hydraulic Conductivity	
Pumping Influence			
Additional Comments:			

Well Data

You may choose dates between 6/29/2001 and 8/25/2003 to view data for well MON00007.

Please enter your dates in the appropriate boxes below then click one of the buttons to view the data in the form you want.

Enter the dates you wish to retrieve data for in the appropriate boxes below.

From (mm/dd/yyyy): Jun / 29 / 2001

To (mm/dd/yyyy): Aug / 25 / 2003

Download Data

View Data

Moody's of Dayton

P.O.Box 509, Miamisburg, Ohio 45343-0503

Sheet No. 1 of 1

Job No. 40161

Owner Montgomery County - Riverscape

City Dayton State Ohio

Location Riverside Drive

Dia. of Well 8" Depth 220'

Airline Length ____ Static Level 33.5

Orifice Size 5" x 5"

Type Well Gravel ____ Tubular X Rock ____

Date Tested 20-Jul-00 Well TW3

Tested by Craig Floan

Water Discharged from Well/Ft. 100'

Driver 30 hp test pump

Column ____

Bowls ____

New X Old ____

Screen Length 100' Dia. ____ Slot Size 0.04 Depth to Top 120' Cleaned ____

Screen Type Galvanized

Elapsed Time	Orifice Reading	G.P.M.		Pumping Level	Draw Down	Disc. Pressure Lbs.	Disc. Pressure Feet	Total Pumping Hd.	Remarks
8:00	9.5	402		42.00	8.50	52	120.12	162.12	
8:15	9.5	402		42.42	8.92	52	120.12	162.54	GPM/FT.
8:30	9.5	402		42.42	8.92	52	120.12	162.54	45.1
8:45	21.5	602		47.42	13.92	38	87.78	135.20	GPM/FT.
9:00	21.5	602		47.50	14.00	38	87.78	135.28	43.0
9:30	44	820		52.50	19.00	10	23.10	75.60	
10:00	44	820		52.58	19.08	10	23.10	75.68	
10:30	44	820		52.67	19.17	10	23.10	75.77	
11:00	44	820		52.75	19.25	10	23.10	75.85	
12:00	44	820		53.92	20.42	10	23.10	77.02	
1:00	44	820		54.25	20.75	10	23.10	77.35	GPM/FT.
2:00	44	820		54.42	20.92	10	23.10	77.52	39.2
									NOTE:
									Plug removed
									from screen

PRODUCTION TEST OF WELL

Moody's of Dayton

P.O.Box 509, Miamisburg, Ohio 45343-0503

Sheet No. 1 of 1

Job No. 40161

Owner Montgomery County

City Dayton State Ohio

Location Patterson & Monument

Dia. of Well 26" Depth 235

Airline Length Static Level 29' 1/2"

Orifice Size 10x12 steel 12"x10"

Type Well Gravel x Tubular Rock

Screen Length 100 Dia. 26" Slot Size

Date Tested 8-Jan-01 Well

Tested by Larry/Nate

Water Discharged from Well/Ft. 50

Driver 200 HP GE

Column 115'-10"x1 11/16

Bowls 14" Goulds 3 stage

New x Old

Depth to Top 135 Cleaned

Elapsed Time	Orifice Reading	G.P.M.	Air Gauge Reading	Pumping Level	Draw Down	Disc. Pressure Lbs.	Disc. Pressure Feet	Total Pumping Hd.	Remarks
11:30	6"	1,220		44'4"					230/235/230
11:40	6"	1,220		44'6"					
11:50	6"	1,220		44'91/2"					
12:00	6"	1,220		45'2"					
12:10	6"	1,220		45'4"					
12:20	6"	1,220		45'6"					
12:30	6"	1,220		45'7"	17'				sc=72 gpm/ft
12:40	24"	2,430		60'5"					
12:50	24"	2,430		61'7"					
1:00	24"	2,430		62'1"					
1:10	24"	2,430		62'2"					
1:20	24"	2,430		62'3"					
1:30	24"	2,430		62'6"					
1:40	24"	2,430		62'81/2"	34'				sc=71 gpm/ft
1:50	50"	3,521		83'7"					
2:00	50"	3,521		84'11"					
2:10	50"	3,521		85'81/2"					
2:20	50"	3,521		85'11"					
2:30	50"	3,521		86'					
2:40	50"	3,521		86'1"	57'				sc=62 gpm/ft

PW #3 (?)

TYPE OR USE PEN
SELF TRANSCRIBING
PRESS HARD

WELL LOG AND DRILLING REPORT

Ohio Department of Natural Resources
Divison of Water, 1939 Fountain Square Drive
Columbus, Ohio 43224-9971 Voice (614) 265-6739 Fax (614) 447-9503

874318

WELL LOCATION

County Montgomery Township

Owner/Builder (Circle One or Both) Montgomery County Public Works (First / Last)

Address of Well Location Patterson & Monument (Number / Street Name)

City Dayton Zip Code +4 45422

Permit No. Section/Lot No. (Circle One or Both)

Location of Well in State Plane coordinates, if available: Use of Well Cooling Water

N ☐ X _____ . _____ +/- _____ ft. or m

S ☐ Y _____ . _____ +/- _____ ft. or m

Elevation of Well _____ . _____ +/- _____ ft. or m

Datum Plain: ☐ NAD27 ☐ NAD83 Elevation Source

Source of Coordinates: ☐ GPS ☐ Survey ☐ Other

Sketch a map showing distance well lies from numbered state highways, street intersections, county roads, buildings or other notable landmarks. If latitude and longitude are available please include here: Lat: Long:

MON00009
Test Well #4

North

West

East

South

WELL TEST*

Pre-Pumping Static Level 38 ft. Date

Measured from: ☒ Top of Casing ☐ Ground Level ☐ Other

☐ Air ☐ Bailing ☐ Pumping* ☐ Other

Test Rate 597 gpm Duration of Test 8 hrs.

Feet of Drawdown 22 ft. Sustainable Yield gpm

*(Attach a copy of the pumping test record, per section 1521.05, ORC)

Is Copy Attached? ☒ Yes ☐ No Flowing Well? ☐ Yes ☒ No

Quality Clear

PUMP/PITLESS

Type of pump submersible Capacity 25 gpm

Pump set at ft. Pitless Type Baker Moniter

Pump installed by Moody's of Dayton, Inc.

I hereby certify the information given is accurate and correct to the best of my knowledge.

Drilling Firm Moody's of Dayton, Inc.

Address 4359 Infirmary Road

City, State, Zip Miamisburg, OH 45342

Signed Date

ODH Registration Number 636

CONSTRUCTION DETAILS

☐ Rotary ☒ Cable ☐ Augered ☐ Driven ☐ Other

BOREHOLE/CASING (measured from ground surface)

1 ☐ Borehole Diameter 8 inches Depth 210 ft.
Casing Diameter 8 in. Length 160 ft. Thickness .322 in.

2 ☐ Borehole Diameter inches Depth ft.
Casing Diameter in. Length ft. Thickness in.

Casing Height Above Ground 24" ft.

Type: 1 ☒ 2 ☐ Steel; 1 ☐ 2 ☐ Galv.; 1 ☐ 2 ☐ PVC; 1 ☐ 2 ☐ Other

Joints: 1 ☐ 2 ☐ Threaded; 1 ☒ 2 ☐ Welded; 1 ☐ 2 ☐ Solvent; 1 ☐ 2 ☐ Other

SCREEN

Diameter Slot Size Screen Length ft.

Type Material

Set Between ft. and ft.

GRAVEL PACK (Filter Pack)

Material/Size Volume/Weight Used

Method of Installation

Depth: Placed FROM ft. TO ft.

GROUT

Material Bentonite Volume/Weight Used

Method of Installation dry driven

Depth: Placed FROM ft. TO ft.

DRILLING LOG*

INDICATE DEPTH(S) AT WHICH WATER IS ENCOUNTERED. Show color, texture, hardness, and formation: sandstone, shale, limestone, gravel, clay, sand, etc.	From	To
top soil	0	7
clay	7	19
gravel, sand, boulders w/ clay	19	80
gray clay w/ gravel, sand, boulders	80	100
gravel, sand, large rocks	100	130
gravel, sand	130	150
gravel, sand, large rocks	150	160
sand and gravel	160	210

*(If more space is needed to complete drilling log, use next consecutively numbered form.)

Date of Well Completion Total Depth of Well ft.

Completion of this form is required by section 1521.05, Ohio Revised Code - file within 30 days after completion of drilling.

ORIGINAL COPY TO - ODNR, DIVISION OF WATER, 1939 FOUNTAIN SQ. DRIVE, COLS., OHIO 43224-9971

Blue - Customer's copy Pink - Driller's copy Green - Local Health Dept. copy

TYPE OR USE PEN
SELF TRANSCRIBING
PRESS HARD

WELL LOG AND DRILLING REPORT

Ohio Department of Natural Resources
Divison of Water, 1939 Fountain Square Drive
Columbus, Ohio 43224-9971 Voice (614) 265-6739 Fax (614) 447-9503

874323

WELL LOCATION

County Montgomery Township

Owner/Builder (Circle One or Both) Montgomery County (First / Last)

Address of Well Location Patterson & Monument (Number / Street Name)

City Dayton Zip Code +4 45422

Permit No. Section/Lot No. (Circle One or Both)

Location of Well in State Plane coordinates, if available: Use of Well Fountain

N ☐ X . +/- ft. or m

S ☐ Y . +/- ft. or m

Elevation of Well . +/- ft. or m

Datum Plain: ☐ NAD27 ☐ NAD83 Elevation Source

Source of Coordinates: ☐ GPS ☐ Survey ☐ Other

Sketch a map showing distance well lies from numbered state highways, street intersections, county roads, buildings or other notable landmarks. If latitude and longitude are available please include here: Lat: Long:

North

Production Well #4

West East

South

WELL TEST*

Pre-Pumping Static Level 30 ft. Date 3/22/01

Measured from: ☒ Top of Casing ☐ Ground Level ☐ Other

☐ Air ☐ Bailing ☒ Pumping* ☐ Other

Test Rate 2409 gpm Duration of Test 12 hrs.

Feet of Drawdown 86 ft. Sustainable Yield gpm

*(Attach a copy of the pumping test record, per section 1521.05, ORC)

Is Copy Attached? ☒ Yes ☐ No Flowing Well? ☐ Yes ☒ No

Quality Clear

PUMP/PITLESS

Type of pump sumbersible Capacity 3000 gpm

Pump set at 150 ft. Pitless Type

Pump installed by Moody's of Dayton, Inc.

I hereby certify the information given is accurate and correct to the best of my knowledge.

Drilling Firm Moody's of Dayton, Inc.

Address 4359 Infirmary Road

City, State, Zip Miamisburg, OH 45342

Signed Date

ODH Registration Number 636

CONSTRUCTION DETAILS

☒ Rotary ☐ Cable ☐ Augered ☐ Driven ☐ Other

BOREHOLE/CASING (measured from ground surface)

1 ☐ Borehole Diameter 40 inches Depth 180

Casing Diameter 26 in. Length 100 ft. Thickness .375 i

2 ☐ Borehole Diameter inches Depth

Casing Diameter in. Length ft. Thickness i

Casing Height Above Ground

Type 1 ☒ Steel 1 ☐ Galv. 1 ☐ PVC 1 ☐ 2 ☐ Other

Joints 1 ☐ Threaded 1 ☒ Welded 1 ☐ Solvent 1 ☐ 2 ☐ Other

SCREEN

Diameter 26 Slot Size .100 Screen Length 80 ft.

Type wire wound Material stainless

Set Between 100 ft. and 180 ft.

GRAVEL PACK (Filter Pack)

Material/Size Parry #2 Volume/Weight Used 30 ton

Method of Installation tremie

Depth: Placed FROM 50 ft. TO 180 ft.

GROUT

Material neat cement Volume/Weight Used

Method of Installation tremie

Depth: Placed FROM 6 ft. TO 50 ft.

DRILLING LOG*

INDICATE DEPTH(S) AT WHICH WATER IS ENCOUNTERED. Show color, texture, hardness, and formation: sandstone, shale, limestone, gravel, clay, sand, etc.	From	To
top soil	0	7
clay	7	20
gravel, sand, boulders	20	80
clay with gravel, sand boulders	80	100
large boulders with sand & gravel	100	150
gravel with sand	150	180
sand with gravel and clay	180	200

*(If more space is needed to complete drilling log, use next consecutively numbered form.)

Date of Well Completion Total Depth of Well ft.

Completion of this form is required by section 1521.05, Ohio Revised Code - file within 30 days after completion of drilling.

ORIGINAL COPY TO - ODNR, DIVISION OF WATER, 1939 FOUNTAIN SQ. DRIVE, COLS., OHIO 43224-9971

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TYPE OR USE PEN
SELF TRANSCRIBING
PRESS HARD

WELL LOG AND DRILLING REPORT

Ohio Department of Natural Resources
Divison of Water, 1939 Fountain Square Drive
Columbus, Ohio 43224-9971 Voice (614) 265-6739 Fax (614) 447-9503

874319

WELL LOCATION

County Montgomery Township

Owner/Builder (Circle One or Both) Montgomery County Public Works (First / Last)

Address of Well Location Patterson & Monument (Number / Street Name)

City Dayton Zip Code +4 45422

Permit No. Section/Lot No. (Circle One or Both)

Location of Well in State Plane coordinates, if available:

Use of Well Cooling Water

N ☐ X _____ . _____ +/- _____ ft. or m

S ☐ Y _____ . _____ +/- _____ ft. or m

Elevation of Well _____ . _____ +/- _____ ft. or m

Datum Plain: ☐ NAD27 ☐ NAD83 Elevation Source

Source of Coordinates: ☐ GPS ☐ Survey ☐ Other

Sketch a map showing distance well lies from numbered state highways, street intersections, county roads, buildings or other notable landmarks. If latitude and longitude are available please include here: Lat: _____ Long: _____

North

MCN00006
Test Well #5

West

East

South

WELL TEST*

Pre-Pumping Static Level 37 ft. Date 6/26/00

Measured from: ☒ Top of Casing ☐ Ground Level ☐ Other

☐ Air ☐ Bailing ☐ Pumping* ☐ Other

Test Rate 772 gpm Duration of Test 8 hrs.

Feet of Drawdown 30 ft. Sustainable Yield _____ gpm

*(Attach a copy of the pumping test record, per section 1521.05, ORC)

Is Copy Attached? ☒ Yes ☐ No Flowing Well? ☐ Yes ☒ No

Quality Clear

PUMP/PITLESS

Type of pump submersible Capacity 25 gpm

Pump set at _____ ft. Pitless Type Baker Moniter

Pump installed by Moody's of Dayton, Inc.

I hereby certify the information given is accurate and correct to the best of my knowledge.

Drilling Firm Moody's of Dayton, Inc.

Address 4359 Infirmary Road

City, State, Zip Miamisburg, OH 45342

Signed _____ Date _____

ODH Registration Number 636

CONSTRUCTION DETAILS

☐ Rotary ☒ Cable ☐ Augered ☐ Driven ☐ Other

BOREHOLE/CASING (measured from ground surface)

1☐ Borehole Diameter 8 inches Depth 207 ft.

Casing Diameter 8 in. Length 157 ft. Thickness .322 in.

2☐ Borehole Diameter _____ inches Depth _____ ft.

Casing Diameter _____ in. Length _____ ft. Thickness _____ in.

Casing Height Above Ground 24" ft.

Type 1☒ Steel 1☐ Galv. 1☐ PVC 1☐ 2☐ Other

Joints 1☐ Threaded 1☒ Welded 1☐ Solvent 1☐ 2☐ Other

SCREEN

Diameter 8 Slot Size .040 Screen Length 50 ft.

Type wire wound Material galvanized steel

Set Between 157 ft. and 207 ft.

GRAVEL PACK (Filter Pack)

Material/Size _____ Volume/Weight Used _____

Method of Installation _____

Depth: Placed FROM _____ ft. TO _____ ft.

GROUT

Material Bentonite Volume/Weight Used _____

Method of Installation dry driven

Depth: Placed FROM _____ ft. TO _____ ft.

DRILLING LOG*

INDICATE DEPTH(S) AT WHICH WATER IS ENCOUNTERED. Show color, texture, hardness, and formation: sandstone, shale, limestone, gravel, clay, sand, etc.	From	To
top soil	0	5
sand and gravel w/ some clay	5	80
coarse sand, gravel, fine sand	80	207
clay		207

*(If more space is needed to complete drilling log, use next consecutively numbered form.)

Date of Well Completion _____ Total Depth of Well _____ ft.

Completion of this form is required by section 1521.05, Ohio Revised Code - file within 30 days after completion of drilling.
ORIGINAL COPY TO - ODNR, DIVISION OF WATER, 1939 FOUNTAIN SQ. DRIVE, COLS., OHIO 43224-9971
Blue - Customer's copy Pink - Driller's copy Green - Local Health Dept. copy

Water Well Log and Drilling Report
Ohio Department of Natural Resources
Division of Water
Phone: 614-265-6740
email: cleve.brown@dnr.state.oh.us
Water Home: http://www.dnr.state.oh.us/water

WELL LOG AND DRILLING REPORT

Well Log Number: 874319 MON 00006 | RS-#5

ORIGINAL OWNER AND LOCATION

Original Owner Name: *MONTGOMERY COUNTY*
County: *MONTGOMERY*
Address: *PATTERSON/MONUMENT*
City: *DAYTON*
Location Number:
Lot Number:
Township: *DAYTON*
Section Number:
State: *OH*
Zip Code:
Location Map Year:
Location Area:

CONSTRUCTION DETAILS

Borehole Diameter: *8 in.*
Casing Diameter: *8 in.*
Well Use: *TEST WELL*
Aquifer Type: *NONE*
Total Depth: *207 ft.*
Depth to Bedrock:
Casing Thickness: *0.322 in.*
Casing Length: *157 ft.*
Screen Length: *50 ft.*
Date of Completion: *6/26/00*
Driller's Name: *MOODY'S OF DAYTON, INC.*

WELL TEST DETAILS

Static Water Level: *37 ft.*
Drawdown: *30 ft.*
Test Rate: *772 gpm*
Test Duration: *8 hrs.*

Associated Reports
NONE

COMMENTS: *TEST WELL #5*

WELL LOG

Formations	From	To
TOP SOIL	0	- 5
CLAYEY SAND & GRAVEL	5	- 80
CLAY	80	- 207
SAND & GRAVEL	207	- 207

TYPE OR USE PEN
SELF TRANSCRIBING
PRESS HARD

WELL LOG AND DRILLING REPORT

Ohio Department of Natural Resources
Divison of Water, 1939 Fountain Square Drive
Columbus, Ohio 43224-9971 Voice (614) 265-6739 Fax (614) 447-9503

874324

WELL LOCATION

County Montgomery Township

Owner/Builder (Circle One or Both) Montgomery County (First / Last)

Address of Well Location Patterson & Monument (Number / Street Name)

City Dayton Zip Code +4 45422

Permit No. Section/Lot No. (Circle One or Both)

Location of Well in State Plane coordinates, if available: Use of Well Fountain

N ☐ X . +/- ft. or m

S ☐ Y . +/- ft. or m

Elevation of Well . +/- ft. or m

Datum Plain: ☐ NAD27 ☐ NAD83 Elevation Source

Source of Coordinates: ☐ GPS ☐ Survey ☐ Other

Sketch a map showing distance well lies from numbered state highways, street intersections, county roads, buildings or other notable landmarks. If latitude and longitude are available please include here: Lat: Long:

North

Production Well #5

West

East

South

WELL TEST*

Pre-Pumping Static Level 30 ft. Date 4/1/01

Measured from: ☒ Top of Casing ☐ Ground Level ☐ Other

☐ Air ☐ Bailing ☒ Pumping* ☐ Other

Test Rate 3600 gpm Duration of Test 10 hrs.

Feet of Drawdown 40 ft. Sustainable Yield gpm

*(Attach a copy of the pumping test record, per section 1521.05, ORC)

s Copy Attached? ☐ Yes ☒ No Flowing Well? ☐ Yes ☒ No

Quality Clear

PUMP/PITLESS

Type of pump submersible Capacity 3000 gpm

Pump set at 150ft. Pitless Type

Pump installed by Moody's of Dayton, Inc.

I hereby certify the information given is accurate and correct to the best of my knowledge.

Drilling Firm Moody's of Dayton, Inc.

Address 4359 Infirmary Road

City, State, Zip Miamisburg, OH 45342

Signed Date

ODH Registration Number 636

CONSTRUCTION DETAILS

☒ Rotary ☐ Cable ☐ Augered ☐ Driven ☐ Other

BOREHOLE/CASING (measured from ground surface)

1 ☐ Borehole Diameter 40 inches Depth 200 ft.

Casing Diameter 26 in. Length 100 ft. Thickness .375 in.

2 ☐ Borehole Diameter inches Depth ft.

Casing Diameter in. Length ft. Thickness in.

Casing Height Above Ground ft.

Type 1 ☒ Steel 1 ☐ Galv. 1 ☐ PVC 1 ☐
2 ☐ 2 ☐ 2 ☐ 2 ☐ Other

Joints 1 ☐ Threaded 1 ☒ Welded 1 ☐ Solvent 1 ☐
2 ☐ 2 ☐ 2 ☐ 2 ☐ Other

SCREEN

Diameter 26 Slot Size .100 Screen Length 100 ft.

Type wire wound Material stainless

Set Between 100 ft. and 200 ft.

GRAVEL PACK (Filter Pack)

Material/Size Parry #2 Volume/Weight Used 30 ton

Method of Installation tremie

Depth: Placed FROM 50 ft. TO 200 ft.

GROUT

Material neat cement Volume/Weight Used

Method of Installation tremie

Depth: Placed FROM 5 ft. TO 50 ft.

DRILLING LOG*

INDICATE DEPTH(S) AT WHICH WATER IS ENCOUNTERED. Show color, texture, hardness, and formation: sandstone, shale, limestone, gravel, clay, sand, etc.	From	To
top soil	0	5
sand and gravel	5	200

*(If more space is needed to complete drilling log, use next consecutively numbered form.)

Date of Well Completion Total Depth of Well ft.

Completion of this form is required by section 1521.05, Ohio Revised Code - file within 30 days after completion of drilling.

ORIGINAL COPY TO - ODNR, DIVISION OF WATER, 1939 FOUNTAIN SQ. DRIVE, COLS., OHIO 43224-9971

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Search: GO

Who We Are
Flood Protection & Water Management
Bike Trails & Recreation
Phase II Storm Water
Water Resource Monitoring & Information
Great Miami River Watershed
GIS Mapping

Groundwater Level Data

Water Resource Monitoring	Water Resource Data	Water Study Reports	Aquifer Preservation Official Plan	GW Liaison Committee
Groundwater Fundamentals	Library	Surface Water Quality Monitoring	GIS Mapping	Links to related sites

Well Description

Well log data is available for this well. Click HERE to view the well log

Well Information for MON00006			
UNID	MON00006	Location	Patterson and Monument
Well Name	RS5	Latitude	39.76631
Status	Transducer	Longitude	84.18711
County	Montgomery	Installation Date	6/26/2000
Township	Dayton	Contact Information	

Well Details			
Completed Well Depth		7.5 Minute Quadrangle	Dayton North
Ground Surface Elevation	752.14	Principle Drainage Basin	Great Miami River
Reference Point Description	Top of casing	Sub Drainage Basin	Lower Great Miami River
Reference Point Elevation	755.14	Hydrologic Unit Code	
Land Surface Correction	-3	Northing	
Period Of Record	2001-current	Easting	
Well Log Available		Aquifer Lithology	Sand and Gravel
Well Log Number	874319		
Casing Material	Steel	Saturated Thickness	
Casing Diameter	8	Transmissivity	
Screened Interval		Storativity	
Reference		Horizontal Hydraulic Conductivity	
Pumping Influence			

Additional Comments:	

Well Data

You may choose dates between 6/1/2001 and 11/3/2003 to view data for well MON00006.

Please enter your dates in the appropriate boxes below then click one of the buttons to view the data in the form you want.

Enter the dates you wish to retrieve data for in the appropriate boxes below.

From (mm/dd/yyyy): Jun / 1 / 2001

To (mm/dd/yyyy): Nov / 3 / 2003

Moody's of Dayton

P.O.Box 509, Miamisburg, Ohio 45343-0503

Sheet No. 1 of 1

Job No. 40161

Owner: Montgomey County - Riverscape

City: Dayton State: Ohio

Location: Riverside Drive

Dia. of Well: 8" Depth: 267'

Airline Length: Static Level: 36.75

Orifice Size: 6" x 5"

Type Well: Gravel ____ Tubular X Rock ____ New X Old

Screen Length: 50' Dia. ____ Slot Size ____ Depth to Top ____ Cleaned ____

Date Tested: 26-Jun-00 Well: TW-5

Tested by: Craig Floan

Water Discharged from Well/Ft.: 100

Driver: 30 HP 23v Test Pump

Column: 4"x 121'

Bowls: Goulds 7CHC

Elapsed Time	Orifice Reading	G.P.M.	Air Gauge Reading	Pumping Level	Draw Down	Disc. Pressure Lbs.	Disc. Pressure Feet	Total Pumping Hd.	Remarks
7:00	6"	305		47.50	10.75	60	138.60	186.10	Closed valve 78 lbs.
7:05	6"	305		47.50	10.75	60	138.60	186.10	Amps: 72-72-72
7.10	6"	305		47.50	10.75	60	138.60	186.10	
7:15	6"	305		47.50	10.75	60	138.60	186.10	
7:30	6"	305		47.67	10.92	60	138.60	186.27	
7:57	6"	305		47.67	10.92	60	138.60	186.27	
8:00	19.5"	550		56.08	19.33	40	92.40	148.48	Amps: 84-84-84
8:05	19.5"	550		56.42	19.67	40	92.40	148.82	
8:10	19.5"	550		56.42	19.67	40	92.40	148.82	
8:15	19.5"	550		56.50	19.75	40	92.40	148.90	
8:30	19.5"	550		56.67	19.92	40	92.40	149.07	
8:57	19.5"	550		56.67	19.92	40	92.40	149.07	
9:00	38.5"	772		66.17	29.42	8	18.48	84.65	Amps: 88-90-90
9:05	38.5"	772		66.25	29.50	8	18.48	84.73	
9:10	38.5"	772		66.25	29.50	8	18.48	84.73	
9:15	38.5"	772		66.25	29.50	8	18.48	84.73	
9:30	38.5"	772		66.33	29.58	8	18.48	84.81	
10:00	38.5"	772		66.50	29.75	8	18.48	84.98	
11:00	38.5"	772		66.50	29.75	8	18.48	84.98	
12:00	38.5"	772		66.50	29.75	8	18.48	84.98	
1:00	26"	635		60.25	23.50	30	69.30	129.55	Amps: 86-88-86
2:00	26"	635		60.25	23.50	30	69.30	129.55	
3:00	26"	635		60.25	23.50	30	69.30	129.55	
									Starter kicked out around
									1:00 PM. Closed valve to
									30 lbs pressure to reduce
									amperage.

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Harrison Dayton RFI
M.H./C.B. NO.: BS-1
PROJECT LOCATION: Dayton OH
PROJECT NO.: 12638-04-0020
M.H./C.B. LOCATION: Bldg 24 basement, east side.
DATE: 4/9/02

☑ INSIDE FACILITY ☐ OUTSIDE FACILITY

TYPE OF FRAME: ☐ SQUARE ☐ CIRCULAR
TYPE OF LID: ☐ VENTED ☐ SOLID

MARKINGS ON LID: _____

CONDITION OF FRAME: ☐ GOOD ☐ FAIR ☐ POOR
CONDITION OF LID: ☐ GOOD ☐ FAIR ☐ POOR

FRAME OPENING DIMENSION: _____

RUNGS INSTALLED: ☐ YES ☐ NO
RUNG CONDITION: ☐ GOOD ☐ FAIR ☐ POOR

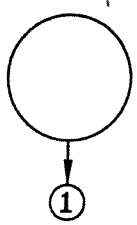
OUTGOING LINE: SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#1			

INCOMING LINE: SIZE:	FROM M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#2			
#3			
#4			
#5			
#6			

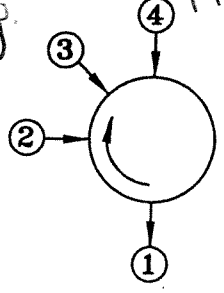
GENERAL CONDITION OF M.H/C.B.: ☐ GOOD ☑ FAIR ☐ POOR

COMMENTS: Sump has opening for pipe + pump. Basement is elevated in area of sump. PID = 0.0
W-040902-SLE-011/012 Dup. 9 MS/MSD.
~~SE-040902-SLE-009/010 Dup 4 MS/MSD~~
No sediment, only bits of rust on bottom that appeared to have fallen from corroded piping.

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Harrison Dayton Pt 1 M.H./C.B. NO.: BS-2

PROJECT LOCATION: Dayton OH PROJECT NO.: 12638-04-0020

M.H./C.B. LOCATION: Bldg 24 basement in small room with equip. DATE: 4/9/02

☑ INSIDE FACILITY ☐ OUTSIDE FACILITY

TYPE OF FRAME: ☐ SQUARE ☐ CIRCULAR

TYPE OF LID: ☐ VENTED ☐ SOLID

MARKINGS ON LID: _____

CONDITION OF FRAME: ☐ GOOD ☐ FAIR ☐ POOR

CONDITION OF LID: ☐ GOOD ☐ FAIR ☐ POOR

FRAME OPENING DIMENSION: _____

RUNGS INSTALLED: ☐ YES ☐ NO

RUNG CONDITION: ☐ GOOD ☐ FAIR ☐ POOR

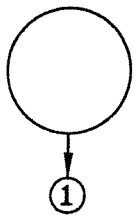
OUTGOING LINE: SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#1			

INCOMING LINE: SIZE:	FROM M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#2			
#3			
#4			
#5			
#6			

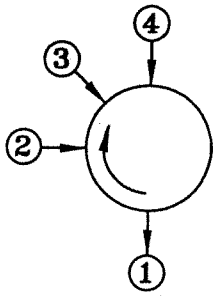
GENERAL CONDITION OF M.H/C.B.: ☐ GOOD ☐ FAIR ☐ POOR

COMMENTS: Sump has no opening. Large metal frame with cover over area. Presume there is sump pit but can't see it. Large (≈ 3 x 4.5 ft) cover is corroded in place.

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Harrison Dayton Rt 1 M.H./C.B. NO.: BS-3

PROJECT LOCATION: Dayton OH PROJECT NO.: 12638-04-0020

M.H./C.B. LOCATION: Bldg 24 basement under stairs DATE: 4/12/02

☑ INSIDE FACILITY ☐ OUTSIDE FACILITY

TYPE OF FRAME: ☐ SQUARE ☐ CIRCULAR

TYPE OF LID: ☐ VENTED ☐ SOLID

MARKINGS ON LID: _____

CONDITION OF FRAME: ☐ GOOD ☐ FAIR ☐ POOR

CONDITION OF LID: ☐ GOOD ☐ FAIR ☐ POOR

FRAME OPENING DIMENSION: _____

RUNGS INSTALLED: ☐ YES ☐ NO

RUNG CONDITION: ☐ GOOD ☐ FAIR ☐ POOR

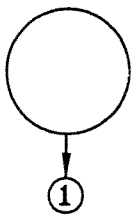
OUTGOING LINE: SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#1			

INCOMING LINE: SIZE:	FROM M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#2			
#3			
#4			
#5			
#6			

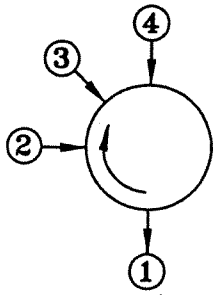
GENERAL CONDITION OF M.H/C.B.: ☐ GOOD ☐ FAIR ☐ POOR

COMMENTS: W-041202-SLF-022
used bailer to sample, cover restriction. Could not identify if sediment present.

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Harrison Dayton RFI M.H./C.B. NO.: BS-4

PROJECT LOCATION: Dayton OH PROJECT NO.: 12638-04-0020

M.H./C.B. LOCATION: Bldg 12 basement. DATE: 4/12/02

☑ INSIDE FACILITY ☐ OUTSIDE FACILITY

TYPE OF FRAME: ☐ SQUARE ☐ CIRCULAR

TYPE OF LID: ☐ VENTED ☐ SOLID

MARKINGS ON LID: _____

CONDITION OF FRAME: ☐ GOOD ☐ FAIR ☐ POOR

CONDITION OF LID: ☐ GOOD ☐ FAIR ☐ POOR

FRAME OPENING DIMENSION: _____

RUNGS INSTALLED: ☐ YES ☐ NO

RUNG CONDITION: ☐ GOOD ☐ FAIR ☐ POOR

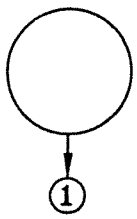
	OUTGOING LINE: SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#1				

	INCOMING LINE: SIZE:	FROM M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#2				
#3				
#4				
#5				
#6				

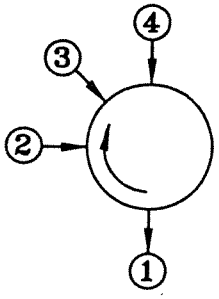
GENERAL CONDITION OF M.H/C.B.: ☐ GOOD ☐ FAIR ☐ POOR

COMMENTS: W-041202-SLF-023. Sampled water using bailer. Could not move cover enough to identify or sample sediment.

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Harrison Dayton RFI
M.H./C.B. NO.: BS-5.
PROJECT LOCATION: Dayton OH
PROJECT NO.: 12658-04-0020.
M.H./C.B. LOCATION: Bldg 13 basement
DATE: 4/9/02

☑ INSIDE FACILITY ☐ OUTSIDE FACILITY

TYPE OF FRAME: ☐ SQUARE ☐ CIRCULAR
TYPE OF LID: ☐ VENTED ☐ SOLID

MARKINGS ON LID: _____

CONDITION OF FRAME: ☐ GOOD ☐ FAIR ☐ POOR
CONDITION OF LID: ☐ GOOD ☐ FAIR ☐ POOR

FRAME OPENING DIMENSION: _____

RUNGS INSTALLED: ☐ YES ☐ NO
RUNG CONDITION: ☐ GOOD ☐ FAIR ☐ POOR

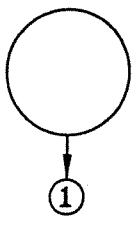
OUTGOING LINE: SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#1			

INCOMING LINE: SIZE:	FROM M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#2			
#3			
#4			
#5			
#6			

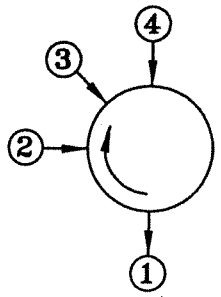
GENERAL CONDITION OF M.H/C.B.: ☐ GOOD ☐ FAIR ☐ POOR

COMMENTS: W-040902-SLE-013 PID = 0.0.
No sediment observed, just iron flakes from corroded pipe.

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Hanson Dayton RFI
M.H./C.B. NO.: BS46
PROJECT LOCATION: Dayton OH.
PROJECT NO.: 12638-04-002.0
M.H./C.B. LOCATION: Bldg 5 basement near stairs.
DATE: 4/11/02.

☐ INSIDE FACILITY ☐ OUTSIDE FACILITY

TYPE OF FRAME: ☐ SQUARE ☐ CIRCULAR
TYPE OF LID: ☐ VENTED ☐ SOLID

MARKINGS ON LID: _____

CONDITION OF FRAME: ☐ GOOD ☐ FAIR ☐ POOR
CONDITION OF LID: ☐ GOOD ☐ FAIR ☐ POOR

FRAME OPENING DIMENSION: _____

RUNGS INSTALLED: ☐ YES ☐ NO
RUNG CONDITION: ☐ GOOD ☐ FAIR ☐ POOR

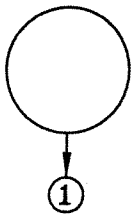
OUTGOING LINE: SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#1			

INCOMING LINE: SIZE:	FROM M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#2			
#3			
#4			
#5			
#6			

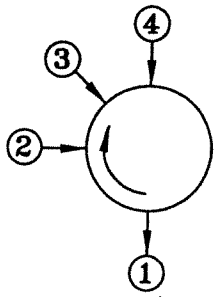
GENERAL CONDITION OF M.H/C.B.: ☐ GOOD ☐ FAIR ☐ POOR

COMMENTS: Cover over sump, not enough space for cup on stick. Sampled water using disposable bailer. PID=0.0.
W-041102-SLE-015

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Hanson Dayton RFI
M.H./C.B. NO.: BS-47
PROJECT LOCATION: Dayton OH
PROJECT NO.: 12638-04-0020
M.H./C.B. LOCATION: Bldg 5 basement in sent pump area? behind elevator shaft.
DATE: 4/11/02

☐ INSIDE FACILITY ☐ OUTSIDE FACILITY

TYPE OF FRAME: ☐ SQUARE ☐ CIRCULAR
TYPE OF LID: ☐ VENTED ☐ SOLID

MARKINGS ON LID: _____

CONDITION OF FRAME: ☐ GOOD ☐ FAIR ☐ POOR
CONDITION OF LID: ☐ GOOD ☐ FAIR ☐ POOR

FRAME OPENING DIMENSION: _____

RUNGS INSTALLED: ☐ YES ☐ NO
RUNG CONDITION: ☐ GOOD ☐ FAIR ☐ POOR

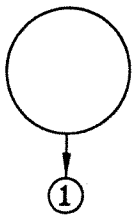
OUTGOING LINE: SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#1			

INCOMING LINE: SIZE:	FROM M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#2			
#3			
#4			
#5			
#6			

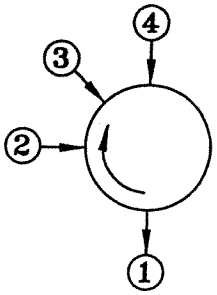
GENERAL CONDITION OF M.H/C.B.: ☐ GOOD ☐ FAIR ☐ POOR

COMMENTS: W-041102-SLE-017
O-041102-SLE-012 oily scum sample
Very little water on bottom. Oily scum on top.
Difficult to separate.

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Harrison Dayton RFI
M.H./C.B. NO.: BS-618
PROJECT LOCATION: Dayton OH.
PROJECT NO.: 12638-04-0020
M.H./C.B. LOCATION: Bldg 5 Basement in Electrical Vault.
DATE: 4/11/02.

☐ INSIDE FACILITY ☐ OUTSIDE FACILITY

TYPE OF FRAME: ☐ SQUARE ☐ CIRCULAR
TYPE OF LID: ☐ VENTED ☐ SOLID

MARKINGS ON LID: _____

CONDITION OF FRAME: ☐ GOOD ☐ FAIR ☐ POOR
CONDITION OF LID: ☐ GOOD ☐ FAIR ☐ POOR

FRAME OPENING DIMENSION: _____

RUNGS INSTALLED: ☐ YES ☐ NO
RUNG CONDITION: ☐ GOOD ☐ FAIR ☐ POOR

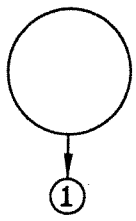
OUTGOING LINE: SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#1			

INCOMING LINE: SIZE:	FROM M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#2			
#3			
#4			
#5			
#6			

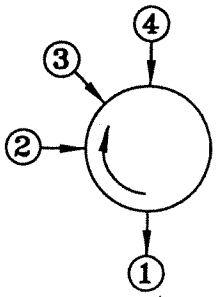
GENERAL CONDITION OF M.H/C.B.: ☐ GOOD ☐ FAIR ☐ POOR

COMMENTS: PID = 0.0. ~~Grate over Sump pit so sampled water using bailer.~~ Opened grate enough to use scoop. Sediment contained a lot of rust flakes.
W-041102-SLE-019
SE-041102-SLE-009/DID DUP.

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Harrison Dayton RFI
M.H./C.B. NO.: BS-&9
PROJECT LOCATION: Dayton OH.
PROJECT NO.: 12638-04-0020
M.H./C.B. LOCATION: Bldg 5 basement in ventilation pump area?
DATE: 4/11/02.

☐ INSIDE FACILITY ☐ OUTSIDE FACILITY

TYPE OF FRAME: ☐ SQUARE ☐ CIRCULAR
TYPE OF LID: ☐ VENTED ☐ SOLID

MARKINGS ON LID: _____

CONDITION OF FRAME: ☐ GOOD ☐ FAIR ☐ POOR
CONDITION OF LID: ☐ GOOD ☐ FAIR ☐ POOR

FRAME OPENING DIMENSION: _____

RUNGS INSTALLED: ☐ YES ☐ NO
RUNG CONDITION: ☐ GOOD ☐ FAIR ☐ POOR

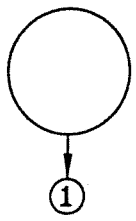
OUTGOING LINE: SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#1			

INCOMING LINE: SIZE:	FROM M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#2			
#3			
#4			
#5			
#6			

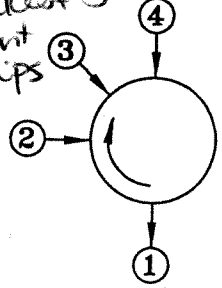
GENERAL CONDITION OF M.H/C.B.: ☐ GOOD ☐ FAIR ☐ POOR

COMMENTS: W-041102-SLE-016. PID=0.0. Water near top and grate open so used dipper for preserved bottles and directly filled unpreserved bottles SE-041102-SLE-01 Noticed chemical odor from sediment PID=0.2 on sediment. Sed. consisted of fine grained material with some rust flakes + paint chips

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

CONCRETE SAMPLE LOG

Date: APR 02/02

Project No.: 12638-04-0010

Project Name: Harrison Dayton RFI

Project Location: Dayton, OH

Sample Location: Electrical Vault 1, Bldg 5 basement, CON-1

Wipe Sample ID: WP-12638-040202-SLE-001

Concrete Sample ID: CC-12638-040202-SLE-001 Sample Depth: 0-3 in

Concrete Sample ID: CC-12638-040202-SLE-002 Sample Depth: 3-8 in

concrete 8 in thick.

Sample Location: Electrical Vault 1, Bldg 5 basement, CON-2

Wipe Sample ID: WP-12638-040202-SLE-002

Concrete Sample ID: CC-12638-040202-SLE-003 Sample Depth: 0-3 in

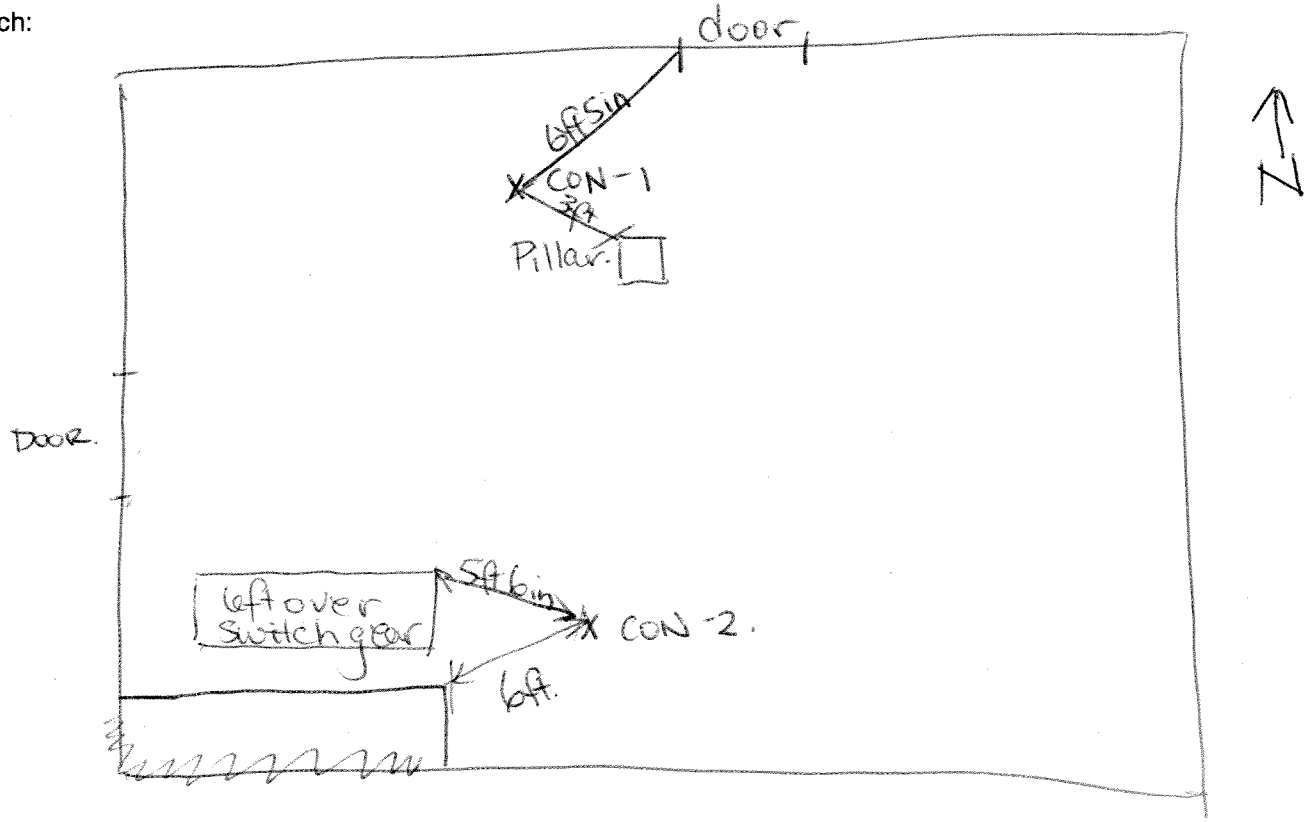
Concrete Sample ID: CC-12638-040202-SLE-004 Sample Depth: 0-3 in DUP

Concrete Sample ID: CC-12638-040202-SLE-005 Sample Depth: 3-8 in

Concrete Sample ID: CC-12638-040202-SLE-006 Sample Depth: 3-8 in DUP

Concrete 8 in thick.

Sketch:



CONCRETE SAMPLE LOG

Date: APR 2/02

Project No.: 12638-04-0010

Project Name: Delphi Harrison RFI

Project Location: Dayton, OH

Sample Location: Tool Grinder (column L32) CON-03

Wipe Sample ID: WP-~~12638~~-040202-SLE-003

Concrete Sample ID: CC-~~12638~~-040202-SLE-007 Sample Depth: 0-3 in

Concrete Sample ID: CC-~~12638~~-040202-SLE-008 Sample Depth: 3-9 in

Sample Location: Tool Grinder Duct (column M31) CON-04

Wipe Sample ID: WP-~~12638~~-040202-SLE-004

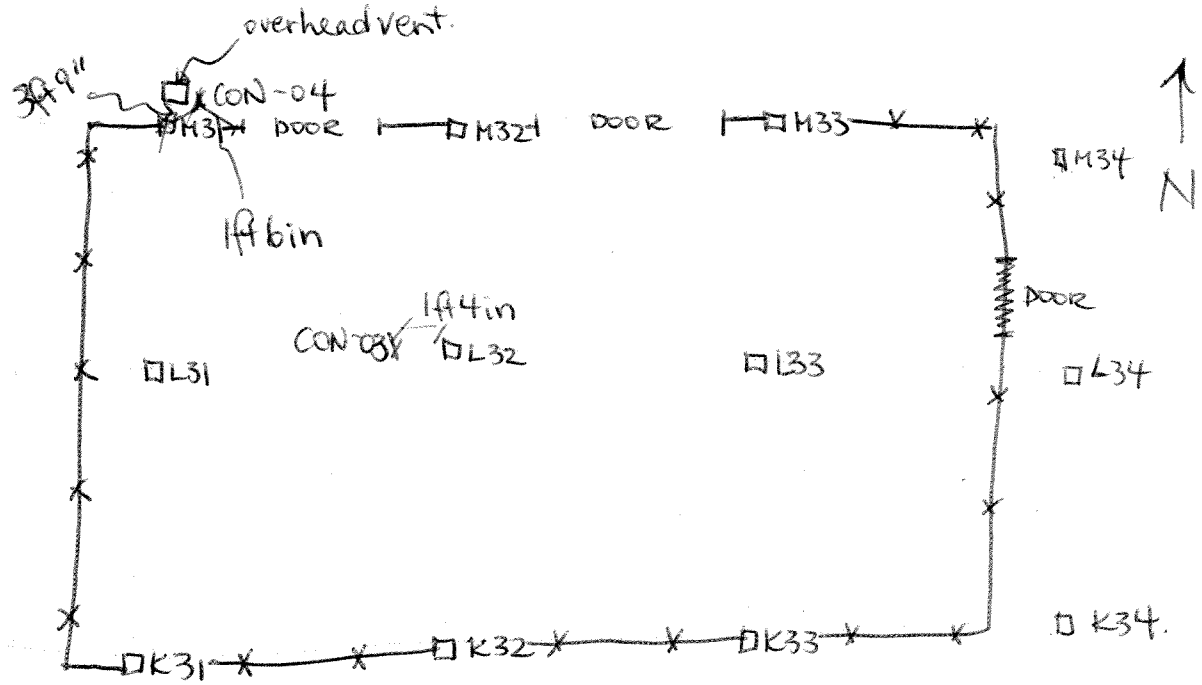
Concrete Sample ID: CC-~~12638~~-040202-SLE-009 Sample Depth: 0-3 in

Concrete Sample ID: CC-~~12638~~-040202-SLE-010 Sample Depth: 3-9 in

~~Concrete Sample ID:~~ Sample Depth:

~~Concrete Sample ID:~~ Sample Depth:

Sketch:



- Difficult to tell if areas stained because it was damp. Tried to sample at areas that appeared stained but it was possibly water.
- Some saucers ~~cond~~ but floor appeared in good condition.

CONCRETE SAMPLE LOG

Date: APR 3/02

Project No.: 12638-04-0010

Project Name: Harrison Dayton RR1

Project Location: Dayton OH

Sample Location: Bldg 10-tunnel, CON-05.

Wipe Sample ID: WP-040302-SLE-005

Concrete Sample ID: CC-040302-SLE-011 Sample Depth: 0-3 in

Concrete Sample ID: CC-040302-SLE-012 Sample Depth: 3-6 in

hit refusal @ 6 in.

Sample Location:

Wipe Sample ID:

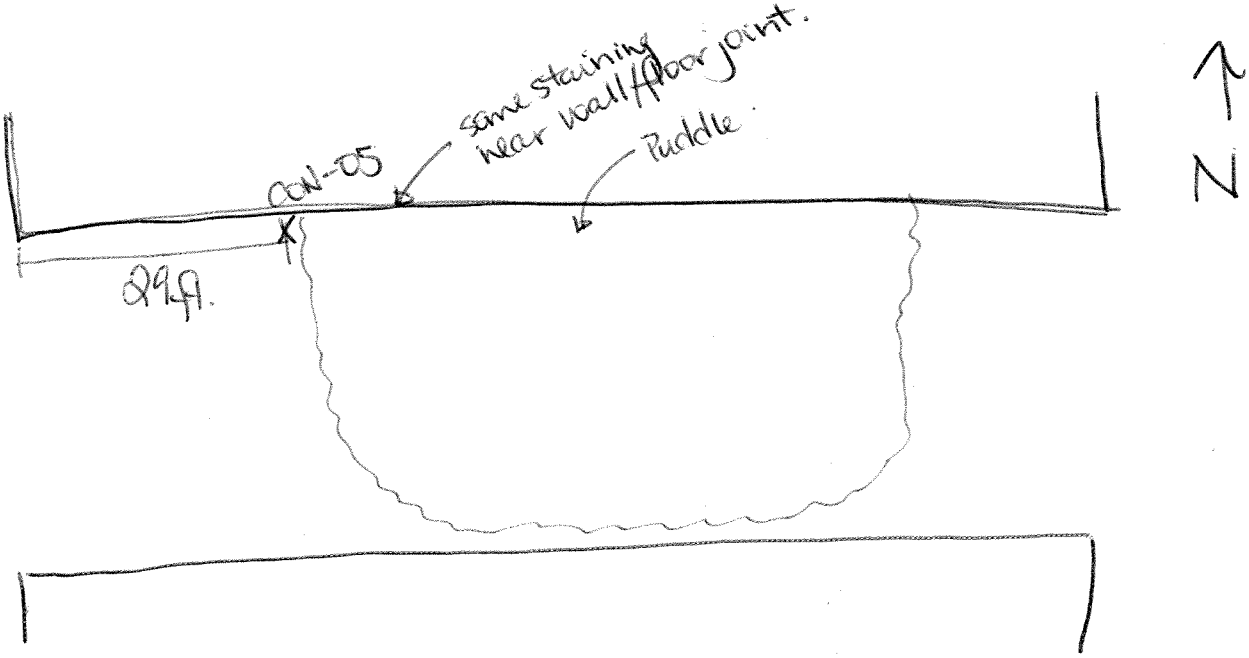
Concrete Sample ID: Sample Depth:

Concrete Sample ID: Sample Depth:

Concrete Sample ID: Sample Depth:

Concrete Sample ID: Sample Depth:

Sketch:



CONCRETE SAMPLE LOG

Date: APR 03 '02.

Project No.: 12638-04-0010

Project Name: Thomson Dayton RFI

Project Location: Dayton.

Sample Location: COMPOSITE DUCT #2, ANNEALING OVEN. CON-06

Wipe Sample ID: WP-040302-SLE-006

Concrete Sample ID: CC-040302-SLE-013 HS/MSD Sample Depth: 0-3 in

Concrete Sample ID: CC-040302-SLE-014 Sample Depth: 3-6 in

difference in concrete @ 6 in.

Sample Location: COMPOSITE DUCT #3, HEAT TREAT OVEN, CON-07.

Wipe Sample ID: WP-040302-SLE-007

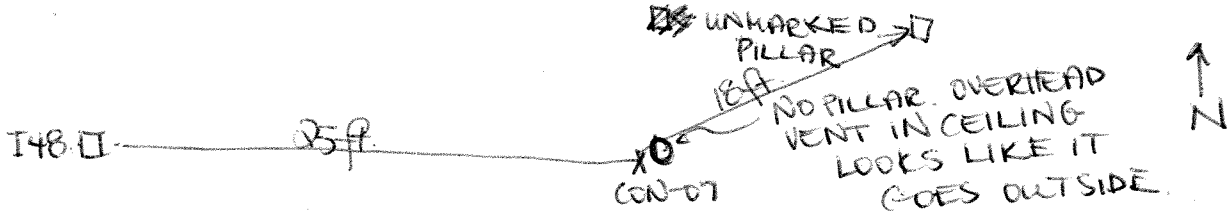
Concrete Sample ID: CC-040302-SLE-015 Sample Depth: 0-3 in

Concrete Sample ID: CC-040302-SLE-016. Sample Depth: 3-8 in, 4 thin Concrete

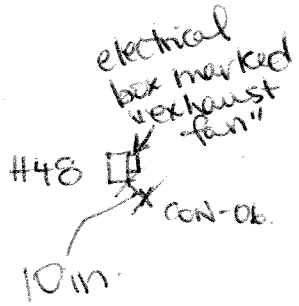
~~Concrete Sample ID:~~ ~~Sample Depth:~~

~~Concrete Sample ID:~~ ~~Sample Depth:~~

Sketch:



AISLEWAY.



- Could not identify presence or absense of staining etc. due to moisture and dirt on the floor.
- Sampled locations that looked to have been beneath ducts based on remaining equipment.

CONCRETE SAMPLE LOG

Date: APR 3 '02

Project No.: 12638-04-0010

Project Name: Harrison Dayton RFI

Project Location: Dayton, OH

Sample Location: COMPOSITE DUCT #1, INDUCTION FURNACE, CON-08.

Wipe Sample ID: WP-040302-SLE-008.

Concrete Sample ID: CC-040302-SLE-017 Sample Depth: 0-3 in.

Concrete Sample ID: CC-040302-SLE-018. Sample Depth: 3-7 in

Concrete 4thm @ 7"

Sample Location:

Wipe Sample ID:

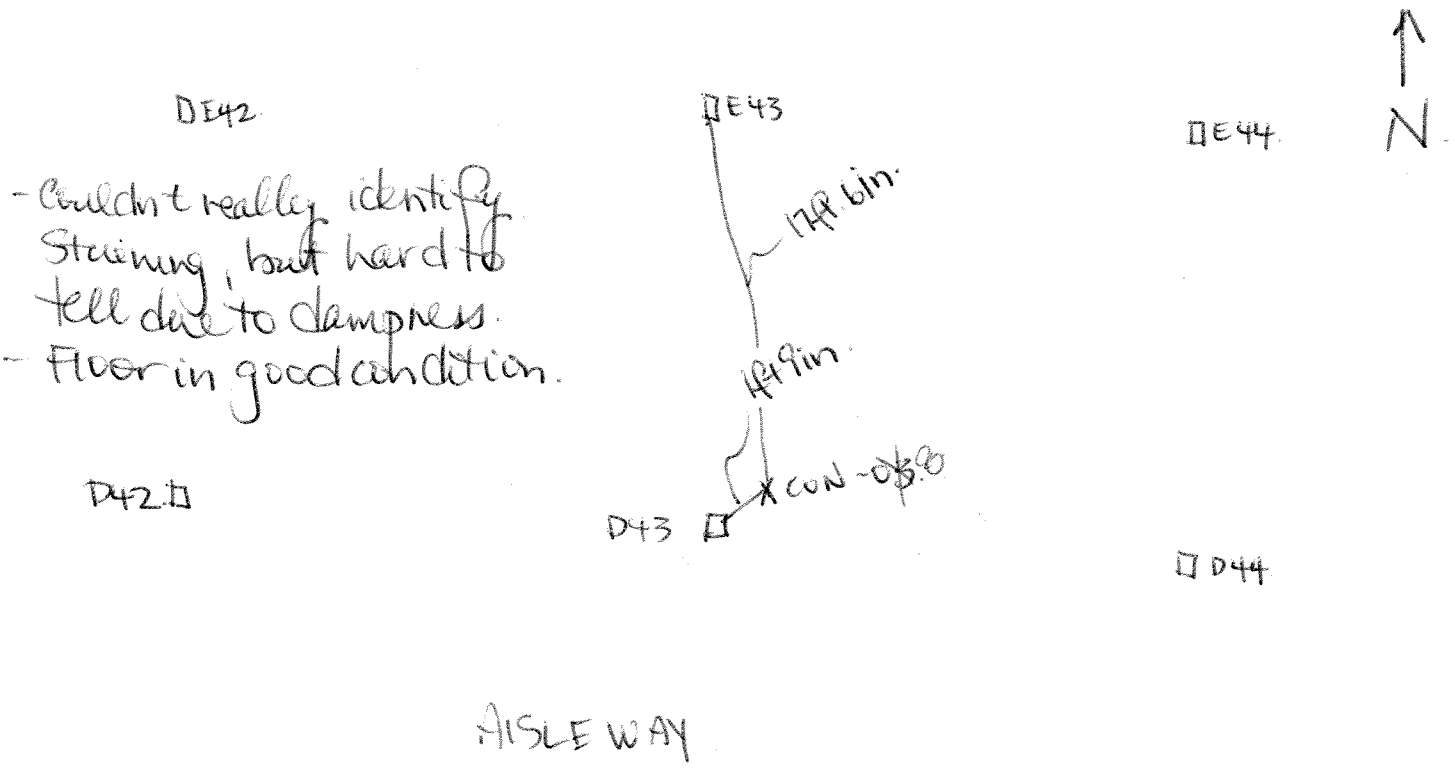
Concrete Sample ID: Sample Depth:

Concrete Sample ID: Sample Depth:

Concrete Sample ID: Sample Depth:

Concrete Sample ID: Sample Depth:

Sketch:



CONCRETE SAMPLE LOG

Date: APR 3/02.

Project No.: 12638-04-0010.

Project Name: Harmon Dayton RFI

Project Location: Dayton OH.

Sample Location: COMPOSITE DUCT #4, EXHAUST MANIFOLD, CON-09.

Wipe Sample ID: WP-040302-SLE-009.

Concrete Sample ID: CC-040302-SLE-019. Sample Depth: 0-3in

Concrete Sample ID: CC-040302-SLE-020. Sample Depth: 3-7in refusal @ 7in.

Sample Location:

Wipe Sample ID:

Concrete Sample ID: Sample Depth:

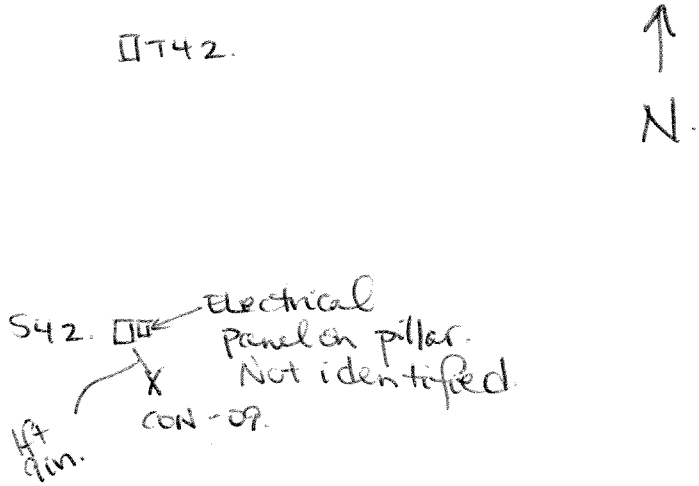
Concrete Sample ID: Sample Depth:

Concrete Sample ID: Sample Depth:

Concrete Sample ID: Sample Depth:

Sketch:

- Area of sample appeared slightly stained and also cracked. Also water nearby so stain not identifiable.



CONCRETE SAMPLE LOG

Date: APR 3/02

Project No.: 12638-04-0010

Project Name: Thomson Dayton RFI

Project Location: Dayton, OH

Sample Location: No. 2 Vail Machine, CON-10.

Wipe Sample ID: WP-040302-SLE-010

Concrete Sample ID: CC-040302-SLE-021 Sample Depth: 0-3

Concrete Sample ID: CC-040302-SLE-022 Sample Depth: 3-9 in.

Sample Location:

Wipe Sample ID:

Concrete Sample ID: Sample Depth:

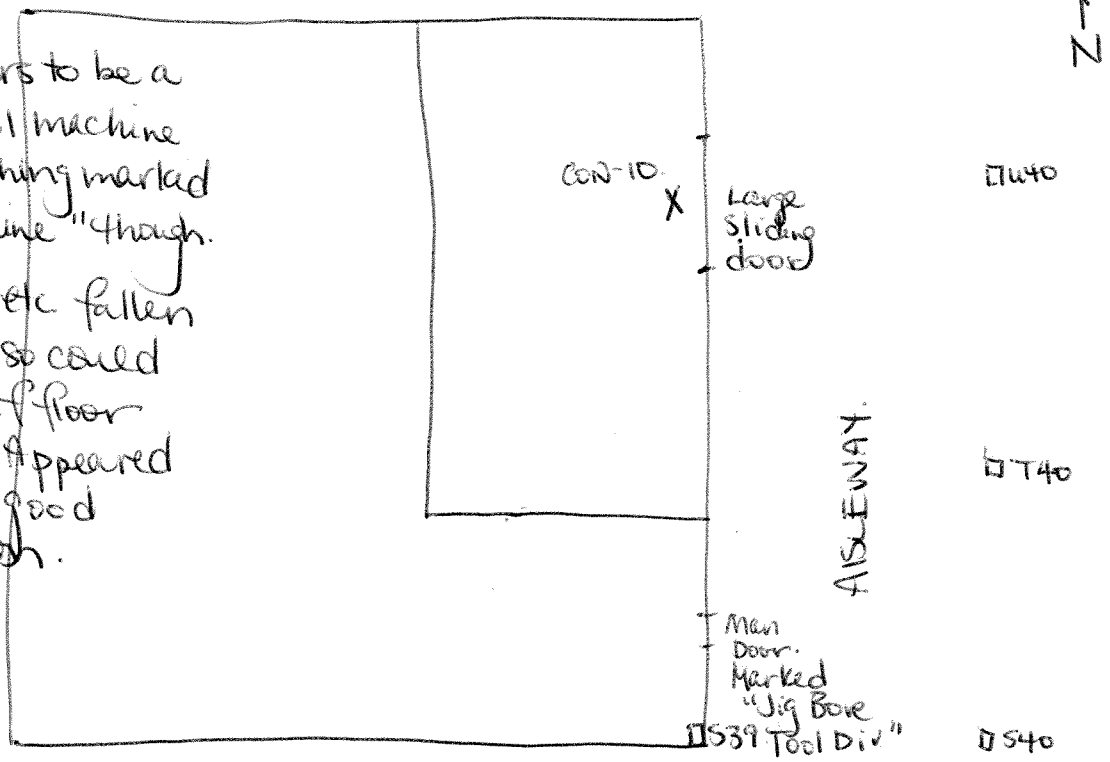
Concrete Sample ID: Sample Depth:

Concrete Sample ID: Sample Depth:

Concrete Sample ID: Sample Depth:

Sketch:

- Room appears to be a former tool machine room. Nothing marked "Vail Machine" though.
- Ceiling tiles etc fallen into area so could not tell if floor stained. Appeared to be in good condition.



CONCRETE SAMPLE LOG

Date: APR 3/02

Project No.: 12638-04-0010

Project Name: Harrison Dayton RFI

Project Location: Dayton, OH.

Sample Location: Duct #6, in tool shop + battery charge area, CON-11

Wipe Sample ID: WP-040302-SLE-011

Concrete Sample ID: CC-040302-SLE-0284 Sample Depth: 0-3 in.

Concrete Sample ID: CC-040302-SLE-0293 Sample Depth: ~3-9.

Sample Location:

Wipe Sample ID:

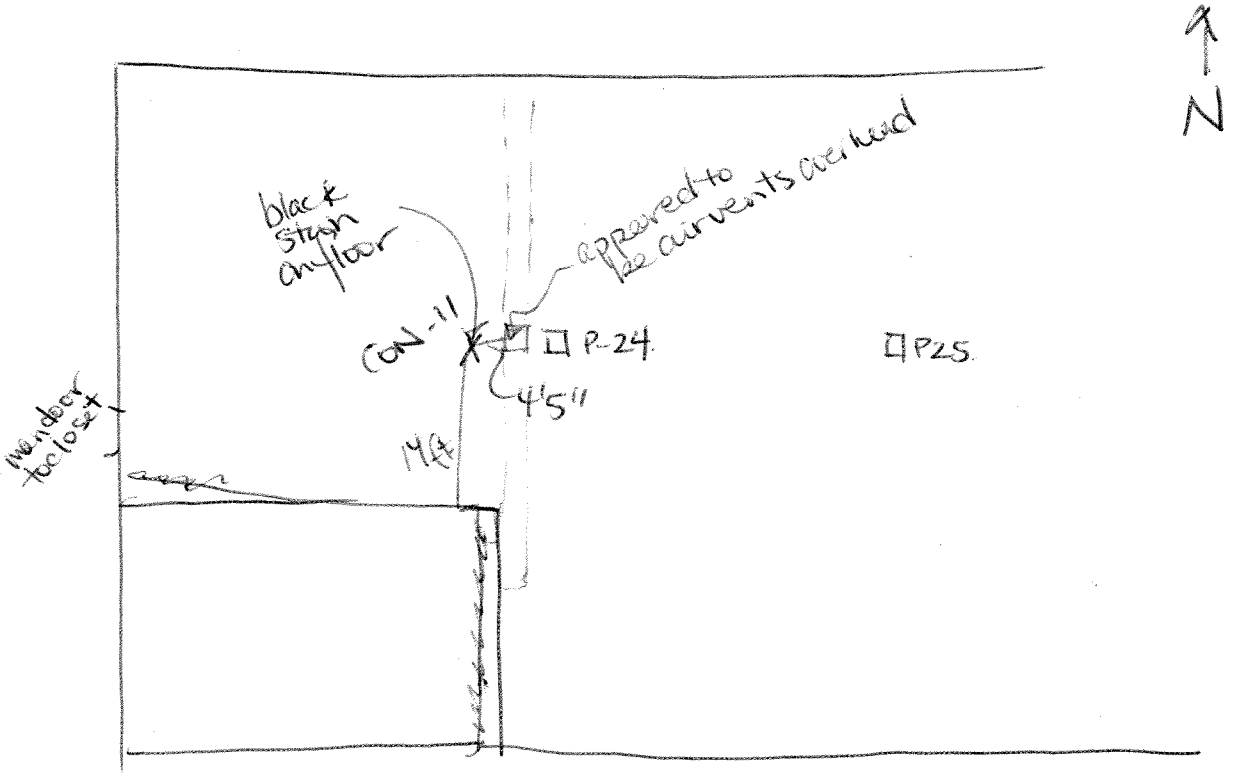
Concrete Sample ID: Sample Depth:

Concrete Sample ID: Sample Depth:

Concrete Sample ID: Sample Depth:

Concrete Sample ID: Sample Depth:

Sketch:



CONCRETE SAMPLE LOG

Date: APR 3 02

Project No.: 12638-04-0010

Project Name: Harrison Dayton RFI

Project Location: Dayton OH

Sample Location: Bldg 12 basement Vault 4, CON-12

Wipe Sample ID: WP-040302-SLE-012

Concrete Sample ID: CC-040302-SLE-025 Sample Depth: 0-3 in.

Concrete Sample ID: CC-040302-SLE-026 Sample Depth: 3-7"

thru concrete @ 7"

Sample Location: Bldg 12 basement Vault 4, CON-13

Wipe Sample ID: WP-040302-SLE-013

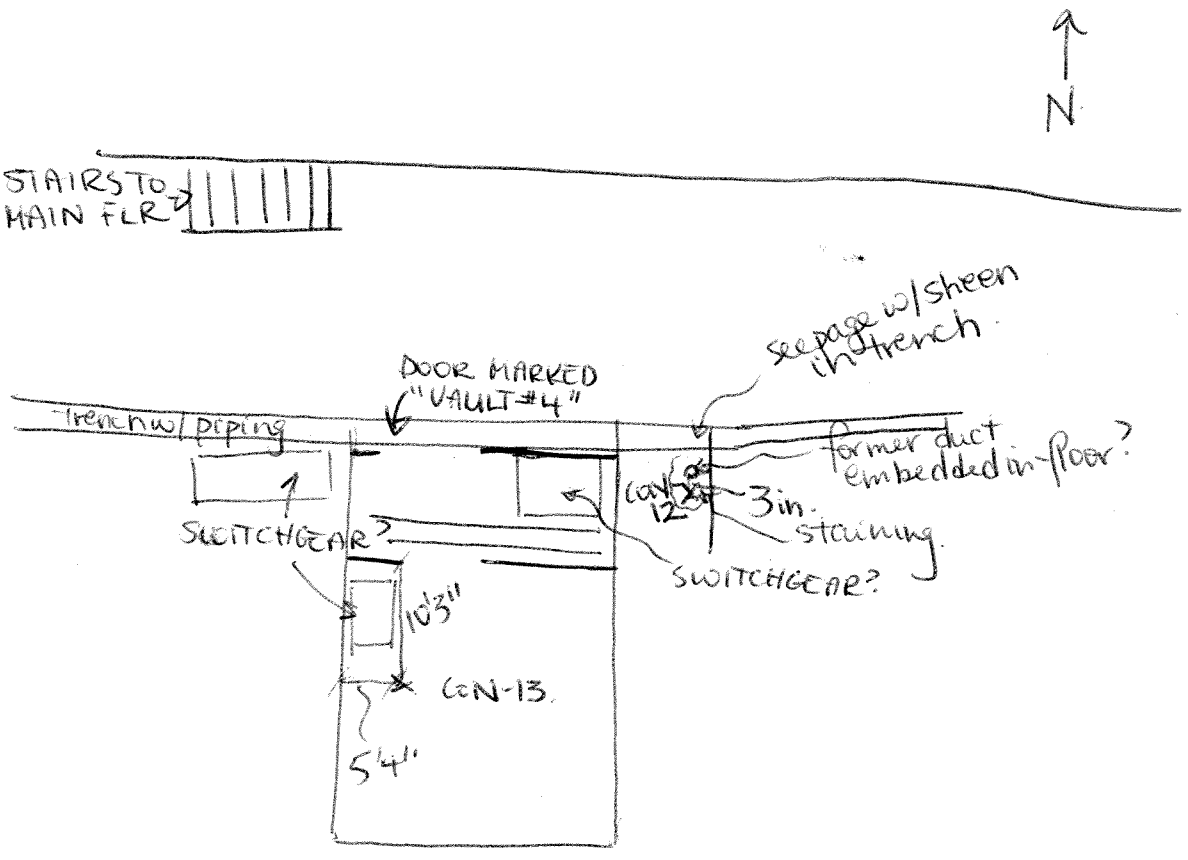
Concrete Sample ID: CC-040302-SLE-027 Sample Depth: 0-3 in

Concrete Sample ID: CC-040302-SLE-028 Sample Depth: 3-9 in

~~Concrete Sample ID:~~ ~~Sample Depth:~~

~~Concrete Sample ID:~~ ~~Sample Depth:~~

Sketch:



CONCRETE SAMPLE LOG

Date: Apr 4/02.

Project No.: 12638-04-0010

Project Name: Harrison Dayton RFI

Project Location: Dayton OH.

Sample Location: Vault 51, G-lot. CON-14

Wipe Sample ID: WP-040402-~~014~~ SLE-014

Concrete Sample ID: CC-040402-SLE-029 Sample Depth: 0-3 in

Concrete Sample ID: CC-040402-SLE-030 Sample Depth: 3-8 in.

Sample Location: Vault #51, G-lot. CON-15.

Wipe Sample ID: WP-040402-SLE-015

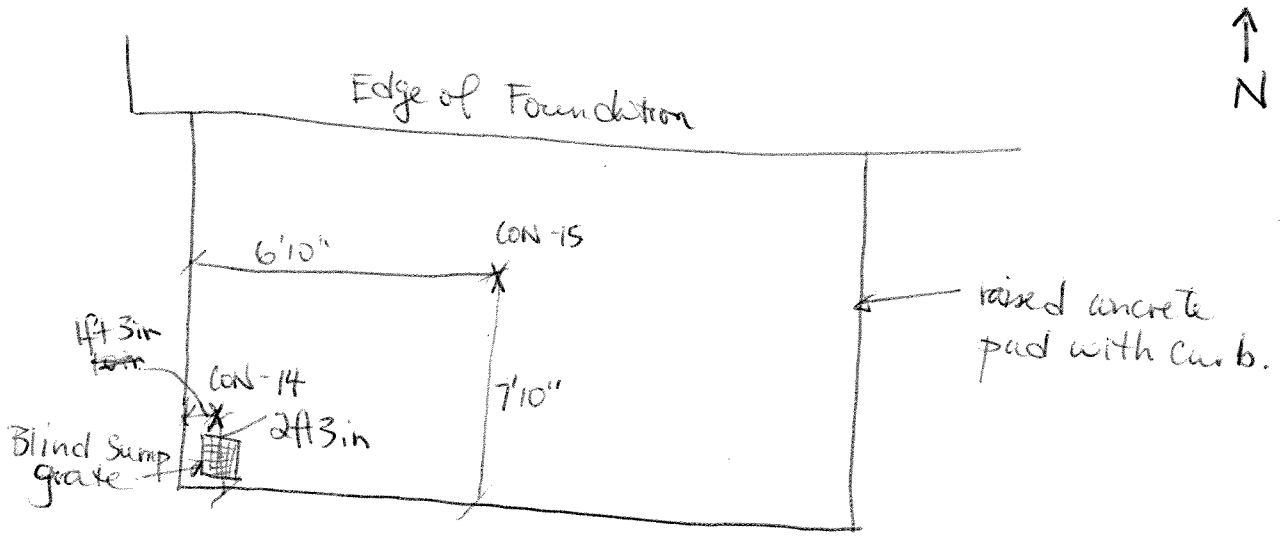
Concrete Sample ID: CC-040402-SLE-031 Sample Depth: 0-3 in

Concrete Sample ID: CC-040402-SLE-032 Sample Depth: 3-8

~~Concrete Sample ID:~~ Sample Depth:

~~Concrete Sample ID:~~ Sample Depth:

Sketch:



Measurements to outside of containment curb

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Hamson Dayton RFI
M.H./C.B. NO.: INT-5
PROJECT LOCATION: Dayton OH
PROJECT NO.: 12638-04-0020.
M.H./C.B. LOCATION: Pitt St.
DATE: 4/8/02.

☐ INSIDE FACILITY ☑ OUTSIDE FACILITY

TYPE OF FRAME: ☐ SQUARE ☐ CIRCULAR
TYPE OF LID: ☐ VENTED ☐ SOLID

MARKINGS ON LID: none.

CONDITION OF FRAME: ☐ GOOD ☐ FAIR ☐ POOR
CONDITION OF LID: ☐ GOOD ☐ FAIR ☐ POOR

FRAME OPENING DIMENSION: _____

RUNGS INSTALLED: ☐ YES ☐ NO
RUNG CONDITION: ☐ GOOD ☐ FAIR ☐ POOR

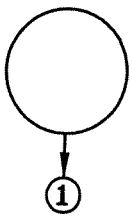
OUTGOING LINE: SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#1			

INCOMING LINE: SIZE:	FROM M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#2			
#3			
#4			
#5			
#6			

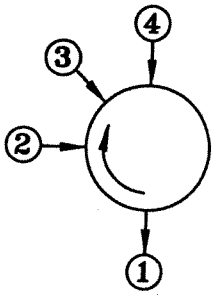
GENERAL CONDITION OF M.H/C.B.: ☐ GOOD ☐ FAIR ☐ POOR

COMMENTS: W-040802-SLE-010.
~~SE-040802-SLE-009~~ No sediment.
See over →

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Harrison Dayton RFI
M.H./C.B. NO.: MH 26 / INT-6
PROJECT LOCATION: Dayton OH.
PROJECT NO.: 12638-04-0020
M.H./C.B. LOCATION: Pitt St.
DATE: 4/8/02

☐ INSIDE FACILITY ☑ OUTSIDE FACILITY

TYPE OF FRAME: ☐ SQUARE ☑ CIRCULAR
TYPE OF LID: ☐ VENTED ☐ SOLID

MARKINGS ON LID: lid missing.

CONDITION OF FRAME: ☐ GOOD ☐ FAIR ☑ POOR
CONDITION OF LID: ☐ GOOD ☐ FAIR ☑ POOR

FRAME OPENING DIMENSION:

RUNGS INSTALLED: ☑ YES ☐ NO
RUNG CONDITION: ☐ GOOD ☐ FAIR ☑ POOR

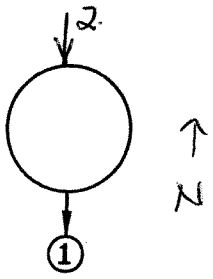
	OUTGOING LINE: SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#1	18"	Storm Sewer		57" to top of Sediment. dirt

	INCOMING LINE: SIZE:	FROM M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#2	14".	INT-6		54" to top of sediment.
#3				
#4				
#5				
#6				

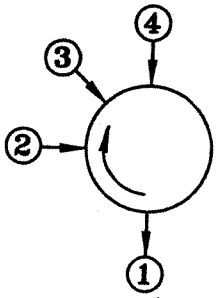
GENERAL CONDITION OF M.H/C.B.: ☐ GOOD ☐ FAIR ☑ POOR

COMMENTS: No water or sediment in MH so sampled interceptor INT-6 located N. MH filled with trash, dirt, rocks etc.
W-040802-SLE-009.
SE-040802-SLE-008.
PID = 0.0

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Harrison Dayton RFI
M.H./C.B. NO.: INT-8
PROJECT LOCATION: Dayton OH.
PROJECT NO.: 12638-04-0020
M.H./C.B. LOCATION: Pitt St.
DATE: 4/11/02.

☐ INSIDE FACILITY ☑ OUTSIDE FACILITY

TYPE OF FRAME: ☐ SQUARE ☐ CIRCULAR
TYPE OF LID: ☐ VENTED ☐ SOLID

MARKINGS ON LID: _____

CONDITION OF FRAME: ☐ GOOD ☐ FAIR ☐ POOR
CONDITION OF LID: ☐ GOOD ☐ FAIR ☐ POOR

FRAME OPENING DIMENSION: _____

RUNGS INSTALLED: ☐ YES ☐ NO
RUNG CONDITION: ☐ GOOD ☐ FAIR ☐ POOR

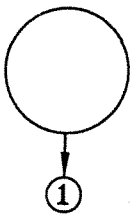
OUTGOING LINE: SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#1			

INCOMING LINE: SIZE:	FROM M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#2			
#3			
#4			
#5			
#6			

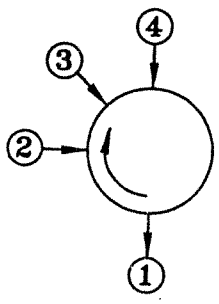
GENERAL CONDITION OF M.H/C.B.: ☑ GOOD ☐ FAIR ☐ POOR

COMMENTS: WO-041102-SLF-018. See over →
SE-041102-SLF-013

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Harrison Dayton RFI
M.H./C.B. NO.: MH72. / INT-10
PROJECT LOCATION: Dayton OH.
PROJECT NO.: 12638-04-00
M.H./C.B. LOCATION: W of Keowee.
DATE: 4/11/02

☐ INSIDE FACILITY ☑ OUTSIDE FACILITY

TYPE OF FRAME: ☐ SQUARE ☑ CIRCULAR
TYPE OF LID: ☑ VENTED ☐ SOLID

MARKINGS ON LID: none

CONDITION OF FRAME: ☐ GOOD ☑ FAIR ☐ POOR
CONDITION OF LID: ☑ GOOD ☐ FAIR ☐ POOR

FRAME OPENING DIMENSION: 23"

RUNGS INSTALLED: ☐ YES ☑ NO
RUNG CONDITION: ☐ GOOD ☐ FAIR ☐ POOR

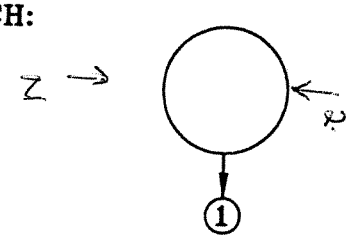
	OUTGOING LINE: SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#1	~~12~~ 12"	STM ~~Sewer~~ MH73	69".	~~68" to sediment~~

	INCOMING LINE: SIZE:	FROM M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#2	12"	~~MH72~~ ?	68"	~~70" to sediment.~~
#3	~~broken, can't see size.~~ ?			~~70" to sedim.~~
#4	~~Seems bigger than 12".~~ 9"			
#5				
#6				

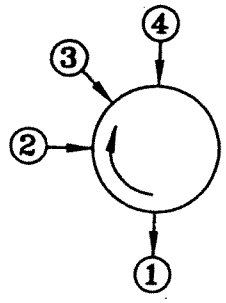
GENERAL CONDITION OF M.H/C.B.: ☐ GOOD ☑ FAIR ☐ POOR

COMMENTS: No water, sediment on bottom. PID = 0.0
SE-041102-SLE-014. Sampled water from upstream
10-041102-SLE-021 INT-10.

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Harrison Dayton RFI
M.H./C.B. NO.: MH1
PROJECT LOCATION: Dayton, OH.
PROJECT NO.: 12638-04-0020
M.H./C.B. LOCATION: N of Bldg 24.
DATE: 4/4/02

☐ INSIDE FACILITY ☑ OUTSIDE FACILITY

TYPE OF FRAME: ☐ SQUARE ☑ CIRCULAR
TYPE OF LID: ☑ VENTED ☐ SOLID

MARKINGS ON LID: none

CONDITION OF FRAME: ☑ GOOD ☑ FAIR ☐ POOR
CONDITION OF LID: ☑ GOOD ☐ FAIR ☐ POOR

FRAME OPENING DIMENSION: 20"

RUNGS INSTALLED: ☐ YES ☑ NO
RUNG CONDITION: ☐ GOOD ☐ FAIR ☐ POOR

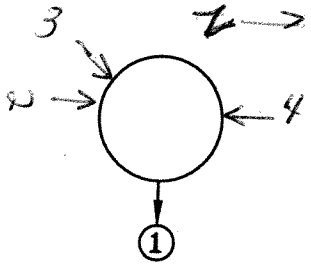
	OUTGOING LINE: SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#1	8"	MH-2		63"

	INCOMING LINE: SIZE:	FROM M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#2	6"	CB-1		18"
#3	6"	unknown		62"
#4	6"	unknown		16"
#5				
#6				

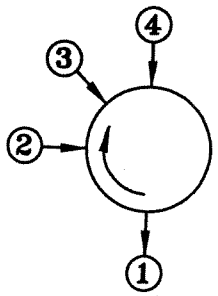
GENERAL CONDITION OF M.H/C.B.: ☐ GOOD ☑ FAIR ☐ POOR

COMMENTS: Sediment & standing water on bottom, no evidence of contamination

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Delphi Harrison

M.H./C.B. NO.: MH-2

PROJECT LOCATION: Dayton, OH

PROJECT NO.: 12638-04-0020

M.H./C.B. LOCATION: N of Bldg 24

DATE: 4/4/02

☐ INSIDE FACILITY ☒ OUTSIDE FACILITY

TYPE OF FRAME: ☐ SQUARE ☒ CIRCULAR

TYPE OF LID: ☐ VENTED ☒ SOLID

MARKINGS ON LID: Neenah Foundry Co Neenah, WIS

CONDITION OF FRAME: ☒ GOOD ☐ FAIR ☐ POOR

CONDITION OF LID: ☒ GOOD ☐ FAIR ☐ POOR

FRAME OPENING DIMENSION: 25½"

RUNGS INSTALLED: ☑ YES ☐ NO

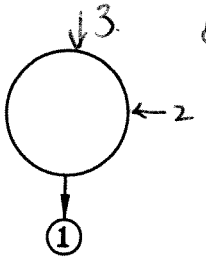
RUNG CONDITION: ☑ GOOD ☐ FAIR ☐ POOR

	SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
OUTGOING LINE: #1	≥16"	MH-4		>155"
INCOMING LINE: #2	10"	MH-3.		26.538"
#3	8"	MH-1		26.5"
#4				
#5				
#6				

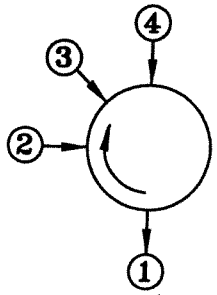
GENERAL CONDITION OF M.H/C.B.: ☒ GOOD ☐ FAIR ☐ POOR

COMMENTS: Sediment & tree covering over 1/2 outgoing line openings

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Harrison Dayton RFI
M.H./C.B. NO.: MH-3
PROJECT LOCATION: Dayton OH
PROJECT NO.: 12638-04-0020
M.H./C.B. LOCATION: N of Bldg 24
DATE: 4/4/02

☐ INSIDE FACILITY ☑ OUTSIDE FACILITY

TYPE OF FRAME: ☐ SQUARE ☑ CIRCULAR
TYPE OF LID: ☑ VENTED ☐ SOLID

MARKINGS ON LID: none

CONDITION OF FRAME: ☐ GOOD ☑ FAIR ☐ POOR
CONDITION OF LID: ☑ GOOD ☐ FAIR ☐ POOR

FRAME OPENING DIMENSION: 20"

RUNGS INSTALLED: ☐ YES ☑ NO
RUNG CONDITION: ☐ GOOD ☐ FAIR ☐ POOR

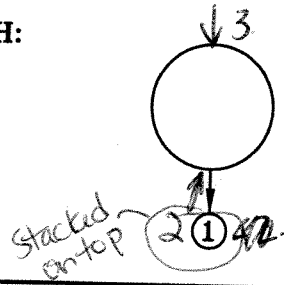
	OUTGOING LINE: SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#1	6"	MH-2		31.5"

	INCOMING LINE: SIZE:	FROM M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#2	6"	unknown		~~31.5~~ 24"
#3	6"	unknown	0	22.5"
#4				
#5				
#6				

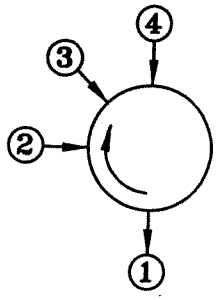
GENERAL CONDITION OF M.H/C.B.: ☐ GOOD ☑ FAIR ☐ POOR

COMMENTS: Sediment on bottom, no water PID = 0.0

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Harrison Dayton RFI
M.H./C.B. NO.: MH-4
PROJECT LOCATION: Dayton OH
PROJECT NO.: 12638.04-0020
M.H./C.B. LOCATION: N of Bldg 24
DATE: 4/4/02

☐ INSIDE FACILITY ☑ OUTSIDE FACILITY

TYPE OF FRAME: ☐ SQUARE ☑ CIRCULAR
TYPE OF LID: ☑ VENTED ☐ SOLID

MARKINGS ON LID: none

CONDITION OF FRAME: ☑ GOOD ☐ FAIR ☐ POOR
CONDITION OF LID: ☑ GOOD ☐ FAIR ☐ POOR

FRAME OPENING DIMENSION: 26"

RUNGS INSTALLED: ☑ YES ☐ NO
RUNG CONDITION: ☑ GOOD ☐ FAIR ☐ POOR

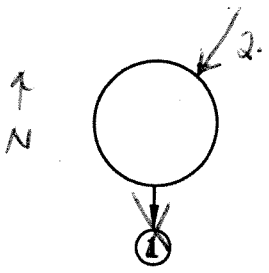
OUTGOING LINE: SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#1			

INCOMING LINE: SIZE:	FROM M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#2 8"	CB-3		59"
#3			
#4			
#5			
#6			

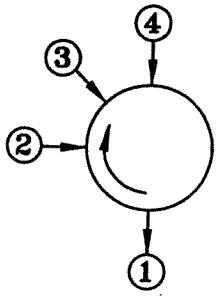
GENERAL CONDITION OF M.H/C.B.: ☐ GOOD ☐ FAIR ☐ POOR

COMMENTS: Filled with water. Could not see pipes.
PID = 3.8 ~~PID = 0.8~~

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Harrison Dayton RFI M.H./C.B. NO.: MH-5

PROJECT LOCATION: Dayton OH PROJECT NO.: 12638-04-0020

M.H./C.B. LOCATION: N end of Bldg 24 DATE: 4/4/02

☒ INSIDE FACILITY ☐ OUTSIDE FACILITY

TYPE OF FRAME: ☐ SQUARE ☑ CIRCULAR

TYPE OF LID: ☐ VENTED ☒ SOLID

MARKINGS ON LID: none

CONDITION OF FRAME: ☐ GOOD ☐ FAIR ☐ POOR

CONDITION OF LID: ☐ GOOD ☐ FAIR ☐ POOR

FRAME OPENING DIMENSION: _____

RUNGS INSTALLED: ☐ YES ☐ NO

RUNG CONDITION: ☐ GOOD ☐ FAIR ☐ POOR

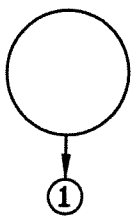
	OUTGOING LINE: SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#1				

	INCOMING LINE: SIZE:	FROM M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#2				
#3				
#4				
#5				
#6				

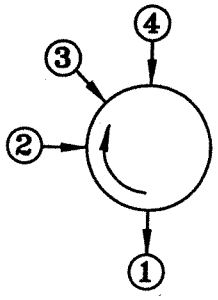
GENERAL CONDITION OF M.H/C.B.: ☐ GOOD ☐ FAIR ☐ POOR

COMMENTS: Could not open. Equipment placed on top.

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Harrison Dayton RFI
M.H./C.B. NO.: MH6
PROJECT LOCATION: Dayton OH.
PROJECT NO.: 12638-04-0020
M.H./C.B. LOCATION: Bldg 24
DATE: 4/9/02

☑ INSIDE FACILITY ☐ OUTSIDE FACILITY

TYPE OF FRAME: ☐ SQUARE ☑ CIRCULAR
TYPE OF LID: ☐ VENTED ☑ SOLID

MARKINGS ON LID: none

CONDITION OF FRAME: ☑ GOOD ☐ FAIR ☐ POOR
CONDITION OF LID: ☑ GOOD ☐ FAIR ☐ POOR

FRAME OPENING DIMENSION: 24"

RUNGS INSTALLED: ☑ YES ☐ NO
RUNG CONDITION: ☑ GOOD ☐ FAIR ☐ POOR

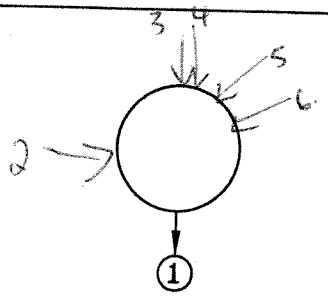
	OUTGOING LINE: SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#1	10"	MH5		61"

	INCOMING LINE: SIZE:	FROM M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#2	10"	MH7		43"
#3	4"	RD.		15.5"
#4	10"	Sewer		55.5"
#5	4"	Sewer		54"
#6	8"	Sewer		61"

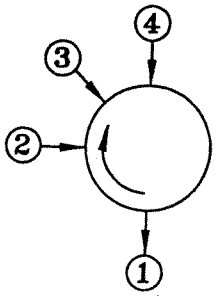
GENERAL CONDITION OF M.H/C.B.: ☑ GOOD ☐ FAIR ☐ POOR

COMMENTS: Some standing water + rusty sediment in bottom. PID = 0.0

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Harrison Dayton RFI
M.H./C.B. NO.: MH-7
PROJECT LOCATION: Dayton OH
PROJECT NO.: 12638-04-0020
M.H./C.B. LOCATION: E of Bldg 24 Taylor St
DATE: 4/4/02

☐ INSIDE FACILITY ☐ OUTSIDE FACILITY

TYPE OF FRAME: ☐ SQUARE ☑ CIRCULAR
TYPE OF LID: ☑ VENTED ☐ SOLID

MARKINGS ON LID: _____

CONDITION OF FRAME: ☑ GOOD ☐ FAIR ☐ POOR
CONDITION OF LID: ☑ GOOD ☐ FAIR ☐ POOR

FRAME OPENING DIMENSION: 26"

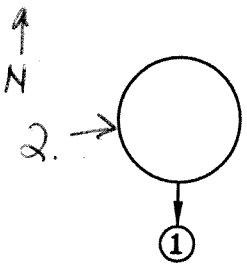
RUNGS INSTALLED: ☑ YES ☐ NO
RUNG CONDITION: ☑ GOOD ☐ FAIR ☐ POOR

	SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
OUTGOING LINE: #1	12"	MH-8		46.5"
INCOMING LINE: #2	12"	MH-6		46.5"
#3				
#4				
#5				
#6				

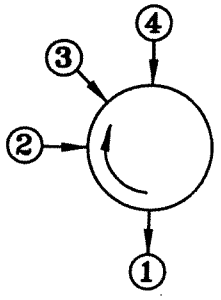
GENERAL CONDITION OF M.H/C.B.: ☐ GOOD ☐ FAIR ☐ POOR

COMMENTS: PID=0.0 Sample. W-040402-SLE-0012
SE-040402-SLE-001

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Hamson Dayton RFI
M.H./C.B. NO.: MH-8
PROJECT LOCATION: Dayton OH
PROJECT NO.: 12638-04-0020
M.H./C.B. LOCATION: E of Bldg 24 Taylor St
DATE: 4/4/02

☐ INSIDE FACILITY ☒ OUTSIDE FACILITY

TYPE OF FRAME: ☐ SQUARE ☒ CIRCULAR
TYPE OF LID: ☒ VENTED ☐ SOLID

MARKINGS ON LID: none

CONDITION OF FRAME: ☒ GOOD ☐ FAIR ☐ POOR
CONDITION OF LID: ☒ GOOD ☐ FAIR ☐ POOR

FRAME OPENING DIMENSION: 24"

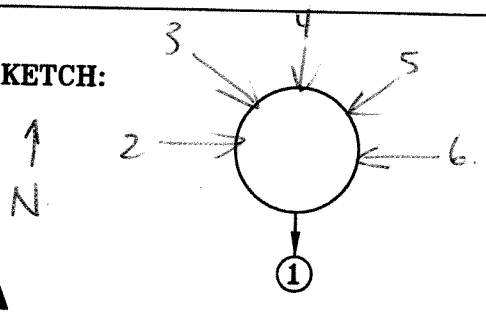
RUNGS INSTALLED: ☒ YES ☐ NO
RUNG CONDITION: ☐ GOOD ☒ FAIR ☐ POOR

	SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
OUTGOING LINE: #1	12"	MH9.		52.5" to bottom of sediment.
INCOMING LINE: #2	12"	?		48.5" to sediment
#3	12"	?		48.5" to sediment.
#4	~~8~~ 12"	MH-7.		51.5"
#5	8"	CB-7		37.5"
#6	12"	CB-8.		46"

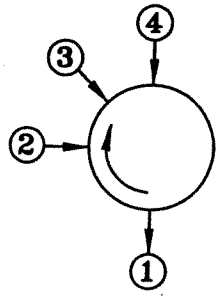
GENERAL CONDITION OF M.H/C.B.: ☒ GOOD ☐ FAIR ☐ POOR

COMMENTS: SE-040402-SLE-002.
W-040402-SLE-002.

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Harrison Dayton RFI M.H./C.B. NO.: MH-9

PROJECT LOCATION: Dayton, OH PROJECT NO.: 12638 04-0020

M.H./C.B. LOCATION: Taylor St DATE: Apr 5/02

☐ INSIDE FACILITY ☑ OUTSIDE FACILITY

TYPE OF FRAME: ☐ SQUARE ☑ CIRCULAR

TYPE OF LID: ☑ VENTED ☐ SOLID

MARKINGS ON LID: none

CONDITION OF FRAME: ☐ GOOD ☑ FAIR ☐ POOR

CONDITION OF LID: ☑ GOOD ☐ FAIR ☐ POOR

FRAME OPENING DIMENSION: _____

RUNGS INSTALLED: ☐ YES ☑ NO

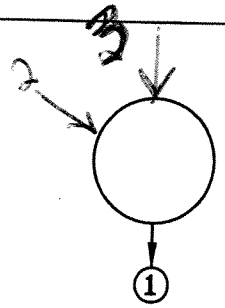
RUNG CONDITION: ☐ GOOD ☐ FAIR ☐ POOR

	SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
OUTGOING LINE: #1	>19.5"	MH10		29.5" to sediment
INCOMING LINE: #2	5"	CB9		54" 24"
#3	12"	MH8		54"
#4				
#5				
#6				

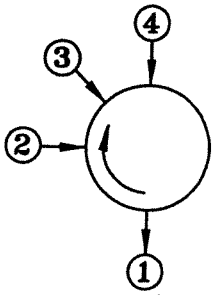
GENERAL CONDITION OF M.H/C.B.: ☐ GOOD ☑ FAIR ☐ POOR

COMMENTS: PID=1.5 Brick MH with some mortar gone but generally good shape. Little sediment, quite rocky W-040502-SLE-003 SE-040502-SLE-003

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Hanson Dayton RFI M.H./C.B. NO.: MH-10

PROJECT LOCATION: Dayton OH. PROJECT NO.: 12638 04-0020

M.H./C.B. LOCATION: Taylor St. DATE: 4/5/02

☐ INSIDE FACILITY ☑ OUTSIDE FACILITY

TYPE OF FRAME: ☐ SQUARE ☑ CIRCULAR

TYPE OF LID: ☑ VENTED ☐ SOLID

MARKINGS ON LID: None

CONDITION OF FRAME: ☐ GOOD ☑ FAIR ☐ POOR

CONDITION OF LID: ☑ GOOD ☐ FAIR ☐ POOR

FRAME OPENING DIMENSION: _____

RUNGS INSTALLED: ☐ YES ☐ NO

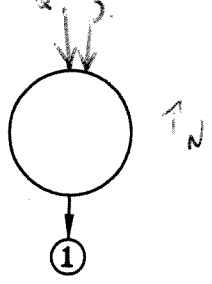
RUNG CONDITION: ☐ GOOD ☐ FAIR ☐ POOR

	SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
OUTGOING LINE: #1	14"	MH-11		56"
INCOMING LINE: #2	14"	MH-9.		85" to sediment
#3	6"	CB?		43"
#4				
#5				
#6				

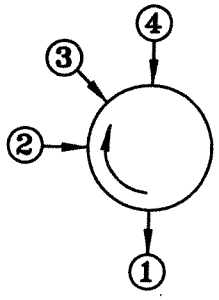
GENERAL CONDITION OF M.H/C.B.: ☐ GOOD ☐ FAIR ☐ POOR

COMMENTS: PD-0.0. Plan shows flowing South, but apparently then water moved back up? No standing water observed except small puddles

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Harrison Dayton RFI M.H./C.B. NO.: MH-11

PROJECT LOCATION: Dayton OH PROJECT NO.: 12638-04-0020

M.H./C.B. LOCATION: Taylor St. DATE: 4/5/02

☐ INSIDE FACILITY ☑ OUTSIDE FACILITY

TYPE OF FRAME: ☐ SQUARE ☑ CIRCULAR

TYPE OF LID: ☑ VENTED ☐ SOLID

MARKINGS ON LID: none

CONDITION OF FRAME: ☐ GOOD ☑ FAIR ☐ POOR

CONDITION OF LID: ☑ GOOD ☐ FAIR ☐ POOR

FRAME OPENING DIMENSION: 23"

RUNGS INSTALLED: ☑ YES ☐ NO

RUNG CONDITION: ☐ GOOD ☑ FAIR ☐ POOR

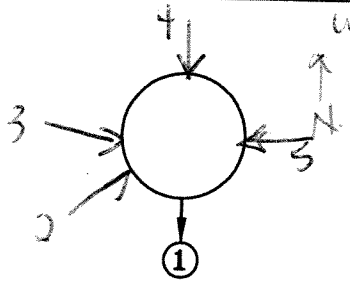
	OUTGOING LINE: SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#1	≥17" Sewer on Dwg.	MH-12		≈87. to top of sediment

	INCOMING LINE: SIZE:	FROM M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#2	12"	CB 12		57"
#3	12"	MH-12		≥57"
#4	12"	MH-10		55"
#5	12"	CB-11		54"
#6				

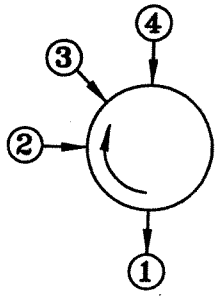
GENERAL CONDITION OF M.H/C.B.: ☐ GOOD ☑ FAIR ☐ POOR

COMMENTS: Standing water in bottom. Almost no sediment except rocks. Could not fill sample bottle.
N-040502-SLE-004
SE-040502-SLE-004
Note that these are approximate measurements due to widening of MH.

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Harrison Dayton EFH

M.H./C.B. NO.: MH-12

PROJECT LOCATION: Dayton OH

PROJECT NO.: 12638 04-0020

M.H./C.B. LOCATION: Bldg 15

DATE: 4/9/02

☑ INSIDE FACILITY ☐ OUTSIDE FACILITY

TYPE OF FRAME: ☐ SQUARE ☑ CIRCULAR

TYPE OF LID: ☐ VENTED ☑ SOLID

MARKINGS ON LID: none.

CONDITION OF FRAME: ☐ GOOD ☐ FAIR ☐ POOR

CONDITION OF LID: ☐ GOOD ☐ FAIR ☐ POOR

FRAME OPENING DIMENSION: _____

RUNGS INSTALLED: ☐ YES ☐ NO

RUNG CONDITION: ☐ GOOD ☐ FAIR ☐ POOR

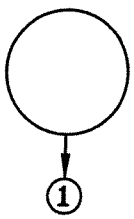
	OUTGOING LINE: SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#1				

	INCOMING LINE: SIZE:	FROM M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#2				
#3				
#4				
#5				
#6				

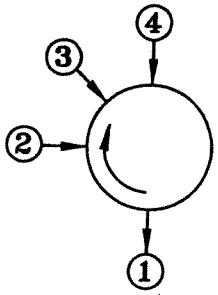
GENERAL CONDITION OF M.H/C.B.: ☐ GOOD ☐ FAIR ☐ POOR

COMMENTS: Could not open MH. Bolted down and sealed.

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Hanson Dayton RFI M.H./C.B. NO.: MH-13.

PROJECT LOCATION: Dayton OH. PROJECT NO.: 12638-04-0020.

M.H./C.B. LOCATION: Taylor St. DATE: 4/5/02.

☐ INSIDE FACILITY ☑ OUTSIDE FACILITY

TYPE OF FRAME: ☐ SQUARE ☑ CIRCULAR

TYPE OF LID: ☑ VENTED ☐ SOLID

MARKINGS ON LID: none

CONDITION OF FRAME: ☑ GOOD ☐ FAIR ☐ POOR

CONDITION OF LID: ☑ GOOD ☐ FAIR ☐ POOR

FRAME OPENING DIMENSION: 25.5"

RUNGS INSTALLED: ☐ YES ☑ NO

RUNG CONDITION: ☐ GOOD ☐ FAIR ☐ POOR

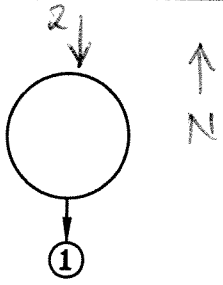
	OUTGOING LINE: SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#1	20"?	MH14		78" to sediment

	INCOMING LINE: SIZE:	FROM M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#2	20"?	MH-11		77.5" to sediment
#3				
#4				
#5				
#6				

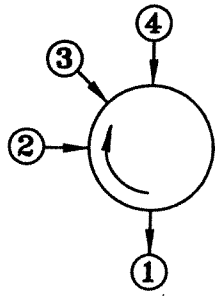
GENERAL CONDITION OF M.H/C.B.: ☑ GOOD ☐ FAIR ☐ POOR

COMMENTS: AD=1.0. Standing water in bottom. Also sediment.

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Harmsen Dayton EPI
M.H./C.B. NO.: MH-14
PROJECT LOCATION: Dayton OH
PROJECT NO.: 12638.04-0020
M.H./C.B. LOCATION: Taylor St
DATE: 4/5/02

☐ INSIDE FACILITY ☑ OUTSIDE FACILITY

TYPE OF FRAME: ☐ SQUARE ☑ CIRCULAR
TYPE OF LID: ☑ VENTED ☐ SOLID

MARKINGS ON LID: _____

CONDITION OF FRAME: ☐ GOOD ☑ FAIR ☐ POOR
CONDITION OF LID: ☐ GOOD ☑ FAIR ☐ POOR

FRAME OPENING DIMENSION: 24"

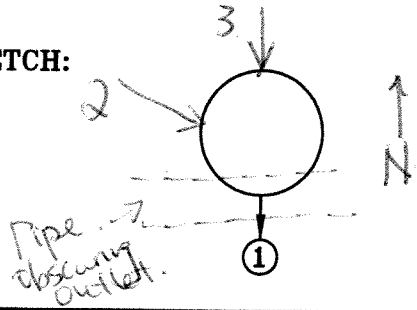
RUNGS INSTALLED: ☑ YES ☐ NO
RUNG CONDITION: ☐ GOOD ☑ FAIR ☐ POOR

	SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
OUTGOING LINE: #1	obscured			67"
INCOMING LINE: #2	10"?			57"
#3	20"? <10"	MH-13		79" to top of sed 69" to object
#4				
#5				
#6				

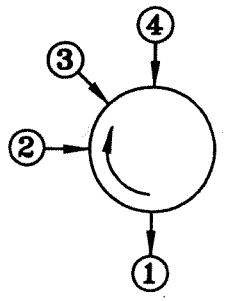
GENERAL CONDITION OF M.H/C.B.: ☐ GOOD ☑ FAIR ☐ POOR

COMMENTS: PID = 0.0 Lots of sediment on bottom, some standing water also
W-040502-SE-005
SE-040502-SE-005

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Harrison Dayton RFI
M.H./C.B. NO.: MH-15.
PROJECT LOCATION: Dayton OH.
PROJECT NO.: 12638-04-0020
M.H./C.B. LOCATION: Bldg. 15.
DATE: 4/9/02.

☑ INSIDE FACILITY ☐ OUTSIDE FACILITY

TYPE OF FRAME: ☐ SQUARE ☑ CIRCULAR
TYPE OF LID: ☑ VENTED ☐ SOLID

MARKINGS ON LID: none

CONDITION OF FRAME: ☐ GOOD ☑ FAIR ☐ POOR
CONDITION OF LID: ☑ GOOD ☐ FAIR ☐ POOR

FRAME OPENING DIMENSION: 24"

RUNGS INSTALLED: ☐ YES ☑ NO
RUNG CONDITION: ☐ GOOD ☐ FAIR ☐ POOR

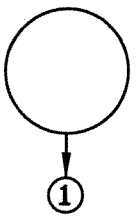
OUTGOING LINE: SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#1			

INCOMING LINE: SIZE:	FROM M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#2			
#3			
#4			
#5			
#6			

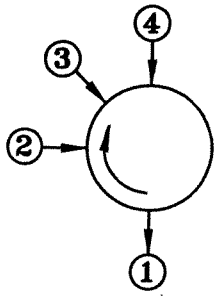
GENERAL CONDITION OF M.H/C.B.: ☐ GOOD ☐ FAIR ☐ POOR

COMMENTS: Did not look like Stm. manhole. No other manholes in area. Some kind of piping + valves in MH.

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Harrison Dayton RFI
M.H./C.B. NO.: MH-16
PROJECT LOCATION: Dayton OH
PROJECT NO.: 12638-04-0020
M.H./C.B. LOCATION: Bldg 15
DATE: 4/9/02

☑ INSIDE FACILITY ☐ OUTSIDE FACILITY

TYPE OF FRAME: ☐ SQUARE ☑ CIRCULAR
TYPE OF LID: ☐ VENTED ☑ SOLID

MARKINGS ON LID: none

CONDITION OF FRAME: ☐ GOOD ☐ FAIR ☐ POOR
CONDITION OF LID: ☐ GOOD ☐ FAIR ☐ POOR

FRAME OPENING DIMENSION: _____

RUNGS INSTALLED: ☐ YES ☐ NO
RUNG CONDITION: ☐ GOOD ☐ FAIR ☐ POOR

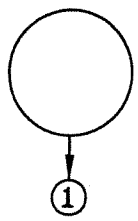
	OUTGOING LINE: SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#1				

	INCOMING LINE: SIZE:	FROM M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#2				
#3				
#4				
#5				
#6				

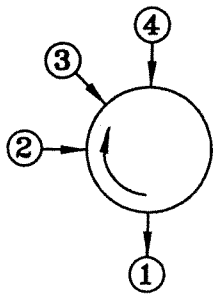
GENERAL CONDITION OF M.H/C.B.: ☐ GOOD ☐ FAIR ☐ POOR

COMMENTS: Could not open equipment parked over MH.

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Harrison Dayton RF 1 M.H./C.B. NO.: MH-17

PROJECT LOCATION: Dayton OH PROJECT NO.: 12638-04-0020

M.H./C.B. LOCATION: Bldg 15 DATE: 4/9/02

☑ INSIDE FACILITY ☐ OUTSIDE FACILITY

TYPE OF FRAME: ☐ SQUARE ☑ CIRCULAR

TYPE OF LID: ☐ VENTED ☑ SOLID

MARKINGS ON LID: none.

CONDITION OF FRAME: ☐ GOOD ☐ FAIR ☐ POOR

CONDITION OF LID: ☐ GOOD ☐ FAIR ☐ POOR

FRAME OPENING DIMENSION: _____

RUNGS INSTALLED: ☐ YES ☐ NO

RUNG CONDITION: ☐ GOOD ☐ FAIR ☐ POOR

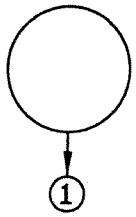
	OUTGOING LINE: SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#1				

	INCOMING LINE: SIZE:	FROM M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#2				
#3				
#4				
#5				
#6				

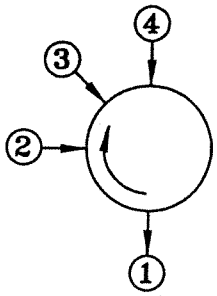
GENERAL CONDITION OF M.H/C.B.: ☐ GOOD ☐ FAIR ☐ POOR

COMMENTS: MH filled in w/ concrete.

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Harrison Dayton RFI
M.H./C.B. NO.: MH-18
PROJECT LOCATION: Dayton OH
PROJECT NO.: 12638-04-0020
M.H./C.B. LOCATION: Taylor St
DATE: 4/5/02

☐ INSIDE FACILITY ☑ OUTSIDE FACILITY

TYPE OF FRAME: ☐ SQUARE ☑ CIRCULAR
TYPE OF LID: ☑ VENTED ☐ SOLID

MARKINGS ON LID: none

CONDITION OF FRAME: ☐ GOOD ☑ FAIR ☐ POOR
CONDITION OF LID: ☑ GOOD ☐ FAIR ☐ POOR

FRAME OPENING DIMENSION:

RUNGS INSTALLED: ☑ YES ☐ NO
RUNG CONDITION: ☐ GOOD ☑ FAIR ☐ POOR

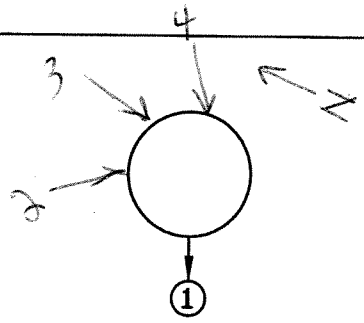
	OUTGOING LINE: SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#1	24"	MH-19		~~70.5~~ 71"

	INCOMING LINE: SIZE:	FROM M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#2	18"?	CB-14		51"
#3	14"	MH-14		70" to sediment
#4	12"	MH-20		~~70.5~~ 71.5" to bottom
#5				
#6				

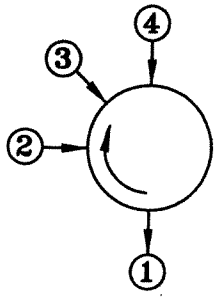
GENERAL CONDITION OF M.H/C.B.: ☐ GOOD ☑ FAIR ☐ POOR

COMMENTS: PID = 0.0.
W-040502-SLE-006
SE-040502-SLE-006

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Hanson Dayton RFI
M.H./C.B. NO.: MH-19
PROJECT LOCATION: Dayton OH.
PROJECT NO.: 12638-04-0020
M.H./C.B. LOCATION: Taylor St.
DATE: 4/8/02

☐ INSIDE FACILITY ☑ OUTSIDE FACILITY

TYPE OF FRAME: ☐ SQUARE ☑ CIRCULAR
TYPE OF LID: ☑ VENTED ☐ SOLID

MARKINGS ON LID: none

CONDITION OF FRAME: ☑ GOOD ☑ FAIR ☐ POOR
CONDITION OF LID: ☑ GOOD ☐ FAIR ☐ POOR

FRAME OPENING DIMENSION: 23.5"

RUNGS INSTALLED: ☑ YES ☐ NO
RUNG CONDITION: ☐ GOOD ☐ FAIR ☑ POOR

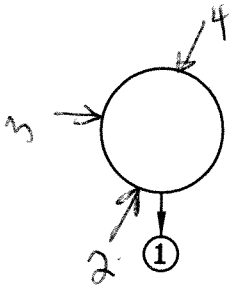
	OUTGOING LINE: SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#1	± 32"	~~MH-24~~ MH-25		79"

	INCOMING LINE: SIZE:	FROM M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#2	8"	?		57"
#3	16"	MH18		72.5"
#4	24"	MH21		78"
#5				
#6				

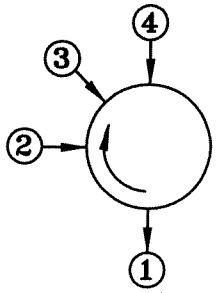
GENERAL CONDITION OF M.H/C.B.: ☐ GOOD ☑ FAIR ☐ POOR

COMMENTS: PID = 0.0
W-040802-SLE-007
SE-040802-SLE-007

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Harrison Dayton RF1 M.H./C.B. NO.: MH120.

PROJECT LOCATION: Dayton OH. PROJECT NO.: 12638-04-0020.

M.H./C.B. LOCATION: Taylor St. DATE: 4/8/02.

☐ INSIDE FACILITY ☑ OUTSIDE FACILITY

TYPE OF FRAME: ☐ SQUARE ☑ CIRCULAR

TYPE OF LID: ☑ VENTED ☐ SOLID

MARKINGS ON LID: none.

CONDITION OF FRAME: ☐ GOOD ☑ FAIR ☐ POOR

CONDITION OF LID: ☑ GOOD ☐ FAIR ☐ POOR

FRAME OPENING DIMENSION: 25"

RUNGS INSTALLED: ☐ YES ☑ NO

RUNG CONDITION: ☐ GOOD ☐ FAIR ☐ POOR

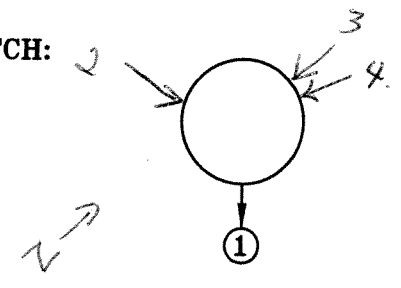
	OUTGOING LINE: SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#1	25"	MH-21		39"

	INCOMING LINE: SIZE:	FROM M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#2	12"	MH-18		41.5"
#3	12"	CB-16		31"
#4	18"	MH-22.		31"
#5				
#6				

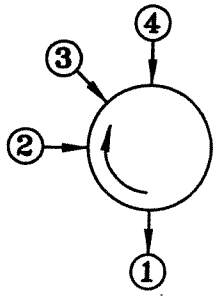
GENERAL CONDITION OF M.H/C.B.: ☐ GOOD ☑ FAIR ☐ POOR

COMMENTS: PID = 0.0

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Harrison Dayton RFI
M.H./C.B. NO.: MH-21
PROJECT LOCATION: Dayton OH
PROJECT NO.: 12638-04-0020
M.H./C.B. LOCATION: Taylor St.
DATE: 4/8/02

☐ INSIDE FACILITY ☑ OUTSIDE FACILITY

TYPE OF FRAME: ☐ SQUARE ☑ CIRCULAR
TYPE OF LID: ☑ VENTED ☐ SOLID

MARKINGS ON LID: none

CONDITION OF FRAME: ☐ GOOD ☑ FAIR ☐ POOR
CONDITION OF LID: ☑ GOOD ☐ FAIR ☐ POOR

FRAME OPENING DIMENSION: 24"

RUNGS INSTALLED: ☐ YES ☑ NO
RUNG CONDITION: ☐ GOOD ☐ FAIR ☐ POOR

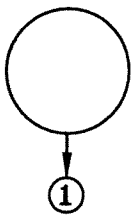
OUTGOING LINE: SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#1			39" to bottom of pit.

INCOMING LINE: SIZE:	FROM M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#2			
#3			
#4			
#5			
#6			

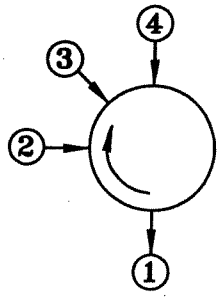
GENERAL CONDITION OF M.H/C.B.: ☐ GOOD ☐ FAIR ☐ POOR

COMMENTS: Pit leading to vertical opening near S. side. No pipes visible. PID=0.0

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Harrison Dayton PF 1 — M.H./C.B. NO.: MH-22.

PROJECT LOCATION: Dayton OH. — PROJECT NO.: 12638-04-0020

M.H./C.B. LOCATION: Taylor St. — DATE: 4/8/02

☐ INSIDE FACILITY ☑ OUTSIDE FACILITY

TYPE OF FRAME: ☑ SQUARE ☐ CIRCULAR

TYPE OF LID: ☐ VENTED ☑ SOLID

MARKINGS ON LID: none

CONDITION OF FRAME: ☐ GOOD ☐ FAIR ☑ POOR

CONDITION OF LID: ☐ GOOD ☐ FAIR ☑ POOR

FRAME OPENING DIMENSION: 46" x 24"

RUNGS INSTALLED: ☐ YES ☑ NO

RUNG CONDITION: ☐ GOOD ☐ FAIR ☐ POOR

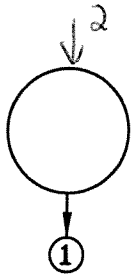
OUTGOING LINE:	SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#1	18"	MH 20.		24"

INCOMING LINE:	SIZE:	FROM M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#2	18"	MH 23.		28"
#3				
#4				
#5				
#6				

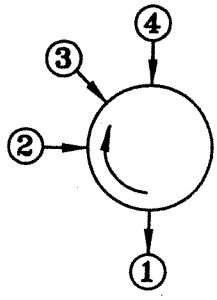
GENERAL CONDITION OF M.H/C.B.: ☐ GOOD ☐ FAIR ☑ POOR

COMMENTS: PID = 0.0

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Harrison Dayton EFI
M.H./C.B. NO.: MH23
PROJECT LOCATION: Dayton OH
PROJECT NO.: 12638-04-0020
M.H./C.B. LOCATION: Taylor St.
DATE: 4/8/02

☐ INSIDE FACILITY ☑ OUTSIDE FACILITY

TYPE OF FRAME: ☐ SQUARE ☑ CIRCULAR
TYPE OF LID: ☑ VENTED ☐ SOLID

MARKINGS ON LID: none

CONDITION OF FRAME: ☐ GOOD ☑ FAIR ☐ POOR
CONDITION OF LID: ☑ GOOD ☐ FAIR ☐ POOR

FRAME OPENING DIMENSION: Ø6"

RUNGS INSTALLED: ☐ YES ☑ NO
RUNG CONDITION: ☐ GOOD ☐ FAIR ☐ POOR

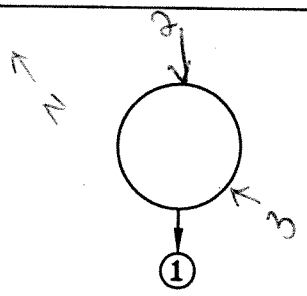
	OUTGOING LINE: SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#1	18"	MH22		33" ~~to sediment~~

	INCOMING LINE: SIZE:	FROM M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#2	18"	MH24		32"
#3	6"	?		18.5"
#4				
#5				
#6				

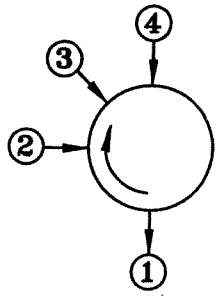
GENERAL CONDITION OF M.H/C.B.: ☐ GOOD ☑ FAIR ☐ POOR

COMMENTS: No standing water. Some sediment. PID = 0.0.

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Harrison Dayton EF1 M.H./C.B. NO.: MH-24

PROJECT LOCATION: Dayton OH. PROJECT NO.: 12658-04-0020

M.H./C.B. LOCATION: Taylor St. DATE: 4/8/02

☐ INSIDE FACILITY ☑ OUTSIDE FACILITY

TYPE OF FRAME: ☐ SQUARE ☑ CIRCULAR

TYPE OF LID: ☑ VENTED ☐ SOLID

MARKINGS ON LID: none

CONDITION OF FRAME: ☐ GOOD ☐ FAIR ☐ POOR

CONDITION OF LID: ☐ GOOD ☑ FAIR ☐ POOR

FRAME OPENING DIMENSION: 26".

RUNGS INSTALLED: ☐ YES ☐ NO

RUNG CONDITION: ☐ GOOD ☐ FAIR ☐ POOR

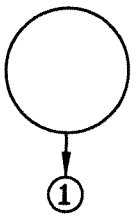
OUTGOING LINE: SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#1			

INCOMING LINE: SIZE:	FROM M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#2			
#3			
#4			
#5			
#6			

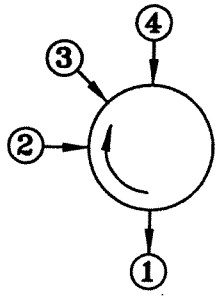
GENERAL CONDITION OF M.H/C.B.: ☐ GOOD ☐ FAIR ☐ POOR

COMMENTS: filled with concrete

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Harrison Dayton RFI
M.H./C.B. NO.: MH-25
PROJECT LOCATION: Dayton OH.
PROJECT NO.: 12638-04-0020
M.H./C.B. LOCATION: Pitt St.
DATE: 4/8/02.

☐ INSIDE FACILITY ☑ OUTSIDE FACILITY

TYPE OF FRAME: ☐ SQUARE ☑ CIRCULAR
TYPE OF LID: ☑ VENTED ☐ SOLID

MARKINGS ON LID: None.

CONDITION OF FRAME: ☐ GOOD ☑ FAIR ☐ POOR
CONDITION OF LID: ☑ GOOD ☐ FAIR ☐ POOR

FRAME OPENING DIMENSION: 23.5"

RUNGS INSTALLED: ☑ YES ☐ NO
RUNG CONDITION: ☐ GOOD ☐ FAIR ☑ POOR

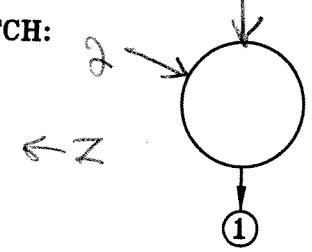
	OUTGOING LINE: SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#1		MH 26		102"

	INCOMING LINE: SIZE:	FROM M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#2		MH-19		99.5"
#3		STM Sewer near MH 26		102"
#4				
#5				
#6				

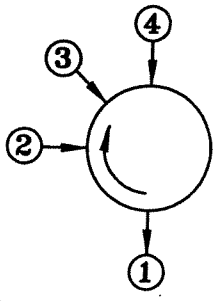
GENERAL CONDITION OF M.H/C.B.: ☐ GOOD ☐ FAIR ☐ POOR

COMMENTS: Some standing water. No sediment.
W-040802-SLE-008J
Line sizes not identifiable, just trenches in vicinity of MH. PID=0.0

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Harrison Dayton RFI
M.H./C.B. NO.: MH26/INT-6
PROJECT LOCATION: Dayton OH
PROJECT NO.: 12638-04-0020
M.H./C.B. LOCATION: Pitt St.
DATE: 4/8/02

☐ INSIDE FACILITY ☑ OUTSIDE FACILITY

TYPE OF FRAME: ☐ SQUARE ☑ CIRCULAR
TYPE OF LID: ☐ VENTED ☐ SOLID

MARKINGS ON LID: lid missing.

CONDITION OF FRAME: ☐ GOOD ☐ FAIR ☑ POOR
CONDITION OF LID: ☐ GOOD ☐ FAIR ☑ POOR

FRAME OPENING DIMENSION:

RUNGS INSTALLED: ☑ YES ☐ NO
RUNG CONDITION: ☐ GOOD ☐ FAIR ☑ POOR

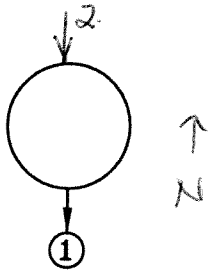
	OUTGOING LINE: SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#1	18"	storm sewer		57" to top of sediment. dirt

	INCOMING LINE: SIZE:	FROM M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#2	14"	INT-6		54" to top of sediment.
#3				
#4				
#5				
#6				

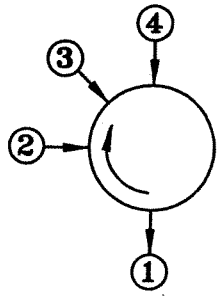
GENERAL CONDITION OF M.H/C.B.: ☐ GOOD ☐ FAIR ☑ POOR

COMMENTS: No water or sediment in MH so sampled interceptor INT-6 located N. MH filled with trash, dirt, rocks etc.
W-040802-SLE-009
SE-040802-SLE-008
PID = 0.0

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Harrison Dayton BF1 M.H./C.B. NO.: MH 27

PROJECT LOCATION: Dayton OH. PROJECT NO.: 12638-04-0020

M.H./C.B. LOCATION: Pitt St. DATE: 4/8/02.

☐ INSIDE FACILITY ☑ OUTSIDE FACILITY

TYPE OF FRAME: ☐ SQUARE ☑ CIRCULAR

TYPE OF LID: ☑ VENTED ☐ SOLID

MARKINGS ON LID: _____

CONDITION OF FRAME: ☑ GOOD ☐ FAIR ☐ POOR

CONDITION OF LID: ☑ GOOD ☐ FAIR ☐ POOR

FRAME OPENING DIMENSION: 26"

RUNGS INSTALLED: ☑ YES ☐ NO

RUNG CONDITION: ☐ GOOD ☑ FAIR ☐ POOR

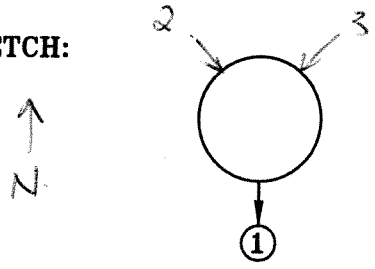
OUTGOING LINE:	SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#1	18"	INT-5		73"

INCOMING LINE:	SIZE:	FROM M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#2	12"	RD		72"
#3	8"	RD		65"
#4				
#5				
#6				

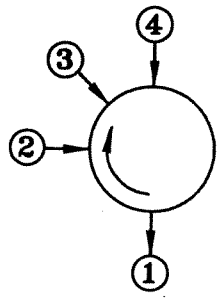
GENERAL CONDITION OF M.H/C.B.: ☐ GOOD ☑ FAIR ☐ POOR

COMMENTS: _____

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

MH-28 not accessible, it is in tow motor area in Bldg 1A.

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Harrison Dayton RFI
M.H./C.B. NO.: MH 29
PROJECT LOCATION: Dayton OH
PROJECT NO.: 12638-04-0020
M.H./C.B. LOCATION: ~~Pitt St~~ Amelia St.
DATE: 4/8/02

☐ INSIDE FACILITY ☑ OUTSIDE FACILITY

TYPE OF FRAME: ☐ SQUARE ☑ CIRCULAR
TYPE OF LID: ☑ VENTED ☐ SOLID

MARKINGS ON LID: none

CONDITION OF FRAME: ☐ GOOD ☑ FAIR ☐ POOR
CONDITION OF LID: ☑ GOOD ☐ FAIR ☐ POOR

FRAME OPENING DIMENSION:

RUNGS INSTALLED: ☑ YES ☐ NO
RUNG CONDITION: ☐ GOOD ☐ FAIR ☑ POOR

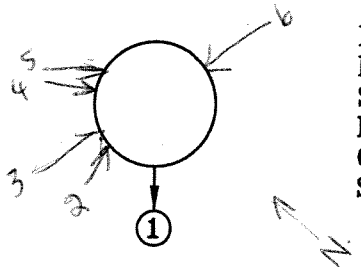
OUTGOING LINE: SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#1 24"	INT-8		93"

INCOMING LINE: SIZE:	FROM M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#2 4"	?		42"
#3 24"	nothing		86" to sediment
#4 12" hard to tell, overhang	?		43"
#5 10"	FD.		72"
#6 24"	MH30		86" to sediment

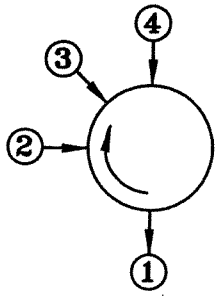
GENERAL CONDITION OF M.H/C.B.: ☐ GOOD ☑ FAIR ☐ POOR

COMMENTS: PID = 0.0

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Harrison Dayton RFI
M.H./C.B. NO.: MH30
PROJECT LOCATION: Dayton OH.
PROJECT NO.: 12638-04-0020
M.H./C.B. LOCATION: ~~Pitt St.~~ Amelia St.
DATE: 4/8/02

☐ INSIDE FACILITY ☑ OUTSIDE FACILITY

TYPE OF FRAME: ☐ SQUARE ☑ CIRCULAR
TYPE OF LID: ☑ VENTED ☐ SOLID

MARKINGS ON LID: none

CONDITION OF FRAME: ☐ GOOD ☑ FAIR ☐ POOR
CONDITION OF LID: ☑ GOOD ☐ FAIR ☐ POOR

FRAME OPENING DIMENSION: 25"

RUNGS INSTALLED: ☑ YES ☐ NO
RUNG CONDITION: ☐ GOOD ☐ FAIR ☐ POOR

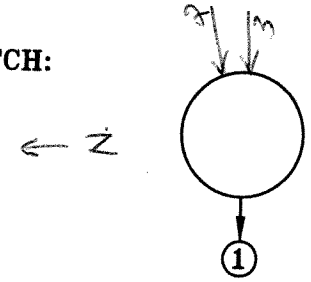
	OUTGOING LINE: SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#1	28"	MH29		79"-to Sediment

	INCOMING LINE: SIZE:	FROM M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#2	12"	MH31?		66"
#3	15"	MH31?		62"
#4				
#5				
#6				

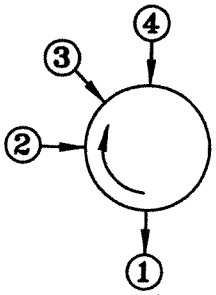
GENERAL CONDITION OF M.H/C.B.: ☐ GOOD ☑ FAIR ☐ POOR

COMMENTS: PID = 0.0

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Hanson Dayton RFI
M.H./C.B. NO.: MH31
PROJECT LOCATION: Dayton OH.
PROJECT NO.: 12638-04-0020
M.H./C.B. LOCATION: ~~2nd St.~~ Amelia St.
DATE: 4/8/02.

☐ INSIDE FACILITY ☑ OUTSIDE FACILITY

TYPE OF FRAME: ☐ SQUARE ☑ CIRCULAR
TYPE OF LID: ☑ VENTED ☐ SOLID

MARKINGS ON LID: ~~25~~. none.

CONDITION OF FRAME: ☐ GOOD ☑ FAIR ☐ POOR
CONDITION OF LID: ☑ GOOD ☐ FAIR ☐ POOR

FRAME OPENING DIMENSION: 25"

RUNGS INSTALLED: ☑ YES ☐ NO
RUNG CONDITION: ☐ GOOD ☐ FAIR ☑ POOR

OUTGOING LINE:	SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#1	15"	MH 30.		66"
#2	12"	MH 30.		66"

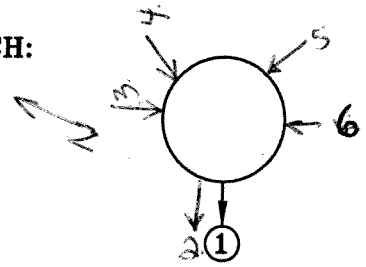
turned

INCOMING LINE:	SIZE:	FROM M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#3	10"	nothing		68"
#4	12"	MH32		62"
#6	8"?	filled in w/concrete		
#5	6"	CB-28.		20"
#7				

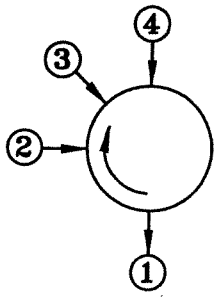
GENERAL CONDITION OF M.H/C.B.: ☐ GOOD ☐ FAIR ☐ POOR

COMMENTS: PD = 0.4

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Harrison Dayton RFI. M.H./C.B. NO.: MH ~~28~~ 32.

PROJECT LOCATION: Dayton OH. PROJECT NO.: 12638-04-0020.

M.H./C.B. LOCATION: ~~Pitt St.~~ Amelcast. DATE: 4/8/02.

☐ INSIDE FACILITY ☑ OUTSIDE FACILITY

TYPE OF FRAME: ☐ SQUARE ☑ CIRCULAR

TYPE OF LID: ☑ VENTED ☐ SOLID

MARKINGS ON LID: none

CONDITION OF FRAME: ☐ GOOD ☑ FAIR ☑ POOR

CONDITION OF LID: ☑ GOOD ☐ FAIR ☐ POOR

FRAME OPENING DIMENSION: 25"

RUNGS INSTALLED: ☐ YES ☑ NO

RUNG CONDITION: ☐ GOOD ☐ FAIR ☐ POOR

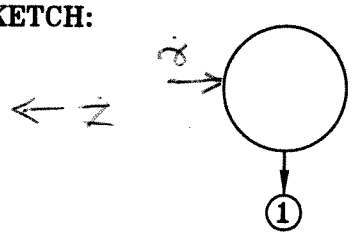
	OUTGOING LINE: SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#1	4"	MH 31.		21.5"

	INCOMING LINE: SIZE:	FROM M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#2	12"			26"
#3				
#4				
#5				
#6				

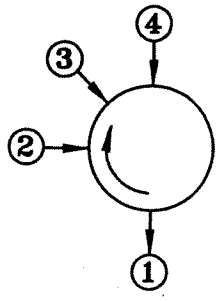
GENERAL CONDITION OF M.H/C.B.: ☐ GOOD ☑ FAIR ☐ POOR

COMMENTS: MH nearly full of concrete.

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Harrison Dayton RFI
M.H./C.B. NO.: MH-IX 33
PROJECT LOCATION: Dayton, OH
PROJECT NO.: 12638-04-0020
M.H./C.B. LOCATION: ~~RH St.~~ Amelia St.
DATE: 4/8/02

☐ INSIDE FACILITY ☑ OUTSIDE FACILITY

TYPE OF FRAME: ☐ SQUARE ☑ CIRCULAR
TYPE OF LID: ☑ VENTED ☐ SOLID

MARKINGS ON LID: None

CONDITION OF FRAME: ☐ GOOD ☑ FAIR ☐ POOR
CONDITION OF LID: ☑ GOOD ☐ FAIR ☐ POOR

FRAME OPENING DIMENSION: 24"

RUNGS INSTALLED: ☑ YES ☐ NO
RUNG CONDITION: ☐ GOOD ☐ FAIR ☑ POOR

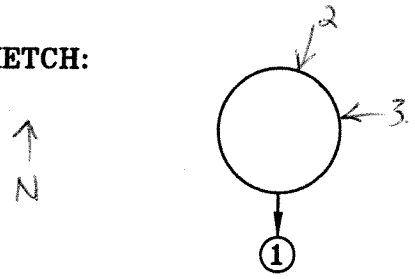
	OUTGOING LINE: SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#1	12"	MH31		56"

	INCOMING LINE: SIZE:	FROM M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#2	10"	MH80		54"
#3	6"	?		45"
#4				
#5				
#6				

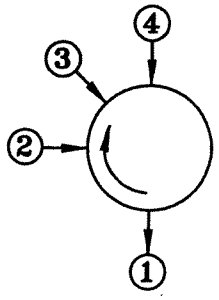
GENERAL CONDITION OF M.H/C.B.: ☐ GOOD ☑ FAIR ☐ POOR

COMMENTS: PID = 0.0

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Hermsen Dayton RF 1 M.H./C.B. NO.: MH-~~X~~ 34.

PROJECT LOCATION: Dayton OH PROJECT NO.: 12638-04-0020.

M.H./C.B. LOCATION: W of Bldg 12 Webster St. DATE: Apr. 8/02.

☐ INSIDE FACILITY ☑ OUTSIDE FACILITY

TYPE OF FRAME: ☐ SQUARE ☑ CIRCULAR

TYPE OF LID: ☑ VENTED ☐ SOLID

MARKINGS ON LID: none

CONDITION OF FRAME: ☐ GOOD ☐ FAIR ☐ POOR

CONDITION OF LID: ☑ GOOD ☐ FAIR ☐ POOR

FRAME OPENING DIMENSION: 25".

RUNGS INSTALLED: ☑ YES ☐ NO

RUNG CONDITION: ☐ GOOD ☐ FAIR ☑ POOR

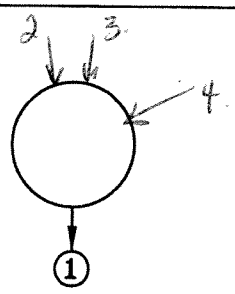
	SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
OUTGOING LINE: #1	6"			21"

	SIZE:	FROM M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
INCOMING LINE: #2	] Could not			~~82~~ 82.5" to debris
#3	identify due			82" to debris
#~~4~~	to broken pipe			
#~~5~~	and debris.			
#~~6~~4		?		

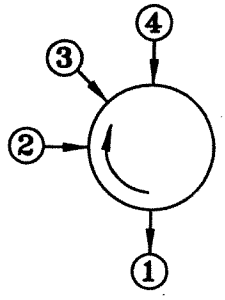
GENERAL CONDITION OF M.H/C.B.: ☐ GOOD ☐ FAIR ☐ POOR

COMMENTS: No water in MH so tried to sampled INT-4. but it was filled in w/ concrete. MH 34 had bricks + trash in bottom.

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Harrison Dayton RFI M.H./C.B. NO.: MH35

PROJECT LOCATION: Dayton OH. PROJECT NO.: 12638-04-0020

M.H./C.B. LOCATION: Bldg 1. DATE: 4/9/02.

☑ INSIDE FACILITY ☐ OUTSIDE FACILITY

TYPE OF FRAME: ☑ SQUARE ☐ CIRCULAR

TYPE OF LID: ☐ VENTED ☑ SOLID

MARKINGS ON LID: none

CONDITION OF FRAME: ☐ GOOD ☐ FAIR ☐ POOR

CONDITION OF LID: ☐ GOOD ☐ FAIR ☐ POOR

FRAME OPENING DIMENSION: _____

RUNGS INSTALLED: ☐ YES ☐ NO

RUNG CONDITION: ☐ GOOD ☐ FAIR ☐ POOR

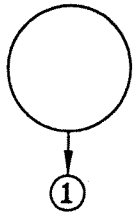
	OUTGOING LINE: SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#1				

	INCOMING LINE: SIZE:	FROM M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#2				
#3				
#4				
#5				
#6				

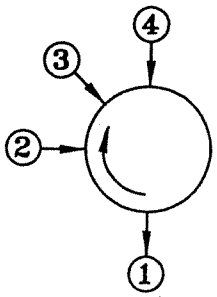
GENERAL CONDITION OF M.H/C.B.: ☐ GOOD ☐ FAIR ☐ POOR

COMMENTS: Could not open. Equipment parked on top.

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Hamson Dayton RFI M.H./C.B. NO.: MH 36 SE

PROJECT LOCATION: Dayton OH. PROJECT NO.: 12638-04-0020

M.H./C.B. LOCATION: Bldg 1 DATE: 4/9/02

☑ INSIDE FACILITY ☐ OUTSIDE FACILITY

TYPE OF FRAME: ☑ SQUARE ☐ CIRCULAR

TYPE OF LID: ☐ VENTED ☑ SOLID

MARKINGS ON LID: None

CONDITION OF FRAME: ☐ GOOD ☐ FAIR ☐ POOR

CONDITION OF LID: ☐ GOOD ☐ FAIR ☐ POOR

FRAME OPENING DIMENSION: _____

RUNGS INSTALLED: ☐ YES ☐ NO

RUNG CONDITION: ☐ GOOD ☐ FAIR ☐ POOR

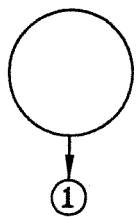
	OUTGOING LINE: SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#1				

	INCOMING LINE: SIZE:	FROM M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#2				
#3				
#4				
#5				
#6				

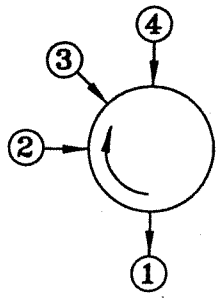
GENERAL CONDITION OF M.H/C.B.: ☐ GOOD ☐ FAIR ☐ POOR

COMMENTS: Could not open. Equipment parked on top.

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Harrison Dayton RFI
M.H./C.B. NO.: MH 37
PROJECT LOCATION: Dayton OH
PROJECT NO.: 12638-04-0020
M.H./C.B. LOCATION: Bldg 12
DATE: 4/9/02

☒ INSIDE FACILITY ☐ OUTSIDE FACILITY

TYPE OF FRAME: ☐ SQUARE ☒ CIRCULAR
TYPE OF LID: ☐ VENTED ☒ SOLID

MARKINGS ON LID: none

CONDITION OF FRAME: ☐ GOOD ☒ FAIR ☐ POOR
CONDITION OF LID: ☐ GOOD ☒ FAIR ☐ POOR

FRAME OPENING DIMENSION: 26"

RUNGS INSTALLED: ☐ YES ☒ NO
RUNG CONDITION: ☐ GOOD ☐ FAIR ☐ POOR

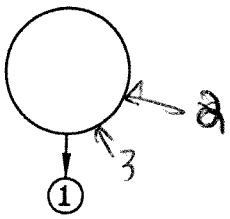
	OUTGOING LINE: SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#1	12"	2		163"

	INCOMING LINE: SIZE:	FROM M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#2	4"	1		86"
#3	2"	1		~~86~~ 116"
#4				
#5				
#6				

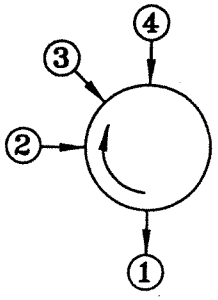
GENERAL CONDITION OF M.H/C.B.: ☐ GOOD ☐ FAIR ☐ POOR

COMMENTS: PID = ~~3.9~~ 4.0. No water, some sediment appeared to be rust chips. Can't tell outlet?

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Harrison Dayton RF1 M.H./C.B. NO.: MH38.

PROJECT LOCATION: Dayton OH. PROJECT NO.: 12638-04-0020.

M.H./C.B. LOCATION: Bldg. 12 DATE: 4/9/02

☑ INSIDE FACILITY ☐ OUTSIDE FACILITY

TYPE OF FRAME: ☐ SQUARE ☑ CIRCULAR

TYPE OF LID: ☑ VENTED ☐ SOLID

MARKINGS ON LID: none

CONDITION OF FRAME: ☐ GOOD ☐ FAIR ☐ POOR

CONDITION OF LID: ☐ GOOD ☐ FAIR ☐ POOR

FRAME OPENING DIMENSION: 24".

RUNGS INSTALLED: ☐ YES ☑ NO

RUNG CONDITION: ☐ GOOD ☐ FAIR ☐ POOR

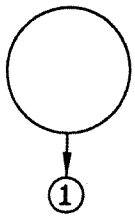
	OUTGOING LINE: SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#1				

	INCOMING LINE: SIZE:	FROM M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#2				
#3				
#4				
#5				
#6				

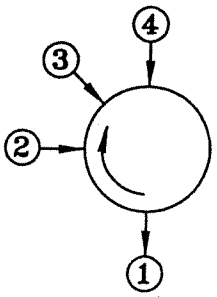
GENERAL CONDITION OF M.H/C.B.: ☐ GOOD ☐ FAIR ☑ POOR

COMMENTS: MH filled in w/ dirt + rubble PID = 2.2

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Harrison Dayton RF 1 M.H./C.B. NO.: MH 39

PROJECT LOCATION: Dayton OH. PROJECT NO.: 12638-04-0020

M.H./C.B. LOCATION: Bldg. 12 DATE: 4/9/02

☑ INSIDE FACILITY ☐ OUTSIDE FACILITY

TYPE OF FRAME: ☐ SQUARE ☑ CIRCULAR

TYPE OF LID: ☐ VENTED ☑ SOLID

MARKINGS ON LID: None

CONDITION OF FRAME: ☐ GOOD ☐ FAIR ☐ POOR

CONDITION OF LID: ☐ GOOD ☑ FAIR ☐ POOR

FRAME OPENING DIMENSION: _____

RUNGS INSTALLED: ☐ YES ☐ NO

RUNG CONDITION: ☐ GOOD ☐ FAIR ☐ POOR

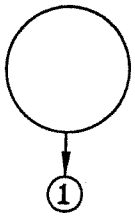
OUTGOING LINE: SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#1			

INCOMING LINE: SIZE:	FROM M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#2			
#3			
#4			
#5			
#6			

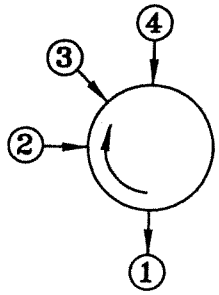
GENERAL CONDITION OF M.H/C.B.: ☐ GOOD ☐ FAIR ☐ POOR

COMMENTS: Could not open. MH is sealed and/or rusted shut

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Harrison Dayton RE1 M.H./C.B. NO.: MH40

PROJECT LOCATION: Dayton OH PROJECT NO.: 12638-04-0020

M.H./C.B. LOCATION: Bldg 10 DATE: 4/9/02

☑ INSIDE FACILITY ☐ OUTSIDE FACILITY

TYPE OF FRAME: ☑ SQUARE ☐ CIRCULAR

TYPE OF LID: ☐ VENTED ☑ SOLID

MARKINGS ON LID: none

CONDITION OF FRAME: ☐ GOOD ☑ FAIR ☐ POOR

CONDITION OF LID: ☐ GOOD ☑ FAIR ☐ POOR

FRAME OPENING DIMENSION: 34 x 26"

RUNGS INSTALLED: ☐ YES ☑ NO

RUNG CONDITION: ☐ GOOD ☐ FAIR ☐ POOR

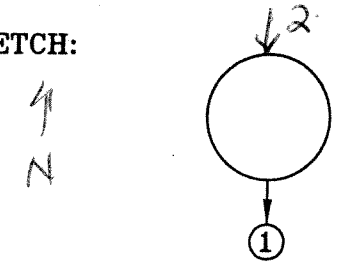
OUTGOING LINE: SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#1 12"	MH41		~~28.5~~ 29"

INCOMING LINE: SIZE:	FROM M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#2 12"	MH61		28" to Sediment.
#3			
#4			
#5			
#6			

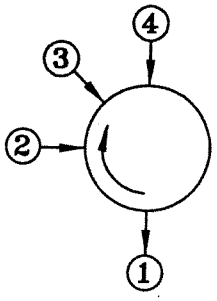
GENERAL CONDITION OF M.H/C.B.: ☐ GOOD ☐ FAIR ☐ POOR

COMMENTS: a little Sediment + Standing water on Bottom.
PID = 0.0

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Harrison Dayton RFI
M.H./C.B. NO.: MH41
PROJECT LOCATION: Dayton OH.
PROJECT NO.: 12638-04-0020
M.H./C.B. LOCATION: Bldg. 10.
DATE: 4/8/02

☒ INSIDE FACILITY ☐ OUTSIDE FACILITY

TYPE OF FRAME: ☐ SQUARE ☐ CIRCULAR
TYPE OF LID: ☐ VENTED ☐ SOLID

MARKINGS ON LID: _____

CONDITION OF FRAME: ☐ GOOD ☐ FAIR ☐ POOR
CONDITION OF LID: ☐ GOOD ☐ FAIR ☐ POOR

FRAME OPENING DIMENSION: _____

RUNGS INSTALLED: ☐ YES ☐ NO
RUNG CONDITION: ☐ GOOD ☐ FAIR ☐ POOR

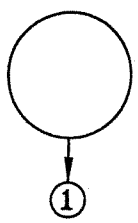
OUTGOING LINE: SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#1			

INCOMING LINE: SIZE:	FROM M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#2			
#3			
#4			
#5			
#6			

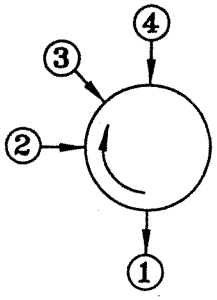
GENERAL CONDITION OF M.H/C.B.: ☐ GOOD ☐ FAIR ☐ POOR

COMMENTS: Could not find. Think equipment parked on top.

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Harrison Dayton RFI
M.H./C.B. NO.: MH 42
PROJECT LOCATION: Dayton OH.
PROJECT NO.: 12658-04-0020.
M.H./C.B. LOCATION: Bldg 10
DATE: 4/9/02.

☒ INSIDE FACILITY ☐ OUTSIDE FACILITY

TYPE OF FRAME: ☐ SQUARE ☐ CIRCULAR
TYPE OF LID: ☐ VENTED ☐ SOLID

MARKINGS ON LID: _____

CONDITION OF FRAME: ☐ GOOD ☐ FAIR ☐ POOR
CONDITION OF LID: ☐ GOOD ☐ FAIR ☐ POOR

FRAME OPENING DIMENSION: _____

RUNGS INSTALLED: ☐ YES ☐ NO
RUNG CONDITION: ☐ GOOD ☐ FAIR ☐ POOR

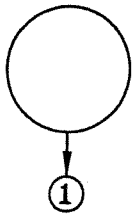
OUTGOING LINE: SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#1			

INCOMING LINE: SIZE:	FROM M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#2			
#3			
#4			
#5			
#6			

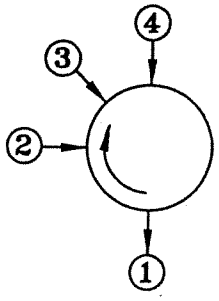
GENERAL CONDITION OF M.H/C.B.: ☐ GOOD ☐ FAIR ☐ POOR

COMMENTS: Could not find, Crates etc at location.

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Harrison Dayton RFI
M.H./C.B. NO.: MH 43
PROJECT LOCATION: Dayton OH.
PROJECT NO.: 12658-04-0020
M.H./C.B. LOCATION: Bldg 10.
DATE: 4/9/02

☑ INSIDE FACILITY ☐ OUTSIDE FACILITY

TYPE OF FRAME: ☐ SQUARE ☑ CIRCULAR
TYPE OF LID: ☑ VENTED ☐ SOLID

MARKINGS ON LID: none

CONDITION OF FRAME: ☐ GOOD ☐ FAIR ☐ POOR
CONDITION OF LID: ☐ GOOD ☐ FAIR ☐ POOR

FRAME OPENING DIMENSION: _____

RUNGS INSTALLED: ☐ YES ☐ NO
RUNG CONDITION: ☐ GOOD ☐ FAIR ☐ POOR

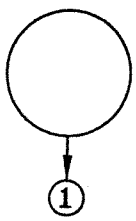
OUTGOING LINE: SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#1			

INCOMING LINE: SIZE:	FROM M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#2			
#3			
#4			
#5			
#6			

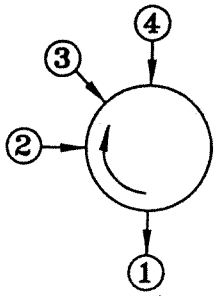
GENERAL CONDITION OF M.H/C.B.: ☐ GOOD ☐ FAIR ☐ POOR

COMMENTS: Could not open. Rusted and/or sealed shut.

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Hemsan Dayton RF I
M.H./C.B. NO.: MH 44.
PROJECT LOCATION: Dayton OH.
PROJECT NO.: 12638-04-002
M.H./C.B. LOCATION: Bldg 10
DATE: 4/9/02.

☑ INSIDE FACILITY ☐ OUTSIDE FACILITY

TYPE OF FRAME: ☐ SQUARE ☑ CIRCULAR
TYPE OF LID: ☐ VENTED ☑ SOLID

MARKINGS ON LID: none

CONDITION OF FRAME: ☐ GOOD ☑ FAIR ☐ POOR
CONDITION OF LID: ☐ GOOD ☑ FAIR ☐ POOR

FRAME OPENING DIMENSION: 23"

RUNGS INSTALLED: ☐ YES ☐ NO
RUNG CONDITION: ☐ GOOD ☐ FAIR ☐ POOR

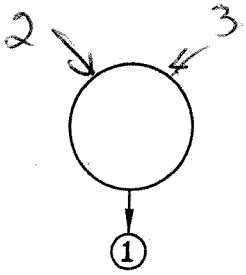
OUTGOING LINE:	SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#1	12"	MH45.		40" to sediment

INCOMING LINE:	SIZE:	FROM M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#2	10"	MH62.		~~40~~ 41"
#3	2"	?		13".
#4				
#5				
#6				

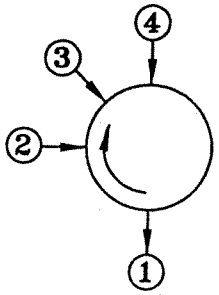
GENERAL CONDITION OF M.H/C.B.: ☐ GOOD ☑ FAIR ☐ POOR

COMMENTS: Some standing water + sediment PID = 0.0

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Harrison Dayton RFI M.H./C.B. NO.: MH 45.

PROJECT LOCATION: Dayton OH. PROJECT NO.: 12638-04-0020.

M.H./C.B. LOCATION: Bldg 10. DATE: 4/9/02.

☒ INSIDE FACILITY ☐ OUTSIDE FACILITY

TYPE OF FRAME: ☒ SQUARE ☐ CIRCULAR

TYPE OF LID: ☐ VENTED ☒ SOLID

MARKINGS ON LID: None

CONDITION OF FRAME: ☐ GOOD ☐ FAIR ☐ POOR

CONDITION OF LID: ☐ GOOD ☒ FAIR ☐ POOR

FRAME OPENING DIMENSION: 36x36"

RUNGS INSTALLED: ☐ YES ☐ NO

RUNG CONDITION: ☐ GOOD ☐ FAIR ☐ POOR

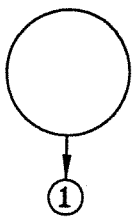
OUTGOING LINE: SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#1			

INCOMING LINE: SIZE:	FROM M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#2			
#3			
#4			
#5			
#6			

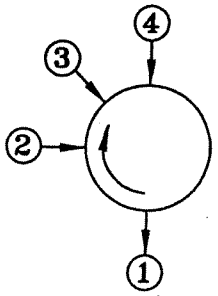
GENERAL CONDITION OF M.H/C.B.: ☐ GOOD ☐ FAIR ☐ POOR

COMMENTS: Rusted and/or sealed shut. Hammering etc. Only chipped upper surface of cover.

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Hanscom Dayton RFI
M.H./C.B. NO.: MH 46
PROJECT LOCATION: Dayton OH
PROJECT NO.: 12638-04-0020
M.H./C.B. LOCATION: Bldg 10
DATE: 4/9/02

☒ INSIDE FACILITY ☐ OUTSIDE FACILITY

TYPE OF FRAME: ☐ SQUARE ☐ CIRCULAR
TYPE OF LID: ☐ VENTED ☐ SOLID

MARKINGS ON LID: _____

CONDITION OF FRAME: ☐ GOOD ☐ FAIR ☐ POOR
CONDITION OF LID: ☐ GOOD ☐ FAIR ☐ POOR

FRAME OPENING DIMENSION: _____

RUNGS INSTALLED: ☐ YES ☐ NO
RUNG CONDITION: ☐ GOOD ☐ FAIR ☐ POOR

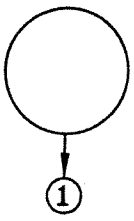
OUTGOING LINE: SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#1			

INCOMING LINE: SIZE:	FROM M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#2			
#3			
#4			
#5			
#6			

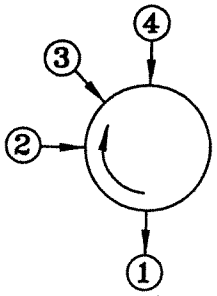
GENERAL CONDITION OF M.H/C.B.: ☐ GOOD ☐ FAIR ☐ POOR

COMMENTS: Could not find. Pile of scrap located in this area.

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Harrison Dayton RF1 — M.H./C.B. NO.: MH47

PROJECT LOCATION: Dayton OH. — PROJECT NO.: 12638-04-0020

M.H./C.B. LOCATION: S of Bldg 10. Amelia St. — DATE: 4/9/02

☐ INSIDE FACILITY ☑ OUTSIDE FACILITY

TYPE OF FRAME: ☐ SQUARE ☑ CIRCULAR

TYPE OF LID: ☑ VENTED ☐ SOLID

MARKINGS ON LID: none

CONDITION OF FRAME: ☐ GOOD ☑ FAIR ☐ POOR

CONDITION OF LID: ☑ GOOD ☐ FAIR ☐ POOR

FRAME OPENING DIMENSION: 24"

RUNGS INSTALLED: ☑ YES ☐ NO

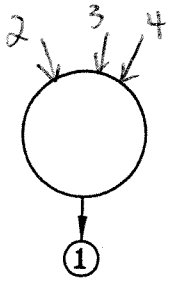
RUNG CONDITION: ☐ GOOD ☑ FAIR ☐ POOR

	SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
OUTGOING LINE: #1	12"	~~MH57~~ MH57		71"
INCOMING LINE: #2	~~8~~ "8"	trench		34.5
#3	6"	trench.		23"
#4	12"	MH45		71"
#5				
#6				

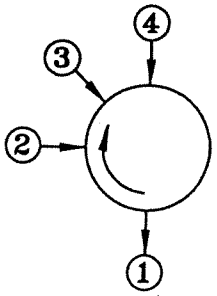
GENERAL CONDITION OF M.H/C.B.: ☐ GOOD ☑ FAIR ☐ POOR

COMMENTS: no standing water, Some sediment.

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Hamson Dayton RF1 M.H./C.B. NO.: MH48

PROJECT LOCATION: Dayton OH. PROJECT NO.: 12638-04-0020

M.H./C.B. LOCATION: Bldg. 9 DATE: 4/9/02

☑ INSIDE FACILITY ☐ OUTSIDE FACILITY

TYPE OF FRAME: ☑ SQUARE ☐ CIRCULAR

TYPE OF LID: ☐ VENTED ☑ SOLID

MARKINGS ON LID: none

CONDITION OF FRAME: ☐ GOOD ☐ FAIR ☐ POOR

CONDITION OF LID: ☐ GOOD ☑ FAIR ☐ POOR

FRAME OPENING DIMENSION: 36" x 36"

RUNGS INSTALLED: ☐ YES ☐ NO

RUNG CONDITION: ☐ GOOD ☐ FAIR ☐ POOR

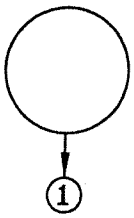
	OUTGOING LINE: SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#1				

	INCOMING LINE: SIZE:	FROM M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#2				
#3				
#4				
#5				
#6				

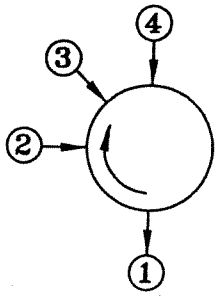
GENERAL CONDITION OF M.H/C.B.: ☐ GOOD ☐ FAIR ☐ POOR

COMMENTS: filled in w/ concrete.

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Harrison Dayton RF1 M.H./C.B. NO.: MH 49

PROJECT LOCATION: Dayton OH. PROJECT NO.: 12638-04-0020

M.H./C.B. LOCATION: Bldg 9 DATE: 4/9/02

☑ INSIDE FACILITY ☐ OUTSIDE FACILITY

TYPE OF FRAME: ☑ SQUARE ☐ CIRCULAR

TYPE OF LID: ☐ VENTED ☑ SOLID

MARKINGS ON LID: none

CONDITION OF FRAME: ☐ GOOD ☑ FAIR ☐ POOR

CONDITION OF LID: ☐ GOOD ☑ FAIR ☐ POOR

FRAME OPENING DIMENSION: 47" x 30".

RUNGS INSTALLED: ☐ YES ☑ NO

RUNG CONDITION: ☐ GOOD ☐ FAIR ☐ POOR

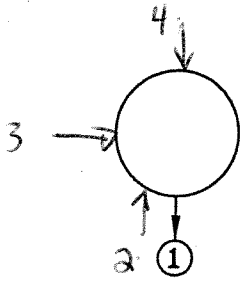
	OUTGOING LINE: SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#1	~~4"~~ 4"	?		40.5"

	INCOMING LINE: SIZE:	FROM M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#2	4"	?		24"
#3	4"	?		20"
#4	4"	?		40.5
#5				
#6				

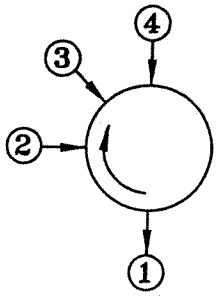
GENERAL CONDITION OF M.H/C.B.: ☐ GOOD ☑ FAIR ☐ POOR

COMMENTS:

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Harrison Dayton RF1 M.H./C.B. NO.: MH50

PROJECT LOCATION: Dayton OH. PROJECT NO.: 12638.04-0020.

M.H./C.B. LOCATION: Bldg 9 DATE: 4/9/02.

☒ INSIDE FACILITY ☐ OUTSIDE FACILITY

TYPE OF FRAME: ☒ SQUARE ☐ CIRCULAR

TYPE OF LID: ☐ VENTED ☐ SOLID

MARKINGS ON LID: Paved over.

CONDITION OF FRAME: ☐ GOOD ☐ FAIR ☐ POOR

CONDITION OF LID: ☐ GOOD ☐ FAIR ☐ POOR

FRAME OPENING DIMENSION: _____

RUNGS INSTALLED: ☐ YES ☐ NO

RUNG CONDITION: ☐ GOOD ☐ FAIR ☐ POOR

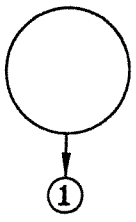
OUTGOING LINE: SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#1			

INCOMING LINE: SIZE:	FROM M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#2			
#3			
#4			
#5			
#6			

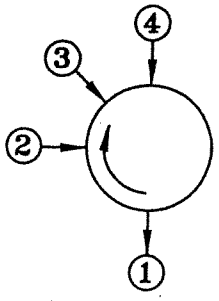
GENERAL CONDITION OF M.H/C.B.: ☐ GOOD ☐ FAIR ☐ POOR

COMMENTS: Could not open, MH cover mostly paved over.

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Hanson Dayton RFI
M.H./C.B. NO.: MHS1
PROJECT LOCATION: Dayton OH
PROJECT NO.: 12638-04-0020
M.H./C.B. LOCATION: Bldg 9
DATE: 4/9/02

☑ INSIDE FACILITY ☐ OUTSIDE FACILITY

TYPE OF FRAME: ☑ SQUARE ☐ CIRCULAR
TYPE OF LID: ☐ VENTED ☑ SOLID

MARKINGS ON LID: none

CONDITION OF FRAME: ☐ GOOD ☑ FAIR ☐ POOR
CONDITION OF LID: ☐ GOOD ☑ FAIR ☐ POOR

FRAME OPENING DIMENSION: 36 x 36"

RUNGS INSTALLED: ☐ YES ☑ NO
RUNG CONDITION: ☐ GOOD ☐ FAIR ☐ POOR

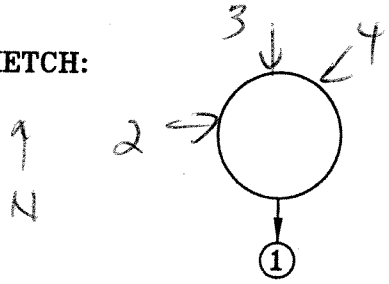
OUTGOING LINE:	SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#1	4"	?		37"

INCOMING LINE:	SIZE:	FROM M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#2	4"	?		25"
#3	4"	?		36"
#4	☒ 4"	?		10"
#5				
#6				

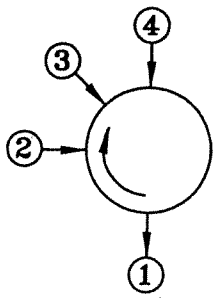
GENERAL CONDITION OF M.H/C.B.: ☐ GOOD ☑ FAIR ☐ POOR

COMMENTS: Standing water & mist.

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Hamson Dayton RFI M.H./C.B. NO.: MH52

PROJECT LOCATION: Dayton OH PROJECT NO.: 12638 04-0020

M.H./C.B. LOCATION: Bldg 9 DATE: 4/12/02

☑ INSIDE FACILITY ☐ OUTSIDE FACILITY

TYPE OF FRAME: ☑ SQUARE ☐ CIRCULAR

TYPE OF LID: ☐ VENTED ☑ SOLID

MARKINGS ON LID: _____

CONDITION OF FRAME: ☐ GOOD ☐ FAIR ☐ POOR

CONDITION OF LID: ☐ GOOD ☐ FAIR ☐ POOR

FRAME OPENING DIMENSION: _____

RUNGS INSTALLED: ☐ YES ☐ NO

RUNG CONDITION: ☐ GOOD ☐ FAIR ☐ POOR

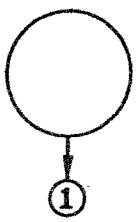
OUTGOING LINE: SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#1			

INCOMING LINE: SIZE:	FROM M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#2			
#3			
#4			
#5			
#6			

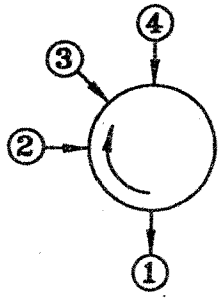
GENERAL CONDITION OF M.H/C.B.: ☐ GOOD ☐ FAIR ☐ POOR

COMMENTS: Filled in.

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Harrison Dayton EFI M.H./C.B. NO.: MH53

PROJECT LOCATION: Dayton OH PROJECT NO.: 12638-04-0020

M.H./C.B. LOCATION: Bldg DATE: 4/12/02

☑ INSIDE FACILITY ☐ OUTSIDE FACILITY

TYPE OF FRAME: ☑ SQUARE ☐ CIRCULAR

TYPE OF LID: ☐ VENTED ☑ SOLID

MARKINGS ON LID: _____

CONDITION OF FRAME: ☐ GOOD ☐ FAIR ☐ POOR

CONDITION OF LID: ☐ GOOD ☐ FAIR ☐ POOR

FRAME OPENING DIMENSION: _____

RUNGS INSTALLED: ☐ YES ☐ NO

RUNG CONDITION: ☐ GOOD ☐ FAIR ☐ POOR

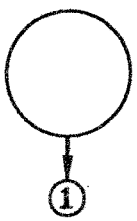
OUTGOING LINE: SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#1			

INCOMING LINE: SIZE:	FROM M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#2			
#3			
#4			
#5			
#6			

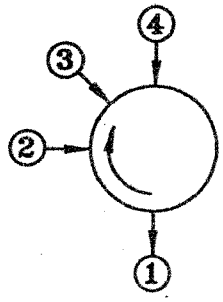
GENERAL CONDITION OF M.H/C.B.: ☐ GOOD ☐ FAIR ☐ POOR

COMMENTS: ~~filled~~ does not appear to be storm - no pipes

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Hanson Dayton RFI
M.H./C.B. NO.: MH54
PROJECT LOCATION: Dayton OH
PROJECT NO.: 12638-04-0020.
M.H./C.B. LOCATION: S. of Bldg 10 Amelia St.
DATE: 4/10/02.

☐ INSIDE FACILITY ☒ OUTSIDE FACILITY

TYPE OF FRAME: ☐ SQUARE ☐ CIRCULAR
TYPE OF LID: ☐ VENTED ☐ SOLID

MARKINGS ON LID: _____

CONDITION OF FRAME: ☐ GOOD ☐ FAIR ☐ POOR
CONDITION OF LID: ☐ GOOD ☐ FAIR ☐ POOR

FRAME OPENING DIMENSION: _____

RUNGS INSTALLED: ☐ YES ☐ NO
RUNG CONDITION: ☐ GOOD ☐ FAIR ☐ POOR

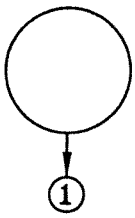
	OUTGOING LINE: SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#1				

	INCOMING LINE: SIZE:	FROM M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#2				
#3				
#4				
#5				
#6				

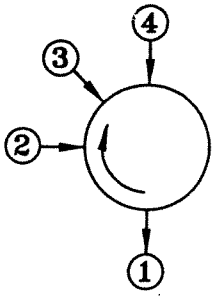
GENERAL CONDITION OF M.H/C.B.: ☐ GOOD ☐ FAIR ☐ POOR

COMMENTS: Area covered by large equipment. Could not access.

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Harrison Dayton RFI
M.H./C.B. NO.: MH55
PROJECT LOCATION: Dayton OH
PROJECT NO.: 12638-04-0020
M.H./C.B. LOCATION: ~~Pat St~~ Amelia
DATE: 4/9/02

☐ INSIDE FACILITY ☒ OUTSIDE FACILITY

TYPE OF FRAME: ☐ SQUARE ☒ CIRCULAR
TYPE OF LID: ☒ VENTED ☐ SOLID

MARKINGS ON LID: none

CONDITION OF FRAME: ☐ GOOD ☒ FAIR ☐ POOR
CONDITION OF LID: ☐ GOOD ☐ FAIR ☒ POOR

FRAME OPENING DIMENSION: 26"

RUNGS INSTALLED: ☒ YES ☐ NO
RUNG CONDITION: ☐ GOOD ☐ FAIR ☒ POOR

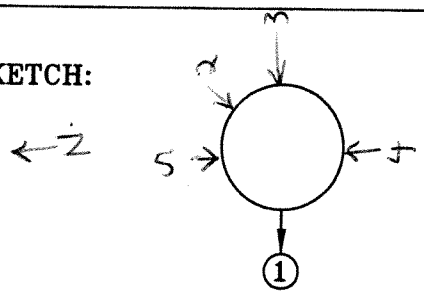
	OUTGOING LINE: SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#1	18"	MH57		50" to sediment

	INCOMING LINE: SIZE:	FROM M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#2	≈12"	?		45"
#3	12"	MH56		56" to sediment
#4	22"	interceptor		52"
#5	2"	?		42"
#6				

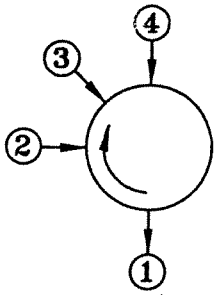
GENERAL CONDITION OF M.H/C.B.: ☐ GOOD ☒ FAIR ☐ POOR

COMMENTS: PID = 0.0

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Harrison Dayton RFI
M.H./C.B. NO.: ~~CB32~~ MH56

PROJECT LOCATION: Dayton OH
PROJECT NO.: 12638-04-0020

M.H./C.B. LOCATION: ~~P+H St.~~ Amelia St
DATE: 4/10/02

☐ INSIDE FACILITY ☑ OUTSIDE FACILITY

TYPE OF FRAME: ☑ SQUARE ☑ CIRCULAR
TYPE OF LID: ☑ VENTED ☐ SOLID

MARKINGS ON LID: none

CONDITION OF FRAME: ☐ GOOD ☑ FAIR ☐ POOR
CONDITION OF LID: ☐ GOOD ☑ FAIR ☐ POOR

FRAME OPENING DIMENSION: 25"

RUNGS INSTALLED: ☐ YES ☑ NO
RUNG CONDITION: ☐ GOOD ☐ FAIR ☐ POOR

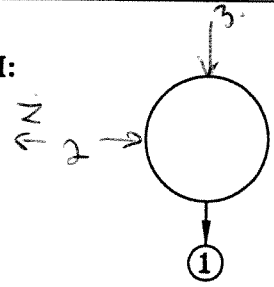
	OUTGOING LINE: SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#1	12"	CB32		35"

	INCOMING LINE: SIZE:	FROM M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#2	4"	CB33		29"
#3	12"	?		35"
#4				
#5				
#6				

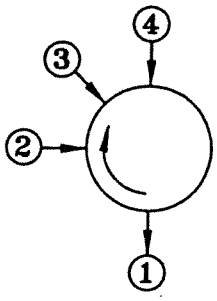
GENERAL CONDITION OF M.H/C.B.: ☐ GOOD ☐ FAIR ☐ POOR

COMMENTS: PID = 0.0 Appears to have had fire in MH/hd

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Harrison Dayton RF 1 — M.H./C.B. NO.: MH57.

PROJECT LOCATION: Dayton OH. — PROJECT NO.: 12638-04-0020.

M.H./C.B. LOCATION: ~~Rt 4 St~~ Amelia St. — DATE: 4/10/02

☐ INSIDE FACILITY ☑ OUTSIDE FACILITY

TYPE OF FRAME: ☐ SQUARE ☑ CIRCULAR

TYPE OF LID: ☑ VENTED ☐ SOLID

MARKINGS ON LID: none.

CONDITION OF FRAME: ☐ GOOD ☐ FAIR ☐ POOR

CONDITION OF LID: ☑ GOOD ☐ FAIR ☐ POOR

FRAME OPENING DIMENSION: 25".

RUNGS INSTALLED: ☑ YES ☐ NO

RUNG CONDITION: ☐ GOOD ☑ FAIR ☐ POOR

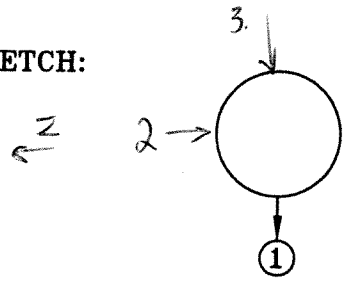
	OUTGOING LINE: SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#1	~~8~~ 24"	MH58		91" to sediment.

	INCOMING LINE: SIZE:	FROM M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#2	12"?	MH47		73" ~~base~~
#3	18"	MH55		92" to sediment.
#4				
#5				
#6				

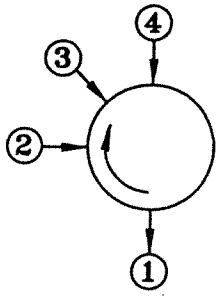
GENERAL CONDITION OF M.H/C.B.: ☐ GOOD ☑ FAIR ☐ POOR

COMMENTS: PID = 0.0.

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Hemson Dayton RFI
M.H./C.B. NO.: MH58
PROJECT LOCATION: Peyton DH.
PROJECT NO.: 12638-04-0028
M.H./C.B. LOCATION: ~~Pitt St~~ Amelia St.
DATE: 4/10/02

☐ INSIDE FACILITY ☑ OUTSIDE FACILITY

TYPE OF FRAME: ☐ SQUARE ☑ CIRCULAR
TYPE OF LID: ☑ VENTED ☐ SOLID

MARKINGS ON LID: none

CONDITION OF FRAME: ☐ GOOD ☑ FAIR ☐ POOR
CONDITION OF LID: ☐ GOOD ☑ FAIR ☑ POOR

FRAME OPENING DIMENSION: 24"

RUNGS INSTALLED: ☑ YES ☐ NO
RUNG CONDITION: ☐ GOOD ☐ FAIR ☑ POOR

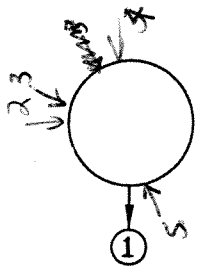
	OUTGOING LINE: SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#1	24"	MH 59		92"

	INCOMING LINE: SIZE:	FROM M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#2	10"	?		38"
#3	12"	CB 36		91.
#4	24"	MH 57		91"
#5	pipe broken, can't see size	?		34"
#6				

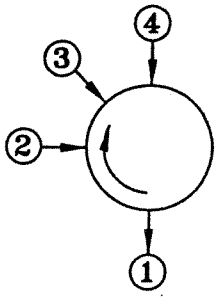
GENERAL CONDITION OF M.H/C.B.: ☐ GOOD ☑ FAIR ☐ POOR

COMMENTS: PID = 0.0.

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Harrison Dayton RFI
M.H./C.B. NO.: MH59
PROJECT LOCATION: Dayton OH.
PROJECT NO.: 12638-04-0020
M.H./C.B. LOCATION: PHS1. Amelia St.
DATE: 4/10/02

☐ INSIDE FACILITY ☑ OUTSIDE FACILITY

TYPE OF FRAME: ☐ SQUARE ☑ CIRCULAR
TYPE OF LID: ☑ VENTED ☐ SOLID

MARKINGS ON LID: none

CONDITION OF FRAME: ☐ GOOD ☑ FAIR ☐ POOR
CONDITION OF LID: ☑ GOOD ☐ FAIR ☐ POOR

FRAME OPENING DIMENSION: 26"

RUNGS INSTALLED: ☐ YES ☑ NO
RUNG CONDITION: ☐ GOOD ☐ FAIR ☐ POOR

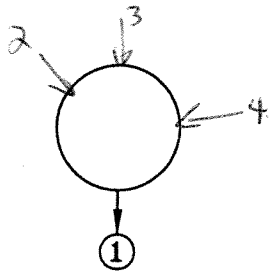
	OUTGOING LINE: SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#1	24"	MH 69		91"

	INCOMING LINE: SIZE:	FROM M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#2	12".	?		32"
#3	12"	MH 60		85"
#4	20"?	MH 58		890"
#5				
#6				

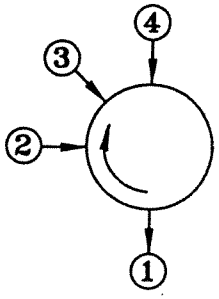
GENERAL CONDITION OF M.H/C.B.: ☐ GOOD ☑ FAIR ☐ POOR

COMMENTS: water pouring in through crack in concrete PID=0.0 Too high to be groundwater. Informed Frank.

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Hanson Dayton RFI
M.H./C.B. NO.: MH160
PROJECT LOCATION: Dayton OH.
PROJECT NO.: 12638-04-0020
M.H./C.B. LOCATION: ~~2nd St.~~ Ameast.
DATE: 4/10/02

☐ INSIDE FACILITY ☑ OUTSIDE FACILITY

TYPE OF FRAME: ☐ SQUARE ☑ CIRCULAR
TYPE OF LID: ☑ VENTED ☐ SOLID

MARKINGS ON LID: none

CONDITION OF FRAME: ☑ GOOD ☑ FAIR ☐ POOR
CONDITION OF LID: ☑ GOOD ☐ FAIR ☐ POOR

FRAME OPENING DIMENSION: 23"

RUNGS INSTALLED: ☑ YES ☐ NO
RUNG CONDITION: ☐ GOOD ☑ FAIR ☐ POOR

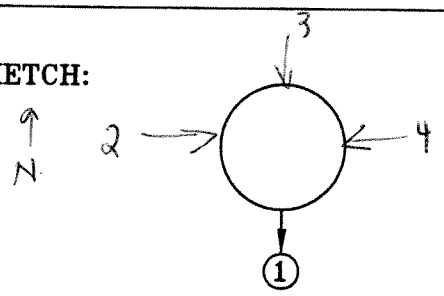
	OUTGOING LINE: SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#1	15"	MH ~~60~~ 59		95"

	INCOMING LINE: SIZE:	FROM M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#2	8"	CB40		32"
#3	15"	CB 39		94"
#4	8"	CB 37		44"
#5				
#6				

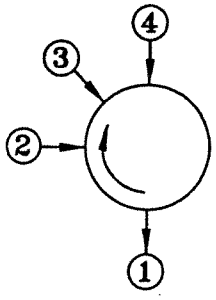
GENERAL CONDITION OF M.H/C.B.: ☑ GOOD ☑ FAIR ☐ POOR

COMMENTS: PID=0.0. Water trickling in from crack in concrete near bottom, pretty significant flow.

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Harrison Dayton RF1 M.H./C.B. NO.: MH61

PROJECT LOCATION: Dayton OH. PROJECT NO.: 1263

M.H./C.B. LOCATION: N of Bldg 10 DATE: 4/10/02

☐ INSIDE FACILITY ☑ OUTSIDE FACILITY

TYPE OF FRAME: ☐ SQUARE ☑ CIRCULAR

TYPE OF LID: ☑ VENTED ☐ SOLID

MARKINGS ON LID: none

CONDITION OF FRAME: ☑ GOOD ☐ FAIR ☐ POOR

CONDITION OF LID: ☑ GOOD ☐ FAIR ☐ POOR

FRAME OPENING DIMENSION: 26"

RUNGS INSTALLED: ☑ YES ☒ NO

RUNG CONDITION: ☑ GOOD ☐ FAIR ☐ POOR

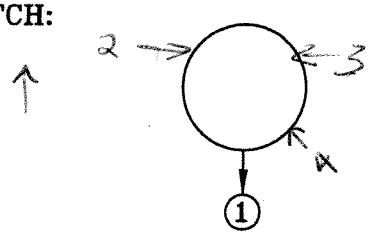
	OUTGOING LINE: SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#1	8"	MH40		59"

	INCOMING LINE: SIZE:	FROM M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#2	4"	?		54"
#3	~~8~~ 4"	?		58"
#4	6"	?		45"
#5				
#6				

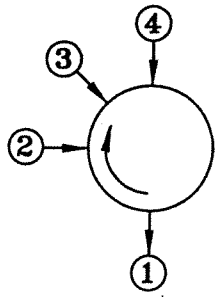
GENERAL CONDITION OF M.H/C.B.: ☑ GOOD ☐ FAIR ☐ POOR

COMMENTS: PID=0.0 no water, minimal sediment in bottom.

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Hanson Dayton RFI
M.H./C.B. NO.: MH62
PROJECT LOCATION: Dayton OH
PROJECT NO.: 12638-04-0020
M.H./C.B. LOCATION: N of Bldg 10.
DATE: Apr 10 02

☐ INSIDE FACILITY ☑ OUTSIDE FACILITY

TYPE OF FRAME: ☑ SQUARE ☐ CIRCULAR
TYPE OF LID: ☐ VENTED ☑ SOLID

MARKINGS ON LID: none

CONDITION OF FRAME: ☐ GOOD ☐ FAIR ☐ POOR
CONDITION OF LID: ☑ GOOD ☐ FAIR ☐ POOR

FRAME OPENING DIMENSION: 41"x42"

RUNGS INSTALLED: ☐ YES ☑ NO
RUNG CONDITION: ☐ GOOD ☐ FAIR ☐ POOR

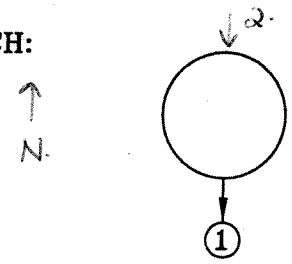
	OUTGOING LINE: SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#1	10"	MH.44		31"

	INCOMING LINE: SIZE:	FROM M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#2	4"			23"
#3				
#4				
#5				
#6				

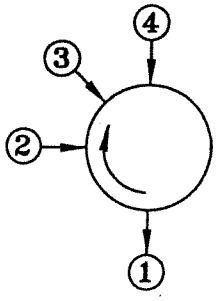
GENERAL CONDITION OF M.H/C.B.: ☐ GOOD ☑ FAIR ☐ POOR

COMMENTS: AD=0.0. Pipe #2 was filled with concrete and smaller pipe set in.

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Hemson Dayton RF1 M.H./C.B. NO.: MH63

PROJECT LOCATION: Dayton OH. PROJECT NO.: 12638-04-0020

M.H./C.B. LOCATION: E of ~~N~~ Bldg 4. Between Bldg 4 & 7. DATE: 4/10/02.

☐ INSIDE FACILITY ☐ OUTSIDE FACILITY

TYPE OF FRAME: ☑ SQUARE ☐ CIRCULAR

TYPE OF LID: ☐ VENTED ☑ SOLID

MARKINGS ON LID: none

CONDITION OF FRAME: ☐ GOOD ☑ FAIR ☐ POOR

CONDITION OF LID: ☐ GOOD ☑ FAIR ☐ POOR

FRAME OPENING DIMENSION: 19x27

RUNGS INSTALLED: ☐ YES ☑ NO

RUNG CONDITION: ☐ GOOD ☐ FAIR ☐ POOR

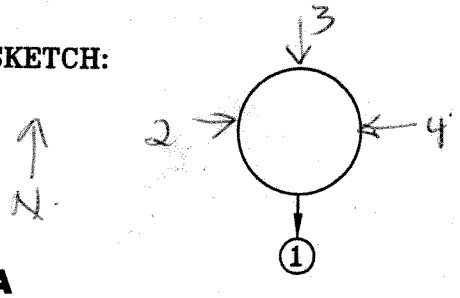
OUTGOING LINE:	SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#1	8"	CB44		30"

INCOMING LINE:	SIZE:	FROM M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#2	4"	Bldg 4.		23"
#3	~~4~~ 8"	CB43		~~25~~ 29"
#4	6"	?		28.
#5				
#6				

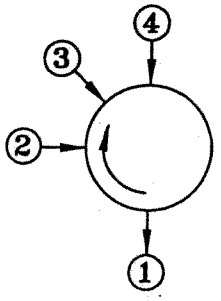
GENERAL CONDITION OF M.H/C.B.: ☐ GOOD ☑ FAIR ☐ POOR

COMMENTS: PID=0.0

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Delphi Harrison — M.H./C.B. NO.: MH64

PROJECT LOCATION: Dayton — PROJECT NO.: 12638-04-020

M.H./C.B. LOCATION: bldg 9 — DATE: 9/10/02

☒ INSIDE FACILITY ☐ OUTSIDE FACILITY

TYPE OF FRAME: ☒ SQUARE ☐ CIRCULAR

TYPE OF LID: ☐ VENTED ☒ SOLID

MARKINGS ON LID: Ø

CONDITION OF FRAME: ☒ GOOD ☐ FAIR ☐ POOR

CONDITION OF LID: ☒ GOOD ☐ FAIR ☐ POOR

FRAME OPENING DIMENSION: 24 x 36

RUNGS INSTALLED: ☐ YES ☒ NO

RUNG CONDITION: ☐ GOOD ☐ FAIR ☐ POOR

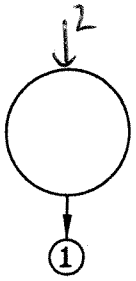
	OUTGOING LINE: SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#1	12"	MH60		55"

	INCOMING LINE: SIZE:	FROM M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#2	12"	MH65a		55"
#3				
#4				
#5				
#6				

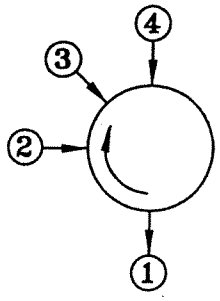
GENERAL CONDITION OF M.H/C.B.: ☒ GOOD ☐ FAIR ☐ POOR

COMMENTS: PID=0
between G41 + H41

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Dayton Harrison RFI
M.H./C.B. NO.: MH65a
PROJECT LOCATION: Dayton
PROJECT NO.: 12638-04-020
M.H./C.B. LOCATION: Bldg 9
DATE: 04/10/02

☒ INSIDE FACILITY ☐ OUTSIDE FACILITY

TYPE OF FRAME: ☒ SQUARE ☐ CIRCULAR
TYPE OF LID: ☐ VENTED ☒ SOLID
MARKINGS ON LID: Ø Ø

CONDITION OF FRAME: ☒ GOOD ☐ FAIR ☐ POOR
CONDITION OF LID: ☒ GOOD ☐ FAIR ☐ POOR

FRAME OPENING DIMENSION: 29 x 39

RUNGS INSTALLED: ☐ YES ☐ NO
RUNG CONDITION: ☐ GOOD ☐ FAIR ☐ POOR

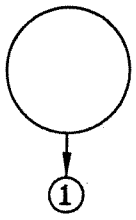
OUTGOING LINE:	SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#1	12"			47"

INCOMING LINE:	SIZE:	FROM M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#2				
#3				
#4				
#5				
#6				

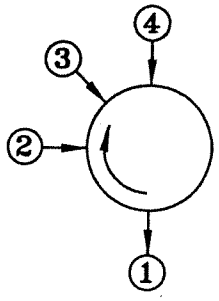
GENERAL CONDITION OF M.H/C.B.: ☐ GOOD ☐ FAIR ☐ POOR

COMMENTS: Cannot open cover → noted closed + bent crowbar. PID=0. Between S41 + T41

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Harrison Dayton PF1 M.H./C.B. NO.: MH65b

PROJECT LOCATION: Dayton OH PROJECT NO.: 12638-04-0020

M.H./C.B. LOCATION: Pitt St. DATE: 4/11/02.

☐ INSIDE FACILITY ☑ OUTSIDE FACILITY

TYPE OF FRAME:	☐ SQUARE	☑ CIRCULAR	
TYPE OF LID:	☑ VENTED	☐ SOLID	
MARKINGS ON LID:	none		
CONDITION OF FRAME:	☐ GOOD	☑ FAIR	☐ POOR
CONDITION OF LID:	☑ GOOD	☐ FAIR	☐ POOR
FRAME OPENING DIMENSION:	23"		
RUNGS INSTALLED:	☐ YES	☑ NO	
RUNG CONDITION:	☐ GOOD	☐ FAIR	☐ POOR

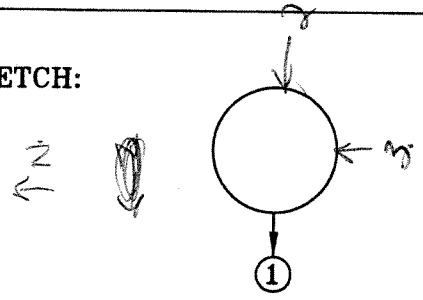
	SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
OUTGOING LINE: #1		MH25		101"

	SIZE:	FROM M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
INCOMING LINE: #2		MH65.		101"
#3	24	MH66.		64"
#4				
#5				
#6				

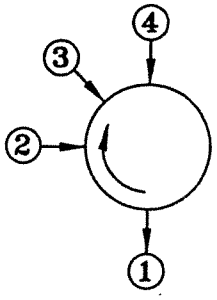
GENERAL CONDITION OF M.H/C.B.: ☑ GOOD ☐ FAIR ☐ POOR

COMMENTS: PID=0.0 Lines 1+2 can't see pipe size

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Harrison Dayton OH. M.H./C.B. NO.: MH166.

PROJECT LOCATION: Dayton. OH. PROJECT NO.: 12638-04-0020

M.H./C.B. LOCATION: Pitt St DATE: 4/11/02.

☐ INSIDE FACILITY ☑ OUTSIDE FACILITY

TYPE OF FRAME: ☐ SQUARE ☑ CIRCULAR

TYPE OF LID: ☑ VENTED ☐ SOLID

MARKINGS ON LID: none

CONDITION OF FRAME: ☑ GOOD ☐ FAIR ☐ POOR

CONDITION OF LID: ☑ GOOD ☐ FAIR ☐ POOR

FRAME OPENING DIMENSION: _____

RUNGS INSTALLED: ☑ YES ☐ NO

RUNG CONDITION: ☐ GOOD ☐ FAIR ☐ POOR

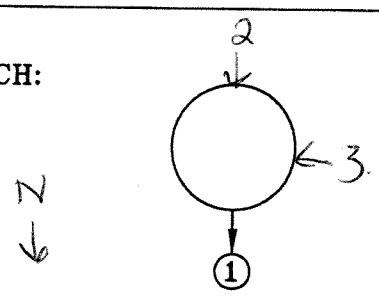
	OUTGOING LINE: SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#1	24"	~~nowher~~ MH 65b.		57"

	INCOMING LINE: SIZE:	FROM M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#2	24"	nowher		57"
#3	16.	nowher		49"
#4				
#5				
#6				

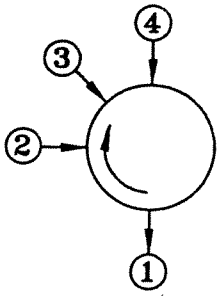
GENERAL CONDITION OF M.H/C.B.: ☑ GOOD ☐ FAIR ☐ POOR

COMMENTS: PID = 0.0

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Harrison Dayton RF 1 M.H./C.B. NO.: MH 67

PROJECT LOCATION: Dayton OH PROJECT NO.: 12638-04-0020

M.H./C.B. LOCATION: Pitt St. DATE: 4/11/02

☐ INSIDE FACILITY ☑ OUTSIDE FACILITY

TYPE OF FRAME: ☐ SQUARE ☑ CIRCULAR

TYPE OF LID: ☑ VENTED ☐ SOLID

MARKINGS ON LID: none

CONDITION OF FRAME: ☑ GOOD ☐ FAIR ☐ POOR

CONDITION OF LID: ☑ GOOD ☐ FAIR ☐ POOR

FRAME OPENING DIMENSION: 22"

RUNGS INSTALLED: ☑ YES ☐ NO

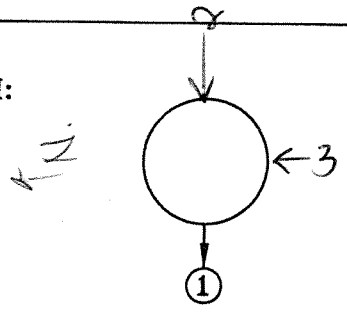
RUNG CONDITION: ☐ GOOD ☑ FAIR ☐ POOR

	SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
OUTGOING LINE: #1	?	MH 69		100
INCOMING LINE:	SIZE:	FROM M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#2	?	MH 65b		100
#3	16"	MH 68		43"
#4				
#5				
#6				

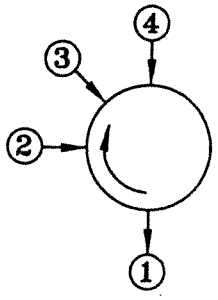
GENERAL CONDITION OF M.H/C.B.: ☑ GOOD ☐ FAIR ☐ POOR

COMMENTS: PID = 0.0 Open Channel at bottom

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Harrison Dayton RFI
M.H./C.B. NO.: MH68
PROJECT LOCATION: Dayton OH.
PROJECT NO.: 12638-04-0020
M.H./C.B. LOCATION: Pitt St.
DATE: 4/11/02

☐ INSIDE FACILITY ☑ OUTSIDE FACILITY

TYPE OF FRAME: ☐ SQUARE ☑ CIRCULAR
TYPE OF LID: ☑ VENTED ☐ SOLID

MARKINGS ON LID: none.

CONDITION OF FRAME: ☐ GOOD ☑ FAIR ☐ POOR
CONDITION OF LID: ☑ GOOD ☐ FAIR ☐ POOR

FRAME OPENING DIMENSION: 22"

RUNGS INSTALLED: ☐ YES ☑ NO
RUNG CONDITION: ☐ GOOD ☐ FAIR ☐ POOR

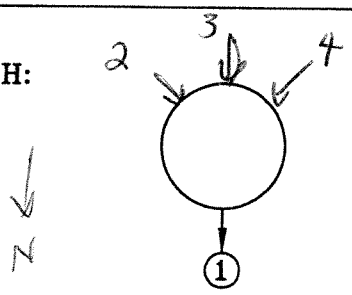
	OUTGOING LINE: SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#1	16"	MH67.		38"

	INCOMING LINE: SIZE:	FROM M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#2	10"	?		37"
#3	15"	?		36"
#4	12"	?		37"
#5				
#6				

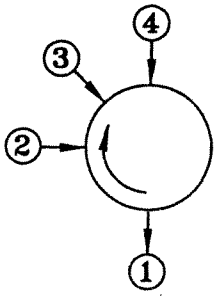
GENERAL CONDITION OF M.H/C.B.: ☐ GOOD ☐ FAIR ☐ POOR

COMMENTS: PID=0.0 No water

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Harrison Dayton RFI
M.H./C.B. NO.: MH69
PROJECT LOCATION: Dayton OH.
PROJECT NO.: 12638-04-0020
M.H./C.B. LOCATION: Pitt St.
DATE: 4/11/02

☐ INSIDE FACILITY ☑ OUTSIDE FACILITY

TYPE OF FRAME: ☐ SQUARE ☑ CIRCULAR
TYPE OF LID: ☑ VENTED ☐ SOLID

MARKINGS ON LID: none.

CONDITION OF FRAME: ☐ GOOD ☐ FAIR ☐ POOR
CONDITION OF LID: ☑ GOOD ☐ FAIR ☐ POOR

FRAME OPENING DIMENSION: 23"

RUNGS INSTALLED: ☐ YES ☑ NO
RUNG CONDITION: ☐ GOOD ☐ FAIR ☐ POOR

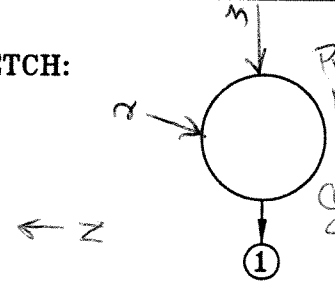
OUTGOING LINE: SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#1			

INCOMING LINE: SIZE:	FROM M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#2			
#3			
#4			
#5			
#6			

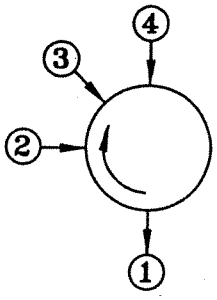
GENERAL CONDITION OF M.H/C.B.: ☐ GOOD ☐ FAIR ☐ POOR

COMMENTS: Can hear running water but think it is maybe trickling from cracks in concrete. MH to North had observed water coming in from sides above water table. W-041102-SLE-020

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Harrison Dayton RFI
M.H./C.B. NO.: MH70
PROJECT LOCATION: Dayton OH
PROJECT NO.: 12638-04-0020
M.H./C.B. LOCATION: Pitt St.
DATE: 4/11/02

☐ INSIDE FACILITY ☑ OUTSIDE FACILITY

TYPE OF FRAME: ☐ SQUARE ☑ CIRCULAR
TYPE OF LID: ☑ VENTED ☐ SOLID

MARKINGS ON LID: none

CONDITION OF FRAME: ☐ GOOD ☐ FAIR ☐ POOR
CONDITION OF LID: ☐ GOOD ☑ FAIR ☐ POOR

FRAME OPENING DIMENSION: 23"

RUNGS INSTALLED: ☐ YES ☑ NO
RUNG CONDITION: ☐ GOOD ☐ FAIR ☐ POOR

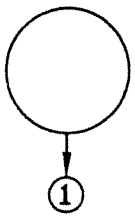
	OUTGOING LINE: SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#1				91"

	INCOMING LINE: SIZE:	FROM M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#2				
#3				
#4				
#5				
#6				

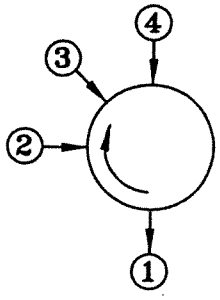
GENERAL CONDITION OF M.H/C.B.: ☐ GOOD ☐ FAIR ☐ POOR

COMMENTS: PID = 0.0. Stagnant water, slight sheen. Pipes not visible.

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Harrison Dayton
M.H./C.B. NO.: MH-11
PROJECT LOCATION: _____
PROJECT NO.: 12638-04-0020
M.H./C.B. LOCATION: Pitist
DATE: 4/11/02

☐ INSIDE FACILITY ☑ OUTSIDE FACILITY

TYPE OF FRAME: ☐ SQUARE ☑ CIRCULAR
TYPE OF LID: ☑ VENTED ☐ SOLID

MARKINGS ON LID: none

CONDITION OF FRAME: ☐ GOOD ☑ FAIR ☐ POOR
CONDITION OF LID: ☑ GOOD ☐ FAIR ☐ POOR

FRAME OPENING DIMENSION: 23"

RUNGS INSTALLED: ☑ YES ☐ NO
RUNG CONDITION: ☐ GOOD ☐ FAIR ☑ POOR

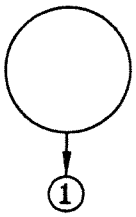
OUTGOING LINE: SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#1 _____	_____	_____	118 to bottom.

INCOMING LINE: SIZE:	FROM M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#2 _____	_____	_____	_____
#3 _____	_____	_____	_____
#4 _____	_____	_____	_____
#5 _____	_____	_____	_____
#6 _____	_____	_____	_____

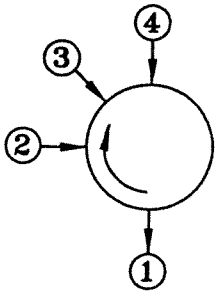
GENERAL CONDITION OF M.H/C.B.: ☐ GOOD ☑ FAIR ☐ POOR

COMMENTS: No pipes visible. PID = 0.0.

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Harrison Dayton RFI
M.H./C.B. NO.: MH72 / INT-10
PROJECT LOCATION: Dayton OH.
PROJECT NO.: 12638-04-00
M.H./C.B. LOCATION: W of Keowee
DATE: 4/11/02

☐ INSIDE FACILITY ☑ OUTSIDE FACILITY

TYPE OF FRAME: ☐ SQUARE ☑ CIRCULAR
TYPE OF LID: ☑ VENTED ☐ SOLID

MARKINGS ON LID: none

CONDITION OF FRAME: ☐ GOOD ☑ FAIR ☐ POOR
CONDITION OF LID: ☑ GOOD ☐ FAIR ☐ POOR

FRAME OPENING DIMENSION: 23"

RUNGS INSTALLED: ☐ YES ☑ NO
RUNG CONDITION: ☐ GOOD ☐ FAIR ☐ POOR

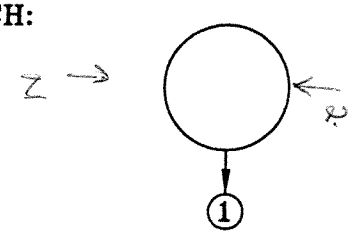
	OUTGOING LINE: SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#1	~~12~~ 12"	STM Sewer MH73	69"	~~68" to sediment~~

	INCOMING LINE: SIZE:	FROM M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#2	12"	~~MH72~~ ?	68"	~~70" to sediment~~
#3	~~broken, can't see size.~~ ?			~~70" to sedim~~
#4	~~Seems bigger than 12".~~			
#5				
#6				

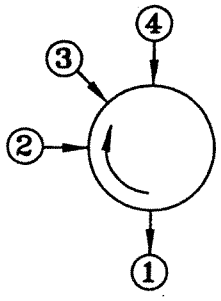
GENERAL CONDITION OF M.H/C.B.: ☐ GOOD ☑ FAIR ☐ POOR

COMMENTS: No water, sediment on bottom. PID = 0.0
SE-041102-SLE-014 Sampled water from upstream
10-041102-SLE-021 INT-10.

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Harrison Dayton RFI M.H./C.B. NO.: MH 73

PROJECT LOCATION: Dayton OH PROJECT NO.: _____

M.H./C.B. LOCATION: West Kewell DATE: _____

☐ INSIDE FACILITY ☒ OUTSIDE FACILITY

TYPE OF FRAME: ☐ SQUARE ☒ CIRCULAR

TYPE OF LID: ☒ VENTED ☒ ~~SOLID~~

MARKINGS ON LID: —

CONDITION OF FRAME: ☒ GOOD ☐ FAIR ☐ POOR

CONDITION OF LID: ☒ GOOD ☐ FAIR ☐ POOR

FRAME OPENING DIMENSION: 23"

RUNGS INSTALLED: ☐ YES ☒ NO

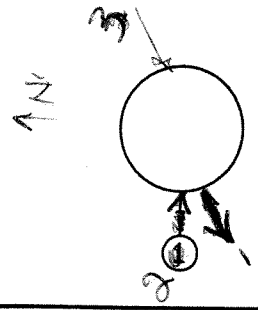
RUNG CONDITION: ☐ GOOD ☐ FAIR ☐ POOR

	SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
OUTGOING LINE: #1	~~12~~ 12"	MH 72 storm sewer		68" to sediment
INCOMING LINE:	SIZE:	FROM M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#2	12"	MH 72 ?		72" to sediment
#3	broken, can't see size			70" to sediment
#4				
#5				
#6				

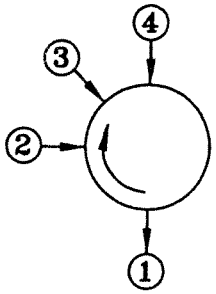
GENERAL CONDITION OF M.H/C.B.: ☐ GOOD ☒ FAIR ☐ POOR

COMMENTS: _____

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Harrison Dayton RFI M.H./C.B. NO.: MH74

PROJECT LOCATION: Dayton OH. PROJECT NO.: 12638-04-0020

M.H./C.B. LOCATION: Bldg 22 DATE: 4/12/02

☑ INSIDE FACILITY ☐ OUTSIDE FACILITY

TYPE OF FRAME: ☑ SQUARE ☐ CIRCULAR

TYPE OF LID: ☐ VENTED ☑ SOLID

MARKINGS ON LID: _____

CONDITION OF FRAME: ☐ GOOD ☐ FAIR ☐ POOR

CONDITION OF LID: ☐ GOOD ☐ FAIR ☐ POOR

FRAME OPENING DIMENSION: _____

RUNGS INSTALLED: ☐ YES ☐ NO

RUNG CONDITION: ☐ GOOD ☐ FAIR ☐ POOR

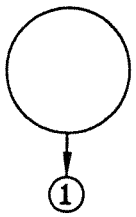
OUTGOING LINE: SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#1			

INCOMING LINE: SIZE:	FROM M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#2			
#3			
#4			
#5			
#6			

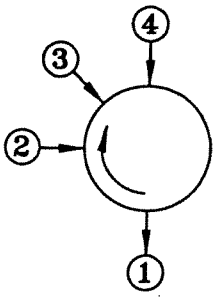
GENERAL CONDITION OF M.H/C.B.: ☐ GOOD ☐ FAIR ☐ POOR

COMMENTS: full of concrete

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Harrison Dayton RFI M.H./C.B. NO.: MH75

PROJECT LOCATION: Dayton OH. PROJECT NO.: 12638-04-0020

M.H./C.B. LOCATION: Bldg 3. DATE: 4/12/02

☑ INSIDE FACILITY ☐ OUTSIDE FACILITY

TYPE OF FRAME: ☐ SQUARE ☑ CIRCULAR

TYPE OF LID: ☑ VENTED ☐ SOLID

MARKINGS ON LID: none

CONDITION OF FRAME: ☐ GOOD ☑ FAIR ☐ POOR

CONDITION OF LID: ☑ GOOD ☐ FAIR ☐ POOR

FRAME OPENING DIMENSION: 22"

RUNGS INSTALLED: ☐ YES ☑ NO

RUNG CONDITION: ☐ GOOD ☐ FAIR ☐ POOR

	OUTGOING LINE: SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#1	≃12"	STM Sewer		56"

	INCOMING LINE: SIZE:	FROM M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#2	4"	?		45"
#3	4"	?		45"
#4	≃12"	CB-44		56"
#5				
#6				

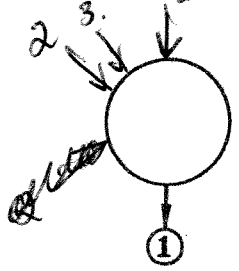
GENERAL CONDITION OF M.H/C.B.: ☐ GOOD ☐ FAIR ☐ POOR

COMMENTS: PID=0.0 Scum, Sheen, bubbles on standing water. Pipes 4+1 Mostly Submerged

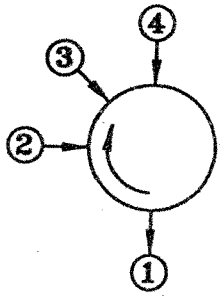
W-041202-SIE-025

No sediment.

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Harrison Dayton RFI M.H./C.B. NO.: MH76

PROJECT LOCATION: Dayton OH PROJECT NO.: 12638-04-0020

M.H./C.B. LOCATION: SoF Bldg 3 DATE: 4/12/02

☐ INSIDE FACILITY ☑ OUTSIDE FACILITY

TYPE OF FRAME: ☐ SQUARE ☑ CIRCULAR

TYPE OF LID: ☐ VENTED ☑ SOLID

MARKINGS ON LID: none

CONDITION OF FRAME: ☐ GOOD ☑ FAIR ☐ POOR

CONDITION OF LID: ☐ GOOD ☑ FAIR ☐ POOR

FRAME OPENING DIMENSION: ~~20~~ 23"

RUNGS INSTALLED: ☐ YES ☐ NO

RUNG CONDITION: ☐ GOOD ☐ FAIR ☐ POOR

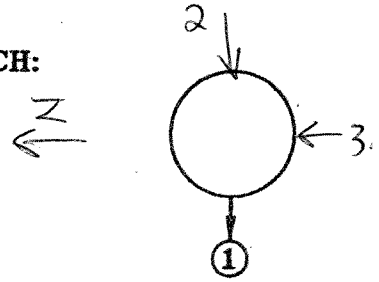
	OUTGOING LINE: SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#1	24"	CB 60		38"

	INCOMING LINE: SIZE:	FROM M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#2	12"	CB 61		38"
#3	6"	?		36"
#4				
#5				
#6				

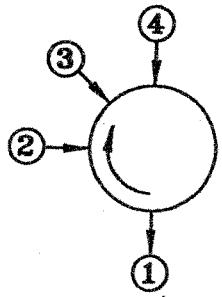
GENERAL CONDITION OF M.H/C.B.: ☐ GOOD ☐ FAIR ☐ POOR

COMMENTS: PID = 0.3

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Harrison Dayton RF1 M.H./C.B. NO.: MH77

PROJECT LOCATION: Dayton OH PROJECT NO.: 12638-04-0020

M.H./C.B. LOCATION: Bldg 7 DATE: 4/12/02

☒ INSIDE FACILITY ☐ OUTSIDE FACILITY

TYPE OF FRAME: ☒ SQUARE ☐ CIRCULAR

TYPE OF LID: ☐ VENTED ☒ SOLID

MARKINGS ON LID: none

CONDITION OF FRAME: ☐ GOOD ☐ FAIR ☒ POOR

CONDITION OF LID: ☐ GOOD ☐ FAIR ☒ POOR

FRAME OPENING DIMENSION: 26x27"

RUNGS INSTALLED: ☐ YES ☐ NO

RUNG CONDITION: ☐ GOOD ☐ FAIR ☐ POOR

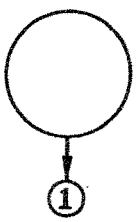
OUTGOING LINE: SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#1			

INCOMING LINE: SIZE:	FROM M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#2			
#3			
#4			
#5			
#6			

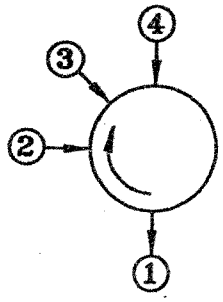
GENERAL CONDITION OF M.H/C.B.: ☐ GOOD ☐ FAIR ☒ POOR

COMMENTS: PID = 0.0. Standing water, looks backed up
Rust flakes + dust on water. Can't see pipes

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Hanson Dayton EFI M.H./C.B. NO.: MH78

PROJECT LOCATION: Dayton OH PROJECT NO.: 12638-04-0020

M.H./C.B. LOCATION: Bldg 7. DATE: 4/12/02.

☑ INSIDE FACILITY ☐ OUTSIDE FACILITY

TYPE OF FRAME: ☑ SQUARE ☐ CIRCULAR

TYPE OF LID: ☐ VENTED ☑ SOLID

MARKINGS ON LID: none

CONDITION OF FRAME: ☐ GOOD ☐ FAIR ☐ POOR

CONDITION OF LID: ☐ GOOD ☐ FAIR ☐ POOR

FRAME OPENING DIMENSION: 31x22.

RUNGS INSTALLED: ☐ YES ☐ NO

RUNG CONDITION: ☐ GOOD ☐ FAIR ☐ POOR

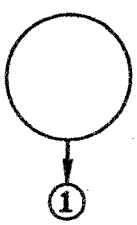
OUTGOING LINE: SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#1			

INCOMING LINE: SIZE:	FROM M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#2			
#3			
#4			
#5			
#6			

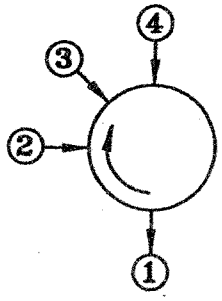
GENERAL CONDITION OF M.H/C.B.: ☐ GOOD ☐ FAIR ☐ POOR

COMMENTS: filled in.

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Harrison Dayton RFI M.H./C.B. NO.: MH79

PROJECT LOCATION: Dayton OH. PROJECT NO.: 12638-04-0020.

M.H./C.B. LOCATION: Bldg 7. DATE: 4/12/02

☑ INSIDE FACILITY ☐ OUTSIDE FACILITY

TYPE OF FRAME: ☑ SQUARE ☐ CIRCULAR

TYPE OF LID: ☐ VENTED ☑ SOLID

MARKINGS ON LID: none

CONDITION OF FRAME: ☐ GOOD ☑ FAIR ☐ POOR

CONDITION OF LID: ☐ GOOD ☑ FAIR ☐ POOR

FRAME OPENING DIMENSION: 30x36

RUNGS INSTALLED: ☐ YES ☑ NO

RUNG CONDITION: ☐ GOOD ☐ FAIR ☐ POOR

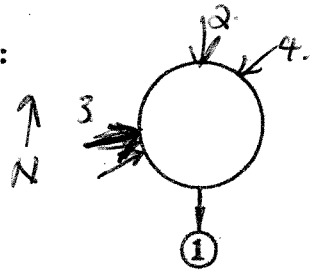
OUTGOING LINE: SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#1 12"			56"

INCOMING LINE: SIZE:	FROM M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#2 12"	MH66		56"
#3 8"	roofdrain		16"
#4 1"	?		9"
#5 6"	drain?		20"
#6			

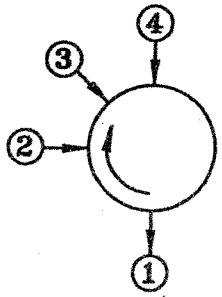
GENERAL CONDITION OF M.H/C.B.: ☐ GOOD ☐ FAIR ☐ POOR

COMMENTS: PID = 0.2

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Harrison Dayton RFI M.H./C.B. NO.: MH80.

PROJECT LOCATION: Dayton OH. PROJECT NO.: 12638-04-0020

M.H./C.B. LOCATION: Bldg 7. DATE: 4/12/02.

☑ INSIDE FACILITY ☐ OUTSIDE FACILITY

TYPE OF FRAME: ☑ SQUARE ☐ CIRCULAR

TYPE OF LID: ☐ VENTED ☑ SOLID

MARKINGS ON LID: none

CONDITION OF FRAME: ☐ GOOD ☑ FAIR ☐ POOR

CONDITION OF LID: ☑ GOOD ☐ FAIR ☐ POOR

FRAME OPENING DIMENSION: 24"x24"

RUNGS INSTALLED: ☐ YES ☑ NO

RUNG CONDITION: ☐ GOOD ☐ FAIR ☐ POOR

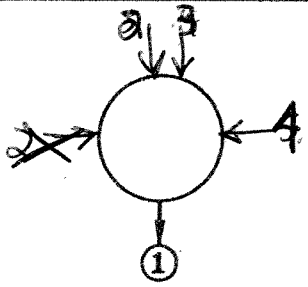
	OUTGOING LINE: SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#1	12"	MH133.		83"

	INCOMING LINE: SIZE:	FROM M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#2	12"	abandoned		83"
#3	8"	?		71"
#4	6"	roofdrain		35"
#5		~~roofdrain~~		
#6				

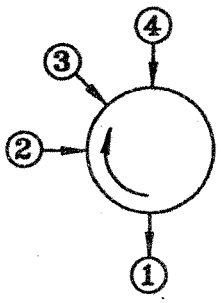
GENERAL CONDITION OF M.H/C.B.: ☐ GOOD ☐ FAIR ☐ POOR

COMMENTS: Pipe 3 is in bad shape, crusty not covered. PIB=0.5

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

MANHOLE/CATCHBASIN INSPECTION LOG

PROJECT NAME: Harrison Dayton RFI M.H./C.B. NO.: MH81

PROJECT LOCATION: Dayton Ott. PROJECT NO.: 12638-04-0020

M.H./C.B. LOCATION: Bldg 7- DATE: 4/12/02

☒ INSIDE FACILITY ☐ OUTSIDE FACILITY

TYPE OF FRAME: ☒ SQUARE ☐ CIRCULAR

TYPE OF LID: ☐ VENTED ☒ SOLID

MARKINGS ON LID: _____

CONDITION OF FRAME: ☐ GOOD ☐ FAIR ☐ POOR

CONDITION OF LID: ☐ GOOD ☐ FAIR ☐ POOR

FRAME OPENING DIMENSION: _____

RUNGS INSTALLED: ☐ YES ☐ NO

RUNG CONDITION: ☐ GOOD ☐ FAIR ☐ POOR

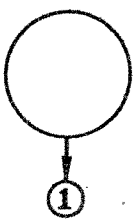
OUTGOING LINE: SIZE:	TO M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#1			

INCOMING LINE: SIZE:	FROM M.H./C.B. # OR DESIGNATION	DISTANCE	INVERT DEPTH
#2			
#3			
#4			
#5			
#6			

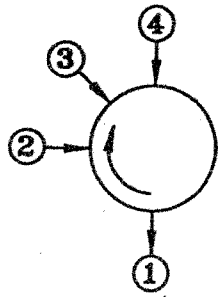
GENERAL CONDITION OF M.H/C.B.: ☐ GOOD ☐ FAIR ☐ POOR

COMMENTS: Post through lid so can't open.

SKETCH:



EXAMPLE: NUMBER INCOMING LINES AS SHOWN. DRAWN IN RELATIONSHIP TO OUTGOING LINE AS SHOWN IN DIAGRAM.



CRA

HALEY & ALDRICH

OBSERVATION WELL REPORT

Well No. OW-1

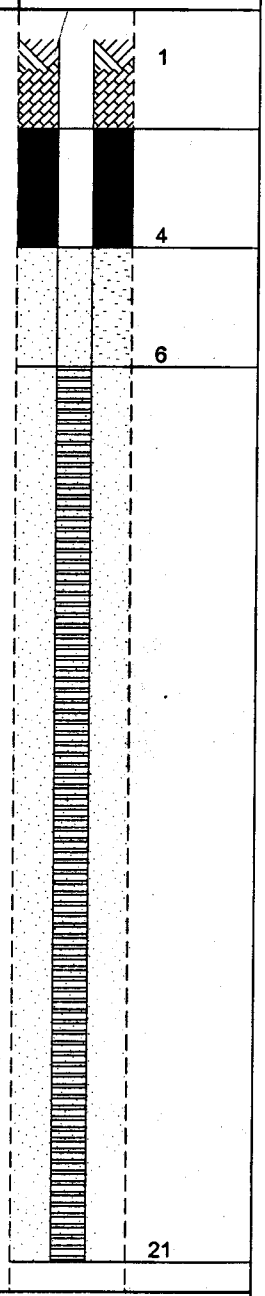
Project: Former Delphi Harrison Thermal Systems
Location: Dayton, OH
Client: REALM
Contractor: Bucksar Environmental Drilling, Co. Driller: Darby
Rig Type: Truck mounted HSA
H&A Rep: Tom Vanage
Installation Date: 10/14/02 - 10/14/02

File No.: 79032-102
Location:

Top of Protective Casing: ft.
Top of Riser: ft.
Ground Surface: ft.
Survey Datum:

SUMMARY OF SOIL/ROCK CONDITIONS

SUMMARY OF WELL CONSTRUCTION MATERIALS



(NOT TO SCALE)

(NUMBERS REFER TO DEPTH FROM GROUND SURFACE IN FEET)

REMARKS:

SUMMARY OF WELL INSTALLATION SPECIFICATIONS

BOREHOLE
Diameter: 10 in.

SURFACE COMPLETION
Type: Flush mount
Top (DBGS): 0 ft.

PROTECTIVE CASING
Type: Road box well cover
Diameter: 10 in.
Top (DBGS): 0 ft.
Length: 1 ft.

SURFACE SEAL
Type: Concrete
Top: 0.5 ft.
Length: 0.5 ft.

RISER
Type: Schedule 40 PVC
Diameter: 2 in.
Top (DBGS) 0 ft.
Length: 6. ft.
Coupling Type: Threaded

RISER BACKFILL
Type: Bentonite/Cement Grout
Top: 1 ft.
Length: 1 ft.

SANDPACK SEAL
Type: Bentonite
Top: 2 ft.
Length: 2 ft.

SANDPACK
Type: Quartz Sand #5
Top: 4 ft.
Length: 17 ft.

SCREEN
Type: PVC
Diameter: 2 in.
Slot Size: 10 slot in.
Top (DBGS): 6 ft.
Length: 15 ft.

BOTTOM OF BOREHOLE: 21.5 ft.

DBGS - Depth Below Ground Surface

Well No. OW-1

HALEY & ALDRICH

TEST BORING REPORT

Boring No. OW-1A

Project Former Delphi Harrison Thermal Systems - Dayton, Ohio
Client REALM/GM
Contractor Boart Longyear

File No. 79032-110
Sheet No. 1 of 2
Start October 13, 2004
Finish October 14, 2004
Driller D. Remmler and M. Doan
H&A Rep. G. Laird
Elevation
Datum
Location The levy between OW-1 and OW-2

	Casing	Sampler	Barrel	Drilling Equipment and Procedures
Type	-	S	-	Rig Make & Model: Dietrich D-50
Inside Diameter (in.)	6.25	2	-	Bit Type: Cutting Head
Hammer Weight (lb.)	-	140	-	Drill Mud: None
Hammer Fall (in.)	-	30	-	Casing: -
				Hoist/Hammer: - -

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)	Blow Counts	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
0	0	S1 16	0.0 2.0	9 8 23 27	SM	Medium dense, olive-brown, SILTY SAND (SM), with gravel, mps: 6 mm, no odor, moist, FILL		30	10	10	10	40	R	L	L	-
	0	S2 21	2.0 4.0	14 22 75 58	SM	similar to above, except dense										
5		S3 5	4.0 6.0	96 135/4"												
		S4 14	6.0 8.0	28 22 27 33												
		S5 6	8.0 10.0	28 46 60 71												
10		S6 4	10.0 12.0	23 27 47 44												
	0	S7 3	12.0 14.0	33 37 48 44	SM	similar to above, becoming wet										
15		S8 2	14.0 16.0	125/3"												
	65	S9 7	16.0 18.0	33 37 45 52	GW	Dense, gray-brown, well-graded GRAVEL (GW) with sand, mps= 51 mm, organic odor (possibly diesel fuel smell), wet, river deposits Water present at 16 Feet.	50	30	10	10						
	12	S10 13	18.0 20.0	40 28 120 86	GW	Similar as above										
20																

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth (ft.) to: Bottom of Casing	Bottom of Hole	Water
				21	

Sample Identification
O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon
G Geoprobe

Well Diagram
Riser Pipe
Screen
Filter Sand
Cuttings
Grout
Concrete
Bentonite Seal

Summary
Overburden (lin. ft.) 21
Rock Cored (lin. ft.) -
Samples 11
Boring No. OW-1A

Field Tests: Dilatancy: R-Rapid, S-Slow, N-None
Toughness: L-Low, M-Medium, H-High
Plasticity: N-Nonplastic, L-Low, M-Medium, H-High
Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High

*Maximum particle size (mm) is determined by direct observation within the limitations of sampler size (in millimeters).

Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

NEW USCSLIB3_DTR.GLB DELPHI.GDT G:\PROJECTS\79032\HARRISON\-110ST-1\GINT\BORINGLOGS.GPJ Dec 14, 04

HALEY & ALDRICH

TEST BORING REPORT

Boring No. OW-1A
File No. 79032-110
Sheet No. 2 of 2

Depth (ft.)	PID (PPM)	Sample No. & Rec. (in.)	Sample Depth (ft.)		Blow Counts	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size**, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel % Coarse	Gravel % Fine	Sand % Coarse	Sand % Medium	Sand % Fine	% Fines	Field Test Dilatancy	Field Test Toughness	Field Test Plasticity	Field Test Strength
20	8	S11 10	20.0 21.0		127 145	GW	Similar as above										
							Bottom of Well Set at 21 Feet										

*SPT = Sampler blows per 6 in. **Maximum particle size (mm) is determined by direct observation within the limitations of sampler

NOTE: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.

Boring No. OW-1A

HALEY & ALDRICH

OBSERVATION WELL REPORT

Well No. OW-2

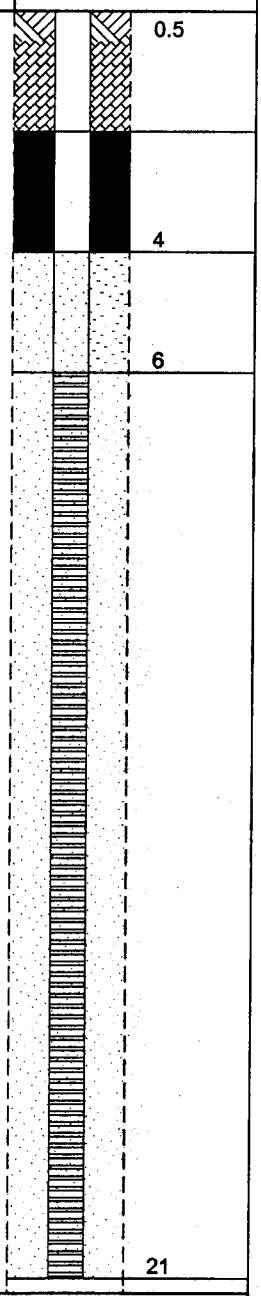
Project: Former Delphi Harrison Thermal Systems
Location: Dayton, OH
Client: REALM
Contractor: Bucksar Environmental Drilling, Co. Driller: Darby
Rig Type: Truck mounted HSA
H&A Rep: Tom Vanage
Installation Date: 10/14/02 - 10/14/02

File No.: 79032-102
Location:

Top of Protective Casing: ft.
Top of Riser: ft.
Ground Surface: ft.
Survey Datum:

SUMMARY OF SOIL/ROCK CONDITIONS

SUMMARY OF WELL CONSTRUCTION MATERIALS



(NOT TO SCALE)

(NUMBERS REFER TO DEPTH FROM GROUND SURFACE IN FEET)

REMARKS:

SUMMARY OF WELL INSTALLATION SPECIFICATIONS

BOREHOLE
Diameter: 10 in.

SURFACE COMPLETION
Type: Flush mount
Top (DBGS): 0 ft.

PROTECTIVE CASING
Type: Road box well cover
Diameter: 10 in.
Top (DBGS): 0 ft.
Length: 1 ft.

SURFACE SEAL
Type: concrete
Top: 0 ft.
Length: .5 ft.

RISER
Type: Schedule 40 PVC
Diameter: 2 in.
Top (DBGS) 0 ft.
Length: 6. ft.
Coupling Type: Threaded

RISER BACKFILL
Type: Bentonite, Grout
Top: .5 ft.
Length: 1.5 ft.

SANDPACK SEAL
Type: Bentonite
Top: 2 ft.
Length: 2 ft.

SANDPACK
Type: Quartz Sand #5
Top: 4 ft.
Length: 17 ft.

SCREEN
Type: PVC
Diameter: 2 in.
Slot Size: 10 slot in.
Top (DBGS): 6 ft.
Length: 15 ft.

BOTTOM OF BOREHOLE: 21.25 ft.

DBGS - Depth Below Ground Surface

Well No. OW-2

HALEY & ALDRICH

OBSERVATION WELL REPORT

Well No. OW-3

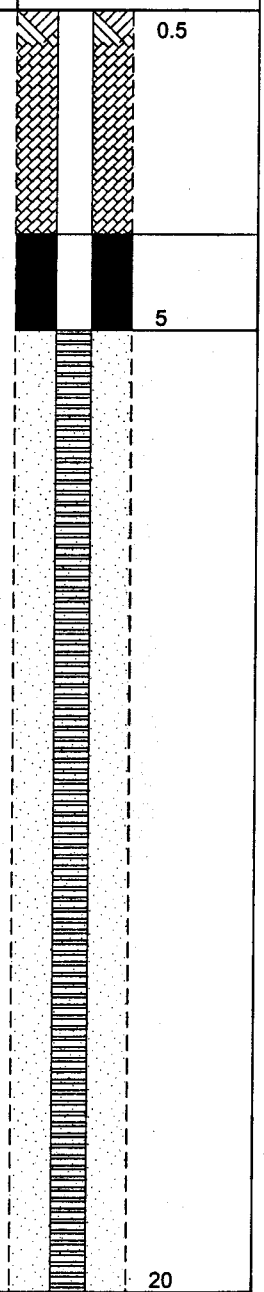
Project: Former Delphi Harrison Thermal Systems
Location: Dayton, OH
Client: REALM
Contractor: Bucksar Environmental Drilling, Co. Driller: Jim Bucksar
Rig Type: Truck mounted HSA
H&A Rep: Tom Vanage
Installation Date: 10/15/02 - 10/15/02

File No.: 79032-102
Location:

Top of Protective Casing: ft.
Top of Riser: ft.
Ground Surface: ft.
Survey Datum:

SUMMARY OF SOIL/ROCK CONDITIONS

SUMMARY OF WELL CONSTRUCTION MATERIALS



(NOT TO SCALE)

(NUMBERS REFER TO DEPTH FROM GROUND SURFACE IN FEET)

REMARKS:

SUMMARY OF WELL INSTALLATION SPECIFICATIONS

BOREHOLE
Diameter: 10 in.

SURFACE COMPLETION
Type: Flush mount
Top (DBGS): 0 ft.

PROTECTIVE CASING
Type: Road box well cover
Diameter: 10 in.
Top (DBGS): 0 ft.
Length: 1 ft.

SURFACE SEAL
Type: concrete
Top: 0 ft.
Length: .5 ft.

RISER
Type: Schedule 40 PVC
Diameter: 2 in.
Top (DBGS) 0 ft.
Length: 5. ft.
Coupling Type: Threaded

RISER BACKFILL
Type: Bentonite, Grout
Top: .5 ft.
Length: 3 ft.

SANDPACK SEAL
Type: Bentonite
Top: 3.5 ft.
Length: 1.5 ft.

SANDPACK
Type: Quartz Sand #5
Top: 5 ft.
Length: 15 ft.

SCREEN
Type: PVC
Diameter: 2 in.
Slot Size: 10 slot in.
Top (DBGS): 5 ft.
Length: 15 ft.

BOTTOM OF BOREHOLE: 20 ft.

DBGS - Depth Below Ground Surface

Well No. OW-3

HALEY & ALDRICH

OBSERVATION WELL REPORT

Well No. OW-4

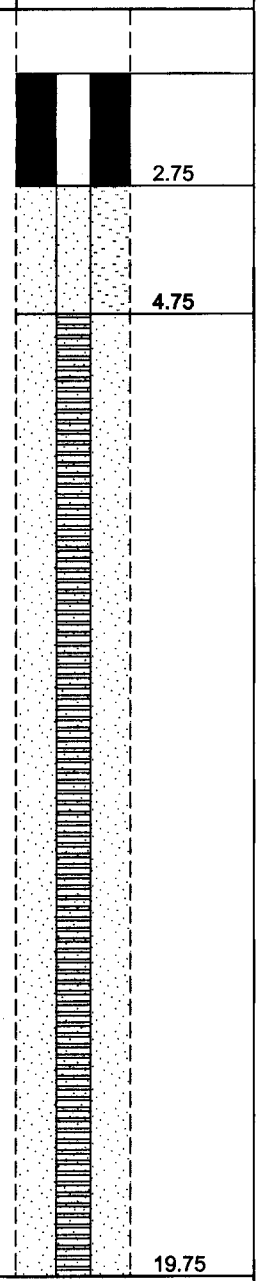
Project:	Former Delphi Harrison Thermal Systems		
Location:	Dayton, OH		
Client:	REALM		
Contractor:	Bucksar Environmental Drilling, Co.	**Driller:**	Jim Bucksar
Rig Type:	Truck mounted HSA		
H&A Rep:	Tom Vanage		
Installation Date:	10/15/02 - 10/15/02		

File No.: 79032-102
Location:

Top of Protective Casing: ft.
Top of Riser: ft.
Ground Surface: ft.
Survey Datum:

SUMMARY OF SOIL/ROCK CONDITIONS

SUMMARY OF WELL CONSTRUCTION MATERIALS



(NOT TO SCALE)

(NUMBERS REFER TO DEPTH FROM GROUND SURFACE IN FEET)

REMARKS:

SUMMARY OF WELL INSTALLATION SPECIFICATIONS

BOREHOLE
Diameter: 10 in.

SURFACE COMPLETION
Type: Flush mount
Top (DBGS): 0 ft.

PROTECTIVE CASING
Type: Road box well cover
Diameter: 10 in.
Top (DBGS): 0 ft.
Length: 1 ft.

SURFACE SEAL
Type: concrete
Top: 0 ft.
Length: 1 ft.

RISER
Type: Schedule 40 PVC
Diameter: 2 in.
Top (DBGS) 0 ft.
Length: 4.8 ft.
Coupling Type: Threaded

RISER BACKFILL
Type: -
Top: - ft.
Length: - ft.

SANDPACK SEAL
Type: Bentonite
Top: 1 ft.
Length: 1.75 ft.

SANDPACK
Type: Quartz Sand #5
Top: 2.75 ft.
Length: 17 ft.

SCREEN
Type: PVC
Diameter: 2 in.
Slot Size: 10 slot in.
Top (DBGS): 4.75 ft.
Length: 15 ft.

BOTTOM OF BOREHOLE: 19.75 ft.

DBGS - Depth Below Ground Surface

Well No. OW-4

HALEY & ALDRICH

OBSERVATION WELL REPORT

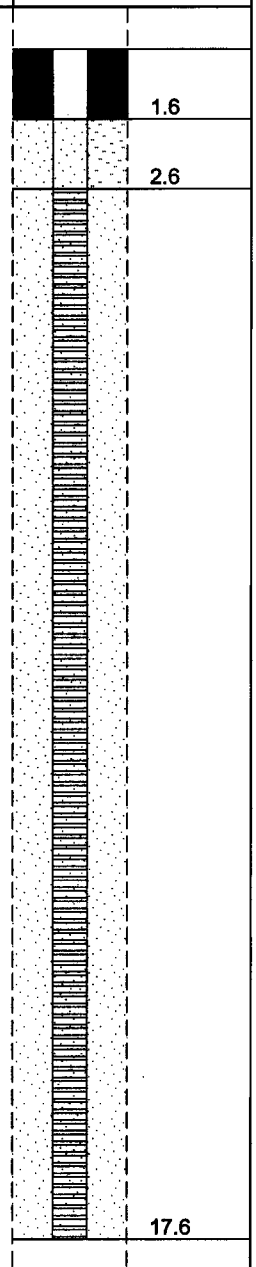
Well No. OW-5

Project:	Former Delphi Harrison Thermal Systems		
Location:	Dayton, OH		
Client:	REALM		
Contractor:	Bucksar Environmental Drilling, Co.	**Driller:**	Jim Bucksar
Rig Type:	Truck mounted HSA		
H&A Rep:	Tom Vanage		
Installation Date:	10/15/02 - 10/15/02		

File No.: 79032-102
Location:

Top of Protective Casing: ft.
Top of Riser: ft.
Ground Surface: ft.
Survey Datum:

SUMMARY OF SOIL/ROCK CONDITIONS



(NOT TO SCALE)

(NUMBERS REFER TO DEPTH FROM GROUND SURFACE IN FEET)

REMARKS:

SUMMARY OF WELL CONSTRUCTION MATERIALS

SUMMARY OF WELL INSTALLATION SPECIFICATIONS

BOREHOLE
Diameter: 10 in.

SURFACE COMPLETION
Type: Flush mount
Top (DBGS): 0 ft.

PROTECTIVE CASING
Type: Road box well cover
Diameter: 10 in.
Top (DBGS): 0 ft.
Length: 1 ft.

SURFACE SEAL
Type: concrete
Top: 0 ft.
Length: .5 ft.

RISER
Type: Schedule 40 PVC
Diameter: 2 in.
Top (DBGS) 0 ft.
Length: 2.6 ft.
Coupling Type: Threaded

RISER BACKFILL
Type: -
Top: - ft.
Length: - ft.

SANDPACK SEAL
Type: Bentonite
Top: .6 ft.
Length: 1 ft.

SANDPACK
Type: Quartz Sand #5
Top: 1.6 ft.
Length: 16 ft.

SCREEN
Type: PVC
Diameter: 2 in.
Slot Size: 10 slot in.
Top (DBGS): 2.6 ft.
Length: 15 ft.

BOTTOM OF BOREHOLE: 18.1 ft.

DBGS - Depth Below Ground Surface

Well No. OW-5

HALEY & ALDRICH

OBSERVATION WELL REPORT

Well No. OW-6

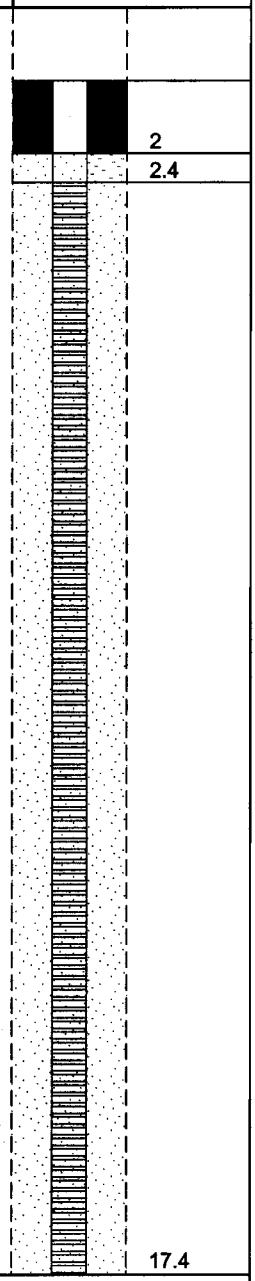
Project:	Former Delphi Harrison Thermal Systems		
Location:	Dayton, OH		
Client:	REALM		
Contractor:	Bucksar Environmental Drilling, Co.	**Driller:**	Jim Bucksar
Rig Type:	Truck mounted HSA		
H&A Rep:	Tom Vanage		
Installation Date:	10/16/02 - 10/16/02		

File No.: 79032-102
Location:

Top of Protective Casing: ft.
Top of Riser: ft.
Ground Surface: ft.
Survey Datum:

SUMMARY OF SOIL/ROCK CONDITIONS

SUMMARY OF WELL CONSTRUCTION MATERIALS



(NOT TO SCALE)

(NUMBERS REFER TO DEPTH FROM GROUND SURFACE IN FEET)

REMARKS:

SUMMARY OF WELL INSTALLATION SPECIFICATIONS

BOREHOLE
Diameter: 10 in.

SURFACE COMPLETION
Type: Flush mount
Top (DBGS): 0 ft.

PROTECTIVE CASING
Type: Road box well cover
Diameter: 10 in.
Top (DBGS): 0 ft.
Length: 1 ft.

SURFACE SEAL
Type: concrete
Top: 0 ft.
Length: 1 ft.

RISER
Type: Schedule 40 PVC
Diameter: 2 in.
Top (DBGS) 0 ft.
Length: 2.4 ft.
Coupling Type: Threaded

RISER BACKFILL
Type: -
Top: - ft.
Length: - ft.

SANDPACK SEAL
Type: Bentonite
Top: 1 ft.
Length: 1 ft.

SANDPACK
Type: Quartz Sand #5
Top: 2 ft.
Length: 15.4 ft.

SCREEN
Type: PVC
Diameter: 2 in.
Slot Size: 10 slot in.
Top (DBGS): 2.4 ft.
Length: 15 ft.

BOTTOM OF BOREHOLE: 17.4 ft.

DBGS - Depth Below Ground Surface

Well No. OW-6

HALEY & ALDRICH

OBSERVATION WELL REPORT

Well No. OW-7

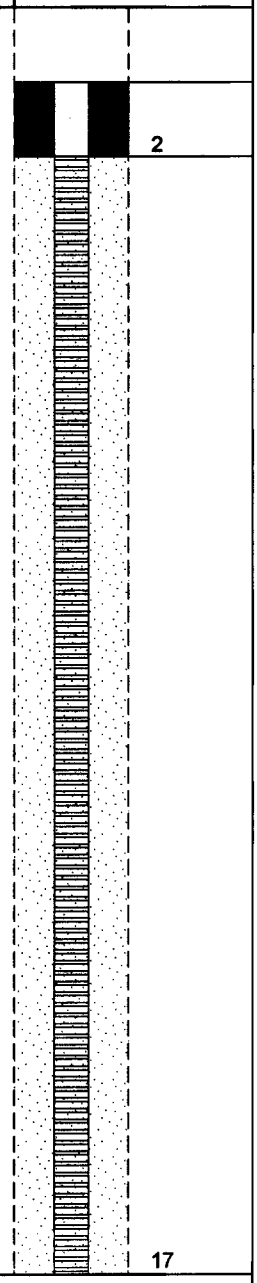
Project:	Former Delphi Harrison Thermal Systems		
Location:	Dayton, OH		
Client:	REALM		
Contractor:	Bucksar Environmental Drilling, Co.	**Driller:**	Jim Bucksar
Rig Type:	Truck mounted HSA		
H&A Rep:	Tom Vanage		
Installation Date:	10/16/02 - 10/16/02		

File No.: 79032-102
Location:

Top of Protective Casing: ft.
Top of Riser: ft.
Ground Surface: ft.
Survey Datum:

SUMMARY OF SOIL/ROCK CONDITIONS

SUMMARY OF WELL CONSTRUCTION MATERIALS



(NOT TO SCALE)

(NUMBERS REFER TO DEPTH FROM GROUND SURFACE IN FEET)

REMARKS:

SUMMARY OF WELL INSTALLATION SPECIFICATIONS

BOREHOLE
Diameter: 10 in.

SURFACE COMPLETION
Type: Flush mount
Top (DBGS): 0 ft.

PROTECTIVE CASING
Type: Road box well cover
Diameter: 10 in.
Top (DBGS): 0 ft.
Length: 1 ft.

SURFACE SEAL
Type: concrete
Top: 0 ft.
Length: 1 ft.

RISER
Type: Schedule 40 PVC
Diameter: 2 in.
Top (DBGS) 0 ft.
Length: 2. ft.
Coupling Type: Threaded

RISER BACKFILL
Type: -
Top: - ft.
Length: - ft.

SANDPACK SEAL
Type: Bentonite
Top: 1 ft.
Length: 1 ft.

SANDPACK
Type: Quartz Sand #5
Top: 2 ft.
Length: 15 ft.

SCREEN
Type: PVC
Diameter: 2 in.
Slot Size: 10 slot in.
Top (DBGS): 2 ft.
Length: 15 ft.

BOTTOM OF BOREHOLE: 17 ft.

DBGS - Depth Below Ground Surface

Well No. OW-7

WESTON SOLUTIONS, INC. **Drilling/Lithologic Log** PAGE 1 OF 1

Job Name	Tech Town PCB/UST Inv.	**Boring No.**	SB109RE	**Groundwater Levels**	
Job No.	12473.005.007.1000.40	**Well Type**	N/A	**Date**	**Depth**
Date Drilled	5/12/2011	**Drilling Method**	Direct Push		
Drilling Co.	Fore Testing & Drilling	**Completion Depth**	12.0 (ft bgs)		
Drill Foreman	Bob Bennett	**Location**			
Logged By	Michael Blair	**Drill Rig Type**	Geoprobe		

Depth ft BGS	Sample Time	Sample Blow Counts (per 6 in.)	% Rec.	Visual Description	FID/OVA HEATED HEADSPACE
2	938	TT-SB109RE-02-051211	100	Mottled brown & orange silty sand with trace gravel/brick. Material is soft, moist.	
4	943	TT-SB109RE-04-051211	100	Brown & gray silty clay with trace sand/gravel. Material is soft, moist.	
6	948	TT-SB109RE-06-051211	75	Note: Material changes to brown silty sand starting @ 7.0'.	
8	953	TT-SB109RE-08-051211 TT-SB109RE-08-051211DP	75		
10			50	Gravel (0.5" size) with trace sand. Material is loose and wet (saturated).	
12	1006	TT-T15-SB109RE-12-051211	50	Note: Sand content increases starting @ 10.0'.	
14				Boring terminated @ 12.0'	
16					
18					

WESTON SOLUTIONS, INC. **Drilling/Lithologic Log** PAGE 1 OF 1

Job Name	Tech Town PCB/UST Inv.	Boring No.	SB216	Groundwater Levels	
Job No.	12473.005.007.1000.40	Well Type	N/A	Date	Depth
Date Drilled	5/11/2011	Drilling Method	Direct Push		
Drilling Co.	Fore Testing & Drilling	Completion Depth	12.0 (ft bgs)		
Drill Foreman	Bob Bennett	Location			
Logged By	Michael Blair	Drill Rig Type	Geoprobe		

Depth ft BGS	Sample Time	Sample Blow Counts (per 6 in.)	% Rec.	Visual Description	FID/OVA HEATED HEADSPACE
2	1325	TT-T15-SB216-02-051111 & TT-T15-SB216-02-051111DP	100	Brown silty clay with trace sand. Material is very soft, moist.	0
4	1327	TT-T15-SB216-04-051111	100	Brown clay with medium grained sand (located in 1/4" seams). Material is very soft, moist	0
6	1331	TT-T15-SB216-06-051111	50		0
8	1333	TT-T15-SB216-08-051111	100	Brown medium-grained sand (with presence of broken shells). Material is moist, loose. Note: color changes to light gray @ 6.0'.	12
10	1340	TT-T15-SB216-10-051111	50	Gray coarse grained sand & gravel. Material is loose and saturated.	0
12	1345	TT-T15-SB216-012-05111	50	Note: Material grades to large angular cobbles & gravel with some medium-grained sand. Material is loose & saturated.	0
14				Boring terminated @ 12.0'.	
16					
18					

WESTON SOLUTIONS, INC. **Drilling/Lithologic Log** PAGE 1 OF 1

Job Name	Tech Town PCB/UST Inv.	**Boring No.**	SB217	**Groundwater Levels**	
Job No.	12473.005.007.1000.40	**Well Type**	N/A	**Date**	**Depth**
Date Drilled	5/11/2011	**Drilling Method**	Direct Push		
Drilling Co.	Fore Testing & Drilling	**Completion Depth**	12.0 (ft bgs)		
Drill Foreman	Bob Bennett	**Location**			
Logged By	Michael Blair	**Drill Rig Type**	Geoprobe		

Depth ft BGS	Sample Time	Sample Blow Counts (per 6 in.)	% Rec.	Visual Description	FID/OVA HEATED HEADSPACE
2	1428	TT-T15-SB217-02-051111	100	Mottled brown & black silty clay and sand with trace gravel (Fill). Material is soft, moist.	
4	1430	TT-T15-SB217-04-051111	100	Brown clay with trace medium-grained sand. Material is very soft, moist. Note: 2" sand seam @ 3.5'.	
6	1438	TT-T15-SB217-06-051111	100	Light brown medium grained sand. The material is loose & very moist.	
8	1441	TT-T15-SB217-08-051111	100	Note: Material grades to sand & gravel @ 7.0' Light gray gravel and cobbles with trace sand, loose, saturated.	
10	1445	TT-T15-SB217-10-051111	50	Gravel and medium-grained sand, loose, saturated.	
12	1447	TT-T15-SB217-12-051111	40	Note: Material grades to medium-grained sand with some gravel, black staining & slight petroleum odor.	
14				Boring terminated @ 12.0'	
16					
18					

WESTON SOLUTIONS, INC. **Drilling/Lithologic Log** PAGE 1 OF 1

Job Name	Tech Town PCB/UST Inv.	**Boring No.**	SB218	**Groundwater Levels**	
Job No.	12473.005.007.1000.40	**Well Type**	N/A	**Date**	**Depth**
Date Drilled	5/11/2011	**Drilling Method**	Direct Push		
Drilling Co.	Fore Testing & Drilling	**Completion Depth**	12.0 (ft bgs)		
Drill Foreman	Bob Bennett	**Location**			
Logged By	Michael Blair	**Drill Rig Type**	Geoprobe		

Depth ft BGS	Sample Time	Sample Blow Counts (per 6 in.)	% Rec.	Visual Description	FID/OVA HEATED HEADSPACE
2	1211	TT-T15-SB218-02-051111	50	Red brick with trace sand & silt (fill). Material is loose & moist.	0
4	1213	TT-T15-SB218-04-051111	50		0
6	1215	TT-T15-SB218-06-051111	50		0
				Black & gray silty clay with trace sand & gravel. Material is soft, moist with slight odor.	
8	1220	TT-T15-SB218-08-051111	100	Gray sand & gravel. Material is loose and very moist.	0
10	1226	TT-T15-SB218-10-051111	50	Note: Material is saturated @ 9.0'.	0
12	1515	TT-T15-SB218-12-051111	50	Note: Material has black staining and includes trace cobble.	0
14				Boring terminated @ 12.0'	
16					
18					

WESTON SOLUTIONS, INC. **Drilling/Lithologic Log** PAGE 1 OF 1

Job Name	Tech Town PCB/UST Inv.	**Boring No.**	SB221	**Groundwater Levels**	
Job No.	12473.005.007.1000.40	**Well Type**	N/A	**Date**	**Depth**
Date Drilled	5/12/2011	**Drilling Method**	Direct Push		
Drilling Co.	Fore Testing & Drilling	**Completion Depth**	14.0 (ft bgs)		
Drill Foreman	Bob Bennett	**Location**			
Logged By	Michael Blair	**Drill Rig Type**	Geoprobe		

Depth ft BGS	Sample Time	Sample Blow Counts (per 6 in.)	% Rec.	Visual Description	FID/OVA HEATED HEADSPACE
2	1023	TT-SB221-02-051211	50	Brown medium grained sand & silt with trace gravel/clay. Material is soft, moist.	
4			10	Gray gravel with trace sand/angular gravel. Material is loose & moist.	
6	1028	TT-SB221-06-051211	25	Dark brown sand & silt with trace clay. Material is very soft & moist.	
8	1032	TT-SB221-08-051211	25	Brown gravel and sand with trace silt. Material is loose and very moist. Note: Material has black staining and petroleum odor starting @ 6.5'.	
10	1035	TT-SB221-10-051211	25		
12	1040	TT-SB221-12-051211	25		
14	1049	TT-SB221-14-051211	25	Note: Material is saturated starting @ 12.0'.	
16				Boring terminated @ 14.0'.	
18					

WESTON SOLUTIONS, INC. **Drilling/Lithologic Log** PAGE 1 OF 1

Job Name	Tech Town PCB/UST Inv.	**Boring No.**	SB222	**Groundwater Levels**	
Job No.	12473.005.007.1000.40	**Well Type**	N/A	**Date**	**Depth**
Date Drilled	5/12/2011	**Drilling Method**	Direct Push		
Drilling Co.	Fore Testing & Drilling	**Completion Depth**	12.0 (ft bgs)		
Drill Foreman	Bob Bennett	**Location**			
Logged By	Michael Blair	**Drill Rig Type**	Geoprobe		

Depth ft BGS	Sample Time	Sample Blow Counts (per 6 in.)	% Rec.	Visual Description	FID/OVA HEATED HEADSPACE
2	1115	TT-SB222-02-051211	50	Brown silty clay with trace gravel. Material is soft, moist. 0.5' Black medium-grained sand and silt with trace gravel. Material is loos moist with petroleum odor.	3
4	1120	TT-SB222-04-051211	50		10
6	1125	TT-SB222-06-051211	50	Brown fine-grained sand with trace silt. Material is loose, moist with a slight petroleum odor.	14
8	1133	TT-SB222-08-051211	25	Coarse-grained sand with some gravel. Material is loose & very moist.	10
10	1136	TT-SB222-10-051211	25	Large gravel with little coarse grained sand. Material is loose, wet.	7
12			10	Note: Material is saturated @ 10.5'.	
14				Boring terminated @ 12.0'.	
16					
18					

WESTON SOLUTIONS, INC. **Drilling/Lithologic Log** PAGE 1 OF 1

Job Name	Tech Town PCB/UST Inv.	**Boring No.**	SB223	**Groundwater Levels**	
Job No.	12473.005.007.1000.40	**Well Type**	N/A	**Date**	**Depth**
Date Drilled	5/12/2011	**Drilling Method**	Direct Push		
Drilling Co.	Fore Testing & Drilling	**Completion Depth**	14.0 (ft bgs)		
Drill Foreman	Bob Bennett	**Location**			
Logged By	Michael Blair	**Drill Rig Type**	Geoprobe		

Depth ft BGS	Sample Time	Sample Blow Counts (per 6 in.)	% Rec.	Visual Description	FID/OVA HEATED HEADSPACE
2	853	TT-SB223-02-051211	100	Gravel Brown & black sand and clay with trace gravel. Material is very soft, moist.	8"
4	901	TT-SB223-04-051211 TT-SB223-04-051211DP	100	Brown clay with some sand. Material is very soft, moist.	
6	907	TT-SB223-06-051211	50		
8	911	TT-SB223-08-051211	25	Brown sand & gravel with trace silt. Material is loose and very soft.	
10			0		
12	915	TT-SB223-12-051211	25	Gravel (0.25" size) with trace sand. Material is loose and saturated.	
14	923	TT-SB223-14-051211	25		
16				Boring terminated @ 14.0'.	
18					

WESTON SOLUTIONS, INC.		Drilling/Lithologic Log	PAGE 1 OF 1		
Job Name	**Tech Town PCB/UST Inv.**	**Boring No.**	**SB224**	**Groundwater Levels**	
Job No.	**12473.005.007.1000.40**	**Well Type**	**N/A**	**Date**	**Depth**
Date Drilled	5/12/2011	**Drilling Method**	Direct Push		
Drilling Co.	Fore Testing & Drilling	**Completion Depth**	14.0 (ft bgs)		
Drill Foreman	Bob Bennett	**Location**			
Logged By	Michael Blair	**Drill Rig Type**	Geoprobe		

Depth ft BGS	Sample Time	Sample Blow Counts (per 6 in.)	% Rec.	Visual Description	FID/OVA HEATED HEADSPACE
0			100	Asphalt	4"
2			100	Gray gravel with some sand/silt (sub base material). Material is loose and dry/moist.	44.5
4	1328	TT-SB223-04-051211	100	Brown medium-grained sand with trace silt. Material is loose and moist.	47.7
6			50		47
8			10	Rounded gravel (0.25") with trace sand. Material is loose and moist.	
10			0		
12	1335	TT-SB223-12-051211	50	Brown medium-grained sand and gravel (rounded). Material is loose and saturated.	48.2
14			50	Note: sand becomes coarse-grained @ 12.0'.	49
16				Boring terminated @ 14.0'.	
18					

WESTON SOLUTIONS, INC. **Drilling/Lithologic Log** PAGE 1 OF 1

Job Name	Tech Town PCB/UST Inv.	**Boring No.**	SB225	**Groundwater Levels**	
Job No.	12473.005.007.1000.40	**Well Type**	N/A	**Date**	**Depth**
Date Drilled	5/12/2011	**Drilling Method**	Direct Push		
Drilling Co.	Fore Testing & Drilling	**Completion Depth**	14.0 (ft bgs)		
Drill Foreman	Bob Bennett	**Location**			
Logged By	Michael Blair	**Drill Rig Type**	Geoprobe		

Depth ft BGS	Sample Time	Sample Blow Counts (per 6 in.)	% Rec.	Visual Description	FID/OVA HEATED HEADSPACE
2			10	Brown fine-grained sand & gravel, trace silt (fill). Material is loose, moist.	12.1
4			50	Note: Material grades to medium-grained sand @ 2.0'.	3.24
6	1605	TT-SB225-06-051211	50	Brown fine-grained sand & silt with trace clay. Material is very soft & moist.	10.1
8	1625	TT-SB225-08-051211	50	Light brown to gray coarse-grained sand and gravel. Material is loose and moist.	23.1
10			50	Note: Large cobble @ 9.0 ft.	3.12
12			25	Gravel with some coarse-grained sand. Material is loose and moist.	22.4
14			50	Note: Material is saturated, black stained and has a petroleum odor at 12.5'	46.8
16				Boring terminated @ 14.0'.	
18					

WESTON SOLUTIONS, INC. **Drilling/Lithologic Log** PAGE 1 OF 1

Job Name	Tech Town PCB/UST Inv.	**Boring No.**	SB226	**Groundwater Levels**	
Job No.	12473.005.007.1000.40	**Well Type**	N/A	**Date**	**Depth**
Date Drilled	5/12/2011	**Drilling Method**	Direct Push		
Drilling Co.	Fore Testing & Drilling	**Completion Depth**	10.0 (ft bgs)		
Drill Foreman	Bob Bennett	**Location**			
Logged By	Michael Blair	**Drill Rig Type**	Geoprobe		

Depth ft BGS	Sample Time	Sample Blow Counts (per 6 in.)	% Rec.	Visual Description	FID/OVA HEATED HEADSPACE
0				Note: This boring was drilled in the bottom of an excavation which is 4.0' deep, with respect to the surrounding surface grade.	
2					
4					
6	1445	TT-SB226-02-051211	50	Black fine-grained sand and silt with little gravel/cobble. Material is very soft, moist. Note: Color changes to brown @ 2.0'.	50.2
8			50		49.1
10			25	Brown medium to coarse grained sand and rounded gravel with trace silt. Material is loose and moist.	46.8
12	1458	TT-SB226-08-051211	50		45.1
14			50	Note: Material is saturated at 12.0'.	38.5
				Gray fractured shale. Material is loose and saturated.	
16				Boring terminated @ 14.0'.	
18					

WESTON SOLUTIONS, INC. **Drilling/Lithologic Log** PAGE 1 OF 1

Job Name	Tech Town PCB/UST Inv.	Boring No.	SB227	Groundwater Levels	
Job No.	12473.005.007.1000.40	Well Type	N/A	Date	Depth
Date Drilled	5/13/2011	Drilling Method	Direct Push		
Drilling Co.	Fore Testing & Drilling	Completion Depth	16.0 (ft bgs)		
Drill Foreman	Bob Bennett	Location			
Logged By	Michael Blair	Drill Rig Type	Geoprobe		

Depth ft BGS	Sample Time	Sample Blow Counts (per 6 in.)	% Rec.	Visual Description	FID/OVA HEATED HEADSPACE
2			75	Brown sand and silt with some gravel (fill). Material is moist and medium stiff.	20
4			75		20
6			25		15
8			50		N/A
10	931	TT-SB227-10-051311	10	Note: Black staining @ 8.0'. Material is also very soft, and moist.	22
12			5	Medium-grained sand and gravel with trace silt. Material is moist & loose.	20
14	935	TT-SB227-14-051311	20		21
16			5	Gravel & cobbles with trace sand. Material is loose and saturated.	17
18				Boring is terminated @ 16.0'.	

WESTON SOLUTIONS, INC. **Drilling/Lithologic Log** PAGE 1 OF 1

Job Name	Tech Town PCB/UST Inv.	Boring No.	SB228	Groundwater Levels	
Job No.	12473.005.007.1000.40	Well Type	N/A	Date	Depth
Date Drilled	5/13/2011	Drilling Method	Direct Push		
Drilling Co.	Fore Testing & Drilling	Completion Depth	16.0 (ft bgs)		
Drill Foreman	Bob Bennett	Location			
Logged By	Michael Blair	Drill Rig Type	Geoprobe		

Depth ft BGS	Sample Time	Sample Blow Counts (per 6 in.)	% Rec.	Visual Description	FID/OVA HEATED HEADSPACE
2			25	Brown fine-grained sand and silt with some gravel (fill). Material is moist and medium stiff.	10
4			50		6
6			50		4
8			0		N/A
10			50	Note: Material is very moist starting @ 8.0'.	20
12	1117	TT-SB228-12-051311	10	Medium-grained sand and gravel with trace silt. Material is moist & loose.	24
14	1120	TT-SB228-14-051311	10		22
16			20	Gravel with some medium-grained sand, trace silt. Material is loose & saturated.	86
18				Boring is terminated @ 16.0'.	

WESTON SOLUTIONS, INC. **Drilling/Lithologic Log** PAGE 1 OF 1

Job Name	Tech Town PCB/UST Inv.	Boring No.	SB229	Groundwater Levels	
Job No.	12473.005.007.1000.40	Well Type	N/A	Date	Depth
Date Drilled	5/13/2011	Drilling Method	Direct Push		
Drilling Co.	Fore Testing & Drilling	Completion Depth	16.0 (ft bgs)		
Drill Foreman	Bob Bennett	Location			
Logged By	Michael Blair	Drill Rig Type	Geoprobe		

Depth ft BGS	Sample Time	Sample Blow Counts (per 6 in.)	% Rec.	Visual Description	FID/OVA HEATED HEADSPACE
2			50	Yellow brown sand, silt and gravel (fill). Material is soft and dry.	8
4			50	Brown silty clay (fill). Material is soft and moist. Black cinders and gravel with trace silt. Material is loose & moist.	12
6	1232	TT-SB229-06-051311	25	Note: Black stained sand/cinders and gravel starting @ 4.0'. Material is moist and loose.	40
8			10	Note: Encountered cobble @ 6.5'.	30
10			10		10
12	1237	TT-SB229-12-051311	10	Brown gravel with silt/coarse grained sand. Material is wet and loose.	7
14			0	Note: Material is saturated @ 12.0'	NA
16			25		13
18				Boring is terminated @ 16.0'.	

WESTON SOLUTIONS, INC. **Drilling/Lithologic Log** PAGE 1 OF 1

Job Name	Tech Town PCB/UST Inv.	**Boring No.**	SB230	**Groundwater Levels**	
Job No.	12473.005.007.1000.40	**Well Type**	N/A	**Date**	**Depth**
Date Drilled	5/13/2011	**Drilling Method**	Direct Push		
Drilling Co.	Fore Testing & Drilling	**Completion Depth**	12.0 (ft bgs)		
Drill Foreman	Bob Bennett	**Location**			
Logged By	Michael Blair	**Drill Rig Type**	Geoprobe		

Depth ft BGS	Sample Time	Sample Blow Counts (per 6 in.)	% Rec.	Visual Description	FID/OVA HEATED HEADSPACE
2			25	Brown sand, silt and gravel (fill). Material is soft and moist.	25.7
4	1310	TT-SB230-04-051311	50	Gray and black silty clay with trace gravel/sand. Material is soft, moist and has a slight petroleum odor.	26.2
6			50	Note: Color changes to brown starting @ 5.0'.	24.7
8	1325	TT-SB230-08-051311	10		22.1
10			50	Yellow brown gravel and medium-grained sand. Material is saturated, loose and has a petroleum odor. Note: color changes to gray @ 9.0'.	81.3
12			50		131
14				Boring is terminated @ 12.0'.	
16					
18					

WESTON SOLUTIONS, INC. **Drilling/Lithologic Log** PAGE 1 OF 1

Job Name	Tech Town PCB/UST Inv.	**Boring No.**	SB231	**Groundwater Levels**	
Job No.	12473.005.007.1000.40	**Well Type**	N/A	**Date**	**Depth**
Date Drilled	5/13/2011	**Drilling Method**	Direct Push		
Drilling Co.	Fore Testing & Drilling	**Completion Depth**	12.0 (ft bgs)		
Drill Foreman	Bob Bennett	**Location**			
Logged By	Michael Blair	**Drill Rig Type**	Geoprobe		

Depth ft BGS	Sample Time	Sample Blow Counts (per 6 in.)	% Rec.	Visual Description	FID/OVA HEATED HEADSPACE
2			10	Brown to gray silty clay with trace sand. Material is soft and moist.	0
4			50	Note: Color changes to gray @ 2.0'.	0
6	1605	TT-SB231-06-051311 & TT-SB231-06-051311DP	50	Yellow brown Fine to medium grained sorted sand. Material is loose and moist.	0
8			50	Gravel and coarse-grained sand (with broken shells). Material is loose and moist.	0
10	1605	TT-SB231-10-051311	50	Note: Material is saturated starting at 10.0'.	0
12			50	Note: Color changes to gray and petroleum odor @ 11.0'.	4.22
14				Boring is terminated @ 12.0'.	
16					
18					

WESTON SOLUTIONS, INC. **Drilling/Lithologic Log** PAGE 1 OF 1

Job Name	Tech Town PCB/UST Inv.	Boring No.	
Job No.	12473.005.007.1000.40	Well Type	N/A
Date Drilled	9 Jun 11	Drilling Method	Direct Push
Drilling Co.	Fore Testing & Drilling	Completion Depth	12 ft (16 from driveway) ft bgs)
Drill Foreman	Bob Bennett	Location	SB232
Logged By	David Sena	Drill Rig Type	Geoprobe

Depth ft BGS	Sample Time	Sample ID	% Rec.	Color	Classification	Density/ Consistency	Moisture	Other Observations/ Notes
0	1350	TT-SB232-02-060911 top	90	Brown w/black and red	lean clay with sand	medium	moist	
2	1352			Black w/ red	silt w/sand	"	"	
	1355	TT-SB232-04-060911	90	Brown	lean clay with sand	"	"	
4								
	1405	TT-SB232-06-060911	60	light brown/ gray	poorly graded sand w/gravel	loose	dry	
6								
	1408	TT-SB232-08-060911	25	gray	silty gravel	loose	dry	
8								
	1410	TT-SB232-10-060911	90	brown	well graded gravel with sand & silt	loose	moist	FILL
10				gray	silty gravel	loose	wet	
	1412	TT-SB232-12 060911	100	Black	poorly graded sand w/ gravel	loose	wet	stained
12								
14								

~ Top 4 feet of sampling location excluded from sampling & characterization as it was brought in for a drive way ~6 months ago

WESTON SOLUTIONS, INC. **Drilling/Lithologic Log**

Job Name	Tech Town PCB/UST Inv.	**Boring No.**	
Job No.	12473.005.007.1000.40	**Well Type**	N/A
Date Drilled	9 Jun 11	**Drilling Method**	Direct Push
Drilling Co.	Fore Testing & Drilling	**Completion Depth**	12 ft bgs (14 ft from drive way)
Drill Foreman	Bob Bennett	**Location**	SB-233
Logged By	David Sena	**Drill Rig Type**	Geoprobe

Depth ft BGS	Sample Time	Sample ID	% Rec.	Color	Classification	Density/ Consistency	Moisture	Other Observations/ Notes
–	1220	TT-SB233-02-060911	90	Black to reddish black	silt w/gravel	soft	dry	
2				Brown	lean clay w/sand	soft	dry	
–	1223 1225	TT-SB233-04-060911 & DUP	80					
4				Brown	poorly graded sand with silt	soft	dry	
–	1230	TT-SB233-06-060911	80					
6				Brown	poorly graded sand	loose	moist	
–	1232	TT-SB233-08-060911	20					
8				dark brown	silt w/sand	soft	moist	
–	1320	TT-SB233-10-060911	20	gray	well graded sand w/gravel	loose	moist	
10								
–	1325	TT-SB233-12-060911	80					GW
12				Blackish gray	silty gravel w/sand	loose	wet	
–								
14								

top
~2 feet of driveway fill excluded from sampling & characterization

WESTON SOLUTIONS, INC. **Drilling/Lithologic Log**

Job Name	Tech Town PCB/UST Inv.	**Boring No.**	
Job No.	12473.005.007.1000.40	**Well Type**	N/A
Date Drilled	9 Jun 11	**Drilling Method**	Direct Push
Drilling Co.	Fore Testing & Drilling	**Completion Depth**	(ft bgs)
Drill Foreman	Bob Bennett	**Location**	SB-234
Logged By	David Sena	**Drill Rig Type**	Geoprobe

Depth ft BGS	Sample Time	Sample ID	% Rec.	Color	Classification	Density/ Consistency	Moisture	Other Observations/ Notes
			100	brown/black	Top soil	~~loose~~ soft	dry	
–	1118	TT-SB234-02-060911		red	Brick	soft	dry	
2								
–	1120	TT-SB234-04-060911	90					
4				brown	silt w/sand	soft	moist	2 containers ms/msd
–	1125	TT-SB234-06-060911	90					
6				light brown	silty sand	~~loose~~	dry	
–	1135	TT-SB234-06-060911	60					
				dark brown	silt	soft	moist	
8								
–	1140	TT-SB234-10-060911	20	light brown	poorly graded sand w/silt & gravel	loose	moist	(GW)
10								
–	1150	TT-SB234-12-060911	10	black	poorly graded gravel w/sand	loose	wet	stained/no vocs on multirae / 3rd attempt, 1st 2 0% recovery
12								
–								
14								

HOLD

WESTON SOLUTIONS, INC. **Drilling/Lithologic Log**

Job Name	Tech Town PCB/UST Inv.	**Boring No.**	
Job No.	12473.005.007.1000.40	**Well Type**	N/A
Date Drilled	9 Jun 11	**Drilling Method**	Direct Push
Drilling Co.	Fore Testing & Drilling	**Completion Depth**	12 (ft bgs)
Drill Foreman	Bob Bennett	**Location**	SB235
Logged By	David Sena	**Drill Rig Type**	Geoprobe

Depth ft BGS	Sample Time	Sample ID	% Rec.	Color	Classification	Density/ Consistency	Moisture	Other Observations/ Notes
–	1025	TT-SB235-02-060911	60	gray to dark gray	gravelly silt	soft	dry	well graded
2								
–	1051 + 1058	TT-SB235-04-060911 + DUP	100	black	silt	soft	dry	poorly graded
4				brownish gray	silt w/sand	soft	dry	"
–	1055	TT-SB235-06-060911	80	light brown	silty sand	loose	dry	"
6								
–	1057	TT-SB235-08-060911	60	grayish brown	lean clay	soft	moist	"
8								
–	1100	TT-SB235-10-060911	20	light brown	well graded gravel w/sand	loose	moist	
10				"	"		(GW)	
–	1102	TT-SB235-12-060911	15			loose	wet	
12								
–								
14								

WESTON SOLUTIONS, INC. **Drilling/Lithologic Log** PAGE 1 OF 1

Job Name	Tech Town PCB/UST Inv.	Boring No.	
Job No.	12473.005.007.1000.40	Well Type	N/A
Date Drilled	9 Jun 11	Drilling Method	Direct Push
Drilling Co.	Fore Testing & Drilling	Completion Depth	(ft bgs)
Drill Foreman	Bob Bennett	Location	SB236
Logged By	David Sena	Drill Rig Type	Geoprobe

Depth ft BGS	Sample Time	Sample ID	% Rec.	Color	Classification	Density/ Consistency	Moisture	Other Observations/ Notes
0	1650	TT-SB236-02-060911	80	gray	well graded sand w/ gravel	medium	dry	
2	1654	TT-SB236-04-060911	100	dark brown	silty sand	medium dense	dry	
4	1655	TT-SB236-06-060911	80		lean clay w/ sand	medium	dry	
6	1700	TT-SB236-08-060911	80	light brown	well graded sand w/ silt & gravel	loose	dry	
8	1703 1704	TT-SB236-10-060911 +DUP	90					
10	10 1708	TT-SB236-12-060911	50	lt. brown	silty gravel with sand	ll	moist	
12								
14								

1720 → Rinsate

WESTON SOLUTIONS, INC. **Drilling/Lithologic Log**

Job Name	Tech Town PCB/UST Inv.	Boring No.	
Job No.	12473.005.007.1000.40	Well Type	N/A
Date Drilled	9 Jun 11	Drilling Method	Direct Push
Drilling Co.	Fore Testing & Drilling	Completion Depth	12 (ft bgs)
Drill Foreman	Bob Bennett	Location	SB-237
Logged By	David Sena	Drill Rig Type	Geoprobe

Depth ft BGS	Sample Time	Sample ID	% Rec.	Color	Classification	Density/ Consistency	Moisture	Other Observations/ Notes
0	1622	TT-SB237-02-060911	50	Brown	silt w/sand	soft	dry	
2				gray	silty sand w/gravel	″	″	
	1625	TT-SB237-04-060911	80					
4				black & red	silt with sand	″	″	Brick present
	1630	TT-SB237-06-060911	50					
6	1633	TT-SB237-08-060911	30	Brown	silty sand w/gravel	loose	dry	
8								
	1635	TT-SB237-10-060911	50					
10								
	1636	TT-SB237-12-060911	30					
12								
14								

WESTON SOLUTIONS, INC.	Drilling/Lithologic Log			PAGE 1 OF 1
Job Name Job No.	Tech Town PCB/UST Inv. 12473.005.007.1000.40	Boring No. Well Type	N/A	
Date Drilled	9 Jun 11	Drilling Method	Direct Push	
Drilling Co.	Fore Testing & Drilling	Completion Depth	(ft bgs)	
Drill Foreman	Bob Bennett	Location	SB-238	
Logged By	David Sena	Drill Rig Type	Geoprobe	

Depth ft BGS	Sample Time	Sample ID	% Rec.	Color	Classification	Density/ Consistency	Moisture	Other Observations/ Notes
0	1550	TT-SB238-02-060911	75	light brown	silt with sand	very stiff	dry	
2				gray	sand with silt	loose soft	dry	
	1555	TT-SB238-04-060911	90	Black	gravelly silt with sand	loose	dry	
4								
	1600 1602	TT-SB238-06-060911 +DUP	60	Black	"	loose	moist	
6				brown	silt w/sand	medium	dry	
	1608	TT-SB238-08-060911	50	brown	silty sand w/gravel	loose	dry	
8								
	1613	TT-SB238-10-060911	20				moist	
10								
	1616	TT-SB238-12-060911	20					
12								
14								

WESTON SOLUTIONS, INC. **Drilling/Lithologic Log** PAGE 1 OF 1

Job Name	Tech Town PCB/UST Inv.	Boring No.	
Job No.	12473.005.007.1000.40	Well Type	N/A
Date Drilled	9 Jun 11	Drilling Method	Direct Push
Drilling Co.	Fore Testing & Drilling	Completion Depth	12 (ft bgs)
Drill Foreman	Bob Bennett	Location	SB-239
Logged By	David Sena	Drill Rig Type	Geoprobe

Depth ft BGS	Sample Time	Sample ID	% Rec.	Color	Classification	Density/ Consistency	Moisture	Other Observations/ Notes
2								
4								
6								
8	1530	TT-SB239-120609II-I	50	Brown	silty gravel with sand	loose	moist	4 foot sample for TCLPs
10			20					
12								
14								

only logged interval was the interval sampled

WESTON SOLUTIONS, INC. **Drilling/Lithologic Log** PAGE 1 OF 1

Job Name	Tech Town PCB/UST Inv.	**Boring No.**	SB240 f/k/a SB232	**Groundwater Levels**	
Job No.	12473.005.007.1000.40	**Well Type**	N/A	**Date**	**Depth**
Date Drilled	5/13/2011	**Drilling Method**	Direct Push		
Drilling Co.	Fore Testing & Drilling	**Completion Depth**	12.0 (ft bgs)		
Drill Foreman	Bob Bennett	**Location**			
Logged By	Michael Blair	**Drill Rig Type**	Geoprobe		

Depth ft BGS	Sample Time	Sample Blow Counts (per 6 in.)	% Rec.	Visual Description	FID/OVA HEATED HEADSPACE
0			50	Brown silt, sand and gravel with trace cinders (fill). Material is dry and medium stiff.	0
2	1425	TT-SB232-04-051311	50	Note: six inch seam of black cinders @ 2.5'.	5
4			50	Gray silty clay. Material is very soft and moist to wet.	0
6	1430	TT-SB232-08-051311	75	6.75' Brown fine-grained sand and silt with trace gravel. Material is soft and moist.	1
8			10	Yellow brown gravel and coarse grained sand, trace silt. Material is loose and wet.	0
10			10	Note: Material is primarily gravel and saturated starting @ 10.0'	2
12				Boring is terminated @ 12.0'.	
14					
16					
18					

WESTON SOLUTIONS, INC. **Drilling/Lithologic Log** PAGE 1 OF 2

Job Name	Tech Town PCB/UST Inv.	Boring No.	SB-241	Groundwater Levels	
Job No.	12473.005.007.1000.40	Well Type	N/A	Date	Depth
Date Drilled	7 Nov 11	Drilling Method	Rotosonic		
Drilling Co.	Boart Longyear	Completion Depth	21.0 (ft bgs)		
Drill Foreman	Adam Anderson	Location	Dayton, Ohio		
Logged By	Michael Blair	Drill Rig Type	Rotosonic Drill		

Depth ft BGS	Sample Time	Sample Name & Depth	% Rec.	Visual Description	FID/OVA HEATED HEADSPACE
				Asphalt 0.25 ft	
2				Sand & Gravel (sub-base fill). Material is loose and moist. 1.5 ft	0
				Concrete 2.5 ft.	
4			100	Dark Brown sandy clay with trace gravel. Material is soft and moist.	0
6	1413	TT-SB241-06-110711			0
8					0
10			100	Grayish Brown sand & gravel with trace cobble. Material is loose and moist.	0
12	1400	TT-SB241-12-110711			0.5
14			60		3.9
16					
18	1405	TT-SB241-17-110711	60	Gray Cobbles with some gravel, little sand (cobble size 1" - 2" dia.). Material is wet and loose with some petroleum odor.	13.2
					1.3

Job Name	Tech Town PCB/UST Inv.	Boring No.	SB 241	Groundwater Levels	
Job No.	12473.005.007.1000.40	Well Type	N/A	Date	Depth
Date Drilled	7 Nov 11	Drilling Method	Rotosonic		
Drilling Co.	Boart Longyear	Completion Depth	21.0 (ft bgs)		
Drill Foreman	Adam Anderson	Location	Dayton, Ohio		
Logged By	Michael Blair	Drill Rig Type	Rotosonic drill		

Depth ft BGS	Sample Time	Sample Number & Depth	% Rec.	Visual Description	FID/OVA HEATED HEADSPACE
					1.5
20			60	Light brown sand & gravel with trace cobble. Material is loose & wet.	1.2
	1411	TT-sb241-21-110711			
22				Boring terminated @ 21 ft.	

WESTON SOLUTIONS, INC. **Drilling/Lithologic Log** PAGE 1 OF 2

Job Name / Job No.	Tech Town PCB/UST Inv. 12473.005.007.1000.40	Boring No. / Well Type	SB 242 / N/A	Groundwater Levels Date	Depth
Date Drilled	8 Nov 11	Drilling Method	Rotosonic		
Drilling Co.	Boart Longyear	Completion Depth	24.0 (ft bgs)		
Drill Foreman	Adam Anderson	Location	Dayton, Ohio		
Logged By	Michael Blair	Drill Rig Type	Rotosonic drill		

Depth ft BGS	Sample No.	Sample Blow Counts (per 6 in.)	% Rec.	Visual Description	FID/OVA HEATED HEADSPACE
2			100	Silty sand with some gravel. Material is brown in color, loose and moist (overburden fill).	0
4					0
6					0
8			100	Concrete 7.0 ft. Light gray coarse sand & angular gravel. Material is loose and wet.	0
10					0.1
12			100	Note: Encountered saturated zone @ 11 ft.	0
14				15 ft.	0.1
16			100	Concrete 17 ft.	n/a
18	940	11-SB242-15-110811		Light brown coarse grained sand & rounded gravel. Material is loose & wet.	1

Job Name	Tech Town PCB/UST Inv.	Boring No.	SB242	Groundwater Levels	
Job No.	12473.005.007.1000.40	Well Type	N/A	Date	Depth
Date Drilled	8 Nov 11	Drilling Method	Rotosonic		
Drilling Co.	Boart Longyear	Completion Depth	23.0 (ft bgs)		
Drill Foreman	Adam Anderson	Location	Dayton, Ohio		
Logged By	Michael Blair	Drill Rig Type	Rotosonic drill		

Depth ft BGS	Sample Date	Sample Number & Depth	% Rec.	Visual Description	FID/OVA HEATED HEADSPACE
–	940	TT-SB242-15-110811	100	Light brown coarse grained sand & rouned gravel. Material is loose and very wet.	1
20					0
–			100		
22					0
—				Brown rounded gravel (0.5" dia). Material is loose and saturated.	
24				Boring terminated @ 24 ft.	
–					
–					
–					
–					
—					
–					

WESTON SOLUTIONS, INC. **Drilling/Lithologic Log** PAGE 1 OF 2

Job Name / Job No.	Tech Town PCB/UST Inv. 12473.005.007.1000.40	Boring No. / Well Type	SB243 / N/A	Groundwater Levels Date	Depth
Date Drilled	7 Nov 11	Drilling Method	Rotosonic		
Drilling Co.	Boart Longyear	Completion Depth	21.0 (ft bgs)		
Drill Foreman	Adam Anderson	Location	Dayton, Ohio		
Logged By	Michael Blair	Drill Rig Type	Rotosonic drill		

Depth ft BGS	Sample Time	Sample Number & Depth	% Rec.	Visual Description	FID/OVA HEATED HEADSPACE
0			100	Asphalt 0.25 ft	
–				Sandy clay with trace gravel (fill). Material is soft and moist.	
2				2.5 ft.	
–				Concrete 3 ft.	
4				Light brown medium grained sand & coarse gravel. Material is moist & loose.	1.1
—					
6				6 ft.	21
–				Brown gravel and sand with some large cobble. Material grades to gravel and cobble with some sandy clay. Material is soft, loose and moist.	
8	1700	TT-SB243-09-110711	90		248
–					
10					148
–					
12	1705	TT-SB243-12-110711			148
–					
14			95		57
—					
16					64.8
				16.5ft	
–				Gray Coarse grained sand and large cobbles (2" - 4" dia). Material is wet, loose and with trace odor.	
18					17.7

Job Name	Tech Town PCB/UST Inv.	Boring No.	SB 243	Groundwater Levels	
Job No.	12473.005.007.1000.40	Well Type	N/A	Date	Depth
Date Drilled	7 Nov 11	Drilling Method	Rotosonic		
Drilling Co.	Boart Longyear	Completion Depth	20.0 (ft bgs)		
Drill Foreman	Adam Anderson	Location	Dayton, Ohio		
Logged By	Michael Blair	Drill Rig Type	Rotosonic drill		

Depth ft BGS	Sample Time	Sample Number & depth	% Rec.	Visual Description	FID/OVA HEATED HEADSPACE
2			95	gray coarse grained sand, gravel & large cobbles (2" - 4" dia). Material is west, loose with trace odor.	17.7
				Gray coarse grained sand with little gravel. Material is loose, wet and with trace odor.	3.3
				Boring terminated at 20 ft.	

WESTON SOLUTIONS, INC. **Drilling/Lithologic Log** PAGE 1 OF 2

Job Name	Tech Town PCB/UST Inv.	**Boring No.**		**Groundwater Levels**	
Job No.	12473.005.007.1000.40	**Well Type**	MW-05	**Date**	**Depth**
Date Drilled	10 Nov 11	**Drilling Method**	Rotosonic		
Drilling Co.	Fore Testing & Drilling	**Completion Depth**	25.0 (ft bgs)		
Drill Foreman	Bob Bennett	**Location**	Dayton, Ohio		
Logged By	Michael Blair	**Drill Rig Type**	Rotosonic drill		

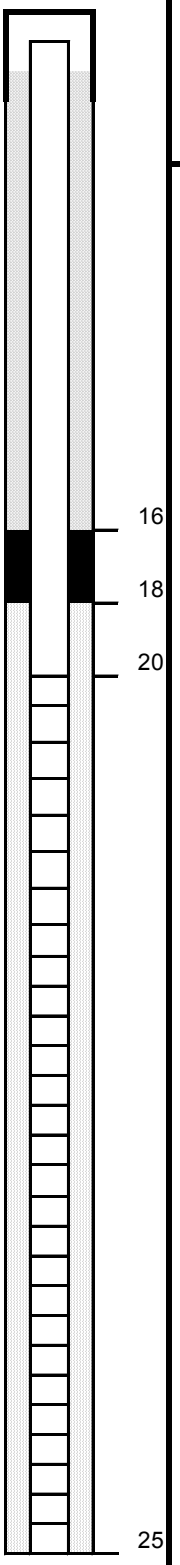
Depth ft BGS	Sample No.	Sample Name & Depth	Well Profile	% Rec.	Visual Description	FID/OVA HEATED HEADSPACE
2				100	Brown silty clay with trace gravel. Material is stiff and moist.	0
4					Brownish black sand, gravel & cobble with trace trash debris (fill). Material is loose and moist.	0
6				100	Note: 4' - 4.5' lens of silty clay.	0
8					Note: 7' - 7.5' lens of silty clay.	0
10		TT-MW5-10-111011			9.0 ft.	0.5
12				100	Brown silty clay with little gravel/cobble. Material is moist & soft.	0.2
14					14ft.	0
16				100	Tan medium to coarse grained sand & subrounded gravel with some cobble. Cobbles are 1" to 4" in diameter and subrounded. Material is loose and moist.	0.2
18						0
						0.4

Job Name	Tech Town PCB/UST Inv.	**Boring No.**		**Groundwater Levels**	
Job No.	12473.005.007.1000.40	**Well Type**	MW-5	**Date**	**Depth**
Date Drilled	10 Nov 11	**Drilling Method**	Rotosonic		
Drilling Co.	Boart Longyear	**Completion Depth**	25.0 (ft bgs)		
Drill Foreman	Adam Anderson	**Location**	Dayton, Ohio		
Logged By	Michael Blair	**Drill Rig Type**	Rotosonic Drill		

Depth ft BGS	Sample No.	Sample Blow Counts (per 6 in.)	Well Profile	% Rec.	Visual Description	FID/OVA HEATED HEADSPACE
20					Note: Material is saturated at 20 ft.	0.4
22				100		0.2
24						0.3
26					Boring completed @ 25 ft.	
28						

Well I.D. 5

Well Construction Summary



Project: Tech Town Tier 1 Investigation
Location: Dayton, Ohio
Personnel: Adam Anderson - Driller

Location or Coordinates: (N)
(E)
Elevation: Ground Level
Top of Casing

Drilling Summary:

Total Depth: 25 ft.
Borehole Diameter: 4 in.

Driller: Boart Longyear

Rig: Rotosonic
Bit(s): Not applicable
Drilling Fluid: Not applicable
Surface Casing: Flush mount

Well Design:

Basis: Geologic Log: X
Geophysical Log:

Casing String(s): C=Casing S=Screen

0	- 20'	C
20'	- 25'	S
	-	
	-	

Casing: C1 2 in. dia. PVC construction
C2
Screen: S1 2 in. dia. No 10 slotted, PVC.
S2
Centralizers: Not Applicable

Filter Material: Silica Sand 18' - 25'

Cement: 0' - 16'

Other: Bentonite seal 16' - 18'

Construction Time Log:

Task	Start Date	Finish Date	
Drilling:	10-Nov-11	10-Nov-11	
Geophys. Logg	--	--	--
Casing:			
	10-Nov-11	10-Nov-11	
Filter Placemen	10-Nov-11	10-Nov-11	
Cementing:	10-Nov-11	10-Nov-11	
Development:			
Other:			

Well Development:

Comments:

WESTON SOLUTIONS, INC. **Drilling/Lithologic Log** PAGE 1 OF 2

Job Name	**Tech Town PCB/UST Inv.**	**Boring No.**	**N/A**	**Groundwater Levels**	
Job No.	**12473.005.007.1000.40**	**Well Type**	**MW-65**	**Date**	**Depth**
Date Drilled	8 Nov 11	**Drilling Method**	Rotosonic		
Drilling Co.	Boart Longyear	**Completion Depth**	30.0 (ft bgs)		
Drill Foreman	Adam Anderson	**Location**	Dayton, Ohio		
Logged By	Michael Blair	**Drill Rig Type**	Rotosonic drill		

Depth ft BGS	Sample Time	Sample Number & Depth	Well Profile	% Rec.	Visual Description	FID/OVA HEATED HEADSPACE
0					Topsoil. 1 ft.	
2				100	Light brown sandy silt and gravel (fill). Material is loose & moist.	0
4						0
6				100		0.1
8						0
10					8.5 ft Concrete. 10 ft.	0
12	1136	TT-MW65-12-110811		100	Brown sand and silt with trace gravel. Material is wet and loose. 12 ft.	22.9
14					Concrete with 0.25" rebar.	n/a
16						n/a
18				100		n/a
					20 ft	n/a

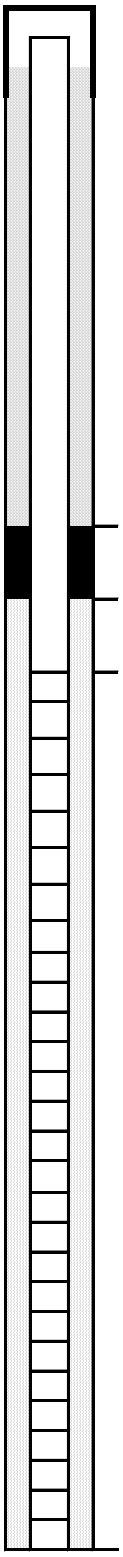
WESTON SOLUTIONS, INC. **Drilling/Lithologic Log** PAGE 2 OF 2

Job Name	Tech Town PCB/UST Inv.	**Boring No.**	N/A	**Groundwater Levels**	
Job No.	12473.005.007.1000.40	**Well Type**	MW-65	**Date**	**Depth**
Date Drilled	8 Nov 11	**Drilling Method**	Rotosonic		
Drilling Co.	Boart Longyear	**Completion Depth**	30.0 (ft bgs)		
Drill Foreman	Adam Anderson	**Location**	Dayton, Ohio		
Logged By	Michael Blair	**Drill Rig Type**	Rotosonic drill		

Depth ft BGS	Sample Time	Sample Number & Depth	Well Profile	% Rec.	Visual Description	FID/OVA HEATED HEADSPACE
20					Concrete 20 ft.	0
22	1137	TT-MW65-22-110811		30	Brown coarse grained sand & gravel with some silt. Material is rounded, loose and saturated. Note: Recovery from 22 ft. - 30 ft. lost due to stone obstruction.	0
24						n/a
26				0		n/a
28						n/a
30					30 ft.	n/a
					Boring terminated @ 30 ft.	

Well I.D. 65

Well Construction Summary



Project: Tech Town Tier 1 Investigation
Location: Dayton, Ohio
Personnel: Adam Anderson - Driller

Location or Coordinates: (N)
(E)
Elevation: Ground Level
Top of Casing

Drilling Summary:

Total Depth: 25 ft.
Borehole Diameter: 4 in.

Driller: Boart Longyear

Rig: Rotosonic
Bit(s): Not applicable
Drilling Fluid: Not applicable
Surface Casing: Flush mount

Well Design:

Basis: Geologic Log: X
Geophysical Log:

Casing String(s): C=Casing S=Screen

0	- 20'	C
20'	- 30'	S
	-	
	-	

Casing: C1 2 in. dia. PVC construction
C2

Screen: S1 2 in. dia. No 10 slotted, PVC.
S2

Centralizers: Not Applicable

Filter Material: Silica Sand 18' - 30'

Cement: 0' - 16'

Other: Bentonite seal 16' - 18'

Construction Time Log:

Task	Start Date	Finish Date	
Drilling:	08-Nov-11	08-Nov-11	
Geophys. Logg	--	--	--
Casing:			
	08-Nov-11	08-Nov-11	
Filter Placemen	08-Nov-11	08-Nov-11	
Cementing:	08-Nov-11	08-Nov-11	
Development:			
Other:			

Well Development:

Comments:

WESTON SOLUTIONS, INC. **Drilling/Lithologic Log** PAGE 1 OF 2

Job Name	Tech Town PCB/UST Inv.	**Boring No.**	N/A	**Groundwater Levels**	
Job No.	12473.005.007.1000.40	**Well Type**	MW - 66	**Date**	**Depth**
Date Drilled	########	**Drilling Method**	Rotosonic		
Drilling Co.	Boart Longyear	**Completion Depth**	30.0 (ft bgs)		
Drill Foreman	Adam Anderson	**Location**	Dayton, Ohio		
Logged By	Michael Blair	**Drill Rig Type**	Rotosonic Drill		

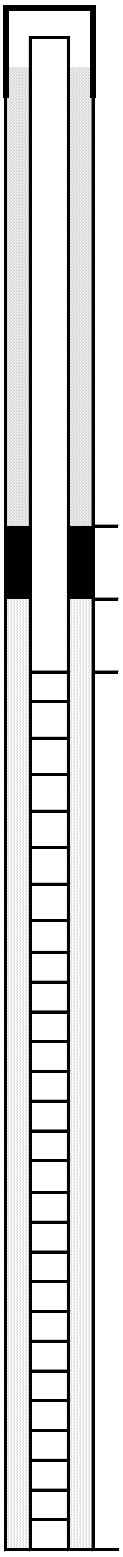
Depth ft BGS	Sample Time	Sample Number & Depth	Well Profile	% Rec.	Visual Description	FID/OVA HEATED HEADSPACE
0					Silty clay with trace gravel (topsoil). Material is soft, moist.	0.7
					1.5 ft.	
2					Light brown sand and gravel. Material is sub-angular to rounded, loose and moist.	
4				100		1.5
6						1.1
8	1120	TT-MW66-8-111111		100		1.5
10						0.5
12						n/a
14				50		n/a
16						n/a
					16 ft.	
18				50	Large cobbles with some coarse grained gravel & sand. Material is loose & moist.	0.7
					Note: 6" piece of concrete encountered @ 17.5 ft.	

Job Name	Tech Town PCB/UST Inv.	**Boring No.**	N/A	**Groundwater Levels**	
Job No.	12473.005.007.1000.40	**Well Type**	MW - 66	**Date**	**Depth**
Date Drilled	########	**Drilling Method**	Rotosonic		
Drilling Co.	Boart Longyear	**Completion Depth**	30.0 (ft bgs)		
Drill Foreman	Adam Anderson	**Location**	Dayton, Ohio		
Logged By	Michael Blair	**Drill Rig Type**	Rotosonic Drill		

Depth ft BGS	Sample Time	Sample Number & Depth	Well Profile	% Rec.	Visual Description	FID/OVA HEATED HEADSPACE
–					Large cobbles with some gravel & sand. Material is loose & wet. 19 ft.	
20				50	Brown medium grained sand with trace rounded gravel. Material is well sorted, loose and wet.	0
–					Note: Saturation @ 21 ft.	
22					Gray silty clay with little rounded gravel. Material is hard, moist with metal debris. 22 ft.	0.9
—				100	Concrete	
24						N/A
–					25 ft.	
26					Gray rounded cobbles (1" - 2" dia) with trace sand & gravel. Material is loose and saturated. 26 ft.	
–	1125	TT-MW66-27-111111			Brownish gravel (sub-rounded to rounded) with some medium grained sand. Saturated & loose.	29
28				100		2.4
–						
30					30 ft.	
–					Boring terminated @ 30 ft.	
—						
–						

Well I.D. 66

Well Construction Summary



Project: Tech Town Tier 1 Investigation
Location: Dayton, Ohio
Personnel: Adam Anderson - Driller

Location or Coordinates: (N)
(E)
Elevation: Ground Level
Top of Casing

Drilling Summary:

Total Depth: 25 ft.
Borehole Diameter: 4 in.

Driller: Boart Longyear

Rig: Rotosonic
Bit(s): Not applicable
Drilling Fluid: Not applicable
Surface Casing: Flush mount

Well Design:

Basis: Geologic Log: X
Geophysical Log:

Casing String(s): C=Casing S=Screen

0	- 20'	C
20'	- 30'	S
	-	
	-	

Casing: C1 2 in. dia. PVC construction
C2
Screen: S1 2 in. dia. No 10 slotted, PVC.
S2
Centralizers: Not Applicable

Filter Material: Silica Sand 23' - 30'

Cement: 0' - 21'

Other: Bentonite seal 21' - 23'

Construction Time Log:

Task	Start Date	Finish Date	
Drilling:	11-Nov-11	11-Nov-11	
Geophys. Logg	--	--	--
Casing:			
	11-Nov-11	11-Nov-11	
Filter Placemen	11-Nov-11	11-Nov-11	
Cementing:	11-Nov-11	11-Nov-11	
Development:			
Other:			

Well Development:

Comments:

WESTON SOLUTIONS, INC.			Drilling/Lithologic Log	PAGE 1 OF 2	
Job Name	Tech Town PCB/UST Inv.	**Boring No.**	N/A	**Groundwater Levels**	
Job No.	12473.005.007.1000.40	**Well Type**	MW-67	**Date**	**Depth**
Date Drilled	8 Nov 11	**Drilling Method**	Rotosonic		
Drilling Co.	Boart Longyear	**Completion Depth**	25.0 (ft bgs)		
Drill Foreman	Adam Anderson	**Location**	Dayton, Ohio		
Logged By	Michael Blair	**Drill Rig Type**	Rotosonic drill		

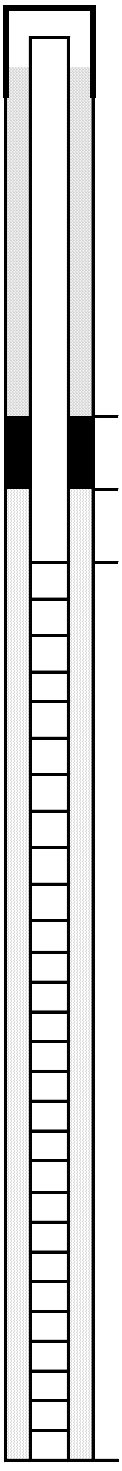
Depth ft BGS	Sample No.	Sample Blow Counts (per 6 in.)	Well Profile	% Rec.	Visual Description	FID/OVA HEATED HEADSPACE
					Asphalt 0.25 ft	
2				100	Brown sandy silt & gravel (sub-base fill). Material is loose & moist.	0
4						0.6
					5 ft.	0
6				90	Brown sandy clay. Material is very soft and moist.	
8					Note: Black coloring seen @ 7 ft to 7.5 ft.	0
					9 ft.	0
10					Brown medium grained sand and some gravel. Material is rounded, loose and moist. 10 ft.	
12				90	Brown gravel and cobbles (up to 4" dia) with some rounded fine grained sand. Material is wet.	0
14						0
					Note: Material is very wet from 14 ft to 14.5 ft. 15 ft.	0
16				90	Black medium grained sand with little rounded gravel. Material is loose and wet.	
18					Note: Color change to brown @ 17.5 ft.	0
						0

Job Name	**Tech Town PCB/UST Inv.**	**Boring No.**	**N/A**	**Groundwater Levels**	
Job No.	**12473.005.007.1000.40**	**Well Type**	**MW-67**	**Date**	**Depth**
Date Drilled	8 Nov 11	**Drilling Method**	Rotosonic		
Drilling Co.	Boart Longyear	**Completion Depth**	25.0 (ft bgs)		
Drill Foreman	Adam Anderson	**Location**	Dayton, Ohio		
Logged By	Michael Blair	**Drill Rig Type**	Rotosonic drill		

Depth ft BGS	Sample Time	Sample Number & Depth	Well Profile	% Rec.	Visual Description	FID/OVA HEATED HEADSPACE
20						0
				100	Note: Color change to grayish black @ 20 ft to 21 ft.	
22					Note: Color change to brown @ 21 ft.	0
24					Note: Material is saturated @ 23 ft.	0
26					Boring terminated at 25 ft.	
28						
30						

Well I.D. 67

Well Construction Summary



Project: Tech Town Tier 1 Investigation
Location: Dayton, Ohio
Personnel: Adam Anderson - Driller

Location or Coordinates: (N)
(E)
Elevation: Ground Level
Top of Casing

Drilling Summary:

Total Depth: 25 ft.
Borehole Diameter: 4 in.

Driller: Boart Longyear

Rig: Rotosonic
Bit(s): Not applicable
Drilling Fluid: Not applicable
Surface Casing: Flush mount

Well Design:

Basis: Geologic Log: X
Geophysical Log:

Casing String(s): C=Casing S=Screen

0	- 15	C
15	- 25'	S
	-	
	-	

Casing: C1 2 in. dia. PVC construction
C2
Screen: S1 2 in. dia. No 10 slotted, PVC.
S2
Centralizers: Not Applicable

Filter Material: Silica Sand 13' - 25'

Cement: 0' - 11'

Other: Bentonite seal 11' - 13'

Construction Time Log:

Task	Start Date	Finish Date	
Drilling:	09-Oct-11	09-Nov-11	
Geophys. Logg	--	--	--
Casing:			
	09-Nov-11	09-Nov-11	
Filter Placemen	09-Nov-11	09-Nov-11	
Cementing:	09-Nov-11	09-Nov-11	
Development:			
Other:			

Well Development:

Comments:

WESTON SOLUTIONS, INC. **Drilling/Lithologic Log** PAGE 1 OF 2

Job Name / Job No.	Tech Town PCB/UST Inv. 12473.005.007.1000.40	Boring No. / Well Type	N/A / MW-68	Groundwater Levels Date	Depth
Date Drilled	9 Nov 11	Drilling Method	Rotosonic		
Drilling Co.	Boart Longyear	Completion Depth	25.0 (ft bgs)		
Drill Foreman	Adam Anderson	Location	Dayton, Ohio		
Logged By	Michael Blair	Drill Rig Type	Rotosonic Drill		

Depth ft BGS	Sample Time	Sample Number & depth	Well Profile	% Rec.	Visual Description	FID/OVA HEATED HEADSPACE
0				100	Asphalt 0.25ft Brown silty clay with little gravel (fill). Material is stiff and moist.	0
2						0
4					4 ft.	
6				90	Brown & black gravel and fine grained sand with little silt. Material is angular with construction debris (fill). Moist. 6 ft.	0
8					Brown fine grained sand and silt with little subangular gravel. Material is medium soft and moist. Note: 4" seam of coal pieces.	0
10					Note: 6' seam of coal pieces. 9.5 ft. Light brown rounded gravel & cobbles with some fine grained sand. Material is loose & moist.	0
12				100		0
14						0
16	1125	TT-MW68-16-110911			Note: Material is wet @ 15 ft. 16 ft.	33.6
18				100	Gray coarse grained sand with some rounded gravel, trace cobble. Material is wet to very wet and loose.	0.8
						0

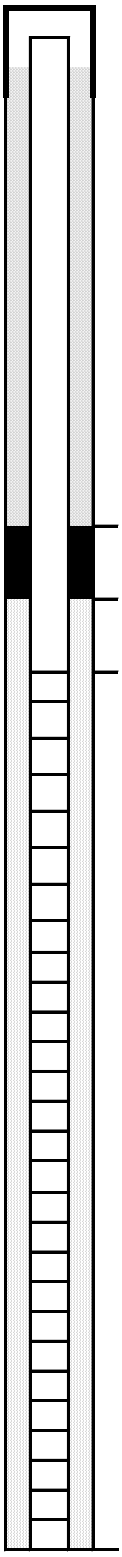
WESTON SOLUTIONS, INC. **Drilling/Lithologic Log** PAGE 2 OF 2

Job Name	Tech Town PCB/UST Inv.	**Boring No.**	N/A	**Groundwater Levels**	
Job No.	12473.005.007.1000.40	**Well Type**	MW-68	**Date**	**Depth**
Date Drilled	9 Nov 11	**Drilling Method**	Rotosonic		
Drilling Co.	Boart Longyear	**Completion Depth**	25.0 (ft bgs)		
Drill Foreman	Adam Anderson	**Location**	Dayton, Ohio		
Logged By	Michael Blair	**Drill Rig Type**	Rotosonic Drill		

Depth ft BGS	Sample Time	Sample Number & depth	Well Profile	% Rec.	Visual Description	FID/OVA HEATED HEADSPACE
20				100	Note: Material color change to light brown @ 18 ft. 20 ft.	0
22				100	Large cobbles (1" - 3" dia) with gravel and sand. Material is loose and very wet. 21 ft. Medium grained sand and gravel. Gravel is sub-angular to rounded and saturated.	0
24	1130	TT-MW68-23-110911			Note: Sand becomes coarse grained @ 23 ft.	0
26					Boring terminated @ 25 ft.	

Well I.D. 68

Well Construction Summary



Project: Tech Town Tier 1 Investigation
Location: Dayton, Ohio
Personnel: Adam Anderson - Driller

Location or Coordinates: (N)
(E)
Elevation: Ground Level
Top of Casing

Drilling Summary:

Total Depth: 25 ft.
Borehole Diameter: 4 in.

Driller: Boart Longyear

Rig: Rotosonic
Bit(s): Not applicable
Drilling Fluid: Not applicable
Surface Casing: Flush mount

Well Design:

Basis: Geologic Log: X
Geophysical Log:

Casing String(s): C=Casing S=Screen

0	- 15'	C
15'	- 25'	S
	-	
	-	

Casing: C1 2 in. dia. PVC construction
C2
Screen: S1 2 in. dia. No 10 slotted, PVC.
S2
Centralizers: Not Applicable

Filter Material: Silica Sand 13' - 25'

Cement: 0' - 11'

Other: Bentonite seal 11' - 13'

Construction Time Log:

Task	Start Date	Finish Date	
Drilling:	09-Nov-11	09-Nov-11	
Geophys. Logg	--	--	--
Casing:			
	09-Nov-11	09-Nov-11	
Filter Placemen	09-Nov-11	09-Nov-11	
Cementing:	09-Nov-11	09-Nov-11	
Development:			
Other:			

Well Development:

Comments:

WESTON SOLUTIONS, INC. **Drilling/Lithologic Log** PAGE 1 OF 2

Job Name	Tech Town PCB/UST Inv.	**Boring No.**	N/A	**Groundwater Levels**	
Job No.	12473.005.007.1000.40	**Well Type**	MW-69	**Date**	**Depth**
Date Drilled	9 Nov 11	**Drilling Method**	Rotosonic		
Drilling Co.	Boart Longyear	**Completion Depth**	25.0 (ft bgs)		
Drill Foreman	Adam Anderson	**Location**	Dayton, Ohio		
Logged By	Michael Blair	**Drill Rig Type**	Rotosonic Drill		

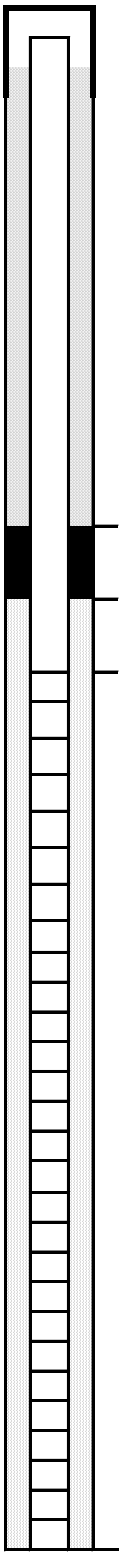
Depth ft BGS	Sample No.	Sample Blow Counts (per 6 in.)	Well Profile	% Rec.	Visual Description	FID/OVA HEATED HEADSPACE
					Asphalt & gravel sub-base. 1 ft.	
2					CL - Brown silty clay with some gravel. Material is stiff and moist.	0.8
4				100	3 ft. GP - Black & brown gravel and silty clay with trace cobble. The gravel & cobbles are sub-rounded. Material is loose & moist.	1.2
6						2.2
8				100	Note: Grades from silty clay (CL) to fine grained sand (SW) @ 6 ft. Note: Encountered a 4" dia slag cobble at 6.5ft. Note: Material grades to (CH) silty clay with gravel at 7.5 ft.	1.2
10					8.75 ft GW - Light brown medium grained sand and sub-rounded to rounded gravel (1" dia). Material is moist & loose.	0
12				90		0.2
14					Note: sand becomes fine grained and changes color to gray @ 14 ft.	0
16	1555	TT-MW69-16-110911			15 ft. ML - Gray silt with some sand and 0.25" dia rounded gravel. Material stiff and moist.	72.5
18				90		31.6
	1600	TT-MW69-20-110911				5

Job Name	Tech Town PCB/UST Inv.	Boring No.	N/A	Groundwater Levels	
Job No.	12473.005.007.1000.40	Well Type	MW-69	Date	Depth
Date Drilled	9 Nov 11	Drilling Method	Rotosonic		
Drilling Co.	Boart Longyear	Completion Depth	25.0 (ft bgs)		
Drill Foreman	Adam Anderson	Location	Dayton, Ohio		
Logged By	Michael Blair	Drill Rig Type	Rotosonic drill		

Depth ft BGS	Sample No.	Sample Blow Counts (per 6 in.)	Well Profile	% Rec.	Visual Description	FID/OVA HEATED HEADSPACE
20					ML - Gray silt with some sand and 0.25" dia rounded gravel. Material is stiff and moist. 19 ft.	5
					GW - Rounded gravel (0.25" to 0.5" dia) with some coarse grained sand. Material is wet and loose.	
22						0.9
24					Note: GW - Material grades to gravel & cobbles (6" dia) with some coarse grained sand. Material is loose and saturated.	0.1
26						

Well I.D. 69

Well Construction Summary



Project: Tech Town Tier 1 Investigation
Location: Dayton, Ohio
Personnel: Adam Anderson - Driller

Location or Coordinates: (N)
(E)
Elevation: Ground Level
Top of Casing

Drilling Summary:

Total Depth: 25 ft.
Borehole Diameter: 4 in.

Driller: Boart Longyear

Rig: Rotosonic
Bit(s): Not applicable
Drilling Fluid: Not applicable
Surface Casing: Flush mount

Well Design:

Basis: Geologic Log: X
Geophysical Log:

Casing String(s): C=Casing S=Screen

0	- 20'	C
20'	- 25'	S
	-	
	-	

Casing: C1 2 in. dia. PVC construction
C2
Screen: S1 2 in. dia. No 10 slotted, PVC.
S2
Centralizers: Not Applicable

Filter Material: Silica Sand 18' - 25'

Cement: 0' - 14'

Other: Bentonite seal 14' - 18'

Construction Time Log:

Task	Start Date	Finish Date	
Drilling:	09-Nov-11	09-Nov-11	
Geophys. Logg	--	--	--
Casing:			
	09-Nov-11	09-Nov-11	
Filter Placemen	09-Nov-11	09-Nov-11	
Cementing:	09-Nov-11	09-Nov-11	
Development:			
Other:			

Well Development:

Comments:

WESTON SOLUTIONS, INC.			Drilling/Lithologic Log	PAGE 1 OF 2	
Job Name	Tech Town PCB/UST Inv.	**Boring No.**	N/A	**Groundwater Levels**	
Job No.	12473.005.007.1000.40	**Well Type**	MW-70	**Date**	**Depth**
Date Drilled	10 Nov 11	**Drilling Method**	Rotosonic		
Drilling Co.	Boart Longyear	**Completion Depth**	25.0 (ft bgs)		
Drill Foreman	Adan Anderson	**Location**	Dayton, Ohio		
Logged By	Michael Blair	**Drill Rig Type**	Rotosonic Drill		

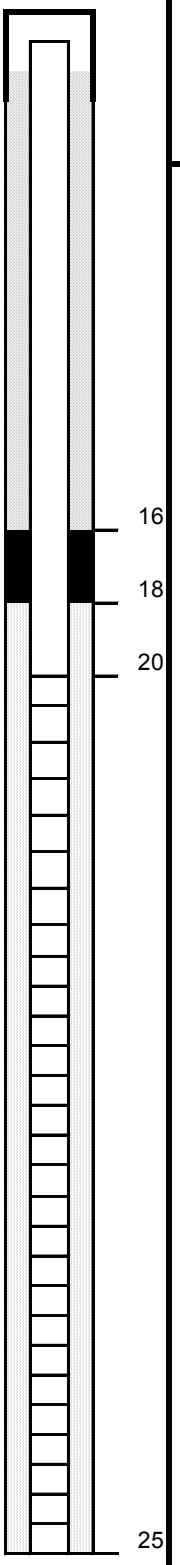
Depth ft BGS	Sample No.	Sample Blow Counts (per 6 in.)	Well Profile	% Rec.	Visual Description	FID/OVA HEATED HEADSPACE
					Asphalt (6" layer) and gravel sub-base. 1 ft.	
2					Brown silty clay with trace gravel. Material is stiff and moist.	0.3
4				100	3 ft. Brown & black fill consisting of fine-grained sand, gravel and slag cobbles. Material is loose and moist.	0.5
6	1020	TT-MW70-6-111011				1.6
8	935	TT-MW70-8-111011		100	Note: Material grades to fine-grained sand with some gravel. 8 ft.	0.5
10					Brown silt with little clay, trace gravel. Material is soft and moist. 9 ft.	0
12				100	Light brown gravel and cobbles (rounded) with some medium grained sand. Material is loose and moist. 10 ft. Brown fine-grained sand with some clay. Material is wet and soft. 12 ft.	0
14					Light brown gravel & cobbles (1" to 4") with some medium to coarse grained sand. Material is wet.	0
16	955	TT-MW70-16-111011				0.5
18	1025	TT-MW70-18-111011		100	Note: Material changes color to gray and has odor from 16.5 ft to 19 ft.	24.6
					Note: Material grades to coarse grained sand with some gravel, little cobble @ 18 ft.	0.4

Job Name / Job No.	Tech Town PCB/UST Inv. 12473.005.007.1000.40	Boring No. / Well Type	N/A / MW-70	Groundwater Levels Date	Depth
Date Drilled	10 Nov 11	Drilling Method	Rotosonic		
Drilling Co.	Boart Longyear	Completion Depth	25.0 (ft bgs)		
Drill Foreman	Adam Anderson	Location	Dayton, Ohio		
Logged By	Michael Blair	Drill Rig Type	Rotosonic drill		

Depth ft BGS	Sample Time	Sample Number & Depth	Well Profile	% Rec.	Visual Description	FID/OVA HEATED HEADSPACE
20				100	Brown coarse grained sand & gravel (sub-rounded to rounded) with trace cobble. Material is saturated and loose.	0.4
22				100	Note: Material grades to coarse sand with little gravel. Material is loose and saturated.	0.5
24						0.5
26					Boring terminated @ 25 ft.	

Well I.D. 70

Well Construction Summary



Project: Tech Town Tier 1 Investigation
Location: Dayton, Ohio
Personnel: Adam Anderson - Driller

Location or Coordinates: (N)
(E)
Elevation: Ground Level
Top of Casing

Drilling Summary:

Total Depth: 25 ft.
Borehole Diameter: 4 in.

Driller: Boart Longyear

Rig: Rotosonic
Bit(s): Not applicable
Drilling Fluid: Not applicable
Surface Casing: Flush mount

Well Design:

Basis: Geologic Log: X
Geophysical Log:

Casing String(s): C=Casing S=Screen

0	- 20'	C
20'	- 25'	S
	-	
	-	

Casing: C1 2 in. dia. PVC construction
C2
Screen: S1 2 in. dia. No 10 slotted, PVC.
S2
Centralizers: Not Applicable

Filter Material: Silica Sand 18' - 25'

Cement: 0' - 16'

Other: Bentonite seal 16' - 18'

Construction Time Log:

Task	Start Date	Finish Date	
Drilling:	09-Nov-11	09-Nov-11	
Geophys. Logg	--	--	--
Casing:			
	09-Nov-11	09-Nov-11	
Filter Placemen	09-Nov-11	09-Nov-11	
Cementing:	09-Nov-11	09-Nov-11	
Development:			
Other:			

Well Development:

Comments:

WESTON SOLUTIONS, INC. **Drilling/Lithologic Log** PAGE 1 OF 2

Job Name	Tech Town PCB/UST Inv.	**Boring No.**	N/A	**Groundwater Levels**	
Job No.	12473.005.007.1000.40	**Well Type**	MW-71	**Date**	**Depth**
Date Drilled	10 Nov 11	**Drilling Method**	Rotosonic		
Drilling Co.	Boart Longyear	**Completion Depth**	25.0 (ft bgs)		
Drill Foreman	Adam Anderson	**Location**	Dayton, Ohio		
Logged By	Michael Blair	**Drill Rig Type**	Rotosonic drill		

Depth ft BGS	Sample Time	Sample Number & Depth	Well Profile	% Rec.	Visual Description	FID/OVA HEATED HEADSPACE
2					No recovery from 0 ft to 2 ft. 2 ft	n/a
4				75	CL - Brown silty clay with trace gravel & rounded cobble. Material is stiff and wet.	0.1
6	1435	TT-MW71-6-111011			6 ft.	0.5
8					Concrete 8 ft.	n/a
10					Note: No recovery from 8 ft to 15 ft.	n/a
12						n/a
14						n/a
16					16 ft.	n/a
18					CL - Brown silty clay with trace cobble & gravel. Material is stiff & moist. 17.5 ft Concrete 18 ft.	0.9
	1718	TT-MW71-20-111011			GW - Medium grained brown sand & gravel with some rounded cobble. Material is loose and wet.	0.4

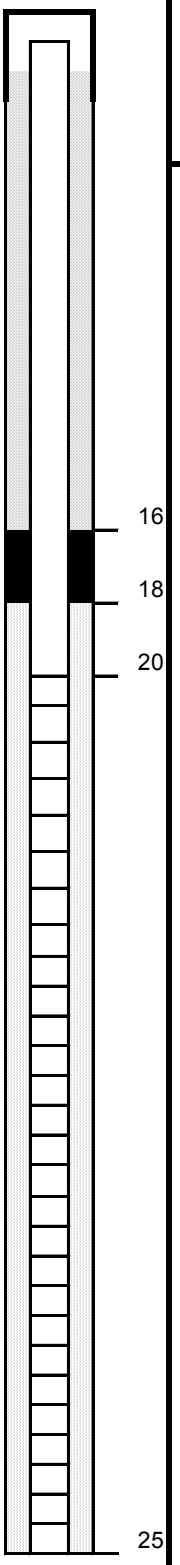
WESTON SOLUTIONS, INC. **Drilling/Lithologic Log** PAGE 2 OF 2

Job Name	Tech Town PCB/UST Inv.	**Boring No.**	N/A	**Groundwater Levels**	
Job No.	12473.005.007.1000.40	**Well Type**	MW-71	**Date**	**Depth**
Date Drilled	########	**Drilling Method**	Rotosonic		
Drilling Co.	Boart Longyear	**Completion Depth**	25.0 (ft bgs)		
Drill Foreman	Adam Anderson	**Location**	Dayton, Ohio		
Logged By	Michael Blair	**Drill Rig Type**	Rotosonic		

Depth ft BGS	Sample Time	Sample Number & Depth	Well Profile	% Rec.	Visual Description	FID/OVA HEATED HEADSPACE
				50	GW - Brown medium grained sand & gravel with some rounded cobb Material is loose and wet. 19 ft.	0.4
20	1718	TT-MW71-20-111011			GW - Gray gravel & cobbles with little sand. Cobbles 1" - 4" dia and rounded. Material is loose, saturated and Petroleum odor noted.	30
						35
22				100		
						0.5
24					GW - Brown sand and gravel with some cobbles. Material is loose and saturated.	
26						

Well I.D. 71

Well Construction Summary



Project: Tech Town Tier 1 Investigation
Location: Dayton, Ohio
Personnel: Adam Anderson - Driller

Location or Coordinates: (N)
(E)
Elevation: Ground Level
Top of Casing

Drilling Summary:

Total Depth: 25 ft.
Borehole Diameter: 4 in.

Driller: Boart Longyear

Rig: Rotosonic
Bit(s): Not applicable
Drilling Fluid: Not applicable
Surface Casing: Flush mount

Well Design:

Basis: Geologic Log: X
Geophysical Log:

Casing String(s): C=Casing S=Screen

0	- 20'	C
20'	- 25'	S
	-	
	-	

Casing: C1 2 in. dia. PVC construction
C2
Screen: S1 2 in. dia. No 10 slotted, PVC.
S2
Centralizers: Not Applicable

Filter Material: Silica Sand 18' - 25'

Cement: 0' - 16'

Other: Bentonite seal 16' - 18'

Construction Time Log:

Task	Start Date	Finish Date	
Drilling:	10-Nov-11	10-Nov-11	
Geophys. Logg	--	--	--
Casing:			
	10-Nov-11	10-Nov-11	
Filter Placemen	10-Nov-11	10-Nov-11	
Cementing:	10-Nov-11	10-Nov-11	
Development:			
Other:			

Well Development:

Comments:

APPENDIX I

VAP DATA CERTIFICATIONS

CONESTOGA-ROVERS
& ASSOCIATES

651 Colby Drive, Waterloo, Ontario, Canada N2V 1C2
Telephone: (519) 884-0510 Facsimile: (519) 884-0525
www.CRAworld.com

July 19, 2010 Reference No. 012638-50

Ms. Laura Funk
Weston Solutions, Inc.
711 East Monument Avenue, Suite 201
Dayton, Ohio
U.S.A. 45402

Dear Ms. Funk:

Re: VAP affidavits
Tech Town Site aka Former Delphi Harrison Thermal Systems
300 Taylor Street, Dayton, Ohio

This letter presents VAP affidavits for the Tech Town Site (also known as the Former Delphi Harrison Thermal Systems Facility) located at 300 Taylor Street in Dayton, Ohio.

As identified in the scope of work in CRA's proposal dated March 18, 2010, this package contains original VAP affidavits for samples collected in January 2006 and later. The list of VAP affidavits are presented on Table 1.

Should you have any questions on the above, please do not hesitate to contact us.

Yours truly,

CONESTOGA-ROVERS & ASSOCIATES

J Gallaway

Jessica Gallaway, B.A. Sc.

JG/ev/4
Encl.

cc: Ian Richardson, CRA
Pam Barnett, BOW

TABLE 1

TECH TOWN SITE (FORMER DELPHI HARRISON THERMAL SYSTEMS)
AFFIDAVITS

SDG#	*Lab Report #*	*Report Date*	*Sworn Date*
NA	A9D070188	5/6/2009	5/6/2009
NA	A8L170196	12/31/2008	12/31/2008
8K12177	A8K120177	12/9/2008	12/10/2008
8K12177	A8K130259	12/9/2008	
8K12177	A8K140136	12/9/2008	
8K12177	A8K150119	12/9/2008	
8K12177	A8K150120	12/9/2008	
NA	A7H280137	9/25/2007	9/25/2007
NA	A7K300133	12/6/2007	12/7/2007
NA	A7J180356	11/1/2007	11/6/2007
9D07183	A9D070183	5/6/2009	5/6/2009
9D07183	A9D080139	5/6/2009	
9D07183	A9D090143	5/6/2009	
8B20110	A8B200110	3/7/2008	3/12/2008
8B20110	A8B200111	3/7/2008	
7F07247	A7F070247	6/20/2007	6/22/2007
7F07247	A7F080191	6/20/2007	
7F07247	A7F090132	6/20/2007	
NA	A8F250195	7/3/2008	7/7/2008
NA	A7H180164	9/12/2007	7/25/2008
7H21206	A7H210206	9/6/2007	7/25/2008
7H21206	A7H220189	9/6/2007	
7H21206	A7H230203	9/6/2007	
7H21206	A7H240212	9/6/2007	
7H21206	A7H250151	9/6/2007	
7F07265	A7F070265	6/28/2007	7/25/2008
7F07265	A7F080198	6/28/2007	
7F07265	A7F090134	6/28/2007	
NA	A6K170299	12/14/2006	7/25/2008
6K07128	A6K070128	12/12/2006	7/25/2008
6K07128	A6K080148	12/12/2006	
6K07128	A6K100216	12/12/2006	
6K07128	A6K110155	12/12/2006	

TABLE 1

TECH TOWN SITE (FORMER DELPHI HARRISON THERMAL SYSTEMS)
AFFIDAVITS

SDG#	*Lab Report #*	*Report Date*	*Sworn Date*
6K01151	A6K011151	12/7/2006	7/25/2008
6K01151	A6K020230	12/7/2006	
6K01151	A6K030209	12/7/2006	
6K01151	A6K040155	12/7/2006	
6J24267	A6J240267	11/17/2006	
6J24267	A6J250268	11/17/2006	
6J10289	A6J100289	10/27/2006	
NA	A6J040291	10/18/2006	
6I26235	A6I260235	10/16/2006	
NA	A6I220353	10/12/2006	
6I19203	A6I190203	10/13/2006	
6I19203	A6I200174	10/13/2006	
6I19203	A6I250129	10/13/2006	
6I14260	A6I140260	10/10/2006	
6I14260	A6I150140	10/10/2006	
6I14260	A6I160151	10/10/2006	
6I07231	A6I070231	9/27/2006	
6H30140	A6H300140	9/29/2006	
6H30140	A6H310259	9/29/2006	
6H30140	A6I020130	9/29/2006	
6H30140	A6G210251	8/11/2006	
6H30140	A6G130192	7/25/2006	
6H30140	A6F280163	7/20/2006	
6H30140	A6E260133	6/16/2006	
6H30140	A6A240169	1/31/2006	
6H30140	A6A230188	1/31/2006	
6A17220	A6A170220	1/30/2006	

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Affidavit by Certified Lab Pursuant to OAC 3745-300-13(M)

TestAmerica Laboratories, Inc.

State of Ohio

ss:

County of Stark

I, Opal Davis-Johnson, being first duly sworn according to law, state that, to the best of my knowledge, information and belief:

1. I am an adult over the age of eighteen (18) years old and competent to testify herein.
2. I am employed by TestAmerica Laboratories, Inc. as Laboratory Director and authorized to submit this affidavit on behalf of TestAmerica North Canton.
3. The purpose of this submission is to support a request for a no further action letter or other aspects of a voluntary action, under Ohio's Voluntary Action Program (VAP) as set forth in Ohio Revised Code Chapter 3746 and Ohio Administrative Code (OAC) Chapter 3745-300.
4. TestAmerica North Canton performed analyses on behalf of **Conestoga Rovers & Associates, Inc.** for a voluntary action at property known as **Delphi Harrison.**
5. This affidavit applies to and is submitted with the following information, data, documents or reports for the property:

Laboratory Report Number	Report Date
A9D070188	**May 6, 2009**

6. TestAmerica North Canton was a VAP certified laboratory pursuant to OAC 3745-300-04 when it performed analyses referenced herein.
7. The analyses under this affidavit consist of certified data, as described by OAC 3745-300-04(B).

   Only those analyses performed by TestAmerica North Canton that are identified in the Attachment hereto of this Affidavit are subject to this Affidavit. Any analyses performed that are not identified in Attachment hereto of this Affidavit are not subject to this Affidavit.
8. TestAmerica North Canton performed the analyses within its current VAP certification. The laboratory was certified for each analyte, parameter group and method used at the time that it performed the analyses. The analyses were performed consistent with the laboratory's standard operating procedures and quality assurance program plan as approved under OAC 3745-300-04.
9. The information, data, documents, and reports identified under this affidavit are true, accurate, and complete.

Further affiant sayeth naught.

Signature of Affiant

Sworn to before me this 6th day of May, 2009.

NOTARY PUBLIC STATE OF OHIO

JEFFREY C. SMITH
Notary Public, State of Ohio
My Commission Expires Feb. 12, 2012

Jeffrey C. Smith
Notary Public

Revised 05/08

OhioEPA

OHIO E.P.A.
AUG 20 2008
ENTERED DIRECTOR'S JOURNAL

Ohio Environmental Protection Agency
Division of Emergency and Remedial Response
Voluntary Action Program

Under the authority of Ohio Revised Code Section 3746.04(B)(6) and Ohio Administrative Code Rule 3745-300-04

Certifies

TestAmerica Laboratories, Inc.

4101 Shuffel Drive, NW
North Canton, OH 44720

as a

Certified Laboratory

(Number CL0024)

for the following analytes, parameter groups, and methods:

Aluminum/6010B
Antimony/6010B, 6020
Arsenic/6010B, 6020
Barium/6010B, 6020
Beryllium/6010B, 6020
Cadmium/6010B, 6020
Calcium/6010B
Chromium/6010B, 6020
Cobalt/6010B, 6020
Copper/6010B, 6020
Cyanide, Total/335.2(CLP-M)
Iron/6010B
Lead/6010B, 6020
Manganese/6010B, 6020
Nickel/6010B, 6020
Hexavalent Chromium/7196A
Silver/6010B, 6020
Sodium/6010B
Thallium/6010B, 6020
Vanadium/6010B
Zinc/6010B, 6020
Selenium/6010B
Potassium/6010B
Mercury/7470A*, 7471A

*Water Only

Organochlorine Pesticides/8081A
Polychlorinated Biphenyls/8082
Chlorinated Herbicides/8151A
Volatile Organic Compounds/8260A, 8260B, 8021B
N-Hexane/8260A-Modified, 8260B-Modified
Polychlorinated Biphenyls, Aroclor 1268/8082-Modified
Total Petroleum Hydrocarbons, Diesel Range Organics/8015B
Total Petroleum Hydrocarbons, Gasoline Range Organics/8015A-Modified
Semi-Volatile Organic Compounds/8270C

AUG 20 2008
Date of Certification
Director, Ohio Environmental Protection Agency

MAR 07 2010
Date of Expiration
Manager, Voluntary Action Program

SCOPE, LIMITATION, OBLIGATIONS AND RESPONSIBILITIES OF CERTIFICATION ON REVERSE SIDE

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Affidavit by Certified Lab Pursuant to OAC 3745-300-13(M)

TestAmerica Laboratories, Inc.

State of Ohio

ss:

County of Stark

I, Opal Davis-Johnson, being first duly sworn according to law, state that, to the best of my knowledge, information and belief:

1. I am an adult over the age of eighteen (18) years old and competent to testify herein.
2. I am employed by TestAmerica Laboratories, Inc. as Laboratory Director and authorized to submit this affidavit on behalf of TestAmerica North Canton.
3. The purpose of this submission is to support a request for a no further action letter or other aspects of a voluntary action, under Ohio's Voluntary Action Program (VAP) as set forth in Ohio Revised Code Chapter 3746 and Ohio Administrative Code (OAC) Chapter 3745-300.
4. TestAmerica North Canton performed analyses on behalf of **Conestoga Rovers & Assoc., Inc.** for a voluntary action at property known as **Delphi Harrison SSOW# R038037.**
5. This affidavit applies to and is submitted with the following information, data, documents or reports for the property:

Laboratory Report Number	Report Date
A8L170196	**December 31, 2008**

6. TestAmerica North Canton was a VAP certified laboratory pursuant to OAC 3745-300-04 when it performed analyses referenced herein.
7. The analyses under this affidavit consist of certified data, as described by OAC 3745-300-04(B).

   Only those analyses performed by TestAmerica North Canton that are identified in the Attachment hereto of this Affidavit are subject to this Affidavit. Any analyses performed that are not identified in Attachment hereto of this Affidavit are not subject to this Affidavit.
8. TestAmerica North Canton performed the analyses within its current VAP certification. The laboratory was certified for each analyte, parameter group and method used at the time that it performed the analyses. The analyses were performed consistent with the laboratory's standard operating procedures and quality assurance program plan as approved under OAC 3745-300-04.
9. The information, data, documents, and reports identified under this affidavit are true, accurate, and complete.

Further affiant sayeth naught.

Signature of Affiant

Sworn to before me this 31st day of December, 2008.

Jeffrey C. Smith
Notary Public

NOTARY PUBLIC STATE OF OHIO

JEFFREY C. SMITH
Notary Public, State of Ohio
My Commission Expires Feb. 12, 2012

Revised 05/08

OhioEPA

OHIO E.P.A.
AUG 20 2008
ENTERED DIRECTOR'S JOURNAL

Ohio Environmental Protection Agency
Division of Emergency and Remedial Response
Voluntary Action Program

Under the authority of Ohio Revised Code Section 3746.04(B)(6) and Ohio Administrative Code Rule 3745-300-04

Certifies

TestAmerica Laboratories, Inc.

4101 Shuffel Drive, NW
North Canton, OH 44720

as a

Certified Laboratory

(Number CL0024)

for the following analytes, parameter groups, and methods:

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Antimony/6010B, 6020
Arsenic/6010B, 6020
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Beryllium/6010B, 6020
Cadmium/6010B, 6020
Calcium/6010B
Chromium/6010B, 6020
Cobalt/6010B, 6020
Copper/6010B, 6020
Cyanide, Total/335.2(CLP-M)
Iron/6010B
Lead/6010B, 6020
Manganese/6010B, 6020
Nickel/6010B, 6020
Hexavalent Chromium/7196A
Silver/6010B, 6020
Sodium/6010B
Thallium/6010B, 6020
Vanadium/6010B
Zinc/6010B, 6020
Selenium/6010B
Potassium/6010B
Mercury/7470A*, 7471A

*Water Only

Organochlorine Pesticides/8081A
Polychlorinated Biphenyls/8082
Chlorinated Herbicides/8151A
Volatile Organic Compounds/8260A, 8260B, 8021B
N-Hexane/8260A-Modified, 8260B-Modified
Polychlorinated Biphenyls, Aroclor 1268/8082-Modified
Total Petroleum Hydrocarbons, Diesel Range Organics/8015B
Total Petroleum Hydrocarbons, Gasoline Range Organics/8015A-Modified
Semi-Volatile Organic Compounds/8270C

AUG 20 2008
Date of Certification
Director, Ohio Environmental Protection Agency

MAR 07 2010
Date of Expiration
Manager, Voluntary Action Program

SCOPE, LIMITATION, OBLIGATIONS AND RESPONSIBILITIES OF CERTIFICATION ON REVERSE SIDE

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THE LEADER IN ENVIRONMENTAL TESTING

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TestAmerica Laboratories, Inc.

State of Ohio

ss:

County of Stark

I, Opal Davis-Johnson, being first duly sworn according to law, state that, to the best of my knowledge, information and belief:

1. I am an adult over the age of eighteen (18) years old and competent to testify herein.
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3. The purpose of this submission is to support a request for a no further action letter or other aspects of a voluntary action, under Ohio's Voluntary Action Program (VAP) as set forth in Ohio Revised Code Chapter 3746 and Ohio Administrative Code (OAC) Chapter 3745-300.
4. TestAmerica North Canton performed analyses on behalf of **Conestoga Rovers & Assoc., Inc.** for a voluntary action at property known as **Delphi Harrison SSOW# R038037.**
5. This affidavit applies to and is submitted with the following information, data, documents or reports for the property:

Laboratory Report Number	Report Date
A8K120177, A8K130259 **A8K140136, A8K150119** **A8K150120**	**December 9, 2008**

6. TestAmerica North Canton was a VAP certified laboratory pursuant to OAC 3745-300-04 when it performed analyses referenced herein.
7. The analyses under this affidavit consist of certified data, as described by OAC 3745-300-04(B).

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9. The information, data, documents, and reports identified under this affidavit are true, accurate, and complete.

Further affiant sayeth naught.

Signature of Affiant

Sworn to before me this 10th day of December, 2008.

NOTARY PUBLIC STATE OF OHIO

JEFFREY C. SMITH
Notary Public, State of Ohio
My Commission Expires Feb. 12, 2012

Jeffrey C. Smith
Notary Public

Revised 05/08

OhioEPA

OHIO E.P.A.
AUG 20 2008
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Ohio Environmental Protection Agency
Division of Emergency and Remedial Response
Voluntary Action Program

Under the authority of Ohio Revised Code Section 3746.04(B)(6) and Ohio Administrative Code Rule 3745-300-04

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(Number CL0024)

for the following analytes, parameter groups, and methods:

Aluminum/6010B		Silver/6010B, 6020	Organochlorine Pesticides/8081A
Antimony/6010B, 6020	Copper/6010B, 6020	Sodium/6010B	Polychlorinated Biphenyls/8082
Arsenic/6010B, 6020	Cyanide, Total/335.2(CLP-M)	Thallium/6010B, 6020	Chlorinated Herbicides/8151A
Barium/6010B, 6020	Iron/6010B	Vanadium/6010B	Volatile Organic Compounds/8260A, 8260B, 8021B
Beryllium/6010B, 6020	Lead/6010B, 6020	Zinc/6010B, 6020	N-Hexane/8260A-Modified, 8260B-Modified
Cadmium/6010B, 6020	Manganese/6010B, 6020	Selenium/6010B	Polychlorinated Biphenyls, Aroclor 1268/8082-Modified
Calcium/6010B	Nickel/6010B, 6020	Potassium/6010B	Total Petroleum Hydrocarbons, Diesel Range Organics/8015B
Chromium/6010B, 6020	Hexavalent Chromium/7196A	Mercury/7470A*, 7471A	Total Petroleum Hydrocarbons, Gasoline Range Organics/8015A-Modified
Cobalt/6010B, 6020			Semi-Volatile Organic Compounds/8270C

*Water Only

AUG 20 2008
Date of Certification

Director, Ohio Environmental Protection Agency

MAR 07 2010
Date of Expiration

Manager, Voluntary Action Program

SCOPE, LIMITATION, OBLIGATIONS AND RESPONSIBILITIES OF CERTIFICATION ON REVERSE SIDE

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Affidavit by Certified Lab Pursuant to OAC 3745-300-13(M)

State of Ohio)
) ss:
County of Stark)

I, Opal Davis-Johnson, being first duly sworn according to law, state that, to the best of my knowledge, information and belief:

1. I am an adult over the age of eighteen (18) years old and competent to testify herein.

2. I am employed by TestAmerica North Canton as Laboratory Director and authorized to submit this affidavit on behalf of TestAmerica North Canton.

3. The purpose of this submission is to provide certified laboratory data for conducting or completing a voluntary action.

4. TestAmerica North Canton performed analyses on behalf of **Conestoga-Rovers & Associates, Inc.** for a voluntary action at property known as **Harrison SSOW# R038025.**

5. TestAmerica North Canton was a certified laboratory pursuant to Ohio Revised Code (ORC) Chapter 3746 and Ohio Administrative Code (OAC) Chapter 3745-300 when it performed analyses for the purpose of conducting or completing the voluntary action identified in paragraph 4 of this affidavit.

6. All of the analyses performed for the purpose of conducting or completing the voluntary action identified in paragraph 4 of this affidavit by TestAmerica North Canton complied with the applicable requirements of ORC Chapter 3746 and OAC Chapter 3745-300.

   Only those analyses performed by TestAmerica North Canton that are identified in the Attachment hereto of this Affidavit are subject to this Affidavit. Any analyses performed that are not identified in Attachment hereto of this Affidavit are not subject to this Affidavit.

7. I submitted the following information, data, documents or reports, to the following persons:

Laboratory Report Number	Report Date	Submitted To
A7H280137	**September 25, 2007**	**Paul Wiseman**

8. The information, data, documents and reports identified in this affidavit are true, accurate and complete.

   Further affiant sayeth naught.

Signature of Affiant

Sworn to before me this 25th day of September, 2007.

NOTARY PUBLIC STATE OF OHIO

JEFFREY C. SMITH
Notary Public, State of Ohio
My Commission Expires Feb. 12, 2012

Jeffrey C. Smith
Notary Public

Revised 06/07

OHIO E.P.A.

AUG - 1 2007

ENTERED DIRECTOR'S JOURNAL

OhioEPA

Ohio Environmental Protection Agency
Division of Emergency and Remedial Response
Voluntary Action Program

Under the authority of Ohio Revised Code Section 3746.04(B)(6) and Ohio Administrative Code Rule 3745-300-04

Certifies

TestAmerica Laboratories, Inc.

4101 Shuffel Drive, NW
North Canton, OH 44720

as a

Certified Laboratory

(Number CL0024)

for the following analytes, parameter groups, and methods:

Aluminum/6010B	Cobalt/6010B, 6020	Silver/6010B, 6020	Mercury/7470A*, 7471A*	Organochlorine Pesticides/8081A
Antimony/6010B, 6020	Copper/6010B, 6020	Sodium/6010B	Chloride/300.0	Polynuclear Aromatic Hydrocarbons/ 8310
Arsenic/6010B	Cyanide, Total/335.2(CLP-M)	Thallium/6010B, 6020	Phosphate/365.2*	Semi-Volatile Organic Compounds/8270C
Barium/6010B, 6020	Iron/6010B	Vanadium/6010B	Orthophosphate/300.0	Volatile Organic Compounds/8260A, 8260B, 8021B
Beryllium/6010B, 6020	Lead/6010B, 6020	Zinc/6010B	Sulfate/300.0	N-Hexane/8260A-Modified, 8260B-Modified
Cadmium/6010B, 6020	Manganese/6010B, 6020	Selenium/6010B	Nitrate/300.0	Polychlorinated Biphenyls, Aroclor 1268/8082-Modified
Calcium/6010B	Nickel/6010B, 6020	Potassium/6010B	Chlorinated Herbicides/8151A	Total Petroleum Hydrocarbons Only, Diesel Range Organics/8015B
Chromium/6010B, 6020	Hexavalent Chromium/7196A	Polychlorinated Biphenyls/8082	Phosphorus/365.2*	Total Petroleum Hydrocarbons, Gasoline Range Organics/8015A-Modified
			Phenols/9065*	n-Hexane Extractable Material/1664A*

*Water Only

AUG 0 1 2007
Date of Certification

Director, Ohio Environmental Protection Agency

MAY 18 2008
Date of Expiration

Manager, Voluntary Action Program

SCOPE, LIMITATION, OBLIGATIONS AND RESPONSIBILITIES OF CERTIFICATION ON REVERSE SIDE

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Affidavit by Certified Lab Pursuant to OAC 3745-300-13(M)

State of Ohio)
) ss:
County of Stark)

I, Opal Davis-Johnson, being first duly sworn according to law, state that, to the best of my knowledge, information and belief:

1. I am an adult over the age of eighteen (18) years old and competent to testify herein.

2. I am employed by TestAmerica North Canton as Laboratory Director and authorized to submit this affidavit on behalf of TestAmerica North Canton.

3. The purpose of this submission is to provide certified laboratory data for conducting or completing a voluntary action.

4. TestAmerica North Canton performed analyses on behalf of **Conestoga-Rovers & Associates, Inc.** for a voluntary action at property known as **Delphi Harrison SSOW# R038032.**

5. TestAmerica North Canton was a certified laboratory pursuant to Ohio Revised Code (ORC) Chapter 3746 and Ohio Administrative Code (OAC) Chapter 3745-300 when it performed analyses for the purpose of conducting or completing the voluntary action identified in paragraph 4 of this affidavit.

6. All of the analyses performed for the purpose of conducting or completing the voluntary action identified in paragraph 4 of this affidavit by TestAmerica North Canton complied with the applicable requirements of ORC Chapter 3746 and OAC Chapter 3745-300.

   Only those analyses performed by TestAmerica North Canton that are identified in the Attachment hereto of this Affidavit are subject to this Affidavit. Any analyses performed that are not identified in Attachment hereto of this Affidavit are not subject to this Affidavit.

7. I submitted the following information, data, documents or reports, to the following persons:

Laboratory Report Number	Report Date	Submitted To
A7K300133	**December 6, 2007**	**Paul Wiseman**

8. The information, data, documents and reports identified in this affidavit are true, accurate and complete.

   Further affiant sayeth naught.

Signature of Affiant

Sworn to before me this 7th day of December, 2007.

JEFFREY C. SMITH
Notary Public, State of Ohio
My Commission Expires Feb. 12, 2012

Jeffrey C. Smith
Notary Public

Revised 06/07

OHIO E.P.A.

AUG 23 2007

ENTERED DIRECTOR'S JOURNAL

OhioEPA

Ohio Environmental Protection Agency
Division of Emergency and Remedial Response
Voluntary Action Program

Under the authority of Ohio Revised Code Section 3746.04(B)(6) and Ohio Administrative Code Rule 3745-300-04

Certifies

TestAmerica Laboratories, Inc.

4101 Shuffel Drive, NW
North Canton, OH 44720

as a

Certified Laboratory

(Number CL0024)

for the following analytes, parameter groups, and methods

Aluminum/6010B	Cobalt/6010B, 6020	Silver/6010B, 6020	Mercury/7470A, 7471A	Organochlorine Pesticides/8081A
Antimony/6010B, 6020	Copper/6010B, 6020	Sodium/6010B	Chloride/300.0	Polynuclear Aromatic Hydrocarbons/ 8310
Arsenic/6010B, 6020	Cyanide, Total/335.2(CLP-M)	Thallium/6010B, 6020	Phosphate/365.2*	Semi-Volatile Organic Compounds/8270C
Barium/6010B, 6020	Iron/6010B	Vanadium/6010B	Orthophosphate/300.0	Volatile Organic Compounds/8260A, 8260B, 8021B
Beryllium/6010B, 6020	Lead/6010B, 6020	Zinc/6010B, 6020	Sulfate/300.0	N-Hexane/8260A-Modified, 8260B-Modified
Cadmium/6010B, 6020	Manganese/6010B, 6020	Selenium/6010B	Nitrate/300.0*	Polychlorinated Biphenyls, Aroclor 1268/8082-Modified
Calcium/6010B	Nickel/6010B, 6020	Potassium/6010B	Chlorinated Herbicides/8151A	Total Petroleum Hydrocarbons Only, Diesel Range Organics/8015B
Chromium/6010B, 6020	Hexavalent Chromium/7196A	Polychlorinated Biphenyls/8082	Phosphorus/365.2*	Total Petroleum Hydrocarbons, Gasoline Range Organics/8015A-Modified
			Phenols/9065*	n-Hexane Extractable Material/1664A*

*Water Only

AUG 23 2007
Date of Certification

Director, Ohio Environmental Protection Agency

MAY 18 2008
Date of Expiration

Manager, Voluntary Action Program

SCOPE; LIMITATION, OBLIGATIONS AND RESPONSIBILITIES OF CERTIFICATION ON REVERSE SIDE

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Affidavit by Certified Lab Pursuant to OAC 3745-300-13(M)

State of Ohio)
) ss:
County of Stark)

I, Opal Davis-Johnson, being first duly sworn according to law, state that, to the best of my knowledge, information and belief:

1. I am an adult over the age of eighteen (18) years old and competent to testify herein.

2. I am employed by TestAmerica North Canton as Laboratory Director and authorized to submit this affidavit on behalf of TestAmerica North Canton.

3. The purpose of this submission is to provide certified laboratory data for conducting or completing a voluntary action.

4. TestAmerica North Canton performed analyses on behalf of **Conestoga-Rovers & Associates, Inc.** for a voluntary action at property known as **Delphi Harrison SSOW# R038032.**

5. TestAmerica North Canton was a certified laboratory pursuant to Ohio Revised Code (ORC) Chapter 3746 and Ohio Administrative Code (OAC) Chapter 3745-300 when it performed analyses for the purpose of conducting or completing the voluntary action identified in paragraph 4 of this affidavit.

6. All of the analyses performed for the purpose of conducting or completing the voluntary action identified in paragraph 4 of this affidavit by TestAmerica North Canton complied with the applicable requirements of ORC Chapter 3746 and OAC Chapter 3745-300.

   Only those analyses performed by TestAmerica North Canton that are identified in the Attachment hereto of this Affidavit are subject to this Affidavit. Any analyses performed that are not identified in Attachment hereto of this Affidavit are not subject to this Affidavit.

7. I submitted the following information, data, documents or reports, to the following persons:

Laboratory Report Number	Report Date	Submitted To
A7J180356	**November 1, 2007**	**Paul Wiseman**

8. The information, data, documents and reports identified in this affidavit are true, accurate and complete.

   Further affiant sayeth naught.

Signature of Affiant

Sworn to before me this 6th day of November, 2007.

JEFFREY C. SMITH
Notary Public, State of Ohio
My Commission Expires Feb. 12, 2012

Jeffrey C. Smith
Notary Public

OHIO E.P.A.

AUG 23 2007

ENTERED DIRECTOR'S JOURNAL

OhioEPA

Ohio Environmental Protection Agency
Division of Emergency and Remedial Response
Voluntary Action Program

Under the authority of Ohio Revised Code Section 3746.04(B)(6) and Ohio Administrative Code Rule 3745-300-04

Certifies

TestAmerica Laboratories, Inc.

4101 Shuffel Drive, NW
North Canton, OH 44720

as a

Certified Laboratory

(Number CL0024)

for the following analytes, parameter groups, and methods:

Aluminum/6010B	Cobalt/6010B, 6020	Silver/6010B, 6020	Mercury/1470A*, 7471A	Organochlorine Pesticides/8081A
Antimony/6010B, 6020	Copper/6010B, 6020	Sodium/6010B	Chloride/300.0	Polynuclear Aromatic Hydrocarbons/ 8310
Arsenic/6010B, 6020	Cyanide, Total/335.2(CLP-M)	Thallium/6010B, 6020	Phosphate/365.2	Semi-Volatile Organic Compounds/8270C
Barium/6010B, 6020	Iron/6010B	Vanadium/6010B	Orthophosphate/300.0	Volatile Organic Compounds/8260A, 8260B, 8021B
Beryllium/6010B, 6020	Lead/6010B, 6020	Zinc/6010B, 6020	Sulfate/300.0	N-Hexane/8260A-Modified, 8260B-Modified
Cadmium/6010B, 6020	Manganese/6010B, 6020	Selenium/6010B	Nitrate/300.0	Polychlorinated Biphenyls, Aroclor 1268/8082-Modified
Calcium/6010B	Nickel/6010B, 6020	Potassium/6010B	Chlorinated Herbicides/8151A	Total Petroleum Hydrocarbons Only, Diesel Range Organics/8015B
Chromium/6010B, 6020	Hexavalent Chromium/7196A	Polychlorinated Biphenyls/8082	Phosphorus/365.2*	Total Petroleum Hydrocarbons, Gasoline Range Organics/8015A-Modified
			Phenols/9065*	n-Hexane Extractable Material/1664A*

*Water Only

AUG 23 2007
Date of Certification

Director, Ohio Environmental Protection Agency

MAY 18 2008
Date of Expiration

Manager, Voluntary Action Program

SCOPE; LIMITATION, OBLIGATIONS AND RESPONSIBILITIES OF CERTIFICATION ON REVERSE SIDE

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Affidavit by Certified Lab Pursuant to OAC 3745-300-13(M)

TestAmerica Laboratories, Inc.

State of Ohio

ss:

County of Stark

I, Opal Davis-Johnson, being first duly sworn according to law, state that, to the best of my knowledge, information and belief:

1. I am an adult over the age of eighteen (18) years old and competent to testify herein.
2. I am employed by TestAmerica Laboratories, Inc. as Laboratory Director and authorized to submit this affidavit on behalf of TestAmerica North Canton.
3. The purpose of this submission is to support a request for a no further action letter or other aspects of a voluntary action, under Ohio's Voluntary Action Program (VAP) as set forth in Ohio Revised Code Chapter 3746 and Ohio Administrative Code (OAC) Chapter 3745-300.
4. TestAmerica North Canton performed analyses on behalf of **Conestoga Rovers & Associates, Inc.** for a voluntary action at property known as **Delphi Harrison SSOW# R038039.**
5. This affidavit applies to and is submitted with the following information, data, documents or reports for the property:

Laboratory Report Number	Report Date
Lot #'s A9D070183, A9D080139, & A9D090143	**May 6, 2009**

6. TestAmerica North Canton was a VAP certified laboratory pursuant to OAC 3745-300-04 when it performed analyses referenced herein.
7. The analyses under this affidavit consist of certified data, as described by OAC 3745-300-04(B).

   Only those analyses performed by TestAmerica North Canton that are identified in the Attachment hereto of this Affidavit are subject to this Affidavit. Any analyses performed that are not identified in Attachment hereto of this Affidavit are not subject to this Affidavit.
8. TestAmerica North Canton performed the analyses within its current VAP certification. The laboratory was certified for each analyte, parameter group and method used at the time that it performed the analyses. The analyses were performed consistent with the laboratory's standard operating procedures and quality assurance program plan as approved under OAC 3745-300-04.
9. The information, data, documents, and reports identified under this affidavit are true, accurate, and complete.

Further affiant sayeth naught.

Signature of Affiant

Sworn to before me this 12 day of May, 2009.

Jeffrey C. Smith
Notary Public

NOTARY PUBLIC STATE OF OHIO

JEFFREY C. SMITH
Notary Public, State of Ohio
My Commission Expires Feb. 12, 2012

Revised 05/08

OhioEPA

OHIO E.P.A.
AUG 20 2008
ENTERED DIRECTOR'S JOURNAL

Ohio Environmental Protection Agency
Division of Emergency and Remedial Response
Voluntary Action Program

Under the authority of Ohio Revised Code Section 3746.04(B)(6) and Ohio Administrative Code Rule 3745-300-04

Certifies

TestAmerica Laboratories, Inc.

4101 Shuffel Drive, NW
North Canton, OH 44720

as a

Certified Laboratory

(Number CL0024)

for the following analytes, parameter groups, and methods:

Aluminum/6010B
Antimony/6010B, 6020
Arsenic/6010B, 6020
Barium/6010B, 6020
Beryllium/6010B, 6020
Cadmium/6010B, 6020
Calcium/6010B
Chromium/6010B, 6020
Cobalt/6010B, 6020
Copper/6010B, 6020
Cyanide, Total/335.2(CLP-M)
Iron/6010B
Lead/6010B, 6020
Manganese/6010B, 6020
Nickel/6010B, 6020
Hexavalent Chromium/7196A
Silver/6010B, 6020
Sodium/6010B
Thallium/6010B, 6020
Vanadium/6010B
Zinc/6010B, 6020
Selenium/6010B
Potassium/6010B
Mercury/7470A*, 7471A

*Water Only

Organochlorine Pesticides/8081A
Polychlorinated Biphenyls/8082
Chlorinated Herbicides/8151A
Volatile Organic Compounds/8260A, 8260B, 8021B
N-Hexane/8260A-Modified, 8260B-Modified
Polychlorinated Biphenyls, Aroclor 1268/8082-Modified
Total Petroleum Hydrocarbons, Diesel Range Organics/8015B
Total Petroleum Hydrocarbons, Gasoline Range Organics/8015A-Modified
Semi-Volatile Organic Compounds/8270C

AUG 20 2008
Date of Certification
Director, Ohio Environmental Protection Agency

MAR 07 2010
Date of Expiration
Manager, Voluntary Action Program

SCOPE, LIMITATION, OBLIGATIONS AND RESPONSIBILITIES OF CERTIFICATION ON REVERSE SIDE

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Affidavit by Certified Lab Pursuant to OAC 3745-300-13(M)

State of Ohio)
) ss:
County of Stark)

I, Opal Davis-Johnson, being first duly sworn according to law, state that, to the best of my knowledge, information and belief:

1. I am an adult over the age of eighteen (18) years old and competent to testify herein.

2. I am employed by TestAmerica North Canton as Laboratory Director and authorized to submit this affidavit on behalf of TestAmerica North Canton.

3. The purpose of this submission is to provide certified laboratory data for conducting or completing a voluntary action.

4. TestAmerica North Canton performed analyses on behalf of **Conestoga Rovers & Assoc., Inc.** for a voluntary action at property known as **Delphi Harrison SSOW# R038034.**

5. TestAmerica North Canton was a certified laboratory pursuant to Ohio Revised Code (ORC) Chapter 3746 and Ohio Administrative Code (OAC) Chapter 3745-300 when it performed analyses for the purpose of conducting or completing the voluntary action identified in paragraph 4 of this affidavit.

6. All of the analyses performed for the purpose of conducting or completing the voluntary action identified in paragraph 4 of this affidavit by TestAmerica North Canton complied with the applicable requirements of ORC Chapter 3746 and OAC Chapter 3745-300.

   Only those analyses performed by TestAmerica North Canton that are identified in the Attachment hereto of this Affidavit are subject to this Affidavit. Any analyses performed that are not identified in Attachment hereto of this Affidavit are not subject to this Affidavit.

7. I submitted the following information, data, documents or reports, to the following persons:

Laboratory Report Number	Report Date	Submitted To
A8B200110	**March 7, 2008**	**Paul Wiseman**
A8B200111		

8. The information, data, documents and reports identified in this affidavit are true, accurate and complete.

Further affiant sayeth naught.

Signature of Affiant

Sworn to before me this 12th day of March, 2008.

JEFFREY C. SMITH
Notary Public, State of Ohio
My Commission Expires Feb. 12, 2012

Jeffrey C. Smith
Notary Public

Revised 06/07

OHIO E.P.A.

AUG 23 2007

ENTERED DIRECTOR'S JOURNAL

OhioEPA

Ohio Environmental Protection Agency
Division of Emergency and Remedial Response
Voluntary Action Program

Under the authority of Ohio Revised Code Section 3746.04(B)(6) and Ohio Administrative Code Rule 3745-300-04

Certifies

TestAmerica Laboratories, Inc.

4101 Shuffel Drive, NW
North Canton, OH 44720

as a

Certified Laboratory

(Number CL0024)

for the following analytes, parameter groups, and methods:

Aluminum/6010B	Cobalt/6010B, 6020	Silver/6010B, 6020	Mercury/7470A*, 7471A	Organochlorine Pesticides/8081A
Antimony/6010B, 6020	Copper/6010B, 6020	Sodium/6010B	Chloride/300.0	Polynuclear Aromatic Hydrocarbons/ 8310
Arsenic/6010B, 6020	Cyanide, Total/335.2(CLP-M)	Thallium/6010B, 6020	Phosphate/365.2*	Semi-Volatile Organic Compounds/8270C
Barium/6010B, 6020	Iron/6010B	Vanadium/6010B	Orthophosphate/300.0	Volatile Organic Compounds/8260A, 8260B, 8021B
Beryllium/6010B, 6020	Lead/6010B, 6020	Zinc/6010B, 6020	Sulfate/300.0	N-Hexane/8260A-Modified, 8260B-Modified
Cadmium/6010B, 6020	Manganese/6010B, 6020	Selenium/6010B	Nitrate/300.0*	Polychlorinated Biphenyls, Aroclor 1268/8082-Modified
Calcium/6010B	Nickel/6010B, 6020	Potassium/6010B	Chlorinated Herbicides/8151A	Total Petroleum Hydrocarbons Only, Diesel Range Organics/8015B
Chromium/6010B, 6020	Hexavalent Chromium/7196A	Polychlorinated Biphenyls/8082	Phosphorus/365.2*	Total Petroleum Hydrocarbons, Gasoline Range Organics/8015A-Modified
			Phenols/9065*	n-Hexane Extractable Material/1664A*

*Water Only

AUG 23 2007
Date of Certification

Director, Ohio Environmental Protection Agency

MAY 18 2008
Date of Expiration

Manager, Voluntary Action Program

SCOPE; LIMITATION, OBLIGATIONS AND RESPONSIBILITIES OF CERTIFICATION ON REVERSE SIDE

Affidavit by Certified Lab Pursuant to OAC 3745-300-13(M)

STL

STL North Canton
4101 Shuffel Drive NW
North Canton, OH 44720

Tel: 330 497 9396 Fax: 330 497 0772
www.stl-inc.com

State of Ohio)
) ss:
County of Stark)

I, Opal Davis-Johnson, being first duly sworn according to law, state that, to the best of my knowledge, information and belief:

1. I am an adult over the age of eighteen (18) years old and competent to testify herein.

2. I am employed by STL North Canton as Laboratory Director and authorized to submit this affidavit on behalf of STL North Canton.

3. The purpose of this submission is to provide certified laboratory data for conducting or completing a voluntary action.

4. STL North Canton performed analyses on behalf of **Conestoga-Rovers & Associates** for a voluntary action at property known as Delphi-Harrison.

5. STL North Canton was a certified laboratory pursuant to Ohio Revised Code (ORC) Chapter 3746 and Ohio Administrative Code (OAC) Chapter 3745-300 when it performed analyses for the purpose of conducting or completing the voluntary action identified in paragraph 4 of this affidavit.

6. All of the analyses performed for the purpose of conducting or completing the voluntary action identified in paragraph 4 of this affidavit by STL North Canton complied with the applicable requirements of ORC Chapter 3746 and OAC Chapter 3745-300.

   Only those analyses performed by STL North Canton that are identified in the Attachment hereto of this Affidavit are subject to this Affidavit. Any analyses performed that are not identified in Attachment hereto of this Affidavit are not subject to this Affidavit.

7. I submitted the following information, data, documents or reports, to the following persons:

Laboratory Report Number	Report Date	Submitted To
SDG 7F07247	**June 20, 2007**	**Paul Wiseman**

8. The information, data, documents and reports identified in this affidavit are true, accurate and complete.

   Further affiant sayeth naught.

Signature of Affiant

Sworn to before me this 22nd day of June, 2007.

Jeffrey C. Smith
Notary Public

JEFFREY C. SMITH
Notary Public, State of Ohio
My Commission Expires Feb. 12, 2012

Revised 10/02

OHIO E.P.A.

MAY -2 2007

ENTERED DIRECTOR'S JOURNAL

OhioEPA

Ohio Environmental Protection Agency
Division of Emergency and Remedial Response
Voluntary Action Program

Under the authority of Ohio Revised Code Section 3746.04(B)(6) and Ohio Administrative Code Rule 3745-300-04

Certifies

STL North Canton

4101 Shuffel Drive, NW
North Canton, OH 44720

as a

Certified Laboratory

(Number CL0024)

for the following analytes, parameter groups, and methods:

Aluminum/6010B	Cobalt/6010B, 6020	Silver/6010B, 6020	Mercury/7470A, 7471A	Organochlorine Pesticides/8081A
Antimony/6010B, 6020	Copper/6010B, 6020	Sodium/6010B	Chloride/300.0	Polynuclear Aromatic Hydrocarbons/ 8310
Arsenic/6010B	Cyanide, Total/335.2(CLP-M)	Thallium/6010B, 6020	Phosphate/365.2	Semi-Volatile Organic Compounds/8270C
Barium/6010B, 6020	Iron/6010B	Vanadium/6010B	Orthophosphate/300.0	Volatile Organic Compounds/8260A, 8260B, 8021B
Beryllium/6010B, 6020	Lead/6010B, 6020	Zinc/6010B	Sulfate/300.0	N-Hexane/8260A-Modified, 8260B-Modified
Cadmium/6010B, 6020	Manganese/6010B, 6020	Selenium/6010B	Nitrate/300.0	Polychlorinated Biphenyls, Aroclor 1268/8082-Modified
Calcium/6010B	Nickel/6010B, 6020	Potassium/6010B	Chlorinated Herbicides/8151A	Total Petroleum Hydrocarbons Only, Diesel Range Organics/8015B
Chromium/6010B, 6020	Hexavalent Chromium/7196A	Polychlorinated Biphenyls/8082	Phosphorus/365.2*	Total Petroleum Hydrocarbons, Gasoline Range Organics/8015A-Modified
			Phenols/9065*	n-Hexane Extractable Material/1664A*

*Water Only

MAY 0 2 2007
Date of Certification

Director, Ohio Environmental Protection Agency

MAY 18 2008
Date of Expiration

Manager, Voluntary Action Program

SCOPE, LIMITATION, OBLIGATIONS AND RESPONSIBILITIES OF CERTIFICATION ON REVERSE SIDE

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Affidavit by Certified Lab Pursuant to OAC 3745-300-13(M)

TestAmerica Laboratories, Inc.

State of Ohio

ss:

County of Stark

I, Opal Davis-Johnson, being first duly sworn according to law, state that, to the best of my knowledge, information and belief:

1. I am an adult over the age of eighteen (18) years old and competent to testify herein.
2. I am employed by TestAmerica Laboratories, Inc. as Laboratory Director and authorized to submit this affidavit on behalf of TestAmerica North Canton.
3. The purpose of this submission is to support a request for a no further action letter or other aspects of a voluntary action, under Ohio's Voluntary Action Program (VAP) as set forth in Ohio Revised Code Chapter 3746 and Ohio Administrative Code (OAC) Chapter 3745-300.
4. TestAmerica North Canton performed analyses on behalf of **Conestoga-Rovers & Associates, Inc.** for a voluntary action at property known as **Delphi Harrison SSOW# RO38035.**
5. This affidavit applies to and is submitted with the following information, data, documents or reports for the property:

Laboratory Report Number	Report Date
A8F250195	**July 3, 2008**

6. TestAmerica North Canton was a VAP certified laboratory pursuant to OAC 3745-300-04 when it performed analyses referenced herein.
7. The analyses under this affidavit consist of certified data, as described by OAC 3745-300-04(B).

   Only those analyses performed by TestAmerica North Canton that are identified in the Attachment hereto of this Affidavit are subject to this Affidavit. Any analyses performed that are not identified in Attachment hereto of this Affidavit are not subject to this Affidavit.
8. TestAmerica North Canton performed the analyses within its current VAP certification. The laboratory was certified for each analyte, parameter group and method used at the time that it performed the analyses. The analyses were performed consistent with the laboratory's standard operating procedures and quality assurance program plan as approved under OAC 3745-300-04.
9. The information, data, documents, and reports identified under this affidavit are true, accurate, and complete.

Further affiant sayeth naught.

Signature of Affiant

Sworn to before me this 7th day of July, 2008.

NOTARY PUBLIC STATE OF OHIO

JEFFREY C. SMITH
Notary Public, State of Ohio
My Commission Expires Feb. 12, 2012

Jeffrey C. Smith
Notary Public

Revised 05/08

OhioEPA

OHIO E.P.A.
JUN - 9 2008
ENTERED DIRECTOR'S JOURNAL

Ohio Environmental Protection Agency
Division of Emergency and Remedial Response
Voluntary Action Program

Under the authority of Ohio Revised Code Section 3746.04(B)(6) and Ohio Administrative Code Rule 3745-300-04

Certifies

TestAmerica Laboratories, Inc.

4101 Shuffel Drive, NW
North Canton, OH 44720

as a

Certified Laboratory

(Number CL0024)

for the following analytes, parameter groups, and methods:

Aluminum/6010B	Cobalt/6010B	Silver/6010B, 6020	Organochlorine Pesticides/8081A
Antimony/6010B, 6020	Copper/6010B, 6020	Sodium/6010B	Polychlorinated Biphenyls/8082
Arsenic/6010B, 6020	Cyanide, Total/335.2(CLP-M)	Thallium/6010B, 6020	Chlorinated Herbicides/8151A
Barium/6010B, 6020	Iron/6010B	Vanadium/6010B	Volatile Organic Compounds/8260A, 8260B, 8021B
Beryllium/6010B, 6020	Lead/6010B, 6020	Zinc/6010B, 6020	N-Hexane/8260A-Modified, 8260B-Modified
Cadmium/6010B, 6020	Manganese/6010B	Selenium/6010B	Polychlorinated Biphenyls, Aroclor 1268/8082-Modified
Calcium/6010B	Nickel/6010B, 6020	Potassium/6010B	Total Petroleum Hydrocarbons, Diesel Range Organics/8015B
Chromium/6010B, 6020	Hexavalent Chromium/7196A	Mercury/7470A*, 7471A	Total Petroleum Hydrocarbons, Gasoline Range Organics/8015A-Modified

*Water Only

JUN 09 2008
Date of Certification

Director, Ohio Environmental Protection Agency

MAR 07 2010
Date of Expiration

Manager, Voluntary Action Program

SCOPE, LIMITATION, OBLIGATIONS AND RESPONSIBILITIES OF CERTIFICATION ON REVERSE SIDE

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Affidavit by Certified Lab Pursuant to OAC 3745-300-13(M)

TestAmerica Laboratories, Inc.

State of Ohio)
) ss:
County of Stark)

I, Opal Davis-Johnson, being first duly sworn according to law, state that, to the best of my knowledge, information and belief:

1. I am an adult over the age of eighteen (18) years old and competent to testify herein.

2. I am employed by TestAmerica North Canton as Laboratory Director and authorized to submit this affidavit on behalf of TestAmerica North Canton.

3. The purpose of this submission is to provide certified laboratory data for conducting or completing a voluntary action.

4. TestAmerica North Canton performed analyses on behalf of **Conestoga-Rovers & Associates** for a voluntary action at property known as **Delphi-Harrison.**

5. TestAmerica North Canton was a certified laboratory pursuant to Ohio Revised Code (ORC) Chapter 3746 and Ohio Administrative Code (OAC) Chapter 3745-300 when it performed analyses for the purpose of conducting or completing the voluntary action identified in paragraph 4 of this affidavit.

6. All of the analyses performed for the purpose of conducting or completing the voluntary action identified in paragraph 4 of this affidavit by TestAmerica North Canton complied with the applicable requirements of ORC Chapter 3746 and OAC Chapter 3745-300.

   Only those analyses performed by TestAmerica North Canton that are identified in the Attachment hereto of this Affidavit are subject to this Affidavit. Any analyses performed that are not identified in Attachment hereto of this Affidavit are not subject to this Affidavit.

7. I submitted the following information, data, documents or reports, to the following persons:

Laboratory Report Number	Report Date	Submitted To
A7H180164	**September 12, 2007**	**Paul Wiseman**

8. The information, data, documents and reports identified in this affidavit are true, accurate and complete.

Further affiant sayeth naught.

Signature of Affiant

Sworn to before me this 25th day of July, 2008.

NOTARY PUBLIC STATE OF OHIO

JEFFREY C. SMITH
Notary Public, State of Ohio
My Commission Expires Feb. 12, 2012

Jeffrey C. Smith
Notary Public

Revised 06/07

OHIO E.P.A.

AUG - 1 2007

ENTERED DIRECTOR'S JOURNAL

OhioEPA

Ohio Environmental Protection Agency
Division of Emergency and Remedial Response
Voluntary Action Program

Under the authority of Ohio Revised Code Section 3746.04(B)(6) and Ohio Administrative Code Rule 3745-300-04

Certifies

TestAmerica Laboratories, Inc.

4101 Shuffel Drive, NW
North Canton, OH 44720

as a

Certified Laboratory

(Number CL0024)

for the following analytes, parameter groups, and methods:

Aluminum/6010B	Cobalt/6010B, 6020	Silver/6010B, 6020	Mercury/7470A*, 7471A*	Organochlorine Pesticides/8081A
Antimony/6010B, 6020	Copper/6010B, 6020	Sodium/6010B	Chloride/300.0	Polynuclear Aromatic Hydrocarbons/ 8310
Arsenic/6010B	Cyanide, Total/335.2(CLP-M)	Thallium/6010B, 6020	Phosphate/365.2*	Semi-Volatile Organic Compounds/8270C
Barium/6010B, 6020	Iron/6010B	Vanadium/6010B	Orthophosphate/300.0	Volatile Organic Compounds/8260A, 8260B, 8021B
Beryllium/6010B, 6020	Lead/6010B, 6020	Zinc/6010B	Sulfate/300.0	N-Hexane/8260A-Modified, 8260B-Modified
Cadmium/6010B, 6020	Manganese/6010B, 6020	Selenium/6010B	Nitrate/300.0	Polychlorinated Biphenyls, Aroclor 1268/8082-Modified
Calcium/6010B	Nickel/6010B, 6020	Potassium/6010B	Chlorinated Herbicides/8151A	Total Petroleum Hydrocarbons Only, Diesel Range Organics/8015B
Chromium/6010B, 6020	Hexavalent Chromium/7196A	Polychlorinated Biphenyls/8082	Phosphorus/365.2*	Total Petroleum Hydrocarbons, Gasoline Range Organics/8015A-Modified
			Phenols/9065*	n-Hexane Extractable Material/1664A*

*Water Only

AUG 0 1 2007
Date of Certification

Director, Ohio Environmental Protection Agency

MAY 18 2008
Date of Expiration

Manager, Voluntary Action Program

SCOPE, LIMITATION, OBLIGATIONS AND RESPONSIBILITIES OF CERTIFICATION ON REVERSE SIDE

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Affidavit by Certified Lab Pursuant to OAC 3745-300-13(M)

TestAmerica Laboratories, Inc.

State of Ohio)
) ss:
County of Stark)

I, Opal Davis-Johnson, being first duly sworn according to law, state that, to the best of my knowledge, information and belief:

1. I am an adult over the age of eighteen (18) years old and competent to testify herein.

2. I am employed by TestAmerica North Canton as Laboratory Director and authorized to submit this affidavit on behalf of TestAmerica North Canton.

3. The purpose of this submission is to provide certified laboratory data for conducting or completing a voluntary action.

4. TestAmerica North Canton performed analyses on behalf of **Conestoga-Rovers & Associates** for a voluntary action at property known as **Delphi-Harrison.**

5. TestAmerica North Canton was a certified laboratory pursuant to Ohio Revised Code (ORC) Chapter 3746 and Ohio Administrative Code (OAC) Chapter 3745-300 when it performed analyses for the purpose of conducting or completing the voluntary action identified in paragraph 4 of this affidavit.

6. All of the analyses performed for the purpose of conducting or completing the voluntary action identified in paragraph 4 of this affidavit by TestAmerica North Canton complied with the applicable requirements of ORC Chapter 3746 and OAC Chapter 3745-300.

   Only those analyses performed by TestAmerica North Canton that are identified in the Attachment hereto of this Affidavit are subject to this Affidavit. Any analyses performed that are not identified in Attachment hereto of this Affidavit are not subject to this Affidavit.

7. I submitted the following information, data, documents or reports, to the following persons:

Laboratory Report Number	Report Date	Submitted To
7H21206	**September 6, 2007**	**Paul Wiseman**

8. The information, data, documents and reports identified in this affidavit are true, accurate and complete.

   Further affiant sayeth naught.

Signature of Affiant

Sworn to before me this 25th day of July, 2008.

NOTARY PUBLIC STATE OF OHIO

JEFFREY C. SMITH
Notary Public, State of Ohio
My Commission Expires Feb. 12, 2012

Jeffrey C. Smith
Notary Public

Revised 06/07

OhioEPA

OHIO E.P.A.

AUG - 1 2007

ENTERED DIRECTOR'S JOURNAL

Ohio Environmental Protection Agency
Division of Emergency and Remedial Response
Voluntary Action Program

Under the authority of Ohio Revised Code Section 3746.04(B)(6) and Ohio Administrative Code Rule 3745-300-04

Certifies

TestAmerica Laboratories, Inc.

4101 Shuffel Drive, NW
North Canton, OH 44720

as a

Certified Laboratory

(Number CL0024)

for the following analytes, parameter groups, and methods:

Aluminum/6010B	Cobalt/6010B, 6020	Silver/6010B, 6020	Mercury/7470A, 7471A	Organochlorine Pesticides/8081A
Antimony/6010B, 6020	Copper/6010B, 6020	Sodium/6010B	Chloride/300.0	Polynuclear Aromatic Hydrocarbons/ 8310
Arsenic/6010B	Cyanide, Total/335.2(CLP-M)	Thallium/6010B, 6020	Phosphate/365.2*	Semi-Volatile Organic Compounds/8270C
Barium/6010B, 6020	Iron/6010B	Vanadium/6010B	Orthophosphate/300.0	Volatile Organic Compounds/8260A, 8260B, 8021B
Beryllium/6010B, 6020	Lead/6010B, 6020	Zinc/6010B	Sulfate/300.0	N-Hexane/8260A-Modified, 8260B-Modified
Cadmium/6010B, 6020	Manganese/6010B, 6020	Selenium/6010B	Nitrate/300.0	Polychlorinated Biphenyls, Aroclor 1268/8082-Modified
Calcium/6010B	Nickel/6010B, 6020	Potassium/6010B	Chlorinated Herbicides/8151A	Total Petroleum Hydrocarbons Only, Diesel Range Organics/8015B
Chromium/6010B, 6020	Hexavalent Chromium/7196A	Polychlorinated Biphenyls/8082	Phosphorus/365.2*	Total Petroleum Hydrocarbons, Gasoline Range Organics/8015A-Modified
			Phenols/9065*	n-Hexane Extractable Material/1664A*

*Water Only

AUG 01 2007
Date of Certification

Director, Ohio Environmental Protection Agency

MAY 18 2008
Date of Expiration

Manager, Voluntary Action Program

SCOPE, LIMITATION, OBLIGATIONS AND RESPONSIBILITIES OF CERTIFICATION ON REVERSE SIDE

OHIO E.P.A.

AUG 23 2007

ENTERED DIRECTOR'S JOURNAL

OhioEPA

Ohio Environmental Protection Agency
Division of Emergency and Remedial Response
Voluntary Action Program

Under the authority of Ohio Revised Code Section 3746.04(B)(6) and Ohio Administrative Code Rule 3745-300-04

Certifies

TestAmerica Laboratories, Inc.

4101 Shuffel Drive, NW
North Canton, OH 44720

as a

Certified Laboratory

(Number CL0024)

for the following analytes, parameter groups, and methods:

Aluminum/6010B	Cobalt/6010B, 6020	Silver/6010B, 6020	Mercury/7470A, 7471A	Organochlorine Pesticides/8081A
Antimony/6010B, 6020	Copper/6010B, 6020	Sodium/6010B	Chloride/300.0	Polynuclear Aromatic Hydrocarbons/ 8310
Arsenic/6010B, 6020	Cyanide, Total/335.2(CLP-M)	Thallium/6010B, 6020	Phosphate/365.2*	Semi-Volatile Organic Compounds/8270C
Barium/6010B, 6020	Iron/6010B	Vanadium/6010B	Orthophosphate/300.0	Volatile Organic Compounds/8260A, 8260B, 8021B
Beryllium/6010B, 6020	Lead/6010B, 6020	Zinc/6010B, 6020	Sulfate/300.0	N-Hexane/8260A-Modified, 8260B-Modified
Cadmium/6010B, 6020	Manganese/6010B, 6020	Selenium/6010B	Nitrate/300.0	Polychlorinated Biphenyls, Aroclor 1268/8082-Modified
Calcium/6010B	Nickel/6010B, 6020	Potassium/6010B	Chlorinated Herbicides/8151A	Total Petroleum Hydrocarbons Only, Diesel Range Organics/8015B
Chromium/6010B, 6020	Hexavalent Chromium/7196A	Polychlorinated Biphenyls/8082	Phosphorus/365.2*	Total Petroleum Hydrocarbons, Gasoline Range Organics/8015A-Modified
			Phenols/9065*	n-Hexane Extractable Material/1664A*

*Water Only

AUG 23 2007
Date of Certification

Director, Ohio Environmental Protection Agency

MAY 18 2008
Date of Expiration

Manager, Voluntary Action Program

SCOPE, LIMITATION, OBLIGATIONS AND RESPONSIBILITIES OF CERTIFICATION ON REVERSE SIDE

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Affidavit by Certified Lab Pursuant to OAC 3745-300-13(M)

TestAmerica Laboratories, Inc.

State of Ohio)
) ss:
County of Stark)

I, Opal Davis-Johnson, being first duly sworn according to law, state that, to the best of my knowledge, information and belief:

1. I am an adult over the age of eighteen (18) years old and competent to testify herein.

2. I am employed by TestAmerica North Canton (formerly STL North Canton) as Laboratory Director and authorized to submit this affidavit on behalf of TestAmerica North Canton.

3. The purpose of this submission is to provide certified laboratory data for conducting or completing a voluntary action.

4. TestAmerica North Canton performed analyses on behalf of **Conestoga-Rovers & Associates** for a voluntary action at property known as **Delphi-Harrison.**

5. TestAmerica North Canton was a certified laboratory pursuant to Ohio Revised Code (ORC) Chapter 3746 and Ohio Administrative Code (OAC) Chapter 3745-300 when it performed analyses for the purpose of conducting or completing the voluntary action identified in paragraph 4 of this affidavit.

6. All of the analyses performed for the purpose of conducting or completing the voluntary action identified in paragraph 4 of this affidavit by TestAmerica North Canton complied with the applicable requirements of ORC Chapter 3746 and OAC Chapter 3745-300.

   Only those analyses performed by TestAmerica North Canton that are identified in the Attachment hereto of this Affidavit are subject to this Affidavit. Any analyses performed that are not identified in Attachment hereto of this Affidavit are not subject to this Affidavit.

7. I submitted the following information, data, documents or reports, to the following persons:

Laboratory Report Number	Report Date	Submitted To
SDG 7F07265	June 28, 2007	Paul Wiseman

8. The information, data, documents and reports identified in this affidavit are true, accurate and complete.

   Further affiant sayeth naught.

Signature of Affiant

Sworn to before me this 25th day of July, 2008.

JEFFREY C. SMITH
Notary Public, State of Ohio
My Commission Expires Feb. 12, 2012

Jeffrey C. Smith
Notary Public

Revised 10/02

OHIO E.P.A.

MAY -2 2007

ENTERED DIRECTOR'S JOURNAL

OhioEPA

Ohio Environmental Protection Agency
Division of Emergency and Remedial Response
Voluntary Action Program

Under the authority of Ohio Revised Code Section 3746.04(B)(6) and Ohio Administrative Code Rule 3745-300-04

Certifies

STL North Canton

4101 Shuffel Drive, NW
North Canton, OH 44720

as a

Certified Laboratory

(Number CL0024)

for the following analytes, parameter groups, and methods:

Aluminum/6010B	Cobalt/6010B, 6020	Silver/6010B, 6020	Mercury/7470A, 7471A	Organochlorine Pesticides/8081A
Antimony/6010B, 6020	Copper/6010B, 6020	Sodium/6010B	Chloride/300.0	Polynuclear Aromatic Hydrocarbons/ 8310
Arsenic/6010B	Cyanide, Total/335.2(CLP-M)	Thallium/6010B, 6020	Phosphate/365.2*	Semi-Volatile Organic Compounds/8270C
Barium/6010B, 6020	Iron/6010B	Vanadium/6010B	Orthophosphate/300.0	Volatile Organic Compounds/8260A, 8260B, 8021B
Beryllium/6010B, 6020	Lead/6010B, 6020	Zinc/6010B	Sulfate/300.0	N-Hexane/8260A-Modified, 8260B-Modified
Cadmium/6010B, 6020	Manganese/6010B, 6020	Selenium/6010B	Nitrate/300.0	Polychlorinated Biphenyls, Aroclor 1268/8082-Modified
Calcium/6010B	Nickel/6010B, 6020	Potassium/6010B	Chlorinated Herbicides/8151A	Total Petroleum Hydrocarbons Only, Diesel Range Organics/8015B
Chromium/6010B, 6020	Hexavalent Chromium/7196A	Polychlorinated Biphenyls/8082	Phosphorus/365.2*	Total Petroleum Hydrocarbons, Gasoline Range Organics/8015A-Modified
			Phenols/9065*	n-Hexane Extractable Material/1664A*

*Water Only

MAY 02 2007
Date of Certification

Director, Ohio Environmental Protection Agency

MAY 18 2008
Date of Expiration

Manager, Voluntary Action Program

SCOPE, LIMITATION, OBLIGATIONS AND RESPONSIBILITIES OF CERTIFICATION ON REVERSE SIDE

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Affidavit by Certified Lab Pursuant to OAC 3745-300-13(M)

TestAmerica Laboratories, Inc.

State of Ohio)
) ss:
County of Stark)

I, Opal Davis-Johnson, being first duly sworn according to law, state that, to the best of my knowledge, information and belief:

1. I am an adult over the age of eighteen (18) years old and competent to testify herein.

2. I am employed by STL North Canton as Laboratory Director and authorized to submit this affidavit on behalf of STL North Canton.

3. The purpose of this submission is to provide certified laboratory data for conducting or completing a voluntary action.

4. STL North Canton performed analyses on behalf of **Conestoga-Rovers & Associates** for a voluntary action at property known as Delphi-Harrison.

5. STL North Canton was a certified laboratory pursuant to Ohio Revised Code (ORC) Chapter 3746 and Ohio Administrative Code (OAC) Chapter 3745-300 when it performed analyses for the purpose of conducting or completing the voluntary action identified in paragraph 4 of this affidavit.

6. All of the analyses performed for the purpose of conducting or completing the voluntary action identified in paragraph 4 of this affidavit by STL North Canton complied with the applicable requirements of ORC Chapter 3746 and OAC Chapter 3745-300.

   Only those analyses performed by STL North Canton that are identified in the Attachment hereto of this Affidavit are subject to this Affidavit. Any analyses performed that are not identified in Attachment hereto of this Affidavit are not subject to this Affidavit.

7. I submitted the following information, data, documents or reports, to the following persons:

Laboratory Report Number	Report Date	Submitted To
A6K170299	**December 14, 2006**	**Paul Wiseman**

8. The information, data, documents and reports identified in this affidavit are true, accurate and complete.

Further affiant sayeth naught.

Signature of Affiant

Sworn to before me this 25th day of July, 2008.

NOTARY PUBLIC STATE OF OHIO

JEFFREY C. SMITH
Notary Public, State of Ohio
My Commission Expires Feb. 12, 2012

Jeffrey C. Smith
Notary Public

Revised 10/02

OHIO E.P.A.

JUN 30 2006

ENTERED DIRECTOR'S JOURNAL

OhioEPA

Ohio Environmental Protection Agency
Division of Emergency and Remedial Response
Voluntary Action Program

Under the authority of Ohio Revised Code Section 3746.04(B)(6) and Ohio Administrative Code Rule 3745-300-04

Certifies

STL North Canton

4101 Shuffel Drive, NW
North Canton, OH 44720

as a

Certified Laboratory

(Number CL0024)

for the following analytes, parameter groups, and methods:

Aluminum/6010B	Cobalt/6010B, 6020	Silver/6010B, 6020	Mercury/7470A*, 7471A	Organochlorine Pesticides/8081A
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Arsenic/6010B, 6020	Cyanide, Total/335.2(CLP-M)	Thallium/6010B, 6020	Phosphate/365.2*	Semi-Volatile Organic Compounds/8270C
Barium/6010B, 6020	Iron/6010B	Vanadium/6010B	Orthophosphate/300.0	Volatile Organic Compounds/8260A, 8260B, 8021B
Beryllium/6010B, 6020	Lead/6010B, 6020	Zinc/6010B, 6020	Sulfate/300.0	N-Hexane/8260A-Modified, 8260B-Modified
Cadmium/6010B, 6020	Manganese/6010B, 6020	Selenium/6010B	Nitrate/300.0	Polychlorinated Biphenyls, Aroclor 1268/8082-Modified
Calcium/6010B	Nickel/6010B, 6020	Potassium/6010B	Chlorinated Herbicides/8151A	Total Petroleum Hydrocarbons Only, Diesel Range Organics/8015B
Chromium/6010B, 6020	Hexavalent Chromium/7196A	Polychlorinated Biphenyls/8082	Phosphorus/365.2*	Total Petroleum Hydrocarbons, Gasoline Range Organics/8015A-Modified
			Phenols/9065*	

*Water Only

JUN 30 2006
Date of Certification

Director, Ohio Environmental Protection Agency

MAY 18 2008
Date of Expiration

Manager, Voluntary Action Program

SCOPE, LIMITATION, OBLIGATIONS AND RESPONSIBILITIES OF CERTIFICATION ON REVERSE SIDE

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Affidavit by Certified Lab Pursuant to OAC 3745-300-13(M)

TestAmerica Laboratories, Inc.

State of Ohio)
) ss:
County of Stark)

I, Opal Davis-Johnson, being first duly sworn according to law, state that, to the best of my knowledge, information and belief:

1. I am an adult over the age of eighteen (18) years old and competent to testify herein.

2. I am employed by STL North Canton as Laboratory Director and authorized to submit this affidavit on behalf of STL North Canton.

3. The purpose of this submission is to provide certified laboratory data for conducting or completing a voluntary action.

4. STL North Canton performed analyses on behalf of **Conestoga-Rovers & Associates** for a voluntary action at property known as Delphi-Harrison.

5. STL North Canton was a certified laboratory pursuant to Ohio Revised Code (ORC) Chapter 3746 and Ohio Administrative Code (OAC) Chapter 3745-300 when it performed analyses for the purpose of conducting or completing the voluntary action identified in paragraph 4 of this affidavit.

6. All of the analyses performed for the purpose of conducting or completing the voluntary action identified in paragraph 4 of this affidavit by STL North Canton complied with the applicable requirements of ORC Chapter 3746 and OAC Chapter 3745-300.

   Only those analyses performed by STL North Canton that are identified in the Attachment hereto of this Affidavit are subject to this Affidavit. Any analyses performed that are not identified in Attachment hereto of this Affidavit are not subject to this Affidavit.

7. I submitted the following information, data, documents or reports, to the following persons:

Laboratory Report Number	Report Date	Submitted To
SDG 6K07128	**December 12, 2006**	**Paul Wiseman**

8. The information, data, documents and reports identified in this affidavit are true, accurate and complete.

Further affiant sayeth naught.

Signature of Affiant

Sworn to before me this 25th day of July, 2008.

NOTARY PUBLIC STATE OF OHIO

JEFFREY C. SMITH
Notary Public, State of Ohio
My Commission Expires Feb. 12, 2012

Jeffrey C. Smith
Notary Public

Revised 10/02

OHIO E.P.A.

JUN 30 2006

ENTERED DIRECTOR'S JOURNAL

OhioEPA

Ohio Environmental Protection Agency
Division of Emergency and Remedial Response
Voluntary Action Program

Under the authority of Ohio Revised Code Section 3746.04(B)(6) and Ohio Administrative Code Rule 3745-300-04

Certifies

STL North Canton

4101 Shuffel Drive, NW
North Canton, OH 44720

as a

Certified Laboratory

(Number CL0024)

for the following analytes, parameter groups, and methods:

Aluminum/6010B	Cobalt/6010B, 6020	Silver/6010B, 6020	Mercury/7470A*, 7471A	Organochlorine Pesticides/8081A
Antimony/6010B, 6020	Copper/6010B, 6020	Sodium/6010B	Chloride/300.0	Polynuclear Aromatic Hydrocarbons/8310
Arsenic/6010B, 6020	Cyanide, Total/335.2(CLP-M)	Thallium/6010B, 6020	Phosphate/365.2*	Semi-Volatile Organic Compounds/8270C
Barium/6010B, 6020	Iron/6010B	Vanadium/6010B	Orthophosphate/300.0	Volatile Organic Compounds/8260A, 8260B, 8021B
Beryllium/6010B, 6020	Lead/6010B, 6020	Zinc/6010B, 6020	Sulfate/300.0	N-Hexane/8260A-Modified, 8260B-Modified
Cadmium/6010B, 6020	Manganese/6010B, 6020	Selenium/6010B	Nitrate/300.0	Polychlorinated Biphenyls, Aroclor 1268/8082-Modified
Calcium/6010B	Nickel/6010B, 6020	Potassium/6010B	Chlorinated Herbicides/8151A	Total Petroleum Hydrocarbons Only, Diesel Range Organics/8015B
Chromium/6010B, 6020	Hexavalent Chromium/7196A	Polychlorinated Biphenyls/8082	Phosphorus/365.2*	Total Petroleum Hydrocarbons, Gasoline Range Organics/8015A-Modified
			Phenols/9065*	

*Water Only

JUN 30 2006
Date of Certification

Director, Ohio Environmental Protection Agency

MAY 18 2008
Date of Expiration

Manager, Voluntary Action Program

SCOPE, LIMITATION, OBLIGATIONS AND RESPONSIBILITIES OF CERTIFICATION ON REVERSE SIDE

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Affidavit by Certified Lab Pursuant to OAC 3745-300-13(M) TestAmerica Laboratories, Inc.

State of Ohio)
) ss:
County of Stark)

I, Opal Davis-Johnson, being first duly sworn according to law, state that, to the best of my knowledge, information and belief:

1. I am an adult over the age of eighteen (18) years old and competent to testify herein.

2. I am employed by STL North Canton as Laboratory Director and authorized to submit this affidavit on behalf of STL North Canton.

3. The purpose of this submission is to provide certified laboratory data for conducting or completing a voluntary action.

4. STL North Canton performed analyses on behalf of **Conestoga-Rovers & Associates** for a voluntary action at property known as Delphi-Harrison.

5. STL North Canton was a certified laboratory pursuant to Ohio Revised Code (ORC) Chapter 3746 and Ohio Administrative Code (OAC) Chapter 3745-300 when it performed analyses for the purpose of conducting or completing the voluntary action identified in paragraph 4 of this affidavit.

6. All of the analyses performed for the purpose of conducting or completing the voluntary action identified in paragraph 4 of this affidavit by STL North Canton complied with the applicable requirements of ORC Chapter 3746 and OAC Chapter 3745-300.

   Only those analyses performed by STL North Canton that are identified in the Attachment hereto of this Affidavit are subject to this Affidavit. Any analyses performed that are not identified in Attachment hereto of this Affidavit are not subject to this Affidavit.

7. I submitted the following information, data, documents or reports, to the following persons:

Laboratory Report Number	Report Date	Submitted To
SDG 6K01151	**December 7, 2006**	**Paul Wiseman**
SDG 6J24267	**November 17, 2006**	**Paul Wiseman**
SDG 6J10289	**October 27, 2006**	**Paul Wiseman**
A6J040291	**October 18, 2006**	**Paul Wiseman**
SDG 6I26235	**October 16, 2006**	**Paul Wiseman**
SDG 6I19203	**October 13, 2006**	**Paul Wiseman**
A6I220353	**October 12, 2006**	**Paul Wiseman**
SDG 6I19203	**October 13, 2006**	**Paul Wiseman**
SDG 6I14260	**October 10, 2006**	**Paul Wiseman**
SDG 6I07231	**September 27, 2006**	**Paul Wiseman**
SDG 6H30140	**September 29, 2006**	**Paul Wiseman**
A6G210251	**August 11, 2006**	**Paul Wiseman**
A6G130192	**July 25, 2006**	**Paul Wiseman**
A6F280163	**July 20, 2006**	**Paul Wiseman**

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

A6E260133	**June 16, 206**	**Paul Wiseman**
A6A240169	**January 31, 2006**	**Paul Wiseman**
A6A230188	**January 31, 2006**	**Paul Wiseman**
SDG 6A17220	**January 30, 2006**	**Paul Wiseman**

8. The information, data, documents and reports identified in this affidavit are true, accurate and complete.

Further affiant sayeth naught.

Signature of Affiant

Sworn to before me this 25th day of July, 2008.

Jeffrey C. Smith
Notary Public

Revised 10/02

NOTARY PUBLIC STATE OF OHIO

JEFFREY C. SMITH
Notary Public, State of Ohio
My Commission Expires Feb. 12, 2012

OhioEPA

Ohio Environmental Protection Agency
Division of Emergency and Remedial Response
Voluntary Action Program

Under the authority of Ohio Revised Code Section 3746.04(B)(6) and Ohio Administrative Code Rule 3745-300-04

Certifies

STL North Canton

4101 Shuffel Drive, NW
North Canton, OH 44720

as a

Certified Laboratory

(Number CL0024)

for the following analytes, parameter groups, and methods:

Aluminum/6010B
Antimony/6010B, 6020
Arsenic/6010B, 6020
Barium/6010B, 6020
Beryllium/6010B, 6020
Cadmium/6010B, 6020
Calcium/6010B
Chromium/6010B, 6020
Cobalt/6010B, 6020
Copper/6010B, 6020
Cyanide, Total/335.2(Cl-P-M)
Iron/6010B
Lead/6010B, 6020
Manganese/6010B, 6020
Nickel/6010B, 6020
Silver/6010B, 6020
Sodium/6010B
Thallium/6010B, 6020
Vanadium/6010B
Zinc/6010B, 6020
Selenium/6010B
Potassium/6010B
Polychlorinated Biphenyls/8082
Mercury/7470A, 7471A
Chloride/300.0
Phosphate/365.2*
Orthophosphate/300.0
Sulfate/300.0
Nitrate/300.0
Chlorinated Herbicides/8151A
Phosphorus/365.2*
Organochlorine Pesticides/8081A
Polynuclear Aromatic Hydrocarbons/8310
Semi-Volatile Organic Compounds/8270C
Volatile Organic Compounds/8260A, 8260B, 8021B
N-Hexane/8260A-Modified, 8260B-Modified
Hexavalent Chromium/7196A
Total Petroleum Hydrocarbons Only, Diesel Range Organics/8015B
Total Petroleum Hydrocarbons, Gasoline Range Organics/8015A-Modified
n-Hexane Extractable Material/1664A*

*Water Only

AUG 23 2004
Date of Certification

Director, Ohio Environmental Protection Agency

AUG 23 2006
Date of Expiration

Manager, Voluntary Action Program

SCOPE, LIMITATION, OBLIGATIONS AND RESPONSIBILITIES OF CERTIFICATION ON REVERSE SIDE

OHIO E.P.A.
AUG 23 2004
ENTERED DIRECTOR'S JOURNAL

OHIO E.P.A.

JUN 30 2006

ENTERED DIRECTOR'S JOURNAL

OhioEPA

Ohio Environmental Protection Agency
Division of Emergency and Remedial Response
Voluntary Action Program

Under the authority of Ohio Revised Code Section 3746.04(B)(6) and Ohio Administrative Code Rule 3745-300-04

Certifies

STL North Canton

4101 Shuffel Drive, NW
North Canton, OH 44720

as a

Certified Laboratory

(Number CL0024)

for the following analytes, parameter groups, and methods:

Aluminum/6010B	Cobalt/6010B, 6020	Silver/6010B, 6020	Mercury/7470A*, 7471A	Organochlorine Pesticides/8081A
Antimony/6010B, 6020	Copper/6010B, 6020	Sodium/6010B	Chloride/300.0	Polynuclear Aromatic Hydrocarbons/8310
Arsenic/6010B, 6020	Cyanide, Total/335.2(CLP-M)	Thallium/6010B, 6020	Phosphate/365.2*	Semi-Volatile Organic Compounds/8270C
Barium/6010B, 6020	Iron/6010B	Vanadium/6010B	Orthophosphate/300.0	Volatile Organic Compounds/8260A, 8260B, 8021B
Beryllium/6010B, 6020	Lead/6010B, 6020	Zinc/6010B, 6020	Sulfate/300.0	N-Hexane/8260A-Modified, 8260B-Modified
Cadmium/6010B, 6020	Manganese/6010B, 6020	Selenium/6010B	Nitrate/300.0	Polychlorinated Biphenyls, Aroclor 1268/8082-Modified
Calcium/6010B	Nickel/6010B, 6020	Potassium/6010B	Chlorinated Herbicides/8151A	Total Petroleum Hydrocarbons Only, Diesel Range Organics/8015B
Chromium/6010B, 6020	Hexavalent Chromium/7196A	Polychlorinated Biphenyls/8082	Phosphorus/365.2*	Total Petroleum Hydrocarbons, Gasoline Range Organics/8015A-Modified
			Phenols/9065*	

*Water Only

JUN 30 2006
Date of Certification

Director, Ohio Environmental Protection Agency

MAY 18 2008
Date of Expiration

Manager, Voluntary Action Program

SCOPE, LIMITATION, OBLIGATIONS AND RESPONSIBILITIES OF CERTIFICATION ON REVERSE SIDE

OHIO E.P.A.

DEC 26 2006

ENTERED DIRECTOR'S JOURNAL

OhioEPA

Ohio Environmental Protection Agency
Division of Emergency and Remedial Response
Voluntary Action Program

Under the authority of Ohio Revised Code Section 3746.04(B)(6) and Ohio Administrative Code Rule 3745-300-04

Certifies

STL North Canton

4101 Shuffel Drive, NW
North Canton, OH 44720

as a

Certified Laboratory

(Number CL0024)

for the following analytes, parameter groups, and methods:

Aluminum/6010B	Cobalt/6010B, 6020	Silver/6010B, 6020	Mercury/7470A*, 7471A	Organochlorine Pesticides/8081A
Antimony/6010B, 6020	Copper/6010B, 6020	Sodium/6010B	Chloride/300.0	Polynuclear Aromatic Hydrocarbons/8310
Arsenic/6010B	Cyanide, Total/335.2(CDP-M)	Thallium/6010B, 6020	Phosphate/365*	Semi-Volatile Organic Compounds/8270C
Barium/6010B, 6020	Iron/6010B	Vanadium/6010B	Orthophosphate/300.0	Volatile Organic Compounds/8260A, 8260B, 8021B
Beryllium/6010B, 6020	Lead/6010B, 6020	Zinc/6010B	Sulfate/300.0	N-Hexane/8260A-Modified, 8260B-Modified
Cadmium/6010B, 6020	Manganese/6010B, 6020	Selenium/6010B	Nitrate/300.0	Polychlorinated Biphenyls, Aroclor 1268/8082-Modified
Calcium/6010B	Nickel/6010B, 6020	Potassium/6010B	Chlorinated Herbicides/8151A	Total Petroleum Hydrocarbons Only, Diesel Range Organics/8015B
Chromium/6010B, 6020	Hexavalent Chromium/7196A	Polychlorinated Biphenyls/8082	Phosphorus/365.2*	Total Petroleum Hydrocarbons, Gasoline Range Organics/8015A-Modified
			Phenols/9065*	

*Water Only

DEC 26 2006
Date of Certification

Director, Ohio Environmental Protection Agency

MAY 18 2008
Date of Expiration

Manager, Voluntary Action Program

SCOPE, LIMITATION, OBLIGATIONS AND RESPONSIBILITIES OF CERTIFICATION ON REVERSE SIDE

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Affidavit by Certified Lab Pursuant to OAC 3745-300-13(M)

TestAmerica Laboratories, Inc.

State of Ohio

ss:

County of Stark

I, Opal Davis-Johnson, being first duly sworn according to law, state that, to the best of my knowledge, information and belief:

1. I am an adult over the age of eighteen (18) years old and competent to testify herein.
2. I am employed by TestAmerica Laboratories, Inc. as Laboratory Director and authorized to submit this affidavit on behalf of TestAmerica North Canton.
3. The purpose of this submission is to support a request for a no further action letter or other aspects of a voluntary action, under Ohio's Voluntary Action Program (VAP) as set forth in Ohio Revised Code Chapter 3746 and Ohio Administrative Code (OAC) Chapter 3745-300.
4. TestAmerica North Canton performed analyses on behalf of **Conestoga-Rovers & Associates, Inc.** for a voluntary action at property known as **Delphi Harrison SSOW# RO38035.**
5. This affidavit applies to and is submitted with the following information, data, documents or reports for the property:

Laboratory Report Number	Report Date
A8F250195	**July 3, 2008**

6. TestAmerica North Canton was a VAP certified laboratory pursuant to OAC 3745-300-04 when it performed analyses referenced herein.
7. The analyses under this affidavit consist of certified data, as described by OAC 3745-300-04(B).

   Only those analyses performed by TestAmerica North Canton that are identified in the Attachment hereto of this Affidavit are subject to this Affidavit. Any analyses performed that are not identified in Attachment hereto of this Affidavit are not subject to this Affidavit.
8. TestAmerica North Canton performed the analyses within its current VAP certification. The laboratory was certified for each analyte, parameter group and method used at the time that it performed the analyses. The analyses were performed consistent with the laboratory's standard operating procedures and quality assurance program plan as approved under OAC 3745-300-04.
9. The information, data, documents, and reports identified under this affidavit are true, accurate, and complete.

Further affiant sayeth naught.

Signature of Affiant

Sworn to before me this 7th day of July, 2008.

NOTARY PUBLIC STATE OF OHIO

JEFFREY C. SMITH
Notary Public, State of Ohio
My Commission Expires Feb. 12, 2012

Jeffrey C. Smith
Notary Public

Revised 05/08

OhioEPA

OHIO E.P.A.
JUN -9 2008
ENTERED DIRECTOR'S JOURNAL

Ohio Environmental Protection Agency
Division of Emergency and Remedial Response
Voluntary Action Program

Under the authority of Ohio Revised Code Section 3746.04(B)(6) and Ohio Administrative Code Rule 3745-300-04

Certifies

TestAmerica Laboratories, Inc.

4101 Shuffel Drive, NW
North Canton, OH 44720

as a

Certified Laboratory

(Number CL0024)

for the following analytes, parameter groups, and methods:

Aluminum/6010B	Cobalt/6010B	Silver/6010B, 6020	Organochlorine Pesticides/8081A
Antimony/6010B, 6020	Copper/6010B, 6020	Sodium/6010B	Polychlorinated Biphenyls/8082
Arsenic/6010B, 6020	Cyanide, Total/335.2(CLP-M)	Thallium/6010B, 6020	Chlorinated Herbicides/8151A
Barium/6010B, 6020	Iron/6010B	Vanadium/6010B	Volatile Organic Compounds/8260A, 8260B, 8021B
Beryllium/6010B, 6020	Lead/6010B, 6020	Zinc/6010B, 6020	N-Hexane/8260A-Modified, 8260B-Modified
Cadmium/6010B, 6020	Manganese/6010B	Selenium/6010B	Polychlorinated Biphenyls, Aroclor 1268/8082-Modified
Calcium/6010B	Nickel/6010B, 6020	Potassium/6010B	Total Petroleum Hydrocarbons, Diesel Range Organics/8015B
Chromium/6010B, 6020	Hexavalent Chromium/7196A	Mercury/7470A*, 7471A	Total Petroleum Hydrocarbons, Gasoline Range Organics/8015A-Modified

*Water Only

JUN 09 2008
Date of Certification

Director, Ohio Environmental Protection Agency

MAR 07 2010
Date of Expiration

Manager, Voluntary Action Program

SCOPE, LIMITATION, OBLIGATIONS AND RESPONSIBILITIES OF CERTIFICATION ON REVERSE SIDE

Scope. This certificate applies only to the Ohio EPA Voluntary Action Program. The certified laboratory identified herein is authorized to perform analyses in support of no further action letters for the analytes, parameter groups, and methods which are identified on the face of this certificate, so long as this certificate remains effective. The laboratory is prohibited from performing any analyses in support of a no further action letter for any analyte or parameter group, or using any method that is not identified in this certificate. This certificate hereby modifies and supersedes any other Voluntary Action Program certificate issued to the laboratory prior to the date of this certificate. For parameter groups, this certificate authorizes analysis of only those compounds listed in the methods identified herein. This certificate does not authorize analysis of compounds which may meet a general criteria or description provided for in such methods, but are not listed.

Limitation. This certificate does not apply to any other Ohio EPA program nor does it serve any purpose other than that described in the "Scope" section. This certificate is subject to renewal under OAC rule 3745-300-04.

Obligations and Responsibilities. As a condition of certification, the certified laboratory accepts all obligations and responsibilities of a certified laboratory in the Voluntary Action Program, as set forth in ORC Chapter 3746. and OAC Chapter 3745-300, including but not limited to compliance with the standards of performance and conduct for maintaining certification under paragraph (I) of rule 3745-300-04. The certified laboratory must display the original certificate in a prominent location on its premises.

Revocation or Suspension. This certificate is subject to suspension or revocation in accordance with OAC Chapter 3745-300. The authorization provided by this certificate ceases upon the effective date of the suspension or revocation.

This certificate is the property of Ohio EPA and must be surrendered to Ohio EPA upon expiration, revocation, or suspension of the laboratory's certification.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Affidavit by Certified Lab Pursuant to OAC 3745-300-13(M)

TestAmerica Laboratories, Inc.

State of Ohio

ss:

County of Stark

I, Opal Davis-Johnson, being first duly sworn according to law, state that, to the best of my knowledge, information and belief:

1. I am an adult over the age of eighteen (18) years old and competent to testify herein.
2. I am employed by TestAmerica Laboratories, Inc. as Laboratory Director and authorized to submit this affidavit on behalf of TestAmerica North Canton.
3. The purpose of this submission is to support a request for a no further action letter or other aspects of a voluntary action, under Ohio's Voluntary Action Program (VAP) as set forth in Ohio Revised Code Chapter 3746 and Ohio Administrative Code (OAC) Chapter 3745-300.
4. TestAmerica North Canton performed analyses on behalf of **Conestoga-Rovers & Associates, Inc.** for a voluntary action at property known as **Delphi Harrison SSOW# RO38035.**
5. This affidavit applies to and is submitted with the following information, data, documents or reports for the property:

Laboratory Report Number	Report Date
A8F250195	**July 3, 2008**

6. TestAmerica North Canton was a VAP certified laboratory pursuant to OAC 3745-300-04 when it performed analyses referenced herein.
7. The analyses under this affidavit consist of certified data, as described by OAC 3745-300-04(B).

   Only those analyses performed by TestAmerica North Canton that are identified in the Attachment hereto of this Affidavit are subject to this Affidavit. Any analyses performed that are not identified in Attachment hereto of this Affidavit are not subject to this Affidavit.
8. TestAmerica North Canton performed the analyses within its current VAP certification. The laboratory was certified for each analyte, parameter group and method used at the time that it performed the analyses. The analyses were performed consistent with the laboratory's standard operating procedures and quality assurance program plan as approved under OAC 3745-300-04.
9. The information, data, documents, and reports identified under this affidavit are true, accurate, and complete.

Further affiant sayeth naught.

Signature of Affiant

Sworn to before me this 25th day of July, 2008.

Jeffrey C. Smith
Notary Public

NOTARY PUBLIC STATE OF OHIO

JEFFREY C. SMITH
Notary Public, State of Ohio
My Commission Expires Feb. 12, 2012

Revised 05/08

OhioEPA

OHIO E.P.A.
JUN - 9 2008
ENTERED DIRECTOR'S JOURNAL

Ohio Environmental Protection Agency
Division of Emergency and Remedial Response
Voluntary Action Program

Under the authority of Ohio Revised Code Section 3746.04(B)(6) and Ohio Administrative Code Rule 3745-300-04

Certifies

TestAmerica Laboratories, Inc.

4101 Shuffel Drive, NW
North Canton, OH 44720

as a

Certified Laboratory

(Number CL0024)

for the following analytes, parameter groups, and methods:

Aluminum/6010B	Cobalt/6010B	Silver/6010B, 6020	Organochlorine Pesticides/8081A
Antimony/6010B, 6020	Copper/6010B, 6020	Sodium/6010B	Polychlorinated Biphenyls/8082
Arsenic/6010B, 6020	Cyanide, Total/335.2(CLP-M)	Thallium/6010B, 6020	Chlorinated Herbicides/8151A
Barium/6010B, 6020	Iron/6010B	Vanadium/6010B	Volatile Organic Compounds/8260A, 8260B, 8021B
Beryllium/6010B, 6020	Lead/6010B, 6020	Zinc/6010B, 6020	N-Hexane/8260A-Modified, 8260B-Modified
Cadmium/6010B, 6020	Manganese/6010B	Selenium/6010B	Polychlorinated Biphenyls, Aroclor 1268/8082-Modified
Calcium/6010B	Nickel/6010B, 6020	Potassium/6010B	Total Petroleum Hydrocarbons, Diesel Range Organics/8015B
Chromium/6010B, 6020	Hexavalent Chromium/7196A	Mercury/7470A*, 7471A	Total Petroleum Hydrocarbons, Gasoline Range Organics/8015A-Modified

*Water Only

JUN 09 2008
Date of Certification

Director, Ohio Environmental Protection Agency

MAR. 07. 2010
Date of Expiration

Manager, Voluntary Action Program

SCOPE, LIMITATION, OBLIGATIONS AND RESPONSIBILITIES OF CERTIFICATION ON REVERSE SIDE

Scope. This certificate applies only to the Ohio EPA Voluntary Action Program. The certified laboratory identified herein is authorized to perform analyses in support of no further action letters for the analytes, parameter groups, and methods which are identified on the face of this certificate, so long as this certificate remains effective. The laboratory is prohibited from performing any analyses in support of a no further action letter for any analyte or parameter group, or using any method that is not identified in this certificate. This certificate hereby modifies and supersedes any other Voluntary Action Program certificate issued to the laboratory prior to the date of this certificate. For parameter groups, this certificate authorizes analysis of only those compounds listed in the methods identified herein. This certificate does not authorize analysis of compounds which may meet a general criteria or description provided for in such methods, but are not listed.

Limitation. This certificate does not apply to any other Ohio EPA program nor does it serve any purpose other than that described in the "Scope" section. This certificate is subject to renewal under OAC rule 3745-300-04.

Obligations and Responsibilities. As a condition of certification, the certified laboratory accepts all obligations and responsibilities of a certified laboratory in the Voluntary Action Program, as set forth in ORC Chapter 3746. and OAC Chapter 3745-300, including but not limited to compliance with the standards of performance and conduct for maintaining certification under paragraph (I) of rule 3745-300-04. The certified laboratory must display the original certificate in a prominent location on its premises.

Revocation or Suspension. This certificate is subject to suspension or revocation in accordance with OAC Chapter 3745-300. The authorization provided by this certificate ceases upon the effective date of the suspension or revocation.

This certificate is the property of Ohio EPA and must be surrendered to Ohio EPA upon expiration, revocation, or suspension of the laboratory's certification.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Affidavit by Certified Lab Pursuant to OAC 3745-300-13(M)

TestAmerica Laboratories, Inc.

State of Ohio)
) ss:
County of Stark)

I, Opal Davis-Johnson, being first duly sworn according to law, state that, to the best of my knowledge, information and belief:

1. I am an adult over the age of eighteen (18) years old and competent to testify herein.

2. I am employed by TestAmerica North Canton as Laboratory Director and authorized to submit this affidavit on behalf of TestAmerica North Canton.

3. The purpose of this submission is to provide certified laboratory data for conducting or completing a voluntary action.

4. TestAmerica North Canton performed analyses on behalf of **Conestoga Rovers & Assoc., Inc.** for a voluntary action at property known as **Delphi Harrison SSOW# R038034.**

5. TestAmerica North Canton was a certified laboratory pursuant to Ohio Revised Code (ORC) Chapter 3746 and Ohio Administrative Code (OAC) Chapter 3745-300 when it performed analyses for the purpose of conducting or completing the voluntary action identified in paragraph 4 of this affidavit.

6. All of the analyses performed for the purpose of conducting or completing the voluntary action identified in paragraph 4 of this affidavit by TestAmerica North Canton complied with the applicable requirements of ORC Chapter 3746 and OAC Chapter 3745-300.

   Only those analyses performed by TestAmerica North Canton that are identified in the Attachment hereto of this Affidavit are subject to this Affidavit. Any analyses performed that are not identified in Attachment hereto of this Affidavit are not subject to this Affidavit.

7. I submitted the following information, data, documents or reports, to the following persons:

Laboratory Report Number	Report Date	Submitted To
A8B200110	**March 7, 2008**	**Paul Wiseman**
A8B200111		

8. The information, data, documents and reports identified in this affidavit are true, accurate and complete.

Further affiant sayeth naught.

Signature of Affiant

Sworn to before me this 25th day of July, 2008.

NOTARY PUBLIC STATE OF OHIO

JEFFREY C. SMITH
Notary Public, State of Ohio
My Commission Expires Feb. 12, 2012

Jeffrey C. Smith
Notary Public

Revised 06/07

OhioEPA

OHIO E.P.A.
JAN 17 2008
ENTERED DIRECTOR'S JOURNAL

Ohio Environmental Protection Agency
Division of Emergency and Remedial Response
Voluntary Action Program

Under the authority of Ohio Revised Code Section 3746.04(B)(6) and Ohio Administrative Code Rule 3745-300-04

Certifies

TestAmerica Laboratories, Inc.

4101 Shuffel Drive, NW
North Canton, OH 44720

as a

Certified Laboratory

(Number CL0024)

for the following analytes, parameter groups, and methods:

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Antimony/6010B, 6020	Copper/6010B, 6020	Sodium/6010B	Chloride/300.0	Polychlorinated Biphenyls/8082
Arsenic/6010B, 6020	Cyanide, Total/335.2(CLP-M)	Thallium/6010B, 6020	Phosphate/365.2*	n-Hexane Extractable Material/1664A*
Barium/6010B, 6020	Iron/6010B	Vanadium/6010B	Orthophosphate/300.0	Volatile Organic Compounds/8260A, 8260B, 8021B
Beryllium/6010B, 6020	Lead/6010B, 6020	Zinc/6010B, 6020	Sulfate/300.0	N-Hexane/8260A-Modified, 8260B-Modified
Cadmium/6010B, 6020	Manganese/6010B	Selenium/6010B	Nitrate/300.0	Polychlorinated Biphenyls, Aroclor 1268/8082-Modified
Calcium/6010B	Nickel/6010B, 6020	Potassium/6010B	Chlorinated Herbicides/8151A	Total Petroleum Hydrocarbons Only, Diesel Range Organics/8015B
Chromium/6010B, 6020	Hexavalent Chromium/7196A	Phenols/9065*	Phosphorus/365.2*	Total Petroleum Hydrocarbons, Gasoline Range Organics/8015A-Modified

JAN 17 2008 Water Only
Date of Certification

Director, Ohio Environmental Protection Agency

MAY 18 2008
Date of Expiration

Manager, Voluntary Action Program

SCOPE, LIMITATION, OBLIGATIONS AND RESPONSIBILITIES OF CERTIFICATION ON REVERSE SIDE

Scope. This certificate applies only to the Ohio EPA Voluntary Action Program. The certified laboratory identified herein is authorized to perform analyses in support of no further action letters for the analytes, parameter groups, and methods which are identified on the face of this certificate, so long as this certificate remains effective. The laboratory is prohibited from performing any analyses in support of a no further action letter for any analyte or parameter group, or using any method that is not identified in this certificate. This certificate hereby modifies and supersedes any other Voluntary Action Program certificate issued to the laboratory prior to the date of this certificate. For parameter groups, this certificate authorizes analysis of only those compounds listed in the methods identified herein. This certificate does not authorize analysis of compounds which may meet a general criteria or description provided for in such methods, but are not listed.

Limitation. This certificate does not apply to any other Ohio EPA program nor does it serve any purpose other than that described in the "Scope" section. This certificate is subject to renewal under OAC rule 3745-300-04.

Obligations and Responsibilities. As a condition of certification, the certified laboratory accepts all obligations and responsibilities of a certified laboratory in the Voluntary Action Program, as set forth in ORC Chapter 3746, and OAC Chapter 3745-300, including but not limited to compliance with the standards of performance and conduct for maintaining certification under paragraph (I) of rule 3745-300-04. The certified laboratory must display the original certificate in a prominent location on its premises.

Revocation or Suspension. This certificate is subject to suspension or revocation in accordance with OAC Chapter 3745-300. The authorization provided by this certificate ceases upon the effective date of the suspension or revocation.

This certificate is the property of Ohio EPA and must be surrendered to Ohio EPA upon expiration, revocation, or suspension of the laboratory's certification.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Affidavit by Certified Lab Pursuant to OAC 3745-300-13(M)

TestAmerica Laboratories, Inc.

State of Ohio)
) ss:
County of Stark)

I, Opal Davis-Johnson, being first duly sworn according to law, state that, to the best of my knowledge, information and belief:

1. I am an adult over the age of eighteen (18) years old and competent to testify herein.

2. I am employed by TestAmerica North Canton as Laboratory Director and authorized to submit this affidavit on behalf of TestAmerica North Canton.

3. The purpose of this submission is to provide certified laboratory data for conducting or completing a voluntary action.

4. TestAmerica North Canton performed analyses on behalf of **Conestoga-Rovers & Associates, Inc.** for a voluntary action at property known as **Delphi Harrison SSOW# R038032.**

5. TestAmerica North Canton was a certified laboratory pursuant to Ohio Revised Code (ORC) Chapter 3746 and Ohio Administrative Code (OAC) Chapter 3745-300 when it performed analyses for the purpose of conducting or completing the voluntary action identified in paragraph 4 of this affidavit.

6. All of the analyses performed for the purpose of conducting or completing the voluntary action identified in paragraph 4 of this affidavit by TestAmerica North Canton complied with the applicable requirements of ORC Chapter 3746 and OAC Chapter 3745-300.

   Only those analyses performed by TestAmerica North Canton that are identified in the Attachment hereto of this Affidavit are subject to this Affidavit. Any analyses performed that are not identified in Attachment hereto of this Affidavit are not subject to this Affidavit.

7. I submitted the following information, data, documents or reports, to the following persons:

Laboratory Report Number	Report Date	Submitted To
A7K300133	**December 6, 2007**	**Paul Wiseman**

8. The information, data, documents and reports identified in this affidavit are true, accurate and complete.

Further affiant sayeth naught.

Signature of Affiant

Sworn to before me this 25th day of July, 2008.

NOTARY PUBLIC STATE OF OHIO

JEFFREY C. SMITH
Notary Public, State of Ohio
My Commission Expires Feb. 12, 2012

Jeffrey C. Smith
Notary Public

Revised 06/07

OHIO E.P.A.

AUG 23 2007

ENTERED DIRECTOR'S JOURNAL

OhioEPA

Ohio Environmental Protection Agency
Division of Emergency and Remedial Response
Voluntary Action Program

Under the authority of Ohio Revised Code Section 3746.04(B)(6) and Ohio Administrative Code Rule 3745-300-04

Certifies

TestAmerica Laboratories, Inc.

4101 Shuffel Drive, NW
North Canton, OH 44720

as a

Certified Laboratory

(Number: CL0024)

for the following analytes, parameter groups, and methods:

Aluminum/6010B	Cobalt/6010B, 6020	Silver/6010B, 6020	Mercury/7470A*, 7471A*	Organochlorine Pesticides/8081A
Antimony/6010B, 6020	Copper/6010B, 6020	Sodium/6010B	Chloride/300.0	Polynuclear Aromatic Hydrocarbons/ 8310
Arsenic/6010B, 6020	Cyanide, Total/335.2(CLP-M)	Thallium/6010B, 6020	Phosphate/365.2*	Semi-Volatile Organic Compounds/8270C
Barium/6010B, 6020	Iron/6010B	Vanadium/6010B	Orthophosphate/300.0	Volatile Organic Compounds/8260A, 8260B, 8021B
Beryllium/6010B, 6020	Lead/6010B, 6020	Zinc/6010B, 6020	Sulfate/300.0	N-Hexane/8260A-Modified, 8260B-Modified
Cadmium/6010B, 6020	Manganese/6010B, 6020	Selenium/6010B	Nitrate/300.0*	Polychlorinated Biphenyls, Aroclor 1268/8082-Modified
Calcium/6010B	Nickel/6010B, 6020	Potassium/6010B	Chlorinated Herbicides/8151A	Total Petroleum Hydrocarbons Only, Diesel Range Organics/8015B
Chromium/6010B, 6020	Hexavalent Chromium/7196A	Polychlorinated Biphenyls/8082	Phosphorus/365.2*	Total Petroleum Hydrocarbons, Gasoline Range Organics/8015A-Modified
			Phenols/9065*	n-Hexane Extractable Material/1664A*

*Water Only

AUG 23 2007
Date of Certification

Director, Ohio Environmental Protection Agency

MAY 18 2008
Date of Expiration

Amy R Kersavich
Manager, Voluntary Action Program

SCOPE; LIMITATION, OBLIGATIONS AND RESPONSIBILITIES OF CERTIFICATION ON REVERSE SIDE

Scope. This certificate applies only to the Ohio EPA Voluntary Action Program. The certified laboratory identified herein is authorized to perform analyses in support of no further action letters for the analytes, parameter groups, and methods which are identified on the face of this certificate, so long as this certificate remains effective. The laboratory is prohibited from performing any analyses in support of a no further action letter for any analyte or parameter group, or using any method that is not identified in this certificate. This certificate hereby modifies and supersedes any other Voluntary Action Program certificate issued to the laboratory prior to the date of this certificate. For parameter groups, this certificate authorizes analysis of only those compounds listed in the methods identified herein. This certificate does not authorize analysis of compounds which may meet a general criteria or description provided for in such methods, but are not listed.

Limitation. This certificate does not apply to any other Ohio EPA program nor does it serve any purpose other than that described in the "Scope" section. This certificate is subject to renewal under OAC rule 3745-300-04.

Obligations and Responsibilities. As a condition of certification, the certified laboratory accepts all obligations and responsibilities of a certified laboratory in the Voluntary Action Program, as set forth in ORC Chapter 3746, and OAC Chapter 3745-300, including but not limited to compliance with the standards of performance and conduct for maintaining certification under paragraph (I) of rule 3745-300-04. The certified laboratory must display the original certificate in a prominent location on its premises.

Revocation or Suspension. This certificate is subject to suspension or revocation in accordance with OAC Chapter 3745-300. The authorization provided by this certificate ceases upon the effective date of the suspension or revocation.

This certificate is the property of Ohio EPA and must be surrendered to Ohio EPA upon expiration, revocation, or suspension of the laboratory's certification.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Affidavit by Certified Lab Pursuant to OAC 3745-300-13(M)

TestAmerica Laboratories, Inc.

State of Ohio)
) ss:
County of Stark)

I, Opal Davis-Johnson, being first duly sworn according to law, state that, to the best of my knowledge, information and belief:

1. I am an adult over the age of eighteen (18) years old and competent to testify herein.

2. I am employed by TestAmerica North Canton as Laboratory Director and authorized to submit this affidavit on behalf of TestAmerica North Canton.

3. The purpose of this submission is to provide certified laboratory data for conducting or completing a voluntary action.

4. TestAmerica North Canton performed analyses on behalf of **Conestoga-Rovers & Associates, Inc.** for a voluntary action at property known as **Delphi Harrison SSOW# R038032.**

5. TestAmerica North Canton was a certified laboratory pursuant to Ohio Revised Code (ORC) Chapter 3746 and Ohio Administrative Code (OAC) Chapter 3745-300 when it performed analyses for the purpose of conducting or completing the voluntary action identified in paragraph 4 of this affidavit.

6. All of the analyses performed for the purpose of conducting or completing the voluntary action identified in paragraph 4 of this affidavit by TestAmerica North Canton complied with the applicable requirements of ORC Chapter 3746 and OAC Chapter 3745-300.

   Only those analyses performed by TestAmerica North Canton that are identified in the Attachment hereto of this Affidavit are subject to this Affidavit. Any analyses performed that are not identified in Attachment hereto of this Affidavit are not subject to this Affidavit.

7. I submitted the following information, data, documents or reports, to the following persons:

Laboratory Report Number	Report Date	Submitted To
A7J180356	**November 1, 2007**	**Paul Wiseman**

8. The information, data, documents and reports identified in this affidavit are true, accurate and complete.

Further affiant sayeth naught.

Signature of Affiant

Sworn to before me this 25th day of July, 2008.

JEFFREY C. SMITH
Notary Public, State of Ohio
My Commission Expires Feb. 12, 2012

Jeffrey C. Smith
Notary Public

Revised 06/07

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Arsenic/6010B, 6020	Cyanide, Total/335.2(CLP-M)	Thallium/6010B, 6020	Phosphate/365.2*	Semi-Volatile Organic Compounds/8270C
Barium/6010B, 6020	Iron/6010B	Vanadium/6010B	Orthophosphate/300.0	Volatile Organic Compounds/8260A, 8260B, 8021B
Beryllium/6010B, 6020	Lead/6010B, 6020	Zinc/6010B, 6020	Sulfate/300.0	N-Hexane/8260A-Modified, 8260B-Modified
Cadmium/6010B, 6020	Manganese/6010B, 6020	Selenium/6010B	Nitrate/300.0	Polychlorinated Biphenyls, Aroclor 1268/8082-Modified
Calcium/6010B	Nickel/6010B, 6020	Potassium/6010B	Chlorinated Herbicides/8151A	Total Petroleum Hydrocarbons Only, Diesel Range Organics/8015B
Chromium/6010B, 6020	Hexavalent Chromium/7196A	Polychlorinated Biphenyls/8082	Phosphorus/365.2*	Total Petroleum Hydrocarbons, Gasoline Range Organics/8015A-Modified
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AUG 23 2007
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Director, Ohio Environmental Protection Agency

MAY 18 2008
Date of Expiration

Manager, Voluntary Action Program

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Limitation. This certificate does not apply to any other Ohio EPA program nor does it serve any purpose other than that described in the "Scope" section. This certificate is subject to renewal under OAC rule 3745-300-04.

Obligations and Responsibilities. As a condition of certification, the certified laboratory accepts all obligations and responsibilities of a certified laboratory in the Voluntary Action Program as set forth in ORC Chapter 3746, and OAC Chapter 3745-300, including but not limited to compliance with the standards of performance and conduct for maintaining certification under paragraph (I) of rule 3745-300-04. The certified laboratory must display the original certificate in a prominent location on its premises.

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TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

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TestAmerica Laboratories, Inc.

State of Ohio)
) ss:
County of Stark)

I, Opal Davis-Johnson, being first duly sworn according to law, state that, to the best of my knowledge, information and belief:

1. I am an adult over the age of eighteen (18) years old and competent to testify herein.

2. I am employed by TestAmerica North Canton as Laboratory Director and authorized to submit this affidavit on behalf of TestAmerica North Canton.

3. The purpose of this submission is to provide certified laboratory data for conducting or completing a voluntary action.

4. TestAmerica North Canton performed analyses on behalf of **Conestoga-Rovers & Associates, Inc.** for a voluntary action at property known as **Harrison SSOW# R038025.**

5. TestAmerica North Canton was a certified laboratory pursuant to Ohio Revised Code (ORC) Chapter 3746 and Ohio Administrative Code (OAC) Chapter 3745-300 when it performed analyses for the purpose of conducting or completing the voluntary action identified in paragraph 4 of this affidavit.

6. All of the analyses performed for the purpose of conducting or completing the voluntary action identified in paragraph 4 of this affidavit by TestAmerica North Canton complied with the applicable requirements of ORC Chapter 3746 and OAC Chapter 3745-300.

   Only those analyses performed by TestAmerica North Canton that are identified in the Attachment hereto of this Affidavit are subject to this Affidavit. Any analyses performed that are not identified in Attachment hereto of this Affidavit are not subject to this Affidavit.

7. I submitted the following information, data, documents or reports, to the following persons:

Laboratory Report Number	Report Date	Submitted To
A7H280137	**September 25, 2007**	**Paul Wiseman**

8. The information, data, documents and reports identified in this affidavit are true, accurate and complete.

   Further affiant sayeth naught.

Signature of Affiant

Sworn to before me this 25 day of July, 2008.

NOTARY PUBLIC STATE OF OHIO

JEFFREY C. SMITH
Notary Public, State of Ohio
My Commission Expires Feb. 12, 2012

Jeffrey C. Smith
Notary Public

Revised 06/07

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Arsenic/6010B, 6020	Cyanide, Total/335.2(CLP-M)	Thallium/6010B, 6020	Phosphate/365.2*	Semi-Volatile Organic Compounds/8270C
Barium/6010B, 6020	Iron/6010B	Vanadium/6010B	Orthophosphate/300.0	Volatile Organic Compounds/8260A, 8260B, 8021B
Beryllium/6010B, 6020	Lead/6010B, 6020	Zinc/6010B, 6020	Sulfate/300.0	N-Hexane/8260A-Modified, 8260B-Modified
Cadmium/6010B, 6020	Manganese/6010B, 6020	Selenium/6010B	Nitrate/300.0	Polychlorinated Biphenyls, Aroclor 1268/8082-Modified
Calcium/6010B	Nickel/6010B, 6020	Potassium/6010B	Chlorinated Herbicides/8151A	Total Petroleum Hydrocarbons Only, Diesel Range Organics/8015B
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*Water Only

AUG 23 2007
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Director, Ohio Environmental Protection Agency

MAY 18 2008
Date of Expiration

Manager, Voluntary Action Program

SCOPE; LIMITATION, OBLIGATIONS AND RESPONSIBILITIES OF CERTIFICATION ON REVERSE SIDE

Scope. This certificate applies only to the Ohio EPA Voluntary Action Program. The certified laboratory identified herein is authorized to perform analyses in support of no further action letters for the analytes, parameter groups, and methods which are identified on the face of this certificate, so long as this certificate remains effective. The laboratory is prohibited from performing any analyses in support of a no further action letter for any analyte or parameter group, or using any method that is not identified in this certificate. This certificate hereby modifies and supersedes any other Voluntary Action Program certificate issued to the laboratory prior to the date of this certificate. For parameter groups, this certificate authorizes analysis of only those compounds listed in the methods identified herein. This certificate does not authorize analysis of compounds which may meet a general criteria or description provided for in such methods, but are not listed.

Limitation. This certificate does not apply to any other Ohio EPA program nor does it serve any purpose other than that described in the "Scope" section. This certificate is subject to renewal under OAC rule 3745-300-04.

Obligations and Responsibilities. As a condition of certification, the certified laboratory accepts all obligations and responsibilities of a certified laboratory in the Voluntary Action Program as set forth in ORC Chapter 3746, and OAC Chapter 3745-300, including but not limited to compliance with the standards of performance and conduct for maintaining certification under paragraph (I) of rule 3745-300-04. The certified laboratory must display the original certificate in a prominent location on its premises.

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6. All of the analyses performed for the purpose of conducting or completing the voluntary action identified in paragraph 4 of this affidavit by TestAmerica North Canton complied with the applicable requirements of ORC Chapter 3746 and OAC Chapter 3745-300.

   Only those analyses performed by TestAmerica North Canton that are identified in the Attachment hereto of this Affidavit are subject to this Affidavit. Any analyses performed that are not identified in Attachment hereto of this Affidavit are not subject to this Affidavit.

7. I submitted the following information, data, documents or reports, to the following persons:

Laboratory Report Number	Report Date	Submitted To
A7H180164	**September 12, 2007**	**Paul Wiseman**

8. The information, data, documents and reports identified in this affidavit are true, accurate and complete.

Further affiant sayeth naught.

Signature of Affiant

Sworn to before me this 25th day of July, 2008.

NOTARY PUBLIC STATE OF OHIO

JEFFREY C. SMITH
Notary Public, State of Ohio
My Commission Expires Feb. 12, 2012

Jeffrey C. Smith
Notary Public

Revised 06/07

OhioEPA

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Cadmium/6010B, 6020	Manganese/6010B, 6020	Selenium/6010B	Nitrate/300.0	Polychlorinated Biphenyls, Aroclor 1268/8082-Modified
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6. All of the analyses performed for the purpose of conducting or completing the voluntary action identified in paragraph 4 of this affidavit by TestAmerica North Canton complied with the applicable requirements of ORC Chapter 3746 and OAC Chapter 3745-300.

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7. I submitted the following information, data, documents or reports, to the following persons:

Laboratory Report Number	Report Date	Submitted To
7H21206	**September 6, 2007**	**Paul Wiseman**

8. The information, data, documents and reports identified in this affidavit are true, accurate and complete.

   Further affiant sayeth naught.

Signature of Affiant

Sworn to before me this 25th day of July, 2008.

NOTARY PUBLIC STATE OF OHIO

JEFFREY C. SMITH
Notary Public, State of Ohio
My Commission Expires Feb. 12, 2012

Jeffrey C. Smith
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Revised 06/07

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Beryllium/6010B, 6020	Lead/6010B, 6020	Zinc/6010B, 6020	Sulfate/300.0	N-Hexane/8260A-Modified, 8260B-Modified
Cadmium/6010B, 6020	Manganese/6010B, 6020	Selenium/6010B	Nitrate/300.0	Polychlorinated Biphenyls, Aroclor 1268/8082-Modified
Calcium/6010B	Nickel/6010B, 6020	Potassium/6010B	Chlorinated Herbicides/8151A	Total Petroleum Hydrocarbons Only, Diesel Range Organics/8015B
Chromium/6010B, 6020	Hexavalent Chromium/7196A	Polychlorinated Biphenyls/8082	Phosphorus/365.2*	Total Petroleum Hydrocarbons, Gasoline Range Organics/8015A-Modified
			Phenols/9065*	Hexane Extractable Material/1664A*

*Water Only

AUG 23 2007
Date of Certification

Director, Ohio Environmental Protection Agency

MAY 18 2008
Date of Expiration

Manager, Voluntary Action Program

SCOPE, LIMITATION, OBLIGATIONS AND RESPONSIBILITIES OF CERTIFICATION ON REVERSE SIDE

Scope. This certificate applies only to the Ohio EPA Voluntary Action Program. The certified laboratory identified herein is authorized to perform analyses in support of no further action letters for the analytes, parameter groups, and methods which are identified on the face of this certificate, so long as this certificate remains effective. The laboratory is prohibited from performing any analyses in support of a no further action letter for any analyte or parameter group, or using any method that is not identified in this certificate. This certificate hereby modifies and supersedes any other Voluntary Action Program certificate issued to the laboratory prior to the date of this certificate. For parameter groups, this certificate authorizes analysis of only those compounds listed in the methods identified herein. This certificate does not authorize analysis of compounds which may meet a general criteria or description provided for in such methods, but are not listed.

Limitation. This certificate does not apply to any other Ohio EPA program nor does it serve any purpose other than that described in the "Scope" section. This certificate is subject to renewal under OAC rule 3745-300-04.

Obligations and Responsibilities. As a condition of certification, the certified laboratory accepts all obligations and responsibilities of a certified laboratory in the Voluntary Action Program as set forth in ORC Chapter 3746, and OAC Chapter 3745-300, including but not limited to compliance with the standards of performance and conduct for maintaining certification under paragraph (I) of rule 3745-300-04. The certified laboratory must display the original certificate in a prominent location on its premises.

Revocation or Suspension. This certificate is subject to suspension or revocation in accordance with OAC Chapter 3745-300. The authorization provided by this certificate ceases upon the effective date of the suspension or revocation.

This certificate is the property of Ohio EPA and must be surrendered to Ohio EPA upon expiration, revocation, or suspension of the laboratory's certification.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Affidavit by Certified Lab Pursuant to OAC 3745-300-13(M)

TestAmerica Laboratories, Inc.

State of Ohio)
) ss:
County of Stark)

I, Opal Davis-Johnson, being first duly sworn according to law, state that, to the best of my knowledge, information and belief:

1. I am an adult over the age of eighteen (18) years old and competent to testify herein.

2. I am employed by TestAmerica North Canton (formerly STL North Canton) as Laboratory Director and authorized to submit this affidavit on behalf of TestAmerica North Canton.

3. The purpose of this submission is to provide certified laboratory data for conducting or completing a voluntary action.

4. TestAmerica North Canton performed analyses on behalf of **Conestoga-Rovers & Associates** for a voluntary action at property known as **Delphi-Harrison.**

5. TestAmerica North Canton was a certified laboratory pursuant to Ohio Revised Code (ORC) Chapter 3746 and Ohio Administrative Code (OAC) Chapter 3745-300 when it performed analyses for the purpose of conducting or completing the voluntary action identified in paragraph 4 of this affidavit.

6. All of the analyses performed for the purpose of conducting or completing the voluntary action identified in paragraph 4 of this affidavit by TestAmerica North Canton complied with the applicable requirements of ORC Chapter 3746 and OAC Chapter 3745-300.

   Only those analyses performed by TestAmerica North Canton that are identified in the Attachment hereto of this Affidavit are subject to this Affidavit. Any analyses performed that are not identified in Attachment hereto of this Affidavit are not subject to this Affidavit.

7. I submitted the following information, data, documents or reports, to the following persons:

Laboratory Report Number	Report Date	Submitted To
SDG 7F07265	**June 28, 2007**	**Paul Wiseman**

8. The information, data, documents and reports identified in this affidavit are true, accurate and complete.

   Further affiant sayeth naught.

Signature of Affiant

Sworn to before me this 25th day of July, 2008.

JEFFREY C. SMITH
Notary Public, State of Ohio
My Commission Expires Feb. 12, 2012

Jeffrey C. Smith
Notary Public

Revised 10/02

OHIO E.P.A.

MAY -2 2007

ENTERED DIRECTOR'S JOURNAL

OhioEPA

Ohio Environmental Protection Agency
Division of Emergency and Remedial Response
Voluntary Action Program

Under the authority of Ohio Revised Code Section 3746.04(B)(6) and Ohio Administrative Code Rule 3745-300-04

Certifies

STL North Canton

4101 Shuffel Drive, NW
North Canton, OH 44720

as a

Certified Laboratory

(Number CL0024)

for the following analytes, parameter groups, and methods:

Aluminum/6010B	Cobalt/6010B, 6020	Silver/6010B, 6020	Mercury/7470A, 7471A	Organochlorine Pesticides/8081A
Antimony/6010B, 6020	Copper/6010B, 6020	Sodium/6010B	Chloride/300.0	Polynuclear Aromatic Hydrocarbons/ 8310
Arsenic/6010B	Cyanide, Total/335.2(Gilp-M)	Thallium/6010B, 6020	Phosphate/365.2	Semi-Volatile Organic Compounds/8270C
Barium/6010B, 6020	Iron/6010B	Vanadium/6010B	Orthophosphate/300.0	Volatile Organic Compounds/8260A, 8260B, 8021B
Beryllium/6010B, 6020	Lead/6010B, 6020	Zinc/6010B	Sulfate/300.0	N-Hexane/8260A-Modified, 8260B-Modified
Cadmium/6010B, 6020	Manganese/6010B, 6020	Selenium/6010B	Nitrate/300.0	Polychlorinated Biphenyls, Aroclor 1268/8082-Modified
Calcium/6010B	Nickel/6010B, 6020	Potassium/6010B	Chlorinated Herbicides/8151A	Total Petroleum Hydrocarbons Only, Diesel Range Organics/8015B
Chromium/6010B, 6020	Hexavalent Chromium/7196A	Polychlorinated Biphenyls/8082	Phosphorus/365.2*	Total Petroleum Hydrocarbons, Gasoline Range Organics/8015A-Modified
			Phenols/9065*	n-Hexane Extractable Material/1664A*

*Water Only

MAY 0 2 2007
Date of Certification

Director, Ohio Environmental Protection Agency

MAY 1 8 2008
Date of Expiration

Manager, Voluntary Action Program

SCOPE, LIMITATION, OBLIGATIONS AND RESPONSIBILITIES OF CERTIFICATION ON REVERSE SIDE

Scope. This certificate applies only to the Ohio EPA Voluntary Action Program. The certified laboratory identified herein is authorized to perform analyses in support of no further action letters for the analytes, parameter groups, and methods which are identified on the face of this certificate, so long as this certificate remains effective. The laboratory is prohibited from performing any analyses in support of a no further action letter for any analyte or parameter group, or using any method that is not identified in this certificate. This certificate hereby modifies and supersedes any other Voluntary Action Program certificate issued to the laboratory prior to the date of this certificate. For parameter groups, this certificate authorizes analysis of only those compounds listed in the methods identified herein. This certificate does not authorize analysis of compounds which may meet a general criteria or description provided for in such methods, but are not listed.

Limitation. This certificate does not apply to any other Ohio EPA program nor does it serve any purpose other than that described in the "Scope" section. This certificate is subject to renewal under OAC rule 3745-300-04.

Obligations and Responsibilities. As a condition of certification, the certified is hereby accepts all obligations and responsibilities of a certified laboratory in the Voluntary Action Program as set forth in ORC Chapter 3746. and OAC Chapter 3745-300, including but not limited to compliance with the standards of performance and conduct for maintaining certification under paragraph (I) of rule 3745-300-04. The certified laboratory must display the original certificate in a prominent location on its premises.

Revocation or Suspension. This certificate is subject to suspension or revocation in accordance with OAC Chapter 3745-300. The authorization provided by this certificate ceases upon the effective date of the suspension or revocation.

This certificate is the property of Ohio EPA and must be surrendered to Ohio EPA upon expiration, revocation, or suspension of the laboratory's certification.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Affidavit by Certified Lab Pursuant to OAC 3745-300-13(M)

TestAmerica Laboratories, Inc.

State of Ohio)
) ss:
County of Stark)

I, Opal Davis-Johnson, being first duly sworn according to law, state that, to the best of my knowledge, information and belief:

1. I am an adult over the age of eighteen (18) years old and competent to testify herein.

2. I am employed by STL North Canton as Laboratory Director and authorized to submit this affidavit on behalf of STL North Canton.

3. The purpose of this submission is to provide certified laboratory data for conducting or completing a voluntary action.

4. STL North Canton performed analyses on behalf of **Conestoga-Rovers & Associates** for a voluntary action at property known as Delphi-Harrison.

5. STL North Canton was a certified laboratory pursuant to Ohio Revised Code (ORC) Chapter 3746 and Ohio Administrative Code (OAC) Chapter 3745-300 when it performed analyses for the purpose of conducting or completing the voluntary action identified in paragraph 4 of this affidavit.

6. All of the analyses performed for the purpose of conducting or completing the voluntary action identified in paragraph 4 of this affidavit by STL North Canton complied with the applicable requirements of ORC Chapter 3746 and OAC Chapter 3745-300.

   Only those analyses performed by STL North Canton that are identified in the Attachment hereto of this Affidavit are subject to this Affidavit. Any analyses performed that are not identified in Attachment hereto of this Affidavit are not subject to this Affidavit.

7. I submitted the following information, data, documents or reports, to the following persons:

Laboratory Report Number	Report Date	Submitted To
SDG 7F07247	June 20, 2007	Paul Wiseman

8. The information, data, documents and reports identified in this affidavit are true, accurate and complete.

   Further affiant sayeth naught.

Signature of Affiant

Sworn to before me this 25th day of July, 2008.

NOTARY PUBLIC STATE OF OHIO

JEFFREY C. SMITH
Notary Public, State of Ohio
My Commission Expires Feb. 12, 2012

Jeffrey C. Smith
Notary Public

Revised 10/02

OHIO E.P.A.

MAY -2 2007

ENTERED DIRECTOR'S JOURNAL

OhioEPA

Ohio Environmental Protection Agency
Division of Emergency and Remedial Response
Voluntary Action Program

Under the authority of Ohio Revised Code Section 3746.04(B)(6) and Ohio Administrative Code Rule 3745-300-04

Certifies

STL North Canton

4101 Shuffel Drive, NW
North Canton, OH 44720

as a

Certified Laboratory

(Number CL0024)

for the following analytes, parameter groups, and methods:

Aluminum/6010B	Cobalt/6010B, 6020	Silver/6010B, 6020	Mercury/7470A, 7471A	Organochlorine Pesticides/8081A	
Antimony/6010B, 6020	Copper/6010B, 6020	Sodium/6010B	Chloride/300.0	Polynuclear Aromatic Hydrocarbons/ 8310	
Arsenic/6010B	Cyanide, Total/335.2(CLP-M)	Thallium/6010B, 6020	Phosphate/365	Semi-Volatile Organic Compounds/8270C	
Barium/6010B, 6020	Iron/6010B	Vanadium/6010B	Orthophosphate/300.0	Volatile Organic Compounds/8260A, 8260B, 8021B	
Beryllium/6010B, 6020	Lead/6010B, 6020	Zinc/6010B	Sulfate/300.0	N-Hexane/8260A-Modified, 8260B-Modified	
Cadmium/6010B, 6020	Manganese/6010B, 6020	Selenium/6010B	Nitrate/300.0	Polychlorinated Biphenyls, Aroclor 1268/8082-Modified	
Calcium/6010B	Nickel/6010B, 6020	Potassium/6010B	Chlorinated Herbicides/8151A	Total Petroleum Hydrocarbons Only, Diesel Range Organics/8015B	
Chromium/6010B, 6020	Hexavalent Chromium/7196A	Polychlorinated Biphenyls/8082	Phosphorus/365.2*	Total Petroleum Hydrocarbons, Gasoline Range Organics/8015A-Modified	
			Phenols/9065*	n-Hexane Extractable Material/1664A*	

*Water Only

MAY 0 2 2007
Date of Certification

Director, Ohio Environmental Protection Agency

MAY 1 8 2008
Date of Expiration

Manager, Voluntary Action Program

SCOPE, LIMITATION, OBLIGATIONS AND RESPONSIBILITIES OF CERTIFICATION ON REVERSE SIDE

Scope. This certificate applies only to the Ohio EPA Voluntary Action Program. The certified laboratory identified herein is authorized to perform analyses in support of no further action letters for the analytes, parameter groups, and methods which are identified on the face of this certificate, so long as this certificate remains effective. The laboratory is prohibited from performing any analyses in support of a no further action letter for any analyte or parameter group, or using any method that is not identified in this certificate. This certificate hereby modifies and supersedes any other Voluntary Action Program certificate issued to the laboratory prior to the date of this certificate. For parameter groups, this certificate authorizes analysis of only those compounds listed in the methods identified herein. This certificate does not authorize analysis of compounds which may meet a general criteria or description provided for in such methods, but are not listed.

Limitation. This certificate does not apply to any other Ohio EPA program nor does it serve any purpose other than that described in the "Scope" section. This certificate is subject to renewal under OAC rule 3745-300-04.

Obligations and Responsibilities. As a condition of certification, the certified laboratory accepts all obligations and responsibilities of a certified laboratory in the Voluntary Action Program as set forth in ORC Chapter 3746, and OAC Chapter 3745-300, including but not limited to compliance with the standards of performance and conduct for maintaining certification under paragraph (I) of rule 3745-300-04. The certified laboratory must display the original certificate in a prominent location on its premises.

Revocation or Suspension. This certificate is subject to suspension or revocation in accordance with OAC Chapter 3745-300. The authorization provided by this certificate ceases upon the effective date of the suspension or revocation.

This certificate is the property of Ohio EPA and must be surrendered to Ohio EPA upon expiration, revocation, or suspension of the laboratory's certification.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Affidavit by Certified Lab Pursuant to OAC 3745-300-13(M)

TestAmerica Laboratories, Inc.

State of Ohio)
) ss:
County of Stark)

I, Opal Davis-Johnson, being first duly sworn according to law, state that, to the best of my knowledge, information and belief:

1. I am an adult over the age of eighteen (18) years old and competent to testify herein.

2. I am employed by STL North Canton as Laboratory Director and authorized to submit this affidavit on behalf of STL North Canton.

3. The purpose of this submission is to provide certified laboratory data for conducting or completing a voluntary action.

4. STL North Canton performed analyses on behalf of **Conestoga-Rovers & Associates** for a voluntary action at property known as Delphi-Harrison.

5. STL North Canton was a certified laboratory pursuant to Ohio Revised Code (ORC) Chapter 3746 and Ohio Administrative Code (OAC) Chapter 3745-300 when it performed analyses for the purpose of conducting or completing the voluntary action identified in paragraph 4 of this affidavit.

6. All of the analyses performed for the purpose of conducting or completing the voluntary action identified in paragraph 4 of this affidavit by STL North Canton complied with the applicable requirements of ORC Chapter 3746 and OAC Chapter 3745-300.

   Only those analyses performed by STL North Canton that are identified in the Attachment hereto of this Affidavit are subject to this Affidavit. Any analyses performed that are not identified in Attachment hereto of this Affidavit are not subject to this Affidavit.

7. I submitted the following information, data, documents or reports, to the following persons:

Laboratory Report Number	Report Date	Submitted To
A6L220102	**December 29, 2006**	**Paul Wiseman**

8. The information, data, documents and reports identified in this affidavit are true, accurate and complete.

   Further affiant sayeth naught.

Signature of Affiant

Sworn to before me this 25 day of July, 2008.

NOTARY PUBLIC STATE OF OHIO

JEFFREY C. SMITH
Notary Public, State of Ohio
My Commission Expires Feb. 12, 2012

Jeffrey C. Smith
Notary Public

Revised 10/02

OhioEPA

OHIO E.P.A.

JUN 30 2006

ENTERED DIRECTOR'S JOURNAL

Ohio Environmental Protection Agency
Division of Emergency and Remedial Response
Voluntary Action Program

Under the authority of Ohio Revised Code Section 3746.04(B)(6) and Ohio Administrative Code Rule 3745-300-04

Certifies

STL North Canton

4101 Shuffel Drive, NW
North Canton, OH 44720

as a

Certified Laboratory

(Number CL0024)

for the following analytes, parameter groups, and methods:

Aluminum/6010B	Cobalt/6010B, 6020	Silver/6010B, 6020	Mercury/7470A*, 7471A*	Organochlorine Pesticides/8081A
Antimony/6010B, 6020	Copper/6010B, 6020	Sodium/6010B	Chloride/300.0	Polynuclear Aromatic Hydrocarbons/8310
Arsenic/6010B, 6020	Cyanide, Total/335.2(CLP-M)	Thallium/6010B, 6020	Phosphate/365.2*	Semi-Volatile Organic Compounds/8270C
Barium/6010B, 6020	Iron/6010B	Vanadium/6010B	Orthophosphate/300.0	Volatile Organic Compounds/8260A, 8260B, 8021B
Beryllium/6010B, 6020	Lead/6010B, 6020	Zinc/6010B, 6020	Sulfate/300.0	N-Hexane/8260A-Modified, 8260B-Modified
Cadmium/6010B, 6020	Manganese/6010B, 6020	Selenium/6010B	Nitrate/300.0	Polychlorinated Biphenyls, Aroclor 1268/8082-Modified
Calcium/6010B	Nickel/6010B, 6020	Potassium/6010B	Chlorinated Herbicides/8151A	Total Petroleum Hydrocarbons Only, Diesel Range Organics/8015B
Chromium/6010B, 6020	Hexavalent Chromium/7196A	Polychlorinated Biphenyls/8082	Phosphorus/365.2*	Total Petroleum Hydrocarbons, Gasoline Range Organics/8015A-Modified
			Phenols/9065*	

*Water Only

JUN 30 2006
Date of Certification

Director, Ohio Environmental Protection Agency

MAY 18 2008
Date of Expiration

Manager, Voluntary Action Program

SCOPE, LIMITATION, OBLIGATIONS AND RESPONSIBILITIES OF CERTIFICATION ON REVERSE SIDE

Scope. This certificate applies only to the Ohio EPA Voluntary Action Program. The certified laboratory identified herein is authorized to perform analyses in support of no further action letters for the analytes, parameter groups, and methods which are identified on the face of this certificate, so long as this certificate remains effective. The laboratory is prohibited from performing any analyses in support of a no further action letter for any analyte or parameter group, or using any method that is not identified in this certificate. This certificate hereby modifies and supersedes any other Voluntary Action Program certificate issued to the laboratory prior to the date of this certificate. For parameter groups, this certificate authorizes analysis of only those compounds listed in the methods identified herein. This certificate does not authorize analysis of compounds which may meet a general criteria or description provided for in such methods, but are not listed.

Limitation. This certificate does not apply to any other Ohio EPA program nor does it serve any purpose other than that described in the "Scope" section. This certificate is subject to renewal under OAC rule 3745-300-04.

Obligations and Responsibilities. As a condition of certification, the certified laboratory accepts all obligations and responsibilities of a certified laboratory in the Voluntary Action Program as set forth in ORC Chapter 3746, and OAC Chapter 3745-300, including but not limited to compliance with the standards of performance and conduct for maintaining certification under paragraph (I) of rule 3745-300-04. The certified laboratory must display the original certificate in a prominent location on its premises.

Revocation or Suspension. This certificate is subject to suspension or revocation in accordance with OAC Chapter 3745-300. The authorization provided by this certificate ceases upon the effective date of the suspension or revocation.

This certificate is the property of Ohio EPA and must be surrendered to Ohio EPA upon expiration, revocation, or suspension of the laboratory's certification.

OHIO E.P.A.

DEC 26 2006

ENTERED DIRECTOR'S JOURNAL

OhioEPA

Ohio Environmental Protection Agency
Division of Emergency and Remedial Response
Voluntary Action Program

Under the authority of Ohio Revised Code Section 3746.04(B)(6) and Ohio Administrative Code Rule 3745-300-04

Certifies

STL North Canton

4101 Shuffel Drive, NW
North Canton, OH 44720

as a

Certified Laboratory

(Number CL0024)

for the following analytes, parameter groups, and methods:

Aluminum/6010B	Cobalt/6010B, 6020	Silver/6010B, 6020	Mercury/7470A, 7471A	Organochlorine Pesticides/8081A
Antimony/6010B, 6020	Copper/6010B, 6020	Sodium/6010B	Chloride/300.0	Polynuclear Aromatic Hydrocarbons/8310
Arsenic/6010B	Cyanide, Total/335.2(CFP-M)	Thallium/6010B, 6020	Phosphate/365*	Semi-Volatile Organic Compounds/8270C
Barium/6010B, 6020	Iron/6010B	Vanadium/6010B	Orthophosphate/300.0	Volatile Organic Compounds/8260A, 8260B, 8021B
Beryllium/6010B, 6020	Lead/6010B, 6020	Zinc/6010B	Sulfate/300.0	N-Hexane/8260A-Modified, 8260B-Modified
Cadmium/6010B, 6020	Manganese/6010B, 6020	Selenium/6010B	Nitrate/300.0	Polychlorinated Biphenyls, Aroclor 1268/8082-Modified
Calcium/6010B	Nickel/6010B, 6020	Potassium/6010B	Chlorinated Herbicides/8151A	Total Petroleum Hydrocarbons Only, Diesel Range Organics/8015B
Chromium/6010B, 6020	Hexavalent Chromium/7196A	Polychlorinated Biphenyls/8082	Phosphorus/365.2*	Total Petroleum Hydrocarbons, Gasoline Range Organics/8015A-Modified
			Phenols/9065*	

*Water Only

DEC 26 2006
Date of Certification

Director, Ohio Environmental Protection Agency

MAY 18 2008
Date of Expiration

Manager, Voluntary Action Program

SCOPE, LIMITATION, OBLIGATIONS AND RESPONSIBILITIES OF CERTIFICATION ON REVERSE SIDE

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Limitation. This certificate does not apply to any other Ohio EPA program nor does it serve any purpose other than that described in the "Scope" section. This certificate is subject to renewal under OAC rule 3745-300-04.

Obligations and Responsibilities. As a condition of the certification, the [illegible] accepts all obligations and responsibilities of a certified laboratory in the Voluntary Action Program as set forth in ORC Chapter 3746. and OAC Chapter 3745-300, including but not limited to compliance with the standards, performance and conduct for certification under paragraph (I) of rule 3745-300-04. The certified laboratory must display the original certificate in a prominent location on its premises.

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TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Affidavit by Certified Lab Pursuant to OAC 3745-300-13(M)

TestAmerica Laboratories, Inc.

State of Ohio)
) ss:
County of Stark)

I, Opal Davis-Johnson, being first duly sworn according to law, state that, to the best of my knowledge, information and belief:

1. I am an adult over the age of eighteen (18) years old and competent to testify herein.

2. I am employed by STL North Canton as Laboratory Director and authorized to submit this affidavit on behalf of STL North Canton.

3. The purpose of this submission is to provide certified laboratory data for conducting or completing a voluntary action.

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6. All of the analyses performed for the purpose of conducting or completing the voluntary action identified in paragraph 4 of this affidavit by STL North Canton complied with the applicable requirements of ORC Chapter 3746 and OAC Chapter 3745-300.

   Only those analyses performed by STL North Canton that are identified in the Attachment hereto of this Affidavit are subject to this Affidavit. Any analyses performed that are not identified in Attachment hereto of this Affidavit are not subject to this Affidavit.

7. I submitted the following information, data, documents or reports, to the following persons:

Laboratory Report Number	Report Date	Submitted To
SDG 6K28148	**December 22, 2006**	**Paul Wiseman**

8. The information, data, documents and reports identified in this affidavit are true, accurate and complete.

   Further affiant sayeth naught.

Signature of Affiant

Sworn to before me this 25th day of July, 2008.

NOTARY PUBLIC STATE OF OHIO

JEFFREY C. SMITH
Notary Public, State of Ohio
My Commission Expires Feb. 12, 2012

Jeffrey C. Smith
Notary Public

Revised 10/02

OhioEPA

OHIO E.P.A.

JUN 30 2006

ENTERED DIRECTOR'S JOURNAL

Ohio Environmental Protection Agency
Division of Emergency and Remedial Response
Voluntary Action Program

Under the authority of Ohio Revised Code Section 3746.04(B)(6) and Ohio Administrative Code Rule 3745-300-04

Certifies

STL North Canton

4101 Shuffel Drive, NW
North Canton, OH 44720

as a

Certified Laboratory

(Number CL0024)

for the following analytes, parameter groups, and methods:

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Arsenic/6010B, 6020	Cyanide, Total/335.2(CLP-M)	Thallium/6010B, 6020	Phosphate/365.2*	Semi-Volatile Organic Compounds/8270C
Barium/6010B, 6020	Iron/6010B	Vanadium/6010B	Orthophosphate/300.0	Volatile Organic Compounds/8260A, 8260B, 8021B
Beryllium/6010B, 6020	Lead/6010B, 6020	Zinc/6010B, 6020	Sulfate/300.0	N-Hexane/8260A-Modified, 8260B-Modified
Cadmium/6010B, 6020	Manganese/6010B, 6020	Selenium/6010B	Nitrate/300.0	Polychlorinated Biphenyls, Aroclor 1268/8082-Modified
Calcium/6010B	Nickel/6010B, 6020	Potassium/6010B	Chlorinated Herbicides/8151A	Total Petroleum Hydrocarbons Only, Diesel Range Organics/8015B
Chromium/6010B, 6020	Hexavalent Chromium/7196A	Polychlorinated Biphenyls/8082	Phosphorus/365.2*	Total Petroleum Hydrocarbons, Gasoline Range Organics/8015A-Modified
			Phenols/9065*	

*Water Only

JUN 30 2006
Date of Certification

Director, Ohio Environmental Protection Agency

MAY 18 2008
Date of Expiration

Manager, Voluntary Action Program

SCOPE, LIMITATION, OBLIGATIONS AND RESPONSIBILITIES OF CERTIFICATION ON REVERSE SIDE

Scope. This certificate applies only to the Ohio EPA Voluntary Action Program. The certified laboratory identified herein is authorized to perform analyses in support of no further action letters for the analytes, parameter groups, and methods which are identified on the face of this certificate, so long as this certificate remains effective. The laboratory is prohibited from performing any analyses in support of a no further action letter for any analyte or parameter group, or using any method that is not identified in this certificate. This certificate hereby modifies and supersedes any other Voluntary Action Program certificate issued to the laboratory prior to the date of this certificate. For parameter groups, this certificate authorizes analysis of only those compounds listed in the methods identified herein. This certificate does not authorize analysis of compounds which may meet a general criteria or description provided for in such methods, but are not listed.

Limitation. This certificate does not apply to any other Ohio EPA program nor does it serve any purpose other than that described in the "Scope" section. This certificate is subject to renewal under OAC rule 3745-300-04.

Obligations and Responsibilities. As a condition of certification, the certified laboratory accepts all obligations and responsibilities of a certified laboratory in the Voluntary Action Program, as set forth in ORC Chapter 3746, and OAC Chapter 3745-300, including but not limited to compliance with the standards of performance and conduct for maintaining certification under paragraph (I) of rule 3745-300-04. The certified laboratory must display the original certificate in a prominent location on its premises.

Revocation or Suspension. This certificate is subject to suspension or revocation in accordance with OAC Chapter 3745-300. The authorization provided by this certificate ceases upon the effective date of the suspension or revocation.

This certificate is the property of Ohio EPA and must be surrendered to Ohio EPA upon expiration, revocation, or suspension of the laboratory's certification.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Affidavit by Certified Lab Pursuant to OAC 3745-300-13(M)

TestAmerica Laboratories, Inc.

State of Ohio)
) ss:
County of Stark)

I, Opal Davis-Johnson, being first duly sworn according to law, state that, to the best of my knowledge, information and belief:

1. I am an adult over the age of eighteen (18) years old and competent to testify herein.

2. I am employed by STL North Canton as Laboratory Director and authorized to submit this affidavit on behalf of STL North Canton.

3. The purpose of this submission is to provide certified laboratory data for conducting or completing a voluntary action.

4. STL North Canton performed analyses on behalf of **Conestoga-Rovers & Associates** for a voluntary action at property known as Delphi-Harrison.

5. STL North Canton was a certified laboratory pursuant to Ohio Revised Code (ORC) Chapter 3746 and Ohio Administrative Code (OAC) Chapter 3745-300 when it performed analyses for the purpose of conducting or completing the voluntary action identified in paragraph 4 of this affidavit.

6. All of the analyses performed for the purpose of conducting or completing the voluntary action identified in paragraph 4 of this affidavit by STL North Canton complied with the applicable requirements of ORC Chapter 3746 and OAC Chapter 3745-300.

   Only those analyses performed by STL North Canton that are identified in the Attachment hereto of this Affidavit are subject to this Affidavit. Any analyses performed that are not identified in Attachment hereto of this Affidavit are not subject to this Affidavit.

7. I submitted the following information, data, documents or reports, to the following persons:

Laboratory Report Number	Report Date	Submitted To
A6K170299	**December 14, 2006**	**Paul Wiseman**

8. The information, data, documents and reports identified in this affidavit are true, accurate and complete.

   Further affiant sayeth naught.

Signature of Affiant

Sworn to before me this 25 day of July, 2008.

NOTARY PUBLIC STATE OF OHIO

JEFFREY C. SMITH
Notary Public, State of Ohio
My Commission Expires Feb. 12, 2012

Jeffrey C. Smith
Notary Public

Revised 10/02

OhioEPA

OHIO E.P.A.

JUN 30 2006

ENTERED DIRECTOR'S JOURNAL

Ohio Environmental Protection Agency
Division of Emergency and Remedial Response
Voluntary Action Program

Under the authority of Ohio Revised Code Section 3746.04(B)(6) and Ohio Administrative Code Rule 3745-300-04

Certifies

STL North Canton

4101 Shuffel Drive, NW
North Canton, OH 44720

as a

Certified Laboratory

(Number CL0024)

for the following analytes, parameter groups, and methods:

Aluminum/6010B	Cobalt/6010B, 6020	Silver/6010B, 6020	Mercury/7470A*, 7471A	Organochlorine Pesticides/8081A
Antimony/6010B, 6020	Copper/6010B, 6020	Sodium/6010B	Chloride/300.0	Polynuclear Aromatic Hydrocarbons/8310
Arsenic/6010B, 6020	Cyanide, Total/335.2(CLP-M)	Thallium/6010B, 6020	Phosphate/365.2*	Semi-Volatile Organic Compounds/8270C
Barium/6010B, 6020	Iron/6010B	Vanadium/6010B	Orthophosphate/300.0	Volatile Organic Compounds/8260A, 8260B, 8021B
Beryllium/6010B, 6020	Lead/6010B, 6020	Zinc/6010B, 6020	Sulfate/300.0	N-Hexane/8260A-Modified, 8260B-Modified
Cadmium/6010B, 6020	Manganese/6010B, 6020	Selenium/6010B	Nitrate/300.0	Polychlorinated Biphenyls, Aroclor 1268/8082-Modified
Calcium/6010B	Nickel/6010B, 6020	Potassium/6010B	Chlorinated Herbicides/8151A	Total Petroleum Hydrocarbons Only, Diesel Range Organics/8015B
Chromium/6010B, 6020	Hexavalent Chromium/7196A	Polychlorinated Biphenyls/8082	Phosphorus/365.2*	Total Petroleum Hydrocarbons, Gasoline Range Organics/8015A-Modified
			Phenols/9065*	

*Water Only

JUN 30 2006
Date of Certification

Director, Ohio Environmental Protection Agency

MAY 18 2008
Date of Expiration

Manager, Voluntary Action Program

SCOPE, LIMITATION, OBLIGATIONS AND RESPONSIBILITIES OF CERTIFICATION ON REVERSE SIDE

Scope. This certificate applies only to the Ohio EPA Voluntary Action Program. The certified laboratory identified herein is authorized to perform analyses in support of no further action letters for the analytes, parameter groups, and methods which are identified on the face of this certificate, so long as this certificate remains effective. The laboratory is prohibited from performing any analyses in support of a no further action letter for any analyte or parameter group, or using any method that is not identified in this certificate. This certificate hereby modifies and supersedes any other Voluntary Action Program certificate issued to the laboratory prior to the date of this certificate. For parameter groups, this certificate authorizes analysis of only those compounds listed in the methods identified herein. This certificate does not authorize analysis of compounds which may meet a general criteria or description provided for in such methods, but are not listed.

Limitation. This certificate does not apply to any other Ohio EPA program nor does it serve any purpose other than that described in the "Scope" section. This certificate is subject to renewal under OAC rule 3745-300-04.

Obligations and Responsibilities. As a condition of certification, the certified laboratory accepts all obligations and responsibilities of a certified laboratory in the Voluntary Action Program as set forth in ORC Chapter 3746, and OAC Chapter 3745-300, including but not limited to compliance with the standards of performance and conduct for maintaining certification under paragraph (I) of rule 3745-300-04. The certified laboratory must display the original certificate in a prominent location on its premises.

Revocation or Suspension. This certificate is subject to suspension or revocation in accordance with OAC Chapter 3745-300. The authorization provided by this certificate ceases upon the effective date of the suspension or revocation.

This certificate is the property of Ohio EPA and must be surrendered to Ohio EPA upon expiration, revocation, or suspension of the laboratory's certification.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Affidavit by Certified Lab Pursuant to OAC 3745-300-13(M)

TestAmerica Laboratories, Inc.

State of Ohio)
) ss:
County of Stark)

I, Opal Davis-Johnson, being first duly sworn according to law, state that, to the best of my knowledge, information and belief:

1. I am an adult over the age of eighteen (18) years old and competent to testify herein.

2. I am employed by STL North Canton as Laboratory Director and authorized to submit this affidavit on behalf of STL North Canton.

3. The purpose of this submission is to provide certified laboratory data for conducting or completing a voluntary action.

4. STL North Canton performed analyses on behalf of **Conestoga-Rovers & Associates** for a voluntary action at property known as Delphi-Harrison.

5. STL North Canton was a certified laboratory pursuant to Ohio Revised Code (ORC) Chapter 3746 and Ohio Administrative Code (OAC) Chapter 3745-300 when it performed analyses for the purpose of conducting or completing the voluntary action identified in paragraph 4 of this affidavit.

6. All of the analyses performed for the purpose of conducting or completing the voluntary action identified in paragraph 4 of this affidavit by STL North Canton complied with the applicable requirements of ORC Chapter 3746 and OAC Chapter 3745-300.

   Only those analyses performed by STL North Canton that are identified in the Attachment hereto of this Affidavit are subject to this Affidavit. Any analyses performed that are not identified in Attachment hereto of this Affidavit are not subject to this Affidavit.

7. I submitted the following information, data, documents or reports, to the following persons:

Laboratory Report Number	Report Date	Submitted To
SDG 6K09402	**December 13, 2006**	**Paul Wiseman**

8. The information, data, documents and reports identified in this affidavit are true, accurate and complete.

   Further affiant sayeth naught.

Signature of Affiant

Sworn to before me this 25th day of July, 2008.

JEFFREY C. SMITH
Notary Public, State of Ohio
My Commission Expires Feb. 12, 2012

Jeffrey C. Smith
Notary Public

Revised 10/02

OHIO E.P.A.

JUN 30 2006

ENTERED DIRECTOR'S JOURNAL

OhioEPA

Ohio Environmental Protection Agency
Division of Emergency and Remedial Response
Voluntary Action Program

Under the authority of Ohio Revised Code Section 3746.04(B)(6) and Ohio Administrative Code Rule 3745-300-04

Certifies

STL North Canton

4101 Shuffel Drive, NW
North Canton, OH 44720

as a

Certified Laboratory

(Number CL0024)

for the following analytes, parameter groups, and methods:

Aluminum/6010B	Cobalt/6010B, 6020	Silver/6010B, 6020	Mercury/7470A*, 7471A	Organochlorine Pesticides/8081A
Antimony/6010B, 6020	Copper/6010B, 6020	Sodium/6010B	Chloride/300.0	Polynuclear Aromatic Hydrocarbons/ 8310
Arsenic/6010B, 6020	Cyanide, Total/335.2(CLP-M)	Thallium/6010B, 6020	Phosphate/365.2*	Semi-Volatile Organic Compounds/8270C
Barium/6010B, 6020	Iron/6010B	Vanadium/6010B	Orthophosphate/300.0	Volatile Organic Compounds/8260A, 8260B, 8021B
Beryllium/6010B, 6020	Lead/6010B, 6020	Zinc/6010B, 6020	Sulfate/300.0	N-Hexane/8260A-Modified, 8260B-Modified
Cadmium/6010B, 6020	Manganese/6010B, 6020	Selenium/6010B	Nitrate/300.0	Polychlorinated Biphenyls, Aroclor 1268/8082-Modified
Calcium/6010B	Nickel/6010B, 6020	Potassium/6010B	Chlorinated Herbicides/8151A	Total Petroleum Hydrocarbons Only, Diesel Range Organics/8015B
Chromium/6010B, 6020	Hexavalent Chromium/7196A	Polychlorinated Biphenyls/8082	Phosphorus/365.2*	Total Petroleum Hydrocarbons, Gasoline Range Organics/8015A-Modified
			Phenols/9065*	

*Water Only

JUN 30 2006
Date of Certification

Director, Ohio Environmental Protection Agency

MAY 18 2008
Date of Expiration

Manager, Voluntary Action Program

SCOPE, LIMITATION, OBLIGATIONS AND RESPONSIBILITIES OF CERTIFICATION ON REVERSE SIDE

Scope. This certificate applies only to the Ohio EPA Voluntary Action Program. The certified laboratory identified herein is authorized to perform analyses in support of no further action letters for the analytes, parameter groups, and methods which are identified on the face of this certificate, so long as this certificate remains effective. The laboratory is prohibited from performing any analyses in support of a no further action letter for any analyte or parameter group, or using any method that is not identified in this certificate. This certificate hereby modifies and supersedes any other Voluntary Action Program certificate issued to the laboratory prior to the date of this certificate. For parameter groups, this certificate authorizes analysis of only those compounds listed in the methods identified herein. This certificate does not authorize analysis of compounds which may meet a general criteria or description provided for in such methods, but are not listed.

Limitation. This certificate does not apply to any other Ohio EPA program nor does it serve any purpose other than that described in the "Scope" section. This certificate is subject to renewal under OAC rule 3745-300-04.

Obligations and Responsibilities. As a condition of certification, the certified laboratory accepts all obligations and responsibilities of a certified laboratory in the Voluntary Action Program, as set forth in ORC Chapter 3746. and OAC Chapter 3745-300, including but not limited to compliance with the standards of performance and conduct for maintaining certification under paragraph (I) of rule 3745-300-04. The certified laboratory must display the original certificate in a prominent location on its premises.

Revocation or Suspension. This certificate is subject to suspension or revocation in accordance with OAC Chapter 3745-300. The authorization provided by this certificate ceases upon the effective date of the suspension or revocation.

This certificate is the property of Ohio EPA and must be surrendered to Ohio EPA upon expiration, revocation, or suspension of the laboratory's certification.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Affidavit by Certified Lab Pursuant to OAC 3745-300-13(M)

TestAmerica Laboratories, Inc.

State of Ohio)
) ss:
County of Stark)

I, Opal Davis-Johnson, being first duly sworn according to law, state that, to the best of my knowledge, information and belief:

1. I am an adult over the age of eighteen (18) years old and competent to testify herein.

2. I am employed by STL North Canton as Laboratory Director and authorized to submit this affidavit on behalf of STL North Canton.

3. The purpose of this submission is to provide certified laboratory data for conducting or completing a voluntary action.

4. STL North Canton performed analyses on behalf of **Conestoga-Rovers & Associates** for a voluntary action at property known as Delphi-Harrison.

5. STL North Canton was a certified laboratory pursuant to Ohio Revised Code (ORC) Chapter 3746 and Ohio Administrative Code (OAC) Chapter 3745-300 when it performed analyses for the purpose of conducting or completing the voluntary action identified in paragraph 4 of this affidavit.

6. All of the analyses performed for the purpose of conducting or completing the voluntary action identified in paragraph 4 of this affidavit by STL North Canton complied with the applicable requirements of ORC Chapter 3746 and OAC Chapter 3745-300.

   Only those analyses performed by STL North Canton that are identified in the Attachment hereto of this Affidavit are subject to this Affidavit. Any analyses performed that are not identified in Attachment hereto of this Affidavit are not subject to this Affidavit.

7. I submitted the following information, data, documents or reports, to the following persons:

Laboratory Report Number	Report Date	Submitted To
SDG 6K07128	**December 12, 2006**	**Paul Wiseman**

8. The information, data, documents and reports identified in this affidavit are true, accurate and complete.

Further affiant sayeth naught.

Signature of Affiant

Sworn to before me this 25th day of July, 2008.

NOTARY PUBLIC STATE OF OHIO

JEFFREY C. SMITH
Notary Public, State of Ohio
My Commission Expires Feb. 12, 2012

Jeffrey C. Smith
Notary Public

Revised 10/02

OHIO E.P.A.

JUN 30 2006

ENTERED DIRECTOR'S JOURNAL

OhioEPA

Ohio Environmental Protection Agency
Division of Emergency and Remedial Response
Voluntary Action Program

Under the authority of Ohio Revised Code Section 3746.04(B)(6) and Ohio Administrative Code Rule 3745-300-04

Certifies

STL North Canton

4101 Shuffel Drive, NW
North Canton, OH 44720

as a

Certified Laboratory

(Number CL0024)

for the following analytes, parameter groups, and methods:

Aluminum/6010B	Cobalt/6010B, 6020	Silver/6010B, 6020	Mercury/7470A*, 7471A	Organochlorine Pesticides/8081A
Antimony/6010B, 6020	Copper/6010B, 6020	Sodium/6010B	Chloride/300.0	Polynuclear Aromatic Hydrocarbons/8310
Arsenic/6010B, 6020	Cyanide, Total/335.2(CLP-M)	Thallium/6010B, 6020	Phosphate/365.2*	Semi-Volatile Organic Compounds/8270C
Barium/6010B, 6020	Iron/6010B	Vanadium/6010B	Orthophosphate/300.0	Volatile Organic Compounds/8260A, 8260B, 8021B
Beryllium/6010B, 6020	Lead/6010B, 6020	Zinc/6010B, 6020	Sulfate/300.0	N-Hexane/8260A-Modified, 8260B-Modified
Cadmium/6010B, 6020	Manganese/6010B, 6020	Selenium/6010B	Nitrate/300.0	Polychlorinated Biphenyls, Aroclor 1268/8082-Modified
Calcium/6010B	Nickel/6010B, 6020	Potassium/6010B	Chlorinated Herbicides/8151A	Total Petroleum Hydrocarbons Only, Diesel Range Organics/8015B
Chromium/6010B, 6020	Hexavalent Chromium/7196A	Polychlorinated Biphenyls/8082	Phosphorus/365.2*	Total Petroleum Hydrocarbons, Gasoline Range Organics/8015A-Modified
			Phenols/9065*	

*Water Only

JUN 30 2006
Date of Certification

Director, Ohio Environmental Protection Agency

MAY 18 2008
Date of Expiration

Manager, Voluntary Action Program

SCOPE, LIMITATION, OBLIGATIONS AND RESPONSIBILITIES OF CERTIFICATION ON REVERSE SIDE

Scope. This certificate applies only to the Ohio EPA Voluntary Action Program. The certified laboratory identified herein is authorized to perform analyses in support of no further action letters for the analytes, parameter groups, and methods which are identified on the face of this certificate, so long as this certificate remains effective. The laboratory is prohibited from performing any analyses in support of a no further action letter for any analyte or parameter group, or using any method that is not identified in this certificate. This certificate hereby modifies and supersedes any other Voluntary Action Program certificate issued to the laboratory prior to the date of this certificate. For parameter groups, this certificate authorizes analysis of only those compounds listed in the methods identified herein. This certificate does not authorize analysis of compounds which may meet a general criteria or description provided for in such methods, but are not listed.

Limitation. This certificate does not apply to any other Ohio EPA program nor does it serve any purpose other than that described in the "Scope" section. This certificate is subject to renewal under OAC rule 3745-300-04.

Obligations and Responsibilities. As a condition of certification, the certified laboratory accepts all obligations and responsibilities of a certified laboratory in the Voluntary Action Program as set forth in ORC Chapter 3746, and OAC Chapter 3745-300, including but not limited to compliance with the standards of performance and conduct for maintaining certification under paragraph (I) of rule 3745-300-04. The certified laboratory must display the original certificate in a prominent location on its premises.

Revocation or Suspension. This certificate is subject to suspension or revocation in accordance with OAC Chapter 3745-300. The authorization provided by this certificate ceases upon the effective date of the suspension or revocation.

This certificate is the property of Ohio EPA and must be surrendered to Ohio EPA upon expiration, revocation, or suspension of the laboratory's certification.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Affidavit by Certified Lab Pursuant to OAC 3745-300-13(M) TestAmerica Laboratories, Inc.

State of Ohio)
) ss:
County of Stark)

I, Opal Davis-Johnson, being first duly sworn according to law, state that, to the best of my knowledge, information and belief:

1. I am an adult over the age of eighteen (18) years old and competent to testify herein.

2. I am employed by STL North Canton as Laboratory Director and authorized to submit this affidavit on behalf of STL North Canton.

3. The purpose of this submission is to provide certified laboratory data for conducting or completing a voluntary action.

4. STL North Canton performed analyses on behalf of **Conestoga-Rovers & Associates** for a voluntary action at property known as Delphi-Harrison.

5. STL North Canton was a certified laboratory pursuant to Ohio Revised Code (ORC) Chapter 3746 and Ohio Administrative Code (OAC) Chapter 3745-300 when it performed analyses for the purpose of conducting or completing the voluntary action identified in paragraph 4 of this affidavit.

6. All of the analyses performed for the purpose of conducting or completing the voluntary action identified in paragraph 4 of this affidavit by STL North Canton complied with the applicable requirements of ORC Chapter 3746 and OAC Chapter 3745-300.

   Only those analyses performed by STL North Canton that are identified in the Attachment hereto of this Affidavit are subject to this Affidavit. Any analyses performed that are not identified in Attachment hereto of this Affidavit are not subject to this Affidavit.

7. I submitted the following information, data, documents or reports, to the following persons:

Laboratory Report Number	Report Date	Submitted To
SDG 6K01151	**December 7, 2006**	**Paul Wiseman**
SDG 6J24267	**November 17, 2006**	**Paul Wiseman**
SDG 6J10289	**October 27, 2006**	**Paul Wiseman**
A6J040291	**October 18, 2006**	**Paul Wiseman**
SDG 6I26235	**October 16, 2006**	**Paul Wiseman**
SDG 6I19203	**October 13, 2006**	**Paul Wiseman**
A6I220353	**October 12, 2006**	**Paul Wiseman**
SDG 6I19203	**October 13, 2006**	**Paul Wiseman**
SDG 6I14260	**October 10, 2006**	**Paul Wiseman**
SDG 6I07231	**September 27, 2006**	**Paul Wiseman**
SDG 6H30140	**September 29, 2006**	**Paul Wiseman**
A6G210251	**August 11, 2006**	**Paul Wiseman**
A6G130192	**July 25, 2006**	**Paul Wiseman**
A6F280163	**July 20, 2006**	**Paul Wiseman**

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

A6E260133	June 16, 206	Paul Wiseman
A6A240169	January 31, 2006	Paul Wiseman
A6A230188	January 31, 2006	Paul Wiseman
SDG 6A17220	January 30, 2006	Paul Wiseman

8. The information, data, documents and reports identified in this affidavit are true, accurate and complete.

Further affiant sayeth naught.

Signature of Affiant

Sworn to before me this 25th day of July, 2008.

Jeffrey C. Smith
Notary Public

Revised 10/02

NOTARY PUBLIC STATE OF OHIO

JEFFREY C. SMITH
Notary Public, State of Ohio
My Commission Expires Feb. 12, 2012

OhioEPA

Ohio Environmental Protection Agency
Division of Emergency and Remedial Response
Voluntary Action Program

Under the authority of Ohio Revised Code Section 3746.04(B)(6) and Ohio Administrative Code Rule 3745-300-04

Certifies

STL North Canton
4101 Shuffel Drive, NW
North Canton, OH 44720

as a

Certified Laboratory

(Number CL0024)

for the following analytes, parameter groups, and methods

Aluminum/6010B
Antimony/6010B, 6020
Arsenic/6010B, 6020
Barium/6010B, 6020
Beryllium/6010B, 6020
Cadmium/6010B, 6020
Calcium/6010B
Chromium/6010B, 6020
Cobalt/6010B, 6020
Copper/6010B, 6020
Cyanide, Total/335.2(CLP-M)
Iron/6010B
Lead/6010B, 6020
Manganese/6010B, 6020
Nickel/6010B, 6020
Silver/6010B, 6020
Sodium/6010B
Thallium/6010B, 6020
Vanadium/6010B
Zinc/6010B, 6020
Selenium/6010B
Potassium/6010B
Polychlorinated Biphenyls/8082
Mercury/7470A, 7471A
Chloride/300.0
Fluoride/300.0
Orthophosphate/300.0
Sulfate/300.0
Nitrate/300.0
Chlorinated Herbicides/8151A
Phosphorus/365.2*
Organochlorine Pesticides/8081A
Polynuclear Aromatic Hydrocarbons/8310
Semi-Volatile Organic Compounds/8270C
Volatile Organic Compounds/8260A, 8260B, 8021B
N-Hexane/8260A-Modified; 8260B-Modified
Hexavalent Chromium/7196A
Total Petroleum Hydrocarbons Only, Diesel Range Organics/8015B
Total Petroleum Hydrocarbons, Gasoline Range Organics/8015A-Modified
n-Hexane Extractable Material/1664A*

*Water Only

AUG 23 2004
Date of Certification

Director, Ohio Environmental Protection Agency

AUG 23 2006
Date of Expiration

Manager, Voluntary Action Program

SCOPE, LIMITATION, OBLIGATIONS AND RESPONSIBILITIES OF CERTIFICATION ON REVERSE SIDE

OHIO E.P.A.
AUG 23 2004
ENTERED DIRECTOR'S JOURNAL

OHIO E.P.A.

JUN 30 2006

ENTERED DIRECTOR'S JOURNAL

OhioEPA

Ohio Environmental Protection Agency
Division of Emergency and Remedial Response
Voluntary Action Program

Under the authority of Ohio Revised Code Section 3746.04(B)(6) and Ohio Administrative Code Rule 3745-300-04

Certifies

STL North Canton

4101 Shuffel Drive, NW
North Canton, OH 44720

as a

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(Number CL0024)

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Aluminum/6010B	Cobalt/6010B, 6020	Silver/6010B, 6020	Mercury/7470A*, 7471A	Organochlorine Pesticides/8081A
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Arsenic/6010B, 6020	Cyanide, Total/335.2(CLP-M)	Thallium/6010B, 6020	Phosphate/365.2*	Semi-Volatile Organic Compounds/8270C
Barium/6010B, 6020	Iron/6010B	Vanadium/6010B	Orthophosphate/300.0	Volatile Organic Compounds/8260A, 8260B, 8021B
Beryllium/6010B, 6020	Lead/6010B, 6020	Zinc/6010B, 6020	Sulfate/300.0	N-Hexane/8260A-Modified, 8260B-Modified
Cadmium/6010B, 6020	Manganese/6010B, 6020	Selenium/6010B	Nitrate/300.0	Polychlorinated Biphenyls, Aroclor 1268/8082-Modified
Calcium/6010B	Nickel/6010B, 6020	Potassium/6010B	Chlorinated Herbicides/8151A	Total Petroleum Hydrocarbons Only, Diesel Range Organics/8015B
Chromium/6010B, 6020	Hexavalent Chromium/7196A	Polychlorinated Biphenyls/8082	Phosphorus/365.2*	Total Petroleum Hydrocarbons, Gasoline Range Organics/8015A-Modified
			Phenols/9065*	

*Water Only

JUN 30 2006
Date of Certification

Director, Ohio Environmental Protection Agency

MAY 18 2008
Date of Expiration

Manager, Voluntary Action Program

SCOPE, LIMITATION, OBLIGATIONS AND RESPONSIBILITIES OF CERTIFICATION ON REVERSE SIDE

Scope. This certificate applies only to the Ohio EPA Voluntary Action Program. The certified laboratory identified herein is authorized to perform analyses in support of no further action letters for the analytes, parameter groups, and methods which are identified on the face of this certificate, so long as this certificate remains effective. The laboratory is prohibited from performing any analyses in support of a no further action letter for any analyte or parameter group, or using any method that is not identified in this certificate. This certificate hereby modifies and supersedes any other Voluntary Action Program certificate issued to the laboratory prior to the date of this certificate. For parameter groups, this certificate authorizes analysis of only those compounds listed in the methods identified herein. This certificate does not authorize analysis of compounds which may meet a general criteria or description provided for in such methods, but are not listed.

Limitation. This certificate does not apply to any other Ohio EPA program nor does it serve any purpose other than that described in the "Scope" section. This certificate is subject to renewal under OAC rule 3745-300-04.

Obligations and Responsibilities. As a condition of certification, the certified laboratory accepts all obligations and responsibilities of a certified laboratory in the Voluntary Action Program, as set forth in ORC Chapter 3746. and OAC Chapter 3745-300, including but not limited to compliance with the standards of performance and conduct for maintaining certification under paragraph (I) of rule 3745-300-04. The certified laboratory must display the original certificate in a prominent location on its premises.

Revocation or Suspension. This certificate is subject to suspension or revocation in accordance with OAC Chapter 3745-300. The authorization provided by this certificate ceases upon the effective date of the suspension or revocation.

This certificate is the property of Ohio EPA and must be surrendered to Ohio EPA upon expiration, revocation, or suspension of the laboratory's certification.

OHIO E.P.A.

DEC 26 2006

ENTERED DIRECTOR'S JOURNAL

OhioEPA

Ohio Environmental Protection Agency
Division of Emergency and Remedial Response
Voluntary Action Program

Under the authority of Ohio Revised Code Section 3746.04(B)(6) and Ohio Administrative Code Rule 3745-300-04

Certifies

STL North Canton

4101 Shuffel Drive, NW
North Canton, OH 44720

as a

Certified Laboratory

(Number CL0024)

for the following analytes, parameter groups, and methods

Aluminum/6010B	Cobalt/6010B, 6020	Silver/6010B, 6020	Mercury/7470A*, 7471A	Organochlorine Pesticides/8081A
Antimony/6010B, 6020	Copper/6010B, 6020	Sodium/6010B	Chloride/300.0	Polynuclear Aromatic Hydrocarbons/ 8310
Arsenic/6010B	Cyanide, Total/335.2(CFP-M)	Thallium/6010B, 6020	Phosphate/300.0	Semi-Volatile Organic Compounds/8270C
Barium/6010B, 6020	Iron/6010B	Vanadium/6010B	Orthophosphate/300.0	Volatile Organic Compounds/8260A, 8260B, 8021B
Beryllium/6010B, 6020	Lead/6010B, 6020	Zinc/6010B	Sulfate/300.0	N-Hexane/8260A-Modified, 8260B-Modified
Cadmium/6010B, 6020	Manganese/6010B, 6020	Selenium/6010B	Nitrate/300.0	Polychlorinated Biphenyls, Aroclor 1268/8082-Modified
Calcium/6010B	Nickel/6010B, 6020	Potassium/6010B	Chlorinated Herbicides/8151A	Total Petroleum Hydrocarbons Only, Diesel Range Organics/8015B
Chromium/6010B, 6020	Hexavalent Chromium/7196A	Polychlorinated Biphenyls/8082	Phosphorus/365.2*	Total Petroleum Hydrocarbons, Gasoline Range Organics/8015A-Modified
			Phenols/9065*	

*Water Only

DEC 26 2006
Date of Certification

Director, Ohio Environmental Protection Agency

MAY 18 2008
Date of Expiration

Manager, Voluntary Action Program

SCOPE, LIMITATION, OBLIGATIONS AND RESPONSIBILITIES OF CERTIFICATION ON REVERSE SIDE

Scope. This certificate applies only to the Ohio EPA Voluntary Action Program. The certified laboratory identified herein is authorized to perform analyses in support of no further action letters for the analytes, parameter groups, and methods which are identified on the face of this certificate, so long as this certificate remains effective. The laboratory is prohibited from performing any analyses in support of a no further action letter for any analyte or parameter group, or using any method that is not identified in this certificate. This certificate hereby modifies and supersedes any other Voluntary Action Program certificate issued to the laboratory prior to the date of this certificate. For parameter groups, this certificate authorizes analysis of only those compounds listed in the methods identified herein. This certificate does not authorize analysis of compounds which may meet a general criteria or description provided for in such methods, but are not listed.

Limitation. This certificate does not apply to any other Ohio EPA program nor does it serve any purpose other than that described in the "Scope" section. This certificate is subject to renewal under OAC rule 3745-300-04.

Obligations and Responsibilities. As a condition of the certification, [illegible] accepts all obligations and responsibilities of a certified laboratory in the Voluntary Action Program as set forth in ORC Chapter 3746, and OAC Chapter 3745-300, including but not limited to compliance with the standards of performance and conduct for maintaining certification under paragraph (I) of rule 3745-300-04. The certified laboratory must display the original certificate in a prominent location on its premises.

Revocation or Suspension. This certificate is subject to suspension or revocation in accordance with OAC Chapter 3745-300. The authorization provided by this certificate ceases upon the effective date of the suspension or revocation.

This certificate is the property of Ohio EPA and must be surrendered to Ohio EPA upon expiration, revocation, or suspension of the laboratory's certification.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Affidavit by Certified Lab Pursuant to OAC 3745-300-13(M)

TestAmerica Laboratories, Inc.

State of Ohio)
) ss:
County of Stark)

I, Opal Davis-Johnson, being first duly sworn according to law, state that, to the best of my knowledge, information and belief:

1. I am an adult over the age of eighteen (18) years old and competent to testify herein.

2. I am employed by STL North Canton as Laboratory Director and authorized to submit this affidavit on behalf of STL North Canton.

3. The purpose of this submission is to provide certified laboratory data for conducting or completing a voluntary action.

4. STL North Canton performed analyses on behalf of **Conestoga-Rovers & Associates** for a voluntary action at property known as **Delphi-Harrison.**

5. STL North Canton was a certified laboratory pursuant to Ohio Revised Code (ORC) Chapter 3746 and Ohio Administrative Code (OAC) Chapter 3745-300 when it performed analyses for the purpose of conducting or completing the voluntary action identified in paragraph 4 of this affidavit.

6. All of the analyses performed for the purpose of conducting or completing the voluntary action identified in paragraph 4 of this affidavit by STL North Canton complied with the applicable requirements of ORC Chapter 3746 and OAC Chapter 3745-300.

   Only those analyses performed by STL North Canton that are identified in the Attachment hereto of this Affidavit are subject to this Affidavit. Any analyses performed that are not identified in Attachment hereto of this Affidavit are not subject to this Affidavit.

7. I submitted the following information, data, documents or reports, to the following persons:

Laboratory Report Number	Report Date	Submitted To
A5J250248	**November 15, 2005**	**Paul Wiseman**
A5J210421	**November 11, 2005**	**Paul Wiseman**
A5J110225	**October 31, 2005**	**Paul Wiseman**
SDG 5I21193	**October 17, 2005**	**Paul Wiseman**
SDG 5G15183	**July 27, 2005**	**Paul Wiseman**
A5G110149	**July 29, 2005**	**Paul Wiseman**
A5G090114	**July 29, 2005**	**Paul Wiseman**
A5G010216	**July 27, 2005**	**Paul Wiseman**
A5F280183	**July 21, 2005**	**Paul Wiseman**
A5F070181	**June 28, 2005**	**Paul Wiseman**
SDG 5F04155	**June 27, 2005**	**Paul Wiseman**
A5E140197	**June 6, 2005**	**Paul Wiseman**
SDG 5D27277	**May 19, 2005**	**Paul Wiseman**
A5D230212	**May 11, 2005**	**Paul Wiseman**

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

SDG 5D20355	May 16, 2005	Paul Wiseman
A5D020185	April 20, 2005	Paul Wiseman
A5B230268	March 11, 2005	Paul Wiseman

8. The information, data, documents and reports identified in this affidavit are true, accurate and complete.

Further affiant sayeth naught.

Signature of Affiant

Sworn to before me this 25th day of July, 2008.

Jeffrey C. Smith
Notary Public

Revised 10/02

NOTARY PUBLIC STATE OF OHIO

JEFFREY C. SMITH
Notary Public, State of Ohio
My Commission Expires Feb. 12, 2012

OhioEPA

Ohio Environmental Protection Agency
Division of Emergency and Remedial Response
Voluntary Action Program

Under the authority of Ohio Revised Code Section 3746.04(B)(6) and Ohio Administrative Code Rule 3745-300-04

Certifies

STL North Canton
4101 Shuffel Drive, NW
North Canton, OH 44720

as a

Certified Laboratory

(Number CL0024)

for the following analytes, parameter groups, and methods:

Aluminum/6010B	Cobalt/6010B, 6020	Silver/6010B, 6020	Mercury/7470A, 7471A	Organochlorine Pesticides/8081A
Antimony/6010B, 6020	Copper/6010B, 6020	Sodium/6010B	Chloride/300.0	Polynuclear Aromatic Hydrocarbons/8310
Arsenic/6010B, 6020	Cyanide, Total/335.2(CEP-M)	Thallium/6010B, 6020	Phosphate/365.2*	Semi-Volatile Organic Compounds/8270C
Barium/6010B, 6020	Iron/6010B	Vanadium/6010B	Orthophosphate/300.0	Volatile Organic Compounds/8260A, 8260B, 8021B
Beryllium/6010B, 6020	Lead/6010B, 6020	Zinc/6010B, 6020	Sulfate/300.0	N-Hexane/8260A-Modified, 8260B-Modified
Cadmium/6010B, 6020	Manganese/6010B, 6020	Selenium/6010B	Nitrate/300.0	Hexavalent Chromium/7196A
Calcium/6010B	Nickel/6010B, 6020	Potassium/6010B	Chlorinated Herbicides/8151A	Total Petroleum Hydrocarbons Only, Diesel Range Organics/8015B
Chromium/6010B, 6020		Polychlorinated Biphenyls/8082	Phosphorus/365.2*	Total Petroleum Hydrocarbons, Gasoline Range Organics/8015A-Modified
				n-Hexane Extractable Material/1664A*

*Water Only

AUG 23 2004
Date of Certification

Director, Ohio Environmental Protection Agency

AUG 23 2006
Date of Expiration

Manager, Voluntary Action Program

SCOPE, LIMITATION, OBLIGATIONS AND RESPONSIBILITIES OF CERTIFICATION ON REVERSE SIDE

OHIO E.P.A.
AUG 23 2004
ENTERED DIRECTOR'S JOURNAL

OhioEPA

OHIO E.P.A.
AUG 20 2008
ENTERED DIRECTOR'S JOURNAL

Ohio Environmental Protection Agency
Division of Emergency and Remedial Response
Voluntary Action Program

Under the authority of Ohio Revised Code Section 3746.04(B)(6) and Ohio Administrative Code Rule 3745-300-04

Certifies

TestAmerica Laboratories, Inc.

4101 Shuffel Drive, NW
North Canton, OH 44720

as a

Certified Laboratory

(Number CL0024)

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Aluminum/6010B		Silver/6010B, 6020	Organochlorine Pesticides/8081A
Antimony/6010B, 6020	Copper/6010B, 6020	Sodium/6010B	Polychlorinated Biphenyls/8082
Arsenic/6010B, 6020	Cyanide, Total/335.2(CLP-M)	Thallium/6010B, 6020	Chlorinated Herbicides/8151A
Barium/6010B, 6020	Iron/6010B	Vanadium/6010B	Volatile Organic Compounds/8260A, 8260B, 8021B
Beryllium/6010B, 6020	Lead/6010B, 6020	Zinc/6010B, 6020	N-Hexane/8260A-Modified, 8260B-Modified
Cadmium/6010B, 6020	Manganese/6010B, 6020	Selenium/6010B	Polychlorinated Biphenyls, Aroclor 1268/8082-Modified
Calcium/6010B	Nickel/6010B, 6020	Potassium/6010B	Total Petroleum Hydrocarbons, Diesel Range Organics/8015B
Chromium/6010B, 6020	Hexavalent Chromium/7196A	Mercury/7470A*, 7471A	Total Petroleum Hydrocarbons, Gasoline Range Organics/8015A-Modified
Cobalt/6010B, 6020			Semi-Volatile Organic Compounds/8270C

*Water Only

AUG 20 2008
Date of Certification

Director, Ohio Environmental Protection Agency

MAR 07 2010
Date of Expiration

Manager, Voluntary Action Program

SCOPE, LIMITATION, OBLIGATIONS AND RESPONSIBILITIES OF CERTIFICATION ON REVERSE SIDE

OHIO E.P.A.

JUN - 9 2008

ENTERED DIRECTOR'S JOURNAL

Ohio Environmental Protection Agency

Division of Emergency and Remedial Response

Voluntary Action Program

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Antimony/6010B, 6020	Copper/6010B, 6020	Sodium/6010B	Polychlorinated Biphenyls/8082
Arsenic/6010B, 6020	Cyanide, Total/335.2(CLP-M)	Thallium/6010B, 6020	Chlorinated Herbicides/8151A
Barium/6010B, 6020	Iron/6010B	Vanadium/6010B	Volatile Organic Compounds/8260A, 8260B, 8021B
Beryllium/6010B, 6020	Lead/6010B, 6020	Zinc/6010B, 6020	N-Hexane/8260A-Modified, 8260B-Modified
Cadmium/6010B, 6020	Manganese/6010B	Selenium/6010B	Polychlorinated Biphenyls, Aroclor 1268/8082-Modified
Calcium/6010B	Nickel/6010B, 6020	Potassium/6010B	Total Petroleum Hydrocarbons, Diesel Range Organics/8015B
Chromium/6010B, 6020	Hexavalent Chromium/7196A	Mercury/7470A*, 7471A	Total Petroleum Hydrocarbons, Gasoline Range Organics/8015A-Modified

*Water Only

JUN 09 2008

Date of Certification

Director, Ohio Environmental Protection Agency

MAR 07 2010

Date of Expiration

Manager, Voluntary Action Program

SCOPE, LIMITATION, OBLIGATIONS AND RESPONSIBILITIES OF CERTIFICATION ON REVERSE SIDE

O.E.P.A.
MAR -7 2008
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OhioEPA

Ohio Environmental Protection Agency
Division of Emergency and Remedial Response
Voluntary Action Program

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Aluminum/6010B	Cobalt/6010B	Silver/6010B, 6020	Mercury/7470A*, 7471A	Organochlorine Pesticides/8081A
Antimony/6010B, 6020	Copper/6010B, 6020	Sodium/6010B	Chloride/300.0	Polychlorinated Biphenyls/8082
Arsenic/6010B, 6020	Cyanide, Total/335.2(CLP-M)	Thallium/6010B, 6020	Phospliate/365.2*	n-Hexane Extractable Material/1664A*
Barium/6010B, 6020	Iron/6010B	Vanadium/6010B	Orthophosphate/300.0	Volatile Organic Compounds/8260A, 8260B, 8021B
Beryllium/6010B, 6020	Lead/6010B, 6020	Zinc/6010B, 6020	Sulfate/300.0	N-Hexane/8260A-Modified, 8260B-Modified
Cadmium/6010B, 6020	Manganese/6010B	Selenium/6010B	Nitrate/300.0	Polychlorinated Biphenyls, Aroclor 1268/8082-Modified
Calcium/6010B	Nickel/6010B, 6020	Potassium/6010B	Chlorinated Herbicides/8151A	Total Petroleum Hydrocarbons Only, Diesel Range Organics/8015B
Chromium/6010B, 6020	Hexavalent Chromium/7196A	Phenols/9065*	Phosphorus/365.2*	Total Petroleum Hydrocarbons, Gasoline Range Organics/8015A-Modified

*Water Only

MAR 07 2008
Date of Certification
Director, Ohio Environmental Protection Agency

MAR 07 2010
Date of Expiration
Manager, Voluntary Action Program

SCOPE, LIMITATION, OBLIGATIONS AND RESPONSIBILITIES OF CERTIFICATION ON REVERSE SIDE

OhioEPA

OHIO E.P.A.
JAN 17 2008
ENTERED DIRECTOR'S JOURNAL

Ohio Environmental Protection Agency
Division of Emergency and Remedial Response
Voluntary Action Program

Under the authority of Ohio Revised Code Section 3746.04(B)(6) and Ohio Administrative Code Rule 3745-300-04

Certifies

TestAmerica Laboratories, Inc.

4101 Shuffel Drive, NW
North Canton, OH 44720

as a

Certified Laboratory

(Number CL0024)

for the following analytes, parameter groups, and methods:

Aluminum/6010B	Cobalt/6010B	Silver/6010B, 6020	Mercury/7470A*, 7471A	Organochlorine Pesticides/8081A
Antimony/6010B, 6020	Copper/6010B, 6020	Sodium/6010B	Chloride/300.0	Polychlorinated Biphenyls/8082
Arsenic/6010B, 6020	Cyanide, Total/335.2(CLP-M)	Thallium/6010B, 6020	Phosphate/365.2*	n-Hexane Extractable Material/1664A*
Barium/6010B, 6020	Iron/6010B	Vanadium/6010B	Orthophosphate/300.0	Volatile Organic Compounds/8260A, 8260B, 8021B
Beryllium/6010B, 6020	Lead/6010B, 6020	Zinc/6010B, 6020	Sulfate/300.0	N-Hexane/8260A-Modified, 8260B-Modified
Cadmium/6010B, 6020	Manganese/6010B	Selenium/6010B	Nitrate/300.0	Polychlorinated Biphenyls, Aroclor 1268/8082-Modified
Calcium/6010B	Nickel/6010B, 6020	Potassium/6010B	Chlorinated Herbicides/8151A	Total Petroleum Hydrocarbons Only, Diesel Range Organics/8015B
Chromium/6010B, 6020	Hexavalent Chromium/7196A	Phenols/9065*	Phosphorus/365.2*	Total Petroleum Hydrocarbons, Gasoline Range Organics/8015A-Modified

JAN 17 2008 Water Only
Date of Certification

Director, Ohio Environmental Protection Agency

MAY 18 2008
Date of Expiration

Manager, Voluntary Action Program

SCOPE, LIMITATION, OBLIGATIONS AND RESPONSIBILITIES OF CERTIFICATION ON REVERSE SIDE

OhioEPA

Ohio Environmental Protection Agency
Division of Emergency and Remedial Response
Voluntary Action Program

OHIO E.P.A.
JAN -4 2010
ENTERED DIRECTOR'S JOURNAL

Under the authority of Ohio Revised Code Section 3746.04(B)(6) and Ohio Administrative Code Rule 3745-300-04

Certifies

TestAmerica Laboratories, Inc.

4101 Shuffel Drive, NW
North Canton, OH 44720

as a

Certified Laboratory

(Number CL0024)

for the following analytes, parameter groups, and methods:

Aluminum/6010B		Silver/6010B, 6020	Organochlorine Pesticides/8081A
Antimony/6010B, 6020	Copper/6010B, 6020	Sodium/6010B	Polychlorinated Biphenyls/8082
Arsenic/6010B, 6020	Cyanide, Total/335.2(CLP-M)	Thallium/6010B, 6020	Chlorinated Herbicides/8151A
Barium/6010B, 6020	Iron/6010B	Vanadium/6010B	Volatile Organic Compounds/8260A, 8260B, 8021B
Beryllium/6010B, 6020	Lead/6010B, 6020	Zinc/6010B, 6020	N-Hexane/8260A-Modified, 8260B-Modified
Cadmium/6010B, 6020	Manganese/6010B, 6020	Selenium/6010B	Polychlorinated Biphenyls, Aroclor 1268/8082-Modified
Calcium/6010B	Nickel/6010B, 6020	Potassium/6010B	Total Petroleum Hydrocarbons, Diesel Range Organics/8015B
Chromium/6010B, 6020	Hexavalent Chromium/7196A	Mercury/7470A*, 7471A	Total Petroleum Hydrocarbons, Gasoline Range Organics/8015A-Modified
Cobalt/6010B, 6020			Semi-Volatile Organic Compounds/8270C

*Water Only

JAN 04 2010
Date of Certification

Director, Ohio Environmental Protection Agency

MAR 07 2012
Date of Expiration

Manager, Site Assistance & Brownfield Revitalization

SCOPE, LIMITATION, OBLIGATIONS AND RESPONSIBILITIES OF CERTIFICATION ON REVERSE SIDE

OHIO E.P.A.

JUN 30 2006

ENTERED DIRECTOR'S JOURNAL

OhioEPA

Ohio Environmental Protection Agency
Division of Emergency and Remedial Response
Voluntary Action Program

Under the authority of Ohio Revised Code Section 3746.04(B)(6) and Ohio Administrative Code Rule 3745-300-04

Certifies

STL North Canton

4101 Shuffel Drive, NW
North Canton, OH 44720

as a

Certified Laboratory

(Number CL0024)

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Aluminum/6010B	Cobalt/6010B, 6020	Silver/6010B, 6020	Mercury/7470A*, 7471A	Organochlorine Pesticides/8081A
Antimony/6010B, 6020	Copper/6010B, 6020	Sodium/6010B	Chloride/300.0	Polynuclear Aromatic Hydrocarbons/ 8310
Arsenic/6010B, 6020	Cyanide, Total/335.2(CLP-M)	Thallium/6010B, 6020	Phosphate/365.2*	Semi-Volatile Organic Compounds/8270C
Barium/6010B, 6020	Iron/6010B	Vanadium/6010B	Orthophosphate/300.0	Volatile Organic Compounds/8260A, 8260B, 8021B
Beryllium/6010B, 6020	Lead/6010B, 6020	Zinc/6010B, 6020	Sulfate/300.0	N-Hexane/8260A-Modified, 8260B-Modified
Cadmium/6010B, 6020	Manganese/6010B, 6020	Selenium/6010B	Nitrate/300.0	Polychlorinated Biphenyls, Aroclor 1268/8082-Modified
Calcium/6010B	Nickel/6010B, 6020	Potassium/6010B	Chlorinated Herbicides/8151A	Total Petroleum Hydrocarbons Only, Diesel Range Organics/8015B
Chromium/6010B, 6020	Hexavalent Chromium/7196A	Polychlorinated Biphenyls/8082	Phosphorus/365.2*	Total Petroleum Hydrocarbons, Gasoline Range Organics/8015A-Modified
			Phenols/9065*	

*Water Only

JUN 30 2006
Date of Certification

Director, Ohio Environmental Protection Agency

MAY 18 2008
Date of Expiration

Manager, Voluntary Action Program

SCOPE, LIMITATION, OBLIGATIONS AND RESPONSIBILITIES OF CERTIFICATION ON REVERSE SIDE

OhioEPA

OHIO E.P.A.

AUG - 1 2007

ENTERED DIRECTOR'S JOURNAL

Ohio Environmental Protection Agency
Division of Emergency and Remedial Response
Voluntary Action Program

Under the authority of Ohio Revised Code Section 3746.04(B)(6) and Ohio Administrative Code Rule 3745-300-04

Certifies

TestAmerica Laboratories, Inc.

4101 Shuffel Drive, NW
North Canton, OH 44720

as a

Certified Laboratory

(Number CL0024)

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Aluminum/6010B	Cobalt/6010B, 6020	Silver/6010B, 6020	Mercury/7470A*, 7471A*	Organochlorine Pesticides/8081A
Antimony/6010B, 6020	Copper/6010B, 6020	Sodium/6010B	Chloride/300.0	Polynuclear Aromatic Hydrocarbons/ 8310
Arsenic/6010B	Cyanide, Total/335.2(CLP-M)	Thallium/6010B, 6020	Fluoride/300.0	Semi-Volatile Organic Compounds/8270C
Barium/6010B, 6020	Iron/6010B	Vanadium/6010B	Orthophosphate/300.0	Volatile Organic Compounds/8260A, 8260B, 8021B
Beryllium/6010B, 6020	Lead/6010B, 6020	Zinc/6010B	Sulfate/300.0	N-Hexane/8260A-Modified, 8260B-Modified
Cadmium/6010B, 6020	Manganese/6010B, 6020	Selenium/6010B	Nitrate/300.0	Polychlorinated Biphenyls, Aroclor 1268/8082-Modified
Calcium/6010B	Nickel/6010B, 6020	Potassium/6010B	Chlorinated Herbicides/8151A	Total Petroleum Hydrocarbons Only, Diesel Range Organics/8015B
Chromium/6010B, 6020	Hexavalent Chromium/7196A	Polychlorinated Biphenyls/8082	Phosphorus/365.2*	Total Petroleum Hydrocarbons, Gasoline Range Organics/8015A-Modified
			Phenols/9065*	n-Hexane Extractable Material/1664A*

*Water Only

AUG 01 2007
Date of Certification

Director, Ohio Environmental Protection Agency

MAY 18 2008
Date of Expiration

Manager, Voluntary Action Program

SCOPE, LIMITATION, OBLIGATIONS AND RESPONSIBILITIES OF CERTIFICATION ON REVERSE SIDE

OHIO E.P.A.

MAY -2 2007

ENTERED DIRECTOR'S JOURNAL

OhioEPA

Ohio Environmental Protection Agency
Division of Emergency and Remedial Response
Voluntary Action Program

Under the authority of Ohio Revised Code Section 3746.04(B)(6) and Ohio Administrative Code Rule 3745-300-04

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(Number CL0024)

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Antimony/6010B, 6020	Copper/6010B, 6020	Sodium/6010B	Chloride/300.0	Polynuclear Aromatic Hydrocarbons/ 8310
Arsenic/6010B	Cyanide, Total/335.2(CLP-M)	Thallium/6010B, 6020	Fluoride/300.0	Semi-Volatile Organic Compounds/8270C
Barium/6010B, 6020	Iron/6010B	Vanadium/6010B	Orthophosphate/300.0	Volatile Organic Compounds/8260A, 8260B, 8021B
Beryllium/6010B, 6020	Lead/6010B, 6020	Zinc/6010B	Sulfate/300.0	N-Hexane/8260A-Modified, 8260B-Modified
Cadmium/6010B, 6020	Manganese/6010B, 6020	Selenium/6010B	Nitrate/300.0	Polychlorinated Biphenyls, Aroclor 1268/8082-Modified
Calcium/6010B	Nickel/6010B, 6020	Potassium/6010B	Chlorinated Herbicides/8151A	Total Petroleum Hydrocarbons Only, Diesel Range Organics/8015B
Chromium/6010B, 6020	Hexavalent Chromium/7196A	Polychlorinated Biphenyls/8082	Phosphorus/365.2*	Total Petroleum Hydrocarbons, Gasoline Range Organics/8015A-Modified
			Phenols/9065*	n-Hexane Extractable Material/1664A*

*Water Only

MAY 0 2 2007
Date of Certification

Director, Ohio Environmental Protection Agency

MAY 18 2008
Date of Expiration

Manager, Voluntary Action Program

SCOPE, LIMITATION, OBLIGATIONS AND RESPONSIBILITIES OF CERTIFICATION ON REVERSE SIDE

OHIO E.P.A.

AUG 23 2007

ENTERED DIRECTOR'S JOURNAL

OhioEPA

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Aluminum/6010B	Cobalt/6010B, 6020	Silver/6010B, 6020	Mercury/7470A, 7471A	Organochlorine Pesticides/8081A
Antimony/6010B, 6020	Copper/6010B, 6020	Sodium/6010B	Chloride/300.0	Polynuclear Aromatic Hydrocarbons/ 8310
Arsenic/6010B, 6020	Cyanide, Total/335.2(CLP-M)	Thallium/6010B, 6020	Phosphate/365.2*	Semi-Volatile Organic Compounds/8270C
Barium/6010B, 6020	Iron/6010B	Vanadium/6010B	Orthophosphate/300.0	Volatile Organic Compounds/8260A, 8260B, 8021B
Beryllium/6010B, 6020	Lead/6010B, 6020	Zinc/6010B, 6020	Sulfate/300.0	N-Hexane/8260A-Modified, 8260B-Modified
Cadmium/6010B, 6020	Manganese/6010B, 6020	Selenium/6010B	Nitrate/300.0	Polychlorinated Biphenyls, Aroclor 1268/8082-Modified
Calcium/6010B	Nickel/6010B, 6020	Potassium/6010B	Chlorinated Herbicides/8151A	Total Petroleum Hydrocarbons Only, Diesel Range Organics/8015B
Chromium/6010B, 6020	Hexavalent Chromium/7196A	Polychlorinated Biphenyls/8082	Phosphorus/365.2*	Total Petroleum Hydrocarbons, Gasoline Range Organics/8015A-Modified
			Phenols/9065*	Hexane Extractable Material/1664A*

*Water Only

AUG 23 2007
Date of Certification

Director, Ohio Environmental Protection Agency

MAY 18 2008
Date of Expiration

Manager, Voluntary Action Program

SCOPE; LIMITATION, OBLIGATIONS AND RESPONSIBILITIES OF CERTIFICATION ON REVERSE SIDE

SEVERN TRENT STL

STL North Canton
4101 Shuffel Drive NW
North Canton, OH 44720

Tel: 330 497 9396 Fax: 330 497 0772
www.stl-inc.com

March 24, 2005

Mr. Paul Wiseman
Conestoga Rovers & Associates, Inc.
14496 Sheldon Rd, Suite 200
Plymouth, MI 48170

Subject: Certification of Former GM Harrison Thermal Systems Site data under Ohio's Voluntary Action Program

Dear Mr. Wiseman:

Per your request, STL North Canton has evaluated analyses completed on samples collected from the Former GM Harrison Thermal Systems Site in Dayton, Ohio since October 2002 to determine if the subsequent data was covered as certified data under Ohio's Voluntary Action Program (OVAP).

The attached Affidavit and supplemental information outlines the applicable STL project numbers, the OVAP certifications in place at the time those projects went through the laboratory, the certification status of individual tests performed during those time periods. Because the certification status for volatile analyses on a solid matrix was contingent upon the preservation technique, a spreadsheet that further details the preservation technique used on each individual sample is also provided.

Based on this evaluation STL has provided data that would not be covered by any of our certificates for the following tests:

- **Cyanide by SW846 9012A** – OVAP certifications are awarded based on successful completion of performance evaluation samples, and approval of the laboratory's standard operating procedure by OVAP personnel. STL North Canton passed the initial and all ongoing Cyanide performance evaluations. However, in reviewing the laboratory's SOP, OVAP personnel found that the distillation procedure being used for this analysis, although acceptable for analysis by EPA method 335.2, was not applicable to method 9012A. Consequently, they certified the laboratory for the EPA method, but not for the SW846 method. Procedurally, the two analyses are performed identically in the laboratory.

- **Volatiles in soil by SW846 8260B where analyses were performed on unpreserved soils** – OVAP has indicated to this laboratory that all 8260B analyses must be performed in accordance with method 5035 for preservation of soil samples. However, they continue to accept the results of unpreserved soil analyses providing that the method referenced is SW846 8260A. STL North Canton's procedure for analysis of volatiles in soil is fundamentally the same whether samples are preserved or unpreserved, and the laboratory carries certification under the OVAP program for both 8260A and 8260B.

- **Volatiles in soil by SW846 8260B where samples were preserved for low level analysis by freezing** – OVAP has indicated to this laboratory that freezing is not an acceptable preservation technique under their program.

- **Select Volatile and Semivolatile compounds** – OVAP does not certify for analytes that are not listed in the applicable SW846 methods as target compounds. For this reason, certain compounds added to the 4.2 TCL list are not covered by the laboratory's VAP certificate. These compounds include:

  - SW846 8260B – Cyclohexane; Methyl acetate; Methylcyclohexane; MTBE; 1,1,2-Trichloro-1,2,2-trifluoroethane
  - SW846 8270C – Atrazine; Benzaldehyde; 1,1'-Biphenyl; Caprolactam

- **Metals by SW846 6020** – the ICP/MS method was added to STL's November 25, 2003 OVAP certificate. Prior to that date, metals analyses by SW846 6020 were not certified. Subsequent to 11/25/03, only those elements listed on the face of the certificate are covered by certification.

- **Magnesium by SW846 6010B** – this element is included in the CLP target analyte list (TAL), and was included in some metals lists reported to CRA for this site. Because it is not listed on the face of the OVAP certificate, it is not a certified parameter. Any other non-TAL elements reported but not listed on the face of the applicable certificate will similarly not be certified parameters.

- **General Chemistry Parameters –**

  - pH by SW846 9045C
  - Trivalent Chromium by SW846 7196A
  - Dissolved Organic Carbon by EPA 415.1
  - Nitrite by EPA 300.0A
  - Sulfide by EPA 376.1
  - Alkalinity by EPA 310.1
  - Hardness by calculation

- **Dissolved Gases by RSK 175**

- **Mercury by SW846 7470A / 7471A** analyses performed between November 25, 2003 and August 22, 2004. During this span of time, STL North Canton was not certified for mercury under OVAP. Mercury data generated prior to November 25, 2003 or after August 22, 2004 is certified.

If you need additional information or clarification on any of the information provided, please don't hesitate to contact me at 330 966 9792.

Sincerely,

Rebecca Strait

Rebecca Strait
Manager of Client Services
STL North Canton

SEVERN TRENT STL

STl North Canton
4101 Shuffel Drive
North Canton, Ohio 44720

Affidavit
Certified Laboratory

State of Ohio)
)SS:
County of Stark)

Opal Davis-Johnson, being first duly sworn according to law deposes and states that, to the best of my knowledge, information and belief:

1. I am an adult over the age of eighteen (18) years old and competent to testify herein.

2. I am employed by STL North Canton as Laboratory Manager, and I am authorized to submit this Affidavit on behalf of STL North Canton.

3. STL North Canton performed analyses for Conestoga-Rovers & Associates, Inc. concerning a voluntary action for property identified as the Former GM Harrison Thermal Systems site.

4. STL North Canton was a Certified Laboratory pursuant to Ohio Revised Code (ORC) Chapter 3746 and Ohio Administrative Code (OAC) Chapter 3745-300 when it performed the analyses for the purposes of conducting or completing the voluntary action.

5. All of the analyses performed by STL North Canton for the purposes of conducting or completing the voluntary action complied with the applicable requirements of ORC Chapter 3746 and rules adopted under OAC Chapter 3745-300.

6. Only those analyses performed by STL North Canton that are identified in the Attachments hereto of this Affidavit are subject to this Affidavit. Any analyses performed that are not identified in Attachment hereto of this Affidavit are not subject to this Affidavit.

7. The information, data, documents, and reports provided for the purpose of conducting or completing the voluntary action are identified in Attachment 1 hereto.

8. All information, data, documents, and reports submitted by STL North Canton, identified in Attachment 1 of this Affidavit and submitted for the purposes of conducting or completing the voluntary action, are true, accurate and complete.

9. STL North Canton has no conflict of interest, as set forth in OAC rules 3745-300-04 (I)(5) and 3745-300-05 (F)(3), in performing the analyses for Conestoga-Rovers & Associates, Inc. for the property identified as Former GM Harrison Thermal Systems.

Further Affiant sayeth naught.

Opal Davis-Johnson

Sworn to before me this 22th day of February, 2005.

Jeffrey C. Smith
Notary Public

JEFFREY C. SMITH, Notary Public
State of Ohio
My Commission Expires Feb. 12, 2007

STL North Canton
Certified Laboratory # CL0024

Affidavit
Certified Laboratory
Attachment 1

	Lab Report Number	Sample Receipt Date	Report Date
	OVAP Certificate June 13, 2001 – November 21, 2002		
1)	A2D030238	04/03/02	04/23/02
2)	A2D040187	04/04/02	04/24/02
3)	A2D040195	04/04/02	04/22/02
4)	A2D050101	04/03/02	04/22/02
5)	A2D050187	04/05/02	04/25/02
6)	A2D050192	04/05/02	04/25/02
7)	A2D050194	04/05/02	04/26/02
8)	A2D060143	04/06/02	04/26/02
9)	A2D060151	04/06/02	04/25/02
10)	A2D090136	04/09/02	04/26/02
11)	A2D090161	04/09/02	04/25/02
12)	A2D100159	04/10/02	04/26/02
13)	A2D100196	04/10/02	04/29/02
14)	A2D110132	04/11/02	04/27/02
15)	A2D120140	04/12/02	04/29/02
16)	A2D120166	04/12/02	04/30/02
17)	A2D130115	04/13/02	04/27/02
18)	A2D130116	04/13/02	04/29/02
19)	A2D160118	04/16/02	04/30/02
20)	A2D170209	04/17/02	04/30/02
21)	A2D180113	04/18/02	04/30/02
	OVAP Certificate May 1, 2002 - June 25, 2002		
22)	A2E220247	04/04/02	06/18/02
23)	A2F250227	06/25/02	07/23/02
	OVAP Certificate June 26, 2002 - August 6, 2002		
24)	A2F260148	06/26/02	07/23/02
25)	A2F270157	06/27/02	07/25/02
26)	A2F300103	06/28/02	07/29/02
27)	A2G020155	07/02/02	07/29/02
28)	A2G030218	07/03/02	07/30/02
29)	A2G090194	07/09/02	07/31/02
30)	A2G100127	07/10/02	07/30/02
31)	A2G110141	07/11/02	07/30/02
32)	A2G120176	07/12/02	07/30/02
33)	A2G160169	07/16/02	07/30/02

34)	A2G160177	07/16/02	07/31/02
35)	A2G170209	07/17/02	08/06/02
36)	A2G170215	07/17/02	07/31/02
37)	A2G180159	07/18/02	08/07/02
38)	A2G180239	07/18/02	08/07/02
	OVAP Certificate August 7, 2002 - September 23, 2002		
39)	A2H140197	07/16/02	08/28/02
	OVAP Certificate September 24, 2002 - July 1, 2003		
40)	A3A140176	01/14/03	01/30/03
41)	A3A160194	01/16/03	02/12/03
42)	A3A170193	01/17/03	01/30/03
43)	A3A180164	01/18/03	01/30/03
44)	A3A200143	01/20/03	02/12/03
45)	A3A210195	01/21/03	02/12/03
46)	A3A230156	01/23/03	02/13/03
47)	A3A280117	01/28/03	02/19/03
48)	A3A300160	01/30/03	02/19/03
49)	A3A310141	01/31/03	02/24/03
50)	A3B010163	02/01/03	02/24/03
51)	A3B030137	02/03/03	02/24/03
52)	A3B060196	02/06/03	02/26/03
53)	A3B070135	02/07/03	02/26/03
54)	A3B080119	02/08/03	02/27/03
55)	A3B190168	02/19/03	03/11/03
56)	A3B200265	02/20/03	03/17/03
57)	A3B210219	02/21/03	03/12/03
58)	A3C060111	03/06/03	03/29/03
59)	A3C060243	03/06/03	03/29/03
60)	A3C070171	03/07/03	03/28/03
61)	A3C080155	03/08/03	03/29/03
62)	A3C120267	03/12/03	03/30/03
63)	A3C130234	03/13/03	03/30/03
64)	A3C140261	03/14/03	03/31/03
65)	A3C180145	03/18/03	03/31/03
66)	A3C190191	03/19/03	03/31/03
67)	A3C200138	03/20/03	04/19/03
68)	A3C210220	03/21/03	04/19/03
69)	A3C220188	03/22/03	04/14/03
70)	A3C250249	03/25/03	04/20/03
71)	A3C260253	03/26/03	04/20/03
72)	A3C270232	03/27/03	04/20/03
73)	A3C280180	03/28/03	04/20/03
74)	A3C290202	03/29/03	04/20/03
75)	A3D010209	04/01/03	04/20/03
76)	A3D020147	04/02/03	04/24/03
77)	A3D020156	04/02/03	04/23/03
78)	A3D020260	04/02/03	04/23/03
79)	A3D030172	04/03/03	04/27/03

80)	A3D030209	04/03/03	04/27/03
81)	A3D040243	04/04/03	04/29/03
82)	A3D080129	04/08/03	04/27/03
83)	A3D080159	04/08/03	04/27/03
84)	A3D090153	04/09/03	04/27/03
85)	A3D110164	04/11/03	04/30/03
86)	A3D120189	04/12/03	04/30/03
87)	A3D150145	04/15/03	04/30/03
88)	A3D160231	04/16/03	05/14/03
89)	A3D170233	04/17/03	05/20/03
90)	A3D180285	04/18/03	05/20/03
91)	A3D190134	04/19/03	10/20/03
92)	A3D280161	04/28/03	05/27/03
93)	A3D290190	04/29/03	05/27/03
94)	A3D300208	04/30/03	05/27/03
95)	A3E020215	05/02/03	05/28/03
96)	A3E170174	05/17/03	06/28/03
97)	A3E280164	05/28/03	06/29/03
98)	A3F060339	06/06/03	06/29/03
99)	A3F200248	06/20/03	07/31/03
	OVAP Certificate July 2, 2003 - September 24, 2004		
100)	A3H130155	08/13/03	09/04/03
101)	A3H140220	08/14/03	09/05/03
102)	A3H160139	08/16/03	09/04/03
103)	A3H200308	08/20/03	09/08/03
104)	A3H220372	08/21/03	09/11/03
105)	A3H220393	08/22/03	09/29/03
	OVAP Certificate November 25, 2003 - August 22, 2004		
106)	A4A150117	01/15/04	01/30/04
107)	A4A160166	01/16/04	02/10/04
108)	A4A170102	01/17/04	02/04/04
109)	A4A200147	01/20/04	02/12/04
110)	A4A210183	01/21/04	02/12/04
111)	A4A220183	01/22/04	02/12/04
112)	A4A240150	01/24/04	02/12/04
113)	A4A260104	01/26/04	02/16/04
114)	A4A270170	01/27/04	02/16/04
115)	A4A280173	01/28/04	02/17/04
116)	A4A290141	01/29/04	02/20/04
117)	A4A310107	01/31/04	02/19/04
118)	A4B020101	02/02/04	02/17/04
119)	A4B040147	02/04/04	02/23/04
120)	A4B050112	02/05/04	02/12/04
121)	A4B050165	02/05/04	02/23/04
122)	A4B060161	02/06/04	02/24/04
123)	A4B070129	02/07/04	02/25/04
124)	A4B100195	02/10/04	02/26/04
125)	A4B170101	01/22/04	02/25/04

126)	A4B190235	02/19/04	03/09/04
127)	A4C030214	03/03/04	03/23/04
128)	A4C040310	03/04/04	03/29/04
129)	A4C050119	03/05/04	03/15/04
130)	A4C050125	03/05/04	03/25/04
131)	A4C060122	03/06/04	03/29/04
132)	A4C090227	03/09/04	03/29/04
133)	A4C110156	03/11/04	03/31/04
134)	A4C190144	03/19/04	04/09/04
135)	A4C200124	03/20/04	04/13/04
136)	A4C230176	03/23/04	04/13/04
137)	A4C240242	03/24/04	04/15/04
138)	A4C250204	03/25/04	04/20/04
139)	A4C260188	03/26/04	04/15/04
140)	A4C270135	03/27/04	04/19/04
141)	A4C300274	03/30/04	04/20/04
142)	A4C310284	03/31/04	04/20/04
143)	A4D010311	04/01/04	04/22/04
144)	A4F290160	06/29/04	07/20/04
145)	A4F300192	06/30/04	07/22/04
	OVAP Certificate August 23, 2004 - Present		
146)	A4H250218	08/25/04	09/21/04
147)	A4J140355	10/14/04	11/05/04
148)	A4J150364	10/15/04	11/05/04
149)	A4J180139	10/16/04	11/09/04
150)	A4J190173	10/19/04	12/15/04
151)	A4J200166	10/20/04	12/15/04
152)	A4K050105	11/02/04	11/29/04
153)	A4K050119	11/03/04	11/29/04
154)	A4K050299	11/05/04	12/09/04
155)	A4K060192	11/06/04	12/06/04
156)	A4K090274	11/09/04	12/09/04
157)	A4K110346	11/11/04	12/17/04
158)	A4K120313	11/12/04	12/17/04
159)	A4K120385	11/12/04	12/17/04
160)	A4K130240	11/13/04	12/17/04
161)	A4K160255	11/16/04	12/17/04
162)	A4K170412	11/17/04	12/17/04
163)	A4K180322	11/18/04	12/21/04
164)	A4K190318	11/19/04	12/28/04
165)	A4K200226	11/20/04	12/16/04
166)	A4K230193	11/23/04	12/21/04
167)	A4K240355	11/24/04	12/21/04
168)	A4K300205	11/30/04	12/28/04
169)	A4L010184	12/01/04	01/06/05
170)	A4L020366	12/02/04	12/28/04
171)	A4L090388	12/09/04	01/06/05

OhioEPA

Ohio Environmental Protection Agency
Division of Emergency and Remedial Response
Voluntary Action Program

Under the authority of Ohio Revised Code Section 3746.04(B)(6) and Ohio Administrative Code Rule 3745-300-04

Certifies

STL North Canton

4101 Shuffel Drive, NW
North Canton, OH 44720

as a

Certified Laboratory

(Number CL0024)

for the following analytes, parameter groups, and methods:

Aluminum/6010B	Cobalt/6010B	Silver/6010B	Total Phenolics/420.1*	Organochlorine Pesticides/8081A
Antimony/6010B	Copper/6010B	Sodium/6010B	Chloride/9251*,300.0	Polynuclear Aromatic Hydrocarbons/610*, 8310
Arsenic/6010B	Cyanide/335.2(CLP-M)	Thallium/6010B,7841	Phosphate/365.2*,300.0	Semi-Volatile Organic Compounds/8270C
Barium/6010B	Iron/6010B	Vanadium/6010B	Fluoride/300.0	Volatile Organic Compounds/602*,8260A, 8260B, 8021B
Beryllium/6010B	Lead/6010B	Zinc/6010B	Sulfate/300.0	N-Hexane/8260A-Modified**, 8260B-Modified**
Cadmium/6010B	Manganese/6010B	Selenium/6010B	Nitrate/300.0	Total Petroleum Hydrocarbons, Diesel Range Organics/418.1
Calcium/6010B	Mercury/7470A*,7471A	Potassium/6010B	Bromide/300.0	Total Petroleum Hydrocarbons Only, Diesel Range Organics/8015B
Chromium/6010B	Nickel/6010B	Polychlorinated Biphenyls/8082	Phosphorus/365.2*	Total Petroleum Hydrocarbons, Gasoline Range Organics/8015A-Modified

*Water Only **In accordance with all documentation submitted pursuant to OAC Rule 3745-300-04(0) and approved by the VAP.

JUN 13 2001
Date of Certification

Director, Ohio Environmental Protection Agency

NOV 21 2002
Date of Expiration

Manager, Voluntary Action Program

SCOPE, LIMITATION, OBLIGATIONS AND RESPONSIBILITIES OF CERTIFICATION ON REVERSE SIDE

OHIO E.P.A.
JUN 13 2001
ENTERED DIRECTOR'S JOURNAL

OhioEPA

Ohio Environmental Protection Agency
Division of Emergency and Remedial Response
Voluntary Action Program

Under the authority of Ohio Revised Code Section 3746.04(B)(6) and Ohio Administrative Code Rule 3745-300-04

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Arsenic/6010B	Cyanide/335.2(CLP-M)	Thallium/6010B,7841	Phosphate/365.2*	Semi-Volatile Organic Compounds/8270C
Barium/6010B	Iron/6010B	Vanadium/6010B	Fluoride/300.0	Volatile Organic Compounds/602*,8260A, 8260B, 8021B
Beryllium/6010B	Lead/6010B	Zinc/6010B	Sulfate/300.0	N-Hexane/8260A-Modified, 8260B-Modified
Cadmium/6010B	Manganese/6010B	Selenium/6010B	Nitrate/300.0	Total Petroleum Hydrocarbons, Diesel Range Organics/418.1
Calcium/6010B	Mercury/7470A*,7471A	Potassium/6010B	Bromide/300.0	Total Petroleum Hydrocarbons Only, Diesel Range Organics/8015B
Chromium/6010B *Water Only	Nickel/6010B	Polychlorinated Biphenyls/8082	Phosphorus/365.2*	Total Petroleum Hydrocarbons, Gasoline Range Organics/8015A-Modified

MAY 1 2002
Date of Certification

Director, Ohio Environmental Protection Agency

MAY 21 2007
Date of Expiration

Manager, Voluntary Action Program

SCOPE, LIMITATION, OBLIGATIONS AND RESPONSIBILITIES OF CERTIFICATION ON REVERSE SIDE

ENTERED IN JOURNAL
MAY - 1 2002
OHIO E.P.A.

OhioEPA

Ohio Environmental Protection Agency
Division of Emergency and Remedial Response
Voluntary Action Program

Under the authority of Ohio Revised Code Section 3746.04(B)(6) and Ohio Administrative Code Rule 3745-300-04

Certifies

STL North Canton

4101 Shuffel Drive, NW
North Canton, OH 44720

as a

Certified Laboratory

(Number CL0024)

for the following analytes, parameter groups, and methods:

Aluminum/6010B	Cobalt/6010B	Silver/6010B	Total Phenolics/420.1*	Organochlorine Pesticides/8081A
Antimony/6010B	Copper/6010B	Sodium/6010B	Chloride/9251*,300.0	Polynuclear Aromatic Hydrocarbons/610*, 8310
Arsenic/6010B	Cyanide/335.2(CLP-M)	Thallium/6010B,7841	Phosphate/365.2*	Semi-Volatile Organic Compounds/8270C
Barium/6010B	Iron/6010B	Vanadium/6010B	Fluoride/300.0	Volatile Organic Compounds/602*,8260A, 8260B, 8021B
Beryllium/6010B	Lead/6010B	Zinc/6010B	Sulfate/300.0	N-Hexane/8260A-Modified, 8260B-Modified
Cadmium/6010B	Manganese/6010B	Selenium/6010B	Nitrate/300.0	Total Petroleum Hydrocarbons/418.1
Calcium/6010B	Mercury/7470A*,7471A	Potassium/6010B	Bromide/300.0	Total Petroleum Hydrocarbons Only, Diesel Range Organics/8015B
Chromium/6010B	Nickel/6010B	Polychlorinated Biphenyls/8082	Phosphorus/365.2*	Total Petroleum Hydrocarbons, Gasoline Range Organics/8015A-Modified
				Hexavalent Chromium/7196A

*Water Only

JUN 26 2002
Date of Certification

Director, Ohio Environmental Protection Agency

NOV 21 2002
Date of Expiration

Manager, Voluntary Action Program

SCOPE, LIMITATION, OBLIGATIONS AND RESPONSIBILITIES OF CERTIFICATION ON REVERSE SIDE

JUN 26 2002
ENTERED DIRECTOR'S JOURNAL

Ohio Environmental Protection Agency
Division of Emergency and Remedial Response
Voluntary Action Program

Under the authority of Ohio Revised Code Section 3746.04(B)(6) and Ohio Administrative Code Rule 3745-300-04

Certifies

STL North Canton

4101 Shuffel Drive, NW
North Canton, OH 44720

as a

Certified Laboratory

(Number CL0024)

for the following analytes, parameter groups, and methods:

Aluminum/6010B	Cobalt/6010B	Silver/6010B	Total Phenolics/420.1*, 9065*	Organochlorine Pesticides/8081A
Antimony/6010B	Copper/6010B	Sodium/6010B	Chloride/9251*,300.0	Polynuclear Aromatic Hydrocarbons/610*, 8310
Arsenic/6010B	Cyanide/335.2(CLP-M)	Thallium/6010B,7841	Phosphate/365.2*	Semi-Volatile Organic Compounds/8270C
Barium/6010B	Iron/6010B	Vanadium/6010B	Fluoride/300.0	Volatile Organic Compounds/602*,8260A, 8260B, 8021B
Beryllium/6010B	Lead/6010B	Zinc/6010B	Sulfate/300.0	N-Hexane/8260A-Modified, 8260B-Modified
Cadmium/6010B	Manganese/6010B	Selenium/6010B	Nitrate/300.0	Total Petroleum Hydrocarbons/418.1
Calcium/6010B	Mercury/7470A*,7471A	Potassium/6010B	Bromide/300.0	Total Petroleum Hydrocarbons Only, Diesel Range Organics/8015B
Chromium/6010B	Nickel/6010B	Polychlorinated Biphenyls/8082	Phosphorus/365.2*	Total Petroleum Hydrocarbons, Gasoline Range Organics/8015A-Modified
			Chlorinated Herbicides/8151A	Hexavalent Chromium/7196A

*Water Only

AUG 7 2002
Date of Certification

Director, Ohio Environmental Protection Agency

NOV 21 2002
Date of Expiration

Manager, Voluntary Action Program

SCOPE, LIMITATION, OBLIGATIONS AND RESPONSIBILITIES OF CERTIFICATION ON REVERSE SIDE

AUG - 7 2002

OhioEPA

Ohio Environmental Protection Agency
Division of Emergency and Remedial Response
Voluntary Action Program

Under the authority of Ohio Revised Code Section 3746.04(B)(6) and Ohio Administrative Code Rule 3745-300-04

Certifies

STL North Canton

4101 Shuffel Drive, NW
North Canton, OH 44720

as a

Certified Laboratory

(Number CL0024)

for the following analytes, parameter groups, and methods:

Aluminum/6010B	Cobalt/6010B	Silver/6010B	Total Phenolics/420.1*, 9065*	Organochlorine Pesticides/8081A
Antimony/6010B	Copper/6010B	Sodium/6010B	Chloride/9251*,300.0	Polynuclear Aromatic Hydrocarbons/610*, 8310
Arsenic/6010B	Cyanide/335.2(CLP-M)	Thallium/6010B,7841	Phosphate/365.2*	Semi-Volatile Organic Compounds/8270C
Barium/6010B	Iron/6010B	Vanadium/6010B	Fluoride/300.0	Volatile Organic Compounds/602*,8260A, 8260B, 8021B
Beryllium/6010B	Lead/6010B	Zinc/6010B	Sulfate/300.0	N-Hexane/8260A-Modified, 8260B-Modified
Cadmium/6010B	Manganese/6010B	Selenium/6010B	Nitrate/300.0	Total Petroleum Hydrocarbons/418.1*
Calcium/6010B	Mercury/7470A*,7471A	Potassium/6010B	Bromide/300.0	Total Petroleum Hydrocarbons Only, Diesel Range Organics/8015B
Chromium/6010B	Nickel/6010B	Polychlorinated	Phosphorus/365.2*	Total Petroleum Hydrocarbons, Gasoline Range Organics/8015A-Modified
			Chlorinated Herbicides/8151A	Hexavalent Chromium/7196A

*Water Only

SEP 24 2002
Date of Certification

Director, Ohio Environmental Protection Agency

SEP 24 2004
Date of Expiration

Manager, Voluntary Action Program

SCOPE, LIMITATION, OBLIGATIONS AND RESPONSIBILITIES OF CERTIFICATION ON REVERSE SIDE

OHIO E.P.A.
SEP 24 2002
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OhioEPA

Ohio Environmental Protection Agency
Division of Emergency and Remedial Response
Voluntary Action Program

Under the authority of Ohio Revised Code Section 3746.04(B)(6) and Ohio Administrative Code Rule 3745-300-04

Certifies

STL North Canton

4101 Shuffel Drive, NW
North Canton, OH 44720

as a

Certified Laboratory

(Number CL0024)

for the following analytes, parameter groups, and methods:

Aluminum/6010B	Cobalt/6010B, 6020	Silver/6010B, 6020	Total Phenolics/420.1*, 9065*	Organochlorine Pesticides/8081A
Antimony/6010B, 6020	Copper/6010B, 6020	Sodium/6010B	Chloride/9251*,300.0	Polynuclear Aromatic Hydrocarbons/610*, 8310
Arsenic/6010B, 6020	Cyanide, Total/335.2(CLP-M)	Thallium/6010B,7841, 6020	Phosphate/365.2*	Semi-Volatile Organic Compounds/8270C
Barium/6010B, 6020	Iron/6010B	Vanadium/6010B	Fluoride/300.0	Volatile Organic Compounds/602*,8260A, 8260B, 8021B
Beryllium/6010B, 6020	Lead/6010B, 6020	Zinc/6010B, 6020	Sulfate/300.0	N-Hexane/8260A-Modified, 8260B-Modified
Cadmium/6010B, 6020	Manganese/6010B, 6020	Selenium/6010B	Nitrate/300.0	Total Petroleum Hydrocarbons/418.1*
Calcium/6010B	Mercury/7470A*,7471A	Potassium/6010B	Bromide/300.0	Total Petroleum Hydrocarbons Only, Diesel Range Organics/8015B
Chromium/6010B, 6020	Nickel/6010B, 6020	Polychlorinated Biphenyls/8082	Phosphorus/365.2*	Total Petroleum Hydrocarbons, Gasoline Range Organics/8015A-Modified
	*Water Only	n-Hexane Extractable Material/1664A*	Chlorinated Herbicides/8151A	Hexavalent Chromium/7196A

JUL 2 2003
Date of Certification

Director, Ohio Environmental Protection Agency

SEP 24 2004
Date of Expiration

Manager, Voluntary Action Program

SCOPE, LIMITATION, OBLIGATIONS AND RESPONSIBILITIES OF CERTIFICATION ON REVERSE SIDE

OHIO E.P.A.
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OhioEPA

Ohio Environmental Protection Agency
Division of Emergency and Remedial Response
Voluntary Action Program

Under the authority of Ohio Revised Code Section 3746.04(B)(6) and Ohio Administrative Code Rule 3745-300-04

Certifies

STL North Canton

4101 Shuffel Drive, NW
North Canton, OH 44720

as a

Certified Laboratory

(Number CL0024)

for the following analytes, parameter groups, and methods:

Aluminum/6010B	Cobalt/6010B, 6020	Silver/6010B, 6020	Total Phenolics/420.1*, 9065*	Organochlorine Pesticides/8081A
Antimony/6010B, 6020	Copper/6010B, 6020	Sodium/6010B	Chloride/9251*, 300.0	Polynuclear Aromatic Hydrocarbons/610*, 8310
Arsenic/6010B, 6020	Cyanide, Total/335.2(CLP-M)	Thallium/6010B, 6020	Phosphate/365.2*	Semi-Volatile Organic Compounds/8270C
Barium/6010B, 6020	Iron/6010B	Vanadium/6010B	Fluoride/300.0	Volatile Organic Compounds/602*,8260A, 8260B, 8021B
Beryllium/6010B, 6020	Lead/6010B, 6020	Zinc/6010B, 6020	Sulfate/300.0	N-Hexane/8260A-Modified, 8260B-Modified
Cadmium/6010B, 6020	Manganese/6010B, 6020	Selenium/6010B	Nitrate/300.0	Hexavalent Chromium/7196A
Calcium/6010B	Nickel/6010B, 6020	Potassium/6010B	Bromide/300.0	Total Petroleum Hydrocarbons Only, Diesel Range Organics/8015B
Chromium/6010B, 6020		Polychlorinated Biphenyls/8082	Phosphorus/365.2*	Total Petroleum Hydrocarbons, Gasoline Range Organics/8015A-Modified
	*Water Only	Hexane Extractable Material/1664A*	Chlorinated Herbicides/8151A	

NOV 25 2003
Date of Certification

Director, Ohio Environmental Protection Agency

SEP 24 2004
Date of Expiration

Manager, Voluntary Action Program

SCOPE, LIMITATION, OBLIGATIONS AND RESPONSIBILITIES OF CERTIFICATION ON REVERSE SIDE

OhioEPA

Ohio Environmental Protection Agency
Division of Emergency and Remedial Response
Voluntary Action Program

Under the authority of Ohio Revised Code Section 3746.04(B)(6) and Ohio Administrative Code Rule 3745-300-04

Certifies

STL North Canton

4101 Shuffel Drive, NW
North Canton, OH 44720

as a

Certified Laboratory

(Number CL0024)

for the following analytes, parameter groups, and methods:

Aluminum/6010B	Cobalt/6010B, 6020	Silver/6010B, 6020	Mercury/7470A*, 7471A	Organochlorine Pesticides/8081A
Antimony/6010B, 6020	Copper/6010B, 6020	Sodium/6010B	Chloride/300.0	Polynuclear Aromatic Hydrocarbons/ 8310
Arsenic/6010B, 6020	Cyanide, Total/335.2(CLP-M)	Thallium/6010B, 6020	Phosphate/365.2*	Semi-Volatile Organic Compounds/8270C
Barium/6010B, 6020	Iron/6010B	Vanadium/6010B	Orthophosphate/300.0	Volatile Organic Compounds/8260A, 8260B, 8021B
Beryllium/6010B, 6020	Lead/6010B, 6020	Zinc/6010B, 6020	Sulfate/300.0	N-Hexane/8260A-Modified, 8260B-Modified
Cadmium/6010B, 6020	Manganese/6010B, 6020	Selenium/6010B	Nitrate/300.0	Hexavalent Chromium/7196A
Calcium/6010B	Nickel/6010B, 6020	Potassium/6010B	Chlorinated Herbicides/8151A	Total Petroleum Hydrocarbons Only, Diesel Range Organics/8015B
Chromium/6010B, 6020		Polychlorinated Biphenyls/8082	Phosphorus/365.2*	Total Petroleum Hydrocarbons, Gasoline Range Organics/8015A-Modified
				n-Hexane Extractable Material/1664A*

*Water Only

AUG 23 2004

Date of Certification

Director, Ohio Environmental Protection Agency

AUG 23 2006

Date of Expiration

Manager, Voluntary Action Program

SCOPE, LIMITATION, OBLIGATIONS AND RESPONSIBILITIES OF CERTIFICATION ON REVERSE SIDE

OHIO E.P.A.
AUG 23 2004
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SEVERN TRENT STL

Certification Status of Analyses

Certification status of analyses performed
Sorted by certification period / lot number / test

Certification does not cover:

- 8260 note: Preservation technique/method revision affect determination of OVAP compliance. Some samples in an SDG may be covered under certification, while others are not. General details re: certification follow. Sample specific information is provided in a supplemental spreadsheet.
  - 8260 compounds not listed in method: Cyclohexane, Methyl acetate, Methylcyclohexane, MTBE, 1,1,2-Trichloro-1,2,2-trifluoroethane
  - 8260B soils preserved by freezing
- 8270 compounds not listed in method: Atrazine, Benzaldehyde, 1,1'-Biphenyl, Caprolactam
- 6010B elements not listed on certificate / TAL exception - Magnesium is not a certified parameter
- 9045C - pH
- 9012A - Cyanide

KEY:
Conditionally certified parameter
Parameter not covered by cert

Lot	Matrix	Extraction	Method	Program	Test Description	OVAP Certified June 13, 2001 - November 21, 2002
A2D030238	Solid	70	O9	01	SOLID, Select TAL CVAA Metals, 7471A	Yes
A2D030238	Solid	71	QH	01	SOLID, PCBs, 8082	Yes
A2D030238	Solid	Cold Pres	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	No - Freezing is not allowed for OVAP
A2D030238	Solid	13	QL	01	SOLID, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A2D030238	Solid	46	QM	01	SOLID, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A2D030238	Solid	46	QO	01	SOLID, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A2D030238	Solid	06	QP	01	SOLID, Total Cyanide, 9012A	No
A2D030238	Solid	88	SM	01	SOLID, Percent Solids, 160.3 MOD	TS is not regulated under the program
A2D040187	Solid	70	O9	01	SOLID, Select TAL CVAA Metals, 7471A	Yes
A2D040187	Solid	71	QH	01	SOLID, PCBs, 8082	Yes
A2D040187	Solid	MEOH ext	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	Yes, but only for analytes listed in 8260B
A2D040187	Solid	Cold Pres	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	No - Freezing is not allowed for OVAP
A2D040187	Solid	13	QL	01	SOLID, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A2D040187	Solid	46	QM	01	SOLID, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A2D040187	Solid	46	QO	01	SOLID, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A2D040187	Solid	06	QP	01	SOLID, Total Cyanide, 9012A	No
A2D040187	Solid	88	SM	01	SOLID, Percent Solids, 160.3 MOD	TS is not regulated under the program
A2D040195	Solid	71	QH	01	SOLID, PCBs, 8082	Yes
A2D040195	Solid	88	SM	01	SOLID, Percent Solids, 160.3 MOD	TS is not regulated under the program
A2D040195	Wipe	1U	QH	01	WIPE, PCBs, 8082	Wipes are not addressed by the program
A2D040195	Water	61	QH	72	WATER, PCBs, 8082	Yes
A2D050101	Solid	71	QH	01	SOLID, PCBs, 8082	Yes
A2D050101	Solid	88	SM	01	SOLID, Percent Solids, 160.3 MOD	TS is not regulated under the program
A2D050101	Wipe	1U	QH	01	WIPE, PCBs, 8082	Wipes are not addressed by the program
A2D050101	Water	61	QH	72	WATER, PCBs, 8082	Yes
A2D050187	Solid	70	O9	01	SOLID, Select TAL CVAA Metals, 7471A	Yes

Certification status of analyses performed
Sorted by certification period / lot number / test

A2D050187	Solid	71	QH	01	SOLID, PCBs, 8082	Yes
A2D050187	Solid	MEOH ext	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	Yes, but only for analytes listed in 8260B
A2D050187	Solid	Cold Pres	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	No - Freezing is not allowed for OVAP
A2D050187	Solid	13	QL	01	SOLID, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A2D050187	Solid	46	QM	01	SOLID, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A2D050187	Solid	46	QO	01	SOLID, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A2D050187	Solid	06	QP	01	SOLID, Total Cyanide, 9012A	No
A2D050187	Solid	88	SM	01	SOLID, Percent Solids, 160.3 MOD	TS is not regulated under the program
A2D050187	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	Yes
A2D050187	Water	61	QH	72	WATER, PCBs, 8082	Yes
A2D050187	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes
A2D050187	Water	51	QL	01	WATER, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A2D050187	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A2D050187	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A2D050187	Water	06	QP	01	WATER, Total Cyanide, 9012A	No
A2D050192	Solid	71	QH	01	SOLID, PCBs, 8082	Yes
A2D050192	Solid	88	SM	01	SOLID, Percent Solids, 160.3 MOD	TS is not regulated under the program
A2D050192	Wipe	1U	QH	01	WIPE, PCBs, 8082	Wipes are not addressed by the program
A2D050194	Solid	70	O9	01	SOLID, Select TAL CVAA Metals, 7471A	Yes
A2D050194	Solid	71	QH	01	SOLID, PCBs, 8082	Yes
A2D050194	Solid	MEOH ext	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	Yes, but only for analytes listed in 8260B
A2D050194	Solid	Cold Pres	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	No - Freezing is not allowed for OVAP
A2D050194	Solid	13	QL	01	SOLID, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A2D050194	Solid	46	QM	01	SOLID, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A2D050194	Solid	46	QO	01	SOLID, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A2D050194	Solid	06	QP	01	SOLID, Total Cyanide, 9012A	No
A2D050194	Solid	88	SM	01	SOLID, Percent Solids, 160.3 MOD	TS is not regulated under the program
A2D060143	Solid	70	O9	01	SOLID, Select TAL CVAA Metals, 7471A	Yes
A2D060143	Solid	71	QH	01	SOLID, PCBs, 8082	Yes
A2D060143	Solid	MEOH ext	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	Yes, but only for analytes listed in 8260B
A2D060143	Solid	Cold Pres	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	No - Freezing is not allowed for OVAP
A2D060143	Solid	13	QL	01	SOLID, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A2D060143	Solid	46	QM	01	SOLID, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A2D060143	Solid	46	QO	01	SOLID, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A2D060143	Solid	06	QP	01	SOLID, Total Cyanide, 9012A	No
A2D060143	Solid	88	SM	01	SOLID, Percent Solids, 160.3 MOD	TS is not regulated under the program
A2D060143	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	Yes
A2D060143	Water	61	QH	72	WATER, PCBs, 8082	Yes
A2D060143	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes
A2D060143	Water	51	QL	01	WATER, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A2D060143	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A2D060143	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A2D060143	Water	06	QP	01	WATER, Total Cyanide, 9012A	No

Certification status of analyses performed
Sorted by certification period / lot number / test

A2D060151	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	Yes
A2D060151	Water	61	QH	72	WATER, PCBs, 8082	Yes
A2D060151	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes
A2D060151	Water	51	QL	01	WATER, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A2D060151	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A2D060151	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A2D060151	Water	06	QP	01	WATER, Total Cyanide, 9012A	No
A2D090136	Solid	70	O9	01	SOLID, Select TAL CVAA Metals, 7471A	Yes
A2D090136	Solid	71	QH	01	SOLID, PCBs, 8082	Yes
A2D090136	Solid	MEOH ext	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	Yes, but only for analytes listed in 8260B
A2D090136	Solid	Cold Pres	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	No - Freezing is not allowed for OVAP
A2D090136	Solid	13	QL	01	SOLID, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A2D090136	Solid	46	QM	01	SOLID, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A2D090136	Solid	46	QO	01	SOLID, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A2D090136	Solid	06	QP	01	SOLID, Total Cyanide, 9012A	No
A2D090136	Solid	88	SM	01	SOLID, Percent Solids, 160.3 MOD	TS is not regulated under the program
A2D090136	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	Yes
A2D090136	Water	61	QH	72	WATER, PCBs, 8082	Yes
A2D090136	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes
A2D090136	Water	51	QL	01	WATER, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A2D090136	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A2D090136	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A2D090136	Water	06	QP	01	WATER, Total Cyanide, 9012A	No
A2D090161	Solid	70	O9	01	SOLID, Select TAL CVAA Metals, 7471A	Yes
A2D090161	Solid	71	QH	01	SOLID, PCBs, 8082	Yes
A2D090161	Solid	MEOH ext	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	Yes, but only for analytes listed in 8260B
A2D090161	Solid	Cold Pres	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	No - Freezing is not allowed for OVAP
A2D090161	Solid	13	QL	01	SOLID, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A2D090161	Solid	46	QM	01	SOLID, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A2D090161	Solid	46	QO	01	SOLID, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A2D090161	Solid	06	QP	01	SOLID, Total Cyanide, 9012A	No
A2D090161	Solid	88	SM	01	SOLID, Percent Solids, 160.3 MOD	TS is not regulated under the program
A2D090161	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	Yes
A2D090161	Water	61	QH	72	WATER, PCBs, 8082	Yes
A2D090161	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes
A2D090161	Water	51	QL	01	WATER, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A2D090161	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A2D090161	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A2D090161	Water	06	QP	01	WATER, Total Cyanide, 9012A	No
A2D100159	Solid	70	O9	01	SOLID, Select TAL CVAA Metals, 7471A	Yes
A2D100159	Solid	71	QH	01	SOLID, PCBs, 8082	Yes
A2D100159	Solid	MEOH ext	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	Yes, but only for analytes listed in 8260B
A2D100159	Solid	Cold Pres	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	No - Freezing is not allowed for OVAP

Certification status of analyses performed
Sorted by certification period / lot number / test

A2D100159	Solid	13	QL	01	SOLID, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A2D100159	Solid	46	QM	01	SOLID, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A2D100159	Solid	46	QO	01	SOLID, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A2D100159	Solid	06	QP	01	SOLID, Total Cyanide, 9012A	No
A2D100159	Solid	88	SM	01	SOLID, Percent Solids, 160.3 MOD	TS is not regulated under the program
A2D100159	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	Yes
A2D100159	Water	61	QH	72	WATER, PCBs, 8082	Yes
A2D100159	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes
A2D100159	Water	51	QL	01	WATER, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A2D100159	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A2D100159	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A2D100159	Water	06	QP	01	WATER, Total Cyanide, 9012A	No
A2D100196	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	Yes
A2D100196	Water	61	QH	72	WATER, PCBs, 8082	Yes
A2D100196	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes
A2D100196	Water	51	QL	01	WATER, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A2D100196	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A2D100196	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A2D100196	Water	06	QP	01	WATER, Total Cyanide, 9012A	No
A2D110132	Solid	70	O9	01	SOLID, Select TAL CVAA Metals, 7471A	Yes
A2D110132	Solid	71	QH	01	SOLID, PCBs, 8082	Yes
A2D110132	Solid	MEOH ext	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	Yes, but only for analytes listed in 8260B
A2D110132	Solid	Cold Pres	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	No - Freezing is not allowed for OVAP
A2D110132	Solid	46	QM	01	SOLID, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A2D110132	Solid	46	QO	01	SOLID, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A2D110132	Solid	06	QP	01	SOLID, Total Cyanide, 9012A	No
A2D110132	Solid	88	SM	01	SOLID, Percent Solids, 160.3 MOD	TS is not regulated under the program
A2D120140	Solid	70	O9	01	SOLID, Select TAL CVAA Metals, 7471A	Yes
A2D120140	Solid	71	QH	01	SOLID, PCBs, 8082	Yes
A2D120140	Solid	MEOH ext	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	Yes, but only for analytes listed in 8260B
A2D120140	Solid	Cold Pres	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	No - Freezing is not allowed for OVAP
A2D120140	Solid	13	QL	01	SOLID, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A2D120140	Solid	46	QM	01	SOLID, Lead, 6010B	Yes
A2D120140	Solid	46	QM	01	SOLID, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A2D120140	Solid	46	QO	01	SOLID, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A2D120140	Solid	06	QP	01	SOLID, Total Cyanide, 9012A	No
A2D120140	Solid	88	SM	01	SOLID, Percent Solids, 160.3 MOD	TS is not regulated under the program
A2D120140	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	Yes
A2D120140	Water	61	QH	72	WATER, PCBs, 8082	Yes
A2D120140	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes
A2D120140	Water	51	QL	01	WATER, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A2D120140	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A2D120140	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert

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A2D120140	Water	06	QP	01	WATER, Total Cyanide, 9012A	No
A2D120166	Solid	70	O9	01	SOLID, Select TAL CVAA Metals, 7471A	Yes
A2D120166	Solid	71	QH	01	SOLID, PCBs, 8082	Yes
A2D120166	Solid	Cold Pres	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	No - Freezing is not allowed for OVAP
A2D120166	Solid	13	QL	01	SOLID, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A2D120166	Solid	46	QM	01	SOLID, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A2D120166	Solid	46	QO	01	SOLID, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A2D120166	Solid	06	QP	01	SOLID, Total Cyanide, 9012A	No
A2D120166	Solid	88	SM	01	SOLID, Percent Solids, 160.3 MOD	TS is not regulated under the program
A2D120166	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	Yes
A2D120166	Water	61	QH	72	WATER, PCBs, 8082	Yes
A2D120166	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes
A2D120166	Water	51	QL	01	WATER, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A2D120166	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A2D120166	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A2D120166	Water	06	QP	01	WATER, Total Cyanide, 9012A	No
A2D120166	Waste	70	O9	01	WASTE, Select TAL CVAA Metals, 7471A	Wastes are not regulated under the program
A2D120166	Waste	2W	QH	01	WASTE, PCBs, 8082	Wastes are not regulated under the program
A2D120166	Waste	73	QK	01	WASTE, 4.2 TCL VOCs, 8260B	Wastes are not regulated under the program
A2D120166	Waste	14	QL	01	WASTE, 4.2 TCL SVOCs, 8270C	Wastes are not regulated under the program
A2D120166	Waste	46	QM	01	WASTE, Select TAL Trace Metals, 6010B	Wastes are not regulated under the program
A2D120166	Waste	46	QO	01	WASTE, Select TAL ICP Metals, 6010B	Wastes are not regulated under the program
A2D120166	Waste	06	QP	01	WASTE, Total Cyanide, 9012A	Wastes are not regulated under the program
A2D130115	Solid	70	O9	01	SOLID, Select TAL CVAA Metals, 7471A	Yes
A2D130115	Solid	71	QH	01	SOLID, PCBs, 8082	Yes
A2D130115	Solid	MEOH ext	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	Yes, but only for analytes listed in 8260B
A2D130115	Solid	Cold Pres	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	No - Freezing is not allowed for OVAP
A2D130115	Solid	13	QL	01	SOLID, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A2D130115	Solid	46	QM	01	SOLID, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A2D130115	Solid	46	QO	01	SOLID, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A2D130115	Solid	06	QP	01	SOLID, Total Cyanide, 9012A	No
A2D130115	Solid	88	SM	01	SOLID, Percent Solids, 160.3 MOD	TS is not regulated under the program
A2D130116	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	Yes
A2D130116	Water	61	QH	72	WATER, PCBs, 8082	Yes
A2D130116	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes
A2D130116	Water	51	QL	01	WATER, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A2D130116	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A2D130116	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A2D130116	Water	06	QP	01	WATER, Total Cyanide, 9012A	No
A2D160118	Solid	70	O9	01	SOLID, Select TAL CVAA Metals, 7471A	Yes
A2D160118	Solid	88	OZ	01	SOLID, pH, 9045C	No
A2D160118	Solid	71	QH	01	SOLID, PCBs, 8082	Yes
A2D160118	Solid	MEOH ext	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	Yes, but only for analytes listed in 8260B

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A2D160118	Solid	Cold Pres	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	No - Freezing is not allowed for OVAP
A2D160118	Solid	13	QL	01	SOLID, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A2D160118	Solid	46	QM	01	SOLID, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A2D160118	Solid	46	QO	01	SOLID, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A2D160118	Solid	06	QP	01	SOLID, Total Cyanide, 9012A	No
A2D160118	Solid	88	SM	01	SOLID, Percent Solids, 160.3 MOD	TS is not regulated under the program
A2D160118	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	Yes
A2D160118	Water	61	QH	72	WATER, PCBs, 8082	Yes
A2D160118	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes
A2D160118	Water	51	QL	01	WATER, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A2D160118	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A2D160118	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A2D160118	Water	06	QP	01	WATER, Total Cyanide, 9012A	No
A2D170209	Solid	70	O9	01	SOLID, Select TAL CVAA Metals, 7471A	Yes
A2D170209	Solid	71	QH	01	SOLID, PCBs, 8082	Yes
A2D170209	Solid	MEOH ext	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	Yes, but only for analytes listed in 8260B
A2D170209	Solid	Cold Pres	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	No - Freezing is not allowed for OVAP
A2D170209	Solid	13	QL	01	SOLID, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A2D170209	Solid	46	QM	01	SOLID, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A2D170209	Solid	46	QO	01	SOLID, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A2D170209	Solid	06	QP	01	SOLID, Total Cyanide, 9012A	No
A2D170209	Solid	88	SM	01	SOLID, Percent Solids, 160.3 MOD	TS is not regulated under the program
A2D170209	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	Yes
A2D170209	Water	61	QH	72	WATER, PCBs, 8082	Yes
A2D170209	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes
A2D170209	Water	51	QL	01	WATER, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A2D170209	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A2D170209	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A2D170209	Water	06	QP	01	WATER, Total Cyanide, 9012A	No
A2D180113	Solid	70	O9	01	SOLID, Select TAL CVAA Metals, 7471A	Yes
A2D180113	Solid	88	OZ	01	SOLID, pH, 9045C	No
A2D180113	Solid	71	QH	01	SOLID, PCBs, 8082	Yes
A2D180113	Solid	MEOH ext	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	Yes, but only for analytes listed in 8260B
A2D180113	Solid	Cold Pres	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	No - Freezing is not allowed for OVAP
A2D180113	Solid	13	QL	01	SOLID, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A2D180113	Solid	46	QM	01	SOLID, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A2D180113	Solid	46	QO	01	SOLID, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A2D180113	Solid	06	QP	01	SOLID, Total Cyanide, 9012A	No
A2D180113	Solid	88	SM	01	SOLID, Percent Solids, 160.3 MOD	TS is not regulated under the program
A2D180113	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	Yes
A2D180113	Water	61	QH	72	WATER, PCBs, 8082	Yes
A2D180113	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes
A2D180113	Water	0T	QL	01	SOLID, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C

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A2D180113	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A2D180113	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A2D180113	Water	06	QP	01	WATER, Total Cyanide, 9012A	No

Certification status of analyses performed
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Certification does not cover:

- 8260 note: Preservation technique/method revision affect determination of OVAP compliance. Some samples in an SDG may be covered under certification, while others are not. General details re: certification follow. Sample specific information is provided in a supplemental spreadsheet.
  - 8260 compounds not listed in method: Cyclohexane, Methyl acetate, Methylcyclohexane, MTBE, 1,1,2-Trichloro-1,2,2-trifluoroethane
- 8270 compounds not listed in method: Atrazine, Benzaldehyde, 1,1'-Biphenyl, Caprolactam
- 6010B elements not listed on certificate / TAL exception - Magnesium is not a certified parameter
- 6020 - Metals
- 9012A - Cyanide

KEY:
Conditionally certified parameter
Parameter not covered by cert

Lot	Matrix	Extraction	Method	Program	Test Description	OVAP Certified May 1- 2002 - June 25, 2002
A2E220247	Solid	71	QH	01	SOLID, PCBs, 8082	Yes
A2E220247	Solid	88	SM	01	SOLID, Percent Solids, 160.3 MOD	TS is not regulated under the program
A2F250227	Water	04	MH	01	**WATER, Select TAL ICPMS Metals, 6020**	No
A2F250227	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	Yes
A2F250227	Water	61	QH	72	WATER, PCBs, 8082	Yes
A2F250227	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A2F250227	Water	51	QL	01	WATER, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A2F250227	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A2F250227	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A2F250227	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A2F250227	Water	06	QP	01	WATER, Total Cyanide, 9012A	No

Certification status of analyses performed
Sorted by certification period / lot number / test

Lot Matrix Extraction Method Program Test Description OVAP Certified June 26-August 6, 2002

Certification does not cover:

- 8260 note: Preservation technique/method revision affect determination of OVAP compliance. Some samples in an SDG may be covered under certification, while others are not. General details re: certification follow. Sample specific information is provided in a supplemental spreadsheet.
  - 8260 compounds not listed in method: Cyclohexane, Methyl acetate, Methylcyclohexane, MTBE, 1,1,2-Trichloro-1,2,2-trifluoroethane
  - 8260B soils preserved by freezing
- 8270 compounds not listed in method: Atrazine, Benzaldehyde, 1,1'-Biphenyl, Caprolactam
- 6010B elements not listed on certificate / TAL exception - Magnesium is not a certified parameter
- 6020 - Metals
- 9045C - pH
- 9012A - Cyanide
- RSK - Dissolved Gases
- 415.1 - DOC
- Hardness by calculation
- 300.0 - Nitrite
- 376.1 - Sulfide
- 310.1 - Alkalinity

KEY:
Conditionally certified parameter
Parameter not covered by cert

A2F260148	Water	04	MH	01	**WATER, Select TAL ICPMS Metals, 6020**	No
A2F260148	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	Yes
A2F260148	Water	61	QH	72	WATER, PCBs, 8082	Yes
A2F260148	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A2F260148	Water	51	QL	01	WATER, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A2F260148	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A2F260148	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A2F260148	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A2F260148	Water	06	QP	01	**WATER, Total Cyanide, 9012A**	No
A2F270157	Solid	70	O9	01	SOLID, Select TAL CVAA Metals, 7471A	Yes
A2F270157	Solid	88	OZ	01	**SOLID, pH, 9045C**	No
A2F270157	Solid	71	QH	01	SOLID, PCBs, 8082	Yes
A2F270157	Solid	MEOH ext	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	Yes, but only for analytes listed in 8260B
A2F270157	Solid	Cold Pres	QK	01	**SOLID, Volatile Organics, GC/MS (8260B)**	No-Freezing is not allowed for OVAP
A2F270157	Solid	13	QL	01	SOLID, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A2F270157	Solid	46	QM	01	SOLID, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A2F270157	Solid	46	QO	01	SOLID, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A2F270157	Solid	06	QP	01	**SOLID, Total Cyanide, 9012A**	No
A2F270157	Solid	88	SM	01	SOLID, Percent Solids, 160.3 MOD	TS is not regulated under the program

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A2F270157	Water	88	C9	01	WATER, Nitrate, 300.0	Yes
A2F270157	Water	88	CT	01	WATER, Sulfide, 376.1	No
A2F270157	Water	88	CX	01	WATER, Chloride, 300.0	Yes
A2F270157	Water	88	CY	01	WATER, Sulfate, 300.0	Yes
A2F270157	Water	87	DA	01	WATER, Dissolved Organic Carbon, 415.1	No
A2F270157	Water	88	GO	01	WATER, Nitrite, 300.0	No
A2F270157	Water	00	MH	01	WATER, DisSel TAL/NA ICPMS Metals, 6020	No
A2F270157	Water	04	MH	01	WATER, Select TAL ICPMS Metals, 6020	No
A2F270157	Water	04	MH	01	WATER, Select TAL/NA ICPMS Metals, 6020B	No
A2F270157	Water	2X	MM	01	WATER, Dissolved Gases, RSK-175	No
A2F270157	Water	77	O8	01	WATER, DisSel TAL/NA CVAA Metals, 7470A	Yes
A2F270157	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	Yes
A2F270157	Water	19	O8	01	WATER, Select TAL/NA CVAA Metals, 7470A	Yes
A2F270157	Water	B8	QH	72	WATER, Dissolved PCBs, 8082	Yes
A2F270157	Water	61	QH	72	WATER, PCBs, 8082	Yes
A2F270157	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A2F270157	Water	51	QL	01	WATER, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A2F270157	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A2F270157	Water	04	QM	01	WATER, Select TAL/NA Trace Metals, 6010B	Yes - for elements listed on cert
A2F270157	Water	00	QM	01	WATER, DisSel TAL/NA Trace Metals, 6010B	Yes - for elements listed on cert
A2F270157	Water	00	QO	01	WATER, DisSel TAL/NA ICP Metals, 6010B	Yes - for elements listed on cert
A2F270157	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A2F270157	Water	04	QO	01	WATER, Select TAL/NA ICP Metals, 6010B	Yes - for elements listed on cert
A2F270157	Water	06	QP	01	WATER, Total Cyanide, 9012A	No
A2F270157	Water	0X	SK	01	WATER, Hardness by Calculation	No
A2F270157	Water	88	VC	01	WATER, Total Alkalinity, 310.1	No
A2F300103	Water	88	C9	01	WATER, Nitrate, 300.0	Yes
A2F300103	Water	88	CT	01	WATER, Sulfide, 376.1	No
A2F300103	Water	88	CX	01	WATER, Chloride, 300.0	Yes
A2F300103	Water	88	CY	01	WATER, Sulfate, 300.0	Yes
A2F300103	Water	87	DA	01	WATER, Dissolved Organic Carbon, 415.1	No
A2F300103	Water	88	GO	01	WATER, Nitrite, 300.0	No
A2F300103	Water	00	MH	01	WATER, DisSel TAL ICPMS Metals, 6020	No
A2F300103	Water	04	MH	01	WATER, Select TAL ICPMS Metals, 6020	No
A2F300103	Water	2X	MM	01	WATER, Dissolved Gases, RSK-175	No
A2F300103	Water	77	O8	01	WATER, DisSel TAL CVAA Metals, 7470A	Yes
A2F300103	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	Yes
A2F300103	Water	B8	QH	72	WATER, Dissolved PCBs, 8082	Yes
A2F300103	Water	61	QH	72	WATER, PCBs, 8082	Yes
A2F300103	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A2F300103	Water	51	QL	01	WATER, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A2F300103	Water	00	QM	01	WATER, DisSel TAL Trace Metals, 6010B	Yes - for elements listed on cert
A2F300103	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert

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A2F300103	Water	00	QO	01	WATER, DisSel TAL ICP Metals, 6010B	Yes - for elements listed on cert
A2F300103	Water	00	QO	01	WATER, DisSel TAL/NA ICP Metals, 6010B	Yes - for elements listed on cert
A2F300103	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A2F300103	Water	04	QO	01	WATER, Select TAL/NA ICP Metals, 6010B	Yes - for elements listed on cert
A2F300103	Water	06	QP	01	WATER, Total Cyanide, 9012A	No
A2F300103	Water	0X	SK	01	WATER, Hardness by Calculation	No
A2F300103	Water	88	VC	01	WATER, Total Alkalinity, 310.1	No
A2G020155	Water	04	MH	01	WATER, Select TAL ICPMS Metals, 6020	No
A2G020155	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	Yes
A2G020155	Water	61	QH	72	WATER, PCBs, 8082	Yes
A2G020155	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A2G020155	Water	51	QL	01	WATER, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A2G020155	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A2G020155	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A2G020155	Water	06	QP	01	WATER, Total Cyanide, 9012A	No
A2G030218	Water	04	MH	01	WATER, Select TAL ICPMS Metals, 6020	No
A2G030218	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	Yes
A2G030218	Water	61	QH	72	WATER, PCBs, 8082	Yes
A2G030218	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A2G030218	Water	51	QL	01	WATER, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A2G030218	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A2G030218	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A2G030218	Water	06	QP	01	WATER, Total Cyanide, 9012A	No
A2G090194	Water	88	C9	01	WATER, Nitrate, 300.0	Yes
A2G090194	Water	88	CT	01	WATER, Sulfide, 376.1	No
A2G090194	Water	88	CX	01	WATER, Chloride, 300.0	Yes
A2G090194	Water	88	CY	01	WATER, Sulfate, 300.0	Yes
A2G090194	Water	87	DA	01	WATER, Dissolved Organic Carbon, 415.1	No
A2G090194	Water	88	GO	01	WATER, Nitrite, 300.0	No
A2G090194	Water	00	MH	01	WATER, DisSel TAL/NA ICPMS Metals, 6020	No
A2G090194	Water	04	MH	01	WATER, Select TAL ICPMS Metals, 6020	No
A2G090194	Water	04	MH	01	WATER, Select TAL/NA ICPMS Metals, 6020B	No
A2G090194	Water	2X	MM	01	WATER, Dissolved Gases, RSK-175	No
A2G090194	Water	77	O8	01	WATER, DisSel TAL/NA CVAA Metals, 7470A	Yes
A2G090194	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	Yes
A2G090194	Water	19	O8	01	WATER, Select TAL/NA CVAA Metals, 7470A	Yes
A2G090194	Water	B8	QH	72	WATER, Dissolved PCBs, 8082	Yes
A2G090194	Water	61	QH	72	WATER, PCBs, 8082	Yes
A2G090194	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A2G090194	Water	51	QL	01	WATER, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A2G090194	Water	00	QM	01	WATER, DisSel TAL/NA Trace Metals, 6010B	Yes - for elements listed on cert
A2G090194	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A2G090194	Water	04	QM	01	WATER, Select TAL/NA Trace Metals, 6010B	Yes - for elements listed on cert

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A2G090194	Water	00	QO	01	WATER, DisSel TAL/NA ICP Metals, 6010B	Yes - for elements listed on cert
A2G090194	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A2G090194	Water	04	QO	01	WATER, Select TAL/NA ICP Metals, 6010B	Yes - for elements listed on cert
A2G090194	Water	06	QP	01	WATER, Total Cyanide, 9012A	No
A2G090194	Water	0X	SK	01	WATER, Hardness by Calculation	No
A2G090194	Water	88	VC	01	WATER, Total Alkalinity, 310.1	No
A2G100127	Water	88	C9	01	WATER, Nitrate, 300.0	Yes
A2G100127	Water	88	CT	01	WATER, Sulfide, 376.1	No
A2G100127	Water	88	CX	01	WATER, Chloride, 300.0	Yes
A2G100127	Water	88	CY	01	WATER, Sulfate, 300.0	Yes
A2G100127	Water	87	DA	01	WATER, Dissolved Organic Carbon, 415.1	No
A2G100127	Water	88	GO	01	WATER, Nitrite, 300.0	No
A2G100127	Water	00	MH	01	WATER, DisSel TAL/NA ICPMS Metals, 6020	No
A2G100127	Water	04	MH	01	WATER, Select TAL ICPMS Metals, 6020	No
A2G100127	Water	04	MH	01	WATER, Select TAL/NA ICPMS Metals, 6020B	No
A2G100127	Water	2X	MM	01	WATER, Dissolved Gases, RSK-175	No
A2G100127	Water	77	O8	01	WATER, DisSel TAL/NA CVAA Metals, 7470A	Yes
A2G100127	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	Yes
A2G100127	Water	19	O8	01	WATER, Select TAL/NA CVAA Metals, 7470A	Yes
A2G100127	Water	B8	QH	72	WATER, Dissolved PCBs, 8082	Yes
A2G100127	Water	61	QH	72	WATER, PCBs, 8082	Yes
A2G100127	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A2G100127	Water	51	QL	01	WATER, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A2G100127	Water	00	QM	01	WATER, DisSel TAL/NA Trace Metals, 6010B	Yes - for elements listed on cert
A2G100127	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A2G100127	Water	04	QM	01	WATER, Select TAL/NA Trace Metals, 6010B	Yes - for elements listed on cert
A2G100127	Water	00	QO	01	WATER, DisSel TAL/NA ICP Metals, 6010B	Yes - for elements listed on cert
A2G100127	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A2G100127	Water	04	QO	01	WATER, Select TAL/NA ICP Metals, 6010B	Yes - for elements listed on cert
A2G100127	Water	06	QP	01	WATER, Total Cyanide, 9012A	No
A2G100127	Water	0X	SK	01	WATER, Hardness by Calculation	No
A2G100127	Water	88	VC	01	WATER, Total Alkalinity, 310.1	No
A2G110141	Water	88	C9	01	WATER, Nitrate, 300.0	Yes
A2G110141	Water	88	CT	01	WATER, Sulfide, 376.1	No
A2G110141	Water	88	CX	01	WATER, Chloride, 300.0	Yes
A2G110141	Water	88	CY	01	WATER, Sulfate, 300.0	Yes
A2G110141	Water	87	DA	01	WATER, Dissolved Organic Carbon, 415.1	No
A2G110141	Water	88	GO	01	WATER, Nitrite, 300.0	No
A2G110141	Water	00	MH	01	WATER, DisSel TAL/NA ICPMS Metals, 6020	No
A2G110141	Water	04	MH	01	WATER, Select TAL ICPMS Metals, 6020	No
A2G110141	Water	04	MH	01	WATER, Select TAL/NA ICPMS Metals, 6020B	No
A2G110141	Water	2X	MM	01	WATER, Dissolved Gases, RSK-175	No
A2G110141	Water	77	O8	01	WATER, DisSel TAL/NA CVAA Metals, 7470A	Yes

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A2G110141	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	Yes
A2G110141	Water	19	O8	01	WATER, Select TAL/NA CVAA Metals, 7470A	Yes
A2G110141	Water	B8	QH	72	WATER, Dissolved PCBs, 8082	Yes
A2G110141	Water	61	QH	72	WATER, PCBs, 8082	Yes
A2G110141	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A2G110141	Water	51	QL	01	WATER, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A2G110141	Water	00	QM	01	WATER, DisSel TAL/NA Trace Metals, 6010B	Yes - for elements listed on cert
A2G110141	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A2G110141	Water	04	QM	01	WATER, Select TAL/NA Trace Metals, 6010B	Yes - for elements listed on cert
A2G110141	Water	00	QO	01	WATER, DisSel TAL/NA ICP Metals, 6010B	Yes - for elements listed on cert
A2G110141	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A2G110141	Water	04	QO	01	WATER, Select TAL/NA ICP Metals, 6010B	Yes - for elements listed on cert
A2G110141	Water	06	QP	01	WATER, Total Cyanide, 9012A	No
A2G110141	Water	0X	SK	01	WATER, Hardness by Calculation	No
A2G110141	Water	88	VC	01	WATER, Total Alkalinity, 310.1	No
A2G120176	Water	88	C9	01	WATER, Nitrate, 300.0	Yes
A2G120176	Water	88	CT	01	WATER, Sulfide, 376.1	No
A2G120176	Water	88	CX	01	WATER, Chloride, 300.0	Yes
A2G120176	Water	88	CY	01	WATER, Sulfate, 300.0	Yes
A2G120176	Water	87	DA	01	WATER, Dissolved Organic Carbon, 415.1	No
A2G120176	Water	88	GO	01	WATER, Nitrite, 300.0	No
A2G120176	Water	00	MH	01	WATER, DisSel TAL/NA ICPMS Metals, 6020	No
A2G120176	Water	04	MH	01	WATER, Select TAL ICPMS Metals, 6020	No
A2G120176	Water	04	MH	01	WATER, Select TAL/NA ICPMS Metals, 6020B	No
A2G120176	Water	2X	MM	01	WATER, Dissolved Gases, RSK-175	No
A2G120176	Water	77	O8	01	WATER, DisSel TAL/NA CVAA Metals, 7470A	Yes
A2G120176	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	Yes
A2G120176	Water	19	O8	01	WATER, Select TAL/NA CVAA Metals, 7470A	Yes
A2G120176	Water	B8	QH	72	WATER, Dissolved PCBs, 8082	Yes
A2G120176	Water	61	QH	72	WATER, PCBs, 8082	Yes
A2G120176	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A2G120176	Water	51	QL	01	WATER, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A2G120176	Water	00	QM	01	WATER, DisSel TAL/NA Trace Metals, 6010B	Yes - for elements listed on cert
A2G120176	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A2G120176	Water	04	QM	01	WATER, Select TAL/NA Trace Metals, 6010B	Yes - for elements listed on cert
A2G120176	Water	00	QO	01	WATER, DisSel TAL/NA ICP Metals, 6010B	Yes - for elements listed on cert
A2G120176	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A2G120176	Water	04	QO	01	WATER, Select TAL/NA ICP Metals, 6010B	Yes - for elements listed on cert
A2G120176	Water	06	QP	01	WATER, Total Cyanide, 9012A	No
A2G120176	Water	0X	SK	01	WATER, Hardness by Calculation	No
A2G120176	Water	88	VC	01	WATER, Total Alkalinity, 310.1	No
A2G160169	Water	04	MH	01	WATER, Select TAL ICPMS Metals, 6020	No
A2G160169	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	Yes

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A2G160169	Water	61	QH	72	WATER, PCBs, 8082	Yes
A2G160169	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A2G160169	Water	51	QL	01	WATER, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A2G160169	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A2G160169	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A2G160169	Water	06	QP	01	WATER, Total Cyanide, 9012A	No
A2G160177	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A2G160177	Waste	70	O9	01	WASTE, Select TAL CVAA Metals, 7471A	Wastes are not regulated under the program
A2G160177	Waste	2W	QH	01	WASTE, PCBs, 8082	Wastes are not regulated under the program
A2G160177	Waste	73	QK	01	WASTE, 4.2 TCL VOCs, 8260B	Wastes are not regulated under the program
A2G160177	Waste	14	QL	01	WASTE, 4.2 TCL SVOCs, 8270C	Wastes are not regulated under the program
A2G160177	Waste	46	QM	01	WASTE, Select TAL Trace Metals, 6010B	Wastes are not regulated under the program
A2G160177	Waste	46	QO	01	WASTE, Select TAL ICP Metals, 6010B	Wastes are not regulated under the program
A2G160177	Waste	06	QP	01	WASTE, Total Cyanide, 9012A	Wastes are not regulated under the program
A2G170209	Waste	70	O9	01	WASTE, Select TAL CVAA Metals, 7471A	Wastes are not regulated under the program
A2G170209	Waste	2W	QH	01	WASTE, PCBs, 8082	Wastes are not regulated under the program
A2G170209	Waste	73	QK	01	WASTE, 4.2 TCL VOCs, 8260B	Wastes are not regulated under the program
A2G170209	Waste	14	QL	01	WASTE, 4.2 TCL SVOCs, 8270C	Wastes are not regulated under the program
A2G170209	Waste	46	QM	01	WASTE, Select TAL Trace Metals, 6010B	Wastes are not regulated under the program
A2G170209	Waste	46	QO	01	WASTE, Select TAL ICP Metals, 6010B	Wastes are not regulated under the program
A2G170209	Waste	06	QP	01	WASTE, Total Cyanide, 9012A	Wastes are not regulated under the program
A2G170215	Water	88	C9	01	WATER, Nitrate, 300.0	Yes
A2G170215	Water	88	CT	01	WATER, Sulfide, 376.1	No
A2G170215	Water	88	CX	01	WATER, Chloride, 300.0	Yes
A2G170215	Water	88	CY	01	WATER, Sulfate, 300.0	Yes
A2G170215	Water	87	DA	01	WATER, Dissolved Organic Carbon, 415.1	No
A2G170215	Water	88	GO	01	WATER, Nitrite, 300.0	No
A2G170215	Water	00	MH	01	WATER, DisSel TAL/NA ICPMS Metals, 6020	No
A2G170215	Water	04	MH	01	WATER, Select TAL ICPMS Metals, 6020	No
A2G170215	Water	04	MH	01	WATER, Select TAL/NA ICPMS Metals, 6020B	No
A2G170215	Water	2X	MM	01	WATER, Dissolved Gases, RSK-175	No
A2G170215	Water	77	O8	01	WATER, DisSel TAL/NA CVAA Metals, 7470A	Yes
A2G170215	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	Yes
A2G170215	Water	19	O8	01	WATER, Select TAL/NA CVAA Metals, 7470A	Yes
A2G170215	Water	B8	QH	72	WATER, Dissolved PCBs, 8082	Yes
A2G170215	Water	61	QH	72	WATER, PCBs, 8082	Yes
A2G170215	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A2G170215	Water	51	QL	01	WATER, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A2G170215	Water	00	QM	01	WATER, DisSel TAL/NA Trace Metals, 6010B	Yes - for elements listed on cert
A2G170215	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A2G170215	Water	04	QM	01	WATER, Select TAL/NA Trace Metals, 6010B	Yes - for elements listed on cert
A2G170215	Water	00	QO	01	WATER, DisSel TAL/NA ICP Metals, 6010B	Yes - for elements listed on cert
A2G170215	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert

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A2G170215	Water	04	QO	01	WATER, Select TAL/NA ICP Metals, 6010B	Yes - for elements listed on cert
A2G170215	Water	06	QP	01	WATER, Total Cyanide, 9012A	No
A2G170215	Water	0X	SK	01	WATER, Hardness by Calculation	No
A2G170215	Water	88	VC	01	WATER, Total Alkalinity, 310.1	No
A2G180159	Water	88	C9	01	WATER, Nitrate, 300.0	Yes
A2G180159	Water	88	CT	01	WATER, Sulfide, 376.1	No
A2G180159	Water	88	CX	01	WATER, Chloride, 300.0	Yes
A2G180159	Water	88	CY	01	WATER, Sulfate, 300.0	Yes
A2G180159	Water	87	DA	01	WATER, Dissolved Organic Carbon, 415.1	No
A2G180159	Water	88	GO	01	WATER, Nitrite, 300.0	No
A2G180159	Water	00	MH	01	WATER, DisSel TAL/NA ICPMS Metals, 6020	No
A2G180159	Water	04	MH	01	WATER, Select TAL ICPMS Metals, 6020	No
A2G180159	Water	04	MH	01	WATER, Select TAL/NA ICPMS Metals, 6020B	No
A2G180159	Water	2X	MM	01	WATER, Dissolved Gases, RSK-175	No
A2G180159	Water	77	O8	01	WATER, DisSel TAL/NA CVAA Metals, 7470A	Yes
A2G180159	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	Yes
A2G180159	Water	19	O8	01	WATER, Select TAL/NA CVAA Metals, 7470A	Yes
A2G180159	Water	B8	QH	72	WATER, Dissolved PCBs, 8082	Yes
A2G180159	Water	61	QH	72	WATER, PCBs, 8082	Yes
A2G180159	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A2G180159	Water	51	QL	01	WATER, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A2G180159	Water	00	QM	01	WATER, DisSel TAL/NA Trace Metals, 6010B	Yes - for elements listed on cert
A2G180159	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A2G180159	Water	04	QM	01	WATER, Select TAL/NA Trace Metals, 6010B	Yes - for elements listed on cert
A2G180159	Water	00	QO	01	WATER, DisSel TAL/NA ICP Metals, 6010B	Yes - for elements listed on cert
A2G180159	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A2G180159	Water	04	QO	01	WATER, Select TAL/NA ICP Metals, 6010B	Yes - for elements listed on cert
A2G180159	Water	06	QP	01	WATER, Total Cyanide, 9012A	No
A2G180159	Water	0X	SK	01	WATER, Hardness by Calculation	No
A2G180159	Water	88	VC	01	WATER, Total Alkalinity, 310.1	No
A2G180239	Waste	70	O9	01	WASTE, Select TAL CVAA Metals, 7471A	Wastes are not regulated under the program
A2G180239	Waste	2W	QH	01	WASTE, PCBs, 8082	Wastes are not regulated under the program
A2G180239	Waste	73	QK	01	WASTE, 4.2 TCL VOCs, 8260B	Wastes are not regulated under the program
A2G180239	Waste	14	QL	01	WASTE, 4.2 TCL SVOCs, 8270C	Wastes are not regulated under the program
A2G180239	Waste	46	QM	01	WASTE, Select TAL Trace Metals, 6010B	Wastes are not regulated under the program
A2G180239	Waste	46	QO	01	WASTE, Select TAL ICP Metals, 6010B	Wastes are not regulated under the program
A2G180239	Waste	06	QP	01	WASTE, Total Cyanide, 9012A	Wastes are not regulated under the program

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Lot	Matrix	Extraction	Method	Program	Test Description	OVAP Certified August 7, 2002-Sept 23, 2002
A2H140197	Waste	88	ZZ	01	WASTE, Viscosity, ASTM D455	Wastes are not regulated under the program

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Certification does not cover:

- 8260 note: Preservation technique/method revision affect determination of OVAP compliance. Some samples in an SDG may be covered under certification, while others are not. General details re: certification follow. Sample specific information is provided in a supplemental spreadsheet.
  - 8260 compounds not listed in method: Cyclohexane, Methyl acetate, Methylcyclohexane, MTBE, 1,1,2-Trichloro-1,2,2-trifluoroethane
- 8260B soils preserved by freezing
- 8270 compounds not listed in method: Atrazine, Benzaldehyde, 1,1'-Biphenyl, Caprolactam
- 6010B elements not listed on certificate / TAL exception - Magnesium is not a certified parameter
- 6020 - Metals
- 9012A - Cyanide
- RSK - Dissolved Gases
- 415.1 - DOC
- 300.0 - Nitrite
- 376.1 - Sulfide
- 310.1 - Alkalinity
- 7196A - Trivalent Chromium

KEY:
Conditionally certified parameter
Parameter not covered by cert

Lot	Matrix	Extraction	Method	Program	Test Description	OVAP Certified Sept 24, 2002-July 1, 2003
A3A140176	Solid	70	O9	01	SOLID, Select TAL CVAA Metals, 7471A	Yes
A3A140176	Solid	71	QH	01	SOLID, PCBs, 8082	Yes
A3A140176	Solid	Cold Pres	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	No-Freezing is not allowed for OVAP
A3A140176	Solid	13	QL	01	SOLID, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A3A140176	Solid	46	QM	01	SOLID, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A3A140176	Solid	46	QO	01	SOLID, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A3A140176	Solid	06	QP	01	SOLID, Total Cyanide, 9012A	No
A3A140176	Solid	88	SM	01	SOLID, Percent Solids, 160.3 MOD	TS is not regulated under the program
A3A160194	Solid	70	O9	01	SOLID, Select TAL CVAA Metals, 7471A	Yes
A3A160194	Solid	71	QH	01	SOLID, PCBs, 8082	Yes
A3A160194	Solid	MEOH ext	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	Yes, but only for analytes listed in 8260B
A3A160194	Solid	Cold Pres	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	No-Freezing is not allowed for OVAP
A3A160194	Solid	13	QL	01	SOLID, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A3A160194	Solid	46	QM	01	SOLID, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A3A160194	Solid	46	QO	01	SOLID, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A3A160194	Solid	06	QP	01	SOLID, Total Cyanide, 9012A	No
A3A160194	Solid	88	SM	01	SOLID, Percent Solids, 160.3 MOD	TS is not regulated under the program
A3A170193	Solid	70	O9	01	SOLID, Select TAL CVAA Metals, 7471A	Yes
A3A170193	Solid	71	QH	01	SOLID, PCBs, 8082	Yes
A3A170193	Solid	Cold Pres	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	No-Freezing is not allowed for OVAP

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A3A170193	Solid	46	QM	01	SOLID, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A3A170193	Solid	46	QO	01	SOLID, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A3A170193	Solid	06	QP	01	SOLID, Total Cyanide, 9012A	No
A3A170193	Solid	88	SM	01	SOLID, Percent Solids, 160.3 MOD	TS is not regulated under the program
A3A180164	Solid	70	O9	01	SOLID, Select TAL CVAA Metals, 7471A	Yes
A3A180164	Solid	71	QH	01	SOLID, PCBs, 8082	Yes
A3A180164	Solid	Cold Pres	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	No-Freezing is not allowed for OVAP
A3A180164	Solid	13	QL	01	SOLID, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A3A180164	Solid	46	QM	01	SOLID, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A3A180164	Solid	46	QO	01	SOLID, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A3A180164	Solid	06	QP	01	SOLID, Total Cyanide, 9012A	No
A3A180164	Solid	88	SM	01	SOLID, Percent Solids, 160.3 MOD	TS is not regulated under the program
A3A180164	Water	04	MH	01	WATER, Select TAL ICPMS Metals, 6020	No
A3A180164	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	Yes
A3A180164	Water	61	QH	72	WATER, PCBs, 8082	Yes
A3A180164	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A3A180164	Water	51	QL	01	WATER, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A3A180164	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A3A180164	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A3A180164	Water	06	QP	01	WATER, Total Cyanide, 9012A	No
A3A200143	Solid	70	O9	01	SOLID, Select TAL CVAA Metals, 7471A	Yes
A3A200143	Solid	71	QH	01	SOLID, PCBs, 8082	Yes
A3A200143	Solid	Cold Pres	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	No-Freezing is not allowed for OVAP
A3A200143	Solid	13	QL	01	SOLID, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A3A200143	Solid	46	QM	01	SOLID, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A3A200143	Solid	46	QO	01	SOLID, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A3A200143	Solid	06	QP	01	SOLID, Total Cyanide, 9012A	No
A3A200143	Solid	88	SM	01	SOLID, Percent Solids, 160.3 MOD	TS is not regulated under the program
A3A210195	Solid	70	O9	01	SOLID, Select TAL CVAA Metals, 7471A	Yes
A3A210195	Solid	71	QH	01	SOLID, PCBs, 8082	Yes
A3A210195	Solid	MEOH ext	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	Yes, but only for analytes listed in 8260B
A3A210195	Solid	13	QL	01	SOLID, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A3A210195	Solid	46	QM	01	SOLID, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A3A210195	Solid	46	QO	01	SOLID, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A3A210195	Solid	06	QP	01	SOLID, Total Cyanide, 9012A	No
A3A210195	Solid	88	SM	01	SOLID, Percent Solids, 160.3 MOD	TS is not regulated under the program
A3A230156	Solid	70	O9	01	SOLID, Select TAL CVAA Metals, 7471A	Yes
A3A230156	Solid	71	QH	01	SOLID, PCBs, 8082	Yes
A3A230156	Solid	MEOH ext	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	Yes, but only for analytes listed in 8260B
A3A230156	Solid	13	QL	01	SOLID, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A3A230156	Solid	46	QM	01	SOLID, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A3A230156	Solid	46	QO	01	SOLID, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A3A230156	Solid	06	QP	01	SOLID, Total Cyanide, 9012A	No

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A3A230156	Solid	88	SM	01	SOLID, Percent Solids, 160.3 MOD	TS is not regulated under the program
A3A230156	Water	04	MH	01	WATER, Select TAL ICPMS Metals, 6020	No
A3A230156	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	Yes
A3A230156	Water	61	QH	72	WATER, PCBs, 8082	Yes
A3A230156	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A3A230156	Water	51	QL	01	WATER, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A3A230156	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A3A230156	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A3A230156	Water	06	QP	01	WATER, Total Cyanide, 9012A	No
A3A280117	Solid	70	O9	01	SOLID, Select TAL CVAA Metals, 7471A	Yes
A3A280117	Solid	71	QH	01	SOLID, PCBs, 8082	Yes
A3A280117	Solid	MEOH ext	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	Yes, but only for analytes listed in 8260B
A3A280117	Solid	Cold Pres	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	No-Freezing is not allowed for OVAP
A3A280117	Solid	13	QL	01	SOLID, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A3A280117	Solid	46	QM	01	SOLID, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A3A280117	Solid	46	QO	01	SOLID, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A3A280117	Solid	06	QP	01	SOLID, Total Cyanide, 9012A	No
A3A280117	Solid	88	SM	01	SOLID, Percent Solids, 160.3 MOD	TS is not regulated under the program
A3A300160	Solid	70	O9	01	SOLID, Select TAL CVAA Metals, 7471A	Yes
A3A300160	Solid	71	QH	01	SOLID, PCBs, 8082	Yes
A3A300160	Solid	MEOH ext	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	Yes, but only for analytes listed in 8260B
A3A300160	Solid	Cold Pres	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	No-Freezing is not allowed for OVAP
A3A300160	Solid	13	QL	01	SOLID, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A3A300160	Solid	46	QM	01	SOLID, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A3A300160	Solid	46	QO	01	SOLID, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A3A300160	Solid	06	QP	01	SOLID, Total Cyanide, 9012A	No
A3A300160	Solid	88	SM	01	SOLID, Percent Solids, 160.3 MOD	TS is not regulated under the program
A3A310141	Solid	70	O9	01	SOLID, Select TAL CVAA Metals, 7471A	Yes
A3A310141	Solid	71	QH	01	SOLID, PCBs, 8082	Yes
A3A310141	Solid	MEOH ext	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	Yes, but only for analytes listed in 8260B
A3A310141	Solid	Cold Pres	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	No-Freezing is not allowed for OVAP
A3A310141	Solid	13	QL	01	SOLID, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A3A310141	Solid	46	QM	01	SOLID, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A3A310141	Solid	46	QO	01	SOLID, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A3A310141	Solid	06	QP	01	SOLID, Total Cyanide, 9012A	No
A3A310141	Solid	88	SM	01	SOLID, Percent Solids, 160.3 MOD	TS is not regulated under the program
A3A310141	Water	04	MH	01	WATER, Select TAL ICPMS Metals, 6020	No
A3A310141	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	Yes
A3A310141	Water	61	QH	72	WATER, PCBs, 8082	Yes
A3A310141	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A3A310141	Water	51	QL	01	WATER, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A3A310141	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A3A310141	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert

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A3A310141	Water	06	QP	01	WATER, Total Cyanide, 9012A	No
A3B010163	Solid	70	O9	01	SOLID, Select TAL CVAA Metals, 7471A	Yes
A3B010163	Solid	71	QH	01	SOLID, PCBs, 8082	Yes
A3B010163	Solid	MEOH ext	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	Yes, but only for analytes listed in 8260B
A3B010163	Solid	13	QL	01	SOLID, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A3B010163	Solid	46	QM	01	SOLID, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A3B010163	Solid	46	QO	01	SOLID, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A3B010163	Solid	06	QP	01	SOLID, Total Cyanide, 9012A	No
A3B010163	Solid	88	SM	01	SOLID, Percent Solids, 160.3 MOD	TS is not regulated under the program
A3B010163	Water	04	MH	01	WATER, Select TAL ICPMS Metals, 6020	No
A3B010163	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	Yes
A3B010163	Water	61	QH	72	WATER, PCBs, 8082	Yes
A3B010163	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A3B010163	Water	51	QL	01	WATER, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A3B010163	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A3B010163	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A3B010163	Water	06	QP	01	WATER, Total Cyanide, 9012A	No
A3B030137	Solid	70	O9	01	SOLID, Select TAL CVAA Metals, 7471A	Yes
A3B030137	Solid	71	QH	01	SOLID, PCBs, 8082	Yes
A3B030137	Solid	MEOH ext	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	Yes, but only for analytes listed in 8260B
A3B030137	Solid	Cold Pres	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	No-Freezing is not allowed for OVAP
A3B030137	Solid	13	QL	01	SOLID, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A3B030137	Solid	46	QM	01	SOLID, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A3B030137	Solid	46	QO	01	SOLID, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A3B030137	Solid	06	QP	01	SOLID, Total Cyanide, 9012A	No
A3B030137	Solid	88	SM	01	SOLID, Percent Solids, 160.3 MOD	TS is not regulated under the program
A3B060196	Water	88	C9	01	WATER, Nitrate, 300.0	Yes
A3B060196	Water	88	CT	01	WATER, Sulfide, 376.1	No
A3B060196	Water	88	CX	01	WATER, Chloride, 300.0	Yes
A3B060196	Water	88	CY	01	WATER, Sulfate, 300.0	Yes
A3B060196	Water	87	DA	01	WATER, Dissolved Organic Carbon, 415.1	No
A3B060196	Water	88	GO	01	WATER, Nitrite, 300.0	No
A3B060196	Water	00	MH	01	WATER, DisSel TAL ICPMS Metals, 6020	No
A3B060196	Water	04	MH	01	WATER, Select TAL ICPMS Metals, 6020	No
A3B060196	Water	2X	MM	01	WATER, Dissolved Gases, RSK-175	No
A3B060196	Water	77	O8	01	WATER, DisSel TAL CVAA Metals, 7470A	Yes
A3B060196	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	Yes
A3B060196	Water	B8	QH	72	WATER, Dissolved PCBs, 8082	Yes
A3B060196	Water	61	QH	72	WATER, PCBs, 8082	Yes
A3B060196	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A3B060196	Water	51	QL	01	WATER, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A3B060196	Water	00	QM	01	WATER, DisSel TAL Trace Metals, 6010B	Yes - for elements listed on cert
A3B060196	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert

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A3B060196	Water	00	QO	01	WATER, DisSel TAL ICP Metals, 6010B	Yes - for elements listed on cert
A3B060196	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A3B060196	Water	06	QP	01	WATER, Total Cyanide, 9012A	No
A3B060196	Water	88	VC	01	WATER, Total Alkalinity, 310.1	No
A3B070135	Water	88	C9	01	WATER, Nitrate, 300.0	Yes
A3B070135	Water	88	CT	01	WATER, Sulfide, 376.1	No
A3B070135	Water	88	CX	01	WATER, Chloride, 300.0	Yes
A3B070135	Water	88	CY	01	WATER, Sulfate, 300.0	Yes
A3B070135	Water	87	DA	01	WATER, Dissolved Organic Carbon, 415.1	No
A3B070135	Water	88	GO	01	WATER, Nitrite, 300.0	No
A3B070135	Water	00	MH	01	WATER, DisSel TAL ICPMS Metals, 6020	No
A3B070135	Water	04	MH	01	WATER, Select TAL ICPMS Metals, 6020	No
A3B070135	Water	2X	MM	01	WATER, Dissolved Gases, RSK-175	No
A3B070135	Water	77	O8	01	WATER, DisSel TAL CVAA Metals, 7470A	Yes
A3B070135	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	Yes
A3B070135	Water	B8	QH	72	WATER, Dissolved PCBs, 8082	Yes
A3B070135	Water	61	QH	72	WATER, PCBs, 8082	Yes
A3B070135	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A3B070135	Water	51	QL	01	WATER, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A3B070135	Water	00	QM	01	WATER, DisSel TAL Trace Metals, 6010B	Yes - for elements listed on cert
A3B070135	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A3B070135	Water	00	QO	01	WATER, DisSel TAL ICP Metals, 6010B	Yes - for elements listed on cert
A3B070135	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A3B070135	Water	06	QP	01	WATER, Total Cyanide, 9012A	No
A3B070135	Water	88	VC	01	WATER, Total Alkalinity, 310.1	No
A3B080119	Water	88	C9	01	WATER, Nitrate, 300.0	Yes
A3B080119	Water	88	CT	01	WATER, Sulfide, 376.1	No
A3B080119	Water	88	CX	01	WATER, Chloride, 300.0	Yes
A3B080119	Water	88	CY	01	WATER, Sulfate, 300.0	Yes
A3B080119	Water	87	DA	01	WATER, Dissolved Organic Carbon, 415.1	No
A3B080119	Water	88	GO	01	WATER, Nitrite, 300.0	No
A3B080119	Water	00	MH	01	WATER, DisSel TAL ICPMS Metals, 6020	No
A3B080119	Water	04	MH	01	WATER, Select TAL ICPMS Metals, 6020	No
A3B080119	Water	2X	MM	01	WATER, Dissolved Gases, RSK-175	No
A3B080119	Water	77	O8	01	WATER, DisSel TAL CVAA Metals, 7470A	Yes
A3B080119	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	Yes
A3B080119	Water	B8	QH	72	WATER, Dissolved PCBs, 8082	Yes
A3B080119	Water	61	QH	72	WATER, PCBs, 8082	Yes
A3B080119	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A3B080119	Water	51	QL	01	WATER, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A3B080119	Water	00	QM	01	WATER, DisSel TAL Trace Metals, 6010B	Yes - for elements listed on cert
A3B080119	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A3B080119	Water	00	QO	01	WATER, DisSel TAL ICP Metals, 6010B	Yes - for elements listed on cert

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A3B080119	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A3B080119	Water	06	QP	01	WATER, Total Cyanide, 9012A	No
A3B080119	Water	88	VC	01	WATER, Total Alkalinity, 310.1	No
A3B190168	Solid	70	O9	01	SOLID, Select TAL CVAA Metals, 7471A	Yes
A3B190168	Solid	71	QH	01	SOLID, PCBs, 8082	Yes
A3B190168	Solid	MEOH ext	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	Yes, but only for analytes listed in 8260B
A3B190168	Solid	Cold Pres	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	No-Freezing is not allowed for OVAP
A3B190168	Solid	13	QL	01	SOLID, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A3B190168	Solid	88	SM	01	SOLID, Percent Solids, 160.3 MOD	TS is not regulated under the program
A3B190168	Water	04	MH	01	WATER, Select TAL ICPMS Metals, 6020	No
A3B190168	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	Yes
A3B190168	Water	61	QH	72	WATER, PCBs, 8082	Yes
A3B190168	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A3B190168	Water	51	QL	01	WATER, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A3B190168	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A3B190168	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A3B190168	Water	06	QP	01	WATER, Total Cyanide, 9012A	No
A3B200265	Solid	DW	EA	01	SOLID, Hexavalent Chromium, 7196A	Yes
A3B200265	Solid	0X	GU	01	SOLID, Trivalent Chromium, 7196A	No
A3B200265	Solid	70	O9	01	SOLID, Select TAL CVAA Metals, 7471A	Yes
A3B200265	Solid	71	QH	01	SOLID, PCBs, 8082	Yes
A3B200265	Solid	MEOH ext	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	Yes, but only for analytes listed in 8260B
A3B200265	Solid	Cold Pres	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	No-Freezing is not allowed for OVAP
A3B200265	Solid	13	QL	01	SOLID, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A3B200265	Solid	46	QM	01	SOLID, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A3B200265	Solid	46	QO	01	SOLID, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A3B200265	Solid	46	QO	01	SOLID, Total Chromium, 6010B	Yes - for elements listed on cert
A3B200265	Solid	06	QP	01	SOLID, Total Cyanide, 9012A	No
A3B200265	Solid	88	SM	01	SOLID, Percent Solids, 160.3 MOD	TS is not regulated under the program
A3B200265	Water	04	MH	01	WATER, Select TAL ICPMS Metals, 6020	No
A3B200265	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	Yes
A3B200265	Water	61	QH	72	WATER, PCBs, 8082	Yes
A3B200265	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A3B200265	Water	51	QL	01	WATER, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A3B200265	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A3B200265	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A3B200265	Water	06	QP	01	WATER, Total Cyanide, 9012A	No
A3B210219	Solid	70	O9	01	SOLID, Select TAL CVAA Metals, 7471A	Yes
A3B210219	Solid	71	QH	01	SOLID, PCBs, 8082	Yes
A3B210219	Solid	MEOH ext	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	Yes, but only for analytes listed in 8260B
A3B210219	Solid	Cold Pres	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	No-Freezing is not allowed for OVAP
A3B210219	Solid	13	QL	01	SOLID, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A3B210219	Solid	46	QM	01	SOLID, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert

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A3B210219	Solid	46	QO	01	SOLID, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A3B210219	Solid	06	QP	01	SOLID, Total Cyanide, 9012A	No
A3B210219	Solid	88	SM	01	SOLID, Percent Solids, 160.3 MOD	TS is not regulated under the program
A3B210219	Water	04	MH	01	WATER, Select TAL ICPMS Metals, 6020	No
A3B210219	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	Yes
A3B210219	Water	61	QH	72	WATER, PCBs, 8082	Yes
A3B210219	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A3B210219	Water	51	QL	01	WATER, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A3B210219	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A3B210219	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A3B210219	Water	06	QP	01	WATER, Total Cyanide, 9012A	No
A3C060111	Solid	70	O9	01	SOLID, Select TAL CVAA Metals, 7471A	Yes
A3C060111	Solid	71	QH	01	SOLID, PCBs, 8082	Yes
A3C060111	Solid	MEOH ext	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	Yes, but only for analytes listed in 8260B
A3C060111	Solid	Cold Pres	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	No-Freezing is not allowed for OVAP
A3C060111	Solid	13	QL	01	SOLID, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A3C060111	Solid	46	QM	01	SOLID, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A3C060111	Solid	46	QO	01	SOLID, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A3C060111	Solid	06	QP	01	SOLID, Total Cyanide, 9012A	No
A3C060111	Solid	88	SM	01	SOLID, Percent Solids, 160.3 MOD	TS is not regulated under the program
A3C060243	Water	88	C9	01	WATER, Nitrate, 300.0	Yes
A3C060243	Water	88	CT	01	WATER, Sulfide, 376.1	No
A3C060243	Water	88	CX	01	WATER, Chloride, 300.0	Yes
A3C060243	Water	88	CY	01	WATER, Sulfate, 300.0	Yes
A3C060243	Water	87	DA	01	WATER, Dissolved Organic Carbon, 415.1	No
A3C060243	Water	88	GO	01	WATER, Nitrite, 300.0	No
A3C060243	Water	00	MH	01	WATER, DisSel TAL ICPMS Metals, 6020	No
A3C060243	Water	04	MH	01	WATER, Select TAL ICPMS Metals, 6020	No
A3C060243	Water	2X	MM	01	WATER, Dissolved Gases, RSK-175	No
A3C060243	Water	77	O8	01	WATER, DisSel TAL CVAA Metals, 7470A	Yes
A3C060243	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	Yes
A3C060243	Water	B8	QH	72	WATER, Dissolved PCBs, 8082	Yes
A3C060243	Water	61	QH	72	WATER, PCBs, 8082	Yes
A3C060243	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A3C060243	Water	51	QL	01	WATER, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A3C060243	Water	00	QM	01	WATER, DisSel TAL Trace Metals, 6010B	Yes - for elements listed on cert
A3C060243	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A3C060243	Water	00	QO	01	WATER, DisSel TAL ICP Metals, 6010B	Yes - for elements listed on cert
A3C060243	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A3C060243	Water	06	QP	01	WATER, Total Cyanide, 9012A	No
A3C060243	Water	88	VC	01	WATER, Total Alkalinity, 310.1	No
A3C070171	Solid	70	O9	01	SOLID, Select TAL CVAA Metals, 7471A	Yes
A3C070171	Solid	71	QH	01	SOLID, PCBs, 8082	Yes

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A3C070171	Solid	Cold Pres	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	No-Freezing is not allowed for OVAP
A3C070171	Solid	13	QL	01	SOLID, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A3C070171	Solid	46	QM	01	SOLID, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A3C070171	Solid	46	QO	01	SOLID, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A3C070171	Solid	06	QP	01	SOLID, Total Cyanide, 9012A	No
A3C070171	Solid	88	SM	01	SOLID, Percent Solids, 160.3 MOD	TS is not regulated under the program
A3C080155	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A3C120267	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A3C130234	Water	04	MH	01	WATER, Select TAL ICPMS Metals, 6020	No
A3C130234	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	Yes
A3C130234	Water	61	QH	72	WATER, PCBs, 8082	Yes
A3C130234	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A3C130234	Water	51	QL	01	WATER, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A3C130234	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A3C130234	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A3C130234	Water	06	QP	01	WATER, Total Cyanide, 9012A	No
A3C140261	Water	04	MH	01	WATER, Select TAL ICPMS Metals, 6020	No
A3C140261	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	Yes
A3C140261	Water	61	QH	72	WATER, PCBs, 8082	Yes
A3C140261	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A3C140261	Water	51	QL	01	WATER, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A3C140261	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A3C140261	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A3C140261	Water	06	QP	01	WATER, Total Cyanide, 9012A	No
A3C180145	Water	04	MH	01	WATER, Select TAL ICPMS Metals, 6020	No
A3C180145	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	Yes
A3C180145	Water	61	QH	72	WATER, PCBs, 8082	Yes
A3C180145	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A3C180145	Water	51	QL	01	WATER, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A3C180145	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A3C180145	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A3C180145	Water	06	QP	01	WATER, Total Cyanide, 9012A	No
A3C190191	Water	04	MH	01	WATER, Select TAL ICPMS Metals, 6020	No
A3C190191	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	Yes
A3C190191	Water	61	QH	72	WATER, PCBs, 8082	Yes
A3C190191	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A3C190191	Water	51	QL	01	WATER, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A3C190191	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A3C190191	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A3C190191	Water	06	QP	01	WATER, Total Cyanide, 9012A	No
A3C200138	Water	88	C9	01	WATER, Nitrate, 300.0	Yes
A3C200138	Water	88	CT	01	WATER, Sulfide, 376.1	No
A3C200138	Water	88	CX	01	WATER, Chloride, 300.0	Yes

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A3C200138	Water	88	CY	01	WATER, Sulfate, 300.0	Yes
A3C200138	Water	87	DA	01	WATER, Dissolved Organic Carbon, 415.1	No
A3C200138	Water	88	GO	01	WATER, Nitrite, 300.0	No
A3C200138	Water	00	MH	01	WATER, DisSel TAL ICPMS Metals, 6020	No
A3C200138	Water	04	MH	01	WATER, Select TAL ICPMS Metals, 6020	No
A3C200138	Water	2X	MM	01	WATER, Dissolved Gases, RSK-175	No
A3C200138	Water	77	O8	01	WATER, DisSel TAL CVAA Metals, 7470A	Yes
A3C200138	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	Yes
A3C200138	Water	B8	QH	72	WATER, Dissolved PCBs, 8082	Yes
A3C200138	Water	61	QH	72	WATER, PCBs, 8082	Yes
A3C200138	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A3C200138	Water	51	QL	01	WATER, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A3C200138	Water	00	QM	01	WATER, DisSel TAL Trace Metals, 6010B	Yes - for elements listed on cert
A3C200138	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A3C200138	Water	00	QO	01	WATER, DisSel TAL ICP Metals, 6010B	Yes - for elements listed on cert
A3C200138	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A3C200138	Water	06	QP	01	WATER, Total Cyanide, 9012A	No
A3C200138	Water	88	VC	01	WATER, Total Alkalinity, 310.1	No
A3C210220	Water	04	MH	01	WATER, Select TAL ICPMS Metals, 6020	No
A3C210220	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	Yes
A3C210220	Water	61	QH	72	WATER, PCBs, 8082	Yes
A3C210220	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A3C210220	Water	51	QL	01	WATER, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A3C210220	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A3C210220	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A3C210220	Water	06	QP	01	WATER, Total Cyanide, 9012A	No
A3C220188	Water	04	MH	01	WATER, Select TAL ICPMS Metals, 6020	No
A3C220188	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	Yes
A3C220188	Water	61	QH	72	WATER, PCBs, 8082	Yes
A3C220188	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A3C220188	Water	51	QL	01	WATER, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A3C220188	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A3C220188	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A3C220188	Water	06	QP	01	WATER, Total Cyanide, 9012A	No
A3C250249	Water	88	C9	01	WATER, Nitrate, 300.0	Yes
A3C250249	Water	88	CT	01	WATER, Sulfide, 376.1	No
A3C250249	Water	88	CX	01	WATER, Chloride, 300.0	Yes
A3C250249	Water	88	CY	01	WATER, Sulfate, 300.0	Yes
A3C250249	Water	87	DA	01	WATER, Dissolved Organic Carbon, 415.1	No
A3C250249	Water	88	GO	01	WATER, Nitrite, 300.0	No
A3C250249	Water	00	MH	01	WATER, DisSel TAL ICPMS Metals, 6020	No
A3C250249	Water	04	MH	01	WATER, Select TAL ICPMS Metals, 6020	No
A3C250249	Water	2X	MM	01	WATER, Dissolved Gases, RSK-175	No

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A3C250249	Water	77	O8	01	WATER, DisSel TAL CVAA Metals, 7470A	Yes
A3C250249	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	Yes
A3C250249	Water	B8	QH	72	WATER, Dissolved PCBs, 8082	Yes
A3C250249	Water	61	QH	72	WATER, PCBs, 8082	Yes
A3C250249	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A3C250249	Water	51	QL	01	WATER, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A3C250249	Water	00	QM	01	WATER, DisSel TAL Trace Metals, 6010B	Yes - for elements listed on cert
A3C250249	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A3C250249	Water	00	QO	01	WATER, DisSel TAL ICP Metals, 6010B	Yes - for elements listed on cert
A3C250249	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A3C250249	Water	06	QP	01	WATER, Total Cyanide, 9012A	No
A3C250249	Water	88	VC	01	WATER, Total Alkalinity, 310.1	No
A3C260253	Water	88	C9	01	WATER, Nitrate, 300.0	Yes
A3C260253	Water	88	CT	01	WATER, Sulfide, 376.1	No
A3C260253	Water	88	CX	01	WATER, Chloride, 300.0	Yes
A3C260253	Water	88	CY	01	WATER, Sulfate, 300.0	Yes
A3C260253	Water	87	DA	01	WATER, Dissolved Organic Carbon, 415.1	No
A3C260253	Water	88	GO	01	WATER, Nitrite, 300.0	No
A3C260253	Water	00	MH	01	WATER, DisSel TAL ICPMS Metals, 6020	No
A3C260253	Water	04	MH	01	WATER, Select TAL ICPMS Metals, 6020	No
A3C260253	Water	2X	MM	01	WATER, Dissolved Gases, RSK-175	No
A3C260253	Water	77	O8	01	WATER, DisSel TAL CVAA Metals, 7470A	Yes
A3C260253	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	Yes
A3C260253	Water	B8	QH	72	WATER, Dissolved PCBs, 8082	Yes
A3C260253	Water	61	QH	72	WATER, PCBs, 8082	Yes
A3C260253	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A3C260253	Water	51	QL	01	WATER, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A3C260253	Water	00	QM	01	WATER, DisSel TAL Trace Metals, 6010B	Yes - for elements listed on cert
A3C260253	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A3C260253	Water	00	QO	01	WATER, DisSel TAL ICP Metals, 6010B	Yes - for elements listed on cert
A3C260253	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A3C260253	Water	06	QP	01	WATER, Total Cyanide, 9012A	No
A3C260253	Water	88	VC	01	WATER, Total Alkalinity, 310.1	No
A3C270232	Water	88	C9	01	WATER, Nitrate, 300.0	Yes
A3C270232	Water	88	CT	01	WATER, Sulfide, 376.1	No
A3C270232	Water	88	CX	01	WATER, Chloride, 300.0	Yes
A3C270232	Water	88	CY	01	WATER, Sulfate, 300.0	Yes
A3C270232	Water	87	DA	01	WATER, Dissolved Organic Carbon, 415.1	No
A3C270232	Water	88	GO	01	WATER, Nitrite, 300.0	No
A3C270232	Water	00	MH	01	WATER, DisSel TAL ICPMS Metals, 6020	No
A3C270232	Water	04	MH	01	WATER, Select TAL ICPMS Metals, 6020	No
A3C270232	Water	2X	MM	01	WATER, Dissolved Gases, RSK-175	No
A3C270232	Water	77	O8	01	WATER, DisSel TAL CVAA Metals, 7470A	Yes

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A3C270232	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	Yes
A3C270232	Water	B8	QH	72	WATER, Dissolved PCBs, 8082	Yes
A3C270232	Water	61	QH	72	WATER, PCBs, 8082	Yes
A3C270232	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A3C270232	Water	51	QL	01	WATER, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A3C270232	Water	00	QM	01	WATER, DisSel TAL Trace Metals, 6010B	Yes - for elements listed on cert
A3C270232	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A3C270232	Water	00	QO	01	WATER, DisSel TAL ICP Metals, 6010B	Yes - for elements listed on cert
A3C270232	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A3C270232	Water	06	QP	01	WATER, Total Cyanide, 9012A	No
A3C270232	Water	88	VC	01	WATER, Total Alkalinity, 310.1	No
A3C280180	Water	88	C9	01	WATER, Nitrate, 300.0	Yes
A3C280180	Water	88	CT	01	WATER, Sulfide, 376.1	No
A3C280180	Water	88	CX	01	WATER, Chloride, 300.0	Yes
A3C280180	Water	88	CY	01	WATER, Sulfate, 300.0	Yes
A3C280180	Water	87	DA	01	WATER, Dissolved Organic Carbon, 415.1	No
A3C280180	Water	88	GO	01	WATER, Nitrite, 300.0	No
A3C280180	Water	00	MH	01	WATER, DisSel TAL ICPMS Metals, 6020	No
A3C280180	Water	04	MH	01	WATER, Select TAL ICPMS Metals, 6020	No
A3C280180	Water	2X	MM	01	WATER, Dissolved Gases, RSK-175	No
A3C280180	Water	77	O8	01	WATER, DisSel TAL CVAA Metals, 7470A	Yes
A3C280180	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	Yes
A3C280180	Water	B8	QH	72	WATER, Dissolved PCBs, 8082	Yes
A3C280180	Water	61	QH	72	WATER, PCBs, 8082	Yes
A3C280180	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A3C280180	Water	51	QL	01	WATER, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A3C280180	Water	00	QM	01	WATER, DisSel TAL Trace Metals, 6010B	Yes - for elements listed on cert
A3C280180	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A3C280180	Water	00	QO	01	WATER, DisSel TAL ICP Metals, 6010B	Yes - for elements listed on cert
A3C280180	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A3C280180	Water	06	QP	01	WATER, Total Cyanide, 9012A	No
A3C280180	Water	88	VC	01	WATER, Total Alkalinity, 310.1	No
A3C290202	Water	88	C9	01	WATER, Nitrate, 300.0	Yes
A3C290202	Water	88	CT	01	WATER, Sulfide, 376.1	No
A3C290202	Water	88	CX	01	WATER, Chloride, 300.0	Yes
A3C290202	Water	88	CY	01	WATER, Sulfate, 300.0	Yes
A3C290202	Water	87	DA	01	WATER, Dissolved Organic Carbon, 415.1	No
A3C290202	Water	88	GO	01	WATER, Nitrite, 300.0	No
A3C290202	Water	00	MH	01	WATER, DisSel TAL ICPMS Metals, 6020	No
A3C290202	Water	04	MH	01	WATER, Select TAL ICPMS Metals, 6020	No
A3C290202	Water	2X	MM	01	WATER, Dissolved Gases, RSK-175	No
A3C290202	Water	77	O8	01	WATER, DisSel TAL CVAA Metals, 7470A	Yes
A3C290202	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	Yes

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A3C290202	Water	B8	QH	72	WATER, Dissolved PCBs, 8082	Yes
A3C290202	Water	61	QH	72	WATER, PCBs, 8082	Yes
A3C290202	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A3C290202	Water	51	QL	01	WATER, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A3C290202	Water	00	QM	01	WATER, DisSel TAL Trace Metals, 6010B	Yes - for elements listed on cert
A3C290202	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A3C290202	Water	00	QO	01	WATER, DisSel TAL ICP Metals, 6010B	Yes - for elements listed on cert
A3C290202	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A3C290202	Water	06	QP	01	WATER, Total Cyanide, 9012A	No
A3C290202	Water	88	VC	01	WATER, Total Alkalinity, 310.1	No
A3D010209	Water	04	MH	01	WATER, Select TAL ICPMS Metals, 6020	No
A3D010209	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	Yes
A3D010209	Water	61	QH	72	WATER, PCBs, 8082	Yes
A3D010209	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A3D010209	Water	51	QL	01	WATER, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A3D010209	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A3D010209	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A3D010209	Water	06	QP	01	WATER, Total Cyanide, 9012A	No
A3D020147	Solid	71	QH	01	SOLID, PCBs, 8082	Yes
A3D020147	Solid	MEOH ext	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	Yes, but only for analytes listed in 8260B
A3D020147	Solid	Cold Pres	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	No-Freezing is not allowed for OVAP
A3D020147	Solid	13	QL	01	SOLID, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A3D020147	Solid	46	QM	01	SOLID, Lead, 6010B	Yes
A3D020147	Solid	88	SM	01	SOLID, Percent Solids, 160.3 MOD	TS is not regulated under the program
A3D020147	Water	04	MH	01	WATER, Select TAL ICPMS Metals, 6020	No
A3D020147	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	Yes
A3D020147	Water	61	QH	72	WATER, PCBs, 8082	Yes
A3D020147	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A3D020147	Water	51	QL	01	WATER, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A3D020147	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A3D020147	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A3D020147	Water	06	QP	01	WATER, Total Cyanide, 9012A	No
A3D020156	Solid	70	O9	01	SOLID, Select TAL CVAA Metals, 7471A	Yes
A3D020156	Solid	71	QH	01	SOLID, PCBs, 8082	Yes
A3D020156	Solid	MEOH ext	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	Yes, but only for analytes listed in 8260B
A3D020156	Solid	Cold Pres	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	No-Freezing is not allowed for OVAP
A3D020156	Solid	13	QL	01	SOLID, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A3D020156	Solid	46	QM	01	SOLID, Arsenic, 6010B	Yes
A3D020156	Solid	46	QM	01	SOLID, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A3D020156	Solid	46	QO	01	SOLID, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A3D020156	Solid	06	QP	01	SOLID, Total Cyanide, 9012A	No
A3D020156	Solid	88	SM	01	SOLID, Percent Solids, 160.3 MOD	TS is not regulated under the program
A3D020156	Water	04	MH	01	WATER, Select TAL ICPMS Metals, 6020	No

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A3D020156	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	Yes
A3D020156	Water	61	QH	72	WATER, PCBs, 8082	Yes
A3D020156	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A3D020156	Water	51	QL	01	WATER, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A3D020156	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A3D020156	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A3D020156	Water	06	QP	01	WATER, Total Cyanide, 9012A	No
A3D020260	Water	04	MH	01	WATER, Select TAL ICPMS Metals, 6020	No
A3D020260	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	Yes
A3D020260	Water	61	QH	72	WATER, PCBs, 8082	Yes
A3D020260	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A3D020260	Water	51	QL	01	WATER, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A3D020260	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A3D020260	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A3D020260	Water	06	QP	01	WATER, Total Cyanide, 9012A	No
A3D030172	Solid	71	QH	01	SOLID, PCBs, 8082	Yes
A3D030172	Solid	MEOH ext	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	Yes, but only for analytes listed in 8260B
A3D030172	Solid	Cold Pres	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	No-Freezing is not allowed for OVAP
A3D030172	Solid	13	QL	01	SOLID, 4.2 TCL SVOCs, 8270C	Yes
A3D030172	Solid	46	QM	01	SOLID, Arsenic, 6010B	Yes
A3D030172	Solid	88	SM	01	SOLID, Percent Solids, 160.3 MOD	TS is not regulated under the program
A3D030172	Water	04	MH	01	WATER, Select TAL ICPMS Metals, 6020	No
A3D030172	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	Yes
A3D030172	Water	61	QH	72	WATER, PCBs, 8082	Yes
A3D030172	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A3D030172	Water	51	QL	01	WATER, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A3D030172	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A3D030172	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A3D030172	Water	06	QP	01	WATER, Total Cyanide, 9012A	No
A3D030209	Water	04	MH	01	WATER, Select TAL ICPMS Metals, 6020	No
A3D030209	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	Yes
A3D030209	Water	61	QH	72	WATER, PCBs, 8082	Yes
A3D030209	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A3D030209	Water	51	QL	01	WATER, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A3D030209	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A3D030209	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A3D030209	Water	06	QP	01	WATER, Total Cyanide, 9012A	No
A3D040243	Water	04	MH	01	WATER, Select TAL ICPMS Metals, 6020	No
A3D040243	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	Yes
A3D040243	Water	61	QH	72	WATER, PCBs, 8082	Yes
A3D040243	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A3D040243	Water	51	QL	01	WATER, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A3D040243	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert

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A3D040243	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A3D040243	Water	06	QP	01	WATER, Total Cyanide, 9012A	No
A3D080129	Water	04	MH	01	WATER, Select TAL ICPMS Metals, 6020	No
A3D080129	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	Yes
A3D080129	Water	61	QH	72	WATER, PCBs, 8082	Yes
A3D080129	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A3D080129	Water	51	QL	01	WATER, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A3D080129	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A3D080129	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A3D080129	Water	06	QP	01	WATER, Total Cyanide, 9012A	No
A3D080159	Solid	71	QH	01	SOLID, PCBs, 8082	Yes
A3D080159	Solid	88	SM	01	SOLID, Percent Solids, 160.3 MOD	TS is not regulated under the program
A3D090153	Water	04	MH	01	WATER, Select TAL ICPMS Metals, 6020	No
A3D090153	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	Yes
A3D090153	Water	61	QH	72	WATER, PCBs, 8082	Yes
A3D090153	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A3D090153	Water	51	QL	01	WATER, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A3D090153	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A3D090153	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A3D090153	Water	06	QP	01	WATER, Total Cyanide, 9012A	No
A3D110164	Water	04	MH	01	WATER, Select TAL ICPMS Metals, 6020	No
A3D110164	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	Yes
A3D110164	Water	61	QH	72	WATER, PCBs, 8082	Yes
A3D110164	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A3D110164	Water	51	QL	01	WATER, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A3D110164	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A3D110164	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A3D110164	Water	06	QP	01	WATER, Total Cyanide, 9012A	No
A3D120189	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A3D120189	Waste	70	O9	01	WASTE, Select TAL CVAA Metals, 7471A	Wastes are not regulated under the program
A3D120189	Waste	2W	QH	01	WASTE, PCBs, 8082	Wastes are not regulated under the program
A3D120189	Waste	73	QK	01	WASTE, 4.2 TCL VOCs, 8260B	Wastes are not regulated under the program
A3D120189	Waste	14	QL	01	WASTE, 4.2 TCL SVOCs, 8270C	Wastes are not regulated under the program
A3D120189	Waste	46	QM	01	WASTE, Select TAL Trace Metals, 6010B	Wastes are not regulated under the program
A3D120189	Waste	46	QO	01	WASTE, Select TAL ICP Metals, 6010B	Wastes are not regulated under the program
A3D120189	Waste	06	QP	01	WASTE, Total Cyanide, 9012A	Wastes are not regulated under the program
A3D150145	Water	04	MH	01	WATER, Select TAL ICPMS Metals, 6020	No
A3D150145	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	Yes
A3D150145	Water	61	QH	72	WATER, PCBs, 8082	Yes
A3D150145	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A3D150145	Water	51	QL	01	WATER, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A3D150145	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A3D150145	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert

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A3D150145	Water	06	QP	01	WATER, Total Cyanide, 9012A	No
A3D160231	Water	04	MH	01	WATER, Select TAL ICPMS Metals, 6020	No
A3D160231	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	Yes
A3D160231	Water	61	QH	72	WATER, PCBs, 8082	Yes
A3D160231	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A3D160231	Water	51	QL	01	WATER, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A3D160231	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A3D160231	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A3D160231	Water	06	QP	01	WATER, Total Cyanide, 9012A	No
A3D170233	Water	04	MH	01	WATER, Select TAL ICPMS Metals, 6020	No
A3D170233	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	Yes
A3D170233	Water	61	QH	72	WATER, PCBs, 8082	Yes
A3D170233	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A3D170233	Water	51	QL	01	WATER, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A3D170233	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A3D170233	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A3D170233	Water	06	QP	01	WATER, Total Cyanide, 9012A	No
A3D180285	Water	04	MH	01	WATER, Select TAL ICPMS Metals, 6020	No
A3D180285	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	Yes
A3D180285	Water	61	QH	72	WATER, PCBs, 8082	Yes
A3D180285	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A3D180285	Water	51	QL	01	WATER, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A3D180285	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A3D180285	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A3D180285	Water	06	QP	01	WATER, Total Cyanide, 9012A	No
A3D190134	Water	04	MH	01	WATER, Select TAL ICPMS Metals, 6020	No
A3D190134	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	Yes
A3D190134	Water	61	QH	72	WATER, PCBs, 8082	Yes
A3D190134	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A3D190134	Water	51	QL	01	WATER, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A3D190134	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A3D190134	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A3D190134	Water	06	QP	01	WATER, Total Cyanide, 9012A	No
A3D280161	Water	88	C9	01	WATER, Nitrate, 300.0	Yes
A3D280161	Water	88	CT	01	WATER, Sulfide, 376.1	No
A3D280161	Water	88	CX	01	WATER, Chloride, 300.0	Yes
A3D280161	Water	88	CY	01	WATER, Sulfate, 300.0	Yes
A3D280161	Water	87	DA	01	WATER, Dissolved Organic Carbon, 415.1	No
A3D280161	Water	88	GO	01	WATER, Nitrite, 300.0	No
A3D280161	Water	00	MH	01	WATER, DisSel TAL ICPMS Metals, 6020	No
A3D280161	Water	04	MH	01	WATER, Select TAL ICPMS Metals, 6020	No
A3D280161	Water	2X	MM	01	WATER, Dissolved Gases, RSK-175	No
A3D280161	Water	77	O8	01	WATER, DisSel TAL CVAA Metals, 7470A	Yes

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A3D280161	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	Yes
A3D280161	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A3D280161	Water	00	QM	01	WATER, DisSel TAL Trace Metals, 6010B	Yes - for elements listed on cert
A3D280161	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A3D280161	Water	00	QO	01	WATER, DisSel TAL ICP Metals, 6010B	Yes - for elements listed on cert
A3D280161	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A3D280161	Water	88	VC	01	WATER, Total Alkalinity, 310.1	No
A3D290190	Water	88	C9	01	WATER, Nitrate, 300.0	Yes
A3D290190	Water	88	CT	01	WATER, Sulfide, 376.1	No
A3D290190	Water	88	CX	01	WATER, Chloride, 300.0	Yes
A3D290190	Water	88	CY	01	WATER, Sulfate, 300.0	Yes
A3D290190	Water	87	DA	01	WATER, Dissolved Organic Carbon, 415.1	No
A3D290190	Water	88	GO	01	WATER, Nitrite, 300.0	No
A3D290190	Water	00	MH	01	WATER, DisSel TAL ICPMS Metals, 6020	No
A3D290190	Water	04	MH	01	WATER, Select TAL ICPMS Metals, 6020	No
A3D290190	Water	2X	MM	01	WATER, Dissolved Gases, RSK-175	No
A3D290190	Water	77	O8	01	WATER, DisSel TAL CVAA Metals, 7470A	Yes
A3D290190	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	Yes
A3D290190	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A3D290190	Water	00	QM	01	WATER, DisSel TAL Trace Metals, 6010B	Yes - for elements listed on cert
A3D290190	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A3D290190	Water	00	QO	01	WATER, DisSel TAL ICP Metals, 6010B	Yes - for elements listed on cert
A3D290190	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A3D290190	Water	88	VC	01	WATER, Total Alkalinity, 310.1	No
A3D300208	Water	04	MH	01	WATER, Select TAL ICPMS Metals, 6020	No
A3D300208	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	Yes
A3D300208	Water	61	QH	72	WATER, PCBs, 8082	Yes
A3D300208	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A3D300208	Water	51	QL	01	WATER, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A3D300208	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A3D300208	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A3D300208	Water	06	QP	01	WATER, Total Cyanide, 9012A	No
A3E020215	Solid	70	O9	01	SOLID, Select TAL CVAA Metals, 7471A	Yes
A3E020215	Solid	71	QH	01	SOLID, PCBs, 8082	Yes
A3E020215	Solid	MEOH ext	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	Yes, but only for analytes listed in 8260B
A3E020215	Solid	Cold Pres	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	No-Freezing is not allowed for OVAP
A3E020215	Solid	46	QM	01	SOLID, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A3E020215	Solid	46	QO	01	SOLID, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A3E020215	Solid	06	QP	01	SOLID, Total Cyanide, 9012A	No
A3E020215	Solid	88	SM	01	SOLID, Percent Solids, 160.3 MOD	TS is not regulated under the program
A3E020215	Water	88	C9	01	WATER, Nitrate, 300.0	Yes
A3E020215	Water	88	CT	01	WATER, Sulfide, 376.1	No
A3E020215	Water	88	CX	01	WATER, Chloride, 300.0	Yes

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A3E020215	Water	88	CY	01	WATER, Sulfate, 300.0	Yes
A3E020215	Water	87	DA	01	WATER, Dissolved Organic Carbon, 415.1	No
A3E020215	Water	88	GO	01	WATER, Nitrite, 300.0	No
A3E020215	Water	00	MH	01	WATER, DisSel TAL ICPMS Metals, 6020	No
A3E020215	Water	04	MH	01	WATER, Select TAL ICPMS Metals, 6020	No
A3E020215	Water	2X	MM	01	WATER, Dissolved Gases, RSK-175	No
A3E020215	Water	77	O8	01	WATER, DisSel TAL CVAA Metals, 7470A	Yes
A3E020215	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	Yes
A3E020215	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A3E020215	Water	00	QM	01	WATER, DisSel TAL Trace Metals, 6010B	Yes - for elements listed on cert
A3E020215	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A3E020215	Water	00	QO	01	WATER, DisSel TAL ICP Metals, 6010B	Yes - for elements listed on cert
A3E020215	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A3E020215	Water	88	VC	01	WATER, Total Alkalinity, 310.1	No
A3E170174	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A3E280164	Water	04	MH	01	WATER, Select TAL ICPMS Metals, 6020	No
A3E280164	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	Yes
A3E280164	Water	61	QH	72	WATER, PCBs, 8082	Yes
A3E280164	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A3E280164	Water	51	QL	01	WATER, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A3E280164	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A3E280164	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A3E280164	Water	06	QP	01	WATER, Total Cyanide, 9012A	No
A3F060339	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A3F200248	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B

Certification status of analyses performed
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Certification does not cover:

- 8260 note: Preservation technique/method revision affect determination of OVAP compliance. Some samples in an SDG may be covered under certification, while others are not. General details re: certification follow. Sample specific information is provided in a supplemental spreadsheet.
  - 8260 compounds not listed in method: Cyclohexane, Methyl acetate, Methylcyclohexane, MTBE, 1,1,2-Trichloro-1,2,2-trifluoroethane
- 6010B elements not listed on certificate / TAL exception - Magnesium is not a certified parameter
- RSK - Dissolved Gases
- Hardness by calculation
- 415.1 - DOC
- 300.0 - Nitrite
- 376.1 - Sulfide
- 310.1 - Alkalinity

KEY:
Conditionally certified parameter
Parameter not covered by cert

Lot	Matrix	Extraction	Method	Program	Test Description	OVAP Certified July 2, 2003-Sept 24, 2004
A3H130155	Water	88	C9	01	WATER, Nitrate, 300.0	Yes
A3H130155	Water	88	CT	01	WATER, Sulfide, 376.1	No
A3H130155	Water	88	CX	01	WATER, Chloride, 300.0	Yes
A3H130155	Water	88	CY	01	WATER, Sulfate, 300.0	Yes
A3H130155	Water	87	DA	01	WATER, Dissolved Organic Carbon, 415.1	No
A3H130155	Water	88	GO	01	WATER, Nitrite, 300.0	No
A3H130155	Water	2X	MM	01	WATER, Dissolved Gases, RSK-175	No
A3H130155	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A3H130155	Water	04	QO	01	WATER, Select TAL/NA ICP Metals, 6010B	Yes - for elements listed on cert
A3H130155	Water	0X	SK	01	WATER, Hardness by Calculation	No
A3H130155	Water	88	VC	01	WATER, Total Alkalinity, 310.1	No
A3H140220	Water	88	C9	01	WATER, Nitrate, 300.0	Yes
A3H140220	Water	88	CT	01	WATER, Sulfide, 376.1	No
A3H140220	Water	88	CX	01	WATER, Chloride, 300.0	Yes
A3H140220	Water	88	CY	01	WATER, Sulfate, 300.0	Yes
A3H140220	Water	87	DA	01	WATER, Dissolved Organic Carbon, 415.1	No
A3H140220	Water	88	GO	01	WATER, Nitrite, 300.0	No
A3H140220	Water	2X	MM	01	WATER, Dissolved Gases, RSK-175	No
A3H140220	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A3H140220	Water	04	QO	01	WATER, Select TAL/NA ICP Metals, 6010B	Yes - for elements listed on cert
A3H140220	Water	0X	SK	01	WATER, Hardness by Calculation	No
A3H140220	Water	88	VC	01	WATER, Total Alkalinity, 310.1	No
A3H160139	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A3H200308	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B

Certification status of analyses performed
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A3H220372	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A3H220393	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B

Certification status of analyses performed
Sorted by certification period / lot number / test

Certification does not cover:

- 8260 note: Preservation technique/method revision affect determination of OVAP compliance. Some samples in an SDG may be covered under certification, while others are not. General details re: certification follow. Sample specific information is provided in a supplemental spreadsheet.
  - 8260 compounds not listed in method: Cyclohexane, Methyl acetate, Methylcyclohexane, MTBE, 1,1,2-Trichloro-1,2,2-trifluoroethane
  - 8260B soils preserved by freezing
- 8270 compounds not listed in method: Atrazine, Benzaldehyde, 1,1'-Biphenyl, Caprolactam
- 6010B elements not listed on certificate / TAL exception - Magnesium is not a certified parameter
- 6020 elements not listed on certificate
- 7470A/7471A - Mercury
- 9012A - Cyanide
- RSK - Dissolved Gases
- 415.1 - DOC
- Hardness by calculation
- 300.0 - Nitrite
- 376.1 - Sulfide
- 310.1 - Alkalinity

KEY:
Conditionally certified parameter
Parameter not covered by cert

Lot	Matrix	Extraction	Method	Program	Test Description	OVAP Certified Nov 25, 2003 - August 22, 2004
A4A150117	Solid	71	QH	01	SOLID, PCBs, 8082	Yes
A4A150117	Solid	MEOH ext	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	Yes, but only for analytes listed in 8260B
A4A150117	Solid	Cold Pres	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	No, freezing is not allowed for OVAP
A4A150117	Solid	13	QL	01	SOLID, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A4A150117	Solid	46	QM	01	SOLID, Arsenic, 6010B	Yes
A4A150117	Solid	88	SM	01	SOLID, Percent Solids, 160.3 MOD	TS is not regulated under the program
A4A160166	Solid	70	O9	01	SOLID, Select TAL CVAA Metals, 7471A	No
A4A160166	Solid	71	QH	01	SOLID, PCBs, 8082	Yes
A4A160166	Solid	MEOH ext	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	Yes, but only for analytes listed in 8260B
A4A160166	Solid	Cold Pres	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	No, freezing is not allowed for OVAP
A4A160166	Solid	13	QL	01	SOLID, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A4A160166	Solid	46	QM	01	SOLID, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A4A160166	Solid	46	QO	01	SOLID, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A4A160166	Solid	06	QP	01	SOLID, Total Cyanide, 9012A	No
A4A160166	Solid	88	SM	01	SOLID, Percent Solids, 160.3 MOD	TS is not regulated under the program
A4A160166	Water	04	MH	01	WATER, Select TAL ICPMS Metals, 6020	Yes - for elements listed on cert
A4A160166	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	No
A4A160166	Water	61	QH	72	WATER, PCBs, 8082	Yes
A4A160166	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B

Certification status of analyses performed
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A4A160166	Water	51	QL	01	WATER, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A4A160166	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A4A160166	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A4A160166	Water	06	QP	01	WATER, Total Cyanide, 9012A	No
A4A170102	Solid	70	O9	01	SOLID, Select TAL CVAA Metals, 7471A	No
A4A170102	Solid	71	QH	01	SOLID, PCBs, 8082	Yes
A4A170102	Solid	MEOH ext	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	Yes, but only for analytes listed in 8260B
A4A170102	Solid	13	QL	01	SOLID, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A4A170102	Solid	46	QM	01	SOLID, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A4A170102	Solid	46	QO	01	SOLID, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A4A170102	Solid	06	QP	01	SOLID, Total Cyanide, 9012A	No
A4A170102	Solid	88	SM	01	SOLID, Percent Solids, 160.3 MOD	TS is not regulated under the program
A4A200147	Solid	70	O9	01	SOLID, Select TAL CVAA Metals, 7471A	No
A4A200147	Solid	71	QH	01	SOLID, PCBs, 8082	Yes
A4A200147	Solid	MEOH ext	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	Yes, but only for analytes listed in 8260B
A4A200147	Solid	13	QL	01	SOLID, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A4A200147	Solid	46	QM	01	SOLID, Lead, 6010B	Yes
A4A200147	Solid	46	QM	01	SOLID, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A4A200147	Solid	46	QO	01	SOLID, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A4A200147	Solid	06	QP	01	SOLID, Total Cyanide, 9012A	No
A4A200147	Solid	88	SM	01	SOLID, Percent Solids, 160.3 MOD	TS is not regulated under the program
A4A200147	Water	04	MH	01	WATER, Select TAL ICPMS Metals, 6020	Yes - for elements listed on cert
A4A200147	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	No
A4A200147	Water	61	QH	72	WATER, PCBs, 8082	Yes
A4A200147	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A4A200147	Water	51	QL	01	WATER, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A4A200147	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A4A200147	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A4A200147	Water	06	QP	01	WATER, Total Cyanide, 9012A	No
A4A210183	Solid	70	O9	01	SOLID, Select TAL CVAA Metals, 7471A	No
A4A210183	Solid	71	QH	01	SOLID, PCBs, 8082	Yes
A4A210183	Solid	MEOH ext	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	Yes, but only for analytes listed in 8260B
A4A210183	Solid	Cold Pres	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	No, freezing is not allowed for OVAP
A4A210183	Solid	13	QL	01	SOLID, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A4A210183	Solid	46	QM	01	SOLID, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A4A210183	Solid	46	QO	01	SOLID, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A4A210183	Solid	06	QP	01	SOLID, Total Cyanide, 9012A	No
A4A210183	Solid	88	SM	01	SOLID, Percent Solids, 160.3 MOD	TS is not regulated under the program
A4A210183	Water	04	MH	01	WATER, Select TAL ICPMS Metals, 6020	Yes - for elements listed on cert
A4A210183	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	No
A4A210183	Water	61	QH	72	WATER, PCBs, 8082	Yes
A4A210183	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A4A210183	Water	51	QL	01	WATER, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C

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A4A210183	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A4A210183	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A4A210183	Water	06	QP	01	WATER, Total Cyanide, 9012A	No
A4A220183	Solid	70	O9	01	SOLID, Select TAL CVAA Metals, 7471A	No
A4A220183	Solid	63	QH	01	SOLID, PCBs, 8082	Yes
A4A220183	Solid	MEOH ext	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	Yes, but only for analytes listed in 8260B
A4A220183	Solid	Cold Pres	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	No, freezing is not allowed for OVAP
A4A220183	Solid	13	QL	01	SOLID, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A4A220183	Solid	46	QM	01	SOLID, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A4A220183	Solid	46	QO	01	SOLID, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A4A220183	Solid	06	QP	01	SOLID, Total Cyanide, 9012A	No
A4A220183	Solid	88	SM	01	SOLID, Percent Solids, 160.3 MOD	TS is not regulated under the program
A4A220183	Water	04	MH	01	WATER, Select TAL ICPMS Metals, 6020	Yes - for elements listed on cert
A4A220183	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	No
A4A220183	Water	61	QH	72	WATER, PCBs, 8082	Yes
A4A220183	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A4A220183	Water	51	QL	01	WATER, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A4A220183	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A4A220183	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A4A220183	Water	06	QP	01	WATER, Total Cyanide, 9012A	No
A4A240150	Solid	63	QH	01	SOLID, PCBs, 8082	Yes
A4A240150	Solid	MEOH ext	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	Yes, but only for analytes listed in 8260B
A4A240150	Solid	Cold Pres	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	No, freezing is not allowed for OVAP
A4A240150	Solid	11	QL	01	SOLID, Base/Neutrals and Acids (8270C)	Yes, but only for analytes listed in 8270C
A4A240150	Solid	88	SM	01	SOLID, Percent Solids, 160.3 MOD	TS is not regulated under the program
A4A240150	Water	04	MH	01	WATER, Select TAL ICPMS Metals, 6020	Yes - for elements listed on cert
A4A240150	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	No
A4A240150	Water	61	QH	72	WATER, PCBs, 8082	Yes
A4A240150	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A4A240150	Water	51	QL	01	WATER, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A4A240150	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A4A240150	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A4A240150	Water	06	QP	01	WATER, Total Cyanide, 9012A	No
A4A260104	Solid	70	O9	01	SOLID, Select TAL CVAA Metals, 7471A	No
A4A260104	Solid	Cold Pres	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	No, freezing is not allowed for OVAP
A4A260104	Solid	46	QM	01	SOLID, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A4A260104	Solid	46	QO	01	SOLID, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A4A260104	Solid	06	QP	01	SOLID, Total Cyanide, 9012A	No
A4A260104	Solid	88	SM	01	SOLID, Percent Solids, 160.3 MOD	TS is not regulated under the program
A4A270170	Solid	MEOH ext	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	Yes, but only for analytes listed in 8260B
A4A270170	Solid	Cold Pres	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	No, freezing is not allowed for OVAP
A4A270170	Solid	46	QO	01	SOLID, Select Metals (Mn), 6010B	Yes
A4A270170	Solid	88	SM	01	SOLID, Percent Solids, 160.3 MOD	TS is not regulated under the program

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A4A270170	Water	04	MH	01	WATER, Select TAL ICPMS Metals, 6020	Yes - for elements listed on cert
A4A270170	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	No
A4A270170	Water	61	QH	72	WATER, PCBs, 8082	Yes
A4A270170	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A4A270170	Water	51/54	QL	01	WATER, Base/Neutrals and Acids (8270C)	Yes, but only for analytes listed in 8270C
A4A270170	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A4A270170	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A4A270170	Water	06	QP	01	WATER, Total Cyanide, 9012A	No
A4A280173	Solid	70	O9	01	SOLID, Select TAL CVAA Metals, 7471A	No
A4A280173	Solid	71	QH	01	SOLID, PCBs, 8082	Yes
A4A280173	Solid	MEOH ext	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	Yes, but only for analytes listed in 8260B
A4A280173	Solid	Cold Pres	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	No, freezing is not allowed for OVAP
A4A280173	Solid	13	QL	01	SOLID, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A4A280173	Solid	46	QM	01	SOLID, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A4A280173	Solid	46	QO	01	SOLID, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A4A280173	Solid	06	QP	01	SOLID, Total Cyanide, 9012A	No
A4A280173	Solid	88	SM	01	SOLID, Percent Solids, 160.3 MOD	TS is not regulated under the program
A4A280173	Water	04	MH	01	WATER, Select TAL ICPMS Metals, 6020	Yes - for elements listed on cert
A4A280173	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	No
A4A280173	Water	61	QH	72	WATER, PCBs, 8082	Yes
A4A280173	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed In 8260B
A4A280173	Water	51	QL	01	WATER, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A4A280173	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A4A280173	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A4A280173	Water	06	QP	01	WATER, Total Cyanide, 9012A	No
A4A290141	Solid	70	O9	01	SOLID, Select TAL CVAA Metals, 7471A	No
A4A290141	Solid	71	QH	01	SOLID, PCBs, 8082	Yes
A4A290141	Solid	MEOH ext	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	Yes, but only for analytes listed in 8260B
A4A290141	Solid	Cold Pres	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	No, freezing is not allowed for OVAP
A4A290141	Solid	13	QL	01	SOLID, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A4A290141	Solid	46	QM	01	SOLID, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A4A290141	Solid	46	QO	01	SOLID, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A4A290141	Solid	06	QP	01	SOLID, Total Cyanide, 9012A	No
A4A290141	Solid	88	SM	01	SOLID, Percent Solids, 160.3 MOD	TS is not regulated under the program
A4A290141	Water	04	MH	01	WATER, Select TAL ICPMS Metals, 6020	Yes - for elements listed on cert
A4A290141	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	No
A4A290141	Water	60	QH	72	WATER, PCBs, 8082	Yes
A4A290141	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A4A290141	Water	51	QL	01	WATER, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A4A290141	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A4A290141	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A4A290141	Water	06	QP	01	WATER, Total Cyanide, 9012A	No
A4A310107	Solid	70	O9	01	SOLID, Select TAL CVAA Metals, 7471A	No

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A4A310107	Solid	63	QH	01	SOLID, PCBs, 8082	Yes
A4A310107	Solid	Cold Pres	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	No, freezing is not allowed for OVAP
A4A310107	Solid	13	QL	01	SOLID, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A4A310107	Solid	46	QM	01	SOLID, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A4A310107	Solid	46	QO	01	SOLID, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A4A310107	Solid	06	QP	01	SOLID, Total Cyanide, 9012A	No
A4A310107	Solid	88	SM	01	SOLID, Percent Solids, 160.3 MOD	TS is not regulated under the program
A4B020101	Solid	70	O9	01	SOLID, Select TAL CVAA Metals, 7471A	No
A4B020101	Solid	Cold Pres	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	No, freezing is not allowed for OVAP
A4B020101	Solid	46	QM	01	SOLID, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A4B020101	Solid	46	QO	01	SOLID, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A4B020101	Solid	06	QP	01	SOLID, Total Cyanide, 9012A	No
A4B020101	Solid	88	SM	01	SOLID, Percent Solids, 160.3 MOD	TS is not regulated under the program
A4B040147	Solid	70	O9	01	SOLID, Select TAL CVAA Metals, 7471A	No
A4B040147	Solid	MEOH ext	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	Yes, but only for analytes listed in 8260B
A4B040147	Solid	Cold Pres	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	No, freezing is not allowed for OVAP
A4B040147	Solid	46	QM	01	SOLID, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A4B040147	Solid	46	QO	01	SOLID, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A4B040147	Solid	06	QP	01	SOLID, Total Cyanide, 9012A	No
A4B040147	Solid	88	SM	01	SOLID, Percent Solids, 160.3 MOD	TS is not regulated under the program
A4B040147	Water	04	MH	01	WATER, Select TAL ICPMS Metals, 6020	Yes - for elements listed on cert
A4B040147	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	No
A4B040147	Water	61	QH	72	WATER, PCBs, 8082	Yes
A4B040147	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A4B040147	Water	51	QL	01	WATER, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A4B040147	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A4B040147	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A4B040147	Water	06	QP	01	WATER, Total Cyanide, 9012A	No
A4B050112	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A4B050165	Solid	70	O9	01	SOLID, Select TAL CVAA Metals, 7471A	No
A4B050165	Solid	71	QH	01	SOLID, PCBs, 8082	Yes
A4B050165	Solid	MEOH ext	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	Yes, but only for analytes listed in 8260B
A4B050165	Solid	Cold Pres	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	No, freezing is not allowed for OVAP
A4B050165	Solid	13	QL	01	SOLID, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A4B050165	Solid	46	QM	01	SOLID, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A4B050165	Solid	46	QO	01	SOLID, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A4B050165	Solid	06	QP	01	SOLID, Total Cyanide, 9012A	No
A4B050165	Solid	88	SM	01	SOLID, Percent Solids, 160.3 MOD	TS is not regulated under the program
A4B050165	Water	04	MH	01	WATER, Select TAL ICPMS Metals, 6020	Yes - for elements listed on cert
A4B050165	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	No
A4B050165	Water	61	QH	72	WATER, PCBs, 8082	Yes
A4B050165	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A4B050165	Water	51	QL	01	WATER, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C

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A4B050165	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A4B050165	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A4B050165	Water	06	QP	01	WATER, Total Cyanide, 9012A	No
A4B060161	Solid	70	O9	01	SOLID, Select TAL CVAA Metals, 7471A	No
A4B060161	Solid	63	QH	01	SOLID, PCBs, 8082	Yes
A4B060161	Solid	71	QH	01	SOLID, PCBs, 8082	Yes
A4B060161	Solid	MEOH ext	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	Yes, but only for analytes listed in 8260B
A4B060161	Solid	Cold Pres	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	No, freezing is not allowed for OVAP
A4B060161	Solid	13	QL	01	SOLID, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A4B060161	Solid	46	QM	01	SOLID, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A4B060161	Solid	46	QO	01	SOLID, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A4B060161	Solid	06	QP	01	SOLID, Total Cyanide, 9012A	No
A4B060161	Solid	88	SM	01	SOLID, Percent Solids, 160.3 MOD	TS is not regulated under the program
A4B060161	Water	04	MH	01	WATER, Select TAL ICPMS Metals, 6020	Yes - for elements listed on cert
A4B060161	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	No
A4B060161	Water	61	QH	72	WATER, PCBs, 8082	Yes
A4B060161	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A4B060161	Water	51	QL	01	WATER, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A4B060161	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A4B060161	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A4B060161	Water	06	QP	01	WATER, Total Cyanide, 9012A	No
A4B070129	Solid	70	O9	01	SOLID, Select TAL CVAA Metals, 7471A	No
A4B070129	Solid	71	QH	01	SOLID, PCBs, 8082	Yes
A4B070129	Solid	MEOH ext	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	Yes, but only for analytes listed in 8260B
A4B070129	Solid	Cold Pres	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	No, freezing is not allowed for OVAP
A4B070129	Solid	13	QL	01	SOLID, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A4B070129	Solid	46	QM	01	SOLID, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A4B070129	Solid	46	QO	01	SOLID, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A4B070129	Solid	06	QP	01	SOLID, Total Cyanide, 9012A	No
A4B070129	Solid	88	SM	01	SOLID, Percent Solids, 160.3 MOD	TS is not regulated under the program
A4B070129	Water	04	MH	01	WATER, Select TAL ICPMS Metals, 6020	Yes - for elements listed on cert
A4B070129	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	No
A4B070129	Water	61	QH	72	WATER, PCBs, 8082	Yes
A4B070129	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A4B070129	Water	51	QL	01	WATER, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A4B070129	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A4B070129	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A4B070129	Water	06	QP	01	WATER, Total Cyanide, 9012A	No
A4B100195	Solid	70	O9	01	SOLID, Select TAL CVAA Metals, 7471A	No
A4B100195	Solid	71	QH	01	SOLID, PCBs, 8082	Yes
A4B100195	Solid	MEOH ext	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	Yes, but only for analytes listed in 8260B
A4B100195	Solid	Cold Pres	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	No, freezing is not allowed for OVAP
A4B100195	Solid	13	QL	01	SOLID, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C

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A4B100195	Solid	46	QM	01	SOLID, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A4B100195	Solid	46	QO	01	SOLID, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A4B100195	Solid	06	QP	01	SOLID, Total Cyanide, 9012A	No
A4B100195	Solid	88	SM	01	SOLID, Percent Solids, 160.3 MOD	TS is not regulated under the program
A4B100195	Water	04	MH	01	WATER, Select TAL ICPMS Metals, 6020	Yes - for elements listed on cert
A4B100195	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	No
A4B100195	Water	61	QH	72	WATER, PCBs, 8082	Yes
A4B100195	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A4B100195	Water	51	QL	01	WATER, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A4B100195	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A4B100195	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A4B100195	Water	06	QP	01	WATER, Total Cyanide, 9012A	No
A4B170101	Solid	71	QH	01	SOLID, PCBs, 8082	Yes
A4B170101	Solid	88	SM	01	SOLID, Percent Solids, 160.3 MOD	TS is not regulated under the program
A4B190235	Solid	71	QH	01	SOLID, PCBs, 8082	Yes
A4B190235	Solid	88	SM	01	SOLID, Percent Solids, 160.3 MOD	TS is not regulated under the program
A4B190235	Wipe	1U	QH	01	WIPE, PCBs, 8082	Wipes are not addressed by the program
A4C030214	Solid	71	QH	01	SOLID, PCBs, 8082	Yes
A4C030214	Solid	MEOH ext	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	Yes, but only for analytes listed in 8260B
A4C030214	Solid	Cold Pres	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	No, freezing is not allowed for OVAP
A4C030214	Solid	88	SM	01	SOLID, Percent Solids, 160.3 MOD	TS is not regulated under the program
A4C040310	Solid	70	O9	01	SOLID, Select TAL CVAA Metals, 7471A	No
A4C040310	Solid	63	QH	01	SOLID, PCBs, 8082	Yes
A4C040310	Solid	MEOH ext	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	Yes, but only for analytes listed in 8260B
A4C040310	Solid	Cold Pres	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	No, freezing is not allowed for OVAP
A4C040310	Solid	13	QL	01	SOLID, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A4C040310	Solid	46	QM	01	SOLID, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A4C040310	Solid	46	QO	01	SOLID, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A4C040310	Solid	06	QP	01	SOLID, Total Cyanide, 9012A	No
A4C040310	Solid	88	SM	01	SOLID, Percent Solids, 160.3 MOD	TS is not regulated under the program
A4C040310	Water	04	MH	01	WATER, Select TAL ICPMS Metals, 6020	Yes - for elements listed on cert
A4C040310	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	No
A4C040310	Water	60	QH	72	WATER, PCBs, 8082	Yes
A4C040310	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A4C040310	Water	51	QL	01	WATER, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A4C040310	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A4C040310	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A4C040310	Water	06	QP	01	WATER, Total Cyanide, 9012A	No
A4C050119	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A4C050125	Solid	70	O9	01	SOLID, Select TAL CVAA Metals, 7471A	No
A4C050125	Solid	63	QH	01	SOLID, PCBs, 8082	Yes
A4C050125	Solid	MEOH ext	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	Yes, but only for analytes listed in 8260B
A4C050125	Solid	Cold Pres	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	No, freezing is not allowed for OVAP

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A4C050125	Solid	11	QL	01	SOLID, Base/Neutrals and Acids (8270C)	Yes, but only for analytes listed in 8270C
A4C050125	Solid	46	QM	01	SOLID, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A4C050125	Solid	46	QO	01	SOLID, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A4C050125	Solid	06	QP	01	SOLID, Total Cyanide, 9012A	No
A4C050125	Solid	88	SM	01	SOLID, Percent Solids, 160.3 MOD	TS is not regulated under the program
A4C060122	Solid	70	O9	01	SOLID, Select TAL CVAA Metals, 7471A	No
A4C060122	Solid	63	QH	01	SOLID, PCBs, 8082	Yes
A4C060122	Solid	MEOH ext	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	Yes, but only for analytes listed in 8260B
A4C060122	Solid	Cold Pres	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	No, freezing is not allowed for OVAP
A4C060122	Solid	11	QL	01	SOLID, Base/Neutrals and Acids (8270C)	Yes, but only for analytes listed in 8270C
A4C060122	Solid	46	QM	01	SOLID, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A4C060122	Solid	46	QO	01	SOLID, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A4C060122	Solid	06	QP	01	SOLID, Total Cyanide, 9012A	No
A4C060122	Solid	88	SM	01	SOLID, Percent Solids, 160.3 MOD	TS is not regulated under the program
A4C060122	Water	04	MH	01	WATER, Select TAL ICPMS Metals, 6020	Yes - for elements listed on cert
A4C060122	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	No
A4C060122	Water	61	QH	72	WATER, PCBs, 8082	Yes
A4C060122	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A4C060122	Water	51	QL	01	WATER, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A4C060122	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A4C060122	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A4C060122	Water	06	QP	01	WATER, Total Cyanide, 9012A	No
A4C090227	Solid	70	O9	01	SOLID, Select TAL CVAA Metals, 7471A	No
A4C090227	Solid	71	QH	01	SOLID, PCBs, 8082	Yes
A4C090227	Solid	MEOH ext	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	Yes, but only for analytes listed in 8260B
A4C090227	Solid	Cold Pres	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	No, freezing is not allowed for OVAP
A4C090227	Solid	13	QL	01	SOLID, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A4C090227	Solid	46	QM	01	SOLID, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A4C090227	Solid	46	QO	01	SOLID, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A4C090227	Solid	06	QP	01	SOLID, Total Cyanide, 9012A	No
A4C090227	Solid	88	SM	01	SOLID, Percent Solids, 160.3 MOD	TS is not regulated under the program
A4C090227	Water	04	MH	01	WATER, Select TAL ICPMS Metals, 6020	Yes - for elements listed on cert
A4C090227	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	No
A4C090227	Water	60	QH	72	WATER, PCBs, 8082	Yes
A4C090227	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A4C090227	Water	51	QL	01	WATER, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A4C090227	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A4C090227	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A4C090227	Water	06	QP	01	WATER, Total Cyanide, 9012A	No
A4C110156	Solid	70	O9	01	SOLID, Select TAL CVAA Metals, 7471A	No
A4C110156	Solid	71	QH	01	SOLID, PCBs, 8082	Yes
A4C110156	Solid	MEOH ext	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	Yes, but only for analytes listed in 8260B
A4C110156	Solid	Cold Pres	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	No, freezing is not allowed for OVAP

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A4C110156	Solid	13	QL	01	SOLID, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A4C110156	Solid	46	QM	01	SOLID, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A4C110156	Solid	46	QO	01	SOLID, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A4C110156	Solid	06	QP	01	SOLID, Total Cyanide, 9012A	No
A4C110156	Solid	88	SM	01	SOLID, Percent Solids, 160.3 MOD	TS is not regulated under the program
A4C190144	Water	88	C9	01	WATER, Nitrate, 300.0	Yes
A4C190144	Water	88	CT	01	WATER, Sulfide, 376.1	No
A4C190144	Water	88	CX	01	WATER, Chloride, 300.0	Yes
A4C190144	Water	88	CY	01	WATER, Sulfate, 300.0	Yes
A4C190144	Water	87	DA	01	WATER, Dissolved Organic Carbon, 415.1	No
A4C190144	Water	88	GO	01	WATER, Nitrite, 300.0	No
A4C190144	Water	2X	MM	01	WATER, Dissolved Gases, RSK-175	No
A4C190144	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A4C190144	Water	00	QO	01	WATER, Diss. Select Metals -01, 6010B	Yes - for elements listed on cert
A4C190144	Water	04	QO	01	WATER, Select Metals -01, 6010B	Yes - for elements listed on cert
A4C190144	Water	88	VC	01	WATER, Total Alkalinity, 310.1	No
A4C200124	Water	88	C9	01	WATER, Nitrate, 300.0	Yes
A4C200124	Water	88	CT	01	WATER, Sulfide, 376.1	No
A4C200124	Water	88	CX	01	WATER, Chloride, 300.0	Yes
A4C200124	Water	88	CY	01	WATER, Sulfate, 300.0	Yes
A4C200124	Water	87	DA	01	WATER, Dissolved Organic Carbon, 415.1	No
A4C200124	Water	88	GO	01	WATER, Nitrite, 300.0	No
A4C200124	Water	2X	MM	01	WATER, Dissolved Gases, RSK-175	No
A4C200124	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A4C200124	Water	00	QO	01	WATER, Diss. Select Metals -01, 6010B	Yes - for elements listed on cert
A4C200124	Water	04	QO	01	WATER, Select Metals -01, 6010B	Yes - for elements listed on cert
A4C200124	Water	88	VC	01	WATER, Total Alkalinity, 310.1	No
A4C230176	Water	04	MH	01	WATER, Select TAL ICPMS Metals, 6020	Yes - for elements listed on cert
A4C230176	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	No
A4C230176	Water	60	QH	72	WATER, PCBs, 8082	Yes
A4C230176	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A4C230176	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A4C230176	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A4C230176	Water	06	QP	01	WATER, Total Cyanide, 9012A	No
A4C240242	Water	04	MH	01	WATER, Select TAL ICPMS Metals, 6020	Yes - for elements listed on cert
A4C240242	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	No
A4C240242	Water	60	QH	72	WATER, PCBs, 8082	Yes
A4C240242	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A4C240242	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A4C240242	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A4C240242	Water	06	QP	01	WATER, Total Cyanide, 9012A	No
A4C250204	Water	04	MH	01	WATER, Select TAL ICPMS Metals, 6020	Yes - for elements listed on cert
A4C250204	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	No

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A4C250204	Water	60	QH	72	WATER, PCBs, 8082	Yes
A4C250204	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A4C250204	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A4C250204	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A4C250204	Water	06	QP	01	WATER, Total Cyanide, 9012A	No
A4C260188	Water	04	MH	01	WATER, Select TAL ICPMS Metals, 6020	Yes - for elements listed on cert
A4C260188	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	No
A4C260188	Water	61	QH	72	WATER, PCBs, 8082	Yes
A4C260188	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A4C260188	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A4C260188	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A4C260188	Water	06	QP	01	WATER, Total Cyanide, 9012A	No
A4C270135	Water	04	MH	01	WATER, Select TAL ICPMS Metals, 6020	Yes - for elements listed on cert
A4C270135	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	No
A4C270135	Water	61	QH	72	WATER, PCBs, 8082	Yes
A4C270135	Water	61	QH	72	WATER, PCBs, 8082	Yes
A4C270135	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A4C270135	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A4C270135	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A4C270135	Water	06	QP	01	WATER, Total Cyanide, 9012A	No
A4C300274	Water	04	MH	01	WATER, Select TAL ICPMS Metals, 6020	Yes - for elements listed on cert
A4C300274	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	No
A4C300274	Water	61	QH	72	WATER, PCBs, 8082	Yes
A4C300274	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A4C300274	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A4C300274	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A4C300274	Water	06	QP	01	WATER, Total Cyanide, 9012A	No
A4C310284	Water	04	MH	01	WATER, Select TAL ICPMS Metals, 6020	Yes - for elements listed on cert
A4C310284	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	No
A4C310284	Water	60	QH	72	WATER, PCBs, 8082	Yes
A4C310284	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A4C310284	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A4C310284	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A4C310284	Water	06	QP	01	WATER, Total Cyanide, 9012A	No
A4D010311	Water	04	MH	01	WATER, Select TAL ICPMS Metals, 6020	Yes - for elements listed on cert
A4D010311	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	No
A4D010311	Water	61	QH	72	WATER, PCBs, 8082	Yes
A4D010311	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A4D010311	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A4D010311	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A4D010311	Water	06	QP	01	WATER, Total Cyanide, 9012A	No

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A4F290160	Water	88	C9	01	WATER, Nitrate, 300.0	Yes
A4F290160	Water	88	CT	01	WATER, Sulfide, 376.1	No
A4F290160	Water	88	CX	01	WATER, Chloride, 300.0	Yes
A4F290160	Water	88	CY	01	WATER, Sulfate, 300.0	Yes
A4F290160	Water	87	DA	01	WATER, Dissolved Organic Carbon, 415.1	No
A4F290160	Water	88	GO	01	WATER, Nitrite, 300.0	No
A4F290160	Water	2X	MM	01	WATER, Dissolved Gases, RSK-175	No
A4F290160	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A4F290160	Water	04	QO	01	WATER, Select Metals -01, 6010B	Yes - for elements listed on cert
A4F290160	Water	0X	SK	01	WATER, Hardness by Calculation	No
A4F290160	Water	88	VC	01	WATER, Total Alkalinity, 310.1	No
A4F300192	Water	88	C9	01	WATER, Nitrate, 300.0	Yes
A4F300192	Water	88	CT	01	WATER, Sulfide, 376.1	No
A4F300192	Water	88	CX	01	WATER, Chloride, 300.0	Yes
A4F300192	Water	88	CY	01	WATER, Sulfate, 300.0	Yes
A4F300192	Water	87	DA	01	WATER, Dissolved Organic Carbon, 415.1	No
A4F300192	Water	88	GO	01	WATER, Nitrite, 300.0	No
A4F300192	Water	04	MH	01	WATER, Select TAL ICPMS Metals, 6020	Yes - for elements listed on cert
A4F300192	Water	2X	MM	01	WATER, Dissolved Gases, RSK-175	No
A4F300192	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	No
A4F300192	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A4F300192	Water	51	QL	01	WATER, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A4F300192	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A4F300192	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A4F300192	Water	0X	SK	01	WATER, Hardness by Calculation	No
A4F300192	Water	88	VC	01	WATER, Total Alkalinity, 310.1	No

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Certification does not cover:

- 8260 note: Preservation technique/method revision affect determination of OVAP compliance. Some samples in an SDG may be covered under certification, while others are not. General details re: certification follow. Sample specific information is provided in a supplemental spreadsheet.
  - 8260 compounds not listed in method: Cyclohexane, Methyl acetate, Methylcyclohexane, MTBE, 1,1,2-Trichloro-1,2,2-trifluoroethane
  - 8260B soils preserved by freezing
  - Bulk soils analyzed by VOC method 8260B
- 8270 compounds not listed in method: Atrazine, Benzaldehyde, 1,1'-Biphenyl, Caprolactam
- 6010B elements not listed on certificate / TAL exception - Magnesium is not a certified parameter
- 6020 elements not listed on certificate
- 9012A - Cyanide
- RSK - Dissolved Gases
- 415.1 - DOC
- 300.0 - Nitrite
- 376.1 - Sulfide
- 310.1 - Alkalinity

KEY:
Conditionally certified parameter
Parameter not covered by cert

Lot	Matrix	Extraction	Method	Program	Test Description	OVAP Certified August 23, 2004 - Present
A4H250218	Water	19	O8	01	WATER, 7470A, Total Mercury, RCRA	Yes
A4H250218	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A4H250218	Water	04	QM	01	WATER, Total RCRA Metals, 6010B, Trace	Yes - for elements listed on cert
A4H250218	Water	04	QO	01	WATER, Total RCRA Metals, 6010B	Yes - for elements listed on cert
A4J140355	Solid	70	O9	01	SOLID, Select TAL CVAA Metals, 7471A	Yes
A4J140355	Solid	71	QH	01	SOLID, PCBs, 8082	Yes
A4J140355	Solid	P&T	QK	01	**SOLID, 4.2 TCL VOC, 8260B (Bulk)**	No-Bulk analyses must be analyzed by 8260A
A4J140355	Solid	73	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	Yes, but only for analytes listed in 8260B
A4J140355	Solid	11	QL	01	SOLID, Base/Neutrals and Acids (8270C)	Yes, but only for analytes listed in 8270C
A4J140355	Solid	46	QM	01	SOLID, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A4J140355	Solid	46	QO	01	SOLID, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A4J140355	Solid	06	QP	01	**SOLID, Total Cyanide, 9012A**	No
A4J140355	Solid	88	SM	01	SOLID, Percent Solids, 160.3 MOD	TS is not regulated under the program
A4J140355	Water	04	MH	01	WATER, Select TAL ICPMS Metals, 6020	Yes - for elements listed on cert
A4J140355	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	Yes
A4J140355	Water	60	QH	72	WATER, PCBs, 8082	Yes
A4J140355	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A4J140355	Water	51	QL	01	WATER, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A4J140355	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A4J140355	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert

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A4J140355	Water	06	QP	01	WATER, Total Cyanide, 9012A	No
A4J150364	Water	88	C9	01	WATER, Nitrate, 300.0	Yes
A4J150364	Water	88	CT	01	WATER, Sulfide, 376.1	No
A4J150364	Water	88	CX	01	WATER, Chloride, 300.0	Yes
A4J150364	Water	88	CY	01	WATER, Sulfate, 300.0	Yes
A4J150364	Water	87	DA	01	WATER, Dissolved Organic Carbon, 415.1	No
A4J150364	Water	88	GO	01	WATER, Nitrite, 300.0	No
A4J150364	Water	2X	MM	01	WATER, Dissolved Gases, RSK-175	No
A4J150364	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A4J150364	Water	04	QO	01	WATER, Total Ca,Fe,**Mg**,Mn,K,Na, 6010B	No for Mg, Yes for all others listed
A4J150364	Water	88	VC	01	WATER, Total Alkalinity, 310.1	No
A4J180139	Solid	70	O9	01	SOLID, Select TAL CVAA Metals, 7471A	Yes
A4J180139	Solid	71	QH	01	SOLID, PCBs, 8082	Yes
A4J180139	Solid	P&T	QK	01	SOLID, 4.2 TCL VOC, 8260B (Bulk)	No-Bulk analyses must be analyzed by 8260A
A4J180139	Solid	13	QL	01	SOLID, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A4J180139	Solid	46	QM	01	SOLID, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A4J180139	Solid	46	QO	01	SOLID, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A4J180139	Solid	06	QP	01	SOLID, Total Cyanide, 9012A	No
A4J180139	Solid	88	SM	01	SOLID, Percent Solids, 160.3 MOD	TS is not regulated under the program
A4J180139	Water	04	MH	01	WATER, Select TAL ICPMS Metals, 6020	Yes - for elements listed on cert
A4J180139	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	Yes
A4J180139	Water	60	QH	72	WATER, PCBs, 8082	Yes
A4J180139	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A4J180139	Water	51	QL	01	WATER, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A4J180139	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A4J180139	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A4J180139	Water	06	QP	01	WATER, Total Cyanide, 9012A	No
A4J190173	Water	88	C9	01	WATER, Nitrate, 300.0	Yes
A4J190173	Water	88	CT	01	WATER, Sulfide, 376.1	No
A4J190173	Water	88	CX	01	WATER, Chloride, 300.0	Yes
A4J190173	Water	88	CY	01	WATER, Sulfate, 300.0	Yes
A4J190173	Water	87	DA	01	WATER, Dissolved Organic Carbon, 415.1	No
A4J190173	Water	88	GO	01	WATER, Nitrite, 300.0	No
A4J190173	Water	2X	MM	01	WATER, Dissolved Gases, RSK-175	No
A4J190173	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A4J190173	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A4J190173	Water	04	QO	01	WATER, Total Ca,Fe,**Mg**,Mn,K,Na, 6010B	No for Mg, Yes for all others listed
A4J190173	Water	88	VC	01	WATER, Total Alkalinity, 310.1	No
A4J200166	Water	88	C9	01	WATER, Nitrate, 300.0	Yes
A4J200166	Water	88	CT	01	WATER, Sulfide, 376.1	No
A4J200166	Water	88	CX	01	WATER, Chloride, 300.0	Yes
A4J200166	Water	88	CY	01	WATER, Sulfate, 300.0	Yes
A4J200166	Water	87	DA	01	WATER, Dissolved Organic Carbon, 415.1	No

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A4J200166	Water	88	GO	01	WATER, Nitrite, 300.0	No
A4J200166	Water	2X	MM	01	WATER, Dissolved Gases, RSK-175	No
A4J200166	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A4J200166	Water	51	QL	01	WATER, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A4J200166	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A4J200166	Water	04	QO	01	WATER, Total Ca,Fe,**Mg**,Mn,K,Na, 6010B	No for Mg, Yes for all others listed
A4J200166	Water	88	VC	01	WATER, Total Alkalinity, 310.1	No
A4K050105	Solid	70	O9	01	SOLID, Select TAL CVAA Metals, 7471A	Yes
A4K050105	Solid	71	QH	01	SOLID, PCBs, 8082	Yes
A4K050105	Solid	4D	QK	01	SOLID, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A4K050105	Solid	MEOH ext	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	Yes, but only for analytes listed in 8260B
A4K050105	Solid	46	QM	01	SOLID, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A4K050105	Solid	46	QO	01	SOLID, Select Metals (Mn), 6010B	Yes
A4K050105	Solid	46	QO	01	SOLID, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A4K050105	Solid	06	QP	01	SOLID, Total Cyanide, 9012A	No
A4K050105	Solid	88	SM	01	SOLID, Percent Solids, 160.3 MOD	TS is not regulated under the program
A4K050105	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	Yes
A4K050105	Water	61	QH	72	WATER, PCBs, 8082	Yes
A4K050105	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A4K050105	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A4K050105	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A4K050105	Water	06	QP	01	WATER, Total Cyanide, 9012A	No
A4K050119	Solid	70	O9	01	SOLID, Select TAL CVAA Metals, 7471A	Yes
A4K050119	Solid	4D	QK	01	SOLID, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A4K050119	Solid	11	QL	01	SOLID, Base/Neutrals and Acids (8270C)	Yes, but only for analytes listed in 8270C
A4K050119	Solid	13	QL	01	SOLID, Base/Neutrals and Acids (8270C)	Yes, but only for analytes listed in 8270C
A4K050119	Solid	46	QM	01	SOLID, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A4K050119	Solid	46	QO	01	SOLID, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A4K050119	Solid	06	QP	01	SOLID, Total Cyanide, 9012A	No
A4K050119	Solid	88	SM	01	SOLID, Percent Solids, 160.3 MOD	TS is not regulated under the program
A4K050299	Water	61	QH	72	WATER, PCBs, 8082	Yes
A4K050299	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A4K050299	Water	04	QO	01	WATER, Total Mn, 6010B	Yes
A4K060192	Water	61	QH	72	WATER, PCBs, 8082	Yes
A4K060192	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A4K090274	Water	60	QH	72	WATER, PCBs, 8082	Yes
A4K090274	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A4K090274	Water	04	QO	01	WATER, Total Mn, 6010B	Yes
A4K110346	Water	61	QH	72	WATER, PCBs, 8082	Yes
A4K110346	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A4K110346	Water	04	QO	01	WATER, Total Mn, 6010B	Yes
A4K120313	Solid	70	O9	01	SOLID, Select TAL CVAA Metals, 7471A	Yes
A4K120313	Solid	71	QH	01	SOLID, PCBs, 8082	Yes

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A4K120313	Solid	4D	QK	01	SOLID, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A4K120313	Solid	MEOH ext	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	Yes, but only for analytes listed in 8260B
A4K120313	Solid	11	QL	01	SOLID, Base/Neutrals and Acids (8270C)	Yes, but only for analytes listed in 8270C
A4K120313	Solid	13	QL	01	SOLID, Base/Neutrals and Acids (8270C)	Yes, but only for analytes listed in 8270C
A4K120313	Solid	13	QL	01	SOLID, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A4K120313	Solid	46	QM	01	SOLID, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A4K120313	Solid	46	QO	01	SOLID, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A4K120313	Solid	06	QP	01	SOLID, Total Cyanide, 9012A	No
A4K120313	Solid	88	SM	01	SOLID, Percent Solids, 160.3 MOD	TS is not regulated under the program
A4K120313	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	Yes
A4K120313	Water	60	QH	72	WATER, PCBs, 8082	Yes
A4K120313	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A4K120313	Water	51	QL	01	WATER, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A4K120313	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A4K120313	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A4K120313	Water	06	QP	01	WATER, Total Cyanide, 9012A	No
A4K120385	Water	60	QH	72	WATER, PCBs, 8082	Yes
A4K120385	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A4K120385	Water	04	QO	01	WATER, Total Mn, 6010B	Yes
A4K130240	Water	60	QH	72	WATER, PCBs, 8082	Yes
A4K130240	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A4K130240	Water	04	QO	01	WATER, Total Mn, 6010B	Yes
A4K160255	Water	60	QH	72	WATER, PCBs, 8082	Yes
A4K160255	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A4K160255	Water	04	QO	01	WATER, Total Mn, 6010B	Yes
A4K170412	Water	60	QH	72	WATER, PCBs, 8082	Yes
A4K170412	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A4K170412	Water	04	QO	01	WATER, Total Mn, 6010B	Yes
A4K180322	Water	60	QH	72	WATER, PCBs, 8082	Yes
A4K180322	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A4K180322	Water	04	QO	01	WATER, Total Mn, 6010B	Yes
A4K190318	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A4K200226	Water	61	QH	72	WATER, PCBs, 8082	Yes
A4K200226	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A4K200226	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A4K230193	Water	61	QH	72	WATER, PCBs, 8082	Yes
A4K230193	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed In 8260B
A4K230193	Water	04	QO	01	WATER, Total Mn, 6010B	Yes
A4K240355	Water	61	QH	72	WATER, PCBs, 8082	Yes
A4K240355	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A4K240355	Water	04	QO	01	WATER, Total Mn, 6010B	Yes
A4K300205	Solid	70	O9	01	SOLID, Select TAL CVAA Metals, 7471A	Yes
A4K300205	Solid	71	QH	01	SOLID, PCBs, 8082	Yes

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A4K300205	Solid	4D	QK	01	SOLID, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A4K300205	Solid	13	QL	01	SOLID, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A4K300205	Solid	46	QM	01	SOLID, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A4K300205	Solid	46	QO	01	SOLID, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A4K300205	Solid	06	QP	01	SOLID, Total Cyanide, 9012A	No
A4K300205	Solid	88	SM	01	SOLID, Percent Solids, 160.3 MOD	TS is not regulated under the program
A4L010184	Water	61	QH	72	WATER, PCBs, 8082	Yes
A4L010184	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A4L020366	Solid	70	O9	01	SOLID, Select TAL CVAA Metals, 7471A	Yes
A4L020366	Solid	63	QH	01	SOLID, PCBs, 8082	Yes
A4L020366	Solid	13	QJ	01	SOLID, 4.2 TCL Pesticides, 8081A	Yes
A4L020366	Solid	4D	QK	01	SOLID, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A4L020366	Solid	11	QL	01	SOLID, Base/Neutrals and Acids (8270C)	Yes, but only for analytes listed in 8270C
A4L020366	Solid	46	QM	01	SOLID, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A4L020366	Solid	46	QO	01	SOLID, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A4L020366	Solid	06	QP	01	SOLID, Total Cyanide, 9012A	No
A4L020366	Solid	0V	QS	01	SOLID, 8151A, Herbicides	Yes
A4L020366	Solid	88	SM	01	SOLID, Percent Solids, 160.3 MOD	TS is not regulated under the program
A4L090388	Water	19	O8	01	WATER, Select TAL CVAA Metals, 7470A	Yes
A4L090388	Water	60	QH	72	WATER, PCBs, 8082	Yes
A4L090388	Water	P&T-LL	QK	01	WATER, 4.2 TCL VOCs, 8260B	Yes, but only for analytes listed in 8260B
A4L090388	Water	51	QL	01	WATER, 4.2 TCL SVOCs, 8270C	Yes, but only for analytes listed in 8270C
A4L090388	Water	04	QM	01	WATER, Select TAL Trace Metals, 6010B	Yes - for elements listed on cert
A4L090388	Water	04	QO	01	WATER, Select TAL ICP Metals, 6010B	Yes - for elements listed on cert
A4L090388	Water	06	QP	01	WATER, Total Cyanide, 9012A	No

SEVERN TRENT STL

Detail Breakdown of

Certified vs Non-Certified Volatile Analyses

OVAP Evaluation - Detail Breakdown of Certified vs Non-Certified Volatile Analyses

Quote #	STL Lot #	Smp #	Client Sample ID	Method	Preservation Technique	Test Description	Certification Status
46926	**A2D030238**	**1**	**S-040202-JC-001**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A2D030238**	**2**	**S-040202-JC-002**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	A2D040187	3	S-040302-JC-005	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A2D040187	4	S-040302-JC-006	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A2D040187	5	S-040302-JC-007	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A2D040187	6	S-040302-JC-008	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A2D040187	8	S-040302-JC-010	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A2D040187	11	S-040302-JC-013	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A2D040187	13	S-040302-JC-015	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	**A2D040187**	**1**	**S-040302-JC-003**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A2D040187**	**2**	**S-040302-JC-004**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A2D040187**	**7**	**S-040302-JC-009**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A2D040187**	**9**	**S-040302-JC-011**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A2D040187**	**10**	**S-040302-JC-012**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A2D040187**	**12**	**S-040302-JC-014**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A2D040187**	**14**	**S-040302-JC-016**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A2D040187**	**15**	**S-040302-JC-017**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A2D040187**	**16**	**S-040302-JC-018**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A2D040187**	**17**	**S-040302-JC-019**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	A2D050187	1	W-040402-SLE-001	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2D050187	3	W-040402-SLE-002	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2D050187	5	W-40402-JC-020	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2D050187	6	TRIP BLANK 1	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2D050187	2	SE-040402-SLE-001	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	**A2D050187**	**4**	**SE-40402-SLE-002**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	A2D050194	2	S-040402-JC-022	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A2D050194	3	S-040402-JC-023	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A2D050194	4	S-040402-JC-024	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A2D050194	6	S-040402-JC-026	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A2D050194	7	S-040402-JC-027	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A2D050194	9	S-040402-JC-029	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A2D050194	10	S-040402-JC-030	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A2D050194	11	S-040402-JC-031	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A2D050194	12	S-040402-JC-032	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A2D050194	13	S-040402-JC-033	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A2D050194	14	S-040402-JC-034	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	**A2D050194**	**1**	**S-040402-JC-021**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A2D050194**	**5**	**S-040402-JC-025**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A2D050194**	**8**	**S-040402-JC-028**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A2D050194**	**15**	**S-040402-JC-035**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	A2D060143	1	W-040502-JC-036	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2D060143	12	W-040502-SLE-006	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2D060143	17	TRIP BLANK-003	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2D060143	5	S-040502-JC-040	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A2D060143	6	S-040502-JC-041	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A2D060143	11	S-040502-JC-046	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A2D060143	13	SE-040502-SLE-003	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A2D060143	16	SE-040502-SLE-006	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions

OVAP Evaluation - Detail Breakdown of Certified vs Non-Certified Volatile Analyses

Quote #	STL Lot #	Smp #	Client Sample ID	Method	Preservation Technique	Test Description	Certification Status
46926	A2D060143	10	S-040502-JC-045	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A2D060143	15	SE-040502-SLE-005	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	**A2D060143**	**2**	**S-040502-JC-037**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A2D060143**	**3**	**S-040502-JC-038**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A2D060143**	**4**	**S-040502-JC-039**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A2D060143**	**7**	**S-040502-JC-042**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A2D060143**	**8**	**S-040502-JC-043**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A2D060143**	**9**	**S-040502-JC-044**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A2D060143**	**14**	**SE-040502-SLE-004**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A2D060143**	**10**	**S-040502-JC-045**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A2D060143**	**15**	**SE-040502-SLE-005**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	A2D060151	1	W-040502-SLE-003	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2D060151	2	W-040502-SLE-004	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2D060151	3	W-040502-SLE-005	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2D060151	4	TRIP BLANK-2	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2D090136	1	W-040802-JC-046	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2D090136	5	S-040802-JC-050	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A2D090136	8	S-040802-JC-053	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	**A2D090136**	**2**	**S-040802-JC-047**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A2D090136**	**3**	**S-040802-JC-048**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A2D090136**	**4**	**S-040802-JC-049**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A2D090136**	**6**	**S-040802-JC-051**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A2D090136**	**7**	**S-040802-JC-052**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A2D090136**	**9**	**S-040802-JC-054**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	A2D090161	1	W-040802-SLE-007	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2D090161	2	W-040802-SLE-008	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2D090161	3	W-040802-SLE-009	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2D090161	6	TRIP BLANK-004	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2D090161	7	W-040802-SLE-010	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2D090161	8	TRIP BLANK-005	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2D090161	4	SE-040802-SLE-007	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	**A2D090161**	**5**	**SE-040802-SLE-008**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	A2D100159	11	W-040902-SLE-013	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2D100159	12	W-040902-SLE-014	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2D100159	13	TRIP BLANK 7	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2D100159	1	S-040902-JC-055	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A2D100159	3	S-040902-JC-057	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A2D100159	4	S-040902-JC-058	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A2D100159	5	S-040902-JC-059	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A2D100159	7	S-040902-JC-061	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A2D100159	8	S-040902-JC-062	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A2D100159	10	S-040902-JC-064	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A2D100159	9	S-040902-JC-063	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A2D100159	6	S-040902-JC-060	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	**A2D100159**	**2**	**S-040902-JC-056**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	A2D100196	1	W-040902-SLE-011	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2D100196	2	W-040902-SLE-012	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2D100196	3	TRIP BLANK 6	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions

OVAP Evaluation - Detail Breakdown of Certified vs Non-Certified Volatile Analyses

Quote #	STL Lot #	Smp #	Client Sample ID	Method	Preservation Technique	Test Description	Certification Status
46926	A2D110132	1	S-041002-JC-065	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A2D110132	2	S-041002-JC-066	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A2D110132	4	S-041002-JC-068	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A2D110132	7	S-041002-JC-071	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	**A2D110132**	**3**	**S-041002-JC-067**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A2D110132**	**5**	**S-041002-JC-069**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A2D110132**	**6**	**S-041002-JC-070**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A2D110132**	**8**	**S-041002-JC-072**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	A2D120140	15	W-041102-JC-073	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2D120140	5	S-041102-JC-078	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A2D120140	7	S-041102-JC-080	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A2D120140	8	S-041102-JC-081	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	**A2D120140**	**2**	**S-041102-JC-075**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A2D120140**	**3**	**S-041102-JC-076**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A2D120140**	**4**	**S-041102-JC-077**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A2D120140**	**6**	**S-041102-JC-079**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A2D120140**	**9**	**S-041102-JC-082**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A2D120140**	**10**	**S-041102-JC-083**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A2D120140**	**1**	**S-041102-JC-074**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	A2D120166	1	W-041102-SLE-015	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2D120166	2	W-041102-SLE-016	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2D120166	3	W-041102-SLE-017	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2D120166	10	TRIP BLANK-008	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2D120166	11	W-041102-SLE-018	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2D120166	12	W-041102-SLE-019	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2D120166	13	TRIP BLANK-009	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2D120166	14	W-041102-SLE-020	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2D120166	15	W-041102-SLE-021	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2D120166	16	TRIP BLANK-010	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	**A2D120166**	**4**	**SE-041102-SLE-009**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A2D120166**	**6**	**SE-041102-SLE-011**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A2D120166**	**5**	**SE-041102-SLE-010**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A2D120166**	**8**	**SE-041102-SLE-013**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A2D120166**	**9**	**SE-041102-SLE-014**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	A2D120166	7	O-041102-SLE-012	8260B	MEOH	WASTE, 4.2 TCL VOCs, 8260B	Not covered by OVAP
46926	A2D130115	1	S-041202-JC-088	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A2D130115	2	S-041202-JC-089	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A2D130115	3	S-041202-JC-090	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	**A2D130115**	**4**	**S-041202-JC-091**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A2D130115**	**5**	**S-041202-JC-092**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	A2D130116	1	W-041202-SLE-022	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2D130116	2	W-041202-SLE-023	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2D130116	3	W-041202-SLE-024	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2D130116	4	W-041202-SLE-025	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2D130116	5	TRIP BLANK-011	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2D160118	1	W-041502-JC-093	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2D160118	4	S-041502-JC-096	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A2D160118	5	S-041502-JC-097	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions

OVAP Evaluation - Detail Breakdown of Certified vs Non-Certified Volatile Analyses

Quote #	STL Lot #	Smp #	Client Sample ID	Method	Preservation Technique	Test Description	Certification Status
46926	A2D160118	9	S-041502-JC-101	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A2D160118	11	S-041502-JC-103	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A2D160118	12	S-041502-JC-104	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A2D160118	13	S-041502-JC-105	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A2D160118	14	S-041502-JC-106	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A2D160118	15	S-041502-JC-107	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A2D160118	16	S-041502-JC-108	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A2D160118	17	S-041502-JC-109	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A2D160118	18	S-041502-JC-110	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A2D160118	21	S-041502-JC-113	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A2D160118	22	S-041502-JC-114	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A2D160118	23	S-041502-JC-115	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	**A2D160118**	**2**	**S-041502-JC-094**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A2D160118**	**3**	**S-041502-JC-095**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A2D160118**	**6**	**S-041502-JC-098**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A2D160118**	**7**	**S-041502-JC-099**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A2D160118**	**8**	**S-041502-JC-100**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A2D160118**	**10**	**S-041502-JC-102**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A2D160118**	**19**	**S-041502-JC-111**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A2D160118**	**20**	**S-041502-JC-112**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A2D160118**	**24**	**S-041502-JC-116**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A2D160118**	**25**	**S-041502-JC-117**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	A2D170209	1	W-041602-JC-118	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2D170209	5	S-041602-JC-122	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A2D170209	6	S-041602-JC-123	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A2D170209	7	S-041602-JC-124	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A2D170209	9	S-041602-JC-126	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A2D170209	15	S-041602-JC-132	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	**A2D170209**	**2**	**S-041602-JC-119**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A2D170209**	**3**	**S-041602-JC-120**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A2D170209**	**4**	**S-041602-JC-121**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A2D170209**	**8**	**S-041602-JC-125**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A2D170209**	**10**	**S-041602-JC-127**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A2D170209**	**11**	**S-041602-JC-128**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A2D170209**	**13**	**S-041602-JC-130**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A2D170209**	**14**	**S-041602-JC-131**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A2D170209**	**16**	**S-041602-JC-133**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A2D170209**	**17**	**S-041602-JC-134**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A2D170209**	**18**	**S-041602-JC-135**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	A2D180113	1	W-041702-JC-136	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2D180113	2	S-041702-JC-137	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A2D180113	3	S-041702-JC-138	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A2D180113	4	S-041702-JC-139	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A2D180113	5	S-041702-JC-140	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A2D180113	6	S-041702-JC-141	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A2D180113	8	S-041702-JC-143	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A2D180113	11	S-041702-JC-146	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A2D180113	12	S-041702-JC-147	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions

OVAP Evaluation - Detail Breakdown of Certified vs Non-Certified Volatile Analyses

Quote #	STL Lot #	Smp #	Client Sample ID	Method	Preservation Technique	Test Description	Certification Status
46926	A2D180113	13	S-041702-JC-148	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A2D180113	14	S-041702-JC-149	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A2D180113	15	S-041702-JC-150	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A2D180113	7	S-041702-JC-142	8260B	Cold Pres	SOLID, Volatile Organics, GC/MS (8260B)	Not certified - OVAP does not allow Frozen preservation
46926	A2D180113	9	S-041702-JC-144	8260B	Cold Pres	SOLID, Volatile Organics, GC/MS (8260B)	Not certified - OVAP does not allow Frozen preservation
46926	A2D180113	10	S-041702-JC-145	8260B	Cold Pres	SOLID, Volatile Organics, GC/MS (8260B)	Not certified - OVAP does not allow Frozen preservation
46926	A2D180113	16	S-041702-JC-151	8260B	Cold Pres	SOLID, Volatile Organics, GC/MS (8260B)	Not certified - OVAP does not allow Frozen preservation

OVAP Evaluation - Detail Breakdown of Certified vs Non-Certified Volatile Analyses

Quote #	STL Lot #	Smp #	Client Sample ID	Method	Preservation Technique	Test Description	Certification Status
46926	A2F250227	1	DAY11D-062402-N	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2F250227	2	0001-062402-TB	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2F250227	3	0001-062402-EB	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions

OVAP Evaluation - Detail Breakdown of Certified vs Non-Certified Volatile Analyses

Quote #	STL Lot #	Smp #	Client Sample ID	Method	Preservation Technique	Test Description	Certification Status
46926	A2F260148	1	GTMV-062502-11S	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2F260148	2	BTMV-062502-TB	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2F260148	3	BTMV-062502-EB	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2F270157	4	BGJL-062602-TB	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2F270157	8	GTMV-062602-M1A	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2F270157	9	GCAH-062602-M1B	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2F270157	10	BTMV-062602-TB(J279)	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2F270157	11	BTMV-062602-TB(J617)	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2F270157	12	BTMV-062602-TB(K456)	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2F270157	13	GCAH-062602-H11	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2F270157	14	BTMV-062602-EB	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2F270157	15	GTMV-062602-H3	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2F270157	3	S-12638-062502-GJL-154	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	**A2F270157**	**1**	**S-12638-062502-GJL-152**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A2F270157**	**2**	**S-12638-062502-GJL-153**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	A2F300103	1	G CAH-062702-H9	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2F300103	3	G TMV-062702-D12	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2F300103	4	G TMV-062702-MS	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2F300103	5	G TMV-062702-MD	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2F300103	6	BCAH-062702-TB-J421	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2F300103	7	BCAH-062702-TB-J941	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2F300103	8	B TMV-062702-EB	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2G020155	1	GCAH-070102-D1	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2G020155	2	BCAH-070102-TB	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2G020155	3	GCAH-070102-D3	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2G020155	4	GDJB-070102-D13	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2G020155	5	BCAH-070102-EB	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2G030218	1	G CAH-070202-B26	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2G030218	2	G CAH-070202-H8	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2G030218	3	G CAH-070202-D4	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2G030218	4	B CAH-070202-EB	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2G030218	5	B CAH-070202-TB	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2G090194	1	GCAH-070802-H7	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2G090194	2	GRLV-070802-H6	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2G090194	3	GRLV-070802-D14	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2G090194	4	GCAH-070802-H15	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2G090194	6	GRLV-070802-B22	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2G090194	7	GRLV-070802-B22D	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2G090194	8	BCAH-070802-EB	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2G090194	9	BCAH-070802-TB	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2G100127	1	GTLF-070902-H16	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2G100127	3	GCAH-070902-D20	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2G100127	4	GTLF-070902-H2	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2G100127	6	BCAH-070902-EB	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2G100127	7	BCAH-070902-TB	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2G110141	1	BRLV-071002-TB	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2G110141	2	GTLF-071002-H4	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2G110141	4	GRLV-071002-H19	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions

OVAP Evaluation - Detail Breakdown of Certified vs Non-Certified Volatile Analyses

Quote #	STL Lot #	Smp #	Client Sample ID	Method	Preservation Technique	Test Description	Certification Status
46926	A2G110141	6	GTLF-071002-D16	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2G110141	7	GRLV-071002-D15	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2G110141	8	GTLF-071002-D19	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2G110141	9	GRLV-071002-D18	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2G110141	10	GRLV-071002-EB	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2G120176	1	BCAH-071102-TB	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2G120176	2	BCAH-071102-EB	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2G120176	3	GRLV-071102-B24	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2G120176	4	GTLF-071102-H17	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2G120176	6	GTLF-071102-H1	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2G120176	7	GTLF-071102-H13	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2G120176	9	GCAH-071102-D5	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2G120176	10	GCAH-071102-D5D	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2G160169	1	GCAH-071502-01A	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2G160169	2	GTLF-071502-01B	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2G160169	3	GTLF-071502-D8	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2G160169	4	GCAH-071502-D7	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2G160169	5	BCAH-071502-TB	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2G160169	6	BCAH-071502-EB	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2G160177	4	B-TMV-071502-TB02	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2G160177	1	P-TMV-071502-B301	8260B	MEOH	WASTE, 4.2 TCL VOCs, 8260B	Not covered by OVAP
46926	A2G160177	2	P-TMV-071502-B303	8260B	MEOH	WASTE, 4.2 TCL VOCs, 8260B	Not covered by OVAP
46926	A2G160177	3	P-TMV-071502-B302	8260B	MEOH	WASTE, 4.2 TCL VOCs, 8260B	Not covered by OVAP
46926	A2G170209	1	P-TMV-071602-B13	8260B	MEOH	WASTE, 4.2 TCL VOCs, 8260B	Not covered by OVAP
46926	A2G170209	2	P-TMV-071602-B13D	8260B	MEOH	WASTE, 4.2 TCL VOCs, 8260B	Not covered by OVAP
46926	A2G170209	3	P-TMV-071602-B15	8260B	MEOH	WASTE, 4.2 TCL VOCs, 8260B	Not covered by OVAP
46926	A2G170209	4	P-TMV-071602-B17	8260B	MEOH	WASTE, 4.2 TCL VOCs, 8260B	Not covered by OVAP
46926	A2G170209	5	P-TMV-071602-B16	8260B	MEOH	WASTE, 4.2 TCL VOCs, 8260B	Not covered by OVAP
46926	A2G170209	6	P-TMV-071602-B27	8260B	MEOH	WASTE, 4.2 TCL VOCs, 8260B	Not covered by OVAP
46926	A2G170215	1	GTLF-071602-H18	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2G170215	3	GCAH-071602-H14	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2G170215	5	GCAH-071602-H14D	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2G170215	7	GTLF-071602-B304	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2G170215	8	GTLF-071602-B305	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2G170215	9	GCAH-071602-B306	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2G170215	10	GTLF-071602-M2B	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2G170215	11	GCAH-071602-M2A	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2G170215	12	BCAH-071602-EB	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2G170215	13	BCAH-071602-TB	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2G180159	1	BCAH-071702-TB	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2G180159	2	GTLF-071702-D21	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2G180159	3	GTLF-071702-H12	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2G180159	5	GCAH-071702-D6	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2G180159	6	GTLF-071702-B23	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2G180159	7	GCAH-071702-B21	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2G180159	8	BTLF-071702-EB	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A2G180239	1	P-TMV-071702-B18	8260B	MEOH	WASTE, 4.2 TCL VOCs, 8260B	Not covered by OVAP
46926	A2G180239	2	P-TMV-071702-D17	8260B	MEOH	WASTE, 4.2 TCL VOCs, 8260B	Not covered by OVAP

OVAP Evaluation - Detail Breakdown of Certified vs Non-Certified Volatile Analyses

Quote #	STL Lot #	Smp #	Client Sample ID	Method	Preservation Technique	Test Description	Certification Status
46926	A3A140176	1	SB-12638-011303-JC-152	8260B	Cold Pres	SOLID, Volatile Organics, GC/MS (8260B)	Not certified - OVAP does not allow Frozen preservation
46926	A3A140176	2	SB-12638-011303-JC-153	8260B	Cold Pres	SOLID, Volatile Organics, GC/MS (8260B)	Not certified - OVAP does not allow Frozen preservation
46926	A3A140176	3	SB-12638-011303-JC-154	8260B	Cold Pres	SOLID, Volatile Organics, GC/MS (8260B)	Not certified - OVAP does not allow Frozen preservation
46926	A3A160194	2	SB-12638-011503-JC-156	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A3A160194	1	SB-12638-011503-JC-155	8260B	Cold Pres	SOLID, Volatile Organics, GC/MS (8260B)	Not certified - OVAP does not allow Frozen preservation
46926	A3A160194	3	SB-12638-011503-JC-157	8260B	Cold Pres	SOLID, Volatile Organics, GC/MS (8260B)	Not certified - OVAP does not allow Frozen preservation
46926	A3A170193	1	S-12638-011603-JC-158	8260B	Cold Pres	SOLID, Volatile Organics, GC/MS (8260B)	Not certified - OVAP does not allow Frozen preservation
46926	A3A170193	2	S-12638-011603-JC-159	8260B	Cold Pres	SOLID, Volatile Organics, GC/MS (8260B)	Not certified - OVAP does not allow Frozen preservation
46926	A3A170193	3	S-12638-011603-JC-160	8260B	Cold Pres	SOLID, Volatile Organics, GC/MS (8260B)	Not certified - OVAP does not allow Frozen preservation
46926	A3A180164	1	W-12638-011703-JC-161	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3A180164	7	TRIP BLANK	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3A180164	2	S-12638-011703-JC-162	8260B	Cold Pres	SOLID, Volatile Organics, GC/MS (8260B)	Not certified - OVAP does not allow Frozen preservation
46926	A3A180164	3	S-12638-011703-JC-163	8260B	Cold Pres	SOLID, Volatile Organics, GC/MS (8260B)	Not certified - OVAP does not allow Frozen preservation
46926	A3A180164	4	S-12638-011703-JC-164	8260B	Cold Pres	SOLID, Volatile Organics, GC/MS (8260B)	Not certified - OVAP does not allow Frozen preservation
46926	A3A180164	5	S-12638-011703-JC-165	8260B	Cold Pres	SOLID, Volatile Organics, GC/MS (8260B)	Not certified - OVAP does not allow Frozen preservation
46926	A3A180164	6	S-12638-011703-JC-166	8260B	Cold Pres	SOLID, Volatile Organics, GC/MS (8260B)	Not certified - OVAP does not allow Frozen preservation
46926	A3A200143	1	S-12638-011803-JC-167	8260B	Cold Pres	SOLID, Volatile Organics, GC/MS (8260B)	Not certified - OVAP does not allow Frozen preservation
46926	A3A200143	2	S-12638-011803-JC-168	8260B	Cold Pres	SOLID, Volatile Organics, GC/MS (8260B)	Not certified - OVAP does not allow Frozen preservation
46926	A3A210195	1	S-12638-012003-JC-169	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A3A210195	2	S-12638-012003-JC-170	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A3A230156	5	W-12638-012203-ME-175	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3A230156	6	TRIP BLANK	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3A230156	1	S-12638-012203-ME-171	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A3A230156	2	S-12638-012203-ME-172	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A3A230156	3	S-12638-012203-ME-173	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A3A230156	4	S-12638-012203-ME-174	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A3A280117	1	S-12638-012703-JC-176	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A3A280117	2	S-12638-012703-JC-177	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A3A280117	3	S-12638-012703-JC-178	8260B	Cold Pres	SOLID, Volatile Organics, GC/MS (8260B)	Not certified - OVAP does not allow Frozen preservation
46926	A3A300160	4	S-12638-012903-JC-182	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A3A300160	1	S-12638-012903-JC-179	8260B	Cold Pres	SOLID, Volatile Organics, GC/MS (8260B)	Not certified - OVAP does not allow Frozen preservation
46926	A3A300160	2	S-12638-012903-JC-180	8260B	Cold Pres	SOLID, Volatile Organics, GC/MS (8260B)	Not certified - OVAP does not allow Frozen preservation
46926	A3A300160	3	S-12638-012903-JC-181	8260B	Cold Pres	SOLID, Volatile Organics, GC/MS (8260B)	Not certified - OVAP does not allow Frozen preservation
46926	A3A310141	1	W-12638-013003-JC-183	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3A310141	5	TRIP BLANK	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3A310141	4	S-12638-013003-JC-186	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A3A310141	2	S-12638-013003-JC-184	8260B	Cold Pres	SOLID, Volatile Organics, GC/MS (8260B)	Not certified - OVAP does not allow Frozen preservation
46926	A3A310141	3	S-12638-013003-JC-185	8260B	Cold Pres	SOLID, Volatile Organics, GC/MS (8260B)	Not certified - OVAP does not allow Frozen preservation
46926	A3B010163	5	W-12638-013103-JC-191	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3B010163	6	TRIP BLANK	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3B010163	1	S-12638-013103-JC-187	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A3B010163	2	S-12638-013103-JC-188	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A3B010163	3	S-12638-013103-JC-189	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A3B010163	4	S-12638-013103-JC-190	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A3B030137	1	S-12638-020203-JC-192	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A3B030137	2	S-12638-020203-JC-193	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A3B030137	3	S-12638-020203-JC-194	8260B	Cold Pres	SOLID, Volatile Organics, GC/MS (8260B)	Not certified - OVAP does not allow Frozen preservation
46926	A3B060196	1	WG-020503-SEB	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions

OVAP Evaluation - Detail Breakdown of Certified vs Non-Certified Volatile Analyses

Quote #	STL Lot #	Smp #	Client Sample ID	Method	Preservation Technique	Test Description	Certification Status
46926	A3B060196	3	EB-020503-SEB	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3B060196	5	TB-020503-SEB	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3B070135	1	EB-020603-SEB-001	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3B070135	3	TB-020603-SEB-002	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3B070135	4	WG-020603-SEB-001	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3B080119	1	EB-020703-SEB-005	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3B080119	3	TB-020703-SEB-006	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3B080119	4	WG-020703-GJL-003	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3B080119	6	WG-020703-GJL-004	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3B080119	8	WG-020703-SEB-007	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3B190168	11	W-12638-021803-JC-205	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3B190168	12	S-12638-021803-JC-206	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A3B190168	16	S-12638-021803-JC-210	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A3B190168	18	S-12638-021803-JC-212	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	**A3B190168**	**21**	**S-12638-021803-JC-215**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A3B190168**	**2**	**S-12638-021803-JC-196**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A3B190168**	**3**	**S-12638-021803-JC-197**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A3B190168**	**4**	**S-12638-021803-JC-198**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A3B190168**	**5**	**S-12638-021803-JC-199**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A3B190168**	**6**	**S-12638-021803-JC-200**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A3B190168**	**7**	**S-12638-021803-JC-201**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A3B190168**	**8**	**S-12638-021803-JC-202**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A3B190168**	**9**	**S-12638-021803-JC-203**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A3B190168**	**10**	**S-12638-021803-JC-204**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A3B190168**	**15**	**S-12638-021803-JC-209**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A3B190168**	**13**	**S-12638-021803-JC-207**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A3B190168**	**14**	**S-12638-021803-JC-208**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A3B190168**	**17**	**S-12638-021803-JC-211**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A3B190168**	**19**	**S-12638-021803-JC-213**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A3B190168**	**20**	**S-12638-021803-JC-214**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	A3B200265	29	W-12638-021903-JC-217	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3B200265	30	W-12638-021903-JC-227	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3B200265	31	W-12638-021903-JC-239	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3B200265	32	TRIP BLANK	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3B200265	1	S-12638-021903-JC-216	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A3B200265	2	S-12638-021903-JC-218	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A3B200265	4	S-12638-021903-JC-220	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A3B200265	6	S-12638-021903-JC-222	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A3B200265	11	S-12638-021903-JC-228	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A3B200265	12	S-12638-021903-JC-229	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A3B200265	13	S-12638-021903-JC-230	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A3B200265	14	S-12638-021903-JC-231	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A3B200265	15	S-12638-021903-JC-232	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A3B200265	16	S-12638-021903-JC-233	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A3B200265	22	S-12638-021903-JC-240	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A3B200265	26	S-12638-021903-JC-244	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A3B200265	27	S-12638-021903-JC-245	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	**A3B200265**	**3**	**S-12638-021903-JC-219**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**

OVAP Evaluation - Detail Breakdown of Certified vs Non-Certified Volatile Analyses

Quote #	STL Lot #	Smp #	Client Sample ID	Method	Preservation Technique	Test Description	Certification Status
46926	A3B200265	5	S-12638-021903-JC-221	8260B	Cold Pres	SOLID, Volatile Organics, GC/MS (8260B)	Not certified - OVAP does not allow Frozen preservation
46926	A3B200265	16	S-12638-021903-JC-233	8260B	Cold Pres	SOLID, Volatile Organics, GC/MS (8260B)	Not certified - OVAP does not allow Frozen preservation
46926	A3B200265	17	S-12638-021903-JC-234	8260B	Cold Pres	SOLID, Volatile Organics, GC/MS (8260B)	Not certified - OVAP does not allow Frozen preservation
46926	A3B200265	18	S-12638-021903-JC-235	8260B	Cold Pres	SOLID, Volatile Organics, GC/MS (8260B)	Not certified - OVAP does not allow Frozen preservation
46926	A3B200265	19	S-12638-021903-JC-236	8260B	Cold Pres	SOLID, Volatile Organics, GC/MS (8260B)	Not certified - OVAP does not allow Frozen preservation
46926	A3B200265	20	S-12638-021903-JC-237	8260B	Cold Pres	SOLID, Volatile Organics, GC/MS (8260B)	Not certified - OVAP does not allow Frozen preservation
46926	A3B200265	21	S-12638-021903-JC-238	8260B	Cold Pres	SOLID, Volatile Organics, GC/MS (8260B)	Not certified - OVAP does not allow Frozen preservation
46926	A3B200265	23	S-12638-021903-JC-241	8260B	Cold Pres	SOLID, Volatile Organics, GC/MS (8260B)	Not certified - OVAP does not allow Frozen preservation
46926	A3B200265	24	S-12638-021903-JC-242	8260B	Cold Pres	SOLID, Volatile Organics, GC/MS (8260B)	Not certified - OVAP does not allow Frozen preservation
46926	A3B200265	25	S-12638-021903-JC-243	8260B	Cold Pres	SOLID, Volatile Organics, GC/MS (8260B)	Not certified - OVAP does not allow Frozen preservation
46926	A3B200265	28	S-12638-021903-JC-246	8260B	Cold Pres	SOLID, Volatile Organics, GC/MS (8260B)	Not certified - OVAP does not allow Frozen preservation
46926	A3B210219	6	W-12638-022003-JC-252	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3B210219	19	W-12638-022003-JC-265	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3B210219	20	TRIP BLANK	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3B210219	1	S-12638-022003-JC-247	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A3B210219	4	S-12638-022003-JC-250	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A3B210219	5	S-12638-022003-JC-251	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A3B210219	7	S-12638-022003-JC-253	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A3B210219	9	S-12638-022003-JC-255	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A3B210219	10	S-12638-022003-JC-256	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A3B210219	12	S-12638-022003-JC-258	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A3B210219	15	S-12638-022003-JC-261	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A3B210219	16	S-12638-022003-JC-262	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A3B210219	2	S-12638-022003-JC-248	8260B	Cold Pres	SOLID, Volatile Organics, GC/MS (8260B)	Not certified - OVAP does not allow Frozen preservation
46926	A3B210219	3	S-12638-022003-JC-249	8260B	Cold Pres	SOLID, Volatile Organics, GC/MS (8260B)	Not certified - OVAP does not allow Frozen preservation
46926	A3B210219	8	S-12638-022003-JC-254	8260B	Cold Pres	SOLID, Volatile Organics, GC/MS (8260B)	Not certified - OVAP does not allow Frozen preservation
46926	A3B210219	11	S-12638-022003-JC-257	8260B	Cold Pres	SOLID, Volatile Organics, GC/MS (8260B)	Not certified - OVAP does not allow Frozen preservation
46926	A3B210219	13	S-12638-022003-JC-259	8260B	Cold Pres	SOLID, Volatile Organics, GC/MS (8260B)	Not certified - OVAP does not allow Frozen preservation
46926	A3B210219	14	S-12638-022003-JC-260	8260B	Cold Pres	SOLID, Volatile Organics, GC/MS (8260B)	Not certified - OVAP does not allow Frozen preservation
46926	A3B210219	17	S-12638-022003-JC-263	8260B	Cold Pres	SOLID, Volatile Organics, GC/MS (8260B)	Not certified - OVAP does not allow Frozen preservation
46926	A3B210219	18	S-12638-022003-JC-264	8260B	Cold Pres	SOLID, Volatile Organics, GC/MS (8260B)	Not certified - OVAP does not allow Frozen preservation
46926	A3C060111	1	S-12638-030503-JC-266	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A3C060111	2	S-12638-030503-JC-267	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A3C060111	3	S-12638-030503-JC-268	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A3C060111	4	S-12638-030503-JC-269	8260B	Cold Pres	SOLID, Volatile Organics, GC/MS (8260B)	Not certified - OVAP does not allow Frozen preservation
46926	A3C060243	1	WG-030503-SEB-008	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3C060243	3	TB-030503-SEB-009	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3C060243	4	WG-030503-SEB-010	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3C060243	6	EB-030503-SEB-011	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3C070171	1	S-12638-030603-JC-270	8260B	Cold Pres	SOLID, Volatile Organics, GC/MS (8260B)	Not certified - OVAP does not allow Frozen preservation
46926	A3C070171	2	S-12638-030603-JC-271	8260B	Cold Pres	SOLID, Volatile Organics, GC/MS (8260B)	Not certified - OVAP does not allow Frozen preservation
46926	A3C080155	1	WG-030603-SEB-012	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3C080155	2	TB-030603-SEB-013	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3C080155	3	WG-030603-SEB-014	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3C080155	4	EB-030603-SEB-015	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3C080155	5	WG-030703-SEB-016	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3C080155	6	WG-030703-SEB-017	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3C080155	7	WG-030703-SEB-018	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions

OVAP Evaluation - Detail Breakdown of Certified vs Non-Certified Volatile Analyses

Quote #	STL Lot #	Smp #	Client Sample ID	Method	Preservation Technique	Test Description	Certification Status
46926	A3C080155	8	EB-030703-SEB-019	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3C120267	1	WG-031003-SEB-020	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3C120267	2	TB-031003-SEB-021	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3C120267	3	WG-031003-SEB-022	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3C120267	4	WG-031003-SEB-023	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3C120267	5	WG-031003-SEB-024	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3C120267	6	WG-031103-SEB-025	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3C120267	7	WG-031103-SEB-026	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3C120267	8	WG-031103-SEB-027	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3C120267	9	WG-031103-SEB-028	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3C120267	10	WG-031103-SEB-029	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3C130234	1	WG-031203-SEB-030	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3C130234	2	WG-031203-SEB-031	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3C130234	3	TB-031203-SEB-032	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3C130234	4	WG-031203-SEB-033	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3C140261	1	WG-031303-SEB-034	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3C140261	2	TB-031303-SEB-035	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3C140261	3	WG-031303-SEB-036	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3C140261	4	WG-031303-SEB-037	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3C140261	5	WG-031303-SEB-038	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3C180145	1	WG-031703-SEB-039	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3C180145	2	WG-031703-GJL-040	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3C180145	3	WG-031703-GJL-042	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3C180145	4	WG-031703-SEB-041	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3C180145	5	WG-031703-GJL-043	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3C180145	6	TB-031703-GJL-044	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3C190191	1	WG-031803-SEB-045	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3C190191	2	WG-031803-GJL-046	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3C190191	3	WG-031803-SEB-047	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3C190191	4	WG-031803-GJL-048	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3C190191	5	TB-031803-SEB-049	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3C190191	6	WG-031803-SEB-050	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3C190191	7	WG-031803-GJL-051	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3C190191	8	WG-031803-GJL-052	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3C200138	1	WG-031903-SEB-053	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3C200138	3	WG-031903-CAH-054	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3C200138	5	WG-031903-GJL-055	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3C200138	7	WG-031903-SEB-056	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3C200138	9	WG-031903-SEB-057	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3C200138	11	WG-031903-GJL-058	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3C200138	13	TB-031903-SEB-059	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3C210220	1	WG-032003-GJL-060	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3C210220	2	WG-032003-SEB-061	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3C210220	3	TB-032003-GJL-062	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3C210220	4	WG-032003-GJL-063	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3C210220	5	WG-032003-SEB-064	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3C210220	6	WG-032003-SEB-065	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3C210220	7	WG-032003-GJL-066	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions

OVAP Evaluation - Detail Breakdown of Certified vs Non-Certified Volatile Analyses

Quote #	STL Lot #	Smp #	Client Sample ID	Method	Preservation Technique	Test Description	Certification Status
46926	A3C220188	1	WG-032103-GJL-068	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3C220188	2	WG-032103-SEB-067	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3C220188	3	WG-032103-GJL-069	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3C220188	4	TB-032103-GJL-070	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3C220188	5	WG-032103-GJL-071	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3C250249	1	TB-032403-GJL-072	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3C250249	2	WG-032403-GJL-073	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3C250249	4	WG-032403-GJL-074	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3C250249	6	WG-032403-GJL-075	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3C260253	1	TB-032503-GJL-076	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3C260253	2	WG-032503-GJL-077	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3C260253	4	WG-032503-GJL-078	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3C260253	6	WG-032503-GJL-079	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3C270232	1	WG-032603-GJL-080	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3C270232	3	TB-032603-SEB-081	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3C270232	4	WG-032603-GJL-082	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3C270232	6	WG-032603-GJL-083	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3C270232	8	WG-032603-SEB-084	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3C280180	1	TB-032703-GJL-085	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3C280180	2	WG-032703-GJL-086	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3C280180	4	WG-032703-GJL-087	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3C280180	6	WG-032703-GJL-088	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3C290202	1	TB-032803-GJL-089	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3C290202	2	WG-032803-GJL-090	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3C290202	4	WG-032803-GJL-091	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3C290202	5	WG-032803-GJL-092	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3D010209	1	TB-033103-GJL-093	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3D010209	2	WG-033103-SEB-094	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3D010209	3	WG-033103-SEB-095	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3D020147	12	W-12638-033103-JC-279	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3D020147	15	W-12638-033103-JC-285	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3D020147	22	TRIP BLANK (COC# 03063)	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3D020147	21	S-12638-033103-JC-292	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A3D020147	16	S-12638-033103-JC-287	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A3D020147	17	S-12638-033103-JC-288	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A3D020147	19	S-12638-033103-JC-290	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A3D020147	20	S-12638-033103-JC-291	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	**A3D020147**	**18**	**S-12638-033103-JC-289**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	A3D020156	15	W-12638-040103-JC-297	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3D020156	20	W-12638-040103-JC-305	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3D020156	25	TRIP BLANK	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3D020156	13	S-12638-040103-JC-293	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A3D020156	16	S-12638-040103-JC-298	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A3D020156	17	S-12638-040103-JC-299	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A3D020156	18	S-12638-040103-JC-300	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A3D020156	19	S-12638-040103-JC-304	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A3D020156	21	S-12638-040103-JC-306	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A3D020156	22	S-12638-040103-JC-307	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions

OVAP Evaluation - Detail Breakdown of Certified vs Non-Certified Volatile Analyses

Quote #	STL Lot #	Smp #	Client Sample ID	Method	Preservation Technique	Test Description	Certification Status
46926	A3D020156	23	S-12638-040103-JC-308	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A3D020156	24	S-12638-040103-JC-309	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	**A3D020156**	**14**	**S-12638-040103-JC-294**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	A3D020260	1	TB-040103-SEB-096	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3D020260	2	WG-040103-SEB-097	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3D020260	3	WG-040103-SEB-098	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3D020260	4	WG-040103-SEB-099	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3D030172	4	W-12638-040203-JC-320	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3D030172	10	W-12638-040203-JC-285	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3D030172	11	TRIP BLANK (COC# 03067)	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3D030172	25	TRIP BLANK (COC# 03068)	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3D030172	1	S-12638-040203-JC-317	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A3D030172	3	S-12638-040203-JC-319	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A3D030172	16	S-12638-040203-JC-331	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A3D030172	14	S-12638-040203-JC-328	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A3D030172	19	S-12638-040203-JC-334	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A3D030172	21	S-12638-040203-JC-336	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A3D030172	22	S-12638-040203-JC-337	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	**A3D030172**	**2**	**S-12638-040203-JC-318**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A3D030172**	**5**	**S-12638-040203-JC-321**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A3D030172**	**6**	**S-12638-040203-JC-322**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A3D030172**	**7**	**S-12638-040203-JC-323**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A3D030172**	**8**	**S-12638-040203-JC-324**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A3D030172**	**9**	**S-12638-040203-JC-325**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A3D030172**	**12**	**S-12638-040203-JC-326**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A3D030172**	**15**	**S-12638-040203-JC-330**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A3D030172**	**17**	**S-12638-040203-JC-332**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A3D030172**	**18**	**S-12638-040203-JC-333**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A3D030172**	**20**	**S-12638-040203-JC-335**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A3D030172**	**23**	**S-12638-040203-JC-338**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A3D030172**	**24**	**S-12638-040203-JC-339**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	A3D030209	1	TB-040203-SEB-100	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3D030209	2	WG-040203-SEB-101	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3D030209	3	WG-040203-SEB-102	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3D030209	4	WG-040203-SEB-103	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3D040243	1	WG-040303-SEB-104	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3D040243	2	WG-040303-SEB-105	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3D040243	3	TB-040303-SEB-106	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3D040243	4	WG-040303-SEB-107	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3D080129	1	TB-040703-GJL-108	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3D080129	2	WG-040703-SEB-109	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3D080129	3	WG-040703-SEB-110	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3D080129	4	WG-040703-GJL-111	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3D090153	1	TB-040803-GJL-112	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3D090153	2	WG-040803-SEB-113	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3D090153	3	WG-040803-GJL-114	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3D090153	4	WG-040803-SEB-115	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3D090153	5	WG-040803-GJL-116	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions

OVAP Evaluation - Detail Breakdown of Certified vs Non-Certified Volatile Analyses

Quote #	STL Lot #	Smp #	Client Sample ID	Method	Preservation Technique	Test Description	Certification Status
46926	A3D090153	6	WG-040803-SEB-117	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3D110164	1	TB-041003-GJL-118	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3D110164	2	WG-041003-SEB-119	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3D110164	3	WG-041003-SEB-120	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3D110164	4	WG-041003-SEB-121	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3D120189	2	TB-041103-GJL-123	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3D120189	1	LF-041103-GJL-122	8260B	MEOH	WASTE, 4.2 TCL VOCs, 8260B	Not covered by OVAP
46926	A3D150145	1	TB-041403-GJL-130	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3D150145	2	WG-041403-GJL-131	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3D150145	3	WG-041403-GJL-132	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3D160231	1	TB-041503-GJL-133	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3D160231	2	WG-041503-GJL-134	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3D160231	3	WG-041503-GJL-135	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3D170233	1	TB-041603-GJL-136	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3D170233	2	WG-041603-GJL-137	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3D170233	3	WG-041603-GJL-138	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3D170233	4	WG-041603-GJL-139	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3D180285	1	TB-041703-GJL-140	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3D180285	2	WG-041703-GJL-141	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3D180285	3	WG-041703-GJL-142	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3D180285	4	WG-041703-GJL-143	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3D190134	1	WG-041803-GJL-144	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3D190134	2	TB-041803-SEB-145	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3D190134	3	WG-041803-SEB-146	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3D190134	4	WG-041803-GJL-147	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3D280161	1	WG-12638-042503-NZ-340	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3D280161	2	WG-12638-042503-NZ-341	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3D280161	3	WG-12638-042503-NZ-342	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3D280161	4	TRIP BLANK	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3D290190	1	WG-12638-042803-NZ-343	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3D290190	2	WG-12638-042803-NZ-344	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3D290190	3	WG-12638-042803-NZ-345	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3D290190	4	TRIP BLANK	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3D300208	1	WG-042903-SEB-148	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3D300208	2	WG-042903-SEB-149	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3D300208	3	WG-042903-GJL-150	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3D300208	4	TB-042903-SEB-151	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3E020215	1	WG-12638-050103-NZ-346	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3E020215	2	WG-12638-050103-NZ-347	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3E020215	3	WG-12638-050103-NZ-351	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3E020215	4	WG-12638-050103-NZ-352	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3E020215	5	WG-12638-050103-NZ-353	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3E020215	9	TRIP BLANK	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3E020215	7	S-12638-050103-GL-349	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	**A3E020215**	**6**	**S-12638-050103-GL-348**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A3E020215**	**8**	**S-12638-050103-GL-350**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	A3E170174	1	WG-12638-051603-NZ-354	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3E170174	2	WG-12638-051603-NZ-355	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions

OVAP Evaluation - Detail Breakdown of Certified vs Non-Certified Volatile Analyses

Quote #	STL Lot #	Smp #	Client Sample ID	Method	Preservation Technique	Test Description	Certification Status
46926	A3E170174	3	WG-12638-051603-NZ-356	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3E170174	4	TRIP BLANK	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3E280164	1	TB-052703-CAH-152	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3E280164	2	WG-052703-CAH-153	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3F060339	1	WG-12638-060503-JC-357	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3F060339	2	WG-12638-060503-JC-358	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3F060339	3	WG-12638-060503-JC-359	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3F060339	4	WG-12638-060503-JC-360	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3F200248	1	GW-061903-LB-001	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3F200248	2	GW-061903-LB-002	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3F200248	3	GW-061903-LB-003	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions

OVAP Evaluation - Detail Breakdown of Certified vs Non-Certified Volatile Analyses

Quote #	STL Lot #	Smp #	Client Sample ID	Method	Preservation Technique	Test Description	Certification Status
46926	A3H130155	1	WG-12638-081203-LB-361	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3H130155	2	WG-12638-081203-LB-362	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3H130155	3	WG-12638-081203-LB-363	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3H130155	4	WG-12638-081203-LB-364	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3H130155	5	TRIP BLANK	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3H140220	1	WG-12638-081303-LB-365	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3H140220	2	WG-12638-081303-LB-366	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3H140220	3	WG-12638-081303-LB-367	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3H140220	4	WG-12638-081303-LB-369	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3H140220	5	WG-12638-081303-LB-368	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3H140220	6	WG-12638-081303-LB-370	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3H140220	7	TRIP BLANK	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3H160139	1	WG-12638-081403-LB-371	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3H160139	2	WG-12638-081403-LB-372	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3H160139	3	WG-12638-081403-LB-373	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3H160139	4	WG-12638-081403-LB-374	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3H160139	5	WG-12638-081503-LB-375	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3H160139	6	WG-12638-081503-LB-376	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3H160139	7	WG-12638-081503-LB-377	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3H160139	8	WG-12638-081503-LB-378	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3H160139	9	WG-12638-081503-LB-379	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3H160139	10	TRIP BLANK	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3H160139	11	WG-12638-081503-LB-380	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3H200308	1	WG-12638-081803-LB-381	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3H200308	2	WG-12638-081803-LB-382	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3H200308	3	WG-12638-081803-LB-383	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3H200308	4	WG-12638-081803-LB-384	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3H200308	5	WG-12638-081803-LB-385	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3H200308	6	WG-12638-081803-LB-386	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3H200308	7	TRIP BLANK	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3H220372	1	WG-12638-082003-LB-387	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3H220372	2	WG-12638-082003-LB-388	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3H220372	3	WG-12638-082003-LB-389	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3H220372	4	WG-12638-082003-LB-390	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3H220372	5	WG-12638-082003-LB-391	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3H220372	6	WG-12638-082003-LB-392	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3H220372	7	WG-12638-082003-LB-393	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3H220372	8	TRIP BLANK	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3H220372	9	WG-12638-082003-LB-394	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3H220393	1	WG-12638-082103-LB-395	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3H220393	2	WG-12638-082103-LB-396	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3H220393	3	WG-12638-082103-LB-397	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3H220393	4	WG-12638-082103-LB-398	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3H220393	5	WG-12638-082103-LB-399	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A3H220393	6	TRIP BLANK	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions

OVAP Evaluation - Detail Breakdown of Certified vs Non-Certified Volatile Analyses

Quote #	STL Lot #	Smp #	Client Sample ID	Method	Preservation Technique	Test Description	Certification Status
46926	A4A150117	5	S-12638-011404-NZ-404	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A4A150117	6	S-12638-011404-NZ-405	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A4A150117	8	S-12638-011404-NZ-407	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A4A150117	9	S-12638-011404-NZ-408	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A4A150117	10	S-12638-011404-NZ-409	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A4A150117	11	S-12638-011404-NZ-410	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A4A150117	12	S-12638-011404-NZ-411	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	**A4A150117**	**7**	**S-12638-011404-NZ-406**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A4A150117**	**13**	**S-12638-011404-NZ-412**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A4A150117**	**14**	**S-12638-011404-NZ-413**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A4A150117**	**15**	**S-12638-011404-NZ-414**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A4A150117**	**16**	**S-12638-011404-NZ-415**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	A4A160166	1	W-12638-011504-NZ-419	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4A160166	2	W-12638-011504-NZ-421	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4A160166	3	W-12638-011504-NZ-432	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4A160166	4	TB-011504-001	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4A160166	13	S-12638-011504-NZ-426	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A4A160166	19	S-12638-011504-NZ-433	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A4A160166	20	S-12638-011504-NZ-434	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A4A160166	21	S-12638-011504-NZ-435	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	**A4A160166**	**5**	**S-12638-011504-NZ-416**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A4A160166**	**6**	**S-12638-011504-NZ-417**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A4A160166**	**7**	**S-12638-011504-NZ-418**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A4A160166**	**8**	**S-12638-011504-NZ-420**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A4A160166**	**9**	**S-12638-011504-NZ-422**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A4A160166**	**10**	**S-12638-011504-NZ-423**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A4A160166**	**11**	**S-12638-011504-NZ-424**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A4A160166**	**12**	**S-12638-011504-NZ-425**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A4A160166**	**14**	**S-12638-011504-NZ-427**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A4A160166**	**15**	**S-12638-011504-NZ-428**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A4A160166**	**16**	**S-12638-011504-NZ-429**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A4A160166**	**17**	**S-12638-011504-NZ-430**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A4A160166**	**18**	**S-12638-011504-NZ-431**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	A4A170102	1	S-12638-011604-NZ-436	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A4A170102	2	S-12638-011604-NZ-437	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A4A170102	3	S-12638-011604-NZ-438	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A4A170102	4	S-12638-011604-NZ-439	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A4A170102	5	S-12638-011604-NZ-440	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A4A170102	6	S-12638-011604-NZ-441	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A4A200147	1	W-12638-011904-NZ-442	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4A200147	7	TRIP BLANK-011904-002	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4A200147	2	S-12638-011904-NZ-443	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A4A200147	3	S-12638-011904-NZ-444	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A4A200147	4	S-12638-011904-NZ-445	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A4A200147	5	S-12638-011904-NZ-446	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A4A210183	5	W-12638-012004-NZ-452	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4A210183	18	W-12638-012004-NZ-465	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4A210183	19	TRIP BLANK-012004-003	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions

OVAP Evaluation - Detail Breakdown of Certified vs Non-Certified Volatile Analyses

Quote #	STL Lot #	Smp #	Client Sample ID	Method	Preservation Technique	Test Description	Certification Status
46926	A4A210183	2	S-12638-012004-NZ-449	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A4A210183	4	S-12638-012004-NZ-451	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A4A210183	9	S-12638-012004-NZ-456	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A4A210183	10	S-12638-012004-NZ-457	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A4A210183	11	S-12638-012004-NZ-458	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	**A4A210183**	**1**	**S-12638-012004-NZ-448**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A4A210183**	**3**	**S-12638-012004-NZ-450**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A4A210183**	**6**	**S-12638-012004-NZ-453**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A4A210183**	**7**	**S-12638-012004-NZ-454**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A4A210183**	**8**	**S-12638-012004-NZ-455**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A4A210183**	**12**	**S-12638-012004-NZ-459**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A4A210183**	**13**	**S-12638-012004-NZ-460**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A4A210183**	**14**	**S-12638-012004-NZ-461**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A4A210183**	**15**	**S-12638-012004-NZ-462**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A4A210183**	**16**	**S-12638-012004-NZ-463**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A4A210183**	**17**	**S-12638-012004-NZ-464**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	A4A220183	12	W-12638-012104-NZ-477	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4A220183	18	TRIP BLANK-012104-004	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4A220183	1	S-12638-012104-NZ-466	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A4A220183	2	S-12638-012104-NZ-467	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A4A220183	3	S-12638-012104-NZ-468	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A4A220183	8	S-12638-012104-NZ-473	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A4A220183	9	S-12638-012104-NZ-474	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A4A220183	11	S-12638-012104-NZ-476	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A4A220183	13	S-12638-012104-NZ-478	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A4A220183	14	S-12638-012104-NZ-479	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A4A220183	15	S-12638-012104-NZ-480	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A4A220183	16	S-12638-012104-NZ-481	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	**A4A220183**	**4**	**S-12638-012104-NZ-469**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A4A220183**	**10**	**S-12638-012104-NZ-475**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A4A220183**	**5**	**S-12638-012104-NZ-470**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A4A220183**	**6**	**S-12638-012104-NZ-471**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A4A220183**	**7**	**S-12638-012104-NZ-472**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A4A220183**	**17**	**S-12638-012104-NZ-482**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	A4A240150	5	W-12638-012204-NZ-487	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4A240150	9	TRIP BLANK-012204-005	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4A240150	1	S-12638-012204-NZ-483	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A4A240150	4	S-12638-012204-NZ-486	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A4A240150	6	S-12638-012204-NZ-488	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	**A4A240150**	**2**	**S-12638-012204-NZ-484**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A4A240150**	**3**	**S-12638-012204-NZ-485**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A4A240150**	**7**	**S-12638-012204-NZ-489**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A4A240150**	**8**	**S-12638-012204-NZ-490**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A4A260104**	**1**	**S-12638-012404-NZ-491**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A4A260104**	**2**	**S-12638-012404-NZ-492**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A4A260104**	**3**	**S-12638-012404-NZ-493**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	A4A270170	8	W-12638-012604-NZ-501	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4A270170	9	TRIP BLANK-012604-006	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions

OVAP Evaluation - Detail Breakdown of Certified vs Non-Certified Volatile Analyses

Quote #	STL Lot #	Smp #	Client Sample ID	Method	Preservation Technique	Test Description	Certification Status
46926	A4A270170	1	S-12638-012604-NZ-494	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A4A270170	2	S-12638-012604-NZ-495	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A4A270170	4	S-12638-012604-NZ-497	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A4A270170	7	S-12638-012604-NZ-500	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	**A4A270170**	**3**	**S-12638-012604-NZ-496**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A4A270170**	**5**	**S-12638-012604-NZ-498**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A4A270170**	**6**	**S-12638-012604-NZ-499**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	A4A280173	15	W-12638-012704-NZ-516	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4A280173	19	TRIP BLANK-012704-007	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4A280173	1	S-12638-012704-NZ-502	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A4A280173	4	S-12638-012704-NZ-505	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A4A280173	5	S-12638-012704-NZ-506	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A4A280173	7	S-12638-012704-NZ-508	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A4A280173	8	S-12638-012704-NZ-509	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A4A280173	10	S-12638-012704-NZ-511	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A4A280173	16	S-12638-012704-NZ-517	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A4A280173	18	S-12638-012704-NZ-519	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	**A4A280173**	**2**	**S-12638-012704-NZ-503**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A4A280173**	**3**	**S-12638-012704-NZ-504**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A4A280173**	**6**	**S-12638-012704-NZ-507**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A4A280173**	**9**	**S-12638-012704-NZ-510**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A4A280173**	**11**	**S-12638-012704-NZ-512**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A4A280173**	**12**	**S-12638-012704-NZ-513**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A4A280173**	**13**	**S-12638-012704-NZ-514**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A4A280173**	**14**	**S-12638-012704-NZ-515**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A4A280173**	**17**	**S-12638-012704-NZ-518**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	A4A290141	1	W-12638-012804-NZ-529	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4A290141	2	W-12638-012804-NZ-540	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4A290141	3	TRIP BLANK-012804-008	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4A290141	17	S-12638-012804-NZ-534	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A4A290141	4	S-12638-012804-NZ-520	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A4A290141	7	S-12638-012804-NZ-523	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A4A290141	8	S-12638-012804-NZ-524	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A4A290141	9	S-12638-012804-NZ-525	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A4A290141	13	S-12638-012804-NZ-530	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A4A290141	18	S-12638-012804-NZ-535	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A4A290141	19	S-12638-012804-NZ-536	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A4A290141	20	S-12638-012804-NZ-537	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	**A4A290141**	**5**	**S-12638-012804-NZ-521**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A4A290141**	**6**	**S-12638-012804-NZ-522**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A4A290141**	**10**	**S-12638-012804-NZ-526**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A4A290141**	**11**	**S-12638-012804-NZ-527**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A4A290141**	**12**	**S-12638-012804-NZ-528**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A4A290141**	**14**	**S-12638-012804-NZ-531**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A4A290141**	**15**	**S-12638-012804-NZ-532**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A4A290141**	**16**	**S-12638-012804-NZ-533**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A4A290141**	**21**	**S-12638-012804-NZ-538**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A4A290141**	**22**	**S-12638-012804-NZ-539**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**

OVAP Evaluation - Detail Breakdown of Certified vs Non-Certified Volatile Analyses

Quote #	STL Lot #	Smp #	Client Sample ID	Method	Preservation Technique	Test Description	Certification Status
46926	A4A310107	1	S-12638-013004-NZ-541	8260B	Cold Pres	SOLID, Volatile Organics, GC/MS (8260B)	Not certified - OVAP does not allow Frozen preservation
46926	A4A310107	2	S-12638-013004-NZ-542	8260B	Cold Pres	SOLID, Volatile Organics, GC/MS (8260B)	Not certified - OVAP does not allow Frozen preservation
46926	A4A310107	3	S-12638-013004-NZ-543	8260B	Cold Pres	SOLID, Volatile Organics, GC/MS (8260B)	Not certified - OVAP does not allow Frozen preservation
46926	A4B020101	1	S-12638-013104-544	8260B	Cold Pres	SOLID, Volatile Organics, GC/MS (8260B)	Not certified - OVAP does not allow Frozen preservation
46926	A4B020101	2	S-12638-013104-545	8260B	Cold Pres	SOLID, Volatile Organics, GC/MS (8260B)	Not certified - OVAP does not allow Frozen preservation
46926	A4B040147	5	W-12638-020304-NZ-549	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4B040147	13	TRIP BLANK-020304-009	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4B040147	1	S-12638-020304-NZ-546	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A4B040147	3	S-12638-020304-NZ-548	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A4B040147	6	S-12638-020304-NZ-550	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A4B040147	10	S-12638-020304-NZ-554	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A4B040147	12	S-12638-020304-NZ-556	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A4B040147	2	S-12638-020304-NZ-547	8260B	Cold Pres	SOLID, Volatile Organics, GC/MS (8260B)	Not certified - OVAP does not allow Frozen preservation
46926	A4B040147	7	S-12638-020304-NZ-551	8260B	Cold Pres	SOLID, Volatile Organics, GC/MS (8260B)	Not certified - OVAP does not allow Frozen preservation
46926	A4B040147	8	S-12638-020304-NZ-552	8260B	Cold Pres	SOLID, Volatile Organics, GC/MS (8260B)	Not certified - OVAP does not allow Frozen preservation
46926	A4B040147	9	S-12638-020304-NZ-553	8260B	Cold Pres	SOLID, Volatile Organics, GC/MS (8260B)	Not certified - OVAP does not allow Frozen preservation
46926	A4B040147	11	S-12638-020304-NZ-555	8260B	Cold Pres	SOLID, Volatile Organics, GC/MS (8260B)	Not certified - OVAP does not allow Frozen preservation
46926	A4B050112	1	WG-020404-JWD-154	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4B050112	2	WG-020404-JWD-155	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4B050165	5	W-12638-020404-NZ-561	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4B050165	14	W-12638-020404-NZ-570	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4B050165	21	TRIP BLANK-020404-010	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4B050165	6	S-12638-020404-NZ-562	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A4B050165	15	S-12638-020404-NZ-571	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A4B050165	16	S-12638-020404-NZ-572	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A4B050165	18	S-12638-020404-NZ-574	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A4B050165	19	S-12638-020404-NZ-575	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A4B050165	1	S-12638-020404-NZ-557	8260B	Cold Pres	SOLID, Volatile Organics, GC/MS (8260B)	Not certified - OVAP does not allow Frozen preservation
46926	A4B050165	2	S-12638-020404-NZ-558	8260B	Cold Pres	SOLID, Volatile Organics, GC/MS (8260B)	Not certified - OVAP does not allow Frozen preservation
46926	A4B050165	3	S-12638-020404-NZ-559	8260B	Cold Pres	SOLID, Volatile Organics, GC/MS (8260B)	Not certified - OVAP does not allow Frozen preservation
46926	A4B050165	4	S-12638-020404-NZ-560	8260B	Cold Pres	SOLID, Volatile Organics, GC/MS (8260B)	Not certified - OVAP does not allow Frozen preservation
46926	A4B050165	7	S-12638-020404-NZ-563	8260B	Cold Pres	SOLID, Volatile Organics, GC/MS (8260B)	Not certified - OVAP does not allow Frozen preservation
46926	A4B050165	8	S-12638-020404-NZ-564	8260B	Cold Pres	SOLID, Volatile Organics, GC/MS (8260B)	Not certified - OVAP does not allow Frozen preservation
46926	A4B050165	9	S-12638-020404-NZ-565	8260B	Cold Pres	SOLID, Volatile Organics, GC/MS (8260B)	Not certified - OVAP does not allow Frozen preservation
46926	A4B050165	10	S-12638-020404-NZ-566	8260B	Cold Pres	SOLID, Volatile Organics, GC/MS (8260B)	Not certified - OVAP does not allow Frozen preservation
46926	A4B050165	11	S-12638-020404-NZ-567	8260B	Cold Pres	SOLID, Volatile Organics, GC/MS (8260B)	Not certified - OVAP does not allow Frozen preservation
46926	A4B050165	12	S-12638-020404-NZ-568	8260B	Cold Pres	SOLID, Volatile Organics, GC/MS (8260B)	Not certified - OVAP does not allow Frozen preservation
46926	A4B050165	13	S-12638-020404-NZ-569	8260B	Cold Pres	SOLID, Volatile Organics, GC/MS (8260B)	Not certified - OVAP does not allow Frozen preservation
46926	A4B050165	17	S-12638-020404-NZ-573	8260B	Cold Pres	SOLID, Volatile Organics, GC/MS (8260B)	Not certified - OVAP does not allow Frozen preservation
46926	A4B050165	20	S-12638-020404-NZ-576	8260B	Cold Pres	SOLID, Volatile Organics, GC/MS (8260B)	Not certified - OVAP does not allow Frozen preservation
46926	A4B060161	4	W-12638-020504-NZ-580	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4B060161	15	TRIP BLANK-020504-011	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4B060161	1	S-12638-020504-NZ-577	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A4B060161	2	S-12638-020504-NZ-578	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A4B060161	9	S-12638-020504-NZ-585	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A4B060161	10	S-12638-020504-NZ-586	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A4B060161	11	S-12638-020504-NZ-587	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A4B060161	12	S-12638-020504-NZ-588	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions

OVAP Evaluation - Detail Breakdown of Certified vs Non-Certified Volatile Analyses

Quote #	STL Lot #	Smp #	Client Sample ID	Method	Preservation Technique	Test Description	Certification Status
46926	A4B060161	14	S-12638-020504-NZ-590	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	**A4B060161**	**13**	**S-12638-020504-NZ-589**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A4B060161**	**3**	**S-12638-020504-NZ-579**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A4B060161**	**5**	**S-12638-020504-NZ-581**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A4B060161**	**6**	**S-12638-020504-NZ-582**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A4B060161**	**7**	**S-12638-020504-NZ-583**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A4B060161**	**8**	**S-12638-020504-NZ-584**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	A4B070129	7	W-12638-020604-NZ-597	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4B070129	9	TRIP BLANK-020604-012	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4B070129	1	S-12638-020604-NZ-591	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	**A4B070129**	**2**	**S-12638-020604-NZ-592**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A4B070129**	**3**	**S-12638-020604-NZ-593**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A4B070129**	**4**	**S-12638-020604-NZ-594**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A4B070129**	**5**	**S-12638-020604-NZ-595**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A4B070129**	**6**	**S-12638-020604-NZ-596**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A4B070129**	**8**	**S-12638-020604-NZ-598**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	A4B100195	11	W-12638-020904-NZ-609	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4B100195	15	TRIP BLANK-020904-013	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4B100195	7	S-12638-020904-NZ-605	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A4B100195	8	S-12638-020904-NZ-606	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A4B100195	10	S-12638-020904-NZ-608	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A4B100195	12	S-12638-020904-NZ-610	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A4B100195	14	S-12638-020904-NZ-612	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	**A4B100195**	**1**	**S-12638-020904-NZ-599**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A4B100195**	**2**	**S-12638-020904-NZ-600**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A4B100195**	**3**	**S-12638-020904-NZ-601**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A4B100195**	**4**	**S-12638-020904-NZ-602**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A4B100195**	**5**	**S-12638-020904-NZ-603**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A4B100195**	**6**	**S-12638-020904-NZ-604**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A4B100195**	**9**	**S-12638-020904-NZ-607**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	**A4B100195**	**13**	**S-12638-020904-NZ-611**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	A4C030214	1	S-12638-030204-NZ-619	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A4C030214	2	S-12638-030204-NZ-620	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	**A4C030214**	**3**	**S-12638-030204-NZ-621**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	A4C040310	1	W-12638-030304-NZ-622	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4C040310	8	TRIP BLANK-030304-001	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4C040310	2	S-12638-030304-NZ-623	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A4C040310	3	S-12638-030304-NZ-624	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A4C040310	4	S-12638-030304-NZ-625	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A4C040310	5	S-12638-030304-NZ-626	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A4C040310	6	S-12638-030304-NZ-627	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	**A4C040310**	**7**	**S-12638-030304-NZ-628**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	A4C050119	1	TB-030304-001	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4C050119	2	WG-030304-CAB-156	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4C050119	3	TB-030404-001	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4C050119	4	WG-030404-CAB-157	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4C050119	5	WG-030404-CAB-158	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4C050125	4	S-12638-030404-NZ-632	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions

OVAP Evaluation - Detail Breakdown of Certified vs Non-Certified Volatile Analyses

Quote #	STL Lot #	Smp #	Client Sample ID	Method	Preservation Technique	Test Description	Certification Status
46926	A4C050125	1	S-12638-030404-NZ-629	8260B	Cold Pres	SOLID, Volatile Organics, GC/MS (8260B)	Not certified - OVAP does not allow Frozen preservation
46926	A4C050125	2	S-12638-030404-NZ-630	8260B	Cold Pres	SOLID, Volatile Organics, GC/MS (8260B)	Not certified - OVAP does not allow Frozen preservation
46926	A4C050125	3	S-12638-030404-NZ-631	8260B	Cold Pres	SOLID, Volatile Organics, GC/MS (8260B)	Not certified - OVAP does not allow Frozen preservation
46926	A4C050125	5	S-12638-030404-NZ-633	8260B	Cold Pres	SOLID, Volatile Organics, GC/MS (8260B)	Not certified - OVAP does not allow Frozen preservation
46926	A4C050125	6	S-12638-030404-NZ-634	8260B	Cold Pres	SOLID, Volatile Organics, GC/MS (8260B)	Not certified - OVAP does not allow Frozen preservation
46926	A4C060122	1	W-12638-030504-NZ-635	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4C060122	8	TRIP BLANK-030504-002	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4C060122	2	S-12638-030504-NZ-636	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A4C060122	4	S-12638-030504-NZ-638	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A4C060122	5	S-12638-030504-NZ-639	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A4C060122	7	S-12638-030504-NZ-641	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A4C060122	3	S-12638-030504-NZ-637	8260B	Cold Pres	SOLID, Volatile Organics, GC/MS (8260B)	Not certified - OVAP does not allow Frozen preservation
46926	A4C060122	6	S-12638-030504-NZ-640	8260B	Cold Pres	SOLID, Volatile Organics, GC/MS (8260B)	Not certified - OVAP does not allow Frozen preservation
46926	A4C090227	1	W-12638-030804-NZ-642	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4C090227	6	TRIP BLANK-030804-003	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4C090227	2	S-12638-030804-NZ-643	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A4C090227	3	S-12638-030804-NZ-644	8260B	Cold Pres	SOLID, Volatile Organics, GC/MS (8260B)	Not certified - OVAP does not allow Frozen preservation
46926	A4C090227	4	S-12638-030804-NZ-645	8260B	Cold Pres	SOLID, Volatile Organics, GC/MS (8260B)	Not certified - OVAP does not allow Frozen preservation
46926	A4C090227	5	S-12638-030804-NZ-646	8260B	Cold Pres	SOLID, Volatile Organics, GC/MS (8260B)	Not certified - OVAP does not allow Frozen preservation
46926	A4C110156	3	S-12638-031004-NZ-649	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A4C110156	1	S-12638-031004-NZ-647	8260B	Cold Pres	SOLID, Volatile Organics, GC/MS (8260B)	Not certified - OVAP does not allow Frozen preservation
46926	A4C110156	2	S-12638-031004-NZ-648	8260B	Cold Pres	SOLID, Volatile Organics, GC/MS (8260B)	Not certified - OVAP does not allow Frozen preservation
46926	A4C190144	1	WG-12638-031804-NZ-650	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4C190144	2	WG-12638-031804-NZ-651	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4C190144	3	WG-12638-031804-NZ-652	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4C190144	4	WG-12638-031804-NZ-653	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4C190144	5	WG-12638-031804-NZ-654	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4C190144	6	WG-12638-031804-NZ-655	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4C190144	7	WG-12638-031804-NZ-656	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4C190144	8	TRIP BLANK	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4C200124	1	WG-12638-031904-NZ-657	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4C200124	2	TRIP BLANK	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4C200124	3	WG-12638-031904-NZ-658	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4C200124	4	WG-12638-031904-NZ-659	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4C200124	5	WG-12638-031904-NZ-660	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4C200124	6	TRIP BLANK	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4C230176	1	TB-032204-001	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4C230176	3	WG-032204-CHB-002	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4C230176	4	WG-032204-CHB-159	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4C240242	1	TB-032304-001	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4C240242	2	WG-032304-CHB-001	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4C240242	3	WG-032304-CHB-160	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4C240242	4	WG-032304-CHB-161	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4C250204	1	TB-032404-001	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4C250204	2	WG-032404-CAB-001	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4C250204	3	WG-032404-CAB-162	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4C250204	4	WG-032404-CAB-163	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4C260188	1	TB-032504-001	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions

OVAP Evaluation - Detail Breakdown of Certified vs Non-Certified Volatile Analyses

Quote #	STL Lot #	Smp #	Client Sample ID	Method	Preservation Technique	Test Description	Certification Status
46926	A4C260188	2	WG-032504-CAB-001	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4C260188	3	WG-032504-CAB-164	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4C260188	4	WG-032504-CAB-165	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4C260188	5	WG-032504-CAB-166	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4C270135	1	TB-032604-001	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4C270135	2	WG-032604-CAB-001	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4C270135	3	WG-032604-CAB-167	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4C270135	4	WG-032604-CAB-168	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4C300274	1	TB-032904-001	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4C300274	2	WG-032904-CAB-001	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4C300274	3	WG-032904-CAB-002	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4C300274	4	WG-032904-CAB-169	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4C300274	5	WG-032904-CAB-170	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4C300274	6	WG-032904-CAB-171	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4C310284	1	TB-033004-001	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4C310284	2	WG-033004-CAB-001	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4C310284	3	WG-033004-CAB-172	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4C310284	4	WG-033004-CAB-173	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4D010311	1	TB-033104-001	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4D010311	2	WG-033104-CAB-001	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4D010311	3	WG-033104-CAB-174	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4F290160	1	WG-12638-062804-NZ-661	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4F290160	2	WG-12638-062804-NZ-662	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4F290160	3	WG-12638-062804-NZ-663	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4F290160	4	WG-12638-062804-NZ-664	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4F290160	5	WG-12638-062804-NZ-665	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4F290160	6	WG-12638-062804-NZ-666	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4F290160	7	TRIP BLANK	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4F300192	1	WG-12638-062904-NZ-667	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4F300192	2	WG-12638-062904-NZ-668	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4F300192	3	WG-12638-062904-NZ-669	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4F300192	4	WG-12638-062904-NZ-670	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4F300192	5	WG-12638-062904-NZ-671	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4F300192	6	TRIP BLANK	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions

OVAP Evaluation - Detail Breakdown of Certified vs Non-Certified Volatile Analyses

Quote #	STL Lot #	Smp #	Client Sample ID	Method	Preservation Technique	Test Description	Certification Status
46926	A4H250218	1	TB-082404-001	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4H250218	2	WG-082404-CAH-182	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	**A4J140355**	**2**	**SESS-101304-NZ-001**	**8260B**	**P&T-Unpres**	**SOLID, 4.2 TCL VOC, 8260B (Bulk)**	**Not certified - OVAP requires 8260A f/unpreserved samples**
46926	**A4J140355**	**4**	**SESS-101304-NZ-002**	**8260B**	**P&T-Unpres**	**SOLID, 4.2 TCL VOC, 8260B (Bulk)**	**Not certified - OVAP requires 8260A f/unpreserved samples**
46926	**A4J140355**	**6**	**SESS-101304-NZ-003**	**8260B**	**P&T-Unpres**	**SOLID, 4.2 TCL VOC, 8260B (Bulk)**	**Not certified - OVAP requires 8260A f/unpreserved samples**
46926	**A4J140355**	**8**	**SESS-101304-NZ-004**	**8260B**	**P&T-Unpres**	**SOLID, 4.2 TCL VOC, 8260B (Bulk)**	**Not certified - OVAP requires 8260A f/unpreserved samples**
46926	**A4J140355**	**10**	**SESS-101304-NZ-005**	**8260B**	**P&T-Unpres**	**SOLID, 4.2 TCL VOC, 8260B (Bulk)**	**Not certified - OVAP requires 8260A f/unpreserved samples**
46926	**A4J140355**	**12**	**SESS-101304-NZ-006**	**8260B**	**P&T-Unpres**	**SOLID, 4.2 TCL VOC, 8260B (Bulk)**	**Not certified - OVAP requires 8260A f/unpreserved samples**
46926	**A4J140355**	**14**	**SESS-101304-NZ-008**	**8260B**	**P&T-Unpres**	**SOLID, 4.2 TCL VOC, 8260B (Bulk)**	**Not certified - OVAP requires 8260A f/unpreserved samples**
46926	**A4J140355**	**15**	**SESS-101304-NZ-009**	**8260B**	**P&T-Unpres**	**SOLID, 4.2 TCL VOC, 8260B (Bulk)**	**Not certified - OVAP requires 8260A f/unpreserved samples**
46926	**A4J140355**	**17**	**SESS-101304-NZ-010**	**8260B**	**P&T-Unpres**	**SOLID, 4.2 TCL VOC, 8260B (Bulk)**	**Not certified - OVAP requires 8260A f/unpreserved samples**
46926	**A4J140355**	**19**	**SESS-101304-NZ-011**	**8260B**	**P&T-Unpres**	**SOLID, 4.2 TCL VOC, 8260B (Bulk)**	**Not certified - OVAP requires 8260A f/unpreserved samples**
46926	**A4J140355**	**21**	**SESS-101304-NZ-012**	**8260B**	**P&T-Unpres**	**SOLID, 4.2 TCL VOC, 8260B (Bulk)**	**Not certified - OVAP requires 8260A f/unpreserved samples**
46926	**A4J140355**	**23**	**SESS-101304-NZ-013**	**8260B**	**P&T-Unpres**	**SOLID, 4.2 TCL VOC, 8260B (Bulk)**	**Not certified - OVAP requires 8260A f/unpreserved samples**
46926	**A4J140355**	**27**	**SESS-101304-NZ-016**	**8260B**	**P&T-Unpres**	**SOLID, 4.2 TCL VOC, 8260B (Bulk)**	**Not certified - OVAP requires 8260A f/unpreserved samples**
46926	**A4J140355**	**29**	**SESS-101304-NZ-017**	**8260B**	**P&T-Unpres**	**SOLID, 4.2 TCL VOC, 8260B (Bulk)**	**Not certified - OVAP requires 8260A f/unpreserved samples**
46926	**A4J140355**	**31**	**SESS-101304-NZ-018**	**8260B**	**P&T-Unpres**	**SOLID, 4.2 TCL VOC, 8260B (Bulk)**	**Not certified - OVAP requires 8260A f/unpreserved samples**
46926	A4J140355	1	WSS-101304-NZ-001	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4J140355	3	WSS-101304-NZ-002	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4J140355	5	WSS-101304-NZ-003	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4J140355	7	WSS-101304-NZ-004	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4J140355	9	WSS-101304-NZ-005	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4J140355	11	WSS-101304-NZ-006	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4J140355	13	WSS-101304-NZ-007	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4J140355	16	WSS-101304-NZ-010	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4J140355	18	WSS-101304-NZ-011	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4J140355	20	WSS-101304-NZ-012	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4J140355	22	WSS-101304-NZ-013	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4J140355	24	EB-101304-NZ-014	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4J140355	25	EB-101304-NZ-015	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4J140355	26	WSS-101304-NZ-016	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4J140355	28	WSS-101304-NZ-017	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4J140355	30	WSS-101304-NZ-018	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4J140355	32	WSS-101304-NZ-019	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4J140355	33	WSS-101304-NZ-020	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4J140355	34	WSS-101304-NZ-021	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4J140355	36	TB-101304-NZ-001	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	**A4J140355**	**35**	**SESS-101304-NZ-022**	**8260B**	**MEOH-Unpres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP requires 8260A f/unpreserved samples**
46926	A4J150364	1	WG-101404-NZ-001	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4J150364	2	WG-101404-NZ-002	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4J150364	3	WG-101404-NZ-003	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4J150364	4	TB-101404-NZ-001	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	**A4J180139**	**2**	**SESS-101504-NZ-002**	**8260B**	**P&T-Unpres**	**SOLID, 4.2 TCL VOC, 8260B (Bulk)**	**Not certified - OVAP requires 8260A f/unpreserved samples**
46926	**A4J180139**	**4**	**SESS-101504-NZ-003**	**8260B**	**P&T-Unpres**	**SOLID, 4.2 TCL VOC, 8260B (Bulk)**	**Not certified - OVAP requires 8260A f/unpreserved samples**
46926	**A4J180139**	**6**	**SESS-101504-NZ-004**	**8260B**	**P&T-Unpres**	**SOLID, 4.2 TCL VOC, 8260B (Bulk)**	**Not certified - OVAP requires 8260A f/unpreserved samples**
46926	**A4J180139**	**8**	**SESS-101504-NZ-005**	**8260B**	**P&T-Unpres**	**SOLID, 4.2 TCL VOC, 8260B (Bulk)**	**Not certified - OVAP requires 8260A f/unpreserved samples**
46926	**A4J180139**	**9**	**SESS-101504-NZ-006**	**8260B**	**P&T-Unpres**	**SOLID, 4.2 TCL VOC, 8260B (Bulk)**	**Not certified - OVAP requires 8260A f/unpreserved samples**
46926	**A4J180139**	**11**	**SESS-101504-NZ-007**	**8260B**	**P&T-Unpres**	**SOLID, 4.2 TCL VOC, 8260B (Bulk)**	**Not certified - OVAP requires 8260A f/unpreserved samples**

OVAP Evaluation - Detail Breakdown of Certified vs Non-Certified Volatile Analyses

Quote #	STL Lot #	Smp #	Client Sample ID	Method	Preservation Technique	Test Description	Certification Status
46926	A4J180139	13	SESS-101504-NZ-008	8260B	P&T-Unpres	SOLID, 4.2 TCL VOC, 8260B (Bulk)	Not certified - OVAP requires 8260A f/unpreserved samples
46926	A4J180139	15	SESS-101504-NZ-009	8260B	P&T-Unpres	SOLID, 4.2 TCL VOC, 8260B (Bulk)	Not certified - OVAP requires 8260A f/unpreserved samples
46926	A4J180139	1	WSS-101504-NZ-002	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4J180139	3	WSS-101504-NZ-003	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4J180139	5	WSS-101504-NZ-004	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4J180139	7	WSS-101504-NZ-005	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4J180139	10	WSS-101504-NZ-007	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4J180139	12	WSS-101504-NZ-008	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4J180139	14	WSS-101504-NZ-009	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4J180139	16	WSS-101504-NZ-010	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4J180139	17	WSS-101504-NZ-011	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4J180139	18	WSS-101504-NZ-012	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4J180139	19	EB-101504-NZ-001	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4J180139	20	EB-101504-NZ-013	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4J180139	21	TB-101504-NZ-001	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4J190173	1	WG-101804-NZ-001	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4J190173	2	WG-101804-NZ-002	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4J190173	3	WG-101804-NZ-003	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4J190173	4	WG-101804-NZ-004	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4J190173	5	TB-101804-NZ-001	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4J200166	1	WG-101904-NZ-001	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4J200166	2	WG-101904-NZ-002	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4J200166	3	WG-101904-NZ-003	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4J200166	4	WG-101904-NZ-004	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4J200166	5	TB-101904-NZ-001	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K050105	12	EB-110104-NZ-012	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K050105	19	TB-110104-NZ-001	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K050105	11	S-110104-NZ-011	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A4K050105	16	S-110104-NZ-016	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A4K050105	18	S-110104-NZ-018	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A4K050105	7	S-110104-NZ-007	8260B	Bisulfate	SOLID, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K050105	8	S-110104-NZ-008	8260B	Bisulfate	SOLID, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K050105	9	S-110104-NZ-009	8260B	Bisulfate	SOLID, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K050105	10	S-110104-NZ-010	8260B	Bisulfate	SOLID, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K050105	13	S-110104-NZ-013	8260B	Bisulfate	SOLID, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K050105	14	S-110104-NZ-014	8260B	Bisulfate	SOLID, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K050105	15	S-110104-NZ-015	8260B	Bisulfate	SOLID, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K050105	17	S-110104-NZ-017	8260B	Bisulfate	SOLID, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K050119	1	S-110204-NZ-019	8260B	Bisulfate	SOLID, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K050119	2	S-110204-NZ-020	8260B	Bisulfate	SOLID, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K050119	3	S-110204-NZ-021	8260B	Bisulfate	SOLID, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K050119	4	S-110204-NZ-022	8260B	Bisulfate	SOLID, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K050119	5	S-110204-NZ-023	8260B	Bisulfate	SOLID, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K050299	1	WQ-110404-AC-001	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K050299	2	WQ-110404-AC-002	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K050299	3	WG-110404-AC-001	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K060192	1	WQ-110504-JL-001	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K060192	2	WG-110504-JL-001	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions

OVAP Evaluation - Detail Breakdown of Certified vs Non-Certified Volatile Analyses

Quote #	STL Lot #	Smp #	Client Sample ID	Method	Preservation Technique	Test Description	Certification Status
46926	A4K060192	3	WG-110504-JL-002	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K060192	4	WQ-110504-AC-003	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K060192	5	WG-110504-AC-002	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K090274	1	GW-110804-TV-001	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K090274	2	GW-110804-TV-002	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K090274	3	GW-110804-DS-001	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K090274	4	GW-110804-AC-001	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K090274	5	GW-110804-AC-002	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K090274	6	GW-110804-AC-003	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K090274	7	GW-110804-AC-004	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K110346	1	GW-110904-AC-005	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K110346	2	GW-110904-AC-006	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K110346	3	GW-110904-AC-007	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K110346	4	GW-110904-AC-008	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K110346	5	GW-110904-DS-002	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K110346	6	GW-110904-DS-003	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K110346	7	GW-111004-DS-004	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K110346	8	GW-111004-AC-009	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K110346	9	GW-111004-AC-010	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K110346	10	GW-111004-AC-011	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K110346	11	GW-111004-AC-012	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K110346	12	GW-111004-AC-013	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K120313	1	EB-111104-NZ-030	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K120313	2	S-111104-NZ-024	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A4K120313	3	S-111104-NZ-025	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A4K120313	8	S-111104-NZ-031	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A4K120313	9	S-111104-NZ-032	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A4K120313	12	S-111104-NZ-035	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
46926	A4K120313	4	S-111104-NZ-026	8260B	Bisulfate	SOLID, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K120313	10	S-111104-NZ-033	8260B	Bisulfate	SOLID, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K120313	11	S-111104-NZ-034	8260B	Bisulfate	SOLID, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K120313	13	S-111104-NZ-036	8260B	Bisulfate	SOLID, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K120313	14	S-111104-NZ-037	8260B	Bisulfate	SOLID, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K120385	1	GW-111104-DS-005	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K120385	2	GW-111104-AC-014	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K120385	3	GW-111104-AC-015	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K120385	4	GW-111104-AC-016	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K120385	5	GW-111104-AC-017	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K130240	1	GW-111204-TV-003	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K130240	2	GW-111204-TV-004	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K130240	3	GW-111204-TV-005	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K130240	4	GW-111204-TV-006	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K130240	5	GW-111204-DS-006	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K130240	6	GW-111204-DS-007	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K130240	7	GW-111204-DS-008	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K160255	1	GW-111504-DB-001	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K160255	2	GW-111504-DB-002	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K160255	3	GW-111504-DB-003	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions

OVAP Evaluation - Detail Breakdown of Certified vs Non-Certified Volatile Analyses

Quote #	STL Lot #	Smp #	Client Sample ID	Method	Preservation Technique	Test Description	Certification Status
46926	A4K160255	4	GW-111504-DB-004	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K170412	1	GW-111604-JL-001	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K170412	2	GW-111604-JL-002	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K170412	3	GW-111604-JL-003	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K170412	4	GW-111604-AC-018	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K170412	5	GW-111604-AC-019	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K170412	6	GW-111604-AC-020	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K170412	7	GW-111604-AC-021	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K180322	1	GW-111704-JL-004	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K180322	2	GW-111704-JL-005	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K180322	3	GW-111704-JL-006	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K180322	4	GW-111704-JL-007	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K180322	5	GW-111704-JL-008	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K180322	6	GW-111704-JL-009	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K180322	7	GW-111704-AC-022	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K180322	8	GW-111704-AC-023	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K180322	9	GW-111704-AC-024	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K180322	10	GW-111704-AC-025	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K190318	1	GW-111804-GL-001	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K190318	2	GW-111804-GL-002	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K190318	3	GW-111804-GL-003	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K190318	4	GW-111804-AC-026	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K190318	5	GW-111804-AC-027	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K190318	6	GW-111804-AC-028	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K190318	7	GW-111804-AC-029	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K190318	8	GW-111804-AC-030	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K200226	1	GW-111904-AC-031	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K200226	2	GW-111904-AC-032	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K200226	3	GW-111904-AC-033	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K200226	4	GW-111904-GL-004	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K200226	5	GW-111904-GL-005	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K200226	6	GW-111904-GL-006	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K200226	7	GW-111904-AC-034	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K200226	8	GW-111904-AC-035	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K230193	1	GW-112204-AC-036	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K230193	2	GW-112204-AC-037	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K230193	3	GW-112204-AC-038	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K230193	4	GW-112204-GR-007	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K230193	5	GW-112204-GR-008	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K240355	1	GW-112304-GL-009	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K240355	2	GW-112304-AC-039	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K240355	3	GW-112304-AC-040	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K240355	4	GW-112304-AC-041	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K240355	5	GW-112304-AC-042	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K240355	6	GW-112304-AC-043	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K240355	7	GW-112304-GL-010	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K240355	8	GW-112304-GL-011	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K300205	1	S-112904-NZ-041	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions

OVAP Evaluation - Detail Breakdown of Certified vs Non-Certified Volatile Analyses

Quote #	STL Lot #	Smp #	Client Sample ID	Method	Preservation Technique	Test Description	Certification Status
46926	A4K300205	2	S-112904-NZ-042	8260B	Bisulfate	SOLID, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4K300205	3	S-112904-NZ-043	8260B	Bisulfate	SOLID, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4L010184	1	GW-113004-AC-044	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4L010184	2	GW-113004-AC-045	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4L010184	3	GW-113004-AC-046	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	**A4L020366**	**1**	**S-120104-NZ-053**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
46926	A4L090388	1	GW-120804-AC-047	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4L090388	2	GW-120804-AC-048	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4L090388	3	GW-120804-AC-049	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4L090388	4	GW-120804-AC-050	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions
46926	A4L090388	5	GW-120804-AC-051	8260B	P&T	WATER, 4.2 TCL VOCs, 8260B	Certified parameter -- see 4.2 list exceptions

SEVERN TRENT STL

STl North Canton
4101 Shuffel Drive
North Canton, Ohio 44720

Affidavit
Certified Laboratory

State of Ohio)
)SS:
County of Stark)

Opal Davis-Johnson, being first duly sworn according to law deposes and states that, to the best of my knowledge, information and belief:

1. I am an adult over the age of eighteen (18) years old and competent to testify herein.

2. I am employed by STL North Canton as Laboratory Manager, and I am authorized to submit this Affidavit on behalf of STL North Canton.

3. STL North Canton performed analyses for Haley & Aldrich, Inc. concerning a voluntary action for property identified as the Former GM Harrison Thermal Systems site.

4. STL North Canton was a Certified Laboratory pursuant to Ohio Revised Code (ORC) Chapter 3746 and Ohio Administrative Code (OAC) Chapter 3745-300 when it performed the analyses for the purposes of conducting or completing the voluntary action.

5. All of the analyses performed by STL North Canton for the purposes of conducting or completing the voluntary action complied with the applicable requirements of ORC Chapter 3746 and rules adopted under OAC Chapter 3745-300.

6. Only those analyses performed by STL North Canton that are identified in the Attachments hereto of this Affidavit are subject to this Affidavit. Any analyses performed that are not identified in Attachment hereto of this Affidavit are not subject to this Affidavit.

7. The information, data, documents, and reports provided for the purpose of conducting or completing the voluntary action are identified in Attachment 1 hereto.

8. All information, data, documents, and reports submitted by STL North Canton, identified in Attachment 1 of this Affidavit and submitted for the purposes of conducting or completing the voluntary action, are true, accurate and complete.

9. STL North Canton has no conflict of interest, as set forth in OAC rules 3745-300-04 (I)(5) and 3745-300-05 (F)(3), in performing the analyses for Haley & Aldrich, Inc. for the property identified as Former GM Harrison Thermal Systems.

Further Affiant sayeth naught.

Opal Davis-Johnson

Sworn to before me this 22th day of February, 2005.

Jeffrey C. Smith
Notary Public

JEFFREY C. SMITH, Notary Public
State of Ohio
My Commission Expires Feb. 12, 2007

STL North Canton
Certified Laboratory # CL0024

Affidavit
Certified Laboratory
Attachment 1

	Lab Report Number	Sample Receipt Date	Report Date
	OVAP Certificate September 24, 2002 - July 1, 2003		
1)	A2J160107	10/15/02	11/13/02
2)	A2J160121	10/16/02	11/15/02
3)	A2J170316	10/17/02	11/19/02
	OVAP Certificate November 25, 2003 - August 22, 2004		
4)	A4H030236	7/31/04	09/24/04

OhioEPA

Ohio Environmental Protection Agency
Division of Emergency and Remedial Response
Voluntary Action Program

Under the authority of Ohio Revised Code Section 3746.04(B)(6) and Ohio Administrative Code Rule 3745-300-04

Certifies

STL North Canton

4101 Shuffel Drive, NW
North Canton, OH 44720

as a

Certified Laboratory

(Number CL0024)

for the following analytes, parameter groups, and methods:

Aluminum/6010B	Cobalt/6010B	Silver/6010B	Total Phenolics/420.1*, 9065*	Organochlorine Pesticides/8081A
Antimony/6010B	Copper/6010B	Sodium/6010B	Chloride/9251*,300.0	Polynuclear Aromatic Hydrocarbons/610*, 8310
Arsenic/6010B	Cyanide/335.2(CLP-M)	Thallium/6010B,7841	Phosphate/365.2*	Semi-Volatile Organic Compounds/8270C
Barium/6010B	Iron/6010B	Vanadium/6010B	Fluoride/300.0	Volatile Organic Compounds/602*,8260A, 8260B, 8021B
Beryllium/6010B	Lead/6010B	Zinc/6010B	Sulfate/300.0	N-Hexane/8260A-Modified, 8260B-Modified
Cadmium/6010B	Manganese/6010B	Selenium/6010B	Nitrate/300.0	Total Petroleum Hydrocarbons/418.1*
Calcium/6010B	Mercury/7470A*,7471A	Potassium/6010B	Bromide/300.0	Total Petroleum Hydrocarbons Only, Diesel Range Organics/8015B
Chromium/6010B	Nickel/6010B	Polychlorinated	Phosphorus/365.2*	Total Petroleum Hydrocarbons, Gasoline Range Organics/8015A-Modified
			Chlorinated Herbicides/8151A	Hexavalent Chromium/7196A

***Water Only**

SEP 24 2002
Date of Certification

Director, Ohio Environmental Protection Agency

SEP 24 2004
Date of Expiration

Manager, Voluntary Action Program

SCOPE, LIMITATION, OBLIGATIONS AND RESPONSIBILITIES OF CERTIFICATION ON REVERSE SIDE

OHIO E.P.A.
SEP 24 2002
ENTERED DIRECTOR'S JOURNAL

OhioEPA

Ohio Environmental Protection Agency
Division of Emergency and Remedial Response
Voluntary Action Program

Under the authority of Ohio Revised Code Section 3746.04(B)(6) and Ohio Administrative Code Rule 3745-300-04

Certifies

STL North Canton

4101 Shuffel Drive, NW
North Canton, OH 44720

as a

Certified Laboratory

(Number CL0024)

for the following analytes, parameter groups, and methods:

Aluminum/6010B
Antimony/6010B, 6020
Arsenic/6010B, 6020
Barium/6010B, 6020
Beryllium/6010B, 6020
Cadmium/6010B, 6020
Calcium/6010B
Chromium/6010B, 6020
Cobalt/6010B, 6020
Copper/6010B, 6020
Cyanide, Total/335.2(CLP-M)
Iron/6010B
Lead/6010B, 6020
Manganese/6010B, 6020
Nickel/6010B, 6020
Silver/6010B, 6020
Sodium/6010B
Thallium/6010B, 6020
Vanadium/6010B
Zinc/6010B, 6020
Selenium/6010B
Potassium/6010B
Polychlorinated Biphenyls/8082
Hexane Extractable Material/1664A*
Total Phenolics/420.1*, 9065*
Chloride/9251*,300.0
Phosphate/365.2*
Fluoride/300.0
Sulfate/300.0
Nitrate/300.0
Bromide/300.0
Phosphorus/365.2*
Chlorinated Herbicides/8151A
Organochlorine Pesticides/8081A
Polynuclear Aromatic Hydrocarbons/610*, 8310
Semi-Volatile Organic Compounds/8270C
Volatile Organic Compounds/602*,8260A, 8260B, 8021B
N-Hexane/8260A-Modified, 8260B Modified
Hexavalent Chromium/7196A
Total Petroleum Hydrocarbons Only, Diesel Range Organics/8015B
Total Petroleum Hydrocarbons, Gasoline Range Organics/8015A Modified

*Water Only

NOV 25 2003
Date of Certification

Director, Ohio Environmental Protection Agency

SEP 24 2004
Date of Expiration

Manager, Voluntary Action Program

SCOPE, LIMITATION, OBLIGATIONS AND RESPONSIBILITIES OF CERTIFICATION ON REVERSE SIDE

SEVERN TRENT STL

Certification Status of Analyses

Certification status of tests performed
Sorted by certification period / lot number / test

Certification does not cover:

- 8260 note: Preservation technique/method revision affect determination of OVAP compliance. Some samples in an SDG may be covered under certification, while others are not. General details re: certification follow. Sample specific information is prov
  - 8260 compounds not listed in method: Cyclohexane, Methyl acetate, Methylcyclohexane, MTBE, 1,1,2-Trichloro-1,2,2-trifluoroethane
  - 8260B soils preserved by freezing
- 8270 compounds not listed in method: Atrazine, Benzaldehyde, 1,1'-Biphenyl, Caprolactam
- 6010B elements not listed on certificate / TAL exception - Magnesium is not a certified parameter
- 9012A - Cyanide

KEY:
Conditionally certified parameter
Parameter not covered by cert

Lot	Matrix	Extraction	Method	Program	Test Description	OVAP Certified Sept 24, 2002-July 1, 2003
A2J160107	Solid	06	QP	01	SOLID, 9012A, Cyanide, Total	No
A2J160107	Solid	13	QL	01	SOLID, 8270C, BNAS TCL 4.2 No TICS	Yes, but only for analytes listed in 8270C
A2J160107	Solid	Cold Pres	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	No
A2J160107	Solid	46	QM	01	SOLID, 6010B, TAL ICP Trace Metals	Yes - for elements listed on cert
A2J160107	Solid	46	QO	01	SOLID, 6010B, TAL ICP Metals	Yes - for elements listed on cert
A2J160107	Solid	70	O9	01	SOLID, 7471A, Mercury	Yes
A2J160107	Solid	71	QH	01	SOLID, 8082, PCBs	Yes
A2J160107	Solid	88	SM	01	SOLID, 160.3 MODIFIED, Total Solids	TS is not regulated under the program
A2J160121	Solid	06	QP	01	SOLID, 9012A, Cyanide, Total	No
A2J160121	Solid	13	QL	01	SOLID, 8270C, BNAS TCL 4.2 No TICS	Yes, but only for analytes listed in 8270C
A2J160121	Solid	MEOH ext	QK	01	Volatile Organics, GC/MS (8260B)	Yes
A2J160121	Solid	Cold Pres	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	No
A2J160121	Solid	46	QM	01	SOLID, 6010B, TAL ICP Trace Metals	Yes - for elements listed on cert
A2J160121	Solid	46	QO	01	SOLID, 6010B, TAL ICP Metals	Yes - for elements listed on cert
A2J160121	Solid	70	O9	01	SOLID, 7471A, Mercury	Yes
A2J160121	Solid	71	QH	01	SOLID, 8082, PCBs	Yes
A2J160121	Solid	88	SM	01	SOLID, 160.3 MODIFIED, Total Solids	TS is not regulated under the program
A2J170316	Solid	06	QP	01	SOLID, 9012A, Cyanide, Total	No
A2J170316	Solid	13	QL	01	SOLID, 8270C, BNAS TCL 4.2 No TICS	Yes, but only for analytes listed in 8270C
A2J170316	Solid	Cold Pres	QK	01	SOLID, Volatile Organics, GC/MS (8260B)	No
A2J170316	Solid	46	QM	01	SOLID, 6010B, TAL ICP Trace Metals	Yes - for elements listed on cert
A2J170316	Solid	46	QO	01	SOLID, 6010B, TAL ICP Metals	Yes - for elements listed on cert
A2J170316	Solid	70	O9	01	SOLID, 7471A, Mercury	Yes
A2J170316	Solid	71	QH	01	SOLID, 8082, PCBs	Yes
A2J170316	Solid	88	SM	01	SOLID, 160.3 MODIFIED, Total Solids	TS is not regulated under the program

Certification status of tests performed
Sorted by certification period / lot number / test

Lot	Matrix	Extraction	Method	Program	Test Description	OVAP Certified Nov 25, 2003 - August 22, 2004
Certification does not cover:						
					- 8260 compounds not listed in method: Cyclohexane, Methyl acetate, Methylcyclohexane, MTBE, 1,1,2-Trichloro-1,2,2-trifluoroethane	
KEY:						
Conditionally certified parameter						
Parameter not covered by cert						
A4H030236	Water	P&T-LL	QK	01	WATER, 8260B, VOCs TCL 4.2 TRIP BLANK	Yes, but only for analytes listed in 8260B
A4H030236	Waste	06	QP	01	WASTE, 9012A, Cyanide, Total	Wastes are not regulated under the program
A4H030236	Waste	08	GI	01	WASTE, 7.3.3, Reactive Cyanide	Wastes are not regulated under the program
A4H030236	Waste	08	GJ	01	WASTE, 7.3.4, Sulfide, Reactive	Wastes are not regulated under the program
A4H030236	Waste	14	KI	01	WASTE, 8015B, Hydrocarbons, Extractable	Wastes are not regulated under the program
A4H030236	Waste	14	QL	01	WASTE, 8270C, TCL 4.2 BNAs	Wastes are not regulated under the program
A4H030236	Waste	2W	QH	01	WASTE, 8082, PCBs	Wastes are not regulated under the program
A4H030236	Waste	46	QM	01	WASTE, 6010B, Trace TAL Metals	Wastes are not regulated under the program
A4H030236	Waste	46	QO	01	WASTE, 6010B, TAL Metals (-earth metals)	Wastes are not regulated under the program
A4H030236	Waste	70	O9	01	WASTE, 7471A, Mercury	Wastes are not regulated under the program
A4H030236	Waste	73	KJ	01	WASTE, 8015B, Hydrocarbons, Volatile Pet	Wastes are not regulated under the program
A4H030236	Waste	73	QK	01	WASTE, 8260B, TCL 4.2 VOCs	Wastes are not regulated under the program
A4H030236	Waste	88	AE	01	WASTE, 1010, Flash Point	Wastes are not regulated under the program
A4H030236	Waste	88	DZ	01	WASTE, 9045C, Corrosivity	Wastes are not regulated under the program
A4H030236	Waste	88	YY	01	WASTE, ASTM D1298 Sp Gravity-STL Chicago	Wastes are not regulated under the program
A4H030236	Waste	88	YY	01	WASTE, ASTM D2983 Viscosity- STL Chicago	Wastes are not regulated under the program
A4H030236	Waste	88	ZZ	01	WASTE, ASTM D971, Interfacial Tension-TX	Wastes are not regulated under the program

SEVERN TRENT STL

Detail Breakdown of

Certified vs Non-Certified Volatile Analyses

OVAP Evaluation - Detail Breakdown of Certified vs Non-Certified Volatile Analyses

Quote #	STL Lot #	Smp #	Client Sample ID	Method	Preservation Technique	Test Description	Certification Status
48845	A2G240194	1	GW-CAH-072302-FRAC	8260B	P&T	WATER, 8260B, TCLP list	Certified parameter
48845	**A2J160107**	**1**	**OW1-101402-1230**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
48845	**A2J160107**	**2**	**OW1A-101402-1330**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
48845	**A2J160107**	**3**	**OW2-101402-1405**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
48845	A2J160121	2	OW3A-101502-1020	8260B	MEOH-Pres	SOLID, Volatile Organics, GC/MS (8260B)	Certified parameter -- see 4.2 list exceptions
48845	**A2J160121**	**1**	**OW3-101502-0940**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
48845	**A2J160121**	**3**	**OW4-101502-1330**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
48845	**A2J160121**	**4**	**OW5-101502-1600**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
48845	**A2J170316**	**1**	**OW6-101602-0915**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**
48845	**A2J170316**	**2**	**OW7-101602-1145**	**8260B**	**Cold Pres**	**SOLID, Volatile Organics, GC/MS (8260B)**	**Not certified - OVAP does not allow Frozen preservation**

OVAP Evaluation - Detail Breakdown of Certified vs Non-Certified Volatile Analyses

Quote #	STL Lot #	Smp #	Client Sample ID	Method	Preservation Technique	Test Description		Certification Status
59930	A4H030236	1	TB-072704-001	8260B	P&T-LL	WATER, 8260B, VOCs TCL 4.2	TRIP BLANK	Certified parameter -- see 4.2 list exceptions
59930	A4H030236	2	LF-ACC-072904-175	8260B	MEOH	WASTE, 8260B, VOCs TCL 4.2		Not covered by OVAP
59930	A4H030236	3	LF-ACC-072904-176	8260B	MEOH	WASTE, 8260B, VOCs TCL 4.2		Not covered by OVAP
59930	A4H030236	2	LF-ACC-073004-177	8260B	MEOH	WASTE, 8260B, VOCs TCL 4.2		Not covered by OVAP

APPENDIX J

DATA PACKAGES

APPENDIX K

SEDIMENT SAMPLING DATA

INCLUDING SRW PHASE II REPORT EXCERPT

FILE COPY

REPORT OF PHASE II PROPERTY ASSESSMENT
PROPOSED TOOL TOWN DEVELOPMENT
300 TAYLOR STREET
DAYTON, MONTGOMERY COUNTY, OHIO

PREPARED FOR:

MR. JIM SHOEMAKER
THE CITY OF DAYTON
DEPARTMENT OF WATER
320 WEST MONUMENT AVENUE
DAYTON, OHIO 45402

APRIL 26, 2001

SRW ORDER NO. DAY-001.06

PREPARED BY:

SRW ENVIRONMENTAL SERVICES, INC.
55 WEST TECHNECENTER DRIVE, SUITE C
MILFORD, OHIO 45150
Phone: **(513) 576-0009**
Fax: **(513) 576-9756**

Three metals, arsenic, cadmium, and lead, were detected above the GUPUS in several wells during the May sampling event. Only lead was detected above the GUPUS during the June 2000 sampling events. Arsenic and lead were both detected above the GUPUS during the December 2000 sampling event. The analytical results are presented in Table V and on Figure 9.

No PCBs or SVOCs were detected in any groundwater samples that were analyzed for these compounds. Copies of the laboratory reports and chain-of-custody documentation are located in Appendix 6.

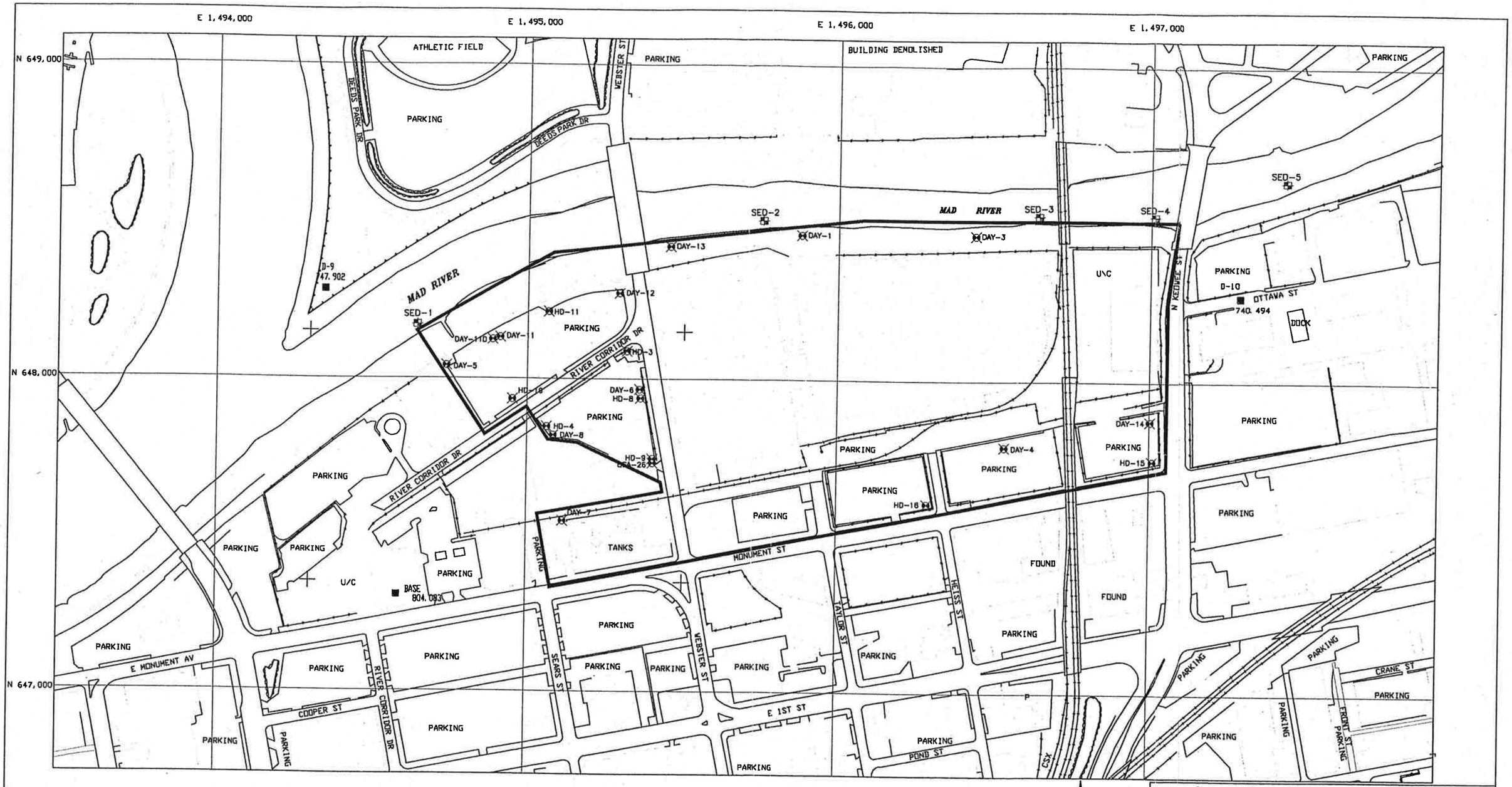
4.5 Sediment Results

Table VI presents the results of detected compounds in sediment samples collected from the southern shore of the Mad River. Sediment sample results were compared to the ecotoxicologically-based benchmarks referenced in Ohio Administrative Code (OAC) §3745-300-09. PCBs were detected above the standard of 0.023 mg/Kg in three of the five samples submitted for PCB analysis. PCB detections ranged from 0.03 mg/Kg in SED-1 to 0.26 mg/Kg in SED-4. The only VOC detected was tetrachloroethene, in SED-1 at 0.019 mg/Kg. Barium, chromium, and lead were the only metals detected; and they were all detected at concentrations below standards. Copies of the laboratory reports and chain-of-custody documentation are located in Appendix 7.

4.6 Previous Investigations

Previous investigations performed at the Study Area have focused on the General Motors Harrison Division Dayton Plant (GM Plant). Table VII summarizes the investigation dates, soil borings/monitoring wells installed, and the release investigated. Two separate and independent releases are known to have occurred on the GM property. On July 31, 1975, an estimated release of 1,000 gallons of PCE occurred as the result of a UST overfill, on the western side of the GM facility. As part of an ongoing BUSTR UST removal program, free product was identified in the northeastern corner of the facility. Characterization samples of the product were collected, and the presence of PCBs was identified.

Monitoring wells were installed in May 1988, June 1996, April 1997, February 1999, and June 1999 to determine the extent of PCE impact in groundwater. The highest PCE concentration, 50,000



LEGEND

- STUDY AREA
- SED-2 SEDIMENT SAMPLE LOCATON
- DAY-4 MONITOR WELL LOCATION

NORTH

SAMPLE LOCATION MAP
PROPOSED TOOL TOWN DEVELOPMENT
DAYTON, OHIO

SRW ENVIRONMENTAL SERVICES, INC.
55 WEST TECHNECENTER DRIVE
SUITE C, MILFORD, OHIO 45150
TELE: 513-576-0009
FAX: 513-576-9766

DRAWN BY/CHECKED BY:	SCALE:	PROJECT No.:
GSY/RHS	1" = 300'	DAY-001.06
DIR\FILE:	REVISION DATE:	FIGURE No.:
DAY001\NEWMAP2.DWG	4/12/01	2

Table VI
Detected Compounds in Mad River Sediment Samples
January 2001
Tool Town – Dayton, Ohio

Sample ID	Barium	Chromium	Lead	PCBs (Aroclor 1254)	Tetrachloro-ethene
SED-1	27	4.7	8.3	0.03	0.019
SED-2	26	5.2	12	<0.02	<0.005
SED-3	NA	NA	NA	0.09	<0.005
SED-4	NA	NA	NA	0.26	<0.005
SED-5	43	5.5	9.5	<0.02	<0.005
Method Detection Limit	10	1.0	1.5	0.02	0.005
VAP Standards*	NS	81	47	0.023	0.53+

Notes: Concentrations reported in mg/Kg dry weight basis
NS – No standard
*VAP Standards are the Ecotoxicologically-Based Benchmarks Effects Range Low value
+ – Sediment Quality Benchmark
RCRA metals analyzed by EPA Method SW846-6010
PCBs analyzed by EPA Method SW846-8082
VOCs analyzed by EPA Method SW846-8260
NA – Not analyzed

APPENDIX 7

Sediment
Laboratory Analytical Results and
Chain-of-Custody Documentation

DATA CHEM LABORATORIES
A SORENSON COMPANY

FEB 0 8 2001

Submitted To: Mike May
SRW Environmental Consultants, Inc.
55 West Technecenter Dr., Suite C
Milford, OH 45150

Reference Data:	**RCRA Metals**
Client Sample No.:	SED-1 through SED-5
P.O. No.:	DAY-001.06
Sample Location:	Tool Town; Dayton, OH
Sample Type:	Soil
Method Reference:	3050/6010
DCL Set ID No.:	01-S-0374
DCL Sample ID No.:	01-02107 through 01-02111
Sample Receipt Date:	1/24/2001
Preparation Date:	01/26/01
Analysis Date:	01/26/01

The samples were prepared in accordance with EPA method 3050. The samples were then analyzed in accordance with EPA method 6010 using a Perkin Elmer 3000XL (ICP) purged spectrometer.

Results relate only to the items tested.

The results are in the enclosed data table.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Chris Baugues
Analyst

Reviewer

CINCINNATI OFFICE
4388 GLENDALE-MILFORD ROAD
CINCINNATI, OHIO 45242-3706
513 733-5336, FAX 513 733-5347

WEST COAST OFFICE
11 SANTA YORMA COURT
NOVATO, CALIFORNIA 94945
800 280-8071, FAX 415 893-9469

Results (Dry Weight Corrected)
mg/Kg (ppm)

Client #	SED-1	SED-2	SED-5			
DCL #	01-02107	01-02108	01-02111			RPL
Arsenic	ND	ND	ND			5.0
Barium	**27.**	**26.**	**43.**			10.
Cadmium	ND	ND	ND			0.5
Chromium	**4.7**	**5.2**	**5.5**			1.0
Lead	**8.3**	**12.**	**9.5**			1.5
Selenium	ND	ND	ND			3.0
Silver	ND	ND	ND			1.0

ND indicates the value is below the Reporting Limit.
RPL stands for Reporting Limit.

QC Results
mg/Kg (ppm)

Client #		% Recovery	% Recovery	% Recovery		
DCL #	Prep Blank	LCS	01-02108MS	01-02108MSD		RPL
Arsenic	ND	90.	83.	85.		5.0
Barium	ND	91.	88.	81.		10.
Cadmium	ND	94.	85.	88.		0.5
Chromium	ND	94.	81.	89.		1.0
Lead	ND	92.	79.	81.		1.5
Selenium	ND	85.	79.	80.		3.0
Silver	ND	90.	85.	85.		1.0

ND indicates the value is below the Reporting Limit.
RPL stands for Reporting Limit.
LCS stands for laboratory control sample; MS stands for matrix spike; MSD stands for matrix spike duplicate.

Chris Baugues
Analyst

Reviewer

Cooler Receipt Worksheet (Revised 12/14/99) **Page** 3 **of** 3

Set I.D.: 0374 Date/Time of Receipt: 1/24/01 1514

Client Name: SRW

Cooler Temperature: 2.9 °C

Receipt Clerk: WRO

☐ pH Criteria not Met
☐ Missing Samples
☐ Broken/Leaking Samples
☐ Cooler Temperature Out of Range
☐ Insufficient Sample Volume
☐ Headspace in Volatile Bottles
☐ Other:

☐ Missing Paperwork
☐ Incorrect Preservation
☐ Chain of Custody Error
☐ Incorrect Bottle Type
☐ Tubes/Filters Broken
☐ Custody Seals Broken

PH Check:		Value
Metals	Yes /No /NA	<2 3 4 5 6 7 8 9 10 11 >12
Cyanide	Yes /No /NA	<2 3 4 5 6 7 8 9 10 11 >12
Ammonia	Yes /No /NA	<2 3 4 5 6 7 8 9 10 11 >12
Total Phenolics	Yes /No /NA	<2 3 4 5 6 7 8 9 10 11 >12
TPH (418.1)	Yes /No /NA	<2 3 4 5 6 7 8 9 10 11 >12
Oil & Grease (413.1)	Yes /No /NA	<2 3 4 5 6 7 8 9 10 11 >12
8260 /8021 /8015	Yes /No /NA	<2 3 4 5 6 7 8 9 10 11 >12
Other:	Yes /No /NA	<2 3 4 5 6 7 8 9 10 11 >12

Comments:

Client Contact: Company:

Date: Time:

DATA CHEM LABORATORIES
A SORENSON COMPANY

FEB 0 8 2001

Submitted To: Mike May
SRW Environmental Consultants, Inc.
55 West Technecenter Dr., Suite C
Milford, OH 45150

Reference Data:	**Mercury**
Client Sample No.:	SED-1 through SED-5
P.O. No.:	DAY-001.06
Project:	Tool Town
Location:	Dayton, OH
Sample Type:	Soil
Method Reference:	EPA 7471
DCL Set ID No.:	01-S-0374
DCL Sample ID No.:	01-02107 through 01-02111
Sample Receipt Date:	01/24/2001
Preparation Date:	01/29/2001
Analysis Date:	01/29/2001

The samples were prepared and analyzed in accordance with EPA method 7471 using a Varian SpectrAA 300 (AAS).

The results are in the enclosed data table.

Results relate only to the items tested.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Stephanie Wilcox
Analyst

Reviewer

CINCINNATI OFFICE
4388 GLENDALE-MILFORD ROAD
CINCINNATI, OHIO 45242-3706
513 733-5336, FAX 513 733-5347

WEST COAST OFFICE
11 SANTA YORMA COURT
NOVATO, CALIFORNIA 94945
800 280-8071, FAX 415 893-9469

Results
ppm (mg/Kg)

Client #	DCL #	Hg
SED-1	01-02107	ND
SED-2	01-02108	ND
SED-5	01-02111	ND
LOD		**0.3**

ND indicates the value is below the limit of detection (LOD)

QC % Recovery Results

	% Recovery	RPD
Blank	ND	-
LCS/QC-10069	99.	-
01-02111 MS	96.	4
01-02111 MSD	100.	4

LCS - Laboratory Control Sample
MS - Matrix Spike
RPD - Relative Percent Difference

Stephanie Wilcox
Analyst

Reviewer

Cooler Receipt Worksheet (Revised 12/14/99) **Page** 3 **of** 3

Set I.D.: 0374 Date/Time of Receipt: 1/24/01 1514

Client Name: SRW

Cooler Temperature: 2.9 °C

Receipt Clerk: WRD

☐ pH Criteria not Met
☐ Missing Samples
☐ Broken/Leaking Samples
☐ Cooler Temperature Out of Range
☐ Insufficient Sample Volume
☐ Headspace in Volatile Bottles
☐ Other:

☐ Missing Paperwork
☐ Incorrect Preservation
☐ Chain of Custody Error
☐ Incorrect Bottle Type
☐ Tubes/Filters Broken
☐ Custody Seals Broken

PH Check:		Value
Metals	Yes /No /NA	<2 3 4 5 6 7 8 9 10 11 >12
Cyanide	Yes /No /NA	<2 3 4 5 6 7 8 9 10 11 >12
Ammonia	Yes /No /NA	<2 3 4 5 6 7 8 9 10 11 >12
Total Phenolics	Yes /No /NA	<2 3 4 5 6 7 8 9 10 11 >12
TPH (418.1)	Yes /No /NA	<2 3 4 5 6 7 8 9 10 11 >12
Oil & Grease (413.1)	Yes /No /NA	<2 3 4 5 6 7 8 9 10 11 >12
8260 /8021 /8015	Yes /No /NA	<2 3 4 5 6 7 8 9 10 11 >12
Other:	Yes /No /NA	<2 3 4 5 6 7 8 9 10 11 >12

Comments:

Client Contact: Company:

Date: Time:

DATA CHEM LABORATORIES
A SORENSON COMPANY

FEB 0 8 2001

Submitted To:
Mike May
SRW Environmental Consultants, Inc.
55 West Technecenter Dr., Suite C
Milford, OH
45150

Reference Data:	PCB's
Sample Location:	Tool Town; Dayton, OH
Sample Type:	Soil, Water
Client Sample No.:	SED-1 through EB
PO #:	DAY-001.06
Method Reference:	EPA 8082
Sample Set ID#:	01-C-0374
DATACHEM Lab No.:	01-02107 through 01-02112
Sample Receipt Date:	01/24/2001
Preparation Date:	01/29/2001
Analysis Date:	01/30/2001-01/31/2001

The samples were prepared for analysis by E.P.A. method SW-846-3550,3510 and analyzed using E.P.A. method SW-846-8082.

The analysis was performed using a Hewlett Packard 5890 gas chromatograph equipped with an electron capture detector and a DB-5 capillary column with temperature programming from 190°C to 300°C.

Results relate only to the items tested.

The results are provided in the enclosed data table.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Tami S. Anderson
Analyst

James R. Baxter
Laboratory Director

CINCINNATI OFFICE
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513 733-5336, FAX 513 733-5347

WEST COAST OFFICE
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NOVATO, CALIFORNIA 94945
800 280-8071, FAX 415 893-9469

DATA TABLE
mg/Kg
Aroclors

Client #	DCL #	1016	1221	1232	1242	1248	1254	1260	TCMX % Rec	DCBP % Rec
SED-1	01-02107	ND	ND	ND	ND	ND	**.03**	ND	92.	117.
SED-2	01-02108	ND	ND	ND	ND	ND	ND	ND	97.	121.
SED-3	01-02109	ND	ND	ND	ND	ND	**.09**	ND	91.	113.
SED-4	01-02110	ND	ND	ND	ND	ND	**.26**	<.40*	92.	80.
SED-5	01-02111	ND	ND	ND	ND	ND	ND	ND	93.	106.
	SOIL BLK	ND	ND	ND	ND	ND	ND	ND	93.	123.
	SOIL LCS	ND	ND	ND	ND	ND	ND	.37	92.	121.
	01-02107 MS	ND	ND	ND	ND	ND	ND	.33	91.	103.
	01-2107 MSD	ND	ND	ND	ND	ND	ND	.32	89.	105.
	EQL	.02	.04	.02	.02	.02	.02	.02		

ND indicates not detected at or above the EQL.

The LCS, MS and MSD are spiked at .33 mg/kg.

* The limit of detection was raised due to sample interferences.

Tami S. Anderson
Analyst

Reviewer

DATA TABLE
µg/L
Aroclors

Client #	DCL #	1016	1221	1232	1242	1248	1254	1260	TCMX % Rec	DCBP % Rec
EB	01-02112	ND	ND	ND	ND	ND	ND	ND	89.	102.
	WATER BLK	ND	ND	ND	ND	ND	ND	ND	85.	90.
	WATER LCS	ND	ND	ND	ND	ND	ND	9.1	87.	77.
	EQL	1.	2.	1.	1.	1.	1.	1.		

ND indicates not detected at or above the EQL.

The LCS is spiked at 10 µg/L.

Tami S. Anderson
Analyst

Reviewer

Cooler Receipt Worksheet (Revised 12/14/99) **Page** 4 **of** 4

Set I.D.: 0374 Date/Time of Receipt: 1/24/01 1514

Client Name: SRW

Cooler Temperature: 2.9 °C

Receipt Clerk: WRO

☐ pH Criteria not Met
☐ Missing Samples
☐ Broken/Leaking Samples
☐ Cooler Temperature Out of Range
☐ Insufficient Sample Volume
☐ Headspace in Volatile Bottles
☐ Other:

☐ Missing Paperwork
☐ Incorrect Preservation
☐ Chain of Custody Error
☐ Incorrect Bottle Type
☐ Tubes/Filters Broken
☐ Custody Seals Broken

PH Check:		Value
Metals	Yes /No /NA	<2 3 4 5 6 7 8 9 10 11 >12
Cyanide	Yes /No /NA	<2 3 4 5 6 7 8 9 10 11 >12
Ammonia	Yes /No /NA	<2 3 4 5 6 7 8 9 10 11 >12
Total Phenolics	Yes /No /NA	<2 3 4 5 6 7 8 9 10 11 >12
TPH (418.1)	Yes /No /NA	<2 3 4 5 6 7 8 9 10 11 >12
Oil & Grease (413.1)	Yes /No /NA	<2 3 4 5 6 7 8 9 10 11 >12
8260 /8021 /8015	Yes /No /NA	<2 3 4 5 6 7 8 9 10 11 >12
Other:	Yes /No /NA	<2 3 4 5 6 7 8 9 10 11 >12

Comments:

Client Contact: Company:

Date: Time:

WORK ORDER # DAY-001.06

PROJECT Tool Town

LOCATION Dayton Ohio

SRW Environmental Services

CUSTODY 14485

SAMPLED BY T.A.

CHAIN OF CUSTODY RECORD 01-CMS2-0374

SAMPLE NUMBER	DATE	TIME	SAMPLE LOCATION	MATRIX	COMPOSITE OR GRAB	FIELD MEASUREMENTS	NO. OF CONTAINERS	ANALYSIS REQUIRED: VOC 8260	PCB 8081	RCRA Metals				REMARKS (PRESERVATION, ETC.) 01-
1	1-24	11:58	SED-1	Soil	Grab	-	2	X	X					4° 02107
2	1-24	12:12	SED-2	Soil	Grab	-	2	X	X					4° 02108
3	1-24	12:22	SED-3	Soil	Grab	-	2	X	X					4° 02109
4	1-24	12:40	SED-4	Soil	Grab	-	2	X	X					4° 02110
5	1-24	12:50	SED-5	Soil	Grab	-	3	X	X	X				4° 02111
6	1-24	11:41	EB	Fluid	Grab	-	3	X	X					HCl 02112

VAP

Relinquished by: (Signature)	Date	Time	Received by: (Signature)
	1-24-01		
Relinquished by: (Signature)	Date	Time	Received by: (Signature)
Relinquished by: (Signature)	Date	Time	Received by: (Signature)
Relinquished by: (Signature)	Date	Time	Received by: (Signature)
Relinquished by: (Signature)	Date	Time	Received for Laboratory by: (Signature)

1/24/01 1516

Relinquished by: (Signature)	Date	Time	Received by: (Signature)
Relinquished by: (Signature)	Date	Time	Received by: (Signature)
Shipped/Delivered:			Date Time
Remarks:			

DATA CHEM LABORATORIES
A SORENSON COMPANY

FEB 0 8 2001

Submitted To: Mike May
SRW Environmental Consultants, Inc.
55 West Technecenter Dr., Suite C
Milford, OH 45150

Reference Data:	**Volatile Organic Compounds**
Client Sample No.:	SED-1 through EB
P.O. No.:	DAY-001.06
Sample Location:	Tool Town; Dayton, OH
Sample Type:	Soil/Water
Method Reference:	8260
DCL Set ID No.:	01-M-0374
DCL Sample ID No.:	01-02107 through 01-02112
Sample Receipt Date:	1/24/2001
Analysis Date:	1/25-30/2001

These samples were analyzed for volatile organic compounds according to EPA SW-846 method 8260A.

Analysis was performed on a Hewlett-Packard 5973 GC/MS/DS. All tuning, SPCC and CCC quality control criteria for the initial calibration curve and daily calibration standard were met prior to sample analysis.

The results for the 8260 analysis are reported in µg/Kg for soil samples and µg/L for water samples (PPB). Soil samples are reported on a dry weight basis. Results relate only to the items tested.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Leah Sherman
Leah Sherman

CINCINNATI OFFICE
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WEST COAST OFFICE
11 SANTA YORMA COURT
NOVATO, CALIFORNIA 94945
800 280-8071, FAX 415 893-9469

Soil Data Table (PPB)

Client #	SED-1	SED-2	SED-3	SED-4	SED-5	EQL
DCL #	01-02107	01-02108	01-02109	01-02110	01-02111	
Dichlorodifluoromethane	ND	ND	ND	ND	ND	5
Chloromethane	ND	ND	ND	ND	ND	5
Vinyl Chloride	ND	ND	ND	ND	ND	2
Bromomethane	ND	ND	ND	ND	ND	5
Chloroethane	ND	ND	ND	ND	ND	5
Trichlorofluoromethane	ND	ND	ND	ND	ND	5
1,1-Dichloroethene	ND	ND	ND	ND	ND	5
Acetone	ND	ND	ND	ND	ND	50
Carbon Disulfide	ND	ND	ND	ND	ND	50
Methylene Chloride	ND	ND	ND	ND	ND	5
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	5
1,1-Dichloroethane	ND	ND	ND	ND	ND	5
2,2-Dichloropropane	ND	ND	ND	ND	ND	5
cis-1,2-Dichloroethene	ND	ND	ND	ND	ND	5
MTBE	ND	ND	ND	ND	ND	10
Chloroform	ND	ND	ND	ND	ND	5
2-Butanone	ND	ND	ND	ND	ND	50
Bromochloromethane	ND	ND	ND	ND	ND	5
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	5
1,1-Dichloropropene	ND	ND	ND	ND	ND	5
Carbon Tetrachloride	ND	ND	ND	ND	ND	5
Benzene	ND	ND	ND	ND	ND	5
1,2-Dichloroethane	ND	ND	ND	ND	ND	5
Trichloroethene	ND	ND	ND	ND	ND	5
1,2-Dichloropropane	ND	ND	ND	ND	ND	5
Bromodichloromethane	ND	ND	ND	ND	ND	5
Dibromomethane	ND	ND	ND	ND	ND	5
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	5
Toluene	ND	ND	ND	ND	ND	5
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	5
4-Methyl-2-Pentanone	ND	ND	ND	ND	ND	50
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	5
Tetrachloroethene	**19**	ND	ND	ND	ND	5
2-Hexanone	ND	ND	ND	ND	ND	50
1,3-Dichloropropane	ND	ND	ND	ND	ND	5
Dibromochloromethane	ND	ND	ND	ND	ND	5
1,2-Dibromoethane	ND	ND	ND	ND	ND	5
Chlorobenzene	ND	ND	ND	ND	ND	5
Ethylbenzene	ND	ND	ND	ND	ND	5
1,1,1,2-Tetrachloroethane	ND	ND	ND	ND	ND	5
m,p-Xylene	ND	ND	ND	ND	ND	5

Soil Data Table (PPB)

Client #	SED-1	SED-2	SED-3	SED-4	SED-5	EQL
DCL #	01-02107	01-02108	01-02109	01-02110	01-02111	
o-Xylene	ND	ND	ND	ND	ND	5
Styrene	ND	ND	ND	ND	ND	5
Isopropyl benzene	ND	ND	ND	ND	ND	5
Bromoform	ND	ND	ND	ND	ND	5
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	5
1,2,3-Trichloropropane	ND	ND	ND	ND	ND	5
n-Propyl benzene	ND	ND	ND	ND	ND	5
Bromobenzene	ND	ND	ND	ND	ND	5
1,3,5-Trimethylbenzene	ND	ND	ND	ND	ND	5
2-Chlorotoluene	ND	ND	ND	ND	ND	5
4-Chlorotoluene	ND	ND	ND	ND	ND	5
tert-Butylbenzene	ND	ND	ND	ND	ND	5
1,2,4-Trimethylbenzene	ND	ND	ND	ND	ND	5
sec-Butylbenzene	ND	ND	ND	ND	ND	5
p-Isopropyltoluene	ND	ND	ND	ND	ND	5
1,3-Dichlorobenzene	ND	ND	ND	ND	ND	5
1,4-Dichlorobenzene	ND	ND	ND	ND	ND	5
n-Butylbenzene	ND	ND	ND	ND	ND	5
1,2-Dichlorobenzene	ND	ND	ND	ND	ND	5
1,2-Dibromo-3-chloropropane	ND	ND	ND	ND	ND	10
1,2,4-Trichlorobenzene	ND	ND	ND	ND	ND	5
Hexachlorobutadiene	ND	ND	ND	ND	ND	5
Naphthalene	ND	ND	ND	ND	ND	5
1,2,3-Trichlorobenzene	ND	ND	ND	ND	ND	5

ND indicates not detected at or above the EQL value. NS indicates compound not spiked. B indicates compound found in system blank.

Unknown Compounds Tentative Identification

PPB

Client #	SED-1	SED-2	SED-3	SED-4	SED-5
DCL #	01-02107	01-02108	01-02109	01-02110	01-02111
Dimethyl Sulfide*					16

* Tentative identification based on NBS spectral library

Surrogate % Recovery

Dibromofluoromethane	104	104	106	105	116	92-118
Toluene-D8	100	100	100	99	102	94-107
Bromofluorobenzene	108	108	105	106	109	83-121

Soil Data Table (PPB)

Client #		QA/QC % Recovery	QA/QC % Recovery	QA/QC % Recovery		**EQL**
DCL #	Blank	LCS	01893MS	01893MSD		
Dichlorodifluoromethane	ND	NS	NS	NS		5
Chloromethane	ND	NS	NS	NS		5
Vinyl Chloride	ND	NS	NS	NS		2
Bromomethane	ND	NS	NS	NS		5
Chloroethane	ND	NS	NS	NS		5
Trichlorofluoromethane	ND	NS	NS	NS		5
1,1-Dichloroethene	ND	**83**	**76**	**70**		5
Acetone	ND	NS	NS	NS		50
Carbon Disulfide	ND	NS	NS	NS		50
Methylene Chloride	ND	NS	NS	NS		5
trans-1,2-Dichloroethene	ND	NS	NS	NS		5
1,1-Dichloroethane	ND	NS	NS	NS		5
2,2-Dichloropropane	ND	NS	NS	NS		5
cis-1,2-Dichloroethene	ND	NS	NS	NS		5
MTBE	ND	NS	NS	NS		10
Chloroform	ND	NS	NS	NS		5
2-Butanone	ND	NS	NS	NS		50
Bromochloromethane	ND	NS	NS	NS		5
1,1,1-Trichloroethane	ND	NS	NS	NS		5
1,1-Dichloropropene	ND	NS	NS	NS		5
Carbon Tetrachloride	ND	NS	NS	NS		5
Benzene	ND	**79**	**76**	**86**		5
1,2-Dichloroethane	ND	NS	NS	NS		5
Trichloroethene	ND	**78**	**74**	**67**		5
1,2-Dichloropropane	ND	NS	NS	NS		5
Bromodichloromethane	ND	NS	NS	NS		5
Dibromomethane	ND	NS	NS	NS		5
cis-1,3-Dichloropropene	ND	NS	NS	NS		5
Toluene	ND	**80**	**78**	**74**		5
trans-1,3-Dichloropropene	ND	NS	NS	NS		5
4-Methyl-2-Pentanone	ND	NS	NS	NS		50
1,1,2-Trichloroethane	ND	NS	NS	NS		5
Tetrachloroethene	ND	NS	NS	NS		5
2-Hexanone	ND	NS	NS	NS		50
1,3-Dichloropropane	ND	NS	NS	NS		5
Dibromochloromethane	ND	NS	NS	NS		5
1,2-Dibromoethane	ND	NS	NS	NS		5
Chlorobenzene	ND	**82**	**77**	**85**		5
Ethylbenzene	ND	NS	NS	NS		5
1,1,1,2-Tetrachloroethane	ND	NS	NS	NS		5
m,p-Xylene	ND	NS	NS	NS		5

Soil Data Table (PPB)

Client #		QA/QC % Recovery	QA/QC % Recovery	QA/QC % Recovery		EQL
DCL #	Blank	LCS	01893MS	01893MSD		
o-Xylene	ND	NS	NS	NS		5
Styrene	ND	NS	NS	NS		5
Isopropyl benzene	ND	NS	NS	NS		5
Bromoform	ND	NS	NS	NS		5
1,1,2,2-Tetrachloroethane	ND	NS	NS	NS		5
1,2,3-Trichloropropane	ND	NS	NS	NS		5
n-Propyl benzene	ND	NS	NS	NS		5
Bromobenzene	ND	NS	NS	NS		5
1,3,5-Trimethylbenzene	ND	NS	NS	NS		5
2-Chlorotoluene	ND	NS	NS	NS		5
4-Chlorotoluene	ND	NS	NS	NS		5
tert-Butylbenzene	ND	NS	NS	NS		5
1,2,4-Trimethylbenzene	ND	NS	NS	NS		5
sec-Butylbenzene	ND	NS	NS	NS		5
p-Isopropyltoluene	ND	NS	NS	NS		5
1,3-Dichlorobenzene	ND	NS	NS	NS		5
1,4-Dichlorobenzene	ND	NS	NS	NS		5
n-Butylbenzene	ND	NS	NS	NS		5
1,2-Dichlorobenzene	ND	NS	NS	NS		5
1,2-Dibromo-3-chloropropane	ND	NS	NS	NS		10
1,2,4-Trichlorobenzene	ND	NS	NS	NS		5
Hexachlorobutadiene	ND	NS	NS	NS		5
Naphthalene	ND	NS	NS	NS		5
1,2,3-Trichlorobenzene	ND	NS	NS	NS		5

ND indicates not detected at or above the EQL value. NS indicates compound not spiked. B indicates compound found in system blank.

Unknown Compounds Tentative Identification

PPB

Client #		QA/QC % Recovery	QA/QC % Recovery	QA/QC % Recovery	
DCL #	Blank	LCS	01893MS	01893MSD	

* Tentative identification based on NBS spectral library

Surrogate % Recovery

Dibromofluoromethane	104	105	104	107		92-118
Toluene-D8	100	100	103	101		94-107
Bromofluorobenzene	105	104	111	110		83-121

Water Data Table (PPB)

Client #	EB		QA/QC % Recovery	QA/QC % Recovery	QA/QC % Recovery	**EQL**
DCL #	01-02112	Blank	LCS	02112MS	02112MSD	
Dichlorodifluoromethane	ND	ND	NS	NS	NS	5
Chloromethane	ND	ND	NS	NS	NS	5
Vinyl Chloride	ND	ND	NS	NS	NS	2
Bromomethane	ND	ND	NS	NS	NS	5
Chloroethane	ND	ND	NS	NS	NS	5
Trichlorofluoromethane	ND	ND	NS	NS	NS	5
1,1-Dichloroethene	ND	ND	**92**	**88**	**75**	5
Acetone	ND	ND	NS	NS	NS	50
Carbon Disulfide	ND	ND	NS	NS	NS	50
Methylene Chloride	ND	ND	NS	NS	NS	5
trans-1,2-Dichloroethene	ND	ND	NS	NS	NS	5
1,1-Dichloroethane	ND	ND	NS	NS	NS	5
2,2-Dichloropropane	ND	ND	NS	NS	NS	5
cis-1,2-Dichloroethene	ND	ND	NS	NS	NS	5
MTBE	ND	ND	NS	NS	NS	10
Chloroform	ND	ND	NS	NS	NS	5
2-Butanone	ND	ND	NS	NS	NS	50
Bromochloromethane	ND	ND	NS	NS	NS	5
1,1,1-Trichloroethane	ND	ND	NS	NS	NS	5
1,1-Dichloropropene	ND	ND	NS	NS	NS	5
Carbon Tetrachloride	ND	ND	NS	NS	NS	5
Benzene	ND	ND	**94**	**93**	**92**	5
1,2-Dichloroethane	ND	ND	NS	NS	NS	5
Trichloroethene	ND	ND	**86**	**82**	**80**	5
1,2-Dichloropropane	ND	ND	NS	NS	NS	5
Bromodichloromethane	ND	ND	NS	NS	NS	5
Dibromomethane	ND	ND	NS	NS	NS	5
cis-1,3-Dichloropropene	ND	ND	NS	NS	NS	5
Toluene	ND	ND	**91**	**91**	**90**	5
trans-1,3-Dichloropropene	ND	ND	NS	NS	NS	5
4-Methyl-2-Pentanone	ND	ND	NS	NS	NS	50
1,1,2-Trichloroethane	ND	ND	NS	NS	NS	5
Tetrachloroethene	ND	ND	NS	NS	NS	5
2-Hexanone	ND	ND	NS	NS	NS	50
1,3-Dichloropropane	ND	ND	NS	NS	NS	5
Dibromochloromethane	ND	ND	NS	NS	NS	5
1,2-Dibromoethane	ND	ND	NS	NS	NS	5
Chlorobenzene	ND	ND	**91**	**96**	**94**	5
Ethylbenzene	ND	ND	NS	NS	NS	5
1,1,1,2-Tetrachloroethane	ND	ND	NS	NS	NS	5
m,p-Xylene	ND	ND	NS	NS	NS	5

Water Data Table (PPB)

Client #	EB		QA/QC % Recovery	QA/QC % Recovery	QA/QC % Recovery	EQL
DCL #	01-02112	Blank	LCS	02112MS	02112MSD	
o-Xylene	ND	ND	NS	NS	NS	5
Styrene	ND	ND	NS	NS	NS	5
Isopropyl benzene	ND	ND	NS	NS	NS	5
Bromoform	ND	ND	NS	NS	NS	5
1,1,2,2-Tetrachloroethane	ND	ND	NS	NS	NS	5
1,2,3-Trichloropropane	ND	ND	NS	NS	NS	5
n-Propyl benzene	ND	ND	NS	NS	NS	5
Bromobenzene	ND	ND	NS	NS	NS	5
1,3,5-Trimethylbenzene	ND	ND	NS	NS	NS	5
2-Chlorotoluene	ND	ND	NS	NS	NS	5
4-Chlorotoluene	ND	ND	NS	NS	NS	5
tert-Butylbenzene	ND	ND	NS	NS	NS	5
1,2,4-Trimethylbenzene	ND	ND	NS	NS	NS	5
sec-Butylbenzene	ND	ND	NS	NS	NS	5
p-Isopropyltoluene	ND	ND	NS	NS	NS	5
1,3-Dichlorobenzene	ND	ND	NS	NS	NS	5
1,4-Dichlorobenzene	ND	ND	NS	NS	NS	5
n-Butylbenzene	ND	ND	NS	NS	NS	5
1,2-Dichlorobenzene	ND	ND	NS	NS	NS	5
1,2-Dibromo-3-chloropropane	ND	ND	NS	NS	NS	10
1,2,4-Trichlorobenzene	ND	ND	NS	NS	NS	5
Hexachlorobutadiene	ND	ND	NS	NS	NS	5
Naphthalene	ND	ND	NS	NS	NS	5
1,2,3-Trichlorobenzene	ND	ND	NS	NS	NS	5

ND indicates not detected at or above the EQL value. NS indicates compound not spiked. B indicates compound found in system blank.

Unknown Compounds Tentative Identification

PPB

Client #	EB		QA/QC % Recovery	QA/QC % Recovery	QA/QC % Recovery
DCL #	01-02112	Blank	LCS	02112MS	02112MSD

* Tentative identification based on NBS spectral library

Surrogate % Recovery

Dibromofluoromethane	102	111	104	95	99	92-118
Toluene-D8	101	103	101	99	99	94-107
Bromofluorobenzene	93	86	90	88	92	83-121

Leah Sherman
Analyst

Mark Johnson
Reviewer

Cooler Receipt Worksheet (Revised 12/14/99) **Page** 1 **of** 1

Set I.D.: 0374 Date/Time of Receipt: 1/24/01 1514

Client Name: SRW

Cooler Temperature: 2.9 °C

Receipt Clerk: JWO

☐ pH Criteria not Met
☐ Missing Samples
☐ Broken/Leaking Samples
☐ Cooler Temperature Out of Range
☐ Insufficient Sample Volume
☐ Headspace in Volatile Bottles
☐ Other:

☐ Missing Paperwork
☐ Incorrect Preservation
☐ Chain of Custody Error
☐ Incorrect Bottle Type
☐ Tubes/Filters Broken
☐ Custody Seals Broken

PH Check:		Value
Metals	Yes /No /NA	<2 3 4 5 6 7 8 9 10 11 >12
Cyanide	Yes /No /NA	<2 3 4 5 6 7 8 9 10 11 >12
Ammonia	Yes /No /NA	<2 3 4 5 6 7 8 9 10 11 >12
Total Phenolics	Yes /No /NA	<2 3 4 5 6 7 8 9 10 11 >12
TPH (418.1)	Yes /No /NA	<2 3 4 5 6 7 8 9 10 11 >12
Oil & Grease (413.1)	Yes /No /NA	<2 3 4 5 6 7 8 9 10 11 >12
8260 /8021 /8015	Yes /No /NA	<2 3 4 5 6 7 8 9 10 11 >12
Other:	Yes /No /NA	<2 3 4 5 6 7 8 9 10 11 >12

Comments:

Client Contact: Company:

Date: Time:

14485

WORK ORDER # DAY-001.06

PROJECT Tool Town

LOCATION Dayton Ohio

SRW Environmental Services

CUSTODY

SAMPLED BY T.A.

CHAIN OF CUSTODY RECORD

01-CMS2-0374

SAMPLE NUMBER	DATE	TIME	SAMPLE LOCATION	MATRIX	COMPOSITE OR GRAB	FIELD MEASUREMENTS	NO. OF CONTAINERS	ANALYSIS REQUIRED: VOC 8260	PCB 8081	RCRA Metals					REMARKS (PRESERVATION, ETC.) 01-
1	1-24	11:58	SED-1	Soil	Grab	-	2	X	X						4° 02107
2	1-24	12:12	SED-2	Soil	Grab	-	2	X	X						4° 02108
3	1-24	12:22	SED-3	Soil	Grab	-	2	X	X						4° 02109
4	1-24	12:40	SED-4	Soil	Grab	-	2	X	X						4° 02110
5	1-24	12:50	SED-5	Soil	Grab	-	3	X	X	X					4° 02111
6	1-24	11:41	EB	Fluid	Grab	-	3	X	X						HCl 02112

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Relinquished by: (Signature)	Date	Time	Received by: (Signature)
[signature]	1-24-01						
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Relinquished by: (Signature)	Date	Time	Received by: (Signature)
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Shipped/Delivered: VAP			Date / Time
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Remarks:			
Relinquished by: (Signature)	Date	Time	Received for Laboratory by: (Signature) [signature]				

1/24/01 1516

SRW Environmental Services, Inc.

Affidavit

Certified Laboratory

State of Ohio

County of Hamilton

I, James Baxter, being first duly sworn according to law, deposes and states that, to the best of my knowledge, information and belief:

1. I am an adult over the age of eighteen (18) years old and competent to testify herein.

2. I am employed by **DataChem Laboratories** as Director and am authorized to submit this Affidavit on behalf of **DataChem Laboratories.**

3. **DataChem Laboratories** performed analysis for **SRW Environmental Consultants, Inc.** concerning a voluntary action for property located at the **Tool Town site in Dayton, Ohio (sample set 01-CMS2-0374).**

4. **DataChem Laboratories** is a certified Laboratory pursuant to Ohio Revised Code (ORC) chapter 3746 and Ohio Administrative Code (OAC) Chapter 3745-300 when it performed the analysis for the purposes of conducting or completing voluntary action.

5. All of the analyses performed by **DataChem Laboratories** for the purposes of conducting or completing the voluntary action complied with the applicable requirements of ORC Chapter 3746 and rules adopted under OAC Chapter 3745-300.

6. The information, data, documents, and reports provided for the purpose of conducting or completing the voluntary action are identified in Attachment 1 hereto.

7. All information, data, documents, and reports submitted by **DataChem Laboratories**, identified in Attachment 1 of this Affidavit and submitted for the purposes of conducting or completing the voluntary action are true, accurate and complete.

8. DataChem Laboratories has no conflict of interest, as set forth in OAC rules 3745-300-04(I)(5) and 3745-300-05(F)(3), in performing the analyses for **Tool Town site in Dayton, Ohio (sample set 01-CMS2-0374).**

Further Affiant sayeth naught.

James R Baxter

Name of Affiant

Sworn to before me this 6 day of February, 2001

Jaime Standlife

Name of Notary Public

Comm. exp. 9-20-05

Attachment 1

All analyses performed by DataChem Laboratories, Inc. for samples from the **Tool Town site in Dayton, Ohio (sample set 01-CMS2-0374).**

TestAmerica
ANALYTICAL TESTING CORPORATION
3601 South Dixie Drive • Dayton, OH 45439 • 937-294-6856 • Fax: 937-294-7816 • 800-572-9839

12473005001
6.2

East of Career Academy

Jim Shoemaker
DAYTON, CITY OF (ENV.)
Div. of Environmental Mnmt
320 W. Monument
Dayton, OH 45402

Job Number: 04.24785
Report Date: 11/24/2004

Enclosed are the Analytical and Quality Control Reports for the following samples submitted to TestAmerica for analysis:

Project: TT Mad River

Sample Number	Sample Description	Date Taken	Date Received
980418	MRL-01-SED	11/11/2004	11/11/2004

The Quality Control report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

TestAmerica certifies that the analytical results contained herein apply only to the specific samples analyzed. Reproduction of this report is permitted only in its entirety.

Enclosure

Project Management Approval

Kenneth Grant

TestAmerica
ANALYTICAL TESTING CORPORATION
3601 South Dixie Drive • Dayton, OH 45439 • 937-294-6856 • Fax: 937-294-7816 • 800-572-9839

Analytical Report

Jim Shoemaker
DAYTON, CITY OF (ENV.)
Div. of Environmental Mnmt
320 W. Monument
Dayton, OH 45402

Job Number: 04.24785
Report Date: 11/24/2004

SAMPLE NO. 980418 — **SAMPLE DESCRIPTION** MRL-01-SED — **DATE/TIME TAKEN** 11/11/2004 16:15

	Result	Units	Reporting Limit	Flag	Run Date	Run Time	Prep Batch	Run Batch	Anal. Init.	Lab ID	Method Reference
Dry Weight	71.5	%	0.1		11/16/2004	15:40		3286	mjs	DT	SM 2540 G.
ICP NONAQUEOUS	Complete		Complete		11/16/2004	12:15		2525	emd	DT	SW 6010B
ICPMS NONAQUEOUS	Complete		Complete		11/18/2004	01:48		375	ekh	DT	SW 6020
Arsenic, ICPMS	3.9	mg/kg dw	<2.7		11/18/2004	01:48	246	6586	ekh	DT	SW 6020
Barium, ICP	128	mg/kg dw	<4.5		11/16/2004	12:15	1943	4689	emd	DT	SW 6010B
Cadmium, ICP	<6.7	mg/kg dw	<6.7		11/16/2004	12:15	1943	4672	emd	DT	SW 6010B
Chromium, ICP	13	mg/kg dw	<9.0		11/16/2004	12:15	1943	4660	emd	DT	SW 6010B
Lead, ICP	63.8	mg/kg dw	<18		11/16/2004	12:15	1943	4658	emd	DT	SW 6010B
Mercury,CVAA	0.0344	mg/kg dw	<0.011		11/16/2004	12:07	1301	1900	meb	DT	SW 7471A
Selenium, ICP	<22	mg/kg dw	<22		11/16/2004	12:15	1943	4732	emd	DT	SW 6010B
Silver, ICPMS	<0.7	mg/kg dw	<0.7		11/18/2004	01:48	246	6399	ekh	DT	SW 6020
ICP Digestion, Nonaqueous	Complete		Complete		11/15/2004		1943		mbb	DT	SW 3050B
ICPMS Digestion, Nonaqueous	Complete		Complete		11/16/2004		246		mja	DT	SW 3050B
Mercury Digestion, Non-Aq	Complete		Complete		11/16/2004		1301		mbb	DT	SW 7471A
Prep, PCBs Non-Aq 8082	SW 3545		Complete		11/15/2004		854		tad	DT	
Prep, BNA Non-Aq	SW 3545		Complete		11/12/2004		1762		alh	DT	
VOLATILE COMPOUNDS-8260 Non-Aq											
8260 - SW846 (Non-aq)	Complete		Complete		11/15/2004			4369	bmh	DT	
Acetone	<140	ug/kg dw	<140		11/15/2004			4369	bmh	DT	SW 8260A
Benzene	<7.0	ug/kg dw	<7.0		11/15/2004			4369	bmh	DT	SW 8260A
tert-Butylbenzene	<7.0	ug/kg dw	<7.0		11/15/2004			4369	bmh	DT	SW 8260A
sec-Butylbenzene	<7.0	ug/kg dw	<7.0		11/15/2004			4369	bmh	DT	SW 8260A
n-Butylbenzene	<7.0	ug/kg dw	<7.0		11/15/2004			4369	bmh	DT	SW 8260A
Bromochloromethane	<7.0	ug/kg dw	<7.0		11/15/2004			4369	bmh	DT	SW 8260A
Bromodichloromethane	<7.0	ug/kg dw	<7.0		11/15/2004			4369	bmh	DT	SW 8260A
Bromoform	<7.0	ug/kg dw	<7.0		11/15/2004			4369	bmh	DT	SW 8260A
Bromobenzene	<7.0	ug/kg dw	<7.0		11/15/2004			4369	bmh	DT	SW 8260A
2-Butanone (MEK)	<70	ug/kg dw	<70		11/15/2004			4369	bmh	DT	SW 8260A
Carbon disulfide	<7.0	ug/kg dw	<7.0		11/15/2004			4369	bmh	DT	SW 8260A
Carbon tetrachloride	<7.0	ug/kg dw	<7.0		11/15/2004			4369	bmh	DT	SW 8260A
Chlorobenzene	<7.0	ug/kg dw	<7.0		11/15/2004			4369	bmh	DT	SW 8260A
Chloroethane	<14.0	ug/kg dw	<14.0		11/15/2004			4369	bmh	DT	SW 8260A
2-Chlorotoluene	<7.0	ug/kg dw	<7.0		11/15/2004			4369	bmh	DT	SW 8260A

Lab ID: CH = Chicago (Dundee), DT = Dayton, IN = Indianapolis, PT = Pontiac, SUB = Subcontracted, CLT = Client Data

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Analytical Report

Jim Shoemaker
DAYTON, CITY OF (ENV.)
Div. of Environmental Mnmt
320 W. Monument
Dayton, OH 45402

Job Number: 04.24785
Report Date: 11/24/2004

SAMPLE NO. 980418 | **SAMPLE DESCRIPTION** MRL-01-SED | **DATE/TIME TAKEN** 11/11/2004 16:15

	Result	Units	Reporting Limit	Flag	Run Date	Run Time	Prep Batch	Run Batch	Anal. Init.	Lab ID	Method Reference
4-Chlorotoluene	<7.0	ug/kg dw	<7.0		11/15/2004			4369	bmh	DT	SW 8260A
Chloroform	<7.0	ug/kg dw	<7.0		11/15/2004			4369	bmh	DT	SW 8260A
Chloromethane	<14.0	ug/kg dw	<14.0		11/15/2004			4369	bmh	DT	SW 8260A
Dibromochloromethane	<7.0	ug/kg dw	<7.0		11/15/2004			4369	bmh	DT	SW 8260A
Dibromomethane	<7.0	ug/kg dw	<7.0		11/15/2004			4369	bmh	DT	SW 8260A
Dichlorodifluoromethane	<7.0	ug/kg dw	<7.0		11/15/2004			4369	bmh	DT	SW 8260A
1,2-Dichlorobenzene	<7.0	ug/kg dw	<7.0		11/15/2004			4369	bmh	DT	SW 8260A
1,3-Dichlorobenzene	<7.0	ug/kg dw	<7.0		11/15/2004			4369	bmh	DT	SW 8260A
1,4-Dichlorobenzene	<7.0	ug/kg dw	<7.0		11/15/2004			4369	bmh	DT	SW 8260A
1,1-Dichloroethane	<7.0	ug/kg dw	<7.0		11/15/2004			4369	bmh	DT	SW 8260A
1,2-Dichloroethane	<7.0	ug/kg dw	<7.0		11/15/2004			4369	bmh	DT	SW 8260A
1,1-Dichloroethene	<7.0	ug/kg dw	<7.0		11/15/2004			4369	bmh	DT	SW 8260A
cis-1,2-Dichloroethene	<7.0	ug/kg dw	<7.0		11/15/2004			4369	bmh	DT	SW 8260A
trans-1,2-Dichloroethene	<7.0	ug/kg dw	<7.0		11/15/2004			4369	bmh	DT	SW 8260A
1,2-Dichloropropane	<7.0	ug/kg dw	<7.0		11/15/2004			4369	bmh	DT	SW 8260A
1,3-Dichloropropane	<7.0	ug/kg dw	<7.0		11/15/2004			4369	bmh	DT	SW 8260A
2,2-Dichloropropane	<7.0	ug/kg dw	<7.0		11/15/2004			4369	bmh	DT	SW 8260A
1,1-Dichloropropene	<7.0	ug/kg dw	<7.0		11/15/2004			4369	bmh	DT	SW 8260A
cis-1,3-Dichloropropene	<7.0	ug/kg dw	<7.0		11/15/2004			4369	bmh	DT	SW 8260A
trans-1,3-Dichloropropene	<7.0	ug/kg dw	<7.0		11/15/2004			4369	bmh	DT	SW 8260A
Ethylbenzene	<7.0	ug/kg dw	<7.0		11/15/2004			4369	bmh	DT	SW 8260A
Hexachlorobutadiene	<7.0	ug/kg dw	<7.0		11/15/2004			4369	bmh	DT	SW 8260A
n-Hexane	<28.0	ug/kg dw	<28.0		11/15/2004			4369	bmh	DT	SW 8260A
2-Hexanone	<69.9	ug/kg dw	<69.9		11/15/2004			4369	bmh	DT	SW 8260A
Isopropylbenzene (Cumene)	<7.0	ug/kg dw	<7.0		11/15/2004			4369	bmh	DT	SW 8260A
p-Isopropyltoluene	<7.0	ug/kg dw	<7.0		11/15/2004			4369	bmh	DT	SW 8260A
Bromomethane	<14.0	ug/kg dw	<14.0		11/15/2004			4369	bmh	DT	SW 8260A
Methylene Chloride	<14.0	ug/kg dw	<14.0		11/15/2004			4369	bmh	DT	SW 8260A
Methyl t-butyl ether (MTBE)	<7.0	ug/kg dw	<7.0		11/15/2004			4369	bmh	DT	SW 8260A
4-Methyl-2-pentanone (MIBK)	<69.9	ug/kg dw	<69.9		11/15/2004			4369	bmh	DT	SW 8260A
n-Propylbenzene	<7.0	ug/kg dw	<7.0		11/15/2004			4369	bmh	DT	SW 8260A
Styrene	<7.0	ug/kg dw	<7.0		11/15/2004			4369	bmh	DT	SW 8260A
1,1,1,2-Tetrachloroethane	<7.0	ug/kg dw	<7.0		11/15/2004			4369	bmh	DT	SW 8260A
1,1,2,2-Tetrachloroethane	<7.0	ug/kg dw	<7.0		11/15/2004			4369	bmh	DT	SW 8260A

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Analytical Report

Jim Shoemaker
DAYTON, CITY OF (ENV.)
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Dayton, OH 45402

Job Number: 04.24785
Report Date: 11/24/2004

SAMPLE NO. 980418 **SAMPLE DESCRIPTION** MRL-01-SED **DATE/TIME TAKEN** 11/11/2004 16:15

	Result	Units	Reporting Limit	Flag	Run Date	Run Time	Prep Batch	Run Batch	Anal. Init.	Lab ID	Method Reference
Tetrachloroethene	<7.0	ug/kg dw	<7.0		11/15/2004			4369	bmh	DT	SW 8260A
Toluene	<7.0	ug/kg dw	<7.0		11/15/2004			4369	bmh	DT	SW 8260A
1,2,4-Trichlorobenzene	<7.0	ug/kg dw	<7.0		11/15/2004			4369	bmh	DT	SW 8260A
1,1,1-Trichloroethane	<7.0	ug/kg dw	<7.0		11/15/2004			4369	bmh	DT	SW 8260A
1,1,2-Trichloroethane	<7.0	ug/kg dw	<7.0		11/15/2004			4369	bmh	DT	SW 8260A
Trichloroethene	<7.0	ug/kg dw	<7.0		11/15/2004			4369	bmh	DT	SW 8260A
Trichlorofluoromethane	<7.0	ug/kg dw	<7.0		11/15/2004			4369	bmh	DT	SW 8260A
1,2,3-Trichloropropane	<7.0	ug/kg dw	<7.0		11/15/2004			4369	bmh	DT	SW 8260A
1,2,4-Trimethylbenzene	<7.0	ug/kg dw	<7.0		11/15/2004			4369	bmh	DT	SW 8260A
1,3,5-Trimethylbenzene	<7.0	ug/kg dw	<7.0		11/15/2004			4369	bmh	DT	SW 8260A
Vinyl Acetate	<7.0	ug/kg dw	<7.0		11/15/2004			4369	bmh	DT	SW 8260A
Vinyl Chloride	<2.8	ug/kg dw	<2.8		11/15/2004			4369	bmh	DT	SW 8260A
Xylenes, Total	<7.0	ug/kg dw	<7.0		11/15/2004			4369	bmh	DT	SW 8260A
d4-1,2-Dichloroethane(surr)	96	%	80-120		11/15/2004			4369	bmh	DT	SW 8260A
Dibromofluoromethane(surr)	100	%	80-120		11/15/2004			4369	bmh	DT	SW 8260A
d8-Toluene(surr)	106	%	81-117		11/15/2004			4369	bmh	DT	SW 8260A
Bromofluorobenzene(surr)	101	%	74-121		11/15/2004			4369	bmh	DT	SW 8260A
BASE NEUT. COMPS.-8270 Non-aq											
Acenaphthene	965	ug/kg dw	<462		11/16/2004		1762	3109	jcs	DT	SW 8270C
Acenaphthylene	<462	ug/kg dw	<462		11/16/2004		1762	3109	jcs	DT	SW 8270C
Anthracene	2,730	ug/kg dw	<462		11/16/2004		1762	3109	jcs	DT	SW 8270C
Benzo(a)anthracene	9,830	ug/kg dw	<4,620		11/16/2004		1762	3112	jcs	DT	SW 8270C
Benzo(b)fluoranthene	13,700	ug/kg dw	<4,620		11/16/2004		1762	3112	jcs	DT	SW 8270C
Benzo(k)fluoranthene	3,470	ug/kg dw	<462		11/16/2004		1762	3109	jcs	DT	SW 8270C
Benzo(a)pyrene	8,980	ug/kg dw	<2,240		11/16/2004		1762	3112	jcs	DT	SW 8270C
Benzo(ghi)perylene	2,410	ug/kg dw	<462		11/16/2004		1762	3109	jcs	DT	SW 8270C
Benzyl alcohol	<462	ug/kg dw	<462		11/16/2004		1762	3109	jcs	DT	SW 8270C
Benzyl butyl phthalate	<462	ug/kg dw	<462		11/16/2004		1762	3109	jcs	DT	SW 8270C
Bis(2-chloroethyl)ether	<462	ug/kg dw	<462		11/16/2004		1762	3109	jcs	DT	SW 8270C
Bis(2-chloroethoxy)methane	<462	ug/kg dw	<462		11/16/2004		1762	3109	jcs	DT	SW 8270C
Bis(2-ethylhexyl)phthalate	<462	ug/kg dw	<462		11/16/2004		1762	3109	jcs	DT	SW 8270C
bis(2-chloroisopropyl)ether	<462	ug/kg dw	<462		11/16/2004		1762	3109	jcs	DT	SW 8270C
4-Bromophenyl phenyl ether	<462	ug/kg dw	<462		11/16/2004		1762	3109	jcs	DT	SW 8270C

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Analytical Report

Jim Shoemaker
DAYTON, CITY OF (ENV.)
Div. of Environmental Mnmt
320 W. Monument
Dayton, OH 45402

Job Number: 04.24785
Report Date: 11/24/2004

SAMPLE NO. 980418 | **SAMPLE DESCRIPTION** MRL-01-SED | **DATE/TIME TAKEN** 11/11/2004 16:15

	Result	Units	Reporting Limit	Flag	Run Date	Run Time	Prep Batch	Run Batch	Anal. Init.	Lab ID	Method Reference
4-Chloroaniline	<462	ug/kg dw	<462		11/16/2004		1762	3109	jcs	DT	SW 8270C
2-Chloronaphthalene	<462	ug/kg dw	<462		11/16/2004		1762	3109	jcs	DT	SW 8270C
Chrysene	11,900	ug/kg dw	<4,620		11/16/2004		1762	3112	jcs	DT	SW 8270C
Dibenz(a,h)anthracene	1,040	ug/kg dw	<231		11/16/2004		1762	3109	jcs	DT	SW 8270C
Dibenzofuran	793	ug/kg dw	<462		11/16/2004		1762	3109	jcs	DT	SW 8270C
1,2-Dichlorobenzene	<462	ug/kg dw	<462		11/16/2004		1762	3109	jcs	DT	SW 8270C
1,3-Dichlorobenzene	<462	ug/kg dw	<462		11/16/2004		1762	3109	jcs	DT	SW 8270C
1,4-Dichlorobenzene	<462	ug/kg dw	<462		11/16/2004		1762	3109	jcs	DT	SW 8270C
3,3'-Dichlorobenzidine	<923	ug/kg dw	<923		11/16/2004		1762	3109	jcs	DT	SW 8270C
Diethyl phthalate	<462	ug/kg dw	<462		11/16/2004		1762	3109	jcs	DT	SW 8270C
Dimethyl phthalate	<462	ug/kg dw	<462		11/16/2004		1762	3109	jcs	DT	SW 8270C
2,4-Dinitrotoluene	<462	ug/kg dw	<462		11/16/2004		1762	3109	jcs	DT	SW 8270C
2,6-Dinitrotoluene	<462	ug/kg dw	<462		11/16/2004		1762	3109	jcs	DT	SW 8270C
Di-n-octylphthalate	<462	ug/kg dw	<462		11/16/2004		1762	3109	jcs	DT	SW 8270C
Fluoranthene	27,100	ug/kg dw	<4,620		11/16/2004		1762	3112	jcs	DT	SW 8270C
Fluorene	1,330	ug/kg dw	<462		11/16/2004		1762	3109	jcs	DT	SW 8270C
Hexachlorobenzene	<462	ug/kg dw	<462		11/16/2004		1762	3109	jcs	DT	SW 8270C
Hexachloro-1,3-butadiene	<462	ug/kg dw	<462		11/16/2004		1762	3109	jcs	DT	SW 8270C
Hexachlorocyclopentadiene	<923	ug/kg dw	<923		11/16/2004		1762	3109	jcs	DT	SW 8270C
Hexachloroethane	<462	ug/kg dw	<462		11/16/2004		1762	3109	jcs	DT	SW 8270C
Indeno(1,2,3-cd)pyrene	2,730	ug/kg dw	<462		11/16/2004		1762	3109	jcs	DT	SW 8270C
Isophorone	<462	ug/kg dw	<462		11/16/2004		1762	3109	jcs	DT	SW 8270C
Naphthalene	1,020	ug/kg dw	<462		11/16/2004		1762	3109	jcs	DT	SW 8270C
Nitrobenzene	<462	ug/kg dw	<462		11/16/2004		1762	3109	jcs	DT	SW 8270C
N-Nitrosodi-n-propylamine	<462	ug/kg dw	<462		11/16/2004		1762	3109	jcs	DT	SW 8270C
Phenanthrene	18,300	ug/kg dw	<4,620		11/16/2004		1762	3112	jcs	DT	SW 8270C
Pyrene	23,900	ug/kg dw	<4,620		11/16/2004		1762	3112	jcs	DT	SW 8270C
1,2,4-Trichlorobenzene	<462	ug/kg dw	<462		11/16/2004		1762	3109	jcs	DT	SW 8270C
Surrogate: d5-Nitrobenzene	64	%	28-120		11/16/2004		1762	3109	jcs	DT	SW 8270C
Surrogate: 2-Fluorobiphenyl	75	%	30-115		11/16/2004		1762	3109	jcs	DT	SW 8270C
Surrogate: d14-Terphenyl	64	%	18-137		11/16/2004		1762	3109	jcs	DT	SW 8270C

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Analytical Report

Jim Shoemaker
DAYTON, CITY OF (ENV.)
Div. of Environmental Mnmt
320 W. Monument
Dayton, OH 45402

Job Number: 04.24785
Report Date: 11/24/2004

SAMPLE NO. 980418
SAMPLE DESCRIPTION MRL-01-SED
DATE/TIME TAKEN 11/11/2004 16:15

	Result	Units	Reporting Limit	Flag	Run Date	Run Time	Prep Batch	Run Batch	Anal. Init.	Lab ID	Method Reference
ACID COMPOUNDS - 8270 Non-aq											
Benzoic Acid	<2,310	ug/kg dw	<2,310		11/16/2004		1762	3109	jcs	DT	SW 8270C
4-Chloro-3-methylphenol	<462	ug/kg dw	<462		11/16/2004		1762	3109	jcs	DT	SW 8270C
2-Chlorophenol	<462	ug/kg dw	<462		11/16/2004		1762	3109	jcs	DT	SW 8270C
2,4-Dichlorophenol	<462	ug/kg dw	<462		11/16/2004		1762	3109	jcs	DT	SW 8270C
2,4-Dimethylphenol	<462	ug/kg dw	<462		11/16/2004		1762	3109	jcs	DT	SW 8270C
2-Methyl-4,6-dinitrophenol	<462	ug/kg dw	<462		11/16/2004		1762	3109	jcs	DT	SW 8270C
2-Methylphenol	<462	ug/kg dw	<462		11/16/2004		1762	3109	jcs	DT	SW 8270C
meta & para-Methylphenol	<462	ug/kg dw	<462		11/16/2004		1762	3109	jcs	DT	SW 8270C
2-Nitrophenol	<462	ug/kg dw	<462		11/16/2004		1762	3109	jcs	DT	SW 8270C
Pentachlorophenol	<462	ug/kg dw	<462		11/16/2004		1762	3109	jcs	DT	SW 8270C
Phenol	<462	ug/kg dw	<462		11/16/2004		1762	3109	jcs	DT	SW 8270C
2,4,5-Trichlorophenol	<462	ug/kg dw	<462		11/16/2004		1762	3109	jcs	DT	SW 8270C
2,4,6-Trichlorophenol	<462	ug/kg dw	<462		11/16/2004		1762	3109	jcs	DT	SW 8270C
Surrogate: d6-Phenol	69	%	24-113		11/16/2004		1762	3109	jcs	DT	SW 8270C
Surrogate: 2-Fluorophenol	72	%	25-127		11/16/2004		1762	3109	jcs	DT	SW 8270C
Surrogate: Tribromophenol	75	%	19-122		11/16/2004		1762	3109	jcs	DT	SW 8270C
PCB's M 8082, Non-Aq											
Aroclor 1016	<0.35	mg/kg dw	<0.35		11/19/2004		854	1064	clh	DT	SW 8082
Aroclor 1221	<0.35	mg/kg dw	<0.35		11/19/2004		854	1064	clh	DT	SW 8082
Aroclor 1232	<0.35	mg/kg dw	<0.35		11/19/2004		854	1064	clh	DT	SW 8082
Aroclor 1242	<0.35	mg/kg dw	<0.35		11/19/2004		854	1064	clh	DT	SW 8082
Aroclor 1248	<0.35	mg/kg dw	<0.35		11/19/2004		854	1064	clh	DT	SW 8082
Aroclor 1254	<0.35	mg/kg dw	<0.35		11/19/2004		854	1064	clh	DT	SW 8082
Aroclor 1260	<0.35	mg/kg dw	<0.35	h	11/19/2004		854	1064	clh	DT	SW 8082
Surrogate: DCB	38	%			11/19/2004		854	1064	clh	DT	SW 8082
Surrogate: TCX	45	%			11/19/2004		854	1064	clh	DT	SW 8082

h - MSD recovery and RPD outside of control limits.

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Quality Control Report
Blanks

Jim Shoemaker
DAYTON, CITY OF (ENV.)
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Dayton, OH 45402

Job Number: 04.24785
Report Date: 11/24/2004

Analyte	Prep Batch Number	Run Batch Number	Blank Result	Units	Date Prepped	Date Analyzed
Arsenic, ICPMS	246	6586	<2.0	mg/Kg	11/16/2004	11/18/2004
Arsenic, ICPMS		6586	<2.0	mg/Kg		11/17/2004
Barium, ICP	1943	4689	<0.020	mg/Kg	11/15/2004	11/16/2004
Barium, ICP		4689	<0.020	mg/Kg		11/16/2004
Cadmium, ICP	1943	4672	<0.030	mg/Kg	11/15/2004	11/16/2004
Cadmium, ICP		4672	<0.030	mg/Kg		11/16/2004
Chromium, ICP	1943	4660	<0.040	mg/Kg	11/15/2004	11/16/2004
Chromium, ICP		4660	<0.040	mg/Kg		11/16/2004
Lead, ICP	1943	4658	<0.080	mg/Kg	11/15/2004	11/16/2004
Lead, ICP		4658	<0.080	mg/Kg		11/16/2004
Mercury,CVAA	1301	1900	<0.0080	mg/Kg	11/16/2004	11/16/2004
Mercury,CVAA		1900	<0.0080	mg/Kg		11/16/2004
Selenium, ICP	1943	4732	<0.10	mg/Kg	11/15/2004	11/16/2004
Selenium, ICP		4732	<0.10	mg/Kg		11/16/2004
Silver, ICPMS	246	6399	<0.50	mg/Kg	11/16/2004	11/18/2004
Silver, ICPMS		6399	<0.50	mg/L		11/17/2004
VOLATILE COMPOUNDS-8260 Non-Aq						
Acetone		4369	<100	ug/Kg		11/15/2004
Benzene		4369	<5.0	ug/Kg		11/15/2004
tert-Butylbenzene		4369	<5.0	ug/Kg		11/15/2004
sec-Butylbenzene		4369	<5.0	ug/Kg		11/15/2004
n-Butylbenzene		4369	<5.0	ug/Kg		11/15/2004
Bromochloromethane		4369	<5.0	ug/Kg		11/15/2004
Bromodichloromethane		4369	<5.0	ug/Kg		11/15/2004
Bromoform		4369	<5.0	ug/Kg		11/15/2004
Bromobenzene		4369	<5.0	ug/Kg		11/15/2004
2-Butanone (MEK)		4369	<50	ug/Kg		11/15/2004
Carbon disulfide		4369	<5.0	ug/Kg		11/15/2004
Carbon tetrachloride		4369	<5.0	ug/Kg		11/15/2004
Chlorobenzene		4369	<5.0	ug/Kg		11/15/2004
Chloroethane		4369	<10.0	ug/Kg		11/15/2004
2-Chlorotoluene		4369	<5.0	ug/Kg		11/15/2004
4-Chlorotoluene		4369	<5.0	ug/Kg		11/15/2004
Chloroform		4369	<5.0	ug/Kg		11/15/2004
Chloromethane		4369	<10.0	ug/Kg		11/15/2004
Dibromochloromethane		4369	<5.0	ug/Kg		11/15/2004
Dibromomethane		4369	<5.0	ug/Kg		11/15/2004
Dichlorodifluoromethane		4369	<5.0	ug/Kg		11/15/2004
1,2-Dichlorobenzene		4369	<5.0	ug/Kg		11/15/2004

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Quality Control Report
Blanks

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Job Number: 04.24785
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Analyte	Prep Batch Number	Run Batch Number	Blank Result	Units	Date Prepped	Date Analyzed
1,3-Dichlorobenzene		4369	<5.0	ug/Kg		11/15/2004
1,4-Dichlorobenzene		4369	<5.0	ug/Kg		11/15/2004
1,1-Dichloroethane		4369	<5.0	ug/Kg		11/15/2004
1,2-Dichloroethane		4369	<5.0	ug/Kg		11/15/2004
1,1-Dichloroethene		4369	<5.0	ug/Kg		11/15/2004
cis-1,2-Dichloroethene		4369	<5.0	ug/Kg		11/15/2004
trans-1,2-Dichloroethene		4369	<5.0	ug/Kg		11/15/2004
1,2-Dichloropropane		4369	<5.0	ug/Kg		11/15/2004
1,3-Dichloropropane		4369	<5.0	ug/Kg		11/15/2004
2,2-Dichloropropane		4369	<5.0	ug/Kg		11/15/2004
1,1-Dichloropropene		4369	<5.0	ug/Kg		11/15/2004
cis-1,3-Dichloropropene		4369	<5.0	ug/Kg		11/15/2004
trans-1,3-Dichloropropene		4369	<5.0	ug/Kg		11/15/2004
Ethylbenzene		4369	<5.0	ug/Kg		11/15/2004
Hexachlorobutadiene		4369	<5.0	ug/Kg		11/15/2004
n-Hexane		4369	<20.0	ug/Kg		11/15/2004
2-Hexanone		4369	<50.0	ug/Kg		11/15/2004
Isopropylbenzene (Cumene)		4369	<5.0	ug/Kg		11/15/2004
p-Isopropyltoluene		4369	<5.0	ug/Kg		11/15/2004
Bromomethane		4369	<10.0	ug/Kg		11/15/2004
Methylene Chloride		4369	<10.0	ug/Kg		11/15/2004
Methyl t-butyl ether (MTBE)		4369	<5.0	ug/Kg		11/15/2004
4-Methyl-2-pentanone (MIBK)		4369	<50.0	ug/Kg		11/15/2004
n-Propylbenzene		4369	<5.0	ug/Kg		11/15/2004
Styrene		4369	<5.0	ug/Kg		11/15/2004
1,1,1,2-Tetrachloroethane		4369	<5.0	ug/Kg		11/15/2004
1,1,2,2-Tetrachloroethane		4369	<5.0	ug/Kg		11/15/2004
Tetrachloroethene		4369	<5.0	ug/Kg		11/15/2004
Toluene		4369	<5.0	ug/Kg		11/15/2004
1,2,4-Trichlorobenzene		4369	<5.0	ug/Kg		11/15/2004
1,1,1-Trichloroethane		4369	<5.0	ug/Kg		11/15/2004
1,1,2-Trichloroethane		4369	<5.0	ug/Kg		11/15/2004
Trichloroethene		4369	<5.0	ug/Kg		11/15/2004
Trichlorofluoromethane		4369	<5.0	ug/Kg		11/15/2004
1,2,3-Trichloropropane		4369	<5.0	ug/Kg		11/15/2004
1,2,4-Trimethylbenzene		4369	<5.0	ug/Kg		11/15/2004
1,3,5-Trimethylbenzene		4369	<5.0	ug/Kg		11/15/2004
Vinyl Acetate		4369	<5.0	ug/Kg		11/15/2004
Vinyl Chloride		4369	<2.0	ug/Kg		11/15/2004

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Jim Shoemaker
DAYTON, CITY OF (ENV.)
Div. of Environmental Mnmt
320 W. Monument
Dayton, OH 45402

Job Number: 04.24785
Report Date: 11/24/2004

Analyte	Prep Batch Number	Run Batch Number	Blank Result	Units	Date Prepped	Date Analyzed
Xylenes, Total		4369	<5.0	ug/Kg		11/15/2004
d4-1,2-Dichloroethane(surr)		4369	98	%		11/15/2004
Dibromofluoromethane(surr)		4369	99	%		11/15/2004
d8-Toluene(surr)		4369	105	%		11/15/2004
Bromofluorobenzene(surr)		4369	102	%		11/15/2004
BASE NEUT. COMPS.-8270 Non-aq						
Acenaphthene	1762	3109	<165	ug/Kg	11/12/2004	11/15/2004
Acenaphthylene	1762	3109	<165	ug/Kg	11/12/2004	11/15/2004
Anthracene	1762	3109	<165	ug/Kg	11/12/2004	11/15/2004
Benzo(a)anthracene	1762	3109	<165	ug/Kg	11/12/2004	11/15/2004
Benzo(b)fluoranthene	1762	3109	<165	ug/Kg	11/12/2004	11/15/2004
Benzo(k)fluoranthene	1762	3109	<165	ug/Kg	11/12/2004	11/15/2004
Benzo(ghi)perylene	1762	3109	<165	ug/Kg	11/12/2004	11/15/2004
Benzo(a)pyrene	1762	3109	<165	ug/Kg	11/12/2004	11/15/2004
Benzyl alcohol	1762	3109	<330	ug/Kg	11/12/2004	11/15/2004
Bis(2-chloroethoxy)methane	1762	3109	<165	ug/Kg	11/12/2004	11/15/2004
Bis(2-chloroethyl)ether	1762	3109	<165	ug/Kg	11/12/2004	11/15/2004
bis(2-chloroisopropyl)ether	1762	3109	<330	ug/Kg	11/12/2004	11/15/2004
Bis(2-ethylhexyl)phthalate	1762	3109	<165	ug/Kg	11/12/2004	11/15/2004
4-Bromophenyl phenyl ether	1762	3109	<165	ug/Kg	11/12/2004	11/15/2004
Benzyl butyl phthalate	1762	3109	<165	ug/Kg	11/12/2004	11/15/2004
4-Chloroaniline	1762	3109	<330	ug/Kg	11/12/2004	11/15/2004
2-Chloronaphthalene	1762	3109	<165	ug/Kg	11/12/2004	11/15/2004
Chrysene	1762	3109	<165	ug/Kg	11/12/2004	11/15/2004
Dibenz(a,h)anthracene	1762	3109	<165	ug/Kg	11/12/2004	11/15/2004
Dibenzofuran	1762	3109	<330	ug/Kg	11/12/2004	11/15/2004
1,2-Dichlorobenzene	1762	3109	<165	ug/Kg	11/12/2004	11/15/2004
1,3-Dichlorobenzene	1762	3109	<165	ug/Kg	11/12/2004	11/15/2004
1,4-Dichlorobenzene	1762	3109	<165	ug/Kg	11/12/2004	11/15/2004
3,3'-Dichlorobenzidine	1762	3109	<495	ug/Kg	11/12/2004	11/15/2004
Diethyl phthalate	1762	3109	<165	ug/Kg	11/12/2004	11/15/2004
Dimethyl phthalate	1762	3109	<165	ug/Kg	11/12/2004	11/15/2004
2,4-Dinitrotoluene	1762	3109	<165	ug/Kg	11/12/2004	11/15/2004
2,6-Dinitrotoluene	1762	3109	<165	ug/Kg	11/12/2004	11/15/2004
Di-n-octylphthalate	1762	3109	<165	ug/Kg	11/12/2004	11/15/2004
Fluoranthene	1762	3109	<165	ug/Kg	11/12/2004	11/15/2004
Fluorene	1762	3109	<165	ug/Kg	11/12/2004	11/15/2004
Hexachlorobenzene	1762	3109	<165	ug/Kg	11/12/2004	11/15/2004
Hexachloro-1,3-butadiene	1762	3109	<165	ug/Kg	11/12/2004	11/15/2004

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320 W. Monument
Dayton, OH 45402

Job Number: 04.24785
Report Date: 11/24/2004

Analyte	Prep Batch Number	Run Batch Number	Blank Result	Units	Date Prepped	Date Analyzed
Hexachlorocyclopentadiene	1762	3109	<660	ug/Kg	11/12/2004	11/15/2004
Hexachloroethane	1762	3109	<165	ug/Kg	11/12/2004	11/15/2004
Indeno(1,2,3-cd)pyrene	1762	3109	<165	ug/Kg	11/12/2004	11/15/2004
Isophorone	1762	3109	<165	ug/Kg	11/12/2004	11/15/2004
Naphthalene	1762	3109	<165	ug/Kg	11/12/2004	11/15/2004
Nitrobenzene	1762	3109	<165	ug/Kg	11/12/2004	11/15/2004
N-Nitrosodi-n-propylamine	1762	3109	<165	ug/Kg	11/12/2004	11/15/2004
Phenanthrene	1762	3109	<165	ug/Kg	11/12/2004	11/15/2004
Pyrene	1762	3109	<165	ug/Kg	11/12/2004	11/15/2004
1,2,4-Trichlorobenzene	1762	3109	<165	ug/Kg	11/12/2004	11/15/2004
Surrogate: d5-Nitrobenzene	1762	3109	79	%	11/12/2004	11/15/2004
Surrogate: 2-Fluorobiphenyl	1762	3109	81	%	11/12/2004	11/15/2004
Surrogate: d14-Terphenyl	1762	3109	76	%	11/12/2004	11/15/2004
ACID COMPOUNDS - 8270 Non-aq						
2-Chlorophenol	1762	3109	<330	ug/Kg	11/12/2004	11/15/2004
4-Chloro-3-methylphenol	1762	3109	<330	ug/Kg	11/12/2004	11/15/2004
2-Methylphenol	1762	3109	<330	ug/Kg	11/12/2004	11/15/2004
meta & para-Methylphenol	1762	3109	<330	ug/Kg	11/12/2004	11/15/2004
Benzoic Acid	1762	3109	<1,650	ug/Kg	11/12/2004	11/15/2004
2,4-Dichlorophenol	1762	3109	<330	ug/Kg	11/12/2004	11/15/2004
2,4-Dimethylphenol	1762	3109	<330	ug/Kg	11/12/2004	11/15/2004
2-Methyl-4,6-dinitrophenol	1762	3109	<330	ug/Kg	11/12/2004	11/15/2004
2-Nitrophenol	1762	3109	<330	ug/Kg	11/12/2004	11/15/2004
Pentachlorophenol	1762	3109	<330	ug/Kg	11/12/2004	11/15/2004
Phenol	1762	3109	<330	ug/Kg	11/12/2004	11/15/2004
2,4,5-Trichlorophenol	1762	3109	<330	ug/Kg	11/12/2004	11/15/2004
2,4,6-Trichlorophenol	1762	3109	<330	ug/Kg	11/12/2004	11/15/2004
Surrogate: d6-Phenol	1762	3109	74	%	11/12/2004	11/15/2004
Surrogate: 2-Fluorophenol	1762	3109	76	%	11/12/2004	11/15/2004
Surrogate: Tribromophenol	1762	3109	73	%	11/12/2004	11/15/2004
PCB's M 8082, Non-Aq						
Aroclor 1016	854	1061	<0.25	mg/Kg	11/15/2004	11/16/2004
Aroclor 1221	854	1061	<0.25	mg/Kg	11/15/2004	11/16/2004
Aroclor 1232	854	1061	<0.25	mg/Kg	11/15/2004	11/16/2004
Aroclor 1242	854	1061	<0.25	mg/Kg	11/15/2004	11/16/2004
Aroclor 1248	854	1061	<0.25	mg/Kg	11/15/2004	11/16/2004
Aroclor 1254	854	1061	<0.25	mg/Kg	11/15/2004	11/16/2004

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Quality Control Report
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Jim Shoemaker
DAYTON, CITY OF (ENV.)
Div. of Environmental Mnmt
320 W. Monument
Dayton, OH 45402

Job Number: 04.24785
Report Date: 11/24/2004

Analyte	Prep Batch Number	Run Batch Number	Blank Result	Units	Date Prepped	Date Analyzed
Aroclor 1260	854	1061	<0.25	mg/Kg	11/15/2004	11/16/2004
Surrogate: DCB	854	1061	85	%	11/15/2004	11/16/2004
Surrogate: TCX	854	1061	82	%	11/15/2004	11/16/2004

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Quality Control Report
Laboratory Control Standard

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Div. of Environmental Mnmt
320 W. Monument
Dayton, OH 45402

Job Number: 04.24785
Report Date: 11/24/2004

LCS/LCS Dups do not apply to all parameters and are used in place of MS/MSD for precision determinations when sample volume is unavailable for spiking a client sample.

Analyte	Prep Batch No.	Run Batch No.	Date Analyzed	LCS True Conc	LCS Conc Found	LCS % Rec.	LCSD Conc Found	LCSD % Rec.	RPD
Arsenic, ICPMS	246	6586	11/18/2004	0.0500	0.0451	90			
Barium, ICP	1943	4689	11/16/2004	1.00	1.03	103			
Cadmium, ICP	1943	4672	11/16/2004	1.00	0.97	97			
Chromium, ICP	1943	4660	11/16/2004	1.00	1.01	101			
Lead, ICP	1943	4658	11/16/2004	1.00	0.97	97			
Mercury,CVAA	1301	1900	11/16/2004	0.00200	0.00195	98			
Selenium, ICP	1943	4732	11/16/2004	1.00	0.91	91			
Silver, ICPMS	246	6399	11/18/2004	0.0500	0.0492	98			
VOLATILE COMPOUNDS-8260 Non-Aq									
Benzene		4369	11/15/2004	20.0	19.7	98			
Chlorobenzene		4369	11/15/2004	20.0	21.5	108			
1,1-Dichloroethene		4369	11/15/2004	20.0	19.2	96			
Tetrachloroethene		4369	11/15/2004	20.0	22.4	112			
Toluene		4369	11/15/2004	20.0	22.5	112			
Trichloroethene		4369	11/15/2004	20.0	20.1	100			
Xylenes, Total		4369	11/15/2004	60.0	65.1	108			
d4-1,2-Dichloroethane(surr)		4369	11/15/2004	100.0	100	100			
Dibromofluoromethane(surr)		4369	11/15/2004	100.0	100	100			
d8-Toluene(surr)		4369	11/15/2004	100.0	102	102			
Bromofluorobenzene(surr)		4369	11/15/2004	100.0	106	106			
BASE NEUT. COMPS.-8270 Non-aq									
Acenaphthene	1762	3109	11/15/2004	50	40.9	82			
1,4-Dichlorobenzene	1762	3109	11/15/2004	50	34.3	69			
2,4-Dinitrotoluene	1762	3109	11/15/2004	50	39.6	79			
N-Nitrosodi-n-propylamine	1762	3109	11/15/2004	50	37.1	74			
Pyrene	1762	3109	11/15/2004	50	40.0	80			
1,2,4-Trichlorobenzene	1762	3109	11/15/2004	50	34.8	70			
Surrogate: d5-Nitrobenzene	1762	3109	11/15/2004	100	71.0	71			
Surrogate: 2-Fluorobiphenyl	1762	3109	11/15/2004	100	76.7	77			
Surrogate: d14-Terphenyl	1762	3109	11/15/2004	100	66.9	67			
ACID COMPOUNDS - 8270 Non-aq									
2-Chlorophenol	1762	3109	11/15/2004	50	35.5	71			
4-Chloro-3-methylphenol	1762	3109	11/15/2004	50	37.0	74			
Pentachlorophenol	1762	3109	11/15/2004	50	27.3	55			
Phenol	1762	3109	11/15/2004	50	35.9	72			
Surrogate: d6-Phenol	1762	3109	11/15/2004	200	132.9	66			
Surrogate: 2-Fluorophenol	1762	3109	11/15/2004	200	136.5	68			
Surrogate: Tribromophenol	1762	3109	11/15/2004	200	150.0	75			
PCB's M 8082, Non-Aq									

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Div. of Environmental Mnmt
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Dayton, OH 45402

Job Number: 04.24785
Report Date: 11/24/2004

LCS/LCS Dups do not apply to all parameters and are used in place of MS/MSD for precision determinations when sample volume is unavailable for spiking a client sample.

Analyte	Prep Batch No.	Run Batch No.	Date Analyzed	LCS True Conc	LCS Conc Found	LCS % Rec.	LCSD Conc Found	LCSD % Rec.	RPD
Aroclor 1016	854	1061	11/16/2004	1.0	0.96	96			
Aroclor 1260	854	1061	11/16/2004	1.0	0.85	85			
Surrogate: DCB	854	1061	11/16/2004	0.20	0.18	90			
Surrogate: TCX	854	1061	11/16/2004	0.20	0.16	80			

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Quality Control Report
Matrix Spike/Matrix Spike Duplicate

Jim Shoemaker
DAYTON, CITY OF (ENV.)
Div. of Environmental Mnmt
320 W. Monument
Dayton, OH 45402

Job Number: 04.24785
Report Date: 11/24/2004

Matrix Spike/Matrix Spike Duplicate Samples may not be samples from this job.

Analyte	Sample Number	Prep Batch Number	Run Batch Number	MS % Rec.	MSD % Rec.	RPD	Flags
Arsenic, ICPMS	979901	246	6586	98	91	7.8	
Barium, ICP	980498	1943	4689	122	0	31	I
Cadmium, ICP	980498	1943	4672	98	98	0.6	
Chromium, ICP	980498	1943	4660	143	120	11	D
Lead, ICP	980498	1943	4658	167	146	13	
Mercury,CVAA	980202	1301	1900	100	95	2.4	
Selenium, ICP	980498	1943	4732	0	100		M
Silver, ICPMS	979901	246	6399	94	88	6.8	
VOLATILE COMPOUNDS-8260 Non-Aq	980418						
Benzene	980418		4369	100	90	11	
Chlorobenzene	980418		4369	95	85	11	
1,1-Dichloroethene	980418		4369	95	80	17	
Ethylbenzene	980418		4369	95	85	11	
Tetrachloroethene	980418		4369	90	80	12	
Toluene	980418		4369	105	95	10	
Trichloroethene	980418		4369	95	85	11	
BASE NEUT. COMPS.-8270 Non-aq	980202						
Acenaphthene	980202	1762	3109	77	74	4.5	
1,4-Dichlorobenzene	980202	1762	3109	67	66	2.5	
2,4-Dinitrotoluene	980202	1762	3109	74	74	0.9	
N-Nitrosodi-n-propylamine	980202	1762	3109	70	72	2.9	
Pyrene	980202	1762	3109	76	77	0.9	
1,2,4-Trichlorobenzene	980202	1762	3109	69	69	0.0	
PCB's M 8082, Non-Aq	980418						
Aroclor 1016	980418	854	1064	111	104	6.5	
Aroclor 1260	980418	854	1064	95	151	46	h

D - MS recovery outside of control limits.
I - RPD, MS and MSD recovery outside of control limits.
M - Spike concentration is diluted out.
h - MSD recovery and RPD outside of control limits.

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Quality Control Report
Duplicates

Jim Shoemaker
DAYTON, CITY OF (ENV.)
Div. of Environmental Mnmt
320 W. Monument
Dayton, OH 45402

Job Number: 04.24785
Report Date: 11/24/2004

Duplicates may not be samples from this job.

Analyte	Prep Batch Number	Run Batch Number	Sample Number	Original Analysis	Duplicate Analysis	Units	RPD	Flag
Dry Weight		3286	979922	80.8	83.6	%	3.4	
Dry Weight		3286	979923	78.6	79.0	%	0.5	

4.2418

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Dayton Division
3601 S. Dixie Drive
Dayton, OH 45439

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To assist us in using the proper analytical methods, is this work being conducted for regulatory purposes?
Compliance Monitoring _____

Client Name: City of Dayton - Env. Mgmt Client #: _____
Address: 320 W. Monument Av
City/State/Zip Code: Dayton OH 45422
Project Manager: Jim Shoemaker
Telephone Number: 333-3727 Fax: 333-2933
Sampler Name: (Print Name) Jim Shoemaker
Sampler Signature: Jim Shoemaker

Project Name: TT Mad River
Project #: _____
Site/Location ID: MRL-01 State: OH
Report To: Jim Shoemaker
Invoice To: " "
Quote #: Brownfield PO#: _____

TAT
X Standard
___ Rush (surcharges may apply)
Date Needed: _____
Fax Results: Y N

SAMPLE ID	Date Sampled	Time Sampled	G = Grab, C = Composite	Field Filtered	Matrix: SL - Sludge, DW - Drinking Water, GW - Groundwater, S - Soil/Solid, WW - Wastewater, Specify Other	Preservation & # of Containers: HNO_3	HCl	NaOH	H_2SO_4	Methanol	None	Other (Specify)	Analyze For: VOCs 8260	SVOCs 8270	RCRA metals	PCBs	QC Deliverables	REMARKS
MRL-01-SED	11/4/04	1615	G		S						X		X	X	X	X	None	

Special Instructions:

Relinquished By:	Date: 11/4/04	Time: 1750	Received By:	Date: 11/11/04	Time: 1756	
Relinquished By:	Date:	Time:	Received By:	Date:	Time:	
Relinquished By:	Date:	Time:	Received By:	Date:	Time:	

LABORATORY COMMENTS:
Init Lab Temp:
Rec Lab Temp: 9.8° no ice
Custody Seals: Y N (N/A)
Bottles Supplied by TestAmerica: (Y) N
Method of Shipment: WI

#749

APPENDIX L

BACKGROUND SAMPLING DATA

represented in Section 3.5. The negligible response in the upper aquifer demonstrates that it is hydraulically isolated from the lower aquifer and the till-rich zones. The attenuated but immediate response to pumping observed in the till-rich zone demonstrates its hydraulic connection to the lower aquifer. The attenuated response in the till-rich zone verifies that this zone has a significantly lower hydraulic conductivity than the lower aquifer. Additionally, the Geothermal Well captures lower aquifer and till-rich zone flow from underneath the Site, even while the Fountain Wells were pumping.

3.6 BACKGROUND SOIL CHARACTERIZATION

Seven background soil samples were collected by CRA on July 24, 2001. An additional background soil sample was requested by U.S. EPA and was collected by CRA on November 29, 2004. The sampled locations were selected such that they were not near streets or other areas of regular vehicular traffic. Surveyed background soil sampling locations are identified on Figure 3.27. Detailed illustrations of the eight background soil sampling locations are presented on Figures 3.28 through 3.35.

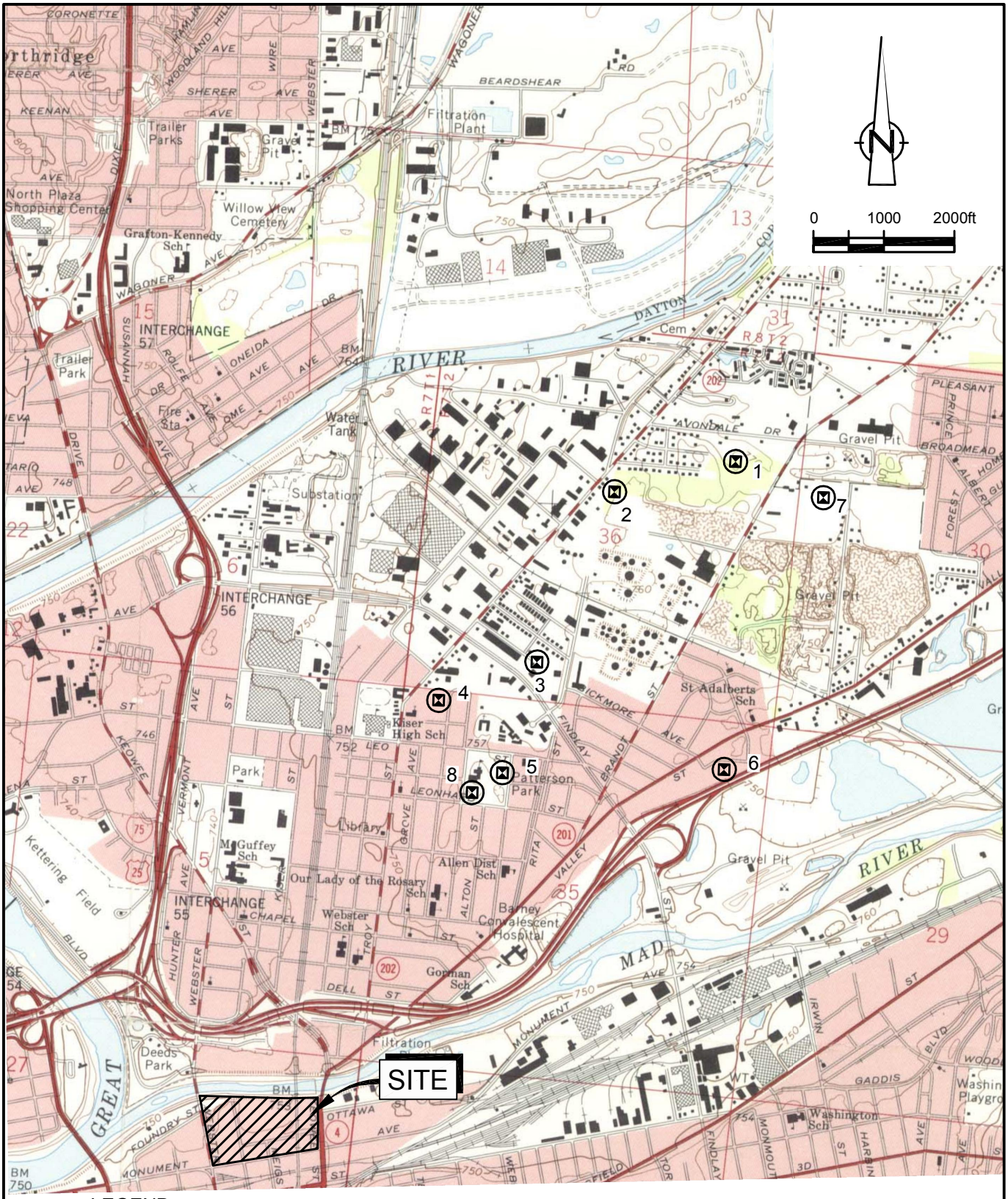
Samples were collected over either the 0- to 2-foot or 2- to 4-foot bgs interval using a 2-inch diameter split-spoon sampler which was advanced into the ground using a jack-hammer. Samples were analyzed for TCL/TAL parameters (i.e., TCL VOCs, TCL SVOCs, TCL pesticides/PCBs, TAL metals, and cyanide) and herbicides. Analytical data are presented in Appendix G.

The background soil data were discussed and presented in a technical memorandum in April 2005 (ENVIRON, 2005). In summary, toluene, SVOCs and pesticides were detected in one or more background soil samples, but at levels believed to be within expected anthropogenic background levels. Consequently, there is no evidence of Site-related contamination that should preclude the use of these samples for assessing background levels of metals in soil in Dayton, Ohio. The sample concentrations of metals and selected concentration statistics are presented in Table 3.2.

3.7 LAND USE

3.7.1 CURRENT SITE ZONING AND LAND USE

The Site is currently zoned as a Heavy Industrial District as shown on Figure 3.36, and the City of Dayton has proposed to rezone the area as an Urban Business District as



LEGEND

1 BACKGROUND SOIL SAMPLING LOCATION

figure 3.27

BACKGROUND SAMPLE LOCATIONS
FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY
Dayton, Ohio

BASE MAP SOURCE: USGS QUADRANGLE MAPS; DAYTON NORTH AND FAIRBORN, OHIO

12638-04(011)GN-WA025 MAR 27/2006

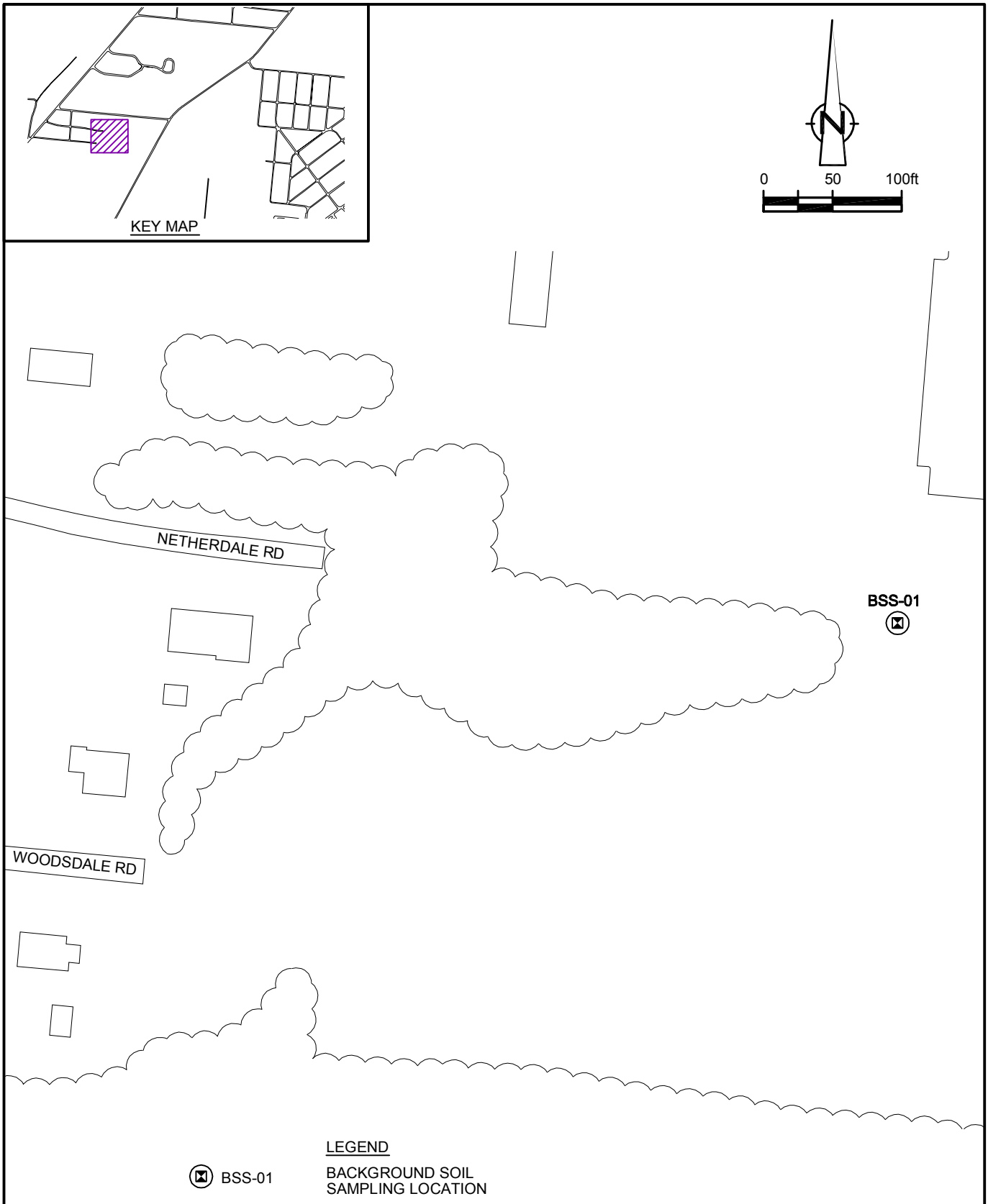


figure 3.28

BACKGROUND SAMPLE LOCATION - DETAIL 1
FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY
Dayton, Ohio

12638-04(011)GN-WA026 MAR 27/2006

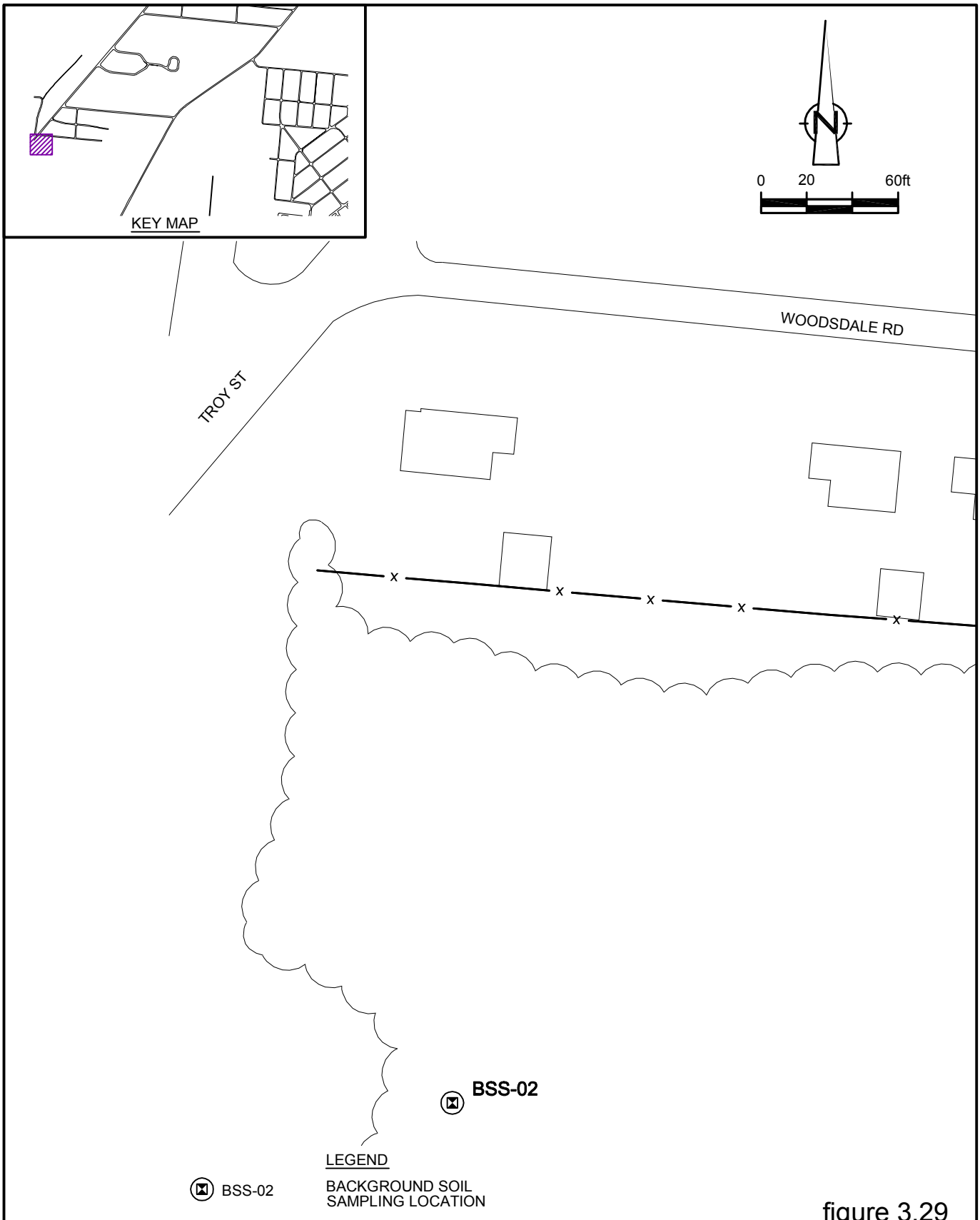


figure 3.29

BACKGROUND SAMPLE LOCATION - DETAIL 2
FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY
Dayton, Ohio

12638-04(011)GN-WA026 MAR 27/2006

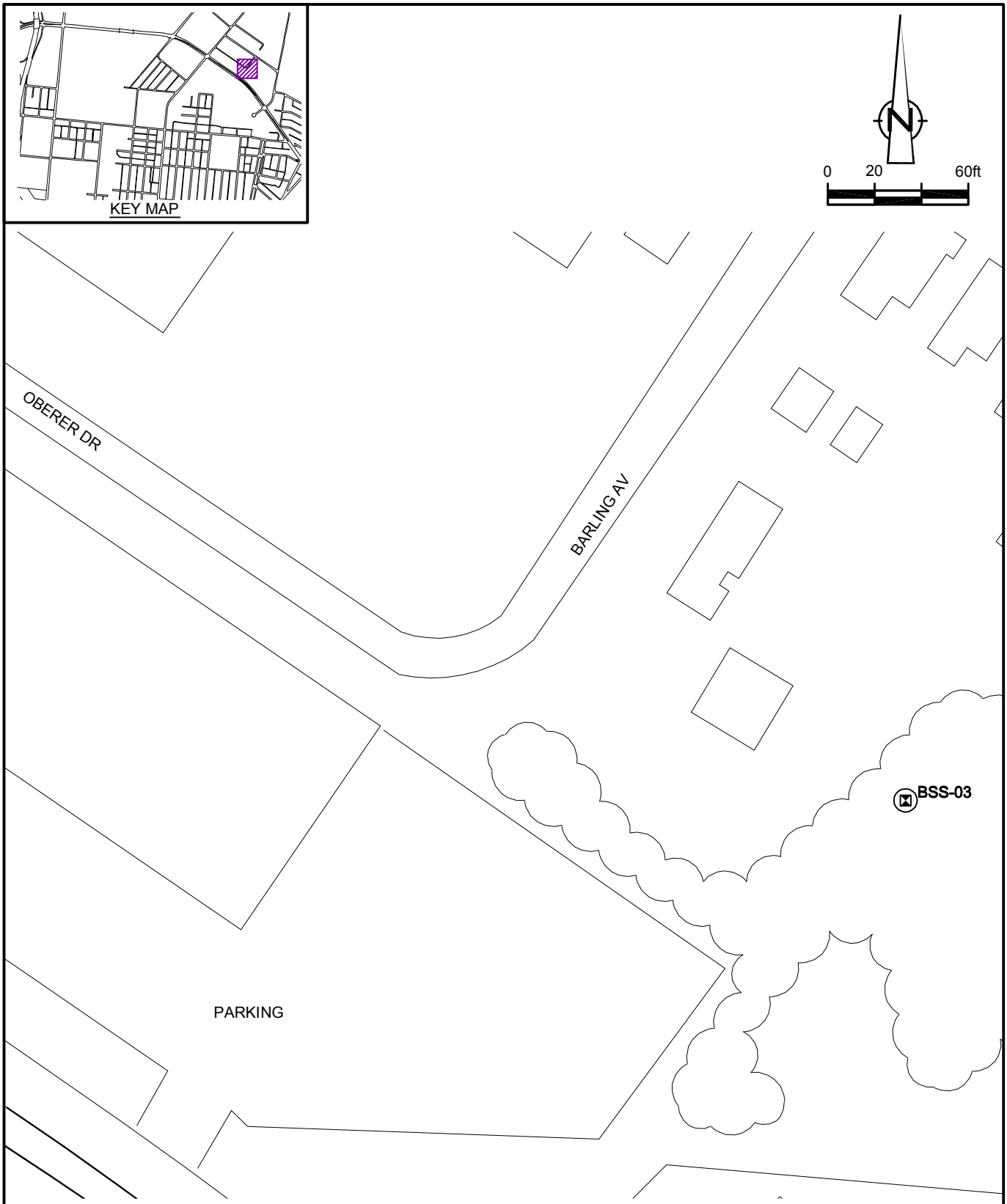


figure 3.30

BACKGROUND SAMPLE LOCATION - DETAIL 3
FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY
Dayton, Ohio

12638-04(011)GN-WA027 MAR 27/2006

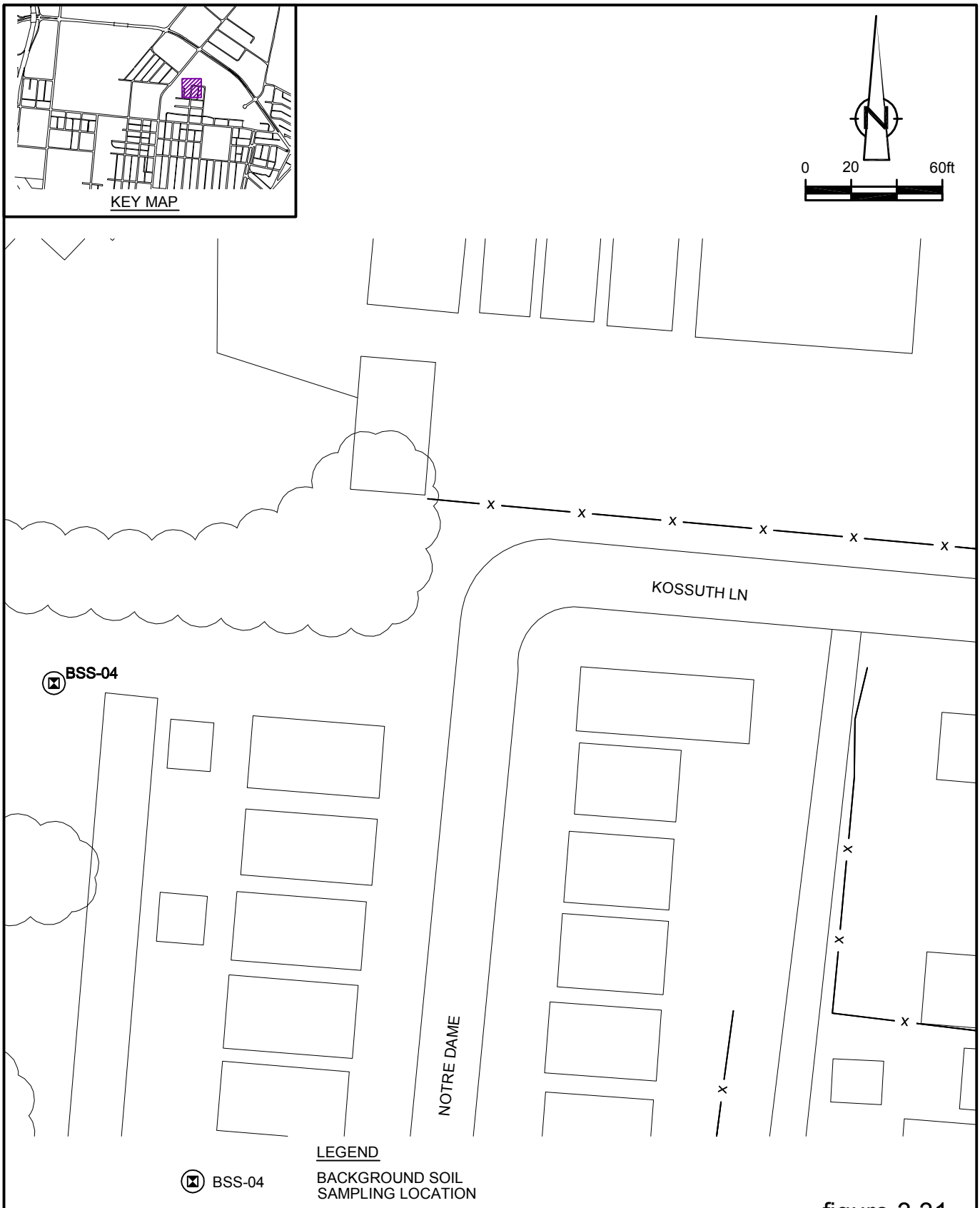


figure 3.31

BACKGROUND SAMPLE LOCATION - DETAIL 4
FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY
Dayton, Ohio

12638-04(011)GN-WA027 MAR 27/2006

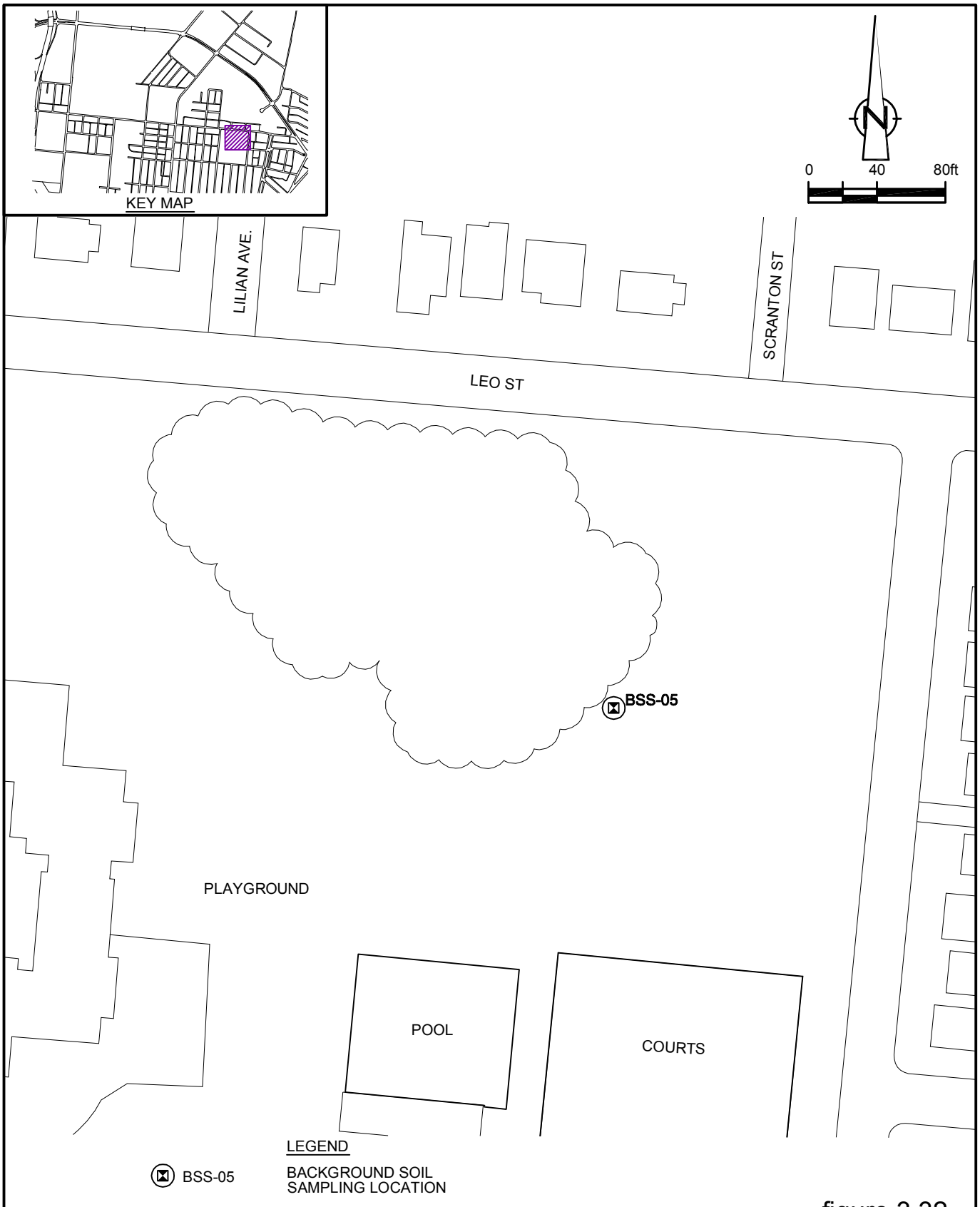


figure 3.32

BACKGROUND SAMPLE LOCATION - DETAIL 5
FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY
Dayton, Ohio

12638-04(011)GN-WA027 MAR 27/2006

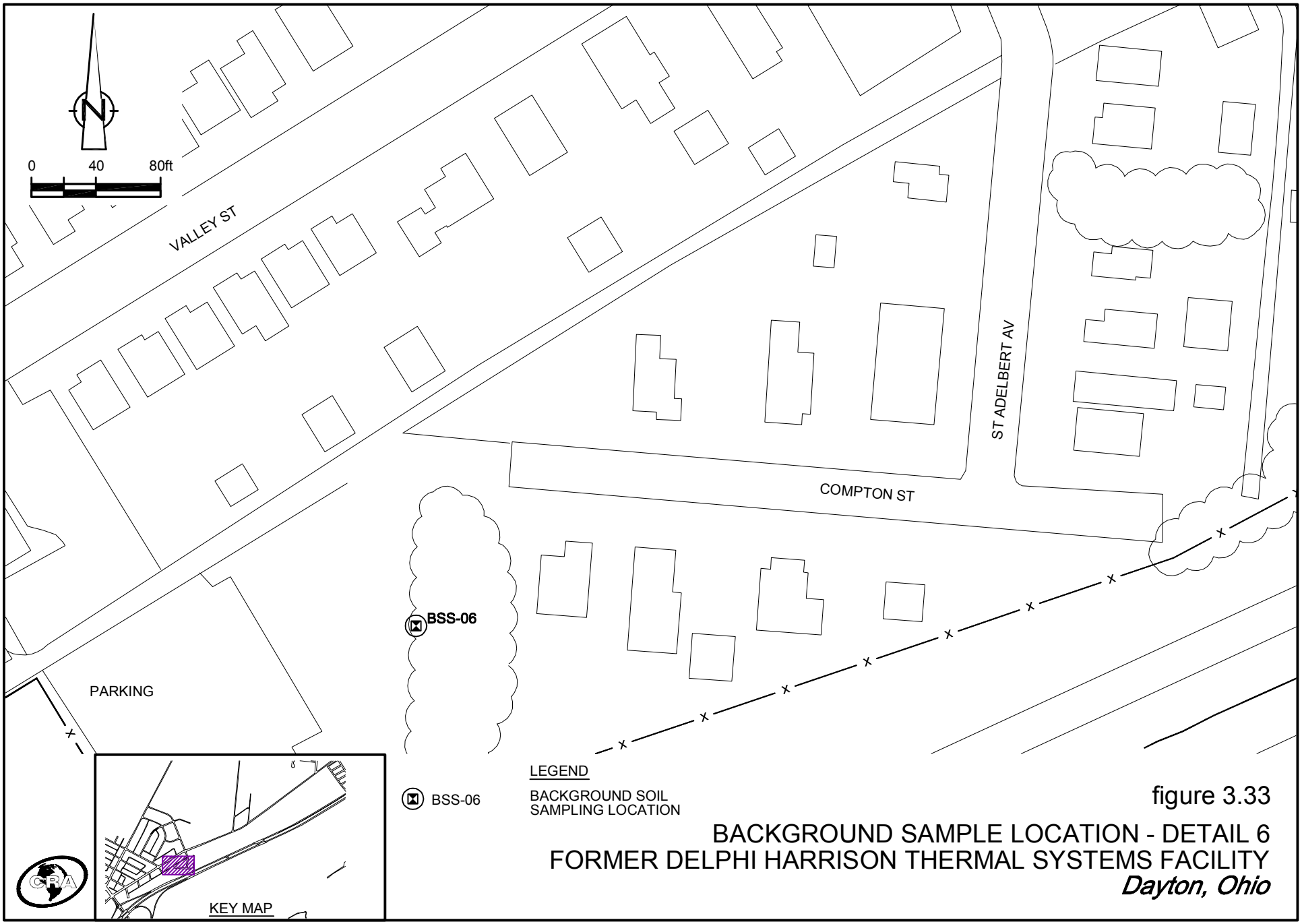


figure 3.33

BACKGROUND SAMPLE LOCATION - DETAIL 6
FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY
Dayton, Ohio

12638-04(011)GN-WA028 MAR 27/2006

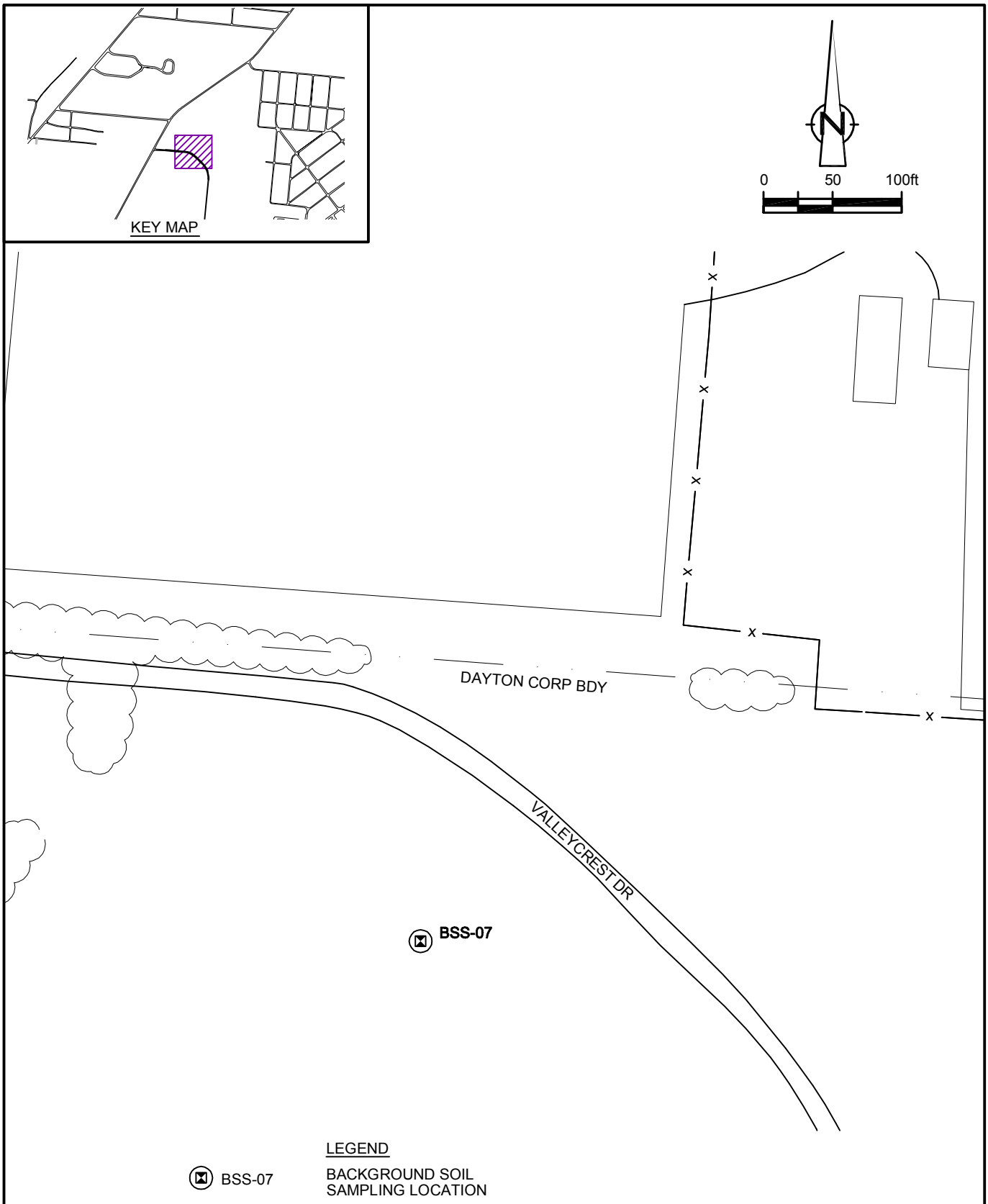


figure 3.34

BACKGROUND SAMPLE LOCATION - DETAIL 7
FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY
Dayton, Ohio

12638-04(011)GN-WA029 MAR 27/2006

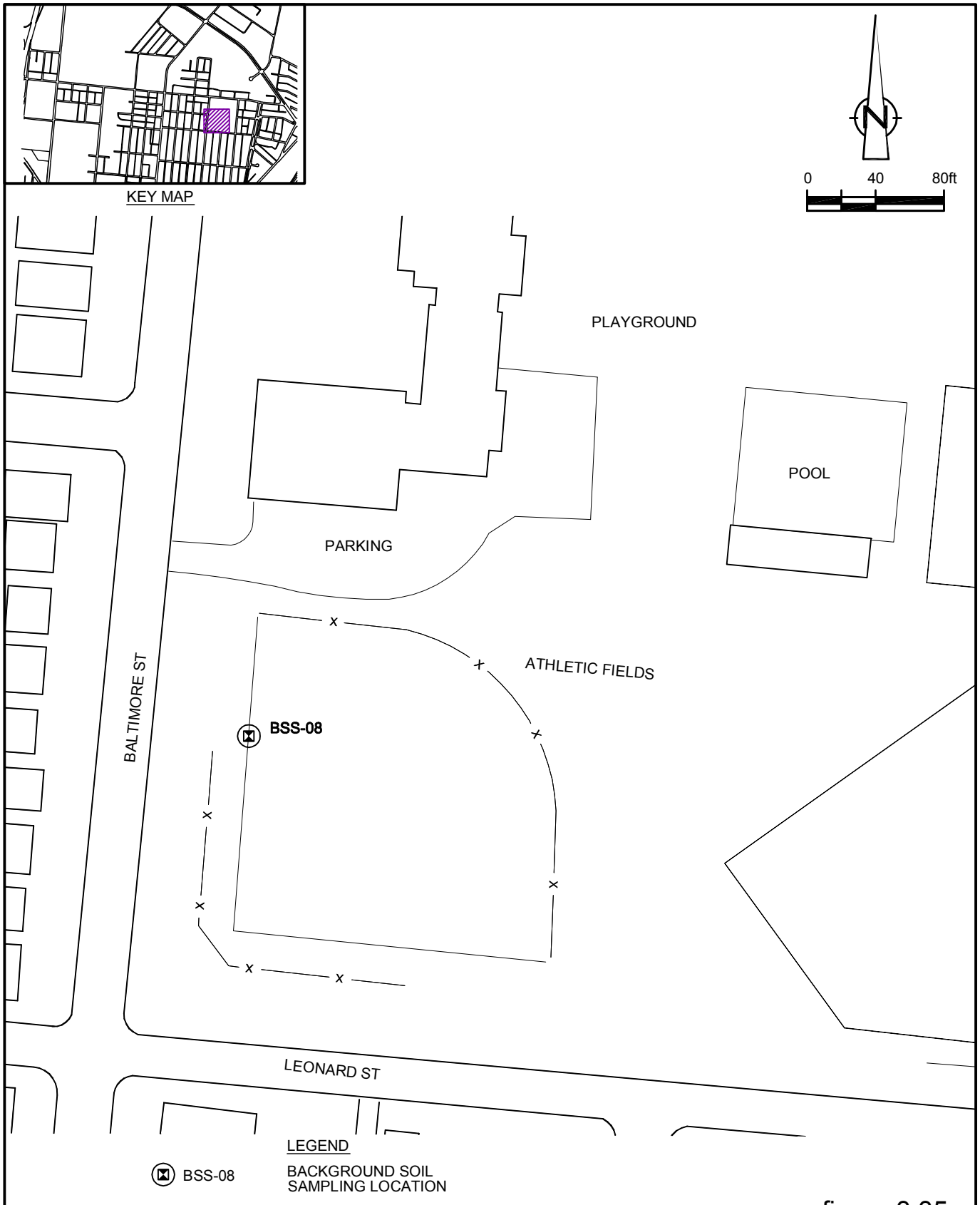


figure 3.35

BACKGROUND SAMPLE LOCATION - DETAIL 8
FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY
Dayton, Ohio

12638-04(011)GN-WA048 MAR 27/2006

TABLE 3.2

Concentrations of Metals in Background Soil Samples
Former GM Delphi Harrison Thermal Systems Facility, Dayton

		Antimony		Arsenic		Barium		Beryllium		Cadmium		Chromium		Cobalt		Copper		Lead		Manganese		Mercury		Nickel		Selenium		Silver		Thallium		Vanadium		Zinc	
		Sb		As		Ba		Be		Cd		Cr		Co		Cu		Pb		Mn		Hg		Ni		Se		Ag		Tl		V		Zn	
SAMPLE CONCENTRATIONS USED TO ASSESS BACKGROUND LEVELS																																	
Soil Sample ID	**Location ID**	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
S-120104-NZ-053	BH-187	0.30	J	8.5		83.3		0.52	J	1.5		13.1		8.2		31.1		43.7		875.0		0.17		11.1		0.165	U	0.3	J	0.2	U	20.0		81.6	
S-BSS-01-072401	BSS-01	0.28	UJ	11.5		82.6		0.027	U	0.025	U	15.2		10.8		17.7	J	16.3		590.0		0.005	U	17.8		0.18	U	0.1	U	1.9		29.9		60.3	
S-BSS-02-072401	BSS-02	0.31	UJ	13.7		67.6		0.029	U	0.027	U	20.7		8.0		18.4	J	17.5		330.0		0.01	U	19.5		0.20	U	0.1	U	2.1		40.1		66.4	
S-BSS-03-072401	BSS-03	0.29	UJ	7.5		94.4		0.027	U	0.026	U	12.2		0.1	U	17.3	J	99.6		439.0		0.13		14.6		0.19	U	0.1	U	2.5		18.3		158.0	
S-BSS-04-072401	BSS-04	0.30	UJ	11.6		134		0.028	U	0.026	U	13.3		9.5		29.7	J	88.7		1300.0		outlier[4]		16.1		0.19	U	0.1	U	3.4		25.8		165.0	
S-BSS-05-072401	BSS-05	0.28	UJ	outlier[4]		73.1		1.1		0.024	U	5.8		0.1	U	20.6	J	13.7		169.0		0.005	U	11.8		1.0		0.1	U	0.3	U	13.5		45.5	
S-BSS-06-072401	BSS-06	0.29	UJ	9.9		138		0.61		0.025	U	15.0		0.1	U	17.3		34.6		417.0		0.005	U	12.2		0.18	U	0.1	U	1.8		23.1		74.8	
S-BSS-07-072401*	BSS-07	0.29	UJ	9.1		55.2		0.027	U	0.025	U	14.8		3.4	J	14.7	J	11.5		283.5		0.005	U	13.0		0.18	U	0.1	U	0.3	U	28.5		50.2	
TYPICAL BACKGROUND RANGE FOR OHIO [3]																																	
Min (mg/kg)		ND		ND		ND		ND		ND		ND		ND		ND		ND		59		ND		ND		ND		ND		ND		4.6		ND	
Max (mg/kg)		92		56		700		3.15		4.4		100		53.6		70		147		1750		1.60		110		35		14.8		0.59		150		190	
SAMPLE STATISTICS																																	
Count		8		7		8		8		8		8		8		8		8		8		7		8		8		8		8		8		8	
Detected		1		7		8		3		1		8		5		8		8		8		2		8		1		1		5		8		8	
Minimum		0.28		7.5		55		0.03		0.02		5.8		0.1		14.7		11.5		169		0.00		11.1		0.17		0.1		0.2		14		46	
Median		0.29		9.9		83		0.03		0.03		14.0		5.7		18.1		26.1		428		0.00		13.8		0.18		0.1		1.9		24		71	
Maximum		0.31		13.7		138		1.10		1.50		20.7		10.8		31.1		99.6		1300		0.17		19.5		1.00		0.3		3.4		40		165	
Mean		0.3		10.3		91		0.30		0.21		13.8		5.0		20.9		40.7		550		0.05		14.5		0.28		0.1		1.6		25		88	
SD		0.01		2.1		30		0.41		0.52		4.1		4.6		6.1		34.9		371		0.07		3.0		0.29		0.1		1.2		8		47	
RSD		3%		21%		33%		137%		249%		30%		91%		29%		86%		67%		155%		21%		102%		57%		76%		33%		54%	
95% Bootstrap UCL				11.6		109		0.575				15.8		7.5		24.8		63.0		816		0.099		16.5						2.2		29.9		122	
BACKGROUND LEVELS		**0.31**		**11.58**		**109.38**		**0.575**		**1.5**		**15.76**		**7.49**		**24.78**		**63.0**		**816**		**0.10**		**16.5**		**1.0**		**0.27**		**2.2**		**29.9**		**122**	

Data Qualifiers:

U	= analyte not detected
J	= analyte detected but concentration estimated
UJ	= analyte not detected; quantitation limit estimated

Abbreviations:

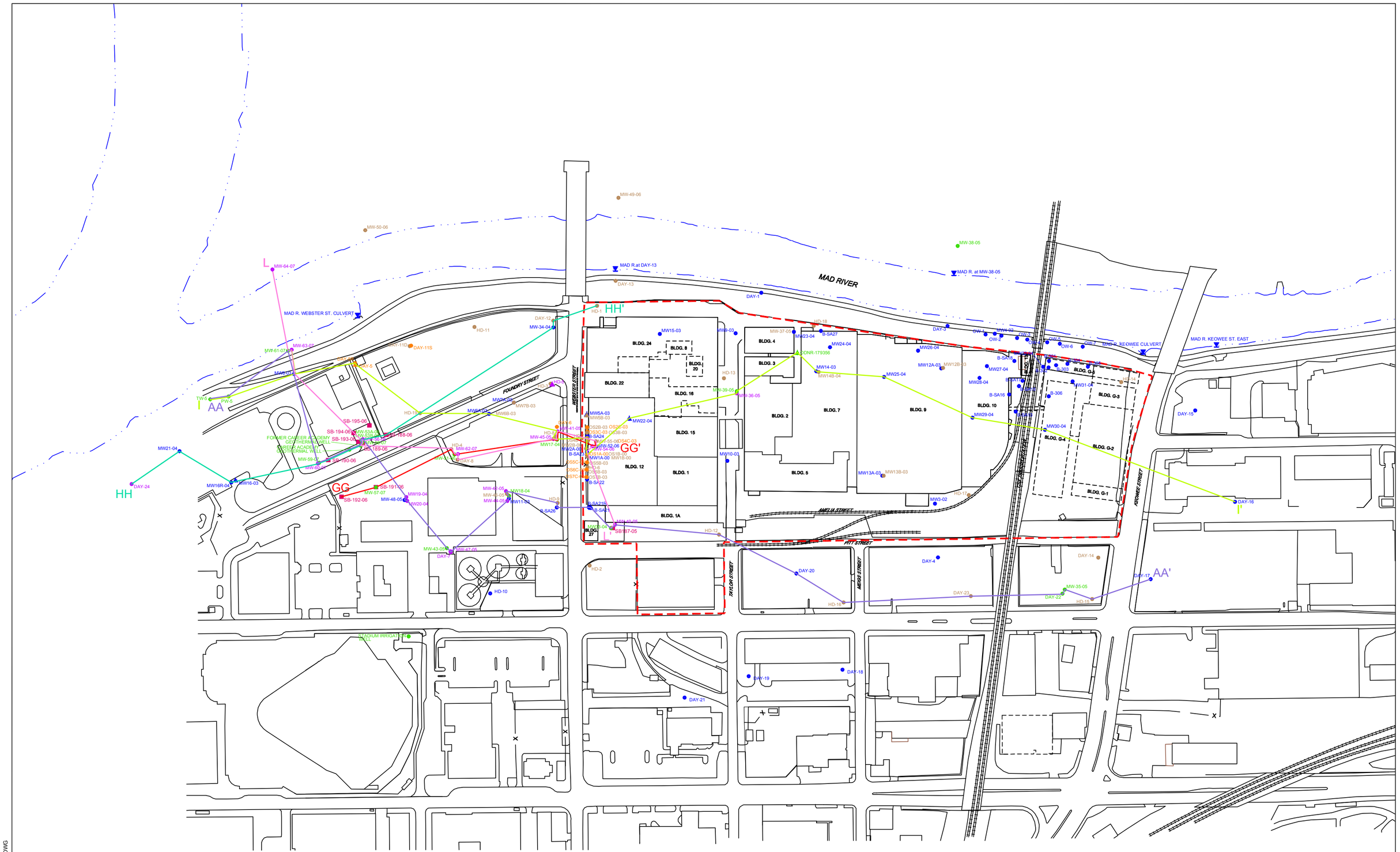
SD	= standard deviation
RSD	= relative standard deviation
UCL	= upper confidence limit

Notes:

1. Concentrations for Sample IDs with * represent average of duplicate samples.
2. Surrogate concentrations for non-detects (U- or UJ - qualified data) are assumed to be one-half of the quantitation limit, for purposes of calculating the UCL.
3. Typical background concentrations for Ohio from Dragun and Chekiri (2005).
4. Soil sample concentrations for arsenic (117.0 mg/kg) or mercury (1.9 mg/kg) not considered in background assessment.

APPENDIX M

FENCE DIAGRAM



LEGEND

- MW19-04 - APPROXIMATE BORING LOCATION
- DAY-5 - ABANDONED WELL LOCATION
- SB187-05 - SOIL BORING LOCATION
- MAD R. - RIVER ELEVATION MONITORING POINT
- AA ——— AA' - CROSS-SECTION CUT LINE
- — — — - APPROXIMATE SITE BOUNDARY
- —— · · · —— - SHORE LINE

WELL SCREEN LOCATION LEGEND

- DAY-1 UPPER AQUIFER - WATER TABLE
- DAY-11 UPPER AQUIFER - OTHER - INTERMEDIATE
- HD-1 UPPER AQUIFER - ABOVE TOP OF TILL
- MW19-04 TILL ZONE
- MW18-04 LOWER AQUIFER

N
W E
S

0 200 400
SCALE IN FEET

DRAFT

HALEY & ALDRICH

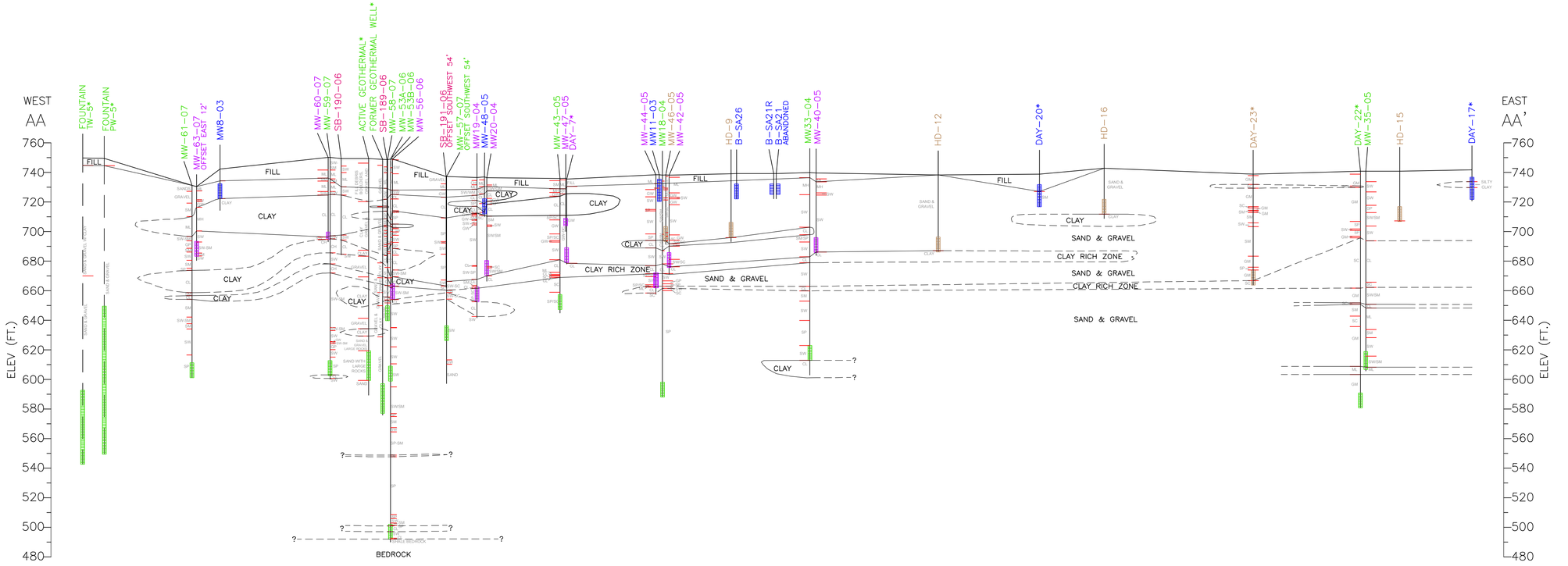
FORMER DELPHI THERMAL SYSTEMS FACILITY
300 TAYLOR STREET
DAYTON, OHIO

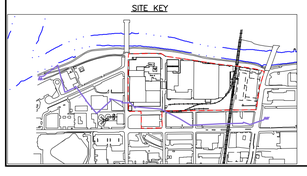
SITE PLAN WITH WELL LOCATIONS AND CROSS-SECTION LINE

SCALE: AS SHOWN
DECEMBER 2007

FIGURE 1

G:\79032\ACAD\FENCE_DIAGRAMS\FIGURES\2007_12\HARRISON_XSEC_PLAN_R15.DWG





BORING LEGEND

WELL NAME — MW18-04

SCREENED INTERVAL

SOIL CLASSIFICATION SYSTEM

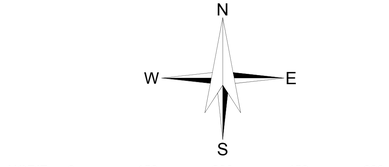
GW – WELL-GRADED GRAVELS
GP – POORLY GRADED GRAVELS
GM – SILTY GRAVELS
GC – CLAYEY GRAVEL
SW – WELL-GRADED SANDS
SP – POORLY GRADED SANDS
SM – SILTY SANDS, SAND-CLAY MIXTURE
SC – CLAYEY SANDS, SAND-CLAY MIXTURE
ML – INORGANIC SILTS AND VERY FINE SANDS
CL – INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY
MH – ELASTIC SILTS
CH – INORGANIC CLAY OF HIGH PLASTICITY

WELL SCREEN LOCATION LEGEND

- UPPER AQUIFER – WATER TABLE
- UPPER AQUIFER – OTHER – INTERMEDIATE
- UPPER AQUIFER – ABOVE TOP OF TILL
- TILL ZONE
- LOWER AQUIFER

NOTES:

1.) LOCATIONS AND GROUND SURFACE ELEVATIONS ARE APPROXIMATE.
2.) WELLS DENOTED BY AN "*" WERE INSTALLED BY ENTITIES OTHER THAN GM.
3.) THE STRATIGRAPHY SHOWN ARE GENERALIZED INTERPOLATIONS MADE BETWEEN BORING LOCATIONS AND BASED ON SUBSURFACE CONDITIONS ENCOUNTERED AT THE BORING LOCATIONS. THE STRATIGRAPHY SHOWN REPRESENTS AN INTERPRETATION OF THE SUBSURFACE CONDITIONS. ACTUAL STRATIGRAPHY MAY DIFFER FROM THE STRATIGRAPHY SHOWN ON THE PROFILE IN THIS DRAWING.



DRAFT

HALEY & ALDRICH

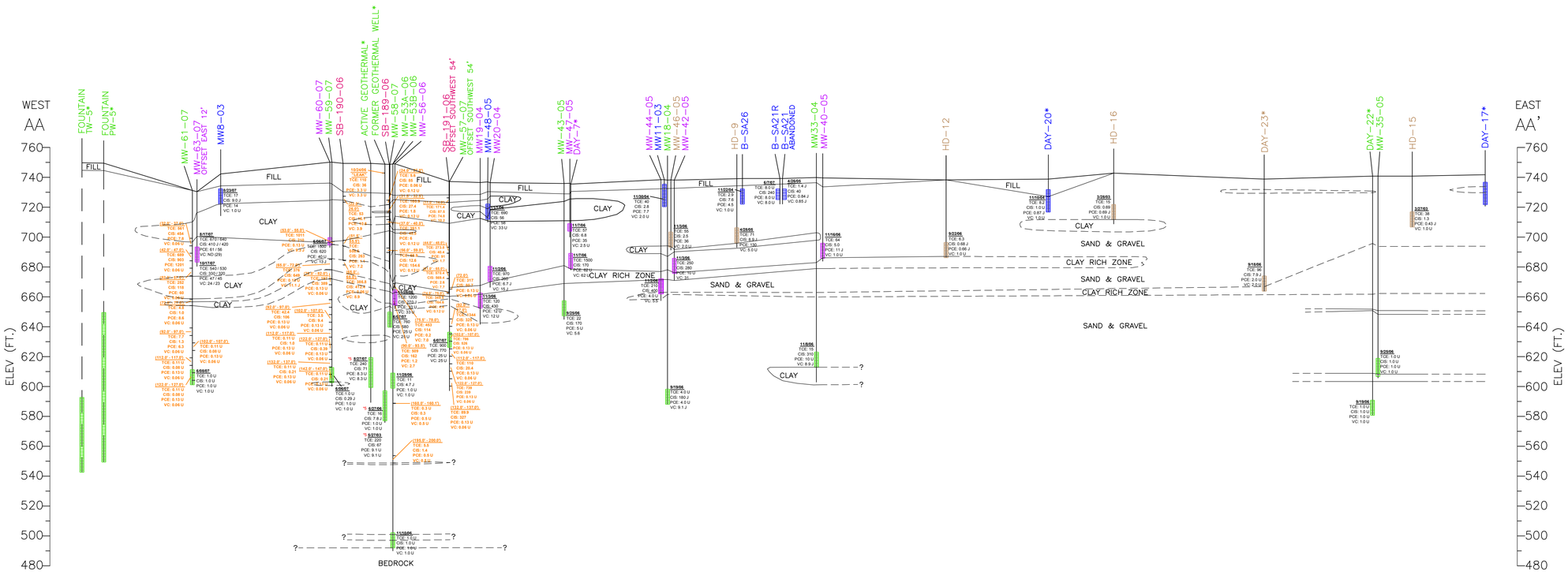
FORMER DELPHI THERMAL SYSTEMS FACILITY
300 TAYLOR STREET
DAYTON, OHIO

SOIL CLASSIFICATION & STRATIGRAPHY ALONG CROSS-SECTION AA-AA'

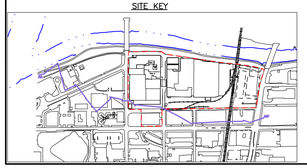
SCALE: AS SHOWN
DECEMBER 2007

FIGURE 2A

G:\79032\ACAD\FENCE_DIAGRAMS\FIGURES\2007_12\HARRISON_AA-AA'_R10.DWG



SITE KEY



BORING LEGEND

WELL NAME — MW18-04

SCREENED INTERVAL

5/27/03
TCE: 220 — TCE CONCENTRATION (ug/L)
CIS: 67 — CIS-1,2 DCE CONCENTRATION (ug/L)
PCE: 9.0 U — PCE CONCENTRATION (ug/L)
VC: 1.0 U — VINYL CHLORIDE CONCENTRATION (ug/L)

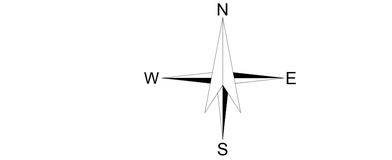
DATE GROUNDWATER SAMPLE COLLECTED

WELL SCREEN LOCATION LEGEND

- UPPER AQUIFER - WATER TABLE
- UPPER AQUIFER - OTHER - INTERMEDIATE
- UPPER AQUIFER - ABOVE TOP OF TILL
- TILL ZONE
- LOWER AQUIFER

NOTES:

1.) LOCATIONS AND GROUND SURFACE ELEVATIONS ARE APPROXIMATE.
2.) GROUNDWATER ANALYTICAL DATA PROVIDED FROM THE MOST RECENT RFI SAMPLING EVENT AT EACH WELL. 1.0 U SIGNIFIES NON DETECT WITH A METHOD DETECTION LIMIT OF 1 UG/L.
3.) WELLS DENOTED BY AN "*" WERE INSTALLED BY ENTITIES OTHER THAN GM.
4.) THE STRATIGRAPHY SHOWN ARE GENERALIZED INTERPOLATIONS MADE BETWEEN BORING LOCATIONS AND BASED ON SUBSURFACE CONDITIONS ENCOUNTERED AT THE BORING LOCATIONS. THE STRATIGRAPHY SHOWN REPRESENTS AN INTERPRETATION OF THE SUBSURFACE CONDITIONS. ACTUAL STRATIGRAPHY MAY DIFFER FROM THE STRATIGRAPHY SHOWN ON THE PROFILE IN THIS DRAWING.
*5.) GROUNDWATER ANALYTICAL RESULTS FOR FORMER AND ACTIVE GEOTHERMAL WELLS FOR 5/27/03, AND 8/27/07 ARE GRAB SAMPLES FROM PIPING IN THE EQUIPMENT ROOM. ANALYTICAL RESULTS FOR THE FORMER GEOTHERMAL WELL FOR 6/27/06 WAS COLLECTED USING LOW FLOW SAMPLING METHODS ACCORDING TO GM FMGS.
6.) LOW FLOW SAMPLE RESULTS ARE ILLUSTRATED IN BLACK FONT. BOREHOLE WATER SAMPLES COLLECTED DURING INSTALLATION ARE INTENDED FOR SCREENING PURPOSES ONLY; THESE RESULTS ARE ILLUSTRATED IN ORANGE FONT.



DRAFT

HALEY & ALDRICH

FORMER DELPHI THERMAL SYSTEMS FACILITY
300 TAYLOR STREET
DAYTON, OHIO

STRATIGRAPHY & GROUNDWATER RESULTS ALONG CROSS-SECTION AA-AA'

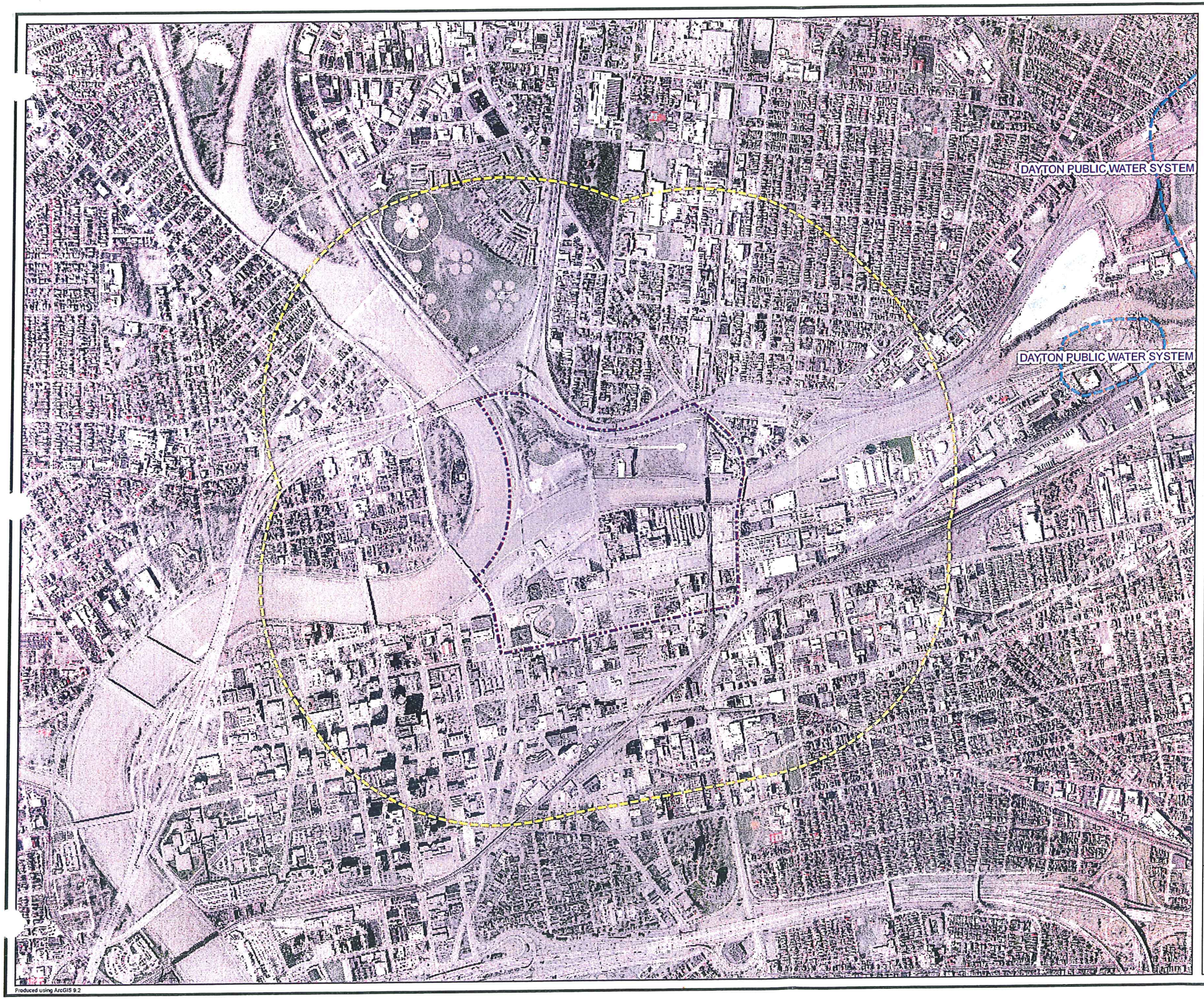
SCALE: AS SHOWN
DECEMBER 2007

FIGURE 2B

G:\79032\ACAD\FENCE_DIAGRAMS\FIGURES\2007_12\HARRISON_AA-AA'_R10.DWG

APPENDIX N

FIGURE OF THE USD AREA AND USD APPROVAL LETTER



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Fax: (614) 793-9070
www.hullinc.com
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Legend

- Urban Setting Designation Boundary
- 1/2 Mile Radius of USD
- Source Water Protection Area
- Municipal Boundaries
- Ohio EPA Public Water System Wells
- Community Water System

Source:
2005 county aerial and municipal boundaries provided by the Montgomery County Auditor's Office.

Public water system wells and community water systems obtained from the Ohio EPA Division of Drinking and Groundwater, 2008.

N

0 300 600 1,200 Feet

1:14,400

Downtown Dayton
Notification of Request For Urban Setting Designation

Urban Setting Designation Area

City of Dayton, Montgomery County, Ohio

Quadrangle Location

Date: October 2008

Project Number: WSO002
Geodatabase: WSO002.mdb
File Name: WSO002_01_AttA_PropMap.mxd

Attachment A

Produced using ArcGIS 9.2

State of Ohio Environmental Protection Agency

STREET ADDRESS:

Lazarus Government Center
50 W. Town St., Suite 700
Columbus, Ohio 43215

TELE: (614) 644-3020 FAX: (614) 644-3184
www.epa.state.oh.us

MAILING ADDRESS:

P.O. Box 1049
Columbus, OH 43216-1049

RECEIVED AUG 1 4 2009

AUG 1 2 2009

Mr. Brad White
Hull & Associates, Inc.
6397 Emerald Parkway, Suite 200
Dublin, Ohio 43016
614-793-8777

RE: Approval of the Urban Setting Designation Request for the Tech Town Redevelopment Project Dayton (USD 08USD063), MONTGOMERY COUNTY

Dear Mr. White:

The purpose of this letter is to approve your request for an urban setting designation (USD) for the Tech Town Redevelopment Project Dayton. You made the USD request as a Voluntary Action Program (VAP) certified professional (CP) on behalf of the city of Dayton. Ohio EPA received the USD request on October 9, 2008. The Tech Town Redevelopment Project Dayton USD consists of approximately 180 acres of mixed commercial, vacant former industrial land, and educational facilities within the city of Dayton. The USD property is the compilation of properties bounded by East First Street on the south, North Keowee Street on the east, State Route 4 on the north, and the Great Miami River levee and North Patterson Boulevard on the west. A legal description of the parcels is included as Attachment 1, and a map of the Tech Town Redevelopment Project Dayton USD is included as Attachment 2.

The Tech Town Redevelopment Project Dayton USD request was made pursuant to Ohio Administrative Code (OAC) 3745-300-10(D) [(effective October 21, 2002)][1] under the VAP. As set forth in OAC 3745-300-10(D), a USD serves to eliminate the potable use pathway for ground water based upon the urban nature of the area, the availability and widespread use of public water supplies of potable water, and the lack of use of ground water for potable purposes. The elimination of the potable use pathway is applicable to property within the boundary of the USD.

[1] All references in this letter to OAC 3745-300-10 are to the version with the effective date of October 21, 2002.

OAC 3745-300-10(D)(1) provides that a USD may be requested only by a VAP CP who must demonstrate that the threshold criteria contained in OAC 3745-300-10(D)(1)(a) through (g) are met for the proposed USD. The director of Ohio EPA is authorized to approve a USD request upon consideration of the threshold criteria contained in OAC 3745-300-10(D)(1). The director may also consider the additional factors set forth in OAC 3745-300-10(D)(2)(e) regarding, among other things, regional water resource needs, existing or potential future uses of ground water and the potential impact of the USD on surrounding jurisdictions. This letter provides an overview of the director's consideration of the threshold criteria and additional factors.

Threshold Criteria: OAC 3745-300-10(D)(1) The following is a summary of the information in the Tech Town Redevelopment Project Dayton USD request that demonstrates compliance with the threshold criteria contained in OAC 3745-300-10(D)(1)(a) through (g) for a USD.

The USD request demonstrates that the USD property is located entirely within the corporation boundaries of a city in accordance with OAC 3745-300-10(D)(1)(a).

The USD request demonstrated compliance with the requirements of OAC 3745-300-10(D)(1)(a) by showing that the parcels that make up the proposed USD area have the Montgomery County Auditor taxing district prefix code of R72 that applies to the corporation boundaries of the city of Dayton; therefore, all USD parcels are contained within the corporation limits of the city. Because the proposed USD lies within the corporation boundaries of a city, the USD request has satisfied the requirements of OAC 3745-300-10(D)(1)(a).

This information is included in the Tech Town Redevelopment Project Dayton USD request, included as Attachment K-3 (Shown in Plate and Table 1).

The USD request demonstrated that at least 90% of the parcels within one mile are connected or are capable of being connected to the community water system in accordance with OAC 3745-300-10(D)(1)(b)

a) The area within a minimum of one mile from the proposed boundary of the USD includes the city of Dayton and Harrison Township. The following information supports the conclusion that at least 90% of the parcels in Dayton and Harrison Township are connected to a public water supply.

   The USD request shows the number of parcels with water available by using information from the city of Dayton's Department of Public Works, Harrison Township Trustees, and the Montgomery County Sanitary Engineering Department for the city of Dayton system, to create a 100-foot setback from each existing water line at the curb. Attachment C of the

USD request contains the water distribution system for the city of Dayton and Harrison Township. Using this assessment, it was determined by the applicant that the percent of parcels connected or capable of being connected within one mile of the USD Area were as follows:

There were a total of 15,385 parcels and that 14,343 (93%) of them were connected or capable of being connected to public drinking water.

b) Review of Ohio Department of Natural Resources (ODNR) well logs, Ohio EPA records, sewer-only accounts for Dayton and records from the Combined Health District of Dayton & Montgomery County showed a possible total of 287 well records to be within one mile of the USD boundary. Hull then calculated that (14,343 parcels with water available) minus (287 well records) / 15,385 total parcels = 91.3% of parcels connected to community water supply system within one mile of the USD boundary.

c) Based on 1990 U.S. Census Bureau data, 99.6% of the housing units within the city of Dayton obtain their water from the public water supply system or a private company. The Census data is included in Attachment E of the USD request. The residents of Harrison Township obtain their drinking water from the city of Dayton and Montgomery County.

The USD request demonstrated that the Tech Town Redevelopment Project Dayton community water system is capable of meeting future water needs in accordance with OAC 3745-300-10(D)(1)(d).

To demonstrate the city of Dayton is capable of meeting of its future water supply need, the Tech Town Redevelopment Project Dayton USD request referenced statements contained in correspondence dated March 18, 2008, from Allen Moe, Water Engineering Manager for the city of Dayton stating that the city of Dayton will continue to supply water to its residents and most of Montgomery County as it has for the last century.

This information is included in the Tech Town Redevelopment Project Dayton USD request, shown in Plate 1.

The USD request demonstrated that the USD property is not located within a drinking water source protection area for a public water system using ground water in accordance with OAC 3745-300-10(D)(1)(e).

Attachment F of the USD request includes an email from Heather Raymond, Ohio EPA Division of Drinking and Ground Waters confirmed that the proposed USD is located

near one of the city of Dayton's wellfields, but is not located within a drinking water source protection area for a public water system using ground water. The Drinking Water Source Protection Areas and Sole Source Aquifers Located Near Proposed Urban Setting Designation in Dayton, Ohio map provided by Ms. Raymond (included in Attachment F) shows that the nearest protection area is located approximately 2000 feet to the east of the proposed USD. A map generated by Allison Reed, Ohio EPA DDAGW on December 19, 2008 confirms this location included in Attachment F.

The USD request stated that there are potable water wells within one-half mile of the USD boundary in accordance with OAC 3745-300-10(D)(1)(f), but demonstrated that the capture zones of the potable water wells within one-half mile of the property boundary do not extend under the properties for which the USD request was made in accordance with OAC 3745-300-10(D)(1)(f).

OAC 3745-300-10(D)(1)(f) requires that potable use wells not be located within one-half mile of the proposed USD boundary. However, the rule further provides that the requested USD may still be acceptable if the CP demonstrates that the capture zones of any potable use wells within one-half mile of the proposed USD boundary do not extend under the USD Area.

Based upon these records, the CP conducted phone surveys in an attempt to identify any existing potable wells within the one-half mile setback of the proposed USD. Of the 109 potential wells in the area, the phone survey verified that 57 of the wells were either decommissioned or non-potable. The CP then performed a field survey to attempt to identify the other wells. The CP states in Attachment A, section VI, of the USD request, that based on the field survey, there are no potable water supply wells located within the one half mile setback from the proposed USD boundary.

The USD request demonstrated that the proposed USD is not located over any sole source aquifer or unconsolidated saturated zone capable of sustaining a yield of greater than 100 gallons per minute (gpm) in accordance with OAC 3745-300-10(D)(1)(g).

Attachment F of the USD request includes an email and map prepared by Ms. Raymond, Ohio EPA DDAGW which demonstrates that the proposed USD is located over a sole source aquifer which is capable of yielding 100 gpm or greater. Thus, a demonstration must be made that there is no reasonable expectation that wells would be installed or used within a one-half mile radius of the USD boundary. The following is a brief discussion of Ohio EPA's review of the USD request related to the criteria of OAC 3475-300-10(D)(1)(g)(i) through (iv).

a) OAC 3745-300-10(D)(1)(g)(i): Legally enforceable restrictions.

The city of Dayton and the Combined Health District of Dayton & Montgomery County were queried in respect to any legally enforceable or reliable restrictions on ground water use and the CP determined that there are none nor is it likely that any will ever be proposed. This information is provided in the Tech Town Redevelopment Project Dayton USD request, included in Attachment A, page 16.

b) OAC 3745-300-10(D)(1)(g)(ii): Current land use patterns or ground water quality.

Attachment A, Section VII of the USD request states that based on the area-wide coverage of the water distribution system and the primarily industrial and commercial land uses, it is expected that future development within the one-half mile setback of the USD area would utilize the community water supply system as the source of potable water.

c) OAC 3745-300-10(D)(1)(g)(iii): 90% of parcels within one-half mile of USD connected to community water system.

As discussed in Section 2a above, the CP determined that at least 93.2% of all parcels within one half mile of the USD are connected to the community water system. This information is provided in the Tech Town Redevelopment Project Dayton USD request, included in Attachment A, page 17.

d) OAC 3745-300-10(D)(1)(g)(iv): Capture zones from potable-use wells not reasonably anticipated to extend under the USD.

Attachment A, Section VII, page A-18 of the USD request states that there are no potable-use wells located within one-half mile of the USD boundary.

Additional criteria Ohio EPA considered for the USD request: OAC 3745-300-10(D)(2)(e)(ii) through (vii)

In addition to the threshold criteria contained in OAC 3745-300-10(D)(1)(a) through (g), OAC 3745-300-10(D)(2)(e)(ii) through (vii) requires the director of Ohio EPA to consider several factors to determine the potential impact of the USD on surrounding jurisdictions and regional water resource needs: whether the ground water in the area of the USD is currently or is reasonably expected to be used as a future source of potable ground water; the availability and feasibility of treatment systems at community water systems; and any other factors determined to be relevant to the determination of whether the USD

is protective of public health, safety and the environment. The following is a discussion of these factors:

OAC 3745-300-10(D)(2)(e)(ii) through (iii): Potential impact of the USD on surrounding jurisdictions and regional water resource needs.

To determine potential impacts on surrounding jurisdictions, Ohio EPA normally evaluates communities located within a one half mile radius of the USD boundary. Those jurisdictions include only the city of Dayton.

Correspondence dated March 18, 2008 from Allen Moe, Water Engineering Manager for the City of Dayton stated that the City of Dayton will continue to supply water to its residents and most of Montgomery County as it has for the last century.

OAC 3745-300-10(D)(2)(e)(iv) through (v): Current or expected future ground water use.

The assessment of current or expected future ground water use was limited to the city of Dayton. The city of Dayton believes that their current sources of water are sufficient to meet the future water resource needs of their communities, as well as those communities that they supply with potable water.

OAC 3745-300-10(D)(2)(e)(vi): Availability and feasibility of treatment systems.

The city of Dayton has existing treatment systems designed to protect against exposure to chemicals in excess of VAP potable standards.

OAC 3745-300-10(D)(2)(e)(vii): Other factors.

Ohio EPA has not received nor identified any other factual information that would indicate the proposed USD would endanger public health and safety or harm the environment. Ohio EPA has consulted with representatives of the city of Dayton in which USD property is located. The city of Dayton has expressed its support of the USD request, and the surrounding jurisdictions have not expressed opposition to the USD request. No public comments have been presented to Ohio EPA questioning the accuracy of the information gathered regarding the USD request or providing additional factual information to suggest that the USD will not be protective of public health and safety and the environment.

This approval letter is not a final action of the director. The Tech Town Redevelopment Project Dayton USD may be used to establish applicable ground water standards for

properties located within the bounds of the defined Tech Town Redevelopment Project Dayton USD property and is not applicable to any other property. The use of the Tech Town Redevelopment Project Dayton USD to establish applicable standards for ground water at a property is contingent upon the following:

A demonstration that the property is eligible for participation in the VAP, pursuant to Ohio Revised Code §3746.02 and OAC 3745-300-02.

The CP's verification that no significant change of circumstances has occurred that would affect the criteria upon which the USD is approved at the time of the issuance of a no further action letter for the property, in accordance with OAC 3745-300-10(D)(3) and this letter.

If you have any questions concerning this letter, please contact Tiffani Kavalec at (614) 644-3538 or George Strobel at 937-285-6052.

Sincerely,

Chris Korleski
Director

Attachments

cc: George Strobel, DERR-SWDO
Michael Proffitt, DDAGW-SWDO
Brian Nickel, DERR-SWDO
Ann Fischbein, Legal Office-CO
DERR-SWDO files
DERR-CO files

ec: Tiffani Kavalec, ACRE Manager, DERR-CO
Frank Robertson, ACRE Supervisor, DERR-CO
Eric Sainey, DERR-CO

Haley-Dusa
Engineering & Surveying Group, LLC

DESCRIPTION OF
URBAN DESIGNATION AREA
SECTIONS 4 & 5, TOWN 1, RANGE 7
CITY OF DAYTON
MONTGOMERY COUNTY, OHIO

Situate in the Sections 4 and 5, Town 1, Range 7, City of Dayton, County of Montgomery, State of Ohio and being a description of a proposed Urban Setting Designation Area, more particularly described as follows:

Beginning at the intersection of the centerline of East First Street and centerline of North Patterson Boulevard;

Thence **Eastwardly** along the centerline of East First Street approximately **2,935** feet to the centerline of North Keowee Street;

Thence **Northwardly** along the centerline of North Keowee Street approximately **2,710** feet to the centerline of State Route 4;

Thence **Westwardly** along the centerline of State Route 4 approximately **1,290** feet to the centerline of Webster Street;

Thence **Westwardly** along the ramp from northbound Interstate 75 to northbound State Route 4 approximately **1,490** feet to a point 10 feet east of the top of the levee of the Great Miami River;

Thence **Southwardly** along said line 10 east of the top of the levee of the Great Miami River and continuing along a curve to the southwest approximately **2,515** feet to the centerline of North Patterson Boulevard;

Thence **Southwardly** along the centerline of North Patterson Boulevard approximately **990** feet to the place of beginning

Haley-Dusa Engineering & Surveying Group, LLC

John P. Haley
Registered Surveyor
Ohio License Number 6819

STATE OF OHIO
JOHN
P.
HALEY
6819
REGISTERED
SURVEYOR

February 18, 2009
Job # S2499

North Office
270 Regency Ridge Drive, Suite 203
Dayton, Ohio 45459
Phone: (937) 439-4300 Fax: (937) 439-2005

South Office
P.O. Box 684
Cincinnati, Ohio 45201-0684
Phone: (513) 241 - 6011 Fax: (513) 241 - 6311

RHINE McLIN
Mayor

CITY of DAYTON, OHIO
OFFICE OF THE CITY COMMISSION
101 WEST THIRD STREET • P.O. BOX 22 • DAYTON, OHIO 45401
CITY HALL • (937) 333-3636

RECEIVED
OHIO EPA
MAR 20 2009
Southwest District

March 18, 2009

Mr. George A. Strobel
Ohio EPA, Southwest District Office
Division of Emergency & Remedial Response
401 E 5th Street
Dayton, Ohio 45402

RE: Support of the Request for an Urban Setting Designation (USD)

Dear Mr. Strobel:

This letter is in support of the Request for an Urban Setting Designation (USD) for a compilation of properties bound by East First Street to the south, North Keowee Street to the east, State Route 4 to the north, and the Miami River levee and North Patterson Boulevard to the west. The USD request was prepared by Hull & Associates, Inc. (Hull) and submitted to the Ohio Environmental Protection Agency (Ohio EPA) in October 2008. The USD will be used in support of downtown redevelopment projects, including the voluntary action on the City of Dayton's Tech Town Campus.

This letter of support is consistent with recommendations provided by the City of Dayton, Environmental Advisory Board (EAB) to the City Commission. Dr. Brad White of Hull met with the EAB in a public forum on June 13, 2008, and again on August 8, 2008, to provide information about the USD request in advance of submitting the package to Ohio EPA. The EAB recommended support of the USD to the City Commission in a letter dated September 12, 2008.

The City of Dayton values its critical water resources and considers it of the utmost importance to protect our well field supplies. As a matter of public record and for future consideration, please note that the City of Dayton will not support any USD requests that are within one-half mile of the one year time of travel of a Source Water Protection Area as defined by the Ohio EPA Division of Drinking and Ground Waters or as otherwise deemed to have the potential to negatively impact our drinking water supply sources.

The City of Dayton appreciates your assistance with the approval of this USD Request. If you have any questions concerning the City of Dayton's support, please feel free to contact me at 937-333-3653.

Sincerely,

Rhine McLin
Mayor

Hull & associates, inc.
6397 Emerald Parkway
Suite #200
Dublin, Ohio 43016
Phone: (614) 793-0777
Fax: (614) 793-9070
www.hullinc.com
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Legend
- Urban Setting Designation Boundary
- 1/2 Mile Radius of USD
- Source Water Protection Area
- Municipal Boundaries
- Ohio EPA Public Water System Wells
- Community Water System

Source:
2005 county aerial and municipal boundaries provided by the Montgomery County Auditor's Office.

Public water system wells and community water systems obtained from the Ohio EPA Division of Drinking and Groundwater, 2008.

N

0 300 600 1,200 Feet
1:14,400

Downtown Dayton
Notification of Request For Urban Setting Designation

Urban Setting Designation Area

City of Dayton, Montgomery County, Ohio

Ohio

Quadrangle Location

Date:
October 2008

Project Number: WSO002
Geodatabase: WSO002.mdb
File Name: WSO002_01_AttA_PropMap.mxd

Attachment
A

Produced using ArcGIS 9.2

APPENDIX O

OEPA CONCURRENCE REGARDING RCRA UNIT CLOSURES

Ohio EPA
State of Ohio Environmental Protection Agency

STREET ADDRESS:
1800 WaterMark Drive
Columbus, OH 43215-1099

TELE: (614) 644-3020 FAX: (614) 644-2329

MAILING ADDRESS:
P.O. Box 1049
Columbus, OH 43216-1049

October 30, 1997

Completion of Partial Closure
GMC Delphi Harrison - Thermal Systems (Dayton)
US EPA ID No.: OHD 017 958 604
Ohio Permit No.: 05-57-0256

Mr. Robert W. Hare
Ohio Project Manager
2509 Hayes Avenue SN40
Sandusky, Ohio 44870

Dear Mr. Hare:

According to Ohio EPA records, on January 30, 1997, the Director of the Ohio EPA approved a partial closure plan for three container storage units at General Motors Corporation's Delphi Harrison Facility, located at 300 Taylor Street in Dayton, Ohio. Personnel from Ohio EPA's Southwest District Office conducted a post closure inspection of the two former container storage units (Bldg. #5 and Bldg. #24 container storage areas) on June 19, 1997. The Ohio EPA received certification documents relating that these two units had been closed according to the specifications in the approved closure plan on July 31, 1997.

Based on the findings of the inspection and review of the information supplied within the July 31, 1997 submittal, the Ohio EPA has determined that the two former hazardous waste drum storage areas, located at Buildings #5 and #24, have been closed in accordance with the approved closure plan and Rules 3745-66-12 through 3745-66-15 of the Ohio Administrative Code (OAC). General Motors Corporation's Delphi Harrison Dayton Facility remains a treatment, storage & disposal facility (TSDF) until final closure of all remaining hazardous waste management units at this location are certified.

Representatives of General Motors Corporation's Delphi Harrison Dayton Facility indicate that an amendment to the approved partial closure plan, addressing the remaining container staging area within Building #24, is pending submittal to Ohio EPA. In addition, closure plans to address those hazardous waste tank systems at the site which are subject to the closure process are being pursued through continued negotiations with representatives of General Motors Corporation.

If you have any questions concerning the closure process or the current regulatory status of this facility, please contact Harold O'Connell, Ohio EPA, Southwest District Office, 401 E. Fifth Street, Dayton, Ohio 45402 at (937) 285-6078.

Sincerely yours,

Thomas E. Crepeau

Thomas E. Crepeau, Manager
Data Management Section
Division of Hazardous Waste Management

Post-it™ Fax Note 7671	Date 11/7/97	# of pages ▶ 1
To LAURA TUCKER	From R. HARE	
[redacted] MIKE BOEN	[redacted] FYI	
Ebenc* DAVE HAGEN (U&A)	Phone # 8-296-7005	
Fabri J. CANFIELD	Fax # 8-296-7107	

cc: Harold O'Connell, DHWM, SWDO
Lauren Angell, AAG/AGO
Lonnie Terry, DMS, DHWM

HALEY & ALDRICH

RCRA CLOSURE CERTIFICATION REPORT
HAZARDOUS WASTE DRUM STORAGE AREAS
DELPHI HARRISON THERMAL SYSTEMS
DAYTON, OHIO
EPA ID NO. OHD 017 958 604

UNDERGROUND ENGINEERING & ENVIRONMENTAL SOLUTIONS

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1.0 INTRODUCTION

General Motors Corporation (GM) submitted a *Closure Plan for Hazardous Waste Drum Staging and Storage Areas (Closure Plan)* dated 26 July 1996 for the Delphi Harrison Thermal Systems Division facility in Dayton, Ohio (Delphi Thermal - Dayton). The partial *Closure Plan* addresses three hazardous waste management units (HWMUs) as described below:

- Building 5 Container Storage Area;
- Building 24 Drum Staging Area; and,
- Building 24 Drum Storage Area.

The partial *Closure Plan* described the facility and HWMUs, closure procedures, decontamination procedures, sampling and analysis methods for wash water and rinse water, and evaluation of underlying soil. The partial *Closure Plan* also included closure performance standards for rinse water and underlying soil. The *Closure Plan* was approved by Ohio EPA through Findings and Orders of the Director.

Closure of the two storage units (Building 5 Container Storage Area and Building 24 Drum Storage Area) was implemented during December 1996 and certification of closure is submitted herein.

Closure of the Building 24 Drum Staging Area was also implemented during December 1996; however, soil conditions were encountered beneath the Staging Area that will be addressed separately through amendment of the *Closure Plan*. The amended closure plan and subsequent certification of closure for the Building 24 Drum Staging Area will be submitted separately.

2.0 DESCRIPTION OF CLOSURE ACTIVITIES

Closure of two drum storage HWMUs was performed in accordance with the approved *Closure Plan*. Closure activities were performed during December 1996 and January 1997. All closure activities were observed and all samples were collected by the independent certifying Professional Engineer. Decontamination of the HWMUs was performed by RUST Industrial Cleaning, Inc. (Huber Heights, OH) and samples were analyzed by Specialized Assays, Inc. (Nashville, TN).

Closure procedures for each HWMU are detailed in the following sections. Common activities and equipment at each HWMU included the following:

- measure and mark the limits of the HWMU;
- surround the HWMU with four-mil plastic sheeting, barriers and "caution" tape;
- construct a decontamination pad for personnel and equipment with eight-mil plastic sheeting as a floor, six-inch high perimeter booms, two plastic wash tubs (kiddie pools) and two hand-pump spray bottles;
- sweep and scrape the concrete pad;
- collect a sample of the wash water before it is used to wash and rinse the pad;
- wash the concrete pad with tri-sodium phosphate (TSP) detergent, water and a stiff-bristle broom;
- rinse the pad three times with water pressure and vacuum excess water between each rinse;
- collect a sample of the final (third) rinse water off of the pad;
- contain floor scrapings, wash water, rinse water, plastic sheeting and personal protective equipment (PPE) in 55-gallon capacity drums.

2.1 Building 5 Container Storage Area Closure

The Building 5 Container Storage Area was designated "Area C" in the *Closure Plan* as shown on Figure 1. The area is located in the southeast corner of Building 5 which is located in the south-central portion of the facility. Building 5 has a series of truck loading docks along its south side along Amelia Street.

The container storage area in Building 5 measures 19 feet 6 inches by 17 feet 10 inches with a 4 feet square opening. The area is located on the first floor with a basement underneath it. The area and the opening are surrounded by a poured concrete berm. The area is enclosed by a chain-link fence with a locked gate. A sketch of the area is shown on Figure 2.

Closure was performed on the morning of 24 December 1996 with observations and sample

collection by the certifying Professional Engineer. There was no hazardous waste, drums or equipment stored in the area at the time of closure.

Plastic sheeting was hung on the inside of the chain-link fence to surround the area. A decontamination pad for personnel and equipment was constructed immediately outside the area. The storage pad was swept and scraped, washed with TSP in water by a stiff-bristle broom and rinsed/vacuumed three times. Samples of the wash water (before use) and final rinse water were collected for analysis (see Section 3.1). Photographic documentation of the closure activities is included in Appendix A.

2.2 Building 24 Drum Storage Area Closure

The Building 24 Drum storage Area was designated "Area B" in the *Closure Plan* as shown on Figure 1. The area is located near the northwest corner of Building 24 which is located in the northwest portion of the facility.

The drum storage area in Building 24 measures 63 feet by 12 feet. The area is located on the second floor and constructed of poured concrete. There is a dock leveler at the north end of the area and a fenced walkway outside the east edge of the area. There are two square openings in the concrete floor covered by metal plates. There are two core holes through the concrete floor. A sketch of the area is shown on Figure 3.

Closure was performed on 19 December 1996 with observations and sample collection by the certifying Professional Engineer. There was no hazardous waste, drums or equipment on the pad at the time of closure.

Plastic sheeting was hung on the inside of a chain-link fence along the east edge, and from barriers along the south and west sides. A decontamination pad for personnel and equipment was constructed immediately outside the southeast corner of the area. Two core holes (one 8-inch and one 4-inch diameter) near the center of the area were plugged with sewer plugs. The storage pad was swept and scraped, washed with TSP in water by a stiff-bristle broom and rinsed/vacuumed three times. Samples of the wash water (before use) and final rinse water were collected for analysis (see Section 3.2). Photographic documentation of the closure activities is included in Appendix A.

3.0 CLOSURE SAMPLING, ANALYSIS AND EVALUATION

Samples were collected during closure by the independent certifying Professional Engineer in accordance with the approved *Closure Plan*. All samples were collected, preserved, stored and shipped under chain-of-custody documentation in containers supplied by the analytical laboratory.

Water samples were collected from wash water before it was used to decontaminate each pad and from the final (i.e. third) rinse from each pad.

3.1 Building 5 Container Storage Area Water Samples

A sample designated "Bldg. 5 Container Storage Wash Water" was collected 24 December 1996 from the water tank on the contractor's wash truck. The water tank had been filled at the contractor's shop in Huber Heights. This water was subsequently used to wash and rinse the container storage area.

A sample designated "Bldg. 5 Container Storage Final Rinse Water" was collected 24 December 1996 from the container storage pad after the third and final rinse. The final rinse water sample was collected with a squeegee dust pan that had been rinsed with one gallon of distilled water.

Water samples were analyzed for the hazardous constituents by the laboratory methods prescribed in Table 5 of the approved *Closure Plan*. Laboratory analytical results are summarized in Table 1 and the complete laboratory analytical report with chain-of-custody documentation is included in Appendix B.

Comparison of the Final Rinse Water analytical results to the Rinsate Performance Standard (from approved *Closure Plan - Table 5)* indicates only the concentration of barium exceeds the performance standard. However, barium was also reported in the wash water sample; subtraction of the barium concentration in wash water from the concentration in final rinse water yields a net barium concentration below the performance standard. All other hazardous constituents were reported below the performance standard. Based on water sampling and analysis, the final rinse water from Building 5 Container Storage Area meets the closure performance standard.

3.2 Building 24 Drum Storage Area Water Sample

A sample designated "Bldg. 24 Drum Storage Wash Water" was collected 19 December 1996 from a water tank on the contractor's wash truck. The source of water was municipal water from a tap at the former GM wastewater treatment plant. This water was used to wash and rinse the drum storage area.

A sample designated "Bldg. 24 Drum storage Area Final Rinse" was collected 20 December 1996 from the drum storage area after the third rinse. The final rinse water sample was collected with a squeegee dust pan that had been rinsed with one gallon of distilled water.

Wash water and Final Rinse Water samples were analyzed for the hazardous constituents by

analytical methods prescribed in Table 6 of the approved *Closure Plan*. Laboratory analytical results are summarized in Table 2 and the complete laboratory analytical reports with chain-of-custody documentation are included in Appendix B. Based on sampling and analysis, the final rinse water from Building 24 Drum Storage Area meets the closure performance standard.

4.0 WASTE DISPOSAL

Eight drums of solid materials containing floor sweepings, disposable PPE and plastic sheeting were characterized as "hazardous waste solid" for disposal at Laidlaw/USPCI - Lone Mt. Facility in Waynoka, Oklahoma. The Uniform Hazardous Waste Manifest (document No. 97017) signed and returned by the disposal facility is included in Appendix C.

Five drums of liquid materials containing wash water and rinse water were characterized as "hazardous waste liquid" for disposal at ENSCO, Inc. in El Dorado, Arkansas. The Uniform Hazardous Waste Manifest (document No. 97019) signed and returned by the disposal facility is included in Appendix C.

5.0 CERTIFICATION OF CLOSURE

I certify under penalty of law that two hazardous waste drum storage areas:

- Building 5 Container Storage Area; and,
- Building 24 Drum Storage Area

at the Delphi Harrison Thermal Systems facility in Dayton, Ohio have been closed in accordance with the *Closure Plan for Hazardous Waste Drum Staging and Storage Areas* approved by Ohio Environmental Protection Agency.

I certify under penalty of law, that this document and all attachments were prepared under my direction or supervision, in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Facility Name: Delphi Harrison Thermal Systems

EPA ID No.: OHD 017 958 604

Signature of Owner/Operator: _____ _____ (Date)

Name and Title: _____

Signature of Independent Registered Professional Engineer: _____

Date: 07/22/97

Name and Title: John V. Klingshirn, PE
Senior Engineer

Affiliation: Haley & Aldrich, Inc.

Ohio Registration No.: 51378

STATE OF OHIO
JOHN V. KLINGSHIRN
E-51378
REGISTERED PROFESSIONAL ENGINEER

TABLE 1
BUILDING 5 CONTAINER STORAGE AREA - WATER SAMPLES

RCRA CLOSURE CERTIFICATION REPORT
HAZARDOUS WASTE DRUM STORAGE AREAS
DELPHI HARRISON THERMAL SYSTEMS
DAYTON, OHIO
EPA ID NO. OHD 017 958 604

Analyte	Wash Water (mg/l)	Final Rinse Water (mg/l)	Performance Standard (mg/l)
Metals			
Barium	0.0570	1.020	1.0
Cadmium	<0.0010	0.0070	0.075
Chromium	<0.0050	0.0750	1.0
Lead	<0.0030	0.1370	0.225
Mercury	<0.00020	<0.00020	0.03
Nickel	<0.0100	0.1120	1.0
Selenium	<0.0050	<0.0050	0.75
Silver	<0.0050	<0.0050	1.0
Inorganics			
Cyanide	<0.010	<0.010	1.0
Sulfide	<0.1	<0.1	1.0
Organics			
Acetone	<0.010	<0.010	1.0
Acetonitrile	<0.010	<0.010	1.0
Benzene	<0.005	<0.005	0.075
Chloroform	<0.005	<0.005	1.0
1,1-Dichloroethane	<0.005	<0.005	1.0
1,2-Dichloroethane	<0.005	<0.005	0.075
cis-1,2-Dichloroethene	<0.005	<0.005	1.0
trans-1,2-Dichloroethene	<0.005	<0.005	1.0
1,2-Dichloropropane	<0.005	<0.005	0.075
Isobutanol	<1.00	<1.00	1.0
Methanol	<1.00	<1.00	1.0
Methyl Ethyl Ketone (2-Butanone)	<0.010	<0.010	1.0
Methyl Isobutyl Ketone (4-Methyl-2-pentanone)	<0.010	<0.010	1.0
Methylene chloride	<0.005	<0.005	0.075
Tetrachloroethene	<0.005	<0.005	0.075
Toluene	<0.005	<0.005	1.0
1,1,1-Trichloroethane	<0.005	<0.005	1.0
1,1,2-Trichloroethane	<0.005	<0.005	0.075
Trichloroethene	<0.005	<0.005	0.075
Trichlorotrifluroethane	<0.010	<0.010	1.0
Vinyl chloride	<0.002	<0.002	0.03

Notes:
1. Wash Water sample collected 24 Dec. 1996 from water (before use) used to wash and rinse container storage area.
2. Final Rinse Water sample collected 24 Dec. 1996 from third rinse on container storage area.
3. Performance Standard from approved Closure Plan - Table 5.

TABLE 2
BUILDING 24 DRUM STORAGE AREA - WATER SAMPLES

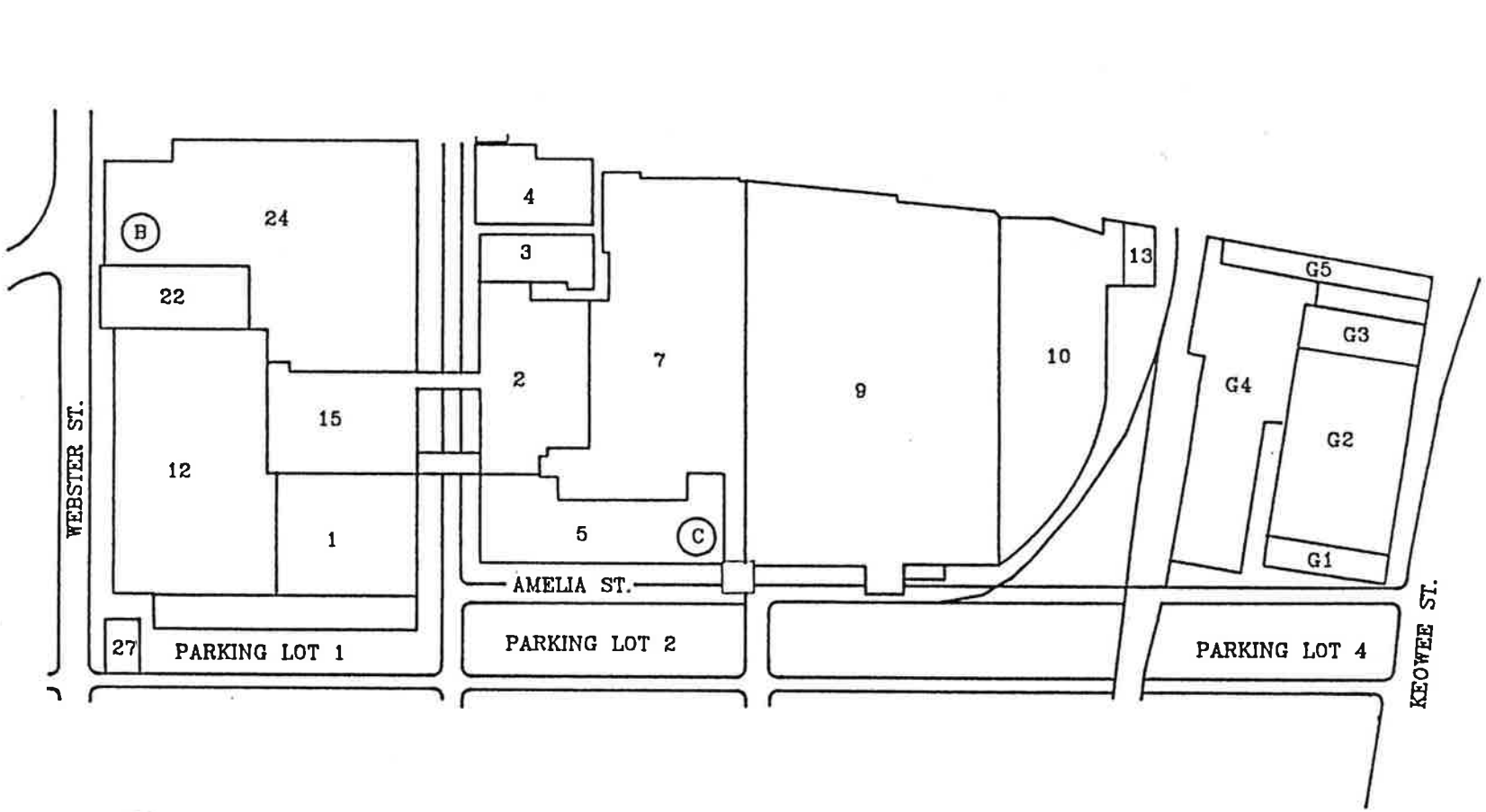
RCRA CLOSURE CERTIFICATION REPORT
HAZARDOUS WASTE DRUM STORAGE AREAS
DELPHI HARRISON THERMAL SYSTEMS
DAYTON, OHIO
EPA ID NO. OHD 017 958 604

Analyte	Wash Water (mg/l)	Final Rinse Water (mg/l)	Performance Standard (mg/l)
Metals			
Barium	0.0660	0.0870	1.0
Cadmium	<0.0010	0.0070	0.075
Chromium	<0.0050	0.0380	1.0
Lead	<0.0030	0.1490	0.225
Mercury	<0.00020	<0.00020	0.03
Selenium	<0.0050	<0.0050	0.75
Silver	<0.0050	<0.0050	0.75
Organics			
Toluene	<0.005	<0.005	1.0

Notes:
1. Wash Water sample collected 19 Dec. 1996 from water (before use) used to wash and rinse drum storage area.
2. Final Rinse Water sample collected 20 Dec. 1996 from third rinse on drum storage area.
3. Performance Standard from approved Closure Plan - Table 6.

::

79032-004 A1



(B) BUILDING 24 STORAGE AREA (SECOND FLOOR)

(C) BUILDING 5 CONTAINER STORAGE AREA

Taken from Earth Tech "Closure Plan for Hazardous Waste Drum Staging Areas" dated 26 July 1996.

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UNDERGROUND ENGINEERING & ENVIRONMENTAL SOLUTIONS

RCRA CLOSURE CERTIFICATION REPORT
HAZARDOUS WASTE DRUM STORAGE AREAS
DELPHI HARRISON THERMAL SYSTEMS
DAYTON, OHIO
EPA ID NO. OHD 017 958 604

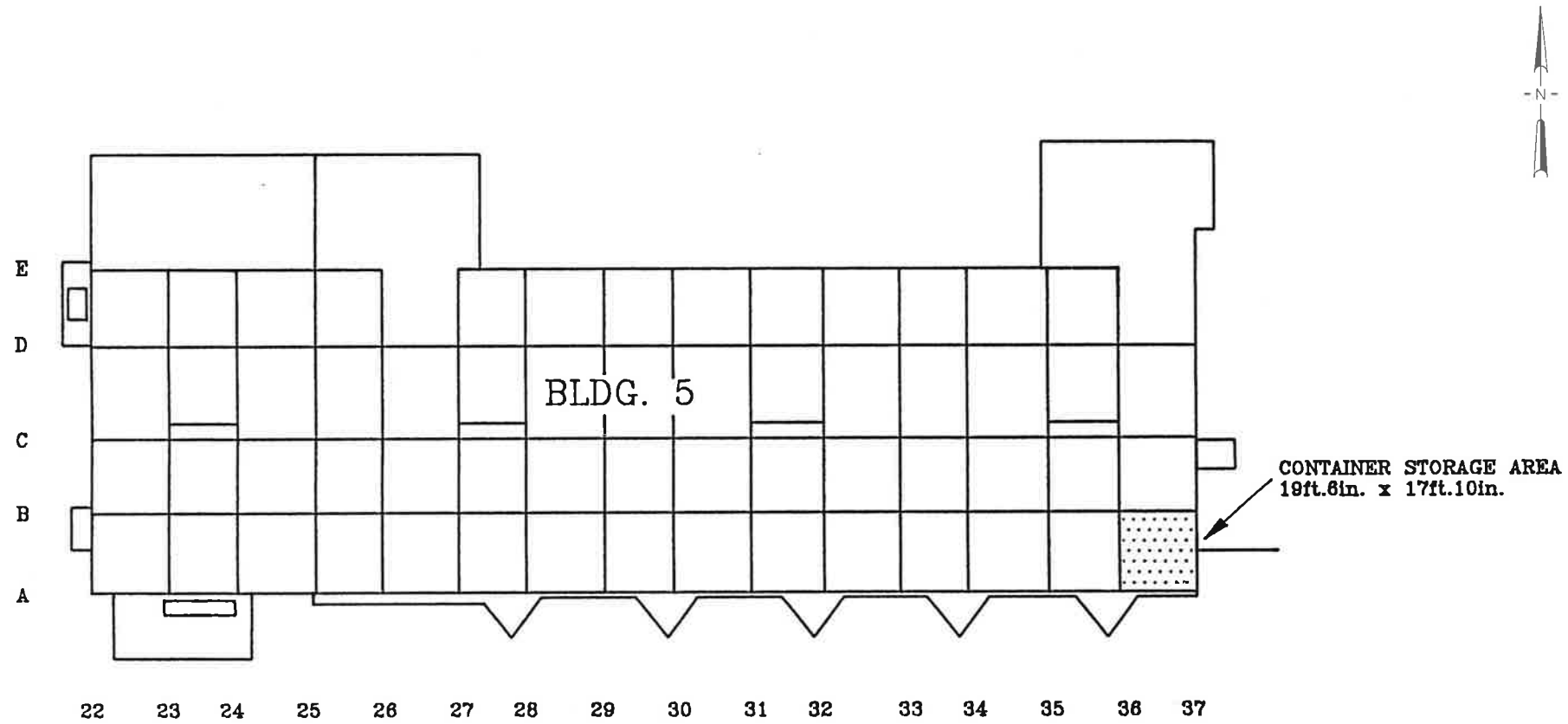
STORAGE AREAS

SCALE: NO SCALE

JULY 1997

FIGURE 1

79032-004 A2



0 20 40
SCALE IN FEET

Taken from Earth Tech "Closure Plan for Hazardous Waste Drum Staging Areas" dated 26 July 1996.

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UNDERGROUND ENGINEERING & ENVIRONMENTAL SOLUTIONS

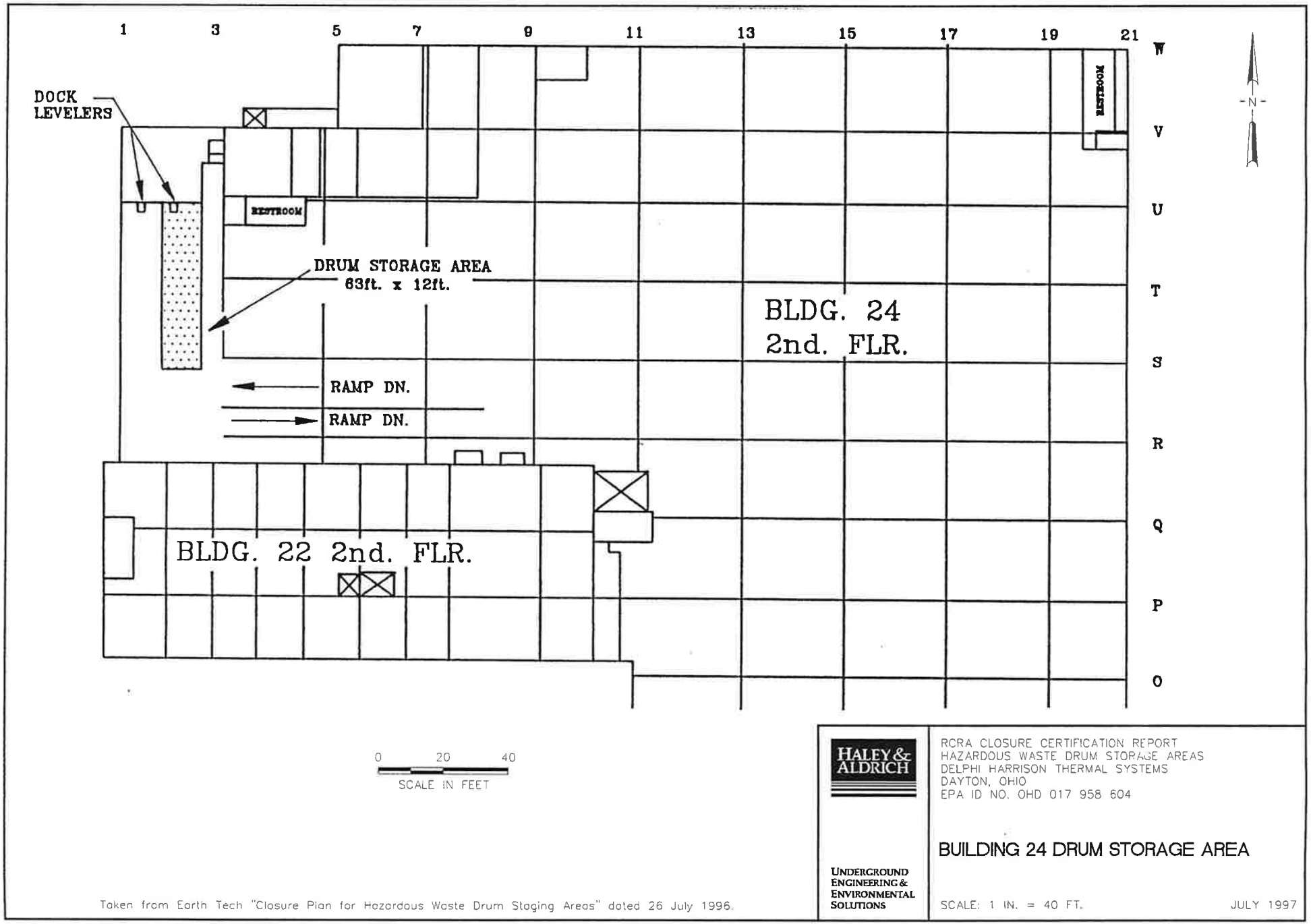
RCRA CLOSURE CERTIFICATION REPORT
HAZARDOUS WASTE DRUM STORAGE AREAS
DELPHI HARRISON THERMAL SYSTEMS
DAYTON, OHIO
EPA ID NO. OHD 017 958 604

BUILDING 5 CONTAINER STORAGE AREA

SCALE: 1 IN. = 40 FT. JULY 1997

FIGURE 2

79032-004 A4



Taken from Earth Tech "Closure Plan for Hazardous Waste Drum Staging Areas" dated 26 July 1996.

HALEY & ALDRICH

UNDERGROUND ENGINEERING & ENVIRONMENTAL SOLUTIONS

RCRA CLOSURE CERTIFICATION REPORT
HAZARDOUS WASTE DRUM STORAGE AREAS
DELPHI HARRISON THERMAL SYSTEMS
DAYTON, OHIO
EPA ID NO. OHD 017 958 604

BUILDING 24 DRUM STORAGE AREA

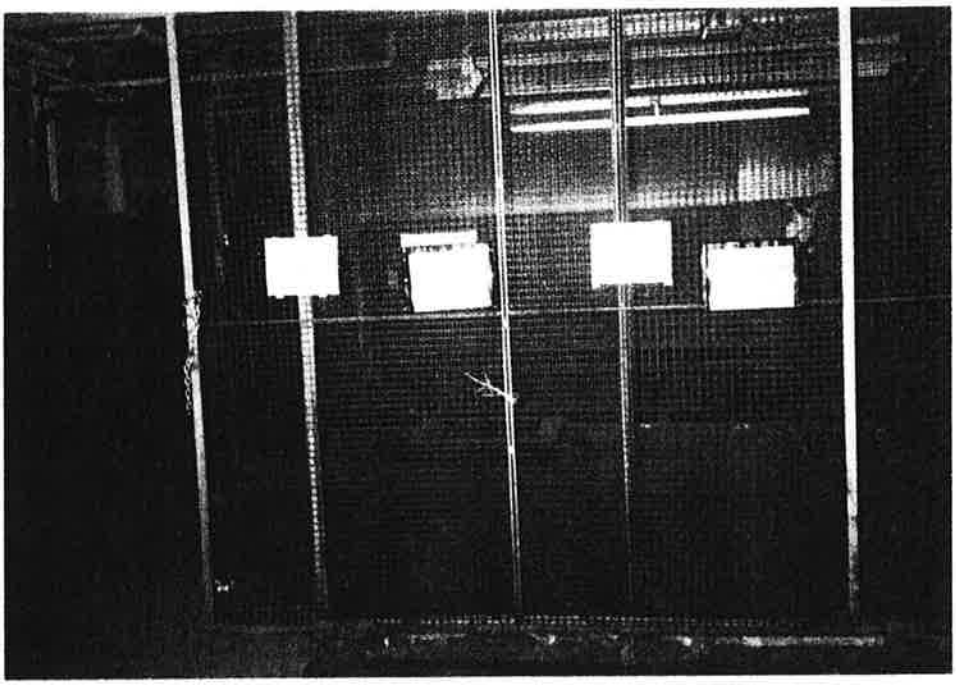
SCALE: 1 IN. = 40 FT.

JULY 1997

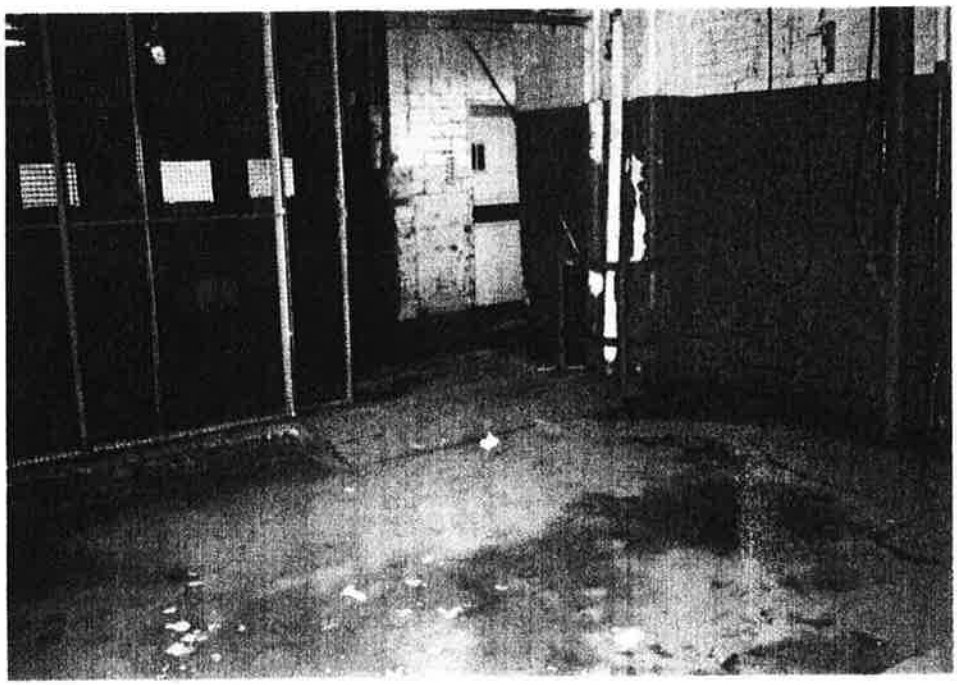
FIGURE 3

APPENDIX A

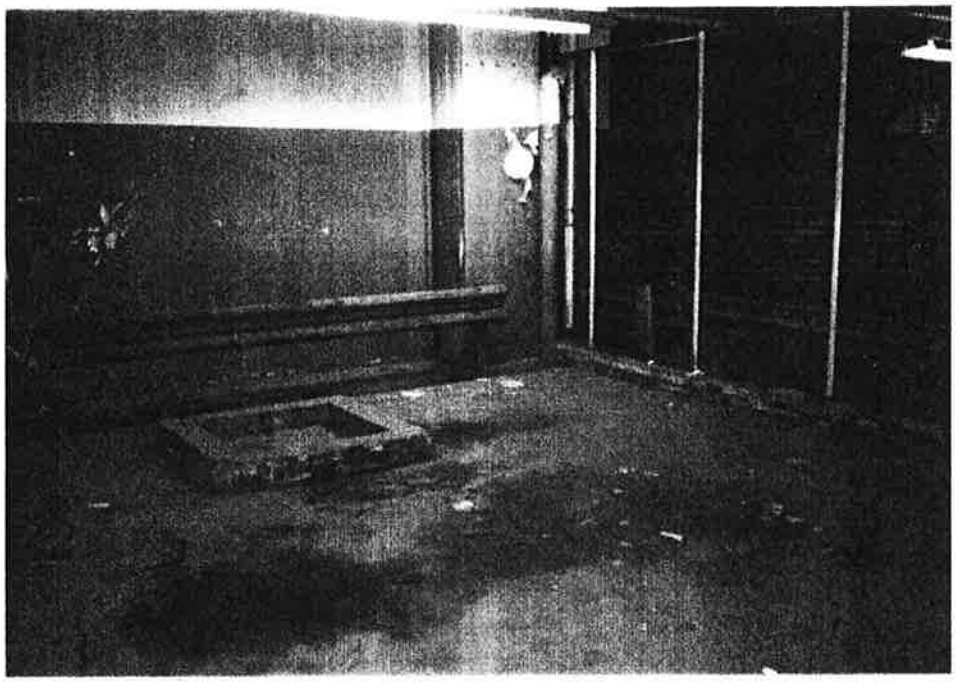
Photographic Documentation



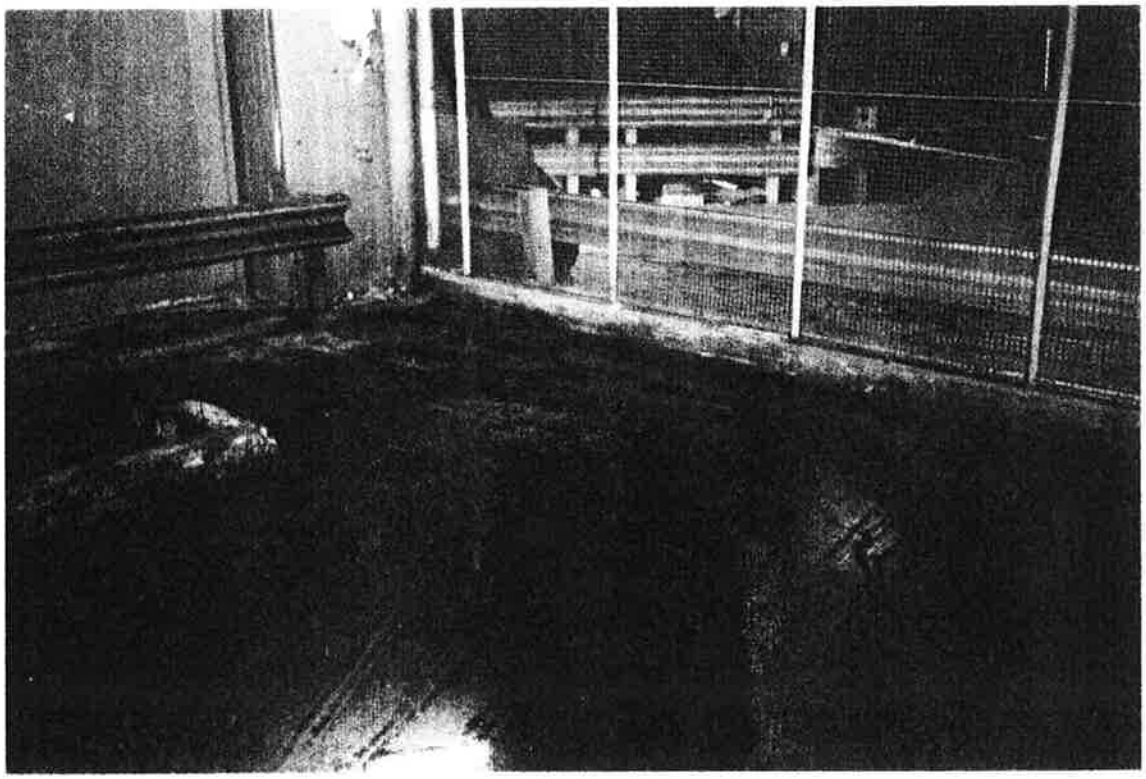
Photograph 1 - Building 5 Container Storage Area
Overview before closure.



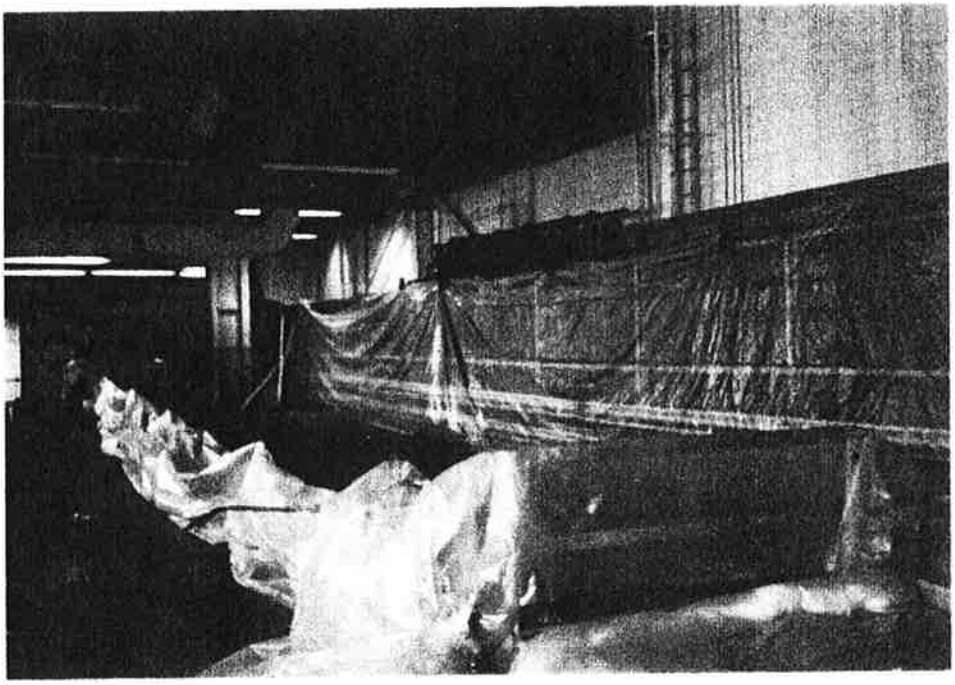
Photograph 2 - Building 5 Container Storage Area
View before closure.



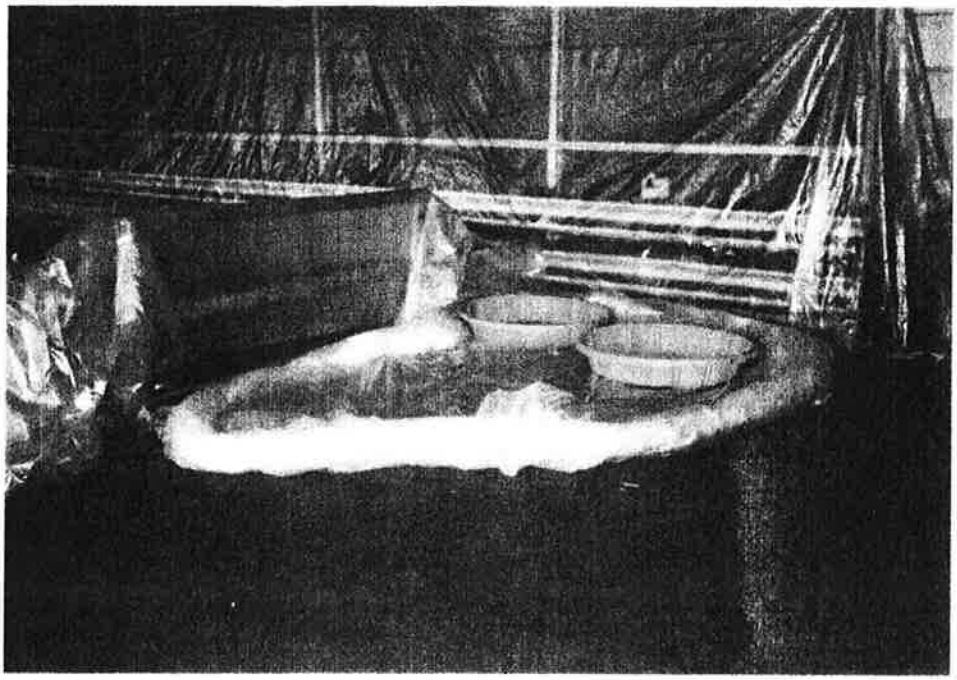
Photograph 3 - Building 5 Container Storage Area
View before closure.



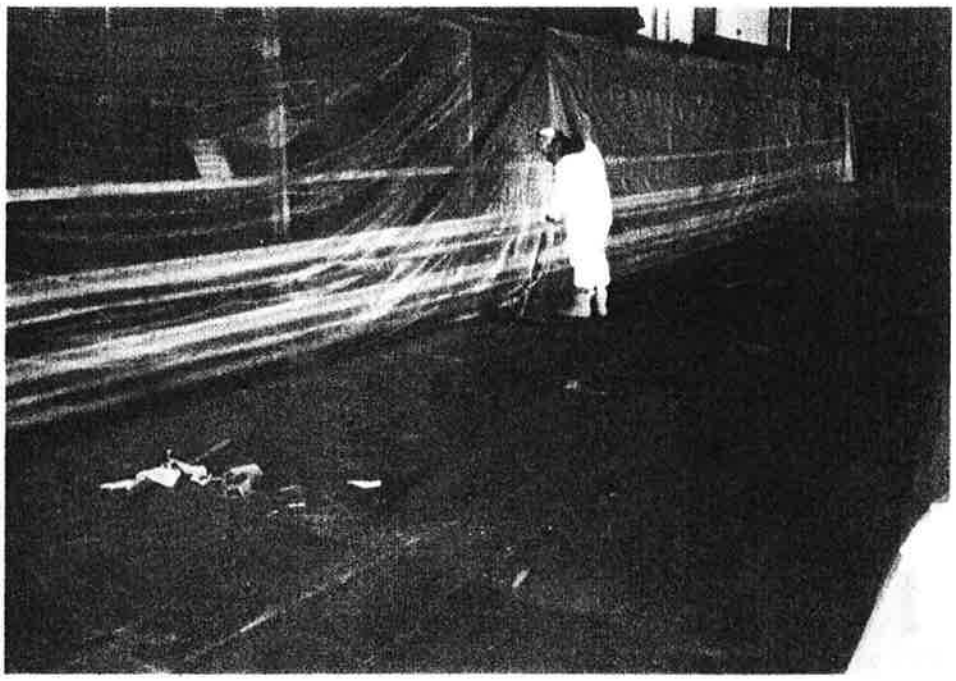
Photograph 4 - Building 5 Container Storage Area
View after closure decontamination.



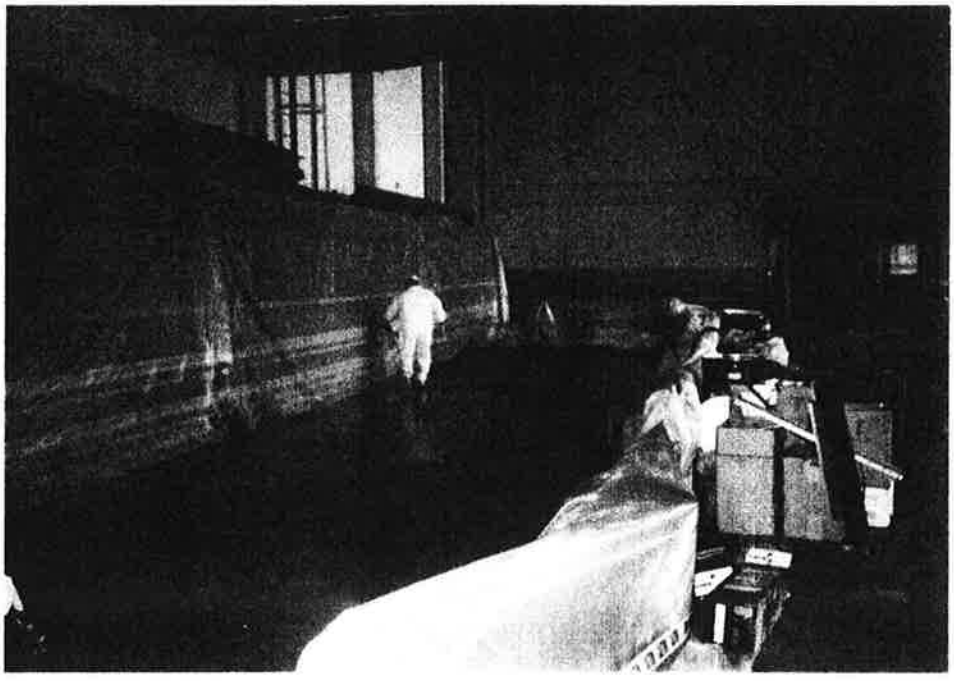
Photograph 5 - Building 24 Drum Storage Area
Overview before closure.



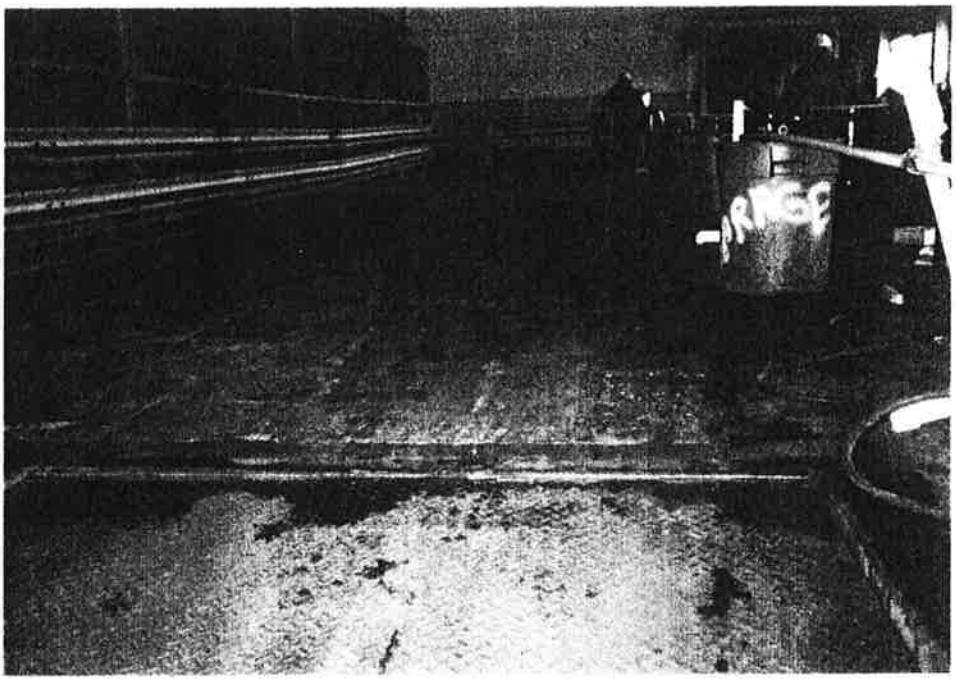
Photograph 6 - Building 24 Drum Storage Area
Decontamination area for personnel and equipment.



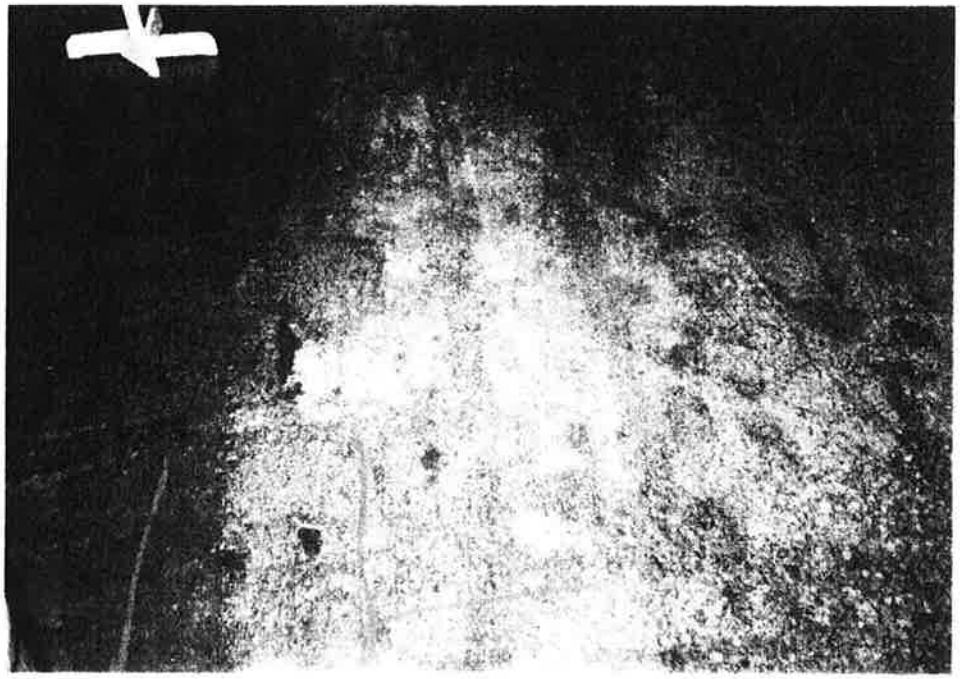
Photograph 7 - Building 24 Drum Storage Area
Sweep storage pad.



Photograph 8 - Building 24 Drum Storage Area
Vacuum wash water and rinse water into drums.



Photograph 9 - Building 24 Drum Storage Area
Overview after closure decontamination.



Photograph 10 - Building 24 Drum Storage Area
Close up after closure decontamination.

OhioEPA
State of Ohio Environmental Protection Agency

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1800 WaterMark Drive
Columbus, OH 43215-1099

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Columbus, OH 43216-1049

December 29, 1998

Completion of Partial Closure
GMC Delphi Harrison
Thermal Systems (Dayton)
U.S. EPA ID No.: OHD 017 958 604

Mr. Robert W. Hare
Ohio Project Manager
2509 Hayes Avenue SN40
Sandusky, Ohio 44870

Dear Mr. Hare:

According to Ohio EPA records, on January 30, 1997, the Director of the Ohio EPA approved a partial closure plan for three container storage units at the General Motors Corporation's Delphi Harrison facility located at 300 Taylor Street in Dayton, Ohio. The Agency acknowledged certifications supplied for two of these units with a correspondence to you dated October 30, 1997. Personnel from Ohio EPA's Southwest District Office conducted a post closure inspection of all three former container storage units (Bldg. #5 and Bldg. #24) on June 19, 1997. A certification document, dated September 28, 1998, was submitted by facility representatives to demonstrate that the remaining container staging area, situated within Building #24, was closed in accordance with the specifications in the approved closure plan.

Based on the findings of the inspection visit and review of the information supplied within the September 28, 1998 submittal, the Ohio EPA has determined that the remaining container staging area, situated within Building #24, has been closed in accordance with the approved closure plan and Rules 3745-66-12 through 3745-66-15 of the Ohio Administrative Code (OAC).

General Motors Corporation's Delphi Harrison Dayton facility remains a treatment, storage and disposal facility (TSDF) until final closure of those remaining hazardous waste tanks are addressed. Closure plans to address these units are being pursued through continued negotiations with representatives of General Motors Corporation.

If you have any questions concerning the closure process or the current regulatory status of this facility, please contact Harold O'Connell of the Ohio EPA, Southwest District Office, 401 East Fifth Street, Dayton, Ohio 45402, tel: 937-285-6078.

Sincerely yours,

Thomas E. Crepeau

Thomas E. Crepeau, Manager
Data Management Section
Division of Hazardous Waste Management

cc: Harold O'Connell, SWDO
Lauren Angell, AAG, AGO

HALEY & ALDRICH

RCRA CLOSURE CERTIFICATION REPORT
HAZARDOUS WASTE DRUM STAGING AREA (Bldg. 24)
DELPHI HARRISON THERMAL SYSTEMS
DAYTON, OHIO
EPA ID NO. OHD 017 958 604

UNDERGROUND ENGINEERING & ENVIRONMENTAL SOLUTIONS

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Appendix C	Worksheets for Statistical Evaluations
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1.0 INTRODUCTION

Closure certification and documentation are submitted herein for the Building 24 Drum Staging Area.

General Motors Corporation (GM) submitted a *Closure Plan for Hazardous Waste Drum Staging and Storage Areas (Closure Plan)* dated 26 July 1996 for the former Delphi Harrison Thermal Systems Division facility in Dayton, Ohio (Delphi Thermal - Dayton). The partial *Closure Plan* addressed three hazardous waste management units (HWMUs) as described below:

- Building 5 Container Storage Area;
- Building 24 Drum Staging Area (subject of this *Closure Certification Report)*;
- Building 24 Drum Storage Area.

The partial *Closure Plan* described the facility and HWMUs, closure procedures, decontamination procedures, sampling and analysis methods for wash water and rinse water, and evaluation of underlying soil. The partial *Closure Plan* also included closure performance standards for rinse water and underlying soil. The *Closure Plan* was approved by Ohio EPA on 30 January 1997.

Two of the drum storage units (Building 5 Container Storage Area and Building 24 Drum Storage Area) were closed in early 1997. Certification documents for those units were submitted to Ohio EPA on 31 July 1997. Ohio EPA notified GM of completion of partial closure for those two units in a letter dated 30 October 1997.

The *Closure Certification Report* submitted herein includes descriptions and documentation for the following closure activities associated with the Building 24 Drum Staging Area:

- decontamination of the concrete pad;
- background soil sampling/analysis and statistical evaluation;
- initial soil sampling/analysis beneath the pad;
- supplemental soil investigation for chromium;
- soil removal and excavation sampling for chromium;
- waste characterization and disposal; and,
- certification statement.

Appendices include photographic documentation, laboratory analytical reports, statistical evaluations, boring logs and disposal receipts.

2.0 CONCRETE PAD DECONTAMINATION

Decontamination of the Building 24 Drum Staging Area, a HWMU, was performed in accordance with the approved *Closure Plan*. Closure activities were performed during the period from December 1996 through December 1997. All closure activities were observed and all samples were collected by the independent certifying Professional Engineer. Decontamination of the HWMU was performed by RUST Industrial Cleaning, Inc. (Huber Heights, OH) and samples were analyzed by Specialized Assays, Inc. (Nashville, TN). Subsequent soil investigation, excavation/removal, and sampling and analysis are described in Section 3.0, Section 4.0 and Section 5.0 of this report.

Closure procedures for the HWMU are detailed in the following sections. Decontamination of the concrete floor of the HWMU included the following activities:

- measured and marked the limits of the HWMU;
- surrounded the HWMU with four-mil plastic sheeting, barriers and "caution" tape;
- constructed a decontamination pad for personnel and equipment with eight-mil plastic sheeting as a floor, six-inch high perimeter booms, two plastic wash tubs (kiddie pools) and two hand-pump spray bottles;
- swept and scraped the concrete pad;
- collected a sample of the wash water before it is used to wash and rinse the pad;
- washed the concrete pad with tri-sodium phosphate (TSP) detergent, water and a stiff-bristle broom;
- rinsed the pad three times with water pressure and vacuumed excess water between each rinse;
- collected a sample of the final (third) rinse water off of the pad;
- contained floor scrapings, wash water, rinse water, plastic sheeting and personal protective equipment (PPE) in 55-gallon capacity drums.

2.1 Description of Decontamination Activities

The Building 24 Drum Staging Area was designated "Area A" in the *Closure Plan* as shown on Figure 1. The area is located in the northeast corner of Building 24 which is located in the northwest portion of the facility. Building 24 is separated from the Mad River by a wide plant driveway and earthen levee.

The Building 24 Drum Staging Area measures 75 feet by 18 feet 6 inches and includes a decanting area (approximately 30 feet by 14 feet) in the truck well. The area is located on the first floor and constructed of a poured concrete slab on-grade. An overhead bay door is

located at the entrance to the truck well at the northeast corner of the Building. A sketch of the area is shown on Figure 2.

Stormwater had collected in the truck well prior to pad decontamination in December 1996. A concrete floor trench had been drained by a sump pump to the process wastewater sewerage system. After process sewers were cleaned by GM, the sump pump was deactivated. Approximately 1,500 gallons of water were present in the truck well from stormwater and a leaking fire main. [The fire main has since been deactivated and replaced by a dry fire protection system.] Before closure, a sample of stormwater was collected from the truck well on 18 December 1996 for analysis of chromium. The concentration of chromium was reported less than the reporting/quantification limit of 0.0050 milligrams/liter (mg/l). The laboratory analytical report is included in Appendix B.

Closure decontamination of the concrete pad was performed during the period from 20 through 23 December 1996 (no activities were performed Saturday or Sunday 21 or 22 December 1996). Closure decontamination was observed and samples were collected by the certifying Professional Engineer. There was no hazardous waste, drums or equipment in the area at the time of closure.

Plastic sheeting was hung on perimeter barriers around the area. A decontamination pad for personnel and equipment was constructed outside the south edge of the area. The staging pad and decanting area were separately swept and scraped, washed with TSP in water by a stiff-bristle broom and rinsed/vacuumed three times. A sample of the wash water (before use) and samples of final rinse water from the staging area and decanting area were collected for analysis (see Section 2.2). Photographic documentation of the closure decontamination is included in Appendix A.

Background soil sampling/analysis is detailed in Section 3.0, beneath-pad soil sampling and analysis are detailed in Section 4.0, and soil excavation and disposal are detailed in Section 5.0 of this *Closure Certification Report*.

2.2 Water Samples, Analysis and Evaluation

Samples were collected during closure decontamination by the independent certifying Professional Engineer in accordance with the approved *Closure Plan*. All samples were collected, preserved, stored and shipped under chain-of-custody documentation in containers supplied by the analytical laboratory.

Water samples were collected at the Building 24 Drum Staging Area from stormwater that had collected in the truck well, from wash water before it was used to decontaminate the drum staging and decanting areas, and from the final (i.e. third) rinse from each area

A sample designated "Bldg. 24 Drum Staging Truck Well" was collected on 18 December 1996 from stormwater that had collected in the truck well. The concentration of total chromium was reported below the reporting limit of 0.0050 milligram/liter (mg/l). The laboratory analytical report and chain-of-custody documentation is included in Appendix B.

A sample designated "Bldg. 24 Drum Staging Wash Water" was collected on 20 December 1996 from a water line in the first floor compressor room. This water was used to wash and

rinse the concrete floor of the staging area and truck well (decanting area).

Samples designated "Bldg. 24 Drum Staging Final Rinse Water" and "Bldg. 24 Truck Well Final Rinse Water" were collected on 23 December 1996 from the staging area and truck well (decanting area) after the third rinse. These final rinse samples were collected with a squeegee dust pan that had been rinsed with one gallon of distilled water.

Wash water and final rinse water samples were analyzed for the required hazardous constituents by the laboratory methods specified in the approved *Closure Plan*. Laboratory analytical results for water samples are summarized in Table 1 and the complete laboratory analytical reports with chain-of-custody documentation are included in Appendix B.

Based on sampling and analysis, the final rinse water samples from the Building 24 Drum Staging Area and Truck Well (Decanting Area) meet the closure performance standards.

3.0 BACKGROUND SOIL SAMPLES

In accordance with the approved *Closure Plan*, background soil samples were collected for analysis to assist in evaluating soils beneath the HWMU. The Building 24 Drum Staging Area is the only drum storage unit at the facility that directly overlies soil. Background samples, analysis and statistical evaluation for soils beneath the Building 24 Drum Staging Area are described below.

The approximate locations for background soil sampling were shown on Figure 6 of the approved *Closure Plan*. Specific locations for six background soil borings were proposed to, and subsequently approved by, Ohio EPA's South West District Office on 19 December 1996. The locations are within the area approximated by the approved *Closure Plan*.

Six background soil samples designated "BG-1" through "BG-6" were hand drilled at the locations shown on Figure 2. Background sample locations are in a paved driveway, about six feet north of Building 24, between the Building and a levee along the Mad River. The background soil sample locations are in a line between columns W20 and W10. Photographs of background sample locations and equipment are included in Appendix A.

Concrete pavement was drilled with a hammer drill and 1-3/8 inch masonry bit. The concrete was about 0.9 foot (11 inches) thick at each of six background boring locations. Soil samples were collected through core holes with an Oakfield brand, stainless steel hand auger with a 1-1/4 inch diameter auger. The hand auger was decontaminated before and after each sample with an Alconox-water wash and distilled-water rinse. Background soil sample descriptions are provided in Table 2.

Soil samples were collected from one-foot increments to a depth of two feet below the base of the concrete pavement. Soil samples were placed in 4-ounce clear glass containers with Teflon-lined screw caps. Background soil samples were analyzed for the required hazardous constituents by laboratory methods specified in the approved *Closure Plan*. Background values for each inorganic (metal) constituent were established by statistical methods and are summarized in Table 3. A statistical evaluation was made for each one-foot increment; the "upper strata" refers to the first one-foot increment beneath the base of the concrete; and, the "lower strata" refers to the second one-foot increment.

The complete laboratory analytical report with chain-of-custody documentation for background soil samples is included in Appendix B. Worksheets for statistical evaluations of background soil samples (metals) are included in Appendix C.

4.0 BENEATH-PAD SOIL SAMPLES

In accordance with the approved *Closure Plan*, soil samples were collected for analysis beneath the pad to evaluate the clean closure standard. Soil sampling and analysis beneath the Building 24 Drum Staging Area was conducted initially in January 1997 at the locations of cracks in the concrete pad. Concentrations of chromium exceeded the background statistical concentrations at several locations; therefore, supplemental investigation was conducted by drilling during September 1997. The initial closure soil sampling is described in Section 4.1 and the supplemental drilling investigation is described in Section 4.2.

4.1 Initial Closure Soil Samples

Locations of five soil borings beneath the Building 24 Drum Staging Area were specified on Figure 5 of the approved *Closure Plan*. These locations were proposed to, and approved by Ohio EPA, based on evidence of cracks in the concrete pad. It appears that the floor cracks generally originated near the columns in row "W" along the north wall.

Five soil borings designated "B-1" through "B-5" were hand drilled beneath the pad at locations shown on Figure 3. Photographs of borings and equipment are in Appendix A.

The concrete pad was drilled with a hammer drill and one-inch diameter masonry bit; a 1-3/4 inch diameter core hole was also drilled at several locations as a second attempt to collect sufficient sample quantity. The concrete pad is about one foot thick at the cored locations. Soil samples were collected through the pad with an Oakfield brand, stainless steel hand auger with a 1-1/4 inch diameter auger. The hand auger was decontaminated before and after each sample with an Alconox-water wash and distilled-water rinse. Soil samples beneath the pad are described lithologically in Table 4.

Soil samples were collected from the initial one-foot increment beneath the concrete pad and from the next one-half foot increment. At several locations, neither the hand auger or hammer drill would penetrate beneath the initial one-foot increment despite several attempts at core drilling adjacent borings.

Soil samples were placed in 4-ounce clear glass containers with Teflon-lined screw caps. Beneath-pad soil samples were analyzed for the required hazardous constituents by laboratory methods specified in the approved *Closure Plan*. Concentrations of metals are summarized in Table 3 with a comparison to background statistical concentrations for the upper and lower one-foot strata. Concentrations of toluene are summarized in Table 5 with a comparison to the laboratory's reporting limit for toluene. The complete laboratory analytical report with chain-of-custody documentation is included in Appendix B.

Based on comparison to background statistical values for metals (Table 3), beneath-pad soil samples exceeded the upper confidence limit (UCL) for chromium at borings B-1, B-2 and B-4; beneath-pad soil samples were below the UCL for chromium at borings B-3 and B-5. All beneath-pad soil samples were below the UCL for barium and below the Poisson tolerance limit for cadmium, mercury and selenium.

All beneath-pad soil samples exhibited concentrations of toluene below the laboratory reporting limit.

4.2 Supplemental Soil Investigation - Chromium

Chromium concentrations at three of the initial closure sample borings exceeded background statistical concentrations in soil within two feet beneath the concrete floor. Therefore, a supplemental investigation was performed to assess the extent of chromium above background concentrations.

Nine supplemental soil borings were drilled by GeoProbe during September 1997. Borings designated "B6" through "B14" are located in the Building 24 Drum Staging Area (inside the building) and in the adjacent driveway as shown on Figure 3. Test boring reports (logs) are included in Appendix C. Continuous soil samples were collected with the "direct hydraulic push" method of GeoProbe in a 1-3/8 inch diameter tube with a dedicated acrylic sleeve to prevent cross contamination. Samples were collected to a depth of 10 feet below the base of the concrete pad or driveway. Drilling and sampling equipment was decontaminated with an Alconox-water wash and distilled-water rinse.

Soil samples were placed in 4-ounce plastic sample containers with snap-on caps supplied by the analytical laboratory. All soil samples were shipped overnight to the analytical laboratory under chain-of-custody documentation. Samples were selected by subsequent iterations for laboratory analysis of total chromium. Chromium concentrations in supplemental soil samples are summarized in Table 6.

Background concentrations of chromium in soil were re-evaluated statistically during the supplemental investigation. Initially, a background statistical concentration had been calculated for each of the upper one-foot strata and second one-foot (lower) strata; initial closure soil samples were collected to a depth within two feet below the base of the concrete pad. Supplemental investigation collected soil samples to a depth 10 feet below the base of the concrete pad. Therefore, a single background statistical concentration for chromium in soil was calculated from background sample results. A log normal distribution yielded the background statistical concentration of 8.84 mg/kg for chromium in soil. Worksheets for the statistical evaluation are included in Appendix C.

Based on supplemental investigation, the extent of chromium above the statistical background concentration (8.84 mg/kg) was delineated. Excavation and removal of soil that exhibited chromium above the background concentration are described in Section 5.0.

5.0 SOIL EXCAVATION AND REMOVAL

5.1 Description of Soil Removal Activities

Soil that exhibited chromium above the background statistical concentration had been identified in four areas by supplemental investigation. The four areas generally corresponded with the locations of cracks in the concrete floor of the Building 24 Drum Staging Area. Soil was excavated and removed from these four areas, as shown on Figure 4, during the week of 17 to 21 November 1997. Photographic documentation of soil excavation and removal is included in Appendix A. Soil excavation activities were performed by ProTerra Environmental Contracting Company (Columbus, Ohio) in the presence of the certifying Professional Engineer. A representative of Ohio EPA's South West District Office visited the site on 19 November 1997 and observed four open excavations.

Concrete pavement (0.9 foot thick) was saw cut from the four areas to be excavated. Concrete was broken, excavated and placed with a tractor backhoe into two lined roll-off dumpsters. The dumpsters for concrete rubble each had a capacity of 20 cubic yards and were designated by their serial numbers (35117 and 42177).

Soil was excavated from the four areas and placed with a tractor backhoe into two lined roll-off dumpsters. The dumpsters for soil each had a capacity of 23 cubic yards and were designated by their serial numbers (UPCU410831 and UPCU410688).

The limits of soil excavation were restricted by the adjacent wall foundation and column foundations. The wall foundation is a one-foot thick concrete strip footing; the top of the strip footing is one foot below the base of the concrete floor; the strip footing is one foot wider than the building wall. The column foundations are 1-1/2 foot thick concrete pads; the top of the column pad is two feet below the base of the concrete floor; the column pads are 10 feet by 10 feet square. The wall foundation and column W19 foundation are visible in photographs number 18 and 19 in Appendix A.

The designation, dimensions (north-south dimension x east-west dimension), depth and in-place volume of soil for each excavation area are described below:

Area	Dimensions	Depth	Volume (in-place)
Ex 1	8.5 ft x 10 ft	4 ft	12.6 cu yds
Ex 2	10 ft x 5 ft	3.5 ft	6.5 cu yds
Ex 3	7 ft x 6 ft	3 ft	4.7 cu yds
Ex 4	8 ft x 4.5 ft	3 ft	4 cu yds

Each dumpster for concrete and soil was covered with a ribbed tarp or a hard top. Characterization and disposal of the concrete rubble and excavated soil are described in Section 6.0. The soil excavation equipment was decontaminated over the soil dumpsters by physical scraping, brushing, pressure washing and triple rinsing. Samples of the wash water and final rinse water were collected for analysis as described in Section 5.2.

Soil sampling and analysis for each excavation area are described in Section 5.2. After receipt of laboratory analytical results for soil samples, each excavation area was backfilled.

Forty tons of backfill material (type 304) were imported to the site. A sample of the backfill was collected for laboratory analysis as described in Section 5.2. Backfill was placed in two-foot lifts and compacted with a hydraulic vibratory plate compactor mounted to the backhoe boom. The concrete floor and driveway sections were replaced with concrete (0.9 foot thick) reinforced by two layers of wire mesh.

5.2 Closure Soil Samples (Chromium), Analysis and Evaluation

Soil samples were collected from the bottom of each excavation area with a stainless steel trowel. The sample designations and locations for the 10 closure soil samples are shown on Figure 4. Samples were collected in 4-ounce plastic containers with snap-on caps supplied by the laboratory. A sample was also collected in a similar manner from the backfill material imported to the site. Excavation and backfill soil samples were shipped overnight with chain-of-custody documentation to the analytical laboratory. Samples were analyzed overnight for chromium by the test method specified in the approved *Closure Plan*.

The chromium concentrations in excavation soil samples and the backfill are summarized in Table 7. A single statistical UCL concentration for chromium in soil remaining beneath the unit was calculated from the 10 closure excavation soil samples. A log normal distribution yielded the closure excavation statistical concentration of 7.13 mg/kg for chromium in underlying soil. This statistical concentration (UCL) was compared to the background statistical concentration (UCL) of 8.84 mg/kg which was calculated similarly from a log normal distribution. Worksheets for the statistical evaluations of closure excavation samples and background soil samples are included in Appendix C. The complete laboratory analytical report with chain-of-custody documentation is included in Appendix B.

The excavation soil sample statistical UCL of chromium is below the background statistical UCL.

Samples of wash water (before use) and final rinse water from construction equipment decontamination were collected for analysis of the required hazardous constituents by test methods specified in the *Closure Plan*. The final rinse water sample meets the closure performance standards. The complete laboratory analytical report with chain-of-custody documentation is included in Appendix B.

6.0 WASTE DISPOSAL

Decontamination of the concrete pad at Building 24 Drum Staging Area generated drummed solids and liquids which were disposed during early 1997 along with wastes generated during decontamination of the other two drum storage areas.

Eight drums of solid materials containing floor sweepings, disposable PPE and plastic sheeting were characterized as "hazardous waste solid" for disposal at Laidlaw/USPCI - Lone Mt. Facility in Waynoka, Oklahoma. The Uniform Hazardous Waste Manifest (document no. 97017) signed and returned by the disposal facility is included in Appendix E.

Five drums of liquid materials containing wash water and rinse water were characterized as "hazardous waste liquid" for disposal at ENSCO, Inc. in El Dorado, Arkansas. The Uniform Hazardous Waste Manifest (document no. 97019) signed and returned by the disposal facility is included in Appendix E.

Soil excavation and removal during closure at the Building 24 Drum Staging Area generated concrete rubble and soil. Photographs of the four covered roll-off dumpsters are included in Appendix A.

Approximately 213 square feet of concrete (0.9 feet thick) were demolished and placed into two lined 20-cubic yard roll-off dumpsters. Concrete rubble was characterized as "non-regulated material" and was disposed in December 1997 at Waste Management's Stoney Hollow facility in Dayton, Ohio. Two Straight Bills of Lading for shipment are included in Appendix E. No manifest was used for shipment or will be returned by the disposal facility. A copy of the weigh tickets returned by the disposal facility for billing purposes will be submitted to Ohio EPA as an addendum to this Closure Certification Report.

Approximately 30 cubic yards (in-place volume) of soil were excavated and placed into two lined 23-cubic yard roll-off dumpsters. Soil was characterized by complete TCLP analysis as "non-regulated material" and was disposed in December 1997 at ECDC Environmental's facility in East Carbon, Utah. Two Shipping Bills of Lading signed by the generator are included in Appendix E. Signed copies returned by the disposal facility will be submitted to Ohio EPA as an addendum to this Closure Certification Report.

7.0 CERTIFICATION OF CLOSURE

I certify under penalty of law that the hazardous waste management unit:

- Building 24 Drum Staging Area

at the General Motors Corporation's former Delphi Harrison Thermal Systems facility in Dayton, Ohio has been closed in accordance with the *Closure Plan for Hazardous Waste Drum Staging and Storage Areas* approved by Ohio Environmental Protection Agency.

I certify under penalty of law, that this document and all attachments were prepared under my direction or supervision, in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Facility Name: Delphi Harrison Thermal Systems

EPA ID No.: OHD 017 958 604

Signature of Owner/Operator: _____ _____ (Date)

Name and Title: Robert W. Hare, P. E. - GM Corp. Project Manager

Signature of Independent Registered Professional Engineer: _____

Date: 9/24/98

Name and Title: John V. Klingshirn, P. E. - Senior Engineer

Affiliation: Haley & Aldrich, Inc.

Ohio Registration No.: E-51378

TABLE 1
BUILDING 24 DRUM STAGING AREA - WATER SAMPLES

RCRA CLOSURE CERTIFICATION REPORT
HAZARDOUS WASTE DRUM STAGING AREA (BUILDING 24)
DELPHI HARRISON THERMAL SYSTEMS
DAYTON, OHIO
EPA ID NO. OHD 017 958 604

Analyte	Wash Water (mg/l)	Drum Staging Final Rinse Water (mg/l)	Truck Well Final Rinse Water (mg/l)	Performance Standard (mg/l)
Metals				
Barium	0.0510	0.0950	0.1490	1.0
Cadmium	<0.0010	0.0070	0.0100	0.075
Chromium	<0.0050	0.0950	0.1390	1.0
Mercury	<0.00020	<0.00020	<0.00020	0.03
Selenium	<0.0050	<0.0050	<0.0050	0.75
Organics				
Toluene	<0.005	<0.005	<0.005	1.0

Notes:
1. Wash Water sample collected 20 Dec. 1996 from water (before use) used to wash and rinse drum staging and truck well (decanting) areas.
2. Final Rinse Water samples collected 23 Dec. 1996 from third rinse on drum staging area and truck well (decanting area)
3. Performance Standard from approved Closure Plan - Table 6.

TABLE 2
BACKGROUND SOIL SAMPLE DESCRIPTIONS

RCRA CLOSURE CERTIFICATION REPORT
HAZARDOUS WASTE DRUM STAGING AREA (BUILDING 24)
DELPHI HARRISON THERMAL SYSTEMS
DAYTON, OHIO
EPA ID NO. OHD 017 958 604

Background Soil Boring Number	Sample Number	Depth (ft.)	Description
BG-1	S-1	0.9 - 1.9	dark brown; moist; gravel, sand, silt
BG-1	S-2	1.9 - 2.9	dark brown; moist; gravel, clay, silt, sand
BG-2	S-1	0.9 - 1.9	dark brown; moist; gravel, sand, silt
BG-2	S-2	1.9 - 2.9	dark brown; moist; gravel, sand, silt
BG-3	S-1	1.5 - 2.0	yellow-brown; dry; silt
BG-3	S-2	2.0 - 3.0	yellow-brown; dry; silt
BG-4	S-1	1.2 - 2.2	brown-yellow; dry; silt, gravel
BG-4			No recovery below 2.2 ft.
BG-5	S-1	0.9 - 1.9	brown-yellow; dry; silt, gravel
BG-5	S-2	1.9 - 2.9	brown-yellow; dry; silt
BG-6	S-1	0.8 - 1.8	brown; moist; sand, silt, gravel
BG-6	S-2	1.8 - 2.8	brown; moist; sand, silt, clay, gravel

TABLE 3
BACKGROUND SOIL SAMPLE STATISTICAL VALUES

RCRA CLOSURE CERTIFICATION REPORT
HAZARDOUS WASTE DRUM STAGING AREA (BUILDING 24)
DELPHI HARRISON THERMAL SYSTEMS
DAYTON, OHIO
EPA ID NO. OHD 017 958 604

UPPER SOIL STRATA

	Background Statistics			Beneath-Pad Soil Samples				
Analyte	Normally Distributed ?	Normal Upper Confidence Limit (mg/kg)	Poisson Tolerance Limit (mg/kg)	B-1 S-1 (mg/kg)	B-2 S-1 (mg/kg)	B-3 S-1 (mg/kg)	B-4 S-1 (mg/kg)	B-5 S-1 (mg/kg)
Metals								
Barium	Yes	60.39	---	18.30	24.20	26.40	31.10	20.60
Cadmium	No	---	4.00	<1.00	<0.98	<0.99	2.41	<0.99
Chromium	Yes (1)	7.57	---	20.70	24.20	6.75	14.50	7.38
Mercury	No	---	3.00	<0.10	<0.10	<0.10	<0.10	<0.10
Selenium	No	---	3.00	<1.00	<0.98	<0.99	<1.00	<0.99

LOWER SOIL STRATA

	Background Statistics			Beneath-Pad Soil Samples		
Analyte	Normally Distributed ?	Normal Upper Confidence Limit (mg/kg)	Poisson Tolerance Limit (mg/kg)	B-1 S-2 (mg/kg)	B-2 S-2 (mg/kg)	B-5 S-2 (mg/kg)
Metals						
Barium	Yes	74.36	---	26.40	20.90	19.20
Cadmium	No	---	5.00	1.37	<0.97	1.81
Chromium	Yes	10.30	---	72.50	53.80	7.66
Mercury	No	---	3.00	<0.10	<0.10	0.18
Selenium	No	---	3.00	<0.98	<0.97	<1.01

Notes:
1. Soil sample results from BG-6, S-2 for chromium above upper cutoff from the quatrile range and not included in statistics.

TABLE 4
BENEATH-PAD SOIL SAMPLE DESCRIPTIONS

RCRA CLOSURE CERTIFICATION REPORT
HAZARDOUS WASTE DRUM STAGING AREA (BUILDING 24)
DELPHI HARRISON THERMAL SYSTEMS
DAYTON, OHIO
EPA ID NO. OHD 017 958 604

Beneath-Pad Soil Boring Number	Sample Number	Depth (ft.)	Description
B-1	S-1	1.0 - 2.0	yellow-brown; powdery; silt/fine sand
B-1	S-2	2.0 - 2.5	yellow-brown; powdery; silt/fine sand
B-2	S-1	1.0 - 2.0	brown; moist; sand, silt, gravel
B-2	S-2	2.0 - 2.5	brown; moist; sand, clay, gravel
B-3	S-1	1.0 - 2.0	yellow-brown; powdery; silt/fine sand No recovery beneath 2.0 ft.
B-4	S-1	1.0 - 2.0	yellow-brown; powdery; silt/fine sand No recovery below 2.2 ft.
B-5	S-1	1.0 - 2.0	yellow-brown; powdery; silt/fine sand
B-5	S-2	2.0 - 2.5	brown; moist; sand, silt, gravel

TABLE 5
BENEATH-PAD SOIL ANALYTICAL RESULTS - TOLUENE

RCRA CLOSURE CERTIFICATION REPORT
HAZARDOUS WASTE DRUM STAGING AREA (BUILDING 24)
DELPHI HARRISON THERMAL SYSTEMS
DAYTON, OHIO
EPA ID NO. OHD 017 958 604

Beneath-Pad Soil Boring Number	Sample Number	Toluene (mg/Kg)
B-1	S-1	< 0.025
B-1	S-2	< 0.025
B-2	S-1	< 0.005
B-2	S-2	< 0.005
B-3	S-1	< 0.005
B-4	S-1	< 0.250
B-5	S-1	< 0.250
B-5	S-2	< 0.250

TABLE 6
SUPPLEMENTAL INVESTIGATION SOIL ANALYTICAL RESULTS - CHROMIUM

RCRA Closure Certification Report
Hazardous Waste Drum Staging Area (Building 24)
Delphi Harrison Thermal Systems
Dayton, Ohio
EPA ID No. OHD 017 958 604

Boring No.	Sample No.	Depth interval (ft)	Total Chromium (mg/kg)
B1	S-1	1.0 - 2.0	20.70
B1	S-2	2.0 - 2.5	72.50
B2	S-1	1.0 - 2.0	24.20
B2	S-2	2.0 - 2.5	53.80
B3	S-1	1.0 - 2.0	6.75
B4	S-1	1.0 - 2.0	14.50
B5	S-1	1.0 - 2.0	7.38
B5	S-2	2.0 - 2.5	7.66
B6	S-1	1.0 - 2.0	32.5
B6	S-2	2.0 - 3.0	22.4
B6	S-3	3.0 - 4.0	3.55
B6	S-4	4.0 - 5.0	21.9
B6	S-5	5.0 - 6.0	5.37
B6	S-6	6.0 - 7.0	6.72
B6	S-7	7.0 - 8.0	8.74
B6	S-8	8.0 - 9.0	3.64
B6	S-9	9.0 - 10.0	1.75
B7	S-1	1.0 - 2.0	1.76
B7	S-2	2.0 - 3.0	3.05
B8	S-1	1.0 - 2.0	4.67
B8	S-2	2.0 - 3.0	4.02
B9	S-1	1.0 - 2.0	2.73
B9	S-2	2.0 - 3.0	8.10
B9	S-3	3.0 - 4.0	5.51
B9	S-4	4.0 - 5.0	8.01

TABLE 6 (continued)
SUPPLEMENTAL INVESTIGATION SOIL ANALYTICAL RESULTS - CHROMIUM

Boring No.	Sample No.	Depth Interval (ft.)	Total Chromium (mg/kg)
B10	S-1	1.0 - 2.0	4.98
B10	S-2	2.0 - 3.0	2.74
B11	S-1	1.0 - 2.0	5.43
B11	S-2	2.0 - 3.0	5.25
B11	S-5	5.0 - 6.0	1.58
B11	S-6	6.0 - 7.0	2.62
B12	S-1	1.0 - 2.0	4.39
B12	S-2	2.0 - 3.0	1.98
B13	S-1	1.0 - 2.0	4.42
B13	S-2	2.0 - 3.0	2.92
B14	S-1	1.0 - 2.0	8.35
B14	S-2	2.0 - 3.0	11.2
B14	S-3	3.0 - 4.0	5.11
B14	S-4	4.0 - 5.0	2.02
B14	S-5	5.0 - 6.0	3.96
B14	S-6	6.0 - 7.0	5.50
	Background UCL		**8.84**

NOTES:

Soil samples from borings B-1 through B-5 were collected in January 1997 by hand auger during initial closure sampling; boring locations were specified in the *Closure Plan* and were directed at the locations of cracks in the concrete pad; samples from below the 2.5-foot depth interval were not able to be collected by hand auger.

Soil samples from borings B6 through B14 were collected in September 1997 by GeoProbe drilling during supplemental sampling; boring locations were selected to assess the extent of chromium in soil beneath the concrete pad.

All soil samples were analyzed for total chromium by USEPA Test Method 6010 as specified by the *Closure Plan*.

The depth interval is measured from the top of the concrete pad; the concrete pad is approximately one-foot thick; therefore, the 0 - 1.0 foot interval is concrete.

The background upper confidence limit (UCL) was determined by statistical analysis from 12 soil samples collected on site, outside of the RCRA unit, at six background soil boring locations as specified by the *Closure Plan*; background samples were collected in January 1997.

TABLE 7
CLOSURE EXCAVATION SOIL ANALYTICAL RESULTS - CHROMIUM

RCRA Closure Certification Report
Hazardous waste Drum Staging Area (Building 24)
Delphi Harrison Thermal Systems
Dayton, Ohio
EPA ID No. OHD 017 958 604

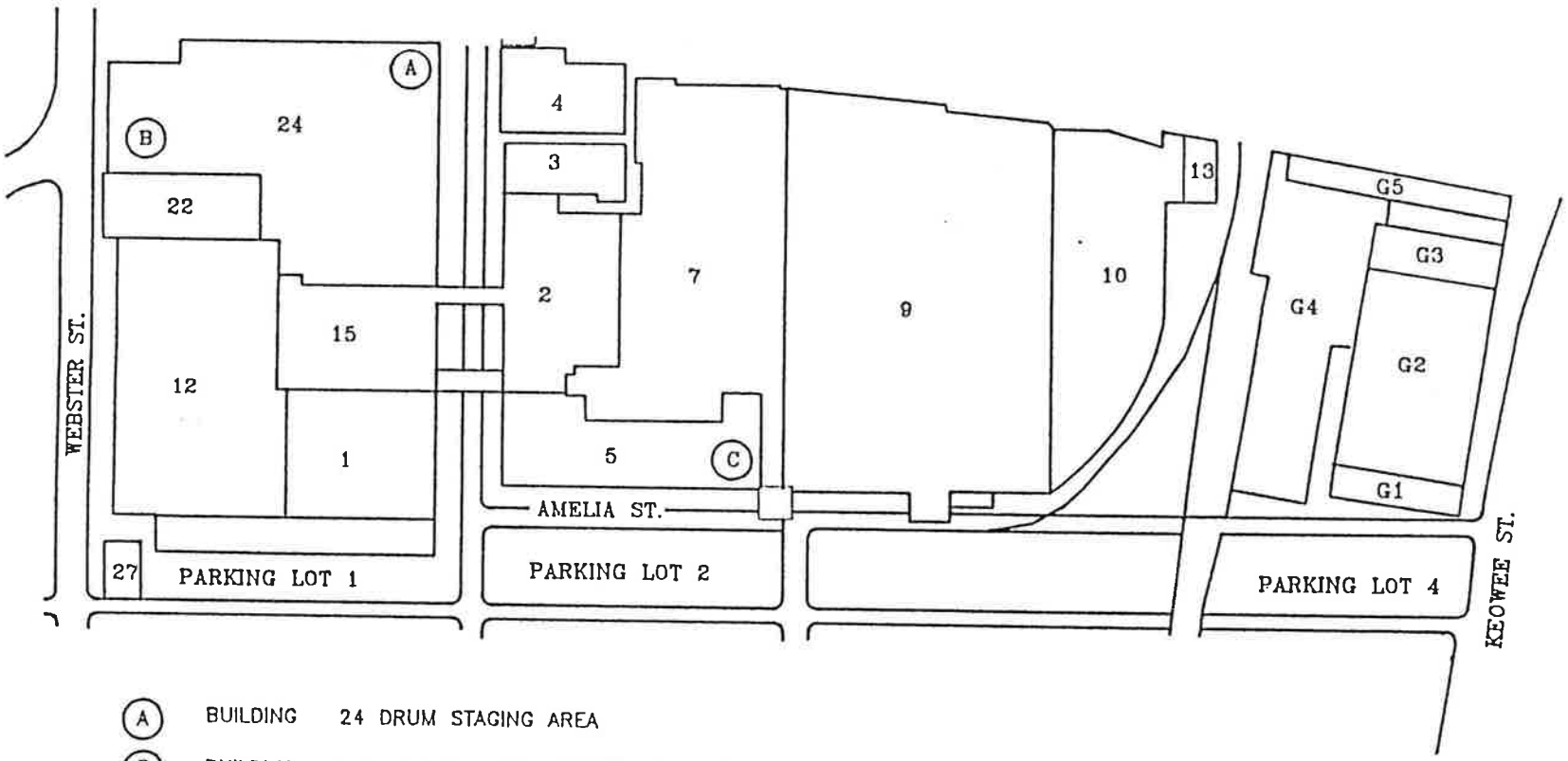
Sample Designation	Chromium (mg/kg)
Ex 1 North	6.85 mg/kg
Ex 1 South	4.85 mg/kg
Ex 1 East	5.47 mg/kg
Ex 1 West	4.11 mg/kg
Ex 2 North	15.0 mg/kg
Ex 2 Middle	5.45 mg/kg
Ex 2 South	8.46 mg/kg
Ex 3 North East	3.26 mg/kg
Ex 3 South West	4.19 mg/kg
Ex 4 North	1.81 mg/kg
Closure Excavation UCL	**7.13 mg/kg**
Backfill (imported)	< 0.99 mg/kg
Background UCL	**8.84 mg/kg**

Notes: Excavation soil samples collected from bottom of excavations on 18 and 19 November 1997. See Appendix B for laboratory analytical report.

Closure excavation UCL is 95% upper confidence limit from log-normal distribution of closure excavation chromium concentrations. See Appendix C for statistical evaluation.

Background UCL is 95% upper confidence limit from log-normal distribution of background chromium concentrations. See Appendix C for statistical evaluation Background soil samples collected 8 January 1997.

Chromium analysis by Test Method 6010 as required by Ohio EPA-approved *Closure Plan*.



(A) BUILDING 24 DRUM STAGING AREA

(B) BUILDING 24 STORAGE AREA (SECOND FLOOR)

(C) BUILDING 5 CONTAINER STORAGE AREA

Taken from Earth Tech "Figure Plan for Hazardous Waste Drum Storage Areas" Dated [illegible]

HALEY & ALDRICH

UNDERGROUND ENGINEERING & ENVIRONMENTAL SOLUTIONS

RCRA CLOSURE CERTIFICATION REPORT
HAZARDOUS WASTE DRUM STORAGE AREAS
DELPHI HARRISON THERMAL SYSTEMS
DAYTON, OHIO
EPA ID NO. OHD 017 068 604

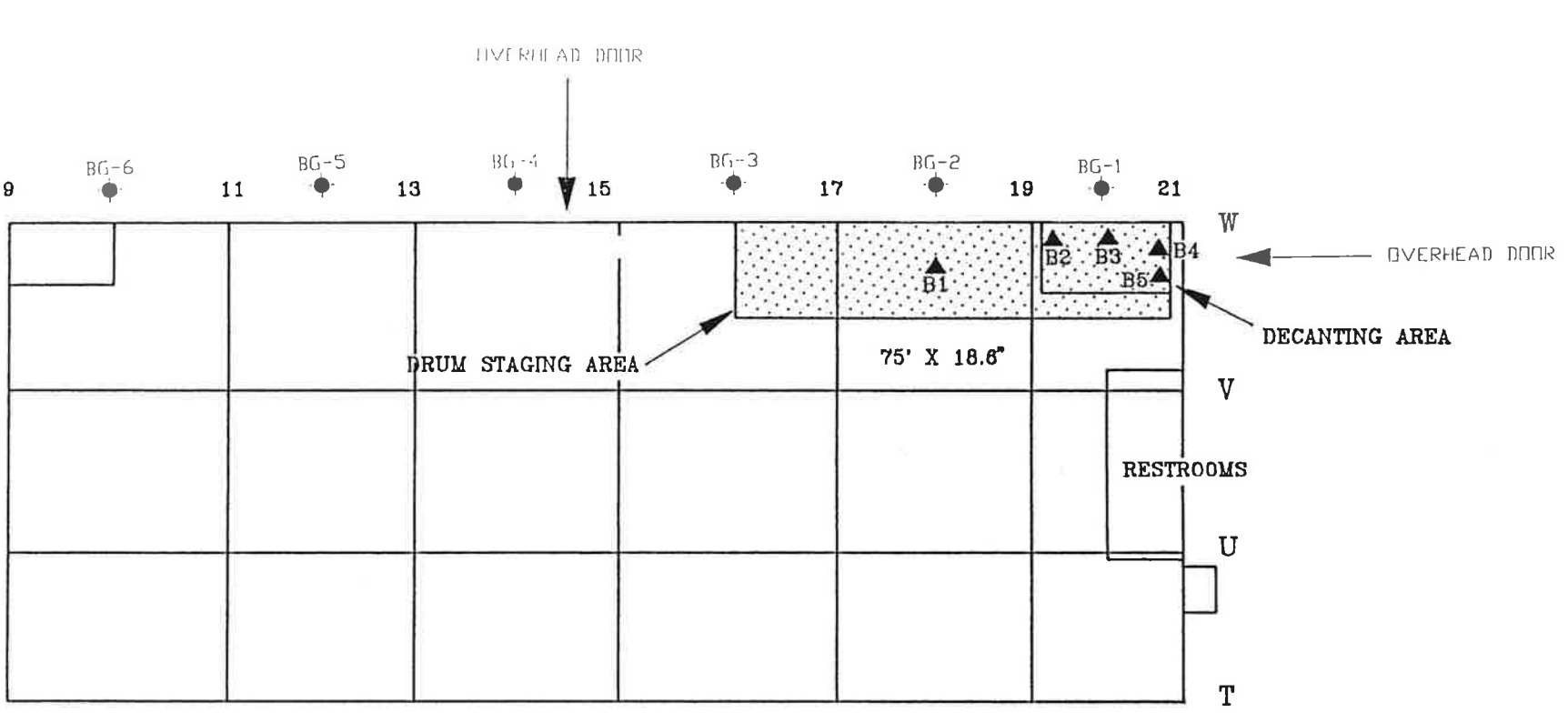
STORAGE AREAS

SCALE: NO SCALE

JULY 1997

FIGURE 1

79032-004 A3



BLDG. 24

▲ BORING LOCATIONS DIRECTED AT CRACKS (B-1, B-2, B-3) AND ALONG THE EAST EDGE OF THE METAL TRENCH (B-4, B-5)

BG-1 ● BACKGROUND BORING LOCATION (BG-1 THROUGH BG-6)

0 15 30
SCALE IN FEET

Taken from Earth Tech "Closure Plan for Hazardous Waste Drum Staging Areas" dated 26 July 1996.

HALEY & ALDRICH
UNDERGROUND ENGINEERING & ENVIRONMENTAL SOLUTIONS

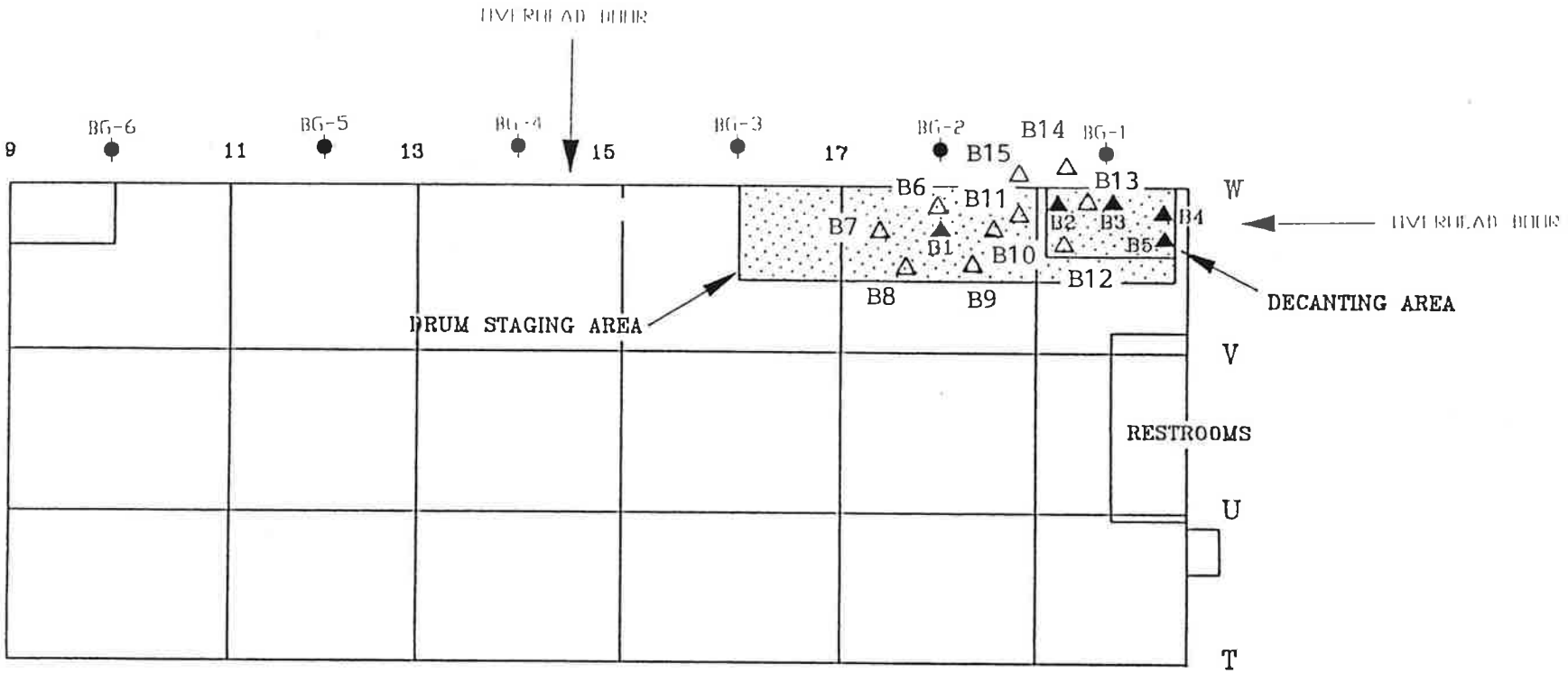
RCRA CLOSURE CERTIFICATION REPORT
HAZARDOUS WASTE DRUM STAGING AND STORAGE AREAS
DELPHI HARRISON THERMAL SYSTEMS
DAYTON, OHIO
EPA ID NO. OHD 017 958 604

BUILDING 24 DRUM STAGING AREA

SCALE: 1 IN. = 30 FT. DECEMBER 1997

FIGURE 2

79032-004 A3



BLDG. 24

△ Supplemental Boring

▲ BORING LOCATIONS DIRECTED AT CRACKS (B-1, B-2, B-3) AND ALONG THE EAST EDGE OF THE METAL TRENCH (B-4, B-5)

BG-1 ● BACKGROUND BORING LOCATION (BG-1 THROUGH BG-6)

0 15 30
SCALE IN FEET

Taken from Earth Tech "Closure Plan for Hazardous Waste Drum Staging Areas" dated 26 July 1996.

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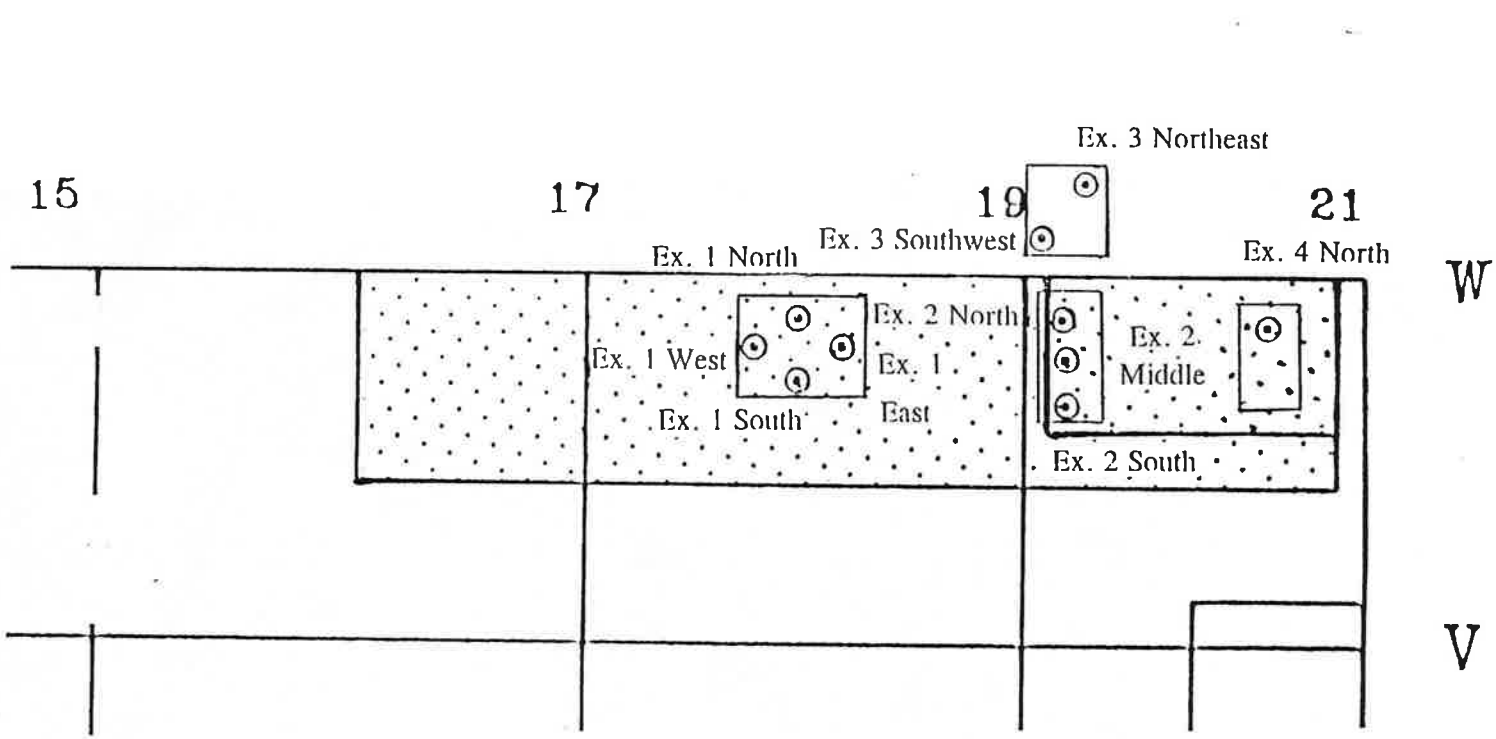
RCRA CLOSURE CERTIFICATION REPORT
HAZARDOUS WASTE DRUM STAGING AND STORAGE AREAS
DELPHI HARRISON THERMAL SYSTEMS
DAYTON, OHIO
EPA ID NO. OHD 017 958 604

SUPPLEMENTAL SOIL INVESTIGATION

SCALE: 1 IN. = 30 FT. DECEMBER 1997

FIGURE 3



⊙ Closure Excavation Soil Sample Location

Taken from Earth Tech "Closure Plan for Hazardous Waste Drum Staging Areas" dated 26 July 1996.

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UNDERGROUND ENGINEERING & ENVIRONMENTAL SOLUTIONS

RCRA CLOSURE CERTIFICATION REPORT
HAZARDOUS WASTE DRUM STORAGE AREAS
DELPHI HARRISON THERMAL SYSTEMS
DAYTON, OHIO
EPA ID NO. OHD 017 958 604

SOIL EXCAVATION LIMITS

SCALE: 1 IN. = 15 FT. DECEMBER 1997

FIGURE 4

OhioEPA

State of Ohio Environmental Protection Agency

STREET ADDRESS:
Lazarus Government Center
122 S. Front Street
Columbus, OH 43215-1099

TELE: (614) 644-3020 FAX: (614) 644-2329

MAILING ADDRESS:
P.O. Box 1049
Columbus, OH 43216-1049

January 24, 2002

Re: **Delphi Harrison Thermal Systems**
Completion of Full Closure
Three Hazardous Waste Storage Tanks
OHD 017 958 604

Ms. Jean Caufield
WFG Remediation
Mail Code: 483-619-356
1996 Technology Drive
Troy, Michigan 48083

Dear Ms. Caufield:

On November 30, 2000, the director of Ohio EPA approved the amended closure plan for the hazardous waste above ground fiberglass storage tank, concrete interceptor underground storage tank, and steel bottoms underground storage tank at the Delphi Harrison Thermal Systems (Delphi) facility located at 300 Taylor Street, Dayton, Ohio 45410. The closure plan approval is contained in the Director's Final Findings and Orders issued on the same date. On August 8, 2001, the director received final certification documents from Mr. William McFarland, of Delphi, and Mr. John V. Klingshim, P.E., of Haley & Aldrich, Inc., stating that the storage tanks have been closed according to the specifications in the approved amended closure plan. To verify Delphi's closure activities, Ms. Pamela Smith, Ohio EPA's Southwest District Office, inspected the facility on April 17, 2001. She also reviewed documents pertaining to the closure of the storage tanks.

Based on this inspection and review, Ohio EPA has determined that Delphi Harrison Thermal Systems has closed the hazardous waste storage tanks according to the approved amended closure plan and Rules 3745-66-11 through 3745-66-15 of the Ohio Administrative Code (OAC).

If Delphi continues to generate more than 1000 kg each month, Delphi will remain a large quantity generator of hazardous waste at this location.

Our records show that Delphi uses a financial test to demonstrate compliance with the state's hazardous waste financial assurance and liability coverage requirements. Because no other hazardous waste management units at this location require closure, the director will be notifying Delphi, according to OAC rules 3745-66-43(H) and 3745-66-47(E), that it is no longer subject to the financial assurance requirements for closure and liability coverage in a separate letter.

Bob Taft, Governor
Maureen O'Connor, Lieutenant Governor
Christopher Jones, Director

Printed on Recycled Paper

Although Delphi has satisfied its closure obligations under Ohio's hazardous waste laws, your company may still be required to investigate and possibly clean up contamination of hazardous waste or constituents from any waste management unit at the facility, despite the time at which the waste was placed in the unit. This obligation to investigate and possibly clean up contamination from past activities is also known as RCRA Corrective Action.

If you have any questions concerning the closure process or the status of the facility, please contact Pam Smith by phone at (937) 285-6357. Her mailing address is Ohio EPA, Southwest District Office, Attn: Pam Smith, 401 East Fifth Street, Dayton, Ohio 45402.

I have enclosed the most current notification information we have on record concerning your facility. Please review this information and update it as necessary using the enclosed EPA Notification of Regulated Waste Activity Form 8700-12. You can find instructions for completing the form at http://www.epa.state.oh.us/dhwm/notinstr-a.pdf. If you have any questions concerning the notification information, please call Tammy McConnell at (614) 644-2922.

Sincerely,

Pamela S. Allen

Pamela S. Allen, Manager
Information Technologies and Technical Support Section
Division of Hazardous Waste Management

Enclosures

cc: Jeremy Carroll, DHWM, CO
John Schierberl, DHWM, CO
Pam Smith, DHWM, SWDO
Tammy McConnell, DHWM, CO
Harriet Croke, USEPA, Region 5
file

G:\USER\PALLEN\DelphiHarrisonThermalClosure0.wpd

HALEY & ALDRICH

RCRA CLOSURE CERTIFICATION REPORT
HAZARDOUS WASTE TANK STORAGE SYSTEMS
DELPHI HARRISON THERMAL SYSTEMS
DAYTON, OHIO
EPA ID No. OHD 017 958 604

UNDERGROUND ENGINEERING & ENVIRONMENTAL SOLUTIONS

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I. INTRODUCTION

General Motors Corporation (GM) submitted a *RCRA Partial Closure Plan for Hazardous Waste Tank Storage Systems (Closure Plan)* dated March 2000 for the former Delphi Harrison Thermal Systems facility in Dayton, Ohio. The *Closure Plan* addressed three hazardous waste management units (HWMU) as described below:

- Above Ground Storage Tank (AST) and Sump outside Building 4
- Underground Storage Tank (UST) (Interceptor Tank) outside Building 4
- Still Bottoms UST in Building 24 Still Room Vault

The *Closure Plan* described the administrative chronology, the Delphi Harrison Thermal Systems facility, the tank storage HWMUs to be closed, closure procedures, decontamination procedures, sampling and analysis methods for decontamination rinse water, and waste disposal. The *Closure Plan* also included closure performance standards for decontamination rinse water. The *Closure Plan* was approved on 30 November 2000, without modification, as a *"Final Action of the Director"*, by the Ohio Environmental Protection Agency Director's *Final Findings and Orders*.

Closure of the tank storage HWMU was implemented during the period from January through April 2001. Site meetings were held weekly during critical closure activities. Meeting attendants included representatives from the HWMU owner and operator, Remediation and Liability Management Company, Inc. (REALM), a wholly owned subsidiary of General Motors Corporation, structural engineer and certifying engineer (Haley & Aldrich, Inc.), closure construction contractor (Inland Waters Pollution Control, Inc.), State RCRA regulator (Ohio EPA – Division of Hazardous Waste Management), State UST regulator (Ohio State Fire Marshal – Bureau of Underground Storage Tank Regulations), and the current property owner (Peerless Transportation Company).

Three other HWMUs at the facility have been closed and certified. Closure certification reports for two container storage areas had been submitted to Ohio EPA in July 1997 and approved on 30 October 1997. The closure certification report for a drum staging area had been submitted to Ohio EPA in September 1998 and approved on 29 December 1998.

Completion of partial closure for the tank storage units, as described in this *Closure Certification Report,* will constitute final closure of all HWMU at the facility.

Note that the Building 24 Still Room vault that contained the RCRA still bottoms UST also contained four USTs that had been used for solvent recovery operations. Used solvent was collected in two 10,000-gallon capacity USTs and distilled in Still Room equipment that was located above grade. Distilled (clean) solvent was stored in two 3,000-gallon capacity USTs. GM, Ohio Attorney General and Ohio EPA agreed *"that all components of the solvent distillation process, with the exception of the 'still bottoms storage tank', fall within the exclusion of OAC 3745-51-04(7)(a)"*. (Ohio Attorney General correspondence dated 9 September 1998). Therefore, the four RCRA-exempt USTs were registered with Ohio State Fire Marshal's Bureau of Underground Storage Tank Regulations (BUSTR) and closed in accordance with BUSTR regulations. The BUSTR-regulated USTs and above ground distillation equipment were closed concurrently with the RCRA still bottoms UST closure.

II. DESCRIPTION OF CLOSURE ACTIVITIES

Closure of tank storage HWMU was performed in accordance with the approved *Closure Plan*. Closure activities were performed during January through April 2001. The owner and operator was represented by REALM, a wholly owned subsidiary of GM. The independent, Ohio-licensed, certifying Professional Engineer (certifying engineer) or designated representative observed and documented all closure activities, collected samples for laboratory analysis and performed closure inspections. The engineers are employed by Haley & Aldrich, Inc. (Cleveland, OH). The closure construction contractor, Inland Waters Pollution Control, Inc. (Detroit, MI) performed demolition, excavation, decontamination and backfilling. Inland Waters subcontracted the structural shoring and bracing (Michael Fabricating, Inc. of Detroit, MI) and the concrete replacement (R & B Contracting of Dayton, OH). Hazmat Environmental Group, Inc. (Buffalo, NY) managed waste handling and disposal for REALM. TestAmerica, Inc. (Dayton, OH) performed laboratory chemical analyses.

Closure procedures for each HWMU are detailed in Section 2.1 for the units outside Building 4 and in Section 2.2 for the unit in the Building 24 Still Room. Common activities and equipment at each HWMU included the following:

- Vacuum accumulated water from HWMU into a portable Frac tank.
- Sweep and scrape the surfaces of HWMU.
- Collect solids and personal protective equipment (PPE) in drums.
- Collect a sample of the wash water before it was used to wash and rinse the HWMU.
- Wash the surfaces with heavy duty alkaline cleaner (ZEP Manufacturing Company's ZEP Formula 50 Cleaner (product information and material safety data sheet are included in Appendix A) and a stiff-bristle broom.
- Pressure wash the surfaces with a high pressure steam cleaner and alkaline cleaner additive.
- Vacuum wash water into the Frac tank.
- Rinse the surfaces a minimum of three times with a high pressure steam cleaner.
- Vacuum rinse water into the Frac tank between each successive rinse.
- Collect a sample of the final rinse water off of the decontaminated surfaces.
- Inspect concrete containment structures to evaluate their containment integrity.
- Characterize and dispose of accumulated water, wash water, rinse water, solids and PPE.

2.1 Closure of Units Outside Building 4

Two RCRA tank storage units were located beneath a canopy north of Building 4 as shown on Figure 1. A sketch of the area is shown on Figure 2. Design drawings of the units were included in the *Closure Plan*. The two HWMU are described below:

- RCRA AST and Sump: The 2,000-gallon capacity, fiberglass tank measures seven feet in diameter and seven feet high; was mounted on a concrete foundation pad; constructed around 1976 or 1978; stored still bottoms prior to 1983 from distillation of chlorinated solvents and Stoddard solvent; stored non-hazardous used oil. The associated sump had a 200-gallon capacity and was constructed of a concrete pipe sealed in a concrete base with a steel grate cover; measured two and one-half feet in diameter and five feet deep; was installed inside a concrete pad

that slopes toward the sump with concrete curbs on two low sides. The sump was used to collect and transfer used oils from drums into the adjacent AST.

- RCRA Interceptor Tank: The 10,000-gallon capacity, steel-reinforced concrete tank was cast in place; measures eight feet wide, 20 feet long and eight feet deep; collected liquids lost in transfer from the RCRA AST; also provided secondary containment for the adjacent petroleum motor fuels unloading area.

2.1.1 Decontaminate Tanks and Equipment

There was no hazardous waste or drums stored in this area at the time of closure.

Sediment and leaves were shoveled from the floor trenches and sump into three drums. The interior surface of the fiberglass AST was decontaminated; decontamination water was vacuumed from the AST into the Frac tank. The exterior surface of the AST was decontaminated on the concrete pad. The concrete pad and floor trenches were decontaminated; decontamination water was washed into the sump and Interceptor Tank. The concrete sump was decontaminated and water was vacuumed into the Frac tank. The Interceptor Tank was entered and decontaminated; decontamination water was vacuumed into the Frac tank.

Decontamination activities were observed by the certifying engineer's designated representative. The designated representative collected samples of influent water before it was used for decontamination. He also collected samples of the final rinse from the AST (samples from interior and exterior), sump and Interceptor Tank. Sample analytical results and the certifying engineer's inspection are presented in Section 3. Photographic documentation of the closure activities is included in Appendix B.

2.1.2 Wash Water, Rinse Water and Solids Storage

Decontamination wash water and rinse water were vacuumed from the HWMU. Water was stored on site temporarily in a portable Frac tank pending waste characterization and disposal.

Solid sediments and leaves shoveled from the sump and trenches were stored in drums.

Waste characterization and disposal are discussed in Section 4.

2.1.3 AST Removal

The decontaminated fiberglass shell of the AST was saw-cut into pieces and placed in a roll-off box (dumpster). The solid waste was disposed off site. Documentation of disposal is presented in Section 4.

2.1.4 Sump and Interceptor UST Filling

After the certifying engineer's inspection, the decontaminated sump, Interceptor Tank and floor trenches that drained into them were filled with lean concrete. The concrete mix, also known as "flowable fill" or LSM-50, is a low strength, inert material that

is ready mixed and easily placed. After the lean concrete cured, the sump, Interceptor and trenches were capped and finished at the surface with normal strength (3,000 psi) ready mix concrete. Photographic documentation of these closure activities is included in Appendix B.

2.2 Closure of Building 24 Still Room Unit

One RCRA tank storage unit was located inside a concrete secondary containment vault beneath the floor of the Still Room in Building 24. A sketch of the area is shown on Figure 3. The tank storage unit is described below:

- RCRA Still Bottoms UST: The 3,000-gallon capacity steel tank measured six feet in diameter and 15 feet long; was mounted on steel-reinforced concrete saddles; tied down to the foundation mat with steel straps; constructed around 1966 or 1967; and stored distillation still bottoms from recovery of chlorinated and Stoddard solvents. Associated piping was above ground. The still bottoms UST was tightness tested on 3 December 1987 before the tank and solvent recovery system were taken out of service. The Petro-Tite precision test yielded a result certifiable under the National Fire Protection Association (NFPA) 329 Rule with a measured leak rate of –0.016 gallon per hour. A copy of the tank testing report is included as Appendix C. (The RCRA Still Bottoms UST is referred to as the "scrap tank" at the "Dayton Plant" in the tank testing report).

The still bottoms UST was contained within a concrete secondary containment vault. The steel-reinforced concrete vault measures 40 feet by 34 feet in plan and is 12 feet deep. The vault walls are one-foot thick and the vault floor is two-feet thick. The vault floor also serves as the mat foundation for the building and its structural columns. The building foundation is continuous with the foundation for a retaining wall to the west along Webster Street. A window well separates the retaining wall from the vault's west wall. Design drawings for the Still Room vault were included in the approved *Closure Plan*.

Five steel tanks (the RCRA still bottoms unit and four BUSTR-regulated tanks) were placed inside the vault, tied down and surrounded with bank-run sand and gravel. The finished floor of the Still Room was six to eight inches thick, steel reinforced, and formed the top of the vault over the USTs. Solvent distillation equipment was placed on the Still Room floor. Floor trenches drained the Still Room to the process sewer and on-site wastewater treatment system formerly operated by the Delphi facility.

2.2.1 Decontamination of Tanks, Equipment and Vault

There was no hazardous waste or drums stored in this area at the time of closure. The RCRA UST and above ground distillation equipment had been emptied and cleaned by GM in 1987 when the solvent recovery system was taken out of service.

The above ground distillation equipment, sample tanks and piping were decontaminated and removed from the Still Room. Fluorescent light fixtures (explosion-proof type) and ventilation ducts were also removed.

The concrete floor (six to eight inches thick, steel wire reinforced) was saw cut along the edges and demolished with a hydraulic breaker. The concrete rubble was

characterized as hazardous waste and loaded into lined, covered trailers for off-site landfilling.

The RCRA UST had accumulated approximately 1,500 gallons of water (i.e. half of the tank's 3,000-gallon capacity) between 1987 when the tank was cleaned and 2001 when closure began. Soil inside the secondary containment vault around the UST was saturated from a depth of approximately six feet to the vault mat at a depth of 12 feet. Water was vacuumed from the tank and stored temporarily on site in a portable Frac tank. Water re-accumulated in the UST; approximately 1,500 gallons collected in the tank during the following days.

Structural steel shoring and bracing were installed to compensate for removal of the floor slab. Steel wales (H14-size members) were mounted at the top of the vault wall around the perimeter. Cross braces (W8-size members) were welded across the vault at the column lines. Structural supports are shown in the photographs in Appendix B.

The RCRA still bottoms UST was mounted on concrete saddles approximately five feet above the mat floor of the vault. The vault was 12 feet deep to accommodate the larger diameter BUSTR-regulated tanks (10,000-gallon capacity) alongside the RCRA tank (3,000-gallon capacity).

The RCRA UST was completely exposed when soil removal from the vault was half-complete. At that time, the 1,500 gallons of water that had re-accumulated in the tank were vacuumed out. The interior and exterior surfaces of the steel tank were decontaminated at its location inside the concrete vault. Decontamination water was vacuumed into the Frac tank. The four BUSTR tanks were also decontaminated since they were located alongside the RCRA tank in a common vault. The decontaminated RCRA and BUSTR tanks were removed from the Still Room.

The concrete saddles, column pedestals, walls and floor inside the vault were decontaminated. Decontamination water was vacuumed to the Frac tank.

The certifying engineer's designated representative observed decontamination activities. The designated representative collected samples of influent wash water before it was used for decontamination. Samples of the final rinse from five USTs (including the RCRA still bottoms tank) and the concrete vault were collected. Sample analytical results are presented in Section 3. The certifying engineer's inspection of the UST and concrete containment vault is presented in Section 3. Photographic documentation of the closure activities is included in Appendix B.

2.2.2 Soil Removal

The bank run sand and gravel soil was excavated and removed from inside the vault. This material had previously been characterized as hazardous waste since it contained listed wastes and was loaded directly into lined, covered trailers for off-site disposal. Lime was mixed with wet soil found in the bottom half of the vault to improve handling.

2.2.3 Wash Water, Rinse Water and Solids Storage

Water that had accumulated inside the UST, decontamination wash water and rinse water were vacuumed from the tank and vault. Water was stored temporarily on site in a portable Frac tank.

Concrete rubble from the Still Room floor demolition, solids scraped from the UST exterior and all soil inside the concrete vault were loaded directly into trailers (lined and covered) for off-site disposal.

Hazardous waste characterization and disposal are discussed in Section 4.

2.2.4 UST Removal

The RCRA still bottoms tank exhibited three pin-size holes in the bottom and end of the steel shell. Since the tank was certifiable for leak detection when it was taken out of service in 1987, it is concluded that corrosion pin holes occurred after the tank had been emptied and cleaned. The tank sat in the vault from 1987 to 2001 and soil in the vault was saturated to half its depth.

The decontaminated steel shells of the RCRA UST and four BUSTR USTs, and the steel solvent distillation equipment were dismantled. Holes were cut in the ends or sides of the tank shells. The steel was recycled off site as scrap. Documentation of scrap steel disposal is presented in Section 4.

2.2.5 Backfill Vault and Replace Concrete Floor

After the certifying engineer's inspection, the decontaminated vault beneath the Still Room was backfilled with crushed rock (Type 304 limestone). Backfill was placed in one-foot loose lifts and compacted to 95% (by Modified Proctor). An independent soil engineer performed field density testing as documented in Appendix D.

The concrete floor of the Still Room was replaced over the backfilled vault. The six to eight-inch thick floor was reinforced with steel welded wire. A floor trench that traversed the Still Room was also filled with concrete.

III. CLOSURE SAMPLING, ANALYSIS, INSPECTION AND EVALUATION

The certifying engineer's designated representative collected samples in accordance with the approved *Closure Plan*. All samples were collected, preserved, stored and delivered by hand to the analytical laboratory under chain-of-custody documentation. The laboratory provided sample containers.

Samples of tank contents were collected for waste disposal characterization as described in Section 4.

Analytical results for decontamination water samples were compared to the rinse water performance standards tabulated in the approved *Closure Plan*.

The certifying engineer visually inspected the secondary containment structures (i.e. the concrete Interceptor Tank outside Building 4 and concrete vault beneath the Building 24 Still Room). The engineer evaluated the integrity of secondary containment as an indication whether underlying soils may have been impacted by RCRA HWMU operations.

3.1 Units Outside Building 4

3.1.1 Rinse Water Comparison to Performance Standards

Sample analytical results are summarized on Table 1 for the HWMU outside Building 4. The complete laboratory analytical reports and chain-of-custody documentation are included in Appendix E.

The engineer's representative collected a sample at the source of potable water that was used for decontamination. The sample was collected at the tap directly into the containers supplied by the laboratory. This initial rinse water sample was designated IRW-1.

After decontamination of each HWMU outside Building 4, the designated representative collected a sample of the final rinse water (i.e. minimum third rinse). Samples were collected on the decontaminated surface with a squeegee and metal dustpan. Samples were placed in the containers supplied by the laboratory. Final rinse water sample from the RCRA Interceptor Tank was designated RI-FR-1. Final rinse water sample from the RCRA sump was designated RSUMP-FR-1. Final rinse water sample from the RCRA AST interior was designated RAST-FR-1 and sample from the exterior was designated ORAST-FR-1.

Laboratory analytical results document that the final rinse water from each HWMU meets the closure performance standards tabulated in the approved *Closure Plan*.

3.1.2 Inspection of Interceptor Tank

The certifying engineer had initially inspected the RCRA Interceptor Tank on 15 April 1998 during preparation of the C*losure Plan*. The initial inspection was conducted after discussions between GM and Ohio EPA, and was intended to remove a contingency (for soil sampling outside the UST) from the *Closure Plan*. The certifying engineer's 1998 report to GM found:

"Based on visual inspection from manned entry of the Interceptor UST, there are no visible cracks in the concrete walls or base. The concrete Interceptor UST was cast-in-place as indicated on design drawings. The concrete interior surfaces are scaled slightly on some surfaces. The UST appears to contain its accumulated liquids."

The certifying engineer concluded in 1998: *"The RCRA Partial Closure Plan omits the requirements for soil sampling outside the Interceptor UST since there was no evidence of cracks in the concrete tank."*

The certifying engineer inspected the Interceptor Tank again after closure decontamination on 15 February 2001. The condition of the Interceptor had not changed. There were no visible cracks in the tank walls or floor. Formwork joints were visible after cleaning on the walls, floor and ceiling. There were four pipe inlets near the top of the tank. Surface scaling of the bottom eight inches of the concrete walls was evident around the perimeter. Scaling did not penetrate more than one inch of the eight-inch thick, steel-reinforced walls.

3.2 Building 24 Still Room

3.2.1 Soil In Vault

The engineer's representative collected a sample of soil in the Still Room vault. The bank run sand and gravel surrounded the steel tanks inside the concrete secondary containment vault. The sample was collected to characterize soil for disposal (see Section 4); however, the results offer insights to the vault environment in which the RCRA and BUSTR tanks were contained. The vault soil sample was collected by hand auger from the surface immediately beneath the Still Room floor to a depth of nine feet. The auger did not penetrate the full 12 feet depth of the vault. Water was encountered at a depth of five or six feet below the surface (i.e. six or seven feet above the vault floor).

The complete laboratory analytical report for the soil sample (designated HWD-1) is included in Appendix F. As a summary, the soil sample in the vault exhibited the following constituents at concentrations above 0.1 mg/Kg:

Trichloroethylene (used prior to 1973)	0.142 mg/Kg
Perchloroethylene (used 1973 to 1982)	2.200 mg/Kg
1,1,1-Trichloroethane (used 1982 to 1987)	1.260 mg/Kg
cis 1,2-Dichloroethylene	1.760 mg/Kg
1,1,1-Dichloroethane	0.127 mg/Kg

Petro-Tite tank testing in 1987 (when the solvent recovery system and tanks were taken out of service) indicated that the RCRA still bottoms test was certifiable as a "tight" tank. One of the BUSTR tanks within the vault was non-certifiable and one was inconclusive. Based on tank tightness testing, the chlorinated solvents and degradation compounds detected in soil within the Still Room vault originated from BUSTR-regulated tanks and not from the RCRA still bottoms tank storage HWMU.

3.2.2 Rinse Water Comparison to Performance Standards

Sample analytical results are summarized on Table 2 for the HWMU in the Building 24 Still Room. Table 2 also includes decontamination results for the other distillation equipment and BUSTR-regulated USTs that are not RCRA-regulated but were contained within the common vault. The complete laboratory analytical reports are included in Appendix E.

The engineer's representative collected a sample at the source of the potable water that was used for decontamination wash water and rinse water. The sample was collected at the tap directly into the containers supplied by the laboratory. This initial rinse water sample was designated B24-Vault-IRW-1.

After decontamination of the RCRA still bottoms tank, the four BUSTR tanks and the concrete vault, the designated representative collected a sample of the final rinse water (i.e. minimum third rinse). A sample was also collected from the "sample tanks" that were part of the RCRA-exempt solvent distillation system. Samples were collected on the decontaminated surface with a squeegee and metal dustpan. Samples were placed into the containers supplied by the laboratory. An equipment rinse water sample was collected from the sampling devices.

Sample from the RCRA still bottoms UST final rinse water was designated SB-FR-1. Sample from the concrete vault final rinse water was designated B24-Vault-FR-3; note that the concrete vault was re-washed/rinsed twice after the initial wash and triple rinse, hence the suffix "FR-3" for final rinse number three.

Laboratory analytical results document that the final rinse water from the HWMU and from the RCRA-exempt tanks meet the closure performance standards tabulated in the approved *Closure Plan*.

3.2.3 Inspection of Vault

The RCRA HWMU, the still bottoms tank, was certifiable when it was taken out of service in 1987. National Fire Protection Association (NFPA) criteria for a certifiable tank system was a leak detection rate (a tolerance for precision of the test) less than 0.050 gallons per hour (plus or minus). The still bottoms tank tested at -0.016 gallons per hour. Based on tightness testing results, the RCRA tank storage unit did not leak when it was taken out of service in 1987. Therefore, there is no impact from operations of the RCRA unit to soils underlying the RCRA tank. Although the RCRA tank did not leak during its operation, two of the BUSTR tanks leaked. Soil within the vault exhibited chlorinated compounds at concentrations of one to two mg/Kg. Soil within the vault was contaminated by the BUSTR operations. Since there was contaminated soil within the vault that contained RCRA and BUSTR units, the certifying engineer inspected the vault as described in the *Closure Plan*.

The certifying engineer inspected the concrete vault beneath the Still room on 17 April 2001. The vault had been emptied of tanks and soil, and had been washed and rinsed. The final decontamination wash and triple rinse had not been completed.

The concrete walls and floor of the vault exhibited no deterioration, cracks or openings except for three pipe sleeves through the walls and one corner where cavities and a drip were observed. The pipe sleeves and corner are described below:

- Three pipe sleeves (six-inch diameter) pass through the walls approximately three to five feet below the top of the vault wall. One sleeve is on the west wall near the southwest corner of the vault. Two sleeves are on the east wall, one in the center of the wall and one near the southeast corner. The pipe that passed through two of the sleeves carried stormwater from the window well that is located west of the vault. The pipe that passed only through the east wall carried process wastewater from floor drains beneath the Still Room floor. Rust staining on the walls two to three feet beneath the pipe sleeves indicates that water leaked into the vault, presumably through the annular space between the pipe and sleeve. The three pipe sleeves are at elevations several feet above the water levels that have been observed (during 1987 and 2001) in the vault.

- Concrete in one corner alongside a perimeter column (column A4 near the southwest corner of the vault) exhibited honeycomb cavities approximately one inch deep. It appears that the concrete in this tight corner was not completely vibrated during the construction pour. Drips of water were observed leaking into the vault approximately three feet above the vault floor (or nine feet below the top of the vault wall). The drips occurred at a rate of about one drip per second. The water was clear, smelled stale and rusty, and had no solvent odor. Water leaking into the vault is apparently surface water beneath the window well that is trapped between the Webster Street retaining wall and the west wall of the vault. The west vault wall is also the outside wall of Building 24. The concrete retaining wall and its three and one-half feet thick mat foundation are continuous with the two-feet thick mat foundation of Building 24. The building's mat foundation also forms the floor of the Still Room vault. The groundwater table measured during the past 13 years is near the elevation of the top of the foundation which is the same elevation as the floor of the Still Room vault.

The walls and floor of the vault had been thoroughly washed such that the outline of concrete construction formwork was clearly visible. Steel wire form ties were also visible on a two feet square grid. The concrete walls were generally smooth on the upper half. The bank run sand and gravel within the vault left rounded concretions on the walls mostly in the lower half of the walls and in the corners. The walls were dry except for the drips in the southwest corner. The floor was dry except for dampness on 10% to 20% of the floor area where rinse water had accumulated. There were no visible joints or cracks at the interface of the wall and floor. There were no penetrations through the floor.

IV. WASTE DISPOSAL

4.1 Tank Contents

Water had accumulated in some of the RCRA tank storage units after 1987 when the tanks were emptied and cleaned. Water inside the Still Room vault had also collected in two of the BUSTR tanks. Water samples were collected for waste characterization. Water from RCRA units was vacuumed and stored temporarily on site in a 21,000-gallon capacity portable Frac tank. Decontamination wash water and rinse water (Section 4.3) were also stored in the Frac tank. Water was transferred from the Frac tank in 5,000-gallon tanker truckloads and disposed off site as RCRA-hazardous waste at Dynecol, Inc. (Detroit, MI). Waste disposal manifests are included in Appendix F.

4.2 Concrete Rubble and Soil From Still Room Vault

The concrete Still Room floor that formed the top of the vault in Building 24 was demolished to access the tanks in the vault. Since the concrete rubble was not easily separated from underlying soil, the rubble was characterized for disposal as RCRA-hazardous waste. Rubble was placed into lined, covered trailers. Five truckloads (52 tons) of concrete rubble were landfilled at EnviroSafe Services of Ohio (Oregon, OH). Waste disposal manifests are included in Appendix F.

Soil that surrounded the USTs inside the Still Room vault was characterized for disposal as RCRA-hazardous waste. Soil was excavated and placed directly into lined, covered trailers. Thirty truckloads (763 tons) of soil were landfilled at EnviroSafe Services of Ohio (Oregon, OH). Waste disposal manifests are included in Appendix F.

4.3 Wash Water and Rinse Water

Wash water and rinse water were generated from decontamination of the RCRA HWMUs, and from the BUSTR tanks and Still Room vault. Decontamination water was vacuumed, stored temporarily on site in the Frac tank along with water that had accumulated in the tanks (Section 4.1), and characterized for disposal. Water was transferred from the Frac tank in 5,000-gallon tanker truckloads and disposed off site as RCRA-hazardous waste at Dynecol, Inc. (Detroit, MI). Waste disposal manifests are included in Appendix F.

4.4 Scrap Steel and Fiberglass Tank Shells

Scrap steel from the Building 24 Still Room was decontaminated, dismantled on site and disposed off site. Scrap steel included the decontaminated RCRA still bottoms tank shell and piping, the decontaminated BUSTR tank shells, and decontaminated solvent distillation equipment. Steel tank shells were destroyed by cutting with a torch and abrasive-blade saw. Scrap steel was disposed by recycling at Franklin Iron & Metal (Dayton, OH)

The decontaminated fiberglass shell of the RCRA AST outside Building 4 was saw-cut into sections and placed into a roll-off box (dumpster). The fiberglass pieces were disposed as solid waste at Waste Management, Inc. - Stony Hollow Landfill (Dayton, OH).

Decontamination rinse water results for these tank shells were presented in Section 3 (Table 1 and Table 2). Disposal receipts for scrap steel and fiberglass are included in Appendix F.

4.5 Personal Protective Equipment

Disposable personal protective equipment (PPE) such as coveralls, pullover boots, gloves and respirator cartridges were contained in drums. Three drums of PPE will be characterized and disposed off site.

Waste and disposal manifests will be submitted to Ohio EPA as an addendum to this report.

V. CERTIFICATION OF CLOSURE

I certify under penalty of law that three RCRA-hazardous waste tank storage units:

- Aboveground Storage Tank (AST) and associated sump outside Building 4;
- Interceptor Underground Storage Tank (UST) outside Building 4; and
- Still Bottoms UST in Building 24 Still Room vault;

at the former Delphi Harrison Thermal Systems facility in Dayton, Ohio have been closed in accordance with the *RCRA Partial Closure Plan for Hazardous Waste Tank Storage Systems* that was approved by the Director of the Ohio Environmental Protection Agency.

I certify under penalty of law, that this document and all attachments were prepared under my direction or supervision, in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Facility Name: Delphi Harrison Thermal Systems

EPA ID No.: OHD 017 958 604

Signature of Owner/Operator: William J. McFarland 6-25-01 (date)

Name: WILLIAM J. McFARLAND

Title: DIRECTOR, REMEDIATION

Signature of Independent Ohio-Registered Professional Engineer:

Date: 06/21/2001

Name: John V. Klingshirn

Affiliation: Haley & Aldrich, Inc.

Ohio License No.: E-51378

STATE OF OHIO
JOHN V. KLINGSHIRN
E-51378
REGISTERED PROFESSIONAL ENGINEER

TABLE 1
Decontamination Rinse Water Analytical Results - Bldg. 4 Tank Storage Units
RCRA Closure Certification Report
Delphi Harrison Thermal Systems
Dayton, Ohio
EPA ID No. OHD 017 958 604

Analyte	Rinse Water Performance Standard	Initial Rinse Water (IRW-1)	Final Rinse RCRA AST Exterior (ORAST-FR-1)	Final Rinse RCRA AST Interior (RAST-FR-1)	Final Rinse RCRA Interceptor Tank (RI-FR-1)	Final Rinse RCRA Sump (R-SUMP-FR-2)
		2/13/2001	2/14/2001	2/14/2001	2/14/2001	2/16/2001
Hazardous Constituent						
Trichloroethene	0.075	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Tetrachloroethene	0.075	<0.0010	<0.0010	<0.0010	0.0012	0.0186
1,1,1-Trichloroethane	1.000	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Degradation Product						
1,1-Dichloroethene	0.105	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
cis-1,2-Dichloroethene	1.000	0.0020	<0.0010	<0.0010	<0.0010	<0.0010
trans-1,2-Dichloroethene	1.000	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
1,1-Dichloroethane	1.000	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
1,2-Dichloroethane	0.075	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Vinyl Chloride	0.030	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Chloroethane	1.000	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050

All results in milligrams per liter (mg/L).

Table 2
Decontamination Rinse Water Analytical Results - Bldg. 24 Tank Storage Units
RCRA Closure Certification Report
Delphi Harrison Thermal Systems
Dayton, Ohio
EPA ID No. OHD 017 958 604

Analyte	Rinse Water Performance Standard	Final Rinse RCRA Still Bottoms UST in Still Room Vault (SB-FR-1)	Final Rinse Sample Collected from RCRA Vault Decontamination (B24-Vault-FR-3)	Initial Rinse Prior to Vault Decontamination (B24-Vault-IRW-1)	Equipment Rinse for Collection of Vault Rinse Water (B24-Vault-ER-1)
		3/27/2001	4/24/2001	4/16/2001	4/18/2001
Hazardous Constituent					
Trichloroethene	0.075	0.068	0.029	0.0354	< 0.0010
Tetrachloroethene	0.075	0.0177	< 0.0020	0.0043	< 0.0010
1,1,1-Trichloroethane	1.000	0.109	< 0.0020	0.0050	< 0.0010
Degradation Product					
1,1-Dichloroethene	0.105	0.0014	< 0.0020	< 0.0010	< 0.0010
cis-1,2-Dichloroethene	1.000	0.212	< 0.0020	0.0062	< 0.0010
trans-1,2-Dichloroethene	1.000	0.0015	< 0.0020	< 0.0010	< 0.0010
1,1-Dichloroethane	1.000	0.0109	< 0.0020	< 0.0010	< 0.0010
1,2-Dichloroethane	0.075	< 0.0010	< 0.0020	< 0.0010	< 0.0010
Vinyl Chloride	0.030	< 0.0010	< 0.0020	< 0.0010	< 0.0010
Chloroethane	1.000	< 0.0050	< 0.100	< 0.0050	< 0.0050

All results in milligrams per liter (mg/L).

Table 2
Decontamination Rinse Water Analytical Results - Bldg. 24 Tank Storage Units
RCRA Closure Certification Report
Delphi Harrison Thermal Systems
Dayton, Ohio
EPA ID No. OHD 017 958 604

Analyte	Rinse Water Performance Standard	Final Rinse Dirty Trichlor UST in Still Room Vault (DT-FR-1)	Final Rinse Clean Stoddard UST in Still Room Vault (CS-FR-1)	Final Rinse Clean Trichlor UST in Still Room Vault (CT-FR-1)	Final Rinse Dirty Stoddard UST in Still Room Vault (DS-FR-1)	Final Rinse Distillation Sample Tanks in Still Room (ST-FR-1)	Initial Rinse Water (IRW-1)
		3/29/2001	2/13/2001	2/13/2001	2/13/2001	2/13/2001	2/13/2001
Hazardous Constituent							
Trichloroethene	0.075	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Tetrachloroethene	0.075	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
1,1,1-Trichloroethane	1.000	< 0.0010	< 0.0010	0.0016	0.0010	0.0198	< 0.0010
Degradation Product							
1,1-Dichloroethene	0.105	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
cis-1,2-Dichloroethene	1.000	< 0.0010	0.0071	0.0300	0.0089	< 0.0010	0.0020
trans-1,2-Dichloroethene	1.000	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
1,1-Dichloroethane	1.000	< 0.0010	< 0.0010	0.0014	< 0.0010	< 0.0010	< 0.0010
1,2-Dichloroethane	0.075	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Vinyl Chloride	0.030	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
Chloroethane	1.000	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050

All results in milligrams per liter (mg/L).

BUILDING 24 STILL ROOM AREA

RCRA UNITS OUTSIDE BUILDING 4

N

PARKING LOT

FOUNDRY STREET

PARKING LOT

WEBSTER STREET

BLDG. 24

BLDG. 22

BLDG. 12

BLDG. 15

BLDG. 1

BLDG. 4

BLDG. 3

BLDG. 2

BLDG. 7

BLDG. 9

BLDG. 10

BLDG. 5

KEOWEE STREET

AMELIA STREET

BLDG. 1A

PARKING LOT

PARKING LOT

PARKING LOT

PARKING LOT

PITT STREET

PITTS STREET

WASTE TREATMENT FACILITY

PARKING LOT

TAYLOR STREET

PARKING LOT

MEIGS STREET

PARKING LOT

PARKING LOT

EAST MONUMENT AVENUE

PARKING LOT

NOTES:
1) BASE SITE PLAN OBTAINED FROM GENERAL MOTORS
2) TANK LOCATIONS ARE APPROXIMATE
3) SEE TEXT FOR ADDITIONAL INFORMATION.

HEALEY & WEIRICH

GENERAL MOTORS CORP.
DELPHI HARRISON THERMAL SYSTEMS
DAYTON, OHIO
CLOSURE CERTIFICATION
REALM

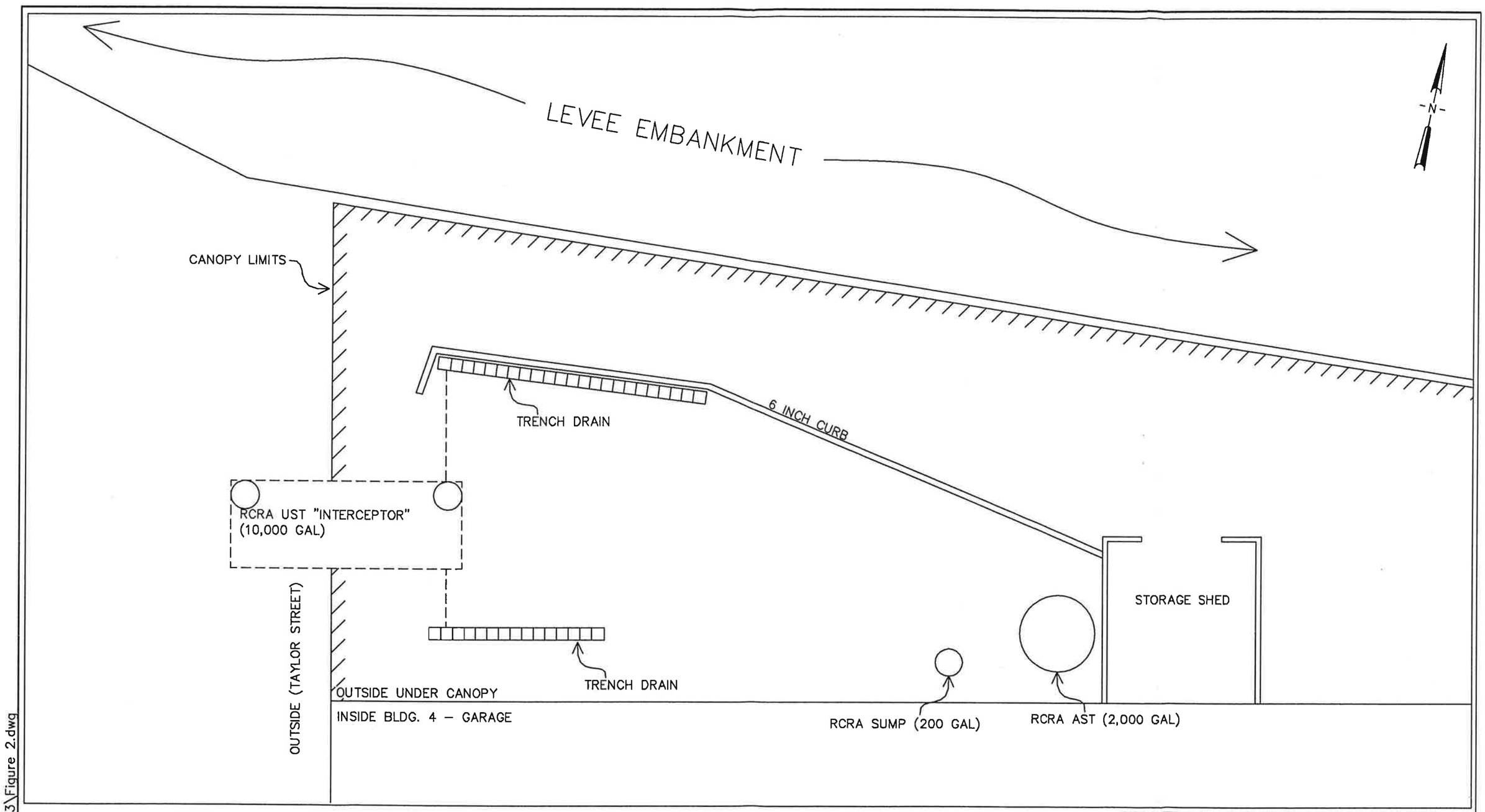
SITE PLAN

SCALE: 1 INCH = 150 FEET

MAY 2001

FILE NO:G:\79032\013\Siteplan.dwg

FIGURE 1



NOTES:
1) BASE SITE PLAN OBTAINED FROM GENERAL MOTORS
2) TANK LOCATIONS ARE APPROXIMATE
3) SEE TEXT FOR ADDITIONAL INFORMATION.
4) SEE FIGURE 6 AND FIGURE 7 IN RCRA CLOSURE PLAN FOR DESIGN DETAILS OF INTERCEPROR AND SUMP.

GENERAL MOTORS CORP.
DELPHI HARRISON THERMAL SYSTEMS
DAYTON, OHIO
CLOSURE CERTIFICATION
REALM

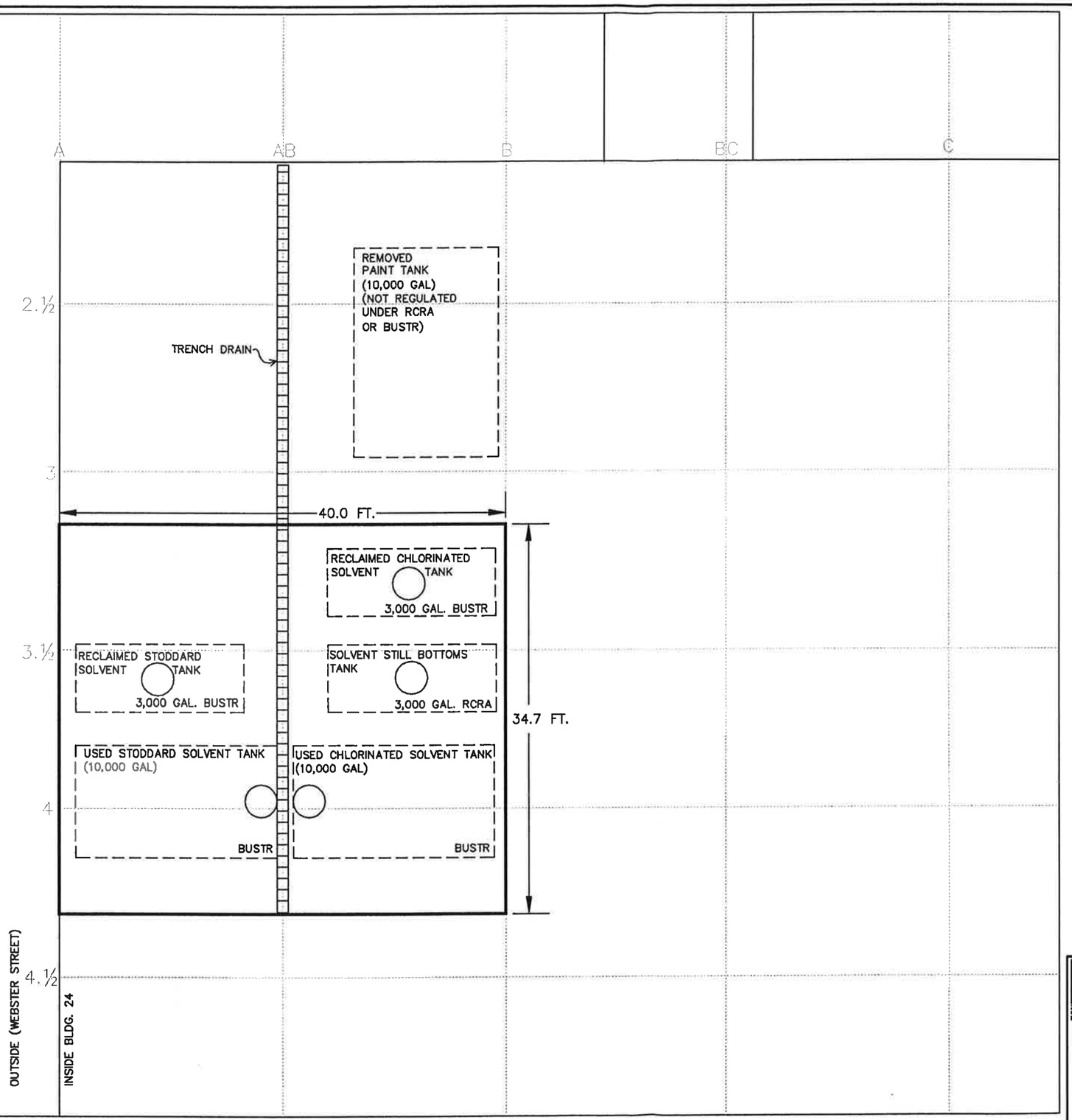
GENERAL PLAN VIEW – UNITS OUTSIDE BUILDING 4

SCALE: 1 INCH = 15 FEET

MAY 2001

FILE NO:G:\79032\013\Figure 2.dwg

FIGURE 2



NOTES:
1) BASE SITE PLAN OBTAINED FROM GENERAL MOTORS
2) NOT ALL UTILITIES OR INTERIOR WALLS SHOWN

HALEY & ALDRICH
UNDERGROUND ENGINEERING & ENVIRONMENTAL SOLUTIONS

GENERAL MOTORS CORP.
DELPHI HARRISON THERMAL SYSTEMS
DAYTON, OHIO
CLOSURE CERTIFICATION
REALM

GENERAL PLAN VIEW –
BUILDING 24 STILL ROOM UNIT

SCALE: 1 INCH = 10 FEET

MAY 2001

FILE NO:G:\79052\013\Bldg_24_Still_Room.dwg

FIGURE 3

APPENDIX P

RESIDUAL WASTE DISPOSAL DOCUMENTATION

TECH TOWN
REDEVELOPMENT
PROJECT PHASE II
DAYTON, OH

BUILDING RESIDUAL INVENTORY

Prepared For:
WESTON SOLUTIONS, INC.
2566 KOHNLE DRIVE
MIAMISBURG, OHIO 45342

Prepared By:
HULL & ASSOCIATES, INC.
6397 EMERALD PARKWAY
DUBLIN, OHIO

MARCH 2008

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APPENDIX C
Building Layout provided by Weston Solutions, Inc. 1

LIMITATION OF LIABILITY

Consistent with our approved Scope of Work, Hull conducted visual surveys of building interiors to inventory building residuals requiring management prior to or during the demolition process. An inventory was prepared but does not include sampling, material testing or disposal characterization. Hull & Associates, Inc. (Hull) has performed its services using that degree of care and skill ordinarily exercised under similar conditions by reputable members of our profession practicing in the same or similar locality at the time of service. No other warranties, express, or implied, are made or intended by our written reports. Hull makes no guarantees that all building residuals have been identified, nor any guarantees regarding the completeness or accuracy of any information obtained from public or private files or any information provided by third parties.

This document does not attempt to evaluate past or present compliance with federal, state and local environmental or land use laws and regulations. Furthermore, this document is prepared for, and made available for the sole use of Weston Solutions, Inc. (Weston) and the contents thereof may not be used or relied upon by any other person without the express written consent and authorization of Weston and Hull.

Building Residual Inventory for
Tech Town Redevelopment Project Phase II
300 Taylor Street, Dayton, Ohio
Building #2, First Floor

Item #	Item Description	Contents	Estimated Residual Quantity	Units	Approximate Location (Reference Appendix C for Item Location)	Photo #
1	(2) Scrap rubber tires	N/A	N/A	N/A	Southeast of column L-28	2A
2	Approximate 6' x 6' room that contains dark colored residue on concrete floor. Paperwork found in room states "525 Oil, Freon 1-L and also dichlorodifluoromethane" (possible materials that were stored or used in this room)	Unknown	Unknown	NA	Vicinity of column lines G, 24-25	2B
3	Approximate 2' x 2' sump pit that contains dark colored liquid and debris	Unknown	Unknown	Unknown	In southwest corner of a basement area, vicinity of column lines F-G, 22-23	2C

Notes: 1) Approximate 12' deep utility manhole is located in vicinity of column lines L-M, 28-29. It was observed that the manhole contained approximately (12) scrap tires and unknown liquid at the base. Due to confined space, Hull personnel did not enter the manhole.

Building Residual Inventory for
Tech Town Redevelopment Project Phase II
300 Taylor Street, Dayton, Ohio
Building #2, Second Floor

Item #	Item Description	Contents	Estimated Residual Quantity	Units	Approximate Location (Reference Appendix C for Item Location)	Photo #
1	(2) Compressor units (approximately 2'L x 10" diameter each). Staining was observed on the units and apparent oil material was observed in one unit	Unknown	Unknown	N/A	Vicinity of column lines G-I, 22-23	2D
2	(3) HVAC units with (4) compressor units (approximately 2'L x 10" diameter each)	Unknown	Unknown	N/A	Vicinity of column lines G-I, 22-24	2E, 2F, 2G

Building Residual Inventory for
Tech Town Redevelopment Project Phase II
300 Taylor Street, Dayton, Ohio
Building #2, Fifth Floor

Item #	Item Description	Contents	Estimated Residual Quantity	Units	Approximate Location (Reference Appendix C for Item Location)	Photo #
1	(2) HVAC units with (4) compressor units (approx. 2'L x 10" diameter. each)	Unknown	Unknown	N/A	Vicinity of column M-27	2H
2	Open plastic bag of dark gray powder	Unknown	20	LBS	North of column M-23	2I

Notes: 1) No residual items were observed on the third and fourth floors of Building #2.

Building Residual Inventory for
Tech Town Redevelopment Project Phase II
300 Taylor Street, Dayton, Ohio
Building #2, Sixth, Seventh and Penthouse Floors

Item #	Item Description	Contents	Estimated Residual Quantity	Units	Approximate Location (Reference Appendix C for Item Location)	Photo #
1	Metal container (approximately 5'L x 3'W x 4'H). Container is full of scrap debris (powder, wood, masonry, etc.)	Miscellaneous	Unknown	Unknown	Northwest portion of 6th floor, in vicinity of column lines M-25,26	2J
2	Vertical process tank with approximately 6" piping that is running from process tank through floor slab	Unknown	Unknown	N/A	Northeast portion of 7th floor, vicinity of column lines M-25,26	2K
3	Miscellaneous Building Equipment (1)	Unknown	Unknown	N/A	Penthouse	2L

Notes: (1) No Staining was observed. However; possible hydraulic fluids may be present in miscellaneous building equipment.

Building Residual Inventory for
Tech Town Redevelopment Project Phase II
300 Taylor Street, Dayton, Ohio
Building #3

Item #	Item Description	Contents	Estimated Residual Quantity	Units	Approximate Location (Reference Appendix C for Item Location)	Photo #
1	(1) Propane tank	Unknown	Unknown	N/A	In exterior building corridor between Building #2 and Building #3	3A
2	55-gallon green drum labeled "2 Propenoic acid, 3-methoxy Phenel ethylhexyl Ester"	Unknown	Unknown	Unknown	Interior room located northwest of column P-24	3B
3	(1) Metal bucket with light brown liquid inside	Liquid	3	GAL	Southeast corner of interior room located northwest of column P-24	3C
4	(2) Scrap tires	N/A	N/A	N/A	In exterior corridor between Buildings #3 and #4	3D

Building Residual Inventory for Tech Town Redevelopment Project Phase II 300 Taylor Street, Dayton, Ohio Building #4						
Item #	**Item Description**	**Contents**	**Estimated Residual Quantity**	**Units**	**Approximate Location (Reference Appendix C for Item Location)**	**Photo #**
1	Hydraulic lift with underground pressure tank (in floor pit) with liquids present at lift base	Unknown	Unknown	GAL	Northwest of column S-27	4A
2	(3) Scrap tires	N/A	N/A	N/A	Vicinity of column R25	4B

Building Residual Inventory for
Tech Town Redevelopment Project Phase II
300 Taylor Street, Dayton, Ohio
Building #5, Basement

Item #	Item Description	Contents	Estimated Residual Quantity	Units	Approximate Location (Reference Appendix B for Item Location)	Photo #
1	(1) 55-gallon steel drum with split-top lid, positioned on it's side with unknown yellow colored liquid inside	Liquid	20	GAL	Eastern portion of basement, east of column lines T, 4 to 5	B5A
2	Assumed Pump Machinery [(1)]	Unknown	Unknown	N/A	Numerous machines present in vicinity of column lines T-N, 4-5	B5B
3	Assumed water reservoir observed beneath metal flooring where pump machinery is staged and liquid was observed under the flooring	Liquid	Unknown	GAL	Beneath machines located in vicinity of column lines T-N, 4-5	B5B

Notes: (1) Possible hydraulic fluids may be present in assumed pump machinery. (2) A basement section of Building #5 (located between column lines Z-HZ, 1-4) was not inspected for building residuals, due to no means of access.

Building Residual Inventory for
Tech Town Redevelopment Project Phase II
300 Taylor Street, Dayton, Ohio
Building #5, First Floor

Item #	Item Description	Contents	Estimated Residual Quantity	Units	Approximate Location (Reference Appendix B for Item Location)	Photo #
1	Approximate 2' x 2' opening in concrete floor that leads to sub-floor pit, which has (2) metal process tanks (both approximately 9'H x 8' diameter) with connecting piping. Approximately 3vf of liquid is in the pit. (1)	Unknown	Unknown	GAL	Vicinity of column lines A-B, 36-37	5A
2	Estimated (40) scrap rubber tires	N/A	N/A	N/A	Vicinity of column lines A-B, 25-26 and B-C, 33-34	5B

Notes: (1) Unable to determine pit dimensions. (2) No building residuals were observed on the second and third floors of Building #5. Fourth, fifth, sixth and penthouse floors were not inventoried for residuals, due to unsafe conditions to access these floors.

Building Residual Inventory for
Tech Town Redevelopment Project Phase II
300 Taylor Street, Dayton, Ohio
Building #7

Item #	Item Description	Contents	Estimated Residual Quantity	Units	Approximate Location (Reference Appendix C for Item Location)	Photo #
1	Plastic container (approximately 4' L x 4' W x 4'H) with wire support cage. Contains dark colored liquid with label stating "BASF Polysalz CAL"	Liquid	400	GAL	Vicinity of column lines H-G, 36-38	7A
2	Estimated (8) scrap rubber tires	N/A	N/A	N/A	Vicinity of column lines M,30-31 and in pit as described in Item #7	7B
3	(4) plastic containers (approximately 1/2 to 1 quart in size). Label information states "CN-16 FA N1R Color Enhancer or Color Developer..."	Liquid	3	QTS	Located on concrete wall ledge of Building #7's west wall, between column lines O-P, 30-31	7C
4	Approximate 2' L x 2' W x 3'D pit in concrete floor containing approximately 3" of dark/rust colored liquid	Liquid	8	GAL	Vicinity of column S-34	7D
5	(1) 50-gallon metal drum with label stating "Bell Aromatics"	Liquid	20	GAL	Vicinity of column O-29 (just inside doorway)	7E
6	Pit in concrete floor (approximate 60'L x 10'W x unknown depth) containing miscellaneous debris (asphalt pieces, white colored powder, wood, masonry, etc.)	Miscellaneous	Unknown	Unknown	Between column lines U-V, 31-33	7F
7	Pit in concrete floor (approximately 28'L x 9'W x unknown depth) containing dark colored liquid, along with various debris (including wood, scrap tires, masonry, etc.)	Miscellaneous	Unknown	Unknown	West/Central portion of building, between column lines I, 30-31	7G
8	Pit in concrete floor (approximately 2'L x 2'W x 5'D) containing dark colored liquid and possibly used to access utility lines.	Liquid	Unknown	Unknown	Vicinity of column lines L-M, 30-31	7H
9	Pit in concrete floor (approximately 7'L x 6'W x unknown depth and partially covered by metal plates) containing dark colored liquid and possibly used to access utility lines.	Liquid	Unknown	Unknown	Vicinity of column lines G-30	7I

Notes: 1) Approximate 10' deep utility manhole is located in vicinity of column lines F-G, 30-31. It was observed that the manhole contained unknown debris at the base. Due to confined space, Hull personnel did not enter the manhole.

Building Residual Inventory for
Tech Town Redevelopment Project Phase II
300 Taylor Street, Dayton, Ohio
Building #9

Item #	Item Description	Contents	Estimated Residual Quantity	Units	Approximate Location (Reference Appendix C for Item Location)	Photo #
1	(2) Vertical process tanks (each approximately 20'H x 6' diameter) that are adjacent to one another and are positioned on the floor slab. A concrete pit approximately 14"L x 9'W (depth unknown) is beneath the tanks. Approximately 3vf of liquid is in pit area.	Unknown	Unknown	Unknown	Southwest corner of building, in vicinity of column lines A-B, 38-39	9A
2	Elevated process tank (approximately 8'L x 2' diameter)	Unknown	Unknown	Unknown	Approximately 20' above floor slab, on west building wall, in vicinity of column lines M, 30-31	9B
3	Estimated (8) Scrap tires	N/A	N/A	N/A	Located south of approximate column D-39, on floor slab and in adjacent floor trench around column T-40	9C
4	Metal tank labeled "Acetylene" (approximately 3'L x 1'diameter)	Unknown	Unknown	Unknown	On west face of column N-41	9D
5	Metal process tank (approximately 4'H x 2' diameter) with no label	Unknown	Unknown	Unknown	On raised metal platform, north of column M-41	9E
6	(1) 5-gallon plastic bucket, labeled "Coastal R&O Hydraulic Oil"	Liquid	Unknown	GAL	Vicinity of column ZC-39	9F
7	(3) 55-gallon heavy-duty paper drums, labeled "Hercon 76 Cationic Emulsion of Alkylketene Dimer"	Granular solid	750	LBS	Vicinity of column lines W,42-43	9G
8	(1) Propane tank	Unknown	Unknown	N/A	Vicinity of column lines A-B, 39-40	9H
9	Pit in concrete floor (approximately 3'L x 2'W x unknown depth) containing liquid and debris	Liquid	Unknown	Unknown	Vicinity of column lines D-39	9I
10	Pit in concrete floor (approximately 3'L x 3'W x unknown depth) containing sludge material	Semi-solids	Unknown	Unknown	Vicinity of column lines B-C, 40-41	9J

Notes: 1) Approximate 10' deep utility manhole is located in the vicinity of column lines B-C, 39-40. It was observed that the manhole contained unknown debris at the base. Due to confined space, Hull personnel did not enter the manhole.

Building Residual Inventory for
Tech Town Redevelopment Project Phase II
300 Taylor Street, Dayton, Ohio
Building #10

Item #	Item Description	Contents	Estimated Residual Quantity	Units	Approximate Location (Reference Appendix C for Item Location)	Photo #
1	Pit in concrete floor slab (approximately 24'L x 10'W x unknown depth) containing miscellaneous debris (asphalt pieces, white colored powder, metal, wood, masonry, etc.)	Miscellaneous	Unknown	Unknown	Central portion of building, vicinity of column lines K-J, 48-49	10A
2	Pit in concrete floor slab (approximately 65'L x 10'W x unknown depth) containing miscellaneous debris (asphalt pieces, white colored powder, metal, wood, masonry, etc.)	Miscellaneous	Unknown	Unknown	Southern portion of building, in vicinity of column lines H-C, 48-49	10B
3	Estimated (210) Scrap rubber tires	N/A	N/A	N/A	In room located east of column P-50 and also in vicinity of column S-53	10C
4	Metal tank (approximately 1.5'L x 1'diameter) labeled "Genetron 502 Mono-dichlorofloromethane liquefied gas"	Unknown	Unknown	Unknown	South of column G-50	10D
5	Approximate 6" diameter metal piping that runs vertical to horizontal (at floor slab elevation) and eastward towards building's exterior. Dark colored material is present inside piping.	Unknown	Unknown	Unknown	Vicinity of column G-51	10E

Building Residual Inventory for
Tech Town Redevelopment Project Phase II
300 Taylor Street, Dayton, Ohio
Building #10 (Continued)

6	Approximate 30' x 30' basement level concrete room that has oil residue and staining on walls and flooring, with depressed floor sections along the north and east sides of the room. Metal floor grating is present on the north and east sides and unknown liquids are present to a level just above the grating. The liquids are white and brown in color and solidified materials are present on the surface. There are approximately (2) 2' diameter openings in the floor grating (one with raised metal rim and the other without a rim), which appear to be openings to UST's located beneath the room's floor. Metal piping is present, which apparently was utilized for filling/draining fluids in the room. There are (4) graduated volume level indicator boards present on the room's east wall that have markings stating "benzine, mineral oil, B&T oil and blended oil" respectively.	Liquid	Unknown	GAL	Room is located just inside the building's south wall, vicinity of column line 50	10F, 10G, 10H, 10I and 10J
7	Pit in concrete floor slab with apparent metal process tank (approximately 10'L x 10'W x 8'D). There is approximate 1'x 1' opening in the top of the tank, which also contains dark colored liquid (possibly consisting of rain or groundwater)	Liquid	3,700	GAL	Vicinity of column lines O-N, 48	10K
8	(2) 1-gallon metal paint cans, labeled as enamel paint	Liquid	2	GAL	Vicinity of column lines O-N, 51	10L
9	Adjacent liquid containing metal floor pits (approximately 7'L x5'w x 3'D and 1.5' x 1.5' x 3'D respectively)	Liquid	840	GAL	North of column Q-50	10M
10	(6) Scrap tires	N/A	N/A	N/A	Vicinity of column lines E-G, 50	10N
11	Pit in concrete floor (approximately 2'L x 2'W x unknown depth) that contains a metal lid or top to a possible process tank	Unknown	Unknown	Unknown	Vicinity of column lines F-G, 49-50	10O

Building Residual Inventory for
Tech Town Redevelopment Project Phase II
300 Taylor Street, Dayton, Ohio
Building #13

Item #	Item Description	Contents	Estimated Residual Quantity	Units	Approximate Location (Reference Appendix C for Item Location)	Photo #
1	Basement area (approximately 50'L x 18' W x 10'D) containing vegetation, apparent soil, and other scrap materials.	Miscellaneous	Unknown	Unknown	Vicinity of column lines R-E, east of column line 52	13A
2	(4) Scrap tires	N/A	N/A	N/A	Basement floor	13B

Notes: 1) Superstructure of Building # 13 has been demolished.

Building Residual Inventory for
Tech Town Redevelopment Project Phase II
300 Taylor Street, Dayton, Ohio
Building Perimeter

Item #	Item Description	Contents	Estimated Residual Quantity	Units	Approximate Location (Reference Appendix C for Item Location)	Photo #
1	Metal cylinder (approximately 4'L x 2' diameter)	Unknown	Unknown	Unknown	Located off northeast corner of Building #10.	BP1
2	Yellow/Green colored approximate 5-gallon metal buckets. A majority of buckets are full of dark/hardened solids	Unknown	28	EA	North side of Buildings #9 and #10	BP2
3	(6) Scrap rubber tires	N/A	N/A	N/A	Located on central/east side of Building #10 and outside northwest corner of Building #7	BP3
4	Metal dumpster (approximately 6'L x 4'W x 5'H). Container is full of plastic, scrap chairs, and unknown white colored powder material, etc.	Miscellaneous	Unknown	Unknown	Located off N.W. corner of Bldg. #9's N. face	BP4
5	Metal AST (approximately 26'L x 8' diameter with an identified 9,500 gallon volume size). AST contains approximately 4" of assumed rain water.	Liquid	130	GAL	Inside an exterior building located off south face of Building #9	BP5

APPENDIX A

Photographs

PHOTO 2A - BUILDING #2, FIRST FLOOR

PHOTO 2B- BUILDING #2, FIRST FLOOR

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Tech Town Redevelopment Project Phase II
Building Residual Inventory

Site Photographs

300 Tayor Road
Dayton, Ohio

Date: March-08

Project Number: WSO001
File Name:
WSO001.300.0004.XLS

PHOTO 2C - BUILDING #2, FIRST FLOOR

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Tech Town Redevelopment Project Phase II
Building Residual Inventory

Site Photographs

300 Tayor Road
Dayton, Ohio

Date:
March-08

Project Number WSO001
File Name:
WSO001.300.0006.XLS

PHOTO 2D - BUILDING #2, SECOND FLOOR

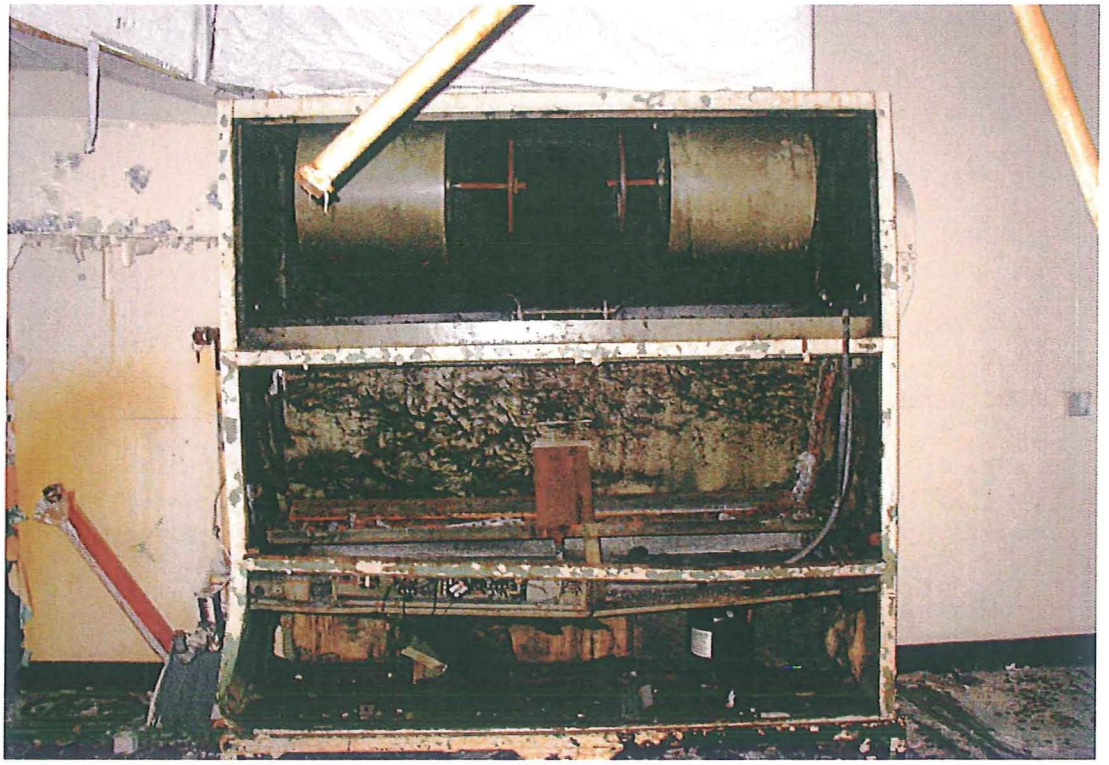

PHOTO 2E - BUILDING #2, SECOND FLOOR

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Tech Town Redevelopment Project Phase II
Building Residual Inventory

Site Photographs

300 Tayor Road
Dayton, Ohio

Date:
March-08

Project Number: WSO001
File Name:
WSO001.300.0004.XLS

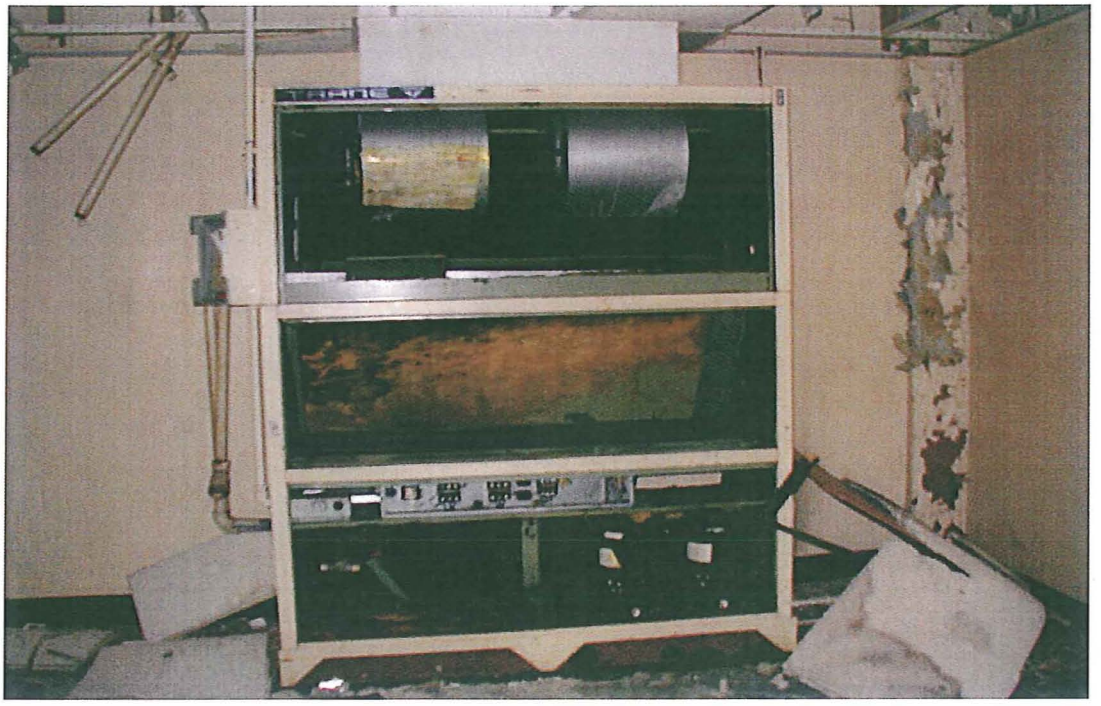

PHOTO 2F - BUILDING #2, SECOND FLOOR

PHOTO 2G- BUILDING #2, SECOND FLOOR

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PHOTO 2H - BUILDING # 2, FIFTH FLOOR

PHOTO 2I - BUILDING # 2, FIFTH FLOOR

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PHOTO 2J- BUILDING #2, SIXTH FLOOR

PHOTO 2K - BUILDING #2, SEVENTH FLOOR

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Building Residual Inventory

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PHOTO 2L - BUILDING #2, PENTHOUSE

PHOTO 3A - BUILDING # 3

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PHOTO 3B - BUILDING #3

PHOTO 3C - BUILDING #3

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PHOTO 3D - BUILDING #3

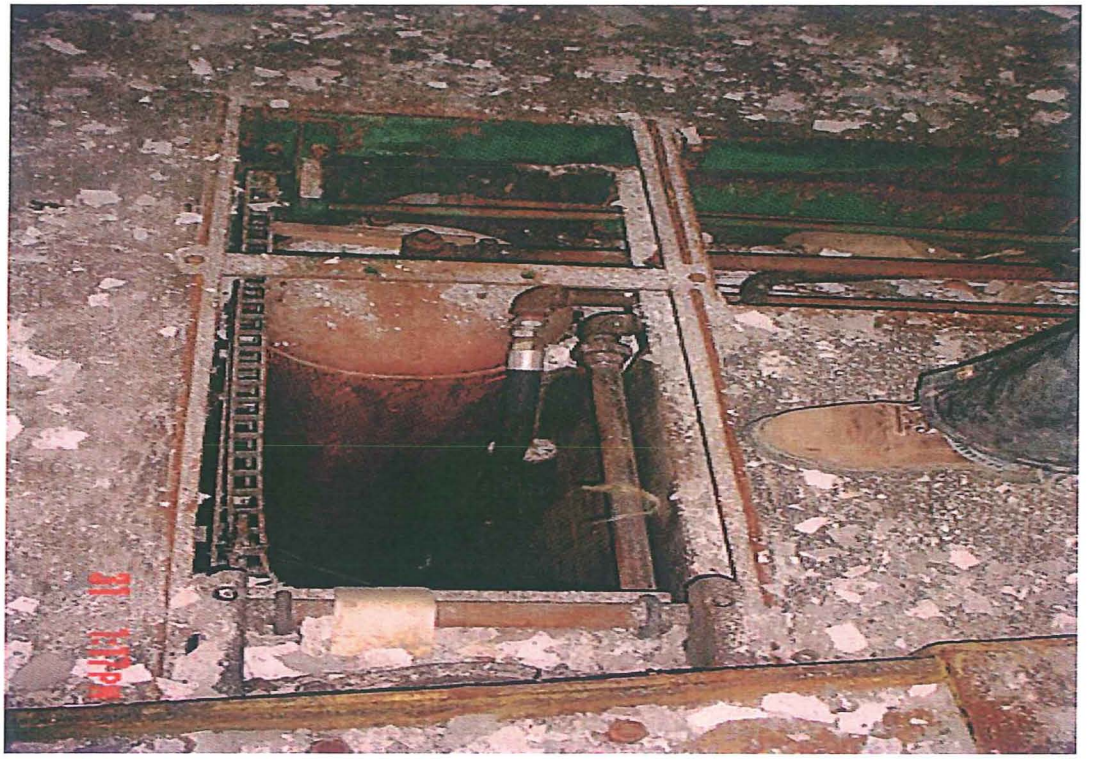

PHOTO 4A - BUILDING #4

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Building Residual Inventory

Site Photographs

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Dayton, Ohio

Date:
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Project Number: WSO001
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WSO001.300.0004.XLS

PHOTO 4B - BUILDING #4

PHOTO B5A - BUILDING # 5, BASEMENT

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Building Residual Inventory

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PHOTO B5B - BUILDING #5, BASEMENT

PHOTO 5A - BUILDING # 5, FIRST FLOOR

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Building Residual Inventory

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PHOTO 5B - BUILDING # 5, FIRST FLOOR

PHOTO 7A - BUILDING #7

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Building Residual Inventory

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Dayton, Ohio

Date: March-08

Project Number: WSO001
File Name: WSO001.300.0004.XLS

PHOTO 7B - BUILDING #7

PHOTO 7C - BUILDING #7

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Building Residual Inventory

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File Name:
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PHOTO 7D - BUILDING # 7

PHOTO 7E - BUILDING # 7

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Building Residual Inventory

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File Name: WSO001.300.0004.XLS

PHOTO 7F - BUILDING #7

PHOTO 7G - BUILDING # 7

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Building Residual Inventory

Site Photographs

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Date: March-08

Project Number: WSO001
File Name:
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PHOTO 7H - BUILDING #7

PHOTO 7I - BUILDING # 7

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Building Residual Inventory

Site Photographs

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Project Number WSO001
File Name:
WSO001.300.0006.XLS

PHOTO 9A - BUILDING #9

PHOTO 9B - BUILDING # 9

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Project Number: WSO001
File Name: WSO001.300.0004.XLS

PHOTO 9C - BUILDING # 9

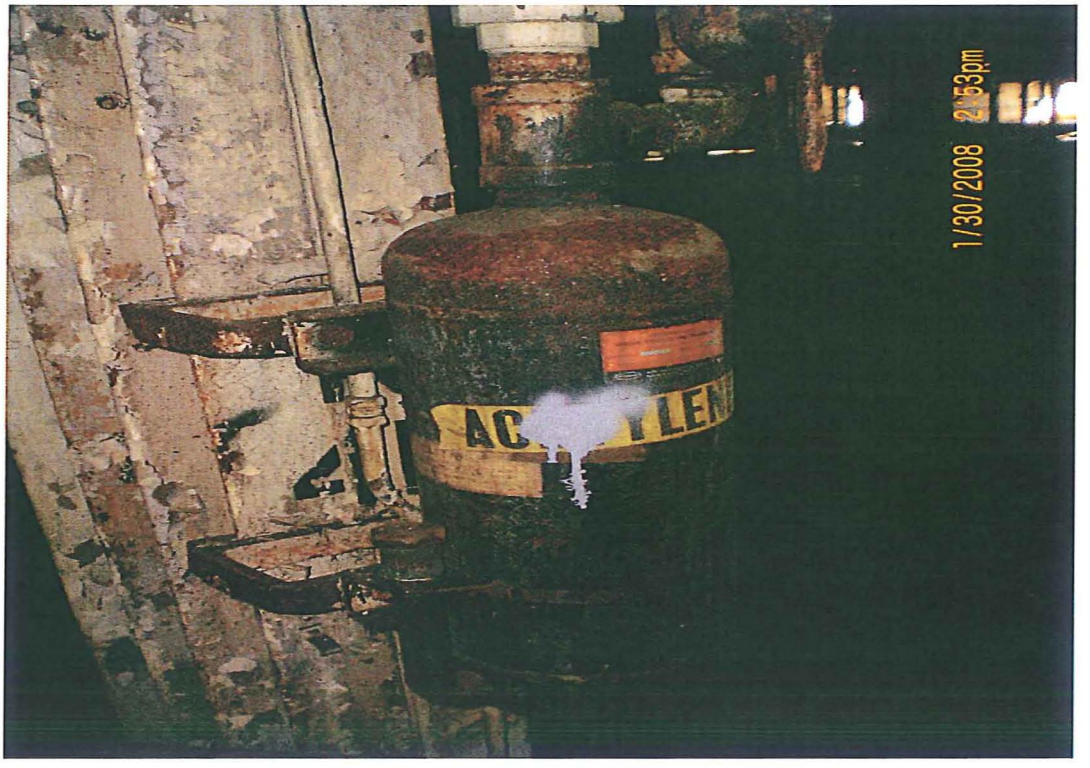

PHOTO 9D - BUILDING # 9

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Dayton, Ohio

Date:
March-08

Project Number: WSO001
File Name:
WSO001.300.0004.XLS

PHOTO 9E - BUILDING # 9

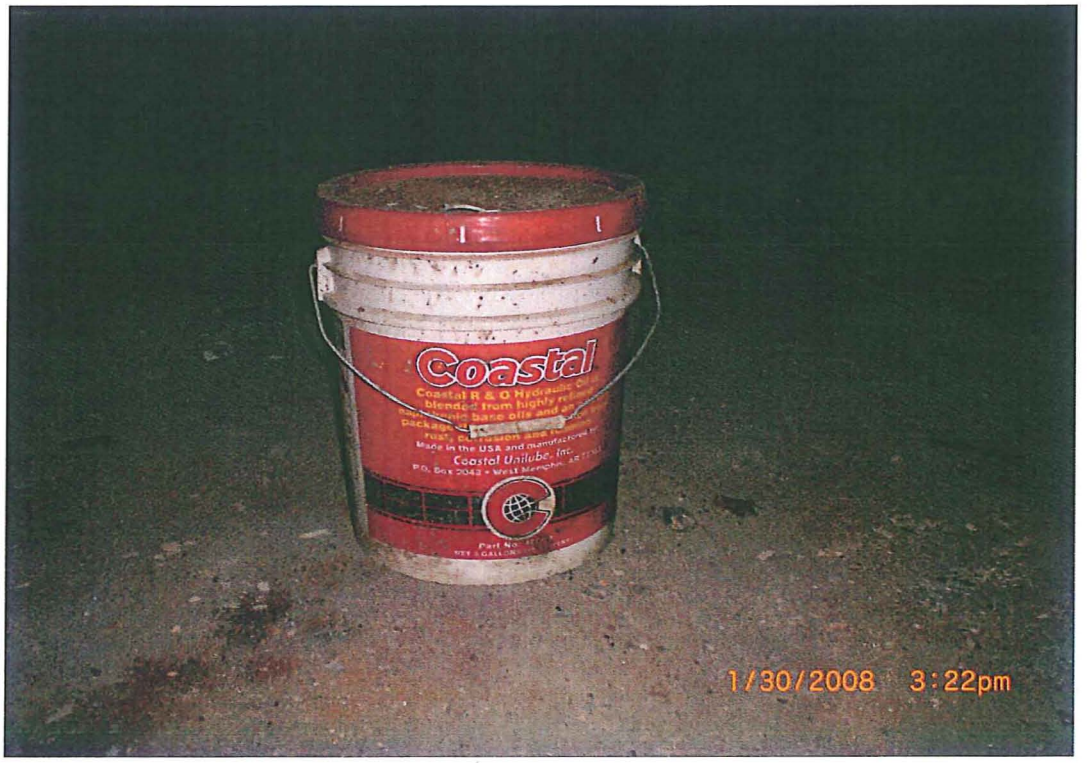

PHOTO 9F BUILDING # 9

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PHOTO 9G - BUILDING # 9

PHOTO 9H - BUILDING # 9

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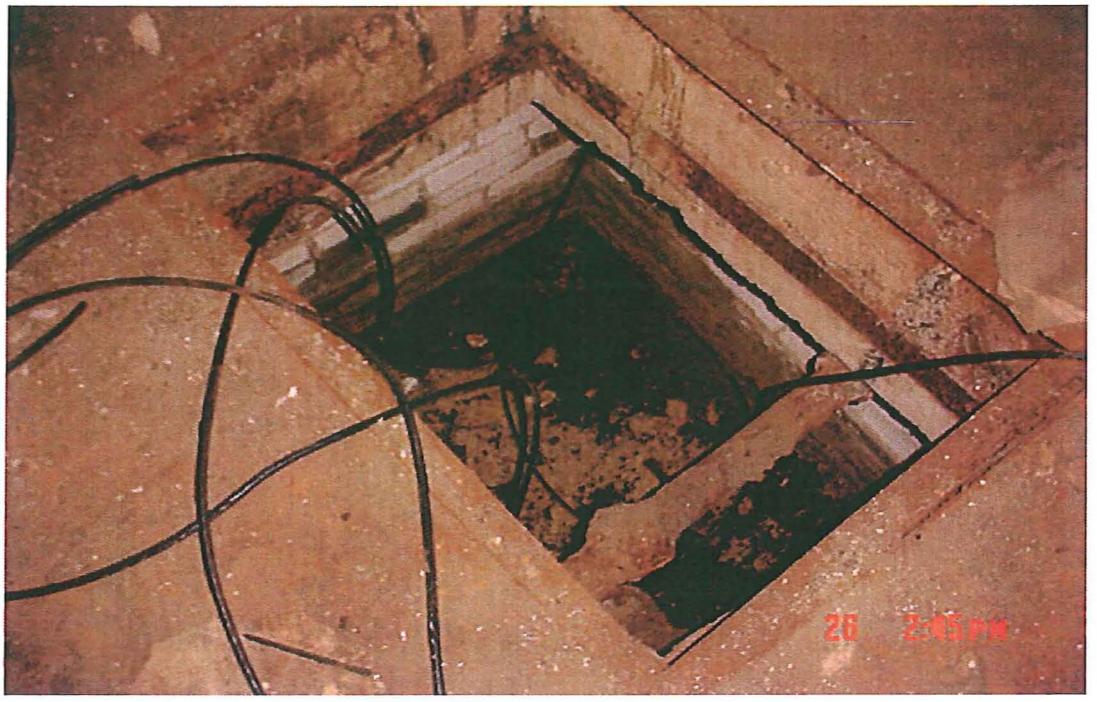

PHOTO 9I - BUILDING # 9

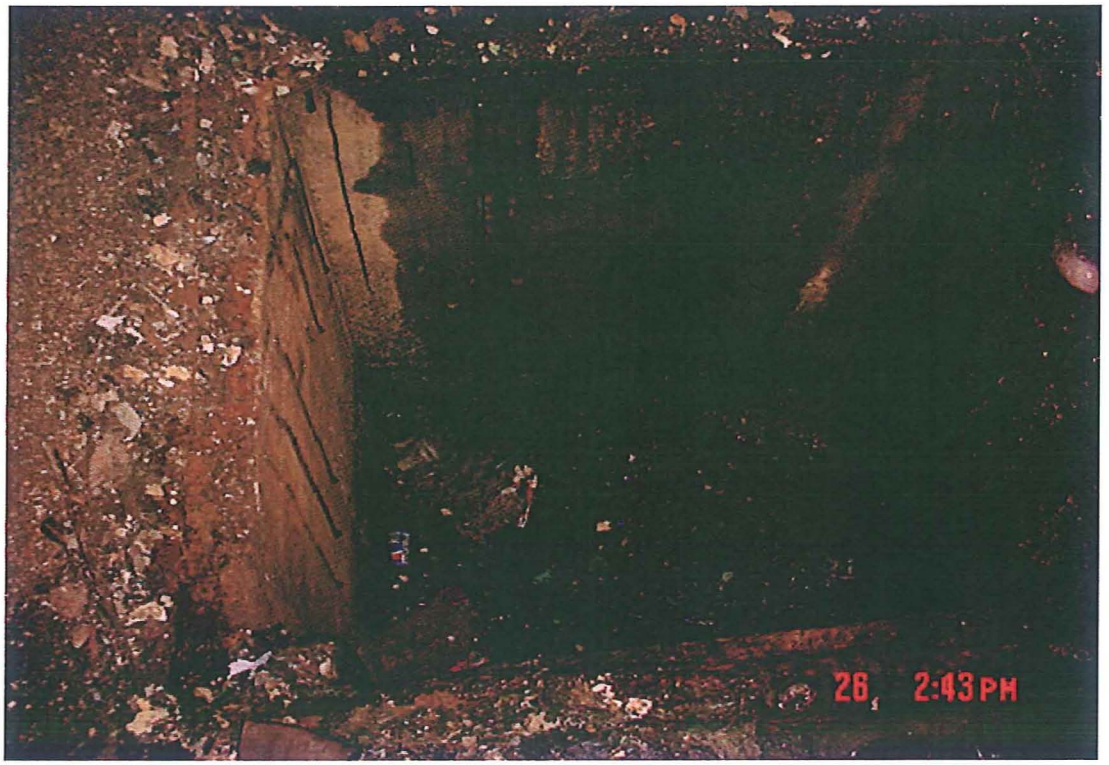

PHOTO 9J - BUILDING #9

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Building Residual Inventory

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Date: March-08

Project Number WSO001
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PHOTO 10A - BUILDING #10

PHOTO 10B - BUILDING #10

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PHOTO 10C - BUILDING #10

PHOTO 10D- BUILDING #10

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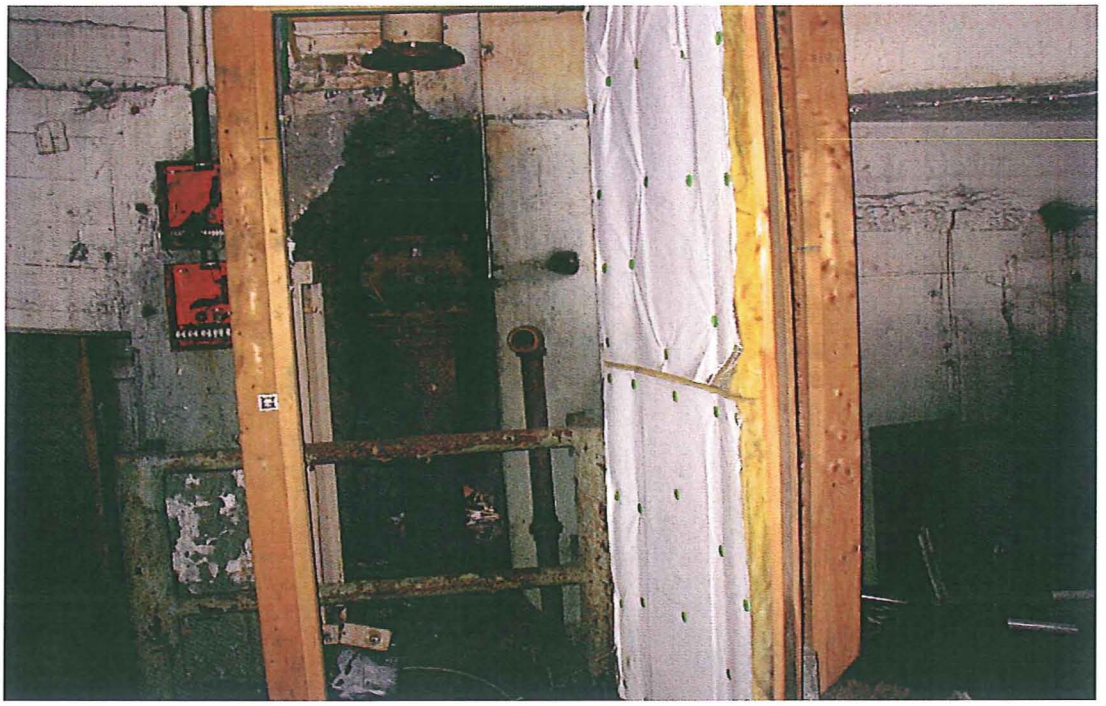

PHOTO 10E- BUILDING #10

PHOTO 10F- BUILDING #10

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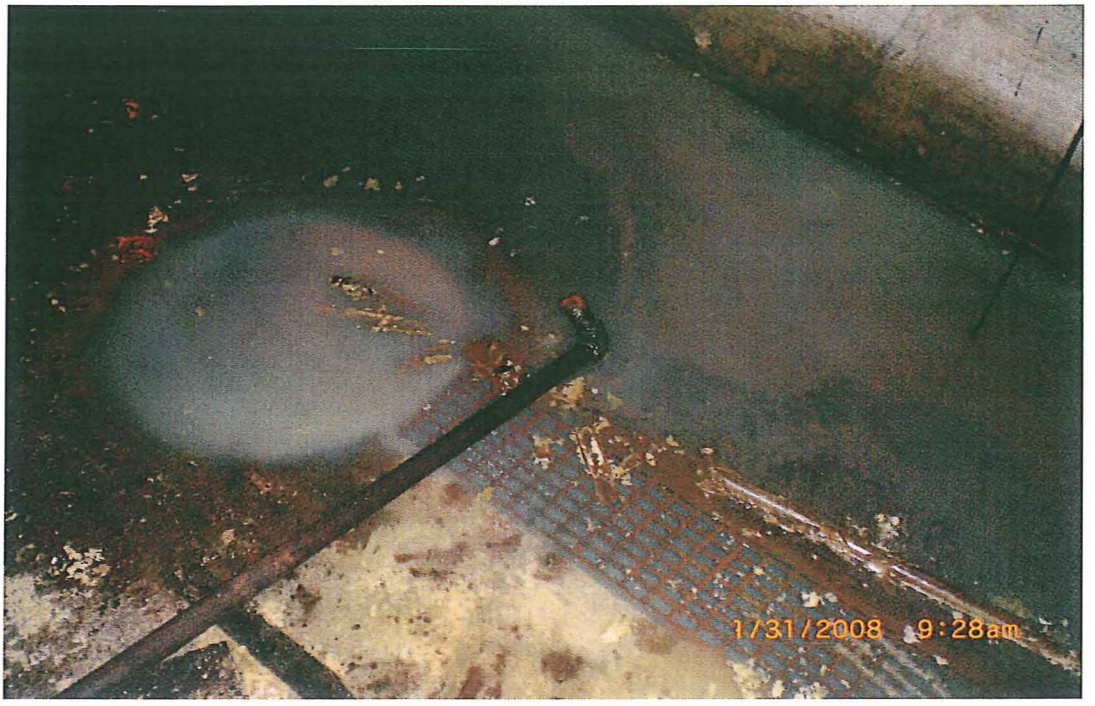

PHOTO 10G - BUILDING #10

PHOTO 10H - BUILDING #10

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Building Residual Inventory

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Date: March-08

Project Number: WSO001
File Name: WSO001.300.0005.XLS

PHOTO 10I - BUILDING # 10

PHOTO 10J - BUILDING # 10

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PHOTO 10K - BUILDING # 10

PHOTO 10L - BUILDING # 10

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PHOTO 10M - BUILDING # 10

PHOTO 10N - BUILDING # 10

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PHOTO 10O - BUILDING #10

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PHOTO 13A - BUILDING # 13

PHOTO 13B - BUILDING # 13

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Project Number: WSO001
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PHOTO BP1 - BUILDING PERIMETER

PHOTO BP2 - BUILDING PERIMETER

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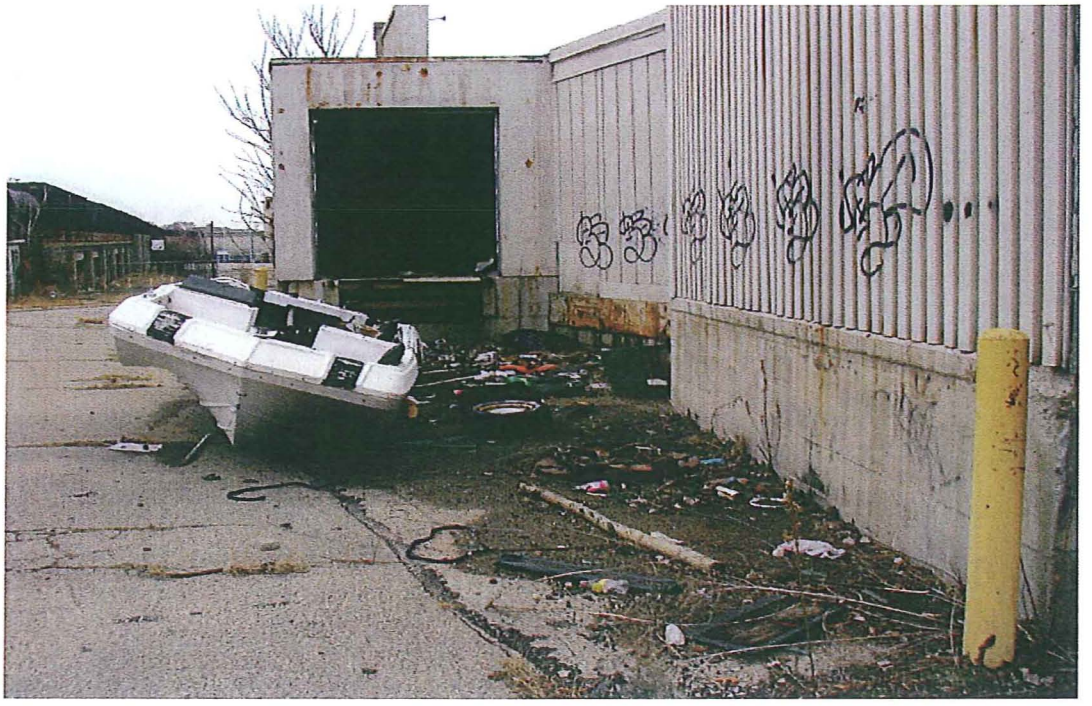

PHOTO BP3 - BUILDING PERIMETER

PHOTO BP4 - BUILDING PERIMETER

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PHOTO BP5 - BUILDING PERIMETER

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Building Residual Inventory

Site Photographs

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March-08

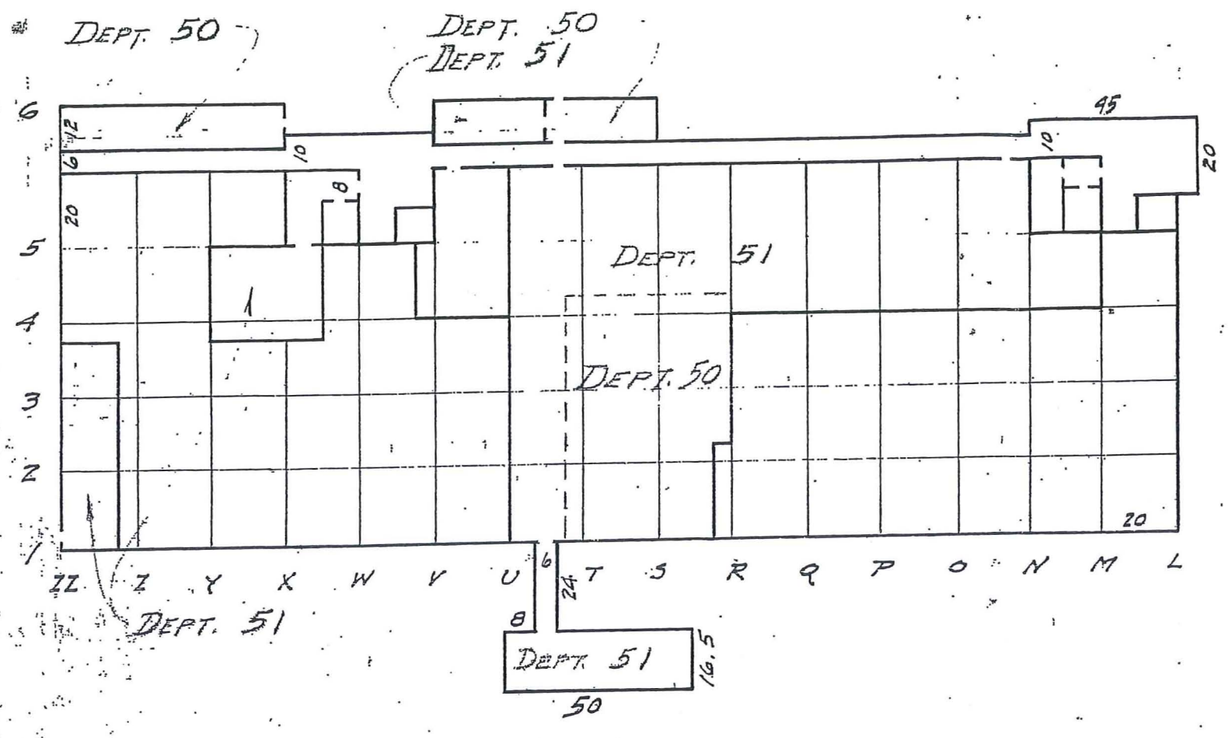
Project Number: WSO001
File Name:
WSO001.300.0005.XLS

APPENDIX B

Building 5 Basement Layout dated 8/1/55, provided by City of Dayton

PLANT 1
BLDG. 5
BASEMENT
8-1-55

18085 SQ. FT.



DEPT. 50 2805
51 15280

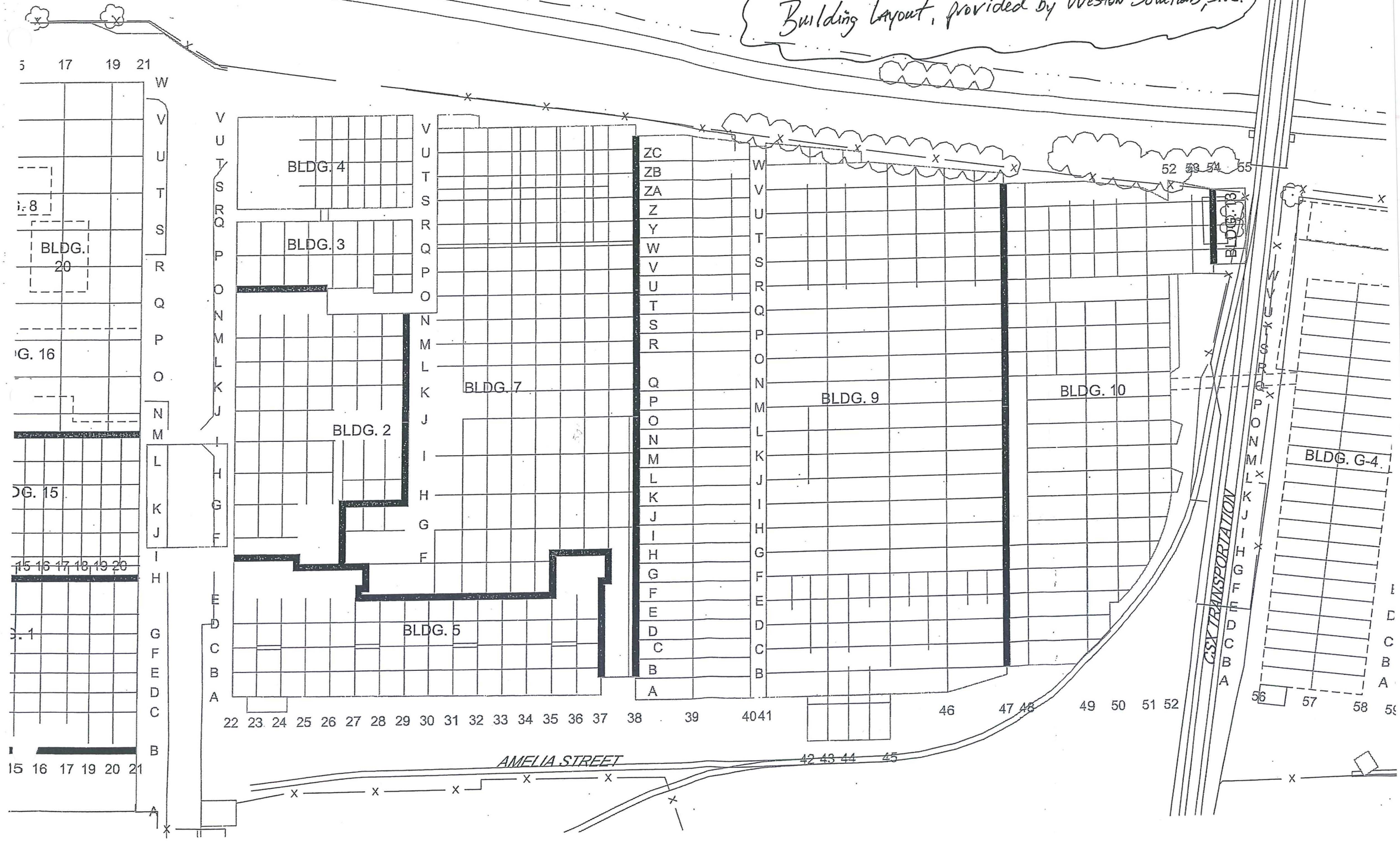
Appendix B
Building #5 Basement Layout.
provided by City of Dayton, OH

PROCESS SPEC.	SEE
FIRST USED ON	ALLOWABLE VARIATION ON DIMENSIONS GIVEN IN DECIMALS PLUS OR MINUS .005" AND ON FRACTIONS IS PLUS OR MINUS 1/64" UNLESS OTHERWISE SPECIFIED IN MATERIAL SPECIFICATIONS OR ON THIS DRAWING
ASSEMBLY	
MATERIAL	
MAT. SPEC.	DAYTON, FRIGIDAIRE DIVISION GENERAL MOTORS CORPORATION OHIO

APPENDIX C

Building Layout provided by Weston Solutions, Inc.

Appendix C
Building Layout, provided by Weston Solutions, Inc.



STEVE RAUCH INC.
TECH TOWN DEMOLITION PHASE II
300 TAYLOR ST DAYTON, OHIO 45402

ORIGINAL/EXTRA RESIDUAL REPORT

TECH TOWN PHASE II PROJECT
ORIGINAL/EXTRA RESIDUAL REPORT

	ITEM #	PHOTO #	ITEM DESCRIPTION	SAMPLE ID #	SAMPLE DATE	DATE REMOVED	MANIFEST #	NOTES
	2-1	2A	SCRAP TIRES	N/A	N/A	4/16/2009	1036474	1,6
	2-2	2B	6X6 ROOM CONC. RESIDUE	N/A	N/A	REMOVED BY OTHERS	N/A	2
	2-3	2C	2X2 PIT	N/A	N/A	EMPTY	N/A	2,17
	2-4	2D	COMPRESSOR UNITS	N/A	N/A	REMOVED BY OTHERS	N/A	3
	2-5	2E,2F,2G	HVAC UNITS	N/A	N/A	REMOVED BY OTHERS	N/A	3
	2-6	2H	HVAC UNITS	N/A	N/A	REMOVED BY OTHERS	N/A	3
	2-7	2I	BAG OF POWDER	N/A	N/A	REMOVED BY OTHERS	N/A	2
	2-8	2J	METAL CONTAINER	N/A	N/A	REMOVED BY OTHERS	N/A	4
	2-9	2K	PROCESS TANK	N/A	N/A	REMOVED BY OTHERS	N/A	4
O	2-10	2L	MISC. BLDG. EQUIPMENT	N/A	N/A	REMOVED BY OTHERS	N/A	4
R	3-1	3A	PROPANE TANK	N/A	N/A	3/2/2009	N/A	1,4
I	3-2	3B	GREEN 55 GAL DRUM	N/A	N/A	3/2/2009	N/A	1,7
G	3-3	3C	BUCKET W/LIQUID	N/A	N/A	3/2/2009	N/A	1,7
I	3-4	3D	SCRAP TIRES	N/A	N/A	4/16/2009	1036474	1,6,17
N	4-1	4A	HYDRLC LIFT TANK IN PIT	N/A	N/A	6/19/2009	N/A	5,17,22
A	4-2	4B	SCRAP TIRES	N/A	N/A	4/16/2009	1036474	1,6
L	5B-1	B5A	55 GAL DRUM	N/A	N/A	8/4/2009	N/A	7
	5B-2	B5B	PUMP MACHINERY	CD1 & 2/B5B-SL-081009	8/10/09	9/4/2009	SEE NOTE 16	8,16
	5B-3	B5B	WATER RESERVOIR	N/A	N/A	EMPTY	N/A	2,23
	5-1	5A	2X2 PIT	Rauch Inc. East & West Tank	10/23/09	12/2/2009	384318	10,17
	5-2	5B	SCRAP TIRES(40)	N/A	N/A	4/16/2009	1036474	1,6
	7-1	7A	4X4 TOTE W/LIQUID	Tote	6/8/09	7/27/2009	ZZ00236541	1
	7-2	7B	SCRAP TIRES(8)	N/A	N/A	4/16/2009	1036474	1,6
	7-3	7C	CONTNR W/CN-16 FA N1R	N/A	N/A	REMOVED BY OTHERS	N/A	2
	7-4	7D	2X2 PIT	N/A	N/A	EMPTY	N/A	2,17
	7-5	7E	50 GAL METAL DRUM	N/A	N/A	3/2/2009	N/A	1,7
	7-6	7F	60X10 PIT	N/A	N/A	6/4/2009	N/A	14

TECH TOWN PHASE II PROJECT
ORIGINAL/EXTRA RESIDUAL REPORT

	ITEM #	PHOTO #	ITEM DESCRIPTION	TEST ID #	SAMPLE DATE	DATE REMOVED	MANIFEST #	NOTES
	7-7	7G	28X9 PIT	N/A	N/A	6/2/2009	N/A	13,19
	7-8	7H	2X2 PIT	N/A	N/A	EMPTY	N/A	17,23
	7-9	7I	7X6 PIT	N/A	N/A	EMPTY	N/A	17,23
	9-1	9A	PROCESS TANKS	N/A	N/A	3/5/2009	N/A	4
	9-2	9B	ELEV PROCESS TANK	N/A	N/A	REMOVED BY OTHERS	N/A	2
	9-3	9C	SCRAP TIRES(8)	N/A	N/A	4/16/2009	1036474	1,17
	9-4	9D	TANK ACETYLENE	N/A	N/A	REMOVED BY OTHERS	N/A	2
	9-5	9E	PROCESS TANK	N/A	N/A	REMOVED BY OTHERS	N/A	2
	9-6	9F	5 GAL BUCKET	N/A	N/A	3/2/2009	N/A	1,7
O	9-7	9G	(3) 55 GAL DRUMS	3 fibers	6/8/09	7/27/2009	ZZ00236541	1
R	9-8	9H	PROPANE TANK	N/A	N/A	3/2/2009	N/A	1,4
I	9-9	9I	3X2 PIT	N/A	N/A	EMPTY	N/A	4,17,23
G	9-10	9J	3X3 PIT	N/A	N/A	EMPTY	N/A	4,17,23
I	10-1	10A	24X10 PIT	N/A	N/A	11/18/2009	N/A	13,20
N	10-2	10B	65X10 PIT	N/A	N/A	11/18/2009	N/A	13,20
A	10-3	10C	SCRAP TIRES(210)	N/A	N/A	5/8/2009	1055642	11
L	10-4	10D	METAL TANK	N/A	N/A	3/2/2009	N/A	1,4
	10-5	10E	6" METAL PIPING	N/A	N/A	REMOVED BY OTHERS	N/A	2
	10-6	10F-10J	30X30 RM IN BSMT	N/A	N/A	10/14/2009	N/A	13,17
	10-7	10K	10X10 PIT	N/A	N/A	EMPTY	N/A	17,23
	10-8	10L	1 GAL PAINT CAN	N/A	N/A	3/2/2009	N/A	1,4
	10-9	10M	7X5 & 1.5X1.5 PITS	N/A	N/A	EMPTY	N/A	17,23
	10-10	10N	SCRAP TIRES	N/A	N/A	4/16/2009	1036474	1
	10-11	10O	2X2 PIT	N/A	N/A	EMPTY	N/A	17,23
	13-1	13A	50X18 BASEMENT DEBRIS	N/A	N/A	10/14/2009	N/A	13,21
	13-2	13B	SCRAP TIRES (4)	N/A	N/A	5/8/2009	1055642	6
	BP-1	BP1	METAL CYLINDER	N/A	N/A	3/2/2009	N/A	1,4

TECH TOWN PHASE II PROJECT
ORIGINAL/EXTRA RESIDUAL REPORT

ORIGINAL

ITEM #	PHOTO #	ITEM DESCRIPTION	TEST ID #	SAMPLE DATE	DATE REMOVED	MANIFEST #	NOTES
BP-2	BP2	5 GAL BUCKET (SOLIDS)	N/A	N/A	8/4/2009	N/A	1,7
BP-3	BP3	SCRAP TIRES(6)	N/A	N/A	4/16/2009	1036474	1,6
BP-4	BP4	METAL DUMPSTER	Bin	6/8/09	NOTE 18	NOTE 18	1,9,18
BP-5	BP5	METAL AST	N/A	N/A	3/5/2009	N/A	12

ORIGINAL RESIDUALS NOTES

1 - On 3/2/09 & 3/3/09 SRI/Veolia staged residual(s) in Bldg. 5
2 - On 3/2/09 SRI/Veolia could not locate residuals / assumed to be removed by others
3 - Per Tim Smith with Weston observed residuals to be emptied/scrapped out
4 - Containers/Tanks/Pits found to be empty/scrapped out
5 - Oil pumped out of tank on 6/19/09 by Veolia into 4-55 gallon metal drums
6 - Scrap tires transported on 4/16/09 and 5/8/09 to Mont. Co. South Transfer Station for proper disposal
7 - 1"-3" of liquid/filled with floor dry/scrapped out/loaded out in demo
8 - Pits pumped out (6 - liquid, 2 - sludge) 9/4/09 by Veolia
9 - Gondola cleaned out by Veolia on 7/27/09,8/3/09, & 8/6/09 - solids loaded into 55 gal metal containers (11)
10 - After residual waste was removed tank(s) were cleaned and scrapped out
11 - Tires were uncovered once demolition began on Bldg. 10(about 20 remained after fire)
12 - Enclosure around tank was removed and tank was found to be dry/tank was scrapped out on 3/5/09
13 - Debris removed and taken offsite to landfill
14 - Pit floor was cracked and backfilled 11/13/09 & 11/17/09
15 - Pit floor was cracked and backfilled 11/19/09 & 11/25/09
16 - Three waste manifests were generated '000301508 (9/4/09),000460005VES (12/8/09), & 000737602 FLE(1/28/10) - metal liners
17 - Pit(s)/Trench(s) were cleaned, cracked, and backfilled
18 - Three waste manifests were generated: ZZ00236541(7/27/09), ZZ0013765(8/3/09), & ZZ00236675(8/6/09)
19 - Water pumped out onto slab per Weston on 6/1/09
20 - Cracked slab/backfilled pits on 11/19/09
21 - Backfilled basement with pile #3, 2 feet from the top and used pile #1 for remaining backfill on 10/26/09
22 - Oil drummed up and reused by SRI 6/19/09
23 - Found to be dry/empty

TECH TOWN PHASE II PROJECT
ORIGINAL/EXTRA RESIDUAL REPORT

	ITEM #	PHOTO #	ITEM DESCRIPTION	SAMPLE ID #	SAMPLE DATE	DATE REMOVED	MANIFEST #	NOTES
	1	-	16 -55 GALLON DRUMS	Rouch 1,2,3,4, & 5	7/20/09	NOTE 13	NOTE 13	1,2,13,14
	2	-	4 SKIDS OF WHT POWDER	Rouch 1,2,3,4, & 5	7/20/09	8/26/2009	#ZZ00236695	1,
	3	-	37 BATTERIES	N/A	N/A	8/10/2009	N/A	1,3
	4	-	6 5-GAL PAILS	N/A	N/A	8/31/2009	N/A	1,2
	5	-	8- FIRE EXT.	N/A	N/A	8/10/2009	N/A	1,3
	6	-	MERCURY/PH14	N/A	N/A	9/29/2009	000377204VES	8
	7	-	BLDG 5 LIFT STATION	Lift Station	9/10/09	10/2/2009	N/A	5,7
	8	-	BLDG 5 SUMP PIT(2)	Sump Pump 1&2	9/10/09	10/2/2009	N/A	5,7
	9	-	BLDG 5 RESERVOIR	B5B-WW-081009	08/10/09	9/4/2009	71560	12
E	9	-	BLDG 5 SANITARY PIT	Bldg 5 N. Central San. Pit	11/10/09	11/18/2009	N/A	6
X	10	-	BLDG 10 S.E. CORNER TANK	Bldg 10 SE Corner smpl 1 & 2	10/14/09	12/8/2009	ZZ00131901	9,10
T	11	-	BLDG 10 S.E. CORNER SOIL	Bldg 10 SE Corner so. 1	10/14/09	12/15/2009	391707	9
R	12	-	BLDG 2 BSMT. LIFT PIT	Rauch Inc. Basement Oil Sump	11/18/09	12/10/2009	ZZ00131900	11
A	13	-	BLDG 5 N.W. TANK	Bldg. 5 NW Tank 1 &2	09/23/09	10/29/2009	ZZ00131908	4
S	14	-	BLDG 7 UST SOIL	Note 15	12/16/09	1/29/2010	NOTE 16	15,16

TECH TOWN PHASE II PROJECT
ORIGINAL/EXTRA RESIDUAL REPORT

	EXTRA RESIDUALS NOTES
	1 - On 3/2/09 & 3/3/09 SRI/Veolia staged residual(s) in Bldg. 5
	2 - Items found to be emptied/containers had an inch or less of liquid and filled with floor dry to absorb remaining liquid
	3 - Taken to SRI landfill to be disposed of properly
	4 - Samples taken by Veolia on 9/23/09, pumped oil into drums on 10/14/09, manifested/transported on 10/29/09
	5 - Samples taken by Veolia on 9/10/09
	6 - Veolia sampled on 10/27/09, Pit(s) material found to be water/floor cracked/pit filled per Tim Smith on 11/18/09
	7 - Pit(s) material found to be non-contaminated/floor cracked/pit filled per Tim Smith on 10/2/09 material in lift station & sumps is non-conta
	8 - Material staged in container, stored in trailer until Veolia picked up 9/29/09
	9 - Veolia sampled residual waste (soil/oil) on 10/14/09 removed soil on 12/15/09 to Waste Management in 30 yd container
	10 - Veolia pumped out oil into drums (total of 15), manifested/transported on 12/8/09
	11 - Veolia sampled residual waste on 11/18/09 , pumped into drums on 11/19/09 (total of 4), manifested/transported on 12/10/09
E	12 - RSVR. containing 1200 gallons of non-contaminated water pumped out by Clean Waters into vac truck, manifested/transported on 9/4/09
X	13 - Two waste manifests were generated ZZ0236695(8/26/09) & 000377217VES(9/1/09)
T	14 - 5 out of the 16 drums contained more than an inch of liquid
R	15 - Two analyticals were taken; 1st sample ID#: 091216-3,5,7,8 2nd sample ID#: 091216-7,8 additional anaylisis for PCB
A	16 - Two waste manifests were generated 000737604FLE (1/29/10) & 000737605(1/29/10)
S	

ORIGINAL

ORIGINAL

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4738 Gateway Circle Dayton, OH 45440 (800) 572-9839
339 W. Walton Blvd Pontiac, MI 48340 (800) 526-4951

write on Labpack items

June 22, 2009

Client:

Veolia ES Technical Solutions, LLC
4301 Infirmary Rd.
West Carrollton, OH 45449

Attn: Brett Davis

Work Order: DSF0376
Project Name: Veolia
Project Number: Rauch RD060809

Date Received: 06/08/09

Samples logged in at Dayton laboratory.

An executed copy of the Chain of Custody is also included as an addendum to this report.

If you have any questions relating to this analytical report, please contact your Laboratory Project Manager at the number shown above.

SAMPLE IDENTIFICATION	LAB NUMBER	COLLECTION DATE AND TIME
Tote	DSF0376-01	06/08/09 10:25
3 Fibers	DSF0376-02	06/08/09 10:35
Bin	DSF0376-03	06/08/09 10:40

Case Narrative: Sample volume was limited.
Ignitability was not preformed on sample DSF0376-01 due to lack of sample volume.
TCLP herbicides was not performed due to limited sample volume.

Ohio Certification Number: 4074, 857

Reproduction of this analytical report is permitted only in its entirety. This report shall not be reproduced except in full without the written approval of the laboratory.

TestAmerica Laboratories, Inc. certifies that the analytical results contained herein apply only to the samples tested as received by our Laboratory.

Report Approved By:

S A Howard

This report has been electronically signed.

TestAmerica Dayton
Shelly A. Howard
Dayton Project Manager

eolia ES Technical Solutions, LLC
4301 Infirmary Rd.
West Carrollton, OH 45449
Brett Davis

Work Order: DSF0376
Project: Veolia
Project Number: Rauch RD060809

Received: 06/08/09
Reported: 06/22/09 16:49

ANALYTICAL REPORT

Analyte	Sample Result	Data Qualifiers	Units	Rpt Limit	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: DSF0376-01 (Tote - Non-aqueous)					**Sampled: 06/08/09 10:25**			**Recvd: 06/08/09 11:55**	
Organochlorine Pesticides/PCBs									
PCB-1016	<0.833		mg/kg	0.833	5	06/12/09 03:25	TWM	9060478	SW 8082
PCB-1221	<0.833		mg/kg	0.833	5	06/12/09 03:25	TWM	9060478	SW 8082
PCB-1232	<0.833		mg/kg	0.833	5	06/12/09 03:25	TWM	9060478	SW 8082
PCB-1242	<0.833		mg/kg	0.833	5	06/12/09 03:25	TWM	9060478	SW 8082
PCB-1248	<0.833		mg/kg	0.833	5	06/12/09 03:25	TWM	9060478	SW 8082
PCB-1254	<0.833		mg/kg	0.833	5	06/12/09 03:25	TWM	9060478	SW 8082
PCB-1260	<0.833		mg/kg	0.833	5	06/12/09 03:25	TWM	9060478	SW 8082
Surr: Tetrachloro-meta-xylene (10-194%)	*113 %*					06/12/09 03:25	TWM	9060478	SW 8082
Surr: Decachlorobiphenyl (10-180%)	*105 %*					06/12/09 03:25	TWM	9060478	SW 8082
Volatile Organic Compounds by GC/MS									
Acetone	<4170		ug/kg wet	4170	42	06/11/09 16:21	eap	9060590	SW 8260A
Benzene	<208		ug/kg wet	208	42	06/11/09 16:21	eap	9060590	SW 8260A
Bromobenzene	<208		ug/kg wet	208	42	06/11/09 16:21	eap	9060590	SW 8260A
Bromochloromethane	<208		ug/kg wet	208	42	06/11/09 16:21	eap	9060590	SW 8260A
›modichloromethane	<208		ug/kg wet	208	42	06/11/09 16:21	eap	9060590	SW 8260A
›hlorobromomethane)									
Bromoform	<208		ug/kg wet	208	42	06/11/09 16:21	eap	9060590	SW 8260A
Bromomethane (Methyl bromide)	<417		ug/kg wet	417	42	06/11/09 16:21	eap	9060590	SW 8260A
2-Butanone (MEK)	<2080		ug/kg wet	2080	42	06/11/09 16:21	eap	9060590	SW 8260A
tert-Butylbenzene	<208		ug/kg wet	208	42	06/11/09 16:21	eap	9060590	SW 8260A
sec-Butylbenzene	<208		ug/kg wet	208	42	06/11/09 16:21	eap	9060590	SW 8260A
n-Butylbenzene	<208		ug/kg wet	208	42	06/11/09 16:21	eap	9060590	SW 8260A
Carbon disulfide	<208		ug/kg wet	208	42	06/11/09 16:21	eap	9060590	SW 8260A
Carbon tetrachloride	<208		ug/kg wet	208	42	06/11/09 16:21	eap	9060590	SW 8260A
Chlorobenzene	<208		ug/kg wet	208	42	06/11/09 16:21	eap	9060590	SW 8260A
Chloroethane	<417		ug/kg wet	417	42	06/11/09 16:21	eap	9060590	SW 8260A
Chloroform	<208		ug/kg wet	208	42	06/11/09 16:21	eap	9060590	SW 8260A
Chloromethane (Methyl chloride)	<417		ug/kg wet	417	42	06/11/09 16:21	eap	9060590	SW 8260A
4-Chlorotoluene	<208		ug/kg wet	208	42	06/11/09 16:21	eap	9060590	SW 8260A
2-Chlorotoluene	<208		ug/kg wet	208	42	06/11/09 16:21	eap	9060590	SW 8260A
Dibromochloromethane	<208		ug/kg wet	208	42	06/11/09 16:21	eap	9060590	SW 8260A
(Chlorodibromomethane)									
Dibromomethane	<208		ug/kg wet	208	42	06/11/09 16:21	eap	9060590	SW 8260A
1,2-Dichlorobenzene	<208		ug/kg wet	208	42	06/11/09 16:21	eap	9060590	SW 8260A
1,4-Dichlorobenzene	<208		ug/kg wet	208	42	06/11/09 16:21	eap	9060590	SW 8260A
1,3-Dichlorobenzene	<208		ug/kg wet	208	42	06/11/09 16:21	eap	9060590	SW 8260A
Dichlorodifluoromethane	<208		ug/kg wet	208	42	06/11/09 16:21	eap	9060590	SW 8260A
1,1-Dichloroethane	<208		ug/kg wet	208	42	06/11/09 16:21	eap	9060590	SW 8260A
1,2-Dichloroethane	<208		ug/kg wet	208	42	06/11/09 16:21	eap	9060590	SW 8260A
cis-1,2-Dichloroethene	<208		ug/kg wet	208	42	06/11/09 16:21	eap	9060590	SW 8260A
›s-1,2-Dichloroethene	<208		ug/kg wet	208	42	06/11/09 16:21	eap	9060590	SW 8260A
-Dichloroethene	<208		ug/kg wet	208	42	06/11/09 16:21	eap	9060590	SW 8260A
1,3-Dichloropropane	<208		ug/kg wet	208	42	06/11/09 16:21	eap	9060590	SW 8260A
2,2-Dichloropropane	<208		ug/kg wet	208	42	06/11/09 16:21	eap	9060590	SW 8260A

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olia ES Technical Solutions, LLC
4301 Infirmary Rd.
West Carrollton, OH 45449
Brett Davis

Work Order: DSF0376
Project: Veolia
Project Number: Rauch RD060809

Received: 06/08/09
Reported: 06/22/09 16:49

ANALYTICAL REPORT

Analyte	Sample Result	Data Qualifiers	Units	Rpt Limit	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: DSF0376-01 (Tote - Non-aqueous) - cont.					**Sampled: 06/08/09 10:25**		**Recvd: 06/08/09 11:55**		
Volatile Organic Compounds by GC/MS - cont.									
1,2-Dichloropropane	<208		ug/kg wet	208	42	06/11/09 16:21	eap	9060590	SW 8260A
1,1-Dichloropropene	<208		ug/kg wet	208	42	06/11/09 16:21	eap	9060590	SW 8260A
cis-1,3-Dichloropropene	<208		ug/kg wet	208	42	06/11/09 16:21	eap	9060590	SW 8260A
trans-1,3-Dichloropropene	<208		ug/kg wet	208	42	06/11/09 16:21	eap	9060590	SW 8260A
Ethylbenzene	<208		ug/kg wet	208	42	06/11/09 16:21	eap	9060590	SW 8260A
Hexachlorobutadiene	<208		ug/kg wet	208	42	06/11/09 16:21	eap	9060590	SW 8260A
n-Hexane	<833		ug/kg wet	833	42	06/11/09 16:21	eap	9060590	SW 8260A
2-Hexanone	<2080		ug/kg wet	2080	42	06/11/09 16:21	eap	9060590	SW 8260A
Isopropylbenzene (Cumene)	<208		ug/kg wet	208	42	06/11/09 16:21	eap	9060590	SW 8260A
p-Isopropyltoluene	<208		ug/kg wet	208	42	06/11/09 16:21	eap	9060590	SW 8260A
Methyl tert-butyl ether	<208		ug/kg wet	208	42	06/11/09 16:21	eap	9060590	SW 8260A
Methylene chloride	<417		ug/kg wet	417	42	06/11/09 16:21	eap	9060590	SW 8260A
4-Methyl-2-pentanone (MIBK)	<2080		ug/kg wet	2080	42	06/11/09 16:21	eap	9060590	SW 8260A
n-Propylbenzene	<208		ug/kg wet	208	42	06/11/09 16:21	eap	9060590	SW 8260A
S[illegible]ne	<208		ug/kg wet	208	42	06/11/09 16:21	eap	9060590	SW 8260A
[illegible]2-Tetrachloroethane	<208		ug/kg wet	208	42	06/11/09 16:21	eap	9060590	SW 8260A
1,1,2,2-Tetrachloroethane	<208		ug/kg wet	208	42	06/11/09 16:21	eap	9060590	SW 8260A
Tetrachloroethene	<208		ug/kg wet	208	42	06/11/09 16:21	eap	9060590	SW 8260A
Toluene	<208		ug/kg wet	208	42	06/11/09 16:21	eap	9060590	SW 8260A
1,2,4-Trichlorobenzene	<208		ug/kg wet	208	42	06/11/09 16:21	eap	9060590	SW 8260A
1,1,1-Trichloroethane	<208		ug/kg wet	208	42	06/11/09 16:21	eap	9060590	SW 8260A
1,1,2-Trichloroethane	<208		ug/kg wet	208	42	06/11/09 16:21	eap	9060590	SW 8260A
Trichloroethene	<208		ug/kg wet	208	42	06/11/09 16:21	eap	9060590	SW 8260A
Trichlorofluoromethane	<208		ug/kg wet	208	42	06/11/09 16:21	eap	9060590	SW 8260A
1,2,4-Trimethylbenzene	<208		ug/kg wet	208	42	06/11/09 16:21	eap	9060590	SW 8260A
1,3,5-Trimethylbenzene	<208		ug/kg wet	208	42	06/11/09 16:21	eap	9060590	SW 8260A
Vinyl Acetate	<208		ug/kg wet	208	42	06/11/09 16:21	eap	9060590	SW 8260A
Vinyl chloride	<83.3		ug/kg wet	83.3	42	06/11/09 16:21	eap	9060590	SW 8260A
Xylenes, total	<208		ug/kg wet	208	42	06/11/09 16:21	eap	9060590	SW 8260A
Surr: 1,2-Dichloroethane-d4 (80-120%)	*100 %*					06/11/09 16:21	eap	9060590	SW 8260A
Surr: Dibromofluoromethane (80-120%)	*99 %*					06/11/09 16:21	eap	9060590	SW 8260A
Surr: Toluene-d8 (80-120%)	*101 %*					06/11/09 16:21	eap	9060590	SW 8260A
Surr: 4-Bromofluorobenzene (80-120%)	*102 %*					06/11/09 16:21	eap	9060590	SW 8260A
TCLP Metals by 1311/6000/7000									
Arsenic	<0.500		mg/L	0.500	1	06/11/09 22:51	MJW	9060514	SW 6010B
Barium	<0.100		mg/L	0.100	1	06/11/09 22:51	MJW	9060514	SW 6010B
Cadmium	<0.150		mg/L	0.150	1	06/11/09 22:51	MJW	9060514	SW 6010B
Chromium	<0.200		mg/L	0.200	1	06/11/09 22:51	MJW	9060514	SW 6010B
Lead	<0.400		mg/L	0.400	1	06/11/09 22:51	MJW	9060514	SW 6010B
M[illegible]y	<0.00100		mg/L	0.00100	1	06/12/09 13:27	MKH	9060597	SW 7470A
S[illegible]n	<0.500		mg/L	0.500	1	06/11/09 22:51	MJW	9060514	SW 6010B
Silver	<0.200		mg/L	0.200	1	06/11/09 22:51	MJW	9060514	SW 6010B
Extraction	ND		N/A	NA	1	06/11/09 10:44	TAD	9060493	SW 1311

olia ES Technical Solutions, LLC
4301 Infirmary Rd.
West Carrollton, OH 45449
Brett Davis

Work Order: DSF0376
Project: Veolia
Project Number: Rauch RD060809

Received: 06/08/09
Reported: 06/22/09 16:49

ANALYTICAL REPORT

Analyte	Sample Result	Data Qualifiers	Units	Rpt Limit	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: DSF0376-01 (Tote - Non-aqueous) - cont.					**Sampled: 06/08/09 10:25**			**Recvd: 06/08/09 11:55**	
TCLP Pesticides by EPA Method 1311/8081A									
Methoxychlor	<0.00100		mg/L	0.00100	1	06/15/09 23:00	TWM	9060561	SW 8081
gamma-BHC (Lindane)	<0.00100		mg/L	0.00100	1	06/15/09 23:00	TWM	9060561	SW 8081
Chlordane	<0.00200		mg/L	0.00200	1	06/15/09 23:00	TWM	9060561	SW 8081
Endrin	<0.00100		mg/L	0.00100	1	06/15/09 23:00	TWM	9060561	SW 8081
Heptachlor	<0.00100		mg/L	0.00100	1	06/15/09 23:00	TWM	9060561	SW 8081
Heptachlor epoxide	<0.00100		mg/L	0.00100	1	06/15/09 23:00	TWM	9060561	SW 8081
Toxaphene	<0.00200		mg/L	0.00200	1	06/15/09 23:00	TWM	9060561	SW 8081
Surr: Tetrachloro-meta-xylene (14-150%)	*76 %*					06/15/09 23:00	TWM	9060561	SW 8081
Surr: Decachlorobiphenyl (12-150%)	*23 %*					06/15/09 23:00	TWM	9060561	SW 8081
TCLP Volatile Organic Compounds by EPA Method 1311/8260B									
Extraction	ND		N/A	NA	1	06/11/09 10:44	TAD	9060495	SW 1311
Benzene	<0.200	M	mg/L	0.200	200	06/17/09 11:20	prb	9060822	SW 8260B
2-Butanone (MEK)	<2.50	M	mg/L	2.50	200	06/17/09 11:20	prb	9060822	SW 8260B
Carbon tetrachloride	<0.200	M	mg/L	0.200	200	06/17/09 11:20	prb	9060822	SW 8260B
`nrobenzene	<0.200	M	mg/L	0.200	200	06/17/09 11:20	prb	9060822	SW 8260B
oroform	<0.200	M	mg/L	0.200	200	06/17/09 11:20	prb	9060822	SW 8260B
1,2-Dichloroethane	<0.200	M	mg/L	0.200	200	06/17/09 11:20	prb	9060822	SW 8260B
1,1-Dichloroethene	<0.200	M	mg/L	0.200	200	06/17/09 11:20	prb	9060822	SW 8260B
Tetrachloroethene	<0.200	M	mg/L	0.200	200	06/17/09 11:20	prb	9060822	SW 8260B
Trichloroethene	<0.200	M	mg/L	0.200	200	06/17/09 11:20	prb	9060822	SW 8260B
Vinyl chloride	<0.200	M	mg/L	0.200	200	06/17/09 11:20	prb	9060822	SW 8260B
Surr: 1,2-Dichloroethane-d4 (80-120%)	*103 %*	*M*				06/17/09 11:20	prb	9060822	SW 8260B
Surr: Dibromofluoromethane (80-120%)	*104 %*	*M*				06/17/09 11:20	prb	9060822	SW 8260B
Surr: Toluene-d8 (80-120%)	*95 %*	*M*				06/17/09 11:20	prb	9060822	SW 8260B
Surr: 4-Bromofluorobenzene (80-120%)	*103 %*	*M*				06/17/09 11:20	prb	9060822	SW 8260B
TCLP Semivolatile Compounds by EPA Method 1311/8270C									
Extraction	ND		N/A	NA	1	06/11/09 10:44	TAD	9060493	SW 1311
1,4-Dichlorobenzene	<0.100		mg/L	0.100	1	06/21/09 16:20	clh	9060803	SW 8270C
2,4-Dinitrotoluene	<0.100		mg/L	0.100	1	06/21/09 16:20	clh	9060803	SW 8270C
Hexachlorobenzene	<0.100		mg/L	0.100	1	06/21/09 16:20	clh	9060803	SW 8270C
Hexachlorobutadiene	<0.100		mg/L	0.100	1	06/21/09 16:20	clh	9060803	SW 8270C
Hexachloroethane	<0.100		mg/L	0.100	1	06/21/09 16:20	clh	9060803	SW 8270C
2-Methylphenol (o-Cresol)	<0.100		mg/L	0.100	1	06/18/09 12:53	sgs	9060695	SW 8270C
3&4-Methylphenol (m&p Cresol)	<0.100		mg/L	0.100	1	06/18/09 12:53	sgs	9060695	SW 8270C
Nitrobenzene	<0.100		mg/L	0.100	1	06/21/09 16:20	clh	9060803	SW 8270C
Pentachlorophenol	<0.100		mg/L	0.100	1	06/18/09 12:53	sgs	9060695	SW 8270C
Pyridine	<0.100		mg/L	0.100	1	06/18/09 12:53	sgs	9060695	SW 8270C
Pyridine	<0.100		mg/L	0.100	1	06/21/09 16:20	clh	9060803	SW 8270C
2,4,5-Trichlorophenol	<0.100		mg/L	0.100	1	06/18/09 12:53	sgs	9060695	SW 8270C
2,4,6-Trichlorophenol	<0.100		mg/L	0.100	1	06/18/09 12:53	sgs	9060695	SW 8270C
: 2-Fluorophenol (21-145%)	*66 %*					06/18/09 12:53	sgs	9060695	SW 8270C
Surr: Phenol-d6 (10-149%)	*69 %*					06/18/09 12:53	sgs	9060695	SW 8270C
Surr: Nitrobenzene-d5 (35-124%)	*76 %*					06/18/09 12:53	sgs	9060695	SW 8270C
Surr: Nitrobenzene-d5 (35-124%)	*75 %*					06/21/09 16:20	clh	9060803	SW 8270C

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olia ES Technical Solutions, LLC
4301 Infirmary Rd.
West Carrollton, OH 45449
Brett Davis

Work Order: DSF0376
Project: Veolia
Project Number: Rauch RD060809

Received: 06/08/09
Reported: 06/22/09 16:49

ANALYTICAL REPORT

Analyte	Sample Result	Data Qualifiers	Units	Rpt Limit	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: DSF0376-01 (Tote - Non-aqueous) - cont.					**Sampled: 06/08/09 10:25**		**Recvd: 06/08/09 11:55**		
TCLP Semivolatile Compounds by EPA Method 1311/8270C - cont.									
Surr: 2-Fluorobiphenyl (43-134%)	*67 %*					06/18/09 12:53	sgs	9060695	SW 8270C
Surr: 2-Fluorobiphenyl (43-134%)	*76 %*					06/21/09 16:20	clh	9060803	SW 8270C
Surr: 2,4,6-Tribromophenol (21-146%)	*81 %*					06/18/09 12:53	sgs	9060695	SW 8270C
Surr: Terphenyl-d14 (34-149%)	*56 %*					06/18/09 12:53	sgs	9060695	SW 8270C
Surr: Terphenyl-d14 (34-149%)	*59 %*					06/21/09 16:20	clh	9060803	SW 8270C
Total Petroleum Hydrocarbons									
DRO (C10-C20)	<1420	L4, M	mg/kg wet	1420	1	06/18/09 12:04	PLC	9060494	SW 8015B
DRO (C21-C34)	<2830		mg/kg wet	2830	1	06/18/09 12:04	PLC	9060494	SW 8015B
Total TPH (C10-C34)	<4250		mg/kg wet	4250	1	06/18/09 12:04	PLC	9060494	SW 8015B
Surr: o-Terphenyl (10-115%)	*123 %*	*ZI*				06/18/09 12:04	PLC	9060494	SW 8015B
Sample ID: DSF0376-02 (3 Fibers - Non-aqueous)					**Sampled: 06/08/09 10:35**		**Recvd: 06/08/09 11:55**		
General Chemistry Parameters									
% Solids	**100**		%	0.100	1	06/15/09 10:20	jlb	9060672	SW 846
Cyanide, Amenable	<0.123	CN4	mg/kg dry	0.123	1	06/10/09 15:39	RLM	9060432	SW 9012A
Cyanide, Total	<0.123		mg/kg dry	0.123	1	06/10/09 15:39	RLM	9060432	SW 9012
bility by Flashpoint	**>100**		°C	25.0	1	06/22/09 10:35	JLB	9060990	SW 1010 (Mod)
Volatile Organic Compounds by GC/MS									
Acetone	<4200		ug/kg dry	4200	42	06/11/09 15:52	eap	9060590	SW 8260A
Benzene	<210		ug/kg dry	210	42	06/11/09 15:52	eap	9060590	SW 8260A
Bromobenzene	<210		ug/kg dry	210	42	06/11/09 15:52	eap	9060590	SW 8260A
Bromochloromethane	<210		ug/kg dry	210	42	06/11/09 15:52	eap	9060590	SW 8260A
Bromodichloromethane (Dichlorobromomethane)	<210		ug/kg dry	210	42	06/11/09 15:52	eap	9060590	SW 8260A
Bromoform	<210		ug/kg dry	210	42	06/11/09 15:52	eap	9060590	SW 8260A
Bromomethane (Methyl bromide)	<420		ug/kg dry	420	42	06/11/09 15:52	eap	9060590	SW 8260A
2-Butanone (MEK)	<2100		ug/kg dry	2100	42	06/11/09 15:52	eap	9060590	SW 8260A
tert-Butylbenzene	<210		ug/kg dry	210	42	06/11/09 15:52	eap	9060590	SW 8260A
sec-Butylbenzene	<210		ug/kg dry	210	42	06/11/09 15:52	eap	9060590	SW 8260A
n-Butylbenzene	<210		ug/kg dry	210	42	06/11/09 15:52	eap	9060590	SW 8260A
Carbon disulfide	<210		ug/kg dry	210	42	06/11/09 15:52	eap	9060590	SW 8260A
Carbon tetrachloride	<210		ug/kg dry	210	42	06/11/09 15:52	eap	9060590	SW 8260A
Chlorobenzene	<210		ug/kg dry	210	42	06/11/09 15:52	eap	9060590	SW 8260A
Chloroethane	<420		ug/kg dry	420	42	06/11/09 15:52	eap	9060590	SW 8260A
Chloroform	<210		ug/kg dry	210	42	06/11/09 15:52	eap	9060590	SW 8260A
Chloromethane (Methyl chloride)	<420		ug/kg dry	420	42	06/11/09 15:52	eap	9060590	SW 8260A
4-Chlorotoluene	<210		ug/kg dry	210	42	06/11/09 15:52	eap	9060590	SW 8260A
2-Chlorotoluene	<210		ug/kg dry	210	42	06/11/09 15:52	eap	9060590	SW 8260A
Dibromochloromethane (Chlorodibromomethane)	<210		ug/kg dry	210	42	06/11/09 15:52	eap	9060590	SW 8260A
Dibromomethane	<210		ug/kg dry	210	42	06/11/09 15:52	eap	9060590	SW 8260A
1,2 [illegible]lorobenzene	<210		ug/kg dry	210	42	06/11/09 15:52	eap	9060590	SW 8260A
1,3 [illegible]lorobenzene	<210		ug/kg dry	210	42	06/11/09 15:52	eap	9060590	SW 8260A
1,3-Dichlorobenzene	<210		ug/kg dry	210	42	06/11/09 15:52	eap	9060590	SW 8260A
Dichlorodifluoromethane	<210		ug/kg dry	210	42	06/11/09 15:52	eap	9060590	SW 8260A

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ANALYTICAL REPORT

Analyte	Sample Result	Data Qualifiers	Units	Rpt Limit	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: DSF0376-02 (3 Fibers - Non-aqueous) - cont.					**Sampled: 06/08/09 10:35**		**Recvd: 06/08/09 11:55**		
Volatile Organic Compounds by GC/MS - cont.									
1,1-Dichloroethane	<210		ug/kg dry	210	42	06/11/09 15:52	eap	9060590	SW 8260A
1,2-Dichloroethane	<210		ug/kg dry	210	42	06/11/09 15:52	eap	9060590	SW 8260A
cis-1,2-Dichloroethene	<210		ug/kg dry	210	42	06/11/09 15:52	eap	9060590	SW 8260A
trans-1,2-Dichloroethene	<210		ug/kg dry	210	42	06/11/09 15:52	eap	9060590	SW 8260A
1,1-Dichloroethene	<210		ug/kg dry	210	42	06/11/09 15:52	eap	9060590	SW 8260A
1,3-Dichloropropane	<210		ug/kg dry	210	42	06/11/09 15:52	eap	9060590	SW 8260A
2,2-Dichloropropane	<210		ug/kg dry	210	42	06/11/09 15:52	eap	9060590	SW 8260A
1,2-Dichloropropane	<210		ug/kg dry	210	42	06/11/09 15:52	eap	9060590	SW 8260A
1,1-Dichloropropene	<210		ug/kg dry	210	42	06/11/09 15:52	eap	9060590	SW 8260A
cis-1,3-Dichloropropene	<210		ug/kg dry	210	42	06/11/09 15:52	eap	9060590	SW 8260A
trans-1,3-Dichloropropene	<210		ug/kg dry	210	42	06/11/09 15:52	eap	9060590	SW 8260A
Ethylbenzene	<210		ug/kg dry	210	42	06/11/09 15:52	eap	9060590	SW 8260A
Hexachlorobutadiene	<210		ug/kg dry	210	42	06/11/09 15:52	eap	9060590	SW 8260A
n-Hexane	<840		ug/kg dry	840	42	06/11/09 15:52	eap	9060590	SW 8260A
2-Hexanone	<2100		ug/kg dry	2100	42	06/11/09 15:52	eap	9060590	SW 8260A
Isopropylbenzene (Cumene)	<210		ug/kg dry	210	42	06/11/09 15:52	eap	9060590	SW 8260A
p-Isopropyltoluene	<210		ug/kg dry	210	42	06/11/09 15:52	eap	9060590	SW 8260A
Methyl tert-butyl ether	<210		ug/kg dry	210	42	06/11/09 15:52	eap	9060590	SW 8260A
Methylene chloride	<420		ug/kg dry	420	42	06/11/09 15:52	eap	9060590	SW 8260A
4-Methyl-2-pentanone (MIBK)	<2100		ug/kg dry	2100	42	06/11/09 15:52	eap	9060590	SW 8260A
n-Propylbenzene	<210		ug/kg dry	210	42	06/11/09 15:52	eap	9060590	SW 8260A
Styrene	<210		ug/kg dry	210	42	06/11/09 15:52	eap	9060590	SW 8260A
1,1,1,2-Tetrachloroethane	<210		ug/kg dry	210	42	06/11/09 15:52	eap	9060590	SW 8260A
1,1,2,2-Tetrachloroethane	<210		ug/kg dry	210	42	06/11/09 15:52	eap	9060590	SW 8260A
Tetrachloroethene	<210		ug/kg dry	210	42	06/11/09 15:52	eap	9060590	SW 8260A
Toluene	<210		ug/kg dry	210	42	06/11/09 15:52	eap	9060590	SW 8260A
1,2,4-Trichlorobenzene	<210		ug/kg dry	210	42	06/11/09 15:52	eap	9060590	SW 8260A
1,1,1-Trichloroethane	<210		ug/kg dry	210	42	06/11/09 15:52	eap	9060590	SW 8260A
1,1,2-Trichloroethane	<210		ug/kg dry	210	42	06/11/09 15:52	eap	9060590	SW 8260A
Trichloroethene	<210		ug/kg dry	210	42	06/11/09 15:52	eap	9060590	SW 8260A
Trichlorofluoromethane	<210		ug/kg dry	210	42	06/11/09 15:52	eap	9060590	SW 8260A
1,2,4-Trimethylbenzene	<210		ug/kg dry	210	42	06/11/09 15:52	eap	9060590	SW 8260A
1,3,5-Trimethylbenzene	<210		ug/kg dry	210	42	06/11/09 15:52	eap	9060590	SW 8260A
Vinyl Acetate	<210		ug/kg dry	210	42	06/11/09 15:52	eap	9060590	SW 8260A
Vinyl chloride	<84.0		ug/kg dry	84.0	42	06/11/09 15:52	eap	9060590	SW 8260A
Xylenes, total	<210		ug/kg dry	210	42	06/11/09 15:52	eap	9060590	SW 8260A
Surr: 1,2-Dichloroethane-d4 (80-120%)	*102 %*					06/11/09 15:52	eap	9060590	SW 8260A
Surr: Dibromofluoromethane (80-120%)	*98 %*					06/11/09 15:52	eap	9060590	SW 8260A
Surr: Toluene-d8 (80-120%)	*102 %*					06/11/09 15:52	eap	9060590	SW 8260A
Surr: 4-Bromofluorobenzene (80-120%)	*100 %*					06/11/09 15:52	eap	9060590	SW 8260A
Total Metals by 1311/6000/7000									
Arsenic	<2.50	RL3	mg/L	2.50	5	06/13/09 04:03	MJW	9060514	SW 6010B
Barium	**0.823**		mg/L	0.500	5	06/13/09 04:03	MJW	9060514	SW 6010B

olia ES Technical Solutions, LLC
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ANALYTICAL REPORT

Analyte	Sample Result	Data Qualifiers	Units	Rpt Limit	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: DSF0376-02 (3 Fibers - Non-aqueous) - cont.					**Sampled:**	**06/08/09 10:35**	**Recvd:**	**06/08/09 11:55**	
TCLP Metals by 1311/6000/7000 - cont.									
Cadmium	<0.750	RL3	mg/L	0.750	5	06/13/09 04:03	MJW	9060514	SW 6010B
Chromium	<1.00	RL3	mg/L	1.00	5	06/13/09 04:03	MJW	9060514	SW 6010B
Lead	<2.00	RL3	mg/L	2.00	5	06/13/09 04:03	MJW	9060514	SW 6010B
Mercury	<0.00100		mg/L	0.00100	1	06/12/09 13:29	MKH	9060597	SW 7470A
Selenium	<1.00	RL3	mg/L	1.00	5	06/13/09 04:03	MJW	9060514	SW 6010B
Silver	<1.00	RL3	mg/L	1.00	5	06/13/09 04:03	MJW	9060514	SW 6010B
Extraction	ND		N/A	NA	1	06/11/09 10:44	TAD	9060493	SW 1311
TCLP Pesticides by EPA Method 1311/8081A									
Methoxychlor	<0.00100		mg/L	0.00100	1	06/15/09 23:22	TWM	9060561	SW 8081
gamma-BHC (Lindane)	<0.00100		mg/L	0.00100	1	06/15/09 23:22	TWM	9060561	SW 8081
Chlordane	<0.00200		mg/L	0.00200	1	06/15/09 23:22	TWM	9060561	SW 8081
Endrin	<0.00100		mg/L	0.00100	1	06/15/09 23:22	TWM	9060561	SW 8081
Heptachlor	<0.00100		mg/L	0.00100	1	06/15/09 23:22	TWM	9060561	SW 8081
Heptachlor epoxide	<0.00100		mg/L	0.00100	1	06/15/09 23:22	TWM	9060561	SW 8081
[illegible]phene	<0.00200		mg/L	0.00200	1	06/15/09 23:22	TWM	9060561	SW 8081
Tetrachloro-meta-xylene (14-150%)	*72 %*					06/15/09 23:22	TWM	9060561	SW 8081
Surr: Decachlorobiphenyl (12-150%)	*50 %*					06/15/09 23:22	TWM	9060561	SW 8081
TCLP Volatile Organic Compounds by EPA Method 1311/8260B									
Extraction	ND		N/A	NA	1	06/11/09 10:44	TAD	9060495	SW 1311
Benzene	<0.200	A-01	mg/L	0.200	200	06/17/09 10:51	prb	9060822	SW 8260B
2-Butanone (MEK)	<2.50	A-01	mg/L	2.50	200	06/17/09 10:51	prb	9060822	SW 8260B
Carbon tetrachloride	<0.200	A-01	mg/L	0.200	200	06/17/09 10:51	prb	9060822	SW 8260B
Chlorobenzene	<0.200	A-01	mg/L	0.200	200	06/17/09 10:51	prb	9060822	SW 8260B
Chloroform	<0.200	A-01	mg/L	0.200	200	06/17/09 10:51	prb	9060822	SW 8260B
1,2-Dichloroethane	<0.200	A-01	mg/L	0.200	200	06/17/09 10:51	prb	9060822	SW 8260B
1,1-Dichloroethene	<0.200	A-01	mg/L	0.200	200	06/17/09 10:51	prb	9060822	SW 8260B
Tetrachloroethene	<0.200	A-01	mg/L	0.200	200	06/17/09 10:51	prb	9060822	SW 8260B
Trichloroethene	<0.200	A-01	mg/L	0.200	200	06/17/09 10:51	prb	9060822	SW 8260B
Vinyl chloride	<0.200	A-01	mg/L	0.200	200	06/17/09 10:51	prb	9060822	SW 8260B
Surr: 1,2-Dichloroethane-d4 (80-120%)	*102 %*	*A-01*				06/17/09 10:51	prb	9060822	SW 8260B
Surr: Dibromofluoromethane (80-120%)	*104 %*	*A-01*				06/17/09 10:51	prb	9060822	SW 8260B
Surr: Toluene-d8 (80-120%)	*96 %*	*A-01*				06/17/09 10:51	prb	9060822	SW 8260B
Surr: 4-Bromofluorobenzene (80-120%)	*101 %*	*A-01*				06/17/09 10:51	prb	9060822	SW 8260B
TCLP Semivolatile Compounds by EPA Method 1311/8270C									
Extraction	ND		N/A	NA	1	06/11/09 10:44	TAD	9060493	SW 1311
1,4-Dichlorobenzene	<0.100		mg/L	0.100	1	06/21/09 16:43	clh	9060803	SW 8270C
2,4-Dinitrotoluene	<0.100		mg/L	0.100	1	06/21/09 16:43	clh	9060803	SW 8270C
Hexachlorobenzene	<0.100		mg/L	0.100	1	06/21/09 16:43	clh	9060803	SW 8270C
Hexachlorobutadiene	<0.100		mg/L	0.100	1	06/21/09 16:43	clh	9060803	SW 8270C
Hexachloroethane	<0.100		mg/L	0.100	1	06/21/09 16:43	clh	9060803	SW 8270C
[illegible]ylphenol (o-Cresol)	<0.100		mg/L	0.100	1	06/18/09 13:17	sgs	9060695	SW 8270C
3&4-Methylphenol (m&p Cresol)	<0.100		mg/L	0.100	1	06/18/09 13:17	sgs	9060695	SW 8270C
Nitrobenzene	<0.100		mg/L	0.100	1	06/21/09 16:43	clh	9060803	SW 8270C
Pentachlorophenol	<0.100		mg/L	0.100	1	06/18/09 13:17	sgs	9060695	SW 8270C

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ANALYTICAL REPORT

Analyte	Sample Result	Data Qualifiers	Units	Rpt Limit	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: DSF0376-02 (3 Fibers - Non-aqueous) - cont.					**Sampled: 06/08/09 10:35**			**Recvd: 06/08/09 11:55**	
TCLP Semivolatile Compounds by EPA Method 1311/8270C - cont.									
Pyridine	<0.100		mg/L	0.100	1	06/21/09 16:43	clh	9060803	SW 8270C
2,4,5-Trichlorophenol	<0.100		mg/L	0.100	1	06/18/09 13:17	sgs	9060695	SW 8270C
2,4,6-Trichlorophenol	<0.100		mg/L	0.100	1	06/18/09 13:17	sgs	9060695	SW 8270C
Surr: 2-Fluorophenol (21-145%)	*70 %*					06/18/09 13:17	sgs	9060695	SW 8270C
Surr: Phenol-d6 (10-149%)	*71 %*					06/18/09 13:17	sgs	9060695	SW 8270C
Surr: Nitrobenzene-d5 (35-124%)	*78 %*					06/18/09 13:17	sgs	9060695	SW 8270C
Surr: Nitrobenzene-d5 (35-124%)	*72 %*					06/21/09 16:43	clh	9060803	SW 8270C
Surr: 2-Fluorobiphenyl (43-134%)	*66 %*					06/18/09 13:17	sgs	9060695	SW 8270C
Surr: 2-Fluorobiphenyl (43-134%)	*75 %*					06/21/09 16:43	clh	9060803	SW 8270C
Surr: 2,4,6-Tribromophenol (21-146%)	*81 %*					06/18/09 13:17	sgs	9060695	SW 8270C
Surr: Terphenyl-d14 (34-149%)	*63 %*					06/18/09 13:17	sgs	9060695	SW 8270C
Surr: Terphenyl-d14 (34-149%)	*52 %*					06/21/09 16:43	clh	9060803	SW 8270C
Sample ID: DSF0376-03 (Bin - Non-aqueous)					**Sampled: 06/08/09 10:40**			**Recvd: 06/08/09 11:55**	
General Chemistry Parameters									
Solids	**99.7**		%	0.100	1	06/15/09 10:20	jlb	9060672	SW 846
Cyanide, Amenable	<0.116	CN4	mg/kg dry	0.116	1	06/10/09 15:39	RLM	9060432	SW 9012A
Cyanide, Total	<0.116		mg/kg dry	0.116	1	06/10/09 15:39	RLM	9060432	SW 9012
Ignitability by Flashpoint	**>100**		°C	25.0	1	06/22/09 10:35	JLB	9060990	SW 1010 (Mod)
Volatile Organic Compounds by GC/MS									
Acetone	<8430		ug/kg dry	8430	42	06/11/09 15:23	eap	9060590	SW 8260A
Benzene	<421		ug/kg dry	421	42	06/11/09 15:23	eap	9060590	SW 8260A
Bromobenzene	<421		ug/kg dry	421	42	06/11/09 15:23	eap	9060590	SW 8260A
Bromochloromethane	<421		ug/kg dry	421	42	06/11/09 15:23	eap	9060590	SW 8260A
Bromodichloromethane (Dichlorobromomethane)	<421		ug/kg dry	421	42	06/11/09 15:23	eap	9060590	SW 8260A
Bromoform	<421		ug/kg dry	421	42	06/11/09 15:23	eap	9060590	SW 8260A
Bromomethane (Methyl bromide)	<843		ug/kg dry	843	42	06/11/09 15:23	eap	9060590	SW 8260A
2-Butanone (MEK)	<4210		ug/kg dry	4210	42	06/11/09 15:23	eap	9060590	SW 8260A
tert-Butylbenzene	<421		ug/kg dry	421	42	06/11/09 15:23	eap	9060590	SW 8260A
sec-Butylbenzene	<421		ug/kg dry	421	42	06/11/09 15:23	eap	9060590	SW 8260A
n-Butylbenzene	<421		ug/kg dry	421	42	06/11/09 15:23	eap	9060590	SW 8260A
Carbon disulfide	<421		ug/kg dry	421	42	06/11/09 15:23	eap	9060590	SW 8260A
Carbon tetrachloride	<421		ug/kg dry	421	42	06/11/09 15:23	eap	9060590	SW 8260A
Chlorobenzene	<421		ug/kg dry	421	42	06/11/09 15:23	eap	9060590	SW 8260A
Chloroethane	<843		ug/kg dry	843	42	06/11/09 15:23	eap	9060590	SW 8260A
Chloroform	<421		ug/kg dry	421	42	06/11/09 15:23	eap	9060590	SW 8260A
Chloromethane (Methyl chloride)	<843		ug/kg dry	843	42	06/11/09 15:23	eap	9060590	SW 8260A
4-Chlorotoluene	<421		ug/kg dry	421	42	06/11/09 15:23	eap	9060590	SW 8260A
2-Chlorotoluene	<421		ug/kg dry	421	42	06/11/09 15:23	eap	9060590	SW 8260A
Dibromochloromethane	<421		ug/kg dry	421	42	06/11/09 15:23	eap	9060590	SW 8260A
Dibromodichloromethane (Dichlorobromomethane)	<421		ug/kg dry	421	42	06/11/09 15:23	eap	9060590	SW 8260A
1,2-Dichlorobenzene	<421		ug/kg dry	421	42	06/11/09 15:23	eap	9060590	SW 8260A
1,4-Dichlorobenzene	<421		ug/kg dry	421	42	06/11/09 15:23	eap	9060590	SW 8260A

:olia ES Technical Solutions, LLC
4301 Infirmary Rd.
West Carrollton, OH 45449
Brett Davis

Work Order: DSF0376
Project: Veolia
Project Number: Rauch RD060809

Received: 06/08/09
Reported: 06/22/09 16:49

ANALYTICAL REPORT

Analyte	Sample Result	Data Qualifiers	Units	Rpt Limit	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: DSF0376-03 (Bin - Non-aqueous) - cont.					**Sampled:**	**06/08/09 10:40**		**Recvd: 06/08/09 11:55**	
Volatile Organic Compounds by GC/MS - cont.									
1,3-Dichlorobenzene	<421		ug/kg dry	421	42	06/11/09 15:23	eap	9060590	SW 8260A
Dichlorodifluoromethane	<421		ug/kg dry	421	42	06/11/09 15:23	eap	9060590	SW 8260A
1,1-Dichloroethane	<421		ug/kg dry	421	42	06/11/09 15:23	eap	9060590	SW 8260A
1,2-Dichloroethane	<421		ug/kg dry	421	42	06/11/09 15:23	eap	9060590	SW 8260A
cis-1,2-Dichloroethene	<421		ug/kg dry	421	42	06/11/09 15:23	eap	9060590	SW 8260A
trans-1,2-Dichloroethene	<421		ug/kg dry	421	42	06/11/09 15:23	eap	9060590	SW 8260A
1,1-Dichloroethene	<421		ug/kg dry	421	42	06/11/09 15:23	eap	9060590	SW 8260A
1,3-Dichloropropane	<421		ug/kg dry	421	42	06/11/09 15:23	eap	9060590	SW 8260A
2,2-Dichloropropane	<421		ug/kg dry	421	42	06/11/09 15:23	eap	9060590	SW 8260A
1,2-Dichloropropane	<421		ug/kg dry	421	42	06/11/09 15:23	eap	9060590	SW 8260A
1,1-Dichloropropene	<421		ug/kg dry	421	42	06/11/09 15:23	eap	9060590	SW 8260A
cis-1,3-Dichloropropene	<421		ug/kg dry	421	42	06/11/09 15:23	eap	9060590	SW 8260A
trans-1,3-Dichloropropene	<421		ug/kg dry	421	42	06/11/09 15:23	eap	9060590	SW 8260A
Ethylbenzene	<421		ug/kg dry	421	42	06/11/09 15:23	eap	9060590	SW 8260A
··achlorobutadiene	<421		ug/kg dry	421	42	06/11/09 15:23	eap	9060590	SW 8260A
.xane	<1690		ug/kg dry	1690	42	06/11/09 15:23	eap	9060590	SW 8260A
2-Hexanone	<4210		ug/kg dry	4210	42	06/11/09 15:23	eap	9060590	SW 8260A
Isopropylbenzene (Cumene)	<421		ug/kg dry	421	42	06/11/09 15:23	eap	9060590	SW 8260A
p-Isopropyltoluene	<421		ug/kg dry	421	42	06/11/09 15:23	eap	9060590	SW 8260A
Methyl tert-butyl ether	<421		ug/kg dry	421	42	06/11/09 15:23	eap	9060590	SW 8260A
Methylene chloride	<843		ug/kg dry	843	42	06/11/09 15:23	eap	9060590	SW 8260A
4-Methyl-2-pentanone (MIBK)	<4210		ug/kg dry	4210	42	06/11/09 15:23	eap	9060590	SW 8260A
n-Propylbenzene	<421		ug/kg dry	421	42	06/11/09 15:23	eap	9060590	SW 8260A
Styrene	<421		ug/kg dry	421	42	06/11/09 15:23	eap	9060590	SW 8260A
1,1,1,2-Tetrachloroethane	<421		ug/kg dry	421	42	06/11/09 15:23	eap	9060590	SW 8260A
1,1,2,2-Tetrachloroethane	<421		ug/kg dry	421	42	06/11/09 15:23	eap	9060590	SW 8260A
Tetrachloroethene	<421		ug/kg dry	421	42	06/11/09 15:23	eap	9060590	SW 8260A
Toluene	<421		ug/kg dry	421	42	06/11/09 15:23	eap	9060590	SW 8260A
1,2,4-Trichlorobenzene	<421		ug/kg dry	421	42	06/11/09 15:23	eap	9060590	SW 8260A
1,1,1-Trichloroethane	<421		ug/kg dry	421	42	06/11/09 15:23	eap	9060590	SW 8260A
1,1,2-Trichloroethane	<421		ug/kg dry	421	42	06/11/09 15:23	eap	9060590	SW 8260A
Trichloroethene	<421		ug/kg dry	421	42	06/11/09 15:23	eap	9060590	SW 8260A
Trichlorofluoromethane	<421		ug/kg dry	421	42	06/11/09 15:23	eap	9060590	SW 8260A
1,2,4-Trimethylbenzene	<421		ug/kg dry	421	42	06/11/09 15:23	eap	9060590	SW 8260A
1,3,5-Trimethylbenzene	<421		ug/kg dry	421	42	06/11/09 15:23	eap	9060590	SW 8260A
Vinyl Acetate	<421		ug/kg dry	421	42	06/11/09 15:23	eap	9060590	SW 8260A
Vinyl chloride	<169		ug/kg dry	169	42	06/11/09 15:23	eap	9060590	SW 8260A
Xylenes, total	<421		ug/kg dry	421	42	06/11/09 15:23	eap	9060590	SW 8260A
Surr: 1,2-Dichloroethane-d4 (80-120%)	*98 %*					06/11/09 15:23	eap	9060590	SW 8260A
· Dibromofluoromethane (80-120%)	*94 %*					06/11/09 15:23	eap	9060590	SW 8260A
Toluene-d8 (80-120%)	*102 %*					06/11/09 15:23	eap	9060590	SW 8260A
Surr: 4-Bromofluorobenzene (80-120%)	*98 %*					06/11/09 15:23	eap	9060590	SW 8260A
TCLP Metals by 1311/6000/7000									

:olia ES Technical Solutions, LLC
4301 Infirmary Rd.
West Carrollton, OH 45449
Brett Davis

Work Order: DSF0376
Project: Veolia
Project Number: Rauch RD060809

Received: 06/08/09
Reported: 06/22/09 16:49

ANALYTICAL REPORT

Analyte	Sample Result	Data Qualifiers	Units	Rpt Limit	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: DSF0376-03 (Bin - Non-aqueous) - cont.					**Sampled: 06/08/09 10:40**			**Recvd: 06/08/09 11:55**	
TCLP Metals by 1311/6000/7000 - cont.									
Arsenic	<0.500		mg/L	0.500	1	06/11/09 23:16	MJW	9060514	SW 6010B
Barium	<0.100		mg/L	0.100	1	06/11/09 23:16	MJW	9060514	SW 6010B
Cadmium	<0.150		mg/L	0.150	1	06/11/09 23:16	MJW	9060514	SW 6010B
Chromium	<0.200		mg/L	0.200	1	06/11/09 23:16	MJW	9060514	SW 6010B
Lead	<0.400		mg/L	0.400	1	06/11/09 23:16	MJW	9060514	SW 6010B
Mercury	<0.00100		mg/L	0.00100	1	06/12/09 13:31	MKH	9060597	SW 7470A
Selenium	<0.500		mg/L	0.500	1	06/11/09 23:16	MJW	9060514	SW 6010B
Silver	<0.200		mg/L	0.200	1	06/11/09 23:16	MJW	9060514	SW 6010B
Extraction	ND		N/A	NA	1	06/11/09 10:44	TAD	9060493	SW 1311
TCLP Pesticides by EPA Method 1311/8081A									
Methoxychlor	<0.00100		mg/L	0.00100	1	06/15/09 23:45	TWM	9060561	SW 8081
gamma-BHC (Lindane)	<0.00100		mg/L	0.00100	1	06/15/09 23:45	TWM	9060561	SW 8081
Chlordane	<0.00200		mg/L	0.00200	1	06/15/09 23:45	TWM	9060561	SW 8081
Endrin	<0.00100		mg/L	0.00100	1	06/15/09 23:45	TWM	9060561	SW 8081
' 'achlor	<0.00100		mg/L	0.00100	1	06/15/09 23:45	TWM	9060561	SW 8081
.achlor epoxide	<0.00100		mg/L	0.00100	1	06/15/09 23:45	TWM	9060561	SW 8081
Toxaphene	<0.00200		mg/L	0.00200	1	06/15/09 23:45	TWM	9060561	SW 8081
Surr: Tetrachloro-meta-xylene (14-150%)	*66 %*					06/15/09 23:45	TWM	9060561	SW 8081
Surr: Decachlorobiphenyl (12-150%)	*33 %*					06/15/09 23:45	TWM	9060561	SW 8081
TCLP Volatile Organic Compounds by EPA Method 1311/8260B									
Extraction	ND		N/A	NA	1	06/11/09 10:44	TAD	9060495	SW 1311
Benzene	<0.200	M	mg/L	0.200	200	06/15/09 16:53	jmt	9060735	SW 8260B
2-Butanone (MEK)	<2.50		mg/L	2.50	200	06/15/09 16:53	jmt	9060735	SW 8260B
Carbon tetrachloride	<0.200		mg/L	0.200	200	06/15/09 16:53	jmt	9060735	SW 8260B
Chlorobenzene	<0.200		mg/L	0.200	200	06/15/09 16:53	jmt	9060735	SW 8260B
Chloroform	<0.200		mg/L	0.200	200	06/15/09 16:53	jmt	9060735	SW 8260B
1,2-Dichloroethane	<0.200		mg/L	0.200	200	06/15/09 16:53	jmt	9060735	SW 8260B
1,1-Dichloroethene	<0.200		mg/L	0.200	200	06/15/09 16:53	jmt	9060735	SW 8260B
Tetrachloroethene	<0.200		mg/L	0.200	200	06/15/09 16:53	jmt	9060735	SW 8260B
Trichloroethene	<0.200		mg/L	0.200	200	06/15/09 16:53	jmt	9060735	SW 8260B
Vinyl chloride	<0.200		mg/L	0.200	200	06/15/09 16:53	jmt	9060735	SW 8260B
Surr: 1,2-Dichloroethane-d4 (80-120%)	*102 %*					06/15/09 16:53	jmt	9060735	SW 8260B
Surr: Dibromofluoromethane (80-120%)	*103 %*					06/15/09 16:53	jmt	9060735	SW 8260B
Surr: Toluene-d8 (80-120%)	*97 %*					06/15/09 16:53	jmt	9060735	SW 8260B
Surr: 4-Bromofluorobenzene (80-120%)	*101 %*					06/15/09 16:53	jmt	9060735	SW 8260B
TCLP Semivolatile Compounds by EPA Method 1311/8270C									
Extraction	ND		N/A	NA	1	06/11/09 10:44	TAD	9060493	SW 1311
1,4-Dichlorobenzene	<0.100		mg/L	0.100	1	06/21/09 17:06	clh	9060803	SW 8270C
2,4-Dinitrotoluene	<0.100		mg/L	0.100	1	06/21/09 17:06	clh	9060803	SW 8270C
Hexachlorobenzene	<0.100		mg/L	0.100	1	06/21/09 17:06	clh	9060803	SW 8270C
.hlorobutadiene	<0.100		mg/L	0.100	1	06/21/09 17:06	clh	9060803	SW 8270C
Hexachloroethane	<0.100		mg/L	0.100	1	06/21/09 17:06	clh	9060803	SW 8270C
2-Methylphenol (o-Cresol)	<0.100		mg/L	0.100	1	06/18/09 13:40	sgs	9060695	SW 8270C
3&4-Methylphenol (m&p Cresol)	<0.100		mg/L	0.100	1	06/18/09 13:40	sgs	9060695	SW 8270C

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

4738 Gateway Circle Dayton, OH 45440 (800) 572-9839
339 W. Walton Blvd Pontiac, MI 48340 (800) 526-4951

olia ES Technical Solutions, LLC
4301 Infirmary Rd.
West Carrollton, OH 45449
Brett Davis

Work Order: DSF0376
Project: Veolia
Project Number: Rauch RD060809

Received: 06/08/09
Reported: 06/22/09 16:49

ANALYTICAL REPORT

Analyte	Sample Result	Data Qualifiers	Units	Rpt Limit	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: DSF0376-03 (Bin - Non-aqueous) - cont.					**Sampled: 06/08/09 10:40**		**Recvd: 06/08/09 11:55**		
TCLP Semivolatile Compounds by EPA Method 1311/8270C - cont.									
Nitrobenzene	<0.100		mg/L	0.100	1	06/21/09 17:06	clh	9060803	SW 8270C
Pentachlorophenol	<0.100		mg/L	0.100	1	06/18/09 13:40	sgs	9060695	SW 8270C
Pyridine	<0.100		mg/L	0.100	1	06/21/09 17:06	clh	9060803	SW 8270C
2,4,5-Trichlorophenol	<0.100		mg/L	0.100	1	06/18/09 13:40	sgs	9060695	SW 8270C
2,4,6-Trichlorophenol	<0.100		mg/L	0.100	1	06/18/09 13:40	sgs	9060695	SW 8270C
Surr: 2-Fluorophenol (21-145%)	*67 %*					06/18/09 13:40	sgs	9060695	SW 8270C
Surr: Phenol-d6 (10-149%)	*69 %*					06/18/09 13:40	sgs	9060695	SW 8270C
Surr: Nitrobenzene-d5 (35-124%)	*75 %*					06/18/09 13:40	sgs	9060695	SW 8270C
Surr: Nitrobenzene-d5 (35-124%)	*97 %*					06/21/09 17:06	clh	9060803	SW 8270C
Surr: 2-Fluorobiphenyl (43-134%)	*64 %*					06/18/09 13:40	sgs	9060695	SW 8270C
Surr: 2-Fluorobiphenyl (43-134%)	*97 %*					06/21/09 17:06	clh	9060803	SW 8270C
Surr: 2,4,6-Tribromophenol (21-146%)	*76 %*					06/18/09 13:40	sgs	9060695	SW 8270C
Surr: Terphenyl-d14 (34-149%)	*63 %*					06/18/09 13:40	sgs	9060695	SW 8270C
Surr: Terphenyl-d14 (34-149%)	*66 %*					06/21/09 17:06	clh	9060803	SW 8270C

:olia ES Technical Solutions, LLC
4301 Infirmary Rd.
West Carrollton, OH 45449
Brett Davis

Work Order:	DSF0376	Received:	06/08/09
Project:	Veolia	Reported:	06/22/09 16:49
Project Number:	Rauch RD060809		

CERTIFICATION SUMMARY

Any abnormalities or departures from sample acceptance policy shall be documented on the Chain of Custody and/or Case Narrative included with this report.

For information concerning certifications of this facility or another TestAmerica facility, please visit our website at www.TestAmericaInc.com

Samples collected by TestAmerica Field Services personnel are noted on the Chain of Custody (COC).

DATA QUALIFIERS AND DEFINITIONS

A-01	The TCLP extract vial had headspace due to the sample being effervescent.
CN4	Amenable cyanide results reported from total determination.
L4	Laboratory Control Sample and/or Laboratory Control Sample Duplicate recovery was below the acceptance limits. A low bias to sample results is indicated.
M	The MS, MSD, and/or RPD are outside of acceptance limits due to matrix interference. Please see Blank Spike (LCS).
RL3	Reporting limit raised due to high concentrations of non-target analytes.
Z1	Surrogate recovery was above acceptance limits.

ADDITIONAL COMMENTS

sults are reported on a wet weight basis unless otherwise noted.

ANALYSIS LOCATIONS

The analyses listed below were analyzed in satellite facilities

VEOLIA
ENVIRONMENTAL SERVICES

SAMPLE SHIPPING DOCUMENT/ CHAIN OF CUSTODY

D3403446

Number RD060809

Page 1 of 1

Veolia ES Technical Solutions, L.L.C. Client VEOLIA ES Technical Sons.

RAUCH

4301 INFIRMARY RD.

ATTN: WILLIE MOZON / BRETT DAVIS

Laboratory Name TEST AMERICA

Contact Name

Shipping Information

Proper Shipping Name	# Units	Total Quantity
NA 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE LIQUID, N.O.S., 9, III	1	1
NA 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE SOLID, N.O.S., 9, III	2	2

I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to all applicable international and national governmental regulations.

IN CASE OF EMERGENCY CALL 1-800-535-5053

TAT: 1 wk, 2 wk, 3 wk
Other

SAMPLE LOCATION	DATE	TIME (Military)	SAMPLE NUMBER	NO. OF SAMPLE CONTAINERS: Volatile Organic Compounds	Acid Extractable Compounds	Base/Neutral Extractable Compounds	CN Total/Amenable Method 9010	PCB's	Metals TCLP	BETX	Petroleum Hydrocarbons	TCLP Full	Ignitability	PH	(Other)
TOTE	6.8.09	10:25	RAUCH 001	X				X	X		X	X	X		
3 FINGERS	6.8.09	10:35	RAUCH 002				X	X	X			X	X		
BIN	6.8.09	10:40	RAUCH 003				X		X			X	X		

Relinquished by (signature):	Date	Time (Military)	Received by (Signature)	Date	Time (Military)
[signature]	6/8/09	11:00	[signature]	6/8/09	11:00
Relinquished by (signature):	Date	Time (Military)	Received by (Signature)	Date	Time (Military)

Relinquished by (signature):	Date	Time (Military)	Received by (Signature)	Date	Time (Military)
			[signature]	6809	11:55

Send Results to Veolia ES Technical Solutions, L.L.C.

VIA: Verbal ☐ Fax ☒ Fed X ☐ Regular ☐

Purchase Order # Work Order #

REMARKS:

ANALYTICAL COPY

Form # VES-12W-1

THE LEADER IN ENVIRONMENTAL TESTING

Cooler/Sample Receipt

Discrepencies ☑
Rush or Short Hold ☐
if rush 24hr 2day 3day 5day other_____

Method of Shipment:
Walk In Fed Ex UPS DHL TAL Courier Field Other_____

Are samples soils requiring USDA quarantine? Yes No
If yes notify PM immediately (circle one)

Shipping Container Type: Cooler Box Other_____

Opened Date/Time 6/8/09 Initials NJA

Receipt Questions**	Y	N	n/a	"NO" answers require a comment
COC present	✓			
Containers in good condition (unbroken and not leaking), and appropriately filled	✓			
Appropriate containers used & adequate volume provided	Will be close on volume SAM			
Correct preservation on the COC			✓	
Numbers of samples match COC	✓			
If used, custody seals were intact			✓	
Was CoC free of discrepencies?	✓			
Samples received within hold time	✓			
VOA samples received without headspace in excess of 6 mm	✓			
Trip Blanks received for each cooler with VOAs		✓		

#/size	HNO3	HCL	NaOH	H2SO4	Methanol	None	Other (Specify)
	2-8oz jar						
	1-1L Amber Glass				(Tote)		

Tracking #_____

Temp Acceptable? YES ☐ NO ☐ Thermometer ID _____
Cooler ID _____ Uncorrected 20.5 Corrected 20.5 °C Ice
Packing Material _____
Melted Ice Blue Ice None Other_____ (Circle one)
If out of temperature, note affected samples
Direct from Field? Yes No (Circle one)

CHECK IF ADDITIONAL SHEETS REQUIRED ☐

** May not be applicable if samples are not for compliance testing

Client Contact Record (required for discrepancies, unless agreement is on file with project) Date & Time _____
Contact via: ☐phone ☐email ☐ other _____ Person contacted A Rice

Discussion/Resolution
Call about parameters*
CN 9012 (not 9010)

Revised chain being issued? Yes No- if Yes, it must be scanned.
(Circle one)

SAH 6/9/09
Reviewed by PM Signature Date/Time

Page 1 of 1

PAGE 02/02

SRR

Oct 10 2005 10:13 19378594671

VEOLIA
ENVIRONMENTAL SERVICES

SAMPLE SHIPPING DOCUMENT/ CHAIN OF CUSTODY

Number RD06080

Page 1 of 1

Veolia ES Technical Solutions, L.L.C. Client VEOLIA ES TECHNICAL SOLUTIONS
RALEIGH
4301 INDUSTRIAL DR.
ATTN: WILLIE MORTON / BRENT DAVIS

Laboratory Name TEST AMERICA

Contact Name

Shipping Information

Proper Shipping Name	# Units	Total Quantity
NA 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCES LIQUID, N.O.S. 9, III	1	1
NA 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCES SOLID, N.O.S. 9, III	2	2

I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to all applicable international and national governmental regulations.

IN CASE OF EMERGENCY CALL 1-800-535-5053

TAT: 1 wk, 2 wk, 3 wk
Other

SAMPLE LOCATION	DATE	TIME (Military)	SAMPLE NUMBER	Volatile Organic Compounds	Acid Extractable Compounds	Base/Neutral Extractable Compounds	CN Total/Amenable Method 9010	PCB's	Metals TCLP	BETX	Petroleum Hydrocarbons	TCLP Full	Ignitability	PH	(Other)
				NO. OF SAMPLE CONTAINERS											
TOTE	6-8-09	10:25	RALEIGH 001	X				X	X		X	X	X		
3 FILTERS	6-8-09	10:35	RALEIGH 002				X	X	X			X	X		
BIN	6-8-09	10:40	RALEIGH 003				X		X			X	X		

Relinquished by (signature):	Date	Time (Military)	Received by (Signature)	Date	Time (Military)	Relinquished by (signature):	Date	Time (Military)	Received by (Signature)	Date	Time (Military)
	6/8/09	11:00		6/8/09	11:00					6809	11:55
Relinquished by (signature):	Date	Time (Military)	Received by (Signature)	Date	Time (Military)						

Send Results to Veolia ES Technical Solutions, L.L.C.

VIA: Verbal ☐ Fax ☒ Fed X ☐ Regular ☐

Purchase Order # _____ Work Order # _____

REMARKS:

VEOLIA ES TECHNICAL SOLUTIONS COPY

Form # VES-12V-A

WASTE MANAGEMENT

NON-HAZARDOUS WASTE MANIFEST

Landfill & Industrial Services
www.WMDisposal.com
(800) wmdisposal

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number | 2. Page 1 of | 3. Emergency Response Phone | 4. Waste Tracking Number (MANIFEST) 384318

5. Generator's Name and Mailing Address
City of Dayton
300 Taylor St.,
Dayton OH
45012
Generator's Phone: 937-253-2676

Generator's Site Address (If different than mailing address)

6. Transporter 1 Company Name: STEVE R. RAUCH, INC. | U.S. EPA ID Number

7. Transporter 2 Company Name | U.S. EPA ID Number

8. Designated Facility Name and Site Address
Stony Hollow Landfill
2460 S Gettysburg Ave
Dayton, OH 45417
Facility's Phone: 937-268-1133

U.S. EPA ID Number

9. Waste Shipping Name and Physical Description: Including Color	10. Containers No.	Type	11. Total Quantity	12. Unit Wt./Vol.	Approval #
Sludge	1	CM	30YD	YD	109190OH

LANDFILL & INDUSTRIAL SERVICES
www.WMDisposal.com

Exp.Dt.: 11/25/2010

13. Special Handling Instructions and Additional Information
County : Butler

14. GENERATOR'S CERTIFICATION: I hereby certify that the above described waste is not hazardous waste as defined by federal, state, or local regulations and does not contain regulated quantities of PCB's, radioactive materials, or free liquids. This waste has been accurately classified, described, packaged, marked, and labeled and is in proper condition for transportation according to applicable international and governmental regulations.

Generator's/Offeror's Printed/Typed Name: TIMOTHY J. SMITH (FOR CITY OF DAYTON) | Signature | Month 12 | Day 2 | Year 09

15. International Shipments: ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: WILLIE E. ROUNDTREE | Signature | Month 12 | Day 2 | Year 09
Transporter 2 Printed/Typed Name | Signature | Month | Day | Year

17. Discrepancy
17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

17b. Alternate Facility (or Generator) | U.S. EPA ID Number
Facility's Phone:
17c. Signature of Alternate Facility (or Generator) | Month | Day | Year

GENERATOR

FACILITY

Weight Ticket #
Net Weight
Disposal Grid

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a
Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER INTL

GENERATOR

DESIG

(A) BLDG 5 ~~N. W. TANK~~ PCB/WATER

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
OHD 0 1 7 9 5 8 8 0 4	1	(877) 818-0087	000301508 VES

GENERATOR

5. Generator's Name and Mailing Address
CITY OF DAYTON C/O ROUCH
711 E. MONUMENT STREET
SUITE 201
DAYTON, OH 45402
Generator's Phone: 937 333 3820

Generator's Site Address (if different than mailing address)
CITY OF DAYTON C/O ROUCH
300 TAYLOR STREET
DAYTON, OH 45402

6. Transporter 1 Company Name: VEOLIA ES TECHNICAL SOLUTIONS — U.S. EPA ID Number: N J D 0 8 0 6 3 1 3 6 9

7. Transporter 2 Company Name — U.S. EPA ID Number

8. Designated Facility Name and Site Address
VEOLIA ES TECHNICAL SOLUTIONS
HIGHWAY 73
3.5 MILES W. OF TAYLOR'S BAYOU
PORT ARTHUR, TX 77640
Facility's Phone: 409 736-2821
U.S. EPA ID Number: T X D 0 0 0 8 3 8 8 9 6

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
X	1. UN2315, POLYCHLORINATED BIPHENYLS, LIQUID, 9, II, RQ	007	DM	01274	K	PCB2	OUTS	2061
X	2. UN3432, POLYCHLORINATED BIPHENYLS, SOLID, (PPE, SPILL PADS), 9, II, RQ	001	DM	00182	K	PCB2	OUTS	0021
	3.							
	4.							

14. Special Handling Instructions and Additional Information
ADDENDUM ATTACHED FOR ADDITIONAL TSCA INFORMATION - ER Service Contracted by VESTS

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: TIMOTHY J SMITH (FOR CITY OF DAYTON) — Signature — Month 0 9 Day 2 3 Year 0 9

INTL

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: David Naas — Signature — Month 0 9 Day 2 3 Year 0 9

Transporter 2 Printed/Typed Name — Signature — Month Day Year

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

18c. Signature of Alternate Facility (or Generator) — Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name — Signature — Month Day Year

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: OHD017068604

2. Page 1 of 3

3. Emergency Response Phone: (877) 818-0087

4. Manifest Tracking Number: 000460005 VES

GENERATOR

5. Generator's Name and Mailing Address: CITY OF DAYTON C/O ROUCH, 111E MONUMENT STREET, SUITE 201, DAYTON, OH 45402

Generator's Site Address (if different than mailing address): CITY OF DAYTON C/O ROUCH, 300 TAYLOR STREET, DAYTON OH 45402

Generator's Phone:

6. Transporter 1 Company Name: VEOLIA ES TECHNICAL SOLUTIONS — U.S. EPA ID Number: NJD080631389

7. Transporter 2 Company Name — U.S. EPA ID Number:

8. Designated Facility Name and Site Address: VEOLIA ES TECHNICAL SOLUTIONS, HIGHWAY 73, 3.5 MILES W. OF TAYLOR'S BAYOU, PORT ARTHUR, TX 77640 — U.S. EPA ID Number: TXD000838980

Facility's Phone: 409 736-2821

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
X	1. UN3432, WASTE POLYCHLORINATED BIPHENYLS, SOLID (PPE, SPILL PADS), 9, II	001	DM	02000	P	PCB2		
							OUTS012H	
	2.							
	3.							
	4.							

14. Special Handling Instructions and Additional Information: ADDENDUM ATTACHED FOR ADDITIONAL TSCA INFORMATION - ER Service Contracted by VESTS

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: TIMOTHY J. SMITH (FOR CITY OF DAYTON) — Signature: [signature] — Month 12 Day 18 Year 09

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit: Date leaving U.S.:

Transporter signature (for exports only):

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Derick Hilker — Signature: [signature] — Month 12 Day 18 Year 09

Transporter 2 Printed/Typed Name: Danny White — Signature: [signature] — Month 12 Day 19 Year 09

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number: U.S. EPA ID Number

18b. Alternate Facility (or Generator)

Facility's Phone: Month Day Year

18c. Signature of Alternate Facility (or Generator)

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H040			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name: KAT ADKINS — Signature: [signature] — Month 01 Day 04 Year 10

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
OHD017958604		937-237-1097	000737602 FLE

GENERATOR

5. Generator's Name and Mailing Address: CITY OF DAYTON
711 E MONUMENT AVENUE, SUITE 201
DAYTON, OHIO 45402
Generator's Phone: 937-333-3820

Generator's Site Address (if different than mailing address):
300 TAYLOR STREET
DAYTON, OHIO 45402

6. Transporter 1 Company Name: VEOLIA ES INDUSTRIAL SERVICES, INC.
U.S. EPA ID Number: TXR000077970

7. Transporter 2 Company Name:
U.S. EPA ID Number:

8. Designated Facility Name and Site Address: WAYNE DISPOSAL INC.
49350 NORTH I-94 SERVICE DRIVE
BELLEVILLE, MI 48111
Facility's Phone: 800-592-5489
U.S. EPA ID Number: MID048090633

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. UN3432, POLYCHLORINATED BIPHENYLS, SOLID, 9, II	001	DT	001	T	PCB1
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information

APPROVAL #A105113WDI

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: TIMOTHY J. SMITH (FOR CITY OF DAYTON) | Signature: [signature] | Month: 01 | Day: 28 | Year: 10

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: David H Grieshop | Signature: [signature] | Month: 01 | Day: 28 | Year: 10

Transporter 2 Printed/Typed Name: | Signature: | Month: | Day: | Year:

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) Month: Day: Year:

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name: | Signature: | Month: | Day: | Year:

VEOLIA
ENVIRONMENTAL SERVICES

SHIPPING DOCUMENT	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Shipping Document Tracking Number
	OHR000151084	1	(877) 818-0087	ZZ 00236541

5. Generator's Name and Mailing Address: ~~BOUCH~~ City of Dayton CPL
719 EAST MONUMENT AVE
DAYTON, OH 45401

Generator's Site Address (if different than mailing address): SAME

Generator's Phone: 937 603-2587

6. Transporter 1 Company Name: VEOLIA ES TECHNICAL SOLUTIONS — U.S. EPA ID Number: NJD030631382

7. Transporter 2 Company Name — U.S. EPA ID Number:

8. Designated Facility Name and Site Address: VEOLIA ES TECHNICAL SOLUTIONS, L.L.C.
4301 INFIRMARY ROAD
WEST CARROLLTON, OH 45449 — U.S. EPA ID Number: OHD093845203

Facility's Phone: 937 859-6101

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Codes		
	NON-REGULATED MATERIAL, NON-RCRA, NON-DOT	003	DM	01350	P	NONE		
						RW389		
	NON RCRA AND DOT NON REGULATED LIQUID, (OIL)	001	TP	03100	P	NONE		
	NON RCRA AND DOT NON REGULATED SOLID	002	DM	00800	P	NONE		
	4.							

9C

7A

14. Special Handling Instructions and Additional Information: 1) W:802123 A:SRRLFSOLID-NH 2) W:80858 A:SRR-USED OIL-NH 3) W:802125 A:
EQ082902MIB -|- ER Service Contracted by VESTS

15. **GENERATOR S/OFFEROR S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

DAVID ROBINSON — Signature — 7 27 09 (Month Day Year)
Generator's/Offeror's Printed/Typed Name — 07/27/09

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit: Date leaving U.S.:
Transporter signature (for exports only):

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Shipment
Transporter 1 Printed/Typed Name: Carman Parker Lawler — Signature: Carman Parker Lawler — Month Day Year: 07 27 09
Transporter 2 Printed/Typed Name — Signature — Month Day Year

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Shipping Document Tracking Number: U.S. EPA ID Number
18b. Alternate Facility (or Generator)
Facility's Phone: Month Day Year
18c. Signature of Alternate Facility (or Generator)

19. Report Management Method Codes (i.e., codes for treatment, disposal, and recycling systems)
1. H141 2. H141 3. H141 4.

20. Designated Facility Owner or Operator: Certification of receipt of shipment except as noted in Item 18a
Printed/Typed Name: Tommy White — Signature: Tommy White — Month Day Year: 7 28 09

DESIGNATED FACILITY TO GENERATOR

VEOLIA
ENVIRONMENTAL SERVICES

SHIPPING DOCUMENT	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Shipping Document Tracking Number
	~~OHR000151004~~ TA	1	(877) 818-0087	ZZ 00113765

GENERATOR

5. Generator's Name and Mailing Address: ~~300 TAYLOR ST.~~ ~~110 EAST MONUMENT AVE~~ CITY OF DAYTON C/O ROUCH, DAYTON, OH 45402
Generator's Site Address (if different than mailing address): SAME
Generator's Phone: 937 ~~883-2587~~

6. Transporter 1 Company Name: VEOLIA ES TECHNICAL SOLUTIONS — U.S. EPA ID Number: NJD080631369

7. Transporter 2 Company Name — U.S. EPA ID Number:

8. Designated Facility Name and Site Address: VEOLIA ES TECHNICAL SOLUTIONS, L.L.C., 4301 INFIRMARY ROAD, WEST CARROLLTON, OH 45449 — U.S. EPA ID Number: OHD098452883
Facility's Phone: 937 859-8101

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Codes
	1. NON RCRA AND DOT NON REGULATED SOLID	006	DM	02400	P	NONE
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information: ER Service Contracted by VESTS

15. **GENERATOR S/OFFEROR S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: T J Smith (FOR CITY OF DAYTON) — Signature: TIM SMITH — Month 08 Day 03 Year 09

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit: _____ Date leaving U.S.: _____
Transporter signature (for exports only):

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Shipment
Transporter 1 Printed/Typed Name: Derick Hilker — Signature: [signature] — Month 08 Day 03 Year 09
Transporter 2 Printed/Typed Name — Signature — Month Day Year

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Shipping Document Tracking Number: U.S. EPA ID Number
18b. Alternate Facility (or Generator)
Facility's Phone: Month Day Year
18c. Signature of Alternate Facility (or Generator)

19. Report Management Method Codes (i.e., codes for treatment, disposal, and recycling systems)

1.	2.	3.	4.

20. Designated Facility Owner or Operator: Certification of receipt of shipment except as noted in Item 18a
Printed/Typed Name: Charles Stone — Signature: [signature] — Month 8 Day 03 Year 09

DESIGNATED FACILITY TO GENERATOR

VEOLIA
ENVIRONMENTAL SERVICES

SHIPPING DOCUMENT	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Shipping Document Tracking Number
	CESQG	1	(877) 818-0087	ZZ 00236675

5. Generator's Name and Mailing Address
CITY OF DAYTON C/O ROUCH
300 TAYLOR STREET
DAYTON, OH 45402

Generator's Site Address (if different than mailing address)
SAME

Generator's Phone: 937 ~~803 2687~~ 333-3890

6. Transporter 1 Company Name
VEOLIA ES TECHNICAL SOLUTIONS
U.S. EPA ID Number: NJD080631369

7. Transporter 2 Company Name
U.S. EPA ID Number:

8. Designated Facility Name and Site Address
VEOLIA ES TECHNICAL SOLUTIONS, L.L.C.
4301 INFIRMARY ROAD
WEST CARROLLTON, OH 45449
U.S. EPA ID Number: OHD093045293

Facility's Phone: 937 859-8101

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Codes
	1. NON RCRA AND DOT NON REGULATED SOLID	003	DM	01200	P	NONE
	2.					
	3.					
	4.					

GENERATOR

14. Special Handling Instructions and Additional Information
ER Service Contracted by VESTS

15. **GENERATOR S/OFFEROR S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: TIMOTHY J - SMITH (FOR CITY OF DAYTON) Signature: [signature] Month 08 Day 06 Year 09

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Shipment
Transporter 1 Printed/Typed Name: David Naas Signature: [signature] Month 08 Day 06 Year 09
Transporter 2 Printed/Typed Name: Signature: Month Day Year

ATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Shipping Document Tracking Number:
18b. Alternate Facility (or Generator) U.S. EPA ID Number:
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

19. Report Management Method Codes (i.e., codes for treatment, disposal, and recycling systems)

1.	2.	3.	4.
H141			

20. Designated Facility Owner or Operator: Certification of receipt of shipment except as noted in Item 18a
Printed/Typed Name: Danny White Signature: [signature] Month 08 Day 10 Year 09

DESIGNATED FACILITY TO GENERATOR

EXTRAS

EXTRA

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

4738 Gateway Circle Dayton, OH 45440 (800) 572-9839
339 W. Walton Blvd Pontiac, MI 48340 (800) 526-4951

July 29, 2009

Client:

Veolia Environmental Services (West Carrollton)
4301 Infirmary Road, P.O. Box 453
West Carrollton, OH 45449

Attn: Brett Davis

Work Order: DSG0963
Project Name: Waste Characterization
Project Number: Rouch

Date Received: 07/21/09

Samples logged in at Dayton laboratory.

An executed copy of the Chain of Custody is also included as an addendum to this report.

If you have any questions relating to this analytical report, please contact your Laboratory Project Manager at the number shown above.

SAMPLE IDENTIFICATION	LAB NUMBER	COLLECTION DATE AND TIME
Rouch #1	DSG0963-01	07/20/09 14:00
Rouch #2	DSG0963-02	07/20/09 14:00
Rouch #3	DSG0963-03	07/20/09 14:00
Rouch #4	DSG0963-04	07/20/09 14:00
Rouch #5	DSG0963-05	07/20/09 14:00

Ohio Certification Number: 4074, 857

Reproduction of this analytical report is permitted only in its entirety. This report shall not be reproduced except in full without the written approval of the laboratory.

TestAmerica Laboratories, Inc. certifies that the analytical results contained herein apply only to the samples tested as received by our Laboratory.

Report Approved By:

SA Howard

This report has been electronically signed.

TestAmerica Dayton
Shelly A. Howard
Dayton Project Manager

Veolia Environmental Services (West Carrollton)
4301 Infirmary Road, P.O. Box 453
West Carrollton, OH 45449
Brett Davis

Work Order: DSG0963
Project: Waste Characterization
Project Number: Rouch

Received: 07/21/09
Reported: 07/29/09 16:52

ANALYTICAL REPORT

Analyte	Sample Result	Data Qualifiers	Units	Rpt Limit	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: DSG0963-01 (Rouch #1 - Non-aqueous)					**Sampled: 07/20/09 14:00**		**Recvd: 07/21/09 16:30**		
Organochlorine Pesticides/PCBs									
PCB-1016	<0.885		mg/kg wet	0.885	5	07/25/09 01:53	CLH	9070893	SW 8082
PCB-1221	<0.885		mg/kg wet	0.885	5	07/25/09 01:53	CLH	9070893	SW 8082
PCB-1232	<0.885		mg/kg wet	0.885	5	07/25/09 01:53	CLH	9070893	SW 8082
PCB-1242	<0.885		mg/kg wet	0.885	5	07/25/09 01:53	CLH	9070893	SW 8082
PCB-1248	<0.885		mg/kg wet	0.885	5	07/25/09 01:53	CLH	9070893	SW 8082
PCB-1254	<0.885		mg/kg wet	0.885	5	07/25/09 01:53	CLH	9070893	SW 8082
PCB-1260	<0.885		mg/kg wet	0.885	5	07/25/09 01:53	CLH	9070893	SW 8082
Surr: Tetrachloro-meta-xylene (10-127%)	*108 %*					07/25/09 01:53	CLH	9070893	SW 8082
Surr: Decachlorobiphenyl (10-149%)	*99 %*					07/25/09 01:53	CLH	9070893	SW 8082
Sample ID: DSG0963-02 (Rouch #2 - Non-aqueous)					**Sampled: 07/20/09 14:00**		**Recvd: 07/21/09 16:30**		
TCLP Metals by 1311/6000/7000									
Arsenic	<0.500		mg/L	0.500	1	07/24/09 18:23	caj	9070959	SW 6010B
Barium	<0.100		mg/L	0.100	1	07/24/09 18:23	caj	9070959	SW 6010B
Cadmium	<0.150		mg/L	0.150	1	07/24/09 18:23	caj	9070959	SW 6010B
Chromium	<0.200		mg/L	0.200	1	07/24/09 18:23	caj	9070959	SW 6010B
ead	<0.400		mg/L	0.400	1	07/24/09 18:23	caj	9070959	SW 6010B
Mercury	<0.00100		mg/L	0.00100	1	07/27/09 15:56	MKH	9070924	SW 7470A
Selenium	<0.500		mg/L	0.500	1	07/24/09 18:23	caj	9070959	SW 6010B
Silver	<0.200		mg/L	0.200	1	07/24/09 18:23	caj	9070959	SW 6010B
Extraction	ND		N/A	NA	1	07/24/09 13:34	TAD	9070939	SW 1311
TCLP Volatile Organic Compounds by EPA Method 1311/8260B									
Extraction	ND		N/A	NA	1	07/24/09 13:34	TAD	9070940	SW 1311
Benzene	<0.200		mg/L	0.200	200	07/24/09 17:27	prb	9070993	SW 8260B
2-Butanone (MEK)	<2.50		mg/L	2.50	200	07/24/09 17:27	prb	9070993	SW 8260B
Carbon tetrachloride	<0.200		mg/L	0.200	200	07/24/09 17:27	prb	9070993	SW 8260B
Chlorobenzene	<0.200		mg/L	0.200	200	07/24/09 17:27	prb	9070993	SW 8260B
Chloroform	<0.200		mg/L	0.200	200	07/24/09 17:27	prb	9070993	SW 8260B
1,2-Dichloroethane	<0.200		mg/L	0.200	200	07/24/09 17:27	prb	9070993	SW 8260B
1,1-Dichloroethene	<0.200		mg/L	0.200	200	07/24/09 17:27	prb	9070993	SW 8260B
Tetrachloroethene	<0.200		mg/L	0.200	200	07/24/09 17:27	prb	9070993	SW 8260B
Trichloroethene	<0.200		mg/L	0.200	200	07/24/09 17:27	prb	9070993	SW 8260B
Vinyl chloride	<0.200		mg/L	0.200	200	07/24/09 17:27	prb	9070993	SW 8260B
Surr: 1,2-Dichloroethane-d4 (80-120%)	*86 %*					07/24/09 17:27	prb	9070993	SW 8260B
Surr: Dibromofluoromethane (80-120%)	*98 %*					07/24/09 17:27	prb	9070993	SW 8260B
Surr: Toluene-d8 (80-120%)	*96 %*					07/24/09 17:27	prb	9070993	SW 8260B
Surr: 4-Bromofluorobenzene (80-120%)	*105 %*					07/24/09 17:27	prb	9070993	SW 8260B

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339 W. Walton Blvd Pontiac, MI 48340 (800) 526-4951

Veolia Environmental Services (West Carrollton)
4301 Infirmary Road, P.O. Box 453
West Carrollton, OH 45449
Brett Davis

Work Order: DSG0963
Project: Waste Characterization
Project Number: Rouch

Received: 07/21/09
Reported: 07/29/09 16:52

ANALYTICAL REPORT

Analyte	Sample Result	Data Qualifiers	Units	Rpt Limit	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: DSG0963-03 (Rouch #3 - Non-aqueous)					**Sampled: 07/20/09 14:00**			**Recvd: 07/21/09 16:30**	
Organochlorine Pesticides/PCBs									
PCB-1016	<0.926		mg/kg wet	0.926	5	07/25/09 02:12	CLH	9070893	SW 8082
PCB-1221	<0.926		mg/kg wet	0.926	5	07/25/09 02:12	CLH	9070893	SW 8082
PCB-1232	<0.926		mg/kg wet	0.926	5	07/25/09 02:12	CLH	9070893	SW 8082
PCB-1242	<0.926		mg/kg wet	0.926	5	07/25/09 02:12	CLH	9070893	SW 8082
PCB-1248	<0.926		mg/kg wet	0.926	5	07/25/09 02:12	CLH	9070893	SW 8082
PCB-1254	<0.926		mg/kg wet	0.926	5	07/25/09 02:12	CLH	9070893	SW 8082
PCB-1260	<0.926		mg/kg wet	0.926	5	07/25/09 02:12	CLH	9070893	SW 8082
Surr: Tetrachloro-meta-xylene (10-127%)	*93 %*					07/25/09 02:12	CLH	9070893	SW 8082
Surr: Decachlorobiphenyl (10-149%)	*70 %*					07/25/09 02:12	CLH	9070893	SW 8082
TCLP Metals by 1311/6000/7000									
Arsenic	<0.500		mg/L	0.500	1	07/24/09 14:04	caj	9070911	SW 6010B
Barium	<0.100		mg/L	0.100	1	07/24/09 14:04	caj	9070911	SW 6010B
Cadmium	<0.150		mg/L	0.150	1	07/24/09 14:04	caj	9070911	SW 6010B
Chromium	<0.200		mg/L	0.200	1	07/24/09 14:04	caj	9070911	SW 6010B
Lead	<0.400		mg/L	0.400	1	07/24/09 14:04	caj	9070911	SW 6010B
Mercury	<0.00100		mg/L	0.00100	1	07/27/09 15:58	MKH	9070924	SW 7470A
Selenium	<0.500		mg/L	0.500	1	07/24/09 14:04	caj	9070911	SW 6010B
Silver	<0.200		mg/L	0.200	1	07/24/09 14:04	caj	9070911	SW 6010B
Extraction	ND		N/A	NA	1	07/23/09 14:05	TAD	9070878	SW 1311
TCLP Volatile Organic Compounds by EPA Method 1311/8260B									
Extraction	ND		N/A	NA	1	07/24/09 13:34	TAD	9070940	SW 1311
Benzene	<0.200		mg/L	0.200	200	07/28/09 20:04	prb	9071128	SW 8260B
2-Butanone (MEK)	<2.50	M	mg/L	2.50	200	07/28/09 20:04	prb	9071128	SW 8260B
Carbon tetrachloride	<0.200		mg/L	0.200	200	07/28/09 20:04	prb	9071128	SW 8260B
Chlorobenzene	<0.200		mg/L	0.200	200	07/28/09 20:04	prb	9071128	SW 8260B
Chloroform	<0.200		mg/L	0.200	200	07/28/09 20:04	prb	9071128	SW 8260B
1,2-Dichloroethane	<0.200		mg/L	0.200	200	07/28/09 20:04	prb	9071128	SW 8260B
1,1-Dichloroethene	<0.200		mg/L	0.200	200	07/28/09 20:04	prb	9071128	SW 8260B
Tetrachloroethene	<0.200		mg/L	0.200	200	07/28/09 20:04	prb	9071128	SW 8260B
Trichloroethene	<0.200		mg/L	0.200	200	07/28/09 20:04	prb	9071128	SW 8260B
Vinyl chloride	<0.200		mg/L	0.200	200	07/28/09 20:04	prb	9071128	SW 8260B
Surr: 1,2-Dichloroethane-d4 (80-120%)	*110 %*					07/28/09 20:04	prb	9071128	SW 8260B
Surr: Dibromofluoromethane (80-120%)	*102 %*					07/28/09 20:04	prb	9071128	SW 8260B
Surr: Toluene-d8 (80-120%)	*101 %*					07/28/09 20:04	prb	9071128	SW 8260B
Surr: 4-Bromofluorobenzene (80-120%)	*99 %*					07/28/09 20:04	prb	9071128	SW 8260B

Veolia Environmental Services (West Carrollton)
4301 Infirmary Road, P.O. Box 453
West Carrollton, OH 45449
Brett Davis

Work Order: DSG0963
Project: Waste Characterization
Project Number: Rouch

Received: 07/21/09
Reported: 07/29/09 16:52

ANALYTICAL REPORT

Analyte	Sample Result	Data Qualifiers	Units	Rpt Limit	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: DSG0963-04 (Rouch #4 - Non-aqueous)					**Sampled: 07/20/09 14:00**			**Recvd: 07/21/09 16:30**	
TCLP Metals by 1311/6000/7000									
Arsenic	<0.500		mg/L	0.500	1	07/24/09 14:08	caj	9070911	SW 6010B
Barium	<0.100		mg/L	0.100	1	07/24/09 14:08	caj	9070911	SW 6010B
Cadmium	<0.150		mg/L	0.150	1	07/24/09 14:08	caj	9070911	SW 6010B
Chromium	<0.200		mg/L	0.200	1	07/24/09 14:08	caj	9070911	SW 6010B
Lead	<0.400		mg/L	0.400	1	07/24/09 14:08	caj	9070911	SW 6010B
Mercury	<0.00100		mg/L	0.00100	1	07/27/09 16:01	MKH	9070924	SW 7470A
Selenium	<0.500		mg/L	0.500	1	07/24/09 14:08	caj	9070911	SW 6010B
Silver	<0.200		mg/L	0.200	1	07/24/09 14:08	caj	9070911	SW 6010B
Extraction	ND		N/A	NA	1	07/23/09 14:05	TAD	9070878	SW 1311
TCLP Volatile Organic Compounds by EPA Method 1311/8260B									
Extraction	ND		N/A	NA	1	07/24/09 13:34	TAD	9070940	SW 1311
Benzene	<0.200		mg/L	0.200	200	07/25/09 22:13	eap	9071038	SW 8260B
2-Butanone (MEK)	<2.50		mg/L	2.50	200	07/25/09 22:13	eap	9071038	SW 8260B
Carbon tetrachloride	<0.200		mg/L	0.200	200	07/25/09 22:13	eap	9071038	SW 8260B
Chlorobenzene	<0.200		mg/L	0.200	200	07/25/09 22:13	eap	9071038	SW 8260B
hloroform	<0.200		mg/L	0.200	200	07/25/09 22:13	eap	9071038	SW 8260B
1,2-Dichloroethane	<0.200		mg/L	0.200	200	07/25/09 22:13	eap	9071038	SW 8260B
1,1-Dichloroethene	<0.200	M	mg/L	0.200	200	07/25/09 22:13	eap	9071038	SW 8260B
Tetrachloroethene	<0.200		mg/L	0.200	200	07/25/09 22:13	eap	9071038	SW 8260B
Trichloroethene	<0.200		mg/L	0.200	200	07/25/09 22:13	eap	9071038	SW 8260B
Vinyl chloride	<0.200		mg/L	0.200	200	07/25/09 22:13	eap	9071038	SW 8260B
Surr: 1,2-Dichloroethane-d4 (80-120%)	*84 %*					07/25/09 22:13	eap	9071038	SW 8260B
Surr: Dibromofluoromethane (80-120%)	*97 %*					07/25/09 22:13	eap	9071038	SW 8260B
Surr: Toluene-d8 (80-120%)	*97 %*					07/25/09 22:13	eap	9071038	SW 8260B
Surr: 4-Bromofluorobenzene (80-120%)	*105 %*					07/25/09 22:13	eap	9071038	SW 8260B
Sample ID: DSG0963-05 (Rouch #5 - Non-aqueous)					**Sampled: 07/20/09 14:00**			**Recvd: 07/21/09 16:30**	
TCLP Metals by 1311/6000/7000									
Arsenic	<0.500		mg/L	0.500	1	07/24/09 18:28	caj	9070959	SW 6010B
Barium	**0.754**		mg/L	0.100	1	07/27/09 14:49	CAJ	9070959	SW 6010B
Cadmium	<0.150		mg/L	0.150	1	07/24/09 18:28	caj	9070959	SW 6010B
Chromium	<0.200		mg/L	0.200	1	07/24/09 18:28	caj	9070959	SW 6010B
Lead	<0.400		mg/L	0.400	1	07/24/09 18:28	caj	9070959	SW 6010B
Mercury	<0.00100		mg/L	0.00100	1	07/27/09 16:03	MKH	9070924	SW 7470A
Selenium	<0.500		mg/L	0.500	1	07/24/09 18:28	caj	9070959	SW 6010B
Silver	<0.200		mg/L	0.200	1	07/24/09 18:28	caj	9070959	SW 6010B
Extraction	ND		N/A	NA	1	07/24/09 13:34	TAD	9070939	SW 1311
TCLP Volatile Organic Compounds by EPA Method 1311/8260B									
Extraction	ND		N/A	NA	1	07/24/09 13:34	TAD	9070940	SW 1311
Benzene	<1.00	RL1	mg/L	1.00	1000	07/28/09 18:08	prb	9071128	SW 8260B
2-Butanone (MEK)	<12.5	RL1	mg/L	12.5	1000	07/28/09 18:08	prb	9071128	SW 8260B
Carbon tetrachloride	<1.00	RL1	mg/L	1.00	1000	07/28/09 18:08	prb	9071128	SW 8260B
Chlorobenzene	<1.00	RL1	mg/L	1.00	1000	07/28/09 18:08	prb	9071128	SW 8260B
Chloroform	<1.00	RL1	mg/L	1.00	1000	07/28/09 18:08	prb	9071128	SW 8260B

Veolia Environmental Services (West Carrollton)
4301 Infirmary Road, P.O. Box 453
West Carrollton, OH 45449
Brett Davis

Work Order: DSG0963
Project: Waste Characterization
Project Number: Rouch

Received: 07/21/09
Reported: 07/29/09 16:52

ANALYTICAL REPORT

Analyte	Sample Result	Data Qualifiers	Units	Rpt Limit	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: DSG0963-05 (Rouch #5 - Non-aqueous) - cont.					**Sampled: 07/20/09 14:00**			**Recvd: 07/21/09 16:30**	
TCLP Volatile Organic Compounds by EPA Method 1311/8260B - cont.									
1,2-Dichloroethane	<1.00	RL1	mg/L	1.00	1000	07/28/09 18:08	prb	9071128	SW 8260B
1,1-Dichloroethene	<1.00	RL1	mg/L	1.00	1000	07/28/09 18:08	prb	9071128	SW 8260B
Tetrachloroethene	<1.00	RL1	mg/L	1.00	1000	07/28/09 18:08	prb	9071128	SW 8260B
Trichloroethene	<1.00	RL1	mg/L	1.00	1000	07/28/09 18:08	prb	9071128	SW 8260B
Vinyl chloride	<1.00	RL1	mg/L	1.00	1000	07/28/09 18:08	prb	9071128	SW 8260B
Surr: 1,2-Dichloroethane-d4 (80-120%)	*108 %*	*RL1*				07/28/09 18:08	prb	9071128	SW 8260B
Surr: Dibromofluoromethane (80-120%)	*103 %*	*RL1*				07/28/09 18:08	prb	9071128	SW 8260B
Surr: Toluene-d8 (80-120%)	*100 %*	*RL1*				07/28/09 18:08	prb	9071128	SW 8260B
Surr: 4-Bromofluorobenzene (80-120%)	*99 %*	*RL1*				07/28/09 18:08	prb	9071128	SW 8260B

Veolia Environmental Services (West Carrollton)
4301 Infirmary Road, P.O. Box 453
West Carrollton, OH 45449
Brett Davis

Work Order: DSG0963
Project: Waste Characterization
Project Number: Rouch

Received: 07/21/09
Reported: 07/29/09 16:52

LABORATORY BLANK QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	Units	MDL	MRL	Result	Dup Result	% REC	Dup %REC	% REC Limits	RPD	RPD Limit	Q
Organochlorine Pesticides/PCBs														
PCB-1016	9070893			mg/kg wet	N/A	1.00	<1.00							
PCB-1260	9070893			mg/kg wet	N/A	1.00	<1.00							
Surrogate: Tetrachloro-meta-xylene	*9070893*			mg/kg wet					*83*		*10-127*			
Surrogate: Decachlorobiphenyl	*9070893*			mg/kg wet					*64*		*10-149*			
TCLP Metals by 1311/6000/7000														
Arsenic	9070911			mg/L	N/A	0.500	<0.500							
Barium	9070911			mg/L	N/A	0.100	<0.100							
Cadmium	9070911			mg/L	N/A	0.150	<0.150							
Chromium	9070911			mg/L	N/A	0.200	<0.200							
Lead	9070911			mg/L	N/A	0.400	<0.400							
Selenium	9070911			mg/L	N/A	0.500	<0.500							
Silver	9070911			mg/L	N/A	0.200	<0.200							
Mercury	9070924			mg/L	N/A	0.000200	<0.000200							
Arsenic	9070959			mg/L	N/A	0.500	<0.500							
Barium	9070959			mg/L	N/A	0.100	<0.100							
Cadmium	9070959			mg/L	N/A	0.150	<0.150							
Chromium	9070959			mg/L	N/A	0.200	<0.200							
Lead	9070959			mg/L	N/A	0.400	<0.400							
Selenium	9070959			mg/L	N/A	0.500	<0.500							
Silver	9070959			mg/L	N/A	0.200	<0.200							
TCLP Volatile Organic Compounds by EPA Method 1311/8260B														
Benzene	9070993			mg/L	N/A	0.00100	<0.00100							
2-Butanone (MEK)	9070993			mg/L	N/A	0.0125	<0.0125							
Carbon tetrachloride	9070993			mg/L	N/A	0.00100	<0.00100							
Chlorobenzene	9070993			mg/L	N/A	0.00100	<0.00100							
Chloroform	9070993			mg/L	N/A	0.00100	<0.00100							
1,2-Dichloroethane	9070993			mg/L	N/A	0.00100	<0.00100							
1,1-Dichloroethene	9070993			mg/L	N/A	0.00100	<0.00100							
Tetrachloroethene	9070993			mg/L	N/A	0.00100	<0.00100							
Trichloroethene	9070993			mg/L	N/A	0.00100	<0.00100							
Vinyl chloride	9070993			mg/L	N/A	0.00100	<0.00100							
Surrogate: 1,2-Dichloroethane-d4	*9070993*			mg/L					*86*		*80-120*			
Surrogate: Dibromofluoromethane	*9070993*			mg/L					*97*		*80-120*			
Surrogate: Toluene-d8	*9070993*			mg/L					*98*		*80-120*			
Surrogate: 4-Bromofluorobenzene	*9070993*			mg/L					*104*		*80-120*			
Benzene	9071038			mg/L	N/A	0.00100	<0.00100							
2-Butanone (MEK)	9071038			mg/L	N/A	0.0125	<0.0125							
Carbon tetrachloride	9071038			mg/L	N/A	0.00100	<0.00100							
Chlorobenzene	9071038			mg/L	N/A	0.00100	<0.00100							
Chloroform	9071038			mg/L	N/A	0.00100	<0.00100							
1,2-Dichloroethane	9071038			mg/L	N/A	0.00100	<0.00100							
1,1-Dichloroethene	9071038			mg/L	N/A	0.00100	<0.00100							
Tetrachloroethene	9071038			mg/L	N/A	0.00100	<0.00100							
Trichloroethene	9071038			mg/L	N/A	0.00100	<0.00100							
Vinyl chloride	9071038			mg/L	N/A	0.00100	<0.00100							
urrogate: 1,2-Dichloroethane-d4	*9071038*			mg/L					*85*		*80-120*			
Surrogate: Dibromofluoromethane	*9071038*			mg/L					*98*		*80-120*			

Veolia Environmental Services (West Carrollton)	Work Order:	DSG0963	Received:	07/21/09
4301 Infirmary Road, P.O. Box 453	Project:	Waste Characterization	Reported:	07/29/09 16:52
West Carrollton, OH 45449	Project Number:	Rouch		
Brett Davis				

LABORATORY BLANK QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	Units	MDL	MRL	Result	Dup Result	% REC	Dup %REC	% REC Limits	RPD	RPD Limit	Q
TCLP Volatile Organic Compounds by EPA Method 1311/8260B														
Surrogate: Toluene-d8	*9071038*			mg/L					*94*		*80-120*			
Surrogate: 4-Bromofluorobenzene	*9071038*			mg/L					*106*		*80-120*			
Benzene	9071128			mg/L	N/A	0.00100	<0.00100							
2-Butanone (MEK)	9071128			mg/L	N/A	0.0125	<0.0125							
Carbon tetrachloride	9071128			mg/L	N/A	0.00100	<0.00100							
Chlorobenzene	9071128			mg/L	N/A	0.00100	<0.00100							
Chloroform	9071128			mg/L	N/A	0.00100	<0.00100							
1,2-Dichloroethane	9071128			mg/L	N/A	0.00100	<0.00100							
1,1-Dichloroethene	9071128			mg/L	N/A	0.00100	<0.00100							
Tetrachloroethene	9071128			mg/L	N/A	0.00100	<0.00100							
Trichloroethene	9071128			mg/L	N/A	0.00100	<0.00100							
Vinyl chloride	9071128			mg/L	N/A	0.00100	<0.00100							
Surrogate: 1,2-Dichloroethane-d4	*9071128*			mg/L					*109*		*80-120*			
Surrogate: Dibromofluoromethane	*9071128*			mg/L					*102*		*80-120*			
Surrogate: Toluene-d8	*9071128*			mg/L					*101*		*80-120*			
Surrogate: 4-Bromofluorobenzene	*9071128*			mg/L					*99*		*80-120*			

Veolia Environmental Services (West Carrollton)
4301 Infirmary Road, P.O. Box 453
West Carrollton, OH 45449
Brett Davis

Work Order: DSG0963
Project: Waste Characterization
Project Number: Rouch

Received: 07/21/09
Reported: 07/29/09 16:52

LCS/LCS DUPLICATE QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	Units	MDL	MRL	Result	Dup Result	% REC	Dup %REC	% REC Limits	RPD	RPD Limit	Q
Organochlorine Pesticides/PCBs														
PCB-1016	9070893		5.00	mg/kg wet	N/A	1.00	5.17		103		35-154			
PCB-1260	9070893		5.00	mg/kg wet	N/A	1.00	5.12		102		22-171			
Surrogate: Tetrachloro-meta-xylene	*9070893*			mg/kg wet					*88*		*10-127*			
Surrogate: Decachlorobiphenyl	*9070893*			mg/kg wet					*84*		*10-149*			
TCLP Metals by 1311/6000/7000														
Arsenic	9070911		5.00	mg/L	N/A	0.500	4.74		95		80-120			
Barium	9070911		5.00	mg/L	N/A	0.100	5.06		101		80-120			
Cadmium	9070911		5.00	mg/L	N/A	0.150	4.70		94		80-120			
Chromium	9070911		5.00	mg/L	N/A	0.200	4.62		92		80-120			
Lead	9070911		5.00	mg/L	N/A	0.400	4.70		94		80-120			
Selenium	9070911		5.00	mg/L	N/A	0.500	4.72		94		80-120			
Silver	9070911		5.00	mg/L	N/A	0.200	4.99		100		80-120			
Mercury	9070924		0.00100	mg/L	N/A	0.000200	0.000947		95		80-120			
Arsenic	9070959		5.00	mg/L	N/A	0.500	4.86		97		80-120			
Barium	9070959		5.00	mg/L	N/A	0.100	4.83		97		80-120			
Cadmium	9070959		5.00	mg/L	N/A	0.150	4.94		99		80-120			
Chromium	9070959		5.00	mg/L	N/A	0.200	4.83		97		80-120			
Lead	9070959		5.00	mg/L	N/A	0.400	4.91		98		80-120			
elenium	9070959		5.00	mg/L	N/A	0.500	4.85		97		80-120			
Silver	9070959		5.00	mg/L	N/A	0.200	4.77		95		80-120			
TCLP Volatile Organic Compounds by EPA Method 1311/8260B														
Benzene	9070993		0.0200	mg/L	N/A	0.00100	0.0206		103		79-120			
2-Butanone (MEK)	9070993		0.0500	mg/L	N/A	0.0125	0.0388		78		69-121			
Carbon tetrachloride	9070993		0.0200	mg/L	N/A	0.00100	0.0171		85		70-129			
Chlorobenzene	9070993		0.0200	mg/L	N/A	0.00100	0.0211		106		78-120			
Chloroform	9070993		0.0200	mg/L	N/A	0.00100	0.0200		100		77-120			
1,2-Dichloroethane	9070993		0.0200	mg/L	N/A	0.00100	0.0183		91		75-120			
1,1-Dichloroethene	9070993		0.0200	mg/L	N/A	0.00100	0.0142		71		71-121			
Tetrachloroethene	9070993		0.0200	mg/L	N/A	0.00100	0.0179		89		62-128			
Trichloroethene	9070993		0.0200	mg/L	N/A	0.00100	0.0208		104		77-120			
Vinyl chloride	9070993		0.0200	mg/L	N/A	0.00100	0.0154		77		65-126			
Surrogate: 1,2-Dichloroethane-d4	*9070993*			mg/L					*85*		*80-120*			
Surrogate: Dibromofluoromethane	*9070993*			mg/L					*94*		*80-120*			
Surrogate: Toluene-d8	*9070993*			mg/L					*96*		*80-120*			
Surrogate: 4-Bromofluorobenzene	*9070993*			mg/L					*105*		*80-120*			
Benzene	9071038		0.0200	mg/L	N/A	0.00100	0.0206		103		79-120			
2-Butanone (MEK)	9071038		0.0500	mg/L	N/A	0.0125	0.0384		77		69-121			
Carbon tetrachloride	9071038		0.0200	mg/L	N/A	0.00100	0.0184		92		70-129			
Chlorobenzene	9071038		0.0200	mg/L	N/A	0.00100	0.0214		107		78-120			
Chloroform	9071038		0.0200	mg/L	N/A	0.00100	0.0195		97		77-120			
1,2-Dichloroethane	9071038		0.0200	mg/L	N/A	0.00100	0.0177		89		75-120			
1,1-Dichloroethene	9071038		0.0200	mg/L	N/A	0.00100	0.0145		73		71-121			
Tetrachloroethene	9071038		0.0200	mg/L	N/A	0.00100	0.0192		96		62-128			
Trichloroethene	9071038		0.0200	mg/L	N/A	0.00100	0.0215		108		77-120			
Vinyl chloride	9071038		0.0200	mg/L	N/A	0.00100	0.0166		83		65-126			
rrogate: 1,2-Dichloroethane-d4	*9071038*			mg/L					*82*		*80-120*			
Surrogate: Dibromofluoromethane	*9071038*			mg/L					*97*		*80-120*			

Veolia Environmental Services (West Carrollton)
4301 Infirmary Road, P.O. Box 453
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Brett Davis

Work Order: DSG0963
Project: Waste Characterization
Project Number: Rouch

Received: 07/21/09
Reported: 07/29/09 16:52

LCS/LCS DUPLICATE QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	Units	MDL	MRL	Result	Dup Result	% REC	Dup %REC	% REC Limits	RPD	RPD Limit	Q
TCLP Volatile Organic Compounds by EPA Method 1311/8260B														
Surrogate: Toluene-d8	*9071038*			mg/L					*96*		*80-120*			
Surrogate: 4-Bromofluorobenzene	*9071038*			mg/L					*106*		*80-120*			
Benzene	9071128		0.0200	mg/L	N/A	0.00100	0.0186		93		79-120			
2-Butanone (MEK)	9071128		0.0500	mg/L	N/A	0.0125	0.0526		105		69-121			
Carbon tetrachloride	9071128		0.0200	mg/L	N/A	0.00100	0.0184		92		70-129			
Chlorobenzene	9071128		0.0200	mg/L	N/A	0.00100	0.0183		92		78-120			
Chloroform	9071128		0.0200	mg/L	N/A	0.00100	0.0197		98		77-120			
1,2-Dichloroethane	9071128		0.0200	mg/L	N/A	0.00100	0.0188		94		75-120			
1,1-Dichloroethene	9071128		0.0200	mg/L	N/A	0.00100	0.0156		78		71-121			
Tetrachloroethene	9071128		0.0200	mg/L	N/A	0.00100	0.0171		86		62-128			
Trichloroethene	9071128		0.0200	mg/L	N/A	0.00100	0.0185		93		77-120			
Vinyl chloride	9071128		0.0200	mg/L	N/A	0.00100	0.0172		86		65-126			
Surrogate: 1,2-Dichloroethane-d4	*9071128*			mg/L					*109*		*80-120*			
Surrogate: Dibromofluoromethane	*9071128*			mg/L					*101*		*80-120*			
Surrogate: Toluene-d8	*9071128*			mg/L					*101*		*80-120*			
Surrogate: 4-Bromofluorobenzene	*9071128*			mg/L					*98*		*80-120*			

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MATRIX SPIKE/MATRIX SPIKE DUPLICATE QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	Units	MDL	MRL	Result	Dup Result	% REC	Dup %REC	% REC Limits	RPD	RPD Limit	Q
Organochlorine Pesticides/PCBs														
QC Source Sample: DSG0963-01														
PCB-1016	9070893	<0.10	4.55	mg/kg wet	N/A	0.909	2.74	2.80	60	62	35-154	2	25	
PCB-1260	9070893	<0.10	4.55	mg/kg wet	N/A	0.909	3.02	3.11	66	69	22-171	3	25	
Surrogate: Tetrachloro-meta-xylene	*9070893*			mg/kg wet					*82*	*74*	*10-127*			
Surrogate: Decachlorobiphenyl	*9070893*			mg/kg wet					*74*	*70*	*10-149*			
TCLP Metals by 1311/6000/7000														
QC Source Sample: DSG0936-01														
Arsenic	9070911	<0.10	5.00	mg/L	N/A	0.500	4.85	4.85	97	97	75-125	0	20	
Barium	9070911	2.02	5.00	mg/L	N/A	0.100	6.89	6.76	97	95	75-125	2	20	
Cadmium	9070911	0.0123	5.00	mg/L	N/A	0.150	4.84	4.79	97	96	75-125	1	20	
Chromium	9070911	<0.040	5.00	mg/L	N/A	0.200	4.74	4.68	95	94	75-125	1	20	
Lead	9070911	0.0345	5.00	mg/L	N/A	0.400	4.88	4.81	97	95	75-125	2	20	
Selenium	9070911	<0.10	5.00	mg/L	N/A	0.500	4.85	4.81	97	96	75-125	1	20	
Silver	9070911	0.0100	5.00	mg/L	N/A	0.200	5.05	5.02	101	100	75-125	1	20	
QC Source Sample: DSG1056-01														
Mercury	9070924	<0.00020	0.00100	mg/L	N/A	0.000200	0.000986	0.000968	99	97	75-125	2	20	
QC Source Sample: DSG0963-02														
Arsenic	9070959	0.212	5.00	mg/L	N/A	0.500	5.18	5.19	99	100	75-125	0	20	
arium	9070959	0.0705	5.00	mg/L	N/A	0.100	4.93	5.00	97	99	75-125	1	20	
Cadmium	9070959	0.0102	5.00	mg/L	N/A	0.150	4.95	5.00	99	100	75-125	1	20	
Chromium	9070959	0.0124	5.00	mg/L	N/A	0.200	4.87	4.93	97	98	75-125	1	20	
Lead	9070959	0.0325	5.00	mg/L	N/A	0.400	5.02	5.06	100	101	75-125	1	20	
Selenium	9070959	<0.10	5.00	mg/L	N/A	0.500	4.90	4.99	98	100	75-125	2	20	
Silver	9070959	0.00960	5.00	mg/L	N/A	0.200	4.84	4.90	97	98	75-125	1	20	
TCLP Volatile Organic Compounds by EPA Method 1311/8260B														
QC Source Sample: DSG0957-03														
Benzene	9070993	<0.0010	4.00	mg/L	N/A	0.200	4.32	4.07	108	102	79-120	6	25	
2-Butanone (MEK)	9070993	<0.012	10.0	mg/L	N/A	2.50	8.44	8.14	84	81	69-121	4	25	
Carbon tetrachloride	9070993	<0.0010	4.00	mg/L	N/A	0.200	3.77	3.58	94	89	70-129	5	25	
Chlorobenzene	9070993	<0.0010	4.00	mg/L	N/A	0.200	4.34	4.07	109	102	78-120	7	25	
Chloroform	9070993	<0.0010	4.00	mg/L	N/A	0.200	3.88	3.88	97	97	77-120	0	25	
1,2-Dichloroethane	9070993	<0.0010	4.00	mg/L	N/A	0.200	3.59	3.40	90	85	75-120	6	25	
1,1-Dichloroethene	9070993	<0.0010	4.00	mg/L	N/A	0.200	3.05	2.90	76	72	71-121	5	25	
Tetrachloroethene	9070993	<0.0010	4.00	mg/L	N/A	0.200	3.90	3.65	98	91	62-128	7	25	
Trichloroethene	9070993	<0.0010	4.00	mg/L	N/A	0.200	4.45	4.21	111	105	77-120	5	25	
Vinyl chloride	9070993	<0.0010	4.00	mg/L	N/A	0.200	3.57	3.34	89	84	65-126	6	25	
Surrogate: 1,2-Dichloroethane-d4	*9070993*			mg/L					*85*	*85*	*80-120*			
Surrogate: Dibromofluoromethane	*9070993*			mg/L					*94*	*96*	*80-120*			
Surrogate: Toluene-d8	*9070993*			mg/L					*97*	*97*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*9070993*			mg/L					*104*	*104*	*80-120*			
QC Source Sample: DSG0963-04														
Benzene	9071038	<0.0010	4.00	mg/L	N/A	0.200	4.04	4.38	101	110	79-120	8	25	
2-Butanone (MEK)	9071038	<0.012	10.0	mg/L	N/A	2.50	7.08	8.26	71	83	69-121	15	25	
Carbon tetrachloride	9071038	<0.0010	4.00	mg/L	N/A	0.200	3.43	3.85	86	96	70-129	11	25	
Chlorobenzene	9071038	<0.0010	4.00	mg/L	N/A	0.200	4.07	4.63	102	116	78-120	13	25	
Chloroform	9071038	<0.0010	4.00	mg/L	N/A	0.200	3.71	4.03	93	101	77-120	8	25	
2-Dichloroethane	9071038	<0.0010	4.00	mg/L	N/A	0.200	3.27	3.69	82	92	75-120	12	25	
1,1-Dichloroethene	9071038	<0.0010	4.00	mg/L	N/A	0.200	2.71	3.00	68	75	71-121	10	25	M
Tetrachloroethene	9071038	<0.0010	4.00	mg/L	N/A	0.200	4.08	4.47	102	112	62-128	9	25	

Veolia Environmental Services (West Carrollton)
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MATRIX SPIKE/MATRIX SPIKE DUPLICATE QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	Units	MDL	MRL	Result	Dup Result	% REC	Dup %REC	% REC Limits	RPD	RPD Limit	Q
TCLP Volatile Organic Compounds by EPA Method 1311/8260B														
QC Source Sample: DSG0963-04														
Trichloroethene	9071038	<0.0010	4.00	mg/L	N/A	0.200	4.13	4.51	103	113	77-120	9	25	
Vinyl chloride	9071038	<0.0010	4.00	mg/L	N/A	0.200	3.01	3.29	75	82	65-126	9	25	
Surrogate: 1,2-Dichloroethane-d4	*9071038*			mg/L					*83*	*82*	*80-120*			
Surrogate: Dibromofluoromethane	*9071038*			mg/L					*96*	*96*	*80-120*			
Surrogate: Toluene-d8	*9071038*			mg/L					*98*	*98*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*9071038*			mg/L					*105*	*106*	*80-120*			
QC Source Sample: DSG0963-03														
Benzene	9071128	<0.0010	4.00	mg/L	N/A	0.200	4.41	4.51	110	113	79-120	2	25	
2-Butanone (MEK)	9071128	<0.012	10.0	mg/L	N/A	2.50	12.3	12.4	123	124	69-121	0	25	M
Carbon tetrachloride	9071128	<0.0010	4.00	mg/L	N/A	0.200	4.43	4.45	111	111	70-129	0	25	
Chlorobenzene	9071128	<0.0010	4.00	mg/L	N/A	0.200	4.38	4.50	110	112	78-120	3	25	
Chloroform	9071128	<0.0010	4.00	mg/L	N/A	0.200	4.66	4.81	117	120	77-120	3	25	
1,2-Dichloroethane	9071128	<0.0010	4.00	mg/L	N/A	0.200	4.40	4.50	110	113	75-120	2	25	
1,1-Dichloroethene	9071128	<0.0010	4.00	mg/L	N/A	0.200	3.79	3.83	95	96	71-121	1	25	
Tetrachloroethene	9071128	<0.0010	4.00	mg/L	N/A	0.200	4.33	4.42	108	111	62-128	2	25	
Trichloroethene	9071128	<0.0010	4.00	mg/L	N/A	0.200	4.39	4.47	110	112	77-120	2	25	
Vinyl chloride	9071128	<0.0010	4.00	mg/L	N/A	0.200	4.21	4.32	105	108	65-126	3	25	
Surrogate: 1,2-Dichloroethane-d4	*9071128*			mg/L					*109*	*111*	*80-120*			
Surrogate: Dibromofluoromethane	*9071128*			mg/L					*99*	*100*	*80-120*			
Surrogate: Toluene-d8	*9071128*			mg/L					*102*	*102*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*9071128*			mg/L					*101*	*98*	*80-120*			

Veolia Environmental Services (West Carrollton)
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OTHER

Analyte	Seq/ Batch	Source Result	Spike Level	Units	MDL	MRL	Result	Dup Result	% REC	Dup %REC	% REC Limits	RPD	RPD Limit	Q
TCLP Metals by 1311/6000/7000														
QC Source Sample: DSG0957-01														
Arsenic	9070911	0.00337	0.481	mg/L	N/A	N/A	0.510		105		0-200			
Barium	9070911	0.0167	0.481	mg/L	N/A	N/A	0.514		103		0-200			
Cadmium	9070911	0.00126	0.481	mg/L	N/A	N/A	0.497		103		0-200			
Chromium	9070911	0.000231	0.481	mg/L	N/A	N/A	0.492		102		0-200			
Lead	9070911	0.00317	0.481	mg/L	N/A	N/A	0.505		104		0-200			
Selenium	9070911	-0.000385	0.481	mg/L	N/A	N/A	0.504		105		0-200			
Silver	9070911	0.00103	0.481	mg/L	N/A	N/A	0.500		104		0-200			
QC Source Sample: DSG0992-04														
Mercury	9070924	0.0138	1.00	mg/L	N/A	N/A	1.19		118		75-125			
QC Source Sample: DSG0963-05														
Arsenic	9070959	-0.0250	0.481	mg/L	N/A	N/A	0.478		105		0-200			
Barium	9070959	0.145	0.481	mg/L	N/A	N/A	0.628		100		0-200			
Cadmium	9070959	0.00265	0.481	mg/L	N/A	N/A	0.486		100		0-200			
Chromium	9070959	0.00414	0.481	mg/L	N/A	N/A	0.480		99		0-200			
Lead	9070959	0.0758	0.481	mg/L	N/A	N/A	0.567		102		0-200			
Selenium	9070959	-0.00702	0.481	mg/L	N/A	N/A	0.500		106		0-200			
Silver	9070959	0.00696	0.481	mg/L	N/A	N/A	0.476		98		0-200			

Veolia Environmental Services (West Carrollton)	Work Order:	DSG0963	Received:	07/21/09
4301 Infirmary Road, P.O. Box 453	Project:	Waste Characterization	Reported:	07/29/09 16:52
West Carrollton, OH 45449	Project Number:	Rouch		
Brett Davis				

CERTIFICATION SUMMARY

Any abnormalities or departures from sample acceptance policy shall be documented on the Chain of Custody and/or Case Narrative included with this report.

For information concerning certifications of this facility or another TestAmerica facility, please visit our website at www.TestAmericaInc.com

Samples collected by TestAmerica Field Services personnel are noted on the Chain of Custody (COC).

DATA QUALIFIERS AND DEFINITIONS

M	The MS, MSD, and/or RPD are outside of acceptance limits due to matrix interference. Please see Blank Spike (LCS).
RL1	Reporting limit raised due to sample matrix effects.

ADDITIONAL COMMENTS

Results are reported on a wet weight basis unless otherwise noted.

ANALYSIS LOCATIONS

The analyses listed below were analyzed in satellite facilities

DSG 0963

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratory location: _____
Regulatory program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other _____

TestAmerica Laboratories, Inc.

Client Contact				
Company Name: Veolia ES	Client Project Manager:	Site Contact:	Lab Contact: Brett Davis	COC No:
Address: 4301 Infirmary Rd.	Telephone:	Telephone:	Telephone: 937-859-2202	____ of ____ COCs
City/State/Zip: West Carrollton, OH 45449	Email:	Analysis Turnaround Time (in BUS days)	Analyses	For lab use only
Phone: 937-859-2202		TAT if different from below _____ ☐ 3 weeks ☐ 2 weeks ☐ 1 week ☐ 2 days ☐ 1 day		Walk-in client ☐ Lab pickup ☐ Lab sampling ☐
Project Name: Rauch	Method of Shipment/Carrier:			
Project Number:	Shipping/Tracking No:			Job/SDG No:

PO#			Matrix						Containers & Preservatives							Filtered Sample (Y/N)	Composite (C) / Grab (G)	TCLP	TCLP Metals	PCB's									Sample Specific Notes / Special Instructions:
Sample Identification	Sample Date	Sample Time	Air	Aqueous	Sediment	Solid	Other:		H2SO4	HNO3	HCl	NaOH	ZnAc/ NaOH	Unpres	Other:															
Rauch #1	07/20	1400																		X										
Rauch #2	07/20	1400				X												X												
Rauch #3	07/20	1400																X	X	X										
Rauch #4	07/20	1400																X	X											
Rauch #5	07/20	1400				X												X												

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return to Client ☐ Disposal By Lab ☐ Archive For _____ Months

Special Instructions/QC Requirements & Comments:

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Carol Lee Moody	Veolia				7/21/09 1125
Relinquished by:	Company:	Date/Time: 7-21-09 1657	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company: TMD	Date/Time: 1650 7-21-09 ~~1650~~ 7-21-09

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TAL-0018 (1008)

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Cooler/Sample Receipt

Client ID Veolia

Discrepencies ☑

Rush or Short Hold ☐

if rush 24hr 2day 3day 5day other________

Method of Shipment:

Are samples soils requiring USDA quarantine? Yes (No) (circle one)
If yes notify PM immediately

Walk in Fed Ex UPS DHL TAL (Courier) Field Other________

Shipping Container Type: (Cooler) Box Other________

Opened Date/Time 7-21-09 1645 Initials DAB

Receipt Questions**	Y	N	n/a	"NO" answers require a comment
COC present	✓			
Containers in good condition (unbroken and not leaking), and appropriately filled	✓			
Appropriate containers used & Adequate volume provided	✓			
Correct preservation on the COC	✓			
Numbers of samples match COC	✓			
If used, custody seals were intact			✓	
Was CoC free of discrepencies?	~~✓~~ mm 7-22-09	✓		No TCLP ~~ID~~ of what TCLP They want
Samples received within hold time	✓			
VOA samples received without headspace in excess of 6 mm	✓			
Trip Blanks received for each cooler with VOAs			✓	

	HNO3	HCL	NaOH	H2SO4	Methanol	None	Other (Specify)
#/size		~~VOAs~~ 4 sets 7-21-09				~~16 oz~~ 7-21-09	32 oz 5 x 10 5

Tracking #________

Temp Acceptable? YES	NO	Cooler ID	Uncorrected	Corrected	
☑	☐	________	2.3	2.3 °C (Ice)	

Thermometer ID M

Packing Material None

Melted Ice Blue Ice None Other________
Circle one

Direct from Field? Yes (No)
Circle one

If out of temperature, note affected samples

CHECK IF ADDITIONAL SHEETS REQUIRED ☐

** May not be applicable if samples are not for compliance testing

Client Contact Record (required for discrepancies, unless agreement is on file with project) Date & Time 7/22/09 @ 11:10

Contact via: ☒ phone ☐ email ☐ other ________ Person contacted Brett Davis

Discussion/Resolution

TCLP = TCLP VOCs + Metals

Is a revised chain being issued? Yes No- if Yes, it must be scanned.
Circle one

dmo 7/22/09

Reviewed by PM Signature Date/Time

Page ____ of ____

WI No. DT-SCA-WI-001.3 effective 8/4/08

VEOLIA
ENVIRONMENTAL SERVICES

SHIPPING DOCUMENT	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Shipping Document Tracking Number
	CESQG	1	(877) 818-0087	ZZ 00236695

5. Generator's Name and Mailing Address
CITY OF DAYTON C/O ROUCH
300 TAYLOR STREET
DAYTON, OH 45402

Generator's Site Address (if different than mailing address)
SAME

Generator's Phone: 937 603-2587

6. Transporter 1 Company Name
VEOLIA ES TECHNICAL SOLUTIONS
U.S. EPA ID Number: NJD080631369

7. Transporter 2 Company Name
U.S. EPA ID Number:

8. Designated Facility Name and Site Address
VEOLIA ES TECHNICAL SOLUTIONS, L.L.C.
4301 INFIRMARY ROAD
WEST CARROLLTON, OH 45449
U.S. EPA ID Number: OHD093845293

Facility's Phone: 937 859-8101

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Codes
	1 NON RCRA AND DOT NON REGULATED SOLID	002	CF	01000	P	NONE
	2 NON RCRA AND DOT NON REGULATED SOLID	004	DF	00350	P	NONE
	3 NON RCRA AND DOT NON REGULATED SOLID	~~003~~ 002 DN	DM	~~00600~~ 00500 DN	P	NONE
	4.					

14. Special Handling Instructions and Additional Information: ER Service Contracted by VESTS

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Tim Smith FOR CITY OF DAYTON
Signature:
Month Day Year: 08 26 09

INT'L
16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER
17. Transporter Acknowledgment of Receipt of Shipment
Transporter 1 Printed/Typed Name: David Nass
Signature:
Month Day Year: 08 26 09
Transporter 2 Printed/Typed Name:
Signature:
Month Day Year:

DESIGNATED FACILITY
18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Shipping Document Tracking Number:
18b. Alternate Facility (or Generator)
U.S. EPA ID Number:
Facility's Phone:
18c. Signature of Alternate Facility (or Generator)
Month Day Year:

19. Report Management Method Codes (i.e., codes for treatment, disposal, and recycling systems)

1.	2.	3.	4.
H141	H141	H141	

20. Designated Facility Owner or Operator: Certification of receipt of shipment except as noted in Item 18a
Printed/Typed Name: Danny White
Signature:
Month Day Year: 08 26 09

DESIGNATED FACILITY TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator ID Number OHD017958601	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number 000377217 VES

5. Generator's Name and Mailing Address
CITY OF DAYTON
320 TAYLOR STREET
DAYTON, OH 45402

Generator's Site Address (if different than mailing address): SAME

Generator's Phone: 937 333-3800

6. Transporter 1 Company Name: VEOLIA ES TECHNICAL SOLUTIONS — U.S. EPA ID Number: [illegible]

7. Transporter 2 Company Name: — U.S. EPA ID Number:

8. Designated Facility Name and Site Address
VEOLIA ES TECHNICAL SOLUTIONS
L.L.C.
4301 INFIRMARY ROAD
WEST CARROLLTON, OH 45449

U.S. EPA ID Number: OHD093945293

Facility's Phone: 937 859-6101

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. UN1198, WASTE FORMALDEHYDE, SOLUTIONS, FLAMMABLE, 3, (8), III, RQ (D001)	001	DF	00150	P	D001
	2. NON RCRA AND DOT NON REGULATED LIQUID, (GREASE)	001	DM	00450	P	NONE
	3. NON REGULATED LIQUID	002	DM	00250	P	NONE
	4.					

14. Special Handling Instructions and Additional Information: ER Service Contracted by VESTS

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: TIMOTHY J. SMITH (FOR CITY OF DAYTON) — Signature: [signature] — Month 09 Day 04 Year 09

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit: ______
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: David Nass — Signature: [signature] — Month 09 Day 01 Year 09
Transporter 2 Printed/Typed Name: — Signature: — Month Day Year

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator) — U.S. EPA ID Number:
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) — Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: — Signature: — Month Day Year

GENERATOR / INT'L / TRANSPORTER / DESIGNATED FACILITY

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete. DESIGNATED FACILITY TO GENERATOR STATE (IF REQUIRED)

MERCURY

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
OHD017958604	1	(877) 818-0087	000377204 VES

GENERATOR

5. Generator's Name and Mailing Address
CITY OF DAYTON C/O ROUCH
711 E. MONUMENT STREET
SUITE 201
DAYTON, OH 45402
Generator's Phone: 937 333 3820

Generator's Site Address (if different than mailing address)
CITY OF DAYTON C/O ROUCH
300 TAYLOR STREET
DAYTON, OH 45402

6. Transporter 1 Company Name
VEOLIA ES TECHNICAL SOLUTIONS
U.S. EPA ID Number: NJD080631369

7. Transporter 2 Company Name
U.S. EPA ID Number:

8. Designated Facility Name and Site Address
VEOLIA ES TECHNICAL SOLUTIONS, L.L.C.
4301 INFIRMARY ROAD
WEST CARROLLTON, OH 45449
Facility's Phone: 937 859-8101
U.S. EPA ID Number: OHD063945283

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1UN3266, WASTE CORROSIVE LIQUID, BASIC, INORGANIC, n.o.s., 8, II	001	DF	00020	P	D002
X	2UN2809, WASTE MERCURY CONTAINED IN MANUFACTURED ARTICLES, 8, III	001	DF	00003	P	D009
	3.					
	4.					

14. Special Handling Instructions and Additional Information: ER Service Contracted by VESTS

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: TIMOTHY J. SMITH FOR THE CITY OF DAYTON
Signature: T J Smith
Month: 09 Day: 29 Year: 09

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: David Naas
Signature: David Naas
Month: 09 Day: 29 Year: 09

Transporter 2 Printed/Typed Name:
Signature:
Month: Day: Year:

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number:
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month: Day: Year:

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name:
Signature:
Month: Day: Year:

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO DESTINATION STATE (IF REQUIRED)

BLDG 2

BLDG 2 BASEMENT PIT

Belmont Labs
The Environmental Service Company.

Wednesday, December 2, 2009

Tim Delph
Veolia ES Industrial Services
6151 Executive Blvd
Huber Heights, OH 45432
TEL: (937) 238-1850
FAX -

RE: Rauch

Work Order: 09K0840

Belmont Labs received 2 sample(s) on 11/18/2009 for the analyses presented in the following report.

Belmont Labs attests that all analytical methods were performed using acceptable methods, and that the QA/QC procedures stipulated in these methods were followed. USEPA's RCRA Program regards a statement of quality assurance as a legal means of assuring that acceptable and uniform laboratory methods and QA/QC practices were followed by the laboratory.

If you have any questions regarding the test results, please feel free to call me at (937) 832-8242.

Respectfully submitted,

Holly Green

Holly Green
Project Manager

Belmont Labs **Date:** 12/2/2009

CLIENT: Veolia ES Industrial Services **Lab Order:** 09K0840
Project: Rauch

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Sampled Date	Received Date
09K0840-01A	Rauch Inc. Basement Oil Sump	11/18/2009 9:10:00AM	11/18/2009
09K0840-01B	Rauch Inc. Basement Oil Sump	11/18/2009 9:10:00AM	11/18/2009
09K0840-01C	Rauch Inc. Basement Oil Sump	11/18/2009 9:10:00AM	11/18/2009
09K0840-02A	Rauch Inc. Basement Oil Sump	11/18/2009 9:10:00AM	11/18/2009

Belmont Labs **Date:** 12/2/2009

CLIENT: Veolia ES Industrial Services **Lab Order:** 09K0840
Project: Rauch

Lab ID: 09K0840-01 **Collection Date:** 11/18/2009 9:10:00AM
Client Sample ID: Rauch Inc. Basement Oil Sump **Matrix:** Water

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Analyzed
TCLP_Ag		**SW 6010B**				**Analyst: RJE**	
TCLP Silver	BDL	0.0500		mg/L	1	0948176	11/25/2009 6:34:56PM
TCLP_As		**SW 6010B**				**Analyst: RJE**	
TCLP Arsenic	BDL	0.500		mg/L	1	0948176	11/25/2009 6:34:56PM
TCLP_Ba		**SW 6010B**				**Analyst: RJE**	
TCLP Barium	**1.66**	0.0500		mg/L	1	0948176	11/25/2009 6:34:56PM
TCLP_Cd		**SW 6010B**				**Analyst: RJE**	
TCLP Cadmium	**0.0820**	0.0500		mg/L	1	0948176	11/25/2009 6:34:56PM
TCLP_Cr		**SW 6010B**				**Analyst: RJE**	
TCLP Chromium	BDL	0.0500		mg/L	1	0948176	11/25/2009 6:34:56PM
TCLP_Pb		**SW 6010B**				**Analyst: RJE**	
TCLP Lead	**0.635**	0.250		mg/L	1	0948176	11/25/2009 6:34:56PM
TCLP_Se		**SW 6010B**				**Analyst: RJE**	
TCLP Selenium	BDL	0.500		mg/L	1	0948176	11/25/2009 6:34:56PM
TCLP_Hg		**SW 7470**				**Analyst: KC**	
TCLP Mercury	BDL	0.000200		mg/L	1	0948187	11/25/2009 3:25:00PM
TCLP Pesticides		**SW 8081**				**Analyst: DAG**	
TCLP Chlordane	BDL	0.0500		mg/L	1	0949036	12/2/2009 12:00:00AM
TCLP Endrin	BDL	0.00500		mg/L	1	0949036	12/2/2009 12:00:00AM
TCLP gamma-BHC	BDL	0.00500		mg/L	1	0949036	12/2/2009 12:00:00AM
TCLP Heptachlor	BDL	0.00500		mg/L	1	0949036	12/2/2009 12:00:00AM
TCLP Heptachlor epoxide	BDL	0.00500		mg/L	1	0949036	12/2/2009 12:00:00AM
TCLP Methoxychlor	BDL	0.00500		mg/L	1	0949036	12/2/2009 12:00:00AM
TCLP Toxaphene	BDL	0.0500		mg/L	1	0949036	12/2/2009 12:00:00AM
Surrogate: Tetrachloro-m-xylene		*62.0 %*		*47-114*		*0949036*	12/2/2009 12:00:00AM
Surrogate: Decachlorobiphenyl		*42.0 %*		*31-163*		*0949036*	12/2/2009 12:00:00AM
TCLP VOC		**SW 8260B**				**Analyst: kds**	
TCLP Benzene	BDL	0.200		mg/L	40	0949008	11/28/2009 10:35:00PM
Surrogate: 4-Bromofluorobenzene		*124 %*		*41-140*		*0949008*	11/28/2009 10:35:00PM
Surrogate: Dibromofluoromethane		*123 %*		*34-158*		*0949008*	11/28/2009 10:35:00PM
Surrogate: Toluene-d8		*113 %*		*47-147*		*0949008*	11/28/2009 10:35:00PM
Surrogate: 1,2-Dichloroethane-d4		*115 %*		*29-163*		*0949008*	11/28/2009 10:35:00PM

Belmont Labs **Date:** 12/2/2009

CLIENT: Veolia ES Industrial Services **Lab Order:** 09K0840
Project: Rauch

Lab ID: 09K0840-01 **Collection Date:** 11/18/2009 9:10:00AM
Client Sample ID: Rauch Inc. Basement Oil Sump **Matrix:** Water

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Analyzed
TCLP Herbicides		**SW 8151**				**Analyst: DAG**	
TCLP 2,4,5-TP (Silvex)	BDL	0.00250		mg/L	1	0948183	12/2/2009 12:48:00AM
TCLP 2,4-D	BDL	0.00250		mg/L	1	0948183	12/2/2009 12:48:00AM
Surrogate: 2,4-Dichlorophenyl Acetic Acid		*127 %*		*40-167*		*0948183*	12/2/2009 12:48:00AM
TCLP SVOC		**SW 8270C**				**Analyst: dag**	
TCLP 1,4-Dichlorobenzene	BDL	2.50		mg/L	10	0948154	12/1/2009 6:43:00AM
TCLP 2,4,5-Trichlorophenol	BDL	2.50		mg/L	10	0948154	12/1/2009 6:43:00AM
TCLP 2,4,6-Trichlorophenol	BDL	2.50		mg/L	10	0948154	12/1/2009 6:43:00AM
TCLP 2,4-Dinitrotoluene	BDL	2.50		mg/L	10	0948154	12/1/2009 6:43:00AM
TCLP 2-Methylphenol	BDL	2.50		mg/L	10	0948154	12/1/2009 6:43:00AM
TCLP 3 & 4-Methylphenol	BDL	2.50		mg/L	10	0948154	12/1/2009 6:43:00AM
TCLP Hexachlorobenzene	BDL	2.50		mg/L	10	0948154	12/1/2009 6:43:00AM
TCLP Hexachlorobutadiene	BDL	2.50		mg/L	10	0948154	12/1/2009 6:43:00AM
TCLP Hexachloroethane	BDL	2.50		mg/L	10	0948154	12/1/2009 6:43:00AM
TCLP Nitrobenzene	BDL	2.50		mg/L	10	0948154	12/1/2009 6:43:00AM
TCLP Pentachlorophenol	BDL	2.50		mg/L	10	0948154	12/1/2009 6:43:00AM
TCLP Pyridine	BDL	2.50		mg/L	10	0948154	12/1/2009 6:43:00AM
Surrogate: 2-Fluorophenol		*%*	*S-01*	*10-80*		*0948154*	12/1/2009 6:43:00AM
Surrogate: Phenol-d6		*%*	*S-01*	*10-70*		*0948154*	12/1/2009 6:43:00AM
Surrogate: Nitrobenzene-d5		*%*	*S-01*	*50-125*		*0948154*	12/1/2009 6:43:00AM
Surrogate: 2-Fluorobiphenyl		*%*	*S-01*	*57-113*		*0948154*	12/1/2009 6:43:00AM
Surrogate: 2,4,6-Tribromophenol		*%*	*S-01*	*10-157*		*0948154*	12/1/2009 6:43:00AM
Surrogate: Terphenyl-d14		*%*	*S-01*	*23-132*		*0948154*	12/1/2009 6:43:00AM

Lab ID: 09K0840-02 **Collection Date:** 11/18/2009 9:10:00AM
Client Sample ID: Rauch Inc. Basement Oil Sump **Matrix:** Oil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Analyzed
PCB_8082		**SW 8082**				**Analyst: DAG**	
Aroclor 1016	BDL	0.500		mg/kg	1	0949018	12/1/2009 2:51:00PM
Aroclor 1221	BDL	0.500		mg/kg	1	0949018	12/1/2009 2:51:00PM
Aroclor 1232	BDL	0.500		mg/kg	1	0949018	12/1/2009 2:51:00PM
Aroclor 1242	BDL	0.500		mg/kg	1	0949018	12/1/2009 2:51:00PM
Aroclor 1248	BDL	0.500		mg/kg	1	0949018	12/1/2009 2:51:00PM
Aroclor 1254	BDL	0.500		mg/kg	1	0949018	12/1/2009 2:51:00PM
Aroclor 1260	BDL	0.500		mg/kg	1	0949018	12/1/2009 2:51:00PM
Surrogate: Decachlorobiphenyl		*32.0 %*		*28-188*		*0949018*	12/1/2009 2:51:00PM
Surrogate: Tetrachloro-m-xylene		*89.0 %*		*40-165*		*0949018*	12/1/2009 2:51:00PM

Belmont Labs
The Environmental Service Company.

ANALYTICAL REQUEST
CHAIN OF CUSTODY

Internal Lab Order Number 09K084D

Purchase Order No. | Quote No. | Client Project: Rauch

INVOICE TO
Name: Tim Delph
Company: Veolia ES Industrial Services
Address: 6851 Executive Blvd
City, State, Zip: Huber Heights Ohio 45424

REPORT TO
Name:
Company: Same
Mailing Address:
City, State, Zip:
Phone No: 937-33-4497 Fax No: 937-237-3469

Date Results Req: | Rush Charges Authorized? ☐ Yes ☒ No | Fax Results: ☑

Special Instructions:

Additional QC Requirements: Level 2, Level 3, Level 4 (Charges Apply)

Regulatory Type
☐ NPDES
☐ RCRA
☐ SDWA
☐ VAP
☐ Other
Collected in State of _____

Matrix Key
DW - Drinking Water
GW - Ground Water
S - Soil/Solid
SL - Sludge
WW - Waste Water
Specify Other

ANALYSIS REQUESTED
(Enter an "X" in the box below to indicate request and circle preservative)

CLIENT SAMPLE IDENTIFICATION	Date Sampled	Time	Comp	Grab	Matrix	Number of Containers	RUSH	72 HR	HNO3, HCl, H2SO4, Ice, None, Other	HNO3, HCl, H2SO4, Ice, None, Other	HNO3, HCl, H2SO4, Ice, None, Other	HNO3, HCl, H2SO4, Ice, None, Other	HNO3, HCl, H2SO4, Ice, None, Other	HNO3, HCl, H2SO4, Ice, None, Other	HNO3, HCl, H2SO4, Ice, None, Other	HNO3, HCl, H2SO4, Ice, None, Other	Lab Only
Steve Rauch Inc, Basement	11/18/09	8:10				3	✓	✓			(3)						
Blood Oil Sump																	

CHAIN OF CUSTODY (if required)

Relinquished by: _____ Date/Time 0915 11-18-09 Received by: _____ Date/Time _____

Relinquished by: _____ Date/Time _____ Received at lab by: _____ Date/Time 11-18-09 16:3

Method of Shipment: W-T Cooler Temp. 18.4 Custody Seals ☐ Yes ☐ No

Sampled by: _____ Date 11-18-09

Client Comments

DISTRIBUTION:
WHITE - Laboratory
YELLOW - Accounting

Please return completed form and samples to Belmont Labs • 25 Holiday Drive • Englewood, OH 45322 • 937.832.8242 • Fax 937.832.2868

A&BL ...n #9786-5/02

Notes and Definitions

S-01 The surrogate recovery for this sample is not available due to sample dilution required from high analyte concentration and/or matrix interference's.

R-05 The sample was diluted due to the presence of high levels of non-target analytes resulting in elevated reporting limits.

VEOLIA
ENVIRONMENTAL SERVICES

SHIPPING DOCUMENT	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Shipping Document Tracking Number
	OHD017958604	1	(877) 818-0087	ZZ 00131900

GENERATOR

5. Generator's Name and Mailing Address
CITY OF DAYTON C/O ROUCH
711 E. MONUMENT STREET
SUITE 201
DAYTON, OH 45402

Generator's Site Address (if different than mailing address)
CITY OF DAYTON C/O ROUCH
300 TAYLOR STREET
DAYTON, OH 45402

Generator's Phone:

6. Transporter 1 Company Name: VEOLIA ES TECHNICAL SOLUTIONS — U.S. EPA ID Number: NJD080631369

7. Transporter 2 Company Name — U.S. EPA ID Number:

8. Designated Facility Name and Site Address
VEOLIA ES TECHNICAL SOLUTIONS, L.L.C.
4301 INFIRMARY ROAD
WEST CARROLLTON, OH 45449
Facility's Phone: 937 859-8101
U.S. EPA ID Number: OHD093045293

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Codes
	NON RCRA AND DOT NON REGULATED LIQUID, (OIL)	004	DM	01600	P	NONE
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information: ER Service Contracted by VESTS

INT'L

15. **GENERATOR S/OFFEROR S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: TIMOTHY J. SMITH (FOR CITY OF DAYTON) — Signature: T J Smith — Month 12 Day 10 Year 09

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Shipment

Transporter 1 Printed/Typed Name: ~~Derick Hilker~~ David Nagas — Signature: David Nagas — Month 12 Day 10 Year 09

Transporter 2 Printed/Typed Name: — Signature: — Month Day Year

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Shipping Document Tracking Number:

18b. Alternate Facility (or Generator) — U.S. EPA ID Number:

Facility's Phone:

18c. Signature of Alternate Facility (or Generator) — Month Day Year

19. Report Management Method Codes (i.e., codes for treatment, disposal, and recycling systems)

1.	2.	3.	4.
H141			

20. Designated Facility Owner or Operator: Certification of receipt of shipment except as noted in Item 18a

Printed/Typed Name: Danny White — Signature: Danny White — Month 12 Day 10 Year 09

DESIGNATED FACILITY TO GENERATOR

BLDG. 5

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

4738 Gateway Circle Dayton, OH 45440 (800) 572-9839
339 W. Walton Blvd Pontiac, MI 48340 (800) 526-4951

~~5 SE CORNER UST'S~~ B5 BASEMENT PIT RE-SAMPLING

September 10, 2009

Client:

Veolia Environmental Services (West Carrollton)
4301 Infirmary Road, P.O. Box 453
West Carrollton, OH 45449

Attn: Brett Davis

Work Order: DSH1189
Project Name: Waste Characterization
Project Number: City of Dayton Rauch

Date Received: 08/27/09

Samples logged in at Dayton laboratory.

An executed copy of the Chain of Custody is also included as an addendum to this report.

If you have any questions relating to this analytical report, please contact your Laboratory Project Manager at the number shown above.

SAMPLE IDENTIFICATION	LAB NUMBER	COLLECTION DATE AND TIME
CD1	DSH1189-01	08/26/09
CD2	DSH1189-02	08/26/09

Ohio Certification Number: 4074, 857

Reproduction of this analytical report is permitted only in its entirety. This report shall not be reproduced except in full without the written approval of the laboratory.

TestAmerica Laboratories, Inc. certifies that the analytical results contained herein apply only to the samples tested as received by our Laboratory.

Report Approved By:

S A Howard

This report has been electronically signed.

TestAmerica Dayton
Shelly A. Howard
Dayton Project Manager

12473.005.005.0600

olia Environmental Services (West Carrollton)
4301 Infirmary Road, P.O. Box 453
West Carrollton, OH 45449
Brett Davis

Work Order: DSH1189
Project: Waste Characterization
Project Number: City of Dayton Rauch

Received: 08/27/09
Reported: 09/10/09 17:21

ANALYTICAL REPORT

Analyte	Sample Result	Data Qualifiers	Units	Rpt Limit	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: DSH1189-01 (CD1 - Water - NonPotable)					**Sampled: 08/26/09**			**Recvd: 08/27/09 16:10**	
Organochlorine Pesticides/PCBs									
PCB-1016	<2.00	MNR1, RL4	ug/L	2.00	1	09/02/09 17:31	TWM	9081226	SW 8082
PCB-1221	<2.00	MNR1, RL4	ug/L	2.00	1	09/02/09 17:31	TWM	9081226	SW 8082
PCB-1232	<2.00	MNR1, RL4	ug/L	2.00	1	09/02/09 17:31	TWM	9081226	SW 8082
PCB-1242	<2.00	MNR1, RL4	ug/L	2.00	1	09/02/09 17:31	TWM	9081226	SW 8082
PCB-1248	<2.00	MNR1, RL4	ug/L	2.00	1	09/02/09 17:31	TWM	9081226	SW 8082
PCB-1254	<2.00	MNR1, RL4	ug/L	2.00	1	09/02/09 17:31	TWM	9081226	SW 8082
PCB-1260	<2.00	MNR1, RL4	ug/L	2.00	1	09/02/09 17:31	TWM	9081226	SW 8082
Surr: Tetrachloro-meta-xylene (10-166%)	*82 %*	*MNR1, RL4*				09/02/09 17:31	TWM	9081226	SW 8082
Surr: Decachlorobiphenyl (10-157%)	*31 %*	*MNR1, RL4*				09/02/09 17:31	TWM	9081226	SW 8082
Volatile Organic Compounds by GC/MS									
Acetone	<400	RL1, P-HS, P6, P4	ug/L	400	20	09/01/09 16:50	jmt	9090120	SW 8260B
Benzene	<20.0	RL1, P-HS, P6, P4	ug/L	20.0	20	09/01/09 16:50	jmt	9090120	SW 8260B
Bromobenzene	<20.0	RL1, P-HS, P6, P4	ug/L	20.0	20	09/01/09 16:50	jmt	9090120	SW 8260B
romochloromethane	<20.0	RL1, P-HS, P6, P4	ug/L	20.0	20	09/01/09 16:50	jmt	9090120	SW 8260B
Bromodichloromethane (Dichlorobromomethane)	<20.0	RL1, P-HS, P6, P4	ug/L	20.0	20	09/01/09 16:50	jmt	9090120	SW 8260B
Bromoform	<20.0	RL1, P-HS, P6, P4	ug/L	20.0	20	09/01/09 16:50	jmt	9090120	SW 8260B
Bromomethane (Methyl bromide)	<100	RL1, P-HS, P6, P4,L1	ug/L	100	20	09/01/09 16:50	jmt	9090120	SW 8260B
2-Butanone (MEK)	<250	RL1, P-HS, P6, P4	ug/L	250	20	09/01/09 16:50	jmt	9090120	SW 8260B
tert-Butylbenzene	<20.0	RL1, P-HS, P6, P4	ug/L	20.0	20	09/01/09 16:50	jmt	9090120	SW 8260B
sec-Butylbenzene	<20.0	RL1, P-HS, P6, P4	ug/L	20.0	20	09/01/09 16:50	jmt	9090120	SW 8260B
n-Butylbenzene	<20.0	RL1, P-HS, P6, P4	ug/L	20.0	20	09/01/09 16:50	jmt	9090120	SW 8260B
Carbon disulfide	<20.0	RL1, P-HS, P6, P4	ug/L	20.0	20	09/01/09 16:50	jmt	9090120	SW 8260B
Carbon tetrachloride	<20.0	RL1, P-HS, P6, P4	ug/L	20.0	20	09/01/09 16:50	jmt	9090120	SW 8260B
Chlorobenzene	<20.0	RL1, P-HS, P6, P4	ug/L	20.0	20	09/01/09 16:50	jmt	9090120	SW 8260B
Chloroethane	<100	RL1, P-HS, P6, P4	ug/L	100	20	09/01/09 16:50	jmt	9090120	SW 8260B
Chloroform	<20.0	RL1, P-HS, P6, P4	ug/L	20.0	20	09/01/09 16:50	jmt	9090120	SW 8260B
Chloromethane (Methyl chloride)	<100	RL1, P-HS, P6, P4	ug/L	100	20	09/01/09 16:50	jmt	9090120	SW 8260B
4-Chlorotoluene	<20.0	RL1, P-HS, P6, P4	ug/L	20.0	20	09/01/09 16:50	jmt	9090120	SW 8260B
2-Chlorotoluene	<20.0	RL1, P-HS, P6, P4	ug/L	20.0	20	09/01/09 16:50	jmt	9090120	SW 8260B
romochloromethane lorodibromomethane)	<20.0	RL1, P-HS, P6, P4	ug/L	20.0	20	09/01/09 16:50	jmt	9090120	SW 8260B
Dibromomethane	<20.0	RL1, P-HS, P6, P4	ug/L	20.0	20	09/01/09 16:50	jmt	9090120	SW 8260B

olia Environmental Services (West Carrollton)
4501 Infirmary Road, P.O. Box 453
West Carrollton, OH 45449
Brett Davis

Work Order: DSH1189
Project: Waste Characterization
Project Number: City of Dayton Rauch

Received: 08/27/09
Reported: 09/10/09 17:21

ANALYTICAL REPORT

Analyte	Sample Result	Data Qualifiers	Units	Rpt Limit	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: DSH1189-01 (CD1 - Water - NonPotable) - cont.					**Sampled: 08/26/09**			**Recvd: 08/27/09 16:10**	
Volatile Organic Compounds by GC/MS - cont.									
1,2-Dichlorobenzene	<20.0	RL1, P-HS, P6, P4	ug/L	20.0	20	09/01/09 16:50	jmt	9090120	SW 8260B
1,4-Dichlorobenzene	<20.0	RL1, P-HS, P6, P4	ug/L	20.0	20	09/01/09 16:50	jmt	9090120	SW 8260B
1,3-Dichlorobenzene	<20.0	RL1, P-HS, P6, P4	ug/L	20.0	20	09/01/09 16:50	jmt	9090120	SW 8260B
Dichlorodifluoromethane	<20.0	RL1, P-HS, P6, P4	ug/L	20.0	20	09/01/09 16:50	jmt	9090120	SW 8260B
1,1-Dichloroethane	<20.0	RL1, P-HS, P6, P4	ug/L	20.0	20	09/01/09 16:50	jmt	9090120	SW 8260B
1,2-Dichloroethane	<20.0	RL1, P-HS, P6, P4	ug/L	20.0	20	09/01/09 16:50	jmt	9090120	SW 8260B
cis-1,2-Dichloroethene	<20.0	RL1, P-HS, P6, P4	ug/L	20.0	20	09/01/09 16:50	jmt	9090120	SW 8260B
trans-1,2-Dichloroethene	<20.0	RL1, P-HS, P6, P4	ug/L	20.0	20	09/01/09 16:50	jmt	9090120	SW 8260B
1,1-Dichloroethene	<20.0	RL1, P-HS, P6, P4	ug/L	20.0	20	09/01/09 16:50	jmt	9090120	SW 8260B
1,3-Dichloropropane	<20.0	RL1, P-HS, P6, P4	ug/L	20.0	20	09/01/09 16:50	jmt	9090120	SW 8260B
.-Dichloropropane	<20.0	RL1, P-HS, P6, P4	ug/L	20.0	20	09/01/09 16:50	jmt	9090120	SW 8260B
1,2-Dichloropropane	<20.0	RL1, P-HS, P6, P4	ug/L	20.0	20	09/01/09 16:50	jmt	9090120	SW 8260B
1,1-Dichloropropene	<20.0	RL1, P-HS, P6, P4	ug/L	20.0	20	09/01/09 16:50	jmt	9090120	SW 8260B
cis-1,3-Dichloropropene	<20.0	RL1, P-HS, P6, P4	ug/L	20.0	20	09/01/09 16:50	jmt	9090120	SW 8260B
trans-1,3-Dichloropropene	<20.0	RL1, P-HS, P6, P4	ug/L	20.0	20	09/01/09 16:50	jmt	9090120	SW 8260B
Ethylbenzene	<20.0	RL1, P-HS, P6, P4	ug/L	20.0	20	09/01/09 16:50	jmt	9090120	SW 8260B
Hexachlorobutadiene	<100	RL1, P-HS, P6, P4	ug/L	100	20	09/01/09 16:50	jmt	9090120	SW 8260B
n-Hexane	<100	RL1, P-HS, P6, P4	ug/L	100	20	09/01/09 16:50	jmt	9090120	SW 8260B
2-Hexanone	<200	RL1, P-HS, P6, P4	ug/L	200	20	09/01/09 16:50	jmt	9090120	SW 8260B
Isopropylbenzene (Cumene)	<20.0	RL1, P-HS, P6, P4	ug/L	20.0	20	09/01/09 16:50	jmt	9090120	SW 8260B
p-Isopropyltoluene	<20.0	RL1, P-HS, P6, P4	ug/L	20.0	20	09/01/09 16:50	jmt	9090120	SW 8260B
Methyl tert-butyl ether	<20.0	RL1, P-HS, P6, P4	ug/L	20.0	20	09/01/09 16:50	jmt	9090120	SW 8260B
Methylene chloride	<100	RL1, P-HS, P6, P4	ug/L	100	20	09/01/09 16:50	jmt	9090120	SW 8260B
4-Methyl-2-pentanone (MIBK)	<250	RL1, P-HS, P6, P4	ug/L	250	20	09/01/09 16:50	jmt	9090120	SW 8260B
n-Propylbenzene	<20.0	RL1, P-HS, P6, P4	ug/L	20.0	20	09/01/09 16:50	jmt	9090120	SW 8260B
Styrene	<20.0	RL1, P-HS, P6, P4	ug/L	20.0	20	09/01/09 16:50	jmt	9090120	SW 8260B
.,1,2-Tetrachloroethane	<20.0	RL1, P-HS, P6, P4	ug/L	20.0	20	09/01/09 16:50	jmt	9090120	SW 8260B
1,1,2,2-Tetrachloroethane	<20.0	RL1, P-HS, P6, P4	ug/L	20.0	20	09/01/09 16:50	jmt	9090120	SW 8260B

olia Environmental Services (West Carrollton)
.501 Infirmary Road, P.O. Box 453
West Carrollton, OH 45449
Brett Davis

Work Order: DSH1189
Project: Waste Characterization
Project Number: City of Dayton Rauch

Received: 08/27/09
Reported: 09/10/09 17:21

ANALYTICAL REPORT

Analyte	Sample Result	Data Qualifiers	Units	Rpt Limit	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: DSH1189-01 (CD1 - Water - NonPotable) - cont.					**Sampled: 08/26/09**			**Recvd: 08/27/09 16:10**	
Volatile Organic Compounds by GC/MS - cont.									
Tetrachloroethene	<20.0	RL1, P-HS, P6, P4	ug/L	20.0	20	09/01/09 16:50	jmt	9090120	SW 8260B
Toluene	<20.0	RL1, P-HS, P6, P4	ug/L	20.0	20	09/01/09 16:50	jmt	9090120	SW 8260B
1,2,4-Trichlorobenzene	<100	RL1, P-HS, P6, P4	ug/L	100	20	09/01/09 16:50	jmt	9090120	SW 8260B
1,1,1-Trichloroethane	<20.0	RL1, P-HS, P6, P4	ug/L	20.0	20	09/01/09 16:50	jmt	9090120	SW 8260B
1,1,2-Trichloroethane	<20.0	RL1, P-HS, P6, P4	ug/L	20.0	20	09/01/09 16:50	jmt	9090120	SW 8260B
Trichloroethene	<20.0	RL1, P-HS, P6, P4	ug/L	20.0	20	09/01/09 16:50	jmt	9090120	SW 8260B
Trichlorofluoromethane	<20.0	RL1, P-HS, P6, P4	ug/L	20.0	20	09/01/09 16:50	jmt	9090120	SW 8260B
1,2,4-Trimethylbenzene	<20.0	RL1, P-HS, P6, P4	ug/L	20.0	20	09/01/09 16:50	jmt	9090120	SW 8260B
1,3,5-Trimethylbenzene	<20.0	RL1, P-HS, P6, P4	ug/L	20.0	20	09/01/09 16:50	jmt	9090120	SW 8260B
Vinyl Acetate	<100	RL1, P-HS, P6, P4	ug/L	100	20	09/01/09 16:50	jmt	9090120	SW 8260B
yl chloride	<20.0	RL1, P-HS, P6, P4	ug/L	20.0	20	09/01/09 16:50	jmt	9090120	SW 8260B
Xylenes, Total	<40.0	RL1, P-HS, P6, P4	ug/L	40.0	20	09/01/09 16:50	jmt	9090120	SW 8260B
Surr: 1,2-Dichloroethane-d4 (80-120%)	*103 %*	*RL1, P-HS, P6, P*				09/01/09 16:50	jmt	9090120	SW 8260B
Surr: Dibromofluoromethane (80-120%)	*107 %*	*RL1, P-HS, P6, P*				09/01/09 16:50	jmt	9090120	SW 8260B
Surr: Toluene-d8 (80-120%)	*91 %*	*RL1, P-HS, P6, P*				09/01/09 16:50	jmt	9090120	SW 8260B
Surr: 4-Bromofluorobenzene (80-120%)	*95 %*	*RL1, P-HS, P6, P*				09/01/09 16:50	jmt	9090120	SW 8260B
TCLP Metals by 1311/6000/7000									
Arsenic	<0.500		mg/L	0.500	1	09/02/09 00:13	MJW	9090026	SW 6010B
Barium	**0.191**		mg/L	0.100	1	09/02/09 00:13	MJW	9090026	SW 6010B
Cadmium	<0.150		mg/L	0.150	1	09/02/09 00:13	MJW	9090026	SW 6010B
Chromium	<0.200		mg/L	0.200	1	09/02/09 00:13	MJW	9090026	SW 6010B
Lead	<0.400		mg/L	0.400	1	09/02/09 00:13	MJW	9090026	SW 6010B
Mercury	<0.00100		mg/L	0.00100	1	09/03/09 16:04	MKH	9090030	SW 7470A
Selenium	<0.500		mg/L	0.500	1	09/02/09 00:13	MJW	9090026	SW 6010B
Silver	<0.200		mg/L	0.200	1	09/02/09 00:13	MJW	9090026	SW 6010B
Extraction	ND		N/A	NA	1	09/01/09 11:30	TAD	9081246	SW 1311
TCLP Pesticides by EPA Method 1311/8081A									
Methoxychlor	<0.000100	MNR1	mg/L	0.000100	1	09/03/09 17:27	TWM	9090045	SW 8081
gamma-BHC (Lindane)	<0.000100	MNR1	mg/L	0.000100	1	09/03/09 17:27	TWM	9090045	SW 8081
Chlordane	<0.000200	MNR1	mg/L	0.000200	1	09/03/09 17:27	TWM	9090045	SW 8081
Endrin	<0.000100	MNR1	mg/L	0.000100	1	09/03/09 17:27	TWM	9090045	SW 8081
Heptachlor	<0.000100	MNR1	mg/L	0.000100	1	09/03/09 17:27	TWM	9090045	SW 8081
Heptachlor epoxide	<0.000100	MNR1	mg/L	0.000100	1	09/03/09 17:27	TWM	9090045	SW 8081
Toxaphene	<0.000200	MNR1	mg/L	0.000200	1	09/03/09 17:27	TWM	9090045	SW 8081
r: Tetrachloro-meta-xylene (14-150%)	*69 %*	*MNR1*				09/03/09 17:27	TWM	9090045	SW 8081
Surr: Decachlorobiphenyl (12-150%)	*24 %*	*MNR1*				09/03/09 17:27	TWM	9090045	SW 8081
TCLP Volatile Organic Compounds by EPA Method 1311/8260B									

dia Environmental Services (West Carrollton)	Work Order:	DSH1189	Received:	08/27/09
4301 Infirmary Road, P.O. Box 453	Project:	Waste Characterization	Reported:	09/10/09 17:21
West Carrollton, OH 45449	Project Number:	City of Dayton Rauch		
Brett Davis				

ANALYTICAL REPORT

Analyte	Sample Result	Data Qualifiers	Units	Rpt Limit	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: DSH1189-01 (CD1 - Water - NonPotable) - cont.					**Sampled: 08/26/09**			**Recvd: 08/27/09 16:10**	
TCLP Volatile Organic Compounds by EPA Method 1311/8260B - cont.									
Extraction	ND		N/A	NA	1	09/01/09 11:31	TAD	9081247	SW 1311
Benzene	<0.200		mg/L	0.200	200	09/01/09 18:45	jmt	9090104	SW 8260B
2-Butanone (MEK)	<2.50		mg/L	2.50	200	09/01/09 18:45	jmt	9090104	SW 8260B
Carbon tetrachloride	<0.200		mg/L	0.200	200	09/01/09 18:45	jmt	9090104	SW 8260B
Chlorobenzene	<0.200		mg/L	0.200	200	09/01/09 18:45	jmt	9090104	SW 8260B
Chloroform	<0.200		mg/L	0.200	200	09/01/09 18:45	jmt	9090104	SW 8260B
1,2-Dichloroethane	<0.200		mg/L	0.200	200	09/01/09 18:45	jmt	9090104	SW 8260B
1,1-Dichloroethene	<0.200		mg/L	0.200	200	09/01/09 18:45	jmt	9090104	SW 8260B
Tetrachloroethene	<0.200		mg/L	0.200	200	09/01/09 18:45	jmt	9090104	SW 8260B
Trichloroethene	<0.200		mg/L	0.200	200	09/01/09 18:45	jmt	9090104	SW 8260B
Vinyl chloride	<0.200		mg/L	0.200	200	09/01/09 18:45	jmt	9090104	SW 8260B
Surr: 1,2-Dichloroethane-d4 (80-120%)	*84 %*					09/01/09 18:45	jmt	9090104	SW 8260B
Surr: Dibromofluoromethane (80-120%)	*92 %*					09/01/09 18:45	jmt	9090104	SW 8260B
Surr: Toluene-d8 (80-120%)	*101 %*					09/01/09 18:45	jmt	9090104	SW 8260B
Surr: 4-Bromofluorobenzene (80-120%)	*96 %*					09/01/09 18:45	jmt	9090104	SW 8260B
P Semivolatile Compounds by EPA Method 1311/8270C									
Extraction	ND		N/A	NA	1	09/01/09 11:30	TAD	9081246	SW 1311
1,4-Dichlorobenzene	<0.100	MNR1	mg/L	0.100	1	09/09/09 16:09	clh	9090043	SW 8270C
2,4-Dinitrotoluene	<0.100	MNR1	mg/L	0.100	1	09/09/09 16:09	clh	9090043	SW 8270C
Hexachlorobenzene	<0.100	MNR1	mg/L	0.100	1	09/09/09 16:09	clh	9090043	SW 8270C
Hexachlorobutadiene	<0.100	MNR1	mg/L	0.100	1	09/09/09 16:09	clh	9090043	SW 8270C
Hexachloroethane	<0.100	MNR1	mg/L	0.100	1	09/09/09 16:09	clh	9090043	SW 8270C
2-Methylphenol (o-Cresol)	<0.100	MNR1	mg/L	0.100	1	09/09/09 16:09	clh	9090043	SW 8270C
3&4-Methylphenol (m&p Cresol)	<0.100	MNR1	mg/L	0.100	1	09/09/09 16:09	clh	9090043	SW 8270C
Nitrobenzene	<0.100	MNR1	mg/L	0.100	1	09/09/09 16:09	clh	9090043	SW 8270C
Pentachlorophenol	<0.100	MNR1	mg/L	0.100	1	09/09/09 16:09	clh	9090043	SW 8270C
Pyridine	<0.100	MNR1	mg/L	0.100	1	09/09/09 16:09	clh	9090043	SW 8270C
2,4,5-Trichlorophenol	<0.100	MNR1	mg/L	0.100	1	09/09/09 16:09	clh	9090043	SW 8270C
2,4,6-Trichlorophenol	<0.100	MNR1	mg/L	0.100	1	09/09/09 16:09	clh	9090043	SW 8270C
Surr: 2-Fluorophenol (21-145%)	*79 %*	*MNR1*				09/09/09 16:09	clh	9090043	SW 8270C
Surr: Phenol-d6 (10-149%)	*92 %*	*MNR1*				09/09/09 16:09	clh	9090043	SW 8270C
Surr: Nitrobenzene-d5 (35-124%)	*95 %*	*MNR1*				09/09/09 16:09	clh	9090043	SW 8270C
Surr: 2-Fluorobiphenyl (43-134%)	*87 %*	*MNR1*				09/09/09 16:09	clh	9090043	SW 8270C
Surr: 2,4,6-Tribromophenol (21-146%)	*94 %*	*MNR1*				09/09/09 16:09	clh	9090043	SW 8270C
Surr: Terphenyl-d14 (34-149%)	*74 %*	*MNR1*				09/09/09 16:09	clh	9090043	SW 8270C

olia Environmental Services (West Carrollton)
501 Infirmary Road, P.O. Box 453
West Carrollton, OH 45449
Brett Davis

Work Order: DSH1189
Project: Waste Characterization
Project Number: City of Dayton Rauch

Received: 08/27/09
Reported: 09/10/09 17:21

ANALYTICAL REPORT

Analyte	Sample Result	Data Qualifiers	Units	Rpt Limit	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: DSH1189-02 (CD2 - Water - NonPotable)					**Sampled: 08/26/09**			**Recvd: 08/27/09 16:10**	
Organochlorine Pesticides/PCBs									
PCB-1016	<2.00	RL4, MNR1	ug/L	2.00	1	09/02/09 17:50	TWM	9081226	SW 8082
PCB-1221	<2.00	RL4, MNR1	ug/L	2.00	1	09/02/09 17:50	TWM	9081226	SW 8082
PCB-1232	<2.00	RL4, MNR1	ug/L	2.00	1	09/02/09 17:50	TWM	9081226	SW 8082
PCB-1242	<2.00	RL4, MNR1	ug/L	2.00	1	09/02/09 17:50	TWM	9081226	SW 8082
PCB-1248	<2.00	RL4, MNR1	ug/L	2.00	1	09/02/09 17:50	TWM	9081226	SW 8082
PCB-1254	<2.00	RL4, MNR1	ug/L	2.00	1	09/02/09 17:50	TWM	9081226	SW 8082
PCB-1260	<2.00	RL4, MNR1	ug/L	2.00	1	09/02/09 17:50	TWM	9081226	SW 8082
Surr: Tetrachloro-meta-xylene (10-166%)	*82 %*	*RL4, MNR1*				09/02/09 17:50	TWM	9081226	SW 8082
Surr: Decachlorobiphenyl (10-157%)	*22 %*	*RL4, MNR1*				09/02/09 17:50	TWM	9081226	SW 8082
Volatile Organic Compounds by GC/MS									
Acetone	<100	P6, P4, P-HS, RL1	ug/L	100	5	09/01/09 14:47	jmt	9090104	SW 8260B
Benzene	<5.00	P6, P4, P-HS, RL1	ug/L	5.00	5	09/01/09 14:47	jmt	9090104	SW 8260B
Bromobenzene	<5.00	P6, P4, P-HS, RL1	ug/L	5.00	5	09/01/09 14:47	jmt	9090104	SW 8260B
›omochloromethane	<5.00	P6, P4, P-HS, RL1	ug/L	5.00	5	09/01/09 14:47	jmt	9090104	SW 8260B
Bromodichloromethane (Dichlorobromomethane)	<5.00	P6, P4, P-HS, RL1	ug/L	5.00	5	09/01/09 14:47	jmt	9090104	SW 8260B
Bromoform	<5.00	P6, P4, P-HS, RL1	ug/L	5.00	5	09/01/09 14:47	jmt	9090104	SW 8260B
Bromomethane (Methyl bromide)	<25.0	P6, P4, P-HS, RL1	ug/L	25.0	5	09/01/09 14:47	jmt	9090104	SW 8260B
2-Butanone (MEK)	<62.5	P6, P4, P-HS, RL1	ug/L	62.5	5	09/01/09 14:47	jmt	9090104	SW 8260B
tert-Butylbenzene	<5.00	P6, P4, P-HS, RL1	ug/L	5.00	5	09/01/09 14:47	jmt	9090104	SW 8260B
sec-Butylbenzene	<5.00	P6, P4, P-HS, RL1	ug/L	5.00	5	09/01/09 14:47	jmt	9090104	SW 8260B
n-Butylbenzene	<5.00	P6, P4, P-HS, RL1	ug/L	5.00	5	09/01/09 14:47	jmt	9090104	SW 8260B
Carbon disulfide	<5.00	P6, P4, P-HS, RL1	ug/L	5.00	5	09/01/09 14:47	jmt	9090104	SW 8260B
Carbon tetrachloride	<5.00	P6, P4, P-HS, RL1	ug/L	5.00	5	09/01/09 14:47	jmt	9090104	SW 8260B
Chlorobenzene	<5.00	P6, P4, P-HS, RL1	ug/L	5.00	5	09/01/09 14:47	jmt	9090104	SW 8260B
Chloroethane	<25.0	P6, P4, P-HS, RL1	ug/L	25.0	5	09/01/09 14:47	jmt	9090104	SW 8260B
Chloroform	<5.00	P6, P4, P-HS, RL1	ug/L	5.00	5	09/01/09 14:47	jmt	9090104	SW 8260B
Chloromethane (Methyl chloride)	<25.0	P6, P4, P-HS, RL1	ug/L	25.0	5	09/01/09 14:47	jmt	9090104	SW 8260B
4-Chlorotoluene	<5.00	P6, P4, P-HS, RL1	ug/L	5.00	5	09/01/09 14:47	jmt	9090104	SW 8260B
2-Chlorotoluene	<5.00	P6, P4, P-HS, RL1	ug/L	5.00	5	09/01/09 14:47	jmt	9090104	SW 8260B
·bromochloromethane ·lorodibromomethane)	<5.00	P6, P4, P-HS, RL1	ug/L	5.00	5	09/01/09 14:47	jmt	9090104	SW 8260B
Dibromomethane	<5.00	P6, P4, P-HS, RL1	ug/L	5.00	5	09/01/09 14:47	jmt	9090104	SW 8260B

olia Environmental Services (West Carrollton)
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Received: 08/27/09
Reported: 09/10/09 17:21

ANALYTICAL REPORT

Analyte	Sample Result	Data Qualifiers	Units	Rpt Limit	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: DSH1189-02 (CD2 - Water - NonPotable) - cont.					**Sampled: 08/26/09**			**Recvd: 08/27/09 16:10**	
Volatile Organic Compounds by GC/MS - cont.									
1,2-Dichlorobenzene	<5.00	P6, P4, P-HS, RL1	ug/L	5.00	5	09/01/09 14:47	jmt	9090104	SW 8260B
1,4-Dichlorobenzene	<5.00	P6, P4, P-HS, RL1	ug/L	5.00	5	09/01/09 14:47	jmt	9090104	SW 8260B
1,3-Dichlorobenzene	<5.00	P6, P4, P-HS, RL1	ug/L	5.00	5	09/01/09 14:47	jmt	9090104	SW 8260B
Dichlorodifluoromethane	<5.00	P6, P4, P-HS, RL1	ug/L	5.00	5	09/01/09 14:47	jmt	9090104	SW 8260B
1,1-Dichloroethane	<5.00	P6, P4, P-HS, RL1	ug/L	5.00	5	09/01/09 14:47	jmt	9090104	SW 8260B
1,2-Dichloroethane	<5.00	P6, P4, P-HS, RL1	ug/L	5.00	5	09/01/09 14:47	jmt	9090104	SW 8260B
cis-1,2-Dichloroethene	<5.00	P6, P4, P-HS, RL1	ug/L	5.00	5	09/01/09 14:47	jmt	9090104	SW 8260B
trans-1,2-Dichloroethene	<5.00	P6, P4, P-HS, RL1	ug/L	5.00	5	09/01/09 14:47	jmt	9090104	SW 8260B
1,1-Dichloroethene	<5.00	P6, P4, P-HS, RL1	ug/L	5.00	5	09/01/09 14:47	jmt	9090104	SW 8260B
1,3-Dichloropropane	<5.00	P6, P4, P-HS, RL1	ug/L	5.00	5	09/01/09 14:47	jmt	9090104	SW 8260B
Dichloropropane	<5.00	P6, P4, P-HS, RL1	ug/L	5.00	5	09/01/09 14:47	jmt	9090104	SW 8260B
1,2-Dichloropropane	<5.00	P6, P4, P-HS, RL1	ug/L	5.00	5	09/01/09 14:47	jmt	9090104	SW 8260B
1,1-Dichloropropene	<5.00	P6, P4, P-HS, RL1	ug/L	5.00	5	09/01/09 14:47	jmt	9090104	SW 8260B
cis-1,3-Dichloropropene	<5.00	P6, P4, P-HS, RL1	ug/L	5.00	5	09/01/09 14:47	jmt	9090104	SW 8260B
trans-1,3-Dichloropropene	<5.00	P6, P4, P-HS, RL1	ug/L	5.00	5	09/01/09 14:47	jmt	9090104	SW 8260B
Ethylbenzene	<5.00	P6, P4, P-HS, RL1	ug/L	5.00	5	09/01/09 14:47	jmt	9090104	SW 8260B
Hexachlorobutadiene	<25.0	P6, P4, P-HS, RL1	ug/L	25.0	5	09/01/09 14:47	jmt	9090104	SW 8260B
n-Hexane	<25.0	P6, P4, P-HS, RL1	ug/L	25.0	5	09/01/09 14:47	jmt	9090104	SW 8260B
2-Hexanone	<50.0	P6, P4, P-HS, RL1	ug/L	50.0	5	09/01/09 14:47	jmt	9090104	SW 8260B
Isopropylbenzene (Cumene)	<5.00	P6, P4, P-HS, RL1	ug/L	5.00	5	09/01/09 14:47	jmt	9090104	SW 8260B
p-Isopropyltoluene	<5.00	P6, P4, P-HS, RL1	ug/L	5.00	5	09/01/09 14:47	jmt	9090104	SW 8260B
Methyl tert-butyl ether	<5.00	P6, P4, P-HS, RL1	ug/L	5.00	5	09/01/09 14:47	jmt	9090104	SW 8260B
Methylene chloride	<25.0	P6, P4, P-HS, RL1	ug/L	25.0	5	09/01/09 14:47	jmt	9090104	SW 8260B
4-Methyl-2-pentanone (MIBK)	<62.5	P6, P4, P-HS, RL1	ug/L	62.5	5	09/01/09 14:47	jmt	9090104	SW 8260B
n-Propylbenzene	<5.00	P6, P4, P-HS, RL1	ug/L	5.00	5	09/01/09 14:47	jmt	9090104	SW 8260B
Styrene	<5.00	P6, P4, P-HS, RL1	ug/L	5.00	5	09/01/09 14:47	jmt	9090104	SW 8260B
,1,2-Tetrachloroethane	<5.00	P6, P4, P-HS, RL1	ug/L	5.00	5	09/01/09 14:47	jmt	9090104	SW 8260B
1,1,2,2-Tetrachloroethane	<5.00	P6, P4, P-HS, RL1	ug/L	5.00	5	09/01/09 14:47	jmt	9090104	SW 8260B

olia Environmental Services (West Carrollton)
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ANALYTICAL REPORT

Analyte	Sample Result	Data Qualifiers	Units	Rpt Limit	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: DSH1189-02 (CD2 - Water - NonPotable) - cont.					**Sampled: 08/26/09**			**Recvd: 08/27/09 16:10**	
Volatile Organic Compounds by GC/MS - cont.									
Tetrachloroethene	<5.00	P6, P4, P-HS, RL1	ug/L	5.00	5	09/01/09 14:47	jmt	9090104	SW 8260B
Toluene	<5.00	P6, P4, P-HS, RL1	ug/L	5.00	5	09/01/09 14:47	jmt	9090104	SW 8260B
1,2,4-Trichlorobenzene	<25.0	P6, P4, P-HS, RL1	ug/L	25.0	5	09/01/09 14:47	jmt	9090104	SW 8260B
1,1,1-Trichloroethane	<5.00	P6, P4, P-HS, RL1	ug/L	5.00	5	09/01/09 14:47	jmt	9090104	SW 8260B
1,1,2-Trichloroethane	<5.00	P6, P4, P-HS, RL1	ug/L	5.00	5	09/01/09 14:47	jmt	9090104	SW 8260B
Trichloroethene	<5.00	P6, P4, P-HS, RL1	ug/L	5.00	5	09/01/09 14:47	jmt	9090104	SW 8260B
Trichlorofluoromethane	<5.00	P6, P4, P-HS, RL1	ug/L	5.00	5	09/01/09 14:47	jmt	9090104	SW 8260B
1,2,4-Trimethylbenzene	<5.00	P6, P4, P-HS, RL1	ug/L	5.00	5	09/01/09 14:47	jmt	9090104	SW 8260B
1,3,5-Trimethylbenzene	<5.00	P6, P4, P-HS, RL1	ug/L	5.00	5	09/01/09 14:47	jmt	9090104	SW 8260B
Vinyl Acetate	<25.0	P6, P4, P-HS, RL1	ug/L	25.0	5	09/01/09 14:47	jmt	9090104	SW 8260B
yl chloride	<5.00	P6, P4, P-HS, RL1	ug/L	5.00	5	09/01/09 14:47	jmt	9090104	SW 8260B
Xylenes, Total	<10.0	P6, P4, P-HS, RL1	ug/L	10.0	5	09/01/09 14:47	jmt	9090104	SW 8260B
Surr: 1,2-Dichloroethane-d4 (80-120%)	*83 %*	*'6, P4, P-HS, RL*				09/01/09 14:47	jmt	9090104	SW 8260B
Surr: Dibromofluoromethane (80-120%)	*92 %*	*'6, P4, P-HS, RL*				09/01/09 14:47	jmt	9090104	SW 8260B
Surr: Toluene-d8 (80-120%)	*101 %*	*'6, P4, P-HS, RL*				09/01/09 14:47	jmt	9090104	SW 8260B
Surr: 4-Bromofluorobenzene (80-120%)	*96 %*	*'6, P4, P-HS, RL*				09/01/09 14:47	jmt	9090104	SW 8260B
TCLP Metals by 1311/6000/7000									
Arsenic	<0.500		mg/L	0.500	1	09/02/09 00:19	MJW	9090026	SW 6010B
Barium	**0.205**		mg/L	0.100	1	09/02/09 00:19	MJW	9090026	SW 6010B
Cadmium	<0.150		mg/L	0.150	1	09/02/09 00:19	MJW	9090026	SW 6010B
Chromium	<0.200		mg/L	0.200	1	09/02/09 00:19	MJW	9090026	SW 6010B
Lead	<0.400		mg/L	0.400	1	09/02/09 00:19	MJW	9090026	SW 6010B
Mercury	<0.00100		mg/L	0.00100	1	09/03/09 16:06	MKH	9090030	SW 7470A
Selenium	<0.500		mg/L	0.500	1	09/02/09 00:19	MJW	9090026	SW 6010B
Silver	<0.200		mg/L	0.200	1	09/02/09 00:19	MJW	9090026	SW 6010B
Extraction	ND		N/A	NA	1	09/01/09 11:30	TAD	9081246	SW 1311
TCLP Pesticides by EPA Method 1311/8081A									
Methoxychlor	<0.000100	MNR1	mg/L	0.000100	1	09/03/09 17:50	TWM	9090045	SW 8081
gamma-BHC (Lindane)	<0.000100	MNR1	mg/L	0.000100	1	09/03/09 17:50	TWM	9090045	SW 8081
Chlordane	<0.000200	MNR1	mg/L	0.000200	1	09/03/09 17:50	TWM	9090045	SW 8081
Endrin	<0.000100	MNR1	mg/L	0.000100	1	09/03/09 17:50	TWM	9090045	SW 8081
Heptachlor	<0.000100	MNR1	mg/L	0.000100	1	09/03/09 17:50	TWM	9090045	SW 8081
Heptachlor epoxide	<0.000100	MNR1	mg/L	0.000100	1	09/03/09 17:50	TWM	9090045	SW 8081
oxaphene	<0.000200	MNR1	mg/L	0.000200	1	09/03/09 17:50	TWM	9090045	SW 8081
r: Tetrachloro-meta-xylene (14-150%)	*73 %*	*MNR1*				09/03/09 17:50	TWM	9090045	SW 8081
Surr: Decachlorobiphenyl (12-150%)	*29 %*	*MNR1*				09/03/09 17:50	TWM	9090045	SW 8081
TCLP Volatile Organic Compounds by EPA Method 1311/8260B									

Scolia Environmental Services (West Carrollton)
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ANALYTICAL REPORT

Analyte	Sample Result	Data Qualifiers	Units	Rpt Limit	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: DSH1189-02 (CD2 - Water - NonPotable) - cont.					**Sampled: 08/26/09**			**Recvd: 08/27/09 16:10**	
TCLP Volatile Organic Compounds by EPA Method 1311/8260B - cont.									
Extraction	ND		N/A	NA	1	09/01/09 11:31	TAD	9081247	SW 1311
Benzene	<0.200		mg/L	0.200	200	09/01/09 19:15	jmt	9090104	SW 8260B
2-Butanone (MEK)	<2.50		mg/L	2.50	200	09/01/09 19:15	jmt	9090104	SW 8260B
Carbon tetrachloride	<0.200		mg/L	0.200	200	09/01/09 19:15	jmt	9090104	SW 8260B
Chlorobenzene	<0.200		mg/L	0.200	200	09/01/09 19:15	jmt	9090104	SW 8260B
Chloroform	<0.200		mg/L	0.200	200	09/01/09 19:15	jmt	9090104	SW 8260B
1,2-Dichloroethane	<0.200		mg/L	0.200	200	09/01/09 19:15	jmt	9090104	SW 8260B
1,1-Dichloroethene	<0.200		mg/L	0.200	200	09/01/09 19:15	jmt	9090104	SW 8260B
Tetrachloroethene	<0.200		mg/L	0.200	200	09/01/09 19:15	jmt	9090104	SW 8260B
Trichloroethene	<0.200		mg/L	0.200	200	09/01/09 19:15	jmt	9090104	SW 8260B
Vinyl chloride	<0.200		mg/L	0.200	200	09/01/09 19:15	jmt	9090104	SW 8260B
Surr: 1,2-Dichloroethane-d4 (80-120%)	*84 %*					09/01/09 19:15	jmt	9090104	SW 8260B
Surr: Dibromofluoromethane (80-120%)	*93 %*					09/01/09 19:15	jmt	9090104	SW 8260B
Surr: Toluene-d8 (80-120%)	*102 %*					09/01/09 19:15	jmt	9090104	SW 8260B
Surr: 4-Bromofluorobenzene (80-120%)	*96 %*					09/01/09 19:15	jmt	9090104	SW 8260B
TCLP Semivolatile Compounds by EPA Method 1311/8270C									
Extraction	ND		N/A	NA	1	09/01/09 11:30	TAD	9081246	SW 1311
1,4-Dichlorobenzene	<0.100	MNR1	mg/L	0.100	1	09/09/09 16:29	clh	9090043	SW 8270C
2,4-Dinitrotoluene	<0.100	MNR1	mg/L	0.100	1	09/09/09 16:29	clh	9090043	SW 8270C
Hexachlorobenzene	<0.100	MNR1	mg/L	0.100	1	09/09/09 16:29	clh	9090043	SW 8270C
Hexachlorobutadiene	<0.100	MNR1	mg/L	0.100	1	09/09/09 16:29	clh	9090043	SW 8270C
Hexachloroethane	<0.100	MNR1	mg/L	0.100	1	09/09/09 16:29	clh	9090043	SW 8270C
2-Methylphenol (o-Cresol)	<0.100	MNR1	mg/L	0.100	1	09/09/09 16:29	clh	9090043	SW 8270C
3&4-Methylphenol (m&p Cresol)	<0.100	MNR1	mg/L	0.100	1	09/09/09 16:29	clh	9090043	SW 8270C
Nitrobenzene	<0.100	MNR1	mg/L	0.100	1	09/09/09 16:29	clh	9090043	SW 8270C
Pentachlorophenol	<0.100	MNR1	mg/L	0.100	1	09/09/09 16:29	clh	9090043	SW 8270C
Pyridine	<0.100	MNR1	mg/L	0.100	1	09/09/09 16:29	clh	9090043	SW 8270C
2,4,5-Trichlorophenol	<0.100	MNR1	mg/L	0.100	1	09/09/09 16:29	clh	9090043	SW 8270C
2,4,6-Trichlorophenol	<0.100	MNR1	mg/L	0.100	1	09/09/09 16:29	clh	9090043	SW 8270C
Surr: 2-Fluorophenol (21-145%)	*85 %*	*MNR1*				09/09/09 16:29	clh	9090043	SW 8270C
Surr: Phenol-d6 (10-149%)	*97 %*	*MNR1*				09/09/09 16:29	clh	9090043	SW 8270C
Surr: Nitrobenzene-d5 (35-124%)	*100 %*	*MNR1*				09/09/09 16:29	clh	9090043	SW 8270C
Surr: 2-Fluorobiphenyl (43-134%)	*98 %*	*MNR1*				09/09/09 16:29	clh	9090043	SW 8270C
Surr: 2,4,6-Tribromophenol (21-146%)	*97 %*	*MNR1*				09/09/09 16:29	clh	9090043	SW 8270C
Surr: Terphenyl-d14 (34-149%)	*62 %*	*MNR1*				09/09/09 16:29	clh	9090043	SW 8270C

olia Environmental Services (West Carrollton)	Work Order:	DSH1189	Received:	08/27/09
501 Infirmary Road, P.O. Box 453	Project:	Waste Characterization	Reported:	09/10/09 17:21
West Carrollton, OH 45449	Project Number:	City of Dayton Rauch		
Brett Davis				

CERTIFICATION SUMMARY

Any abnormalities or departures from sample acceptance policy shall be documented on the Chain of Custody and/or Case Narrative included with this report.

For information concerning certifications of this facility or another TestAmerica facility, please visit our website at www.TestAmericaInc.com

Samples collected by TestAmerica Field Services personnel are noted on the Chain of Custody (COC) .

DATA QUALIFIERS AND DEFINITIONS

L1	Laboratory Control Sample and/or Laboratory Control Sample Duplicate recovery was above acceptance limits.
MNR1	There was no MS/MSD analyzed with this batch due to insufficient sample volume. See Blank Spike.
P4	Sample received in inappropriate sample container.
P6	Sample received unpreserved, however the sample was analyzed within 7 days per EPA recommendation.
P-HS	Sample container contained headspace.
RL1	Reporting limit raised due to sample matrix effects.
RL4	Reporting limit raised due to insufficient sample volume.

ADDITIONAL COMMENTS

ANALYSIS LOCATIONS

The analyses listed below were analyzed in satellite facilities

VEOLIA
ENVIRONMENTAL SERVICES

SAMPLE SHIPPING DOCUMENT/ CHAIN OF CUSTODY

DSH1189

Number Rauch

Page 1 of 1

Veolia ES Technical Solutions, L.L.C. Client City of Dayton / Rauch
300 Taylor St.
Dayton, OH 45402

ATTN: Tim Delph

Laboratory Name Test America

Contact Name

Shipping Information

Proper Shipping Name	# Units	Total Quantity
UN3082, Environmentally Hazardous Materials, Liquid, 9, III	2	64 oz

I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to all applicable international and national governmental regulations.

IN CASE OF EMERGENCY CALL 1-800-535-5053

TAT: 1 wk, 2 wk, 3 wk
Other

SAMPLE LOCATION	DATE	TIME (Military)	SAMPLE NUMBER	NO. OF SAMPLE CONTAINERS: Volatile Organic Compounds	Acid Extractable Compounds	Base/Neutral Extractable Compounds	CN Total/Amenable Method 9010	PCB's	Metals TCLP	BETX	Petroleum Hydrocarbons	TCLP Full	Ignitability	PH	(Other)	
City of Dayton (Rauch)	8/26/09		~~B~~ CD1	X			X	X			X					X
	8/26/09		CD2	X			X	X			X					X

Relinquished by (signature):	Date	Time (Military)	Received by (Signature)	Date	Time (Military)	Relinquished by (signature):	Date	Time (Military)	Received by (Signature)	Date	Time (Military)
	8/26	1300		8/26	13:00	Angela Rec. 8/27	8/27	13:30		8/27/09	1350
Relinquished by (signature):	Date	Time (Military)	Received by (Signature)	Date	Time (Military)						
	827	1627		8-27-09	1616						

Send Results to Veolia ES Technical Solutions, L.L.C.

VIA: Verbal ☐ Fax ☐ Fed X ☐ Regular ☐

Purchase Order # Work Order #

REMARKS:

ANALYTICAL COPY

Form # VES-12V-A

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client ID_____ Work Order #_____

Discrepencies ☐
Rush or Short Hold ☐

Cooler/Sample Receipt

if rush 24hr 2day 3day 5day other_____

Method of Shipment:

Are samples soils requiring USDA quarantine? Yes (No) (circle one)
If yes notify PM immediately

Walk in Fed Ex UPS DHL (TAL) Courier Field Other_____
Shipping Container Type: (Cooler) **Box Other**_____

Opened Date/Time 8.27.09 1640 **Initials** _____

Receipt Questions**	Y	N	n/a	"NO" answers require a comment
COC present	✓			
Containers in good condition (unbroken and not leaking), and appropriately filled	✓			
Appropriate containers used & Adequate volume provided	✓			
Correct preservation on the COC	✓			
Numbers of samples match COC	✓			
If used, custody seals were intact			✓	
Was CoC free of discrepencies?	✓			
Samples received within hold time	✓			
VOA samples received without headspace in excess of 6 mm			✓	
Trip Blanks received for each cooler with VOAs			✓	

	HNO3	HCL	NaOH	H2SO4	Methanol	None	Other (Specify)
#/size						2 x 2	

Tracking #_____

Temp Acceptable? YES (X) NO ☐

Thermometer ID M

Cooler ID _____ Uncorrected 1.9 Corrected 1.7 °C (Ice)

Packing Material _____

Melted Ice Blue Ice None Other_____

Direct from Field? Yes (No) (Circle one)

If out of temperature, note affected samples

CHECK IF ADDITIONAL SHEETS REQUIRED ☐

** May not be applicable if samples are not for compliance testing

Client Contact Record (required for discrepancies, unless agreement is on file with project) Date & Time _____

Contact via: ☐phone ☐email ☐ other _____ Person contacted_____

Discussion/Resolution

Is a revised chain being issued? Yes No- if Yes, it must be scanned.
(Circle one)

_____ 8/31/09
Reviewed by PM Signature Date/Time

Page 1 of 1

BLDG.5 BASEMENT RESERVIOR / PITS

Belmont Labs
The Environmental Service Company.

Tuesday, August 25, 2009

Tim Smith
Weston Solutions, Inc. - Dayton
714 East Monument, Ste 107
Dayton, OHIO 45402
TEL: (937) 384-4200
FAX (937) 384-4201

RE: Laboratory Analysis

Work Order: 09H0397

Belmont Labs received 3 sample(s) on 8/10/2009 for the analyses presented in the following report.

Belmont Labs attests that all analytical methods were performed using acceptable methods, and that the QA/QC procedures stipulated in these methods were followed. USEPA's RCRA Program regards a statement of quality assurance as a legal means of assuring that acceptable and uniform laboratory methods and QA/QC practices were followed by the laboratory.

If you have any questions regarding the test results, please feel free to call me at (937) 832-8242.

Respectfully submitted,

Holly Green

Holly Green
Project Manager

Belmont Labs **Date:** 8/25/2009

LIENT: Weston Solutions, Inc. - Dayton **Lab Order:** 09H0397
Project: Laboratory Analysis

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Sampled Date	Received Date
09H0397-01A	B5B-SL-081009	8/10/2009 2:00:00PM	8/10/2009
09H0397-01B	B5B-SL-081009	8/10/2009 2:00:00PM	8/10/2009
09H0397-02A	B5B-WW-081009	8/10/2009 2:15:00PM	8/10/2009
09H0397-02B	B5B-WW-081009	8/10/2009 2:15:00PM	8/10/2009
09H0397-02C	B5B-WW-081009	8/10/2009 2:15:00PM	8/10/2009
09H0397-02D	B5B-WW-081009	8/10/2009 2:15:00PM	8/10/2009
09H0397-02E	B5B-WW-081009	8/10/2009 2:15:00PM	8/10/2009
09H0397-03A	Trip Blank	8/10/2009 12:00:00AM	8/10/2009
09H0397-03B	Trip Blank	8/10/2009 12:00:00AM	8/10/2009

Belmont Labs **Date:** 8/25/2009

CLIENT: Weston Solutions, Inc. - Dayton **Lab Order:** 09H0397
Project: Laboratory Analysis

Lab ID: 09H0397-01 **Collection Date:** 8/10/2009 2:00:00PM
Client Sample ID: B5B-SL-081009 **Matrix:** Soil

Analysis	Result		PQL	Qual	Units	Dilution	Batch	Date Analyzed
TCLP_Ag		**SW 6010B**					**Analyst: KC**	
TCLP Silver	BDL		0.0100		mg/L	1	0934172	8/20/2009 9:47:48AM
TCLP_As		**SW 6010B**					**Analyst: KC**	
TCLP Arsenic	BDL		0.100		mg/L	1	0934172	8/20/2009 9:47:48AM
TCLP_Ba		**SW 6010B**					**Analyst: KC**	
TCLP Barium	**1.34**		0.0100		mg/L	1	0934172	8/20/2009 9:47:48AM
TCLP_Cd		**SW 6010B**					**Analyst: KC**	
TCLP Cadmium	**0.183**		0.0100		mg/L	1	0934172	8/20/2009 9:47:48AM
TCLP_Cr		**SW 6010B**					**Analyst: KC**	
TCLP Chromium	BDL		0.0100		mg/L	1	0934172	8/20/2009 9:47:48AM
TCLP_Pb		**SW 6010B**					**Analyst: KC**	
TCLP Lead	**0.354**		0.0500		mg/L	1	0934172	8/20/2009 9:47:48AM
TCLP_Se		**SW 6010B**					**Analyst: KC**	
TCLP Selenium	BDL		0.100		mg/L	1	0934172	8/20/2009 9:47:48AM
TCLP_Hg		**SW 7470**					**Analyst: KC**	
TCLP Mercury	BDL		0.000200		mg/L	1	0935013	8/24/2009 12:33:00PM
PCB_8082		**SW 8082**					**Analyst: JBP**	
Aroclor 1016	BDL		0.310		mg/kg dry	10	0934242	8/24/2009 12:24:00PM
Aroclor 1221	BDL		0.310		mg/kg dry	10	0934242	8/24/2009 12:24:00PM
Aroclor 1232	BDL		0.310		mg/kg dry	10	0934242	8/24/2009 12:24:00PM
Aroclor 1242	BDL		0.310		mg/kg dry	10	0934242	8/24/2009 12:24:00PM
Aroclor 1248	BDL		0.310		mg/kg dry	10	0934242	8/24/2009 12:24:00PM
Aroclor 1254	**13.3**		0.310		mg/kg dry	10	0934242	8/24/2009 12:24:00PM
Aroclor 1260	BDL		0.310		mg/kg dry	10	0934242	8/24/2009 12:24:00PM
Surrogate: Decachlorobiphenyl			*%*	*S-01*	*40-159*		*0934242*	8/24/2009 12:24:00PM
Surrogate: Tetrachloro-m-xylene			*%*	*S-01*	*47-125*		*0934242*	8/24/2009 12:24:00PM
TCLP VOC		**SW 8260B**					**Analyst: mbg**	
TCLP 1,1-Dichloroethene	BDL		0.200		mg/L	40	0934205	8/20/2009 4:31:00AM
TCLP 1,2-Dichloroethane	BDL		0.200		mg/L	40	0934205	8/20/2009 4:31:00AM
TCLP 2-Butanone	BDL		0.800		mg/L	40	0934205	8/20/2009 4:31:00AM
TCLP Benzene	BDL		0.200		mg/L	40	0934205	8/20/2009 4:31:00AM
TCLP Carbon tetrachloride	BDL		0.200		mg/L	40	0934205	8/20/2009 4:31:00AM
TCLP Chlorobenzene	BDL		0.200		mg/L	40	0934205	8/20/2009 4:31:00AM
TCLP Chloroform	BDL		0.200		mg/L	40	0934205	8/20/2009 4:31:00AM
TCLP Vinyl chloride	BDL		0.200		mg/L	40	0934205	8/20/2009 4:31:00AM

Belmont Labs **Date:** 8/25/2009

LIENT: Weston Solutions, Inc. - Dayton **Lab Order:** 09H0397
Project: Laboratory Analysis

Lab ID: 09H0397-01 **Collection Date:** 8/10/2009 2:00:00PM
Client Sample ID: B5B-SL-081009 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Analyzed
TCLP Trichloroethene	BDL	0.200		mg/L	40	0934205	8/20/2009 4:31:00AM
TCLP Tetrachloroethene	BDL	0.200		mg/L	40	0934205	8/20/2009 4:31:00AM
Surrogate: 4-Bromofluorobenzene	*128 %*			*41-140*		*0934205*	8/20/2009 4:31:00AM
Surrogate: Dibromofluoromethane	*109 %*			*34-158*		*0934205*	8/20/2009 4:31:00AM
Surrogate: Toluene-d8	*119 %*			*47-147*		*0934205*	8/20/2009 4:31:00AM
Surrogate: 1,2-Dichloroethane-d4	*108 %*			*29-163*		*0934205*	8/20/2009 4:31:00AM
PMOIST	**D 2216**					**Analyst: AD**	
Percent Moisture	**36.8**			% by Weight	1	0934232	8/20/2009 12:02:00AM
TCLP SVOC	**SW 8270C**					**Analyst: dag**	
TCLP 1,4-Dichlorobenzene	BDL	0.0500		mg/L	1	0935015	8/24/2009 1:49:00PM
TCLP 2,4,5-Trichlorophenol	BDL	0.0500		mg/L	1	0935015	8/24/2009 1:49:00PM
TCLP 2,4,6-Trichlorophenol	BDL	0.0500		mg/L	1	0935015	8/24/2009 1:49:00PM
TCLP 2,4-Dinitrotoluene	BDL	0.0500		mg/L	1	0935015	8/24/2009 1:49:00PM
TCLP 2-Methylphenol	BDL	0.0500		mg/L	1	0935015	8/24/2009 1:49:00PM
CLP 3 & 4-Methylphenol	BDL	0.0500		mg/L	1	0935015	8/24/2009 1:49:00PM
TCLP Hexachlorobenzene	BDL	0.0500		mg/L	1	0935015	8/24/2009 1:49:00PM
TCLP Hexachlorobutadiene	BDL	0.0500		mg/L	1	0935015	8/24/2009 1:49:00PM
TCLP Hexachloroethane	BDL	0.0500		mg/L	1	0935015	8/24/2009 1:49:00PM
TCLP Nitrobenzene	BDL	0.0500		mg/L	1	0935015	8/24/2009 1:49:00PM
TCLP Pentachlorophenol	BDL	0.0500		mg/L	1	0935015	8/24/2009 1:49:00PM
TCLP Pyridine	BDL	0.0500		mg/L	1	0935015	8/24/2009 1:49:00PM
Surrogate: 2-Fluorophenol	*22.2 %*			*10-40*		*0935015*	8/24/2009 1:49:00PM
Surrogate: Phenol-d6	*18.0 %*			*10-35*		*0935015*	8/24/2009 1:49:00PM
Surrogate: Nitrobenzene-d5	*41.0 %*			*25-62*		*0935015*	8/24/2009 1:49:00PM
Surrogate: 2-Fluorobiphenyl	*34.2 %*			*28-57*		*0935015*	8/24/2009 1:49:00PM
Surrogate: 2,4,6-Tribromophenol	*38.7 %*			*10-78*		*0935015*	8/24/2009 1:49:00PM
Surrogate: Terphenyl-d14	*52.4 %*			*11-66*		*0935015*	8/24/2009 1:49:00PM

Belmont Labs **Date:** 8/25/2009

LIENT: Weston Solutions, Inc. - Dayton **Lab Order:** 09H0397
Project: Laboratory Analysis

Lab ID: 09H0397-02 **Collection Date:** 8/10/2009 2:15:00PM
Client Sample ID: B5B-WW-081009 **Matrix:** Water

Analysis	Result		PQL	Qual	Units	Dilution	Batch	Date Analyzed
ICP_Ag		**EPA 200.7**					**Analyst:**	**RJE**
Silver	**0.00391**		0.000500		mg/L	1	0933198	8/12/2009 8:22:22PM
ICP_As		**EPA 200.7**					**Analyst:**	**RJE**
Arsenic	BDL		0.00500		mg/L	1	0933198	8/12/2009 8:22:22PM
ICP_Ba		**EPA 200.7**					**Analyst:**	**RJE**
Barium	**3.13**		0.00500		mg/L	1	0933198	8/12/2009 8:22:22PM
ICP_Cd		**EPA 200.7**					**Analyst:**	**RJE**
Cadmium	**0.00877**		0.000500		mg/L	1	0933198	8/12/2009 8:22:22PM
ICP_Cr		**EPA 200.7**					**Analyst:**	**RJE**
Chromium	**0.0182**		0.00500		mg/L	1	0933198	8/12/2009 8:22:22PM
ICP_Pb		**EPA 200.7**					**Analyst:**	**RJE**
ead	**0.303**		0.00500		mg/L	1	0933198	8/12/2009 8:22:22PM
ICP_Se		**EPA 200.7**					**Analyst:**	**RJE**
Selenium	BDL		0.0100		mg/L	1	0933198	8/12/2009 8:22:22PM
PCB_8082		**SW 8082**					**Analyst:**	**JBP**
Aroclor 1016	BDL		0.500		ug/L	1	0933203	8/13/2009 11:24:00PM
Aroclor 1221	BDL		0.500		ug/L	1	0933203	8/13/2009 11:24:00PM
Aroclor 1232	BDL		0.500		ug/L	1	0933203	8/13/2009 11:24:00PM
Aroclor 1242	BDL		0.500		ug/L	1	0933203	8/13/2009 11:24:00PM
Aroclor 1248	BDL		0.500		ug/L	1	0933203	8/13/2009 11:24:00PM
Aroclor 1254	BDL		0.500		ug/L	1	0933203	8/13/2009 11:24:00PM
Aroclor 1260	BDL		0.500		ug/L	1	0933203	8/13/2009 11:24:00PM
Surrogate: Decachlorobiphenyl		*91.0 %*			*36-157*		*0933203*	8/13/2009 11:24:00PM
Surrogate: Tetrachloro-m-xylene		*82.0 %*			*28-127*		*0933203*	8/13/2009 11:24:00PM
VOC 8260		**SW 8260B**					**Analyst:**	**MBG**
1,1,1,2-Tetrachloroethane	BDL		5.00		ug/L	1	0935005	8/22/2009 8:17:00PM
1,1,1-Trichloroethane	BDL		5.00		ug/L	1	0935005	8/22/2009 8:17:00PM
1,1,2,2-Tetrachloroethane	BDL		5.00		ug/L	1	0935005	8/22/2009 8:17:00PM
1,1,2-Trichloroethane	BDL		5.00		ug/L	1	0935005	8/22/2009 8:17:00PM
1,1-Dichloroethane	BDL		5.00		ug/L	1	0935005	8/22/2009 8:17:00PM
1,1-Dichloroethene	BDL		5.00		ug/L	1	0935005	8/22/2009 8:17:00PM
1,1-Dichloropropene	BDL		5.00		ug/L	1	0935005	8/22/2009 8:17:00PM
1,2-Dibromoethane	BDL		5.00		ug/L	1	0935005	8/22/2009 8:17:00PM
2-Dichloroethane	BDL		5.00		ug/L	1	0935005	8/22/2009 8:17:00PM
,2-Dichloropropane	BDL		5.00		ug/L	1	0935005	8/22/2009 8:17:00PM
1,3-Dichloropropane	BDL		5.00		ug/L	1	0935005	8/22/2009 8:17:00PM

Belmont Labs **Date:** 8/25/2009

CLIENT: Weston Solutions, Inc. - Dayton **Lab Order:** 09H0397
Project: Laboratory Analysis

Lab ID: 09H0397-02 **Collection Date:** 8/10/2009 2:15:00PM
Client Sample ID: B5B-WW-081009 **Matrix:** Water

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Analyzed
2,2-Dichloropropane	BDL	5.00		ug/L	1	0935005	8/22/2009 8:17:00PM
2-Butanone	BDL	20.0		ug/L	1	0935005	8/22/2009 8:17:00PM
2-Chloroethyl vinyl ether	BDL	10.0		ug/L	1	0935005	8/22/2009 8:17:00PM
2-Chlorotoluene	BDL	5.00		ug/L	1	0935005	8/22/2009 8:17:00PM
2-Hexanone	BDL	20.0		ug/L	1	0935005	8/22/2009 8:17:00PM
4-Chlorotoluene	BDL	5.00		ug/L	1	0935005	8/22/2009 8:17:00PM
4-Methyl-2-pentanone	BDL	20.0		ug/L	1	0935005	8/22/2009 8:17:00PM
Acetone	BDL	20.0		ug/L	1	0935005	8/22/2009 8:17:00PM
Acetonitrile	BDL	40.0		ug/L	1	0935005	8/22/2009 8:17:00PM
Acrolein	BDL	20.0		ug/L	1	0935005	8/22/2009 8:17:00PM
Acrylonitrile	BDL	20.0		ug/L	1	0935005	8/22/2009 8:17:00PM
Allyl chloride	BDL	5.00		ug/L	1	0935005	8/22/2009 8:17:00PM
Benzene	BDL	5.00		ug/L	1	0935005	8/22/2009 8:17:00PM
Bromobenzene	BDL	5.00		ug/L	1	0935005	8/22/2009 8:17:00PM
Bromochloromethane	BDL	5.00		ug/L	1	0935005	8/22/2009 8:17:00PM
Bromodichloromethane	BDL	5.00		ug/L	1	0935005	8/22/2009 8:17:00PM
Bromoform	BDL	5.00		ug/L	1	0935005	8/22/2009 8:17:00PM
Bromomethane	BDL	5.00		ug/L	1	0935005	8/22/2009 8:17:00PM
Carbon Disulfide	BDL	20.0		ug/L	1	0935005	8/22/2009 8:17:00PM
Carbon Tetrachloride	BDL	5.00		ug/L	1	0935005	8/22/2009 8:17:00PM
Chlorobenzene	BDL	5.00		ug/L	1	0935005	8/22/2009 8:17:00PM
Chloroethane	BDL	5.00		ug/L	1	0935005	8/22/2009 8:17:00PM
Chloroform	BDL	5.00		ug/L	1	0935005	8/22/2009 8:17:00PM
Chloromethane	BDL	5.00		ug/L	1	0935005	8/22/2009 8:17:00PM
cis-1,2-Dichloroethene	**10.8**	5.00		ug/L	1	0935005	8/22/2009 8:17:00PM
cis-1,3-Dichloropropene	BDL	5.00		ug/L	1	0935005	8/22/2009 8:17:00PM
Dibromochloromethane	BDL	5.00		ug/L	1	0935005	8/22/2009 8:17:00PM
Dibromomethane	BDL	5.00		ug/L	1	0935005	8/22/2009 8:17:00PM
Dichlorodifluoromethane	BDL	5.00		ug/L	1	0935005	8/22/2009 8:17:00PM
Ethylbenzene	BDL	5.00		ug/L	1	0935005	8/22/2009 8:17:00PM
Iodomethane	BDL	10.0		ug/L	1	0935005	8/22/2009 8:17:00PM
Methylene Chloride	BDL	5.00		ug/L	1	0935005	8/22/2009 8:17:00PM
Methyl tert-Butyl Ether	BDL	10.0		ug/L	1	0935005	8/22/2009 8:17:00PM
m,p-Xylene	BDL	10.0		ug/L	1	0935005	8/22/2009 8:17:00PM
n-Hexane	BDL	5.00		ug/L	1	0935005	8/22/2009 8:17:00PM
o-Xylene	BDL	5.00		ug/L	1	0935005	8/22/2009 8:17:00PM
Styrene	BDL	5.00		ug/L	1	0935005	8/22/2009 8:17:00PM
Tetrachloroethene	**18.8**	5.00		ug/L	1	0935005	8/22/2009 8:17:00PM
Toluene	BDL	5.00		ug/L	1	0935005	8/22/2009 8:17:00PM
trans-1,2-Dichloroethene	BDL	5.00		ug/L	1	0935005	8/22/2009 8:17:00PM
trans-1,3-Dichloropropene	BDL	5.00		ug/L	1	0935005	8/22/2009 8:17:00PM
Trichloroethene	**12.2**	5.00		ug/L	1	0935005	8/22/2009 8:17:00PM
Trichlorofluoromethane	BDL	5.00		ug/L	1	0935005	8/22/2009 8:17:00PM
Vinyl Chloride	BDL	1.00		ug/L	1	0935005	8/22/2009 8:17:00PM
Vinyl acetate	BDL	10.0		ug/L	1	0935005	8/22/2009 8:17:00PM
Surrogate: 4-Bromofluorobenzene	*87.6 %*			*41-140*		*0935005*	8/22/2009 8:17:00PM

Belmont Labs **Date:** 8/25/2009

LIENT: Weston Solutions, Inc. - Dayton **Lab Order:** 09H0397
Project: Laboratory Analysis

Lab ID: 09H0397-02 **Collection Date:** 8/10/2009 2:15:00PM
Client Sample ID: B5B-WW-081009 **Matrix:** Water

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Analyzed
Surrogate: Dibromofluoromethane	*79.2 %*			*34-158*		*0935005*	8/22/2009 8:17:00PM
Surrogate: Toluene-d8	*90.8 %*			*47-147*		*0935005*	8/22/2009 8:17:00PM
Surrogate: 1,2-Dichloroethane-d4	*76.4 %*			*29-163*		*0935005*	8/22/2009 8:17:00PM
SVOC 8270	**SW 8270C**					**Analyst:**	**DAG**
1,2,4,5-Tetrachlorobenzene	BDL	10.0		ug/L	1	0933291	8/19/2009 6:24:00PM
1,2,4-Trichlorobenzene	BDL	10.0		ug/L	1	0933291	8/19/2009 6:24:00PM
1,2-Dichlorobenzene	BDL	10.0		ug/L	1	0933291	8/19/2009 6:24:00PM
1,2-Diphenylhydrazine	BDL	10.0		ug/L	1	0933291	8/19/2009 6:24:00PM
1,3-Dichlorobenzene	BDL	10.0		ug/L	1	0933291	8/19/2009 6:24:00PM
1,4-Dichlorobenzene	BDL	10.0		ug/L	1	0933291	8/19/2009 6:24:00PM
2,3,4,6-Tetrachlorophenol	BDL	10.0		ug/L	1	0933291	8/19/2009 6:24:00PM
2,4,5-Trichlorophenol	BDL	10.0		ug/L	1	0933291	8/19/2009 6:24:00PM
2,4,6-Trichlorophenol	BDL	10.0		ug/L	1	0933291	8/19/2009 6:24:00PM
2,4-Dichlorophenol	BDL	10.0		ug/L	1	0933291	8/19/2009 6:24:00PM
2,4-Dimethylphenol	BDL	10.0		ug/L	1	0933291	8/19/2009 6:24:00PM
2,4-Dinitrophenol	BDL	10.0		ug/L	1	0933291	8/19/2009 6:24:00PM
4-Dinitrotoluene	BDL	10.0		ug/L	1	0933291	8/19/2009 6:24:00PM
2,6-Dichlorophenol	BDL	10.0		ug/L	1	0933291	8/19/2009 6:24:00PM
2,6-Dinitrotoluene	BDL	10.0		ug/L	1	0933291	8/19/2009 6:24:00PM
2-Chloronaphthalene	BDL	10.0		ug/L	1	0933291	8/19/2009 6:24:00PM
2-Chlorophenol	BDL	10.0		ug/L	1	0933291	8/19/2009 6:24:00PM
2-Methylnaphthalene	BDL	10.0		ug/L	1	0933291	8/19/2009 6:24:00PM
2-Methylphenol	BDL	10.0		ug/L	1	0933291	8/19/2009 6:24:00PM
2-Nitrophenol	BDL	10.0		ug/L	1	0933291	8/19/2009 6:24:00PM
3 & 4-Methylphenol	BDL	10.0		ug/L	1	0933291	8/19/2009 6:24:00PM
4,6-Dinitro-2-methylphenol	BDL	10.0		ug/L	1	0933291	8/19/2009 6:24:00PM
4-Bromophenyl phenyl ether	BDL	10.0		ug/L	1	0933291	8/19/2009 6:24:00PM
4-Chloro-3-methylphenol	BDL	10.0		ug/L	1	0933291	8/19/2009 6:24:00PM
4-Chlorophenyl phenyl ether	BDL	10.0		ug/L	1	0933291	8/19/2009 6:24:00PM
4-Nitrophenol	BDL	10.0		ug/L	1	0933291	8/19/2009 6:24:00PM
Acenaphthene	BDL	10.0		ug/L	1	0933291	8/19/2009 6:24:00PM
Acenaphthylene	BDL	10.0		ug/L	1	0933291	8/19/2009 6:24:00PM
Acetophenone	BDL	10.0		ug/L	1	0933291	8/19/2009 6:24:00PM
Aniline	BDL	10.0		ug/L	1	0933291	8/19/2009 6:24:00PM
Anthracene	BDL	10.0		ug/L	1	0933291	8/19/2009 6:24:00PM
Benz(a)anthracene	BDL	0.260		ug/L	1	0933291	8/19/2009 6:24:00PM
Benzidine	BDL	10.0		ug/L	1	0933291	8/19/2009 6:24:00PM
Benzo(a)pyrene	BDL	0.200		ug/L	1	0933291	8/19/2009 6:24:00PM
Benzo(b)fluoranthene	BDL	0.170		ug/L	1	0933291	8/19/2009 6:24:00PM
Benzo(g,h,i)perylene	BDL	10.0		ug/L	1	0933291	8/19/2009 6:24:00PM
Benzo(k)fluoranthene	BDL	1.70		ug/L	1	0933291	8/19/2009 6:24:00PM
Benzyl Alcohol	BDL	10.0		ug/L	1	0933291	8/19/2009 6:24:00PM
is(2-chloroethoxy)methane	BDL	10.0		ug/L	1	0933291	8/19/2009 6:24:00PM
bis-(2-Chloroethyl)ether	BDL	10.0		ug/L	1	0933291	8/19/2009 6:24:00PM

Belmont Labs **Date:** 8/25/2009

LIENT: Weston Solutions, Inc. - Dayton **Lab Order:** 09H0397
Project: Laboratory Analysis

Lab ID: 09H0397-02 **Collection Date:** 8/10/2009 2:15:00PM
Client Sample ID: B5B-WW-081009 **Matrix:** Water

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Analyzed
Bis(2-ethylhexyl)phthalate	BDL	6.00		ug/L	1	0933291	8/19/2009 6:24:00PM
Butyl benzyl phthalate	BDL	10.0		ug/L	1	0933291	8/19/2009 6:24:00PM
Chrysene	BDL	10.0		ug/L	1	0933291	8/19/2009 6:24:00PM
Dibenz(a,h)anthracene	BDL	0.200		ug/L	1	0933291	8/19/2009 6:24:00PM
Dibenzofuran	BDL	10.0		ug/L	1	0933291	8/19/2009 6:24:00PM
Diethyl phthalate	BDL	10.0		ug/L	1	0933291	8/19/2009 6:24:00PM
Dimethyl phthalate	BDL	10.0		ug/L	1	0933291	8/19/2009 6:24:00PM
Di-n-butyl phthalate	BDL	10.0		ug/L	1	0933291	8/19/2009 6:24:00PM
Di-n-octyl phthalate	BDL	10.0		ug/L	1	0933291	8/19/2009 6:24:00PM
Fluoranthene	BDL	10.0		ug/L	1	0933291	8/19/2009 6:24:00PM
Fluorene	BDL	10.0		ug/L	1	0933291	8/19/2009 6:24:00PM
Hexachlorobenzene	BDL	10.0		ug/L	1	0933291	8/19/2009 6:24:00PM
Hexachlorobutadiene	BDL	10.0		ug/L	1	0933291	8/19/2009 6:24:00PM
Hexachlorocyclopentadiene	BDL	10.0		ug/L	1	0933291	8/19/2009 6:24:00PM
Hexachloroethane	BDL	10.0		ug/L	1	0933291	8/19/2009 6:24:00PM
Hexachloropropene	BDL	10.0		ug/L	1	0933291	8/19/2009 6:24:00PM
Indeno(1,2,3-cd)pyrene	BDL	0.220		ug/L	1	0933291	8/19/2009 6:24:00PM
ophorone	BDL	10.0		ug/L	1	0933291	8/19/2009 6:24:00PM
Naphthalene	BDL	10.0		ug/L	1	0933291	8/19/2009 6:24:00PM
Nitrobenzene	BDL	10.0		ug/L	1	0933291	8/19/2009 6:24:00PM
N-Nitrosodimethylamine	BDL	10.0		ug/L	1	0933291	8/19/2009 6:24:00PM
N-Nitroso-di-n-butylamine	BDL	10.0		ug/L	1	0933291	8/19/2009 6:24:00PM
N-Nitrosodi-n-propylamine	BDL	10.0		ug/L	1	0933291	8/19/2009 6:24:00PM
N-Nitrosodiphenylamine	BDL	10.0		ug/L	1	0933291	8/19/2009 6:24:00PM
Pentachlorobenzene	BDL	10.0		ug/L	1	0933291	8/19/2009 6:24:00PM
Pentachloronitrobenzene	BDL	10.0		ug/L	1	0933291	8/19/2009 6:24:00PM
Pentachlorophenol	BDL	1.00		ug/L	1	0933291	8/19/2009 6:24:00PM
Phenanthrene	BDL	10.0		ug/L	1	0933291	8/19/2009 6:24:00PM
Phenol	BDL	10.0		ug/L	1	0933291	8/19/2009 6:24:00PM
Pyrene	BDL	10.0		ug/L	1	0933291	8/19/2009 6:24:00PM
Pyridine	BDL	10.0		ug/L	1	0933291	8/19/2009 6:24:00PM
Bis(2-chloroisopropyl)ether	BDL	10.0		ug/L	1	0933291	8/19/2009 6:24:00PM
Surrogate: 2-Fluorophenol		*26.4 %*			*10-40*	*0933291*	8/19/2009 6:24:00PM
Surrogate: Phenol-d6		*18.9 %*			*10-35*	*0933291*	8/19/2009 6:24:00PM
Surrogate: Nitrobenzene-d5		*38.8 %*			*25-62*	*0933291*	8/19/2009 6:24:00PM
Surrogate: 2-Fluorobiphenyl		*38.3 %*			*28-57*	*0933291*	8/19/2009 6:24:00PM
Surrogate: 2,4,6-Tribromophenol		*37.6 %*			*10-78*	*0933291*	8/19/2009 6:24:00PM
Surrogate: Terphenyl-d14		*34.0 %*			*11-66*	*0933291*	8/19/2009 6:24:00PM

HG **EPA 245.1** **Analyst: KC**

Mercury	**0.00954**	0.000200		mg/L	1	0933265	8/18/2009 10:13:58AM

Belmont Labs **Date:** 8/25/2009

LIENT: Weston Solutions, Inc. - Dayton **Lab Order:** 09H0397
Project: Laboratory Analysis

Lab ID: 09H0397-03 **Collection Date:** 8/10/2009 12:00:00AM
Client Sample ID: Trip Blank **Matrix:** Waste Water

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Analyzed
VOC 8260_TB	**SW 8260B**					**Analyst:**	**mbg**
1,1,1,2-Tetrachloroethane	BDL	5.00		ug/L	1	0934056	8/15/2009 7:58:00PM
1,1,1-Trichloroethane	BDL	5.00		ug/L	1	0934056	8/15/2009 7:58:00PM
1,1,2,2-Tetrachloroethane	BDL	5.00		ug/L	1	0934056	8/15/2009 7:58:00PM
1,1,2-Trichloroethane	BDL	5.00		ug/L	1	0934056	8/15/2009 7:58:00PM
1,1-Dichloroethane	BDL	5.00		ug/L	1	0934056	8/15/2009 7:58:00PM
1,1-Dichloroethene	BDL	5.00		ug/L	1	0934056	8/15/2009 7:58:00PM
1,1-Dichloropropene	BDL	5.00		ug/L	1	0934056	8/15/2009 7:58:00PM
1,2-Dibromoethane	BDL	5.00		ug/L	1	0934056	8/15/2009 7:58:00PM
1,2-Dichloroethane	BDL	5.00		ug/L	1	0934056	8/15/2009 7:58:00PM
1,2-Dichloropropane	BDL	5.00		ug/L	1	0934056	8/15/2009 7:58:00PM
1,3-Dichloropropane	BDL	5.00		ug/L	1	0934056	8/15/2009 7:58:00PM
2,2-Dichloropropane	BDL	5.00		ug/L	1	0934056	8/15/2009 7:58:00PM
2-Butanone	BDL	20.0		ug/L	1	0934056	8/15/2009 7:58:00PM
2-Chloroethyl vinyl ether	BDL	10.0		ug/L	1	0934056	8/15/2009 7:58:00PM
2-Chlorotoluene	BDL	5.00		ug/L	1	0934056	8/15/2009 7:58:00PM
2-Hexanone	BDL	20.0		ug/L	1	0934056	8/15/2009 7:58:00PM
Chlorotoluene	BDL	5.00		ug/L	1	0934056	8/15/2009 7:58:00PM
4-Methyl-2-pentanone	BDL	20.0		ug/L	1	0934056	8/15/2009 7:58:00PM
Acetone	BDL	20.0		ug/L	1	0934056	8/15/2009 7:58:00PM
Acetonitrile	BDL	40.0		ug/L	1	0934056	8/15/2009 7:58:00PM
Acrolein	BDL	20.0		ug/L	1	0934056	8/15/2009 7:58:00PM
Acrylonitrile	BDL	20.0		ug/L	1	0934056	8/15/2009 7:58:00PM
Allyl chloride	BDL	5.00		ug/L	1	0934056	8/15/2009 7:58:00PM
Benzene	BDL	5.00		ug/L	1	0934056	8/15/2009 7:58:00PM
Bromobenzene	BDL	5.00		ug/L	1	0934056	8/15/2009 7:58:00PM
Bromochloromethane	BDL	5.00		ug/L	1	0934056	8/15/2009 7:58:00PM
Bromodichloromethane	BDL	5.00		ug/L	1	0934056	8/15/2009 7:58:00PM
Bromoform	BDL	5.00		ug/L	1	0934056	8/15/2009 7:58:00PM
Bromomethane	BDL	5.00		ug/L	1	0934056	8/15/2009 7:58:00PM
Carbon Disulfide	BDL	20.0		ug/L	1	0934056	8/15/2009 7:58:00PM
Carbon Tetrachloride	BDL	5.00		ug/L	1	0934056	8/15/2009 7:58:00PM
Chlorobenzene	BDL	5.00		ug/L	1	0934056	8/15/2009 7:58:00PM
Chloroethane	BDL	5.00		ug/L	1	0934056	8/15/2009 7:58:00PM
Chloroform	BDL	5.00		ug/L	1	0934056	8/15/2009 7:58:00PM
Chloromethane	BDL	5.00		ug/L	1	0934056	8/15/2009 7:58:00PM
cis-1,2-Dichloroethene	BDL	5.00		ug/L	1	0934056	8/15/2009 7:58:00PM
cis-1,3-Dichloropropene	BDL	5.00		ug/L	1	0934056	8/15/2009 7:58:00PM
Dibromochloromethane	BDL	5.00		ug/L	1	0934056	8/15/2009 7:58:00PM
Dibromomethane	BDL	5.00		ug/L	1	0934056	8/15/2009 7:58:00PM
Dichlorodifluoromethane	BDL	5.00		ug/L	1	0934056	8/15/2009 7:58:00PM
Ethylbenzene	BDL	5.00		ug/L	1	0934056	8/15/2009 7:58:00PM
Iodomethane	BDL	10.0		ug/L	1	0934056	8/15/2009 7:58:00PM
ethylene Chloride	BDL	5.00		ug/L	1	0934056	8/15/2009 7:58:00PM
Methyl tert-Butyl Ether	BDL	10.0		ug/L	1	0934056	8/15/2009 7:58:00PM
m,p-Xylene	BDL	10.0		ug/L	1	0934056	8/15/2009 7:58:00PM

Belmont Labs **Date:** 8/25/2009

CLIENT: Weston Solutions, Inc. - Dayton **Lab Order:** 09H0397
Project: Laboratory Analysis

Lab ID: 09H0397-03 **Collection Date:** 8/10/2009 12:00:00AM
Client Sample ID: Trip Blank **Matrix:** Waste Water

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Analyzed
n-Butylbenzene	BDL	5.00		ug/L	1	0934056	8/15/2009 7:58:00PM
n-Hexane	BDL	5.00		ug/L	1	0934056	8/15/2009 7:58:00PM
o-Xylene	BDL	5.00		ug/L	1	0934056	8/15/2009 7:58:00PM
Styrene	BDL	5.00		ug/L	1	0934056	8/15/2009 7:58:00PM
Tetrachloroethene	BDL	5.00		ug/L	1	0934056	8/15/2009 7:58:00PM
Toluene	BDL	5.00		ug/L	1	0934056	8/15/2009 7:58:00PM
trans-1,2-Dichloroethene	BDL	5.00		ug/L	1	0934056	8/15/2009 7:58:00PM
trans-1,3-Dichloropropene	BDL	5.00		ug/L	1	0934056	8/15/2009 7:58:00PM
Trichloroethene	BDL	5.00		ug/L	1	0934056	8/15/2009 7:58:00PM
Trichlorofluoromethane	BDL	5.00		ug/L	1	0934056	8/15/2009 7:58:00PM
Vinyl Chloride	BDL	1.00		ug/L	1	0934056	8/15/2009 7:58:00PM
Vinyl acetate	BDL	10.0		ug/L	1	0934056	8/15/2009 7:58:00PM
Surrogate: 4-Bromofluorobenzene	*100 %*			*41-140*		*0934056*	8/15/2009 7:58:00PM
Surrogate: Dibromofluoromethane	*139 %*			*34-158*		*0934056*	8/15/2009 7:58:00PM
Surrogate: Toluene-d8	*121 %*			*47-147*		*0934056*	8/15/2009 7:58:00PM
Surrogate: 1,2-Dichloroethane-d4	*136 %*			*29-163*		*0934056*	8/15/2009 7:58:00PM

Belmont Labs
The Environmental Service Company.

ANALYTICAL REQUEST CHAIN OF CUSTODY

Internal Lab Order Number 0911 0397

Purchase Order No.	Quote No.	Client Project

INVOICE TO
Name: TIM SMITH
Company: WESTON SOLUTIONS, INC.
Address: 714 E MONUMENT AVE
City, State, Zip: DAYTON, OH 45402

REPORT TO
Name:
Company:
Mailing Address:
City, State, Zip:
Phone No: 937 531 4408 Fax No: 937 531 4401

Date Results Req: Rush Charges Authorized? ☐ Yes ☑ No Fax Results ☐

Special Instructions: STANDARD TAT
EMAIL RPT TO: TIM.SMITH@WESTONSOLUTIONS.COM
Additional QC Requirements: Level 2, Level 3, Level 4 (Charges Apply)

Regulatory Type
☐ NPDES ☐ RCRA ☐ SDWA ☐ VAP ☐ Other
Collected in State of _____

Matrix Key
DW - Drinking Water
GW - Ground Water
S - Soil/Solid
SL - Sludge
WW - Waste Water
Specify Other

ANALYSIS REQUESTED
(Enter an "X" in the box below to indicate request and circle preservative)

CLIENT SAMPLE IDENTIFICATION	Date Sampled	Time	Comp	Grab	Matrix	Number of Containers	TCLP METALS	PCB'S	TCLP VOC'S	TCLP SVOC'S	TOTAL VOC'S	TOTAL SVOC'S	RCRA METALS	Lab Only
B5B-SL-081009	8/10/09	1400	X		SL	2	X	X	X	X				
B5B-WW-081009	8/10/09	1415			WW	5		X			X	X	X	
** LAST ITEM														**
										TB				
										(9)				

CHAIN OF CUSTODY (if required)
Relinquished by: T. SMITH Date/Time 8/10/09
Relinquished by: Date/Time
Method of Shipment: ET
Received by: Date/Time
Received at lab by: P. Whitaker Date/Time 8-10-09 15:45
Cooler Temp. 16.8° ice Custody Seals ☐ Yes ☐ No

Sampled by: _____ Date _____

Client Comments

DISTRIBUTION:
WHITE - Laboratory
YELLOW - Accounting
PINK - Client Retains

Total Metals by ICP - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0933198 - PREP_ICP_W										
Blank (0933198-BLK1)				Prepared & Analyzed: 08/12/09						
Arsenic	BDL	0.00500	mg/L							
Barium	BDL	0.00500	mg/L							
Cadmium	BDL	0.000500	mg/L							
Chromium	BDL	0.00500	mg/L							
Lead	BDL	0.00500	mg/L							
Selenium	BDL	0.0100	mg/L							
Silver	BDL	0.000500	mg/L							
LCS (0933198-BS1)				Prepared & Analyzed: 08/12/09						
Arsenic	0.993	0.00500	mg/L	1.000		99.3	85-115			
Barium	0.979	0.00500	mg/L	1.000		97.9	85-115			
Cadmium	1.01	0.000500	mg/L	1.000		101	85-115			
Chromium	1.00	0.00500	mg/L	1.000		100	85-115			
Lead	1.01	0.00500	mg/L	1.000		101	85-115			
Selenium	1.04	0.0100	mg/L	1.000		104	85-115			
Silver	1.01	0.000500	mg/L	1.000		101	85-115			
LCS Dup (0933198-BSD1)				Prepared & Analyzed: 08/12/09						
Arsenic	0.996	0.00500	mg/L	1.000		99.6	85-115	0.302	20	
Barium	0.986	0.00500	mg/L	1.000		98.6	85-115	0.712	20	
Cadmium	1.01	0.000500	mg/L	1.000		101	85-115	0.00	20	
Chromium	1.00	0.00500	mg/L	1.000		100	85-115	0.00	20	
Lead	1.01	0.00500	mg/L	1.000		101	85-115	0.00	20	
Selenium	1.04	0.0100	mg/L	1.000		104	85-115	0.00	20	
Silver	1.02	0.000500	mg/L	1.000		102	85-115	0.985	20	
Matrix Spike (0933198-MS1)	**Source: 09H0372-04**			Prepared & Analyzed: 08/12/09						
Arsenic	0.970	0.00500	mg/L	1.000	ND	97.0	75-125			
Barium	1.00	0.00500	mg/L	1.000	0.0591	94.1	75-125			
Cadmium	0.962	0.000500	mg/L	1.000	0.000420	96.2	75-125			
Chromium	0.978	0.00500	mg/L	1.000	0.0120	96.6	75-125			
Lead	0.963	0.00500	mg/L	1.000	0.00197	96.1	75-125			
Selenium	0.991	0.0100	mg/L	1.000	ND	99.1	75-125			
Silver	0.990	0.000500	mg/L	1.000	0.0123	97.8	75-125			

Total Metals by ICP - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0933198 - PREP_ICP_W										
Matrix Spike Dup (0933198-MSD1)		**Source: 09H0372-04**		Prepared & Analyzed: 08/12/09						
Arsenic	0.973	0.00500	mg/L	1.000	ND	97.3	75-125	0.309	20	
Barium	1.01	0.00500	mg/L	1.000	0.0591	95.1	75-125	0.995	20	
Cadmium	0.963	0.000500	mg/L	1.000	0.000420	96.3	75-125	0.104	20	
Chromium	0.977	0.00500	mg/L	1.000	0.0120	96.5	75-125	0.102	20	
Lead	0.964	0.00500	mg/L	1.000	0.00197	96.2	75-125	0.104	20	
Selenium	0.994	0.0100	mg/L	1.000	ND	99.4	75-125	0.302	20	
Silver	0.988	0.000500	mg/L	1.000	0.0123	97.6	75-125	0.202	20	

TCLP Metals by ICP - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0934172 - PREP_ICP_TCLP										
Blank (0934172-BLK1)				Prepared: 08/19/09 Analyzed: 08/20/09						
TCLP Arsenic	BDL	0.100	mg/L							
TCLP Barium	BDL	0.0100	mg/L							
TCLP Cadmium	BDL	0.0100	mg/L							
TCLP Chromium	BDL	0.0100	mg/L							
TCLP Lead	BDL	0.0500	mg/L							
TCLP Selenium	BDL	0.100	mg/L							
TCLP Silver	BDL	0.0100	mg/L							
LCS (0934172-BS1)				Prepared: 08/19/09 Analyzed: 08/20/09						
TCLP Arsenic	0.971	0.100	mg/L	1.000		97.1	85-115			
TCLP Barium	0.990	0.0100	mg/L	1.000		99.0	85-115			
TCLP Cadmium	0.995	0.0100	mg/L	1.000		99.5	85-115			
TCLP Chromium	0.983	0.0100	mg/L	1.000		98.3	85-115			
TCLP Lead	0.976	0.0500	mg/L	1.000		97.6	85-115			
TCLP Selenium	1.01	0.100	mg/L	1.000		101	85-115			
TCLP Silver	1.01	0.0100	mg/L	1.000		101	85-115			
LCS Dup (0934172-BSD1)				Prepared: 08/19/09 Analyzed: 08/20/09						
TCLP Arsenic	0.974	0.100	mg/L	1.000		97.4	85-115	0.308	20	
TCLP Barium	0.987	0.0100	mg/L	1.000		98.7	85-115	0.303	20	
TCLP Cadmium	0.995	0.0100	mg/L	1.000		99.5	85-115	0.00	20	
TCLP Chromium	0.986	0.0100	mg/L	1.000		98.6	85-115	0.305	20	
TCLP Lead	0.976	0.0500	mg/L	1.000		97.6	85-115	0.00	20	
TCLP Selenium	1.02	0.100	mg/L	1.000		102	85-115	0.985	20	
TCLP Silver	1.01	0.0100	mg/L	1.000		101	85-115	0.00	20	
Matrix Spike (0934172-MS1)	**Source: 09H0397-01**			Prepared: 08/19/09 Analyzed: 08/20/09						
TCLP Arsenic	0.960	0.100	mg/L	1.000	0.00597	95.4	75-125			
TCLP Barium	2.19	0.0100	mg/L	1.000	1.34	85.0	75-125			
TCLP Cadmium	1.07	0.0100	mg/L	1.000	0.183	88.7	75-125			
TCLP Chromium	0.892	0.0100	mg/L	1.000	0.00420	88.8	75-125			
TCLP Lead	1.19	0.0500	mg/L	1.000	0.354	83.6	75-125			
TCLP Selenium	1.04	0.100	mg/L	1.000	0.00810	103	75-125			
TCLP Silver	0.944	0.0100	mg/L	1.000	ND	94.4	75-125			

TCLP Metals by ICP - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0934172 - PREP_ICP_TCLP										
Matrix Spike Dup (0934172-MSD1)		**Source: 09H0397-01**		Prepared: 08/19/09 Analyzed: 08/20/09						
TCLP Arsenic	0.920	0.100	mg/L	1.000	0.00597	91.4	75-125	4.26	20	
TCLP Barium	2.14	0.0100	mg/L	1.000	1.34	80.0	75-125	2.31	20	
TCLP Cadmium	1.04	0.0100	mg/L	1.000	0.183	85.7	75-125	2.84	20	
TCLP Chromium	0.852	0.0100	mg/L	1.000	0.00420	84.8	75-125	4.59	20	
TCLP Lead	1.16	0.0500	mg/L	1.000	0.354	80.6	75-125	2.55	20	
TCLP Selenium	1.00	0.100	mg/L	1.000	0.00810	99.2	75-125	3.92	20	
TCLP Silver	0.904	0.0100	mg/L	1.000	ND	90.4	75-125	4.33	20	

TCLP Metals by 6000/7000 Series Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0935013 - PREP_HG_TCLP										
Blank (0935013-BLK1)				Prepared & Analyzed: 08/24/09						
TCLP Mercury	BDL	0.000200	mg/L							
LCS (0935013-BS1)				Prepared & Analyzed: 08/24/09						
TCLP Mercury	0.00659	0.000200	mg/L	0.006250		105	80-120			
LCS Dup (0935013-BSD1)				Prepared & Analyzed: 08/24/09						
TCLP Mercury	0.00596	0.000200	mg/L	0.006250		95.4	80-120	10.0	20	
Matrix Spike (0935013-MS1)		**Source: 09H0397-01**		Prepared & Analyzed: 08/24/09						
TCLP Mercury	0.00650	0.000200	mg/L	0.006250	ND	104	70-130			
Matrix Spike Dup (0935013-MSD1)		**Source: 09H0397-01**		Prepared & Analyzed: 08/24/09						
TCLP Mercury	0.00632	0.000200	mg/L	0.006250	ND	101	70-130	2.81	30	

Polychlorinated Biphenyls by EPA Method 8082 - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0933203 - PREP_PP_W										
Blank (0933203-BLK1)				Prepared & Analyzed: 08/13/09						
Aroclor 1016	BDL	0.500	ug/L							
Aroclor 1221	BDL	0.500	ug/L							
Aroclor 1232	BDL	0.500	ug/L							
Aroclor 1242	BDL	0.500	ug/L							
Aroclor 1248	BDL	0.500	ug/L							
Aroclor 1254	BDL	0.500	ug/L							
Aroclor 1260	BDL	0.500	ug/L							
Surrogate: Decachlorobiphenyl	*1.36*		*ug/L*	*1.000*		*136*	*36-157*			
Surrogate: Tetrachloro-m-xylene	*0.470*		*ug/L*	*1.000*		*47.0*	*28-127*			
LCS (0933203-BS1)				Prepared & Analyzed: 08/13/09						
Aroclor 1016	10.8	0.500	ug/L	10.00		108	67-132			
Aroclor 1260	10.8	0.500	ug/L	10.00		108	73-148			
Surrogate: Decachlorobiphenyl	*0.930*		*ug/L*	*1.000*		*93.0*	*36-157*			
Surrogate: Tetrachloro-m-xylene	*0.870*		*ug/L*	*1.000*		*87.0*	*28-127*			
CS Dup (0933203-BSD1)				Prepared & Analyzed: 08/13/09						
Aroclor 1016	9.40	0.500	ug/L	10.00		94.0	67-132	13.6	19	
Aroclor 1260	8.20	0.500	ug/L	10.00		82.0	73-148	27.4	22	R
Surrogate: Decachlorobiphenyl	*1.39*		*ug/L*	*1.000*		*139*	*36-157*			
Surrogate: Tetrachloro-m-xylene	*0.690*		*ug/L*	*1.000*		*69.0*	*28-127*			
Batch 0934242 - PREP_PP_S										
Blank (0934242-BLK1)				Prepared: 08/21/09 Analyzed: 08/23/09						
Aroclor 1016	BDL	0.0200	mg/kg wet							
Aroclor 1221	BDL	0.0200	mg/kg wet							
Aroclor 1232	BDL	0.0200	mg/kg wet							
Aroclor 1242	BDL	0.0200	mg/kg wet							
Aroclor 1248	BDL	0.0200	mg/kg wet							
Aroclor 1254	BDL	0.0200	mg/kg wet							
Aroclor 1260	BDL	0.0200	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0500*		*mg/kg wet*	*0.03333*		*150*	*40-159*			
Surrogate: Tetrachloro-m-xylene	*0.0417*		*mg/kg wet*	*0.03333*		*125*	*47-125*			

Polychlorinated Biphenyls by EPA Method 8082 - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0934242 - PREP_PP_S										
LCS (0934242-BS1)				Prepared: 08/21/09 Analyzed: 08/23/09						
Aroclor 1016	0.343	0.0200	mg/kg wet	0.3333		103	55-144			
Aroclor 1260	0.312	0.0200	mg/kg wet	0.3333		93.5	51-153			
Surrogate: Decachlorobiphenyl	*0.0433*		*mg/kg wet*	*0.03333*		*130*	*40-159*			
Surrogate: Tetrachloro-m-xylene	*0.0310*		*mg/kg wet*	*0.03333*		*93.0*	*47-125*			
LCS Dup (0934242-BSD1)				Prepared: 08/21/09 Analyzed: 08/23/09						
Aroclor 1016	0.388	0.0200	mg/kg wet	0.3333		116	55-144	12.2	24	
Aroclor 1260	0.313	0.0200	mg/kg wet	0.3333		94.0	51-153	0.533	25	
Surrogate: Decachlorobiphenyl	*0.0513*		*mg/kg wet*	*0.03333*		*154*	*40-159*			
Surrogate: Tetrachloro-m-xylene	*0.0383*		*mg/kg wet*	*0.03333*		*115*	*47-125*			

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0934056 - VOC PREP										
Blank (0934056-BLK1)				Prepared & Analyzed: 08/15/09						
1,1,1,2-Tetrachloroethane	BDL	5.00	ug/L							
1,1,1-Trichloroethane	BDL	5.00	ug/L							
1,1,2,2-Tetrachloroethane	BDL	5.00	ug/L							
1,1,2-Trichloroethane	BDL	5.00	ug/L							
1,1-Dichloroethane	BDL	5.00	ug/L							
1,1-Dichloroethene	BDL	5.00	ug/L							
1,1-Dichloropropene	BDL	5.00	ug/L							
1,2-Dibromoethane	BDL	5.00	ug/L							
1,2-Dichloroethane	BDL	5.00	ug/L							
1,2-Dichloropropane	BDL	5.00	ug/L							
1,3-Dichloropropane	BDL	5.00	ug/L							
2,2-Dichloropropane	BDL	5.00	ug/L							
2-Butanone	BDL	20.0	ug/L							
2-Chloroethyl vinyl ether	BDL	10.0	ug/L							
2-Chlorotoluene	BDL	5.00	ug/L							
Hexanone	BDL	20.0	ug/L							
-Chlorotoluene	BDL	5.00	ug/L							
4-Methyl-2-pentanone	BDL	20.0	ug/L							
Acetone	BDL	20.0	ug/L							
Acetonitrile	BDL	40.0	ug/L							
Acrolein	BDL	20.0	ug/L							
Acrylonitrile	BDL	20.0	ug/L							
Allyl chloride	BDL	5.00	ug/L							
Benzene	BDL	5.00	ug/L							
Bromobenzene	BDL	5.00	ug/L							
Bromochloromethane	BDL	5.00	ug/L							
Bromodichloromethane	BDL	5.00	ug/L							
Bromoform	BDL	5.00	ug/L							
Bromomethane	BDL	5.00	ug/L							
Carbon Disulfide	BDL	20.0	ug/L							
Carbon Tetrachloride	BDL	5.00	ug/L							
Chlorobenzene	BDL	5.00	ug/L							
Chloroethane	BDL	5.00	ug/L							
Chloroform	BDL	5.00	ug/L							
Chloromethane	BDL	5.00	ug/L							
cis-1,2-Dichloroethene	BDL	5.00	ug/L							
cis-1,3-Dichloropropene	BDL	5.00	ug/L							
Dibromochloromethane	BDL	5.00	ug/L							
Dibromomethane	BDL	5.00	ug/L							
Dichlorodifluoromethane	BDL	5.00	ug/L							
Ethylbenzene	BDL	5.00	ug/L							
Iodomethane	BDL	10.0	ug/L							
ethylene Chloride	BDL	5.00	ug/L							
Methyl tert-Butyl Ether	BDL	10.0	ug/L							
m,p-Xylene	BDL	10.0	ug/L							

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0934056 - VOC PREP										
Blank (0934056-BLK1)				Prepared & Analyzed: 08/15/09						
n-Butylbenzene	BDL	5.00	ug/L							
n-Hexane	BDL	5.00	ug/L							
o-Xylene	BDL	5.00	ug/L							
Styrene	BDL	5.00	ug/L							
Tetrachloroethene	BDL	5.00	ug/L							
Toluene	BDL	5.00	ug/L							
trans-1,2-Dichloroethene	BDL	5.00	ug/L							
trans-1,3-Dichloropropene	BDL	5.00	ug/L							
Trichloroethene	BDL	5.00	ug/L							
Trichlorofluoromethane	BDL	5.00	ug/L							
Vinyl Chloride	BDL	1.00	ug/L							
Vinyl acetate	BDL	10.0	ug/L							
Surrogate: 4-Bromofluorobenzene	*49.7*		*ug/L*	*50.00*		*99.4*	*41-140*			
Surrogate: Dibromofluoromethane	*65.4*		*ug/L*	*50.00*		*131*	*34-158*			
Surrogate: Toluene-d8	*58.4*		*ug/L*	*50.00*		*117*	*47-147*			
rrogate: 1,2-Dichloroethane-d4	*63.6*		*ug/L*	*50.00*		*127*	*29-163*			
LCS (0934056-BS1)				Prepared & Analyzed: 08/15/09						
1,1,1,2-Tetrachloroethane	19.0	5.00	ug/L	20.00		95.2	68-135			
1,1,1-Trichloroethane	21.6	5.00	ug/L	20.00		108	72-133			
1,1,2,2-Tetrachloroethane	21.5	5.00	ug/L	20.00		107	69-140			
1,1,2-Trichloroethane	22.2	5.00	ug/L	20.00		111	68-126			
1,1-Dichloroethane	24.0	5.00	ug/L	20.00		120	71-149			
1,1-Dichloroethene	22.1	5.00	ug/L	20.00		110	68-158			
1,1-Dichloropropene	22.0	5.00	ug/L	20.00		110	72-130			
1,2-Dibromoethane	19.6	5.00	ug/L	20.00		98.0	65-133			
1,2-Dichloroethane	21.7	5.00	ug/L	20.00		108	70-131			
1,2-Dichloropropane	22.0	5.00	ug/L	20.00		110	78-125			
1,3-Dichloropropane	21.8	5.00	ug/L	20.00		109	72-125			
2,2-Dichloropropane	24.6	5.00	ug/L	20.00		123	84-155			
2-Butanone	95.4	20.0	ug/L	80.00		119	39-141			
2-Chloroethyl vinyl ether	19.7	10.0	ug/L	20.00		98.4	63-127			
2-Chlorotoluene	20.8	5.00	ug/L	20.00		104	65-146			
2-Hexanone	97.4	20.0	ug/L	80.00		122	50-137			
4-Chlorotoluene	20.3	5.00	ug/L	20.00		102	74-134			
4-Methyl-2-pentanone	90.3	20.0	ug/L	80.00		113	51-134			
Acetone	101	20.0	ug/L	80.00		126	46-144			
Acetonitrile	27.6	40.0	ug/L	20.00		138	54-143			
Acrylonitrile	101	20.0	ug/L	20.00		504	72-142			L
Allyl chloride	24.4	5.00	ug/L	20.00		122	0-200			
Benzene	21.0	5.00	ug/L	20.00		105	74-129			
Bromobenzene	19.0	5.00	ug/L	20.00		94.9	68-141			
omochloromethane	23.4	5.00	ug/L	20.00		117	75-133			
Bromodichloromethane	21.6	5.00	ug/L	20.00		108	78-125			
Bromoform	19.7	5.00	ug/L	20.00		98.4	60-132			

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0934056 - VOC PREP										
LCS (0934056-BS1)				Prepared & Analyzed: 08/15/09						
Bromomethane	17.9	5.00	ug/L	20.00		89.5	41-168			
Carbon Disulfide	20.1	20.0	ug/L	20.00		101	49-171			
Carbon Tetrachloride	21.3	5.00	ug/L	20.00		106	69-158			
Chlorobenzene	19.2	5.00	ug/L	20.00		96.0	79-141			
Chloroethane	19.1	5.00	ug/L	20.00		95.4	40-204			
Chloroform	24.4	5.00	ug/L	20.00		122	72-147			
Chloromethane	25.3	5.00	ug/L	20.00		127	47-148			
cis-1,2-Dichloroethene	25.0	5.00	ug/L	20.00		125	69-146			
cis-1,3-Dichloropropene	21.2	5.00	ug/L	20.00		106	78-122			
Dibromochloromethane	18.6	5.00	ug/L	20.00		93.0	68-127			
Dibromomethane	22.0	5.00	ug/L	20.00		110	69-129			
Dichlorodifluoromethane	22.3	5.00	ug/L	20.00		112	35-169			
Ethylbenzene	20.0	5.00	ug/L	20.00		100	77-146			
Iodomethane	20.9	10.0	ug/L	20.00		104	68-149			
Methylene Chloride	22.5	5.00	ug/L	20.00		113	65-141			
ethyl tert-Butyl Ether	23.0	10.0	ug/L	20.00		115	68-147			
m,p-Xylene	42.1	10.0	ug/L	40.00		105	72-155			
n-Butylbenzene	22.0	5.00	ug/L	20.00		110	0-200			
n-Hexane	19.5	5.00	ug/L	20.00		97.3	28-179			
o-Xylene	20.2	5.00	ug/L	20.00		101	78-131			
Styrene	20.4	5.00	ug/L	20.00		102	78-132			
Tetrachloroethene	21.7	5.00	ug/L	20.00		108	20-170			
Toluene	22.0	5.00	ug/L	20.00		110	73-131			
trans-1,2-Dichloroethene	22.4	5.00	ug/L	20.00		112	72-154			
trans-1,3-Dichloropropene	22.0	5.00	ug/L	20.00		110	75-133			
Trichloroethene	20.7	5.00	ug/L	20.00		104	70-140			
Trichlorofluoromethane	26.0	5.00	ug/L	20.00		130	68-165			
Vinyl Chloride	24.3	1.00	ug/L	20.00		121	48-159			
Vinyl acetate	24.1	10.0	ug/L	20.00		121	25-230			
Surrogate: 4-Bromofluorobenzene	*52.0*		*ug/L*	*50.00*		*104*	*41-140*			
Surrogate: Dibromofluoromethane	*65.1*		*ug/L*	*50.00*		*130*	*34-158*			
Surrogate: Toluene-d8	*59.9*		*ug/L*	*50.00*		*120*	*47-147*			
Surrogate: 1,2-Dichloroethane-d4	*64.7*		*ug/L*	*50.00*		*129*	*29-163*			

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0934056 - VOC PREP										
LCS Dup (0934056-BSD1)				Prepared & Analyzed: 08/15/09						
1,1,1,2-Tetrachloroethane	19.4	5.00	ug/L	20.00		97.2	68-135	2.18	10	
1,1,1-Trichloroethane	22.0	5.00	ug/L	20.00		110	72-133	1.93	10	
1,1,2,2-Tetrachloroethane	21.0	5.00	ug/L	20.00		105	69-140	2.45	13	
1,1,2-Trichloroethane	22.0	5.00	ug/L	20.00		110	68-126	0.588	10	
1,1-Dichloroethane	24.5	5.00	ug/L	20.00		122	71-149	2.06	10	
1,1-Dichloroethene	22.9	5.00	ug/L	20.00		115	68-158	3.78	10	
1,1-Dichloropropene	23.0	5.00	ug/L	20.00		115	72-130	4.49	13	
1,2-Dibromoethane	19.7	5.00	ug/L	20.00		98.5	65-133	0.509	10	
1,2-Dichloroethane	21.4	5.00	ug/L	20.00		107	70-131	1.49	10	
1,2-Dichloropropane	22.0	5.00	ug/L	20.00		110	78-125	0.0455	10	
1,3-Dichloropropane	21.5	5.00	ug/L	20.00		107	72-125	1.25	10	
2,2-Dichloropropane	25.0	5.00	ug/L	20.00		125	84-155	1.37	11	
2-Butanone	94.2	20.0	ug/L	80.00		118	39-141	1.33	13	
2-Chloroethyl vinyl ether	18.5	10.0	ug/L	20.00		92.7	63-127	5.97	10	
2-Chlorotoluene	20.8	5.00	ug/L	20.00		104	65-146	0.288	12	
Hexanone	93.5	20.0	ug/L	80.00		117	50-137	4.11	10	
4-Chlorotoluene	20.9	5.00	ug/L	20.00		104	74-134	2.62	10	
4-Methyl-2-pentanone	93.0	20.0	ug/L	80.00		116	51-134	2.97	10	
Acetone	98.4	20.0	ug/L	80.00		123	46-144	2.19	13	
Acetonitrile	23.3	40.0	ug/L	20.00		117	54-143	16.9	37	
Acrylonitrile	105	20.0	ug/L	20.00		527	72-142	4.44	10	L
Allyl chloride	24.6	5.00	ug/L	20.00		123	0-200	0.612	200	
Benzene	21.3	5.00	ug/L	20.00		106	74-129	1.28	10	
Bromobenzene	19.9	5.00	ug/L	20.00		99.6	68-141	4.78	10	
Bromochloromethane	23.8	5.00	ug/L	20.00		119	75-133	1.31	10	
Bromodichloromethane	21.4	5.00	ug/L	20.00		107	78-125	0.745	10	
Bromoform	19.8	5.00	ug/L	20.00		99.0	60-132	0.658	10	
Bromomethane	17.7	5.00	ug/L	20.00		88.4	41-168	1.29	13	
Carbon Disulfide	20.8	20.0	ug/L	20.00		104	49-171	3.13	10	
Carbon Tetrachloride	22.0	5.00	ug/L	20.00		110	69-158	3.14	10	
Chlorobenzene	19.6	5.00	ug/L	20.00		97.8	79-141	1.91	10	
Chloroethane	20.5	5.00	ug/L	20.00		103	40-204	7.33	47	
Chloroform	24.6	5.00	ug/L	20.00		123	72-147	1.06	10	
Chloromethane	25.4	5.00	ug/L	20.00		127	47-148	0.158	14	
cis-1,2-Dichloroethene	25.5	5.00	ug/L	20.00		128	69-146	1.98	11	
cis-1,3-Dichloropropene	21.1	5.00	ug/L	20.00		105	78-122	0.473	10	
Dibromochloromethane	18.9	5.00	ug/L	20.00		94.6	68-127	1.70	10	
Dibromomethane	21.7	5.00	ug/L	20.00		108	69-129	1.24	10	
Dichlorodifluoromethane	24.5	5.00	ug/L	20.00		123	35-169	9.43	33	
Ethylbenzene	20.3	5.00	ug/L	20.00		101	77-146	1.49	10	
Iodomethane	22.3	10.0	ug/L	20.00		111	68-149	6.39	15	
Methylene Chloride	23.0	5.00	ug/L	20.00		115	65-141	1.98	25	
Methyl tert-Butyl Ether	22.9	10.0	ug/L	20.00		115	68-147	0.218	10	
m,p-Xylene	42.9	10.0	ug/L	40.00		107	72-155	1.88	10	
n-Butylbenzene	21.9	5.00	ug/L	20.00		109	0-200	0.865	200	

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0934056 - VOC PREP										
LCS Dup (0934056-BSD1)				Prepared & Analyzed: 08/15/09						
n-Hexane	20.4	5.00	ug/L	20.00		102	28-179	4.91	18	
o-Xylene	20.6	5.00	ug/L	20.00		103	78-131	2.11	10	
Styrene	20.6	5.00	ug/L	20.00		103	78-132	0.977	10	
Tetrachloroethene	22.2	5.00	ug/L	20.00		111	20-170	2.05	31	
Toluene	22.0	5.00	ug/L	20.00		110	73-131	0.136	10	
trans-1,2-Dichloroethene	23.3	5.00	ug/L	20.00		117	72-154	3.89	11	
trans-1,3-Dichloropropene	21.8	5.00	ug/L	20.00		109	75-133	0.959	10	
Trichloroethene	21.5	5.00	ug/L	20.00		107	70-140	3.65	10	
Trichlorofluoromethane	27.4	5.00	ug/L	20.00		137	68-165	5.02	10	
Vinyl Chloride	25.4	1.00	ug/L	20.00		127	48-159	4.79	21	
Vinyl acetate	24.5	10.0	ug/L	20.00		122	25-230	1.32	18	
Surrogate: 4-Bromofluorobenzene	*51.1*		*ug/L*	*50.00*		*102*	*41-140*			
Surrogate: Dibromofluoromethane	*65.3*		*ug/L*	*50.00*		*131*	*34-158*			
Surrogate: Toluene-d8	*59.4*		*ug/L*	*50.00*		*119*	*47-147*			
Surrogate: 1,2-Dichloroethane-d4	*63.6*		*ug/L*	*50.00*		*127*	*29-163*			
Batch 0934205 - VOC_PREP_TCLP										
Blank (0934205-BLK1)				Prepared & Analyzed: 08/19/09						
TCLP 1,1-Dichloroethene	BDL	0.00500	mg/L							
TCLP 1,2-Dichloroethane	BDL	0.00500	mg/L							
TCLP 2-Butanone	BDL	0.0200	mg/L							
TCLP Benzene	BDL	0.00500	mg/L							
TCLP Carbon tetrachloride	BDL	0.00500	mg/L							
TCLP Chlorobenzene	BDL	0.00500	mg/L							
TCLP Chloroform	BDL	0.00500	mg/L							
TCLP Vinyl chloride	BDL	0.00500	mg/L							
TCLP Trichloroethene	BDL	0.00500	mg/L							
TCLP Tetrachloroethene	BDL	0.00500	mg/L							
Surrogate: 4-Bromofluorobenzene	*46.5*		*ug/L*	*50.00*		*92.9*	*41-140*			
Surrogate: Dibromofluoromethane	*45.5*		*ug/L*	*50.00*		*91.0*	*34-158*			
Surrogate: Toluene-d8	*51.3*		*ug/L*	*50.00*		*103*	*47-147*			
Surrogate: 1,2-Dichloroethane-d4	*45.6*		*ug/L*	*50.00*		*91.1*	*29-163*			

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0934205 - VOC_PREP_TCLP										
LCS (0934205-BS1)				Prepared & Analyzed: 08/19/09						
TCLP 1,1-Dichloroethene	0.0239	0.00500	mg/L	0.02000		120	68-158			
TCLP 1,2-Dichloroethane	0.0239	0.00500	mg/L	0.02000		119	65-133			
TCLP 2-Butanone	0.0665	0.0200	mg/L	0.08000		83.1	39-141			
TCLP Benzene	0.0223	0.00500	mg/L	0.02000		111	74-129			
TCLP Carbon tetrachloride	0.0226	0.00500	mg/L	0.02000		113	69-158			
TCLP Chlorobenzene	0.0227	0.00500	mg/L	0.02000		114	79-141			
TCLP Chloroform	0.0250	0.00500	mg/L	0.02000		125	72-147			
TCLP Vinyl chloride	0.0152	0.00500	mg/L	0.02000		75.9	48-159			
TCLP Trichloroethene	0.0218	0.00500	mg/L	0.02000		109	70-140			
TCLP Tetrachloroethene	0.0185	0.00500	mg/L	0.02000		92.4	20-170			
Surrogate: 4-Bromofluorobenzene	*44.0*		*ug/L*	*50.00*		*88.1*	*41-140*			
Surrogate: Dibromofluoromethane	*50.8*		*ug/L*	*50.00*		*102*	*34-158*			
Surrogate: Toluene-d8	*38.6*		*ug/L*	*50.00*		*77.3*	*47-147*			
Surrogate: 1,2-Dichloroethane-d4	*50.7*		*ug/L*	*50.00*		*101*	*29-163*			
LCS Dup (0934205-BSD1)				Prepared & Analyzed: 08/19/09						
TCLP 1,1-Dichloroethene	0.0199	0.00500	mg/L	0.02000		99.4	68-158	18.4	10	R
TCLP 1,2-Dichloroethane	0.0196	0.00500	mg/L	0.02000		97.8	65-133	19.9	10	R
TCLP 2-Butanone	0.0501	0.0200	mg/L	0.08000		62.6	39-141	28.1	13	R
TCLP Benzene	0.0172	0.00500	mg/L	0.02000		86.2	74-129	25.5	10	R
TCLP Carbon tetrachloride	0.0175	0.00500	mg/L	0.02000		87.3	69-158	25.5	10	R
TCLP Chlorobenzene	0.0182	0.00500	mg/L	0.02000		91.2	79-141	21.8	10	R
TCLP Chloroform	0.0195	0.00500	mg/L	0.02000		97.4	72-147	24.8	10	R
TCLP Vinyl chloride	0.0151	0.00500	mg/L	0.02000		75.7	48-159	0.264	21	
TCLP Trichloroethene	0.0177	0.00500	mg/L	0.02000		88.4	70-140	21.0	10	R
TCLP Tetrachloroethene	0.0177	0.00500	mg/L	0.02000		88.4	20-170	4.37	31	
Surrogate: 4-Bromofluorobenzene	*44.4*		*ug/L*	*50.00*		*88.8*	*41-140*			
Surrogate: Dibromofluoromethane	*46.0*		*ug/L*	*50.00*		*92.1*	*34-158*			
Surrogate: Toluene-d8	*50.5*		*ug/L*	*50.00*		*101*	*47-147*			
Surrogate: 1,2-Dichloroethane-d4	*43.9*		*ug/L*	*50.00*		*87.8*	*29-163*			

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0935005 - VOC PREP										
Blank (0935005-BLK1)				Prepared & Analyzed: 08/22/09						
1,1,1,2-Tetrachloroethane	BDL	5.00	ug/L							
1,1,1-Trichloroethane	BDL	5.00	ug/L							
1,1,2,2-Tetrachloroethane	BDL	5.00	ug/L							
1,1,2-Trichloroethane	BDL	5.00	ug/L							
1,1-Dichloroethane	BDL	5.00	ug/L							
1,1-Dichloroethene	BDL	5.00	ug/L							
1,1-Dichloropropene	BDL	5.00	ug/L							
1,2-Dibromoethane	BDL	5.00	ug/L							
1,2-Dichloroethane	BDL	5.00	ug/L							
1,2-Dichloropropane	BDL	5.00	ug/L							
1,3-Dichloropropane	BDL	5.00	ug/L							
2,2-Dichloropropane	BDL	5.00	ug/L							
2-Butanone	BDL	20.0	ug/L							
2-Chloroethyl vinyl ether	BDL	10.0	ug/L							
2-Chlorotoluene	BDL	5.00	ug/L							
Hexanone	BDL	20.0	ug/L							
4-Chlorotoluene	BDL	5.00	ug/L							
4-Methyl-2-pentanone	BDL	20.0	ug/L							
Acetone	BDL	20.0	ug/L							
Acetonitrile	BDL	40.0	ug/L							
Acrolein	BDL	20.0	ug/L							
Acrylonitrile	BDL	20.0	ug/L							
Allyl chloride	BDL	5.00	ug/L							
Benzene	BDL	5.00	ug/L							
Bromobenzene	BDL	5.00	ug/L							
Bromochloromethane	BDL	5.00	ug/L							
Bromodichloromethane	BDL	5.00	ug/L							
Bromoform	BDL	5.00	ug/L							
Bromomethane	BDL	5.00	ug/L							
Carbon Disulfide	BDL	20.0	ug/L							
Carbon Tetrachloride	BDL	5.00	ug/L							
Chlorobenzene	BDL	5.00	ug/L							
Chloroethane	BDL	5.00	ug/L							
Chloroform	BDL	5.00	ug/L							
Chloromethane	BDL	5.00	ug/L							
cis-1,2-Dichloroethene	BDL	5.00	ug/L							
cis-1,3-Dichloropropene	BDL	5.00	ug/L							
Dibromochloromethane	BDL	5.00	ug/L							
Dibromomethane	BDL	5.00	ug/L							
Dichlorodifluoromethane	BDL	5.00	ug/L							
Ethylbenzene	BDL	5.00	ug/L							
Iodomethane	BDL	10.0	ug/L							
Methylene Chloride	BDL	5.00	ug/L							
Methyl tert-Butyl Ether	BDL	10.0	ug/L							
m,p-Xylene	BDL	10.0	ug/L							

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0935005 - VOC PREP										
Blank (0935005-BLK1)				Prepared & Analyzed: 08/22/09						
n-Hexane	BDL	5.00	ug/L							
o-Xylene	BDL	5.00	ug/L							
Styrene	BDL	5.00	ug/L							
Tetrachloroethene	BDL	5.00	ug/L							
Toluene	BDL	5.00	ug/L							
trans-1,2-Dichloroethene	BDL	5.00	ug/L							
trans-1,3-Dichloropropene	BDL	5.00	ug/L							
Trichloroethene	BDL	5.00	ug/L							
Trichlorofluoromethane	BDL	5.00	ug/L							
Vinyl Chloride	BDL	1.00	ug/L							
Vinyl acetate	BDL	10.0	ug/L							
Surrogate: 4-Bromofluorobenzene	*42.7*		*ug/L*	*50.00*		*85.3*	*41-140*			
Surrogate: Dibromofluoromethane	*41.5*		*ug/L*	*50.00*		*83.0*	*34-158*			
Surrogate: Toluene-d8	*44.1*		*ug/L*	*50.00*		*88.3*	*47-147*			
Surrogate: 1,2-Dichloroethane-d4	*41.5*		*ug/L*	*50.00*		*83.1*	*29-163*			
CS (0935005-BS1)				Prepared & Analyzed: 08/22/09						
1,1,1,2-Tetrachloroethane	18.2	5.00	ug/L	20.00		91.2	68-135			
1,1,1-Trichloroethane	18.7	5.00	ug/L	20.00		93.4	72-133			
1,1,2,2-Tetrachloroethane	18.1	5.00	ug/L	20.00		90.7	69-140			
1,1,2-Trichloroethane	17.6	5.00	ug/L	20.00		88.2	68-126			
1,1-Dichloroethane	18.8	5.00	ug/L	20.00		94.2	71-149			
1,1-Dichloroethene	19.6	5.00	ug/L	20.00		97.9	68-158			
1,1-Dichloropropene	18.9	5.00	ug/L	20.00		94.4	72-130			
1,2-Dibromoethane	18.3	5.00	ug/L	20.00		91.3	65-133			
1,2-Dichloroethane	18.2	5.00	ug/L	20.00		91.1	70-131			
1,2-Dichloropropane	18.4	5.00	ug/L	20.00		92.2	78-125			
1,3-Dichloropropane	18.4	5.00	ug/L	20.00		92.2	72-125			
2,2-Dichloropropane	16.2	5.00	ug/L	20.00		81.0	84-155			L
2-Butanone	50.4	20.0	ug/L	80.00		63.0	39-141			
2-Chloroethyl vinyl ether	18.4	10.0	ug/L	20.00		92.2	63-127			
2-Chlorotoluene	19.4	5.00	ug/L	20.00		97.2	65-146			
2-Hexanone	64.0	20.0	ug/L	80.00		80.0	50-137			
4-Chlorotoluene	18.1	5.00	ug/L	20.00		90.6	74-134			
4-Methyl-2-pentanone	67.5	20.0	ug/L	80.00		84.4	51-134			
Acetone	60.9	20.0	ug/L	80.00		76.1	46-144			
Acetonitrile	19.5	40.0	ug/L	20.00		97.5	54-143			
Acrylonitrile	18.7	20.0	ug/L	20.00		93.4	72-142			
Allyl chloride	19.2	5.00	ug/L	20.00		96.1	0-200			
Benzene	19.5	5.00	ug/L	20.00		97.6	74-129			
Bromobenzene	18.4	5.00	ug/L	20.00		91.8	68-141			
Bromochloromethane	18.8	5.00	ug/L	20.00		94.0	75-133			
`romodichloromethane	18.2	5.00	ug/L	20.00		91.2	78-125			
Bromoform	18.3	5.00	ug/L	20.00		91.6	60-132			
Bromomethane	18.5	5.00	ug/L	20.00		92.6	41-168			

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0935005 - VOC PREP										
LCS (0935005-BS1)				Prepared & Analyzed: 08/22/09						
Carbon Disulfide	21.1	20.0	ug/L	20.00		106	49-171			
Carbon Tetrachloride	18.0	5.00	ug/L	20.00		89.8	69-158			
Chlorobenzene	18.8	5.00	ug/L	20.00		94.2	79-141			
Chloroethane	18.4	5.00	ug/L	20.00		92.2	40-204			
Chloroform	18.3	5.00	ug/L	20.00		91.5	72-147			
Chloromethane	19.5	5.00	ug/L	20.00		97.6	47-148			
cis-1,2-Dichloroethene	19.0	5.00	ug/L	20.00		94.8	69-146			
cis-1,3-Dichloropropene	18.0	5.00	ug/L	20.00		90.0	78-122			
Dibromochloromethane	17.4	5.00	ug/L	20.00		87.0	68-127			
Dibromomethane	19.3	5.00	ug/L	20.00		96.6	69-129			
Dichlorodifluoromethane	19.6	5.00	ug/L	20.00		98.2	35-169			
Ethylbenzene	17.0	5.00	ug/L	20.00		85.1	77-146			
Iodomethane	15.7	10.0	ug/L	20.00		78.7	68-149			
Methylene Chloride	16.3	5.00	ug/L	20.00		81.5	65-141			
Methyl tert-Butyl Ether	16.9	10.0	ug/L	20.00		84.6	68-147			
,p-Xylene	33.2	10.0	ug/L	40.00		83.1	72-155			
.-Hexane	12.4	5.00	ug/L	20.00		62.2	28-179			
o-Xylene	18.6	5.00	ug/L	20.00		93.2	78-131			
Styrene	20.0	5.00	ug/L	20.00		100	78-132			
Tetrachloroethene	18.5	5.00	ug/L	20.00		92.6	20-170			
Toluene	19.2	5.00	ug/L	20.00		95.9	73-131			
trans-1,2-Dichloroethene	18.4	5.00	ug/L	20.00		92.0	72-154			
trans-1,3-Dichloropropene	17.1	5.00	ug/L	20.00		85.4	75-133			
Trichloroethene	18.5	5.00	ug/L	20.00		92.6	70-140			
Trichlorofluoromethane	19.7	5.00	ug/L	20.00		98.4	68-165			
Vinyl Chloride	19.0	1.00	ug/L	20.00		94.8	48-159			
Vinyl acetate	5.79	10.0	ug/L	20.00		29.0	25-230			
Surrogate: 4-Bromofluorobenzene	*46.9*		*ug/L*	*50.00*		*93.9*	*41-140*			
Surrogate: Dibromofluoromethane	*42.2*		*ug/L*	*50.00*		*84.5*	*34-158*			
Surrogate: Toluene-d8	*47.5*		*ug/L*	*50.00*		*95.0*	*47-147*			
Surrogate: 1,2-Dichloroethane-d4	*42.8*		*ug/L*	*50.00*		*85.7*	*29-163*			

Semivolatile Organic Compounds by EPA Method 8270C - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0933291 - PREP_SVOC_W										
Blank (0933291-BLK1)				Prepared: 08/14/09 Analyzed: 08/18/09						
1,2,4,5-Tetrachlorobenzene	BDL	10.0	ug/L							
1,2,4-Trichlorobenzene	BDL	10.0	ug/L							
1,2-Dichlorobenzene	BDL	10.0	ug/L							
1,2-Diphenylhydrazine	BDL	10.0	ug/L							
1,3-Dichlorobenzene	BDL	10.0	ug/L							
1,4-Dichlorobenzene	BDL	10.0	ug/L							
2,3,4,6-Tetrachlorophenol	BDL	10.0	ug/L							
2,4,5-Trichlorophenol	BDL	10.0	ug/L							
2,4,6-Trichlorophenol	BDL	10.0	ug/L							
2,4-Dichlorophenol	BDL	10.0	ug/L							
2,4-Dimethylphenol	BDL	10.0	ug/L							
2,4-Dinitrophenol	BDL	10.0	ug/L							
2,4-Dinitrotoluene	BDL	10.0	ug/L							
2,6-Dichlorophenol	BDL	10.0	ug/L							
2,6-Dinitrotoluene	BDL	10.0	ug/L							
Chloronaphthalene	BDL	10.0	ug/L							
-Chlorophenol	BDL	10.0	ug/L							
2-Methylnaphthalene	BDL	10.0	ug/L							
2-Methylphenol	BDL	10.0	ug/L							
2-Nitrophenol	BDL	10.0	ug/L							
3 & 4-Methylphenol	BDL	10.0	ug/L							
4,6-Dinitro-2-methylphenol	BDL	10.0	ug/L							
4-Bromophenyl phenyl ether	BDL	10.0	ug/L							
4-Chloro-3-methylphenol	BDL	10.0	ug/L							
4-Chlorophenyl phenyl ether	BDL	10.0	ug/L							
4-Nitrophenol	BDL	10.0	ug/L							
Acenaphthene	BDL	10.0	ug/L							
Acenaphthylene	BDL	10.0	ug/L							
Acetophenone	BDL	10.0	ug/L							
Aniline	BDL	10.0	ug/L							
Anthracene	BDL	10.0	ug/L							
Benz(a)anthracene	BDL	0.260	ug/L							
Benzidine	BDL	10.0	ug/L							
Benzo(a)pyrene	BDL	0.200	ug/L							
Benzo(b)fluoranthene	BDL	0.170	ug/L							
Benzo(g,h,i)perylene	BDL	10.0	ug/L							
Benzo(k)fluoranthene	BDL	1.70	ug/L							
Benzyl Alcohol	BDL	10.0	ug/L							
Bis(2-chloroethoxy)methane	BDL	10.0	ug/L							
bis-(2-Chloroethyl)ether	BDL	10.0	ug/L							
Bis(2-ethylhexyl)phthalate	BDL	6.00	ug/L							
Butyl benzyl phthalate	BDL	10.0	ug/L							
rysene	BDL	10.0	ug/L							
Dibenz(a,h)anthracene	BDL	0.200	ug/L							
Dibenzofuran	BDL	10.0	ug/L							

Semivolatile Organic Compounds by EPA Method 8270C - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0933291 - PREP_SVOC_W										
Blank (0933291-BLK1)				Prepared: 08/14/09 Analyzed: 08/18/09						
Diethyl phthalate	BDL	10.0	ug/L							
Dimethyl phthalate	BDL	10.0	ug/L							
Di-n-butyl phthalate	BDL	10.0	ug/L							
Di-n-octyl phthalate	BDL	10.0	ug/L							
Fluoranthene	BDL	10.0	ug/L							
Fluorene	BDL	10.0	ug/L							
Hexachlorobenzene	BDL	10.0	ug/L							
Hexachlorobutadiene	BDL	10.0	ug/L							
Hexachlorocyclopentadiene	BDL	10.0	ug/L							
Hexachloroethane	BDL	10.0	ug/L							
Hexachloropropene	BDL	10.0	ug/L							
Indeno(1,2,3-cd)pyrene	BDL	0.220	ug/L							
Isophorone	BDL	10.0	ug/L							
Naphthalene	BDL	10.0	ug/L							
Nitrobenzene	BDL	10.0	ug/L							
'-Nitrosodimethylamine	BDL	10.0	ug/L							
,-Nitroso-di-n-butylamine	BDL	10.0	ug/L							
N-Nitrosodi-n-propylamine	BDL	10.0	ug/L							
N-Nitrosodiphenylamine	BDL	10.0	ug/L							
Pentachlorobenzene	BDL	10.0	ug/L							
Pentachloronitrobenzene	BDL	10.0	ug/L							
Pentachlorophenol	BDL	1.00	ug/L							
Phenanthrene	BDL	10.0	ug/L							
Phenol	BDL	10.0	ug/L							
Pyrene	BDL	10.0	ug/L							
Pyridine	BDL	10.0	ug/L							
Bis(2-chloroisopropyl)ether	BDL	10.0	ug/L							
Surrogate: 2-Fluorophenol	*9.30*		*ug/L*	*40.00*		*23.2*	*10-40*			
Surrogate: Phenol-d6	*7.85*		*ug/L*	*40.00*		*19.6*	*10-35*			
Surrogate: Nitrobenzene-d5	*16.5*		*ug/L*	*40.00*		*41.4*	*25-62*			
Surrogate: 2-Fluorobiphenyl	*17.2*		*ug/L*	*40.00*		*43.0*	*28-57*			
Surrogate: 2,4,6-Tribromophenol	*12.5*		*ug/L*	*40.00*		*31.2*	*10-78*			
Surrogate: Terphenyl-d14	*19.8*		*ug/L*	*40.00*		*49.4*	*11-66*			

Semivolatile Organic Compounds by EPA Method 8270C - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0933291 - PREP_SVOC_W										
LCS (0933291-BS1)				Prepared: 08/14/09 Analyzed: 08/18/09						
1,2,4-Trichlorobenzene	107	10.0	ug/L	100.0		107	52-121			
1,2-Dichlorobenzene	82.1	10.0	ug/L	100.0		82.1	49-85			
1,3-Dichlorobenzene	80.8	10.0	ug/L	100.0		80.8	46-85			
1,4-Dichlorobenzene	72.5	10.0	ug/L	100.0		72.5	42-93			
2,3,4,6-Tetrachlorophenol	69.5	10.0	ug/L	100.0		69.5	0-200			
2,4,5-Trichlorophenol	65.3	10.0	ug/L	100.0		65.3	0-200			
2,4,6-Trichlorophenol	63.1	10.0	ug/L	100.0		63.1	47-129			
2,4-Dichlorophenol	89.8	10.0	ug/L	100.0		89.8	53-117			
2,4-Dimethylphenol	94.2	10.0	ug/L	100.0		94.2	39-100			
2,4-Dinitrophenol	46.9	10.0	ug/L	100.0		46.9	10-146			
2,4-Dinitrotoluene	83.5	10.0	ug/L	100.0		83.5	78-132			
2,6-Dinitrotoluene	126	10.0	ug/L	100.0		126	72-132			
2-Chloronaphthalene	98.0	10.0	ug/L	100.0		98.0	43-114			
2-Chlorophenol	72.3	10.0	ug/L	100.0		72.3	43-91			
2-Methylnaphthalene	90.2	10.0	ug/L	100.0		90.2	0-200			
-Methylphenol	34.8	10.0	ug/L	100.0		34.8	0-200			
-Nitrophenol	91.4	10.0	ug/L	100.0		91.4	66-116			
3 & 4-Methylphenol	66.6	10.0	ug/L	100.0		66.6	0-200			
4,6-Dinitro-2-methylphenol	52.5	10.0	ug/L	100.0		52.5	31-135			
4-Bromophenyl phenyl ether	124	10.0	ug/L	100.0		124	64-137			
4-Chloro-3-methylphenol	102	10.0	ug/L	100.0		102	57-113			
4-Chlorophenyl phenyl ether	96.6	10.0	ug/L	100.0		96.6	69-126			
4-Nitrophenol	35.3	10.0	ug/L	100.0		35.3	12-64			
Acenaphthene	94.7	10.0	ug/L	100.0		94.7	67-110			
Acenaphthylene	94.4	10.0	ug/L	100.0		94.4	46-130			
Aniline	63.1	10.0	ug/L	100.0		63.1	0-200			
Anthracene	132	10.0	ug/L	100.0		132	46-140			
Benz(a)anthracene	115	0.260	ug/L	100.0		115	65-125			
Benzo(a)pyrene	116	0.200	ug/L	100.0		116	32-200			
Benzo(b)fluoranthene	118	0.170	ug/L	100.0		118	24-228			
Benzo(g,h,i)perylene	153	10.0	ug/L	100.0		153	38-222			
Benzo(k)fluoranthene	72.4	1.70	ug/L	100.0		72.4	0-200			
Benzyl Alcohol	71.9	10.0	ug/L	100.0		71.9	0-200			
Bis(2-chloroethoxy)methane	103	10.0	ug/L	100.0		103	44-124			
bis-(2-Chloroethyl)ether	81.9	10.0	ug/L	100.0		81.9	19-120			
Bis(2-ethylhexyl)phthalate	107	6.00	ug/L	100.0		107	57-130			
Butyl benzyl phthalate	123	10.0	ug/L	100.0		123	59-131			
Chrysene	102	10.0	ug/L	100.0		102	62-124			
Dibenz(a,h)anthracene	151	0.200	ug/L	100.0		151	14-245			
Dibenzofuran	104	10.0	ug/L	100.0		104	0-200			
Diethyl phthalate	99.7	10.0	ug/L	100.0		99.7	33-137			
Dimethyl phthalate	69.3	10.0	ug/L	100.0		69.3	10-137			
i-n-butyl phthalate	130	10.0	ug/L	100.0		130	44-130			
Di-n-octyl phthalate	103	10.0	ug/L	100.0		103	47-135			
Fluoranthene	116	10.0	ug/L	100.0		116	52-136			

Semivolatile Organic Compounds by EPA Method 8270C - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0933291 - PREP_SVOC_W										
LCS (0933291-BS1)				Prepared: 08/14/09 Analyzed: 08/18/09						
Fluorene	98.5	10.0	ug/L	100.0		98.5	63-122			
Hexachlorobenzene	124	10.0	ug/L	100.0		124	60-134			
Hexachlorobutadiene	95.9	10.0	ug/L	100.0		95.9	51-123			
Hexachlorocyclopentadiene	101	10.0	ug/L	100.0		101	67-150			
Hexachloroethane	76.9	10.0	ug/L	100.0		76.9	42-90			
Indeno(1,2,3-cd)pyrene	132	0.220	ug/L	100.0		132	30-223			
Isophorone	148	10.0	ug/L	100.0		148	57-154			
Naphthalene	91.4	10.0	ug/L	100.0		91.4	43-120			
Nitrobenzene	113	10.0	ug/L	100.0		113	40-142			
N-Nitrosodimethylamine	55.8	10.0	ug/L	100.0		55.8	12-81			
N-Nitrosodi-n-propylamine	79.7	10.0	ug/L	100.0		79.7	51-102			
N-Nitrosodiphenylamine	132	10.0	ug/L	100.0		132	0-200			
Pentachlorophenol	63.2	1.00	ug/L	100.0		63.2	30-129			
Phenanthrene	105	10.0	ug/L	100.0		105	46-128			
Phenol	37.2	10.0	ug/L	100.0		37.2	17-45			
rene	103	10.0	ug/L	100.0		103	53-127			
Pyridine	62.1	10.0	ug/L	100.0		62.1	0-200			
Surrogate: 2-Fluorophenol	*6.51*		*ug/L*	*40.00*		*16.3*	*10-40*			
Surrogate: Phenol-d6	*6.24*		*ug/L*	*40.00*		*15.6*	*10-35*			
Surrogate: Nitrobenzene-d5	*19.4*		*ug/L*	*40.00*		*48.4*	*25-62*			
Surrogate: 2-Fluorobiphenyl	*16.6*		*ug/L*	*40.00*		*41.4*	*28-57*			
Surrogate: 2,4,6-Tribromophenol	*11.0*		*ug/L*	*40.00*		*27.5*	*10-78*			
Surrogate: Terphenyl-d14	*17.3*		*ug/L*	*40.00*		*43.4*	*11-66*			
LCS Dup (0933291-BSD1)				Prepared: 08/14/09 Analyzed: 08/18/09						
1,2,4-Trichlorobenzene	104	10.0	ug/L	100.0		104	52-121	2.96	20	R
1,2-Dichlorobenzene	75.1	10.0	ug/L	100.0		75.1	49-85	8.90	15	
1,3-Dichlorobenzene	78.6	10.0	ug/L	100.0		78.6	46-85	2.76	15	
1,4-Dichlorobenzene	75.8	10.0	ug/L	100.0		75.8	42-93	4.46	21	
2,3,4,6-Tetrachlorophenol	100	10.0	ug/L	100.0		100	0-200	36.3	200	
2,4,5-Trichlorophenol	100	10.0	ug/L	100.0		100	0-200	42.3	200	
2,4,6-Trichlorophenol	103	10.0	ug/L	100.0		103	47-129	48.0	28	R
2,4-Dichlorophenol	101	10.0	ug/L	100.0		101	53-117	11.9	27	
2,4-Dimethylphenol	100	10.0	ug/L	100.0		100	39-100	6.19	22	
2,4-Dinitrophenol	72.6	10.0	ug/L	100.0		72.6	10-146	43.0	51	R
2,4-Dinitrotoluene	88.1	10.0	ug/L	100.0		88.1	78-132	5.33	17	
2,6-Dinitrotoluene	119	10.0	ug/L	100.0		119	72-132	5.67	17	
2-Chloronaphthalene	117	10.0	ug/L	100.0		117	43-114	18.0	10	R
2-Chlorophenol	75.6	10.0	ug/L	100.0		75.6	43-91	4.42	24	
2-Methylnaphthalene	99.8	10.0	ug/L	100.0		99.8	0-200	10.1	200	
2-Methylphenol	31.3	10.0	ug/L	100.0		31.3	0-200	10.6	200	
2-Nitrophenol	115	10.0	ug/L	100.0		115	66-116	22.9	27	
& 4-Methylphenol	56.6	10.0	ug/L	100.0		56.6	0-200	16.2	200	
4,6-Dinitro-2-methylphenol	76.6	10.0	ug/L	100.0		76.6	31-135	37.3	42	R
4-Bromophenyl phenyl ether	121	10.0	ug/L	100.0		121	64-137	2.46	22	

Semivolatile Organic Compounds by EPA Method 8270C - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0933291 - PREP_SVOC_W										
LCS Dup (0933291-BSD1)				Prepared: 08/14/09 Analyzed: 08/18/09						
4-Chloro-3-methylphenol	96.7	10.0	ug/L	100.0		96.7	57-113	5.65	27	
4-Chlorophenyl phenyl ether	111	10.0	ug/L	100.0		111	69-126	13.6	13	R
4-Nitrophenol	53.6	10.0	ug/L	100.0		53.6	12-64	41.2	36	R
Acenaphthene	104	10.0	ug/L	100.0		104	67-110	9.18	16	
Acenaphthylene	101	10.0	ug/L	100.0		101	46-130	7.10	10	
Aniline	63.6	10.0	ug/L	100.0		63.6	0-200	0.742	200	
Anthracene	127	10.0	ug/L	100.0		127	46-140	4.35	24	
Benz(a)anthracene	111	0.260	ug/L	100.0		111	65-125	4.00	20	
Benzo(a)pyrene	103	0.200	ug/L	100.0		103	32-200	12.4	21	
Benzo(b)fluoranthene	123	0.170	ug/L	100.0		123	24-228	3.57	44	
Benzo(g,h,i)perylene	123	10.0	ug/L	100.0		123	38-222	21.4	19	R
Benzo(k)fluoranthene	66.4	1.70	ug/L	100.0		66.4	0-200	8.70	200	
Benzyl Alcohol	76.4	10.0	ug/L	100.0		76.4	0-200	6.12	200	
Bis(2-chloroethoxy)methane	105	10.0	ug/L	100.0		105	44-124	1.99	22	
bis-(2-Chloroethyl)ether	83.0	10.0	ug/L	100.0		83.0	19-120	1.30	24	
's(2-ethylhexyl)phthalate	103	6.00	ug/L	100.0		103	57-130	2.96	24	
Butyl benzyl phthalate	102	10.0	ug/L	100.0		102	59-131	18.8	19	
Chrysene	92.5	10.0	ug/L	100.0		92.5	62-124	9.91	18	
Dibenz(a,h)anthracene	102	0.200	ug/L	100.0		102	14-245	38.8	23	R
Dibenzofuran	99.0	10.0	ug/L	100.0		99.0	0-200	4.91	200	
Diethyl phthalate	96.1	10.0	ug/L	100.0		96.1	33-137	3.70	10	
Dimethyl phthalate	78.1	10.0	ug/L	100.0		78.1	10-137	12.0	40	
Di-n-butyl phthalate	106	10.0	ug/L	100.0		106	44-130	20.7	20	R
Di-n-octyl phthalate	82.2	10.0	ug/L	100.0		82.2	47-135	22.4	19	R
Fluoranthene	97.4	10.0	ug/L	100.0		97.4	52-136	17.2	20	
Fluorene	113	10.0	ug/L	100.0		113	63-122	13.4	19	
Hexachlorobenzene	104	10.0	ug/L	100.0		104	60-134	17.0	23	
Hexachlorobutadiene	95.2	10.0	ug/L	100.0		95.2	51-123	0.785	34	
Hexachlorocyclopentadiene	122	10.0	ug/L	100.0		122	67-150	18.5	25	
Hexachloroethane	75.9	10.0	ug/L	100.0		75.9	42-90	1.26	20	
Indeno(1,2,3-cd)pyrene	109	0.220	ug/L	100.0		109	30-223	19.6	29	
Isophorone	134	10.0	ug/L	100.0		134	57-154	10.2	21	
Naphthalene	93.7	10.0	ug/L	100.0		93.7	43-120	2.51	14	
Nitrobenzene	118	10.0	ug/L	100.0		118	40-142	4.96	23	
N-Nitrosodimethylamine	64.7	10.0	ug/L	100.0		64.7	12-81	14.7	25	
N-Nitrosodi-n-propylamine	84.1	10.0	ug/L	100.0		84.1	51-102	5.29	14	
N-Nitrosodiphenylamine	106	10.0	ug/L	100.0		106	0-200	21.7	200	
Pentachlorophenol	85.8	1.00	ug/L	100.0		85.8	30-129	30.3	35	
Phenanthrene	102	10.0	ug/L	100.0		102	46-128	2.63	20	
Phenol	40.9	10.0	ug/L	100.0		40.9	17-45	9.48	25	
Pyrene	106	10.0	ug/L	100.0		106	53-127	2.25	20	
Pyridine	71.2	10.0	ug/L	100.0		71.2	0-200	13.6	200	
Surrogate: 2-Fluorophenol	*8.47*		*ug/L*	*40.00*		*21.2*	*10-40*			
Surrogate: Phenol-d6	*6.85*		*ug/L*	*40.00*		*17.1*	*10-35*			

Semivolatile Organic Compounds by EPA Method 8270C - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0933291 - PREP_SVOC_W										
LCS Dup (0933291-BSD1)				Prepared: 08/14/09 Analyzed: 08/18/09						
Surrogate: Nitrobenzene-d5	*20.0*		*ug/L*	*40.00*		*49.9*	*25-62*			
Surrogate: 2-Fluorobiphenyl	*18.5*		*ug/L*	*40.00*		*46.3*	*28-57*			
Surrogate: 2,4,6-Tribromophenol	*16.3*		*ug/L*	*40.00*		*40.8*	*10-78*			
Surrogate: Terphenyl-d14	*16.7*		*ug/L*	*40.00*		*41.7*	*11-66*			

TCLP Semivolatile Organic Compounds by EPA 8270C - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0935015 - PREP_SVOC_TCLP										
Blank (0935015-BLK1)				Prepared & Analyzed: 08/24/09						
TCLP 1,4-Dichlorobenzene	BDL	0.0100	mg/L							
TCLP 2,4,5-Trichlorophenol	BDL	0.0100	mg/L							
TCLP 2,4,6-Trichlorophenol	BDL	0.0100	mg/L							
TCLP 2,4-Dinitrotoluene	BDL	0.0100	mg/L							
TCLP 2-Methylphenol	BDL	0.0100	mg/L							
TCLP 3 & 4-Methylphenol	BDL	0.0100	mg/L							
TCLP Hexachlorobenzene	BDL	0.0100	mg/L							
TCLP Hexachlorobutadiene	BDL	0.0100	mg/L							
TCLP Hexachloroethane	BDL	0.0100	mg/L							
TCLP Nitrobenzene	BDL	0.0100	mg/L							
TCLP Pentachlorophenol	BDL	0.0100	mg/L							
TCLP Pyridine	BDL	0.0100	mg/L							
Surrogate: 2-Fluorophenol	*0.0101*		*mg/L*	*0.04000*		*25.3*	*10-40*			
Surrogate: Phenol-d6	*ND*		*mg/L*	*0.04000*		*18.0*	*10-35*			
Surrogate: Nitrobenzene-d5	*0.0155*		*mg/L*	*0.04000*		*38.6*	*25-62*			
Surrogate: 2-Fluorobiphenyl	*0.0127*		*mg/L*	*0.04000*		*31.8*	*28-57*			
Surrogate: 2,4,6-Tribromophenol	*0.0141*		*mg/L*	*0.04000*		*35.3*	*10-78*			
Surrogate: Terphenyl-d14	*0.0302*		*mg/L*	*0.04000*		*75.4*	*11-66*			*A-01*
LCS (0935015-BS1)				Prepared & Analyzed: 08/24/09						
TCLP 1,4-Dichlorobenzene	0.0718	0.0100	mg/L	0.1000		71.8	42-93			
TCLP 2,4,5-Trichlorophenol	0.0793	0.0100	mg/L	0.1000		79.3	47-129			
TCLP 2,4,6-Trichlorophenol	0.0772	0.0100	mg/L	0.1000		77.2	53-117			
TCLP Hexachlorobenzene	0.0782	0.0100	mg/L	0.1000		78.2	60-134			
TCLP Hexachlorobutadiene	0.0788	0.0100	mg/L	0.1000		78.8	51-123			
TCLP Hexachloroethane	0.0657	0.0100	mg/L	0.1000		65.7	42-90			
TCLP Nitrobenzene	0.0862	0.0100	mg/L	0.1000		86.2	40-142			
TCLP Pentachlorophenol	0.0521	0.0100	mg/L	0.1000		52.1	30-129			
Surrogate: 2-Fluorophenol	*0.00808*		*mg/L*	*0.04000*		*20.2*	*10-40*			
Surrogate: Phenol-d6	*0.00615*		*mg/L*	*0.04000*		*15.4*	*10-35*			
Surrogate: Nitrobenzene-d5	*0.0170*		*mg/L*	*0.04000*		*42.6*	*25-62*			
Surrogate: 2-Fluorobiphenyl	*0.0154*		*mg/L*	*0.04000*		*38.6*	*28-57*			
Surrogate: 2,4,6-Tribromophenol	*0.0134*		*mg/L*	*0.04000*		*33.6*	*10-78*			
Surrogate: Terphenyl-d14	*0.0277*		*mg/L*	*0.04000*		*69.3*	*11-66*			*A-01*

Mercury Analysis - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0933265 - PREP_HG_W										
Blank (0933265-BLK1)				Prepared: 08/14/09 Analyzed: 08/18/09						
Mercury	BDL	0.000200	mg/L							
LCS (0933265-BS1)				Prepared: 08/14/09 Analyzed: 08/18/09						
Mercury	0.00605	0.000200	mg/L	0.006250		97	80-120			
LCS Dup (0933265-BSD1)				Prepared: 08/14/09 Analyzed: 08/18/09						
Mercury	0.00636	0.000200	mg/L	0.006250		102	80-120	5	20	
Matrix Spike (0933265-MS1)		**Source: 09H0611-01**		Prepared: 08/14/09 Analyzed: 08/18/09						
Mercury	0.00599	0.000200	mg/L	0.006250	ND	96	70-130			
Matrix Spike Dup (0933265-MSD1)		**Source: 09H0611-01**		Prepared: 08/14/09 Analyzed: 08/18/09						
Mercury	0.00604	0.000200	mg/L	0.006250	ND	97	70-130	0.8	30	

Notes and Definitions

S-01	The surrogate recovery for this sample is not available due to sample dilution required from high analyte concentration and/or matrix interference's.
R	RPD outside of accepted recovery limits.
L	Laboratory control sample recovery outside of acceptance limits.
A-01	Surrogate recovery out in MB and LCS but all other QC is acceptable including surrogate recoveries in associated sample.

Sample preservation was met unless otherwise noted.

BLDG 5 S.E. CORNER TANKS

Belmont Labs
The Environmental Service Company

Wednesday, October 28, 2009

Tim Delph
Veolia ES Technical Services - Huber Heights
6151 Executive Boulevard
Huber Heights, OH 45424
TEL: (937) 237-1097
FAX (937) 237-3669

RE: Rauch Inc

Work Order: 09J1262

Belmont Labs received 2 sample(s) on 10/23/2009 for the analyses presented in the following report.

Belmont Labs attests that all analytical methods were performed using acceptable methods, and that the QA/QC procedures stipulated in these methods were followed. USEPA's RCRA Program regards a statement of quality assurance as a legal means of assuring that acceptable and uniform laboratory methods and QA/QC practices were followed by the laboratory.

If you have any questions regarding the test results, please feel free to call me at (937) 832-8242.

Respectfully submitted,

Holly Green

Holly Green
Project Manager

CLIENT:	Veolia ES Technical Services - Huber Heights	**Lab Order:**	09J1262
Project:	Rauch Inc		

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Sampled Date	Received Date
09J1262-01A	Rauch Inc. East Tank	10/23/2009 1:30:00PM	10/23/2009
09J1262-02A	Rauch Inc. West Tank	10/23/2009 1:30:00PM	10/23/2009

Belmont Labs **Date:** 10/28/2009

LIENT: Veolia ES Technical Services - Huber Heights **Lab Order:** 09J1262
Project: Rauch Inc

Lab ID: 09J1262-01 **Collection Date:** 10/23/2009 1:30:00PM
Client Sample ID: Rauch Inc. East Tank **Matrix:** Water

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Analyzed
PCB_8082		**SW 8082**				**Analyst: DAG**	
Aroclor 1016	BDL	5.00		ug/L	1	0944057	10/28/2009 9:24:00AM
Aroclor 1221	BDL	5.00		ug/L	1	0944057	10/28/2009 9:24:00AM
Aroclor 1232	BDL	5.00		ug/L	1	0944057	10/28/2009 9:24:00AM
Aroclor 1242	BDL	5.00		ug/L	1	0944057	10/28/2009 9:24:00AM
Aroclor 1248	BDL	5.00		ug/L	1	0944057	10/28/2009 9:24:00AM
Aroclor 1254	BDL	5.00		ug/L	1	0944057	10/28/2009 9:24:00AM
Aroclor 1260	BDL	5.00		ug/L	1	0944057	10/28/2009 9:24:00AM
Surrogate: Decachlorobiphenyl		*23.0 %*	*S-04*	*36-157*		*0944057*	10/28/2009 9:24:00AM
Surrogate: Tetrachloro-m-xylene		*64.0 %*		*28-127*		*0944057*	10/28/2009 9:24:00AM

Lab ID: 09J1262-02 **Collection Date:** 10/23/2009 1:30:00PM
Client Sample ID: Rauch Inc. West Tank **Matrix:** Water

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Analyzed
CB_8082		**SW 8082**				**Analyst: DAG**	
Aroclor 1016	BDL	5.00		ug/L	1	0944057	10/28/2009 9:49:00AM
Aroclor 1221	BDL	5.00		ug/L	1	0944057	10/28/2009 9:49:00AM
Aroclor 1232	BDL	5.00		ug/L	1	0944057	10/28/2009 9:49:00AM
Aroclor 1242	BDL	5.00		ug/L	1	0944057	10/28/2009 9:49:00AM
Aroclor 1248	BDL	5.00		ug/L	1	0944057	10/28/2009 9:49:00AM
Aroclor 1254	BDL	5.00		ug/L	1	0944057	10/28/2009 9:49:00AM
Aroclor 1260	BDL	5.00		ug/L	1	0944057	10/28/2009 9:49:00AM
Surrogate: Decachlorobiphenyl		*26.0 %*	*S-04*	*36-157*		*0944057*	10/28/2009 9:49:00AM
Surrogate: Tetrachloro-m-xylene		*67.0 %*		*28-127*		*0944057*	10/28/2009 9:49:00AM

Belmont Labs
The Environmental Service Company.

ANALYTICAL REQUEST
CHAIN OF CUSTODY

Internal Lab Order Number: ORT 12603

Purchase Order No. | Quote No. | Client Project: Rauch Inc.

INVOICE TO
Name: Tim Delph
Company: Vectra EJ Industrial Services
Address: 451 Executive Blvd
City, State, Zip: Huber Heights Ohio 45424

REPORT TO
Name:
Company:
Mailing Address: Same
City, State, Zip:
Phone No.: 937-237-1067 Fax No.: 937-237-3469

Date Results Req: | Rush Charges Authorized? ☐ Yes ☒ No | Fax Results ☑

Special Instructions:

Additional QC Requirements: Level 2, Level 3, Level 4 (Charges Apply)

Regulatory Type: ☐ NPDES ☐ RCRA ☐ SDWA ☐ VAP ☐ Other
Collected in State of

Matrix Key: DW - Drinking Water; GW - Ground Water; S Soil/Solid; SL - Sludge; WW - Waste Water; Specify Other

ANALYSIS REQUESTED
(Enter an "X" in the box below to indicate request and circle preservative)

CLIENT SAMPLE IDENTIFICATION	Date Sampled	Time	Comp	Grab	Matrix	Number of Containers	HNO3, HCl, H2SO4, Ice, None, Other	Lab Only
① City of Dayton / Rauch Inc East Tank	10/23/09	1330				3		
② City of Dayton Rauch Inc West Tank	10/23/09	1330				3		

CHAIN OF CUSTODY (if required)
Relinquished by: [signature] Date/Time 10/23/09
Relinquished by: [signature] Date/Time 10/23/09 1330
Method of Shipment: USL
Received by:
Received at lab by: P. Whitaker Date/Time 10-23-09 1415
Cooler Temp. 16.6 Custody Seals ☐ Yes ☐ No

Sampled by: [signature] Date 10/23/09

Client Comments

Please return completed form and samples to Belmont Labs • 25 Holiday Drive • Englewood, OH 45322 • 937.832.8242 • Fax 937.832.2868

DISTRIBUTION:
WHITE - Laboratory
YELLOW - Accounting

B Litho-Form #9786-5/02

Notes and Definitions

S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.

BLDG. 5 LIFT STATION / SUMPS

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

4738 Gateway Circle Dayton, OH 45440 (800) 572-9839
339 W. Walton Blvd Pontiac, MI 48340 (800) 526-4951

September 15, 2009

Client:

Veolia Environmental Services (West Carrollton)
4301 Infirmary Road, P.O. Box 453
West Carrollton, OH 45449

Attn: Angela Rice

Work Order: DSI0487
Project Name: Waste Characterization
Project Number: City of Dayton Rauch

Date Received: 09/10/09

Samples logged in at Dayton laboratory.

An executed copy of the Chain of Custody is also included as an addendum to this report.

If you have any questions relating to this analytical report, please contact your Laboratory Project Manager at the number shown above.

SAMPLE IDENTIFICATION	LAB NUMBER	COLLECTION DATE AND TIME
Lift Station	DSI0487-01	09/10/09 08:30
Sump Pump 1&2	DSI0487-02	09/10/09 08:35

Ohio Certification Number: 4074, 857

Reproduction of this analytical report is permitted only in its entirety. This report shall not be reproduced except in full without the written approval of the laboratory.

TestAmerica Laboratories, Inc. certifies that the analytical results contained herein apply only to the samples tested as received by our Laboratory.

Report Approved By:

S A Howard

This report has been electronically signed.

TestAmerica Dayton
Shelly A. Howard
Dayton Project Manager

Veolia Environmental Services (West Carrollton)
4301 Infirmary Road, P.O. Box 453
West Carrollton, OH 45449
Angela Rice

Work Order: DSI0487
Project: Waste Characterization
Project Number: City of Dayton Rauch

Received: 09/10/09
Reported: 09/15/09 11:28

ANALYTICAL REPORT

Analyte	Sample Result	Data Qualifiers	Units	Rpt Limit	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: DSI0487-01 (Lift Station - Water - NonPotable)					**Sampled: 09/10/09 08:30**			**Recvd: 09/10/09 15:54**	
Organochlorine Pesticides/PCBs									
PCB-1016	<0.200		ug/L	0.200	1	09/14/09 17:09	TWM	9090464	SW 8082
PCB-1221	<0.200		ug/L	0.200	1	09/14/09 17:09	TWM	9090464	SW 8082
PCB-1232	<0.200		ug/L	0.200	1	09/14/09 17:09	TWM	9090464	SW 8082
PCB-1242	<0.200		ug/L	0.200	1	09/14/09 17:09	TWM	9090464	SW 8082
PCB-1248	<0.200		ug/L	0.200	1	09/14/09 17:09	TWM	9090464	SW 8082
PCB-1254	<0.200		ug/L	0.200	1	09/14/09 17:09	TWM	9090464	SW 8082
PCB-1260	<0.200		ug/L	0.200	1	09/14/09 17:09	TWM	9090464	SW 8082
Surr: Tetrachloro-meta-xylene (10-166%)	*43 %*					09/14/09 17:09	TWM	9090464	SW 8082
Surr: Decachlorobiphenyl (10-157%)	*9 %*	*Z6*				09/14/09 17:09	TWM	9090464	SW 8082
Sample ID: DSI0487-02 (Sump Pump 1&2 - Water - NonPotable)					**Sampled: 09/10/09 08:35**			**Recvd: 09/10/09 15:54**	
Organochlorine Pesticides/PCBs									
PCB-1016	<0.200		ug/L	0.200	1	09/14/09 17:28	TWM	9090464	SW 8082
PCB-1221	<0.200		ug/L	0.200	1	09/14/09 17:28	TWM	9090464	SW 8082
PCB-1232	<0.200		ug/L	0.200	1	09/14/09 17:28	TWM	9090464	SW 8082
PCB-1242	<0.200		ug/L	0.200	1	09/14/09 17:28	TWM	9090464	SW 8082
PCB-1248	<0.200		ug/L	0.200	1	09/14/09 17:28	TWM	9090464	SW 8082
PCB-1254	<0.200		ug/L	0.200	1	09/14/09 17:28	TWM	9090464	SW 8082
PCB-1260	<0.200		ug/L	0.200	1	09/14/09 17:28	TWM	9090464	SW 8082
Surr: Tetrachloro-meta-xylene (10-166%)	*59 %*					09/14/09 17:28	TWM	9090464	SW 8082
Surr: Decachlorobiphenyl (10-157%)	*31 %*					09/14/09 17:28	TWM	9090464	SW 8082

Veolia Environmental Services (West Carrollton)
4301 Infirmary Road, P.O. Box 453
West Carrollton, OH 45449
Angela Rice

Work Order: DSI0487
Project: Waste Characterization
Project Number: City of Dayton Rauch

Received: 09/10/09
Reported: 09/15/09 11:28

LABORATORY BLANK QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	Units	MDL	MRL	Result	Dup Result	% REC	Dup %REC	% REC Limits	RPD	RPD Limit	Q
Organochlorine Pesticides/PCBs														
PCB-1016	9090464			ug/L	N/A	0.100	<0.100							
PCB-1260	9090464			ug/L	N/A	0.100	<0.100							
Surrogate: Tetrachloro-meta-xylene	*9090464*			ug/L					*86*		*10-166*			
Surrogate: Decachlorobiphenyl	*9090464*			ug/L					*120*		*10-157*			

. eolia Environmental Services (West Carrollton)
4301 Infirmary Road, P.O. Box 453
West Carrollton, OH 45449
Angela Rice

Work Order: DSI0487
Project: Waste Characterization
Project Number: City of Dayton Rauch

Received: 09/10/09
Reported: 09/15/09 11:28

LCS/LCS DUPLICATE QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	Units	MDL	MRL	Result	Dup Result	% REC	Dup %REC	% REC Limits	RPD	RPD Limit	Q
Organochlorine Pesticides/PCBs														
PCB-1016	9090464		0.500	ug/L	N/A	0.100	0.462		92		16-202			
PCB-1260	9090464		0.500	ug/L	N/A	0.100	0.471		94		22-210			
Surrogate: Tetrachloro-meta-xylene	*9090464*			ug/L					*87*		*10-166*			
Surrogate: Decachlorobiphenyl	*9090464*			ug/L					*99*		*10-157*			

Veolia Environmental Services (West Carrollton)	Work Order:	DSI0487	Received:	09/10/09
4301 Infirmary Road, P.O. Box 453	Project:	Waste Characterization	Reported:	09/15/09 11:28
West Carrollton, OH 45449	Project Number:	City of Dayton Rauch		
Angela Rice				

CERTIFICATION SUMMARY

Any abnormalities or departures from sample acceptance policy shall be documented on the Chain of Custody and/or Case Narrative included with this report.

For information concerning certifications of this facility or another TestAmerica facility, please visit our website at www.TestAmericaInc.com

Samples collected by TestAmerica Field Services personnel are noted on the Chain of Custody (COC).

DATA QUALIFIERS AND DEFINITIONS

Z6 Surrogate recovery was below acceptance limits.

ADDITIONAL COMMENTS

ANALYSIS LOCATIONS

The analyses listed below were analyzed in satellite facilities

VEOLIA
ENVIRONMENTAL SERVICES

SAMPLE SHIPPING DOCUMENT/ CHAIN OF CUSTODY

DSI0487

Number 9/10/09

Page 1 of 1

Veolia ES Technical Solutions, L.L.C. Client City of Dayton / Roush
360 Taylor St.
Dayton, OH 45402

ATTN:

Laboratory Name Test America

Contact Name Shelly Howard

Shipping Information

Proper Shipping Name	# Units	Total Quantity
UN3082, Environmentally Hazardous Substance, liquid, 9, III	4	128 oz

* 24 hr rush *

I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to all applicable international and national governmental regulations.

IN CASE OF EMERGENCY CALL 1-800-535-5053

TAT: 1 wk, 2 wk, 3 wk
Other

SAMPLE LOCATION	DATE	TIME (Military)	SAMPLE NUMBER	NO. OF SAMPLE CONTAINERS	Volatile Organic Compounds	Acid Extractable Compounds	Base/Neutral Extractable Compounds	CN Total/Amenable Method 9010	PCB's	Metals TCLP	BETX	Petroleum Hydrocarbons	TCLP Full	Ignitability	PH	(Other)
Lift Station	9/10/09	8:30	LS						X							
Sump Pump 1 & 2	9/10/09	8:35	Sump 1 & 2						X							

Relinquished by (signature)	Date	Time (Military)	Received by (Signature)	Date	Time (Military)	Relinquished by (signature):	Date	Time (Military)	Received by (Signature)	Date	Time (Military)
	9/10/09			9/10/	8:55						
Relinquished by (signature):	Date	Time (Military)	Received by (Signature)	Date	Time (Military)						
	9/10			9-10-09	1540						

Send Results to Veolia ES Technical Solutions, L.L.C. Brett.Davis@VeoliaES.com

VIA: Verbal ☐ Fax ☐ Fed X ☐ Regular ☐

Purchase Order # Work Order #

REMARKS: 9/10/09 Composite Sample of Sump Pump 1 and 2, and sample of Lift Station

ANAL AL COPY

Form # VES-12V-A

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Cooler/Sample Receipt

Client ID Veolia

DBE0487

Work Order #_____

Discrepencies ☐

Rush or Short Hold ☐

if rush 24hr 2day 3day 5day other_____

Method of Shipment:

Are samples soils requiring USDA quarantine? Yes (No) (circle one)
If yes notify PM immediately

(Walk in) Fed Ex UPS DHL TAL Courier Field Other_____

Shipping Container Type: Cooler (Box) Other_____

Opened Date/Time 9-10-09 1540 Initials LL

Receipt Questions**	Y	N	n/a	"NO" answers require a comment
COC present	✓			
Containers in good condition (unbroken and not leaking), and appropriately filled	✓			
Appropriate containers used & Adequate volume provided	✓			
Correct preservation on the COC	✓			
Numbers of samples match COC	✓			
If used, custody seals were intact			✓	
Was CoC free of discrepencies?	✓			
Samples received within hold time	✓			
VOA samples received without headspace in excess of 6 mm			✓	
Trip Blanks received for each cooler with VOAs			✓	

	HNO3	HCL	NaOH	H2SO4	Methanol	None	Other (Specify)
#/size						Roz x4	

Tracking #_____

Temp Acceptable? YES ☐ NO ☒

Thermometer ID M

Cooler ID _____

Uncorrected 20.8 Corrected 20.6 °C Ice

Packing Material _____

Melted Ice Blue Ice (None) Other _____

If out of temperature, note affected samples

Direct from Field? (Yes) No

CHECK IF ADDITIONAL SHEETS REQUIRED ☐

** May not be applicable if samples are not for compliance testing

Client Contact Record (required for discrepancies, unless agreement is on file with project) Date & Time _____

Contact via: ☐phone ☐email ☐ other _____ Person contacted_____

Discussion/Resolution

Is a revised chain being issued? Yes No- if Yes, it must be scanned.

Reviewed by PM Signature

9/10/09
Date/Time

BLDG 5. N.W. TANK

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

4738 Gateway Circle Dayton, OH 45440 (800) 572-9839
339 W. Walton Blvd Pontiac, MI 48340 (800) 526-4951

October 06, 2009

Client:

Veolia Environmental Services (West Carrollton)
4301 Infirmary Road, P.O. Box 453
West Carrollton, OH 45449

Attn: Brett Davis

Work Order: DSI1171
Project Name: Waste Characterization
Project Number: [none]

Date Received: 09/24/09

Samples logged in at Dayton laboratory.

An executed copy of the Chain of Custody is also included as an addendum to this report.

If you have any questions relating to this analytical report, please contact your Laboratory Project Manager at the number shown above.

SAMPLE IDENTIFICATION	LAB NUMBER	COLLECTION DATE AND TIME
Bldg 5 NW Tank #1	DSI1171-01	09/23/09 13:30
Bldg 5 NW Tank #2	DSI1171-02	09/23/09 13:30

Ohio Certification Number: 4074, 857

Reproduction of this analytical report is permitted only in its entirety. This report shall not be reproduced except in full without the written approval of the laboratory.

TestAmerica Laboratories, Inc. certifies that the analytical results contained herein apply only to the samples tested as received by our Laboratory.

Report Approved By:

S A Howard

This report has been electronically signed.

TestAmerica Dayton
Shelly A. Howard
Dayton Project Manager

Veolia Environmental Services (West Carrollton)
4301 Infirmary Road, P.O. Box 453
West Carrollton, OH 45449
Brett Davis

Work Order: DSI1171
Project: Waste Characterization
Project Number: [none]

Received: 09/24/09
Reported: 10/06/09 07:47

ANALYTICAL REPORT

Analyte	Sample Result	Data Qualifiers	Units	Rpt Limit	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: DSI1171-01 (Bldg 5 NW Tank #1 - Non-aqueous)					**Sampled: 09/23/09 13:30**			**Recvd: 09/24/09 16:55**	
General Chemistry Parameters									
% Solids	**32.6**		%	0.100	1	09/29/09 10:50	jlb	9091125	SW 846
Organochlorine Pesticides/PCBs									
PCB-1016	<2.92		mg/kg dry	2.92	5	09/28/09 17:27	JBP	9091135	SW 8082
PCB-1221	<2.92		mg/kg dry	2.92	5	09/28/09 17:27	JBP	9091135	SW 8082
PCB-1232	<2.92		mg/kg dry	2.92	5	09/28/09 17:27	JBP	9091135	SW 8082
PCB-1242	<2.92		mg/kg dry	2.92	5	09/28/09 17:27	JBP	9091135	SW 8082
PCB-1248	<2.92		mg/kg dry	2.92	5	09/28/09 17:27	JBP	9091135	SW 8082
PCB-1254	<2.92		mg/kg dry	2.92	5	09/28/09 17:27	JBP	9091135	SW 8082
PCB-1260	<2.92		mg/kg dry	2.92	5	09/28/09 17:27	JBP	9091135	SW 8082
Surr: Tetrachloro-meta-xylene (10-127%)	*125 %*					09/28/09 17:27	JBP	9091135	SW 8082
Surr: Decachlorobiphenyl (10-149%)	*98 %*					09/28/09 17:27	JBP	9091135	SW 8082
Volatile Organic Compounds by GC/MS									
Acetone	<75.4	RL7	mg/kg dry	75.4	250	09/29/09 20:16	jmt	9091179	SW 8260A
Benzene	<3.77	RL7	mg/kg dry	3.77	250	09/29/09 20:16	jmt	9091179	SW 8260A
Bromobenzene	<3.77	RL7	mg/kg dry	3.77	250	09/29/09 20:16	jmt	9091179	SW 8260A
mochloromethane	<3.77	RL7	mg/kg dry	3.77	250	09/29/09 20:16	jmt	9091179	SW 8260A
Bromodichloromethane (Dichlorobromomethane)	<3.77	RL7	mg/kg dry	3.77	250	09/29/09 20:16	jmt	9091179	SW 8260A
Bromoform	<3.77	RL7	mg/kg dry	3.77	250	09/29/09 20:16	jmt	9091179	SW 8260A
Bromomethane (Methyl bromide)	<7.54	RL7	mg/kg dry	7.54	250	09/29/09 20:16	jmt	9091179	SW 8260A
2-Butanone (MEK)	<37.7	RL7	mg/kg dry	37.7	250	09/29/09 20:16	jmt	9091179	SW 8260A
tert-Butylbenzene	<3.77	RL7	mg/kg dry	3.77	250	09/29/09 20:16	jmt	9091179	SW 8260A
sec-Butylbenzene	**106**	RL7	mg/kg dry	3.77	250	09/29/09 20:16	jmt	9091179	SW 8260A
n-Butylbenzene	**85.3**	RL7	mg/kg dry	30.2	10000	09/29/09 19:17	jmt	9091179	SW 8260A
Carbon disulfide	<3.77	RL7	mg/kg dry	3.77	250	09/29/09 20:16	jmt	9091179	SW 8260A
Carbon tetrachloride	<3.77	RL7	mg/kg dry	3.77	250	09/29/09 20:16	jmt	9091179	SW 8260A
Chlorobenzene	<3.77	RL7	mg/kg dry	3.77	250	09/29/09 20:16	jmt	9091179	SW 8260A
Chloroethane	<7.54	RL7	mg/kg dry	7.54	250	09/29/09 20:16	jmt	9091179	SW 8260A
Chloroform	<3.77	RL7	mg/kg dry	3.77	250	09/29/09 20:16	jmt	9091179	SW 8260A
Chloromethane (Methyl chloride)	<7.54	RL7	mg/kg dry	7.54	250	09/29/09 20:16	jmt	9091179	SW 8260A
4-Chlorotoluene	<3.77	RL7	mg/kg dry	3.77	250	09/29/09 20:16	jmt	9091179	SW 8260A
2-Chlorotoluene	<3.77	RL7	mg/kg dry	3.77	250	09/29/09 20:16	jmt	9091179	SW 8260A
Dibromochloromethane (Chlorodibromomethane)	<3.77	RL7	mg/kg dry	3.77	250	09/29/09 20:16	jmt	9091179	SW 8260A
Dibromomethane	<3.77	RL7	mg/kg dry	3.77	250	09/29/09 20:16	jmt	9091179	SW 8260A
1,2-Dichlorobenzene	<3.77	RL7	mg/kg dry	3.77	250	09/29/09 20:16	jmt	9091179	SW 8260A
1,4-Dichlorobenzene	<3.77	RL7	mg/kg dry	3.77	250	09/29/09 20:16	jmt	9091179	SW 8260A
1,3-Dichlorobenzene	<3.77	RL7	mg/kg dry	3.77	250	09/29/09 20:16	jmt	9091179	SW 8260A
Dichlorodifluoromethane	<3.77	RL7	mg/kg dry	3.77	250	09/29/09 20:16	jmt	9091179	SW 8260A
1,1-Dichloroethane	<3.77	RL7	mg/kg dry	3.77	250	09/29/09 20:16	jmt	9091179	SW 8260A
1,2-Dichloroethane	<3.77	RL7	mg/kg dry	3.77	250	09/29/09 20:16	jmt	9091179	SW 8260A
1,2-Dichloroethene	<3.77	RL7	mg/kg dry	3.77	250	09/29/09 20:16	jmt	9091179	SW 8260A
is-1,2-Dichloroethene	<3.77	RL7	mg/kg dry	3.77	250	09/29/09 20:16	jmt	9091179	SW 8260A
1,1-Dichloroethene	<3.77	RL7	mg/kg dry	3.77	250	09/29/09 20:16	jmt	9091179	SW 8260A

veolia Environmental Services (West Carrollton)
4301 Infirmary Road, P.O. Box 453
West Carrollton, OH 45449
Brett Davis

Work Order: DSI1171
Project: Waste Characterization
Project Number: [none]

Received: 09/24/09
Reported: 10/06/09 07:47

ANALYTICAL REPORT

Analyte	Sample Result	Data Qualifiers	Units	Rpt Limit	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: DSI1171-01 (Bldg 5 NW Tank #1 - Non-aqueous) - cont.					**Sampled: 09/23/09 13:30**			**Recvd: 09/24/09 16:55**	
Volatile Organic Compounds by GC/MS - cont.									
1,3-Dichloropropane	<3.77	RL7	mg/kg dry	3.77	250	09/29/09 20:16	jmt	9091179	SW 8260A
2,2-Dichloropropane	<3.77	RL7	mg/kg dry	3.77	250	09/29/09 20:16	jmt	9091179	SW 8260A
1,2-Dichloropropane	<3.77	RL7	mg/kg dry	3.77	250	09/29/09 20:16	jmt	9091179	SW 8260A
1,1-Dichloropropene	<3.77	RL7	mg/kg dry	3.77	250	09/29/09 20:16	jmt	9091179	SW 8260A
cis-1,3-Dichloropropene	<3.77	RL7	mg/kg dry	3.77	250	09/29/09 20:16	jmt	9091179	SW 8260A
trans-1,3-Dichloropropene	<3.77	RL7	mg/kg dry	3.77	250	09/29/09 20:16	jmt	9091179	SW 8260A
Ethylbenzene	**9.33**	RL7	mg/kg dry	3.77	250	09/29/09 20:16	jmt	9091179	SW 8260A
Hexachlorobutadiene	<3.77	RL7	mg/kg dry	3.77	250	09/29/09 20:16	jmt	9091179	SW 8260A
n-Hexane	<15.1	RL7	mg/kg dry	15.1	250	09/29/09 20:16	jmt	9091179	SW 8260A
2-Hexanone	<37.7	RL7	mg/kg dry	37.7	250	09/29/09 20:16	jmt	9091179	SW 8260A
Isopropylbenzene (Cumene)	**33.8**	RL7	mg/kg dry	3.77	250	09/29/09 20:16	jmt	9091179	SW 8260A
p-Isopropyltoluene	**91.1**	RL7	mg/kg dry	0.754	250	09/29/09 20:16	jmt	9091179	SW 8260A
Methyl tert-butyl ether	<3.77	RL7	mg/kg dry	3.77	250	09/29/09 20:16	jmt	9091179	SW 8260A
Methylene chloride	**12.3**	RL7,A-01	mg/kg dry	7.54	250	09/29/09 20:16	jmt	9091179	SW 8260A
4-Methyl-2-pentanone (MIBK)	<37.7	RL7	mg/kg dry	37.7	250	09/29/09 20:16	jmt	9091179	SW 8260A
ropylbenzene	**83.8**	RL7	mg/kg dry	3.77	250	09/29/09 20:16	jmt	9091179	SW 8260A
Styrene	<3.77	RL7	mg/kg dry	3.77	250	09/29/09 20:16	jmt	9091179	SW 8260A
1,1,1,2-Tetrachloroethane	<3.77	RL7	mg/kg dry	3.77	250	09/29/09 20:16	jmt	9091179	SW 8260A
1,1,2,2-Tetrachloroethane	<3.77	RL7	mg/kg dry	3.77	250	09/29/09 20:16	jmt	9091179	SW 8260A
Tetrachloroethene	<3.77	RL7	mg/kg dry	3.77	250	09/29/09 20:16	jmt	9091179	SW 8260A
Toluene	<3.77	RL7	mg/kg dry	3.77	250	09/29/09 20:16	jmt	9091179	SW 8260A
1,2,4-Trichlorobenzene	<3.77	RL7	mg/kg dry	3.77	250	09/29/09 20:16	jmt	9091179	SW 8260A
1,1,1-Trichloroethane	<3.77	RL7	mg/kg dry	3.77	250	09/29/09 20:16	jmt	9091179	SW 8260A
1,1,2-Trichloroethane	<3.77	RL7	mg/kg dry	3.77	250	09/29/09 20:16	jmt	9091179	SW 8260A
Trichloroethene	<3.77	RL7	mg/kg dry	3.77	250	09/29/09 20:16	jmt	9091179	SW 8260A
Trichlorofluoromethane	<3.77	RL7	mg/kg dry	3.77	250	09/29/09 20:16	jmt	9091179	SW 8260A
1,2,4-Trimethylbenzene	**471**	RL7	mg/kg dry	151	10000	09/29/09 19:17	jmt	9091179	SW 8260A
1,3,5-Trimethylbenzene	**142**	RL7	mg/kg dry	33.5	10000	09/29/09 19:17	jmt	9091179	SW 8260A
Vinyl Acetate	<3.77	RL7	mg/kg dry	3.77	250	09/29/09 20:16	jmt	9091179	SW 8260A
Vinyl chloride	<1.51	RL7	mg/kg dry	1.51	250	09/29/09 20:16	jmt	9091179	SW 8260A
Xylenes, total	**48.9**	RL7	mg/kg dry	3.77	250	09/29/09 20:16	jmt	9091179	SW 8260A
Surr: 1,2-Dichloroethane-d4 (80-120%)	*97 %*	*RL7*				09/29/09 20:16	jmt	9091179	SW 8260A
Surr: Dibromofluoromethane (80-120%)	*104 %*	*RL7*				09/29/09 20:16	jmt	9091179	SW 8260A
Surr: Toluene-d8 (80-120%)	*98 %*	*RL7*				09/29/09 20:16	jmt	9091179	SW 8260A
Surr: 4-Bromofluorobenzene (80-120%)	*112 %*	*RL7*				09/29/09 20:16	jmt	9091179	SW 8260A
TCLP Metals by 1311/6000/7000									
Arsenic	<0.500		mg/L	0.500	1	09/29/09 17:41	CAJ	9091171	SW 6010B
Barium	**0.631**		mg/L	0.100	1	09/29/09 17:41	CAJ	9091171	SW 6010B
Cadmium	<0.150		mg/L	0.150	1	09/29/09 17:41	CAJ	9091171	SW 6010B
Chromium	<0.200		mg/L	0.200	1	09/29/09 17:41	CAJ	9091171	SW 6010B
' ad	<0.400		mg/L	0.400	1	09/29/09 17:41	CAJ	9091171	SW 6010B
cury	<0.00100		mg/L	0.00100	1	09/30/09 16:10	MKH	9091175	SW 7470A
Selenium	<0.500		mg/L	0.500	1	09/29/09 17:41	CAJ	9091171	SW 6010B

Veolia Environmental Services (West Carrollton)
4301 Infirmary Road, P.O. Box 453
West Carrollton, OH 45449
Brett Davis

Work Order: DSI1171
Project: Waste Characterization
Project Number: [none]

Received: 09/24/09
Reported: 10/06/09 07:47

ANALYTICAL REPORT

Analyte	Sample Result	Data Qualifiers	Units	Rpt Limit	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: DSI1171-01 (Bldg 5 NW Tank #1 - Non-aqueous) - cont.					**Sampled: 09/23/09 13:30**		**Recvd: 09/24/09 16:55**		
TCLP Metals by 1311/6000/7000 - cont.									
Silver	<0.200		mg/L	0.200	1	09/29/09 17:41	CAJ	9091171	SW 6010B
Extraction	ND		N/A	NA	1	09/29/09 11:38	SSK	9091149	SW 1311
TCLP Pesticides by EPA Method 1311/8081A									
Methoxychlor	<0.00100	M14	mg/L	0.00100	1	10/02/09 12:20	TWM	9091204	SW 8081
gamma-BHC (Lindane)	<0.00100	M14	mg/L	0.00100	1	10/02/09 12:20	TWM	9091204	SW 8081
Chlordane	<0.00200	M14	mg/L	0.00200	1	10/02/09 12:20	TWM	9091204	SW 8081
Endrin	<0.00100	M14	mg/L	0.00100	1	10/02/09 12:20	TWM	9091204	SW 8081
Heptachlor	<0.00100	M14	mg/L	0.00100	1	10/02/09 12:20	TWM	9091204	SW 8081
Heptachlor epoxide	<0.00100	M14	mg/L	0.00100	1	10/02/09 12:20	TWM	9091204	SW 8081
Toxaphene	<0.00200	M14	mg/L	0.00200	1	10/02/09 12:20	TWM	9091204	SW 8081
Surr: Tetrachloro-meta-xylene (14-150%)	*98 %*					10/02/09 12:20	TWM	9091204	SW 8081
Surr: Decachlorobiphenyl (12-150%)	*30 %*					10/02/09 12:20	TWM	9091204	SW 8081
TCLP Volatile Organic Compounds by EPA Method 1311/8260B									
Extraction	ND		N/A	NA	1	09/29/09 11:39	SSK	9091150	SW 1311
Benzene	<0.200		mg/L	0.200	200	10/01/09 18:10	jmt	9100112	SW 8260B
utanone (MEK)	<2.50		mg/L	2.50	200	10/01/09 18:10	jmt	9100112	SW 8260B
arbon tetrachloride	<0.200		mg/L	0.200	200	10/01/09 18:10	jmt	9100112	SW 8260B
Chlorobenzene	<0.200		mg/L	0.200	200	10/01/09 18:10	jmt	9100112	SW 8260B
Chloroform	<0.200		mg/L	0.200	200	10/01/09 18:10	jmt	9100112	SW 8260B
1,2-Dichloroethane	<0.200		mg/L	0.200	200	10/01/09 18:10	jmt	9100112	SW 8260B
1,1-Dichloroethene	<0.200		mg/L	0.200	200	10/01/09 18:10	jmt	9100112	SW 8260B
Tetrachloroethene	<0.200		mg/L	0.200	200	10/01/09 18:10	jmt	9100112	SW 8260B
Trichloroethene	<0.200		mg/L	0.200	200	10/01/09 18:10	jmt	9100112	SW 8260B
Vinyl chloride	<0.200		mg/L	0.200	200	10/01/09 18:10	jmt	9100112	SW 8260B
Surr: 1,2-Dichloroethane-d4 (80-120%)	*98 %*					10/01/09 18:10	jmt	9100112	SW 8260B
Surr: Dibromofluoromethane (80-120%)	*101 %*					10/01/09 18:10	jmt	9100112	SW 8260B
Surr: Toluene-d8 (80-120%)	*98 %*					10/01/09 18:10	jmt	9100112	SW 8260B
Surr: 4-Bromofluorobenzene (80-120%)	*100 %*					10/01/09 18:10	jmt	9100112	SW 8260B
TCLP Semivolatile Compounds by EPA Method 1311/8270C									
Extraction	ND		N/A	NA	1	09/29/09 11:38	SSK	9091149	SW 1311
1,4-Dichlorobenzene	<0.100		mg/L	0.100	1	10/01/09 18:21	sgs	9091203	SW 8270C
2,4-Dinitrotoluene	<0.100		mg/L	0.100	1	10/01/09 18:21	sgs	9091203	SW 8270C
Hexachlorobenzene	<0.100		mg/L	0.100	1	10/01/09 18:21	sgs	9091203	SW 8270C
Hexachlorobutadiene	<0.100		mg/L	0.100	1	10/01/09 18:21	sgs	9091203	SW 8270C
Hexachloroethane	<0.100		mg/L	0.100	1	10/01/09 18:21	sgs	9091203	SW 8270C
2-Methylphenol (o-Cresol)	<0.100		mg/L	0.100	1	10/01/09 18:21	sgs	9091203	SW 8270C
3&4-Methylphenol (m&p Cresol)	<0.100		mg/L	0.100	1	10/01/09 18:21	sgs	9091203	SW 8270C
Nitrobenzene	<0.100		mg/L	0.100	1	10/01/09 18:21	sgs	9091203	SW 8270C
Pentachlorophenol	<0.100		mg/L	0.100	1	10/01/09 18:21	sgs	9091203	SW 8270C
Pyridine	<0.100		mg/L	0.100	1	10/01/09 18:21	sgs	9091203	SW 8270C
2,4,5-Trichlorophenol	<0.100		mg/L	0.100	1	10/01/09 18:21	sgs	9091203	SW 8270C
6-Trichlorophenol	<0.100		mg/L	0.100	1	10/01/09 18:21	sgs	9091203	SW 8270C
Surr: 2-Fluorophenol (21-145%)	*103 %*					10/01/09 18:21	sgs	9091203	SW 8270C
Surr: Phenol-d6 (10-149%)	*114 %*					10/01/09 18:21	sgs	9091203	SW 8270C

Veolia Environmental Services (West Carrollton)
4301 Infirmary Road, P.O. Box 453
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Brett Davis

Work Order: DSI1171
Project: Waste Characterization
Project Number: [none]

Received: 09/24/09
Reported: 10/06/09 07:47

ANALYTICAL REPORT

Analyte	Sample Result	Data Qualifiers	Units	Rpt Limit	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: DSI1171-01 (Bldg 5 NW Tank #1 - Non-aqueous) - cont.					**Sampled: 09/23/09 13:30**		**Recvd: 09/24/09 16:55**		
TCLP Semivolatile Compounds by EPA Method 1311/8270C - cont.									
Surr: Nitrobenzene-d5 (35-124%)	*110 %*					10/01/09 18:21	sgs	9091203	SW 8270C
Surr: 2-Fluorobiphenyl (43-134%)	*107 %*					10/01/09 18:21	sgs	9091203	SW 8270C
Surr: 2,4,6-Tribromophenol (21-146%)	*120 %*					10/01/09 18:21	sgs	9091203	SW 8270C
Surr: Terphenyl-d14 (34-149%)	*94 %*					10/01/09 18:21	sgs	9091203	SW 8270C
Sample ID: DSI1171-02 (Bldg 5 NW Tank #2 - Non-aqueous)					**Sampled: 09/23/09 13:30**		**Recvd: 09/24/09 16:55**		
General Chemistry Parameters									
% Solids	**37.1**		%	0.100	1	09/29/09 10:50	jlb	9091125	SW 846
Organochlorine Pesticides/PCBs									
PCB-1016	<2.43		mg/kg dry	2.43	5	09/28/09 17:47	JBP	9091135	SW 8082
PCB-1221	<2.43		mg/kg dry	2.43	5	09/28/09 17:47	JBP	9091135	SW 8082
PCB-1232	<2.43		mg/kg dry	2.43	5	09/28/09 17:47	JBP	9091135	SW 8082
PCB-1242	<2.43		mg/kg dry	2.43	5	09/28/09 17:47	JBP	9091135	SW 8082
PCB-1248	<2.43		mg/kg dry	2.43	5	09/28/09 17:47	JBP	9091135	SW 8082
PCB-1254	<2.43		mg/kg dry	2.43	5	09/28/09 17:47	JBP	9091135	SW 8082
PCB-1260	<2.43		mg/kg dry	2.43	5	09/28/09 17:47	JBP	9091135	SW 8082
r: Tetrachloro-meta-xylene (10-127%)	*127 %*					09/28/09 17:47	JBP	9091135	SW 8082
Surr: Decachlorobiphenyl (10-149%)	*102 %*					09/28/09 17:47	JBP	9091135	SW 8082
Volatile Organic Compounds by GC/MS									
Acetone	<67.3	RL7	mg/kg dry	67.3	250	09/29/09 20:46	jmt	9091179	SW 8260A
Benzene	<3.36	RL7	mg/kg dry	3.36	250	09/29/09 20:46	jmt	9091179	SW 8260A
Bromobenzene	<3.36	RL7	mg/kg dry	3.36	250	09/29/09 20:46	jmt	9091179	SW 8260A
Bromochloromethane	<3.36	RL7	mg/kg dry	3.36	250	09/29/09 20:46	jmt	9091179	SW 8260A
Bromodichloromethane (Dichlorobromomethane)	<3.36	RL7	mg/kg dry	3.36	250	09/29/09 20:46	jmt	9091179	SW 8260A
Bromoform	<3.36	RL7	mg/kg dry	3.36	250	09/29/09 20:46	jmt	9091179	SW 8260A
Bromomethane (Methyl bromide)	<6.73	RL7	mg/kg dry	6.73	250	09/29/09 20:46	jmt	9091179	SW 8260A
2-Butanone (MEK)	<33.6	RL7	mg/kg dry	33.6	250	09/29/09 20:46	jmt	9091179	SW 8260A
tert-Butylbenzene	<3.36	RL7	mg/kg dry	3.36	250	09/29/09 20:46	jmt	9091179	SW 8260A
sec-Butylbenzene	**59.2**	RL7	mg/kg dry	3.36	250	09/29/09 20:46	jmt	9091179	SW 8260A
n-Butylbenzene	**68.4**	RL7	mg/kg dry	3.36	250	09/29/09 20:46	jmt	9091179	SW 8260A
Carbon disulfide	<3.36	RL7	mg/kg dry	3.36	250	09/29/09 20:46	jmt	9091179	SW 8260A
Carbon tetrachloride	<3.36	RL7	mg/kg dry	3.36	250	09/29/09 20:46	jmt	9091179	SW 8260A
Chlorobenzene	<3.36	RL7	mg/kg dry	3.36	250	09/29/09 20:46	jmt	9091179	SW 8260A
Chloroethane	<6.73	RL7	mg/kg dry	6.73	250	09/29/09 20:46	jmt	9091179	SW 8260A
Chloroform	<3.36	RL7	mg/kg dry	3.36	250	09/29/09 20:46	jmt	9091179	SW 8260A
Chloromethane (Methyl chloride)	<6.73	RL7	mg/kg dry	6.73	250	09/29/09 20:46	jmt	9091179	SW 8260A
4-Chlorotoluene	<3.36	RL7	mg/kg dry	3.36	250	09/29/09 20:46	jmt	9091179	SW 8260A
2-Chlorotoluene	<3.36	RL7	mg/kg dry	3.36	250	09/29/09 20:46	jmt	9091179	SW 8260A
Dibromochloromethane (Chlorodibromomethane)	<3.36	RL7	mg/kg dry	3.36	250	09/29/09 20:46	jmt	9091179	SW 8260A
Dibromomethane	<3.36	RL7	mg/kg dry	3.36	250	09/29/09 20:46	jmt	9091179	SW 8260A
`-Dichlorobenzene	<3.36	RL7	mg/kg dry	3.36	250	09/29/09 20:46	jmt	9091179	SW 8260A
.-Dichlorobenzene	<3.36	RL7	mg/kg dry	3.36	250	09/29/09 20:46	jmt	9091179	SW 8260A
1,3-Dichlorobenzene	<3.36	RL7	mg/kg dry	3.36	250	09/29/09 20:46	jmt	9091179	SW 8260A

Veolia Environmental Services (West Carrollton)
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Received: 09/24/09
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ANALYTICAL REPORT

Analyte	Sample Result	Data Qualifiers	Units	Rpt Limit	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: DSI1171-02 (Bldg 5 NW Tank #2 - Non-aqueous) - cont.					**Sampled: 09/23/09 13:30**			**Recvd: 09/24/09 16:55**	
Volatile Organic Compounds by GC/MS - cont.									
Dichlorodifluoromethane	<3.36	RL7	mg/kg dry	3.36	250	09/29/09 20:46	jmt	9091179	SW 8260A
1,1-Dichloroethane	<3.36	RL7	mg/kg dry	3.36	250	09/29/09 20:46	jmt	9091179	SW 8260A
1,2-Dichloroethane	<3.36	RL7	mg/kg dry	3.36	250	09/29/09 20:46	jmt	9091179	SW 8260A
cis-1,2-Dichloroethene	<3.36	RL7	mg/kg dry	3.36	250	09/29/09 20:46	jmt	9091179	SW 8260A
trans-1,2-Dichloroethene	<3.36	RL7	mg/kg dry	3.36	250	09/29/09 20:46	jmt	9091179	SW 8260A
1,1-Dichloroethene	<3.36	RL7	mg/kg dry	3.36	250	09/29/09 20:46	jmt	9091179	SW 8260A
1,3-Dichloropropane	<3.36	RL7	mg/kg dry	3.36	250	09/29/09 20:46	jmt	9091179	SW 8260A
2,2-Dichloropropane	<3.36	RL7	mg/kg dry	3.36	250	09/29/09 20:46	jmt	9091179	SW 8260A
1,2-Dichloropropane	<3.36	RL7	mg/kg dry	3.36	250	09/29/09 20:46	jmt	9091179	SW 8260A
1,1-Dichloropropene	<3.36	RL7	mg/kg dry	3.36	250	09/29/09 20:46	jmt	9091179	SW 8260A
cis-1,3-Dichloropropene	<3.36	RL7	mg/kg dry	3.36	250	09/29/09 20:46	jmt	9091179	SW 8260A
trans-1,3-Dichloropropene	<3.36	RL7	mg/kg dry	3.36	250	09/29/09 20:46	jmt	9091179	SW 8260A
Ethylbenzene	**6.07**	RL7	mg/kg dry	3.36	250	09/29/09 20:46	jmt	9091179	SW 8260A
Hexachlorobutadiene	<3.36	RL7	mg/kg dry	3.36	250	09/29/09 20:46	jmt	9091179	SW 8260A
n-Hexane	<13.5	RL7	mg/kg dry	13.5	250	09/29/09 20:46	jmt	9091179	SW 8260A
Hexanone	<33.6	RL7	mg/kg dry	33.6	250	09/29/09 20:46	jmt	9091179	SW 8260A
Isopropylbenzene (Cumene)	**20.3**	RL7	mg/kg dry	3.36	250	09/29/09 20:46	jmt	9091179	SW 8260A
p-Isopropyltoluene	**49.8**	RL7	mg/kg dry	3.36	250	09/29/09 20:46	jmt	9091179	SW 8260A
Methyl tert-butyl ether	<3.36	RL7	mg/kg dry	3.36	250	09/29/09 20:46	jmt	9091179	SW 8260A
Methylene chloride	**14.6**	RL7,A-01	mg/kg dry	6.73	250	09/29/09 20:46	jmt	9091179	SW 8260A
4-Methyl-2-pentanone (MIBK)	<33.6	RL7	mg/kg dry	33.6	250	09/29/09 20:46	jmt	9091179	SW 8260A
n-Propylbenzene	**49.9**	RL7	mg/kg dry	3.36	250	09/29/09 20:46	jmt	9091179	SW 8260A
Styrene	<3.36	RL7	mg/kg dry	3.36	250	09/29/09 20:46	jmt	9091179	SW 8260A
1,1,1,2-Tetrachloroethane	<3.36	RL7	mg/kg dry	3.36	250	09/29/09 20:46	jmt	9091179	SW 8260A
1,1,2,2-Tetrachloroethane	<3.36	RL7	mg/kg dry	3.36	250	09/29/09 20:46	jmt	9091179	SW 8260A
Tetrachloroethene	<3.36	RL7	mg/kg dry	3.36	250	09/29/09 20:46	jmt	9091179	SW 8260A
Toluene	<3.36	RL7	mg/kg dry	3.36	250	09/29/09 20:46	jmt	9091179	SW 8260A
1,2,4-Trichlorobenzene	<3.36	RL7	mg/kg dry	3.36	250	09/29/09 20:46	jmt	9091179	SW 8260A
1,1,1-Trichloroethane	<3.36	RL7	mg/kg dry	3.36	250	09/29/09 20:46	jmt	9091179	SW 8260A
1,1,2-Trichloroethane	<3.36	RL7	mg/kg dry	3.36	250	09/29/09 20:46	jmt	9091179	SW 8260A
Trichloroethene	<3.36	RL7	mg/kg dry	3.36	250	09/29/09 20:46	jmt	9091179	SW 8260A
Trichlorofluoromethane	<3.36	RL7	mg/kg dry	3.36	250	09/29/09 20:46	jmt	9091179	SW 8260A
1,2,4-Trimethylbenzene	**169**	RL7	mg/kg dry	135	10000	09/29/09 19:46	jmt	9091179	SW 8260A
1,3,5-Trimethylbenzene	**51.1**	RL7	mg/kg dry	29.9	10000	09/29/09 19:46	jmt	9091179	SW 8260A
Vinyl Acetate	<3.36	RL7	mg/kg dry	3.36	250	09/29/09 20:46	jmt	9091179	SW 8260A
Vinyl chloride	<1.35	RL7	mg/kg dry	1.35	250	09/29/09 20:46	jmt	9091179	SW 8260A
Xylenes, total	**31.9**	RL7	mg/kg dry	3.36	250	09/29/09 20:46	jmt	9091179	SW 8260A
Surr: 1,2-Dichloroethane-d4 (80-120%)	*97 %*	*RL7*				09/29/09 20:46	jmt	9091179	SW 8260A
Surr: Dibromofluoromethane (80-120%)	*101 %*	*RL7*				09/29/09 20:46	jmt	9091179	SW 8260A
Surr: Toluene-d8 (80-120%)	*97 %*	*RL7*				09/29/09 20:46	jmt	9091179	SW 8260A
Surr: 4-Bromofluorobenzene (80-120%)	*110 %*	*RL7*				09/29/09 20:46	jmt	9091179	SW 8260A
TCLP Metals by 1311/6000/7000									
Arsenic	<0.500		mg/L	0.500	1	09/29/09 17:47	CAJ	9091171	SW 6010B

. eolia Environmental Services (West Carrollton)
4301 Infirmary Road, P.O. Box 453
West Carrollton, OH 45449
Brett Davis

Work Order: DSI1171
Project: Waste Characterization
Project Number: [none]

Received: 09/24/09
Reported: 10/06/09 07:47

ANALYTICAL REPORT

Analyte	Sample Result	Data Qualifiers	Units	Rpt Limit	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: DSI1171-02 (Bldg 5 NW Tank #2 - Non-aqueous) - cont.					**Sampled: 09/23/09 13:30**		**Recvd: 09/24/09 16:55**		
TCLP Metals by 1311/6000/7000 - cont.									
Barium	**0.560**		mg/L	0.100	1	09/29/09 17:47	CAJ	9091171	SW 6010B
Cadmium	<0.150		mg/L	0.150	1	09/29/09 17:47	CAJ	9091171	SW 6010B
Chromium	<0.200		mg/L	0.200	1	09/29/09 17:47	CAJ	9091171	SW 6010B
Lead	<0.400		mg/L	0.400	1	09/29/09 17:47	CAJ	9091171	SW 6010B
Mercury	<0.00100		mg/L	0.00100	1	09/30/09 16:13	MKH	9091175	SW 7470A
Selenium	<0.500		mg/L	0.500	1	09/29/09 17:47	CAJ	9091171	SW 6010B
Silver	<0.200		mg/L	0.200	1	09/29/09 17:47	CAJ	9091171	SW 6010B
Extraction	ND		N/A	NA	1	09/29/09 11:38	SSK	9091149	SW 1311
TCLP Pesticides by EPA Method 1311/8081A									
Methoxychlor	<0.00100		mg/L	0.00100	1	10/02/09 12:42	TWM	9091204	SW 8081
gamma-BHC (Lindane)	<0.00100		mg/L	0.00100	1	10/02/09 12:42	TWM	9091204	SW 8081
Chlordane	<0.00200		mg/L	0.00200	1	10/02/09 12:42	TWM	9091204	SW 8081
Endrin	<0.00100		mg/L	0.00100	1	10/02/09 12:42	TWM	9091204	SW 8081
Heptachlor	<0.00100		mg/L	0.00100	1	10/02/09 12:42	TWM	9091204	SW 8081
Heptachlor epoxide	<0.00100		mg/L	0.00100	1	10/02/09 12:42	TWM	9091204	SW 8081
:aphene	<0.00200		mg/L	0.00200	1	10/02/09 12:42	TWM	9091204	SW 8081
Surr: Tetrachloro-meta-xylene (14-150%)	*96 %*					10/02/09 12:42	TWM	9091204	SW 8081
Surr: Decachlorobiphenyl (12-150%)	*51 %*					10/02/09 12:42	TWM	9091204	SW 8081
TCLP Volatile Organic Compounds by EPA Method 1311/8260B									
Extraction	ND		N/A	NA	1	09/29/09 11:39	SSK	9091150	SW 1311
Benzene	<0.200		mg/L	0.200	200	10/02/09 12:57	jmt	9100129	SW 8260B
2-Butanone (MEK)	<2.50		mg/L	2.50	200	10/02/09 12:57	jmt	9100129	SW 8260B
Carbon tetrachloride	<0.200		mg/L	0.200	200	10/02/09 12:57	jmt	9100129	SW 8260B
Chlorobenzene	<0.200		mg/L	0.200	200	10/02/09 12:57	jmt	9100129	SW 8260B
Chloroform	<0.200		mg/L	0.200	200	10/02/09 12:57	jmt	9100129	SW 8260B
1,2-Dichloroethane	<0.200		mg/L	0.200	200	10/02/09 12:57	jmt	9100129	SW 8260B
1,1-Dichloroethene	<0.200		mg/L	0.200	200	10/02/09 12:57	jmt	9100129	SW 8260B
Tetrachloroethene	<0.200		mg/L	0.200	200	10/02/09 12:57	jmt	9100129	SW 8260B
Trichloroethene	<0.200		mg/L	0.200	200	10/02/09 12:57	jmt	9100129	SW 8260B
Vinyl chloride	<0.200		mg/L	0.200	200	10/02/09 12:57	jmt	9100129	SW 8260B
Surr: 1,2-Dichloroethane-d4 (80-120%)	*99 %*					10/02/09 12:57	jmt	9100129	SW 8260B
Surr: 1,2-Dichloroethane-d4 (80-120%)	*98 %*					10/02/09 01:32	jmt	9100112	SW 8260B
Surr: Dibromofluoromethane (80-120%)	*98 %*					10/02/09 12:57	jmt	9100129	SW 8260B
Surr: Dibromofluoromethane (80-120%)	*98 %*					10/02/09 01:32	jmt	9100112	SW 8260B
Surr: Toluene-d8 (80-120%)	*101 %*					10/02/09 12:57	jmt	9100129	SW 8260B
Surr: Toluene-d8 (80-120%)	*100 %*					10/02/09 01:32	jmt	9100112	SW 8260B
Surr: 4-Bromofluorobenzene (80-120%)	*98 %*					10/02/09 12:57	jmt	9100129	SW 8260B
Surr: 4-Bromofluorobenzene (80-120%)	*98 %*					10/02/09 01:32	jmt	9100112	SW 8260B
TCLP Semivolatile Compounds by EPA Method 1311/8270C									
Extraction	ND		N/A	NA	1	09/29/09 11:38	SSK	9091149	SW 1311
1,4-Dichlorobenzene	<0.100	M	mg/L	0.100	1	10/01/09 18:43	sgs	9091203	SW 8270C
·Dinitrotoluene	<0.100	M	mg/L	0.100	1	10/01/09 18:43	sgs	9091203	SW 8270C
Hexachlorobenzene	<0.100	M	mg/L	0.100	1	10/01/09 18:43	sgs	9091203	SW 8270C
Hexachlorobutadiene	<0.100	M	mg/L	0.100	1	10/01/09 18:43	sgs	9091203	SW 8270C

Veolia Environmental Services (West Carrollton)
4301 Infirmary Road, P.O. Box 453
West Carrollton, OH 45449
Brett Davis

Work Order: DSI1171
Project: Waste Characterization
Project Number: [none]

Received: 09/24/09
Reported: 10/06/09 07:47

ANALYTICAL REPORT

Analyte	Sample Result	Data Qualifiers	Units	Rpt Limit	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: DSI1171-02 (Bldg 5 NW Tank #2 - Non-aqueous) - cont.					**Sampled: 09/23/09 13:30**			**Recvd: 09/24/09 16:55**	
TCLP Semivolatile Compounds by EPA Method 1311/8270C - cont.									
Hexachloroethane	<0.100	M	mg/L	0.100	1	10/01/09 18:43	sgs	9091203	SW 8270C
2-Methylphenol (o-Cresol)	<0.100	M	mg/L	0.100	1	10/01/09 18:43	sgs	9091203	SW 8270C
3&4-Methylphenol (m&p Cresol)	<0.100	M	mg/L	0.100	1	10/01/09 18:43	sgs	9091203	SW 8270C
Nitrobenzene	<0.100	M	mg/L	0.100	1	10/01/09 18:43	sgs	9091203	SW 8270C
Pentachlorophenol	<0.100	M	mg/L	0.100	1	10/01/09 18:43	sgs	9091203	SW 8270C
Pyridine	<0.100	M	mg/L	0.100	1	10/01/09 18:43	sgs	9091203	SW 8270C
2,4,5-Trichlorophenol	<0.100	M	mg/L	0.100	1	10/01/09 18:43	sgs	9091203	SW 8270C
2,4,6-Trichlorophenol	<0.100	M	mg/L	0.100	1	10/01/09 18:43	sgs	9091203	SW 8270C
Surr: 2-Fluorophenol (21-145%)	*102 %*	*M*				10/01/09 18:43	sgs	9091203	SW 8270C
Surr: Phenol-d6 (10-149%)	*116 %*	*M*				10/01/09 18:43	sgs	9091203	SW 8270C
Surr: Nitrobenzene-d5 (35-124%)	*105 %*	*M*				10/01/09 18:43	sgs	9091203	SW 8270C
Surr: 2-Fluorobiphenyl (43-134%)	*99 %*	*M*				10/01/09 18:43	sgs	9091203	SW 8270C
Surr: 2,4,6-Tribromophenol (21-146%)	*110 %*	*M*				10/01/09 18:43	sgs	9091203	SW 8270C
Surr: Terphenyl-d14 (34-149%)	*107 %*	*M*				10/01/09 18:43	sgs	9091203	SW 8270C

veolia Environmental Services (West Carrollton)	Work Order:	DSI1171	Received:	09/24/09
4301 Infirmary Road, P.O. Box 453	Project:	Waste Characterization	Reported:	10/06/09 07:47
West Carrollton, OH 45449	Project Number:	[none]		
Brett Davis				

CERTIFICATION SUMMARY

Any abnormalities or departures from sample acceptance policy shall be documented on the Chain of Custody and/or Case Narrative included with this report.

For information concerning certifications of this facility or another TestAmerica facility, please visit our website at www.TestAmericaInc.com

Samples collected by TestAmerica Field Services personnel are noted on the Chain of Custody (COC) .

DATA QUALIFIERS AND DEFINITIONS

A-01	Methylene Chloride is a common laboratory contaminant. The result for this compound should be treated as estimated.
M	The MS, MSD, and/or RPD are outside of acceptance limits due to matrix interference. Please see Blank Spike (LCS).
M14	The MS/MSD recoveries are outside of laboratory established control limits.
RL7	Sample required dilution due to high concentrations of target analyte.

ADDITIONAL COMMENTS

Results are reported on a wet weight basis unless otherwise noted.

ANALYSIS LOCATIONS

The analyses listed below were analyzed in satellite facilities

Howard, Shelly

From: Brett.Davis@veoliaes.com
Sent: Tuesday, September 29, 2009 1:13 PM
To: Howard, Shelly
Subject: Re: Rauch Question

Herbicides are not needed.

Thank you,

Brett Davis
Project Manager - Ohio Valley Branch
Veolia ES Technical Solutions
4301 Infirmary Rd.
West Carrollton, OH 45449
Office: 937-859-2202
Fax: 937-859-4671
Mobile: 937-604-7162
Brett.Davis@VeoliaES.com

"Howard, Shelly" <Shelly.Howard@testamericainc.com>
09/29/2009 12:10 PM

To <brett.davis@veoliaes.com>
cc
Subject Rauch Question

Brett,
In the past, for samples coming from Veolia requesting "Full TCLP", we have not included herbicides. I need to confirm whether this still holds true OR if in fact you do need herbicides to be included in these analysis.

Please let me know…..thanks!!

SHELLY A. HOWARD
Project Manager

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

4738 Gateway Circle
Dayton, OH 45440
Tel 937.294.6856 I Fax 937.499.1249
www.testamericainc.com

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Please consider the environment before printing this e-mail.

VEOLIA
ENVIRONMENTAL SERVICES

SAMPLE SHIPPING DOCUMENT/ CHAIN OF CUSTODY

DSI 1191

Number

Page 1 of 1

Veolia ES Technical Solutions, L.L.C. Client City of Dayton/Rauch
300 Taylor
Dayton, OH 45402
ATTN: Tim Delph

Laboratory Name Test America

Contact Name Shelly Howard ~~Steve Jackson~~ cpl

Shipping Information

Proper Shipping Name	# Units	Total Quantity
Environmentally Hazardous Material 2		64oz

I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to all applicable international and national governmental regulations.

IN CASE OF EMERGENCY CALL 1-800-535-5053

TAT: 1 wk, 2 wk, 3 wk
Other

SAMPLE LOCATION	DATE	TIME (Military)	SAMPLE NUMBER	NO. OF SAMPLE CONTAINERS															
				Volatile Organic Compounds	Acid Extractable Compounds	Base/Neutral Extractable Compounds	CN Total/Amenable Method 9010	PCB's	Metals TCLP	BETX	Petroleum Hydrocarbons	TCLP Full	Ignitability	PH	(Other)				
Bldg 5 NW Tank	9/23/2009	13:30	Bldg 5 NW Tank #1	✓				✓	✓			✓							5 day Turnaround
Bldg 5 NW Tank	9/23/2009	13:30	Bldg 5 NW Tank #2	✓				✓	✓			✓							5 day Turnaround

Relinquished by (signature):	Date	Time (Military)	Received by (Signature)	Date	Time (Military)	Relinquished by (signature):	Date	Time (Military)	Received by (Signature)	Date	Time (Military)
	9/23/09	1410		9/23	14:10		9-24-09	1440		92409	1440
Relinquished by (signature):	Date	Time (Military)	Received by (Signature)	Date	Time (Military)						
	92409	1655		9-24-09	1655						

REMARKS:

Send Results to Veolia ES Technical Solutions, L.L.C.

VIA: Verbal ☐ Fax ☐ Fed X ☐ Regular ☐

Purchase Order # Work Order #

ANAL AL COPY

Form # VES-12V-A

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client ID: Veolia

Work Order # DSI171

Discrepencies ☐

Rush or Short Hold ☐

Cooler/Sample Receipt

if rush 24hr 2day 3day (5day) other_____

Method of Shipment:

Are samples soils requiring USDA quarantine? Yes (No) (circle one)
If yes notify PM immediately

Walk In Fed Ex UPS DHL TAL (Courier) Field Other_____

Shipping Container Type: (Cooler) Box Other_____

Opened Date/Time 9-24-09 1710 **Initials** [illegible]

Receipt Questions**	Y	N	n/a	"NO" answers require a comment
COC present	✓			
Containers in good condition (unbroken and not leaking), and appropriately filled	✓			
Appropriate containers used & Adequate volume provided	✓			
Correct preservation on the COC	✓			
Numbers of samples match COC	✓			
If used, custody seals were intact			✓	
Was CoC free of discrepencies?	✓			
Samples received within hold time	✓			
VOA samples received without headspace in excess of 6 mm			✓	
Trip Blanks received for each cooler with VOAs			✓	

#/size	HNO3	HCL	NaOH	H2SO4	Methanol	None	Other (Specify)

Tracking #_____

Temp Acceptable? YES ☐ NO ☐ | Thermometer ID M | Cooler ID _____ | Uncorrected 2.3 | Corrected 2.1 °C (Ice)

Packing Material _____

Melted Ice Blue Ice None Other_____

Direct from Field? Yes (No) (Circle one)

If out of temperature, note affected samples

CHECK IF ADDITIONAL SHEETS REQUIRED ☐

** May not be applicable if samples are not for compliance testing

Client Contact Record (required for discrepancies, unless agreement is on file with project) Date & Time 9.29.09

Contact via: ☐phone (email) ☐ other_____ Person contacted B Davis

Discussion/Resolution

Full TCL - Herbicides not needed? (Confirm)

Is a revised chain being issued? Yes (No) (Circle one) **If Yes, it must be scanned.**

[signature] 9/25/09

Reviewed by PM Signature Date/Time

BLDG 5 N. CENTRAL SAN. PIT

Belmont Labs
The Environmental Service Company.

Friday, November 13, 2009

Tim Delph
Veolia ES Industrial Services
6151 Executive Blvd
Huber Heights, OH 45432
TEL: (937) 238-1850
FAX -

RE: Rausch

Work Order: 09K0422

Belmont Labs received 1 sample(s) on 11/10/2009 for the analyses presented in the following report.

Belmont Labs attests that all analytical methods were performed using acceptable methods, and that the QA/QC procedures stipulated in these methods were followed. USEPA's RCRA Program regards a statement of quality assurance as a legal means of assuring that acceptable and uniform laboratory methods and QA/QC practices were followed by the laboratory.

If you have any questions regarding the test results, please feel free to call me at (937) 832-8242.

Respectfully submitted,

Holly Green

Holly Green
Project Manager

Belmont Labs **Date:** 11/13/2009

CLIENT: Veolia ES Industrial Services **Lab Order:** 09K0422
Project: Rausch

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Sampled Date	Received Date
09K0422-01A	Bldg 5 N. Central Sanitary Pit	11/10/2009 12:00:00AM	11/10/2009
09K0422-01B	Bldg 5 N. Central Sanitary Pit	11/10/2009 12:00:00AM	11/10/2009

Belmont Labs **Date:** 11/13/2009

CLIENT: Veolia ES Industrial Services **Lab Order:** 09K0422
Project: Rausch

Lab ID: 09K0422-01 **Collection Date:** 11/10/2009 12:00:00AM
Client Sample ID: Bldg 5 N. Central Sanitary Pit **Matrix:** Water

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Analyzed
PCB_8082		**SW 8082**				**Analyst: DAG**	
Aroclor 1016	BDL	0.500		ug/L	1	0946157	11/12/2009 3:39:00PM
Aroclor 1221	BDL	0.500		ug/L	1	0946157	11/12/2009 3:39:00PM
Aroclor 1232	BDL	0.500		ug/L	1	0946157	11/12/2009 3:39:00PM
Aroclor 1242	BDL	0.500		ug/L	1	0946157	11/12/2009 3:39:00PM
Aroclor 1248	BDL	0.500		ug/L	1	0946157	11/12/2009 3:39:00PM
Aroclor 1254	BDL	0.500		ug/L	1	0946157	11/12/2009 3:39:00PM
Aroclor 1260	BDL	0.500		ug/L	1	0946157	11/12/2009 3:39:00PM
Surrogate: Decachlorobiphenyl		*62.0 %*		*36-157*		*0946157*	11/12/2009 3:39:00PM
Surrogate: Tetrachloro-m-xylene		*80.0 %*		*28-127*		*0946157*	11/12/2009 3:39:00PM

Belmont Labs
The Environmental Service Company.

ANALYTICAL REQUEST
CHAIN OF CUSTODY

Internal Lab Order Number 09K0422

Purchase Order No.	Quote No.	Client Project
		Rash Inc

INVOICE TO
Name: Tim Delph
Company: Vest a ES Industrial Serv
Address: 6451 Executive Blvd
City, State, Zip: Huber Heights Ohio 45424

REPORT TO
Name:
Company: SAME
Mailing Address:
City, State, Zip:
Phone No: 937-237-0891 Fax No: 937-237-3962

Date Results Req: Rush Charges Authorized? ☐ Yes ☒ No — Fax Results ☑

Special Instructions: 3 day no Xtra Charges
Additional QC Requirements: Level 2, Level 3, Level 4 (Charges Apply)

Regulatory Type: ☐ NPDES ☐ RCRA ☐ SDWA ☐ VAP ☐ Other
Collected in State of _____

Matrix Key: DW - Drinking Water; GW - Ground Water; S - Soil/Solid; SL - Sludge; WW - Waste Water; Specify Other

ANALYSIS REQUESTED
(Enter an "X" in the box below to indicate request and circle preservative)

CLIENT SAMPLE IDENTIFICATION	Date Sampled	Time	Comp	Grab	Matrix	Number of Containers	PCB's	HNO3 HCl H2SO4 Ice None Other	HNO3 HCl H2SO4 Ice None Other	HNO3 HCl H2SO4 Ice None Other	HNO3 HCl H2SO4 Ice None Other	HNO3 HCl H2SO4 Ice None Other	HNO3 HCl H2SO4 Ice None Other	HNO3 HCl H2SO4 Ice None Other	Lab Only
Building 5 North Central Sanitary Pit	11/10/09					1	X								

CHAIN OF CUSTODY (if required)

Relinquished by: [signature] Date/Time 11/10/09 0920 Received by:

Relinquished by: Date/Time Received at lab by: P. Whitaker Date/Time 11-10-09 1023

Method of Shipment: WJ Cooler Temp. 18.1 Custody Seals ☐ Yes ☐ No

Sampled by: [signature] Date 11/10/09

Client Comments

DISTRIBUTION:
WHITE - Laboratory
YELLOW - Accounting

Please return completed form and samples to Belmont Labs • 25 Holiday Drive • Englewood, OH 45322 • 937.832.8242 • Fax 937.832.2868

A & B Litho-Form #9786-5/02

Notes and Definitions

NON-HAZARDOUS WASTE MANIFEST

print or type (Form designed for use on elite (12 pitch) typewriter)

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Document No. 7560

2. Page 1 of 1

3. Generator's Name and Mailing Address

Steve Rauch INC

4. Generator's Phone ( )

5. Transporter 1 Company Name: VEOLIA ES INDUSTRIAL SERVICES

6. US EPA ID Number: TXR 000077970

A. State Transporter's ID

B. Transporter 1 Phone: 937-237-7057

7. Transporter 2 Company Name

8. US EPA ID Number

C. State Transporter's ID

D. Transporter 2 Phone

9. Designated Facility Name and Site Address: CLEAN WATER, 300 CHEROKEE, DAYTON, OHIO 45424

10. US EPA ID Number: OHD004 274 031

E. State Facility's ID

F. Facility's Phone: 937-268-6501

11. WASTE DESCRIPTION	12. Containers No.	12. Containers Type	13. Total Quantity	14. Unit Wt./Vol.
a. NON REGULATED OIL/WATER	01	TT	1200	G
b.				
c.				
d.				

G. Additional Descriptions for Materials Listed Above

17537

H. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

EMERGENCY # 937-237-1057

16. GENERATOR'S CERTIFICATION: I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.

Printed/Typed Name	Signature	Date Month	Day	Year
[illegible]		9	04	09

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Date Month	Day	Year
Stevie Reeder	[signature]	9	04	09

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Date Month	Day	Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator; Certification of receipt of the waste materials covered by this manifest, except as noted in item 19.

Printed/Typed Name	Signature	Date Month	Day	Year
Patty Fauth	Patty Fauth	09	04	09

VEOLIA
ENVIRONMENTAL SERVICES

BLDG 5 N.W. TANK

SHIPPING DOCUMENT	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Shipping Document Tracking Number ZZ 00131908

5. Generator's Name and Mailing Address

Generator's Site Address (if different than mailing address)

Generator's Phone: 937 222 2810

6. Transporter 1 Company Name — U.S. EPA ID Number

7. Transporter 2 Company Name — U.S. EPA ID Number

8. Designated Facility Name and Site Address — U.S. EPA ID Number

Facility's Phone:

9a. HM	9b. U.S. DOT Description (Including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Codes		
	1.							
	2.							
	3.							
	4.							

14. Special Handling Instructions and Additional Information

15. **GENERATOR S/OFFEROR S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name — Signature — Month Day Year

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Shipment

Transporter 1 Printed/Typed Name — Signature — Month Day Year

Transporter 2 Printed/Typed Name — Signature — Month Day Year

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Shipping Document Tracking Number:

18b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

18c. Signature of Alternate Facility (or Generator) — Month Day Year

19. Report Management Method Codes (i.e., codes for treatment, disposal, and recycling systems)

1.	2.	3.	4.

20. Designated Facility Owner or Operator: Certification of receipt of shipment except as noted in Item 18a

Printed/Typed Name — Signature — Month Day Year

GENERATOR / SHIPPER'S INITIAL COPY

BLDG. 7

BLDG 7 UST SOIL
(PART 1 OF 2)

Belmont Labs
The Environmental Service Company.

Tuesday, January 5, 2010

Laura Funk
Weston Solutions, Inc. - Dayton
711 East Monument, Ste 201
Dayton, OHIO 45402
TEL: (937) 531-4400
FAX (937) 384-4201

RE: Additional Analysis

Work Order: 09L1351

Belmont Labs received 2 sample(s) on 12/28/2009 for the analyses presented in the following report.

Belmont Labs attests that all analytical methods were performed using acceptable methods, and that the QA/QC procedures stipulated in these methods were followed. USEPA's RCRA Program regards a statement of quality assurance as a legal means of assuring that acceptable and uniform laboratory methods and QA/QC practices were followed by the laboratory.

If you have any questions regarding the test results, please feel free to call me at (937) 832-8242.

Respectfully submitted,

Holly Green

Holly Green
Project Manager

Belmont Labs **Date:** 1/5/2010

CLIENT: Weston Solutions, Inc. - Dayton **Lab Order:** 09L1351
Project: Additional Analysis

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Sampled Date	Received Date
09L1351-01A	091216-7-additional Analysis	12/16/2009 4:10:00PM	12/28/2009
09L1351-02A	091216-8-additional Analysis	12/16/2009 4:00:00PM	12/28/2009

Belmont Labs

Date: 1/5/2010

CLIENT: Weston Solutions, Inc. - Dayton
Project: Additional Analysis

Lab Order: 09L1351

Lab ID: 09L1351-01
Client Sample ID: 091216-7-additional Analysis

Collection Date: 12/16/2009 4:10:00PM
Matrix: Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Analyzed
PCB_8082	**SW 8082**					**Analyst: DAG**	
Aroclor 1016	BDL	2.29		mg/kg dry	100	0953070	1/4/2010 3:36:00PM
Aroclor 1221	BDL	2.29		mg/kg dry	100	0953070	1/4/2010 3:36:00PM
Aroclor 1232	BDL	2.29		mg/kg dry	100	0953070	1/4/2010 3:36:00PM
Aroclor 1242	BDL	2.29		mg/kg dry	100	0953070	1/4/2010 3:36:00PM
Aroclor 1248	**31.5**	2.29		mg/kg dry	100	0953070	1/4/2010 3:36:00PM
Aroclor 1254	BDL	2.29		mg/kg dry	100	0953070	1/4/2010 3:36:00PM
Aroclor 1260	BDL	2.29		mg/kg dry	100	0953070	1/4/2010 3:36:00PM
Surrogate: Decachlorobiphenyl		*%*	*S-01*	*40-159*		*0953070*	1/4/2010 3:36:00PM
Surrogate: Tetrachloro-m-xylene		*%*	*S-01*	*47-125*		*0953070*	1/4/2010 3:36:00PM
PMOIST	**D 2216**					**Analyst: AD**	
Percent Moisture	**12.8**			% by Weight	1	1002001	12/23/2009 12:00:00AM

Belmont Labs **Date:** 1/5/2010

CLIENT: Weston Solutions, Inc. - Dayton **Lab Order:** 09L1351
Project: Additional Analysis

Lab ID: 09L1351-02 **Collection Date:** 12/16/2009 4:00:00PM
Client Sample ID: 091216-8-additional Analysis **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Analyzed
PCB_8082	**SW 8082**					**Analyst: DAG**	
Aroclor 1016	BDL	0.0229		mg/kg dry	1	0953070	1/4/2010 5:15:00PM
Aroclor 1221	BDL	0.0229		mg/kg dry	1	0953070	1/4/2010 5:15:00PM
Aroclor 1232	BDL	0.0229		mg/kg dry	1	0953070	1/4/2010 5:15:00PM
Aroclor 1242	11.7	0.229		mg/kg dry	10	0953070	1/5/2010 11:38:00AM
Aroclor 1248	BDL	0.0229		mg/kg dry	1	0953070	1/4/2010 5:15:00PM
Aroclor 1254	BDL	0.0229		mg/kg dry	1	0953070	1/4/2010 5:15:00PM
Aroclor 1260	BDL	0.0229		mg/kg dry	1	0953070	1/4/2010 5:15:00PM
Surrogate: Decachlorobiphenyl	*65.0 %*			*40-159*		*0953070*	1/4/2010 5:15:00PM
Surrogate: Tetrachloro-m-xylene	*57.0 %*			*47-125*		*0953070*	1/4/2010 5:15:00PM
PMOIST	**D 2216**					**Analyst: AD**	
Percent Moisture	**12.8**			% by Weight	1	1002001	12/23/2009 12:00:00AM

Add On – Recheck Form

Date Initiated: 12/28/09

Initiated by: Tim Smith

Client: Weston Solutions - Dayton

Report To: Laura Funk

Belmont Sample #:	09L0975-03	09L0975-04
Client Sample ID:	091216-7	091216-8
Date Received:	← 12/17/09 09:00 →	
Date/Time Collection:	12/16/09 1600	12/16/09 1600
Keep Till Date:	← 1/16/09 →	

Sample Matrix:

- ☐ Aqueous
- ☐ Groundwater
- ☐ Wastewater
- ☒ Soil
- ☐ Sludge

Package Level:

- ☐ Level I
- ☒ Level II
- ☐ Level III
- ☐ Level IV
- ☐ VAP

Reason:

- ☒ Addition
- ☐ Recheck

Please list tests or any additional information in the space provided below:

PCBs

09L1351

Polychlorinated Biphenyls by EPA Method 8082 - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0953070 - PREP_PP_S										
Blank (0953070-BLK1)				Prepared: 12/29/09 Analyzed: 01/04/10						
Aroclor 1016	BDL	0.0200	mg/kg wet							
Aroclor 1221	BDL	0.0200	mg/kg wet							
Aroclor 1232	BDL	0.0200	mg/kg wet							
Aroclor 1242	BDL	0.0200	mg/kg wet							
Aroclor 1248	BDL	0.0200	mg/kg wet							
Aroclor 1254	BDL	0.0200	mg/kg wet							
Aroclor 1260	BDL	0.0200	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0263*		*mg/kg wet*	*0.03333*		*79.0*	*40-159*			
Surrogate: Tetrachloro-m-xylene	*0.0247*		*mg/kg wet*	*0.03333*		*74.0*	*47-125*			
LCS (0953070-BS1)				Prepared: 12/29/09 Analyzed: 01/04/10						
Aroclor 1016	0.263	0.0200	mg/kg wet	0.3333		78.8	55-144		24	
Aroclor 1260	0.290	0.0200	mg/kg wet	0.3333		87.0	51-153		25	
Surrogate: Decachlorobiphenyl	*0.0280*		*mg/kg wet*	*0.03333*		*84.0*	*40-159*			
Surrogate: Tetrachloro-m-xylene	*0.0270*		*mg/kg wet*	*0.03333*		*81.0*	*47-125*			
LCS Dup (0953070-BSD1)				Prepared: 12/29/09 Analyzed: 01/04/10						
Aroclor 1016	0.279	0.0200	mg/kg wet	0.3333		83.8	55-144	6.15	24	
Aroclor 1260	0.298	0.0200	mg/kg wet	0.3333		89.5	51-153	2.83	25	
Surrogate: Decachlorobiphenyl	*0.0283*		*mg/kg wet*	*0.03333*		*85.0*	*40-159*			
Surrogate: Tetrachloro-m-xylene	*0.0270*		*mg/kg wet*	*0.03333*		*81.0*	*47-125*			

Notes and Definitions

S-01 The surrogate recovery for this sample is not available due to sample dilution required from high analyte concentration and/or matrix interference's.

R-05 The sample was diluted due to the presence of high levels of non-target analytes resulting in elevated reporting limits.

Sample preservation was met unless otherwise noted.

BLDG 7 UST SOIL
(PART 2 OF 2)

Belmont Labs
The Environmental Service Company.

Monday, December 28, 2009

Laura Funk
Weston Solutions, Inc. - Dayton
711 East Monument, Ste 201
Dayton, OHIO 45402
TEL: (937) 531-4400
FAX (937) 384-4201

RE: 12473.005.005 Work Order: 09L0975

Belmont Labs received 4 sample(s) on 12/17/2009 for the analyses presented in the following report.

Belmont Labs attests that all analytical methods were performed using acceptable methods, and that the QA/QC procedures stipulated in these methods were followed. USEPA's RCRA Program regards a statement of quality assurance as a legal means of assuring that acceptable and uniform laboratory methods and QA/QC practices were followed by the laboratory.

If you have any questions regarding the test results, please feel free to call me at (937) 832-8242.

Respectfully submitted,

Holly Green

Holly Green
Project Manager

Certifications: NELAP/NELAC - #04130 VAP - #CL0032
Ohio EPA Drinking water - #836 Ohio EPA Drinking water (Micro) - #872

Belmont Labs **Date:** 12/28/2009

CLIENT: Weston Solutions, Inc. - Dayton **Lab Order:** 09L0975
Project: 12473.005.005

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Sampled Date	Received Date
09L0975-01A	091216-3	12/16/2009 4:00:00PM	12/17/2009
09L0975-01B	091216-3	12/16/2009 4:00:00PM	12/17/2009
09L0975-02A	091216-5	12/16/2009 4:00:00PM	12/17/2009
09L0975-02B	091216-5	12/16/2009 4:00:00PM	12/17/2009
09L0975-03A	091216-7	12/16/2009 4:00:00PM	12/17/2009
09L0975-03B	091216-7	12/16/2009 4:00:00PM	12/17/2009
09L0975-04A	091216-8	12/16/2009 4:00:00PM	12/17/2009
09L0975-04B	091216-8	12/16/2009 4:00:00PM	12/17/2009

Belmont Labs **Date:** 12/28/2009

CLIENT: Weston Solutions, Inc. - Dayton **Lab Order:** 09L0975
Project: 12473.005.005

Lab ID: 09L0975-01 **Collection Date:** 12/16/2009 4:00:00PM
Client Sample ID: 091216-3 **Matrix:** Soil

Analysis	Result		PQL	Qual	Units	Dilution	Batch	Date Analyzed
TPH C10-34		**SW 8015**					**Analyst: DAG**	
C10 to C20	**429**		12.4		mg/kg dry	1	0951300	12/21/2009 4:15:00PM
C20 to C34	**3330**		622		mg/kg dry	1	0951300	12/21/2009 4:15:00PM
Surrogate: o-Terphenyl		*636 %*		*S-04*	*48-115*		*0951300*	12/21/2009 4:15:00PM
TPH GRO C6-C12		**SW 8015**					**Analyst: KDS**	
Gasoline Range Organics, C6 - C12	**213**		12.5	D	mg/kg dry	1.99	0952175	12/22/2009 6:53:00PM
Surrogate: a,a,a-Trifluorotoluene		*93.0 %*			*59-162*		*0952175*	12/22/2009 6:53:00PM
VOC 8260		**SW 8260A**					**Analyst: kds**	
1,1,1,2-Tetrachloroethane	BDL		0.0221		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
1,1,1-Trichloroethane	BDL		0.0221		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
1,1,2,2-Tetrachloroethane	BDL		0.0221		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
1,1,2-Trichloroethane	BDL		0.0221		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
1,1-Dichloroethane	BDL		0.0221		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
1,1-Dichloroethene	BDL		0.0221		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
1,1-Dichloropropene	BDL		0.0221		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
1,2-Dibromoethane	BDL		0.0221		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
1,2-Dichloroethane	BDL		0.0221		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
1,2-Dichloropropane	BDL		0.0221		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
1,3-Dichloropropane	BDL		0.0221		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
2,2-Dichloropropane	BDL		0.0221		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
2-Butanone	BDL		0.0882		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
2-Chloroethyl vinyl ether	BDL		0.110		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
2-Chlorotoluene	BDL		0.0221		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
2-Hexanone	BDL		0.0882		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
4-Chlorotoluene	BDL		0.0221		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
4-Methyl-2-pentanone	BDL		0.0882		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
Acetone	BDL		0.221		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
Acetonitrile	BDL		0.176		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
Acrolein	BDL		0.0882		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
Acrylonitrile	BDL		0.0882		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
Allyl chloride	BDL		0.0441		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
Benzene	BDL		0.0221		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
Bromobenzene	BDL		0.0221		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
Bromochloromethane	BDL		0.0221		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
Bromodichloromethane	BDL		0.0221		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
Bromoform	BDL		0.0221		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
Bromomethane	BDL		0.0221		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
Carbon Disulfide	BDL		0.0882		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
Carbon Tetrachloride	BDL		0.0221		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
Chlorobenzene	BDL		0.0221		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
Chloroethane	BDL		0.0221		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
Chloroform	BDL		0.0221		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
Chloromethane	BDL		0.0221		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM

Belmont Labs **Date:** 12/28/2009

CLIENT: Weston Solutions, Inc. - Dayton **Lab Order:** 09L0975
Project: 12473.005.005

Lab ID: 09L0975-01 **Collection Date:** 12/16/2009 4:00:00PM
Client Sample ID: 091216-3 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Analyzed
cis-1,2-Dichloroethene	BDL	0.0221		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
cis-1,3-Dichloropropene	BDL	0.0221		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
Dibromochloromethane	BDL	0.0221		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
Dibromomethane	BDL	0.0221		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
Dichlorodifluoromethane	BDL	0.0221		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
Ethylbenzene	**0.120**	0.0221		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
Iodomethane	BDL	0.0441		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
Methylene Chloride	BDL	0.0221		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
Methyl tert-Butyl Ether	BDL	0.0441		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
m,p-Xylene	**0.362**	0.0441		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
n-Hexane	BDL	0.0221		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
o-Xylene	**0.365**	0.0221		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
Styrene	BDL	0.0221		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
Tetrachloroethene	BDL	0.0221		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
Toluene	BDL	0.0221		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
trans-1,2-Dichloroethene	BDL	0.0221		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
trans-1,3-Dichloropropene	BDL	0.0221		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
Trichloroethene	BDL	0.0221		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
Trichlorofluoromethane	BDL	0.0221		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
Vinyl Chloride	BDL	0.0221		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
Vinyl acetate	BDL	0.0441		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
Surrogate: 4-Bromofluorobenzene		*769 %*	*S-04*	*34-118*		*0951322*	12/18/2009 5:48:00AM
Surrogate: Dibromofluoromethane		*81.9 %*		*61-152*		*0951322*	12/18/2009 5:48:00AM
Surrogate: Toluene-d8		*69.5 %*		*44-119*		*0951322*	12/18/2009 5:48:00AM
Surrogate: 1,2-Dichloroethane-d4		*84.6 %*		*39-123*		*0951322*	12/18/2009 5:48:00AM
PMOIST	**D 2216**					**Analyst: AD**	
Percent Moisture	**20.2**			% by Weight	1	0952183	12/23/2009 12:00:00AM
PAH_FULL_8270	**SW 8270C**					**Analyst: dag**	
2-Methylnaphthalene	BDL	0.125		mg/kg dry	1	0951299	12/22/2009 7:53:00AM
Acenaphthene	BDL	0.125		mg/kg dry	1	0951299	12/22/2009 7:53:00AM
Acenaphthylene	BDL	0.125		mg/kg dry	1	0951299	12/22/2009 7:53:00AM
Anthracene	BDL	0.125		mg/kg dry	1	0951299	12/22/2009 7:53:00AM
Benz(a)anthracene	BDL	0.125		mg/kg dry	1	0951299	12/22/2009 7:53:00AM
Benzo(a)pyrene	BDL	0.125		mg/kg dry	1	0951299	12/22/2009 7:53:00AM
Benzo(b)fluoranthene	BDL	0.125		mg/kg dry	1	0951299	12/22/2009 7:53:00AM
Benzo(g,h,i)perylene	BDL	0.125		mg/kg dry	1	0951299	12/22/2009 7:53:00AM
Benzo(k)fluoranthene	BDL	0.125		mg/kg dry	1	0951299	12/22/2009 7:53:00AM
Chrysene	BDL	0.125		mg/kg dry	1	0951299	12/22/2009 7:53:00AM
Dibenz(a,h)anthracene	BDL	0.125		mg/kg dry	1	0951299	12/22/2009 7:53:00AM
Fluoranthene	BDL	0.125		mg/kg dry	1	0951299	12/22/2009 7:53:00AM
Fluorene	BDL	0.125		mg/kg dry	1	0951299	12/22/2009 7:53:00AM
Indeno(1,2,3-cd)pyrene	BDL	0.125		mg/kg dry	1	0951299	12/22/2009 7:53:00AM

Belmont Labs **Date:** 12/28/2009

CLIENT: Weston Solutions, Inc. - Dayton **Lab Order:** 09L0975
Project: 12473.005.005

Lab ID: 09L0975-01 **Collection Date:** 12/16/2009 4:00:00PM
Client Sample ID: 091216-3 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Analyzed
Naphthalene	BDL	0.125		mg/kg dry	1	0951299	12/22/2009 7:53:00AM
Phenanthrene	BDL	0.125		mg/kg dry	1	0951299	12/22/2009 7:53:00AM
Pyrene	BDL	0.125		mg/kg dry	1	0951299	12/22/2009 7:53:00AM
Surrogate: Nitrobenzene-d5	*103 %*			*57-116*		*0951299*	12/22/2009 7:53:00AM
Surrogate: 2-Fluorobiphenyl	*92.1 %*			*64-110*		*0951299*	12/22/2009 7:53:00AM
Surrogate: Terphenyl-d14	*84.9 %*			*46-124*		*0951299*	12/22/2009 7:53:00AM

Belmont Labs **Date:** 12/28/2009

CLIENT: Weston Solutions, Inc. - Dayton **Lab Order:** 09L0975
Project: 12473.005.005

Lab ID: 09L0975-02 **Collection Date:** 12/16/2009 4:00:00PM
Client Sample ID: 091216-5 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Analyzed
TPH C10-34	**SW 8015**					**Analyst: DAG**	
C10 to C20	**1530**	105	D	mg/kg dry	10	0951300	12/22/2009 10:04:00AM
C20 to C34	**9000**	525		mg/kg dry	1	0951300	12/21/2009 4:51:00PM
Surrogate: o-Terphenyl	*99.3 %*			*48-115*		*0951300*	12/21/2009 4:51:00PM
TPH GRO C6-C12	**SW 8015**					**Analyst: KDS**	
Gasoline Range Organics, C6 - C12	**1850**	264	D	mg/kg dry	50	0952175	12/23/2009 2:03:00AM
Surrogate: a,a,a-Tr.fluorotoluene	*103 %*			*59-162*		*0952175*	12/23/2009 2:03:00AM
VOC 8260	**SW 8260A**					**Analyst: kds**	
1,1,1,2-Tetrachloroethane	BDL	0.264	R-01	mg/kg dry	50	0951322	12/18/2009 7:37:00PM
1,1,1-Trichloroethane	BDL	0.0130		mg/kg dry	2.47	0951322	12/18/2009 4:42:00AM
1,1,2,2-Tetrachloroethane	BDL	0.264	R-01	mg/kg dry	50	0951322	12/18/2009 7:37:00PM
1,1,2-Trichloroethane	BDL	0.0130		mg/kg dry	2.47	0951322	12/18/2009 4:42:00AM
1,1-Dichloroethane	BDL	0.0130		mg/kg dry	2.47	0951322	12/18/2009 4:42:00AM
1,1-Dichloroethene	BDL	0.0130		mg/kg dry	2.47	0951322	12/18/2009 4:42:00AM
1,1-Dichloropropene	BDL	0.0130		mg/kg dry	2.47	0951322	12/18/2009 4:42:00AM
1,2-Dibromoethane	BDL	0.264	R-01	mg/kg dry	50	0951322	12/18/2009 7:37:00PM
1,2-Dichloroethane	BDL	0.0130		mg/kg dry	2.47	0951322	12/18/2009 4:42:00AM
1,2-Dichloropropane	BDL	0.0130		mg/kg dry	2.47	0951322	12/18/2009 4:42:00AM
1,3-Dichloropropane	BDL	0.0130		mg/kg dry	2.47	0951322	12/18/2009 4:42:00AM
2,2-Dichloropropane	BDL	0.0130		mg/kg dry	2.47	0951322	12/18/2009 4:42:00AM
2-Butanone	BDL	0.0521		mg/kg dry	2.47	0951322	12/18/2009 4:42:00AM
2-Chloroethyl vinyl ether	BDL	0.0651		mg/kg dry	2.47	0951322	12/18/2009 4:42:00AM
2-Chlorotoluene	**0.927**	0.264	R-01	mg/kg dry	50	0951322	12/18/2009 7:37:00PM
2-Hexanone	**0.552**	0.0521		mg/kg dry	2.47	0951322	12/18/2009 4:42:00AM
4-Chlorotoluene	**0.598**	0.264	R-01	mg/kg dry	50	0951322	12/18/2009 7:37:00PM
4-Methyl-2-pentanone	BDL	0.0521		mg/kg dry	2.47	0951322	12/18/2009 4:42:00AM
Acetone	BDL	0.130		mg/kg dry	2.47	0951322	12/18/2009 4:42:00AM
Acetonitrile	BDL	0.104		mg/kg dry	2.47	0951322	12/18/2009 4:42:00AM
Acrolein	BDL	0.0521		mg/kg dry	2.47	0951322	12/18/2009 4:42:00AM
Acrylonitrile	BDL	0.0521		mg/kg dry	2.47	0951322	12/18/2009 4:42:00AM
Allyl chloride	BDL	0.0261		mg/kg dry	2.47	0951322	12/18/2009 4:42:00AM
Benzene	BDL	0.0130		mg/kg dry	2.47	0951322	12/18/2009 4:42:00AM
Bromobenzene	BDL	0.264	R-01	mg/kg dry	50	0951322	12/18/2009 7:37:00PM
Bromochloromethane	BDL	0.0130		mg/kg dry	2.47	0951322	12/18/2009 4:42:00AM
Bromodichloromethane	BDL	0.0130		mg/kg dry	2.47	0951322	12/18/2009 4:42:00AM
Bromoform	BDL	0.264	R-01	mg/kg dry	50	0951322	12/18/2009 7:37:00PM
Bromomethane	BDL	0.0130		mg/kg dry	2.47	0951322	12/18/2009 4:42:00AM
Carbon Disulfide	BDL	0.0521		mg/kg dry	2.47	0951322	12/18/2009 4:42:00AM
Carbon Tetrachloride	BDL	0.0130		mg/kg dry	2.47	0951322	12/18/2009 4:42:00AM
Chlorobenzene	BDL	0.264	R-01	mg/kg dry	50	0951322	12/18/2009 7:37:00PM
Chloroethane	BDL	0.0130		mg/kg dry	2.47	0951322	12/18/2009 4:42:00AM
Chloroform	BDL	0.0130		mg/kg dry	2.47	0951322	12/18/2009 4:42:00AM
Chloromethane	BDL	0.0130		mg/kg dry	2.47	0951322	12/18/2009 4:42:00AM

Belmont Labs **Date:** 12/28/2009

CLIENT: Weston Solutions, Inc. - Dayton **Lab Order:** 09L0975
Project: 12473.005.005

Lab ID: 09L0975-02 **Collection Date:** 12/16/2009 4:00:00PM
Client Sample ID: 091216-5 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Analyzed
cis-1,2-Dichloroethene	BDL	0.0130		mg/kg dry	2.47	0951322	12/18/2009 4:42:00AM
cis-1,3-Dichloropropene	BDL	0.0130		mg/kg dry	2.47	0951322	12/18/2009 4:42:00AM
Dibromochloromethane	BDL	0.264	R-01	mg/kg dry	50	0951322	12/18/2009 7:37:00PM
Dibromomethane	BDL	0.0130		mg/kg dry	2.47	0951322	12/18/2009 4:42:00AM
Dichlorodifluoromethane	BDL	0.0130		mg/kg dry	2.47	0951322	12/18/2009 4:42:00AM
Ethylbenzene	BDL	0.264	R-01	mg/kg dry	50	0951322	12/18/2009 7:37:00PM
Iodomethane	BDL	0.0261		mg/kg dry	2.47	0951322	12/18/2009 4:42:00AM
Methylene Chloride	BDL	0.0130		mg/kg dry	2.47	0951322	12/18/2009 4:42:00AM
Methyl tert-Butyl Ether	BDL	0.0261		mg/kg dry	2.47	0951322	12/18/2009 4:42:00AM
m,p-Xylene	BDL	0.527	R-01	mg/kg dry	50	0951322	12/18/2009 7:37:00PM
n-Hexane	BDL	0.0130		mg/kg dry	2.47	0951322	12/18/2009 4:42:00AM
o-Xylene	BDL	0.264	R-01	mg/kg dry	50	0951322	12/18/2009 7:37:00PM
Styrene	BDL	0.264	R-01	mg/kg dry	50	0951322	12/18/2009 7:37:00PM
Tetrachloroethene	BDL	0.264	R-01	mg/kg dry	50	0951322	12/18/2009 7:37:00PM
Toluene	BDL	0.0130		mg/kg dry	2.47	0951322	12/18/2009 4:42:00AM
trans-1,2-Dichloroethene	BDL	0.0130		mg/kg dry	2.47	0951322	12/18/2009 4:42:00AM
trans-1,3-Dichloropropene	BDL	0.0130		mg/kg dry	2.47	0951322	12/18/2009 4:42:00AM
Trichloroethene	BDL	0.0130		mg/kg dry	2.47	0951322	12/18/2009 4:42:00AM
Trichlorofluoromethane	BDL	0.0130		mg/kg dry	2.47	0951322	12/18/2009 4:42:00AM
Vinyl Chloride	BDL	0.0130		mg/kg dry	2.47	0951322	12/18/2009 4:42:00AM
Vinyl acetate	BDL	0.0261		mg/kg dry	2.47	0951322	12/18/2009 4:42:00AM
Surrogate: 4-Bromofluorobenzene		*1790 %*	*S-04*	*34-118*		*0951322*	12/18/2009 4:42:00AM
Surrogate: Dibromofluoromethane		*83.8 %*		*61-152*		*0951322*	12/18/2009 4:42:00AM
Surrogate: Toluene-d8		*103 %*		*44-119*		*0951322*	12/18/2009 4:42:00AM
Surrogate: 1,2-Dichloroethane-d4		*88.9 %*		*39-123*		*0951322*	12/18/2009 4:42:00AM
PMOIST		**D 2216**				**Analyst: AD**	
Percent Moisture	**5.19**			% by Weight	1	0952183	12/23/2009 12:00:00AM
PAH_FULL_8270		**SW 8270C**				**Analyst: dag**	
2-Methylnaphthalene	BDL	1.05		mg/kg dry	10	0951299	12/24/2009 5:36:00AM
Acenaphthene	BDL	1.05		mg/kg dry	10	0951299	12/24/2009 5:36:00AM
Acenaphthylene	BDL	1.05		mg/kg dry	10	0951299	12/24/2009 5:36:00AM
Anthracene	BDL	1.05		mg/kg dry	10	0951299	12/24/2009 5:36:00AM
Benz(a)anthracene	BDL	1.05		mg/kg dry	10	0951299	12/24/2009 5:36:00AM
Benzo(a)pyrene	BDL	1.05		mg/kg dry	10	0951299	12/24/2009 5:36:00AM
Benzo(b)fluoranthene	BDL	1.05		mg/kg dry	10	0951299	12/24/2009 5:36:00AM
Benzo(g,h,i)perylene	BDL	1.05		mg/kg dry	10	0951299	12/24/2009 5:36:00AM
Benzo(k)fluoranthene	BDL	1.05		mg/kg dry	10	0951299	12/24/2009 5:36:00AM
Chrysene	BDL	1.05		mg/kg dry	10	0951299	12/24/2009 5:36:00AM
Dibenz(a,h)anthracene	BDL	1.05		mg/kg dry	10	0951299	12/24/2009 5:36:00AM
Fluoranthene	BDL	1.05		mg/kg dry	10	0951299	12/24/2009 5:36:00AM
Fluorene	BDL	1.05		mg/kg dry	10	0951299	12/24/2009 5:36:00AM
Indeno(1,2,3-cd)pyrene	BDL	1.05		mg/kg dry	10	0951299	12/24/2009 5:36:00AM

Belmont Labs **Date:** 12/28/2009

CLIENT: Weston Solutions, Inc. - Dayton **Lab Order:** 09L0975
Project: 12473.005.005

Lab ID: 09L0975-02 **Collection Date:** 12/16/2009 4:00:00PM
Client Sample ID: 091216-5 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Analyzed
Naphthalene	BDL	1.05		mg/kg dry	10	0951299	12/24/2009 5:36:00AM
Phenanthrene	BDL	1.05		mg/kg dry	10	0951299	12/24/2009 5:36:00AM
Pyrene	BDL	1.05		mg/kg dry	10	0951299	12/24/2009 5:36:00AM
Surrogate: Nitrobenzene-d5	*235 %*		*S-04*	*57-116*		*0951299*	12/24/2009 5:36:00AM
Surrogate: 2-Fluorobiphenyl	*95.7 %*			*64-110*		*0951299*	12/24/2009 5:36:00AM
Surrogate: Terphenyl-d14	*88.0 %*			*46-124*		*0951299*	12/24/2009 5:36:00AM

Belmont Labs **Date:** 12/28/2009

CLIENT: Weston Solutions, Inc. - Dayton **Lab Order:** 09L0975
Project: 12473.005.005

Lab ID: 09L0975-03 **Collection Date:** 12/16/2009 4:00:00PM
Client Sample ID: 091216-7 **Matrix:** Soil

Analysis	Result		PQL	Qual	Units	Dilution	Batch	Date Analyzed
TPH C10-34		**SW 8015**					**Analyst: DAG**	
C10 to C20	**1670**		114	D	mg/kg dry	10	0951300	12/22/2009 10:40:00AM
C20 to C34	**7790**		570		mg/kg dry	1	0951300	12/21/2009 5:27:00PM
Surrogate: o-Terphenyl		*121 %*		*S-04*	*48-115*		*0951300*	12/21/2009 5:27:00PM
TPH GRO C6-C12		**SW 8015**					**Analyst: KDS**	
Gasoline Range Organics, C6 - C12	BDL		11.1		mg/kg dry	1.93	0952175	12/22/2009 7:59:00PM
Surrogate: a,a,a-Trifluorotoluene		*98.0 %*			*59-162*		*0952175*	12/22/2009 7:59:00PM
VOC 8260		**SW 8260A**					**Analyst: kds**	
1,1,1,2-Tetrachloroethane	BDL		0.0272		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
1,1,1-Trichloroethane	BDL		0.0272		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
1,1,2,2-Tetrachloroethane	BDL		0.0272		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
1,1,2-Trichloroethane	BDL		0.0272		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
1,1-Dichloroethane	BDL		0.0272		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
1,1-Dichloroethene	BDL		0.0272		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
1,1-Dichloropropene	BDL		0.0272		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
1,2-Dibromoethane	BDL		0.0272		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
1,2-Dichloroethane	BDL		0.0272		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
1,2-Dichloropropane	BDL		0.0272		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
1,3-Dichloropropane	BDL		0.0272		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
2,2-Dichloropropane	BDL		0.0272		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
2-Butanone	BDL		0.109		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
2-Chloroethyl vinyl ether	BDL		0.136		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
2-Chlorotoluene	**0.0438**		0.0272		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
2-Hexanone	BDL		0.109		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
4-Chlorotoluene	**0.107**		0.0272		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
4-Methyl-2-pentanone	BDL		0.109		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
Acetone	BDL		0.272		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
Acetonitrile	BDL		0.218		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
Acrolein	BDL		0.109		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
Acrylonitrile	BDL		0.109		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
Allyl chloride	BDL		0.0545		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
Benzene	BDL		0.0272		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
Bromobenzene	**0.0493**		0.0272		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
Bromochloromethane	BDL		0.0272		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
Bromodichloromethane	BDL		0.0272		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
Bromoform	BDL		0.0272		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
Bromomethane	BDL		0.0272		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
Carbon Disulfide	BDL		0.109		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
Carbon Tetrachloride	BDL		0.0272		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
Chlorobenzene	BDL		0.0272		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
Chloroethane	BDL		0.0272		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
Chloroform	BDL		0.0272		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
Chloromethane	BDL		0.0272		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM

Belmont Labs **Date:** 12/28/2009

CLIENT: Weston Solutions, Inc. - Dayton **Lab Order:** 09L0975
Project: 12473.005.005

Lab ID: 09L0975-03 **Collection Date:** 12/16/2009 4:00:00PM
Client Sample ID: 091216-7 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Analyzed
cis-1,2-Dichloroethene	BDL	0.0272		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
cis-1,3-Dichloropropene	BDL	0.0272		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
Dibromochloromethane	BDL	0.0272		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
Dibromomethane	BDL	0.0272		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
Dichlorodifluoromethane	BDL	0.0272		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
Ethylbenzene	BDL	0.0272		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
Iodomethane	BDL	0.0545		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
Methylene Chloride	BDL	0.0272		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
Methyl tert-Butyl Ether	BDL	0.0545		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
m,p-Xylene	BDL	0.0545		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
n-Hexane	BDL	0.0272		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
o-Xylene	**0.0799**	0.0272		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
Styrene	BDL	0.0272		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
Tetrachloroethene	BDL	0.0272		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
Toluene	BDL	0.0272		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
trans-1,2-Dichloroethene	BDL	0.0272		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
trans-1,3-Dichloropropene	BDL	0.0272		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
Trichloroethene	BDL	0.0272		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
Trichlorofluoromethane	BDL	0.0272		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
Vinyl Chloride	BDL	0.0272		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
Vinyl acetate	BDL	0.0545		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
Surrogate: 4-Bromofluorobenzene	*384 %*		*S-04*	*34-118*		*0951324*	12/18/2009 8:43:00PM
Surrogate: Dibromofluoromethane	*67.8 %*			*61-152*		*0951324*	12/18/2009 8:43:00PM
Surrogate: Toluene-d8	*93.2 %*			*44-119*		*0951324*	12/18/2009 8:43:00PM
Surrogate: 1,2-Dichloroethane-d4	*71.0 %*			*39-123*		*0951324*	12/18/2009 8:43:00PM
PMOIST	**D 2216**					**Analyst: AD**	
Percent Moisture	**12.8**			% by Weight	1	0952183	12/23/2009 12:00:00AM
PAH_FULL_8270	**SW 8270C**					**Analyst: dag**	
2-Methylnaphthalene	BDL	0.114		mg/kg dry	1	0951299	12/24/2009 6:14:00AM
Acenaphthene	BDL	0.114		mg/kg dry	1	0951299	12/24/2009 6:14:00AM
Acenaphthylene	BDL	0.114		mg/kg dry	1	0951299	12/24/2009 6:14:00AM
Anthracene	BDL	0.114		mg/kg dry	1	0951299	12/24/2009 6:14:00AM
Benz(a)anthracene	BDL	0.114		mg/kg dry	1	0951299	12/24/2009 6:14:00AM
Benzo(a)pyrene	BDL	0.114		mg/kg dry	1	0951299	12/24/2009 6:14:00AM
Benzo(b)fluoranthene	BDL	0.114		mg/kg dry	1	0951299	12/24/2009 6:14:00AM
Benzo(g,h,i)perylene	BDL	0.114		mg/kg dry	1	0951299	12/24/2009 6:14:00AM
Benzo(k)fluoranthene	BDL	0.114		mg/kg dry	1	0951299	12/24/2009 6:14:00AM
Chrysene	BDL	0.114		mg/kg dry	1	0951299	12/24/2009 6:14:00AM
Dibenz(a,h)anthracene	BDL	0.114		mg/kg dry	1	0951299	12/24/2009 6:14:00AM
Fluoranthene	BDL	0.114		mg/kg dry	1	0951299	12/24/2009 6:14:00AM
Fluorene	BDL	0.114		mg/kg dry	1	0951299	12/24/2009 6:14:00AM
Indeno(1,2,3-cd)pyrene	BDL	0.114		mg/kg dry	1	0951299	12/24/2009 6:14:00AM

Belmont Labs **Date:** 12/28/2009

CLIENT: Weston Solutions, Inc. - Dayton **Lab Order:** 09L0975
Project: 12473.005.005

Lab ID: 09L0975-03 **Collection Date:** 12/16/2009 4:00:00PM
Client Sample ID: 091216-7 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Analyzed
Naphthalene	**0.131**	0.114		mg/kg dry	1	0951299	12/24/2009 6:14:00AM
Phenanthrene	BDL	0.114		mg/kg dry	1	0951299	12/24/2009 6:14:00AM
Pyrene	BDL	0.114		mg/kg dry	1	0951299	12/24/2009 6:14:00AM
Surrogate: Nitrobenzene-d5	*46.7 %*		*S-04*	*57-116*		*0951299*	12/24/2009 6:14:00AM
Surrogate: 2-Fluorobiphenyl	*96.4 %*			*64-110*		*0951299*	12/24/2009 6:14:00AM
Surrogate: Terphenyl-d14	*75.8 %*			*46-124*		*0951299*	12/24/2009 6:14:00AM

Belmont Labs **Date:** 12/28/2009

CLIENT: Weston Solutions, Inc. - Dayton **Lab Order:** 09L0975
Project: 12473.005.005

Lab ID: 09L0975-04 **Collection Date:** 12/16/2009 4:00:00PM
Client Sample ID: 091216-8 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Analyzed
TPH C10-34	**SW 8015**					**Analyst: DAG**	
C10 to C20	BDL	11.5		mg/kg dry	1	0951300	12/21/2009 6:03:00PM
C20 to C34	BDL	573		mg/kg dry	1	0951300	12/21/2009 6:03:00PM
Surrogate: o-Terphenyl	*89.7 %*			*48-115*		*0951300*	12/21/2009 6:03:00PM
TPH GRO C6-C12	**SW 8015**					**Analyst: KDS**	
Gasoline Range Organics, C6 - C12	BDL	8.72		mg/kg dry	1.52	0952175	12/22/2009 8:32:00PM
Surrogate: a,a,a-Tr.fluorotoluene	*100 %*			*59-162*		*0952175*	12/22/2009 8:32:00PM
VOC 8260	**SW 8260A**					**Analyst: kds**	
1,1,1,2-Tetrachloroethane	BDL	0.00573		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
1,1,1-Trichloroethane	BDL	0.00573		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
1,1,2,2-Tetrachloroethane	BDL	0.00573		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
1,1,2-Trichloroethane	BDL	0.00573		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
1,1-Dichloroethane	BDL	0.00573		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
1,1-Dichloroethene	BDL	0.00573		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
1,1-Dichloropropene	BDL	0.00573		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
1,2-Dibromoethane	BDL	0.00573		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
1,2-Dichloroethane	BDL	0.00573		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
1,2-Dichloropropane	BDL	0.00573		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
1,3-Dichloropropane	BDL	0.00573		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
2,2-Dichloropropane	BDL	0.00573		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
2-Butanone	BDL	0.0229		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
2-Chloroethyl vinyl ether	BDL	0.0287		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
2-Chlorotoluene	BDL	0.00573		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
2-Hexanone	BDL	0.0229		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
4-Chlorotoluene	BDL	0.00573		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
4-Methyl-2-pentanone	BDL	0.0229		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
Acetone	BDL	0.0573		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
Acetonitrile	BDL	0.0459		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
Acrolein	BDL	0.0229		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
Acrylonitrile	BDL	0.0229		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
Allyl chloride	BDL	0.0115		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
Benzene	BDL	0.00573		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
Bromobenzene	BDL	0.00573		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
Bromochloromethane	BDL	0.00573		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
Bromodichloromethane	BDL	0.00573		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
Bromoform	BDL	0.00573		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
Bromomethane	BDL	0.00573		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
Carbon Disulfide	BDL	0.0229		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
Carbon Tetrachloride	BDL	0.00573		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
Chlorobenzene	BDL	0.00573		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
Chloroethane	BDL	0.00573		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
Chloroform	BDL	0.00573		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
Chloromethane	BDL	0.00573		mg/kg dry	1	0951322	12/18/2009 2:32:00AM

Belmont Labs **Date:** 12/28/2009

CLIENT: Weston Solutions, Inc. - Dayton **Lab Order:** 09L0975
Project: 12473.005.005

Lab ID: 09L0975-04 **Collection Date:** 12/16/2009 4:00:00PM
Client Sample ID: 091216-8 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Analyzed
cis-1,2-Dichloroethene	BDL	0.00573		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
cis-1,3-Dichloropropene	BDL	0.00573		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
Dibromochloromethane	BDL	0.00573		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
Dibromomethane	BDL	0.00573		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
Dichlorodifluoromethane	BDL	0.00573		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
Ethylbenzene	BDL	0.00573		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
Iodomethane	BDL	0.0115		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
Methylene Chloride	BDL	0.00573		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
Methyl tert-Butyl Ether	BDL	0.0115		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
m,p-Xylene	BDL	0.0115		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
n-Hexane	BDL	0.00573		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
o-Xylene	BDL	0.00573		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
Styrene	BDL	0.00573		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
Tetrachloroethene	BDL	0.00573		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
Toluene	BDL	0.00573		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
trans-1,2-Dichloroethene	BDL	0.00573		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
trans-1,3-Dichloropropene	BDL	0.00573		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
Trichloroethene	BDL	0.00573		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
Trichlorofluoromethane	BDL	0.00573		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
Vinyl Chloride	BDL	0.00573		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
Vinyl acetate	BDL	0.0115		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
Surrogate: 4-Bromofluorobenzene		*98.4 %*		*34-118*		*0951322*	12/18/2009 2:32:00AM
Surrogate: Dibromofluoromethane		*55.2 %*	*S-04*	*61-152*		*0951322*	12/18/2009 2:32:00AM
Surrogate: Toluene-d8		*96.1 %*		*44-119*		*0951322*	12/18/2009 2:32:00AM
Surrogate: 1,2-Dichloroethane-d4		*73.2 %*		*39-123*		*0951322*	12/18/2009 2:32:00AM
PMOIST		**D 2216**				**Analyst: AD**	
Percent Moisture	**12.8**			% by Weight	1	0952183	12/23/2009 12:00:00AM
PAH_FULL_8270		**SW 8270C**				**Analyst: dag**	
2-Methylnaphthalene	BDL	0.114		mg/kg dry	1	0951299	12/24/2009 6:52:00AM
Acenaphthene	BDL	0.114		mg/kg dry	1	0951299	12/24/2009 6:52:00AM
Acenaphthylene	BDL	0.114		mg/kg dry	1	0951299	12/24/2009 6:52:00AM
Anthracene	BDL	0.114		mg/kg dry	1	0951299	12/24/2009 6:52:00AM
Benz(a)anthracene	BDL	0.114		mg/kg dry	1	0951299	12/24/2009 6:52:00AM
Benzo(a)pyrene	BDL	0.114		mg/kg dry	1	0951299	12/24/2009 6:52:00AM
Benzo(b)fluoranthene	BDL	0.114		mg/kg dry	1	0951299	12/24/2009 6:52:00AM
Benzo(g,h,i)perylene	BDL	0.114		mg/kg dry	1	0951299	12/24/2009 6:52:00AM
Benzo(k)fluoranthene	BDL	0.114		mg/kg dry	1	0951299	12/24/2009 6:52:00AM
Chrysene	BDL	0.114		mg/kg dry	1	0951299	12/24/2009 6:52:00AM
Dibenz(a,h)anthracene	BDL	0.114		mg/kg dry	1	0951299	12/24/2009 6:52:00AM
Fluoranthene	BDL	0.114		mg/kg dry	1	0951299	12/24/2009 6:52:00AM
Fluorene	BDL	0.114		mg/kg dry	1	0951299	12/24/2009 6:52:00AM
Indeno(1,2,3-cd)pyrene	BDL	0.114		mg/kg dry	1	0951299	12/24/2009 6:52:00AM

Belmont Labs **Date:** 12/28/2009

CLIENT: Weston Solutions, Inc. - Dayton **Lab Order:** 09L0975
Project: 12473.005.005

Lab ID: 09L0975-04 **Collection Date:** 12/16/2009 4:00:00PM
Client Sample ID: 091216-8 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Analyzed
Naphthalene	BDL	0.114		mg/kg dry	1	0951299	12/24/2009 6:52:00AM
Phenanthrene	BDL	0.114		mg/kg dry	1	0951299	12/24/2009 6:52:00AM
Pyrene	BDL	0.114		mg/kg dry	1	0951299	12/24/2009 6:52:00AM
Surrogate: Nitrobenzene-d5		*96.4 %*		*57-116*		*0951299*	12/24/2009 6:52:00AM
Surrogate: 2-Fluorobiphenyl		*89.0 %*		*64-110*		*0951299*	12/24/2009 6:52:00AM
Surrogate: Terphenyl-d14		*91.0 %*		*46-124*		*0951299*	12/24/2009 6:52:00AM

Belmont Labs
The Environmental Service Company.

ANALYTICAL REQUEST
CHAIN OF CUSTODY

Internal Lab Order Number 091097

Purchase Order No.	Quote No.	Client Project
0062907		12473.005.005

INVOICE TO
Name: LAURA FUNK
Company: ~~THE~~ WESTON SOLUTIONS
Address: 711 E. MONUMENT, #201
City, State, Zip: DAYTON, OH 45402

REPORT TO
Name: LAURA FUNK
Company: WESTON
Mailing Address: 711 E. Monument, #201
City, State, Zip: Dayton, OH 45402
Phone No.: 937-531-4400 Fax No.: -4461

Date Results Req: 12-21-09
Rush Charges Authorized? ☒ Yes ☐ No
Fax Results ☐

Special Instructions:

Additional QC Requirements: Level 2, Level 3, Level 4 (Charges Apply)

Regulatory Type
☐ NPDES
☐ RCRA
☐ SDWA
☐ VAP
☒ Other
Collected in State of OH

Matrix Key
DW - Drinking Water
GW - Ground Water
S - Soil/Solid
SL - Sludge
WW - Waste Water
Specify Other

ANALYSIS REQUESTED
(Enter an "X" in the box below to indicate request and circle preservative)

CLIENT SAMPLE IDENTIFICATION	Date Sampled	Time	Comp	Grab	Matrix	Number of Containers	VOCs (8260) HNO3, HCl, H2SO4, Ice, None, Other	MTBE (8260) HNO3, HCl, H2SO4, Ice, None, Other	PAHs (8270) HNO3, HCl, H2SO4, Ice, None, Other	TPH (C6-C12) HNO3, HCl, H2SO4, Ice, None, Other	TPH (C10-C20) HNO3, HCl, H2SO4, Ice, None, Other	TPH (C20-C34) HNO3, HCl, H2SO4, Ice, None, Other			Lab Only
091216-3	12/16/09	1600		✓		2	✓	✓	✓	✓	✓	✓			
091216-5				✓		2	✓	✓	✓	✓	✓	✓			
091216-7				✓		2	✓	✓	✓	✓	✓	✓			
091216-8	↓	↓		✓		2	✓	✓	✓	✓	✓	✓			
* LAST ITEM															*
									8						

CHAIN OF CUSTODY (if required)

Relinquished by: [signature] Date/Time 12/17/09 0900
Received by: Date/Time
Relinquished by: Date/Time
Received at lab by: [signature] Date/Time 12-17-09 9:00
Method of Shipment: Delivered W.I
Cooler Temp. 2.8° Custody Seals ☐ Yes ☐ No
Sampled by: [signature] Date 12/16/09
Client Comments

DISTRIBUTION:
WHITE - Laboratory
YELLOW - Accounting

Please return completed form and samples to Belmont Labs • 25 Holiday Drive • Englewood, OH 45322 • 937.832.8242 • Fax 937.832.2868

A & B [illegible] Form #9786-5/02

Extractable Hydrocarbons by 8015 - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0951300 - PREP_DRO_S										
Blank (0951300-BLK1)				Prepared: 12/18/09 Analyzed: 12/21/09						
C10 to C20	BDL	10.0	mg/kg wet							
C20 to C34	BDL	500	mg/kg wet							
Surrogate: o-Terphenyl	*9.30*		*mg/kg wet*	*10.00*		*93.0*	*48-115*			
LCS (0951300-BS1)				Prepared: 12/18/09 Analyzed: 12/21/09						
C10 to C20	143	10.0	mg/kg wet	126.1		113	52-119		11	
Surrogate: o-Terphenyl	*8.44*		*mg/kg wet*	*10.00*		*84.4*	*48-115*			
LCS Dup (0951300-BSD1)				Prepared: 12/18/09 Analyzed: 12/21/09						
C10 to C20	133	10.0	mg/kg wet	126.1		106	52-119	7.20	11	
Surrogate: o-Terphenyl	*7.74*		*mg/kg wet*	*10.00*		*77.4*	*48-115*			

Petroleum Hydrocarbons by GC FID - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0952175 - GC Prep										
Blank (0952175-BLK1)				Prepared & Analyzed: 12/22/09						
Gasoline Range Organics, C6 - C12	BDL	5.00	mg/kg wet							
Surrogate: a,a,a-Tr.fluorotoluene	*0.0970*		*mg/L*	*0.1000*		*97.0*	*59-162*			
LCS (0952175-BS1)				Prepared & Analyzed: 12/22/09						
Gasoline Range Organics, C6 - C12	10.3	5.00	mg/kg wet	10.00		103	81-112		10	
Surrogate: a,a,a-Tr.fluorotoluene	*0.0950*		*mg/L*	*0.1000*		*95.0*	*59-162*			
LCS Dup (0952175-BSD1)				Prepared & Analyzed: 12/22/09						
Gasoline Range Organics, C6 - C12	10.7	5.00	mg/kg wet	10.00		107	81-112	3.63	10	
Surrogate: a,a,a-Tr.fluorotoluene	*0.0950*		*mg/L*	*0.1000*		*95.0*	*59-162*			
Matrix Spike (0952175-MS1)	**Source: 09L1070-04**			Prepared: 12/22/09 Analyzed: 12/23/09						
Gasoline Range Organics, C6 - C12	11.3	4.70	mg/kg wet	20.00	3.95	36.8	20-100		20	D
Surrogate: a,a,a-Tr.fluorotoluene	*0.0740*		*mg/L*	*0.1000*		*74.0*	*59-162*			

Volatile Organic Compounds by EPA Method 8260A/B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0951322 - VOC PREP										
Blank (0951322-BLK1)				Prepared & Analyzed: 12/17/09						
1,1,1,2-Tetrachloroethane	BDL	0.00500	mg/kg wet							
1,1,1-Trichloroethane	BDL	0.00500	mg/kg wet							
1,1,2,2-Tetrachloroethane	BDL	0.00500	mg/kg wet							
1,1,2-Trichloroethane	BDL	0.00500	mg/kg wet							
1,1-Dichloroethane	BDL	0.00500	mg/kg wet							
1,1-Dichloroethene	BDL	0.00500	mg/kg wet							
1,1-Dichloropropene	BDL	0.00500	mg/kg wet							
1,2-Dibromoethane	BDL	0.00500	mg/kg wet							
1,2-Dichloroethane	BDL	0.00500	mg/kg wet							
1,2-Dichloropropane	BDL	0.00500	mg/kg wet							
1,3-Dichloropropane	BDL	0.00500	mg/kg wet							
2,2-Dichloropropane	BDL	0.00500	mg/kg wet							
2-Butanone	BDL	0.0200	mg/kg wet							
2-Chloroethyl vinyl ether	BDL	0.0250	mg/kg wet							
2-Chlorotoluene	BDL	0.00500	mg/kg wet							
2-Hexanone	BDL	0.0200	mg/kg wet							
4-Chlorotoluene	BDL	0.00500	mg/kg wet							
4-Methyl-2-pentanone	BDL	0.0200	mg/kg wet							
Acetone	BDL	0.0500	mg/kg wet							
Acetonitrile	BDL	0.0400	mg/kg wet							
Acrolein	BDL	0.0200	mg/kg wet							
Acrylonitrile	BDL	0.0200	mg/kg wet							
Allyl chloride	BDL	0.0100	mg/kg wet							
Benzene	BDL	0.00500	mg/kg wet							
Bromobenzene	BDL	0.00500	mg/kg wet							
Bromochloromethane	BDL	0.00500	mg/kg wet							
Bromodichloromethane	BDL	0.00500	mg/kg wet							
Bromoform	BDL	0.00500	mg/kg wet							
Bromomethane	BDL	0.00500	mg/kg wet							
Carbon Disulfide	BDL	0.0200	mg/kg wet							
Carbon Tetrachloride	BDL	0.00500	mg/kg wet							
Chlorobenzene	BDL	0.00500	mg/kg wet							
Chloroethane	BDL	0.00500	mg/kg wet							
Chloroform	BDL	0.00500	mg/kg wet							
Chloromethane	BDL	0.00500	mg/kg wet							
cis-1,2-Dichloroethene	BDL	0.00500	mg/kg wet							
cis-1,3-Dichloropropene	BDL	0.00500	mg/kg wet							
Dibromochloromethane	BDL	0.00500	mg/kg wet							
Dibromomethane	BDL	0.00500	mg/kg wet							
Dichlorodifluoromethane	BDL	0.00500	mg/kg wet							
Ethylbenzene	BDL	0.00500	mg/kg wet							
Iodomethane	BDL	0.0100	mg/kg wet							
Methylene Chloride	BDL	0.00500	mg/kg wet							
Methyl tert-Butyl Ether	BDL	0.0100	mg/kg wet							
m,p-Xylene	BDL	0.0100	mg/kg wet							

Volatile Organic Compounds by EPA Method 8260A/B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0951322 - VOC PREP										
Blank (0951322-BLK1)				Prepared & Analyzed: 12/17/09						
n-Hexane	BDL	0.00500	mg/kg wet							
o-Xylene	BDL	0.00500	mg/kg wet							
Styrene	BDL	0.00500	mg/kg wet							
Tetrachloroethene	BDL	0.00500	mg/kg wet							
Toluene	BDL	0.00500	mg/kg wet							
trans-1,2-Dichloroethene	BDL	0.00500	mg/kg wet							
trans-1,3-Dichloropropene	BDL	0.00500	mg/kg wet							
Trichloroethene	BDL	0.00500	mg/kg wet							
Trichlorofluoromethane	BDL	0.00500	mg/kg wet							
Vinyl Chloride	BDL	0.00500	mg/kg wet							
Vinyl acetate	BDL	0.0100	mg/kg wet							
Surrogate: 4-Bromofluorobenzene	*45.1*		*ug/L*	*50.00*		*90.2*	*34-118*			
Surrogate: Dibromofluoromethane	*39.1*		*ug/L*	*50.00*		*78.2*	*61-152*			
Surrogate: Toluene-d8	*47.0*		*ug/L*	*50.00*		*93.9*	*44-119*			
Surrogate: 1,2-Dichloroethane-d4	*36.5*		*ug/L*	*50.00*		*73.0*	*39-123*			
Blank (0951322-BLK2)				Prepared & Analyzed: 12/18/09						
1,1,1,2-Tetrachloroethane	BDL	0.00500	mg/kg wet							
1,1,1-Trichloroethane	BDL	0.00500	mg/kg wet							
1,1,2,2-Tetrachloroethane	BDL	0.00500	mg/kg wet							
1,1,2-Trichloroethane	BDL	0.00500	mg/kg wet							
1,1-Dichloroethane	BDL	0.00500	mg/kg wet							
1,1-Dichloroethene	BDL	0.00500	mg/kg wet							
1,1-Dichloropropene	BDL	0.00500	mg/kg wet							
1,2-Dibromoethane	BDL	0.00500	mg/kg wet							
1,2-Dichloroethane	BDL	0.00500	mg/kg wet							
1,2-Dichloropropane	BDL	0.00500	mg/kg wet							
1,3-Dichloropropane	BDL	0.00500	mg/kg wet							
2,2-Dichloropropane	BDL	0.00500	mg/kg wet							
2-Butanone	BDL	0.0200	mg/kg wet							
2-Chloroethyl vinyl ether	BDL	0.0250	mg/kg wet							
2-Chlorotoluene	BDL	0.00500	mg/kg wet							
2-Hexanone	BDL	0.0200	mg/kg wet							
4-Chlorotoluene	BDL	0.00500	mg/kg wet							
4-Methyl-2-pentanone	BDL	0.0200	mg/kg wet							
Acetone	BDL	0.0500	mg/kg wet							
Acetonitrile	BDL	0.0400	mg/kg wet							
Acrolein	BDL	0.0200	mg/kg wet							
Acrylonitrile	BDL	0.0200	mg/kg wet							
Allyl chloride	BDL	0.0100	mg/kg wet							
Benzene	BDL	0.00500	mg/kg wet							
Bromobenzene	BDL	0.00500	mg/kg wet							
Bromochloromethane	BDL	0.00500	mg/kg wet							
Bromodichloromethane	BDL	0.00500	mg/kg wet							
Bromoform	BDL	0.00500	mg/kg wet							

Volatile Organic Compounds by EPA Method 8260A/B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0951322 - VOC PREP										
Blank (0951322-BLK2)				Prepared & Analyzed: 12/18/09						
Bromomethane	BDL	0.00500	mg/kg wet							
Carbon Disulfide	BDL	0.0200	mg/kg wet							
Carbon Tetrachloride	BDL	0.00500	mg/kg wet							
Chlorobenzene	BDL	0.00500	mg/kg wet							
Chloroethane	BDL	0.00500	mg/kg wet							
Chloroform	BDL	0.00500	mg/kg wet							
Chloromethane	BDL	0.00500	mg/kg wet							
cis-1,2-Dichloroethene	BDL	0.00500	mg/kg wet							
cis-1,3-Dichloropropene	BDL	0.00500	mg/kg wet							
Dibromochloromethane	BDL	0.00500	mg/kg wet							
Dibromomethane	BDL	0.00500	mg/kg wet							
Dichlorodifluoromethane	BDL	0.00500	mg/kg wet							
Ethylbenzene	BDL	0.00500	mg/kg wet							
Iodomethane	BDL	0.0100	mg/kg wet							
Methylene Chloride	BDL	0.00500	mg/kg wet							
Methyl tert-Butyl Ether	BDL	0.0100	mg/kg wet							
m,p-Xylene	BDL	0.0100	mg/kg wet							
n-Hexane	BDL	0.00500	mg/kg wet							
o-Xylene	BDL	0.00500	mg/kg wet							
Styrene	BDL	0.00500	mg/kg wet							
Tetrachloroethene	BDL	0.00500	mg/kg wet							
Toluene	BDL	0.00500	mg/kg wet							
trans-1,2-Dichloroethene	BDL	0.00500	mg/kg wet							
trans-1,3-Dichloropropene	BDL	0.00500	mg/kg wet							
Trichloroethene	BDL	0.00500	mg/kg wet							
Trichlorofluoromethane	BDL	0.00500	mg/kg wet							
Vinyl Chloride	BDL	0.00500	mg/kg wet							
Vinyl acetate	BDL	0.0100	mg/kg wet							
Surrogate: 4-Bromofluorobenzene	*47.2*		*ug/L*	*50.00*		*94.4*	*34-118*			
Surrogate: Dibromofluoromethane	*38.2*		*ug/L*	*50.00*		*76.5*	*61-152*			
Surrogate: Toluene-d8	*48.2*		*ug/L*	*50.00*		*96.4*	*44-119*			
Surrogate: 1,2-Dichloroethane-d4	*35.6*		*ug/L*	*50.00*		*71.3*	*39-123*			

Volatile Organic Compounds by EPA Method 8260A/B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0951322 - VOC PREP										
Blank (0951322-BLK3)				Prepared & Analyzed: 12/20/09						
1,1,1,2-Tetrachloroethane	BDL	0.00500	mg/kg wet							
1,1,1-Trichloroethane	BDL	0.00500	mg/kg wet							
1,1,2,2-Tetrachloroethane	BDL	0.00500	mg/kg wet							
1,1,2-Trichloroethane	BDL	0.00500	mg/kg wet							
1,1-Dichloroethane	BDL	0.00500	mg/kg wet							
1,1-Dichloroethene	BDL	0.00500	mg/kg wet							
1,1-Dichloropropene	BDL	0.00500	mg/kg wet							
1,2-Dibromoethane	BDL	0.00500	mg/kg wet							
1,2-Dichloroethane	BDL	0.00500	mg/kg wet							
1,2-Dichloropropane	BDL	0.00500	mg/kg wet							
1,3-Dichloropropane	BDL	0.00500	mg/kg wet							
2,2-Dichloropropane	BDL	0.00500	mg/kg wet							
2-Butanone	BDL	0.0200	mg/kg wet							
2-Chloroethyl vinyl ether	BDL	0.0250	mg/kg wet							
2-Chlorotoluene	BDL	0.00500	mg/kg wet							
2-Hexanone	BDL	0.0200	mg/kg wet							
4-Chlorotoluene	BDL	0.00500	mg/kg wet							
4-Methyl-2-pentanone	BDL	0.0200	mg/kg wet							
Acetone	BDL	0.0500	mg/kg wet							
Acetonitrile	BDL	0.0400	mg/kg wet							
Acrolein	BDL	0.0200	mg/kg wet							
Acrylonitrile	BDL	0.0200	mg/kg wet							
Allyl chloride	BDL	0.0100	mg/kg wet							
Benzene	BDL	0.00500	mg/kg wet							
Bromobenzene	BDL	0.00500	mg/kg wet							
Bromochloromethane	BDL	0.00500	mg/kg wet							
Bromodichloromethane	BDL	0.00500	mg/kg wet							
Bromoform	BDL	0.00500	mg/kg wet							
Bromomethane	BDL	0.00500	mg/kg wet							
Carbon Disulfide	BDL	0.0200	mg/kg wet							
Carbon Tetrachloride	BDL	0.00500	mg/kg wet							
Chlorobenzene	BDL	0.00500	mg/kg wet							
Chloroethane	BDL	0.00500	mg/kg wet							
Chloroform	BDL	0.00500	mg/kg wet							
Chloromethane	BDL	0.00500	mg/kg wet							
cis-1,2-Dichloroethene	BDL	0.00500	mg/kg wet							
cis-1,3-Dichloropropene	BDL	0.00500	mg/kg wet							
Dibromochloromethane	BDL	0.00500	mg/kg wet							
Dibromomethane	BDL	0.00500	mg/kg wet							
Dichlorodifluoromethane	BDL	0.00500	mg/kg wet							
Ethylbenzene	BDL	0.00500	mg/kg wet							
Iodomethane	BDL	0.0100	mg/kg wet							
Methylene Chloride	BDL	0.00500	mg/kg wet							
Methyl tert-Butyl Ether	BDL	0.0100	mg/kg wet							
m,p-Xylene	BDL	0.0100	mg/kg wet							

Volatile Organic Compounds by EPA Method 8260A/B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0951322 - VOC PREP										
Blank (0951322-BLK3)			Prepared & Analyzed: 12/20/09							
n-Hexane	BDL	0.00500	mg/kg wet							
o-Xylene	BDL	0.00500	mg/kg wet							
Styrene	BDL	0.00500	mg/kg wet							
Tetrachloroethene	BDL	0.00500	mg/kg wet							
Toluene	BDL	0.00500	mg/kg wet							
trans-1,2-Dichloroethene	BDL	0.00500	mg/kg wet							
trans-1,3-Dichloropropene	BDL	0.00500	mg/kg wet							
Trichloroethene	BDL	0.00500	mg/kg wet							
Trichlorofluoromethane	BDL	0.00500	mg/kg wet							
Vinyl Chloride	BDL	0.00500	mg/kg wet							
Vinyl acetate	BDL	0.0100	mg/kg wet							
Surrogate: 4-Bromofluorobenzene	*46.4*		*ug/L*	*50.00*		*92.9*	*34-118*			
Surrogate: Dibromofluoromethane	*39.0*		*ug/L*	*50.00*		*77.9*	*61-152*			
Surrogate: Toluene-d8	*45.9*		*ug/L*	*50.00*		*91.7*	*44-119*			
Surrogate: 1,2-Dichloroethane-d4	*34.1*		*ug/L*	*50.00*		*68.3*	*39-123*			
LCS (0951322-BS1)			Prepared & Analyzed: 12/17/09							
1,1,1,2-Tetrachloroethane	0.0224	0.00500	mg/kg wet	0.02000		112	56-128		12	
1,1,1-Trichloroethane	0.0202	0.00500	mg/kg wet	0.02000		101	58-127		20	
1,1,2,2-Tetrachloroethane	0.0230	0.00500	mg/kg wet	0.02000		115	61-125		21	
1,1,2-Trichloroethane	0.0209	0.00500	mg/kg wet	0.02000		104	65-126		16	
1,1-Dichloroethane	0.0199	0.00500	mg/kg wet	0.02000		99.6	60-130		17	
1,1-Dichloroethene	0.0222	0.00500	mg/kg wet	0.02000		111	62-142		19	
1,1-Dichloropropene	0.0212	0.00500	mg/kg wet	0.02000		106	65-125		14	
1,2-Dibromoethane	0.0210	0.00500	mg/kg wet	0.02000		105	39-149		20	
1,2-Dichloroethane	0.0186	0.00500	mg/kg wet	0.02000		92.8	58-128		18	
1,2-Dichloropropane	0.0197	0.00500	mg/kg wet	0.02000		98.3	66-123		15	
1,3-Dichloropropane	0.0203	0.00500	mg/kg wet	0.02000		101	61-125		14	
2,2-Dichloropropane	0.0198	0.00500	mg/kg wet	0.02000		98.9	22-97		39	L
2-Butanone	0.0458	0.0200	mg/kg wet	0.08000		57.2	10-143		36	
2-Chloroethyl vinyl ether	0.0452	0.0250	mg/kg wet	0.02000		226	62-129		22	L
2-Chlorotoluene	0.0222	0.00500	mg/kg wet	0.02000		111	63-126		20	
2-Hexanone	0.0840	0.0200	mg/kg wet	0.08000		105	27-144		40	
4-Chlorotoluene	0.0224	0.00500	mg/kg wet	0.02000		112	56-130		18	
4-Methyl-2-pentanone	0.0867	0.0200	mg/kg wet	0.08000		108	10-184		40	
Acetone	0.0462	0.0500	mg/kg wet	0.08000		57.8	10-172		39	
Acetonitrile	0.0128	0.0400	mg/kg wet	0.02000		63.8	20-149		20	
Acrylonitrile	0.0152	0.0200	mg/kg wet	0.02000		75.8				
Allyl chloride	0.0217	0.0100	mg/kg wet	0.02000		109				
Benzene	0.0200	0.00500	mg/kg wet	0.02000		100	67-124		16	
Bromobenzene	0.0224	0.00500	mg/kg wet	0.02000		112	61-125		16	
Bromochloromethane	0.0181	0.00500	mg/kg wet	0.02000		90.7	55-131		16	
Bromodichloromethane	0.0197	0.00500	mg/kg wet	0.02000		98.6	58-131		21	
Bromoform	0.0239	0.00500	mg/kg wet	0.02000		119	51-136		18	
Bromomethane	0.0222	0.00500	mg/kg wet	0.02000		111	58-190		34	

Volatile Organic Compounds by EPA Method 8260A/B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0951322 - VOC PREP										
LCS (0951322-BS1)				Prepared & Analyzed: 12/17/09						
Carbon Disulfide	0.0232	0.0200	mg/kg wet	0.02000		116	40-156		16	
Carbon Tetrachloride	0.0206	0.00500	mg/kg wet	0.02000		103	46-137		25	
Chlorobenzene	0.0207	0.00500	mg/kg wet	0.02000		104	65-123		18	
Chloroethane	0.0203	0.00500	mg/kg wet	0.02000		102				
Chloroform	0.0181	0.00500	mg/kg wet	0.02000		90.4	64-127		16	
Chloromethane	0.0215	0.00500	mg/kg wet	0.02000		108	29-148		24	
cis-1,2-Dichloroethene	0.0190	0.00500	mg/kg wet	0.02000		95.0	65-128		16	
cis-1,3-Dichloropropene	0.0202	0.00500	mg/kg wet	0.02000		101	27-156		23	
Dibromochloromethane	0.0222	0.00500	mg/kg wet	0.02000		111	53-128		16	
Dibromomethane	0.0196	0.00500	mg/kg wet	0.02000		97.9	55-128		22	
Dichlorodifluoromethane	0.0314	0.00500	mg/kg wet	0.02000		157	25-167		32	
Ethylbenzene	0.0207	0.00500	mg/kg wet	0.02000		104	66-123		16	
Iodomethane	0.0192	0.0100	mg/kg wet	0.02000		96.1	32-150		28	
Methylene Chloride	0.00286	0.00500	mg/kg wet	0.02000		14.3	35-149		12	L
Methyl tert-Butyl Ether	0.0181	0.0100	mg/kg wet	0.02000		90.4	46-142		25	
m,p-Xylene	0.0409	0.0100	mg/kg wet	0.04000		102	66-126		16	
n-Hexane	0.0149	0.00500	mg/kg wet	0.02000		74.3	10-189		21	
o-Xylene	0.0215	0.00500	mg/kg wet	0.02000		108	63-124		17	
Styrene	0.0224	0.00500	mg/kg wet	0.02000		112	63-125		15	
Tetrachloroethene	0.0202	0.00500	mg/kg wet	0.02000		101	29-174		30	
Toluene	0.0197	0.00500	mg/kg wet	0.02000		98.6	70-122		16	
trans-1,2-Dichloroethene	0.0201	0.00500	mg/kg wet	0.02000		101	63-129		18	
trans-1,3-Dichloropropene	0.0198	0.00500	mg/kg wet	0.02000		98.8	38-135		18	
Trichloroethene	0.0197	0.00500	mg/kg wet	0.02000		98.6	68-126		18	
Trichlorofluoromethane	0.0185	0.00500	mg/kg wet	0.02000		92.4	52-142		26	
Vinyl Chloride	0.0221	0.00500	mg/kg wet	0.02000		110				
Vinyl acetate	0.0193	0.0100	mg/kg wet	0.02000		96.6				
Surrogate: 4-Bromofluorobenzene	*45.2*		*ug/L*	*50.00*		*90.4*	*34-118*			
Surrogate: Dibromofluoromethane	*37.3*		*ug/L*	*50.00*		*74.5*	*61-152*			
Surrogate: Toluene-d8	*45.0*		*ug/L*	*50.00*		*90.1*	*44-119*			
Surrogate: 1,2-Dichloroethane-d4	*36.0*		*ug/L*	*50.00*		*72.1*	*39-123*			

Volatile Organic Compounds by EPA Method 8260A/B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0951322 - VOC PREP										
LCS (0951322-BS2)				Prepared & Analyzed: 12/18/09						
1,1,1,2-Tetrachloroethane	0.0206	0.00500	mg/kg wet	0.02000		103	56-128		12	
1,1,1-Trichloroethane	0.0185	0.00500	mg/kg wet	0.02000		92.4	58-127		20	
1,1,2,2-Tetrachloroethane	0.0213	0.00500	mg/kg wet	0.02000		106	61-125		21	
1,1,2-Trichloroethane	0.0205	0.00500	mg/kg wet	0.02000		102	65-126		16	
1,1-Dichloroethane	0.0192	0.00500	mg/kg wet	0.02000		95.8	60-130		17	
1,1-Dichloroethene	0.0203	0.00500	mg/kg wet	0.02000		101	62-142		19	
1,1-Dichloropropene	0.0189	0.00500	mg/kg wet	0.02000		94.4	65-125		14	
1,2-Dibromoethane	0.0209	0.00500	mg/kg wet	0.02000		104	39-149		20	
1,2-Dichloroethane	0.0190	0.00500	mg/kg wet	0.02000		94.8	58-128		18	
1,2-Dichloropropane	0.0196	0.00500	mg/kg wet	0.02000		98.0	66-123		15	
1,3-Dichloropropane	0.0204	0.00500	mg/kg wet	0.02000		102	61-125		14	
2,2-Dichloropropane	0.0189	0.00500	mg/kg wet	0.02000		94.4	22-97		39	
2-Butanone	0.0496	0.0200	mg/kg wet	0.08000		62.0	10-143		36	
2-Chloroethyl vinyl ether	0.0362	0.0250	mg/kg wet	0.02000		181	62-129		22	L
2-Chlorotoluene	0.0199	0.00500	mg/kg wet	0.02000		99.4	63-126		20	
2-Hexanone	0.0773	0.0200	mg/kg wet	0.08000		96.7	27-144		40	
4-Chlorotoluene	0.0200	0.00500	mg/kg wet	0.02000		100	56-130		18	
4-Methyl-2-pentanone	0.0801	0.0200	mg/kg wet	0.08000		100	10-184		40	
Acetone	0.0464	0.0500	mg/kg wet	0.08000		58.0	10-172		39	
Acetonitrile	0.0116	0.0400	mg/kg wet	0.02000		57.8	20-149		20	
Acrylonitrile	0.0150	0.0200	mg/kg wet	0.02000		75.2				
Allyl chloride	0.0210	0.0100	mg/kg wet	0.02000		105				
Benzene	0.0191	0.00500	mg/kg wet	0.02000		95.6	67-124		16	
Bromobenzene	0.0196	0.00500	mg/kg wet	0.02000		97.8	61-125		16	
Bromochloromethane	0.0178	0.00500	mg/kg wet	0.02000		89.2	55-131		16	
Bromodichloromethane	0.0195	0.00500	mg/kg wet	0.02000		97.4	58-131		21	
Bromoform	0.0223	0.00500	mg/kg wet	0.02000		111	51-136		18	
Bromomethane	0.0194	0.00500	mg/kg wet	0.02000		97.2	58-190		34	
Carbon Disulfide	0.0206	0.0200	mg/kg wet	0.02000		103	40-156		16	
Carbon Tetrachloride	0.0180	0.00500	mg/kg wet	0.02000		90.0	46-137		25	
Chlorobenzene	0.0191	0.00500	mg/kg wet	0.02000		95.3	65-123		18	
Chloroethane	0.0191	0.00500	mg/kg wet	0.02000		95.7				
Chloroform	0.0177	0.00500	mg/kg wet	0.02000		88.7	64-127		16	R
Chloromethane	0.0239	0.00500	mg/kg wet	0.02000		120	29-148		24	
cis-1,2-Dichloroethene	0.0188	0.00500	mg/kg wet	0.02000		94.2	65-128		16	R
cis-1,3-Dichloropropene	0.0207	0.00500	mg/kg wet	0.02000		104	27-156		23	
Dibromochloromethane	0.0209	0.00500	mg/kg wet	0.02000		104	53-128		16	L, R
Dibromomethane	0.0201	0.00500	mg/kg wet	0.02000		100	55-128		22	
Dichlorodifluoromethane	0.0310	0.00500	mg/kg wet	0.02000		155	25-167		32	
Ethylbenzene	0.0191	0.00500	mg/kg wet	0.02000		95.4	66-123		16	L, R
Iodomethane	0.0180	0.0100	mg/kg wet	0.02000		89.8	32-150		28	
Methylene Chloride	0.00917	0.00500	mg/kg wet	0.02000		45.8	35-149		12	
Methyl tert-Butyl Ether	0.0189	0.0100	mg/kg wet	0.02000		94.3	46-142		25	
m,p-Xylene	0.0383	0.0100	mg/kg wet	0.04000		95.8	66-126		16	L, R
n-Hexane	0.0216	0.00500	mg/kg wet	0.02000		108	10-189		21	

Volatile Organic Compounds by EPA Method 8260A/B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0951322 - VOC PREP										
LCS (0951322-BS2)				Prepared & Analyzed: 12/18/09						
o-Xylene	0.0201	0.00500	mg/kg wet	0.02000		100	63-124		17	L, R
Styrene	0.0204	0.00500	mg/kg wet	0.02000		102	63-125		15	L, R
Tetrachloroethene	0.0168	0.00500	mg/kg wet	0.02000		84.0	29-174		30	R
Toluene	0.0183	0.00500	mg/kg wet	0.02000		91.6	70-122		16	R
trans-1,2-Dichloroethene	0.0188	0.00500	mg/kg wet	0.02000		93.8	63-129		18	R
trans-1,3-Dichloropropene	0.0195	0.00500	mg/kg wet	0.02000		97.4	38-135		18	R
Trichloroethene	0.0179	0.00500	mg/kg wet	0.02000		89.5	68-126		18	R
Trichlorofluoromethane	0.0165	0.00500	mg/kg wet	0.02000		82.4	52-142		26	
Vinyl Chloride	0.0210	0.00500	mg/kg wet	0.02000		105				
Vinyl acetate	0.0204	0.0100	mg/kg wet	0.02000		102				
Surrogate: 4-Bromofluorobenzene	*47.8*		*ug/L*	*50.00*		*95.6*	*34-118*			
Surrogate: Dibromofluoromethane	*38.3*		*ug/L*	*50.00*		*76.5*	*61-152*			
Surrogate: Toluene-d8	*46.1*		*ug/L*	*50.00*		*92.3*	*44-119*			
Surrogate: 1,2-Dichloroethane-d4	*35.2*		*ug/L*	*50.00*		*70.3*	*39-123*			
LCS (0951322-BS3)				Prepared & Analyzed: 12/20/09						
1,1,1,2-Tetrachloroethane	0.0199	0.00500	mg/kg wet	0.02000		99.6	56-128		12	
1,1,1-Trichloroethane	0.0186	0.00500	mg/kg wet	0.02000		92.8	58-127		20	
1,1,2,2-Tetrachloroethane	0.0216	0.00500	mg/kg wet	0.02000		108	61-125		21	
1,1,2-Trichloroethane	0.0183	0.00500	mg/kg wet	0.02000		91.4	65-126		16	
1,1-Dichloroethane	0.0175	0.00500	mg/kg wet	0.02000		87.5	60-130		17	
1,1-Dichloroethene	0.0192	0.00500	mg/kg wet	0.02000		96.0	62-142		19	
1,1-Dichloropropene	0.0182	0.00500	mg/kg wet	0.02000		90.8	65-125		14	
1,2-Dibromoethane	0.0182	0.00500	mg/kg wet	0.02000		91.2	39-149		20	
1,2-Dichloroethane	0.0169	0.00500	mg/kg wet	0.02000		84.4	58-128		18	
1,2-Dichloropropane	0.0170	0.00500	mg/kg wet	0.02000		85.2	66-123		15	
1,3-Dichloropropane	0.0176	0.00500	mg/kg wet	0.02000		88.3	61-125		14	
2,2-Dichloropropane	0.0178	0.00500	mg/kg wet	0.02000		88.9	22-97		39	
2-Butanone	0.0434	0.0200	mg/kg wet	0.08000		54.2	10-143		36	
2-Chloroethyl vinyl ether	BDL	0.0250	mg/kg wet	0.02000			62-129		22	
2-Chlorotoluene	0.0193	0.00500	mg/kg wet	0.02000		96.4	63-126		20	
2-Hexanone	0.0775	0.0200	mg/kg wet	0.08000		96.9	27-144		40	
4-Chlorotoluene	0.0196	0.00500	mg/kg wet	0.02000		98.1	56-130		18	
4-Methyl-2-pentanone	0.0778	0.0200	mg/kg wet	0.08000		97.2	10-184		40	
Acetone	0.0422	0.0500	mg/kg wet	0.08000		52.7	10-172		39	
Acetonitrile	0.0123	0.0400	mg/kg wet	0.02000		61.4	20-149		20	
Acrylonitrile	0.0139	0.0200	mg/kg wet	0.02000		69.4				
Allyl chloride	0.0198	0.0100	mg/kg wet	0.02000		98.9				
Benzene	0.0179	0.00500	mg/kg wet	0.02000		89.5	67-124		16	
Bromobenzene	0.0195	0.00500	mg/kg wet	0.02000		97.4	61-125		16	
Bromochloromethane	0.0166	0.00500	mg/kg wet	0.02000		83.0	55-131		16	
Bromodichloromethane	0.0180	0.00500	mg/kg wet	0.02000		90.0	58-131		21	
Bromoform	0.0211	0.00500	mg/kg wet	0.02000		105	51-136		18	
Bromomethane	0.0255	0.00500	mg/kg wet	0.02000		128	58-190		34	
Carbon Disulfide	0.0197	0.0200	mg/kg wet	0.02000		98.4	40-156		16	

Volatile Organic Compounds by EPA Method 8260A/B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0951322 - VOC PREP										
LCS (0951322-BS3)				Prepared & Analyzed: 12/20/09						
Carbon Tetrachloride	0.0184	0.00500	mg/kg wet	0.02000		92.0	46-137		25	
Chlorobenzene	0.0182	0.00500	mg/kg wet	0.02000		91.1	65-123		18	
Chloroethane	0.0222	0.00500	mg/kg wet	0.02000		111				
Chloroform	0.0163	0.00500	mg/kg wet	0.02000		81.5	64-127		16	
Chloromethane	0.0214	0.00500	mg/kg wet	0.02000		107	29-148		24	
cis-1,2-Dichloroethene	0.0171	0.00500	mg/kg wet	0.02000		85.6	65-128		16	
cis-1,3-Dichloropropene	0.0177	0.00500	mg/kg wet	0.02000		88.6	27-156		23	
Dibromochloromethane	0.0195	0.00500	mg/kg wet	0.02000		97.4	53-128		16	
Dibromomethane	0.0166	0.00500	mg/kg wet	0.02000		83.2	55-128		22	
Dichlorodifluoromethane	0.0279	0.00500	mg/kg wet	0.02000		140	25-167		32	
Ethylbenzene	0.0186	0.00500	mg/kg wet	0.02000		93.0	66-123		16	
Iodomethane	0.0169	0.0100	mg/kg wet	0.02000		84.5	32-150		28	
Methylene Chloride	BDL	0.00500	mg/kg wet	0.02000			35-149		12	
Methyl tert-Butyl Ether	0.0159	0.0100	mg/kg wet	0.02000		79.6	46-142		25	
m,p-Xylene	0.0359	0.0100	mg/kg wet	0.04000		89.8	66-126		16	
n-Hexane	0.0207	0.00500	mg/kg wet	0.02000		104	10-189		21	
o-Xylene	0.0190	0.00500	mg/kg wet	0.02000		94.8	63-124		17	
Styrene	0.0201	0.00500	mg/kg wet	0.02000		101	63-125		15	
Tetrachloroethene	0.0163	0.00500	mg/kg wet	0.02000		81.4	29-174		30	
Toluene	0.0176	0.00500	mg/kg wet	0.02000		87.9	70-122		16	
trans-1,2-Dichloroethene	0.0181	0.00500	mg/kg wet	0.02000		90.7	63-129		18	
trans-1,3-Dichloropropene	0.0174	0.00500	mg/kg wet	0.02000		87.0	38-135		18	
Trichloroethene	0.0175	0.00500	mg/kg wet	0.02000		87.7	68-126		18	
Trichlorofluoromethane	0.0191	0.00500	mg/kg wet	0.02000		95.7	52-142		26	
Vinyl Chloride	0.0215	0.00500	mg/kg wet	0.02000		108				
Vinyl acetate	0.0179	0.0100	mg/kg wet	0.02000		89.6				
Surrogate: 4-Bromofluorobenzene	*46.5*		*ug/L*	*50.00*		*93.1*	*34-118*			
Surrogate: Dibromofluoromethane	*37.6*		*ug/L*	*50.00*		*75.3*	*61-152*			
Surrogate: Toluene-d8	*44.5*		*ug/L*	*50.00*		*89.0*	*44-119*			
Surrogate: 1,2-Dichloroethane-d4	*35.3*		*ug/L*	*50.00*		*70.6*	*39-123*			

Volatile Organic Compounds by EPA Method 8260A/B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0951322 - VOC PREP										
LCS Dup (0951322-BSD1)				Prepared & Analyzed: 12/17/09						
1,1,1,2-Tetrachloroethane	0.0228	0.00500	mg/kg wet	0.02000		114	56-128	1.60	12	
1,1,1-Trichloroethane	0.0200	0.00500	mg/kg wet	0.02000		100	58-127	0.847	20	
1,1,2,2-Tetrachloroethane	0.0236	0.00500	mg/kg wet	0.02000		118	61-125	2.49	21	
1,1,2-Trichloroethane	0.0204	0.00500	mg/kg wet	0.02000		102	65-126	2.18	16	
1,1-Dichloroethane	0.0192	0.00500	mg/kg wet	0.02000		96.0	60-130	3.63	17	
1,1-Dichloroethene	0.0212	0.00500	mg/kg wet	0.02000		106	62-142	4.29	19	
1,1-Dichloropropene	0.0205	0.00500	mg/kg wet	0.02000		102	65-125	3.36	14	
1,2-Dibromoethane	0.0202	0.00500	mg/kg wet	0.02000		101	39-149	3.54	20	
1,2-Dichloroethane	0.0184	0.00500	mg/kg wet	0.02000		92.2	58-128	0.703	18	
1,2-Dichloropropane	0.0193	0.00500	mg/kg wet	0.02000		96.5	66-123	1.85	15	
1,3-Dichloropropane	0.0201	0.00500	mg/kg wet	0.02000		100	61-125	1.09	14	
2,2-Dichloropropane	0.0185	0.00500	mg/kg wet	0.02000		92.7	22-97	6.47	39	
2-Butanone	0.0400	0.0200	mg/kg wet	0.08000		50.0	10-143	13.4	36	
2-Chloroethyl vinyl ether	0.0432	0.0250	mg/kg wet	0.02000		216	62-129	4.41	22	L
2-Chlorotoluene	0.0224	0.00500	mg/kg wet	0.02000		112	63-126	0.941	20	
2-Hexanone	0.0806	0.0200	mg/kg wet	0.08000		101	27-144	4.11	40	
4-Chlorotoluene	0.0227	0.00500	mg/kg wet	0.02000		113	56-130	1.33	18	
4-Methyl-2-pentanone	0.0814	0.0200	mg/kg wet	0.08000		102	10-184	6.33	40	
Acetone	0.0435	0.0500	mg/kg wet	0.08000		54.4	10-172	6.02	39	
Acetonitrile	0.0121	0.0400	mg/kg wet	0.02000		60.4	20-149	5.55	20	
Acrylonitrile	0.0140	0.0200	mg/kg wet	0.02000		70.1		7.81		
Allyl chloride	0.0211	0.0100	mg/kg wet	0.02000		106		2.94		
Benzene	0.0199	0.00500	mg/kg wet	0.02000		99.6	67-124	0.401	16	
Bromobenzene	0.0224	0.00500	mg/kg wet	0.02000		112	61-125	0.134	16	
Bromochloromethane	0.0181	0.00500	mg/kg wet	0.02000		90.6	55-131	0.166	16	
Bromodichloromethane	0.0194	0.00500	mg/kg wet	0.02000		97.2	58-131	1.48	21	
Bromoform	0.0246	0.00500	mg/kg wet	0.02000		123	51-136	2.81	18	
Bromomethane	0.0229	0.00500	mg/kg wet	0.02000		114	58-190	3.19	34	
Carbon Disulfide	0.0221	0.0200	mg/kg wet	0.02000		111	40-156	4.63	16	
Carbon Tetrachloride	0.0195	0.00500	mg/kg wet	0.02000		97.7	46-137	5.33	25	
Chlorobenzene	0.0207	0.00500	mg/kg wet	0.02000		103	65-123	0.193	18	
Chloroethane	0.0190	0.00500	mg/kg wet	0.02000		95.0		6.62		
Chloroform	0.0177	0.00500	mg/kg wet	0.02000		88.3	64-127	2.41	16	
Chloromethane	0.0206	0.00500	mg/kg wet	0.02000		103	29-148	4.42	24	
cis-1,2-Dichloroethene	0.0184	0.00500	mg/kg wet	0.02000		92.0	65-128	3.21	16	
cis-1,3-Dichloropropene	0.0198	0.00500	mg/kg wet	0.02000		99.1	27-156	1.75	23	
Dibromochloromethane	0.0222	0.00500	mg/kg wet	0.02000		111	53-128	0.180	16	
Dibromomethane	0.0185	0.00500	mg/kg wet	0.02000		92.6	55-128	5.51	22	
Dichlorodifluoromethane	0.0290	0.00500	mg/kg wet	0.02000		145	25-167	7.79	32	
Ethylbenzene	0.0206	0.00500	mg/kg wet	0.02000		103	66-123	0.435	16	
Iodomethane	0.0187	0.0100	mg/kg wet	0.02000		93.7	32-150	2.53	28	
Methylene Chloride	0.00502	0.00500	mg/kg wet	0.02000		25.1	35-149	54.8	12	R
Methyl tert-Butyl Ether	0.0177	0.0100	mg/kg wet	0.02000		88.4	46-142	2.13	25	
m,p-Xylene	0.0405	0.0100	mg/kg wet	0.04000		101	66-126	0.836	16	
n-Hexane	0.0142	0.00500	mg/kg wet	0.02000		70.8	10-189	4.82	21	

Volatile Organic Compounds by EPA Method 8260A/B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0951322 - VOC PREP										
LCS Dup (0951322-BSD1)				Prepared & Analyzed: 12/17/09						
o-Xylene	0.0214	0.00500	mg/kg wet	0.02000		107	63-124	0.372	17	
Styrene	0.0231	0.00500	mg/kg wet	0.02000		115	63-125	3.13	15	
Tetrachloroethene	0.0208	0.00500	mg/kg wet	0.02000		104	29-174	2.83	30	
Toluene	0.0192	0.00500	mg/kg wet	0.02000		95.9	70-122	2.73	16	
trans-1,2-Dichloroethene	0.0195	0.00500	mg/kg wet	0.02000		97.7	63-129	3.02	18	
trans-1,3-Dichloropropene	0.0194	0.00500	mg/kg wet	0.02000		97.1	38-135	1.74	18	
Trichloroethene	0.0193	0.00500	mg/kg wet	0.02000		96.4	68-126	2.15	18	
Trichlorofluoromethane	0.0174	0.00500	mg/kg wet	0.02000		87.2	52-142	5.79	26	
Vinyl Chloride	0.0210	0.00500	mg/kg wet	0.02000		105		5.06		
Vinyl acetate	0.0175	0.0100	mg/kg wet	0.02000		87.6		9.72		
Surrogate: 4-Bromofluorobenzene	*45.3*		*ug/L*	*50.00*		*90.6*	*34-118*			
Surrogate: Dibromofluoromethane	*36.7*		*ug/L*	*50.00*		*73.5*	*61-152*			
Surrogate: Toluene-d8	*45.4*		*ug/L*	*50.00*		*90.8*	*44-119*			
Surrogate: 1,2-Dichloroethane-d4	*33.8*		*ug/L*	*50.00*		*67.6*	*39-123*			
LCS Dup (0951322-BSD2)				Prepared & Analyzed: 12/18/09						
1,1,1,2-Tetrachloroethane	0.0269	0.00500	mg/kg wet	0.02000		135	56-128	26.5	12	L, R
1,1,1-Trichloroethane	0.0245	0.00500	mg/kg wet	0.02000		123	58-127	28.0	20	R
1,1,2,2-Tetrachloroethane	0.0248	0.00500	mg/kg wet	0.02000		124	61-125	15.1	21	
1,1,2-Trichloroethane	0.0254	0.00500	mg/kg wet	0.02000		127	65-126	21.2	16	L, R
1,1-Dichloroethane	0.0240	0.00500	mg/kg wet	0.02000		120	60-130	22.5	17	R
1,1-Dichloroethene	0.0259	0.00500	mg/kg wet	0.02000		130	62-142	24.4	19	R
1,1-Dichloropropene	0.0250	0.00500	mg/kg wet	0.02000		125	65-125	28.1	14	R
1,2-Dibromoethane	0.0251	0.00500	mg/kg wet	0.02000		126	39-149	18.6	20	
1,2-Dichloroethane	0.0236	0.00500	mg/kg wet	0.02000		118	58-128	21.7	18	R
1,2-Dichloropropane	0.0247	0.00500	mg/kg wet	0.02000		123	66-123	23.0	15	R
1,3-Dichloropropane	0.0253	0.00500	mg/kg wet	0.02000		126	61-125	21.2	14	L, R
2,2-Dichloropropane	0.0242	0.00500	mg/kg wet	0.02000		121	22-97	24.7	39	L
2-Butanone	0.0523	0.0200	mg/kg wet	0.08000		65.3	10-143	5.30	36	
2-Chloroethyl vinyl ether	0.0409	0.0250	mg/kg wet	0.02000		205	62-129	12.1	22	L
2-Chlorotoluene	0.0264	0.00500	mg/kg wet	0.02000		132	63-126	28.1	20	L, R
2-Hexanone	0.0879	0.0200	mg/kg wet	0.08000		110	27-144	12.8	40	
4-Chlorotoluene	0.0260	0.00500	mg/kg wet	0.02000		130	56-130	26.0	18	R
4-Methyl-2-pentanone	0.0927	0.0200	mg/kg wet	0.08000		116	10-184	14.7	40	
Acetone	0.0528	0.0500	mg/kg wet	0.08000		66.0	10-172	12.8	39	
Acetonitrile	0.0133	0.0400	mg/kg wet	0.02000		66.7	20-149	14.2	20	
Acrylonitrile	0.0190	0.0200	mg/kg wet	0.02000		95.0		23.2		
Allyl chloride	0.0277	0.0100	mg/kg wet	0.02000		139		27.6		
Benzene	0.0246	0.00500	mg/kg wet	0.02000		123	67-124	24.9	16	R
Bromobenzene	0.0258	0.00500	mg/kg wet	0.02000		129	61-125	27.3	16	L, R
Bromochloromethane	0.0221	0.00500	mg/kg wet	0.02000		111	55-131	21.5	16	R
Bromodichloromethane	0.0252	0.00500	mg/kg wet	0.02000		126	58-131	25.5	21	R
Bromoform	0.0263	0.00500	mg/kg wet	0.02000		131	51-136	16.4	18	
Bromomethane	0.0182	0.00500	mg/kg wet	0.02000		90.9	58-190	6.70	34	
Carbon Disulfide	0.0263	0.0200	mg/kg wet	0.02000		132	40-156	24.3	16	R

Volatile Organic Compounds by EPA Method 8260A/B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0951322 - VOC PREP										
LCS Dup (0951322-BSD2)				Prepared & Analyzed: 12/18/09						
Carbon Tetrachloride	0.0241	0.00500	mg/kg wet	0.02000		120	46-137	28.8	25	R
Chlorobenzene	0.0254	0.00500	mg/kg wet	0.02000		127	65-123	28.4	18	A-01a, R
Chloroethane	0.0160	0.00500	mg/kg wet	0.02000		79.8		18.1		
Chloroform	0.0221	0.00500	mg/kg wet	0.02000		111	64-127	21.9	16	R
Chloromethane	0.0210	0.00500	mg/kg wet	0.02000		105	29-148	13.2	24	
cis-1,2-Dichloroethene	0.0234	0.00500	mg/kg wet	0.02000		117	65-128	21.5	16	R
cis-1,3-Dichloropropene	0.0260	0.00500	mg/kg wet	0.02000		130	27-156	22.8	23	
Dibromochloromethane	0.0263	0.00500	mg/kg wet	0.02000		131	53-128	22.8	16	L, R
Dibromomethane	0.0240	0.00500	mg/kg wet	0.02000		120	55-128	18.0	22	
Dichlorodifluoromethane	0.0276	0.00500	mg/kg wet	0.02000		138	25-167	11.3	32	
Ethylbenzene	0.0256	0.00500	mg/kg wet	0.02000		128	66-123	29.1	16	L, R
Iodomethane	0.0220	0.0100	mg/kg wet	0.02000		110	32-150	20.3	28	
Methylene Chloride	0.00934	0.00500	mg/kg wet	0.02000		46.7	35-149	1.84	12	
Methyl tert-Butyl Ether	0.0219	0.0100	mg/kg wet	0.02000		110	46-142	14.9	25	
m,p-Xylene	0.0510	0.0100	mg/kg wet	0.04000		128	66-126	28.4	16	L, R
n-Hexane	0.0199	0.00500	mg/kg wet	0.02000		99.5	10-189	8.38	21	
o-Xylene	0.0267	0.00500	mg/kg wet	0.02000		134	63-124	28.4	17	L, R
Styrene	0.0273	0.00500	mg/kg wet	0.02000		137	63-125	29.3	15	L, R
Tetrachloroethene	0.0233	0.00500	mg/kg wet	0.02000		116	29-174	32.3	30	R
Toluene	0.0244	0.00500	mg/kg wet	0.02000		122	70-122	28.6	16	R
trans-1,2-Dichloroethene	0.0243	0.00500	mg/kg wet	0.02000		122	63-129	25.8	18	R
trans-1,3-Dichloropropene	0.0250	0.00500	mg/kg wet	0.02000		125	38-135	24.9	18	R
Trichloroethene	0.0228	0.00500	mg/kg wet	0.02000		114	68-126	23.9	18	R
Trichlorofluoromethane	0.0150	0.00500	mg/kg wet	0.02000		75.2	52-142	9.26	26	
Vinyl Chloride	0.0185	0.00500	mg/kg wet	0.02000		92.5		12.6		
Vinyl acetate	0.0232	0.0100	mg/kg wet	0.02000		116		13.0		
Surrogate: 4-Bromofluorobenzene	*48.5*		*ug/L*	*50.00*		*97.0*	*34-118*			
Surrogate: Dibromofluoromethane	*37.9*		*ug/L*	*50.00*		*75.8*	*61-152*			
Surrogate: Toluene-d8	*46.0*		*ug/L*	*50.00*		*92.0*	*44-119*			
Surrogate: 1,2-Dichloroethane-d4	*35.4*		*ug/L*	*50.00*		*70.7*	*39-123*			

Volatile Organic Compounds by EPA Method 8260A/B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0951322 - VOC PREP										
LCS Dup (0951322-BSD3)				Prepared & Analyzed: 12/20/09						
1,1,1,2-Tetrachloroethane	0.0169	0.00500	mg/kg wet	0.02000		84.7	56-128	16.2	12	R
1,1,1-Trichloroethane	0.0178	0.00500	mg/kg wet	0.02000		89.2	58-127	3.90	20	
1,1,2,2-Tetrachloroethane	0.0157	0.00500	mg/kg wet	0.02000		78.5	61-125	31.9	21	R
1,1,2-Trichloroethane	0.0153	0.00500	mg/kg wet	0.02000		76.4	65-126	17.9	16	R
1,1-Dichloroethane	0.0172	0.00500	mg/kg wet	0.02000		85.9	60-130	1.85	17	
1,1-Dichloroethene	0.0192	0.00500	mg/kg wet	0.02000		95.8	62-142	0.261	19	
1,1-Dichloropropene	0.0176	0.00500	mg/kg wet	0.02000		87.8	65-125	3.42	14	
1,2-Dibromoethane	0.0160	0.00500	mg/kg wet	0.02000		79.8	39-149	13.4	20	
1,2-Dichloroethane	0.0160	0.00500	mg/kg wet	0.02000		80.2	58-128	5.10	18	
1,2-Dichloropropane	0.0161	0.00500	mg/kg wet	0.02000		80.4	66-123	5.80	15	
1,3-Dichloropropane	0.0154	0.00500	mg/kg wet	0.02000		76.8	61-125	13.8	14	
2,2-Dichloropropane	0.0176	0.00500	mg/kg wet	0.02000		87.8	22-97	1.30	39	
2-Butanone	0.0339	0.0200	mg/kg wet	0.08000		42.4	10-143	24.6	36	
2-Chloroethyl vinyl ether	BDL	0.0250	mg/kg wet	0.02000			62-129		22	
2-Chlorotoluene	0.0166	0.00500	mg/kg wet	0.02000		83.2	63-126	14.6	20	
2-Hexanone	0.0546	0.0200	mg/kg wet	0.08000		68.2	27-144	34.7	40	
4-Chlorotoluene	0.0167	0.00500	mg/kg wet	0.02000		83.4	56-130	16.2	18	
4-Methyl-2-pentanone	0.0577	0.0200	mg/kg wet	0.08000		72.2	10-184	29.6	40	
Acetone	0.0375	0.0500	mg/kg wet	0.08000		46.8	10-172	11.9	39	
Acetonitrile	0.0105	0.0400	mg/kg wet	0.02000		52.7	20-149	15.2	20	
Acrylonitrile	0.0137	0.0200	mg/kg wet	0.02000		68.4		1.45		
Allyl chloride	0.0190	0.0100	mg/kg wet	0.02000		95.0		4.08		
Benzene	0.0171	0.00500	mg/kg wet	0.02000		85.7	67-124	4.34	16	
Bromobenzene	0.0164	0.00500	mg/kg wet	0.02000		81.8	61-125	17.4	16	R
Bromochloromethane	0.0156	0.00500	mg/kg wet	0.02000		78.2	55-131	5.90	16	
Bromodichloromethane	0.0162	0.00500	mg/kg wet	0.02000		80.9	58-131	10.6	21	
Bromoform	0.0165	0.00500	mg/kg wet	0.02000		82.6	51-136	24.1	18	R
Bromomethane	0.0260	0.00500	mg/kg wet	0.02000		130	58-190	2.06	34	
Carbon Disulfide	0.0190	0.0200	mg/kg wet	0.02000		95.0	40-156	3.57	16	
Carbon Tetrachloride	0.0175	0.00500	mg/kg wet	0.02000		87.3	46-137	5.24	25	
Chlorobenzene	0.0169	0.00500	mg/kg wet	0.02000		84.6	65-123	7.46	18	
Chloroethane	0.0231	0.00500	mg/kg wet	0.02000		115		3.80		
Chloroform	0.0159	0.00500	mg/kg wet	0.02000		79.4	64-127	2.67	16	
Chloromethane	0.0218	0.00500	mg/kg wet	0.02000		109	29-148	1.90	24	
cis-1,2-Dichloroethene	0.0166	0.00500	mg/kg wet	0.02000		82.8	65-128	3.27	16	
cis-1,3-Dichloropropene	0.0165	0.00500	mg/kg wet	0.02000		82.6	27-156	6.89	23	
Dibromochloromethane	0.0168	0.00500	mg/kg wet	0.02000		84.0	53-128	14.8	16	
Dibromomethane	0.0159	0.00500	mg/kg wet	0.02000		79.4	55-128	4.74	22	
Dichlorodifluoromethane	0.0287	0.00500	mg/kg wet	0.02000		143	25-167	2.72	32	
Ethylbenzene	0.0172	0.00500	mg/kg wet	0.02000		86.0	66-123	7.88	16	
Iodomethane	0.0166	0.0100	mg/kg wet	0.02000		82.8	32-150	1.97	28	
Methylene Chloride	BDL	0.00500	mg/kg wet	0.02000			35-149		12	
Methyl tert-Butyl Ether	0.0145	0.0100	mg/kg wet	0.02000		72.6	46-142	9.20	25	
m,p-Xylene	0.0338	0.0100	mg/kg wet	0.04000		84.5	66-126	6.17	16	
n-Hexane	0.0209	0.00500	mg/kg wet	0.02000		104	10-189	0.818	21	

Volatile Organic Compounds by EPA Method 8260A/B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0951322 - VOC PREP										
LCS Dup (0951322-BSD3)				Prepared & Analyzed: 12/20/09						
o-Xylene	0.0172	0.00500	mg/kg wet	0.02000		86.2	63-124	9.50	17	
Styrene	0.0168	0.00500	mg/kg wet	0.02000		83.8	63-125	18.3	15	R
Tetrachloroethene	0.0158	0.00500	mg/kg wet	0.02000		79.0	29-174	3.12	30	
Toluene	0.0167	0.00500	mg/kg wet	0.02000		83.4	70-122	5.31	16	
trans-1,2-Dichloroethene	0.0175	0.00500	mg/kg wet	0.02000		87.6	63-129	3.42	18	
trans-1,3-Dichloropropene	0.0151	0.00500	mg/kg wet	0.02000		75.4	38-135	14.2	18	
Trichloroethene	0.0168	0.00500	mg/kg wet	0.02000		83.8	68-126	4.55	18	
Trichlorofluoromethane	0.0202	0.00500	mg/kg wet	0.02000		101	52-142	5.54	26	
Vinyl Chloride	0.0232	0.00500	mg/kg wet	0.02000		116		7.47		
Vinyl acetate	0.0153	0.0100	mg/kg wet	0.02000		76.3		16.0		
Surrogate: 4-Bromofluorobenzene	*46.0*		*ug/L*	*50.00*		*92.1*	*34-118*			
Surrogate: Dibromofluoromethane	*36.9*		*ug/L*	*50.00*		*73.9*	*61-152*			
Surrogate: Toluene-d8	*43.8*		*ug/L*	*50.00*		*87.6*	*44-119*			
Surrogate: 1,2-Dichloroethane-d4	*32.2*		*ug/L*	*50.00*		*64.4*	*39-123*			
Matrix Spike (0951322-MS1)		**Source: 09L0975-04**		Prepared: 12/17/09 Analyzed: 12/18/09						
1,1,1,2-Tetrachloroethane	0.0175	0.00556	mg/kg dry	0.02294	ND	76.2	10-115		109	
1,1,1-Trichloroethane	0.0178	0.00556	mg/kg dry	0.02294	ND	77.8	16-131		72	
1,1,2,2-Tetrachloroethane	BDL	0.00556	mg/kg dry	0.02294	ND		17-105		78	M
1,1,2-Trichloroethane	0.0139	0.00556	mg/kg dry	0.02294	ND	60.6	10-140		59	
1,1-Dichloroethane	0.0189	0.00556	mg/kg dry	0.02294	ND	82.3	21-131		56	
1,1-Dichloroethene	0.0261	0.00556	mg/kg dry	0.02294	ND	114	10-154		64	
1,1-Dichloropropene	0.0164	0.00556	mg/kg dry	0.02294	ND	71.5	10-122		76	
1,2-Dibromoethane	0.0186	0.00556	mg/kg dry	0.02294	ND	81.2	10-117		92	
1,2-Dichloroethane	0.0187	0.00556	mg/kg dry	0.02294	ND	81.5	17-136		55	
1,2-Dichloropropane	0.0180	0.00556	mg/kg dry	0.02294	ND	78.5	25-118		58	
1,3-Dichloropropane	0.0189	0.00556	mg/kg dry	0.02294	ND	82.4	10-123		70	
2,2-Dichloropropane	0.0162	0.00556	mg/kg dry	0.02294	ND	70.7	10-145		45	
2-Butanone	0.0483	0.0222	mg/kg dry	0.09175	ND	52.6				
2-Chloroethyl vinyl ether	0.0298	0.0278	mg/kg dry	0.02294	ND	130				
2-Chlorotoluene	0.0132	0.00556	mg/kg dry	0.02294	ND	57.6	10-95		87	
2-Hexanone	0.0870	0.0222	mg/kg dry	0.09175	ND	94.8	10-128		22	
4-Chlorotoluene	0.0128	0.00556	mg/kg dry	0.02294	ND	55.7	10-96		91	
4-Methyl-2-pentanone	0.0882	0.0222	mg/kg dry	0.09175	ND	96.1				
Acetone	0.0937	0.0556	mg/kg dry	0.09175	0.0513	46.2				
Acetonitrile	0.00712	0.0445	mg/kg dry	0.02294	ND	31.0				
Acrylonitrile	0.0146	0.0222	mg/kg dry	0.02294	ND	63.7	10-124		111	
Allyl chloride	0.0189	0.0111	mg/kg dry	0.02294	ND	82.6				
Benzene	0.0185	0.00556	mg/kg dry	0.02294	ND	80.6	10-159		67	
Bromobenzene	0.0144	0.00556	mg/kg dry	0.02294	ND	62.6	10-100		90	
Bromochloromethane	0.0182	0.00556	mg/kg dry	0.02294	ND	79.3	22-128		64	
Bromodichloromethane	0.0165	0.00556	mg/kg dry	0.02294	ND	71.9	10-116		96	
Bromoform	0.0204	0.00556	mg/kg dry	0.02294	ND	88.9	10-100		103	
Bromomethane	0.0210	0.00556	mg/kg dry	0.02294	ND	91.6	10-126		97	
Carbon Disulfide	0.00862	0.0222	mg/kg dry	0.02294	ND	37.6	10-122		78	

Volatile Organic Compounds by EPA Method 8260A/B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0951322 - VOC PREP										
Matrix Spike (0951322-MS1)	**Source: 09L0975-04**			Prepared: 12/17/09 Analyzed: 12/18/09						
Carbon Tetrachloride	0.0158	0.00556	mg/kg dry	0.02294	ND	68.7	10-116		89	
Chlorobenzene	0.0145	0.00556	mg/kg dry	0.02294	ND	63.4	10-110		77	
Chloroethane	0.0218	0.00556	mg/kg dry	0.02294	ND	95.2				
Chloroform	0.0168	0.00556	mg/kg dry	0.02294	ND	73.4	19-140		60	
Chloromethane	0.0246	0.00556	mg/kg dry	0.02294	ND	107	10-145		34	
cis-1,2-Dichloroethene	0.0174	0.00556	mg/kg dry	0.02294	ND	76.0	11-146		64	
cis-1,3-Dichloropropene	0.0169	0.00556	mg/kg dry	0.02294	ND	73.9	10-107		89	
Dibromochloromethane	0.0185	0.00556	mg/kg dry	0.02294	ND	80.7	10-109		119	
Dibromomethane	0.0181	0.00556	mg/kg dry	0.02294	ND	79.0	15-125		67	
Dichlorodifluoromethane	0.0312	0.00556	mg/kg dry	0.02294	ND	136				
Ethylbenzene	0.0138	0.00556	mg/kg dry	0.02294	ND	59.9	10-126		66	
Iodomethane	0.0169	0.0111	mg/kg dry	0.02294	ND	73.8	10-122		72	
Methylene Chloride	0.00247	0.00556	mg/kg dry	0.02294	ND	10.8	18-154		50	M
Methyl tert-Butyl Ether	0.0191	0.0111	mg/kg dry	0.02294	ND	83.4	28-145		47	
m,p-Xylene	0.0259	0.0111	mg/kg dry	0.04588	ND	56.4	10-116		69	
n-Hexane	0.00533	0.00556	mg/kg dry	0.02294	ND	23.2	10-137		105	
o-Xylene	0.0144	0.00556	mg/kg dry	0.02294	ND	62.6	10-121		68	
Styrene	0.0144	0.00556	mg/kg dry	0.02294	ND	62.7	10-104		67	
Tetrachloroethene	0.0178	0.00556	mg/kg dry	0.02294	ND	77.8	10-131		78	
Toluene	0.0153	0.00556	mg/kg dry	0.02294	ND	66.9	13-119		68	
trans-1,2-Dichloroethene	0.0172	0.00556	mg/kg dry	0.02294	ND	75.1	13-129		65	
trans-1,3-Dichloropropene	0.0161	0.00556	mg/kg dry	0.02294	ND	70.3	10-107		78	
Trichloroethene	0.0324	0.00556	mg/kg dry	0.02294	ND	141	10-204		70	
Trichlorofluoromethane	0.0179	0.00556	mg/kg dry	0.02294	ND	78.1				
Vinyl Chloride	0.0224	0.00556	mg/kg dry	0.02294	ND	97.7				
Vinyl acetate	BDL	0.0111	mg/kg dry	0.02294	ND					
Surrogate: 4-Bromofluorobenzene	*48.3*		*ug/L*	*50.00*		*96.7*	*34-118*			
Surrogate: Dibromofluoromethane	*26.1*		*ug/L*	*50.00*		*52.1*	*61-152*			*S-04*
Surrogate: Toluene-d8	*46.0*		*ug/L*	*50.00*		*92.1*	*44-119*			
Surrogate: 1,2-Dichloroethane-d4	*38.2*		*ug/L*	*50.00*		*76.4*	*39-123*			

Volatile Organic Compounds by EPA Method 8260A/B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0951322 - VOC PREP										
Matrix Spike Dup (0951322-MSD1)	**Source: 09L0975-04**			Prepared: 12/17/09 Analyzed: 12/18/09						
1,1,1,2-Tetrachloroethane	0.0198	0.00562	mg/kg dry	0.02294	ND	86.4	10-115	12.6	109	
1,1,1-Trichloroethane	0.0202	0.00562	mg/kg dry	0.02294	ND	88.1	16-131	12.4	72	
1,1,2,2-Tetrachloroethane	BDL	0.00562	mg/kg dry	0.02294	ND		17-105		78	M
1,1,2-Trichloroethane	0.0152	0.00562	mg/kg dry	0.02294	ND	66.1	10-140	8.72	59	
1,1-Dichloroethane	0.0204	0.00562	mg/kg dry	0.02294	ND	88.8	21-131	7.64	56	
1,1-Dichloroethene	0.0268	0.00562	mg/kg dry	0.02294	ND	117	10-154	2.50	64	
1,1-Dichloropropene	0.0197	0.00562	mg/kg dry	0.02294	ND	85.8	10-122	18.1	76	
1,2-Dibromoethane	0.0201	0.00562	mg/kg dry	0.02294	ND	87.5	10-117	7.44	92	
1,2-Dichloroethane	0.0196	0.00562	mg/kg dry	0.02294	ND	85.6	17-136	4.88	55	
1,2-Dichloropropane	0.0199	0.00562	mg/kg dry	0.02294	ND	86.7	25-118	10.0	58	
1,3-Dichloropropane	0.0199	0.00562	mg/kg dry	0.02294	ND	86.8	10-123	5.23	70	
2,2-Dichloropropane	0.0183	0.00562	mg/kg dry	0.02294	ND	79.6	10-145	11.9	45	
2-Butanone	0.0523	0.0225	mg/kg dry	0.09175	ND	57.0		8.05		
2-Chloroethyl vinyl ether	0.0303	0.0281	mg/kg dry	0.02294	ND	132		1.66		
2-Chlorotoluene	0.0172	0.00562	mg/kg dry	0.02294	ND	74.9	10-95	26.0	87	
2-Hexanone	0.0850	0.0225	mg/kg dry	0.09175	ND	92.6	10-128	2.37	22	
4-Chlorotoluene	0.0165	0.00562	mg/kg dry	0.02294	ND	71.7	10-96	25.1	91	
4-Methyl-2-pentanone	0.0878	0.0225	mg/kg dry	0.09175	ND	95.7		0.436		
Acetone	0.0949	0.0562	mg/kg dry	0.09175	0.0513	47.6		1.36		
Acetonitrile	0.0123	0.0450	mg/kg dry	0.02294	ND	53.4		53.0		
Acrylonitrile	0.0153	0.0225	mg/kg dry	0.02294	ND	66.6	10-124	4.39	111	
Allyl chloride	0.0215	0.0112	mg/kg dry	0.02294	ND	93.6		12.5		
Benzene	0.0202	0.00562	mg/kg dry	0.02294	ND	87.9	10-159	8.72	67	
Bromobenzene	0.0176	0.00562	mg/kg dry	0.02294	ND	76.8	10-100	20.5	90	
Bromochloromethane	0.0189	0.00562	mg/kg dry	0.02294	ND	82.6	22-128	4.04	64	
Bromodichloromethane	0.0181	0.00562	mg/kg dry	0.02294	ND	78.9	10-116	9.37	96	
Bromoform	0.0218	0.00562	mg/kg dry	0.02294	ND	95.2	10-100	6.85	103	
Bromomethane	0.0208	0.00562	mg/kg dry	0.02294	ND	90.6	10-126	1.17	97	
Carbon Disulfide	0.0189	0.0225	mg/kg dry	0.02294	ND	82.5	10-122	74.8	78	
Carbon Tetrachloride	0.0197	0.00562	mg/kg dry	0.02294	ND	86.1	10-116	22.4	89	
Chlorobenzene	0.0175	0.00562	mg/kg dry	0.02294	ND	76.4	10-110	18.6	77	
Chloroethane	0.0195	0.00562	mg/kg dry	0.02294	ND	85.0		11.3		
Chloroform	0.0182	0.00562	mg/kg dry	0.02294	ND	79.1	19-140	7.48	60	
Chloromethane	0.0230	0.00562	mg/kg dry	0.02294	ND	100	10-145	6.83	34	
cis-1,2-Dichloroethene	0.0188	0.00562	mg/kg dry	0.02294	ND	82.0	11-146	7.69	64	
cis-1,3-Dichloropropene	0.0188	0.00562	mg/kg dry	0.02294	ND	81.9	10-107	10.3	89	
Dibromochloromethane	0.0201	0.00562	mg/kg dry	0.02294	ND	87.4	10-109	8.04	119	
Dibromomethane	0.0198	0.00562	mg/kg dry	0.02294	ND	86.4	15-125	9.04	67	
Dichlorodifluoromethane	0.0258	0.00562	mg/kg dry	0.02294	ND	112		19.1		
Ethylbenzene	0.0183	0.00562	mg/kg dry	0.02294	ND	79.6	10-126	28.2	66	
Iodomethane	0.0189	0.0112	mg/kg dry	0.02294	ND	82.5	10-122	11.1	72	
Methylene Chloride	0.00248	0.00562	mg/kg dry	0.02294	ND	10.8	18-154	0.574	50	M
Methyl tert-Butyl Ether	0.0195	0.0112	mg/kg dry	0.02294	ND	85.0	28-145	1.84	47	
m,p-Xylene	0.0346	0.0112	mg/kg dry	0.04588	ND	75.4	10-116	28.9	69	
n-Hexane	0.00943	0.00562	mg/kg dry	0.02294	ND	41.1	10-137	55.6	105	

Volatile Organic Compounds by EPA Method 8260A/B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0951322 - VOC PREP										
Matrix Spike Dup (0951322-MSD1)	**Source: 09L0975-04**			Prepared: 12/17/09 Analyzed: 12/18/09						
o-Xylene	0.0186	0.00562	mg/kg dry	0.02294	ND	81.0	10-121	25.6	68	
Styrene	0.0181	0.00562	mg/kg dry	0.02294	ND	78.8	10-104	22.9	67	
Tetrachloroethene	0.0233	0.00562	mg/kg dry	0.02294	ND	102	10-131	26.5	78	
Toluene	0.0185	0.00562	mg/kg dry	0.02294	ND	80.7	13-119	18.7	68	
trans-1,2-Dichloroethene	0.0196	0.00562	mg/kg dry	0.02294	ND	85.3	13-129	12.7	65	
trans-1,3-Dichloropropene	0.0178	0.00562	mg/kg dry	0.02294	ND	77.7	10-107	9.99	78	
Trichloroethene	0.0359	0.00562	mg/kg dry	0.02294	ND	156	10-204	10.3	70	
Trichlorofluoromethane	0.0160	0.00562	mg/kg dry	0.02294	ND	69.9		11.2		
Vinyl Chloride	0.0203	0.00562	mg/kg dry	0.02294	ND	88.7		9.70		
Vinyl acetate	BDL	0.0112	mg/kg dry	0.02294	ND					
Surrogate: 4-Bromofluorobenzene	*47.7*		*ug/L*	*50.00*		*95.3*	*34-118*			
Surrogate: Dibromofluoromethane	*26.4*		*ug/L*	*50.00*		*52.8*	*61-152*			*S-04*
Surrogate: Toluene-d8	*45.7*		*ug/L*	*50.00*		*91.5*	*44-119*			
Surrogate: 1,2-Dichloroethane-d4	*38.2*		*ug/L*	*50.00*		*76.4*	*39-123*			
Batch 0951324 - VOC PREP										
Blank (0951324-BLK1)				Prepared & Analyzed: 12/18/09						
1,1,1,2-Tetrachloroethane	BDL	0.00500	mg/kg wet							
1,1,1-Trichloroethane	BDL	0.00500	mg/kg wet							
1,1,2,2-Tetrachloroethane	BDL	0.00500	mg/kg wet							
1,1,2-Trichloroethane	BDL	0.00500	mg/kg wet							
1,1-Dichloroethane	BDL	0.00500	mg/kg wet							
1,1-Dichloroethene	BDL	0.00500	mg/kg wet							
1,1-Dichloropropene	BDL	0.00500	mg/kg wet							
1,2-Dibromoethane	BDL	0.00500	mg/kg wet							
1,2-Dichloroethane	BDL	0.00500	mg/kg wet							
1,2-Dichloropropane	BDL	0.00500	mg/kg wet							
1,3-Dichloropropane	BDL	0.00500	mg/kg wet							
2,2-Dichloropropane	BDL	0.00500	mg/kg wet							
2-Butanone	BDL	0.0200	mg/kg wet							
2-Chloroethyl vinyl ether	BDL	0.0250	mg/kg wet							
2-Chlorotoluene	BDL	0.00500	mg/kg wet							
2-Hexanone	BDL	0.0200	mg/kg wet							
4-Chlorotoluene	BDL	0.00500	mg/kg wet							
4-Methyl-2-pentanone	BDL	0.0200	mg/kg wet							
Acetone	BDL	0.0500	mg/kg wet							
Acetonitrile	BDL	0.0400	mg/kg wet							
Acrolein	BDL	0.0200	mg/kg wet							
Acrylonitrile	BDL	0.0200	mg/kg wet							
Allyl chloride	BDL	0.0100	mg/kg wet							
Benzene	BDL	0.00500	mg/kg wet							
Bromobenzene	BDL	0.00500	mg/kg wet							
Bromochloromethane	BDL	0.00500	mg/kg wet							
Bromodichloromethane	BDL	0.00500	mg/kg wet							

Volatile Organic Compounds by EPA Method 8260A/B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0951324 - VOC PREP										
Blank (0951324-BLK1)				Prepared & Analyzed: 12/18/09						
Bromoform	BDL	0.00500	mg/kg wet							
Bromomethane	BDL	0.00500	mg/kg wet							
Carbon Disulfide	BDL	0.0200	mg/kg wet							
Carbon Tetrachloride	BDL	0.00500	mg/kg wet							
Chlorobenzene	BDL	0.00500	mg/kg wet							
Chloroethane	BDL	0.00500	mg/kg wet							
Chloroform	BDL	0.00500	mg/kg wet							
Chloromethane	BDL	0.00500	mg/kg wet							
cis-1,2-Dichloroethene	BDL	0.00500	mg/kg wet							
cis-1,3-Dichloropropene	BDL	0.00500	mg/kg wet							
Dibromochloromethane	BDL	0.00500	mg/kg wet							
Dibromomethane	BDL	0.00500	mg/kg wet							
Dichlorodifluoromethane	BDL	0.00500	mg/kg wet							
Ethylbenzene	BDL	0.00500	mg/kg wet							
Iodomethane	BDL	0.0100	mg/kg wet							
Methylene Chloride	BDL	0.00500	mg/kg wet							
Methyl tert-Butyl Ether	BDL	0.0100	mg/kg wet							
m,p-Xylene	BDL	0.0100	mg/kg wet							
n-Hexane	BDL	0.00500	mg/kg wet							
o-Xylene	BDL	0.00500	mg/kg wet							
Styrene	BDL	0.00500	mg/kg wet							
Tetrachloroethene	BDL	0.00500	mg/kg wet							
Toluene	BDL	0.00500	mg/kg wet							
trans-1,2-Dichloroethene	BDL	0.00500	mg/kg wet							
trans-1,3-Dichloropropene	BDL	0.00500	mg/kg wet							
Trichloroethene	BDL	0.00500	mg/kg wet							
Trichlorofluoromethane	BDL	0.00500	mg/kg wet							
Vinyl Chloride	BDL	0.00500	mg/kg wet							
Vinyl acetate	BDL	0.0100	mg/kg wet							
Surrogate: 4-Bromofluorobenzene	*47.2*		*ug/L*	*50.00*		*94.4*	*34-118*			
Surrogate: Dibromofluoromethane	*38.2*		*ug/L*	*50.00*		*76.5*	*61-152*			
Surrogate: Toluene-d8	*48.2*		*ug/L*	*50.00*		*96.4*	*44-119*			
Surrogate: 1,2-Dichloroethane-d4	*35.6*		*ug/L*	*50.00*		*71.3*	*39-123*			

Volatile Organic Compounds by EPA Method 8260A/B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0951324 - VOC PREP										
LCS (0951324-BS1)				Prepared & Analyzed: 12/18/09						
1,1,1,2-Tetrachloroethane	0.0206	0.00500	mg/kg wet	0.02000		103	56-128		12	
1,1,1-Trichloroethane	0.0185	0.00500	mg/kg wet	0.02000		92.4	58-127		20	
1,1,2,2-Tetrachloroethane	0.0213	0.00500	mg/kg wet	0.02000		106	61-125		21	
1,1,2-Trichloroethane	0.0205	0.00500	mg/kg wet	0.02000		102	65-126		16	
1,1-Dichloroethane	0.0192	0.00500	mg/kg wet	0.02000		95.8	60-130		17	
1,1-Dichloroethene	0.0203	0.00500	mg/kg wet	0.02000		101	62-142		19	
1,1-Dichloropropene	0.0189	0.00500	mg/kg wet	0.02000		94.4	65-125		14	
1,2-Dibromoethane	0.0209	0.00500	mg/kg wet	0.02000		104	39-149		20	
1,2-Dichloroethane	0.0190	0.00500	mg/kg wet	0.02000		94.8	58-128		18	
1,2-Dichloropropane	0.0196	0.00500	mg/kg wet	0.02000		98.0	66-123		15	
1,3-Dichloropropane	0.0204	0.00500	mg/kg wet	0.02000		102	61-125		14	
2,2-Dichloropropane	0.0189	0.00500	mg/kg wet	0.02000		94.4	22-97		39	
2-Butanone	0.0496	0.0200	mg/kg wet	0.08000		62.0	10-143		36	
2-Chloroethyl vinyl ether	0.0362	0.0250	mg/kg wet	0.02000		181	62-129		22	L
2-Chlorotoluene	0.0199	0.00500	mg/kg wet	0.02000		99.4	63-126		20	
2-Hexanone	0.0773	0.0200	mg/kg wet	0.08000		96.7	27-144		40	
4-Chlorotoluene	0.0200	0.00500	mg/kg wet	0.02000		100	56-130		18	
4-Methyl-2-pentanone	0.0801	0.0200	mg/kg wet	0.08000		100	10-184		40	
Acetone	0.0464	0.0500	mg/kg wet	0.08000		58.0	10-172		39	
Acetonitrile	0.0116	0.0400	mg/kg wet	0.02000		57.8	20-149		20	
Acrylonitrile	0.0150	0.0200	mg/kg wet	0.02000		75.2				
Allyl chloride	0.0210	0.0100	mg/kg wet	0.02000		105				
Benzene	0.0191	0.00500	mg/kg wet	0.02000		95.6	67-124		16	
Bromobenzene	0.0196	0.00500	mg/kg wet	0.02000		97.8	61-125		16	
Bromochloromethane	0.0178	0.00500	mg/kg wet	0.02000		89.2	55-131		16	
Bromodichloromethane	0.0195	0.00500	mg/kg wet	0.02000		97.4	58-131		21	
Bromoform	0.0223	0.00500	mg/kg wet	0.02000		111	51-136		18	
Bromomethane	0.0194	0.00500	mg/kg wet	0.02000		97.2	58-190		34	
Carbon Disulfide	0.0206	0.0200	mg/kg wet	0.02000		103	40-156		16	
Carbon Tetrachloride	0.0180	0.00500	mg/kg wet	0.02000		90.0	46-137		25	
Chlorobenzene	0.0191	0.00500	mg/kg wet	0.02000		95.3	65-123		18	
Chloroethane	0.0191	0.00500	mg/kg wet	0.02000		95.7				
Chloroform	0.0177	0.00500	mg/kg wet	0.02000		88.7	64-127		16	
Chloromethane	0.0239	0.00500	mg/kg wet	0.02000		120	29-148		24	
cis-1,2-Dichloroethene	0.0188	0.00500	mg/kg wet	0.02000		94.2	65-128		16	
cis-1,3-Dichloropropene	0.0207	0.00500	mg/kg wet	0.02000		104	27-156		23	
Dibromochloromethane	0.0209	0.00500	mg/kg wet	0.02000		104	53-128		16	
Dibromomethane	0.0201	0.00500	mg/kg wet	0.02000		100	55-128		22	
Dichlorodifluoromethane	0.0310	0.00500	mg/kg wet	0.02000		155	25-167		32	
Ethylbenzene	0.0191	0.00500	mg/kg wet	0.02000		95.4	66-123		16	
Iodomethane	0.0180	0.0100	mg/kg wet	0.02000		89.8	32-150		28	
Methylene Chloride	0.00917	0.00500	mg/kg wet	0.02000		45.8	35-149		12	
Methyl tert-Butyl Ether	0.0189	0.0100	mg/kg wet	0.02000		94.3	46-142		25	
m,p-Xylene	0.0383	0.0100	mg/kg wet	0.04000		95.8	66-126		16	
n-Hexane	0.0216	0.00500	mg/kg wet	0.02000		108	10-189		21	

Volatile Organic Compounds by EPA Method 8260A/B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0951324 - VOC PREP										
LCS (0951324-BS1)				Prepared & Analyzed: 12/18/09						
o-Xylene	0.0201	0.00500	mg/kg wet	0.02000		100	63-124		17	
Styrene	0.0204	0.00500	mg/kg wet	0.02000		102	63-125		15	
Tetrachloroethene	0.0168	0.00500	mg/kg wet	0.02000		84.0	29-174		30	
Toluene	0.0183	0.00500	mg/kg wet	0.02000		91.6	70-122		16	
trans-1,2-Dichloroethene	0.0188	0.00500	mg/kg wet	0.02000		93.8	63-129		18	
trans-1,3-Dichloropropene	0.0195	0.00500	mg/kg wet	0.02000		97.4	38-135		18	
Trichloroethene	0.0179	0.00500	mg/kg wet	0.02000		89.5	68-126		18	
Trichlorofluoromethane	0.0165	0.00500	mg/kg wet	0.02000		82.4	52-142		26	
Vinyl Chloride	0.0210	0.00500	mg/kg wet	0.02000		105				
Vinyl acetate	0.0204	0.0100	mg/kg wet	0.02000		102				
Surrogate: 4-Bromofluorobenzene	*47.8*		*ug/L*	*50.00*		*95.6*	*34-118*			
Surrogate: Dibromofluoromethane	*38.3*		*ug/L*	*50.00*		*76.5*	*61-152*			
Surrogate: Toluene-d8	*46.1*		*ug/L*	*50.00*		*92.3*	*44-119*			
Surrogate: 1,2-Dichloroethane-d4	*35.2*		*ug/L*	*50.00*		*70.3*	*39-123*			
LCS Dup (0951324-BSD1)				Prepared & Analyzed: 12/18/09						
1,1,1,2-Tetrachloroethane	0.0269	0.00500	mg/kg wet	0.02000		135	56-128	26.5	12	L, R
1,1,1-Trichloroethane	0.0245	0.00500	mg/kg wet	0.02000		123	58-127	28.0	20	R
1,1,2,2-Tetrachloroethane	0.0248	0.00500	mg/kg wet	0.02000		124	61-125	15.1	21	
1,1,2-Trichloroethane	0.0254	0.00500	mg/kg wet	0.02000		127	65-126	21.2	16	L, R
1,1-Dichloroethane	0.0240	0.00500	mg/kg wet	0.02000		120	60-130	22.5	17	R
1,1-Dichloroethene	0.0259	0.00500	mg/kg wet	0.02000		130	62-142	24.4	19	R
1,1-Dichloropropene	0.0250	0.00500	mg/kg wet	0.02000		125	65-125	28.1	14	R
1,2-Dibromoethane	0.0251	0.00500	mg/kg wet	0.02000		126	39-149	18.6	20	
1,2-Dichloroethane	0.0236	0.00500	mg/kg wet	0.02000		118	58-128	21.7	18	R
1,2-Dichloropropane	0.0247	0.00500	mg/kg wet	0.02000		123	66-123	23.0	15	R
1,3-Dichloropropane	0.0253	0.00500	mg/kg wet	0.02000		126	61-125	21.2	14	L, R
2,2-Dichloropropane	0.0242	0.00500	mg/kg wet	0.02000		121	22-97	24.7	39	L
2-Butanone	0.0523	0.0200	mg/kg wet	0.08000		65.3	10-143	5.30	36	
2-Chloroethyl vinyl ether	0.0409	0.0250	mg/kg wet	0.02000		205	62-129	12.1	22	L
2-Chlorotoluene	0.0264	0.00500	mg/kg wet	0.02000		132	63-126	28.1	20	L, R
2-Hexanone	0.0879	0.0200	mg/kg wet	0.08000		110	27-144	12.8	40	
4-Chlorotoluene	0.0260	0.00500	mg/kg wet	0.02000		130	56-130	26.0	18	R
4-Methyl-2-pentanone	0.0927	0.0200	mg/kg wet	0.08000		116	10-184	14.7	40	
Acetone	0.0528	0.0500	mg/kg wet	0.08000		66.0	10-172	12.8	39	
Acetonitrile	0.0133	0.0400	mg/kg wet	0.02000		66.7	20-149	14.2	20	
Acrylonitrile	0.0190	0.0200	mg/kg wet	0.02000		95.0		23.2		
Allyl chloride	0.0277	0.0100	mg/kg wet	0.02000		139		27.6		
Benzene	0.0246	0.00500	mg/kg wet	0.02000		123	67-124	24.9	16	R
Bromobenzene	0.0258	0.00500	mg/kg wet	0.02000		129	61-125	27.3	16	L, R
Bromochloromethane	0.0221	0.00500	mg/kg wet	0.02000		111	55-131	21.5	16	R
Bromodichloromethane	0.0252	0.00500	mg/kg wet	0.02000		126	58-131	25.5	21	R
Bromoform	0.0263	0.00500	mg/kg wet	0.02000		131	51-136	16.4	18	
Bromomethane	0.0182	0.00500	mg/kg wet	0.02000		90.9	58-190	6.70	34	
Carbon Disulfide	0.0263	0.0200	mg/kg wet	0.02000		132	40-156	24.3	16	R

Volatile Organic Compounds by EPA Method 8260A/B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0951324 - VOC PREP										
LCS Dup (0951324-BSD1)				Prepared & Analyzed: 12/18/09						
Carbon Tetrachloride	0.0241	0.00500	mg/kg wet	0.02000		120	46-137	28.8	25	R
Chlorobenzene	0.0254	0.00500	mg/kg wet	0.02000		127	65-123	28.4	18	A-01, R
Chloroethane	0.0160	0.00500	mg/kg wet	0.02000		79.8		18.1		
Chloroform	0.0221	0.00500	mg/kg wet	0.02000		111	64-127	21.9	16	R
Chloromethane	0.0210	0.00500	mg/kg wet	0.02000		105	29-148	13.2	24	
cis-1,2-Dichloroethene	0.0234	0.00500	mg/kg wet	0.02000		117	65-128	21.5	16	R
cis-1,3-Dichloropropene	0.0260	0.00500	mg/kg wet	0.02000		130	27-156	22.8	23	
Dibromochloromethane	0.0263	0.00500	mg/kg wet	0.02000		131	53-128	22.8	16	L, R
Dibromomethane	0.0240	0.00500	mg/kg wet	0.02000		120	55-128	18.0	22	
Dichlorodifluoromethane	0.0276	0.00500	mg/kg wet	0.02000		138	25-167	11.3	32	
Ethylbenzene	0.0256	0.00500	mg/kg wet	0.02000		128	66-123	29.1	16	L, R
Iodomethane	0.0220	0.0100	mg/kg wet	0.02000		110	32-150	20.3	28	
Methylene Chloride	0.00934	0.00500	mg/kg wet	0.02000		46.7	35-149	1.84	12	
Methyl tert-Butyl Ether	0.0219	0.0100	mg/kg wet	0.02000		110	46-142	14.9	25	
m,p-Xylene	0.0510	0.0100	mg/kg wet	0.04000		128	66-126	28.4	16	L, R
n-Hexane	0.0199	0.00500	mg/kg wet	0.02000		99.5	10-189	8.38	21	
o-Xylene	0.0267	0.00500	mg/kg wet	0.02000		134	63-124	28.4	17	L, R
Styrene	0.0273	0.00500	mg/kg wet	0.02000		137	63-125	29.3	15	L, R
Tetrachloroethene	0.0233	0.00500	mg/kg wet	0.02000		116	29-174	32.3	30	R
Toluene	0.0244	0.00500	mg/kg wet	0.02000		122	70-122	28.6	16	R
trans-1,2-Dichloroethene	0.0243	0.00500	mg/kg wet	0.02000		122	63-129	25.8	18	R
trans-1,3-Dichloropropene	0.0250	0.00500	mg/kg wet	0.02000		125	38-135	24.9	18	R
Trichloroethene	0.0228	0.00500	mg/kg wet	0.02000		114	68-126	23.9	18	R
Trichlorofluoromethane	0.0150	0.00500	mg/kg wet	0.02000		75.2	52-142	9.26	26	
Vinyl Chloride	0.0185	0.00500	mg/kg wet	0.02000		92.5		12.6		
Vinyl acetate	0.0232	0.0100	mg/kg wet	0.02000		116		13.0		
Surrogate: 4-Bromofluorobenzene	*48.5*		*ug/L*	*50.00*		*97.0*	*34-118*			
Surrogate: Dibromofluoromethane	*37.9*		*ug/L*	*50.00*		*75.8*	*61-152*			
Surrogate: Toluene-d8	*46.0*		*ug/L*	*50.00*		*92.0*	*44-119*			
Surrogate: 1,2-Dichloroethane-d4	*35.4*		*ug/L*	*50.00*		*70.7*	*39-123*			

Semivolatile Organic Compounds by EPA Method 8270C - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0951299 - PREP_SVOC_S										
Blank (0951299-BLK1)				Prepared: 12/18/09 Analyzed: 12/21/09						
2-Methylnaphthalene	BDL	0.100	mg/kg wet							
Acenaphthene	BDL	0.100	mg/kg wet							
Acenaphthylene	BDL	0.100	mg/kg wet							
Anthracene	BDL	0.100	mg/kg wet							
Benz(a)anthracene	BDL	0.100	mg/kg wet							
Benzo(a)pyrene	BDL	0.100	mg/kg wet							
Benzo(b)fluoranthene	BDL	0.100	mg/kg wet							
Benzo(g,h,i)perylene	BDL	0.100	mg/kg wet							
Benzo(k)fluoranthene	BDL	0.100	mg/kg wet							
Chrysene	BDL	0.100	mg/kg wet							
Dibenz(a,h)anthracene	BDL	0.100	mg/kg wet							
Fluoranthene	BDL	0.100	mg/kg wet							
Fluorene	BDL	0.100	mg/kg wet							
Indeno(1,2,3-cd)pyrene	BDL	0.100	mg/kg wet							
Naphthalene	BDL	0.100	mg/kg wet							
Phenanthrene	BDL	0.100	mg/kg wet							
Pyrene	BDL	0.100	mg/kg wet							
Surrogate: Nitrobenzene-d5	*1.24*		*mg/kg wet*	*1.333*		*93.3*	*57-116*			
Surrogate: 2-Fluorobiphenyl	*1.12*		*mg/kg wet*	*1.333*		*84.1*	*64-110*			
Surrogate: Terphenyl-d14	*1.05*		*mg/kg wet*	*1.333*		*78.8*	*46-124*			
LCS (0951299-BS1)				Prepared: 12/18/09 Analyzed: 12/21/09						
2-Methylnaphthalene	3.05	0.100	mg/kg wet	3.333		91.5				
Acenaphthene	2.97	0.100	mg/kg wet	3.333		89.2	66-102		13	
Acenaphthylene	3.18	0.100	mg/kg wet	3.333		95.5				
Anthracene	3.13	0.100	mg/kg wet	3.333		93.9				
Benz(a)anthracene	3.08	0.100	mg/kg wet	3.333		92.4				
Benzo(a)pyrene	2.69	0.100	mg/kg wet	3.333		80.6				
Benzo(b)fluoranthene	2.56	0.100	mg/kg wet	3.333		76.7				
Benzo(g,h,i)perylene	3.46	0.100	mg/kg wet	3.333		104				
Benzo(k)fluoranthene	2.85	0.100	mg/kg wet	3.333		85.6				
Chrysene	3.19	0.100	mg/kg wet	3.333		95.8				
Dibenz(a,h)anthracene	3.42	0.100	mg/kg wet	3.333		103				
Fluoranthene	3.13	0.100	mg/kg wet	3.333		94.0				
Fluorene	3.11	0.100	mg/kg wet	3.333		93.4				
Indeno(1,2,3-cd)pyrene	3.38	0.100	mg/kg wet	3.333		102				
Naphthalene	2.94	0.100	mg/kg wet	3.333		88.2				
Phenanthrene	2.90	0.100	mg/kg wet	3.333		87.0				
Pyrene	3.04	0.100	mg/kg wet	3.333		91.2	47-123		15	
Surrogate: Nitrobenzene-d5	*1.25*		*mg/kg wet*	*1.333*		*94.1*	*57-116*			
Surrogate: 2-Fluorobiphenyl	*1.23*		*mg/kg wet*	*1.333*		*92.2*	*64-110*			
Surrogate: Terphenyl-d14	*1.02*		*mg/kg wet*	*1.333*		*76.8*	*46-124*			

Semivolatile Organic Compounds by EPA Method 8270C - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0951299 - PREP_SVOC_S										
LCS Dup (0951299-BSD1)				Prepared: 12/18/09 Analyzed: 12/21/09						
2-Methylnaphthalene	3.23	0.100	mg/kg wet	3.333		97.0		5.85		
Acenaphthene	2.93	0.100	mg/kg wet	3.333		87.9	66-102	1.48	13	
Acenaphthylene	3.07	0.100	mg/kg wet	3.333		92.1		3.69		
Anthracene	3.09	0.100	mg/kg wet	3.333		92.6		1.38		
Benz(a)anthracene	3.03	0.100	mg/kg wet	3.333		91.0		1.55		
Benzo(a)pyrene	2.71	0.100	mg/kg wet	3.333		81.4		1.01		
Benzo(b)fluoranthene	2.62	0.100	mg/kg wet	3.333		78.7		2.59		
Benzo(g,h,i)perylene	3.64	0.100	mg/kg wet	3.333		109		5.06		
Benzo(k)fluoranthene	3.09	0.100	mg/kg wet	3.333		92.8		7.99		
Chrysene	3.17	0.100	mg/kg wet	3.333		95.0		0.807		
Dibenz(a,h)anthracene	3.45	0.100	mg/kg wet	3.333		104		0.999		
Fluoranthene	3.02	0.100	mg/kg wet	3.333		90.6		3.73		
Fluorene	3.08	0.100	mg/kg wet	3.333		92.3		1.16		
Indeno(1,2,3-cd)pyrene	3.54	0.100	mg/kg wet	3.333		106		4.51		
Naphthalene	2.93	0.100	mg/kg wet	3.333		87.9		0.329		
Phenanthrene	2.70	0.100	mg/kg wet	3.333		81.0		7.11		
Pyrene	3.02	0.100	mg/kg wet	3.333		90.5	47-123	0.782	15	
Surrogate: Nitrobenzene-d5	*1.30*		*mg/kg wet*	*1.333*		*97.1*	*57-116*			
Surrogate: 2-Fluorobiphenyl	*1.16*		*mg/kg wet*	*1.333*		*86.8*	*64-110*			
Surrogate: Terphenyl-d14	*0.982*		*mg/kg wet*	*1.333*		*73.7*	*46-124*			

Notes and Definitions

S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
R-05	The sample was diluted due to the presence of high levels of non-target analytes resulting in elevated reporting limits.
R-01	The Reporting Limit for this analyte has been raised to account for matrix interference.
R	RPD outside of accepted recovery limits.
M	Matrix spike and/or matrix spike duplicate recovery outside of acceptance limits.
L	Laboratory control sample recovery outside of acceptance limits.
D	Data reported from a dilution
A-01a	Chlorobenzene was high in the LCSD, but was not detected in the samples.
A-01	Chlorobenzene was high in the LCSD, but analyte was not detected in the samples.

Sample preservation was met unless otherwise noted.

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
OHD079588694		937-237-1097	000737604 FLE

GENERATOR

Generator's Name and Mailing Address: CITY OF DAYTON, 711 MONUMENT AVENUE SOUTH 451, DAYTON, OHIO 45540, 937-333-3640

Generator's Site Address (if different than mailing address): 300 TAYLOR STREET, DAYTON, OHIO 45402

Generator's Phone:

6. Transporter 1 Company Name: VEOLIA ES INDUSTRIAL SERVICES, INC. — U.S. EPA ID Number: TXR000077976

7. Transporter 2 Company Name — U.S. EPA ID Number:

8. Designated Facility Name and Site Address: WAYNE DISPOSAL INC, 49350 NORTH I-94 SERVICE DRIVE, BELLEVILLE, MI 48111, 800-592-5489 — U.S. EPA ID Number: MID048090633

Facility's Phone:

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
	1. UN3432, POLYCHLORINATED BIPHENYLS, SOLID, 9, II	001				PCB1		
	2.							
	3.							
	4.							

14. Special Handling Instructions and Additional Information

APPROVAL # A100078DA

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name — Signature — Month Day Year

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name — Signature — Month Day Year

Transporter 2 Printed/Typed Name — Signature — Month Day Year

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

18c. Signature of Alternate Facility (or Generator) — Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name — Signature — Month Day Year

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
OHD 017958604		937-237-8097	000737605 FLE

GENERATOR

5. Generator's Name and Mailing Address: CITY OF DAYTON, 371 E NORTHERN AVENUE SUITE 201, DAYTON, OHIO 45402, 937-333-3620

Generator's Site Address (if different than mailing address): 300 TAYLOR STREET, DAYTON, OHIO 45402

Generator's Phone:

6. Transporter 1 Company Name: VEOLIA ES INDUSTRIAL SERVICES, INC.

U.S. EPA ID Number: TXR000077970

7. Transporter 2 Company Name

U.S. EPA ID Number

8. Designated Facility Name and Site Address: Envia Disposal LLC, 49350 North I-94 Service Drive, Belleville, MI 48111, 800-592-5489

U.S. EPA ID Number: MID048090633

Facility's Phone:

9a HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
	1. UN3432, POLYCHLORINATED BIPHENYLS, SOLID, 9, II	001				PCB1		
	2.							
	3.							
	4.							

14. Special Handling Instructions and Additional Information

APPROVAL # A10907988U

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name | Signature | Month | Day | Year

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name | Signature | Month: 01 | Day: 25 | Year: 10

Transporter 2 Printed/Typed Name | Signature | Month | Day | Year

DES. FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator) | U.S. EPA ID Number

Facility's Phone:

18c. Signature of Alternate Facility (or Generator) | Month | Day | Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name | Signature | Month | Day | Year

BLDG. 10

BLDG 10 S.E. CORNER TANK/SOIL

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

4738 Gateway Circle Dayton, OH 45440 (800) 572-9839
339 W. Walton Blvd Pontiac, MI 48340 (800) 526-4951

October 28, 2009

Client:

Veolia Environmental Services (West Carrollton)
4301 Infirmary Road, P.O. Box 453
West Carrollton, OH 45449

Attn: Brett Davis

Work Order: DSJ0849
Project Name: Waste Characterization
Project Number: [none]

Date Received: 10/17/09

Samples logged in at Dayton laboratory.

An executed copy of the Chain of Custody is also included as an addendum to this report.

If you have any questions relating to this analytical report, please contact your Laboratory Project Manager at the number shown above.

SAMPLE IDENTIFICATION	LAB NUMBER	COLLECTION DATE AND TIME
Bldg To SE Corner Tank-1 Smple	DSJ0849-01	10/14/09 15:00
Bldg 10 SE Corner So.1	DSJ0849-02	10/14/09 15:00
BLDG 10 SE Corner Tank-1 Sample 2	DSJ0849-03	10/14/09 16:15

Ohio Certification Number: 4074, 857

Reproduction of this analytical report is permitted only in its entirety. This report shall not be reproduced except in full without the written approval of the laboratory.

TestAmerica Laboratories, Inc. certifies that the analytical results contained herein apply only to the samples tested as received by our Laboratory.

Report Approved By:

S A Howard

This report has been electronically signed.

TestAmerica Dayton
Shelly A. Howard
Dayton Project Manager

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

4738 Gateway Circle Dayton, OH 45440 (800) 572-9839
339 W. Walton Blvd Pontiac, MI 48340 (800) 526-4951

Veolia Environmental Services (West Carrollton)
4301 Infirmary Road, P.O. Box 453
West Carrollton, OH 45449
Brett Davis

Work Order: DSJ0849
Project: Waste Characterization
Project Number: [none]

Received: 10/17/09
Reported: 10/28/09 13:02

ANALYTICAL REPORT

Analyte	Sample Result	Data Qualifiers	Units	Rpt Limit	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: DSJ0849-01 (Bldg To SE Corner Tank-1 Smple - Non-aqueous)					**Sampled: 10/14/09 15:00**		**Recvd: 10/17/09 07:30**		
General Chemistry Parameters									
% Solids	**87.9**		%	0.100	1	10/19/09 11:00	JLB	9100738	SW 846
Organochlorine Pesticides/PCBs									
PCB-1016	<0.989		mg/kg dry	0.989	5	10/19/09 17:14	JBP	9100746	SW 8082
PCB-1221	<0.989		mg/kg dry	0.989	5	10/19/09 17:14	JBP	9100746	SW 8082
PCB-1232	<0.989		mg/kg dry	0.989	5	10/19/09 17:14	JBP	9100746	SW 8082
PCB-1242	<0.989		mg/kg dry	0.989	5	10/19/09 17:14	JBP	9100746	SW 8082
PCB-1248	<0.989		mg/kg dry	0.989	5	10/19/09 17:14	JBP	9100746	SW 8082
PCB-1254	<0.989		mg/kg dry	0.989	5	10/19/09 17:14	JBP	9100746	SW 8082
PCB-1260	<0.989	L1	mg/kg dry	0.989	5	10/19/09 17:14	JBP	9100746	SW 8082
Surr: Tetrachloro-meta-xylene (10-127%)	*109 %*					10/19/09 17:14	JBP	9100746	SW 8082
Surr: Decachlorobiphenyl (10-149%)	*108 %*					10/19/09 17:14	JBP	9100746	SW 8082
TCLP Metals by 1311/6000/7000									
Arsenic	<0.500		mg/L	0.500	1	10/21/09 14:25	MJW	9100853	SW 6010B
Barium	<0.100		mg/L	0.100	1	10/21/09 14:25	MJW	9100853	SW 6010B
Cadmium	<0.150		mg/L	0.150	1	10/21/09 14:25	MJW	9100853	SW 6010B
Chromium	<0.200		mg/L	0.200	1	10/21/09 14:25	MJW	9100853	SW 6010B
Lead	<0.400		mg/L	0.400	1	10/21/09 14:25	MJW	9100853	SW 6010B
Mercury	<0.00100		mg/L	0.00100	1	10/21/09 16:38	MKH	9100589	SW 7470A
Selenium	<0.500		mg/L	0.500	1	10/21/09 14:25	MJW	9100853	SW 6010B
Silver	<0.200		mg/L	0.200	1	10/21/09 14:25	MJW	9100853	SW 6010B
Extraction	ND		N/A	NA	1	10/20/09 13:12	SSK	9100771	SW 1311
TCLP Volatile Organic Compounds by EPA Method 1311/8260B									
Extraction	ND		N/A	NA	1	10/20/09 13:13	SSK	9100772	SW 1311
Benzene	<0.200		mg/L	0.200	200	10/23/09 18:57	JMT	9101030	SW 8260B
2-Butanone (MEK)	<2.50		mg/L	2.50	200	10/23/09 18:57	JMT	9101030	SW 8260B
Carbon tetrachloride	<0.200		mg/L	0.200	200	10/23/09 18:57	JMT	9101030	SW 8260B
Chlorobenzene	<0.200		mg/L	0.200	200	10/23/09 18:57	JMT	9101030	SW 8260B
Chloroform	<0.200		mg/L	0.200	200	10/23/09 18:57	JMT	9101030	SW 8260B
1,2-Dichloroethane	<0.200		mg/L	0.200	200	10/23/09 18:57	JMT	9101030	SW 8260B
1,1-Dichloroethene	<0.200		mg/L	0.200	200	10/23/09 18:57	JMT	9101030	SW 8260B
Tetrachloroethene	<0.200		mg/L	0.200	200	10/23/09 18:57	JMT	9101030	SW 8260B
Trichloroethene	<0.200		mg/L	0.200	200	10/23/09 18:57	JMT	9101030	SW 8260B
Vinyl chloride	<0.200		mg/L	0.200	200	10/23/09 18:57	JMT	9101030	SW 8260B
Surr: 1,2-Dichloroethane-d4 (80-120%)	*94 %*					10/23/09 18:57	JMT	9101030	SW 8260B
Surr: Dibromofluoromethane (80-120%)	*99 %*					10/23/09 18:57	JMT	9101030	SW 8260B
Surr: Toluene-d8 (80-120%)	*105 %*					10/23/09 18:57	JMT	9101030	SW 8260B
Surr: 4-Bromofluorobenzene (80-120%)	*101 %*					10/23/09 18:57	JMT	9101030	SW 8260B
TCLP Semivolatile Compounds by EPA Method 1311/8270C									
Extraction	ND		N/A	NA	1	10/20/09 13:12	SSK	9100771	SW 1311
1,4-Dichlorobenzene	<0.100		mg/L	0.100	1	10/23/09 10:52	sgs	9100808	SW 8270C
2,4-Dinitrotoluene	<0.100		mg/L	0.100	1	10/23/09 10:52	sgs	9100808	SW 8270C
Hexachlorobenzene	<0.100		mg/L	0.100	1	10/23/09 10:52	sgs	9100808	SW 8270C
Hexachlorobutadiene	<0.100		mg/L	0.100	1	10/23/09 10:52	sgs	9100808	SW 8270C

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339 W. Walton Blvd Pontiac, MI 48340 (800) 526-4951

Veolia Environmental Services (West Carrollton)
4301 Infirmary Road, P.O. Box 453
West Carrollton, OH 45449
Brett Davis

Work Order: DSJ0849
Project: Waste Characterization
Project Number: [none]

Received: 10/17/09
Reported: 10/28/09 13:02

ANALYTICAL REPORT

Analyte	Sample Result	Data Qualifiers	Units	Rpt Limit	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: DSJ0849-01 (Bldg To SE Corner Tank-1 Smple - Non-aqueous) - cont.					**Sampled: 10/14/09 15:00**			**Recvd: 10/17/09 07:30**	
TCLP Semivolatile Compounds by EPA Method 1311/8270C - cont.									
Hexachloroethane	<0.100		mg/L	0.100	1	10/23/09 10:52	sgs	9100808	SW 8270C
2-Methylphenol (o-Cresol)	<0.100		mg/L	0.100	1	10/23/09 10:52	sgs	9100808	SW 8270C
3&4-Methylphenol (m&p Cresol)	<0.100		mg/L	0.100	1	10/23/09 10:52	sgs	9100808	SW 8270C
Nitrobenzene	<0.100		mg/L	0.100	1	10/23/09 10:52	sgs	9100808	SW 8270C
Pentachlorophenol	<0.100		mg/L	0.100	1	10/23/09 10:52	sgs	9100808	SW 8270C
Pyridine	<0.100		mg/L	0.100	1	10/23/09 10:52	sgs	9100808	SW 8270C
2,4,5-Trichlorophenol	<0.100		mg/L	0.100	1	10/23/09 10:52	sgs	9100808	SW 8270C
2,4,6-Trichlorophenol	<0.100		mg/L	0.100	1	10/23/09 10:52	sgs	9100808	SW 8270C
Surr: 2-Fluorophenol (21-145%)	*86 %*					10/23/09 10:52	sgs	9100808	SW 8270C
Surr: Phenol-d6 (10-149%)	*84 %*					10/23/09 10:52	sgs	9100808	SW 8270C
Surr: Nitrobenzene-d5 (35-124%)	*80 %*					10/23/09 10:52	sgs	9100808	SW 8270C
Surr: 2-Fluorobiphenyl (43-134%)	*84 %*					10/23/09 10:52	sgs	9100808	SW 8270C
Surr: 2,4,6-Tribromophenol (21-146%)	*108 %*					10/23/09 10:52	sgs	9100808	SW 8270C
Surr: Terphenyl-d14 (34-149%)	*91 %*					10/23/09 10:52	sgs	9100808	SW 8270C
Sample ID: DSJ0849-02 (Bldg 10 SE Corner So.1 - Non-aqueous)					**Sampled: 10/14/09 15:00**			**Recvd: 10/17/09 07:30**	
General Chemistry Parameters									
% Solids	**74.3**		%	0.100	1	10/19/09 11:00	JLB	9100738	SW 846
Organochlorine Pesticides/PCBs									
PCB-1016	<1.14		mg/kg dry	1.14	5	10/19/09 17:33	JBP	9100746	SW 8082
PCB-1221	<1.14		mg/kg dry	1.14	5	10/19/09 17:33	JBP	9100746	SW 8082
PCB-1232	<1.14		mg/kg dry	1.14	5	10/19/09 17:33	JBP	9100746	SW 8082
PCB-1242	<1.14		mg/kg dry	1.14	5	10/19/09 17:33	JBP	9100746	SW 8082
PCB-1248	<1.14		mg/kg dry	1.14	5	10/19/09 17:33	JBP	9100746	SW 8082
PCB-1254	<1.14		mg/kg dry	1.14	5	10/19/09 17:33	JBP	9100746	SW 8082
PCB-1260	<1.14	L1	mg/kg dry	1.14	5	10/19/09 17:33	JBP	9100746	SW 8082
Surr: Tetrachloro-meta-xylene (10-127%)	*115 %*					10/19/09 17:33	JBP	9100746	SW 8082
Surr: Decachlorobiphenyl (10-149%)	*88 %*					10/19/09 17:33	JBP	9100746	SW 8082
TCLP Metals by 1311/6000/7000									
Arsenic	<0.500		mg/L	0.500	1	10/21/09 14:30	MJW	9100853	SW 6010B
Barium	**0.329**		mg/L	0.100	1	10/21/09 14:30	MJW	9100853	SW 6010B
Cadmium	<0.150		mg/L	0.150	1	10/21/09 14:30	MJW	9100853	SW 6010B
Chromium	<0.200		mg/L	0.200	1	10/21/09 14:30	MJW	9100853	SW 6010B
Lead	<0.400		mg/L	0.400	1	10/21/09 14:30	MJW	9100853	SW 6010B
Mercury	<0.00100		mg/L	0.00100	1	10/21/09 16:46	MKH	9100589	SW 7470A
Selenium	<0.500		mg/L	0.500	1	10/21/09 14:30	MJW	9100853	SW 6010B
Silver	<0.200		mg/L	0.200	1	10/21/09 14:30	MJW	9100853	SW 6010B
Extraction	ND		N/A	NA	1	10/20/09 13:12	SSK	9100771	SW 1311
TCLP Volatile Organic Compounds by EPA Method 1311/8260B									
Extraction	ND		N/A	NA	1	10/20/09 13:13	SSK	9100772	SW 1311
Benzene	<0.200		mg/L	0.200	200	10/24/09 08:30	JMT	9101031	SW 8260B
2-Butanone (MEK)	<2.50		mg/L	2.50	200	10/24/09 08:30	JMT	9101031	SW 8260B
Carbon tetrachloride	<0.200		mg/L	0.200	200	10/24/09 08:30	JMT	9101031	SW 8260B

Veolia Environmental Services (West Carrollton)
4301 Infirmary Road, P.O. Box 453
West Carrollton, OH 45449
Brett Davis

Work Order: DSJ0849
Project: Waste Characterization
Project Number: [none]

Received: 10/17/09
Reported: 10/28/09 13:02

ANALYTICAL REPORT

Analyte	Sample Result	Data Qualifiers	Units	Rpt Limit	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: DSJ0849-02 (Bldg 10 SE Corner So.1 - Non-aqueous) - cont.					**Sampled:**	**10/14/09 15:00**		**Recvd: 10/17/09 07:30**	
TCLP Volatile Organic Compounds by EPA Method 1311/8260B - cont.									
Chlorobenzene	<0.200		mg/L	0.200	200	10/24/09 08:30	JMT	9101031	SW 8260B
Chloroform	<0.200		mg/L	0.200	200	10/24/09 08:30	JMT	9101031	SW 8260B
1,2-Dichloroethane	<0.200		mg/L	0.200	200	10/24/09 08:30	JMT	9101031	SW 8260B
1,1-Dichloroethene	<0.200		mg/L	0.200	200	10/24/09 08:30	JMT	9101031	SW 8260B
Tetrachloroethene	<0.200	M	mg/L	0.200	200	10/24/09 08:30	JMT	9101031	SW 8260B
Trichloroethene	<0.200		mg/L	0.200	200	10/24/09 08:30	JMT	9101031	SW 8260B
Vinyl chloride	<0.200		mg/L	0.200	200	10/24/09 08:30	JMT	9101031	SW 8260B
Surr: 1,2-Dichloroethane-d4 (80-120%)	*95 %*					10/24/09 08:30	JMT	9101031	SW 8260B
Surr: Dibromofluoromethane (80-120%)	*98 %*					10/24/09 08:30	JMT	9101031	SW 8260B
Surr: Toluene-d8 (80-120%)	*98 %*					10/24/09 08:30	JMT	9101031	SW 8260B
Surr: 4-Bromofluorobenzene (80-120%)	*104 %*					10/24/09 08:30	JMT	9101031	SW 8260B
TCLP Semivolatile Compounds by EPA Method 1311/8270C									
Extraction	ND		N/A	NA	1	10/20/09 13:12	SSK	9100771	SW 1311
1,4-Dichlorobenzene	<0.100		mg/L	0.100	1	10/23/09 10:11	sgs	9100808	SW 8270C
2,4-Dinitrotoluene	<0.100		mg/L	0.100	1	10/23/09 10:11	sgs	9100808	SW 8270C
exachlorobenzene	<0.100		mg/L	0.100	1	10/23/09 10:11	sgs	9100808	SW 8270C
Hexachlorobutadiene	<0.100		mg/L	0.100	1	10/23/09 10:11	sgs	9100808	SW 8270C
Hexachloroethane	<0.100		mg/L	0.100	1	10/23/09 10:11	sgs	9100808	SW 8270C
2-Methylphenol (o-Cresol)	<0.100		mg/L	0.100	1	10/23/09 10:11	sgs	9100808	SW 8270C
3&4-Methylphenol (m&p Cresol)	<0.100		mg/L	0.100	1	10/23/09 10:11	sgs	9100808	SW 8270C
Nitrobenzene	<0.100		mg/L	0.100	1	10/23/09 10:11	sgs	9100808	SW 8270C
Pentachlorophenol	<0.100		mg/L	0.100	1	10/23/09 10:11	sgs	9100808	SW 8270C
Pyridine	<0.100		mg/L	0.100	1	10/23/09 10:11	sgs	9100808	SW 8270C
2,4,5-Trichlorophenol	<0.100		mg/L	0.100	1	10/23/09 10:11	sgs	9100808	SW 8270C
2,4,6-Trichlorophenol	<0.100		mg/L	0.100	1	10/23/09 10:11	sgs	9100808	SW 8270C
Surr: 2-Fluorophenol (21-145%)	*80 %*					10/23/09 10:11	sgs	9100808	SW 8270C
Surr: Phenol-d6 (10-149%)	*78 %*					10/23/09 10:11	sgs	9100808	SW 8270C
Surr: Nitrobenzene-d5 (35-124%)	*81 %*					10/23/09 10:11	sgs	9100808	SW 8270C
Surr: 2-Fluorobiphenyl (43-134%)	*72 %*					10/23/09 10:11	sgs	9100808	SW 8270C
Surr: 2,4,6-Tribromophenol (21-146%)	*112 %*					10/23/09 10:11	sgs	9100808	SW 8270C
Surr: Terphenyl-d14 (34-149%)	*92 %*					10/23/09 10:11	sgs	9100808	SW 8270C

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339 W. Walton Blvd Pontiac, MI 48340 (800) 526-4951

Veolia Environmental Services (West Carrollton)
4301 Infirmary Road, P.O. Box 453
West Carrollton, OH 45449
Brett Davis

Work Order: DSJ0849
Project: Waste Characterization
Project Number: [none]

Received: 10/17/09
Reported: 10/28/09 13:02

ANALYTICAL REPORT

Analyte	Sample Result	Data Qualifiers	Units	Rpt Limit	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: DSJ0849-03 (BLDG 10 SE Corner Tank-1 Sample 2 - Non-aqueous)					**Sampled: 10/14/09 16:15**		**Recvd: 10/17/09 07:30**		
General Chemistry Parameters									
% Solids	**69.3**		%	0.100	1	10/19/09 11:00	JLB	9100738	SW 846
Organochlorine Pesticides/PCBs									
PCB-1016	<1.28		mg/kg dry	1.28	5	10/19/09 17:53	JBP	9100746	SW 8082
PCB-1221	<1.28		mg/kg dry	1.28	5	10/19/09 17:53	JBP	9100746	SW 8082
PCB-1232	<1.28		mg/kg dry	1.28	5	10/19/09 17:53	JBP	9100746	SW 8082
PCB-1242	<1.28		mg/kg dry	1.28	5	10/19/09 17:53	JBP	9100746	SW 8082
PCB-1248	<1.28		mg/kg dry	1.28	5	10/19/09 17:53	JBP	9100746	SW 8082
PCB-1254	<1.28		mg/kg dry	1.28	5	10/19/09 17:53	JBP	9100746	SW 8082
PCB-1260	<1.28	L1	mg/kg dry	1.28	5	10/19/09 17:53	JBP	9100746	SW 8082
Surr: Tetrachloro-meta-xylene (10-127%)	*99 %*					10/19/09 17:53	JBP	9100746	SW 8082
Surr: Decachlorobiphenyl (10-149%)	*98 %*					10/19/09 17:53	JBP	9100746	SW 8082
TCLP Metals by 1311/6000/7000									
Arsenic	<0.500		mg/L	0.500	1	10/21/09 14:35	MJW	9100853	SW 6010B
Barium	<0.100		mg/L	0.100	1	10/21/09 14:35	MJW	9100853	SW 6010B
Cadmium	<0.150		mg/L	0.150	1	10/21/09 14:35	MJW	9100853	SW 6010B
hromium	<0.200		mg/L	0.200	1	10/21/09 14:35	MJW	9100853	SW 6010B
Lead	<0.400		mg/L	0.400	1	10/21/09 14:35	MJW	9100853	SW 6010B
Mercury	<0.00100		mg/L	0.00100	1	10/21/09 16:48	MKH	9100589	SW 7470A
Selenium	<0.500		mg/L	0.500	1	10/21/09 14:35	MJW	9100853	SW 6010B
Silver	<0.200		mg/L	0.200	1	10/21/09 14:35	MJW	9100853	SW 6010B
Extraction	ND		N/A	NA	1	10/20/09 13:12	SSK	9100771	SW 1311
TCLP Volatile Organic Compounds by EPA Method 1311/8260B									
Extraction	ND		N/A	NA	1	10/20/09 13:13	SSK	9100772	SW 1311
Benzene	<0.200	M	mg/L	0.200	200	10/23/09 17:42	prb	9101032	SW 8260B
2-Butanone (MEK)	<2.50	M,L1	mg/L	2.50	200	10/23/09 17:42	prb	9101032	SW 8260B
Carbon tetrachloride	<0.200	M	mg/L	0.200	200	10/23/09 17:42	prb	9101032	SW 8260B
Chlorobenzene	<0.200	M	mg/L	0.200	200	10/23/09 17:42	prb	9101032	SW 8260B
Chloroform	<0.200	M	mg/L	0.200	200	10/23/09 17:42	prb	9101032	SW 8260B
1,2-Dichloroethane	<0.200	M	mg/L	0.200	200	10/23/09 17:42	prb	9101032	SW 8260B
1,1-Dichloroethene	<0.200	M	mg/L	0.200	200	10/23/09 17:42	prb	9101032	SW 8260B
Tetrachloroethene	<0.200	M	mg/L	0.200	200	10/23/09 17:42	prb	9101032	SW 8260B
Trichloroethene	<0.200	M	mg/L	0.200	200	10/23/09 17:42	prb	9101032	SW 8260B
Vinyl chloride	<0.200	M	mg/L	0.200	200	10/23/09 17:42	prb	9101032	SW 8260B
Surr: 1,2-Dichloroethane-d4 (80-120%)	*118 %*	*M*				10/23/09 17:42	prb	9101032	SW 8260B
Surr: Dibromofluoromethane (80-120%)	*118 %*	*M*				10/23/09 17:42	prb	9101032	SW 8260B
Surr: Toluene-d8 (80-120%)	*94 %*	*M*				10/23/09 17:42	prb	9101032	SW 8260B
Surr: 4-Bromofluorobenzene (80-120%)	*102 %*	*M*				10/23/09 17:42	prb	9101032	SW 8260B
TCLP Semivolatile Compounds by EPA Method 1311/8270C									
Extraction	ND		N/A	NA	1	10/20/09 13:12	SSK	9100771	SW 1311
1,4-Dichlorobenzene	<0.100		mg/L	0.100	1	10/23/09 10:31	sgs	9100808	SW 8270C
2,4-Dinitrotoluene	<0.100		mg/L	0.100	1	10/23/09 10:31	sgs	9100808	SW 8270C
exachlorobenzene	<0.100		mg/L	0.100	1	10/23/09 10:31	sgs	9100808	SW 8270C
Hexachlorobutadiene	<0.100		mg/L	0.100	1	10/23/09 10:31	sgs	9100808	SW 8270C

Veolia Environmental Services (West Carrollton)
4301 Infirmary Road, P.O. Box 453
West Carrollton, OH 45449
Brett Davis

Work Order: DSJ0849
Project: Waste Characterization
Project Number: [none]

Received: 10/17/09
Reported: 10/28/09 13:02

ANALYTICAL REPORT

Analyte	Sample Result	Data Qualifiers	Units	Rpt Limit	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: DSJ0849-03 (BLDG 10 SE Corner Tank-1 Sample 2 - Non-aqueous) - cont.					**Sampled: 10/14/09 16:15**			**Recvd: 10/17/09 07:30**	
TCLP Semivolatile Compounds by EPA Method 1311/8270C - cont.									
Hexachloroethane	<0.100		mg/L	0.100	1	10/23/09 10:31	sgs	9100808	SW 8270C
2-Methylphenol (o-Cresol)	<0.100		mg/L	0.100	1	10/23/09 10:31	sgs	9100808	SW 8270C
3&4-Methylphenol (m&p Cresol)	<0.100		mg/L	0.100	1	10/23/09 10:31	sgs	9100808	SW 8270C
Nitrobenzene	<0.100		mg/L	0.100	1	10/23/09 10:31	sgs	9100808	SW 8270C
Pentachlorophenol	<0.100		mg/L	0.100	1	10/23/09 10:31	sgs	9100808	SW 8270C
Pyridine	<0.100		mg/L	0.100	1	10/23/09 10:31	sgs	9100808	SW 8270C
2,4,5-Trichlorophenol	<0.100		mg/L	0.100	1	10/23/09 10:31	sgs	9100808	SW 8270C
2,4,6-Trichlorophenol	<0.100		mg/L	0.100	1	10/23/09 10:31	sgs	9100808	SW 8270C
Surr: 2-Fluorophenol (21-145%)	*85 %*					10/23/09 10:31	sgs	9100808	SW 8270C
Surr: Phenol-d6 (10-149%)	*84 %*					10/23/09 10:31	sgs	9100808	SW 8270C
Surr: Nitrobenzene-d5 (35-124%)	*81 %*					10/23/09 10:31	sgs	9100808	SW 8270C
Surr: 2-Fluorobiphenyl (43-134%)	*70 %*					10/23/09 10:31	sgs	9100808	SW 8270C
Surr: 2,4,6-Tribromophenol (21-146%)	*113 %*					10/23/09 10:31	sgs	9100808	SW 8270C
Surr: Terphenyl-d14 (34-149%)	*87 %*					10/23/09 10:31	sgs	9100808	SW 8270C

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LABORATORY BLANK QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	Units	MDL	MRL	Result	Dup Result	% REC	Dup %REC	% REC Limits	RPD	RPD Limit	Q
Organochlorine Pesticides/PCBs														
PCB-1016	9100746			mg/kg wet	N/A	1.00	<1.00							
PCB-1260	9100746			mg/kg wet	N/A	1.00	<1.00							L1
Surrogate: Tetrachloro-meta-xylene	*9100746*			mg/kg wet					*104*		*10-127*			
Surrogate: Decachlorobiphenyl	*9100746*			mg/kg wet					*113*		*10-149*			
TCLP Metals by 1311/6000/7000														
Mercury	9100589			mg/L	N/A	0.000200	<0.000200							
Mercury	9100589			mg/L	N/A	0.00100	<0.00100							
Arsenic	9100853			mg/L	N/A	0.500	<0.500							
Barium	9100853			mg/L	N/A	0.100	<0.100							
Cadmium	9100853			mg/L	N/A	0.150	<0.150							
Chromium	9100853			mg/L	N/A	0.200	<0.200							
Lead	9100853			mg/L	N/A	0.400	<0.400							
Selenium	9100853			mg/L	N/A	0.500	<0.500							
Silver	9100853			mg/L	N/A	0.200	<0.200							
Arsenic	9100853			mg/L	N/A	0.500	<0.500							
Barium	9100853			mg/L	N/A	0.100	<0.100							
Cadmium	9100853			mg/L	N/A	0.150	<0.150							
Chromium	9100853			mg/L	N/A	0.200	<0.200							
Lead	9100853			mg/L	N/A	0.400	<0.400							
Selenium	9100853			mg/L	N/A	0.500	<0.500							
Silver	9100853			mg/L	N/A	0.200	<0.200							
TCLP Volatile Organic Compounds by EPA Method 1311/8260B														
Benzene	9101030			mg/L	N/A	0.00100	<0.00100							
2-Butanone (MEK)	9101030			mg/L	N/A	0.0125	<0.0125							
Carbon tetrachloride	9101030			mg/L	N/A	0.00100	<0.00100							
Chlorobenzene	9101030			mg/L	N/A	0.00100	<0.00100							
Chloroform	9101030			mg/L	N/A	0.00100	<0.00100							
1,2-Dichloroethane	9101030			mg/L	N/A	0.00100	<0.00100							
1,1-Dichloroethene	9101030			mg/L	N/A	0.00100	<0.00100							
Tetrachloroethene	9101030			mg/L	N/A	0.00100	<0.00100							
Trichloroethene	9101030			mg/L	N/A	0.00100	<0.00100							
Vinyl chloride	9101030			mg/L	N/A	0.00100	<0.00100							
Surrogate: 1,2-Dichloroethane-d4	*9101030*			mg/L					*96*		*80-120*			
Surrogate: Dibromofluoromethane	*9101030*			mg/L					*99*		*80-120*			
Surrogate: Toluene-d8	*9101030*			mg/L					*98*		*80-120*			
Surrogate: 4-Bromofluorobenzene	*9101030*			mg/L					*103*		*80-120*			
Benzene	9101031			mg/L	N/A	0.00100	<0.00100							
2-Butanone (MEK)	9101031			mg/L	N/A	0.0125	<0.0125							
Carbon tetrachloride	9101031			mg/L	N/A	0.00100	<0.00100							
Chlorobenzene	9101031			mg/L	N/A	0.00100	<0.00100							
Chloroform	9101031			mg/L	N/A	0.00100	<0.00100							
1,2-Dichloroethane	9101031			mg/L	N/A	0.00100	<0.00100							
1,1-Dichloroethene	9101031			mg/L	N/A	0.00100	<0.00100							
Tetrachloroethene	9101031			mg/L	N/A	0.00100	<0.00100							
Trichloroethene	9101031			mg/L	N/A	0.00100	<0.00100							
Vinyl chloride	9101031			mg/L	N/A	0.00100	<0.00100							

Veolia Environmental Services (West Carrollton)
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Work Order: DSJ0849
Project: Waste Characterization
Project Number: [none]

Received: 10/17/09
Reported: 10/28/09 13:02

LABORATORY BLANK QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	Units	MDL	MRL	Result	Dup Result	% REC	Dup %REC	% REC Limits	RPD	RPD Limit	Q
TCLP Volatile Organic Compounds by EPA Method 1311/8260B														
Surrogate: 1,2-Dichloroethane-d4	*9101031*			mg/L					*95*		*80-120*			
Surrogate: Dibromofluoromethane	*9101031*			mg/L					*99*		*80-120*			
Surrogate: Toluene-d8	*9101031*			mg/L					*98*		*80-120*			
Surrogate: 4-Bromofluorobenzene	*9101031*			mg/L					*103*		*80-120*			
Benzene	9101032			mg/L	N/A	0.00100	<0.00100							
2-Butanone (MEK)	9101032			mg/L	N/A	0.0125	<0.0125							L1
Carbon tetrachloride	9101032			mg/L	N/A	0.00100	<0.00100							
Chlorobenzene	9101032			mg/L	N/A	0.00100	<0.00100							
Chloroform	9101032			mg/L	N/A	0.00100	<0.00100							
1,2-Dichloroethane	9101032			mg/L	N/A	0.00100	<0.00100							
1,1-Dichloroethene	9101032			mg/L	N/A	0.00100	<0.00100							
Tetrachloroethene	9101032			mg/L	N/A	0.00100	<0.00100							
Trichloroethene	9101032			mg/L	N/A	0.00100	<0.00100							
Vinyl chloride	9101032			mg/L	N/A	0.00100	<0.00100							
Surrogate: 1,2-Dichloroethane-d4	*9101032*			mg/L					*114*		*80-120*			
Surrogate: Dibromofluoromethane	*9101032*			mg/L					*113*		*80-120*			
Surrogate: Toluene-d8	*9101032*			mg/L					*93*		*80-120*			
Surrogate: 4-Bromofluorobenzene	*9101032*			mg/L					*101*		*80-120*			
TCLP Semivolatile Compounds by EPA Method 1311/8270C														
1,4-Dichlorobenzene	9100808			mg/L	N/A	0.0100	<0.0100							
2,4-Dinitrotoluene	9100808			mg/L	N/A	0.0100	<0.0100							
Hexachlorobenzene	9100808			mg/L	N/A	0.0100	<0.0100							
Hexachlorobutadiene	9100808			mg/L	N/A	0.0100	<0.0100							
Hexachloroethane	9100808			mg/L	N/A	0.0100	<0.0100							
2-Methylphenol (o-Cresol)	9100808			mg/L	N/A	0.0100	<0.0100							
3&4-Methylphenol (m&p Cresol)	9100808			mg/L	N/A	0.0100	<0.0100							
Nitrobenzene	9100808			mg/L	N/A	0.0100	<0.0100							
Pentachlorophenol	9100808			mg/L	N/A	0.0100	<0.0100							
Pyridine	9100808			mg/L	N/A	0.0100	<0.0100							
2,4,5-Trichlorophenol	9100808			mg/L	N/A	0.0100	<0.0100							
2,4,6-Trichlorophenol	9100808			mg/L	N/A	0.0100	<0.0100							
Surrogate: 2-Fluorophenol	*9100808*			mg/L					*90*		*21-145*			
Surrogate: Phenol-d6	*9100808*			mg/L					*89*		*10-149*			
Surrogate: Nitrobenzene-d5	*9100808*			mg/L					*91*		*35-124*			
Surrogate: 2-Fluorobiphenyl	*9100808*			mg/L					*95*		*43-134*			
Surrogate: 2,4,6-Tribromophenol	*9100808*			mg/L					*102*		*21-146*			
Surrogate: Terphenyl-d14	*9100808*			mg/L					*99*		*34-149*			
1,4-Dichlorobenzene	9100808			mg/L	N/A	0.0100	<0.0100							
2,4-Dinitrotoluene	9100808			mg/L	N/A	0.0100	<0.0100							
Hexachlorobenzene	9100808			mg/L	N/A	0.0100	<0.0100							
Hexachlorobutadiene	9100808			mg/L	N/A	0.0100	<0.0100							
Hexachloroethane	9100808			mg/L	N/A	0.0100	<0.0100							

Veolia Environmental Services (West Carrollton)
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Work Order: DSJ0849
Project: Waste Characterization
Project Number: [none]

Received: 10/17/09
Reported: 10/28/09 13:02

LABORATORY BLANK QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	Units	MDL	MRL	Result	Dup Result	% REC	Dup %REC	% REC Limits	RPD	RPD Limit	Q
TCLP Semivolatile Compounds by EPA Method 1311/8270C														
2-Methylphenol (o-Cresol)	9100808			mg/L	N/A	0.0100	<0.0100							
3&4-Methylphenol (m&p Cresol)	9100808			mg/L	N/A	0.0100	<0.0100							
Nitrobenzene	9100808			mg/L	N/A	0.0100	<0.0100							
Pentachlorophenol	9100808			mg/L	N/A	0.0100	<0.0100							
Pyridine	9100808			mg/L	N/A	0.0100	<0.0100							
2,4,5-Trichlorophenol	9100808			mg/L	N/A	0.0100	<0.0100							
2,4,6-Trichlorophenol	9100808			mg/L	N/A	0.0100	<0.0100							
Surrogate: 2-Fluorophenol	*9100808*			mg/L					*88*		*21-145*			
Surrogate: Phenol-d6	*9100808*			mg/L					*87*		*10-149*			
Surrogate: Nitrobenzene-d5	*9100808*			mg/L					*85*		*35-124*			
Surrogate: 2-Fluorobiphenyl	*9100808*			mg/L					*90*		*43-134*			
Surrogate: 2,4,6-Tribromophenol	*9100808*			mg/L					*101*		*21-146*			
Surrogate: Terphenyl-d14	*9100808*			mg/L					*93*		*34-149*			

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Brett Davis

Work Order: DSJ0849
Project: Waste Characterization
Project Number: [none]

Received: 10/17/09
Reported: 10/28/09 13:02

LABORATORY DUPLICATE QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	Units	MDL	MRL	Result	% REC	Dup %REC	% REC Limits	RPD	RPD Limit	Q
General Chemistry Parameters													
QC Source Sample: DSJ0821-15													
% Solids	9100738	89.8		%	N/A	0.100	90.3				1	20	
QC Source Sample: DSJ0847-03													
% Solids	9100738	100		%	N/A	0.100	100				0	20	
TCLP Metals by 1311/6000/7000													
QC Source Sample: DSJ0716-07													
Mercury	9100589	<0.00020		mg/L	N/A	0.00100	<0.00100					10	

Veolia Environmental Services (West Carrollton)
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Received: 10/17/09
Reported: 10/28/09 13:02

LCS/LCS DUPLICATE QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	Units	MDL	MRL	Result	Dup Result	% REC	Dup %REC	% REC Limits	RPD	RPD Limit	Q
Organochlorine Pesticides/PCBs														
PCB-1016	9100746		5.00	mg/kg wet	N/A	1.00	7.39		148		35-154			
PCB-1260	9100746		5.00	mg/kg wet	N/A	1.00	7.47		149		22-171			L1
Surrogate: Tetrachloro-meta-xylene	*9100746*			mg/kg wet					*127*		*10-127*			
Surrogate: Decachlorobiphenyl	*9100746*			mg/kg wet					*127*		*10-149*			
TCLP Metals by 1311/6000/7000														
Mercury	9100589		0.00100	mg/L	N/A	0.000200	0.000970		97		80-120			
Arsenic	9100853		5.00	mg/L	N/A	0.500	4.84		97		80-120			
Barium	9100853		5.00	mg/L	N/A	0.100	4.98		100		80-120			
Cadmium	9100853		5.00	mg/L	N/A	0.150	4.80		96		80-120			
Chromium	9100853		5.00	mg/L	N/A	0.200	4.81		96		80-120			
Lead	9100853		5.00	mg/L	N/A	0.400	4.81		96		80-120			
Selenium	9100853		5.00	mg/L	N/A	0.500	4.84		97		80-120			
Silver	9100853		5.00	mg/L	N/A	0.200	4.93		99		80-120			
TCLP Volatile Organic Compounds by EPA Method 1311/8260B														
Benzene	9101030		0.0200	mg/L	N/A	0.00100	0.0196		98		79-120			
2-Butanone (MEK)	9101030		0.0500	mg/L	N/A	0.0125	0.0513		103		69-121			
Carbon tetrachloride	9101030		0.0200	mg/L	N/A	0.00100	0.0202		101		70-129			
hlorobenzene	9101030		0.0200	mg/L	N/A	0.00100	0.0198		99		78-120			
Chloroform	9101030		0.0200	mg/L	N/A	0.00100	0.0185		93		77-120			
1,2-Dichloroethane	9101030		0.0200	mg/L	N/A	0.00100	0.0182		91		75-120			
1,1-Dichloroethene	9101030		0.0200	mg/L	N/A	0.00100	0.0185		92		71-121			
Tetrachloroethene	9101030		0.0200	mg/L	N/A	0.00100	0.0196		98		62-128			
Trichloroethene	9101030		0.0200	mg/L	N/A	0.00100	0.0202		101		77-120			
Vinyl chloride	9101030		0.0200	mg/L	N/A	0.00100	0.0165		82		65-126			
Surrogate: 1,2-Dichloroethane-d4	*9101030*			mg/L					*92*		*80-120*			
Surrogate: Dibromofluoromethane	*9101030*			mg/L					*96*		*80-120*			
Surrogate: Toluene-d8	*9101030*			mg/L					*97*		*80-120*			
Surrogate: 4-Bromofluorobenzene	*9101030*			mg/L					*102*		*80-120*			
Benzene	9101031		0.0200	mg/L	N/A	0.00100	0.0204		102		79-120			
2-Butanone (MEK)	9101031		0.0500	mg/L	N/A	0.0125	0.0540		108		69-121			
Carbon tetrachloride	9101031		0.0200	mg/L	N/A	0.00100	0.0199		99		70-129			
Chlorobenzene	9101031		0.0200	mg/L	N/A	0.00100	0.0208		104		78-120			
Chloroform	9101031		0.0200	mg/L	N/A	0.00100	0.0191		96		77-120			
1,2-Dichloroethane	9101031		0.0200	mg/L	N/A	0.00100	0.0190		95		75-120			
1,1-Dichloroethene	9101031		0.0200	mg/L	N/A	0.00100	0.0194		97		71-121			
Tetrachloroethene	9101031		0.0200	mg/L	N/A	0.00100	0.0255		127		62-128			
Trichloroethene	9101031		0.0200	mg/L	N/A	0.00100	0.0203		101		77-120			
Vinyl chloride	9101031		0.0200	mg/L	N/A	0.00100	0.0176		88		65-126			
Surrogate: 1,2-Dichloroethane-d4	*9101031*			mg/L					*99*		*80-120*			
Surrogate: Dibromofluoromethane	*9101031*			mg/L					*97*		*80-120*			
Surrogate: Toluene-d8	*9101031*			mg/L					*96*		*80-120*			
Surrogate: 4-Bromofluorobenzene	*9101031*			mg/L					*100*		*80-120*			

Veolia Environmental Services (West Carrollton)
4301 Infirmary Road, P.O. Box 453
West Carrollton, OH 45449
Brett Davis

Work Order: DSJ0849
Project: Waste Characterization
Project Number: [none]

Received: 10/17/09
Reported: 10/28/09 13:02

LCS/LCS DUPLICATE QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	Units	MDL	MRL	Result	Dup Result	% REC	Dup %REC	% REC Limits	RPD	RPD Limit	Q
TCLP Volatile Organic Compounds by EPA Method 1311/8260B														
Benzene	9101032		0.0200	mg/L	N/A	0.00100	0.0217		108		79-120			
2-Butanone (MEK)	9101032		0.0500	mg/L	N/A	0.0125	0.0656		131		69-121			L1
Carbon tetrachloride	9101032		0.0200	mg/L	N/A	0.00100	0.0239		119		70-129			
Chlorobenzene	9101032		0.0200	mg/L	N/A	0.00100	0.0195		97		78-120			
Chloroform	9101032		0.0200	mg/L	N/A	0.00100	0.0238		119		77-120			
1,2-Dichloroethane	9101032		0.0200	mg/L	N/A	0.00100	0.0238		119		75-120			
1,1-Dichloroethene	9101032		0.0200	mg/L	N/A	0.00100	0.0202		101		71-121			
Tetrachloroethene	9101032		0.0200	mg/L	N/A	0.00100	0.0202		101		62-128			
Trichloroethene	9101032		0.0200	mg/L	N/A	0.00100	0.0224		112		77-120			
Vinyl chloride	9101032		0.0200	mg/L	N/A	0.00100	0.0186		93		65-126			
Surrogate: 1,2-Dichloroethane-d4	*9101032*			mg/L					*110*		*80-120*			
Surrogate: Dibromofluoromethane	*9101032*			mg/L					*112*		*80-120*			
Surrogate: Toluene-d8	*9101032*			mg/L					*95*		*80-120*			
Surrogate: 4-Bromofluorobenzene	*9101032*			mg/L					*100*		*80-120*			
TCLP Semivolatile Compounds by EPA Method 1311/8270C														
1,4-Dichlorobenzene	9100808		0.0500	mg/L	N/A	0.0100	0.0395		79		47-120			
2,4-Dinitrotoluene	9100808		0.0500	mg/L	N/A	0.0100	0.0531		106		41-146			
Hexachlorobenzene	9100808		0.0500	mg/L	N/A	0.0100	0.0492		98		65-128			
Hexachlorobutadiene	9100808		0.0500	mg/L	N/A	0.0100	0.0365		73		50-120			
Hexachloroethane	9100808		0.0500	mg/L	N/A	0.0100	0.0360		72		41-120			
2-Methylphenol (o-Cresol)	9100808		0.0500	mg/L	N/A	0.0100	0.0476		95		57-120			
3&4-Methylphenol (m&p Cresol)	9100808		0.0500	mg/L	N/A	0.0100	0.0486		97		57-120			
Nitrobenzene	9100808		0.0500	mg/L	N/A	0.0100	0.0466		93		63-120			
Pentachlorophenol	9100808		0.0500	mg/L	N/A	0.0100	0.0440		88		54-120			
Pyridine	9100808		0.0500	mg/L	N/A	0.0100	0.0394		79		31-120			
2,4,5-Trichlorophenol	9100808		0.0500	mg/L	N/A	0.0100	0.0499		100		58-120			
2,4,6-Trichlorophenol	9100808		0.0500	mg/L	N/A	0.0100	0.0498		100		60-121			
Surrogate: 2-Fluorophenol	*9100808*			mg/L					*90*		*21-145*			
Surrogate: Phenol-d6	*9100808*			mg/L					*92*		*10-149*			
Surrogate: Nitrobenzene-d5	*9100808*			mg/L					*88*		*35-124*			
Surrogate: 2-Fluorobiphenyl	*9100808*			mg/L					*90*		*43-134*			
Surrogate: 2,4,6-Tribromophenol	*9100808*			mg/L					*102*		*21-146*			
Surrogate: Terphenyl-d14	*9100808*			mg/L					*96*		*34-149*			

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Veolia Environmental Services (West Carrollton)
4301 Infirmary Road, P.O. Box 453
West Carrollton, OH 45449
Brett Davis

Work Order: DSJ0849
Project: Waste Characterization
Project Number: [none]

Received: 10/17/09
Reported: 10/28/09 13:02

MATRIX SPIKE/MATRIX SPIKE DUPLICATE QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	Units	MDL	MRL	Result	Dup Result	% REC	Dup %REC	% REC Limits	RPD	RPD Limit	Q
Organochlorine Pesticides/PCBs														
QC Source Sample: DSJ0686-01														
PCB-1016	9100746	<0.10	4.55	mg/kg wet	N/A	0.909	7.00	6.55	154	156	35-154	7	25	M14
PCB-1260	9100746	<0.10	4.55	mg/kg wet	N/A	0.909	7.09	6.82	156	162	22-171	4	25	L1
Surrogate: Tetrachloro-meta-xylene	*9100746*			mg/kg wet					*139*	*137*	*10-127*			Z1
Surrogate: Decachlorobiphenyl	*9100746*			mg/kg wet					*134*	*137*	*10-149*			
TCLP Metals by 1311/6000/7000														
QC Source Sample: DSJ0821-01														
Mercury	9100589	0.000114	0.00100	mg/L	N/A	0.000200	0.00117	0.00117	106	106	75-125	0	20	M
QC Source Sample: DSJ0849-02														
Arsenic	9100853	<0.10	5.00	mg/L	N/A	0.500	4.85	4.99	97	100	75-125	3	20	
Barium	9100853	0.329	5.00	mg/L	N/A	0.100	5.26	5.16	99	97	75-125	2	20	
Cadmium	9100853	0.00550	5.00	mg/L	N/A	0.150	4.67	4.97	93	99	75-125	6	20	
Chromium	9100853	<0.040	5.00	mg/L	N/A	0.200	4.71	4.93	94	99	75-125	5	20	
Lead	9100853	<0.080	5.00	mg/L	N/A	0.400	4.77	5.00	95	100	75-125	5	20	
Selenium	9100853	<0.10	5.00	mg/L	N/A	0.500	4.91	4.97	98	99	75-125	1	20	
Silver	9100853	<0.040	5.00	mg/L	N/A	0.200	4.97	5.01	99	100	75-125	1	20	
TCLP Volatile Organic Compounds by EPA Method 1311/8260B														
QC Source Sample: DSJ0849-01														
Benzene	9101030	<0.0010	4.00	mg/L	N/A	0.200	3.83	3.93	96	98	79-120	3	25	
2-Butanone (MEK)	9101030	<0.012	10.0	mg/L	N/A	2.50	10.5	10.5	105	105	69-121	0	25	
Carbon tetrachloride	9101030	<0.0010	4.00	mg/L	N/A	0.200	3.87	3.97	97	99	70-129	3	25	
Chlorobenzene	9101030	<0.0010	4.00	mg/L	N/A	0.200	3.77	3.90	94	98	78-120	3	25	
Chloroform	9101030	<0.0010	4.00	mg/L	N/A	0.200	3.53	3.57	88	89	77-120	1	25	
1,2-Dichloroethane	9101030	<0.0010	4.00	mg/L	N/A	0.200	3.43	3.44	86	86	75-120	0	25	
1,1-Dichloroethene	9101030	<0.0010	4.00	mg/L	N/A	0.200	3.86	3.93	96	98	71-121	2	25	
Tetrachloroethene	9101030	0.170	4.00	mg/L	N/A	0.200	4.76	4.81	115	116	62-128	1	25	
Trichloroethene	9101030	<0.0010	4.00	mg/L	N/A	0.200	4.53	4.20	113	105	77-120	8	25	
Vinyl chloride	9101030	<0.0010	4.00	mg/L	N/A	0.200	3.50	3.52	87	88	65-126	1	25	
Surrogate: 1,2-Dichloroethane-d4	*9101030*			mg/L					*97*	*98*	*80-120*			
Surrogate: Dibromofluoromethane	*9101030*			mg/L					*96*	*97*	*80-120*			
Surrogate: Toluene-d8	*9101030*			mg/L					*97*	*96*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*9101030*			mg/L					*100*	*102*	*80-120*			
QC Source Sample: DSJ0849-02														
Benzene	9101031	<0.0010	4.00	mg/L	N/A	0.200	4.04	3.77	101	94	79-120	7	25	
2-Butanone (MEK)	9101031	<0.012	10.0	mg/L	N/A	2.50	9.49	9.62	95	96	69-121	1	25	
Carbon tetrachloride	9101031	<0.0010	4.00	mg/L	N/A	0.200	4.12	3.72	103	93	70-129	10	25	
Chlorobenzene	9101031	<0.0010	4.00	mg/L	N/A	0.200	4.03	3.74	101	93	78-120	8	25	
Chloroform	9101031	<0.0010	4.00	mg/L	N/A	0.200	3.61	3.48	90	87	77-120	4	25	
1,2-Dichloroethane	9101031	<0.0010	4.00	mg/L	N/A	0.200	3.59	3.39	90	85	75-120	6	25	
1,1-Dichloroethene	9101031	<0.0010	4.00	mg/L	N/A	0.200	3.73	3.70	93	92	71-121	1	25	
Tetrachloroethene	9101031	<0.0010	4.00	mg/L	N/A	0.200	5.16	4.77	129	119	62-128	8	25	M
Trichloroethene	9101031	<0.0010	4.00	mg/L	N/A	0.200	4.01	3.83	100	96	77-120	4	25	
Vinyl chloride	9101031	<0.0010	4.00	mg/L	N/A	0.200	3.62	3.36	91	84	65-126	7	25	
Surrogate: 1,2-Dichloroethane-d4	*9101031*			mg/L					*97*	*98*	*80-120*			
Surrogate: Dibromofluoromethane	*9101031*			mg/L					*95*	*95*	*80-120*			
Surrogate: Toluene-d8	*9101031*			mg/L					*97*	*97*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*9101031*			mg/L					*102*	*102*	*80-120*			

Veolia Environmental Services (West Carrollton)
4301 Infirmary Road, P.O. Box 453
West Carrollton, OH 45449
Brett Davis

Work Order: DSJ0849
Project: Waste Characterization
Project Number: [none]

Received: 10/17/09
Reported: 10/28/09 13:02

MATRIX SPIKE/MATRIX SPIKE DUPLICATE QC DATA

Analyte	Seq/ Batch	Source Result	Spike Level	Units	MDL	MRL	Result	Dup Result	% REC	Dup %REC	% REC Limits	RPD	RPD Limit	Q
TCLP Volatile Organic Compounds by EPA Method 1311/8260B														
QC Source Sample: DSJ0849-03														
Benzene	9101032	<0.0010	4.00	mg/L	N/A	0.200	4.54	4.79	113	120	79-120	5	25	M
2-Butanone (MEK)	9101032	<0.012	10.0	mg/L	N/A	2.50	14.9	15.2	149	152	69-121	2	25	M,L1
Carbon tetrachloride	9101032	<0.0010	4.00	mg/L	N/A	0.200	5.21	5.27	130	132	70-129	1	25	M
Chlorobenzene	9101032	<0.0010	4.00	mg/L	N/A	0.200	3.97	4.06	99	101	78-120	2	25	M
Chloroform	9101032	<0.0010	4.00	mg/L	N/A	0.200	5.41	5.13	135	128	77-120	5	25	M
1,2-Dichloroethane	9101032	<0.0010	4.00	mg/L	N/A	0.200	5.30	5.05	132	126	75-120	5	25	M
1,1-Dichloroethene	9101032	<0.0010	4.00	mg/L	N/A	0.200	4.80	4.74	120	118	71-121	1	25	M
Tetrachloroethene	9101032	<0.0010	4.00	mg/L	N/A	0.200	4.03	3.98	101	99	62-128	1	25	M
Trichloroethene	9101032	<0.0010	4.00	mg/L	N/A	0.200	4.77	4.90	119	122	77-120	3	25	M
Vinyl chloride	9101032	<0.0010	4.00	mg/L	N/A	0.200	4.02	4.36	101	109	65-126	8	25	M
Surrogate: 1,2-Dichloroethane-d4	*9101032*			mg/L					*120*	*111*	*80-120*			M
Surrogate: Dibromofluoromethane	*9101032*			mg/L					*121*	*112*	*80-120*			M,Z1
Surrogate: Toluene-d8	*9101032*			mg/L					*97*	*94*	*80-120*			M
Surrogate: 4-Bromofluorobenzene	*9101032*			mg/L					*103*	*99*	*80-120*			M
TCLP Semivolatile Compounds by EPA Method 1311/8270C														
QC Source Sample: DSJ0849-01														
`4-Dichlorobenzene	9100808	<0.10	0.500	mg/L	N/A	0.100	0.844	0.411	169	82	47-120	69	25	M
.,4-Dinitrotoluene	9100808	<0.10	0.500	mg/L	N/A	0.100	0.972	0.474	194	95	41-146	69	25	M
Hexachlorobenzene	9100808	<0.10	0.500	mg/L	N/A	0.100	0.956	0.502	191	100	65-128	62	25	M
Hexachlorobutadiene	9100808	<0.10	0.500	mg/L	N/A	0.100	0.970	0.469	194	94	50-120	70	25	M
Hexachloroethane	9100808	<0.10	0.500	mg/L	N/A	0.100	1.02	0.462	205	92	41-120	76	25	M
2-Methylphenol (o-Cresol)	9100808	<0.10	0.500	mg/L	N/A	0.100	0.912	0.438	182	88	57-120	70	25	M
3&4-Methylphenol (m&p Cresol)	9100808	0.0270	0.500	mg/L	N/A	0.100	0.929	0.467	180	88	57-120	66	25	M
Nitrobenzene	9100808	<0.10	0.500	mg/L	N/A	0.100	0.870	0.445	174	89	63-120	65	25	M
Pentachlorophenol	9100808	<0.10	0.500	mg/L	N/A	0.100	1.08	0.554	217	111	54-120	65	25	M
Pyridine	9100808	<0.10	0.500	mg/L	N/A	0.100	0.750	0.320	150	64	31-120	80	25	M
2,4,5-Trichlorophenol	9100808	<0.10	0.500	mg/L	N/A	0.100	1.01	0.482	202	96	58-120	71	25	M
2,4,6-Trichlorophenol	9100808	<0.10	0.500	mg/L	N/A	0.100	0.993	0.486	199	97	60-121	69	25	M
Surrogate: 2-Fluorophenol	*9100808*			mg/L					*95*	*86*	*21-145*			M
Surrogate: Phenol-d6	*9100808*			mg/L					*98*	*89*	*10-149*			M
Surrogate: Nitrobenzene-d5	*9100808*			mg/L					*89*	*83*	*35-124*			M
Surrogate: 2-Fluorobiphenyl	*9100808*			mg/L					*88*	*83*	*43-134*			M
Surrogate: 2,4,6-Tribromophenol	*9100808*			mg/L					*104*	*103*	*21-146*			M
Surrogate: Terphenyl-d14	*9100808*			mg/L					*154*	*96*	*34-149*			M,Z1

Veolia Environmental Services (West Carrollton)
4301 Infirmary Road, P.O. Box 453
West Carrollton, OH 45449
Brett Davis

Work Order: DSJ0849
Project: Waste Characterization
Project Number: [none]

Received: 10/17/09
Reported: 10/28/09 13:02

OTHER

Analyte	Seq/ Batch	Source Result	Spike Level	Units	MDL	MRL	Result	Dup Result	% REC	Dup %REC	% REC Limits	RPD	RPD Limit	Q
TCLP Metals by 1311/6000/7000														
QC Source Sample: DSJ0738-05														
Mercury	9100589	0.182	1.00	mg/L	N/A	N/A	1.55		137		75-125			S3
QC Source Sample: DSJ0701-01														
Arsenic	9100853	-0.00280	1.00	mg/L	N/A	N/A	0.989		99		75-125			
Barium	9100853	1.80	1.00	mg/L	N/A	N/A	2.68		89		75-125			
Cadmium	9100853	0.00164	1.00	mg/L	N/A	N/A	0.980		98		75-125			
Chromium	9100853	0.00659	1.00	mg/L	N/A	N/A	0.982		98		75-125			
Lead	9100853	0.00480	1.00	mg/L	N/A	N/A	0.991		99		75-125			
Selenium	9100853	0.00120	1.00	mg/L	N/A	N/A	0.990		99		75-125			
Silver	9100853	0.00161	1.00	mg/L	N/A	N/A	0.954		95		75-125			

Veolia Environmental Services (West Carrollton)	Work Order:	DSJ0849	Received:	10/17/09
4301 Infirmary Road, P.O. Box 453	Project:	Waste Characterization	Reported:	10/28/09 13:02
West Carrollton, OH 45449	Project Number:	[none]		
Brett Davis				

CERTIFICATION SUMMARY

Any abnormalities or departures from sample acceptance policy shall be documented on the Chain of Custody and/or Case Narrative included with this report.

For information concerning certifications of this facility or another TestAmerica facility, please visit our website at www.TestAmericaInc.com

Samples collected by TestAmerica Field Services personnel are noted on the Chain of Custody (COC).

DATA QUALIFIERS AND DEFINITIONS

L1	Laboratory Control Sample and/or Laboratory Control Sample Duplicate recovery was above acceptance limits.
M	The MS, MSD, and/or RPD are outside of acceptance limits due to matrix interference. Please see Blank Spike (LCS).
M14	The MS/MSD recoveries are outside of laboratory established control limits.
S3	Post digestion spike is out of acceptance limits for this analyte
Z1	Surrogate recovery was above acceptance limits.

ADDITIONAL COMMENTS

Results are reported on a wet weight basis unless otherwise noted.

ANALYSIS LOCATIONS

The analyses listed below were analyzed in satellite facilities

VEOLIA
ENVIRONMENTAL SERVICES

SAMPLE SHIPPING DOCUMENT/ CHAIN OF CUSTODY

DSJ0849
Number 1
Page 1 of 1

Veolia ES Technical Solutions, L.L.C. Client City of Dayton / Rauch
300 Taylor St
Dayton OH
ATTN: Tim Delph

Laboratory Name Test America Contact Name

Shipping Information

Proper Shipping Name	# Units	Total Quantity
UN 3082, Environmentally Hazardous Substance, Liquid, N.O.S.	2	~~32 oz~~ CPL 64 oz
UN 3077 Environmentally Hazardous Substances, Solid, N.O.S.	1	32 oz

* RUSH 24 HR *

I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to all applicable international and national governmental regulations.

IN CASE OF EMERGENCY CALL 1-800-535-5053

TAT: 1 wk, 2 wk, 3 wk Other 24 HR

NO. OF SAMPLE CONTAINERS

SAMPLE LOCATION	DATE	TIME (Military)	SAMPLE NUMBER	Volatile Organic Compounds	Acid Extractable Compounds	Base/Neutral Extractable Compounds	CN Total/Amenable Method 9010	PCB's	Metals TCLP	BETX	Petroleum Hydrocarbons	TCLP Volatiles VOC's	Ignitability	PH	(Other) TCLP Semi Volatile Organic Compounds (SVOC)
Bldg 10 SE Corner ~~Tank-1~~	10/14/09	1500	Bldg 10 SE corner Tank-1 Sample 1					✓	✓		✓			✓	
Tank-1 Sample 1 DW	—	—	—												
Bldg 10 SE Corner Soil	10/14/09	1500	Bldg 10 SE corner Soil	✓				✓	✓		✓			✓	
Bldg 10 SE Corner Tank-1 Sample 2	10/14/09	1615	Bldg 10 SE corner Tank-1 Sample 2	DW				✓	✓		✓			✓	

Relinquished by (signature)	Date	Time (Military)	Received by (Signature)	Date	Time (Military)
	10/14	1618		10/14	~~15:19~~ 16:19
Relinquished by (signature):	Date	Time (Military)	Received by (Signature)	Date	Time (Military)
	10/16/09	16:30		10/16/09	7:30

Relinquished by (signature):	Date	Time (Military)	Received by (Signature)	Date	Time (Military)
	10/16/09	11:45		10-16-09	11:45

Send Results to Veolia ES Technical Solutions, L.L.C.
VIA: Verbal ☐ Fax ☐ Fed X ☐ Regular ☐
Purchase Order # Work Order #

REMARKS:

ANALYT . COPY

Form # VES-12V-A

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Cooler/Sample Receipt

Client ID Veolia WI. Work Order #_____

Discrepencies ☐

Rush or Short Hold ☒

if rush (24hr) 2day 3day 5day other_____

Method of Shipment:

Are samples soils requiring USDA quarantine? Yes No (circle one)
If yes notify PM immediately

Walk In Fed Ex UPS DHL TAL Courier (Field) Other_____

Shipping Container Type: (Cooler) Box Other_____

Opened Date/Time 10-16-09 18:30 Initials RVS

Receipt Questions**	Y	N	n/a	"NO" answers require a comment
COC present	K			
Containers in good condition (unbroken and not leaking), and appropriately filled	K			
Appropriate containers used & Adequate volume provided	K			
Correct preservation on the COC	K			
Numbers of samples match COC	K			
If used, custody seals were intact	K			
Was CoC free of discrepencies?	K			
Samples received within hold time	K			
VOA samples received without headspace in excess of 6 mm			K	
Trip Blanks received for each cooler with VOAs			K	

#/size	HNO3	HCL	NaOH	H2SO4	Methanol	None	Other (Specify)

Tracking #_____

Temp Acceptable? YES ☐ NO ☐ Thermometer ID M Glass

Cooler ID Field Uncorrected 0.9 °C Corrected 0.9 °C Ice

Packing Material Ice

Melted Ice Blue Ice None Other_____ (Circle one)

If out of temperature, note affected samples

Direct from Field? Yes No (Circle one)

CHECK IF ADDITIONAL SHEETS REQUIRED ☐

** May not be applicable if samples are not for compliance testing

Client Contact Record (required for discrepancies, unless agreement is on file with project) Date & Time _____

Contact via: ☐phone ☐email ☐ other _____ Person contacted_____

Discussion/Resolution Call & email client TAT - unable to do 24 hr on TCLP.

Is a revised chain being issued? Yes (No) (Circle one) **if Yes, it must be scanned.**

SAH 10/20/09

Reviewed by PM Signature Date/Time

Page 1 of 1

WI No. DT-SCA-WI-001.3 effective 8/4/08

VEOLIA
ENVIRONMENTAL SERVICES

SHIPPING DOCUMENT	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Shipping Document Tracking Number ZZ 00 31901

GENERATOR

5. Generator's Name and Mailing Address

Generator's Site Address (if different than mailing address)

Generator's Phone:

6. Transporter 1 Company Name — U.S. EPA ID Number

7. Transporter 2 Company Name — U.S. EPA ID Number

8. Designated Facility Name and Site Address — U.S. EPA ID Number

Facility's Phone:

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Codes
	1.					
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information

15. **GENERATOR S/OFFEROR S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name — Signature — Month Day Year

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Shipment

Transporter 1 Printed/Typed Name — Signature — Month Day Year

Transporter 2 Printed/Typed Name — Signature — Month Day Year

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Shipping Document Tracking Number:

18b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

18c. Signature of Alternate Facility (or Generator) — Month Day Year

19. Report Management Method Codes (i.e., codes for treatment, disposal, and recycling systems)

1.	2.	3.	4.

20. Designated Facility Owner or Operator: Certification of receipt of shipment except as noted in Item 18a

Printed/Typed Name — Signature — Month Day Year

GENERATOR / SHIPPER'S INITIAL COPY

WASTE MANAGEMENT

NON-HAZARDOUS WASTE MANIFEST

Landfill & Industrial Services
www.WMDisposal.com
(800) wmdisposal

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number (MANIFEST)
	1		391707

GENERATOR

5. Generator's Name and Mailing Address
City of Dayton
300 Taylor St.,
Dayton OH
45012
Generator's Phone: 937-~~293-2070~~ 333-3880

Generator's Site Address (If different than mailing address)

6. Transporter 1 Company Name
STEVE RAUCH, INC.
U.S. EPA ID Number

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address
Stony Hollow Landfill
2460 S Gettysburg Ave.
Dayton, OH 45417
Facility's Phone: 937-268-1133
U.S. EPA ID Number

9. Waste Shipping Name and Physical Description; Including Color	10. Containers No	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	Approval #
Hydraulic contaminated soil and debris	1	CM	30	YD	10925AOH
Exp.Dt.: 11/01/2010					

13. Special Handling Instructions and Additional Information
County : Butler

14. **GENERATOR'S CERTIFICATION:** I hereby certify that the above described waste is not hazardous waste as defined by federal, state, or local regulations and does not contain regulated quantities of PCB's, radioactive materials, or free liquids. This waste has been accurately classified, described, packaged, marked, and labeled and is in proper condition for transportation according to applicable international and governmental regulations.

Generator's/Offeror's Printed/Typed Name: TIMOTHY J. SMITH (FOR CITY OF DAYTON) Signature: T J Smith Month 12 Day 15 Year 09

INTL

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: WILLIE ROUNDTREE Signature: Willie Roundtree Month 12 Day 15 Year 09
Transporter 2 Printed/Typed Name: Signature: Month Day Year

DESIGNATED FACILITY

17. Discrepancy
17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
17b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
17c. Signature of Alternate Facility (or Generator) Month Day Year

Weight Ticket # Disposal Grid
Net Weight

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as note in Item 17a
Printed/Typed Name Signature Month Day Year

LANDFILL & INDUSTRIAL SERVICES
www.WMDisposal.com
GENERATOR

TIRES

1036474

3-Part Scrap Tire Shipping/Receiving Form

SECTION A: SHIPPING INFORMATION (Sections A, B, & C must be completed prior to transport of scrap tires)

Indicate the quantity of scrap tires being picked up/delivered according to **ONE** of the following measures:

Exact number count:_____ Volume (cubic feet):_____ Weight (tons):_____

Of the scrap tires being shipped, estimate the number that are:

Passenger Tires: 100 % Truck Tires:_____ % Other Tires:_____ %

ONE of the following conditions MUST be met prior to shipment. The transporter should visually inspect shipping receipts, larvicide application records and/or the tires themselves to confirm that appropriate vector control measures were taken..	**Yes**	**No**	**Initials of Both Parties: By initialing these boxes, each party is confirming that the appropriate action has been taken.**
1. Are the tires free of water?	X		Transporter: J.C. Shipper: J.C. Receiver:_____
2. Were the tires removed from the rim within the past 7 days?	X		Transporter: J.C. Shipper: J.C. Receiver:_____
3. Were the tires properly treated with larvicide?		X	Transporter: J.C. Shipper: J.C. Receiver:_____

SECTION B: SCRAP TIRE GENERATOR/SHIPPER (Sections A, B, & C must be completed prior to transport of scrap tires)

Name of Company or Individual: CITY OF DAYTON Facility Registration or Permit #, If Applicable: _____

Mailing Address: 101 W THIRD STREET

City: DAYTON State: OH Zip: 45402 Phone: 937-333-3820

I certify under penalty of law that the information contained on this form, to the best of my knowledge and belief, is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of a fine and imprisonment for knowing violations.

J. Snack FOR CITY OF DAYTON
Signature of Generator/Shipper

11/16/09
Date

SECTION C: SCRAP TIRE TRANSPORTER (Sections A, B, & C must be completed prior to transport of scrap tires)

Ohio EPA Scrap Tire Transporter Registration #: 57SIT-001-22 Vehicle License Plate #: _____

Driver Name: Doug Dalmewood Name of Company: Rawen Trucking Co., Inc.

Mailing Address: 1550 Soldiers Home - West Carrollton Rd.

City: Dayton State: OH Zip: 45418 Phone: (937) 263-2174

I certify under penalty of law that the information contained on this form, to the best of my knowledge and belief, is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of a fine and imprisonment for knowing violations.

Signature of Transporter

4-16-09
Date

SECTION D: SCRAP TIRE FACILITY/RECIPIENT

Ohio EPA Scrap Tire Facility Registration/PTI Number or Beneficial Use Permit #, If Applicable: _____

Name of Recipient: _____ Name of Company: Montgomery County

Mailing Address: 2550 Sandridge Dr.

City: Moraine State: OH Zip: 45439 Phone: (937) 225-4999

I certify under penalty of law that the information contained on this form, to the best of my knowledge and belief, is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of a fine and imprisonment for knowing violations.

Signature of Recipient

Date

BCI FORMS CORP. TO REORDER 30252B: ...L 937-220-9414 OR 1-800-676-941

1055642

3-Part Scrap Tire Shipping/Receiving Form

ON A: SHIPPING INFORMATION (Sections A, B, & C must be completed prior to transport of scrap tires)

icate the quantity of scrap tires being picked up/delivered according to **ONE** of the following measures:

Exact number count: 92 Volume (cubic feet): _____ Weight (tons): _____

Of the scrap tires being shipped, estimate the number that are:

Passenger Tires: 100 % Truck Tires: _____ % Other Tires: _____ %

ONE of the following conditions MUST be met prior to shipment. The transporter should visually inspect shipping receipts, larvicide application records and/or the tires themselves to confirm that appropriate vector control measures were taken..	**Yes**	**No**	**Initials of Both Parties: By initialing these boxes, each party is confirming that the appropriate action has been taken.**
1. Are the tires free of water?	X		Transporter:_____ Shipper:_____ Receiver:_____
2. Were the tires removed from the rim within the past 7 days?	X		Transporter:_____ Shipper:_____ Receiver:_____
3. Were the tires properly treated with larvicide?		X	Transporter:_____ Shipper:_____ Receiver:_____

SECTION B: SCRAP TIRE GENERATOR/SHIPPER (Sections A, B, & C must be completed prior to transport of scrap tires)

Name of Company or Individual: CITY OF DAYTON Facility Registration or Permit #, If Applicable: _____

Mailing Address: 101 W. THIRD STREET

City: DAYTON State: OH Zip: 45404 Phone: 937-333-3820

I certify under penalty of law that the information contained on this form, to the best of my knowledge and belief, is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of a fine and imprisonment for knowing violations.

mike johnson FOR CITY OF DAYTON — 5/8/09

Signature of Generator/Shipper — Date

SECTION C: SCRAP TIRE TRANSPORTER (Sections A, B, & C must be completed prior to transport of scrap tires)

Ohio EPA Scrap Tire Transporter Registration #: 57STT-001-25 Vehicle License Plate #: _____

Driver Name: _____ Name of Company: Rauch Trucking Co., Inc.

Mailing Address: 1550 Soldiers Home - West Carrollton Rd.

City: Dayton State: OH Zip: 45418 Phone: (937) 263-2076

I certify under penalty of law that the information contained on this form, to the best of my knowledge and belief, is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of a fine and imprisonment for knowing violations.

_____ — 5-8-09

Signature of Transporter — Date

SECTION D: SCRAP TIRE FACILITY/RECIPIENT

Ohio EPA Scrap Tire Facility Registration/PTI Number or Beneficial Use Permit #, If Applicable: _____

Name of Recipient: _____ Name of Company: Montgomery County

Mailing Address: 2550 Sandridge Dr.

City: Moraine State: OH Zip: 45439 Phone: (937)225-4999

rtify under penalty of law that the information contained on this form, to the best of my knowledge and belief, is true, accurate and complete. I am are that there are significant penalties for submitting false information, including the possibility of a fine and imprisonment for knowing violations.

_____ _____

Signature of Recipient — Date

White Copy - Transporter Yellow Copy - Scrap Tire Facility/Recipient Pink Copy - Scrap Tire Generator/Shipper

APPENDIX Q

STORM SEWER ABANDONMENT DOCUMENTATION

BOW
ENVIRONMENTAL
SOLUTIONS INC.

November 22, 2005

Ms. Patricia J. Polston
Waste, Pesticides and Toxics Division
U.S. EPA Region 5
77 W. Jackson Blvd., DRE-9J
Chicago, IL 60604-3590

Re: Int-8 Cleaning Activity
Performance-Based RCRA Corrective Action
Former Delphi Harrison Thermal Systems
USEPA ID No. OHD 017 958 604

Dear Ms. Polston:

As part of the upcoming sewer cleaning/abandonment activities proposed at the Former Delphi Harrison Thermal Systems Site located at 300 Taylor Street, Dayton, Ohio, one additional manhole (INT-8) is being proposed for cleaning and additional evaluation. Sediment sample results from storm sewer manhole INT-8 range from 1.55 mg/kg to 54.3 mg/kg (with a duplicate of 22.7 mg/kg). Therefore sediment from INT-8 will be removed as part of the storm sewer cleaning and abandonment activities scheduled for December 2005. Upstream manhole MH-29 will be sampled to evaluate the necessity of cleaning the upstream manhole and associated storm sewer lines. The proposed cleaning/sampling event will be in accordance with the revised Storm Sewer Abandonment Work Plan and Performance-Based Corrective Action Agreement for the site.

As we have discussed, there are significant site security issues at the site including multiple trespassers and a recent fire. It is not safe to continue our work at the site until The Peerless Transportation Company (Peerless) and/or the City of Dayton (City) re-establish site security. Please see the attached letter we have sent to Peerless and the City.

We will proceed (weather permitting) with this sewer cleaning as soon as the site security has been reestablished. GM also wants to discuss upcoming deliverables as they may be impacted by the aforementioned conditions.

Please call (937) 455-2636 if you have any questions concerning this information.

Sincerely,

Pamela L. Barnett, P.G.
Project Manager
BOW Environmental Solutions, Inc. on behalf of GM

attachment.
c.c.: Jean Caufield, GM Remediation
Pamela Hull, OEPA
Carl Bridges, Peerless
Gwen Eberly/Chris Lipson, City of Dayton

BOW
ENVIRONMENTAL
SOLUTIONS INC.

November 22, 2005

Mr. Carl Bridges
The Peerless Transportation Company
1440 Miami Chapel Road
Dayton, Ohio 45401

Gwen Eberly
City of Dayton, Ohio
Office of Economic Development
101 West Third Street
Dayton, Ohio 45401

Re: Site Security Concerns
Performance-Based RCRA Corrective Action
Former Delphi Harrison Thermal Systems
USEPA ID No. OHD 017 958 604

Dear Mr. Bridges and Ms. Eberly:

As we have discussed, this letter is to inform you that General Motors Corporation (GM) is temporarily suspending work at the former Delphi Harrison Thermal Systems Site located at 300 Taylor Street, Dayton, Ohio due to potential unsafe work conditions related to lack of site security. As you know, there have been multiple trespassers and a recent fire at the site. As soon as a secure site has been reestablished and GM has been provided written notification thereof, GM will proceed with ongoing work in accordance with the GM's Performance-Based Corrective Action Agreement for the site.

Please call (937) 455-2636 if you have any questions concerning this information.

Sincerely,

Pamela L. Barnett

Pamela L. Barnett, P.G.
Project Manager
BOW Environmental Solutions, Inc. on behalf of GM

c.c.: Jean Caufield, GM Remediation
Patricia Polston, USEPA

BOW
ENVIRONMENTAL
SOLUTIONS INC.

April 3, 2006

Ms. Patricia J. Polston
Waste, Pesticides and Toxics Division
U.S. EPA Region 5
77 W. Jackson Blvd., DRE-9J
Chicago, IL 60604-3590

Re: Storm Sewer IM Construction Completion Report
Performance-Based RCRA Corrective Action
Former Delphi Harrison Thermal Systems
USEPA ID No. OHD 017 958 604

Dear Ms. Polston:

Please find the attached four (4) copies of the Storm Sewer Interim Measures (IM) Construction Completion Report for the Former Delphi Harrison Thermal Systems Site located at 300 Taylor Street, Dayton, Ohio. This report was completed by Conestoga-Rovers & Associates on behalf of the General Motors Corporation (GM) and in accordance with the Performance-Based Corrective Action Agreement for the site. Please call (937) 455-2636 if you have any questions concerning this information.

Sincerely,

Pamela L. Barnett

Pamela L. Barnett, P.G.
Project Manager
BOW Environmental Solutions, Inc. on behalf of GM

attachment.
c.c.: Jean Caufield, GM Remediation
Pamela Hull, OEPA
Carl Bridges, Peerless
Gwen Eberly/Chris Lipson, City of Dayton

INTERIM MEASURES CONSTRUCTION COMPLETION REPORT FOR STORM SEWER ABANDONMENT WORK BETWEEN WEBSTER AND TAYLOR STREETS

GENERAL MOTORS CORPORATION
FORMER DELPHI HARRISON THERMAL SYSTEMS
DAYTON, OHIO
OHD017958604

Prepared by:
Conestoga-Rovers & Associates

651 Colby Drive
Waterloo, Ontario
Canada N2V 1C2

Office: 519•884•0510
Fax: 519•884•0525

APRIL 3, 2006
REF. NO. 12638 (15)
This report is printed on recycled paper.

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(Following Text)

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APPENDIX B	SEWER VIDEOS ON CD CD 1: TYPE 1, 2, AND 3 SEWER LINES CD 2: TYPE 3 SEWER LINES CD 3: TYPE 3 SEWER LINES

LIST OF ACRONYMS

Career Academy	Dayton Public Schools Career Academy
City	City of Dayton
CRA	Conestoga-Rovers & Associates
CSXT	CSX Transportation, Inc.
Delphi	Delphi Harrison Thermal Systems
GM	General Motors Corporation
IM	Interim Measures
PAHs	Polycyclic Aromatic Hydrocarbons
PCB	Polychlorinated Biphenyl
PCE	Tetrachloroethene
Peerless	Peerless Reality Group, Ltd.
RCRA	Resource Conservation and Recovery Act
REALM	Remediation and Liability Management Company, Inc.
RFI	RCRA Facility Investigation
STL	Severn Trent Laboratories, Inc
SVOC	Semi-Volatile Organic Compound
TAL	Target Analyte List
TCE	Trichloroethane
TCL	Target Compound List
TCLP	Toxicity Characteristic Leaching Procedure
TSCA	Toxic Substances Control Act
µg/kg	micrograms per kilogram
USEPA	United States Environmental Protection Agency
VOC	Volatile Organic Compound

1.0 INTRODUCTION

This document describes the Storm Sewer Cleaning and Abandonment Interim Measures (IM) activities undertaken between January 16, 2006 and February 2, 2006 at the former Delphi Harrison Thermal Systems (Delphi) Facility, which was formerly owned and operated by General Motors Corporation (GM), located at 300 Taylor Street in Dayton, Ohio (see Figure 1). The Site is currently owned by Peerless Realty Group Ltd. (Peerless), also known as the Peerless Transportation Company, and a portion is controlled by the City of Dayton (City) via a real property options agreement. The Delphi Facility has United States Environmental Protection Agency (USEPA) identification number OHD0179586054.

1.1 SCOPE OF WORK AND OBJECTIVES

The interim measures (IM) activities included the following tasks:

1. Locate manholes not identified on previous plans, determine connections for any manholes where connections are not identified on previous plans, and sample water and/or sediment in any manholes not previously sampled;
2. Clean manholes between Webster and Taylor Streets to allow sewers to be sealed and to determine sewer integrity;
3. Remove sediment from sewer lines between Webster and Taylor Streets that are suspected, based on disposal characterization sample results of manhole sediment, to contain polychlorinated biphenyl (PCB) concentrations greater than 50 milligrams per kilogram (mg/kg) and/or RCRA hazardous material;
4. Abandon sewers between Webster and Taylor Streets by constructing bulkheads at sewer junctions as needed, and placing flowable fill into the sewer lines; and
5. Remove sediment from sewer lines along Taylor Street that will remain in use.

The objective of the proposed storm sewer abandonment was to eliminate the potential for release of sediment from the storm sewers between Webster and Taylor Streets to the City storm sewer along Pitt Street and thereby to the Mad River.

During implementation of the Work Plan, as described in the "*Request for USEPA Approval of Storm Sewer Cleanup and Closure Plan*" (CRA, January 6, 2006), wastes were managed and disposed in accordance with applicable regulations.

1.2 PROJECT TEAM ORGANIZATION

Conestoga-Rovers & Associates, Inc. (CRA) was retained by Remediation and Liability Management Company, Inc. (REALM) to conduct sampling activities, prepare bid specifications, and perform oversight of storm sewer cleaning and abandonment activities. CRA retained Inland Waters Pollution Control Inc. to perform the storm sewer cleaning and abandonment work. CRA retained Clean Harbors Environmental Services to transport and dispose of the waste generated during the sewer cleaning and abandonment activities at their facility. CRA retained Severn Trent Laboratories, Inc. (STL), to perform analytical testing for the investigation and the waste characterization testing.

2.0 INVESTIGATION ACTIVITIES

2.1 PRIOR RFI STORM SEWER SAMPLING ACTIVITIES

The objective of the RCRA Facility Investigation (RFI) storm sewer sampling was to identify the nature and extent of any release of hazardous waste and/or hazardous constituents in or from the storm sewers at the Site. Tables 2A and 2B presents the storm sewer sediment and water sample results, respectively, from sewers located between Webster and Taylor Streets.

Figures 2A and 2B present a summary of the water and sediment sample results for sewer samples collected between Webster and Taylor Streets for constituents that exceed risk-based criteria and identify results exceeding risk-based screening criteria for soil and groundwater.

2.2 2004 CLEANING

A section of the storm sewer along Taylor St. between MH-11 and MH-19 was cleaned in August 2004. The sediment removed from this portion of the storm sewer was characterized for disposal and was found to be RCRA hazardous for PCE and TCE based on the Toxicity Characteristic Leaching Procedure (TCLP) results.

3.0 MATERIAL SEGREGATION

Sediment was segregated as shown on Figure 3, based on maximum recorded concentrations of PCE, TCE and/or PCBs in sediment as follows:

Sediment Type	*Sediment Concentrations Characteristic of Sediment Type*
Type 1	PCE and/or TCE >100 µg/kg and PCBs >50 mg/kg
Type 2	PCBs >50 mg/kg
Type 3	PCE and/or TCE >100 µg/kg
Type 4	PCBs <50 mg/kg, PCE <100 µg/kg and TCE <100 µg/kg

4.0 CLEANING AND ABANDONMENT ACTIVITIES

4.1 TASK 1: ADDITIONAL STORM SEWER INVESTIGATION

The objectives of the additional storm sewer investigation were to: i) locate any manholes not identified on previous plans; ii) determine connections for any manholes where storm sewer lines are not identified on previous plans; and iii) facilitate segregation of sediment to be removed from storm sewer lines, thereby minimizing the volume of material that needed to be disposed of as TSCA or RCRA hazardous material.

The concrete slab between Webster and Taylor Street was inspected following demolition and no additional manholes were observed that were not identified as either process or storm manholes on the existing plans.

Water and/or sediment samples were collected from storm sewer manholes not previously sampled, and analyzed for: TCL VOCs, TCL semi-volatile organic compounds (SVOCs), TCL PCBs, and Target Analyte List (TAL) metals (excluding Al, Ca, Fe, Mg, K, and Na). Proposed sample locations included: MH-1, MH-2, MH-3, MH-4, MH-10, MH-13, MH-17, MH-27, MH-28, MH-34, MH-35, MH-36, MH-38, MH-39, and MH-74. All of these locations were sampled with the exception of MH-74, which was found to be filled with concrete, as identified on Figure 4. Figures 2A and 2B present a summary of the water and sediment sample results for sewer samples collected between Webster and Taylor Streets for constituents that exceed risk-based criteria. In addition, MH-29 upstream of INT-8 was sampled concurrent with manhole cleaning activities identified in Task 2.

Dye testing was used to attempt to determine connections to sewers for all manholes without connections previously identified. The proposed dye testing locations included: MH-37, MH-38, MH-39, and MH-74. Dye testing was conducted at MH-39 and this manhole was found to discharge to MH-34, as identified on Figure 4. Dye testing was not conducted at MH-74 because this manhole was found to be filled with concrete. Dye testing was not conducted at MH-37 and MH-38 because these manholes contained too much sediment to allow the dye to flow into the sewer lines, so these manhole connections were investigated concurrent with sewer cleaning (see Task 3). The line south from MH-37 was found to be abandoned. MH-38 was found to be a valve box that was sealed.

4.2 TASK 2: MANHOLE CLEANING BETWEEN WEBSTER AND TAYLOR STREET AND INTEGRITY ASSESSMENT

The objective of the manhole cleaning was to allow a seal between the sewer walls and the bulkhead to be installed in the sewer line, thereby eliminating migration of sediment or water through the sewer lines.

All manholes located between Webster and Taylor Streets were cleaned as identified on Figure 4. The outlet from the manhole was blocked, sediment and water was removed with a vacuum truck, and debris was removed. A pressure washer was used to break up consolidated sediment and debris. All sediment, water, and debris resulting from the manhole cleaning was containerized. No "false bottom" was identified in any manhole.

Type 4 manholes, as identified on Figure 3, were cleaned first, and a composite sample of the Type 4 sediment was collected and analyzed for TCLP VOCs, SVOCs, metals, and PCBs. The Type 4 sediment was not TSCA (PCB concentrations above 50 mg/kg) or RCRA hazardous waste, therefore, the sewer lines associated with the Type 4 manholes did not need to be cleaned.

Type 4 manhole MH-4 could not be accessed for cleaning because the City had placed a gravel berm on top of it. The sewer line associated with this manhole was abandoned during the sewer grouting associated with Task 4.

The Types 1, 2, and 3 manholes, as identified on Figure 3, were cleaned concurrent with the sewers associated with these manholes (see Task 3). Following cleaning, the integrity of these manholes was assessed, and none were found with poor integrity. Therefore, soil was not sampled from beneath any manholes.

Photos of manholes after cleaning are presented in Appendix A.

4.3 TASK 3: SEWER CLEANING BETWEEN WEBSTER AND TAYLOR STREET

The objective of the sewer cleaning between Webster and Taylor Street was remove sediment from lines which, based on the manhole sample results, were suspected to contain TSCA (i.e., PCB concentrations above 50 mg/kg) and/or RCRA hazardous material. Therefore, the sewer lines associated with Types 1, 2, and 3 manholes (as identified on Figure 3) were cleaned (as identified on Figure 4). As discussed in

Section 4.2, the sewer lines associated with Type 4 manholes did not need to be cleaned because the Type 4 sediment was not TSCA (PCB concentrations above 50 mg/kg) and/or RCRA hazardous material.

Sewer cleaning was conducted in an upstream to downstream direction and from least to most contaminated. Type 2 manholes and sewers were cleaned first, then Type 1 manholes and sewers, and finally Type 3 manholes and sewers (which were downstream). In some cases, hard debris within the pipe run prevented the nozzle from fitting, therefore, the pipe run was cleaned from both sides up to the blockage. The downstream end of the sewer was plugged during cleaning and all sediment, water, and debris was removed and containerized for appropriate off-Site disposal.

Certain sewer lines were not cleaned due to field conditions:

- the sewer line south of Type 1 manhole MH-37, was found to be already abandoned;
- the sewer line associated with Type 2 manhole MH-1 was collapsed;
- a large blockage was found in the sewer line between Type 2 manholes MH-16 and MH-17 as shown on Figure 4 so the sewer line was cleaned and video taped from both ends; and
- a large blockage was found in the sewer line between Type 2 manholes MH-15 and MH-16 as shown on Figure 4 so the sewer line was cleaned and video taped from both ends.

Sewers were videotaped following cleaning to verify that the cleaning was effective. Videos are located in three CDs in Appendix B.

4.4 TASK 4: SEWER ABANDONMENT BETWEEN WEBSTER AND TAYLOR STREET

The objective of the proposed sewer abandonment was to eliminate migration of sediment or water through the sewer lines.

The sewers under the building slab were abandoned as identified on Figure 4. Sewer abandonment was coordinated with the City of Dayton. Activities consisted of the following:

- **Concrete Bulkhead** - Bulkheads were constructed of concrete slurry to prevent migration of any material from the pipeline. Each bulkhead included either a pipe

for introducing the grout after the concrete in the bulkhead has set, or a vent pipe. Bulkhead locations were strategically selected to minimize the total number of bulkheads constructed; and

- **Grout Sewers** - The sewer run between each pair of bulkheads was grouted by pumping a liquid slurry into the pipeline through the bulkhead's pipe and/or through open manholes upstream. The liquid slurry grout the flowed to the bulkhead at the end of the sewer run.

The Type 4 sewer line connected to the trench drain north of Building 27 was not abandoned because its outlet could not be identified.

4.5 TASK 5: SEWER CLEANING AND VIDEOTAPING ALONG TAYLOR STREET

The objectives of the proposed sewer cleaning and videotaping were, respectively, to remove sediment from the sewers that will remain in use, thereby eliminating the potential for discharge of this material to the City sewer along Pitt Street and the Mad River, and to verify that the sewers are in a suitable condition for reuse. It is assumed that sewer repair, if necessary, will be conducted by the City.

The sewers that were cleaned and videotaped along Taylor Street are identified on Figure 4. Sewers were cleaned using the procedure identified in Task 3. Following cleaning, the sewers were videotaped during low flow conditions. This verified that all sediment has been removed, identified the condition of the sewer pipe, and verified that there were no additional influent lines not previously identified during the manhole survey completed during Stage 1 RFI sampling.

The sewer line extending to the northwest from MH-8 could not be cleaned or videotaped because it was found to have been previously abandoned.

The following catch basins and sewer lines could not be cleaned or video taped because they were damaged or filled with concrete debris from the City's demolition activities:

- the sewer line extending to the northwest from MH-9, toward Catch Basin 9;
- the sewer line extending to the west from the sewer between MH-14 and MH-18, toward Catch Basin 13;
- the sewer line extending to the south from the sewer between MH-19 and INT-7, toward Catch Basin 15;

- Catch Basin 8, to the east to MH-8 was found to be completely collapsed; and
- Catch Basin 12, to the southwest of MH11 was found to be filled in with concrete and material that may have been silt fencing.

5.0 WASTE CONTAINERIZATION, CHARACTERIZATION, AND DISPOSAL

5.1 CONTAINERIZATION

All sediment, water, and debris resulting from cleaning activities was containerized as follows:

- Type 1 sediment was placed into drums;
- Type 2 sediment was placed into drums;
- Type 3 sediment was placed into a vac box;
- Type 4 sediment was placed into drums;
- washwater was placed into a frac tank;
- sediment that settled to the bottom of the frac tank was placed into drums; and
- miscellaneous debris (plastic, hoses, used personal protective equipment) was placed into drums.

5.2 CHARACTERIZATION SAMPLING

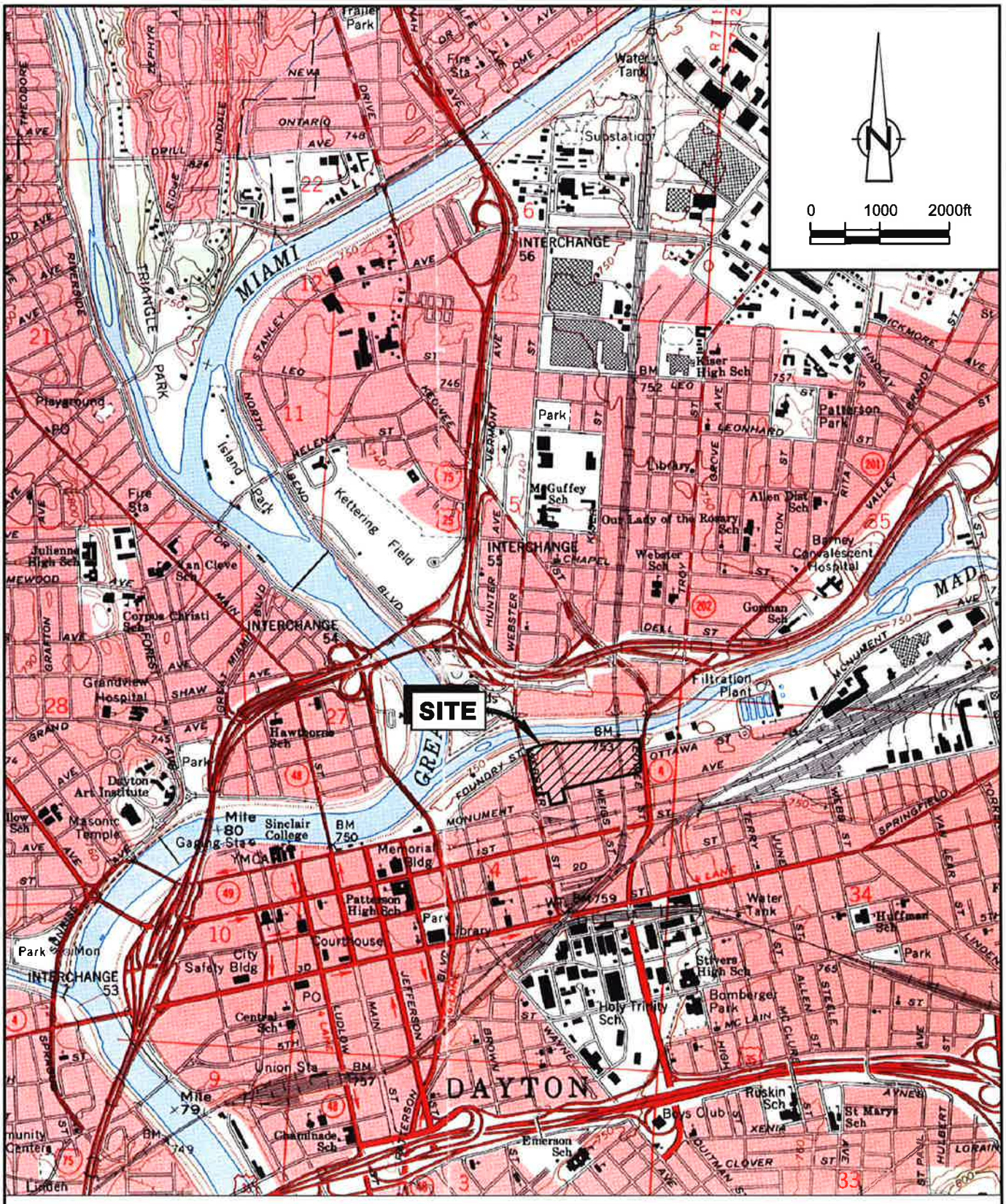
One grab sample for TCLP VOCs, and one composite sample for TCLP SVOCs, TCLP metals, and TCL PCBs were collected for each ten drums (or fewer if less than ten drums are generated) or one vac box for each sediment type (Types 1, 2, 3, 4, and frac tank sediment). One grab sample was collected from the frac tank water. The debris was characterized based on generator knowledge.

5.3 WASTE DISPOSAL

Each waste stream was characterized and disposed of in accordance with applicable regulations.

The frac tank sediment is currently staged on Site pending receipt of characterization sample results. The other waste streams have been disposed of off Site by Clean Harbors.

FIGURES



SOURCE: U.S.G.S., DAYTON NORTH, OHIO

figure 1

SITE LOCATION
FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY
Dayton, Ohio

12638-04(015)GN-WA001 APR 03/2006

MH-2_Abandoned	10/10/05 Sediment on-site
VOAs	
1,1-Dichloroethene	ND (0.006)
Benzene	ND (0.006)
cis-1,2-Dichloroethene	ND (0.006)
Methylene chloride	0.004
Tetrachloroethene	ND (0.006)
Trichloroethene	0.001
Vinyl chloride	ND (0.008)
SVOAs	
Benzo(a)anthracene	7.7
Benzo(a)pyrene	6.3 (0)
Benzo(b)fluoranthene	7.6
bis(2-Ethylhexyl)phthalate	0.9
Dibenz(a,h)anthracene	2.1
PCBs	
Total PCBs	0.54
	9.559 J

MH-3_Abandoned	10/10/05 Sediment on-site
VOAs	
1,1-Dichloroethene	ND (0.006)
Benzene	ND (0.006)
cis-1,2-Dichloroethene	ND (0.006)
Methylene chloride	ND (0.006)
Tetrachloroethene	ND (0.006)
Trichloroethene	ND (0.006)
Vinyl chloride	ND (0.008)
SVOAs	
Benzo(a)anthracene	1.6
Benzo(a)pyrene	1.8
Benzo(b)fluoranthene	3
bis(2-Ethylhexyl)phthalate	0.9
Dibenz(a,h)anthracene	0.25
PCBs	
Total PCBs	0.469 J

MH-4_Abandoned	10/10/05 Sediment on-site
VOAs	
1,1-Dichloroethene	ND (0.008)
Benzene	0.001
cis-1,2-Dichloroethene	0.006
Methylene chloride	0.005
Tetrachloroethene	0.008
Trichloroethene	0.004
Vinyl chloride	ND (0.008)
SVOAs	
Benzo(a)anthracene	7.9
Benzo(a)pyrene	8.6 (0)
Benzo(b)fluoranthene	7.7
bis(2-Ethylhexyl)phthalate	1400 (0)
Dibenz(a,h)anthracene	ND (100)
PCBs	
Total PCBs	0.491 J

MH-5_Abandoned	10/13/04 Sediment on-site	10/13/04 Storm Sewer Water on-site
VOAs		
1,1-Dichloroethene	ND (0.012)	ND (0.001)
Benzene	ND (0.012)	ND (0.001)
cis-1,2-Dichloroethene	ND (0.012)	ND (0.001)
Methylene chloride	0.052	ND (0.005)
Tetrachloroethene	0.063 J	ND (0.001)
Vinyl chloride	ND (0.012)	ND (0.002)
SVOAs		
Benzo(a)anthracene	39 J (0)	ND (0.01)
Benzo(a)pyrene	27 J (0)	ND (0.01)
Benzo(b)fluoranthene	39 J (0)	ND (0.01)
bis(2-Ethylhexyl)phthalate	9 J	ND (0.01)
Dibenz(a,h)anthracene	7 J (0)	ND (0.01)
PCBs		
Total PCBs	13.7 J (0)	ND (0.0002)

MH-6_Abandoned	10/13/04 Sediment on-site	10/13/04 Storm Sewer Water on-site
VOAs		
1,1-Dichloroethene	ND (0.006)	ND (0.001)
Benzene	ND (0.006)	ND (0.001)
cis-1,2-Dichloroethene	ND (0.006)	ND (0.001)
Methylene chloride	ND (0.006)	ND (0.005)
Tetrachloroethene	0.001 J	ND (0.001)
Trichloroethene	ND (0.006)	ND (0.001)
Vinyl chloride	ND (0.012)	ND (0.002)
SVOAs		
Benzo(a)anthracene	7.3	ND (0.01)
Benzo(a)pyrene	9 J	ND (0.01)
Benzo(b)fluoranthene	ND (10)	ND (0.01)
Dibenz(a,h)anthracene	1.2 J	ND (0.01)
PCBs		
Total PCBs	0.204 J	ND (0.0002)

MH-7_Cleaned	4/4/02 Sediment on-site	4/4/02 Storm Sewer Water on-site	10/13/04 Sediment	10/13/04 Storm Sewer Water
VOAs				
1,1-Dichloroethene	ND (0.29)	ND (0.001)	ND (0.006)	- ND (0.001)
Benzene	ND (0.29)	ND (0.001)	ND (0.006)	- ND (0.001)
cis-1,2-Dichloroethene	ND (0.14)	ND (0.001)	ND (0.006)	- ND (0.001)
Methylene chloride	ND (0.29)	ND (0.001)	ND (0.006)	- ND (0.001)
Tetrachloroethene	0.45	0.001 J	ND (0.006)	- ND (0.001)
Trichloroethene	ND (0.29)	ND (0.001)	ND (0.006)	- ND (0.001)
Vinyl chloride	ND (0.29)	ND (0.001)	ND (0.006)	- ND (0.001)
SVOAs				
Benzo(a)anthracene	0.16 J	0.7 J	-	ND (0.01)
Benzo(a)pyrene	0.19 J	0.79 J	-	ND (0.01)
Benzo(b)fluoranthene	0.24 J	1.3 J	-	ND (0.01)
bis(2-Ethylhexyl)phthalate	0.19 J	0.097 J	-	ND (0.01)
Dibenz(a,h)anthracene	ND (0.4)	ND (0.01)	-	ND (0.01)
PCBs				
Total PCBs	0.198 J	0.0004 J	0.289 J	R -

MH-8_Cleaned	4/4/02 Sediment on-site	4/4/02 Storm Sewer Water on-site	10/13/04 Sediment	10/13/04 Storm Sewer Water
VOAs				
1,1-Dichloroethene	ND (0.001)	ND (0.001)	ND (0.006)	ND (0.001)
Benzene	ND (0.001)	ND (0.001)	ND (0.006)	ND (0.001)
cis-1,2-Dichloroethene	ND (0.004)	ND (0.001)	ND (0.006)	ND (0.001)
Methylene chloride	ND (0.007)	ND (0.005)	ND (0.006)	ND (0.001)
Tetrachloroethene	0.008	0.003	ND (0.006)	ND (0.001)
Trichloroethene	ND (0.007)	ND (0.001)	ND (0.006)	ND (0.001)
Vinyl chloride	ND (0.007)	ND (0.002)	ND (0.006)	ND (0.001)
SVOAs				
Benzo(a)anthracene	1.3	ND (0.01)	1.6	ND (0.01)
Benzo(a)pyrene	1.2	ND (0.01)	1.8	ND (0.01)
Benzo(b)fluoranthene	1.2	ND (0.01)	3.1	ND (0.01)
bis(2-Ethylhexyl)phthalate	4.7	0.003 J	2.9	ND (0.01)
Dibenz(a,h)anthracene	0.19 J	ND (0.01)	0.29 J	ND (0.01)
PCBs				
Total PCBs	0.258 J	0.0003 J	0.947 J	0.0004 J

MH-9_Cleaned	4/5/02 Sediment on-site	4/5/02 Storm Sewer Water on-site	10/13/04 Sediment on-site	10/13/04 Storm Sewer Water on-site
VOAs				
1,1-Dichloroethene	ND (0.46)	ND (0.001)	ND (0.006)	ND (0.001)
Benzene	ND (0.46)	ND (0.001)	ND (0.006)	ND (0.001)
cis-1,2-Dichloroethene	ND (0.24)	ND (0.001)	0.007 J	0.001
Methylene chloride	ND (0.46)	ND (0.001)	0.006 J	ND (0.001)
Tetrachloroethene	3.7	0.001	0.13	0.0004 J
Trichloroethene	0.078 J	0.0002 J	ND (0.006)	0.003
Vinyl chloride	ND (0.46)	ND (0.001)	ND (0.006)	ND (0.001)
SVOAs				
Benzo(a)anthracene	0.88 J	ND (0.01)	ND (27)	ND (0.01)
Benzo(a)pyrene	0.87 J	ND (0.01)	ND (27)	ND (0.01)
Benzo(b)fluoranthene	1 J	ND (0.01)	21 J	ND (0.01)
bis(2-Ethylhexyl)phthalate	0.38 J	ND (0.01)	9 J	ND (0.01)
Dibenz(a,h)anthracene	ND (1.6)	ND (0.01)	ND (27)	ND (0.01)
PCBs				
Total PCBs	1.19 J	0.0004 J	6.1 J	0.002 J

MH-10_Cleaned	10/24/05 Sediment on-site	10/24/05 Storm Sewer Water on-site
VOAs		
1,1-Dichloroethene	ND (0.007)/ND (0.008)	ND (0.001)
Benzene	ND (0.007)/ND (0.008)	ND (0.001)
cis-1,2-Dichloroethene	0.021/0.001	0.0003
Methylene chloride	ND (0.007)/ND (0.008)	ND (0.005)
Tetrachloroethene	0.036/0.004	0.0004
Trichloroethene	0.001/0.001	ND (0.001)
Vinyl chloride	ND (0.007)/ND (0.008)	ND (0.001)
SVOAs		
Benzo(a)anthracene	1.2/0.19	0.001
Benzo(a)pyrene	0.79/0.12	0.001
Benzo(b)fluoranthene	1.2/0.21	0.001
bis(2-Ethylhexyl)phthalate	0.38 J	ND (0.01)
Dibenz(a,h)anthracene	0.11/ND (1.6)	ND (0.01)
PCBs		
Total PCBs	0.828 J/0.838 J	0.0009 J

MH-11_Cleaned	4/5/02 Sediment on-site	4/5/02 Storm Sewer Water on-site	10/13/04 Sediment on-site	10/13/04 Storm Sewer Water on-site	10/15/04 Storm Sewer Water on-site
VOAs					
1,1-Dichloroethene	ND (0.007)	ND (0.001)	ND (0.025)	ND (0.001)	ND (0.001)
Benzene	ND (0.007)	ND (0.001)	ND (0.025)	ND (0.001)	ND (0.001)
cis-1,2-Dichloroethene	0.003 J	0.327	0.23	0.003	0.003
Methylene chloride	ND (0.007)	ND (0.001)	ND (0.025)	ND (0.005)	0.004 J
Tetrachloroethene	0.02	0.011	0.55	0.001 J	0.0003 J
Trichloroethene	0.003 J	0.005	0.13	0.001 J	0.001 J
Vinyl chloride	ND (0.007)	0.001 J	ND (0.025)	ND (0.001)	ND (0.001)
SVOAs					
Benzo(a)anthracene	-	ND (0.01)	ND (19)	ND (0.04)	ND (0.01)
Benzo(a)pyrene	-	ND (0.01)	ND (19)	ND (0.04)	ND (0.01)
Benzo(b)fluoranthene	-	ND (0.01)	ND (19)	ND (0.04)	ND (0.01)
bis(2-Ethylhexyl)phthalate	-	ND (0.01)	ND (19)	ND (0.04)	ND (0.01)
Dibenz(a,h)anthracene	-	ND (0.01)	ND (19)	ND (0.04)	ND (0.01)
PCBs					
Total PCBs	-	0.0004 J	1.33 J	ND (0.0002)	ND (0.0003)

MH-14_Cleaned	4/5/02 Sediment on-site	4/5/02 Storm Sewer Water on-site	10/13/04 Storm Sewer Water on-site
VOAs			
1,1-Dichloroethene	ND (0.027)	ND (0.001)	ND (0.007)
Benzene	ND (0.027)	ND (0.001)	ND (0.007)
cis-1,2-Dichloroethene	0.57	0.042	0.19
Methylene chloride	ND (0.027)	ND (0.005)	ND (0.007)
Tetrachloroethene	1.7	0.012	0.058
Trichloroethene	0.33 J	0.007	0.032
Vinyl chloride	ND (0.027)	0.001 J	0.014
SVOAs			
Benzo(a)anthracene	0.83	ND (0.01)	ND (0.01)
Benzo(a)pyrene	0.9	ND (0.01)	ND (0.01)
Benzo(b)fluoranthene	0.98	ND (0.01)	ND (0.01)
bis(2-Ethylhexyl)phthalate	0.72	ND (0.01)	ND (0.01)
Dibenz(a,h)anthracene	0.17 J	ND (0.01)	ND (0.01)
PCBs			
Total PCBs	2.68 J	0.0004 J	ND (0.0002)

MH-15_Abandoned	10/13/04 Sediment on-site	4/12/05 Storm Sewer Water on-site
VOAs		
1,1-Dichloroethene	ND (0.007)	ND (0.001)
Benzene	ND (0.007)	ND (0.001)
cis-1,2-Dichloroethene	ND (0.007)	ND (0.001)
Methylene chloride	0.007	ND (0.005)
Tetrachloroethene	0.002 J	ND (0.001)
Trichloroethene	ND (0.007)	ND (0.001)
Vinyl chloride		ND (0.001)
SVOAs		
Benzo(a)anthracene	4.2 J	ND (0.01)
Benzo(a)pyrene	3.8 J (0)	ND (0.01)
Benzo(b)fluoranthene	7.5 J	ND (0.01)
bis(2-Ethylhexyl)phthalate	229	ND (0.01)
Dibenz(a,h)anthracene	ND (32)	ND (0.01)
PCBs		
Total PCBs	268 J (0)	0.0003 J

MH-75	4/12/05 Storm Sewer Water on-site
VOAs	
1,1-Dichloroethene	ND (0.001)
Benzene	ND (0.001)
cis-1,2-Dichloroethene	ND (0.001)
Methylene chloride	ND (0.005)
Tetrachloroethene	ND (0.001)
Trichloroethene	ND (0.001)
Vinyl chloride	ND (0.001)
SVOAs	
Benzo(a)anthracene	ND (0.01)
Benzo(a)pyrene	ND (0.01)
Benzo(b)fluoranthene	ND (0.01)
bis(2-Ethylhexyl)phthalate	0.004 J
Dibenz(a,h)anthracene	ND (0.01)
PCBs	
Total PCBs	0.0003 J

MH-13_Cleaned	10/24/05 Sediment on-site	10/24/05 Storm Sewer Water on-site
VOAs		
1,1-Dichloroethene	0.023	ND (0.001)/ND (0.001)
Benzene	ND (0.42)	ND (0.001)/ND (0.001)
cis-1,2-Dichloroethene	9.5	0.0023/0.0024
Methylene chloride	ND (0.42)	ND (0.005)/ND (0.005)
Tetrachloroethene	3.5	0.0033/0.0034
Trichloroethene	0.68	0.0006/0.0007
Vinyl chloride	2.3	ND (0.001)/ND (0.001)
SVOAs		
Benzo(a)anthracene	13	0.001/0.002
Benzo(a)pyrene	11	0.001/0.002
Benzo(b)fluoranthene	20	0.0023/0.0025
bis(2-Ethylhexyl)phthalate	1.4	ND (0.01)/0.004
Dibenz(a,h)anthracene	1.2	0.0003/0.0004
PCBs		
Total PCBs	4.67 J	0.002 J/0.003 J

MH-16_Abandoned	10/13/04 Sediment on-site	10/13/04 Storm Sewer Water on-site
VOAs		
1,1-Dichloroethene	ND (0.006)	ND (0.001)
Benzene	ND (0.006)	ND (0.001)
cis-1,2-Dichloroethene	ND (0.006)	ND (0.001)
Methylene chloride	0.004 J	ND (0.005)
Tetrachloroethene	ND (0.006)	ND (0.001)
Trichloroethene	ND (0.006)	ND (0.001)
Vinyl chloride	ND (0.008)	ND (0.001)
SVOAs		
Benzo(a)anthracene	8.3 J	13
Benzo(a)pyrene	8.6 J (0)	9.8 J (0)
Benzo(b)fluoranthene	7.7 J	11
bis(2-Ethylhexyl)phthalate	1400 J (0)	1.3 J
Dibenz(a,h)anthracene	ND (100)	0.44 J
PCBs		
Total PCBs	0.491 J	0.0004 J

MH-19_Cleaned	4/6/02 Sediment on-site	4/6/02 Storm Sewer Water on-site	10/13/04 Sediment on-site	10/13/04 Storm Sewer Water on-site
VOAs				
1,1-Dichloroethene	ND (0.32)	ND (0.001)	ND (0.006)	ND (0.001)
Benzene	ND (0.32)	ND (0.001)	ND (0.006)	ND (0.001)
cis-1,2-Dichloroethene	0.24	ND (0.001)	ND (0.006)	0.0003 J
Methylene chloride	0.11 J	ND (0.005)	ND (0.006)	ND (0.005)
Tetrachloroethene	2.8	0.0003 J	0.01	0.0002 J
Trichloroethene	0.29	ND (0.001)	0.001 J	ND (0.001)
Vinyl chloride	ND (0.32)	ND (0.001)	ND (0.006)	ND (0.001)
SVOAs				
Benzo(a)anthracene	0.29 J	ND (0.01)	0.18 J	ND (0.01)
Benzo(a)pyrene	0.38 J	ND (0.01)	0.28 J	ND (0.01)
Benzo(b)fluoranthene	0.49 J	ND (0.01)	0.48 J	ND (0.01)
bis(2-Ethylhexyl)phthalate	7.8	ND (0.01)	3.8	ND (0.01)
Dibenz(a,h)anthracene	ND (0.48)	ND (0.01)	ND (1.6)	ND (0.01)
PCBs				
Total PCBs	9.27 J	0.0002 J	13.3 J (0)	0.001 J

MH-18_Cleaned	4/5/02 Sediment on-site	4/5/02 Storm Sewer Water on-site	10/13/04 Sediment on-site	10/13/04 Storm Sewer Water on-site
VOAs				
1,1-Dichloroethene	ND (0.67)	ND (0.001)	ND (0.006)/ND (0.006)	ND (0.001)/ND (0.001)
Benzene	ND (0.67)	ND (0.001)	ND (0.006)/ND (0.006)	ND (0.001)/ND (0.001)
cis-1,2-Dichloroethene	0.22 J	0.001	0.005 J/0.007	0.25/0.25
Methylene chloride	ND (0.67)	ND (0.001)	ND (0.006)/ND (0.006)	ND (0.005)/ND (0.005)
Tetrachloroethene	5.6	0.001	0.002 J/0.011	0.062/0.064
Trichloroethene	0.61	0.0003 J	0.001 J/0.003 J	0.019/0.020
Vinyl chloride	ND (0.67)	ND (0.001)	ND (0.006)/ND (0.006)	0.016/0.016
SVOAs				
Benzo(a)anthracene	4.6	ND (0.01)	0.28 J/0.71	ND (0.01)/ND (0.01)
Benzo(a)pyrene	4.3 J	ND (0.01)	0.33 J/0.83	ND (0.01)/ND (0.01)
Benzo(b)fluoranthene	8.2	ND (0.01)	0.83 J/1.2	ND (0.01)/ND (0.01)
bis(2-Ethylhexyl)phthalate	3.9	ND (0.01)	1.4 J/1.2	ND (0.01)/ND (0.01)
Dibenz(a,h)anthracene	0.83 J	ND (0.01)	ND (2)/0.13 J	ND (0.01)/ND (0.01)
PCBs				
Total PCBs	35.1 J (0)	0.0003 J	10.7 J (0)/11.2 J (0)	ND (0.0002)/ND (0.0002)

MH-20_Cleaned	4/6/02 Sediment on-site	4/6/02 Storm Sewer Water on-site	10/13/04 Sediment on-site	10/13/04 Storm Sewer Water on-site
VOAs				
1,1-Dichloroethene	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Benzene	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
cis-1,2-Dichloroethene	0.001	ND (0.001)	ND (0.001)	0.002
Methylene chloride	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Tetrachloroethene	0.002	ND (0.001)	ND (0.001)	0.0003 J
Trichloroethene	0.0008 J	ND (0.001)	ND (0.001)	ND (0.001)
Vinyl chloride	ND (0.001)	ND (0.001)	ND (0.001)	0.0002 J
SVOAs				
Benzo(a)anthracene	3	ND (0.01)	7.1	ND (0.01)
Benzo(a)pyrene	3.6 J (0)	ND (0.01)	7.2 (0)	ND (0.01)
Benzo(b)fluoranthene	4.3	ND (0.01)	11	ND (0.01)
bis(2-Ethylhexyl)phthalate	7.8	ND (0.01)	2.4 J	ND (0.01)
Dibenz(a,h)anthracene	0.7 J	ND (0.01)	1.1 J	ND (0.01)
PCBs				
Total PCBs	0.318 J	ND (0.0002)	0.145 J	ND (0.0002)

MH-25_Cleaned	4/6/02 Storm Sewer Water on-site	10/13/04 Sediment on-site	10/13/04 Storm Sewer Water on-site
VOAs			
1,1-Dichloroethene	ND (0.001)	ND (0.001)	ND (0.001)
Benzene	ND (0.001)	ND (0.001)	ND (0.001)
cis-1,2-Dichloroethene	ND (0.001)	ND (0.001)	0.002
Methylene chloride	ND (0.005)	ND (0.005)	ND (0.001)
Tetrachloroethene	0.002	ND (0.001)	0.0003 J
Trichloroethene	0.0008 J	ND (0.001)	ND (0.001)
Vinyl chloride	ND (0.001)	ND (0.001)	0.0002 J
SVOAs			
Benzo(a)anthracene	ND (0.01)	15 J (0)	0.001 J
Benzo(a)pyrene	ND (0.01)	20 J	0.002 J
Benzo(b)fluoranthene	ND (0.01)	30 J	ND (0.01)
bis(2-Ethylhexyl)phthalate	ND (0.01)	2.1 J	ND (0.01)
Dibenz(a,h)anthracene	ND (0.01)	3.4 J (0)	0.004 J (0)
PCBs			
Total PCBs	ND (0.0002)	65.4 J (0)	0.006 J (0)

MH-26-INT-6_Abandoned	4/6/02 Sediment on-site	4/6/02 Storm Sewer Water on-site	10/13/04 Sediment on-site	10/13/04 Storm Sewer Water on-site
VOAs				
1,1-Dichloroethene	ND (0.33)	ND (0.001)	ND (0.011)	ND (0.001)
Benzene	ND (0.33)	ND (0.001)	0.001 J	0.001 J
cis-1,2-Dichloroethene	ND (0.016)	ND (0.001)	0.003 J	0.0002 J
Methylene chloride	ND (0.33)	ND (0.001)	ND (0.011)	ND (0.001)
Tetrachloroethene	ND (0.33)	ND (0.001)	ND (0.011)	ND (0.001)
Trichloroethene	ND (0.33)	ND (0.001)	0.003 J	0.001 J
Vinyl chloride	ND (0.33)	ND (0.001)	ND (0.011)	ND (0.001)
SVOAs				
Benzo(a)anthracene	3	ND (0.01)	7.1	ND (0.01)
Benzo(a)pyrene	3.6 J (0)	ND (0.01)	7.2 (0)	ND (0.01)
Benzo(b)fluoranthene	4.3	ND (0.01)	11	ND (0.01)
bis(2-Ethylhexyl)phthalate	7.8	ND (0.01)	2.4 J	ND (0.01)
Dibenz(a,h)anthracene	0.7 J	ND (0.01)	1.1 J	ND (0.01)
PCBs				
Total PCBs	0.318 J	ND (0.0002)	0.145 J	ND (0.0002)

MH-28_Abandoned	10/20/05 Sediment on-site
VOAs	
1,1-Dichloroethene	ND (0.006)
Benzene	ND (0.006)
cis-1,2-Dichloroethene	ND (0.006)
Methylene chloride	ND (0.006)
Tetrachloroethene	0.002
Trichloroethene	0.001
Vinyl chloride	ND (0.008)
SVOAs	
Benzo(a)anthracene	13
Benzo(a)pyrene	13 (0)
Benzo(b)fluoranthene	19
bis(2-Ethylhexyl)phthalate	1.8
Dibenz(a,h)anthracene	1.8
PCBs	
Total PCBs	0.773 J

MH-27_Abandoned	10/20/05 Sediment on-site
VOAs	
1,1-Dichloroethene	ND (0.006)
Benzene	ND (0.006)
cis-1,2-Dichloroethene	ND (0.006)
Methylene chloride	ND (0.006)
Tetrachloroethene	0.001
Trichloroethene	0.001
Vinyl chloride	ND (0.008)
SVOAs	
Benzo(a)anthracene	6.1
Benzo(a)pyrene	7.4 (0)
Benzo(b)fluoranthene	12
bis(2-Ethylhexyl)phthalate	0.66
Dibenz(a,h)anthracene	1
PCBs	
Total PCBs	0.224 J

MH-17_Abandoned	5/27/05 Sediment on-site	10/20/05 Sediment on-site
VOAs		
1,1-Dichloroethene	ND (0.006)	ND (0.006)
Benzene	ND (0.006)	ND (0.006)
cis-1,2-Dichloroethene	ND (0.006)	ND (0.006)
Methylene chloride	ND (0.006)	ND (0.006)
Tetrachloroethene	0.0006 J	0.015
Trichloroethene	ND (0.006)	ND (0.006)
Vinyl chloride	ND (0.008)	ND (0.008)
SVOAs		
Benzo(a)anthracene	0.58 J	3.1
Benzo(a)pyrene	0.92	4.6
Benzo(b)fluoranthene	1.6	4.6
bis(2-Ethylhexyl)phthalate	0.53 J	2.1
Dibenz(a,h)anthracene	0.15 J	0.34
PCBs		
Total PCBs	1.06 J	7.04 J

MH-35_Abandoned	5/27/05 Sediment on-site	10/20/05 Sediment on-site
VOAs		
1,1-Dichloroethene	ND (0.006)	ND (0.006)
Benzene	ND (0.006)	ND (0.006)
cis-1,2-Dichloroethene	ND (0.006)	ND (0.006)
Methylene chloride	ND (0.006)	ND (0.006)
Tetrachloroethene	0.0007 J	ND (0.006)
Trichloroethene	ND (0.006)	ND (0.006)
Vinyl chloride	ND (0.008)	ND (0.008)
SVOAs		
Benzo(a)anthracene	8.3 J	13
Benzo(a)pyrene	9.2 (0)	9.8 (0)
Benzo(b)fluoranthene	7.8 J	11
bis(2-Ethylhexyl)phthalate	1.8 J	1.3
Dibenz(a,h)anthracene	1.2 J	0.44 J
PCBs		
Total PCBs	0.748 J	0.23 J

MH-37_Abandoned	10/13/04 Sediment on-site	10/13/04 Storm Sewer Water on-site
VOAs		
1,1-Dichloroethene	ND (0.96)	ND (0.96)
Benzene	ND (0.96)	ND (0.96)
cis-1,2-Dichloroethene	ND (0.96)	ND (0.96)
Methylene chloride	8.1	1.1
Tetrachloroethene	2.8	ND (0.96)
Trichloroethene	ND (0.96)	ND (0.96)
Vinyl chloride		
SVOAs		
Benzo(a)anthracene	ND (25)	ND (25)
Benzo(a)pyrene	ND (25)	ND (25)
Benzo(b)fluoranthene	ND (25)	ND (25)
bis(2-Ethylhexyl)phthalate	ND (25)	ND (25)
Dibenz(a,h)anthracene	ND (25)	ND (25)
PCBs		
Total PCBs	1940 J (0)	

MH-38_Abandoned	10/20/05 Sediment on-site
VOAs	
1,1-Dichloroethene	ND (0.033)
Benzene	ND (0.033)
cis-1,2-Dichloroethene	ND (0.033)
Methylene chloride	ND (0.033)
Tetrachloroethene	0.003
Trichloroethene	0.007
Vinyl chloride	ND (0.033)
SVOAs	
Benzo(a)anthracene	4.3
Benzo(a)pyrene	3.9 (0)
Benzo(b)fluoranthene	5.5
bis(2-Ethylhexyl)phthalate	1.3
Dibenz(a,h)anthracene	0.44
PCBs	
Total PCBs	0.03 J

MH-34_Cleaned	10/24/05 Sediment on-site
VOAs	
1,1-Dichloroethene	ND (0.007)
Benzene	ND (0.007)
cis-1,2-Dichloroethene	0.007
Methylene chloride	ND (0.007)
Tetrachloroethene	0.009
Trichloroethene	0.001
Vinyl chloride	ND (0.007)
SVOAs	
Benzo(a)anthracene	6.4
Benzo(a)pyrene	5.2 (0)
Benzo(b)fluoranthene	7.6
bis(2-Ethylhexyl)phthalate	0.78
Dibenz(a,h)anthracene	1
PCBs	
Total PCBs	0.59 J

MH-36_Abandoned	5/27/05 Sediment on-site	10/20/05 Sediment on-site
VOAs		
1,1-Dichloroethene	ND (0.006) UJ	ND (0.004)
Benzene	ND (0.006) UJ	0.002
cis-1,2-Dichloroethene	0.001 J	0.001
Methylene chloride	ND (0.011) UJ	0.002
Tetrachloroethene	0.02 J	0.008
Trichloroethene	0.002 J	0.007
Vinyl chloride	ND (0.006) UJ	ND (0.004)
SVOAs		
Benzo(a)anthracene	0.45 J	4.7 (0)
Benzo(a)pyrene	0.42 J	5.5
Benzo(b)fluoranthene	0.59 J	6.6
bis(2-Ethylhexyl)phthalate	0.17 J	0.83
Dibenz(a,h)anthracene	0.078 J	ND (54)
PCBs		
Total PCBs	1.03 J	0.061 J

MH-2_Abandoned	10/10/05 Sediment on-site
VOAs	
1,1-Dichloroethene	ND (0.006)
Benzene	ND (0.006)
cis-1,2-Dichloroethene	ND (0.006)
Methylene chloride	0.001
Tetrachloroethene	0.004
Trichloroethene	0.001
Vinyl chloride	ND (0.008)
SVOAs	
Benzo(a)anthracene	7.7
Benzo(a)pyrene	6.3 (0)
Benzo(b)fluoranthene	7.6
bis(2-Ethylhexyl)phthalate	0.9
Dibenz(a,h)anthracene	2.1
PCBs	
Total PCBs	0.54
	9.559 J

MH-1_Abandoned	10/10/05 Sediment on-site
VOAs	
1,1-Dichloroethene	ND (0.013)
Benzene	ND (0.013)
cis-1,2-Dichloroethene	ND (0.013)
Methylene chloride	0.007
Tetrachloroethene	ND (0.013)
Trichloroethene	ND (0.013)
Vinyl chloride	ND (0.013)
SVOAs	
Benzo(a)anthracene	18
Benzo(a)pyrene	16 (0)
Benzo(b)fluoranthene	20
bis(2-Ethylhexyl)phthalate	7.1
Dibenz(a,h)anthracene	2.3 J (0)
PCBs	
Total PCBs	50.5 J (0)

SB-3	4/12/02 Storm Sewer Water on-site	10/13/04 Storm Sewer Water on-site
VOAs		
1,1-Dichloroethene	ND (0.001)	ND (0.001)
Benzene	ND (0.001)	ND (0.001)
cis-1,2-Dichloroethene	0.001	0.0003 J
Methylene chloride	ND (0.007)	ND (0.001)
Tetrachloroethene	0.062	0.001
Trichloroethene	0.001 J	0.0001 J
Vinyl chloride	ND (0.007)	ND (0.001)
SVOAs		
Benzo(a)anthracene	ND (0.01)	ND (0.01)
Benzo(a)pyrene	ND (0.01)	ND (0.01)
Benzo(b)fluoranthene	ND (0.01)	ND (0.01)
bis(2-Ethylhexyl)phthalate	0.007 J	ND (0.01)
Dibenz(a,h)anthracene	ND (0.01)	ND (0.01)
PCBs		
Total PCBs	ND (0.0002)	0.0005 J

SB-2	10/13/04 Storm Sewer Water on-site
VOAs	
1,1-Dichloroethene	ND (0.001)
Benzene	ND (0.001)
cis-1,2-Dichloroethene	0.007
Methylene chloride	ND (0.005)
Tetrachloroethene	0.005
Trichloroethene	0.002
Vinyl chloride	ND (0.001)
SVOAs	
Benzo(a)anthracene	ND (0.01)
Benzo(a)pyrene	ND (0.01)
Benzo(b)fluoranthene	ND (0.01)
bis(2-Ethylhexyl)phthalate	ND (0.01)
Dibenz(a,h)anthracene	ND (0.01)
PCBs	
Total PCBs	ND (0.0002)

INT-4_Abandoned	4/5/02 Storm Sewer Water on-site	10/13/04 Storm Sewer Water on-site
VOAs		
1,1-Dichloroethene	ND (0.001)	ND (0.001)
Benzene	ND (0.001)	ND (0.001)
cis-1,2-Dichloroethene	ND (0.001)	ND (0.001)
Methylene chloride	ND (0.005)	ND (0.005)
Tetrachloroethene	ND (0.001)	ND (0.001)
Trichloroethene	ND (0.001)	ND (0.001)
Vinyl chloride	0.002 J	0.0003 J
SVOAs		
Benzo(a)anthracene	ND (0.01)	ND (0.01)
Benzo(a)pyrene	ND (0.01)	ND (0.01)
Benzo(b)fluoranthene	ND (0.01)	ND (0.01)
bis(2-Ethylhexyl)phthalate	ND (130)	ND (0.01)
Dibenz(a,h)anthracene	ND (0.01)	ND (0.01)
PCBs		
Total PCBs	ND (0.0002)	0.443 J

| INT-6_Cleaned | 4/11/02 Sediment on-site | 4/11/02 Storm

0 40 80ft

LEGEND

- BUILDING WALL
- BUILDING BOUNDARY
- FORMER BUILDING WALL
- SHORELINE
- RAILROAD
- SOIL PRESENTATION AREA BOUNDARY
- SOIL BORING LOCATION
- MONITORING WELL LOCATION
- WPG/CONCRETE CORE SAMPLE LOCATION
- OZONE SPARGE WELL LOCATION
- INJECTION BORING FOR IRM BARRIER
- MH-4 BASEMENT SUMP LOCATION
- MH PROCESS SEWER MANHOLE LOCATION
- MH STORM SEWER MANHOLE LOCATION
- STORM SEWER INTERCEPTOR LOCATION
- PROCESS SEWER LINE
- STM STORM SEWER LINE
- AQ 1 - SOLVENT RELEASE AREA
- AQ 2 - STILL ROOM
- AQ 3 - WASTE TANKS
- AQ 4 - HAZARDOUS WASTE STAGING AND STORAGE AREAS
  - ** ON UPPER FLOOR
- AQ 5 - OIL/WATER SEPS
- AQ 6 - SPILL INTERCEPTORS
- AQ 7 - SOLVENT STORAGE TANK
- AQ 8 - DEGREASING UNITS:
  - STODDARD SOLVENT
  - TCE/PD/TCA SOLVENT
  - FREON SOLVENT
  - ** ON UPPER FLOOR
- AQ 9 - SATELLITE CLEANING AREA (VARIOUS LOCATIONS THROUGHOUT SITE)
- AQ 10 - PAINT WASTE ACCUMULATION AREAS
- AQ 11 - CHIP HANDLING AREAS
- AQ 12 - CUTTING OIL USTS
- AQ 13 - OIL HOUSE
- AQ 14 - HYDRAULIC OIL AND COOLANT USTS
- AQ 15 - WASTE OIL UST
- AQ 16 - FUEL USTS
- AQ 17 - REFRIGERANT USTS
- AQ 18 - STORM SEWERS (VARIOUS LOCATIONS THROUGHOUT SITE)
- AQ 19 - PROCESS SEWERS (VARIOUS LOCATIONS THROUGHOUT SITE)
- AQ 20 - PCB RELEASES FROM ELECTRICAL EQUIPMENT
- AQ 21 - HYDRONATION PIT
- AQ 22 - INCINERATOR
- AQ 23 - VISTS AND FORMER STILL
- AQ 24 - FORMER MACHINE GUN TESTING AREA
- AQ 25 - HYDROCHLORIC ACID SPILLS
- AQ 26 - PCB RELEASES FORM PROCESS EQUIPMENT:
  - PROCESS DUCT
  - No.2 VAULL MACHINE
  - TOOL GRIND ROOM
  - GEAR BOX
- AQ 27 - BATTERY CHARGING STATION (A SECOND STATION MAY HAVE BEEN LOCATED IN BLDG. 5)
- AQ 28 - FORMER MIAMI CANAL EXTENSION
- AQ 29 - BUILDING 12 STILL
- AQ 30 - EXPERIMENTAL AIR CONDITIONING
- AQ 31 - EXPERIMENTAL BOOTHS
- AQ 32 - BUILDING 5 TRANSFORMER (GROUND LEVEL)
- AQ 33 - PAINT AND ENAMEL STORAGE
- AQ 34 - PARTS GRINDING
- AQ 35 - STORAGE TANKS

SAMPLE LOCATION

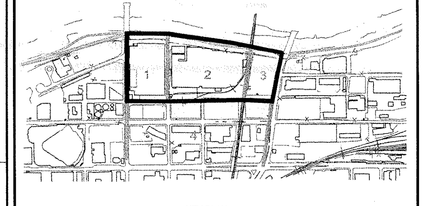
SS-5	4/9/02 Storm Sewer Water on-site	SAMPLE DATE SAMPLE MATRIX ON-SITE/OFF-SITE INDICATOR
Metals	
Arsenic	ND (0.01)	CONCENTRATION (mg/kg) FOR SEDIMENT AND OIL (mg/L) FOR WATER
Cadmium	ND (0.005)	
Lead	ND (0.005)	
Manganese	ND (0.015)	
Mercury	ND (0.0005)	

PARAMETER

0.006 J 6C EXCEEDS CRITERIA

SEDIMENT	
Chemical Name	D
Metals	
Arsenic	1.59E+01
Cadmium	4.51E+02
Lead	8.00E+02
Manganese	1.95E+04
Mercury	1.36E+01
PCBs	
Total PCBs	7.44E+00
SVOCs	
Benzo(a)anthracene	2.11E+01
Benzo(a)pyrene	2.11E+01
Benzo(b)fluoranthene	2.11E+01
bis(2-Ethylhexyl)phthalate	1.25E+03
Dibenz(a,h)anthracene	2.11E+00
VOCs	
1,1-Dichloroethene	4.13E+02
Benzene	1.41E+01
cis-1,2-Dichloroethene	1.48E+02
Methylene chloride	2.06E+02
Tetrachloroethene	1.31E+01
Trichloroethene	6.12E+01
Vinyl chloride	7.46E+00
STORM SEWER WATER	
Chemical Name	C
Metals	
Arsenic	1.44E+01
Cadmium	1.80E+01
Lead	7.40E+01
Manganese	0.96E+03
Mercury	2.86E-01
PCBs	
Total PCBs	9.95E-03
SVOCs	
Benzo(a)anthracene	6.17E-02
Benzo(a)pyrene	4.95E-03
Benzo(b)fluoranthene	3.71E-03
bis(2-Ethylhexyl)phthalate	1.42E+00
Dibenz(a,h)anthracene	2.78E-03
VOCs	
1,1-Dichloroethene	1.25E-02
Benzene	4.86E+00
cis-1,2-Dichloroethene	2.26E+01
Methylene chloride	8.94E+01
Tetrachloroethene	1.41E+01
Trichloroethene	2.68E+01
Vinyl chloride	2.02E+00

C Risk-Based Routine Construction Worker (Cone) GW Contact Criteria
D R9 Industrial (Ind) PRG E-S



KEY PLAN

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY

Dayton, Ohio

STORMWATER, SEDIMENT, AND OIL ANALYTICAL DATA - INORGANICS - SITE WIDE

CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

Project Manager:	Reviewed By:	Date:
IKR	SE	APRIL 2006
Scale: 1"=80'	Project N°: 12638-04	Report N°: 015
		Drawing N°: 2B

12638-04(015)GN-WA006 APR 03/2006

NOTES:
1. SCREENING CRITERIA AND SAMPLE RESULTS ARE COMPARED TO TWO SIGNIFICANT DIGITS. RESULTS EQUAL TO SCREENING CRITERIA ARE NOT HIGHLIGHTED AS EXCEEDANCES.
2. PARAMETERS THAT DO NOT APPEAR IN THE DATABOX FOR A PARTICULAR SAMPLE WERE NOT ANALYZED.
3. EXCEEDANCES FOR EACH CONSTITUENT ARE BASED ON THE RATIOS OF SITE-RELATED CONCENTRATIONS TO SCREENING CRITERIA GREATER THAN 1.0. SITE-RELATED INORGANIC CONCENTRATIONS ARE THOSE IN EXCESS OF BACKGROUND LEVELS.

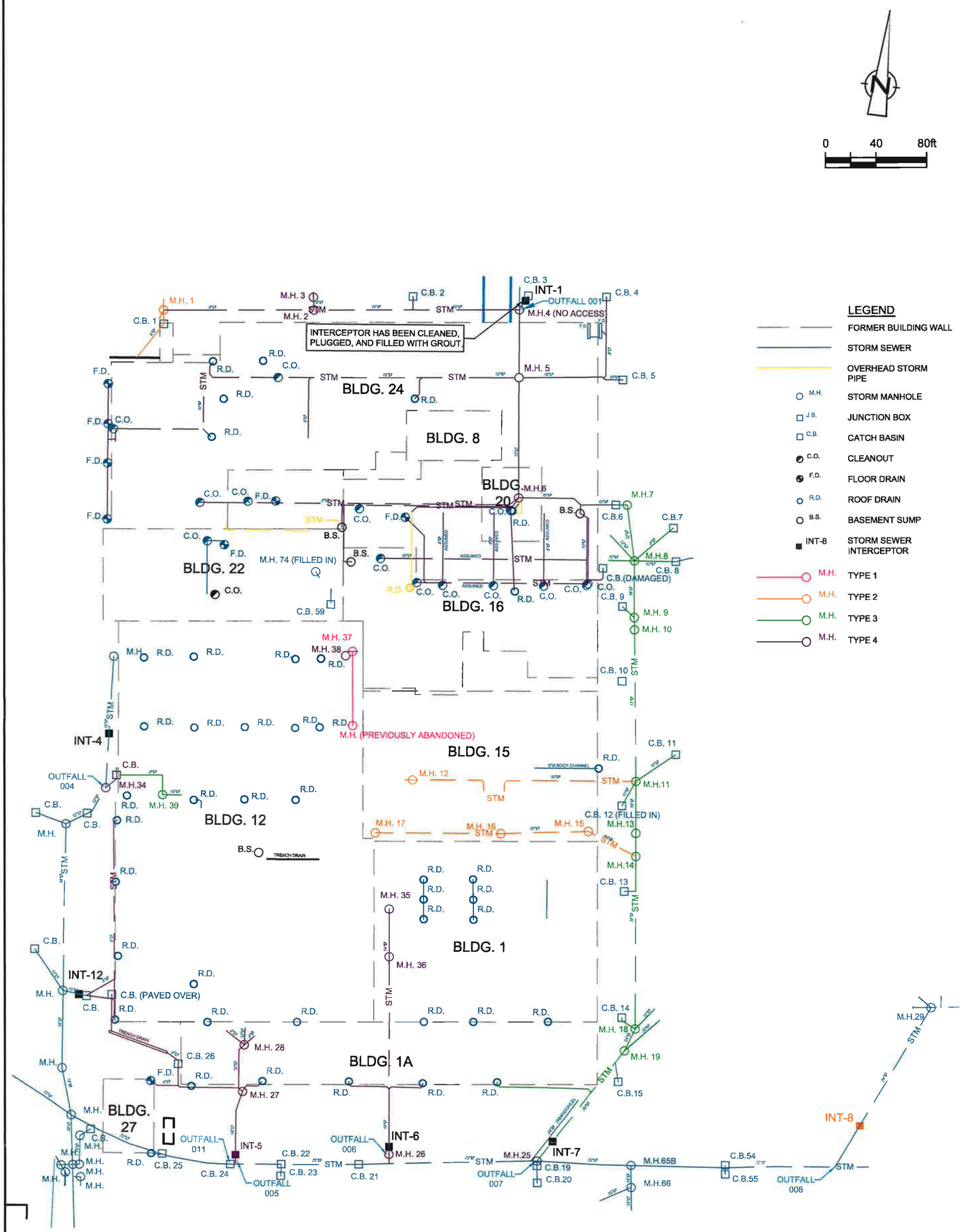


figure 3

STORM SEWER MATERIAL SEGREGATION
FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY
Dayton, Ohio

12638-04(015)GN-WA003 MAR 30/2006

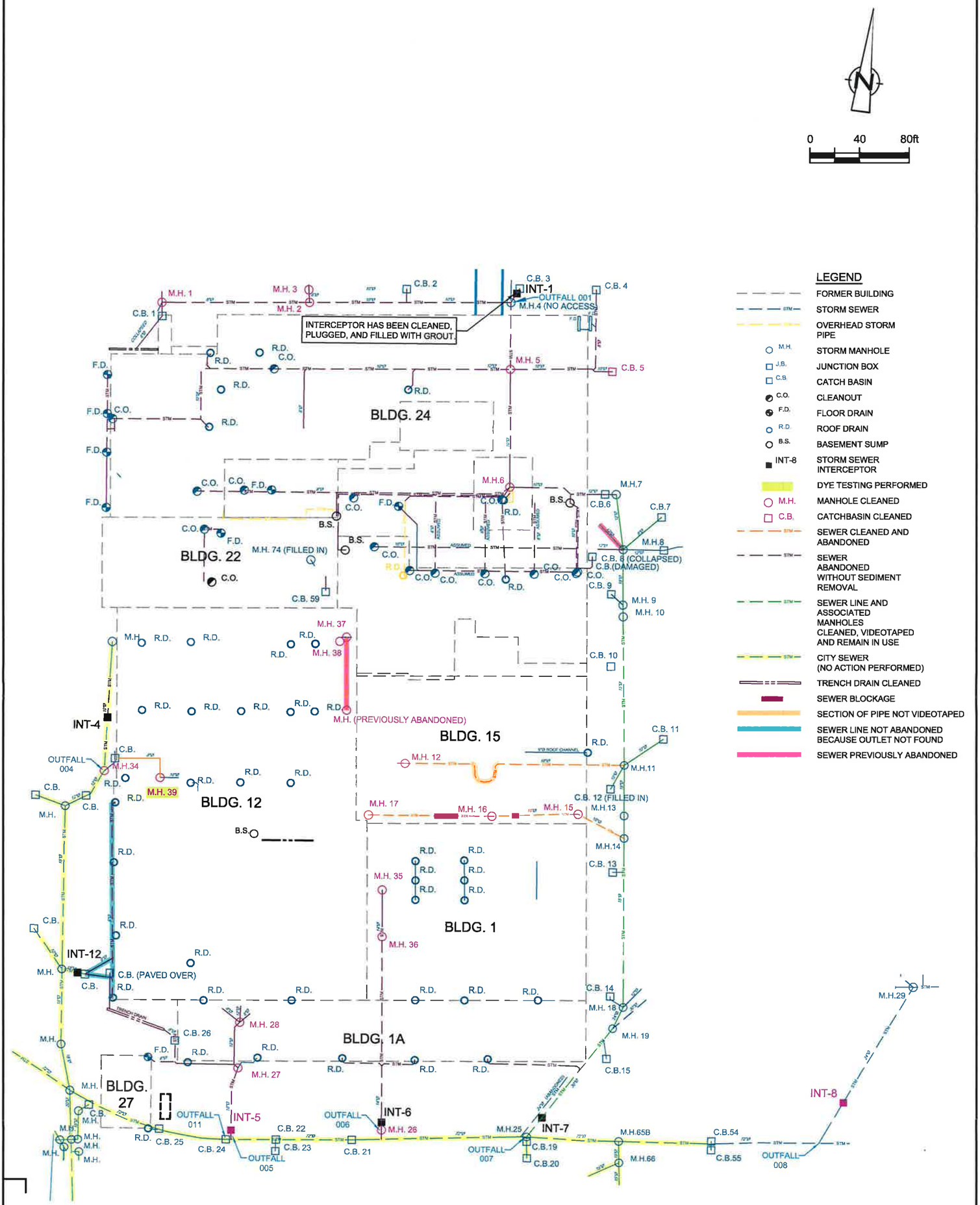


figure 4

STORM SEWER ABANDONMENT ACTIVITIES
FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY
Dayton, Ohio

12638-04(015)GN-WA004 MAR 30/2006

TABLES

TABLE 2A

ANALYTICAL RESULTS SUMMARY
STORM SEWER SEDIMENT SAMPLES BETWEEN WEBSTER AND TAYLOR STREETS
HARRISON DAYTON

Sample ID:		*INT-5_Abandoned*	*MH-26/INT-6_Abandoned*	*MH-26/INT-6_Abandoned*	*INT-8_Cleaned*	*INT-8_Cleaned*	*INT-8_Cleaned*	*MH-1_Abandoned*	*MH-2_Abandoned*	*MH-3_Abandoned*
Sample Date:		*SESS-101304-NZ-001*	*SE-040802-SLE-008*	*SESS-101304-NZ-002*	*SE-041102-SLE-013*	*SESS-101504-NZ-002*	*SESS-101504-NZ-003*	*SESS-101005-LB-001*	*SESS-101005-LB-002*	*SESS-101005-LB-003*
		10/13/2004	*4/8/2002*	*10/13/2004*	*4/11/2002*	*10/15/2004*	*10/15/2004 (Dup)*	*10/10/2005*	*10/10/2005*	*10/10/2005*
Parameters	***Units***									
Volatile Organic Compounds										
1,1,1-Trichloroethane	mg/kg	ND (0.012)	ND (0.03)	ND (0.011)	ND (0.021)	ND (0.058)	ND (0.0098)	ND (0.013)	ND (0.0079)	ND (0.006)
1,1,2,2-Tetrachloroethane	mg/kg	ND (0.012)	ND (0.03)	ND (0.011)	ND (0.021)	ND (0.058)	ND (0.0098)	ND (0.013)	ND (0.0079)	ND (0.006)
1,1,2-Trichloroethane	mg/kg	ND (0.012)	ND (0.03)	ND (0.011)	ND (0.021)	ND (0.058)	ND (0.0098)	ND (0.013)	ND (0.0079)	ND (0.006)
1,1-Dichloroethane	mg/kg	ND (0.012)	ND (0.03)	ND (0.011)	ND (0.021)	ND (0.058)	ND (0.0098)	ND (0.013)	ND (0.0079)	ND (0.006)
1,1-Dichloroethene	mg/kg	ND (0.012)	ND (0.03)	ND (0.011)	ND (0.021)	ND (0.058)	ND (0.0098)	ND (0.013)	ND (0.0079)	ND (0.006)
1,2,4-Trichlorobenzene	mg/kg	ND (0.012) UJ	ND (0.03) UJ	ND (0.011) UJ	ND (0.021) UJ	ND (0.058)	ND (0.0098) UJ	ND (0.013) UJ	ND (0.0079)	ND (0.006)
1,2-Dibromo-3-chloropropane (DBCP)	mg/kg	ND (0.024) UJ	ND (0.061) UJ	ND (0.022) UJ	ND (0.041) UJ	ND (0.12)	ND (0.02) UJ	ND (0.026) UJ	ND (0.016)	ND (0.012)
1,2-Dibromoethane (Ethylene Dibromide)	mg/kg	ND (0.012)	ND (0.03)	ND (0.011)	ND (0.021)	ND (0.058)	ND (0.0098)	ND (0.013)	ND (0.0079)	ND (0.006)
1,2-Dichlorobenzene	mg/kg	ND (0.012) UJ	ND (0.03) UJ	ND (0.011) UJ	ND (0.021) UJ	ND (0.058)	ND (0.0098) UJ	ND (0.013) UJ	ND (0.0079)	ND (0.006)
1,2-Dichloroethane	mg/kg	ND (0.012)	ND (0.03)	ND (0.011)	ND (0.021)	ND (0.058)	ND (0.0098)	ND (0.013)	ND (0.0079)	ND (0.006)
1,2-Dichloropropane	mg/kg	ND (0.012)	ND (0.03)	ND (0.011)	ND (0.021)	ND (0.058)	ND (0.0098)	ND (0.013)	ND (0.0079)	ND (0.006)
1,3-Dichlorobenzene	mg/kg	ND (0.012) UJ	ND (0.03) UJ	ND (0.011) UJ	ND (0.021) UJ	ND (0.058)	ND (0.0098) UJ	ND (0.013) UJ	ND (0.0079)	ND (0.006)
1,4-Dichlorobenzene	mg/kg	ND (0.012) UJ	ND (0.03) UJ	ND (0.011) UJ	ND (0.021) UJ	ND (0.058)	ND (0.0098) UJ	ND (0.013) UJ	ND (0.0079)	ND (0.006)
2-Butanone (Methyl Ethyl Ketone)	mg/kg	0.033 J	0.022 J	0.0057 J	0.031 J	0.03 J	0.0042 J	ND (0.052)	ND (0.031)	ND (0.024)
2-Hexanone	mg/kg	ND (0.048) UJ	ND (0.12)	ND (0.043) UJ	ND (0.083)	ND (0.23)	ND (0.039)	ND (0.052)	ND (0.031)	ND (0.024)
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	mg/kg	ND (0.048)	ND (0.12)	ND (0.043)	ND (0.083)	ND (0.23)	ND (0.039)	ND (0.052)	ND (0.031)	ND (0.024)
Acetone	mg/kg	0.12 J	0.089 J	0.021 J	0.11 J	0.1 J	0.016 J	ND (0.052) UJ	ND (0.031) UJ	ND (0.024) UJ
Benzene	mg/kg	ND (0.012)	ND (0.03)	0.00062 J	ND (0.021)	ND (0.058)	0.00054 J	ND (0.013)	ND (0.0079)	ND (0.006)
Bromodichloromethane	mg/kg	ND (0.012)	ND (0.03)	ND (0.011)	ND (0.021)	ND (0.058)	ND (0.0098)	ND (0.013)	ND (0.0079)	ND (0.006)
Bromoform	mg/kg	ND (0.012)	ND (0.03) UJ	ND (0.011)	ND (0.021) UJ	ND (0.058)	ND (0.0098)	ND (0.013)	ND (0.0079)	ND (0.006)
Bromomethane (Methyl Bromide)	mg/kg	ND (0.012)	ND (0.03) UJ	ND (0.011)	ND (0.021) UJ	ND (0.058)	ND (0.0098)	ND (0.013)	ND (0.0079)	ND (0.006)
Carbon disulfide	mg/kg	ND (0.012)	ND (0.03)	ND (0.011)	ND (0.021)	ND (0.058)	ND (0.0098)	ND (0.013)	ND (0.0079)	ND (0.006)
Carbon tetrachloride	mg/kg	ND (0.012)	ND (0.03) UJ	ND (0.011)	ND (0.021)	ND (0.058)	ND (0.0098)	ND (0.013)	ND (0.0079)	ND (0.006)
Chlorobenzene	mg/kg	ND (0.012)	ND (0.03)	ND (0.011)	ND (0.021)	ND (0.058)	ND (0.0098)	ND (0.013)	ND (0.0079)	ND (0.006)
Chloroethane	mg/kg	ND (0.012)	ND (0.03)	ND (0.011)	ND (0.021)	ND (0.058)	ND (0.0098)	ND (0.013)	ND (0.0079)	ND (0.006)
Chloroform (Trichloromethane)	mg/kg	ND (0.012)	ND (0.03)	ND (0.011)	ND (0.021)	ND (0.058)	ND (0.0098)	ND (0.013)	ND (0.0079)	ND (0.006)
Chloromethane (Methyl Chloride)	mg/kg	ND (0.012)	ND (0.03)	ND (0.011)	ND (0.021)	ND (0.058)	ND (0.0098)	ND (0.013)	ND (0.0079)	ND (0.006)
cis-1,2-Dichloroethene	mg/kg	ND (0.012)	ND (0.015)	0.0028 J	0.0039 J	ND (0.058)	ND (0.0098)	ND (0.013)	ND (0.0079)	ND (0.006)
cis-1,3-Dichloropropene	mg/kg	ND (0.012)	ND (0.03)	ND (0.011)	ND (0.021)	ND (0.058)	ND (0.0098)	ND (0.013)	ND (0.0079)	ND (0.006)
Cyclohexane	mg/kg	ND (0.024)	ND (0.061)	ND (0.022)	ND (0.041)	ND (0.12)	ND (0.02)	ND (0.026)	ND (0.016)	ND (0.012)
Dibromochloromethane	mg/kg	ND (0.012)	ND (0.03)	ND (0.011)	ND (0.021)	ND (0.058)	ND (0.0098)	ND (0.013)	ND (0.0079)	ND (0.006)
Dichlorodifluoromethane (CFC-12)	mg/kg	ND (0.012)	ND (0.03) UJ	ND (0.011)	ND (0.021)	ND (0.058) UJ	ND (0.0098) UJ	ND (0.013)	ND (0.0079)	ND (0.006)
Ethylbenzene	mg/kg	ND (0.012)	ND (0.03)	ND (0.011)	ND (0.021)	ND (0.058)	0.0015 J	ND (0.013)	ND (0.0079)	ND (0.006)
Isopropylbenzene	mg/kg	ND (0.012)	ND (0.03)	ND (0.011)	ND (0.021)	ND (0.058)	ND (0.0098)	ND (0.013)	ND (0.0079)	ND (0.006)
Methyl acetate	mg/kg	ND (0.024)	ND (0.061)	ND (0.022)	ND (0.041)	ND (0.12)	ND (0.02)	ND (0.026)	ND (0.016)	ND (0.012)
Methyl cyclohexane	mg/kg	ND (0.024)	ND (0.061)	ND (0.022)	ND (0.041)	ND (0.12)	ND (0.02)	ND (0.026)	ND (0.016)	ND (0.012)
Methyl Tert Butyl Ether	mg/kg	ND (0.048)	ND (0.12)	ND (0.043)	ND (0.083)	ND (0.23)	ND (0.039)	ND (0.052)	ND (0.031)	ND (0.024)
Methylene chloride	mg/kg	ND (0.012)	ND (0.03)	ND (0.011)	ND (0.021)	ND (0.058)	ND (0.0098)	ND (0.013)	ND (0.0079)	ND (0.006)
Styrene	mg/kg	ND (0.012)	ND (0.03)	ND (0.011)	ND (0.021)	ND (0.058)	ND (0.0098)	ND (0.013)	ND (0.0079)	ND (0.006)
Tetrachloroethene	mg/kg	ND (0.012)	ND (0.03)	ND (0.011)	0.012 J	ND (0.058)	ND (0.0098)	ND (0.013)	ND (0.0079)	ND (0.006)
Toluene	mg/kg	0.042	ND (0.03)	0.0038 J	ND (0.021)	ND (0.058)	ND (0.0098)	ND (0.013)	ND (0.0079)	ND (0.006)
trans-1,2-Dichloroethene	mg/kg	ND (0.012)	ND (0.015)	ND (0.011)	ND (0.01)	ND (0.058)	ND (0.0098)	ND (0.013)	ND (0.0079)	ND (0.006)
trans-1,3-Dichloropropene	mg/kg	ND (0.012)	ND (0.03)	ND (0.011)	ND (0.021)	ND (0.058)	ND (0.0098)	ND (0.013)	ND (0.0079)	ND (0.006)
Trichloroethene	mg/kg	0.0019 J	ND (0.03)	0.0026 J	ND (0.021)	ND (0.058)	ND (0.0098)	ND (0.013)	0.00092 J	ND (0.006)
Trichlorofluoromethane (CFC-11)	mg/kg	ND (0.012)	ND (0.03) UJ	ND (0.011)	ND (0.021)	ND (0.058)	ND (0.0098)	0.21	ND (0.0079)	0.0014 J
Trifluorotrichloroethane (Freon 113)	mg/kg	ND (0.012)	ND (0.03)	ND (0.011)	ND (0.021)	ND (0.058)	ND (0.0098)	ND (0.013)	ND (0.0079)	ND (0.006)
Vinyl chloride	mg/kg	ND (0.012)	ND (0.03)	ND (0.011)	ND (0.021)	ND (0.058)	ND (0.0098)	ND (0.013)	ND (0.0079)	ND (0.006)
Xylene (total)	mg/kg	ND (0.024)	ND (0.061)	0.0018 J	ND (0.041)	ND (0.12)	ND (0.02)	ND (0.026)	ND (0.016)	ND (0.012)

TABLE 2A

ANALYTICAL RESULTS SUMMARY
STORM SEWER SEDIMENT SAMPLES BETWEEN WEBSTER AND TAYLOR STREETS
HARRISON DAYTON

Sample ID:		*INT-5_Abandoned SESS-101304-NZ-001*	*MH-26/INT-6_Abandoned SE-040802-SLE-008*	*MH-26/INT-6_Abandoned SESS-101304-NZ-002*	*INT-8_Cleaned SE-041102-SLE-013*	*INT-8_Cleaned SESS-101504-NZ-002*	*INT-8_Cleaned SESS-101504-NZ-003 (Dup)*	*MH-1_Abandoned SESS-101005-LB-001*	*MH-2_Abandoned SESS-101005-LB-002*	*MH-3_Abandoned SESS-101005-LB-003*
Sample Date:		*10/13/2004*	*4/8/2002*	*10/13/2004*	*4/11/2002*	*10/15/2004*	*10/15/2004*	*10/10/2005*	*10/10/2005*	*10/10/2005*
Parameters	***Units***									
Semi-Volatile Organic Compounds										
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	mg/kg	ND (130)	ND (1.1)	ND (7.1)	ND (2.1)	ND (15)	ND (8.1)	ND (11)	ND (4.1)	ND (4.1)
2,4,5-Trichlorophenol	mg/kg	ND (130)	ND (1.1)	ND (7.1)	ND (2.1)	ND (15)	ND (8.1)	ND (11)	ND (4.1)	ND (4.1)
2,4,6-Trichlorophenol	mg/kg	ND (130)	ND (1.1)	ND (7.1)	ND (2.1)	ND (15)	ND (8.1)	ND (11)	ND (4.1)	ND (4.1)
2,4-Dichlorophenol	mg/kg	ND (130)	ND (1.1)	ND (7.1)	ND (2.1)	ND (15)	ND (8.1)	ND (11)	ND (4.1)	ND (4.1)
2,4-Dimethylphenol	mg/kg	ND (130)	ND (1.1)	ND (7.1)	ND (2.1)	ND (15)	ND (8.1)	ND (11) UJ	ND (4.1) UJ	ND (4.1) UJ
2,4-Dinitrophenol	mg/kg	ND (630)	ND (5.4)	ND (34)	ND (10)	ND (74)	ND (39)	ND (55)	ND (20)	ND (20)
2,4-Dinitrotoluene	mg/kg	ND (130)	ND (1.1)	ND (7.1)	ND (2.1)	ND (15)	ND (8.1)	ND (11)	ND (4.1)	ND (4.1)
2,6-Dinitrotoluene	mg/kg	ND (130)	ND (1.1)	ND (7.1)	ND (2.1)	ND (15)	ND (8.1)	ND (11)	ND (4.1)	ND (4.1)
2-Chloronaphthalene	mg/kg	ND (130)	ND (1.1)	ND (7.1)	ND (2.1)	ND (15)	ND (8.1)	ND (11)	ND (4.1)	ND (4.1)
2-Chlorophenol	mg/kg	ND (130)	ND (1.1)	ND (7.1)	ND (2.1)	ND (15)	ND (8.1)	ND (11)	ND (4.1)	ND (4.1)
2-Methylnaphthalene	mg/kg	ND (130)	ND (1.1)	0.57 J	ND (2.1)	ND (15)	ND (8.1)	0.66 J	0.27 J	ND (4.1)
2-Methylphenol	mg/kg	ND (130)	ND (1.1)	ND (7.1)	ND (2.1)	ND (15)	ND (8.1)	ND (11)	ND (4.1)	ND (4.1)
2-Nitroaniline	mg/kg	ND (630)	ND (5.4) UJ	ND (34)	ND (10)	ND (74)	ND (39)	ND (55)	ND (20)	ND (20)
2-Nitrophenol	mg/kg	ND (130)	ND (1.1)	ND (7.1)	ND (2.1)	ND (15)	ND (8.1)	ND (11)	ND (4.1)	ND (4.1)
3,3'-Dichlorobenzidine	mg/kg	ND (630)	ND (5.4)	ND (34)	ND (10)	ND (74)	ND (39)	ND (55)	ND (20)	ND (20)
3-Nitroaniline	mg/kg	ND (630)	ND (5.4) UJ	ND (34)	ND (10)	ND (74)	ND (39)	ND (55)	ND (20)	ND (20)
4,6-Dinitro-2-methylphenol	mg/kg	ND (630)	ND (5.4)	ND (34)	ND (10)	ND (74)	ND (39)	ND (55)	ND (20)	ND (20)
4-Bromophenyl phenyl ether	mg/kg	ND (130)	ND (1.1)	ND (7.1)	ND (2.1)	ND (15)	ND (8.1)	ND (11)	ND (4.1)	ND (4.1)
4-Chloro-3-methylphenol	mg/kg	ND (130)	ND (1.1)	ND (7.1)	ND (2.1)	ND (15)	ND (8.1)	ND (11)	ND (4.1)	ND (4.1)
4-Chloroaniline	mg/kg	ND (130)	ND (1.1)	ND (7.1)	ND (2.1)	ND (15)	ND (8.1)	ND (11)	ND (4.1)	ND (4.1)
4-Chlorophenyl phenyl ether	mg/kg	ND (130)	ND (1.1)	ND (7.1)	ND (2.1)	ND (15)	ND (8.1)	ND (11)	ND (4.1)	ND (4.1)
4-Methylphenol	mg/kg	ND (130)	ND (1.1)	ND (7.1)	ND (2.1)	ND (15)	ND (8.1)	ND (11)	ND (4.1)	ND (4.1)
4-Nitroaniline	mg/kg	ND (630)	ND (5.4)	ND (34)	ND (10)	ND (74)	ND (39)	ND (55)	ND (20)	ND (20)
4-Nitrophenol	mg/kg	ND (630)	ND (5.4) UJ	ND (34)	ND (10)	ND (74)	ND (39)	ND (55) UJ	ND (20) UJ	ND (20) UJ
Acenaphthene	mg/kg	ND (130)	0.24 J	1 J	ND (2.1)	2.5 J	1.8 J	2.9 J	1.7 J	0.31 J
Acenaphthylene	mg/kg	ND (130)	ND (1.1)	ND (7.1)	ND (2.1)	ND (15)	ND (8.1)	ND (11)	ND (4.1)	ND (4.1)
Acetophenone	mg/kg	ND (130)	ND (1.1)	ND (7.1)	ND (2.1)	ND (15)	ND (8.1)	ND (11)	ND (4.1)	ND (4.1)
Anthracene	mg/kg	ND (130)	0.8 J	2 J	ND (2.1)	5.6 J	3.2 J	6.4 J	3.6 J	0.75 J
Atrazine	mg/kg	ND (130)	ND (1.1)	ND (7.1)	ND (2.1)	ND (15)	ND (8.1)	ND (11)	ND (4.1)	ND (4.1)
Benzaldehyde	mg/kg	ND (130)	ND (1.1)	ND (7.1)	ND (2.1)	ND (15) UJ	ND (8.1) UJ	ND (11)	ND (4.1)	ND (4.1)
Benzo(a)anthracene	mg/kg	ND (130)	3	7.1	0.47 J	19	9.6	18	7.7	1.6 J
Benzo(a)pyrene	mg/kg	ND (130)	3.9	7.2	0.71 J	14 J	6.7 J	16	6.5	1.6 J
Benzo(b)fluoranthene	mg/kg	9.6 J	4.3	11	1.1 J	19	10	20	7.6	2 J
Benzo(g,h,i)perylene	mg/kg	ND (130)	2.4	5.3 J	0.52 J	7.6 J	4.5 J	9.3 J	3.6 J	0.95 J
Benzo(k)fluoranthene	mg/kg	ND (130)	2.8	3 J	0.39 J	8.6 J	4.7 J	10 J	4.2	1.1 J
Biphenyl	mg/kg	ND (130)	ND (1.1)	ND (7.1)	ND (2.1)	ND (15)	ND (8.1)	ND (11)	ND (4.1)	ND (4.1)
bis(2-Chloroethoxy)methane	mg/kg	ND (130)	ND (1.1)	ND (7.1)	ND (2.1)	ND (15)	ND (8.1)	ND (11) UJ	ND (4.1) UJ	ND (4.1) UJ
bis(2-Chloroethyl)ether	mg/kg	ND (130)	ND (1.1)	ND (7.1)	ND (2.1)	ND (15)	ND (8.1)	ND (11)	ND (4.1)	ND (4.1)
bis(2-Ethylhexyl)phthalate	mg/kg	ND (130)	7.8	2.4 J	ND (2.1)	27	29	7.1 J	2.1 J	0.9 J
Butyl benzylphthalate	mg/kg	ND (130)	ND (1.1)	ND (7.1)	ND (2.1)	ND (15)	ND (8.1)	1 J	ND (4.1)	ND (4.1)
Caprolactam	mg/kg	ND (130)	ND (1.1)	ND (7.1)	ND (2.1)	ND (15)	ND (8.1)	ND (11)	ND (4.1)	ND (4.1)
Carbazole	mg/kg	ND (130)	0.61 J	1.5 J	ND (2.1)	3.4 J	2.3 J	5.1 J	2.5 J	0.47 J
Chrysene	mg/kg	6.3 J	3.9	7.7	0.78 J	18	9.7	19	7.2	1.8 J
Dibenz(a,h)anthracene	mg/kg	ND (130)	0.7 J	1.1 J	ND (2.1)	2.5 J	1.5 J	2.3 J	0.84 J	0.25 J
Dibenzofuran	mg/kg	ND (130)	ND (1.1)	0.55 J	ND (2.1)	1.4 J	1 J	2.1 J	1.2 J	0.23 J
Diethyl phthalate	mg/kg	ND (130)	ND (1.1)	ND (7.1)	ND (2.1)	ND (15)	ND (8.1)	ND (11)	ND (4.1)	ND (4.1)
Dimethyl phthalate	mg/kg	ND (130)	ND (1.1)	ND (7.1)	ND (2.1)	ND (15)	ND (8.1)	ND (11)	ND (4.1)	ND (4.1)
Di-n-butylphthalate	mg/kg	ND (130)	ND (1.1)	ND (7.1)	ND (2.1)	ND (15)	ND (8.1)	ND (11)	ND (4.1)	ND (4.1)
Di-n-octyl phthalate	mg/kg	ND (130)	ND (1.1)	ND (7.1)	ND (2.1)	ND (15)	ND (8.1)	ND (11)	ND (4.1)	ND (4.1)
Fluoranthene	mg/kg	ND (130)	7.7	17	1.3 J	45	25	48	20	4.5
Fluorene	mg/kg	ND (130)	0.23 J	1.1 J	ND (2.1)	2.7 J	2 J	3.3 J	2 J	0.37 J
Hexachlorobenzene	mg/kg	ND (130)	ND (1.1)	ND (7.1)	ND (2.1)	ND (15)	ND (8.1)	ND (11)	ND (4.1)	ND (4.1)
Hexachlorobutadiene	mg/kg	ND (130)	ND (1.1)	ND (7.1)	ND (2.1)	ND (15)	ND (8.1)	ND (11) UJ	ND (4.1) UJ	ND (4.1) UJ

TABLE 2A

ANALYTICAL RESULTS SUMMARY
STORM SEWER SEDIMENT SAMPLES BETWEEN WEBSTER AND TAYLOR STREETS
HARRISON DAYTON

Sample ID:		*INT-5_Abandoned SESS-101304-NZ-001*	*MH-26/INT-6_Abandoned SE-040802-SLE-008*	*MH-26/INT-6_Abandoned SESS-101304-NZ-002*	*INT-8_Cleaned SE-041102-SLE-013*	*INT-8_Cleaned SESS-101504-NZ-002*	*INT-8_Cleaned SESS-101504-NZ-003 (Dup)*	*MH-1_Abandoned SESS-101005-LB-001*	*MH-2_Abandoned SESS-101005-LB-002*	*MH-3_Abandoned SESS-101005-LB-003*
Sample Date:		*10/13/2004*	*4/8/2002*	*10/13/2004*	*4/11/2002*	*10/15/2004*	*10/15/2004*	*10/10/2005*	*10/10/2005*	*10/10/2005*
Parameters	***Units***									
Hexachlorocyclopentadiene	mg/kg	ND (630)	ND (5.4)	ND (34)	ND (10)	ND (74)	ND (39)	ND (55)	ND (20)	ND (20)
Hexachloroethane	mg/kg	ND (130)	ND (1.1)	ND (7.1)	ND (2.1)	ND (15)	ND (8.1)	ND (11) UJ	ND (4.1) UJ	ND (4.1) UJ
Indeno(1,2,3-cd)pyrene	mg/kg	ND (130)	2.4	4.5 J	0.47 J	6.7 J	3.8 J	7.8 J	3.2 J	0.83 J
Isophorone	mg/kg	ND (130)	ND (1.1)	ND (7.1)	ND (2.1)	ND (15)	ND (8.1)	ND (11)	ND (4.1)	ND (4.1)
Naphthalene	mg/kg	ND (130)	ND (1.1)	ND (7.1)	ND (2.1)	ND (15)	0.37 J	0.69 J	0.28 J	ND (4.1) UJ
Nitrobenzene	mg/kg	ND (130)	ND (1.1)	ND (7.1)	ND (2.1)	ND (15)	ND (8.1)	ND (11) UJ	ND (4.1) UJ	ND (4.1) UJ
N-Nitrosodi-n-propylamine	mg/kg	ND (130)	ND (1.1) UJ	ND (7.1)	ND (2.1)	ND (15)	ND (8.1)	ND (11)	ND (4.1)	ND (4.1)
N-Nitrosodiphenylamine	mg/kg	ND (130)	ND (1.1)	ND (7.1)	ND (2.1)	ND (15)	ND (8.1)	ND (11)	ND (4.1)	ND (4.1)
Pentachlorophenol	mg/kg	ND (130)	ND (1.1)	ND (7.1)	ND (2.1)	ND (15)	ND (8.1)	ND (11)	ND (4.1)	ND (4.1)
Phenanthrene	mg/kg	ND (130)	4	10	0.61 J	27	17	34	17	3.3 J
Phenol	mg/kg	ND (130)	ND (1.1)	ND (7.1)	ND (2.1)	ND (15)	ND (8.1)	ND (11)	ND (4.1)	ND (4.1)
Pyrene	mg/kg	7.8 J	6.2	14	1 J	36	19	37	15	3.3 J
Metals										
Antimony	mg/kg	1.8 J	2.0 J	1.0 J	1.6 J	1.4 J	3.1 J	1.0 J	0.73 J	0.45 J
Arsenic	mg/kg	5.4	8.3	8.0	13.0	25.2	17.7	5.7	4.4	4.4
Barium	mg/kg	36.4 J	121	88.7	262	1320	445	127 J	84.1 J	69.6 J
Beryllium	mg/kg	ND (1.2)	0.59 J	0.17 J	ND (1.3)	0.35 J	ND (0.98)	ND (0.86)	ND (0.62)	0.26 J
Cadmium	mg/kg	17.2	6.0	2.7	6.1	35.9	14.4	5.9 J	6.4 J	6.0 J
Chromium Total	mg/kg	44.1	126	53.7	47.0	312 J	226 J	54.8	106	119
Cobalt	mg/kg	3.8 J	8.7 J	5.4 J	9.4 J	16.9	10.9	4.1 J	5.8 J	5.2 J
Copper	mg/kg	214	185	120	179	472 J	2530 J	126 J	127 J	173 J
Lead	mg/kg	502	343	202	183	1370	934	145	80.5	108
Manganese	mg/kg	93.2	280	315	360	328 J	181 J	216 J	448 J	357 J
Mercury	mg/kg	0.11 J	0.53	0.37	0.72	8.8	0.92	0.56 J	0.22 J	0.39 J
Nickel	mg/kg	13.9 J	28.6	21.1 J	32.5	57.2	37.9	20.4	81.6	94.8
Selenium	mg/kg	0.81 J	2.9	ND (1.3)	ND (1.3)	ND (1.2)	ND (0.98)	0.24 J	ND (0.62) UJ	ND (0.63) UJ
Silver	mg/kg	0.68 J	0.81 J	0.62 J	0.87 J	3.2	3.3	0.57 J	ND (1.2)	ND (1.3)
Thallium	mg/kg	ND (2.4)	ND (2.5)	ND (2.2)	ND (2.5)	0.83 J	ND (2.0)	0.063 J	0.025 J	0.051 J
Vanadium	mg/kg	8.2 J	24.9	18.6	23.0	22.7	30.1	9.4	12.2	9.5
Zinc	mg/kg	1790	2410	1290	1060	3040	3510	2370	330	170
PCBs										
Aroclor-1016 (PCB-1016)	mg/kg	ND (0.08)	ND (0.083)	ND (0.071)	ND (0.17)	ND (1.5)	ND (0.64)	ND (5.7)	ND (0.041)	ND (0.041)
Aroclor-1221 (PCB-1221)	mg/kg	ND (0.08)	ND (0.083)	ND (0.071)	ND (0.17)	ND (1.5)	ND (0.64)	ND (5.7)	ND (0.041)	ND (0.041)
Aroclor-1232 (PCB-1232)	mg/kg	ND (0.08)	ND (0.083)	ND (0.071)	ND (0.17)	ND (1.5)	ND (0.64)	ND (5.7)	ND (0.041)	ND (0.041)
Aroclor-1242 (PCB-1242)	mg/kg	ND (0.08)	ND (0.083)	ND (0.071)	ND (0.17)	27	9.6	81	ND (0.041)	ND (0.041)
Aroclor-1248 (PCB-1248)	mg/kg	ND (0.08)	ND (0.083)	ND (0.071)	1	ND (1.5)	ND (0.64)	ND (5.7)	0.31	0.25
Aroclor-1254 (PCB-1254)	mg/kg	ND (0.08)	0.28	0.12	ND (0.17)	27	13	ND (5.7)	ND (0.041)	ND (0.041)
Aroclor-1260 (PCB-1260)	mg/kg	0.42	ND (0.083)	ND (0.071)	0.45	ND (1.5)	ND (0.64)	ND (5.7)	0.24	0.2
Total PCBs	mg/kg	-	-	-	-	-	-	-	-	-
General Chemistry										
Cyanide (total)	mg/kg	0.55 J	6.5	1.5	0.68 J	2.9	1.5	ND (0.86)	ND (0.62)	ND (0.63)
Total Solids	%	41.5	39.7	46.4	39.6	43.3	51.2	58.4	80.0	79.7

Notes:

ND - Not detected.
J - Estimated value.
UJ - Estimated reporting detection limit.
R - Rejected.

TABLE 2A

ANALYTICAL RESULTS SUMMARY
STORM SEWER SEDIMENT SAMPLES BETWEEN WEBSTER AND TAYLOR STREETS
HARRISON DAYTON

Sample ID:		*MH-4_Abandoned*	*MH-5_Abandoned*	*MH-6_Abandoned*	*MH-7_Cleaned*	*MH-7_Cleaned*	*MH-8_Cleaned*	*MH-8_Cleaned*	*MH-9_Cleaned*	*MH-9_Cleaned*	*MH-10_Cleaned*
Sample Date:		*SESS-101005-LB-004*	*SESS-101304-NZ-018*	*SESS-101304-NZ-017*	*SE-040402-SLE-001*	*SESS-101304-NZ-016*	*SE-040402-SLE-002*	*SESS-101304-NZ-013*	*SE-040502-SLE-003*	*SESS-101304-NZ-012*	*SESS-102405-JC-0009*
		10/10/2005	*10/13/2004*	*10/13/2004*	*4/4/2002*	*10/13/2004*	*4/4/2002*	*10/13/2004*	*4/5/2002*	*10/13/2004*	*10/24/2005*
Parameters	***Units***										
Volatile Organic Compounds											
1,1,1-Trichloroethane	mg/kg	ND (0.0078)	ND (0.012)	ND (0.006)	ND (0.29)	ND (0.0058)	ND (0.0069)	ND (0.0058)	ND (0.48)	ND (0.0082)	ND (0.0061)
1,1,2,2-Tetrachloroethane	mg/kg	ND (0.0078)	ND (0.012)	ND (0.006)	ND (0.29)	ND (0.0058)	ND (0.0069)	ND (0.0058)	ND (0.48)	ND (0.0082)	ND (0.0061)
1,1,2-Trichloroethane	mg/kg	ND (0.0078)	ND (0.012)	ND (0.006)	ND (0.29)	ND (0.0058)	ND (0.0069)	ND (0.0058)	ND (0.48)	ND (0.0082)	ND (0.0061)
1,1-Dichloroethane	mg/kg	ND (0.0078)	ND (0.012)	ND (0.006)	ND (0.29)	ND (0.0058)	ND (0.0069)	ND (0.0058)	ND (0.48)	ND (0.0082)	ND (0.0061)
1,1-Dichloroethene	mg/kg	ND (0.0078)	ND (0.012)	ND (0.006)	ND (0.29)	ND (0.0058)	ND (0.0069)	ND (0.0058)	ND (0.48)	ND (0.0082)	ND (0.0061)
1,2,4-Trichlorobenzene	mg/kg	ND (0.0078) UJ	ND (0.012) UJ	ND (0.006)	ND (0.29)	ND (0.0058)	ND (0.0069)	ND (0.0058)	ND (0.48)	ND (0.0082) UJ	ND (0.0061)
1,2-Dibromo-3-chloropropane (DBCP)	mg/kg	ND (0.016) UJ	ND (0.024) UJ	ND (0.012)	ND (0.57)	ND (0.012)	ND (0.014)	ND (0.012)	ND (0.97)	ND (0.016) UJ	ND (0.012) UJ
1,2-Dibromoethane (Ethylene Dibromide)	mg/kg	ND (0.0078)	ND (0.012)	ND (0.006)	ND (0.29)	ND (0.0058)	ND (0.0069)	ND (0.0058)	ND (0.48)	ND (0.0082)	ND (0.0061)
1,2-Dichlorobenzene	mg/kg	ND (0.0078) UJ	ND (0.012) UJ	ND (0.006)	ND (0.29)	ND (0.0058)	ND (0.0069)	ND (0.0058)	ND (0.48)	ND (0.0082) UJ	ND (0.0061)
1,2-Dichloroethane	mg/kg	ND (0.0078)	ND (0.012)	ND (0.006)	ND (0.29)	ND (0.0058)	ND (0.0069)	ND (0.0058)	ND (0.48)	ND (0.0082)	ND (0.0061)
1,2-Dichloropropane	mg/kg	ND (0.0078)	ND (0.012)	ND (0.006)	ND (0.29)	ND (0.0058)	ND (0.0069)	ND (0.0058)	ND (0.48)	ND (0.0082)	ND (0.0061)
1,3-Dichlorobenzene	mg/kg	ND (0.0078) UJ	ND (0.012) UJ	ND (0.006)	ND (0.29)	ND (0.0058)	ND (0.0069)	ND (0.0058)	ND (0.48)	ND (0.0082) UJ	ND (0.0061)
1,4-Dichlorobenzene	mg/kg	ND (0.0078) UJ	ND (0.012) UJ	ND (0.006)	ND (0.29)	ND (0.0058)	0.0011 J	ND (0.0058)	ND (0.48)	ND (0.0082) UJ	ND (0.0061)
2-Butanone (Methyl Ethyl Ketone)	mg/kg	0.0031 J	ND (0.048)	ND (0.024)	ND (1.1)	ND (0.023)	ND (0.028)	ND (0.023)	ND (1.9)	ND (0.033)	ND (0.024) UJ
2-Hexanone	mg/kg	ND (0.031)	ND (0.048) UJ	ND (0.024) UJ	ND (1.1)	ND (0.023) UJ	ND (0.028)	ND (0.023) UJ	ND (1.9)	ND (0.033)	ND (0.024) UJ
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	mg/kg	ND (0.031)	ND (0.048)	ND (0.024)	ND (1.1)	ND (0.023)	ND (0.028)	ND (0.023)	ND (1.9)	ND (0.033)	ND (0.024) UJ
Acetone	mg/kg	0.014 J	ND (0.048) UJ	ND (0.024) UJ	ND (1.1)	ND (0.023) UJ	ND (0.028) UJ	ND (0.023) UJ	ND (1.9)	0.0094 J	ND (0.024) UJ
Benzene	mg/kg	0.00066 J	ND (0.012)	ND (0.006)	ND (0.29)	ND (0.0058)	ND (0.0069)	ND (0.0058)	ND (0.48)	ND (0.0082)	ND (0.0061)
Bromodichloromethane	mg/kg	ND (0.0078)	ND (0.012)	ND (0.006)	ND (0.29)	ND (0.0058)	ND (0.0069)	ND (0.0058)	ND (0.48)	ND (0.0082)	ND (0.0061)
Bromoform	mg/kg	ND (0.0078)	ND (0.012)	ND (0.006)	ND (0.29)	ND (0.0058)	ND (0.0069) UJ	ND (0.0058)	ND (0.48)	ND (0.0082)	ND (0.0061)
Bromomethane (Methyl Bromide)	mg/kg	ND (0.0078)	ND (0.012)	ND (0.006)	ND (0.29)	ND (0.0058)	ND (0.0069) UJ	ND (0.0058)	ND (0.48)	ND (0.0082)	ND (0.0061) UJ
Carbon disulfide	mg/kg	0.0018 J	ND (0.012)	ND (0.006)	ND (0.29)	ND (0.0058)	ND (0.0069)	ND (0.0058)	ND (0.48)	ND (0.0082)	ND (0.0061)
Carbon tetrachloride	mg/kg	ND (0.0078)	ND (0.012)	ND (0.006)	ND (0.29)	ND (0.0058)	ND (0.0069) UJ	ND (0.0058)	ND (0.48)	ND (0.0082)	ND (0.0061)
Chlorobenzene	mg/kg	ND (0.0078)	ND (0.012)	ND (0.006)	ND (0.29)	ND (0.0058)	ND (0.0069)	ND (0.0058)	ND (0.48)	ND (0.0082)	ND (0.0061)
Chloroethane	mg/kg	ND (0.0078)	ND (0.012)	ND (0.006)	ND (0.29)	ND (0.0058)	ND (0.0069)	ND (0.0058)	ND (0.48)	ND (0.0082)	ND (0.0061) UJ
Chloroform (Trichloromethane)	mg/kg	ND (0.0078)	ND (0.012)	ND (0.006)	ND (0.29)	ND (0.0058)	ND (0.0069)	ND (0.0058)	ND (0.48)	ND (0.0082)	ND (0.0061)
Chloromethane (Methyl Chloride)	mg/kg	ND (0.0078)	ND (0.012)	ND (0.006)	ND (0.29)	ND (0.0058)	ND (0.0069)	ND (0.0058)	ND (0.48)	ND (0.0082)	ND (0.0061)
cis-1,2-Dichloroethene	mg/kg	0.0061 J	ND (0.012)	0.00092 J	ND (0.14)	ND (0.0058)	ND (0.0035)	ND (0.0058)	ND (0.24)	0.0073 J	0.001 J
cis-1,3-Dichloropropene	mg/kg	ND (0.0078)	ND (0.012)	ND (0.006)	ND (0.29)	ND (0.0058)	ND (0.0069)	ND (0.0058)	ND (0.48)	ND (0.0082)	ND (0.0061)
Cyclohexane	mg/kg	0.0008 J	ND (0.024)	ND (0.012)	ND (0.57)	ND (0.012)	ND (0.014)	ND (0.012)	ND (0.97)	ND (0.016)	ND (0.012)
Dibromochloromethane	mg/kg	ND (0.0078)	ND (0.012)	ND (0.006)	ND (0.29)	ND (0.0058)	ND (0.0069)	ND (0.0058)	ND (0.48)	ND (0.0082)	ND (0.0061)
Dichlorodifluoromethane (CFC-12)	mg/kg	ND (0.0078)	ND (0.012)	ND (0.006)	ND (0.29) UJ	ND (0.0058)	ND (0.0069)	ND (0.0058)	ND (0.48) UJ	ND (0.0082) UJ	ND (0.0061)
Ethylbenzene	mg/kg	ND (0.0078)	0.0033 J	ND (0.006)	ND (0.29)	ND (0.0058)	ND (0.0069)	ND (0.0058)	ND (0.48)	ND (0.0082)	ND (0.0061)
Isopropylbenzene	mg/kg	ND (0.0078)	ND (0.012)	ND (0.006)	ND (0.29)	ND (0.0058)	ND (0.0069)	ND (0.0058)	ND (0.48)	ND (0.0082)	ND (0.0061)
Methyl acetate	mg/kg	ND (0.016)	ND (0.024)	ND (0.012)	0.066 J	ND (0.012)	ND (0.014)	ND (0.012)	0.42 J	ND (0.016)	ND (0.012)
Methyl cyclohexane	mg/kg	ND (0.016)	ND (0.024)	ND (0.012)	ND (0.57)	ND (0.012)	ND (0.014)	ND (0.012)	ND (0.97)	ND (0.016)	ND (0.012)
Methyl Tert Butyl Ether	mg/kg	ND (0.031)	ND (0.048)	ND (0.024)	ND (1.1)	ND (0.023)	ND (0.028)	ND (0.023)	ND (1.9)	ND (0.033)	ND (0.024)
Methylene chloride	mg/kg	ND (0.0078)	ND (0.012)	ND (0.006)	ND (0.29)	ND (0.0058)	ND (0.0069)	ND (0.0058)	ND (0.48)	0.0057 J	ND (0.0061)
Styrene	mg/kg	ND (0.0078)	ND (0.012)	ND (0.006)	ND (0.29)	ND (0.0058)	ND (0.0069)	ND (0.0058)	ND (0.48)	ND (0.0082)	ND (0.0061)
Tetrachloroethene	mg/kg	0.0075 J	0.052	ND (0.006)	0.43	ND (0.0058)	0.036	0.0082	3.7	0.13	0.0042 J
Toluene	mg/kg	0.00079 J	ND (0.012)	ND (0.006)	ND (0.29)	ND (0.0058)	ND (0.0069)	ND (0.0058)	ND (0.48)	ND (0.0082)	ND (0.0061)
trans-1,2-Dichloroethene	mg/kg	ND (0.0078)	ND (0.012)	ND (0.006)	ND (0.14)	ND (0.0058)	ND (0.0035)	ND (0.0058)	ND (0.24)	ND (0.0082)	ND (0.0061)
trans-1,3-Dichloropropene	mg/kg	ND (0.0078)	ND (0.012)	ND (0.006)	ND (0.29)	ND (0.0058)	ND (0.0069)	ND (0.0058)	ND (0.48)	ND (0.0082)	ND (0.0061)
Trichloroethene	mg/kg	0.0035 J	0.0025 J	0.00096 J	ND (0.29)	ND (0.0058)	ND (0.0069)	ND (0.0058)	0.076 J	0.012	0.001 J
Trichlorofluoromethane (CFC-11)	mg/kg	0.0025 J	ND (0.012)	ND (0.006)	ND (0.29)	ND (0.0058)	ND (0.0069)	ND (0.0058)	ND (0.48)	ND (0.0082)	0.0013 J
Trifluorotrichloroethane (Freon 113)	mg/kg	ND (0.0078)	ND (0.012)	ND (0.006)	ND (0.29)	ND (0.0058)	ND (0.0069)	ND (0.0058)	ND (0.48)	ND (0.0082)	ND (0.0061)
Vinyl chloride	mg/kg	ND (0.0078)	ND (0.012)	ND (0.006)	ND (0.29)	ND (0.0058)	ND (0.0069)	ND (0.0058)	ND (0.48)	ND (0.0082)	ND (0.0061)
Xylene (total)	mg/kg	ND (0.016)	0.014 J	ND (0.012)	ND (0.57)	ND (0.012)	ND (0.014)	ND (0.012)	ND (0.97)	ND (0.016)	ND (0.012)

TABLE 2A

ANALYTICAL RESULTS SUMMARY
STORM SEWER SEDIMENT SAMPLES BETWEEN WEBSTER AND TAYLOR STREETS
HARRISON DAYTON

Sample ID:		*MH-4_Abandoned*	*MH-5_Abandoned*	*MH-6_Abandoned*	*MH-7_Cleaned*	*MH-7_Cleaned*	*MH-8_Cleaned*	*MH-8_Cleaned*	*MH-9_Cleaned*	*MH-9_Cleaned*	*MH-10_Cleaned*
Sample Date:		*SESS-101005-LB-004*	*SESS-101304-NZ-018*	*SESS-101304-NZ-017*	*SE-040402-SLE-001*	*SESS-101304-NZ-016*	*SE-040402-SLE-002*	*SESS-101304-NZ-013*	*SE-040502-SLE-003*	*SESS-101304-NZ-012*	*SESS-102405-JC-0009*
		10/10/2005	*10/13/2004*	*10/13/2004*	*4/4/2002*	*10/13/2004*	*4/4/2002*	*10/13/2004*	*4/5/2002*	*10/13/2004*	*10/24/2005*
Parameters	***Units***										
Semi-Volatile Organic Compounds											
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	mg/kg	ND (100)	ND (40)	ND (10)	ND (0.4)	ND (3.9)	ND (0.79)	ND (1.4)	ND (1.6)	ND (27)	ND (1.6)
2,4,5-Trichlorophenol	mg/kg	ND (100)	ND (40)	ND (10)	ND (0.4)	ND (3.9)	ND (0.79)	ND (1.4)	ND (1.6)	ND (27)	ND (1.6)
2,4,6-Trichlorophenol	mg/kg	ND (100)	ND (40)	ND (10)	ND (0.4)	ND (3.9)	ND (0.79)	ND (1.4)	ND (1.6)	ND (27)	ND (1.6)
2,4-Dichlorophenol	mg/kg	ND (100) UJ	ND (40)	ND (10)	ND (0.4)	ND (3.9)	ND (0.79)	ND (1.4)	ND (1.6)	ND (27)	ND (1.6)
2,4-Dimethylphenol	mg/kg	ND (100) UJ	ND (40)	ND (10)	ND (0.4)	ND (3.9)	ND (0.79)	ND (1.4)	ND (1.6)	ND (27)	ND (1.6)
2,4-Dinitrophenol	mg/kg	ND (500)	ND (190)	ND (48)	ND (1.9)	ND (19)	ND (3.8)	ND (6.5)	ND (7.6) UJ	ND (130)	ND (7.9)
2,4-Dinitrotoluene	mg/kg	ND (100)	ND (40)	ND (10)	ND (0.4)	ND (3.9)	ND (0.79)	ND (1.4)	ND (1.6)	ND (27)	ND (1.6)
2,6-Dinitrotoluene	mg/kg	ND (100)	ND (40)	ND (10)	ND (0.4)	ND (3.9)	ND (0.79)	ND (1.4)	ND (1.6)	ND (27)	ND (1.6)
2-Chloronaphthalene	mg/kg	ND (100)	ND (40)	ND (10)	ND (0.4)	ND (3.9)	ND (0.79)	ND (1.4)	ND (1.6)	ND (27)	ND (1.6)
2-Chlorophenol	mg/kg	ND (100)	ND (40)	ND (10)	ND (0.4)	ND (3.9)	ND (0.79)	ND (1.4)	ND (1.6)	ND (27)	ND (1.6)
2-Methylnaphthalene	mg/kg	ND (100)	5 J	0.85 J	ND (0.4)	ND (3.9)	0.27 J	0.1 J	ND (1.6)	ND (27)	ND (1.6)
2-Methylphenol	mg/kg	ND (100)	ND (40)	ND (10)	ND (0.4)	ND (3.9)	ND (0.79)	ND (1.4)	ND (1.6)	ND (27)	ND (1.6)
2-Nitroaniline	mg/kg	ND (500)	ND (190)	ND (48)	ND (1.9)	ND (19)	ND (3.8)	ND (6.5)	ND (7.6)	ND (130)	ND (7.9)
2-Nitrophenol	mg/kg	ND (100)	ND (40)	ND (10)	ND (0.4)	ND (3.9)	ND (0.79)	ND (1.4)	ND (1.6)	ND (27)	ND (1.6)
3,3'-Dichlorobenzidine	mg/kg	ND (500)	ND (190)	ND (48)	ND (1.9)	ND (19)	ND (3.8)	ND (6.5)	ND (7.6)	ND (130)	ND (7.9)
3-Nitroaniline	mg/kg	ND (500)	ND (190)	ND (48)	ND (1.9)	ND (19)	ND (3.8)	ND (6.5)	ND (7.6)	ND (130)	ND (7.9)
4,6-Dinitro-2-methylphenol	mg/kg	ND (500)	ND (190)	ND (48)	ND (1.9)	ND (19)	ND (3.8)	ND (6.5)	ND (7.6)	ND (130)	ND (7.9)
4-Bromophenyl phenyl ether	mg/kg	ND (100)	ND (40)	ND (10)	ND (0.4)	ND (3.9)	ND (0.79)	ND (1.4)	ND (1.6)	ND (27)	ND (1.6)
4-Chloro-3-methylphenol	mg/kg	ND (100)	ND (40)	ND (10)	ND (0.4)	ND (3.9)	ND (0.79)	ND (1.4)	ND (1.6)	ND (27)	ND (1.6)
4-Chloroaniline	mg/kg	ND (100)	ND (40)	ND (10)	ND (0.4)	ND (3.9)	ND (0.79)	ND (1.4)	ND (1.6)	ND (27)	ND (1.6)
4-Chlorophenyl phenyl ether	mg/kg	ND (100)	ND (40)	ND (10)	ND (0.4)	ND (3.9)	ND (0.79)	ND (1.4)	ND (1.6)	ND (27)	ND (1.6)
4-Methylphenol	mg/kg	ND (100)	ND (40)	ND (10)	ND (0.4)	ND (3.9)	ND (0.79)	ND (1.4)	ND (1.6)	ND (27)	ND (1.6)
4-Nitroaniline	mg/kg	ND (500)	ND (190)	ND (48)	ND (1.9)	ND (19)	ND (3.8)	ND (6.5)	ND (7.6)	ND (130)	ND (7.9)
4-Nitrophenol	mg/kg	ND (500) UJ	ND (190)	ND (48)	ND (1.9)	ND (19)	ND (3.8)	ND (6.5)	ND (7.6)	ND (130)	ND (7.9)
Acenaphthene	mg/kg	ND (100)	21 J	2.6 J	ND (0.4)	ND (3.9)	0.56 J	0.37 J	ND (1.6)	ND (27)	ND (1.6)
Acenaphthylene	mg/kg	ND (100)	ND (40)	ND (10)	ND (0.4)	ND (3.9)	ND (0.79)	0.13 J	ND (1.6)	ND (27)	ND (1.6)
Acetophenone	mg/kg	ND (100)	ND (40)	ND (10)	ND (0.4)	ND (3.9)	ND (0.79)	ND (1.4)	ND (1.6)	ND (27)	ND (1.6)
Anthracene	mg/kg	ND (100)	29 J	2.6 J	ND (0.4)	0.38 J	0.67 J	0.56 J	0.3 J	ND (27)	0.054 J
Atrazine	mg/kg	ND (100)	ND (40)	ND (10)	ND (0.4)	ND (3.9)	ND (0.79)	ND (1.4)	ND (1.6)	ND (27)	ND (1.6)
Benzaldehyde	mg/kg	ND (100)	ND (40)	ND (10)	ND (0.4)	ND (3.9)	ND (0.79)	ND (1.4)	ND (1.6)	ND (27)	ND (1.6)
Benzo(a)anthracene	mg/kg	7.9 J	33 J	7 J	0.15 J	0.7 J	1.3	1.6	0.86 J	ND (27)	0.19 J
Benzo(a)pyrene	mg/kg	6.9 J	27 J	6.6 J	0.19 J	0.79 J	1.2	1.6	0.87 J	ND (27)	0.12 J
Benzo(b)fluoranthene	mg/kg	7.6 J	39 J	9 J	0.24 J	1.3 J	1.7	3.1	1 J	2.1 J	0.21 J
Benzo(g,h,i)perylene	mg/kg	4.1 J	15 J	4.1 J	0.11 J	0.83 J	0.48 J	0.93 J	0.7 J	ND (27)	0.1 J
Benzo(k)fluoranthene	mg/kg	4.9 J	12 J	3.9 J	0.16 J	0.44 J	0.79	0.49 J	0.6 J	ND (27)	0.071 J
Biphenyl	mg/kg	ND (100)	ND (40)	ND (10)	ND (0.4)	ND (3.9)	ND (0.79)	ND (1.4)	ND (1.6)	ND (27)	ND (1.6)
bis(2-Chloroethoxy)methane	mg/kg	ND (100) UJ	ND (40)	ND (10)	ND (0.4)	ND (3.9)	ND (0.79)	ND (1.4)	ND (1.6)	ND (27)	ND (1.6)
bis(2-Chloroethyl)ether	mg/kg	ND (100)	ND (40)	ND (10)	ND (0.4)	ND (3.9)	ND (0.79)	ND (1.4)	ND (1.6)	ND (27)	ND (1.6)
bis(2-Ethylhexyl)phthalate	mg/kg	1400	9.6 J	ND (10)	0.19 J	1.3 J	4.7	2.9	0.38 J	12 J	0.49 J
Butyl benzylphthalate	mg/kg	ND (100)	5 J	ND (10)	ND (0.4)	1.4 J	5.6	ND (1.4)	0.27 J	18 J	ND (1.6)
Caprolactam	mg/kg	ND (100)	ND (40)	ND (10)	ND (0.4) UJ	ND (3.9)	ND (0.79) UJ	ND (1.4)	ND (1.6)	ND (27)	ND (1.6)
Carbazole	mg/kg	ND (100)	17 J	3.2 J	ND (0.4)	ND (3.9)	0.78 J	0.52 J	0.29 J	ND (27)	ND (1.6)
Chrysene	mg/kg	7.5 J	35 J	7.8 J	0.21 J	0.95 J	1.6	1.8	1.1 J	1.8 J	0.22 J
Dibenz(a,h)anthracene	mg/kg	ND (100)	3 J	1.2 J	ND (0.4)	ND (3.9)	0.15 J	0.25 J	ND (1.6)	ND (27)	ND (1.6)
Dibenzofuran	mg/kg	ND (100)	14 J	1.9 J	ND (0.4)	ND (3.9)	0.68 J	0.21 J	ND (1.6)	ND (27)	ND (1.6)
Diethyl phthalate	mg/kg	ND (100)	ND (40)	ND (10)	ND (0.4)	ND (3.9)	ND (0.79)	ND (1.4)	ND (1.6)	ND (27)	ND (1.6)
Dimethyl phthalate	mg/kg	ND (100)	ND (40)	ND (10)	ND (0.4)	ND (3.9)	ND (0.79)	ND (1.4)	ND (1.6)	ND (27)	ND (1.6)
Di-n-butylphthalate	mg/kg	ND (100)	ND (40)	ND (10)	ND (0.4)	ND (3.9)	ND (0.79)	ND (1.4)	ND (1.6)	ND (27)	ND (1.6)
Di-n-octyl phthalate	mg/kg	230	ND (40)	ND (10)	ND (0.4)	ND (3.9)	1.4	ND (1.4)	ND (1.6)	7.1 J	ND (1.6)
Fluoranthene	mg/kg	20 J	110	23	0.37 J	1.7 J	3.9	4.6	2.2	2.5 J	0.43 J
Fluorene	mg/kg	ND (100)	22 J	2.9 J	ND (0.4)	ND (3.9)	0.64 J	0.37 J	ND (1.6)	ND (27)	ND (1.6)
Hexachlorobenzene	mg/kg	ND (100)	ND (40)	ND (10)	ND (0.4)	ND (3.9)	ND (0.79)	ND (1.4)	ND (1.6)	ND (27)	ND (1.6)
Hexachlorobutadiene	mg/kg	ND (100) UJ	ND (40)	ND (10)	ND (0.4)	ND (3.9)	ND (0.79)	ND (1.4)	ND (1.6)	ND (27)	ND (1.6)

TABLE 2A

ANALYTICAL RESULTS SUMMARY
STORM SEWER SEDIMENT SAMPLES BETWEEN WEBSTER AND TAYLOR STREETS
HARRISON DAYTON

Sample ID:		*MH-4_Abandoned*	*MH-5_Abandoned*	*MH-6_Abandoned*	*MH-7_Cleaned*	*MH-7_Cleaned*	*MH-8_Cleaned*	*MH-8_Cleaned*	*MH-9_Cleaned*	*MH-9_Cleaned*	*MH-10_Cleaned*
Sample Date:		*SESS-101005-LB-004*	*SESS-101304-NZ-018*	*SESS-101304-NZ-017*	*SE-040402-SLE-001*	*SESS-101304-NZ-016*	*SE-040402-SLE-002*	*SESS-101304-NZ-013*	*SE-040502-SLE-003*	*SESS-101304-NZ-012*	*SESS-102405-JC-0009*
		10/10/2005	*10/13/2004*	*10/13/2004*	*4/4/2002*	*10/13/2004*	*4/4/2002*	*10/13/2004*	*4/5/2002*	*10/13/2004*	*10/24/2005*
Parameters	***Units***										
Hexachlorocyclopentadiene	mg/kg	ND (500)	ND (190)	ND (48)	ND (1.9)	ND (19)	ND (3.8)	ND (6.5)	ND (7.6)	ND (130)	ND (7.9)
Hexachloroethane	mg/kg	ND (100) UJ	ND (40)	ND (10)	ND (0.4)	ND (3.9)	ND (0.79)	ND (1.4)	ND (1.6)	ND (27)	ND (1.6) UJ
Indeno(1,2,3-cd)pyrene	mg/kg	ND (100)	14 J	3.6 J	0.1 J	0.6 J	0.53 J	0.83 J	0.61 J	ND (27)	0.085 J
Isophorone	mg/kg	ND (100)	ND (40)	ND (10)	ND (0.4)	ND (3.9)	ND (0.79)	ND (1.4)	ND (1.6)	ND (27)	ND (1.6)
Naphthalene	mg/kg	ND (100) UJ	7 J	1.5 J	ND (0.4)	ND (3.9)	1.1	ND (1.4)	ND (1.6)	ND (27)	ND (1.6)
Nitrobenzene	mg/kg	ND (100) UJ	ND (40)	ND (10)	ND (0.4)	ND (3.9)	ND (0.79)	ND (1.4)	ND (1.6)	ND (27)	ND (1.6)
N-Nitrosodi-n-propylamine	mg/kg	ND (100)	ND (40)	ND (10)	ND (0.4)	ND (3.9)	ND (0.79)	ND (1.4)	ND (1.6)	ND (27)	ND (1.6)
N-Nitrosodiphenylamine	mg/kg	ND (100)	ND (40)	ND (10)	ND (0.4)	ND (3.9)	ND (0.79)	ND (1.4)	ND (1.6)	ND (27)	ND (1.6)
Pentachlorophenol	mg/kg	ND (100)	ND (40)	ND (10)	ND (0.4)	ND (3.9)	ND (0.79)	ND (1.4)	ND (1.6)	ND (27)	ND (1.6)
Phenanthrene	mg/kg	18 J	130	23	0.18 J	1.2 J	6	3.5	2	ND (27)	0.26 J
Phenol	mg/kg	ND (100)	ND (40)	ND (10)	ND (0.4)	ND (3.9)	ND (0.79)	0.17 J	ND (1.6)	ND (27)	ND (1.6)
Pyrene	mg/kg	15 J	77	16	0.28 J	1.4 J	3.7	3	1.8 J	2.7 J	0.38 J
Metals											
Antimony	mg/kg	1.4 J	3.7 J	9.8 J	ND (7.3)	ND (7.0) UJ	0.59 J	17.1 J	ND (7.1) UJ	1.4 J	ND (7.4)
Arsenic	mg/kg	6.1	10.8	5.5	7.0	3.7	6.5	17.1	4.9 J	20.0	5.9
Barium	mg/kg	440 J	352	25.3	39.0	33.7	41.6	190	88.7	327	108 J
Beryllium	mg/kg	ND (0.77)	0.15 J	0.044 J	ND (0.61)	0.055 J	ND (0.60)	ND (0.58)	ND (0.59)	0.49 J	ND (0.61)
Cadmium	mg/kg	5.3 J	21.9	2.1	0.54 J	0.37 J	4.1	24.2	4.9	8.2	2.6
Chromium Total	mg/kg	82.1	128	15.1	12.4	7.9	33.4	162	17.6	79.2	42.7 J
Cobalt	mg/kg	5.2 J	12.7	2.7 J	2.8 J	2.7 J	7.3	69.8	4.8 J	27.9	12.6
Copper	mg/kg	430 J	1320	47.5	27.0	26.2	153	4710	191	8740	160 J
Lead	mg/kg	222	411	44.5	10.8	9.9	37.7	6670	62.9	3140	104
Manganese	mg/kg	343 J	308	329	619	391	596	595	513 J	600	282
Mercury	mg/kg	0.41 J	0.98	ND (0.12)	0.17	ND (0.12)	2.0	8.9	0.63	5.7	0.65 J
Nickel	mg/kg	55.4	70.4 J	7.0 J	8.5	5.6 J	21.3	76.7 J	7.5 J	66.1 J	21.7 J
Selenium	mg/kg	0.28 J	5.1	ND (0.60)	ND (0.61)	ND (0.58)	ND (0.6)	1.6	ND (0.59)	2.0	ND (0.61)
Silver	mg/kg	1.4 J	7.5	ND (1.2)	ND (1.2)	ND (1.2)	2.7	47.2	0.28 J	7.0	0.50 J
Thallium	mg/kg	0.14 J	ND (2.4)	ND (1.2)	ND (2.4)	ND (1.2)	ND (2.2)	ND (2.3)	ND (1.7)	ND (1.6)	0.043 J
Vanadium	mg/kg	14.4	21.6	5.1 J	15.9	5.0 J	6.1	32.6	5.5 J	21.2	9.8
Zinc	mg/kg	1060	2290	2700	73.2	112	194	2070	249 J	1740	834 J
PCBs											
Aroclor-1016 (PCB-1016)	mg/kg	ND (0.051)	ND (1.6)	ND (0.04)	ND (0.04)	ND (0.039)	ND (0.039)	ND (0.077)	ND (0.2)	ND (0.54)	ND (0.081)
Aroclor-1221 (PCB-1221)	mg/kg	ND (0.051)	ND (1.6)	ND (0.04)	ND (0.04)	ND (0.039)	ND (0.039)	ND (0.077)	ND (0.2)	ND (0.54)	ND (0.081)
Aroclor-1232 (PCB-1232)	mg/kg	ND (0.051)	ND (1.6)	ND (0.04)	ND (0.04)	ND (0.039)	ND (0.039)	ND (0.077)	ND (0.2)	ND (0.54)	ND (0.081)
Aroclor-1242 (PCB-1242)	mg/kg	ND (0.051)	ND (1.6)	ND (0.04)	ND (0.04)	ND (0.039)	ND (0.039)	ND (0.077)	ND (0.2)	1.4	ND (0.081)
Aroclor-1248 (PCB-1248)	mg/kg	0.17	13	ND (0.04)	ND (0.04)	ND (0.039)	ND (0.039)	ND (0.077)	ND (0.2)	ND (0.54)	ND (0.081)
Aroclor-1254 (PCB-1254)	mg/kg	ND (0.051)	ND (1.6)	0.19 J	0.18	0.27	0.24	0.92 J	1.1	4.6	0.79
Aroclor-1260 (PCB-1260)	mg/kg	0.31	ND (1.6)	ND (0.04)	ND (0.04)	ND (0.039)	ND (0.039)	ND (0.077)	ND (0.2)	ND (0.54)	ND (0.081)
Total PCBs	mg/kg	-	-	-	-	-	-	-	-	-	-
General Chemistry											
Cyanide (total)	mg/kg	0.39 J	0.73 J	ND (0.60)	ND (0.61)	ND (0.58)	0.29 J	ND (0.58)	ND (0.59)	0.63 J	-
Total Solids	%	64.6	41.4	82.8	82.2	85.6	83.9	85.5	84.6	61.2	81.4

Notes:

ND - Not detected.
J - Estimated value.
UJ - Estimated reporting detection limit.
R - Rejected.

TABLE 2A

ANALYTICAL RESULTS SUMMARY
STORM SEWER SEDIMENT SAMPLES BETWEEN WEBSTER AND TAYLOR STREETS
HARRISON DAYTON

Sample ID:		*MH-10_Cleaned*	*MH-11_Cleaned*	*MH-11_Cleaned*	*MH-12_Abandoned*	*MH-13_Cleaned*	*MH-14_Cleaned*	*MH-15_Abandoned*	*MH-16_Abandoned*	*MH-17_Abandoned*	*MH-17_Abandoned*
Sample Date:		*SESS-102405-JC-0010*	*SE-040502-SLE-004*	*SESS-101304-NZ-011*	*SESS-101304-NZ-010*	*SESS-102405-JC-0011*	*SE-040502-SLE-005*	*SESS-101304-NZ-008*	*SESS-101304-NZ-009*	*SE-062705-DN-0002*	*SESS-102005-NZ-0003*
		10/24/2005	*4/5/2002*	*10/13/2004*	*10/13/2004*	*10/24/2005*	*4/5/2002*	*10/13/2004*	*10/13/2004*	*6/27/2005*	*10/20/2005*
		(Dup)									
Parameters	***Units***										
Volatile Organic Compounds											
1,1,1-Trichloroethane	mg/kg	ND (0.007)	ND (0.0065)	ND (0.028)	ND (0.0079)	ND (0.43)	ND (0.0069)	ND (0.0066)	ND (0.0063)	ND (0.0055)	ND (0.0054)
1,1,2,2-Tetrachloroethane	mg/kg	ND (0.007)	ND (0.0065)	ND (0.028)	ND (0.0079)	ND (0.43)	ND (0.0069)	ND (0.0066)	ND (0.0063)	ND (0.0055)	ND (0.0054)
1,1,2-Trichloroethane	mg/kg	ND (0.007)	ND (0.0065)	ND (0.028)	ND (0.0079)	ND (0.43)	ND (0.0069)	ND (0.0066)	ND (0.0063)	ND (0.0055) UJ	ND (0.0054)
1,1-Dichloroethane	mg/kg	ND (0.007)	ND (0.0065)	ND (0.028)	ND (0.0079)	ND (0.43)	ND (0.0069)	ND (0.0066)	ND (0.0063)	ND (0.0055)	ND (0.0054)
1,1-Dichloroethene	mg/kg	ND (0.007)	ND (0.0065)	ND (0.028)	ND (0.0079)	0.023 J	ND (0.0069)	ND (0.0066)	ND (0.0063)	ND (0.0055)	ND (0.0054)
1,2,4-Trichlorobenzene	mg/kg	ND (0.007)	ND (0.0065)	ND (0.028) UJ	ND (0.0079)	ND (0.43)	ND (0.0069)	ND (0.0066) UJ	ND (0.0063)	ND (0.0055)	ND (0.0054)
1,2-Dibromo-3-chloropropane (DBCP)	mg/kg	ND (0.014) UJ	ND (0.013)	ND (0.056) UJ	ND (0.016)	ND (0.85) UJ	ND (0.014) UJ	ND (0.013) UJ	ND (0.013)	ND (0.011)	ND (0.011)
1,2-Dibromoethane (Ethylene Dibromide)	mg/kg	ND (0.007)	ND (0.0065)	ND (0.028)	ND (0.0079)	ND (0.43)	ND (0.0069)	ND (0.0066)	ND (0.0063)	ND (0.0055)	ND (0.0054)
1,2-Dichlorobenzene	mg/kg	ND (0.007)	ND (0.0065)	ND (0.028) UJ	ND (0.0079)	ND (0.43)	ND (0.0069)	ND (0.0066) UJ	ND (0.0063)	ND (0.0055)	ND (0.0054)
1,2-Dichloroethane	mg/kg	ND (0.007)	ND (0.0065)	ND (0.028)	ND (0.0079)	ND (0.43)	ND (0.0069)	ND (0.0066)	ND (0.0063)	ND (0.0055)	ND (0.0054)
1,2-Dichloropropane	mg/kg	ND (0.007)	ND (0.0065)	ND (0.028)	ND (0.0079)	ND (0.43)	ND (0.0069)	ND (0.0066)	ND (0.0063)	ND (0.0055)	ND (0.0054)
1,3-Dichlorobenzene	mg/kg	ND (0.007)	ND (0.0065)	ND (0.028) UJ	ND (0.0079)	ND (0.43)	ND (0.0069)	ND (0.0066) UJ	ND (0.0063)	ND (0.0055)	ND (0.0054)
1,4-Dichlorobenzene	mg/kg	ND (0.007)	ND (0.0065)	ND (0.028) UJ	ND (0.0079)	ND (0.43)	ND (0.0069)	ND (0.0066) UJ	ND (0.0063)	ND (0.0055)	ND (0.0054)
2-Butanone (Methyl Ethyl Ketone)	mg/kg	ND (0.028) UJ	ND (0.026)	ND (0.11)	ND (0.031)	ND (1.7) UJ	ND (0.028)	ND (0.027)	ND (0.025)	ND (0.022)	ND (0.021)
2-Hexanone	mg/kg	ND (0.028) UJ	ND (0.026)	ND (0.11) UJ	ND (0.031) UJ	ND (1.7) UJ	ND (0.028)	ND (0.027) UJ	ND (0.025) UJ	ND (0.022)	ND (0.021)
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	mg/kg	ND (0.028) UJ	ND (0.026)	0.0097 J	ND (0.031)	ND (1.7) UJ	ND (0.028)	ND (0.027)	ND (0.025)	ND (0.022)	ND (0.021)
Acetone	mg/kg	ND (0.028) UJ	ND (0.026) UJ	0.044 J	ND (0.031) UJ	ND (1.7) UJ	ND (0.028) UJ	ND (0.027) UJ	ND (0.025) UJ	ND (0.022) UJ	ND (0.021) UJ
Benzene	mg/kg	ND (0.007)	ND (0.0065)	ND (0.028)	ND (0.0079)	ND (0.43)	ND (0.0069)	ND (0.0066)	ND (0.0063)	ND (0.0055)	ND (0.0054)
Bromodichloromethane	mg/kg	ND (0.007)	ND (0.0065)	ND (0.028)	ND (0.0079)	ND (0.43)	ND (0.0069)	ND (0.0066)	ND (0.0063)	ND (0.0055)	ND (0.0054)
Bromoform	mg/kg	ND (0.007)	ND (0.0065) UJ	ND (0.028)	ND (0.0079)	ND (0.43)	ND (0.0069) UJ	ND (0.0066)	ND (0.0063)	ND (0.0055)	ND (0.0054)
Bromomethane (Methyl Bromide)	mg/kg	ND (0.007) UJ	ND (0.0065) UJ	ND (0.028)	ND (0.0079)	R	ND (0.0069)	ND (0.0066)	ND (0.0063)	ND (0.0055) UJ	ND (0.0054)
Carbon disulfide	mg/kg	ND (0.007)	ND (0.0065)	0.0084 J	ND (0.0079)	ND (0.43)	ND (0.0069)	ND (0.0066)	ND (0.0063)	ND (0.0055)	ND (0.0054)
Carbon tetrachloride	mg/kg	ND (0.007)	ND (0.0065) UJ	ND (0.028)	ND (0.0079)	ND (0.43)	ND (0.0069)	ND (0.0066)	ND (0.0063)	ND (0.0055)	ND (0.0054)
Chlorobenzene	mg/kg	ND (0.007)	ND (0.0065)	ND (0.028)	ND (0.0079)	ND (0.43)	ND (0.0069)	ND (0.0066)	ND (0.0063)	ND (0.0055)	ND (0.0054)
Chloroethane	mg/kg	ND (0.007) UJ	ND (0.0065)	ND (0.028)	ND (0.0079)	ND (0.43) UJ	ND (0.0069)	ND (0.0066)	ND (0.0063)	ND (0.0055)	ND (0.0054)
Chloroform (Trichloromethane)	mg/kg	ND (0.007)	ND (0.0065)	ND (0.028)	ND (0.0079)	ND (0.43)	ND (0.0069)	ND (0.0066)	ND (0.0063)	ND (0.0055)	ND (0.0054)
Chloromethane (Methyl Chloride)	mg/kg	ND (0.007)	ND (0.0065)	ND (0.028)	ND (0.0079)	ND (0.43)	ND (0.0069)	ND (0.0066)	ND (0.0063)	ND (0.0055)	ND (0.0054)
cis-1,2-Dichloroethene	mg/kg	0.00095 J	0.0028 J	0.23	ND (0.0079)	9.5 J	0.7	ND (0.0066)	ND (0.0063)	ND (0.0055)	ND (0.0054)
cis-1,3-Dichloropropene	mg/kg	ND (0.007)	ND (0.0065)	ND (0.028)	ND (0.0079)	ND (0.43)	ND (0.0069)	ND (0.0066)	ND (0.0063)	ND (0.0055)	ND (0.0054)
Cyclohexane	mg/kg	ND (0.014)	ND (0.013)	ND (0.056)	ND (0.016)	ND (0.85)	ND (0.014)	ND (0.013)	ND (0.013)	ND (0.011)	ND (0.011)
Dibromochloromethane	mg/kg	ND (0.007)	ND (0.0065)	ND (0.028)	ND (0.0079)	ND (0.43)	ND (0.0069)	ND (0.0066)	ND (0.0063)	ND (0.0055)	ND (0.0054)
Dichlorodifluoromethane (CFC-12)	mg/kg	ND (0.007)	ND (0.0065)	ND (0.028)	ND (0.0079)	ND (0.43)	ND (0.0069)	ND (0.0066)	ND (0.0063)	ND (0.0055)	ND (0.0054)
Ethylbenzene	mg/kg	ND (0.007)	ND (0.0065)	ND (0.028)	0.0036 J	0.034 J	ND (0.0069)	ND (0.0066)	ND (0.0063)	ND (0.0055)	ND (0.0054)
Isopropylbenzene	mg/kg	ND (0.007)	ND (0.0065)	ND (0.028)	ND (0.0079)	ND (0.43)	ND (0.0069)	ND (0.0066)	ND (0.0063)	ND (0.0055)	ND (0.0054)
Methyl acetate	mg/kg	ND (0.014)	ND (0.013)	ND (0.056)	ND (0.016)	ND (0.85)	ND (0.014)	ND (0.013)	ND (0.013)	ND (0.011)	ND (0.011)
Methyl cyclohexane	mg/kg	ND (0.014)	ND (0.013)	ND (0.056)	ND (0.016)	0.14 J	ND (0.014)	ND (0.013)	ND (0.013)	ND (0.011)	ND (0.011)
Methyl Tert Butyl Ether	mg/kg	ND (0.028)	ND (0.026)	ND (0.11)	ND (0.031)	ND (1.7)	ND (0.028)	ND (0.027)	ND (0.025)	ND (0.022)	ND (0.021)
Methylene chloride	mg/kg	ND (0.007)	ND (0.0065)	ND (0.028)	0.0043 J	ND (0.43)	ND (0.0069)	0.0073	0.0044 J	ND (0.0076)	ND (0.0054)
Styrene	mg/kg	ND (0.007)	ND (0.0065)	ND (0.028)	ND (0.0079)	0.093 J	ND (0.0069)	ND (0.0066)	ND (0.0063)	ND (0.0055)	ND (0.0054)
Tetrachloroethene	mg/kg	0.0061 J	0.02	0.55	0.0037 J	3.5	1.7	0.0017 J	ND (0.0063)	ND (0.0055)	0.0016 J
Toluene	mg/kg	ND (0.007)	ND (0.0065)	0.0047 J	0.0013 J	0.04 J	ND (0.0069)	ND (0.0066)	ND (0.0063)	ND (0.0055)	ND (0.0054)
trans-1,2-Dichloroethene	mg/kg	ND (0.007)	ND (0.0032)	ND (0.028)	ND (0.0079)	0.038 J	0.0027 J	ND (0.0066)	ND (0.0063)	ND (0.0055)	ND (0.0054)
trans-1,3-Dichloropropene	mg/kg	ND (0.007)	ND (0.0065)	ND (0.028)	ND (0.0079)	ND (0.43)	ND (0.0069)	ND (0.0066)	ND (0.0063)	ND (0.0055)	ND (0.0054)
Trichloroethene	mg/kg	0.00096 J	0.0029 J	0.13	0.01	0.68	0.33 J	ND (0.0066)	ND (0.0063)	0.00048 J	0.015
Trichlorofluoromethane (CFC-11)	mg/kg	0.0016 J	ND (0.0065)	ND (0.028)	ND (0.0079)	ND (0.43)	ND (0.0069)	ND (0.0066)	ND (0.0063)	ND (0.0055)	ND (0.0054)
Trifluorotrichloroethane (Freon 113)	mg/kg	ND (0.007)	ND (0.0065)	ND (0.028)	ND (0.0079)	ND (0.43)	ND (0.0069)	ND (0.0066)	ND (0.0063)	ND (0.0055)	ND (0.0054)
Vinyl chloride	mg/kg	ND (0.007)	ND (0.0065)	ND (0.028)	ND (0.0079)	2.9	ND (0.0069)	ND (0.0066)	ND (0.0063)	ND (0.0055)	ND (0.0054)
Xylene (total)	mg/kg	ND (0.014)	ND (0.013)	ND (0.056)	0.019	0.1 J	ND (0.014)	ND (0.013)	ND (0.013)	ND (0.011)	ND (0.011)

TABLE 2A

ANALYTICAL RESULTS SUMMARY
STORM SEWER SEDIMENT SAMPLES BETWEEN WEBSTER AND TAYLOR STREETS
HARRISON DAYTON

Sample ID:		*MH-10_Cleaned*	*MH-11_Cleaned*	*MH-11_Cleaned*	*MH-12_Abandoned*	*MH-13_Cleaned*	*MH-14_Cleaned*	*MH-15_Abandoned*	*MH-16_Abandoned*	*MH-17_Abandoned*	*MH-17_Abandoned*
Sample Date:		*SESS-102405-JC-0010*	*SE-040502-SLE-004*	*SESS-101304-NZ-011*	*SESS-101304-NZ-010*	*SESS-102405-JC-0011*	*SE-040502-SLE-005*	*SESS-101304-NZ-008*	*SESS-101304-NZ-009*	*SE-062705-DN-0002*	*SESS-102005-NZ-0003*
		10/24/2005 (Dup)	*4/5/2002*	*10/13/2004*	*10/13/2004*	*10/24/2005*	*4/5/2002*	*10/13/2004*	*10/13/2004*	*6/27/2005*	*10/20/2005*
Parameters	***Units***										
Semi-Volatile Organic Compounds											
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	mg/kg	ND (2.1)	-	ND (19)	ND (6.5)	ND (22)	ND (0.39)	ND (52)	ND (5.2)	ND (0.72)	ND (1.9)
2,4,5-Trichlorophenol	mg/kg	ND (2.1)	-	ND (19)	ND (6.5)	ND (22)	ND (0.39)	ND (52)	ND (5.2)	ND (0.72)	ND (1.9)
2,4,6-Trichlorophenol	mg/kg	ND (2.1)	-	ND (19)	ND (6.5)	ND (22)	ND (0.39)	ND (52)	ND (5.2)	ND (0.72)	ND (1.9)
2,4-Dichlorophenol	mg/kg	ND (2.1)	-	ND (19)	ND (6.5)	ND (22)	ND (0.39)	ND (52)	ND (5.2)	ND (0.72)	ND (1.9)
2,4-Dimethylphenol	mg/kg	ND (2.1)	-	ND (19)	ND (6.5)	ND (22)	ND (0.39)	ND (52)	ND (5.2)	ND (0.72)	ND (1.9)
2,4-Dinitrophenol	mg/kg	ND (9.9)	-	ND (90)	ND (31)	ND (110)	ND (1.9) UJ	ND (250)	ND (25)	ND (3.5)	ND (9.1)
2,4-Dinitrotoluene	mg/kg	ND (2.1)	-	ND (19)	ND (6.5)	ND (22)	ND (0.39)	ND (52)	ND (5.2)	ND (0.72)	ND (1.9)
2,6-Dinitrotoluene	mg/kg	ND (2.1)	-	ND (19)	ND (6.5)	ND (22)	ND (0.39)	ND (52)	ND (5.2)	ND (0.72)	ND (1.9)
2-Chloronaphthalene	mg/kg	ND (2.1)	-	ND (19)	ND (6.5)	ND (22)	ND (0.39)	ND (52)	ND (5.2)	ND (0.72)	ND (1.9)
2-Chlorophenol	mg/kg	ND (2.1)	-	ND (19)	ND (6.5)	ND (22)	ND (0.39)	ND (52)	ND (5.2)	ND (0.72)	ND (1.9)
2-Methylnaphthalene	mg/kg	0.097 J	-	1.4 J	0.47 J	1.2 J	ND (0.39)	ND (52)	ND (5.2)	ND (0.72)	0.069 J
2-Methylphenol	mg/kg	ND (2.1)	-	ND (19)	ND (6.5)	ND (22)	ND (0.39)	ND (52)	ND (5.2)	ND (0.72)	ND (1.9)
2-Nitroaniline	mg/kg	ND (9.9)	-	ND (90)	ND (31)	ND (110)	ND (1.9)	ND (250)	ND (25)	ND (3.5)	ND (9.1)
2-Nitrophenol	mg/kg	ND (2.1)	-	ND (19)	ND (6.5)	ND (22)	ND (0.39)	ND (52)	ND (5.2)	ND (0.72)	ND (1.9)
3,3'-Dichlorobenzidine	mg/kg	ND (9.9)	-	ND (90)	ND (31)	ND (110)	ND (1.9)	ND (250)	ND (25)	ND (3.5) UJ	ND (9.1)
3-Nitroaniline	mg/kg	ND (9.9)	-	ND (90)	ND (31)	ND (110)	ND (1.9)	ND (250)	ND (25)	ND (3.5)	ND (9.1)
4,6-Dinitro-2-methylphenol	mg/kg	ND (9.9)	-	ND (90)	ND (31)	ND (110)	ND (1.9)	ND (250)	ND (25)	ND (3.5)	ND (9.1)
4-Bromophenyl phenyl ether	mg/kg	ND (2.1)	-	ND (19)	ND (6.5)	ND (22)	ND (0.39)	ND (52)	ND (5.2)	ND (0.72)	ND (1.9)
4-Chloro-3-methylphenol	mg/kg	ND (2.1)	-	ND (19)	ND (6.5)	ND (22)	ND (0.39)	ND (52)	ND (5.2)	ND (0.72)	ND (1.9)
4-Chloroaniline	mg/kg	ND (2.1)	-	ND (19)	ND (6.5)	ND (22)	ND (0.39)	ND (52)	ND (5.2)	ND (0.72)	ND (1.9)
4-Chlorophenyl phenyl ether	mg/kg	ND (2.1)	-	ND (19)	ND (6.5)	ND (22)	ND (0.39)	ND (52)	ND (5.2)	ND (0.72)	ND (1.9)
4-Methylphenol	mg/kg	ND (2.1)	-	ND (19)	ND (6.5)	ND (22)	ND (0.39)	ND (52)	ND (5.2)	ND (0.72)	ND (1.9)
4-Nitroaniline	mg/kg	ND (9.9)	-	ND (90)	ND (31)	ND (110)	ND (1.9)	ND (250)	ND (25)	ND (3.5)	ND (9.1)
4-Nitrophenol	mg/kg	ND (9.9)	-	ND (90)	ND (31)	ND (110)	ND (1.9)	ND (250)	ND (25)	ND (3.5)	ND (9.1)
Acenaphthene	mg/kg	ND (2.1)	-	ND (19)	1.1 J	3.3 J	0.11 J	ND (52)	ND (5.2)	0.058 J	0.39 J
Acenaphthylene	mg/kg	ND (2.1)	-	ND (19)	ND (6.5)	ND (22)	ND (0.39)	ND (52)	ND (5.2)	0.091 J	0.17 J
Acetophenone	mg/kg	ND (2.1)	-	ND (19)	ND (6.5)	ND (22)	ND (0.39)	ND (52)	ND (5.2)	ND (0.72)	ND (1.9)
Anthracene	mg/kg	0.49 J	-	ND (19)	2 J	5.6 J	0.39	ND (52)	0.65 J	0.22 J	0.94 J
Atrazine	mg/kg	ND (2.1)	-	ND (19)	ND (6.5)	ND (22)	ND (0.39)	ND (52)	ND (5.2)	ND (0.72)	ND (1.9)
Benzaldehyde	mg/kg	ND (2.1)	-	ND (19)	ND (6.5)	ND (22)	ND (0.39)	ND (52)	ND (5.2)	ND (0.72)	ND (1.9)
Benzo(a)anthracene	mg/kg	1.2 J	-	ND (19)	8.3	13 J	0.83	4.2 J	2.8 J	0.85 J	3.1
Benzo(a)pyrene	mg/kg	0.79 J	-	ND (19)	9	9 J	0.9	3.8 J	3 J	0.92	3
Benzo(b)fluoranthene	mg/kg	1.2 J	-	ND (19)	13	11 J	0.98	7.6 J	4.3 J	1.6	4.6
Benzo(g,h,i)perylene	mg/kg	0.52 J	-	ND (19)	7.2	5.9 J	0.76	6.9 J	6.6	0.74	2.1
Benzo(k)fluoranthene	mg/kg	0.46 J	-	ND (19)	3.7 J	4.5 J	0.5	3.2 J	1.4 J	0.49 J	1.7 J
Biphenyl	mg/kg	ND (2.1)	-	ND (19)	ND (6.5)	ND (22)	ND (0.39)	ND (52)	ND (5.2)	ND (0.72)	ND (1.9)
bis(2-Chloroethoxy)methane	mg/kg	ND (2.1)	-	ND (19)	ND (6.5)	ND (22)	ND (0.39)	ND (52)	ND (5.2)	ND (0.72)	ND (1.9)
bis(2-Chloroethyl)ether	mg/kg	0.34 J	-	ND (19)	ND (6.5)	ND (22)	ND (0.39)	ND (52)	ND (5.2)	ND (0.72)	ND (1.9)
bis(2-Ethylhexyl)phthalate	mg/kg	0.68 J	-	7.5 J	3.1 J	20 J	0.72	220	13	0.53 J	ND (2.1)
Butyl benzylphthalate	mg/kg	0.53 J	-	ND (19)	ND (6.5)	ND (22)	ND (0.39)	ND (52)	ND (5.2)	ND (0.72) UJ	ND (1.9)
Caprolactam	mg/kg	ND (2.1)	-	ND (19)	ND (6.5)	ND (22)	ND (0.39)	ND (52)	ND (5.2)	ND (0.72)	ND (1.9)
Carbazole	mg/kg	0.32 J	-	ND (19)	1.4 J	4 J	0.096 J	ND (52)	0.29 J	0.17 J	0.56 J
Chrysene	mg/kg	1.2 J	-	0.86 J	8.7	14 J	0.86	5.2 J	3.1 J	1 J	3.2
Dibenz(a,h)anthracene	mg/kg	0.11 J	-	ND (19)	1.5 J	1.4 J	0.17 J	ND (52)	1 J	0.15 J	0.24 J
Dibenzofuran	mg/kg	0.19 J	-	ND (19)	0.42 J	3.1 J	0.069 J	ND (52)	ND (5.2)	0.047 J	0.26 J
Diethyl phthalate	mg/kg	ND (2.1)	-	ND (19)	ND (6.5)	ND (22)	ND (0.39)	ND (52)	ND (5.2)	ND (0.72)	ND (1.9)
Dimethyl phthalate	mg/kg	ND (2.1)	-	ND (19)	ND (6.5)	ND (22)	ND (0.39)	ND (52)	ND (5.2)	ND (0.72)	ND (1.9)
Di-n-butylphthalate	mg/kg	ND (2.1)	-	3.9 J	ND (6.5)	ND (22)	ND (0.39)	ND (52)	ND (5.2)	ND (0.72)	ND (1.9)
Di-n-octyl phthalate	mg/kg	ND (2.1)	-	2.4 J	ND (6.5)	ND (22)	ND (0.39)	ND (52)	ND (5.2)	ND (0.72)	ND (1.9)
Fluoranthene	mg/kg	2.6	-	1.3 J	22	32	1.9	6.2 J	3.3 J	1.9	7.5
Fluorene	mg/kg	0.33 J	-	2.1 J	0.91 J	4.4 J	0.15 J	ND (52)	ND (5.2)	0.066 J	0.35 J
Hexachlorobenzene	mg/kg	ND (2.1)	-	ND (19)	ND (6.5)	ND (22)	ND (0.39)	ND (52)	ND (5.2)	ND (0.72)	ND (1.9)
Hexachlorobutadiene	mg/kg	ND (2.1)	-	ND (19)	ND (6.5)	ND (22)	ND (0.39)	ND (52)	ND (5.2)	ND (0.72)	ND (1.9)

TABLE 2A

ANALYTICAL RESULTS SUMMARY
STORM SEWER SEDIMENT SAMPLES BETWEEN WEBSTER AND TAYLOR STREETS
HARRISON DAYTON

Sample ID:		*MH-10_Cleaned*	*MH-11_Cleaned*	*MH-11_Cleaned*	*MH-12_Abandoned*	*MH-13_Cleaned*	*MH-14_Cleaned*	*MH-15_Abandoned*	*MH-16_Abandoned*	*MH-17_Abandoned*	*MH-17_Abandoned*
Sample Date:		*SESS-102405-JC-0010*	*SE-040502-SLE-004*	*SESS-101304-NZ-011*	*SESS-101304-NZ-010*	*SESS-102405-JC-0011*	*SE-040502-SLE-005*	*SESS-101304-NZ-008*	*SESS-101304-NZ-009*	*SE-062705-DN-0002*	*SESS-102005-NZ-0003*
		10/24/2005	*4/5/2002*	*10/13/2004*	*10/13/2004*	*10/24/2005*	*4/5/2002*	*10/13/2004*	*10/13/2004*	*6/27/2005*	*10/20/2005*
		(Dup)									
Parameters	***Units***										
Hexachlorocyclopentadiene	mg/kg	ND (9.9)	-	ND (90)	ND (31)	ND (110)	ND (1.9)	ND (250)	ND (25)	ND (3.5) UJ	ND (9.1)
Hexachloroethane	mg/kg	ND (2.1) UJ	-	ND (19)	ND (6.5)	ND (22) UJ	ND (0.39)	ND (52)	ND (5.2)	ND (0.72)	ND (1.9)
Indeno(1,2,3-cd)pyrene	mg/kg	0.42 J	-	ND (19)	6 J	5.2 J	0.66	4 J	3.6 J	0.65 J	1.8 J
Isophorone	mg/kg	ND (2.1)	-	ND (19)	ND (6.5)	ND (22)	ND (0.39)	ND (52)	ND (5.2)	ND (0.72)	ND (1.9)
Naphthalene	mg/kg	0.13 J	-	ND (19)	ND (6.5)	2.1 J	ND (0.39)	ND (52)	ND (5.2)	0.035 J	0.16 J
Nitrobenzene	mg/kg	ND (2.1)	-	ND (19)	ND (6.5)	ND (22)	ND (0.39)	ND (52)	ND (5.2)	ND (0.72)	ND (1.9)
N-Nitrosodi-n-propylamine	mg/kg	ND (2.1)	-	ND (19)	ND (6.5)	ND (22)	ND (0.39)	ND (52)	ND (5.2)	ND (0.72)	ND (1.9)
N-Nitrosodiphenylamine	mg/kg	ND (2.1)	-	ND (19)	ND (6.5)	ND (22)	ND (0.39)	ND (52)	ND (5.2)	ND (0.72)	ND (1.9)
Pentachlorophenol	mg/kg	ND (2.1)	-	ND (19)	ND (6.5)	ND (22)	ND (0.39)	ND (52)	ND (5.2)	ND (0.72)	ND (1.9)
Phenanthrene	mg/kg	2.1	-	5.6 J	11	31	1.4	ND (52)	1.5 J	0.97	4.4
Phenol	mg/kg	ND (2.1)	-	ND (19)	ND (6.5)	ND (22)	ND (0.39)	ND (52)	ND (5.2)	ND (0.72)	ND (1.9)
Pyrene	mg/kg	2.3	-	1.9 J	16	28	1.6 J	6.6 J	3.8 J	1.7 J	6.2
Metals											
Antimony	mg/kg	ND (7.5)	ND (7.8)	0.70 J	2.2 J	6.5 J	5.8 J	3.0 J	6.2 J	8.3 J	11.7 J
Arsenic	mg/kg	3.5	3.9	7.5	19.4	8.5	16.5 J	18.8	24.1	9.1	6.8
Barium	mg/kg	29.5 J	117	95.2	105	445 J	194	826	1780	41.1	290
Beryllium	mg/kg	0.093 J	ND (0.65)	ND (0.56)	0.53 J	0.18 J	ND (0.59)	ND (0.66)	0.18 J	ND (10.9)	0.12 J
Cadmium	mg/kg	1.8	5.0	3.5	53.4	12.3	8.0	30.7	62.5	3.3 J	8.1
Chromium Total	mg/kg	7.5 J	14.5	30.4	460	163	107	230	471	452	403
Cobalt	mg/kg	8.2	5.7 J	6.5	20.3	16.1	17.4 J	22.3	14.9	22.5	21.0
Copper	mg/kg	41.7 J	126	244	1210	1690	5570	868	2760	104	177
Lead	mg/kg	136	60.7	153	500	4370	482	918	1930	29.0	129
Manganese	mg/kg	343	248	396	831	592	2390 J	1460	1510	2350	1890
Mercury	mg/kg	2.8 J	0.81	1.5	14.7	44.2	6.5	1.9	12.4	0.22	0.92
Nickel	mg/kg	5.3 J	15.8	19.3 J	76.1 J	44.8	58.6 J	75.1 J	231 J	43.3	60.3
Selenium	mg/kg	0.13 J	ND (0.65)	ND (0.56)	ND (1.6)	0.22 J	ND (0.59)	2.0 J	ND (3.1)	0.11 J	0.14 J
Silver	mg/kg	ND (1.2) UJ	ND (1.3)	1.3	39.9	10.8 J	2.0	3.1	13.1	ND (21.8)	4.6
Thallium	mg/kg	0.025 J	ND (1.3)	ND (1.1)	ND (3.1)	0.12 J	ND (2.2)	ND (6.6)	ND (6.3)	0.060 J	0.072 J
Vanadium	mg/kg	6.1 J	10.7	12.0	15.2 J	17.8	8.3	42.2	26.3 J	14.4 J	13.8 J
Zinc	mg/kg	252 J	411 J	429	2950	1610	2070 J	1750	2450	1060	2070
PCBs											
Aroclor-1016 (PCB-1016)	mg/kg	ND (0.082)	-	ND (0.074)	ND (5.2)	ND (0.28)	ND (0.39)	ND (2.2)	ND (21)	ND (0.18)	ND (0.75) UJ
Aroclor-1221 (PCB-1221)	mg/kg	ND (0.082)	-	ND (0.074)	ND (5.2)	ND (0.28)	ND (0.39)	ND (2.2)	ND (21)	ND (0.18)	ND (0.75)
Aroclor-1232 (PCB-1232)	mg/kg	ND (0.082)	-	ND (0.074)	ND (5.2)	ND (0.28)	ND (0.39)	ND (2.2)	ND (21)	ND (0.18)	ND (0.75)
Aroclor-1242 (PCB-1242)	mg/kg	ND (0.082)	-	ND (0.074)	ND (5.2)	ND (0.28)	ND (0.39)	ND (2.2)	ND (21)	ND (0.18)	ND (0.75)
Aroclor-1248 (PCB-1248)	mg/kg	ND (0.082)	-	ND (0.074)	ND (5.2)	ND (0.28)	ND (0.39)	ND (2.2)	ND (21)	ND (0.18)	ND (0.75)
Aroclor-1254 (PCB-1254)	mg/kg	0.78	-	1.3	54	4.5	2.4	20	340	1.9	6.6
Aroclor-1260 (PCB-1260)	mg/kg	ND (0.082)	-	ND (0.074)	ND (5.2)	ND (0.28)	ND (0.39)	ND (2.2)	ND (21)	ND (0.18)	ND (0.75) UJ
Total PCBs	mg/kg	-	-	-	-	-	-	-	-	1.9	-
General Chemistry											
Cyanide (total)	mg/kg	-	0.36 J	0.54 J	0.62 J	-	0.72	0.76	0.69	ND (0.55)	-
Total Solids	%	80.4	77.1	89.0	63.6	59.7	85.2	75.4	79.9	91.6	87.8

Notes:

ND - Not detected.
J - Estimated value.
UJ - Estimated reporting detection limit.
R - Rejected.

TABLE 2A

ANALYTICAL RESULTS SUMMARY
STORM SEWER SEDIMENT SAMPLES BETWEEN WEBSTER AND TAYLOR STREETS
HARRISON DAYTON

Sample ID:		*MH-18_Cleaned*	*MH-18_Cleaned*	*MH-18_Cleaned*	*MH-19_Cleaned*	*MH-19_Cleaned*	*MH-25_Cleaned*	*MH-27_Abandoned*	*MH-28_Abandoned*	*MH-29*	*MH-34_Cleaned*
Sample Date:		*SE-040502-SLE-006*	*SESS-101304-NZ-005*	*SESS-101304-NZ-006*	*SE-040802-SLE-007*	*SESS-101304-NZ-004*	*SESS-101304-NZ-003*	*SESS-102005-NZ-0007*	*SESS-102005-NZ-0006*	*SESS-011606-NZ-0012*	*SESS-102405-JC-0008*
		4/5/2002	*10/13/2004*	*10/13/2004 (Dup)*	*4/8/2002*	*10/13/2004*	*10/13/2004*	*10/20/2005*	*10/20/2005*	*1/16/2006*	*10/24/2005*
Parameters	***Units***										
Volatile Organic Compounds											
1,1,1-Trichloroethane	mg/kg	ND (0.67)	ND (0.0061)	ND (0.0061)	ND (0.32)	ND (0.0056)	ND (0.0097)	ND (0.0047)	ND (0.0063)	ND (0.008)	ND (0.0065)
1,1,2,2-Tetrachloroethane	mg/kg	ND (0.67)	ND (0.0061)	ND (0.0061)	ND (0.32)	ND (0.0056)	ND (0.0097)	ND (0.0047)	ND (0.0063)	ND (0.008)	ND (0.0065)
1,1,2-Trichloroethane	mg/kg	ND (0.67)	ND (0.0061)	ND (0.0061)	ND (0.32)	ND (0.0056)	ND (0.0097)	ND (0.0047)	ND (0.0063)	ND (0.008)	ND (0.0065)
1,1-Dichloroethane	mg/kg	ND (0.67)	ND (0.0061)	ND (0.0061)	ND (0.32)	ND (0.0056)	ND (0.0097)	ND (0.0047)	ND (0.0063)	ND (0.008)	ND (0.0065)
1,1-Dichloroethene	mg/kg	ND (0.67)	ND (0.0061)	ND (0.0061)	ND (0.32)	ND (0.0056)	ND (0.0097)	ND (0.0047)	ND (0.0063)	ND (0.008)	ND (0.0065)
1,2,4-Trichlorobenzene	mg/kg	ND (0.67)	ND (0.0061)	ND (0.0061)	ND (0.32)	ND (0.0056)	ND (0.0097) UJ	ND (0.0047)	ND (0.0063)	ND (0.008) UJ	ND (0.0065) UJ
1,2-Dibromo-3-chloropropane (DBCP)	mg/kg	ND (1.3)	ND (0.012)	ND (0.012)	ND (0.64)	ND (0.011)	ND (0.019) UJ	ND (0.0095)	ND (0.013)	ND (0.016) UJ	ND (0.013) UJ
1,2-Dibromoethane (Ethylene Dibromide)	mg/kg	ND (0.67)	ND (0.0061)	ND (0.0061)	ND (0.32)	ND (0.0056)	ND (0.0097)	ND (0.0047)	ND (0.0063)	ND (0.008)	ND (0.0065)
1,2-Dichlorobenzene	mg/kg	ND (0.67)	ND (0.0061)	ND (0.0061)	ND (0.32)	ND (0.0056)	ND (0.0097) UJ	ND (0.0047)	ND (0.0063)	ND (0.008) UJ	ND (0.0065) UJ
1,2-Dichloroethane	mg/kg	ND (0.67)	ND (0.0061)	ND (0.0061)	ND (0.32)	ND (0.0056)	ND (0.0097)	ND (0.0047)	ND (0.0063)	ND (0.008)	ND (0.0065)
1,2-Dichloropropane	mg/kg	ND (0.67)	ND (0.0061)	ND (0.0061)	ND (0.32)	ND (0.0056)	ND (0.0097)	ND (0.0047)	ND (0.0063)	ND (0.008)	ND (0.0065)
1,3-Dichlorobenzene	mg/kg	ND (0.67)	ND (0.0061)	ND (0.0061)	ND (0.32)	ND (0.0056)	ND (0.0097) UJ	ND (0.0047)	ND (0.0063)	ND (0.008) UJ	ND (0.0065) UJ
1,4-Dichlorobenzene	mg/kg	ND (0.67)	ND (0.0061)	ND (0.0061)	ND (0.32)	ND (0.0056)	0.00067 J	ND (0.0047)	ND (0.0063)	ND (0.008) UJ	ND (0.0065) UJ
2-Butanone (Methyl Ethyl Ketone)	mg/kg	ND (2.7)	ND (0.024)	ND (0.024)	ND (1.3)	ND (0.022)	0.008 J	0.001 J	ND (0.025)	ND (0.032)	ND (0.026) UJ
2-Hexanone	mg/kg	ND (2.7)	ND (0.024) UJ	ND (0.024) UJ	ND (1.3)	ND (0.022) UJ	ND (0.039) UJ	ND (0.019)	ND (0.025)	ND (0.032)	ND (0.026) UJ
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	mg/kg	ND (2.7)	ND (0.024)	ND (0.024)	ND (1.3)	ND (0.022)	ND (0.039)	ND (0.019)	ND (0.025)	ND (0.032)	ND (0.026) UJ
Acetone	mg/kg	ND (2.7)	ND (0.024) UJ	ND (0.024) UJ	ND (1.3)	ND (0.022) UJ	0.033 J	0.23	ND (0.025)	ND (0.032) UJ	ND (0.026) UJ
Benzene	mg/kg	ND (0.67)	ND (0.0061)	ND (0.0061)	ND (0.32)	ND (0.0056)	0.00069 J	ND (0.0047)	ND (0.0063)	ND (0.008)	ND (0.0065)
Bromodichloromethane	mg/kg	ND (0.67)	ND (0.0061)	ND (0.0061)	ND (0.32)	ND (0.0056)	ND (0.0097)	ND (0.0047)	ND (0.0063)	ND (0.008)	ND (0.0065)
Bromoform	mg/kg	ND (0.67)	ND (0.0061)	ND (0.0061)	ND (0.32)	ND (0.0056)	ND (0.0097)	ND (0.0047)	ND (0.0063)	ND (0.008)	ND (0.0065)
Bromomethane (Methyl Bromide)	mg/kg	ND (0.67)	ND (0.0061)	ND (0.0061)	ND (0.32)	ND (0.0056)	ND (0.0097)	ND (0.0047)	ND (0.0063)	ND (0.008)	ND (0.0065) UJ
Carbon disulfide	mg/kg	ND (0.67)	ND (0.0061)	ND (0.0061)	ND (0.32)	ND (0.0056)	ND (0.0097)	ND (0.0047)	ND (0.0063)	0.00032 J	ND (0.0065)
Carbon tetrachloride	mg/kg	ND (0.67)	ND (0.0061)	ND (0.0061)	ND (0.32)	ND (0.0056)	ND (0.0097)	ND (0.0047)	ND (0.0063)	ND (0.008)	ND (0.0065)
Chlorobenzene	mg/kg	ND (0.67)	ND (0.0061)	ND (0.0061)	ND (0.32)	ND (0.0056)	ND (0.0097)	ND (0.0047)	ND (0.0063)	ND (0.008)	ND (0.0065)
Chloroethane	mg/kg	ND (0.67)	ND (0.0061)	ND (0.0061)	ND (0.32)	ND (0.0056)	ND (0.0097)	ND (0.0047)	ND (0.0063)	ND (0.008)	ND (0.0065) UJ
Chloroform (Trichloromethane)	mg/kg	ND (0.67)	ND (0.0061)	ND (0.0061)	ND (0.32)	ND (0.0056)	ND (0.0097)	ND (0.0047)	ND (0.0063)	ND (0.008)	ND (0.0065)
Chloromethane (Methyl Chloride)	mg/kg	ND (0.67)	ND (0.0061)	ND (0.0061)	ND (0.32)	ND (0.0056)	ND (0.0097)	ND (0.0047)	ND (0.0063)	ND (0.008)	ND (0.0065)
cis-1,2-Dichloroethene	mg/kg	0.22 J	0.0073	0.0045 J	0.24	ND (0.0056)	ND (0.0097)	ND (0.0047)	ND (0.0063)	ND (0.008)	0.00056 J
cis-1,3-Dichloropropene	mg/kg	ND (0.67)	ND (0.0061)	ND (0.0061)	ND (0.32)	ND (0.0056)	ND (0.0097)	ND (0.0047)	ND (0.0063)	ND (0.008)	ND (0.0065)
Cyclohexane	mg/kg	ND (1.3)	ND (0.012)	ND (0.012)	ND (0.64)	ND (0.011)	ND (0.019)	ND (0.0095)	ND (0.013)	ND (0.016)	ND (0.013)
Dibromochloromethane	mg/kg	ND (0.67)	ND (0.0061)	ND (0.0061)	ND (0.32)	ND (0.0056)	ND (0.0097)	ND (0.0047)	ND (0.0063)	ND (0.008)	ND (0.0065)
Dichlorodifluoromethane (CFC-12)	mg/kg	ND (0.67)	ND (0.0061)	ND (0.0061)	ND (0.32)	ND (0.0056)	ND (0.0097)	ND (0.0047)	ND (0.0063)	ND (0.008)	ND (0.0065)
Ethylbenzene	mg/kg	ND (0.67)	ND (0.0061)	ND (0.0061)	ND (0.32)	ND (0.0056)	0.003 J	ND (0.0047)	ND (0.0063)	ND (0.008)	ND (0.0065)
Isopropylbenzene	mg/kg	ND (0.67)	ND (0.0061)	ND (0.0061)	ND (0.32)	ND (0.0056)	ND (0.0097)	ND (0.0047)	ND (0.0063)	ND (0.008)	ND (0.0065)
Methyl acetate	mg/kg	ND (1.3)	ND (0.012)	ND (0.012)	0.2 J	ND (0.011)	ND (0.019)	ND (0.0095)	ND (0.013)	ND (0.016)	ND (0.013)
Methyl cyclohexane	mg/kg	ND (1.3)	ND (0.012)	ND (0.012)	ND (0.64)	ND (0.011)	0.001 J	ND (0.0095)	ND (0.013)	ND (0.016)	ND (0.013)
Methyl Tert Butyl Ether	mg/kg	ND (2.7)	ND (0.024)	ND (0.024)	ND (1.3)	ND (0.022)	ND (0.039)	ND (0.019)	ND (0.025)	ND (0.032)	ND (0.026)
Methylene chloride	mg/kg	ND (0.67)	ND (0.0061)	ND (0.0061)	0.11 J	ND (0.0056)	ND (0.0097)	ND (0.0047)	ND (0.0063)	ND (0.0097)	ND (0.0065)
Styrene	mg/kg	ND (0.67)	ND (0.0061)	ND (0.0061)	ND (0.32)	ND (0.0056)	ND (0.0097)	ND (0.0047)	ND (0.0063)	ND (0.008)	ND (0.0065)
Tetrachloroethene	mg/kg	5.6	0.011	0.002 J	2.6	0.01	ND (0.0097)	0.0008 J	0.0024 J	ND (0.008)	0.017
Toluene	mg/kg	ND (0.67)	ND (0.0061)	ND (0.0061)	ND (0.32)	ND (0.0056)	0.028	0.00047 J	ND (0.0063)	ND (0.008)	ND (0.0065)
trans-1,2-Dichloroethene	mg/kg	ND (0.34)	ND (0.0061)	ND (0.0061)	ND (0.16)	ND (0.0056)	ND (0.0097)	ND (0.0047)	ND (0.0063)	ND (0.008)	ND (0.0065)
trans-1,3-Dichloropropene	mg/kg	ND (0.67)	ND (0.0061)	ND (0.0061)	ND (0.32)	ND (0.0056)	ND (0.0097)	ND (0.0047)	ND (0.0063)	ND (0.008)	ND (0.0065)
Trichloroethene	mg/kg	0.81	0.0031 J	0.00084 J	0.39	0.00059 J	ND (0.0097)	0.00085 J	0.00093 J	ND (0.008)	0.0091
Trichlorofluoromethane (CFC-11)	mg/kg	ND (0.67)	ND (0.0061)	ND (0.0061)	ND (0.32)	ND (0.0056)	ND (0.0097)	ND (0.0047)	ND (0.0063)	ND (0.008)	ND (0.0065)
Trifluorotrichloroethane (Freon 113)	mg/kg	ND (0.67)	ND (0.0061)	ND (0.0061)	ND (0.32)	ND (0.0056)	ND (0.0097)	ND (0.0047)	ND (0.0063)	ND (0.008)	ND (0.0065)
Vinyl chloride	mg/kg	ND (0.67)	ND (0.0061)	ND (0.0061)	ND (0.32)	ND (0.0056)	ND (0.0097)	ND (0.0047)	ND (0.0063)	ND (0.008)	ND (0.0065)
Xylene (total)	mg/kg	ND (1.3)	ND (0.012)	ND (0.012)	ND (0.64)	ND (0.011)	0.0017 J	0.0018 J	ND (0.013)	ND (0.016)	ND (0.013)

TABLE 2A

ANALYTICAL RESULTS SUMMARY
STORM SEWER SEDIMENT SAMPLES BETWEEN WEBSTER AND TAYLOR STREETS
HARRISON DAYTON

Sample ID:		*MH-18_Cleaned*	*MH-18_Cleaned*	*MH-18_Cleaned*	*MH-19_Cleaned*	*MH-19_Cleaned*	*MH-25_Cleaned*	*MH-27_Abandoned*	*MH-28_Abandoned*	*MH-29*	*MH-34_Cleaned*
Sample Date:		*SE-040502-SLE-006*	*SESS-101304-NZ-005*	*SESS-101304-NZ-006*	*SE-040802-SLE-007*	*SESS-101304-NZ-004*	*SESS-101304-NZ-003*	*SESS-102005-NZ-0007*	*SESS-102005-NZ-0006*	*SESS-011606-NZ-0012*	*SESS-102405-JC-0008*
		4/5/2002	*10/13/2004*	*10/13/2004 (Dup)*	*4/8/2002*	*10/13/2004*	*10/13/2004*	*10/20/2005*	*10/20/2005*	*1/16/2006*	*10/24/2005*
Parameters	***Units***										
Semi-Volatile Organic Compounds											
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	mg/kg	ND (1.9)	ND (0.4)	ND (2)	ND (0.95)	ND (1.8)	ND (32)	ND (7.8)	ND (18)	ND (4.2)	ND (5.8)
2,4,5-Trichlorophenol	mg/kg	ND (1.9)	ND (0.4)	ND (2)	ND (0.95)	ND (1.8)	ND (32)	ND (7.8)	ND (18)	ND (4.2)	ND (5.8)
2,4,6-Trichlorophenol	mg/kg	ND (1.9)	ND (0.4)	ND (2)	ND (0.95)	ND (1.8)	ND (32)	ND (7.8)	ND (18)	ND (4.2)	ND (5.8)
2,4-Dichlorophenol	mg/kg	ND (1.9)	ND (0.4)	ND (2)	ND (0.95)	ND (1.8)	ND (32)	ND (7.8)	ND (18)	ND (4.2)	ND (5.8)
2,4-Dimethylphenol	mg/kg	ND (1.9)	ND (0.4)	ND (2)	ND (0.95)	ND (1.8)	ND (32)	ND (7.8)	ND (18)	ND (4.2)	ND (5.8)
2,4-Dinitrophenol	mg/kg	ND (9.2) UJ	ND (2)	ND (9.7)	ND (4.6)	ND (9)	ND (160)	ND (38)	ND (87)	ND (21)	ND (28)
2,4-Dinitrotoluene	mg/kg	ND (1.9)	ND (0.4)	ND (2)	ND (0.95)	ND (1.8)	ND (32)	ND (7.8)	ND (18)	ND (4.2)	ND (5.8)
2,6-Dinitrotoluene	mg/kg	ND (1.9)	ND (0.4)	ND (2)	ND (0.95)	ND (1.8)	ND (32)	ND (7.8)	ND (18)	ND (4.2)	ND (5.8)
2-Chloronaphthalene	mg/kg	ND (1.9)	ND (0.4)	ND (2)	ND (0.95)	ND (1.8)	ND (32)	ND (7.8)	ND (18)	ND (4.2)	ND (5.8)
2-Chlorophenol	mg/kg	ND (1.9)	ND (0.4)	ND (2)	ND (0.95)	ND (1.8)	ND (32)	ND (7.8)	ND (18)	ND (4.2)	ND (5.8)
2-Methylnaphthalene	mg/kg	0.3 J	0.077 J	0.12 J	ND (0.95)	0.12 J	2.4 J	0.33 J	ND (18)	ND (4.2)	ND (5.8)
2-Methylphenol	mg/kg	ND (1.9)	ND (0.4)	ND (2)	ND (0.95)	ND (1.8)	ND (32)	ND (7.8)	ND (18)	ND (4.2)	ND (5.8)
2-Nitroaniline	mg/kg	ND (9.2)	ND (2)	ND (9.7)	ND (4.6) UJ	ND (9)	ND (160)	ND (38)	ND (87)	ND (21)	ND (28)
2-Nitrophenol	mg/kg	ND (1.9)	ND (0.4)	ND (2)	ND (0.95)	ND (1.8)	ND (32)	ND (7.8)	ND (18)	ND (4.2)	ND (5.8)
3,3'-Dichlorobenzidine	mg/kg	ND (9.2)	ND (2)	ND (9.7)	ND (4.6)	ND (9)	ND (160)	ND (38)	ND (87)	ND (21)	ND (28)
3-Nitroaniline	mg/kg	ND (9.2)	ND (2)	ND (9.7)	ND (4.6) UJ	ND (9)	ND (160)	ND (38)	ND (87)	ND (21)	ND (28)
4,6-Dinitro-2-methylphenol	mg/kg	ND (9.2)	ND (2)	ND (9.7)	ND (4.6)	ND (9)	ND (160)	ND (38)	ND (87)	ND (21)	ND (28)
4-Bromophenyl phenyl ether	mg/kg	ND (1.9)	ND (0.4)	ND (2)	ND (0.95)	ND (1.8)	ND (32)	ND (7.8)	ND (18)	ND (4.2)	ND (5.8)
4-Chloro-3-methylphenol	mg/kg	ND (1.9)	ND (0.4)	ND (2)	ND (0.95)	ND (1.8)	ND (32)	ND (7.8)	ND (18)	ND (4.2)	ND (5.8)
4-Chloroaniline	mg/kg	ND (1.9)	ND (0.4)	ND (2)	ND (0.95)	ND (1.8)	ND (32)	ND (7.8)	ND (18)	ND (4.2)	ND (5.8)
4-Chlorophenyl phenyl ether	mg/kg	ND (1.9)	ND (0.4)	ND (2)	ND (0.95)	ND (1.8)	ND (32)	ND (7.8)	ND (18)	ND (4.2)	ND (5.8)
4-Methylphenol	mg/kg	ND (1.9)	ND (0.4)	ND (2)	ND (0.95)	ND (1.8)	ND (32)	ND (7.8)	ND (18)	ND (4.2)	ND (5.8)
4-Nitroaniline	mg/kg	ND (9.2)	ND (2)	ND (9.7)	ND (4.6)	ND (9)	ND (160)	ND (38)	ND (87)	ND (21)	ND (28)
4-Nitrophenol	mg/kg	ND (9.2)	ND (2)	ND (9.7)	ND (4.6) UJ	ND (9)	ND (160)	ND (38)	ND (87)	ND (21)	ND (28)
Acenaphthene	mg/kg	0.99 J	0.088 J	ND (2)	ND (0.95)	ND (1.8)	5.3 J	1.6 J	2.4 J	0.21 J	ND (5.8)
Acenaphthylene	mg/kg	ND (1.9)	0.041 J	ND (2)	ND (0.95)	ND (1.8)	ND (32)	0.16 J	0.6 J	ND (4.2)	ND (5.8)
Acetophenone	mg/kg	ND (1.9)	ND (0.4)	ND (2)	ND (0.95)	ND (1.8)	ND (32)	ND (7.8)	ND (18)	ND (4.2)	ND (5.8)
Anthracene	mg/kg	2.4	0.16 J	0.082 J	ND (0.95)	ND (1.8)	5.9 J	2.1 J	3.6 J	0.45 J	1.3 J
Atrazine	mg/kg	ND (1.9)	ND (0.4)	ND (2)	ND (0.95)	ND (1.8)	ND (32)	ND (7.8)	ND (18)	ND (4.2)	ND (5.8)
Benzaldehyde	mg/kg	ND (1.9)	ND (0.4)	ND (2)	ND (0.95)	ND (1.8)	ND (32)	ND (7.8)	ND (18)	ND (4.2)	ND (5.8)
Benzo(a)anthracene	mg/kg	4.6	0.71	0.28 J	0.29 J	0.18 J	15 J	8.1	13 J	2.6 J	6.4
Benzo(a)pyrene	mg/kg	4.3	0.63	0.33 J	0.38 J	0.28 J	13 J	7.9	13 J	2.4 J	5.3 J
Benzo(b)fluoranthene	mg/kg	5.2	1.2	0.53 J	0.56 J	0.48 J	20 J	12	19	3.4 J	7.8
Benzo(g,h,i)perylene	mg/kg	3	0.54	0.36 J	0.29 J	0.32 J	10 J	5 J	8.8 J	1.7 J	4.3 J
Benzo(k)fluoranthene	mg/kg	2.6	0.46	0.16 J	0.23 J	0.2 J	7.1 J	4.8 J	7.3 J	1.6 J	3.6 J
Biphenyl	mg/kg	ND (1.9)	ND (0.4)	ND (2)	ND (0.95)	ND (1.8)	ND (32)	ND (7.8)	ND (18)	ND (4.2)	ND (5.8)
bis(2-Chloroethoxy)methane	mg/kg	ND (1.9)	ND (0.4)	ND (2)	ND (0.95)	ND (1.8)	ND (32)	ND (7.8)	ND (18)	ND (4.2)	ND (5.8)
bis(2-Chloroethyl)ether	mg/kg	ND (1.9)	ND (0.4)	ND (2)	ND (0.95)	ND (1.8)	ND (32)	ND (7.8)	ND (18)	ND (4.2)	0.83 J
bis(2-Ethylhexyl)phthalate	mg/kg	3.9	1.2	1.4 J	7.8	3.8	30 J	ND (7.8)	ND (18)	2.5 J	1 J
Butyl benzylphthalate	mg/kg	0.32 J	ND (0.4)	ND (2)	0.34 J	ND (1.8)	100	ND (7.8)	ND (18)	ND (4.2)	ND (5.8)
Caprolactam	mg/kg	ND (1.9)	ND (0.4)	ND (2)	ND (0.95)	ND (1.8)	ND (32)	ND (7.8)	ND (18)	ND (4.2)	ND (5.8)
Carbazole	mg/kg	1.8 J	0.12 J	ND (2)	ND (0.95)	ND (1.8)	5.6 J	2.6 J	3.8 J	0.46 J	1.5 J
Chrysene	mg/kg	5.3	0.82	0.33 J	0.39 J	0.28 J	17 J	9.7	14 J	2.9 J	7.9
Dibenz(a,h)anthracene	mg/kg	0.93 J	0.13 J	ND (2)	ND (0.95)	ND (1.8)	2.1 J	1 J	1.8 J	0.45 J	0.91 J
Dibenzofuran	mg/kg	0.82 J	0.057 J	ND (2)	ND (0.95)	ND (1.8)	3.9 J	1 J	1.5 J	ND (4.2)	0.36 J
Diethyl phthalate	mg/kg	ND (1.9)	ND (0.4)	ND (2)	ND (0.95)	ND (1.8)	ND (32)	ND (7.8)	ND (18)	ND (4.2)	ND (5.8)
Dimethyl phthalate	mg/kg	ND (1.9)	ND (0.4)	ND (2)	ND (0.95)	ND (1.8)	ND (32)	ND (7.8)	ND (18)	ND (4.2)	ND (5.8)
Di-n-butylphthalate	mg/kg	ND (1.9)	0.018 J	ND (2)	ND (0.95)	ND (1.8)	ND (32)	ND (7.8)	ND (18)	ND (4.2)	ND (5.8)
Di-n-octyl phthalate	mg/kg	ND (1.9)	ND (0.4)	ND (2)	ND (0.95)	ND (1.8)	ND (32)	ND (7.8)	ND (18)	ND (4.2)	ND (5.8)
Fluoranthene	mg/kg	11	1.8	0.59 J	0.61 J	0.39 J	40	29	38	4.1 J	18
Fluorene	mg/kg	1.5 J	0.094 J	ND (2)	ND (0.95)	ND (1.8)	6.3 J	1 J	2 J	0.29 J	0.47 J
Hexachlorobenzene	mg/kg	ND (1.9)	ND (0.4)	ND (2)	ND (0.95)	ND (1.8)	ND (32)	ND (7.8)	ND (18)	ND (4.2)	ND (5.8)
Hexachlorobutadiene	mg/kg	ND (1.9)	ND (0.4)	ND (2)	ND (0.95)	ND (1.8)	ND (32)	ND (7.8)	ND (18)	ND (4.2)	ND (5.8)

TABLE 2A

ANALYTICAL RESULTS SUMMARY
STORM SEWER SEDIMENT SAMPLES BETWEEN WEBSTER AND TAYLOR STREETS
HARRISON DAYTON

Sample ID:		*MH-18_Cleaned*	*MH-18_Cleaned*	*MH-18_Cleaned*	*MH-19_Cleaned*	*MH-19_Cleaned*	*MH-25_Cleaned*	*MH-27_Abandoned*	*MH-28_Abandoned*	*MH-29*	*MH-34_Cleaned*
Sample Date:		*SE-040502-SLE-006*	*SESS-101304-NZ-005*	*SESS-101304-NZ-006*	*SE-040802-SLE-007*	*SESS-101304-NZ-004*	*SESS-101304-NZ-003*	*SESS-102005-NZ-0007*	*SESS-102005-NZ-0006*	*SESS-011606-NZ-0012*	*SESS-102405-JC-0008*
		4/5/2002	*10/13/2004*	*10/13/2004 (Dup)*	*4/8/2002*	*10/13/2004*	*10/13/2004*	*10/20/2005*	*10/20/2005*	*1/16/2006*	*10/24/2005*
Parameters	***Units***										
Hexachlorocyclopentadiene	mg/kg	ND (9.2)	ND (2)	ND (9.7)	ND (4.6)	ND (9)	ND (160)	ND (38)	ND (87)	ND (21)	ND (28)
Hexachloroethane	mg/kg	ND (1.9)	ND (0.4)	ND (2)	ND (0.95)	ND (1.8)	ND (32)	ND (7.8)	ND (18)	ND (4.2)	ND (5.8) UJ
Indeno(1,2,3-cd)pyrene	mg/kg	2.8	0.077 J	0.23 J	0.27 J	0.22 J	8.3 J	4.7 J	7.7 J	1.6 J	3.8 J
Isophorone	mg/kg	ND (1.9)	ND (0.4)	ND (2)	ND (0.95)	ND (1.8)	ND (32)	ND (7.8)	ND (18)	ND (4.2)	ND (5.8)
Naphthalene	mg/kg	0.51 J	0.1 J	ND (2)	ND (0.95)	ND (1.8)	ND (32)	0.98 J	1.6 J	0.19 J	0.2 J
Nitrobenzene	mg/kg	ND (1.9)	ND (0.4)	ND (2)	ND (0.95)	ND (1.8)	ND (32)	ND (7.8)	ND (18)	ND (4.2)	ND (5.8)
N-Nitrosodi-n-propylamine	mg/kg	ND (1.9)	ND (0.4)	ND (2)	ND (0.95) UJ	ND (1.8)	ND (32)	ND (7.8)	ND (18)	ND (4.2)	ND (5.8)
N-Nitrosodiphenylamine	mg/kg	ND (1.9)	ND (0.4)	ND (2)	ND (0.95)	ND (1.8)	ND (32)	ND (7.8)	ND (18)	ND (4.2)	ND (5.8)
Pentachlorophenol	mg/kg	ND (1.9)	ND (0.4)	ND (2)	ND (0.95)	ND (1.8)	ND (32)	ND (7.8)	ND (18)	ND (4.2)	ND (5.8)
Phenanthrene	mg/kg	9.6	0.91	0.39 J	0.42 J	0.27 J	43	21	26	2.8 J	9.5
Phenol	mg/kg	ND (1.9)	0.17 J	ND (2)	ND (0.95)	ND (1.8)	ND (32)	ND (7.8)	ND (18)	ND (4.2)	ND (5.8)
Pyrene	mg/kg	8 J	1.1	0.55 J	0.67 J	0.36 J	31 J	21	28	3.8 J	14
Metals											
Antimony	mg/kg	1.3 J	1.5 J	0.77 J	3.4 J	0.79 J	5.6 J	1.8 J	11.0 J	22.6 J	ND (8.4)
Arsenic	mg/kg	9.9 J	10.6	6.7	10.1	9.4	13.2	6.2	13.0	15.1 J	12.5
Barium	mg/kg	345	87.3	86.4	161	95.7	469	89.5	107	831	162 J
Beryllium	mg/kg	0.48 J	0.046 J	ND (0.61)	ND (0.58)	59.6	0.34 J	ND (0.59)	ND (0.68)		ND (0.70)
Cadmium	mg/kg	5.9	8.4	7.1	8.0	13.6	13.4	39.6	78.6	16.7	3.5
Chromium Total	mg/kg	52.6	53.0	116	168	36.5	283	98.1	237	143	55.7
Cobalt	mg/kg	14.2 J	6.6	7.0	12.6	11.9	22.7	3.5 J	16.5	18.4	5.7 J
Copper	mg/kg	508	4730	403	509	4270	767	89.0	1250	392	115
Lead	mg/kg	210	368	124	710	176	1260	303	910	320	217
Manganese	mg/kg	2270 J	649	1020	1530	961	693	221	1250	2150	291
Mercury	mg/kg	16.9	18.8	23.9	5.0	2.5	22.8	0.097 J	0.54	1.6	0.95
Nickel	mg/kg	29.6 J	25.5 J	27.6 J	35.6	28.6 J	47.8 J	11.8	53.3	50.9	20.1
Selenium	mg/kg	ND (0.72)	ND (0.61)	ND (0.61)	ND (0.58)	ND (0.56)	0.64 J	0.35 J	1.1 J	0.22 J	ND (0.70)
Silver	mg/kg	1.2 J	4.1	1.9	2.8	4.2	5.1	ND (1.2)	60.5		1.1 J
Thallium	mg/kg	ND (3.3)	ND (1.2)	ND (1.2)	ND (1.2)	ND (1.1)	ND (1.9)	0.12 J	0.071 J	0.11 J	0.11 J
Vanadium	mg/kg	8.8	9.2	10.3	11.3	10.5	23.2	6.5	21.6 J	11.3 J	12.9
Zinc	mg/kg	612 J	1320	479	686	752	1550	994	5930	2040	1070
PCBs											
Aroclor-1016 (PCB-1016)	mg/kg	ND (2.4)	ND (0.8)	ND (0.8)	ND (0.38)	ND (0.74)	ND (1.3)	ND (0.039) UJ	ND (0.09) UJ	ND (0.85)	ND (0.46)
Aroclor-1221 (PCB-1221)	mg/kg	ND (2.4)	ND (0.8)	ND (0.8)	ND (0.38)	ND (0.74)	ND (1.3)	ND (0.039)	ND (0.09)	ND (0.85)	ND (0.46)
Aroclor-1232 (PCB-1232)	mg/kg	ND (2.4)	ND (0.8)	ND (0.8)	ND (0.38)	ND (0.74)	ND (1.3)	ND (0.039)	ND (0.09)	ND (0.85)	ND (0.46)
Aroclor-1242 (PCB-1242)	mg/kg	ND (2.4)	ND (0.8)	ND (0.8)	ND (0.38)	ND (0.74)	ND (1.3)	ND (0.039)	ND (0.09)	ND (0.85)	ND (0.46)
Aroclor-1248 (PCB-1248)	mg/kg	ND (2.4)	ND (0.8)	ND (0.8)	ND (0.38)	ND (0.74)	ND (1.3)	ND (0.039)	ND (0.09)	ND (0.85)	ND (0.46)
Aroclor-1254 (PCB-1254)	mg/kg	18	11	12	5.1	12	15	0.2	0.72	7.9	1.5
Aroclor-1260 (PCB-1260)	mg/kg	ND (2.4)	ND (0.8)	ND (0.8)	ND (0.38)	ND (0.74)	ND (1.3)	ND (0.039) UJ	ND (0.09) UJ	ND (0.85)	ND (0.46)
Total PCBs	mg/kg	-	-	-	-	-	-	-	-	-	-
General Chemistry											
Cyanide (total)	mg/kg	2.9	0.26 J	0.26 J	1.7	0.41 J	1.5	-	-	-	-
Total Solids	%	69.3	82.1	82.1	86.5	89.3	51.4	84.5	73.5	77.8	71.3

Notes:

ND - Not detected.
J - Estimated value.
UJ - Estimated reporting detection limit.
R - Rejected.

TABLE 2A

ANALYTICAL RESULTS SUMMARY
STORM SEWER SEDIMENT SAMPLES BETWEEN WEBSTER AND TAYLOR STREETS
HARRISON DAYTON

Sample ID:		*MH-35_Abandoned*	*MH-35_Abandoned*	*MH-36_Abandoned*	*MH-36_Abandoned*	*MH-37_Abandoned*	*MH-38_Abandoned*	*MH-39_Abandoned*
Sample Date:		*SE-062705-DN-0003*	*SESS-102005-NZ-0004*	*SE-062705-DN-0001*	*SESS-102005-NZ-0005*	*SESS-101304-NZ-022*	*SESS-102005-NZ-0002*	*SESS-102005-NZ-0001*
		6/27/2005	*10/20/2005*	*6/27/2005*	*10/20/2005*	*10/13/2004*	*10/20/2005*	*10/20/2005*
Parameters	***Units***							
Volatile Organic Compounds								
1,1,1-Trichloroethane	mg/kg	ND (0.0056)	ND (0.006)	ND (0.0063) UJ	ND (0.0044)	ND (0.96)	ND (0.0053)	ND (0.32)
1,1,2,2-Tetrachloroethane	mg/kg	ND (0.0056)	ND (0.006)	ND (0.0063) UJ	ND (0.0044) UJ	ND (0.96)	ND (0.0053)	ND (0.32)
1,1,2-Trichloroethane	mg/kg	ND (0.0056) UJ	ND (0.006)	ND (0.0063) UJ	ND (0.0044) UJ	ND (0.96)	ND (0.0053)	ND (0.32)
1,1-Dichloroethane	mg/kg	ND (0.0056)	ND (0.006)	ND (0.0063) UJ	ND (0.0044)	ND (0.96)	ND (0.0053)	ND (0.32)
1,1-Dichloroethene	mg/kg	ND (0.0056)	ND (0.006)	ND (0.0063) UJ	ND (0.0044)	ND (0.96)	ND (0.0053)	ND (0.32)
1,2,4-Trichlorobenzene	mg/kg	ND (0.0056)	ND (0.006)	ND (0.0063) UJ	ND (0.0044) UJ	ND (0.96)	ND (0.0053)	ND (0.32)
1,2-Dibromo-3-chloropropane (DBCP)	mg/kg	ND (0.011)	ND (0.012)	ND (0.013) UJ	ND (0.0088) UJ	ND (1.9)	ND (0.011)	ND (0.64)
1,2-Dibromoethane (Ethylene Dibromide)	mg/kg	ND (0.0056)	ND (0.006)	ND (0.0063) UJ	ND (0.0044) UJ	ND (0.96)	ND (0.0053)	ND (0.32)
1,2-Dichlorobenzene	mg/kg	ND (0.0056)	ND (0.006)	ND (0.0063) UJ	ND (0.0044) UJ	ND (0.96)	ND (0.0053)	ND (0.32)
1,2-Dichloroethane	mg/kg	ND (0.0056)	ND (0.006)	ND (0.0063) UJ	ND (0.0044)	ND (0.96)	ND (0.0053)	ND (0.32)
1,2-Dichloropropane	mg/kg	ND (0.0056)	ND (0.006)	ND (0.0063) UJ	ND (0.0044)	ND (0.96)	ND (0.0053)	ND (0.32)
1,3-Dichlorobenzene	mg/kg	ND (0.0056)	ND (0.006)	ND (0.0063) UJ	ND (0.0044) UJ	ND (0.96)	ND (0.0053)	ND (0.32)
1,4-Dichlorobenzene	mg/kg	ND (0.0056)	ND (0.006)	ND (0.0063) UJ	ND (0.0044) UJ	ND (0.96)	ND (0.0053)	ND (0.32)
2-Butanone (Methyl Ethyl Ketone)	mg/kg	ND (0.022)	ND (0.024)	0.02 J	0.029	ND (3.8)	ND (0.021)	ND (1.3)
2-Hexanone	mg/kg	ND (0.022)	ND (0.024)	ND (0.025) UJ	0.01 J	ND (3.8)	ND (0.021)	ND (1.3)
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	mg/kg	ND (0.022)	ND (0.024)	0.0036 J	0.0071 J	ND (3.8)	ND (0.021)	ND (1.3)
Acetone	mg/kg	ND (0.022) UJ	0.0046 J	0.071 J	0.13	ND (3.8)	ND (0.021) UJ	ND (1.3)
Benzene	mg/kg	ND (0.0056)	ND (0.006)	ND (0.0063) UJ	0.00028 J	ND (0.96)	ND (0.0053)	ND (0.32)
Bromodichloromethane	mg/kg	ND (0.0056)	ND (0.006)	ND (0.0063) UJ	ND (0.0044)	ND (0.96)	ND (0.0053)	ND (0.32)
Bromoform	mg/kg	ND (0.0056)	ND (0.006)	ND (0.0063) UJ	ND (0.0044) UJ	ND (0.96)	ND (0.0053)	ND (0.32)
Bromomethane (Methyl Bromide)	mg/kg	ND (0.0056) UJ	ND (0.006)	ND (0.0063) UJ	ND (0.0044)	ND (0.96)	ND (0.0053)	ND (0.32) UJ
Carbon disulfide	mg/kg	ND (0.0056)	ND (0.006)	0.001 J	ND (0.0044)	ND (0.96)	ND (0.0053)	ND (0.32)
Carbon tetrachloride	mg/kg	ND (0.0056)	ND (0.006)	ND (0.0063) UJ	ND (0.0044)	ND (0.96)	ND (0.0053)	ND (0.32)
Chlorobenzene	mg/kg	ND (0.0056)	ND (0.006)	ND (0.0063) UJ	ND (0.0044) UJ	ND (0.96)	ND (0.0053)	ND (0.32)
Chloroethane	mg/kg	ND (0.0056)	ND (0.006)	ND (0.0063) UJ	ND (0.0044)	ND (0.96)	ND (0.0053)	ND (0.32)
Chloroform (Trichloromethane)	mg/kg	ND (0.0056)	ND (0.006)	ND (0.0063) UJ	ND (0.0044)	ND (0.96)	ND (0.0053)	ND (0.32)
Chloromethane (Methyl Chloride)	mg/kg	ND (0.0056)	ND (0.006)	ND (0.0063) UJ	ND (0.0044)	ND (0.96)	ND (0.0053)	ND (0.32)
cis-1,2-Dichloroethene	mg/kg	ND (0.0056)	ND (0.006)	0.00069 J	0.0008 J	ND (0.96)	ND (0.0053)	ND (0.32)
cis-1,3-Dichloropropene	mg/kg	ND (0.0056)	ND (0.006)	ND (0.0063) UJ	ND (0.0044)	ND (0.96)	ND (0.0053)	ND (0.32)
Cyclohexane	mg/kg	ND (0.011)	ND (0.012)	ND (0.013) UJ	ND (0.0088) UJ	ND (1.9)	ND (0.011)	ND (0.64)
Dibromochloromethane	mg/kg	ND (0.0056)	ND (0.006)	ND (0.0063) UJ	ND (0.0044) UJ	ND (0.96)	ND (0.0053)	ND (0.32)
Dichlorodifluoromethane (CFC-12)	mg/kg	ND (0.0056)	ND (0.006)	ND (0.0063) UJ	ND (0.0044)	ND (0.96) UJ	ND (0.0053)	ND (0.32)
Ethylbenzene	mg/kg	ND (0.0056)	ND (0.006)	ND (0.0063) UJ	0.0035 J	ND (0.96)	ND (0.0053)	ND (0.32)
Isopropylbenzene	mg/kg	ND (0.0056)	ND (0.006)	ND (0.0063) UJ	ND (0.0044) UJ	ND (0.96)	ND (0.0053)	ND (0.32)
Methyl acetate	mg/kg	ND (0.011)	ND (0.012)	ND (0.013) UJ	ND (0.0088) UJ	ND (1.9)	ND (0.011)	ND (0.64)
Methyl cyclohexane	mg/kg	ND (0.011)	ND (0.012)	ND (0.013) UJ	ND (0.0088) UJ	ND (1.9)	ND (0.011)	0.026 J
Methyl Tert Butyl Ether	mg/kg	ND (0.022)	ND (0.024)	ND (0.025) UJ	ND (0.018)	ND (3.8)	ND (0.021)	ND (1.3)
Methylene chloride	mg/kg	ND (0.0056)	ND (0.006)	ND (0.011) UJ	0.002 J	ND (0.96)	ND (0.0053)	ND (0.32)
Styrene	mg/kg	ND (0.0056)	ND (0.006)	ND (0.0063) UJ	ND (0.0044) UJ	ND (0.96)	ND (0.0053)	ND (0.32)
Tetrachloroethene	mg/kg	0.0012 J	ND (0.006)	0.02 J	0.0083 J	6.1	0.0031 J	6.7
Toluene	mg/kg	ND (0.0056)	ND (0.006)	ND (0.0063) UJ	0.004 J	ND (0.96)	0.00062 J	ND (0.32)
trans-1,2-Dichloroethene	mg/kg	ND (0.0056)	ND (0.006)	ND (0.0063) UJ	ND (0.0044)	ND (0.96)	ND (0.0053)	ND (0.32)
trans-1,3-Dichloropropene	mg/kg	ND (0.0056)	ND (0.006)	ND (0.0063) UJ	ND (0.0044) UJ	ND (0.96)	ND (0.0053)	ND (0.32)
Trichloroethene	mg/kg	ND (0.0056)	ND (0.006)	0.01 J	0.0067	2.8	0.0013 J	0.78
Trichlorofluoromethane (CFC-11)	mg/kg	ND (0.0056)	ND (0.006)	ND (0.0063) UJ	ND (0.0044)	ND (0.96)	ND (0.0053)	ND (0.32)
Trifluorotrichloroethane (Freon 113)	mg/kg	ND (0.0056)	ND (0.006)	ND (0.0063) UJ	ND (0.0044)	ND (0.96)	ND (0.0053)	0.032 J
Vinyl chloride	mg/kg	ND (0.0056)	ND (0.006)	ND (0.0063) UJ	ND (0.0044)	ND (0.96)	ND (0.0053)	ND (0.32)
Xylene (total)	mg/kg	ND (0.011)	ND (0.012)	ND (0.013) UJ	0.018 J	ND (1.9)	0.0011 J	ND (0.64)

TABLE 2A

ANALYTICAL RESULTS SUMMARY
STORM SEWER SEDIMENT SAMPLES BETWEEN WEBSTER AND TAYLOR STREETS
HARRISON DAYTON

Sample ID:		*MH-35_Abandoned SE-062705-DN-0003*	*MH-35_Abandoned SESS-102005-NZ-0004*	*MH-36_Abandoned SE-062705-DN-0001*	*MH-36_Abandoned SESS-102005-NZ-0005*	*MH-37_Abandoned SESS-101304-NZ-022*	*MH-38_Abandoned SESS-102005-NZ-0002*	*MH-39_Abandoned SESS-102005-NZ-0001*
Sample Date:		*6/27/2005*	*10/20/2005*	*6/27/2005*	*10/20/2005*	*10/13/2004*	*10/20/2005*	*10/20/2005*
Parameters	***Units***							
Semi-Volatile Organic Compounds								
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	mg/kg	ND (7.4)	ND (7.5)	R	ND (54)	ND (25)	ND (3.6)	ND (5.1)
2,4,5-Trichlorophenol	mg/kg	ND (7.4)	ND (7.5)	R	ND (54)	ND (25)	ND (3.6)	ND (5.1)
2,4,6-Trichlorophenol	mg/kg	ND (7.4)	ND (7.5)	R	ND (54)	ND (25)	ND (3.6)	ND (5.1)
2,4-Dichlorophenol	mg/kg	ND (7.4)	ND (7.5)	R	ND (54)	ND (25)	ND (3.6)	ND (5.1)
2,4-Dimethylphenol	mg/kg	ND (7.4)	ND (7.5)	R	ND (54)	ND (25)	ND (3.6)	ND (5.1)
2,4-Dinitrophenol	mg/kg	ND (36)	ND (36)	R	ND (260)	ND (120)	ND (18)	ND (25)
2,4-Dinitrotoluene	mg/kg	ND (7.4)	ND (7.5)	R	ND (54)	ND (25)	ND (3.6)	ND (5.1)
2,6-Dinitrotoluene	mg/kg	ND (7.4)	ND (7.5)	R	ND (54)	ND (25)	ND (3.6)	ND (5.1)
2-Chloronaphthalene	mg/kg	ND (7.4)	ND (7.5)	R	ND (54)	ND (25)	ND (3.6)	ND (5.1)
2-Chlorophenol	mg/kg	ND (7.4)	ND (7.5)	R	ND (54)	ND (25)	ND (3.6)	ND (5.1)
2-Methylnaphthalene	mg/kg	ND (7.4)	0.49 J	0.019 J	ND (54)	2.2 J	0.18 J	0.17 J
2-Methylphenol	mg/kg	ND (7.4)	ND (7.5)	R	ND (54)	ND (25)	ND (3.6)	ND (5.1)
2-Nitroaniline	mg/kg	ND (36)	ND (36)	R	ND (260)	ND (120)	ND (18)	ND (25)
2-Nitrophenol	mg/kg	ND (7.4)	ND (7.5)	R	ND (54)	ND (25)	ND (3.6)	ND (5.1)
3,3'-Dichlorobenzidine	mg/kg	ND (36) UJ	ND (36)	R	ND (260)	ND (120)	ND (18)	ND (25)
3-Nitroaniline	mg/kg	ND (36)	ND (36)	R	ND (260)	ND (120)	ND (18)	ND (25)
4,6-Dinitro-2-methylphenol	mg/kg	ND (36)	ND (36)	R	ND (260)	ND (120)	ND (18)	ND (25)
4-Bromophenyl phenyl ether	mg/kg	ND (7.4)	ND (7.5)	R	ND (54)	ND (25)	ND (3.6)	ND (5.1)
4-Chloro-3-methylphenol	mg/kg	ND (7.4)	ND (7.5)	R	ND (54)	ND (25)	ND (3.6)	ND (5.1)
4-Chloroaniline	mg/kg	ND (7.4)	ND (7.5)	R	ND (54)	ND (25)	ND (3.6)	ND (5.1)
4-Chlorophenyl phenyl ether	mg/kg	ND (7.4)	ND (7.5)	R	ND (54)	ND (25)	ND (3.6)	ND (5.1)
4-Methylphenol	mg/kg	ND (7.4)	ND (7.5)	R	ND (54)	ND (25)	ND (3.6)	ND (5.1)
4-Nitroaniline	mg/kg	ND (36)	ND (36)	R	ND (260)	ND (120)	1.2 J	ND (25)
4-Nitrophenol	mg/kg	ND (36)	ND (36)	R	ND (260)	ND (120)	ND (18)	ND (25)
Acenaphthene	mg/kg	0.57 J	2.9 J	0.019 J	ND (54)	ND (25)	0.82 J	0.54 J
Acenaphthylene	mg/kg	ND (7.4)	ND (7.5)	0.021 J	ND (54)	ND (25)	0.11 J	0.14 J
Acetophenone	mg/kg	ND (7.4)	ND (7.5)	R	ND (54)	ND (25)	ND (3.6)	ND (5.1)
Anthracene	mg/kg	1.9 J	4.4 J	0.096 J	1.6 J	ND (25)	2 J	1.4 J
Atrazine	mg/kg	ND (7.4)	ND (7.5)	R	ND (54)	ND (25)	ND (3.6)	ND (5.1)
Benzaldehyde	mg/kg	ND (7.4)	ND (7.5)	R	ND (54)	ND (25)	ND (3.6)	ND (5.1)
Benzo(a)anthracene	mg/kg	8.3 J	10	0.45 J	4 J	ND (25)	4.3	7.4
Benzo(a)pyrene	mg/kg	9.2	8.6	0.42 J	4.7 J	ND (25)	3.9	9.7
Benzo(b)fluoranthene	mg/kg	12	12	0.58 J	6.8 J	ND (25)	5.5	15
Benzo(g,h,i)perylene	mg/kg	7.2 J	5.8 J	0.34 J	ND (54)	ND (25)	2.1 J	9.7
Benzo(k)fluoranthene	mg/kg	5.3 J	4.2 J	0.28 J	2.9 J	ND (25)	2.3 J	6
Biphenyl	mg/kg	ND (7.4)	ND (7.5)	R	ND (54)	ND (25)	ND (3.6)	ND (5.1)
bis(2-Chloroethoxy)methane	mg/kg	ND (7.4)	ND (7.5)	R	ND (54)	ND (25)	ND (3.6)	ND (5.1)
bis(2-Chloroethyl)ether	mg/kg	ND (7.4)	ND (7.5)	R	ND (54)	ND (25)	ND (3.6)	ND (5.1)
bis(2-Ethylhexyl)phthalate	mg/kg	1.8 J	ND (7.5)	0.17 J	33 J	ND (25)	ND (3.6)	ND (5.1)
Butyl benzylphthalate	mg/kg	ND (7.4) UJ	ND (7.5)	R	ND (54)	ND (25)	ND (3.6)	ND (5.1)
Caprolactam	mg/kg	ND (7.4)	ND (7.5)	R	ND (54)	ND (25)	ND (3.6)	ND (5.1)
Carbazole	mg/kg	0.94 J	2.8 J	0.049 J	ND (54)	ND (25)	1.3 J	1 J
Chrysene	mg/kg	9 J	8.9	0.47 J	4.3 J	ND (25)	4.8	8.6
Dibenz(a,h)anthracene	mg/kg	1.8 J	1 J	0.076 J	ND (54)	ND (25)	0.44 J	1.2 J
Dibenzofuran	mg/kg	0.36 J	1.5 J	0.039 J	ND (54)	ND (25)	0.61 J	0.36 J
Diethyl phthalate	mg/kg	ND (7.4)	ND (7.5)	R	ND (54)	ND (25)	ND (3.6)	ND (5.1)
Dimethyl phthalate	mg/kg	ND (7.4)	ND (7.5)	R	ND (54)	ND (25)	ND (3.6)	ND (5.1)
Di-n-butylphthalate	mg/kg	ND (7.4)	ND (7.5)	R	ND (54)	ND (25)	ND (3.6)	1.9 J
Di-n-octyl phthalate	mg/kg	ND (7.4)	ND (7.5)	R	ND (54)	ND (25)	ND (3.6)	ND (5.1)
Fluoranthene	mg/kg	17	26	1.1 J	9.4 J	1.4 J	12	15
Fluorene	mg/kg	0.44 J	2.3 J	R	ND (54)	ND (25)	0.86 J	0.33 J
Hexachlorobenzene	mg/kg	ND (7.4)	ND (7.5)	R	ND (54)	ND (25)	ND (3.6)	ND (5.1)
Hexachlorobutadiene	mg/kg	ND (7.4)	ND (7.5)	R	ND (54)	ND (25)	ND (3.6)	ND (5.1)

TABLE 2A

ANALYTICAL RESULTS SUMMARY
STORM SEWER SEDIMENT SAMPLES BETWEEN WEBSTER AND TAYLOR STREETS
HARRISON DAYTON

Sample ID:		*MH-35_Abandoned SE-062705-DN-0003*	*MH-35_Abandoned SESS-102005-NZ-0004*	*MH-36_Abandoned SE-062705-DN-0001*	*MH-36_Abandoned SESS-102005-NZ-0005*	*MH-37_Abandoned SESS-101304-NZ-022*	*MH-38_Abandoned SESS-102005-NZ-0002*	*MH-39_Abandoned SESS-102005-NZ-0001*
Sample Date:		*6/27/2005*	*10/20/2005*	*6/27/2005*	*10/20/2005*	*10/13/2004*	*10/20/2005*	*10/20/2005*
Parameters	***Units***							
Volatile Organic Compounds								
1,1,1-Trichloroethane	mg/kg	ND (0.0056)	ND (0.006)	ND (0.0063) UJ	ND (0.0044)	ND (0.96)	ND (0.0053)	ND (0.32)
1,1,2,2-Tetrachloroethane	mg/kg	ND (0.0056)	ND (0.006)	ND (0.0063) UJ	ND (0.0044) UJ	ND (0.96)	ND (0.0053)	ND (0.32)
1,1,2-Trichloroethane	mg/kg	ND (0.0056) UJ	ND (0.006)	ND (0.0063) UJ	ND (0.0044) UJ	ND (0.96)	ND (0.0053)	ND (0.32)
1,1-Dichloroethane	mg/kg	ND (0.0056)	ND (0.006)	ND (0.0063) UJ	ND (0.0044)	ND (0.96)	ND (0.0053)	ND (0.32)
1,1-Dichloroethene	mg/kg	ND (0.0056)	ND (0.006)	ND (0.0063) UJ	ND (0.0044)	ND (0.96)	ND (0.0053)	ND (0.32)
1,2,4-Trichlorobenzene	mg/kg	ND (0.0056)	ND (0.006)	ND (0.0063) UJ	ND (0.0044) UJ	ND (0.96)	ND (0.0053)	ND (0.32)
1,2-Dibromo-3-chloropropane (DBCP)	mg/kg	ND (0.011)	ND (0.012)	ND (0.013) UJ	ND (0.0088) UJ	ND (1.9)	ND (0.011)	ND (0.64)
1,2-Dibromoethane (Ethylene Dibromide)	mg/kg	ND (0.0056)	ND (0.006)	ND (0.0063) UJ	ND (0.0044) UJ	ND (0.96)	ND (0.0053)	ND (0.32)
1,2-Dichlorobenzene	mg/kg	ND (0.0056)	ND (0.006)	ND (0.0063) UJ	ND (0.0044) UJ	ND (0.96)	ND (0.0053)	ND (0.32)
1,2-Dichloroethane	mg/kg	ND (0.0056)	ND (0.006)	ND (0.0063) UJ	ND (0.0044)	ND (0.96)	ND (0.0053)	ND (0.32)
1,2-Dichloropropane	mg/kg	ND (0.0056)	ND (0.006)	ND (0.0063) UJ	ND (0.0044)	ND (0.96)	ND (0.0053)	ND (0.32)
1,3-Dichlorobenzene	mg/kg	ND (0.0056)	ND (0.006)	ND (0.0063) UJ	ND (0.0044) UJ	ND (0.96)	ND (0.0053)	ND (0.32)
1,4-Dichlorobenzene	mg/kg	ND (0.0056)	ND (0.006)	ND (0.0063) UJ	ND (0.0044) UJ	ND (0.96)	ND (0.0053)	ND (0.32)
2-Butanone (Methyl Ethyl Ketone)	mg/kg	ND (0.022)	ND (0.024)	0.02 J	0.029	ND (3.8)	ND (0.021)	ND (1.3)
2-Hexanone	mg/kg	ND (0.022)	ND (0.024)	ND (0.025) UJ	0.01 J	ND (3.8)	ND (0.021)	ND (1.3)
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	mg/kg	ND (0.022)	ND (0.024)	0.0036 J	0.0071 J	ND (3.8)	ND (0.021)	ND (1.3)
Acetone	mg/kg	ND (0.022) UJ	0.0046 J	0.071 J	0.13	ND (3.8)	ND (0.021) UJ	ND (1.3)
Benzene	mg/kg	ND (0.0056)	ND (0.006)	ND (0.0063) UJ	0.00028 J	ND (0.96)	ND (0.0053)	ND (0.32)
Bromodichloromethane	mg/kg	ND (0.0056)	ND (0.006)	ND (0.0063) UJ	ND (0.0044)	ND (0.96)	ND (0.0053)	ND (0.32)
Bromoform	mg/kg	ND (0.0056)	ND (0.006)	ND (0.0063) UJ	ND (0.0044) UJ	ND (0.96)	ND (0.0053)	ND (0.32)
Bromomethane (Methyl Bromide)	mg/kg	ND (0.0056) UJ	ND (0.006)	ND (0.0063) UJ	ND (0.0044)	ND (0.96)	ND (0.0053)	ND (0.32) UJ
Carbon disulfide	mg/kg	ND (0.0056)	ND (0.006)	0.001 J	ND (0.0044)	ND (0.96)	ND (0.0053)	ND (0.32)
Carbon tetrachloride	mg/kg	ND (0.0056)	ND (0.006)	ND (0.0063) UJ	ND (0.0044)	ND (0.96)	ND (0.0053)	ND (0.32)
Chlorobenzene	mg/kg	ND (0.0056)	ND (0.006)	ND (0.0063) UJ	ND (0.0044) UJ	ND (0.96)	ND (0.0053)	ND (0.32)
Chloroethane	mg/kg	ND (0.0056)	ND (0.006)	ND (0.0063) UJ	ND (0.0044)	ND (0.96)	ND (0.0053)	ND (0.32)
Chloroform (Trichloromethane)	mg/kg	ND (0.0056)	ND (0.006)	ND (0.0063) UJ	ND (0.0044)	ND (0.96)	ND (0.0053)	ND (0.32)
Chloromethane (Methyl Chloride)	mg/kg	ND (0.0056)	ND (0.006)	ND (0.0063) UJ	ND (0.0044)	ND (0.96)	ND (0.0053)	ND (0.32)
cis-1,2-Dichloroethene	mg/kg	ND (0.0056)	ND (0.006)	0.00069 J	0.0008 J	ND (0.96)	ND (0.0053)	ND (0.32)
cis-1,3-Dichloropropene	mg/kg	ND (0.0056)	ND (0.006)	ND (0.0063) UJ	ND (0.0044)	ND (0.96)	ND (0.0053)	ND (0.32)
Cyclohexane	mg/kg	ND (0.011)	ND (0.012)	ND (0.013) UJ	ND (0.0088) UJ	ND (1.9)	ND (0.011)	ND (0.64)
Dibromochloromethane	mg/kg	ND (0.0056)	ND (0.006)	ND (0.0063) UJ	ND (0.0044) UJ	ND (0.96)	ND (0.0053)	ND (0.32)
Dichlorodifluoromethane (CFC-12)	mg/kg	ND (0.0056)	ND (0.006)	ND (0.0063) UJ	ND (0.0044)	ND (0.96) UJ	ND (0.0053)	ND (0.32)
Ethylbenzene	mg/kg	ND (0.0056)	ND (0.006)	ND (0.0063) UJ	0.0035 J	ND (0.96)	ND (0.0053)	ND (0.32)
Isopropylbenzene	mg/kg	ND (0.0056)	ND (0.006)	ND (0.0063) UJ	ND (0.0044) UJ	ND (0.96)	ND (0.0053)	ND (0.32)
Methyl acetate	mg/kg	ND (0.011)	ND (0.012)	ND (0.013) UJ	ND (0.0088) UJ	ND (1.9)	ND (0.011)	ND (0.64)
Methyl cyclohexane	mg/kg	ND (0.011)	ND (0.012)	ND (0.013) UJ	ND (0.0088) UJ	ND (1.9)	ND (0.011)	0.026 J
Methyl Tert Butyl Ether	mg/kg	ND (0.022)	ND (0.024)	ND (0.025) UJ	ND (0.018)	ND (3.8)	ND (0.021)	ND (1.3)
Methylene chloride	mg/kg	ND (0.0056)	ND (0.006)	ND (0.011) UJ	0.002 J	ND (0.96)	ND (0.0053)	ND (0.32)
Styrene	mg/kg	ND (0.0056)	ND (0.006)	ND (0.0063) UJ	ND (0.0044) UJ	ND (0.96)	ND (0.0053)	ND (0.32)
Tetrachloroethene	mg/kg	0.0012 J	ND (0.006)	0.02 J	0.0083 J	6.1	0.0031 J	6.7
Toluene	mg/kg	ND (0.0056)	ND (0.006)	ND (0.0063) UJ	0.004 J	ND (0.96)	0.00062 J	ND (0.32)
trans-1,2-Dichloroethene	mg/kg	ND (0.0056)	ND (0.006)	ND (0.0063) UJ	ND (0.0044)	ND (0.96)	ND (0.0053)	ND (0.32)
trans-1,3-Dichloropropene	mg/kg	ND (0.0056)	ND (0.006)	ND (0.0063) UJ	ND (0.0044) UJ	ND (0.96)	ND (0.0053)	ND (0.32)
Trichloroethene	mg/kg	ND (0.0056)	ND (0.006)	0.01 J	0.0067	2.8	0.0013 J	0.78
Trichlorofluoromethane (CFC-11)	mg/kg	ND (0.0056)	ND (0.006)	ND (0.0063) UJ	ND (0.0044)	ND (0.96)	ND (0.0053)	ND (0.32)
Trifluorotrichloroethane (Freon 113)	mg/kg	ND (0.0056)	ND (0.006)	ND (0.0063) UJ	ND (0.0044)	ND (0.96)	ND (0.0053)	0.032 J
Vinyl chloride	mg/kg	ND (0.0056)	ND (0.006)	ND (0.0063) UJ	ND (0.0044)	ND (0.96)	ND (0.0053)	ND (0.32)
Xylene (total)	mg/kg	ND (0.011)	ND (0.012)	ND (0.013) UJ	0.018 J	ND (1.9)	0.0011 J	ND (0.64)

TABLE 2A

ANALYTICAL RESULTS SUMMARY
STORM SEWER SEDIMENT SAMPLES BETWEEN WEBSTER AND TAYLOR STREETS
HARRISON DAYTON

Sample ID:		*MH-35_Abandoned*	*MH-35_Abandoned*	*MH-36_Abandoned*	*MH-36_Abandoned*	*MH-37_Abandoned*	*MH-38_Abandoned*	*MH-39_Abandoned*
Sample Date:		*SE-062705-DN-0003*	*SESS-102005-NZ-0004*	*SE-062705-DN-0001*	*SESS-102005-NZ-0005*	*SESS-101304-NZ-022*	*SESS-102005-NZ-0002*	*SESS-102005-NZ-0001*
		6/27/2005	*10/20/2005*	*6/27/2005*	*10/20/2005*	*10/13/2004*	*10/20/2005*	*10/20/2005*
Parameters	***Units***							
Semi-Volatile Organic Compounds								
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	mg/kg	ND (7.4)	ND (7.5)	R	ND (54)	ND (25)	ND (3.6)	ND (5.1)
2,4,5-Trichlorophenol	mg/kg	ND (7.4)	ND (7.5)	R	ND (54)	ND (25)	ND (3.6)	ND (5.1)
2,4,6-Trichlorophenol	mg/kg	ND (7.4)	ND (7.5)	R	ND (54)	ND (25)	ND (3.6)	ND (5.1)
2,4-Dichlorophenol	mg/kg	ND (7.4)	ND (7.5)	R	ND (54)	ND (25)	ND (3.6)	ND (5.1)
2,4-Dimethylphenol	mg/kg	ND (7.4)	ND (7.5)	R	ND (54)	ND (25)	ND (3.6)	ND (5.1)
2,4-Dinitrophenol	mg/kg	ND (36)	ND (36)	R	ND (260)	ND (120)	ND (18)	ND (25)
2,4-Dinitrotoluene	mg/kg	ND (7.4)	ND (7.5)	R	ND (54)	ND (25)	ND (3.6)	ND (5.1)
2,6-Dinitrotoluene	mg/kg	ND (7.4)	ND (7.5)	R	ND (54)	ND (25)	ND (3.6)	ND (5.1)
2-Chloronaphthalene	mg/kg	ND (7.4)	ND (7.5)	R	ND (54)	ND (25)	ND (3.6)	ND (5.1)
2-Chlorophenol	mg/kg	ND (7.4)	ND (7.5)	R	ND (54)	ND (25)	ND (3.6)	ND (5.1)
2-Methylnaphthalene	mg/kg	ND (7.4)	0.49 J	0.019 J	ND (54)	2.2 J	0.18 J	0.17 J
2-Methylphenol	mg/kg	ND (7.4)	ND (7.5)	R	ND (54)	ND (25)	ND (3.6)	ND (5.1)
2-Nitroaniline	mg/kg	ND (36)	ND (36)	R	ND (260)	ND (120)	ND (18)	ND (25)
2-Nitrophenol	mg/kg	ND (7.4)	ND (7.5)	R	ND (54)	ND (25)	ND (3.6)	ND (5.1)
3,3'-Dichlorobenzidine	mg/kg	ND (36) UJ	ND (36)	R	ND (260)	ND (120)	ND (18)	ND (25)
3-Nitroaniline	mg/kg	ND (36)	ND (36)	R	ND (260)	ND (120)	ND (18)	ND (25)
4,6-Dinitro-2-methylphenol	mg/kg	ND (36)	ND (36)	R	ND (260)	ND (120)	ND (18)	ND (25)
4-Bromophenyl phenyl ether	mg/kg	ND (7.4)	ND (7.5)	R	ND (54)	ND (25)	ND (3.6)	ND (5.1)
4-Chloro-3-methylphenol	mg/kg	ND (7.4)	ND (7.5)	R	ND (54)	ND (25)	ND (3.6)	ND (5.1)
4-Chloroaniline	mg/kg	ND (7.4)	ND (7.5)	R	ND (54)	ND (25)	ND (3.6)	ND (5.1)
4-Chlorophenyl phenyl ether	mg/kg	ND (7.4)	ND (7.5)	R	ND (54)	ND (25)	ND (3.6)	ND (5.1)
4-Methylphenol	mg/kg	ND (7.4)	ND (7.5)	R	ND (54)	ND (25)	ND (3.6)	ND (5.1)
4-Nitroaniline	mg/kg	ND (36)	ND (36)	R	ND (260)	ND (120)	1.2 J	ND (25)
4-Nitrophenol	mg/kg	ND (36)	ND (36)	R	ND (260)	ND (120)	ND (18)	ND (25)
Acenaphthene	mg/kg	0.57 J	2.9 J	0.019 J	ND (54)	ND (25)	0.82 J	0.54 J
Acenaphthylene	mg/kg	ND (7.4)	ND (7.5)	0.021 J	ND (54)	ND (25)	0.11 J	0.14 J
Acetophenone	mg/kg	ND (7.4)	ND (7.5)	R	ND (54)	ND (25)	ND (3.6)	ND (5.1)
Anthracene	mg/kg	1.9 J	4.4 J	0.096 J	1.6 J	ND (25)	2 J	1.4 J
Atrazine	mg/kg	ND (7.4)	ND (7.5)	R	ND (54)	ND (25)	ND (3.6)	ND (5.1)
Benzaldehyde	mg/kg	ND (7.4)	ND (7.5)	R	ND (54)	ND (25)	ND (3.6)	ND (5.1)
Benzo(a)anthracene	mg/kg	8.3 J	10	0.45 J	4 J	ND (25)	4.3	7.4
Benzo(a)pyrene	mg/kg	9.2	8.6	0.42 J	4.7 J	ND (25)	3.9	9.7
Benzo(b)fluoranthene	mg/kg	12	12	0.58 J	6.8 J	ND (25)	5.5	15
Benzo(g,h,i)perylene	mg/kg	7.2 J	5.8 J	0.34 J	ND (54)	ND (25)	2.1 J	9.7
Benzo(k)fluoranthene	mg/kg	5.3 J	4.2 J	0.28 J	2.9 J	ND (25)	2.3 J	6
Biphenyl	mg/kg	ND (7.4)	ND (7.5)	R	ND (54)	ND (25)	ND (3.6)	ND (5.1)
bis(2-Chloroethoxy)methane	mg/kg	ND (7.4)	ND (7.5)	R	ND (54)	ND (25)	ND (3.6)	ND (5.1)
bis(2-Chloroethyl)ether	mg/kg	ND (7.4)	ND (7.5)	R	ND (54)	ND (25)	ND (3.6)	ND (5.1)
bis(2-Ethylhexyl)phthalate	mg/kg	1.8 J	ND (7.5)	0.17 J	33 J	ND (25)	ND (3.6)	ND (5.1)
Butyl benzylphthalate	mg/kg	ND (7.4) UJ	ND (7.5)	R	ND (54)	ND (25)	ND (3.6)	ND (5.1)
Caprolactam	mg/kg	ND (7.4)	ND (7.5)	R	ND (54)	ND (25)	ND (3.6)	ND (5.1)
Carbazole	mg/kg	0.94 J	2.8 J	0.049 J	ND (54)	ND (25)	1.3 J	1 J
Chrysene	mg/kg	9 J	8.9	0.47 J	4.3 J	ND (25)	4.8	8.6
Dibenz(a,h)anthracene	mg/kg	1.8 J	1 J	0.076 J	ND (54)	ND (25)	0.44 J	1.2 J
Dibenzofuran	mg/kg	0.36 J	1.5 J	0.039 J	ND (54)	ND (25)	0.61 J	0.36 J
Diethyl phthalate	mg/kg	ND (7.4)	ND (7.5)	R	ND (54)	ND (25)	ND (3.6)	ND (5.1)
Dimethyl phthalate	mg/kg	ND (7.4)	ND (7.5)	R	ND (54)	ND (25)	ND (3.6)	ND (5.1)
Di-n-butylphthalate	mg/kg	ND (7.4)	ND (7.5)	R	ND (54)	ND (25)	ND (3.6)	1.9 J
Di-n-octyl phthalate	mg/kg	ND (7.4)	ND (7.5)	R	ND (54)	ND (25)	ND (3.6)	ND (5.1)
Fluoranthene	mg/kg	17	26	1.1 J	9.4 J	1.4 J	12	15
Fluorene	mg/kg	0.44 J	2.3 J	R	ND (54)	ND (25)	0.86 J	0.33 J
Hexachlorobenzene	mg/kg	ND (7.4)	ND (7.5)	R	ND (54)	ND (25)	ND (3.6)	ND (5.1)
Hexachlorobutadiene	mg/kg	ND (7.4)	ND (7.5)	R	ND (54)	ND (25)	ND (3.6)	ND (5.1)

TABLE 2A

ANALYTICAL RESULTS SUMMARY
STORM SEWER SEDIMENT SAMPLES BETWEEN WEBSTER AND TAYLOR STREETS
HARRISON DAYTON

Sample ID:		*MH-35_Abandoned*	*MH-35_Abandoned*	*MH-36_Abandoned*	*MH-36_Abandoned*	*MH-37_Abandoned*	*MH-38_Abandoned*	*MH-39_Abandoned*
Sample Date:		*SE-062705-DN-0003*	*SESS-102005-NZ-0004*	*SE-062705-DN-0001*	*SESS-102005-NZ-0005*	*SESS-101304-NZ-022*	*SESS-102005-NZ-0002*	*SESS-102005-NZ-0001*
		6/27/2005	*10/20/2005*	*6/27/2005*	*10/20/2005*	*10/13/2004*	*10/20/2005*	*10/20/2005*
Parameters	***Units***							
Hexachlorocyclopentadiene	mg/kg	ND (36) UJ	ND (36)	R	ND (260)	ND (120)	ND (18)	ND (25)
Hexachloroethane	mg/kg	ND (7.4)	ND (7.5)	R	ND (54)	ND (25)	ND (3.6)	ND (5.1)
Indeno(1,2,3-cd)pyrene	mg/kg	6 J	4.7 J	0.28 J	ND (54)	ND (25)	2.2 J	7.5
Isophorone	mg/kg	ND (7.4)	ND (7.5)	R	ND (54)	ND (25)	ND (3.6)	ND (5.1)
Naphthalene	mg/kg	ND (7.4)	1.8 J	0.069 J	ND (54)	ND (25)	0.33 J	0.17 J
Nitrobenzene	mg/kg	ND (7.4)	ND (7.5)	R	ND (54)	ND (25)	ND (3.6)	ND (5.1)
N-Nitrosodi-n-propylamine	mg/kg	ND (7.4)	ND (7.5)	R	ND (54)	ND (25)	ND (3.6)	ND (5.1)
N-Nitrosodiphenylamine	mg/kg	ND (7.4)	ND (7.5)	R	ND (54)	ND (25)	ND (3.6)	ND (5.1)
Pentachlorophenol	mg/kg	ND (7.4)	ND (7.5)	R	ND (54)	ND (25)	ND (3.6)	ND (5.1)
Phenanthrene	mg/kg	10	20	0.61 J	5.5 J	2.6 J	9	9.4
Phenol	mg/kg	ND (7.4)	ND (7.5)	R	ND (54)	ND (25)	ND (3.6)	ND (5.1)
Pyrene	mg/kg	15 J	21	0.94 J	9.6 J	1.8 J	9.3	14
Metals								
Antimony	mg/kg	ND (134)	2.0 J	7.2 J	8.5 J	6.4 J	2.3 J	8.4
Arsenic	mg/kg	6.7	5.4	8.2	11.2	48.0	5.4	7.6
Barium	mg/kg	142	610	131	1240	450	355	1900
Beryllium	mg/kg	ND (11.2)	ND (0.57)	ND (0.63) U	ND (0.66)	ND (0.77)	ND (0.55)	ND (0.62)
Cadmium	mg/kg	6.8 J	3.3	16.1	9.9	93.1	4.2	64.0
Chromium Total	mg/kg	108	57.1	71.3	106	802	36.6	446
Cobalt	mg/kg	21.8	5.2 J	13.6	13.1	29.1	11.4	6.4
Copper	mg/kg	1130	95.4	405	397	3000	43.9	7270
Lead	mg/kg	235	50.2	339	442	2400	137	792
Manganese	mg/kg	2350	444	1990	1720	1460	304	468
Mercury	mg/kg	4.9	0.25	2.6	-	5.8	0.15	14.7
Nickel	mg/kg	93.5	21.4	47.5	63.5	320 J	16.4	218
Selenium	mg/kg	ND (0.56)	ND (0.57)	ND (0.63)		3.3 J	0.27 J	1.6 J
Silver	mg/kg	ND (22.4)	ND (1.1)	1.5	1.9	49.3	4.4	214
Thallium	mg/kg	0.58 J	0.12 J	0.28 J	0.37 J	ND (7.7)	0.10 J	0.18 J
Vanadium	mg/kg	9.0 J	10.8	15.7 J	5.5 J	28.4 J	12.3	15.5
Zinc	mg/kg	773	673	1420	1850	1800	844	2150
PCBs								
Aroclor-1016 (PCB-1016)	mg/kg	ND (0.074)	ND (0.37) UJ	ND (0.083)	ND (0.087) UJ	ND (100)	ND (0.73) UJ	ND (0.41) UJ
Aroclor-1221 (PCB-1221)	mg/kg	ND (0.074)	ND (0.37)	ND (0.083)	ND (0.087)	ND (100)	ND (0.73)	ND (0.41)
Aroclor-1232 (PCB-1232)	mg/kg	ND (0.074)	ND (0.37)	ND (0.083)	ND (0.087)	ND (100)	ND (0.73)	ND (0.41)
Aroclor-1242 (PCB-1242)	mg/kg	ND (0.074)	ND (0.37)	ND (0.083)	ND (0.087)	ND (100)	ND (0.73)	ND (0.41)
Aroclor-1248 (PCB-1248)	mg/kg	ND (0.074)	ND (0.37)	ND (0.083)	ND (0.087)	ND (100)	ND (0.73)	ND (0.41)
Aroclor-1254 (PCB-1254)	mg/kg	0.72	2	1	0.91	1900	4.6	4.4
Aroclor-1260 (PCB-1260)	mg/kg	ND (0.074)	ND (0.37) UJ	ND (0.083)	ND (0.087) UJ	ND (100)	ND (0.73) UJ	ND (0.41) UJ
Total PCBs	mg/kg	0.72	-	1	-	-	-	-
General Chemistry								
Cyanide (total)	mg/kg	0.17 J	-	0.22 J	-	2.1	-	-
Total Solids	%	89.3	88.0	79.7	76.1	65.3	90.9	80.8

Notes:

ND - Not detected.
J - Estimated value.
UJ - Estimated reporting detection limit.
R - Rejected.

TABLE 2B

ANALYTICAL RESULTS SUMMARY
STORM SEWER WATER SAMPLES BETWEEN WEBSTER AND TAYLOR STREETS
HARRISON DAYTON

Sample Location:		*BS-1_Abandoned*	*BS-1_Abandoned*	*BS-1_Abandoned*	*BS-2_Abandoned*	*BS-3_Abandoned*	*BS-3_Abandoned*	*BS-4_Abandoned*	*INT-5_Abandoned*	*INT-5_Abandoned*	*MH-26/INT-6_Abandoned*
Sample ID:		*W-040902-SLE-011*	*W-040902-SLE-012*	*WSS-101304-NZ-021*	*WSS-101304-NZ-019*	*W-041202-SLE-022*	*WSS-101304-NZ-020*	*W-041202-SLE-023*	*W-040802-SLE-010*	*WSS-101304-NZ-001*	*W-040802-SLE-009*
Sample Date:		*4/9/2002*	*4/9/2002 (Dup)*	*10/13/2004*	*10/13/2004*	*4/12/2002*	*10/13/2004*	*4/12/2002*	*4/8/2002*	*10/13/2004*	*4/8/2002*
Parameters	***Units***										
Volatile Organic Compounds											
1,1,1-Trichloroethane	mg/L	0.00056 J	0.00044 J	0.00077 J	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
1,1,2,2-Tetrachloroethane	mg/L	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
1,1,2-Trichloroethane	mg/L	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
1,1-Dichloroethane	mg/L	0.00057 J	0.00059 J	0.00048 J	0.00022 J	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
1,1-Dichloroethene	mg/L	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
1,2,4-Trichlorobenzene	mg/L	ND (0.002) UJ	ND (0.002) UJ	ND (0.002)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001) UJ	ND (0.001)	ND (0.001) UJ
1,2-Dibromo-3-chloropropane (DBCP)	mg/L	ND (0.004)	ND (0.004)	ND (0.004) UJ	ND (0.002) UJ	ND (0.002)	ND (0.002) UJ	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)
1,2-Dibromoethane (Ethylene Dibromide)	mg/L	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
1,2-Dichlorobenzene	mg/L	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
1,2-Dichloroethane	mg/L	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
1,2-Dichloropropane	mg/L	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
1,3-Dichlorobenzene	mg/L	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
1,4-Dichlorobenzene	mg/L	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
2-Butanone (Methyl Ethyl Ketone)	mg/L	ND (0.02)	ND (0.02)	ND (0.02) UJ	ND (0.01) UJ	ND (0.01) UJ	ND (0.01) UJ	ND (0.01) UJ	ND (0.01)	ND (0.01)	ND (0.01)
2-Hexanone	mg/L	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.01)	ND (0.01) UJ	ND (0.01)	ND (0.01) UJ	ND (0.01)	ND (0.01) UJ	ND (0.01)
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	mg/L	ND (0.02)	ND (0.02)	ND (0.02) UJ	ND (0.01) UJ	ND (0.01)	ND (0.01) UJ	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Acetone	mg/L	ND (0.02)	ND (0.02)	ND (0.02) UJ	ND (0.01) UJ	ND (0.01) UJ	0.0015 J	ND (0.01) UJ	ND (0.01)	0.001 J	ND (0.01)
Benzene	mg/L	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Bromodichloromethane	mg/L	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Bromoform	mg/L	ND (0.002)	ND (0.002)	ND (0.002) UJ	ND (0.001) UJ	ND (0.001)	ND (0.001) UJ	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Bromomethane (Methyl Bromide)	mg/L	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001) UJ	ND (0.001)
Carbon disulfide	mg/L	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Carbon tetrachloride	mg/L	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Chlorobenzene	mg/L	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Chloroethane	mg/L	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001) UJ	ND (0.001)
Chloroform (Trichloromethane)	mg/L	0.0013 J	0.0013 J	ND (0.002)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Chloromethane (Methyl Chloride)	mg/L	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
cis-1,2-Dichloroethene	mg/L	0.0022	0.0021	0.0033	0.0074	0.00061	0.00034 J	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)
cis-1,3-Dichloropropene	mg/L	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Cyclohexane	mg/L	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Dibromochloromethane	mg/L	ND (0.002)	ND (0.002)	ND (0.002) UJ	ND (0.001) UJ	ND (0.001)	ND (0.001) UJ	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Dichlorodifluoromethane (CFC-12)	mg/L	ND (0.002)	ND (0.002)	ND (0.002) UJ	ND (0.001) UJ	ND (0.001)	ND (0.001) UJ	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Ethylbenzene	mg/L	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Isopropylbenzene	mg/L	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Methyl acetate	mg/L	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Methyl cyclohexane	mg/L	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Methyl Tert Butyl Ether	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Methylene chloride	mg/L	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Styrene	mg/L	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Tetrachloroethene	mg/L	0.058	0.059	0.069	0.0045	0.0019	0.00093 J	0.0028	ND (0.001)	ND (0.001)	ND (0.001)
Toluene	mg/L	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
trans-1,2-Dichloroethene	mg/L	0.00069 J	0.00071 J	ND (0.001)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)
trans-1,3-Dichloropropene	mg/L	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Trichloroethene	mg/L	0.016	0.016	0.026	0.0016	0.00065 J	0.0025	0.00082 J	ND (0.001)	0.00031 J	ND (0.001)
Trichlorofluoromethane (CFC-11)	mg/L	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Trifluorotrichloroethane (Freon 113)	mg/L	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Vinyl chloride	mg/L	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Xylene (total)	mg/L	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)

TABLE 2B

ANALYTICAL RESULTS SUMMARY
STORM SEWER WATER SAMPLES BETWEEN WEBSTER AND TAYLOR STREETS
HARRISON DAYTON

Sample Location:		*BS-1_Abandoned*	*BS-1_Abandoned*	*BS-1_Abandoned*	*BS-2_Abandoned*	*BS-3_Abandoned*	*BS-3_Abandoned*	*BS-4_Abandoned*	*INT-5_Abandoned*	*INT-5_Abandoned*	*MH-26/INT-6_Abandoned*
Sample ID:		*W-040902-SLE-011*	*W-040902-SLE-012*	*WSS-101304-NZ-021*	*WSS-101304-NZ-019*	*W-041202-SLE-022*	*WSS-101304-NZ-020*	*W-041202-SLE-023*	*W-040802-SLE-010*	*WSS-101304-NZ-001*	*W-040802-SLE-009*
Sample Date:		*4/9/2002*	*4/9/2002 (Dup)*	*10/13/2004*	*10/13/2004*	*4/12/2002*	*10/13/2004*	*4/12/2002*	*4/8/2002*	*10/13/2004*	*4/8/2002*
Parameters	***Units***										
Semi-Volatile Organic Compounds											
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
2,4,5-Trichlorophenol	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
2,4,6-Trichlorophenol	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
2,4-Dichlorophenol	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
2,4-Dimethylphenol	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
2,4-Dinitrophenol	mg/L	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
2,4-Dinitrotoluene	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
2,6-Dinitrotoluene	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
2-Chloronaphthalene	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
2-Chlorophenol	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
2-Methylnaphthalene	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
2-Methylphenol	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
2-Nitroaniline	mg/L	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
2-Nitrophenol	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
3,3'-Dichlorobenzidine	mg/L	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
3-Nitroaniline	mg/L	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
4,6-Dinitro-2-methylphenol	mg/L	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
4-Bromophenyl phenyl ether	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
4-Chloro-3-methylphenol	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
4-Chloroaniline	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
4-Chlorophenyl phenyl ether	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
4-Methylphenol	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
4-Nitroaniline	mg/L	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
4-Nitrophenol	mg/L	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Acenaphthene	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Acenaphthylene	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Acetophenone	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Anthracene	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Atrazine	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Benzaldehyde	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Benzo(a)anthracene	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Benzo(a)pyrene	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Benzo(b)fluoranthene	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Benzo(g,h,i)perylene	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Benzo(k)fluoranthene	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Biphenyl	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
bis(2-Chloroethoxy)methane	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
bis(2-Chloroethyl)ether	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
bis(2-Ethylhexyl)phthalate	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	0.0072 J	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Butyl benzylphthalate	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Caprolactam	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Carbazole	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Chrysene	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Dibenz(a,h)anthracene	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Dibenzofuran	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Diethyl phthalate	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Dimethyl phthalate	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Di-n-butylphthalate	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Di-n-octyl phthalate	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Fluoranthene	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Fluorene	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Hexachlorobenzene	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)

TABLE 2B

ANALYTICAL RESULTS SUMMARY
STORM SEWER WATER SAMPLES BETWEEN WEBSTER AND TAYLOR STREETS
HARRISON DAYTON

Sample Location:		*BS-1_Abandoned*	*BS-1_Abandoned*	*BS-1_Abandoned*	*BS-2_Abandoned*	*BS-3_Abandoned*	*BS-3_Abandoned*	*BS-4_Abandoned*	*INT-5_Abandoned*	*INT-5_Abandoned*	*MH-26/INT-6_Abandoned*
Sample ID:		*W-040902-SLE-011*	*W-040902-SLE-012*	*WSS-101304-NZ-021*	*WSS-101304-NZ-019*	*W-041202-SLE-022*	*WSS-101304-NZ-020*	*W-041202-SLE-023*	*W-040802-SLE-010*	*WSS-101304-NZ-001*	*W-040802-SLE-009*
Sample Date:		*4/9/2002*	*4/9/2002 (Dup)*	*10/13/2004*	*10/13/2004*	*4/12/2002*	*10/13/2004*	*4/12/2002*	*4/8/2002*	*10/13/2004*	*4/8/2002*
Parameters	***Units***										
Hexachlorobutadiene	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Hexachlorocyclopentadiene	mg/L	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Hexachloroethane	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Indeno(1,2,3-cd)pyrene	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Isophorone	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Naphthalene	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Nitrobenzene	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
N-Nitrosodi-n-propylamine	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
N-Nitrosodiphenylamine	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Pentachlorophenol	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Phenanthrene	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Phenol	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Pyrene	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Metals											
Antimony	mg/L	ND (0.06)	ND (0.05)	ND (0.0020)	ND (0.0020)	ND (0.06)	ND (0.0020)	ND (0.060)	ND (0.06)	ND (0.0020)	ND (0.06)
Arsenic	mg/L	ND (0.01)	ND (0.01)	0.0028 J	0.0028 J	ND (0.01)	ND (0.010)	ND (0.01)	ND (0.01)	ND (0.010)	ND (0.01)
Barium	mg/L	0.10 J	0.10 J	0.11 J	0.069 J	0.081 J	0.038 J	0.025 J	0.0099 J	0.022 J	0.0089 J
Beryllium	mg/L	ND (0.005)	ND (0.005)	ND (0.0010)	ND (0.0010)	ND (0.005)	ND (0.0010)	ND (0.005)	ND (0.005)	ND (0.0010)	ND (0.005)
Cadmium	mg/L	ND (0.0050)	ND (0.005)	0.0021 J	ND (0.0050)	ND (0.0050)	0.0018 J	ND (0.0050)	ND (0.0050)	0.0013 J	ND (0.0050)
Chromium Total	mg/L	ND (0.010)	0.0084 J	0.0051 J	ND (0.010)	ND (0.01)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.01)
Cobalt	mg/L	ND (0.05)	ND (0.05)	ND (0.050)	ND (0.050)	ND (0.05)	ND (0.050)	ND (0.05)	ND (0.05)	ND (0.050)	ND (0.05)
Copper	mg/L	ND (0.025)	ND (0.025)	ND (0.025)	ND (0.025)	ND (0.025)	ND (0.025)	0.064	0.012 J	0.022 J	ND (0.025)
Lead	mg/L	ND (0.003)	ND (0.003)	ND (0.0030)	ND (0.0030)	ND (0.003)	ND (0.0030)	0.011	0.0050	0.0059	ND (0.003)
Manganese	mg/L	ND (0.015)	ND (0.015)	0.012 J	0.10	0.015	0.12	0.064	ND (0.015)	0.014 J	ND (0.015)
Mercury	mg/L	ND (0.0002)	ND (0.0002)	ND (0.00020)	ND (0.00020)	ND (0.0002)	ND (0.00020)	ND (0.0002)	ND (0.0002)	ND (0.00020)	ND (0.0002)
Nickel	mg/L	ND (0.04)	ND (0.04)	0.0026 J	ND (0.040)	ND (0.04)	ND (0.040)	ND (0.04)	ND (0.04)	ND (0.040)	ND (0.04)
Selenium	mg/L	ND (0.0073)	ND (0.005)	ND (0.0050)	ND (0.0050)	ND (0.005)	ND (0.0050)	ND (0.005)	ND (0.005)	ND (0.0050)	ND (0.0050)
Silver	mg/L	ND (0.01)	ND (0.01)	ND (0.010)	ND (0.010)	ND (0.01)	ND (0.010)	ND (0.01)	ND (0.01)	ND (0.010)	ND (0.01)
Thallium	mg/L	0.0067 J	0.0069 J	ND (0.0010)	ND (0.0010)	0.0095 J	ND (0.0010)	0.0056 J	0.0054 J	ND (0.0010)	ND (0.01)
Vanadium	mg/L	ND (0.050)	ND (0.05)	ND (0.050)	ND (0.050)	ND (0.05)	ND (0.050)	ND (0.05)	ND (0.05)	ND (0.050)	ND (0.05)
Zinc	mg/L	0.038 J	0.018 J	ND (0.020)	0.023	0.016 J	0.031	0.082	0.39	0.25	0.55
PCBs											
Aroclor-1016 (PCB-1016)	mg/L	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)
Aroclor-1221 (PCB-1221)	mg/L	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)
Aroclor-1232 (PCB-1232)	mg/L	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)
Aroclor-1242 (PCB-1242)	mg/L	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)
Aroclor-1248 (PCB-1248)	mg/L	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)
Aroclor-1254 (PCB-1254)	mg/L	0.00028	0.00045	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)
Aroclor-1260 (PCB-1260)	mg/L	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	0.00035	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)
General Chemistry											
Cyanide (total)	mg/L	ND (0.01)	ND (0.01)	ND (0.010)	ND (0.010)	ND (0.01)	ND (0.010)	ND (0.01)	ND (0.01)	ND (0.010)	ND (0.01)

Notes:

ND - Not detected.
J - Estimated value.
UJ - Estimated reporting detection limit.
R - Rejected.

TABLE 2B

ANALYTICAL RESULTS SUMMARY
STORM SEWER WATER SAMPLES BETWEEN WEBSTER AND TAYLOR STREETS
HARRISON DAYTON

Sample Location:		*MH-26/INT-6_Abandoned*	*INT-8_Cleaned*	*INT-8_Cleaned*	*INT-8_Cleaned*	*MH-5_Abandoned*	*MH-6_Abandoned*	*MH-7_Cleaned*	*MH-7_Cleaned*	*MH-8_Cleaned*	*MH-8_Cleaned*
Sample ID:		*WSS-101304-NZ-002*	*W-041102-SLE-018*	*WSS-101504-NZ-002*	*WSS-101504-NZ-003*	*WSS-101304-NZ-018*	*WSS-101304-NZ-017*	*W-040402-SLE-001*	*WSS-101304-NZ-016*	*W-040402-SLE-002*	*WSS-101304-NZ-013*
Sample Date:		*10/13/2004*	*4/11/2002*	*10/15/2004*	*10/15/2004 (Dup)*	*10/13/2004*	*10/13/2004*	*4/4/2002*	*10/13/2004*	*4/4/2002*	*10/13/2004*
Parameters	***Units***										
Volatile Organic Compounds											
1,1,1-Trichloroethane	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
1,1,2,2-Tetrachloroethane	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
1,1,2-Trichloroethane	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
1,1-Dichloroethane	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
1,1-Dichloroethene	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
1,2,4-Trichlorobenzene	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001) UJ	ND (0.001)	ND (0.001) UJ	ND (0.001)
1,2-Dibromo-3-chloropropane (DBCP)	mg/L	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002) UJ	ND (0.002) UJ	ND (0.002)	ND (0.002) UJ	ND (0.002)	ND (0.002) UJ
1,2-Dibromoethane (Ethylene Dibromide)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
1,2-Dichlorobenzene	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
1,2-Dichloroethane	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
1,2-Dichloropropane	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
1,3-Dichlorobenzene	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
1,4-Dichlorobenzene	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
2-Butanone (Methyl Ethyl Ketone)	mg/L	ND (0.01)	ND (0.01) UJ	0.00052 J	ND (0.01)	0.00068 J	0.00064 J	0.00057 J	0.0011 J	0.0005 J	0.00074 J
2-Hexanone	mg/L	ND (0.01) UJ	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01) UJ	ND (0.01) UJ	ND (0.01)	ND (0.01) UJ	ND (0.01)	0.00047 J
Acetone	mg/L	0.001 J	ND (0.01) UJ	0.0035 J	0.0029 J	0.0025 J	0.0019 J	ND (0.01)	0.0045 J	ND (0.01)	0.0031 J
Benzene	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Bromodichloromethane	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Bromoform	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001) UJ	ND (0.001) UJ	ND (0.001)	ND (0.001) UJ	ND (0.001)	ND (0.001) UJ
Bromomethane (Methyl Bromide)	mg/L	ND (0.001) UJ	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Carbon disulfide	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Carbon tetrachloride	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Chlorobenzene	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Chloroethane	mg/L	ND (0.001) UJ	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Chloroform (Trichloromethane)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Chloromethane (Methyl Chloride)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
cis-1,2-Dichloroethene	mg/L	0.00023 J	0.00064	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)
cis-1,3-Dichloropropene	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Cyclohexane	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Dibromochloromethane	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001) UJ	ND (0.001) UJ	ND (0.001)	ND (0.001) UJ	ND (0.001)	ND (0.001) UJ
Dichlorodifluoromethane (CFC-12)	mg/L	ND (0.001)	ND (0.001) UJ	ND (0.001)	ND (0.001)	ND (0.001) UJ	ND (0.001) UJ	ND (0.001)	ND (0.001) UJ	ND (0.001)	ND (0.001) UJ
Ethylbenzene	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Isopropylbenzene	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Methyl acetate	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Methyl cyclohexane	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Methyl Tert Butyl Ether	mg/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Methylene chloride	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Styrene	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Tetrachloroethene	mg/L	ND (0.001)	ND (0.001)	0.00028 J	0.00024 J	ND (0.001)	ND (0.001)	0.0006 J	ND (0.001)	0.003	ND (0.001)
Toluene	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
trans-1,2-Dichloroethene	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)
trans-1,3-Dichloropropene	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Trichloroethene	mg/L	0.00058 J	ND (0.001)	0.00029 J	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Trichlorofluoromethane (CFC-11)	mg/L	ND (0.001)	ND (0.001) UJ	ND (0.001) UJ	ND (0.001) UJ	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Trifluorotrichloroethane (Freon 113)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Vinyl chloride	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Xylene (total)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)

TABLE 2B

ANALYTICAL RESULTS SUMMARY
STORM SEWER WATER SAMPLES BETWEEN WEBSTER AND TAYLOR STREETS
HARRISON DAYTON

Sample Location:		*MH-26/INT-6_Abandoned*	*INT-8_Cleaned*	*INT-8_Cleaned*	*INT-8_Cleaned*	*MH-5_Abandoned*	*MH-6_Abandoned*	*MH-7_Cleaned*	*MH-7_Cleaned*	*MH-8_Cleaned*	*MH-8_Cleaned*
Sample ID:		*WSS-101304-NZ-002*	*W-041102-SLE-018*	*WSS-101504-NZ-002*	*WSS-101504-NZ-003*	*WSS-101304-NZ-018*	*WSS-101304-NZ-017*	*W-040402-SLE-001*	*WSS-101304-NZ-016*	*W-040402-SLE-002*	*WSS-101304-NZ-013*
Sample Date:		*10/13/2004*	*4/11/2002*	*10/15/2004*	*10/15/2004 (Dup)*	*10/13/2004*	*10/13/2004*	*4/4/2002*	*10/13/2004*	*4/4/2002*	*10/13/2004*
Parameters	***Units***										
Semi-Volatile Organic Compounds											
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
2,4,5-Trichlorophenol	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
2,4,6-Trichlorophenol	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
2,4-Dichlorophenol	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
2,4-Dimethylphenol	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
2,4-Dinitrophenol	mg/L	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05) UJ	ND (0.05)	ND (0.05) UJ	ND (0.05)
2,4-Dinitrotoluene	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
2,6-Dinitrotoluene	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
2-Chloronaphthalene	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
2-Chlorophenol	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
2-Methylnaphthalene	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
2-Methylphenol	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
2-Nitroaniline	mg/L	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
2-Nitrophenol	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
3,3'-Dichlorobenzidine	mg/L	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
3-Nitroaniline	mg/L	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
4,6-Dinitro-2-methylphenol	mg/L	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
4-Bromophenyl phenyl ether	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
4-Chloro-3-methylphenol	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
4-Chloroaniline	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
4-Chlorophenyl phenyl ether	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
4-Methylphenol	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
4-Nitroaniline	mg/L	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
4-Nitrophenol	mg/L	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Acenaphthene	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Acenaphthylene	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Acetophenone	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Anthracene	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Atrazine	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Benzaldehyde	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Benzo(a)anthracene	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Benzo(a)pyrene	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Benzo(b)fluoranthene	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Benzo(g,h,i)perylene	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Benzo(k)fluoranthene	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Biphenyl	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
bis(2-Chloroethoxy)methane	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
bis(2-Chloroethyl)ether	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
bis(2-Ethylhexyl)phthalate	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	0.0068 J	ND (0.01)	0.0029 J	ND (0.01)
Butyl benzylphthalate	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Caprolactam	mg/L	ND (0.01)	ND (0.01)	0.00081 J	ND (0.01)	0.0028 J	0.0024 J	ND (0.01)	0.018	ND (0.01)	0.0047 J
Carbazole	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Chrysene	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Dibenz(a,h)anthracene	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Dibenzofuran	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Diethyl phthalate	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Dimethyl phthalate	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Di-n-butylphthalate	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Di-n-octyl phthalate	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Fluoranthene	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Fluorene	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Hexachlorobenzene	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)

TABLE 2B

ANALYTICAL RESULTS SUMMARY
STORM SEWER WATER SAMPLES BETWEEN WEBSTER AND TAYLOR STREETS
HARRISON DAYTON

Sample Location:		*MH-26/INT-6_Abandoned*	*INT-8_Cleaned*	*INT-8_Cleaned*	*INT-8_Cleaned*	*MH-5_Abandoned*	*MH-6_Abandoned*	*MH-7_Cleaned*	*MH-7_Cleaned*	*MH-8_Cleaned*	*MH-8_Cleaned*
Sample ID:		*WSS-101304-NZ-002*	*W-041102-SLE-018*	*WSS-101504-NZ-002*	*WSS-101504-NZ-003*	*WSS-101304-NZ-018*	*WSS-101304-NZ-017*	*W-040402-SLE-001*	*WSS-101304-NZ-016*	*W-040402-SLE-002*	*WSS-101304-NZ-013*
Sample Date:		*10/13/2004*	*4/11/2002*	*10/15/2004*	*10/15/2004 (Dup)*	*10/13/2004*	*10/13/2004*	*4/4/2002*	*10/13/2004*	*4/4/2002*	*10/13/2004*
Parameters	***Units***										
Hexachlorobutadiene	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Hexachlorocyclopentadiene	mg/L	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Hexachloroethane	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Indeno(1,2,3-cd)pyrene	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Isophorone	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Naphthalene	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Nitrobenzene	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
N-Nitrosodi-n-propylamine	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
N-Nitrosodiphenylamine	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Pentachlorophenol	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Phenanthrene	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Phenol	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	0.00079 J	ND (0.01)	ND (0.01)
Pyrene	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Metals											
Antimony	mg/L	ND (0.0020)	ND (0.06)	ND (0.0020)	ND (0.0020)	0.0056	0.013	ND (0.06)	0.0023	ND (0.06)	0.0021
Arsenic	mg/L	ND (0.010)	0.0054 J	0.0050 J	0.0040 J	ND (0.010)	ND (0.010)	ND (0.01)	0.0034 J	ND (0.01)	ND (0.010)
Barium	mg/L	0.035 J	0.038 J	0.031 J	0.032 J	0.045 J	0.058 J	0.025 J	0.069 J	ND (0.2)	0.091 J
Beryllium	mg/L	ND (0.0010)	ND (0.005)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.005)	ND (0.0010)	ND (0.005)	ND (0.0010)
Cadmium	mg/L	0.00083 J	ND (0.0050)	ND (0.0050)	ND (0.0050)	0.00091 J	0.00096 J	ND (0.0050)	0.0012 J	ND (0.0050)	0.0017 J
Chromium Total	mg/L	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	0.0027 J	ND (0.010)	0.0053 J	ND (0.01)	0.0072 J
Cobalt	mg/L	ND (0.050)	ND (0.05)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	0.0016 J	ND (0.05)	0.0023 J
Copper	mg/L	0.036	0.014 J	0.030	0.032	0.069	0.14	0.015 J	0.10	ND (0.025)	0.077
Lead	mg/L	0.0023 J	ND (0.003)	0.0029 J	0.0054	0.0029 J	0.0097	ND (0.003)	0.016	ND (0.003)	0.041
Manganese	mg/L	0.041	0.037	0.026	0.031	0.041	0.066	0.011 J	0.056	ND (0.015)	0.045
Mercury	mg/L	ND (0.00020)	ND (0.0002)	ND (0.00020)	ND (0.00020)	ND (0.00020)	ND (0.00020)	ND (0.0002)	0.000040 J	0.000093 J	0.00054
Nickel	mg/L	ND (0.040)	ND (0.04)	ND (0.040)	ND (0.040)	ND (0.040)	ND (0.040)	ND (0.040)	0.0065 J	ND (0.04)	0.0039 J
Selenium	mg/L	ND (0.0050)	ND (0.005)	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.005)	ND (0.0050)	ND (0.005)	ND (0.0050)
Silver	mg/L	ND (0.010)	ND (0.01)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.01)	ND (0.010)	ND (0.01)	ND (0.010)
Thallium	mg/L	ND (0.0010)	0.0079 J	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.010)	ND (0.0010)	ND (0.010)	0.000029 J
Vanadium	mg/L	ND (0.050)	0.0013 J	0.00073 J	0.0011 J	ND (0.050)	ND (0.050)	ND (0.05)	0.0018 J	ND (0.05)	0.0030 J
Zinc	mg/L	0.43	0.12	0.14	0.19	1.0	0.42	0.10	0.22	ND (0.02)	0.29
PCBs											
Aroclor-1016 (PCB-1016)	mg/L	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	R	ND (0.0002)	ND (0.0002)
Aroclor-1221 (PCB-1221)	mg/L	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	R	ND (0.0002)	ND (0.0002)
Aroclor-1232 (PCB-1232)	mg/L	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	R	ND (0.0004)	ND (0.0004)
Aroclor-1242 (PCB-1242)	mg/L	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	0.00027	R	0.00022	ND (0.0002)
Aroclor-1248 (PCB-1248)	mg/L	ND (0.0002)	ND (0.0002)	ND (0.0002)	0.00047	ND (0.0002)	ND (0.0002)	ND (0.0002)	R	ND (0.0002)	ND (0.0002)
Aroclor-1254 (PCB-1254)	mg/L	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	R	ND (0.0002)	0.00028
Aroclor-1260 (PCB-1260)	mg/L	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	R	ND (0.0002)	ND (0.0002)
General Chemistry											
Cyanide (total)	mg/L	ND (0.010)	ND (0.01)	0.0034 J	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.01)	ND (0.010)	ND (0.01)	ND (0.010)

Notes:

ND - Not detected.
J - Estimated value.
UJ - Estimated reporting detection limit.
R - Rejected.

TABLE 2B

ANALYTICAL RESULTS SUMMARY
STORM SEWER WATER SAMPLES BETWEEN WEBSTER AND TAYLOR STREETS
HARRISON DAYTON

Sample Location:		*MH-9_Cleaned*	*MH-9_Cleaned*	*MH-9_Cleaned*	*MH-10_Cleaned*	*MH-11_Cleaned*	*MH-11_Cleaned*	*MH-11_Cleaned*	*MH-12_Abandoned*	*MH-12_Abandoned*	*MH-13_Cleaned*
Sample ID:		*W-040502-SLE-003*	*WSS-101304-NZ-012*	*WSS-101504-NZ-012*	*WSS-102405-JC-0001*	*W-040502-SLE-004*	*WSS-101304-NZ-011*	*WSS-101504-NZ-011*	*WSS-101304-NZ-010*	*WSS-101504-NZ-010*	*WSS-102405-JC-0002*
Sample Date:		*4/5/2002*	*10/13/2004*	*10/15/2004*	*10/24/2005*	*4/5/2002*	*10/13/2004*	*10/15/2004*	*10/13/2004*	*10/15/2004*	*10/24/2005*
Parameters	***Units***										
Volatile Organic Compounds											
1,1,1-Trichloroethane	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
1,1,2,2-Tetrachloroethane	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
1,1,2-Trichloroethane	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
1,1-Dichloroethane	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
1,1-Dichloroethene	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
1,2,4-Trichlorobenzene	mg/L	ND (0.001) UJ	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001) UJ	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
1,2-Dibromo-3-chloropropane (DBCP)	mg/L	ND (0.002)	ND (0.002) UJ	ND (0.002)	ND (0.001)	ND (0.002)	ND (0.002) UJ	ND (0.002)	ND (0.002) UJ	ND (0.002)	ND (0.001)
1,2-Dibromoethane (Ethylene Dibromide)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
1,2-Dichlorobenzene	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
1,2-Dichloroethane	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
1,2-Dichloropropane	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
1,3-Dichlorobenzene	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
1,4-Dichlorobenzene	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
2-Butanone (Methyl Ethyl Ketone)	mg/L	0.00047 J	0.00075 J	ND (0.01) UJ	0.00066 J	ND (0.01)	0.00081 J	ND (0.01) UJ	0.00057 J	ND (0.01) UJ	0.0011 J
2-Hexanone	mg/L	ND (0.01)	ND (0.01)	ND (0.01) UJ	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01) UJ	ND (0.01)	ND (0.01) UJ	ND (0.01)
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	mg/L	ND (0.01)	0.00038 J	ND (0.01) UJ	ND (0.01)	ND (0.01)	ND (0.01) UJ	ND (0.01)	ND (0.01) UJ	ND (0.01) UJ	ND (0.01)
Acetone	mg/L	ND (0.01)	0.003 J	0.0033 J	ND (0.01)	ND (0.01)	0.0027 J	ND (0.01) UJ	0.0022 J	0.00094 J	ND (0.01)
Benzene	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Bromodichloromethane	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.0039	ND (0.001)
Bromoform	mg/L	ND (0.001)	ND (0.001) UJ	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001) UJ	ND (0.001) UJ	ND (0.001) UJ	0.0014	ND (0.001)
Bromomethane (Methyl Bromide)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Carbon disulfide	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Carbon tetrachloride	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Chlorobenzene	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Chloroethane	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Chloroform (Trichloromethane)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Chloromethane (Methyl Chloride)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
cis-1,2-Dichloroethene	mg/L	ND (0.0005)	ND (0.0005)	0.00086	0.00034 J	0.027	0.0027	0.0025	ND (0.0005)	ND (0.0005)	0.00087 J
cis-1,3-Dichloropropene	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001) UJ	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Cyclohexane	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Dibromochloromethane	mg/L	ND (0.001)	ND (0.001) UJ	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001) UJ	ND (0.001) UJ	ND (0.001) UJ	0.0038	ND (0.001)
Dichlorodifluoromethane (CFC-12)	mg/L	ND (0.001)	ND (0.001) UJ	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001) UJ	ND (0.001)	ND (0.001) UJ	ND (0.001)	ND (0.001)
Ethylbenzene	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.00067 J	ND (0.001)	ND (0.001)
Isopropylbenzene	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Methyl acetate	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Methyl cyclohexane	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Methyl Tert Butyl Ether	mg/L	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Methylene chloride	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.005)	ND (0.001)	ND (0.001)	0.00037 J	ND (0.001)	ND (0.001)	ND (0.005)
Styrene	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Tetrachloroethene	mg/L	0.0011	0.00035 J	0.013	0.0004 J	0.011	0.00078 J	0.00025 J	ND (0.001)	ND (0.001)	0.00037 J
Toluene	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
trans-1,2-Dichloroethene	mg/L	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.001)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.001)
trans-1,3-Dichloropropene	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Trichloroethene	mg/L	0.00019 J	ND (0.001)	0.0028	ND (0.001)	0.0054	0.00059 J	0.00052 J	0.00071 J	ND (0.001)	0.00036 J
Trichlorofluoromethane (CFC-11)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Trifluorotrichloroethane (Freon 113)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Vinyl chloride	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	0.00065 J	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Xylene (total)	mg/L	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.002) UJ	ND (0.001)	ND (0.001)	ND (0.001)	0.0036	ND (0.001)	ND (0.002)

TABLE 2B

ANALYTICAL RESULTS SUMMARY
STORM SEWER WATER SAMPLES BETWEEN WEBSTER AND TAYLOR STREETS
HARRISON DAYTON

Sample Location:		*MH-9_Cleaned*	*MH-9_Cleaned*	*MH-9_Cleaned*	*MH-10_Cleaned*	*MH-11_Cleaned*	*MH-11_Cleaned*	*MH-11_Cleaned*	*MH-12_Abandoned*	*MH-12_Abandoned*	*MH-13_Cleaned*
Sample ID:		*W-040502-SLE-003*	*WSS-101304-NZ-012*	*WSS-101504-NZ-012*	*WSS-102405-JC-0001*	*W-040502-SLE-004*	*WSS-101304-NZ-011*	*WSS-101504-NZ-011*	*WSS-101304-NZ-010*	*WSS-101504-NZ-010*	*WSS-102405-JC-0002*
Sample Date:		*4/5/2002*	*10/13/2004*	*10/15/2004*	*10/24/2005*	*4/5/2002*	*10/13/2004*	*10/15/2004*	*10/13/2004*	*10/15/2004*	*10/24/2005*
Parameters	***Units***										
Semi-Volatile Organic Compounds											
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	mg/L	ND (0.01)	ND (0.04)	ND (0.01) UJ	ND (0.01)	ND (0.01)	ND (0.04)	ND (0.01)	-	ND (0.01)	ND (0.01)
2,4,5-Trichlorophenol	mg/L	ND (0.01)	ND (0.04)	ND (0.01) UJ	ND (0.01)	ND (0.01)	ND (0.04)	ND (0.01)	-	ND (0.01)	ND (0.01)
2,4,6-Trichlorophenol	mg/L	ND (0.01)	ND (0.04)	ND (0.01) UJ	ND (0.01)	ND (0.01)	ND (0.04)	ND (0.01)	-	ND (0.01)	ND (0.01)
2,4-Dichlorophenol	mg/L	ND (0.01)	ND (0.04)	ND (0.01) UJ	ND (0.01)	ND (0.01)	ND (0.04)	ND (0.01)	-	ND (0.01)	ND (0.01)
2,4-Dimethylphenol	mg/L	ND (0.01)	ND (0.04)	ND (0.01) UJ	ND (0.01)	ND (0.01)	ND (0.04)	ND (0.01)	-	ND (0.01)	ND (0.01)
2,4-Dinitrophenol	mg/L	ND (0.05) UJ	ND (0.2)	ND (0.05) UJ	ND (0.05)	ND (0.05) UJ	ND (0.2)	ND (0.05)	-	ND (0.05)	ND (0.05)
2,4-Dinitrotoluene	mg/L	ND (0.01)	ND (0.04)	ND (0.01) UJ	ND (0.01)	ND (0.01)	ND (0.04)	ND (0.01)	-	ND (0.01)	ND (0.01)
2,6-Dinitrotoluene	mg/L	ND (0.01)	ND (0.04)	ND (0.01) UJ	ND (0.01)	ND (0.01)	ND (0.04)	ND (0.01)	-	ND (0.01)	ND (0.01)
2-Chloronaphthalene	mg/L	ND (0.01)	ND (0.04)	ND (0.01) UJ	ND (0.01)	ND (0.01)	ND (0.04)	ND (0.01)	-	ND (0.01)	ND (0.01)
2-Chlorophenol	mg/L	ND (0.01)	ND (0.04)	ND (0.01) UJ	ND (0.01)	ND (0.01)	ND (0.04)	ND (0.01)	-	ND (0.01)	ND (0.01)
2-Methylnaphthalene	mg/L	ND (0.01)	ND (0.04)	ND (0.01) UJ	ND (0.01)	ND (0.01)	ND (0.04)	ND (0.01)	-	ND (0.01)	ND (0.01)
2-Methylphenol	mg/L	ND (0.01)	ND (0.04)	ND (0.01) UJ	ND (0.01)	ND (0.01)	ND (0.04)	ND (0.01)	-	ND (0.01)	ND (0.01)
2-Nitroaniline	mg/L	ND (0.05)	ND (0.2)	ND (0.05) UJ	ND (0.05)	ND (0.05)	ND (0.2)	ND (0.05)	-	ND (0.05)	ND (0.05)
2-Nitrophenol	mg/L	ND (0.01)	ND (0.04)	ND (0.01) UJ	ND (0.01)	ND (0.01)	ND (0.04)	ND (0.01)	-	ND (0.01)	ND (0.01)
3,3'-Dichlorobenzidine	mg/L	ND (0.05)	ND (0.2)	ND (0.05) UJ	R	ND (0.05)	ND (0.2)	ND (0.05)	-	ND (0.05)	ND (0.05)
3-Nitroaniline	mg/L	ND (0.05)	ND (0.2)	ND (0.05) UJ	ND (0.05)	ND (0.05)	ND (0.2)	ND (0.05)	-	ND (0.05)	ND (0.05)
4,6-Dinitro-2-methylphenol	mg/L	ND (0.05)	ND (0.2)	ND (0.05) UJ	ND (0.05)	ND (0.05)	ND (0.2)	ND (0.05)	-	ND (0.05)	ND (0.05)
4-Bromophenyl phenyl ether	mg/L	ND (0.01)	ND (0.04)	ND (0.01) UJ	ND (0.01)	ND (0.01)	ND (0.04)	ND (0.01)	-	ND (0.01)	ND (0.01)
4-Chloro-3-methylphenol	mg/L	ND (0.01)	ND (0.04)	ND (0.01) UJ	ND (0.01)	ND (0.01)	ND (0.04)	ND (0.01)	-	ND (0.01)	ND (0.01)
4-Chloroaniline	mg/L	ND (0.01)	ND (0.04)	ND (0.01) UJ	ND (0.01)	ND (0.01)	ND (0.04)	ND (0.01)	-	ND (0.01)	ND (0.01)
4-Chlorophenyl phenyl ether	mg/L	ND (0.01)	ND (0.04)	ND (0.01) UJ	ND (0.01)	ND (0.01)	ND (0.04)	ND (0.01)	-	ND (0.01)	ND (0.01)
4-Methylphenol	mg/L	ND (0.01)	ND (0.04)	ND (0.01) UJ	0.00077 J#	ND (0.01)	ND (0.04)	ND (0.01)	-	ND (0.01)	0.0005 J#
4-Nitroaniline	mg/L	ND (0.05)	ND (0.2)	ND (0.05) UJ	ND (0.05)	ND (0.05)	ND (0.2)	ND (0.05)	-	ND (0.05)	ND (0.05)
4-Nitrophenol	mg/L	ND (0.05)	ND (0.2)	ND (0.05) UJ	ND (0.05)	0.0023 J	ND (0.2)	ND (0.05)	-	ND (0.05)	ND (0.05)
Acenaphthene	mg/L	ND (0.01)	ND (0.04)	ND (0.01) UJ	ND (0.01)	ND (0.01)	ND (0.04)	ND (0.01)	-	ND (0.01)	ND (0.01)
Acenaphthylene	mg/L	ND (0.01)	ND (0.04)	ND (0.01) UJ	ND (0.01)	ND (0.01)	ND (0.04)	ND (0.01)	-	ND (0.01)	ND (0.01)
Acetophenone	mg/L	ND (0.01)	ND (0.04)	ND (0.01) UJ	ND (0.01)	ND (0.01)	ND (0.04)	ND (0.01)	-	ND (0.01)	ND (0.01)
Anthracene	mg/L	ND (0.01)	ND (0.04)	ND (0.01) UJ	ND (0.01)	ND (0.01)	ND (0.04)	ND (0.01)	-	ND (0.01)	ND (0.01)
Atrazine	mg/L	ND (0.01)	ND (0.04)	ND (0.01) UJ	ND (0.01)	ND (0.01)	ND (0.04)	ND (0.01)	-	ND (0.01)	ND (0.01)
Benzaldehyde	mg/L	ND (0.01)	ND (0.04)	ND (0.01) UJ	ND (0.01)	ND (0.01)	ND (0.04)	ND (0.01)	-	ND (0.01)	ND (0.01)
Benzo(a)anthracene	mg/L	ND (0.01)	ND (0.04)	ND (0.01) UJ	0.00076 J	ND (0.01)	ND (0.04)	ND (0.01)	-	ND (0.01)	0.0016 J
Benzo(a)pyrene	mg/L	ND (0.01)	ND (0.04)	ND (0.01) UJ	0.00061 J	ND (0.01)	ND (0.04)	ND (0.01)	-	ND (0.01)	0.0015 J
Benzo(b)fluoranthene	mg/L	ND (0.01)	ND (0.04)	ND (0.01) UJ	0.00087 J	ND (0.01)	ND (0.04)	ND (0.01)	-	ND (0.01)	0.003 J
Benzo(g,h,i)perylene	mg/L	ND (0.01)	ND (0.04)	ND (0.01) UJ	0.00044 J	ND (0.01)	ND (0.04)	ND (0.01)	-	ND (0.01)	0.0013 J
Benzo(k)fluoranthene	mg/L	ND (0.01)	ND (0.04)	ND (0.01) UJ	0.00045 J	ND (0.01)	ND (0.04)	ND (0.01)	-	ND (0.01)	0.0012 J
Biphenyl	mg/L	ND (0.01)	ND (0.04)	ND (0.01) UJ	ND (0.01)	ND (0.01)	ND (0.04)	ND (0.01)	-	ND (0.01)	ND (0.01)
bis(2-Chloroethoxy)methane	mg/L	ND (0.01)	ND (0.04)	ND (0.01) UJ	ND (0.01)	ND (0.01)	ND (0.04)	ND (0.01)	-	ND (0.01)	ND (0.01)
bis(2-Chloroethyl)ether	mg/L	ND (0.01)	ND (0.04)	ND (0.01) UJ	ND (0.01)	ND (0.01)	ND (0.04)	ND (0.01)	-	ND (0.01)	ND (0.01)
bis(2-Ethylhexyl)phthalate	mg/L	ND (0.01)	ND (0.04)	ND (0.01) UJ	ND (0.01)	ND (0.01)	ND (0.04)	ND (0.01)	-	ND (0.01)	ND (0.01)
Butyl benzylphthalate	mg/L	ND (0.01)	ND (0.04)	ND (0.01) UJ	ND (0.01)	ND (0.01)	ND (0.04)	ND (0.01)	-	ND (0.01)	ND (0.01)
Caprolactam	mg/L	ND (0.01)	0.0041 J	ND (0.01) UJ	ND (0.01)	ND (0.01)	ND (0.04)	ND (0.01)	-	ND (0.01)	0.0027 J
Carbazole	mg/L	ND (0.01)	ND (0.04)	ND (0.01) UJ	ND (0.01)	ND (0.01)	ND (0.04)	ND (0.01)	-	ND (0.01)	0.0013 J
Chrysene	mg/L	ND (0.01)	ND (0.04)	ND (0.01) UJ	0.00085 J	ND (0.01)	ND (0.04)	ND (0.01)	-	ND (0.01)	0.0027 J
Dibenz(a,h)anthracene	mg/L	ND (0.01)	ND (0.04)	ND (0.01) UJ	ND (0.01)	ND (0.01)	ND (0.04)	ND (0.01)	-	ND (0.01)	0.00043 J
Dibenzofuran	mg/L	ND (0.01)	ND (0.04)	ND (0.01) UJ	ND (0.01)	ND (0.01)	ND (0.04)	ND (0.01)	-	ND (0.01)	ND (0.01)
Diethyl phthalate	mg/L	ND (0.01)	ND (0.04)	ND (0.01) UJ	ND (0.01)	ND (0.01)	ND (0.04)	ND (0.01)	-	ND (0.01)	ND (0.01)
Dimethyl phthalate	mg/L	ND (0.01)	ND (0.04)	ND (0.01) UJ	ND (0.01)	ND (0.01)	ND (0.04)	ND (0.01)	-	ND (0.01)	ND (0.01)
Di-n-butylphthalate	mg/L	ND (0.01)	ND (0.04)	ND (0.01) UJ	ND (0.01)	ND (0.01)	ND (0.04)	ND (0.01)	-	ND (0.01)	ND (0.01)
Di-n-octyl phthalate	mg/L	ND (0.01)	ND (0.04)	ND (0.01) UJ	ND (0.01)	ND (0.01)	ND (0.04)	ND (0.01)	-	ND (0.01)	ND (0.01)
Fluoranthene	mg/L	ND (0.01)	ND (0.04)	ND (0.01) UJ	0.0021 J	ND (0.01)	ND (0.04)	ND (0.01)	-	ND (0.01)	0.0061 J
Fluorene	mg/L	ND (0.01)	ND (0.04)	ND (0.01) UJ	ND (0.01)	ND (0.01)	ND (0.04)	ND (0.01)	-	ND (0.01)	0.00043 J
Hexachlorobenzene	mg/L	ND (0.01)	ND (0.04)	ND (0.01) UJ	ND (0.01)	ND (0.01)	ND (0.04)	ND (0.01)	-	ND (0.01)	ND (0.01)

TABLE 2B

ANALYTICAL RESULTS SUMMARY
STORM SEWER WATER SAMPLES BETWEEN WEBSTER AND TAYLOR STREETS
HARRISON DAYTON

Sample Location:		*MH-9_Cleaned*	*MH-9_Cleaned*	*MH-9_Cleaned*	*MH-10_Cleaned*	*MH-11_Cleaned*	*MH-11_Cleaned*	*MH-11_Cleaned*	*MH-12_Abandoned*	*MH-12_Abandoned*	*MH-13_Cleaned*
Sample ID:		*W-040502-SLE-003*	*WSS-101304-NZ-012*	*WSS-101504-NZ-012*	*WSS-102405-JC-0001*	*W-040502-SLE-004*	*WSS-101304-NZ-011*	*WSS-101504-NZ-011*	*WSS-101304-NZ-010*	*WSS-101504-NZ-010*	*WSS-102405-JC-0002*
Sample Date:		*4/5/2002*	*10/13/2004*	*10/15/2004*	*10/24/2005*	*4/5/2002*	*10/13/2004*	*10/15/2004*	*10/13/2004*	*10/15/2004*	*10/24/2005*
Parameters	***Units***										
Hexachlorobutadiene	mg/L	ND (0.01)	ND (0.04)	ND (0.01) UJ	ND (0.01)	ND (0.01)	ND (0.04)	ND (0.01)	-	ND (0.01)	ND (0.01)
Hexachlorocyclopentadiene	mg/L	ND (0.05)	ND (0.2)	ND (0.05) UJ	ND (0.05)	ND (0.05)	ND (0.2)	ND (0.05)	-	ND (0.05)	ND (0.05)
Hexachloroethane	mg/L	ND (0.01)	ND (0.04)	ND (0.01) UJ	ND (0.01)	ND (0.01)	ND (0.04)	ND (0.01)	-	ND (0.01)	ND (0.01)
Indeno(1,2,3-cd)pyrene	mg/L	ND (0.01)	ND (0.04)	ND (0.01) UJ	ND (0.01)	ND (0.01)	ND (0.04)	ND (0.01)	-	ND (0.01)	0.0012 J
Isophorone	mg/L	ND (0.01)	ND (0.04)	ND (0.01) UJ	ND (0.01)	ND (0.01)	ND (0.04)	ND (0.01)	-	ND (0.01)	ND (0.01)
Naphthalene	mg/L	ND (0.01)	ND (0.04)	ND (0.01) UJ	ND (0.01)	ND (0.01)	ND (0.04)	ND (0.01)	-	ND (0.01)	ND (0.01)
Nitrobenzene	mg/L	ND (0.01)	ND (0.04)	ND (0.01) UJ	ND (0.01)	ND (0.01)	ND (0.04)	ND (0.01)	-	ND (0.01)	ND (0.01)
N-Nitrosodi-n-propylamine	mg/L	ND (0.01)	ND (0.04)	ND (0.01) UJ	ND (0.01)	ND (0.01)	ND (0.04)	ND (0.01)	-	ND (0.01)	ND (0.01)
N-Nitrosodiphenylamine	mg/L	ND (0.01)	ND (0.04)	ND (0.01) UJ	ND (0.01)	ND (0.01)	ND (0.04)	ND (0.01)	-	ND (0.01)	ND (0.01)
Pentachlorophenol	mg/L	ND (0.01)	ND (0.04)	ND (0.01) UJ	ND (0.01)	ND (0.01)	ND (0.04)	ND (0.01)	-	ND (0.01)	ND (0.01)
Phenanthrene	mg/L	ND (0.01)	ND (0.04)	ND (0.01) UJ	0.0014 J	ND (0.01)	ND (0.04)	ND (0.01)	-	ND (0.01)	0.004 J
Phenol	mg/L	ND (0.01)	ND (0.04)	ND (0.01) UJ	ND (0.01)	ND (0.01)	ND (0.04)	ND (0.01)	-	ND (0.01)	ND (0.01)
Pyrene	mg/L	ND (0.01)	ND (0.04)	ND (0.01) UJ	0.0015 J	ND (0.01)	ND (0.04)	ND (0.01)	-	ND (0.01)	0.004 J
Metals											
Antimony	mg/L	ND (0.06)	0.0020	ND (0.0020)	ND (0.06)	ND (0.06)	ND (0.0020)	ND (0.0020)	0.019	ND (0.0020)	0.0042 J
Arsenic	mg/L	ND (0.01)	ND (0.010)	ND (0.010)	0.0027 J	ND (0.01)	ND (0.010)	ND (0.010)	0.098	ND (0.010)	0.005 J
Barium	mg/L	0.024 J	0.095 J	0.042 J	0.0695 J	0.024 J	0.049 J	0.052 J	1.3	0.059 J	0.189 J
Beryllium	mg/L	ND (0.005)	ND (0.0010)	ND (0.0010)	ND (0.005)	ND (0.005)	ND (0.0010)	ND (0.0010)	0.0051	ND (0.0010)	ND (0.005)
Cadmium	mg/L	ND (0.0050)	0.0018 J	0.0012 J	0.0018 J	ND (0.0050)	0.0011 J	ND (0.0050)	0.56	ND (0.0050)	0.0054
Chromium Total	mg/L	ND (0.010)	0.010	ND (0.010)	0.0202	ND (0.01)	0.0030 J	ND (0.010)	3.6	ND (0.010)	0.0322
Cobalt	mg/L	ND (0.050)	0.0033 J	ND (0.050)	0.0099 J	ND (0.050)	ND (0.050)	ND (0.050)	0.18	ND (0.050)	0.0083 J
Copper	mg/L	0.013 J	0.12	0.034	0.0606	0.011 J	0.037	ND (0.025)	12.5	0.015 J	0.174
Lead	mg/L	ND (0.0045)	0.057	0.0049	0.0403	ND (0.0032)	0.014	ND (0.0030)	5.4	0.0048	0.14
Manganese	mg/L	0.015	0.12	0.31	0.279	ND (0.015)	0.034	0.015	7.3	0.046	0.276
Mercury	mg/L	ND (0.0002)	0.00053	ND (0.00020)	0.00031	ND (0.0002)	0.00015 J	ND (0.00020)	0.095	ND (0.00020)	0.0015
Nickel	mg/L	0.0045 J	0.0045 J	ND (0.040)	0.0055 J	ND (0.04)	ND (0.040)	ND (0.040)	0.47	ND (0.040)	0.0113 J
Selenium	mg/L	ND (0.005)	ND (0.0050)	ND (0.0050)	ND (0.005)	ND (0.005)	ND (0.0050)	ND (0.0050)	0.0077	ND (0.0050)	ND (0.005)
Silver	mg/L	ND (0.01)	ND (0.010)	ND (0.010)	ND (0.01)	ND (0.01)	ND (0.010)	ND (0.010)	0.55	ND (0.010)	ND (0.01)
Thallium	mg/L	ND (0.010)	ND (0.0010)	ND (0.0010)	ND (0.01)	ND (0.010)	ND (0.0010)	ND (0.0010)	0.0015	ND (0.0010)	ND (0.01)
Vanadium	mg/L	ND (0.05)	0.0030 J	ND (0.050)	0.0066 J	ND (0.05)	0.00088 J	ND (0.050)	0.15	ND (0.050)	0.0112 J
Zinc	mg/L	0.11	0.30	0.071	0.452	0.10	0.14	0.044	32.2	0.079	1.17
PCBs											
Aroclor-1016 (PCB-1016)	mg/L	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.02)	ND (0.0002)	ND (0.0002)
Aroclor-1221 (PCB-1221)	mg/L	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.02)	ND (0.0002)	ND (0.0002)
Aroclor-1232 (PCB-1232)	mg/L	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.04)	ND (0.0004)	ND (0.0004)
Aroclor-1242 (PCB-1242)	mg/L	0.0003	ND (0.0002)	ND (0.0002)	ND (0.0002)	0.00033	ND (0.0002)	ND (0.0002)	ND (0.02)	ND (0.0002)	ND (0.0002)
Aroclor-1248 (PCB-1248)	mg/L	ND (0.0002)	0.0017	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.02)	ND (0.0002)	ND (0.0002)
Aroclor-1254 (PCB-1254)	mg/L	ND (0.0002)	ND (0.0002)	ND (0.0002)	0.00018 J	ND (0.0002)	ND (0.0002)	ND (0.0002)	0.3	ND (0.0002)	0.0027
Aroclor-1260 (PCB-1260)	mg/L	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.02)	ND (0.0002)	ND (0.0002)
General Chemistry											
Cyanide (total)	mg/L	0.0017 J	0.0040 J	ND (0.010)	-	0.0031 J	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	-

Notes:

ND - Not detected.
J - Estimated value.
UJ - Estimated reporting detection limit.
R - Rejected.

TABLE 2B

ANALYTICAL RESULTS SUMMARY
STORM SEWER WATER SAMPLES BETWEEN WEBSTER AND TAYLOR STREETS
HARRISON DAYTON

Sample Location:		*MH-13_Cleaned*	*MH-14_Cleaned*	*MH-14_Cleaned*	*MH-18_Cleaned*	*MH-18_Cleaned*	*MH-18_Cleaned*	*MH-19_Cleaned*	*MH-19_Cleaned*	*MH-25_Cleaned*	*MH-25_Cleaned*
Sample ID:		*WSS-102405-JC-0003*	*W-040502-SLE-005*	*WSS-101304-NZ-007*	*W-040502-SLE-006*	*WSS-101304-NZ-005*	*WSS-101304-NZ-006*	*W-040802-SLE-007*	*WSS-101304-NZ-004*	*W-040802-SLE-008*	*WSS-101304-NZ-003*
Sample Date:		*10/24/2005*	*4/5/2002*	*10/13/2004*	*4/5/2002*	*10/13/2004*	*10/13/2004*	*4/8/2002*	*10/13/2004*	*4/8/2002*	*10/13/2004*
		(Dup)					*(Dup)*				
Parameters	***Units***										
Volatile Organic Compounds											
1,1,1-Trichloroethane	mg/L	ND (0.001)	ND (0.0014)	ND (0.0067)	ND (0.001)	ND (0.008)	ND (0.0067)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
1,1,2,2-Tetrachloroethane	mg/L	ND (0.001)	ND (0.0014)	ND (0.0067)	ND (0.001)	ND (0.008)	ND (0.0067)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
1,1,2-Trichloroethane	mg/L	ND (0.001)	ND (0.0014)	ND (0.0067)	ND (0.001)	ND (0.008)	ND (0.0067)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
1,1-Dichloroethane	mg/L	ND (0.001)	ND (0.0014)	ND (0.0067)	ND (0.001)	ND (0.008)	ND (0.0067)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
1,1-Dichloroethene	mg/L	ND (0.001)	ND (0.0014)	ND (0.0067)	ND (0.001)	ND (0.008)	ND (0.0067)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
1,2,4-Trichlorobenzene	mg/L	ND (0.001)	ND (0.0014) UJ	ND (0.0067)	ND (0.001) UJ	ND (0.008)	ND (0.0067)	ND (0.001) UJ	ND (0.001)	ND (0.001) UJ	ND (0.001)
1,2-Dibromo-3-chloropropane (DBCP)	mg/L	ND (0.001)	ND (0.0029)	ND (0.013) UJ	ND (0.002)	ND (0.016) UJ	ND (0.013) UJ	ND (0.002)	ND (0.002) UJ	ND (0.002)	ND (0.002)
1,2-Dibromoethane (Ethylene Dibromide)	mg/L	ND (0.001)	ND (0.0014)	ND (0.0067)	ND (0.001)	ND (0.008)	ND (0.0067)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
1,2-Dichlorobenzene	mg/L	ND (0.001)	ND (0.0014)	ND (0.0067)	ND (0.001)	ND (0.008)	ND (0.0067)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
1,2-Dichloroethane	mg/L	ND (0.001)	ND (0.0014)	ND (0.0067)	ND (0.001)	ND (0.008)	ND (0.0067)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
1,2-Dichloropropane	mg/L	ND (0.001)	ND (0.0014)	ND (0.0067)	ND (0.001)	ND (0.008)	ND (0.0067)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
1,3-Dichlorobenzene	mg/L	ND (0.001)	ND (0.0014)	ND (0.0067)	ND (0.001)	ND (0.008)	ND (0.0067)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
1,4-Dichlorobenzene	mg/L	ND (0.001)	ND (0.0014)	ND (0.0067)	ND (0.001)	ND (0.008)	ND (0.0067)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
2-Butanone (Methyl Ethyl Ketone)	mg/L	0.0012 J	ND (0.014)	ND (0.067) UJ	ND (0.01)	ND (0.08) UJ	ND (0.067) UJ	0.00053 J	0.00061 J	ND (0.01)	0.00065 J
2-Hexanone	mg/L	ND (0.01)	ND (0.014)	ND (0.067)	ND (0.01)	ND (0.08)	ND (0.067)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01) UJ
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	mg/L	ND (0.01)	ND (0.014)	ND (0.067) UJ	ND (0.01)	ND (0.08) UJ	ND (0.067) UJ	ND (0.01)	ND (0.01) UJ	ND (0.01)	ND (0.01)
Acetone	mg/L	ND (0.01)	0.019	ND (0.067) UJ	ND (0.017)	ND (0.08) UJ	ND (0.067) UJ	ND (0.01)	0.0026 J	ND (0.01)	0.0031 J
Benzene	mg/L	ND (0.001)	ND (0.0014)	ND (0.0067)	ND (0.001)	ND (0.008)	ND (0.0067)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Bromodichloromethane	mg/L	ND (0.001)	ND (0.0014)	ND (0.0067)	ND (0.001)	ND (0.008)	ND (0.0067)	ND (0.001)	ND (0.001)	0.0023	ND (0.001)
Bromoform	mg/L	ND (0.001)	ND (0.0014)	ND (0.0067) UJ	ND (0.001)	ND (0.008) UJ	ND (0.0067) UJ	ND (0.001)	ND (0.001) UJ	0.0014	ND (0.001)
Bromomethane (Methyl Bromide)	mg/L	ND (0.001)	ND (0.0014)	ND (0.0067)	ND (0.001)	ND (0.008)	ND (0.0067)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001) UJ
Carbon disulfide	mg/L	ND (0.001)	ND (0.0014)	ND (0.0067)	ND (0.001)	ND (0.008)	ND (0.0067)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Carbon tetrachloride	mg/L	ND (0.001)	ND (0.0014)	ND (0.0067)	ND (0.001)	ND (0.008)	ND (0.0067)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Chlorobenzene	mg/L	ND (0.001)	ND (0.0014)	ND (0.0067)	ND (0.001)	ND (0.008)	ND (0.0067)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Chloroethane	mg/L	ND (0.001)	ND (0.0014)	ND (0.0067)	ND (0.001)	ND (0.008)	ND (0.0067)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Chloroform (Trichloromethane)	mg/L	ND (0.001)	ND (0.0014)	ND (0.0067)	ND (0.001)	ND (0.008)	ND (0.0067)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001) UJ
Chloromethane (Methyl Chloride)	mg/L	ND (0.001)	ND (0.0014)	ND (0.0067)	ND (0.001)	ND (0.008)	ND (0.0067)	ND (0.001)	ND (0.001)	0.003	ND (0.001)
cis-1,2-Dichloroethene	mg/L	0.00081 J	0.042	0.19	0.00061	0.23	0.23	ND (0.0005)	0.00048 J	0.00078	0.0018
cis-1,3-Dichloropropene	mg/L	ND (0.001)	ND (0.0014)	ND (0.0067)	ND (0.001)	ND (0.008)	ND (0.0067)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Cyclohexane	mg/L	ND (0.001)	ND (0.0014)	ND (0.0067)	ND (0.001)	ND (0.008)	ND (0.0067)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Dibromochloromethane	mg/L	ND (0.001)	ND (0.0014)	ND (0.0067) UJ	ND (0.001)	ND (0.008) UJ	ND (0.0067) UJ	ND (0.001)	ND (0.001) UJ	0.0028	ND (0.001)
Dichlorodifluoromethane (CFC-12)	mg/L	ND (0.001)	ND (0.0014)	ND (0.0067) UJ	ND (0.001)	ND (0.008) UJ	ND (0.0067) UJ	ND (0.001)	ND (0.001) UJ	ND (0.001)	ND (0.001)
Ethylbenzene	mg/L	ND (0.001)	ND (0.0014)	ND (0.0067)	ND (0.001)	ND (0.008)	ND (0.0067)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Isopropylbenzene	mg/L	ND (0.001)	ND (0.0014)	ND (0.0067)	ND (0.001)	ND (0.008)	ND (0.0067)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Methyl acetate	mg/L	ND (0.01)	ND (0.014)	ND (0.067)	ND (0.01)	ND (0.08)	ND (0.067)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Methyl cyclohexane	mg/L	ND (0.001)	ND (0.0014)	ND (0.0067)	ND (0.001)	ND (0.008)	ND (0.0067)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Methyl Tert Butyl Ether	mg/L	ND (0.005)	ND (0.0072)	ND (0.033)	ND (0.005)	ND (0.04)	ND (0.033)	ND (0.005)	ND (0.005)	ND (0.005)	ND (0.005)
Methylene chloride	mg/L	ND (0.005)	ND (0.0014)	ND (0.0067)	ND (0.001)	ND (0.008)	ND (0.0067)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Styrene	mg/L	ND (0.001)	ND (0.0014)	ND (0.0067)	ND (0.001)	ND (0.008)	ND (0.0067)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Tetrachloroethene	mg/L	0.00027 J	0.012	0.059	0.0012	0.064	0.062	0.00034 J	0.00024 J	0.0024	0.00034 J
Toluene	mg/L	ND (0.001)	ND (0.0014)	ND (0.0067)	ND (0.001)	ND (0.008)	ND (0.0067)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
trans-1,2-Dichloroethene	mg/L	ND (0.001)	ND (0.00072)	ND (0.0033)	ND (0.0005)	ND (0.004)	ND (0.0033)	ND (0.0005)	ND (0.0005)	ND (0.0005)	ND (0.0005)
trans-1,3-Dichloropropene	mg/L	ND (0.001)	ND (0.0014)	ND (0.0067)	ND (0.001)	ND (0.008)	ND (0.0067)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Trichloroethene	mg/L	0.00037 J	0.007	0.032	0.00029 J	0.039	0.038	ND (0.001)	ND (0.001)	0.00047 J	ND (0.001)
Trichlorofluoromethane (CFC-11)	mg/L	ND (0.001)	ND (0.0014)	ND (0.0067)	ND (0.001)	ND (0.008)	ND (0.0067)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Trifluorotrichloroethane (Freon 113)	mg/L	ND (0.001)	ND (0.0014)	ND (0.0067)	ND (0.001)	ND (0.008)	ND (0.0067)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)
Vinyl chloride	mg/L	ND (0.001)	0.00094 J	0.014	ND (0.001)	0.016	0.016	ND (0.001)	ND (0.001)	ND (0.001)	0.00024 J
Xylene (total)	mg/L	ND (0.002)	ND (0.0014)	ND (0.0067)	ND (0.001)	ND (0.008)	ND (0.0067)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)

TABLE 2B

ANALYTICAL RESULTS SUMMARY
STORM SEWER WATER SAMPLES BETWEEN WEBSTER AND TAYLOR STREETS
HARRISON DAYTON

Sample Location:		*MH-13_Cleaned*	*MH-14_Cleaned*	*MH-14_Cleaned*	*MH-18_Cleaned*	*MH-18_Cleaned*	*MH-18_Cleaned*	*MH-19_Cleaned*	*MH-19_Cleaned*	*MH-25_Cleaned*	*MH-25_Cleaned*
Sample ID:		*WSS-102405-JC-0003*	*W-040502-SLE-005*	*WSS-101304-NZ-007*	*W-040502-SLE-006*	*WSS-101304-NZ-005*	*WSS-101304-NZ-006*	*W-040802-SLE-007*	*WSS-101304-NZ-004*	*W-040802-SLE-008*	*WSS-101304-NZ-003*
Sample Date:		*10/24/2005*	*4/5/2002*	*10/13/2004*	*4/5/2002*	*10/13/2004*	*10/13/2004*	*4/8/2002*	*10/13/2004*	*4/8/2002*	*10/13/2004*
		(Dup)					*(Dup)*				
Parameters	***Units***										
Semi-Volatile Organic Compounds											
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
2,4,5-Trichlorophenol	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
2,4,6-Trichlorophenol	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
2,4-Dichlorophenol	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
2,4-Dimethylphenol	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
2,4-Dinitrophenol	mg/L	ND (0.05)	ND (0.05) UJ	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
2,4-Dinitrotoluene	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
2,6-Dinitrotoluene	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
2-Chloronaphthalene	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
2-Chlorophenol	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
2-Methylnaphthalene	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
2-Methylphenol	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
2-Nitroaniline	mg/L	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
2-Nitrophenol	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
3,3'-Dichlorobenzidine	mg/L	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
3-Nitroaniline	mg/L	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
4,6-Dinitro-2-methylphenol	mg/L	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
4-Bromophenyl phenyl ether	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
4-Chloro-3-methylphenol	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
4-Chloroaniline	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
4-Chlorophenyl phenyl ether	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
4-Methylphenol	mg/L	0.00043 J#	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
4-Nitroaniline	mg/L	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
4-Nitrophenol	mg/L	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Acenaphthene	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Acenaphthylene	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Acetophenone	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Anthracene	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Atrazine	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Benzaldehyde	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Benzo(a)anthracene	mg/L	0.00094 J	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	0.0014 J
Benzo(a)pyrene	mg/L	0.00084 J	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	0.0015 J
Benzo(b)fluoranthene	mg/L	0.0017 J	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	0.0024 J
Benzo(g,h,i)perylene	mg/L	0.00078 J	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	0.0011 J
Benzo(k)fluoranthene	mg/L	0.00076 J	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	0.00079 J
Biphenyl	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
bis(2-Chloroethoxy)methane	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
bis(2-Chloroethyl)ether	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
bis(2-Ethylhexyl)phthalate	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Butyl benzylphthalate	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Caprolactam	mg/L	0.0027 J	ND (0.01)	ND (0.01)	ND (0.01)	0.0042 J	ND (0.01)	ND (0.01)	0.0021 J	ND (0.01)	ND (0.01)
Carbazole	mg/L	0.0012 J	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Chrysene	mg/L	0.0017 J	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	0.0022 J
Dibenz(a,h)anthracene	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Dibenzofuran	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Diethyl phthalate	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Dimethyl phthalate	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Di-n-butylphthalate	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Di-n-octyl phthalate	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Fluoranthene	mg/L	0.004 J	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	0.0029 J
Fluorene	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Hexachlorobenzene	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)

TABLE 2B

ANALYTICAL RESULTS SUMMARY
STORM SEWER WATER SAMPLES BETWEEN WEBSTER AND TAYLOR STREETS
HARRISON DAYTON

Sample Location:		*MH-13_Cleaned*	*MH-14_Cleaned*	*MH-14_Cleaned*	*MH-18_Cleaned*	*MH-18_Cleaned*	*MH-18_Cleaned*	*MH-19_Cleaned*	*MH-19_Cleaned*	*MH-25_Cleaned*	*MH-25_Cleaned*
Sample ID:		*WSS-102405-JC-0003*	*W-040502-SLE-005*	*WSS-101304-NZ-007*	*W-040502-SLE-006*	*WSS-101304-NZ-005*	*WSS-101304-NZ-006*	*W-040802-SLE-007*	*WSS-101304-NZ-004*	*W-040802-SLE-008*	*WSS-101304-NZ-003*
Sample Date:		*10/24/2005*	*4/5/2002*	*10/13/2004*	*4/5/2002*	*10/13/2004*	*10/13/2004*	*4/8/2002*	*10/13/2004*	*4/8/2002*	*10/13/2004*
		(Dup)					*(Dup)*				
Parameters	***Units***										
Hexachlorobutadiene	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Hexachlorocyclopentadiene	mg/L	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)	ND (0.05)
Hexachloroethane	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Indeno(1,2,3-cd)pyrene	mg/L	0.00072 J	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	0.00089 J
Isophorone	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Naphthalene	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Nitrobenzene	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
N-Nitrosodi-n-propylamine	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
N-Nitrosodiphenylamine	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Pentachlorophenol	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Phenanthrene	mg/L	0.0031 J	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	0.0016 J
Phenol	mg/L	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)
Pyrene	mg/L	0.0026 J	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	ND (0.01)	0.0022 J
Metals											
Antimony	mg/L	ND (0.06)	ND (0.06)	ND (0.0020)	ND (0.06)	0.0022	0.0024	ND (0.06)	0.0020	ND (0.06)	0.0022
Arsenic	mg/L	0.0037 J	ND (0.01)	ND (0.010)	ND (0.01)	ND (0.010)	ND (0.010)	ND (0.01)	ND (0.010)	ND (0.01)	0.0075 J
Barium	mg/L	0.149 J	0.027 J	0.067 J	0.030 J	0.087 J	0.082 J	0.029 J	0.059 J	0.062 J	0.21
Beryllium	mg/L	ND (0.005)	ND (0.005)	ND (0.0010)	ND (0.005)	ND (0.0010)	ND (0.0010)	ND (0.005)	ND (0.0010)	ND (0.005)	ND (0.0010)
Cadmium	mg/L	0.0056	ND (0.0050)	0.0018 J	ND (0.0050)	0.0021 J	0.0020 J	ND (0.0050)	0.0012 J	ND (0.0050)	0.0077
Chromium Total	mg/L	0.0315	0.0018 J	0.0019 J	ND (0.010)	0.0041 J	0.0033 J	0.0030 J	0.0033 J	ND (0.01)	0.035
Cobalt	mg/L	0.0066 J	ND (0.050)	ND (0.050)	0.0017 J	ND (0.050)	ND (0.050)	ND (0.05)	ND (0.050)	ND (0.05)	0.012 J
Copper	mg/L	0.157	ND (0.025)	0.047	0.022 J	0.081	0.078	0.014 J	0.061	ND (0.025)	0.29
Lead	mg/L	0.107	ND (0.0044)	0.013	0.0087	0.023	0.020	0.0060	0.018	ND (0.003)	0.20
Manganese	mg/L	0.173	0.013 J	0.067	0.052	0.13	0.15	0.015	0.023	ND (0.015)	0.91
Mercury	mg/L	0.0021	ND (0.0002)	0.000079 J	ND (0.00020)	0.0011	0.0015	ND (0.0002)	0.00067	ND (0.0002)	0.0059
Nickel	mg/L	0.0111 J	ND (0.04)	0.0030 J	ND (0.04)	0.0046 J	0.0038 J	ND (0.04)	ND (0.040)	ND (0.04)	0.025 J
Selenium	mg/L	ND (0.005)	ND (0.005)	ND (0.0050)	ND (0.005)	ND (0.0050)	ND (0.0050)	0.0051	ND (0.0050)	0.0061	ND (0.0050)
Silver	mg/L	ND (0.01)	ND (0.01)	ND (0.010)	ND (0.01)	ND (0.010)	ND (0.010)	ND (0.01)	ND (0.010)	ND (0.01)	0.0012 J
Thallium	mg/L	ND (0.01)	ND (0.010)	ND (0.0010)	ND (0.010)	ND (0.0010)	ND (0.0010)	ND (0.01)	ND (0.0010)	ND (0.01)	0.00014 J
Vanadium	mg/L	0.0093 J	0.00094 J	0.00083 J	ND (0.05)	0.0014 J	0.0012 J	0.0016 J	0.00097 J	ND (0.05)	0.016 J
Zinc	mg/L	0.993	0.11	0.22	0.11	0.23	0.22	0.066	0.15	ND (0.02)	1.1
PCBs											
Aroclor-1016 (PCB-1016)	mg/L	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.004)
Aroclor-1221 (PCB-1221)	mg/L	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.004)
Aroclor-1232 (PCB-1232)	mg/L	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.0004)	ND (0.008)
Aroclor-1242 (PCB-1242)	mg/L	ND (0.0002)	0.0003	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.004)
Aroclor-1248 (PCB-1248)	mg/L	ND (0.0002)	ND (0.0002)	ND (0.0002)	0.00021	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.004)
Aroclor-1254 (PCB-1254)	mg/L	0.002	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	0.00011 J	0.0011	ND (0.0002)	0.054
Aroclor-1260 (PCB-1260)	mg/L	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.004)
General Chemistry											
Cyanide (total)	mg/L		0.0017 J	ND (0.010)	ND (0.01)	ND (0.010)	ND (0.010)	ND (0.01)	ND (0.010)	0.0022 J	ND (0.010)

Notes:

ND - Not detected.
J - Estimated value.
UJ - Estimated reporting detection limit.
R - Rejected.

APPENDIX A

MANHOLE PHOTOS

PHOTO 1: MH-37

PHOTO 2: UNNAMED MH SOUTH OF MH-37

PHOTOGRAPHIC LOG
FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY
Dayton, Ohio

PHOTO 3: MH-7

PHOTO 4: MH-8

PHOTOGRAPHIC LOG
FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY
Dayton, Ohio

PHOTO 5: MH-9

PHOTO 6: MH-10

PHOTOGRAPHIC LOG
FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY
Dayton, Ohio

PHOTO 7: MH-11

PHOTO 8: MH-13

PHOTOGRAPHIC LOG
FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY
Dayton, Ohio

PHOTO 9: MH-14

PHOTO 10: MH-18

PHOTOGRAPHIC LOG
FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY
Dayton, Ohio

PHOTO 11: MH-12

PHOTO 12: MH-15

PHOTOGRAPHIC LOG
FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY
Dayton, Ohio

PHOTO 13: MH-16

PHOTO 14: MH-17

PHOTOGRAPHIC LOG
FORMER DELPHI HARRISON THERMAL SYSTEMS FACILITY
Dayton, Ohio

PHOTO 15: MH-38

PHOTO 16: CONCRETE PUMP TRUCK WAS USED TO INSTALL FLOW FILL INTO MANHOLES ON THE SLOPES

APPENDIX B

SEWER VIDEOS ON CD

CD 1:

TYPE 2 SEWER LINES

MH 17 EAST – MH 16
MH 16 WEST – MH 17
MH 16 EAST – MH 15
MH 15 WEST – MH 16
MH 15 SOUTHWEST – MH 14
MH 11 WEST – MH 12
MH 12 EAST – MH 11
MH 1 – SOUTHWEST

TYPE 1 SEWER LINE

UNKNOWN – MH 37 SOUTH

TYPE 3 SEWER LINES

MH 8 – MH 7
MH 8 – NORTHEAST
MH 8 – SOUTHEAST
MH 8 – NORHTWEST

CD2:

TYPE 3 SEWER LINES

MH 8 – MH 9
MH 10 – MH 9
MH 10 – MH 11
MH 11 – CB 11
MH 11 – CB 12
MH 11 – MH 13
MH 14 – MH 13
MH 14 – MH 19
MH 18 – MH 19
MH 10 – INT-7

CD 3

TYPE 3 SEWER LINES

MH 25 – INT-7
MH 39 EAST – UNKNOWN
MH 39 NORHT – MH 34

Inland Waters Pollution Control
2021 S. Schaefer Hwy
Detroit, Michigan
Tel: 800-992-9118, Fax:

INSPECTION REPORT

DATE:	WORK #:	WEATHER:	OPERATOR:	SECTION NR:	SECTION NAME:
01/20/2006	PENDING	SUNNY, DRY	MULLINS	1	CRA
PRESENT:	**VEHICLE:**	**CAMERA:**	**PRESET:**	**CLEANED:**	**RATE:**
A. SCHIEWECK	55168	FLAT CAMERA	3	HEAVY	0

STREET:	300 TAYLOR	MAP #1:		MH:	17/EAST
CITY:	DAYTON,OHIO	MAP #2:		MH:	16
LOCALE:	PARKING LOT	TAPE #:	2016	TV'D LGTH:	53.7 ft

INSPECT REASON:	ANNUAL INSPECTION	PIPE SIZE:	10"
SECTION TYPE:	STORMWATER	MATERIAL:	VCP JT LGTH: 3 ft
AREA:		LINING:	NO RELINING
		RSRVD:	

REMARK:

1:125 POSITION	CODE	OBSERVATION	VCR #	PH	RATE
3.00	0	inspection begins at upstream manhole			0
27.50	0	Circumferential Crack from 12 to 12 o'clock			2
28.50	0	service connection at 12 o'clock			0
46.40	0	service connection at 12 o'clock			0
53.70	0	inspection abandoned, REMARK: HARD DEBRIS			0

Inland Waters Pollution Control
2021 S. Schaefer Hwy
Detroit, Michigan
Tel: 800-992-9118, Fax:

INSPECTION REPORT

DATE:	WORK #:	WEATHER:	OPERATOR:	SECTION NR:	SECTION NAME:
01/20/2006	PENDING	SUNNY, DRY	MULLINS	2	CRA
PRESENT:	**VEHICLE:**	**CAMERA:**	**PRESET:**	**CLEANED:**	**RATE:**
A. SCHIEWECK	55168	FLAT CAMERA	3	HEAVY	0

STREET:	300 TAYLOR	MAP #1:		MH:	16/WEST
CITY:	DAYTON,OHIO	MAP #2:		MH:	17
LOCALE:	PARKING LOT	TAPE #:	2016	TV'D LGTH:	27.5 ft

INSPECT REASON:	ANNUAL INSPECTION	PIPE SIZE:	10"
SECTION TYPE:	STORMWATER	MATERIAL:	VCP JT LGTH: 3 ft
AREA:		LINING:	NO RELINING
		RSRVD:	

REMARK:

1:75	POSITION	CODE	OBSERVATION	VCR #	PH	RATE
16/WEST						
	3.00	0	inspection begins at downstream manhole			0
	21.50		HARD DEBRIS			
17	27.50	0	inspection abandoned, REMARK: DUE TO HARD DEBRIS			0

Inland Waters Pollution Control
2021 S. Schaefer Hwy
Detroit, Michigan
Tel: 800-992-9118, Fax:

INSPECTION REPORT

DATE:	WORK #:	WEATHER:	OPERATOR:	SECTION NR:	SECTION NAME:
01/20/2006	PENDING	SUNNY, DRY	MULLINS	3	CRA
PRESENT:	**VEHICLE:**	**CAMERA:**	**PRESET:**	**CLEANED:**	**RATE:**
A. SCHIEWECK	55168	FLAT CAMERA	3	HEAVY	0

STREET:	300 TAYLOR	MAP #1:		MH:	16/EAST
CITY:	DAYTON,OHIO	MAP #2:		MH:	15
LOCALE:	PARKING LOT	TAPE #:	2016	TV'D LGTH:	16.3 ft

INSPECT REASON:	ANNUAL INSPECTION	PIPE SIZE:	10"
SECTION TYPE:	STORMWATER	MATERIAL:	VCP JT LGTH: 3 ft
AREA:		LINING:	NO RELINING
		RSRVD:	

REMARK:

1:50	POSITION	CODE	OBSERVATION	VCR #	PH	RATE
16/EAST						
	3.00	0	inspection begins at upstream manhole			0
15	16.30	0	camera blocked inspection abandoned, REMARK: due to debris and hole in pipe at 17'			0

Inland Waters Pollution Control
2021 S. Schaefer Hwy
Detroit, Michigan
Tel: 800-992-9118, Fax:

INSPECTION REPORT

DATE:	WORK #:	WEATHER:	OPERATOR:	SECTION NR:	SECTION NAME:
01/20/2006	PENDING	SUNNY, DRY	MULLINS	4	CRA
PRESENT:	**VEHICLE:**	**CAMERA:**	**PRESET:**	**CLEANED:**	**RATE:**
A. SCHIEWECK	55168	FLAT CAMERA	3	HEAVY	0

STREET:	300 TAYLOR	MAP #1:		MH:	15WEST
CITY:	DAYTON,OHIO	MAP #2:		MH:	16
LOCALE:	PARKING LOT	TAPE #:	2016	TV'D LGTH:	47.9 ft

INSPECT REASON:	ANNUAL INSPECTION	PIPE SIZE:	10"
SECTION TYPE:	STORMWATER	MATERIAL:	VCP JT LGTH: 3 ft
AREA:		LINING:	NO RELINING
		RSRVD:	

REMARK:

1:125	POSITION	CODE	OBSERVATION	VCR #	PH	RATE
15WEST						
	3.00	0	inspection begins at downstream manhole			0
	6.60	0	pipe Broken at 04 o´clock			3
16	47.90	0	inspection ends REVERSE COMPLETE			0

Inland Waters Pollution Control
2021 S. Schaefer Hwy
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INSPECTION REPORT

DATE:	WORK #:	WEATHER:	OPERATOR:	SECTION NR:	SECTION NAME:
01/20/2006	PENDING	SUNNY, DRY	MULLINS	5	CRA
PRESENT:	**VEHICLE:**	**CAMERA:**	**PRESET:**	**CLEANED:**	**RATE:**
A. SCHIEWECK	55168	FLAT CAMERA	3	HEAVY	0

STREET:	300 TAYLOR	MAP #1:		MH:	15SOUTHWEST
CITY:	DAYTON,OHIO	MAP #2:		MH:	14
LOCALE:	PARKING LOT	TAPE #:	2016	TV'D LGTH:	36.9 ft

INSPECT REASON:	ANNUAL INSPECTION	PIPE SIZE:	10"
SECTION TYPE:	STORMWATER	MATERIAL:	VCP JT LGTH: 3 ft
AREA:		LINING:	NO RELINING
		RSRVD:	

REMARK:

1:100	POSITION	CODE	OBSERVATION	VCR #	PH	RATE
15SOUTHWEST						
	3.00	0	inspection begins at upstream manhole			0
	10.00	0	pipe bends right			0
	12.40	0	pipe bendsDOWN			0
	18.30	0	service connection at 12 o'clock			0
	26.30	0	pipe bendsUP			0
14	36.90	0	inspection ends at downstream manhole			0

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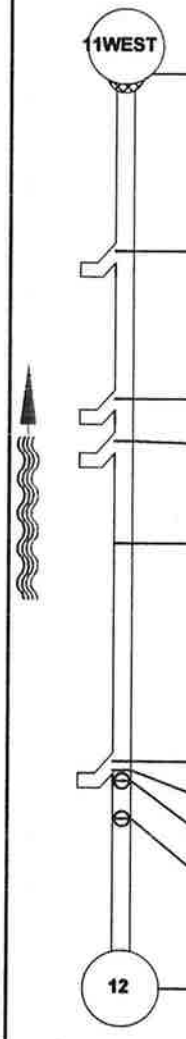
INSPECTION REPORT

DATE:	WORK #:	WEATHER:	OPERATOR:	SECTION NR:	SECTION NAME:
01/20/2006	PENDING	SUNNY, DRY	MULLINS	6	CRA
PRESENT:	**VEHICLE:**	**CAMERA:**	**PRESET:**	**CLEANED:**	**RATE:**
A. SCHIEWECK	55168	FLAT CAMERA	3	HEAVY	0

STREET:	300 TAYLOR	MAP #1:		MH:	11WEST
CITY:	DAYTON,OHIO	MAP #2:		MH:	12
LOCALE:	PARKING LOT	TAPE #:	2016	TV'D LGTH:	102.2 ft

INSPECT REASON:	ANNUAL INSPECTION	PIPE SIZE:	10"
SECTION TYPE:	STORMWATER	MATERIAL:	VCP JT LGTH: 3 ft
AREA:		LINING:	NO RELINING
		RSRVD:	

REMARK:



1:250 POSITION	CODE	OBSERVATION	VCR #	PH	RATE
3.00	0	inspection begins at downstream manhole			0
22.20	0	service connection at 03 o'clock			0
38.20	0	service connection at 02 o'clock			0
42.80	0	service connection at 02 o'clock			0
53.90	0	Hole in pipe at 02 o'clock			3
77.60	0	service connection at 02 o'clock			0
78.60	0	Multiple Cracks from 12 to 12 o'clock			2
79.70	0	service connection at 12 o'clock			0
83.80	0	service connection at 12 o'clock			0
102.20	0	inspection ends at BEND			0

Inland Waters Pollution Control
2021 S. Schaefer Hwy
Detroit, Michigan
Tel: 800-992-9118, Fax:

INSPECTION REPORT

DATE:	WORK #:	WEATHER:	OPERATOR:	SECTION NR:	SECTION NAME:
01/20/2006	PENDING	SUNNY, DRY	MULLINS	7	CRA
PRESENT:	**VEHICLE:**	**CAMERA:**	**PRESET:**	**CLEANED:**	**RATE:**
A. SCHIEWECK	55168	FLAT CAMERA	3	HEAVY	0

STREET:	300 TAYLOR	MAP #1:		MH:	12 EAST
CITY:	DAYTON,OHIO	MAP #2:		MH:	11
LOCALE:	PARKING LOT	TAPE #:	2016	TV'D LGTH:	50.1 ft

INSPECT REASON:	ANNUAL INSPECTION	PIPE SIZE:	10"
SECTION TYPE:	STORMWATER	MATERIAL:	VCP JT LGTH: 3 ft
AREA:		LINING:	NO RELINING
		RSRVD:	

REMARK:

1:125	POSITION	CODE	OBSERVATION	VCR #	PH	RATE
12 EAST	3.00	0	inspection begins at upstream manhole			0
	31.00	0	service connection at 11 o'clock			0
	37.10	0	service connection at 11 o'clock			0
	41.10	0	service connection at 12 o'clock			0
	43.30	0	Multiple Cracks from 12 to 12 o'clock			2
11	50.10	0	inspection ends at BEND			0

Inland Waters Pollution Control
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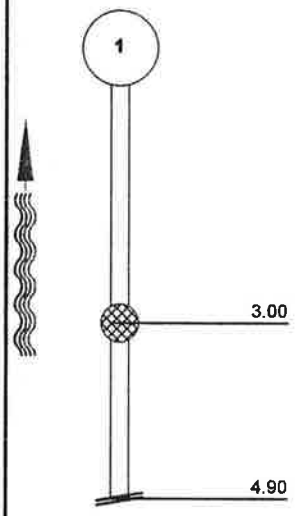
INSPECTION REPORT

DATE:	WORK #:	WEATHER:	OPERATOR:	SECTION NR:	SECTION NAME:
01/20/2006	PENDING	SUNNY, DRY	MULLINS	8	CRA
PRESENT:	**VEHICLE:**	**CAMERA:**	**PRESET:**	**CLEANED:**	**RATE:**
A. SCHIEWECK	55168	FLAT CAMERA	3	HEAVY	0

STREET:	300 TAYLOR	MAP #1:		MH:	1
CITY:	DAYTON,OHIO	MAP #2:		MH:	SOUTHWEST
LOCALE:	PARKING LOT	TAPE #:	2016	TV'D LGTH:	4.9 ft

INSPECT REASON:	ANNUAL INSPECTION	PIPE SIZE:	6"
SECTION TYPE:	STORMWATER	MATERIAL:	VCP JT LGTH: 3 ft
AREA:		LINING:	NO RELINING
		RSRVD:	

REMARK:

1:25	POSITION	CODE	OBSERVATION	VCR #	PH	RATE
	3.00	0	inspection begins at downstream manhole			0
	4.90	0	inspection abandoned			0

Inland Waters Pollution Control
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INSPECTION REPORT

DATE:	WORK #:	WEATHER:	OPERATOR:	SECTION NR:	SECTION NAME:
01/21/2006	PENDING	SUNNY, DRY	MULLINS	9	CRA
PRESENT:	**VEHICLE:**	**CAMERA:**	**PRESET:**	**CLEANED:**	**RATE:**
A. SCHIEWECK	55168	FLAT CAMERA	3	HEAVY	0

STREET:	300 TAYLOR	MAP #1:	TYPE 1	MH:	37SOUTH
CITY:	DAYTON,OHIO	MAP #2:		MH:	UNKNOWN
LOCALE:	PARKING LOT	TAPE #:	2016	TV'D LGTH:	4 ft

INSPECT REASON:	ANNUAL INSPECTION	PIPE SIZE:	12"
SECTION TYPE:	STORMWATER	MATERIAL:	VCP JT LGTH: 3 ft
AREA:		LINING:	NO RELINING
		RSRVD:	

REMARK:

1:25	POSITION	CODE	OBSERVATION	VCR #	PH	RATE
37SOUTH						
	3.00	0	inspection begins at upstream manhole			0
UNKNOWN	4.00	0	camera blocked inspection abandoned, REMARK: PIPE ABANDONED			0

Inland Waters Pollution Control
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INSPECTION REPORT

DATE:	WORK #:	WEATHER:	OPERATOR:	SECTION NR:	SECTION NAME:
01/21/2006	PENDING	SUNNY, DRY	MULLINS	10	CRA
PRESENT:	**VEHICLE:**	**CAMERA:**	**PRESET:**	**CLEANED:**	**RATE:**
A. SCHIEWECK	55168	FLAT CAMERA	3	HEAVY	0

STREET:	300 TAYLOR	MAP #1:	TYPE 1	MH:	UNKNOWN
CITY:	DAYTON,OHIO	MAP #2:		MH:	37SOUTH
LOCALE:	PARKING LOT	TAPE #:	2016	TV'D LGTH:	4 ft

INSPECT REASON:	ANNUAL INSPECTION	PIPE SIZE:	12"
SECTION TYPE:	STORMWATER	MATERIAL:	VCP JT LGTH: 3 ft
AREA:		LINING:	NO RELINING
		RSRVD:	

REMARK:

1:25	POSITION	CODE	OBSERVATION	VCR #	PH	RATE
UNKNOWN						
	3.00	0	inspection begins at downstream manhole			0
37SOUTH	4.00	0	camera blocked inspection abandoned, REMARK: PIPE ABANDONED			0

Inland Waters Pollution Control
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INSPECTION REPORT

DATE:	WORK #:	WEATHER:	OPERATOR:	SECTION NR:	SECTION NAME:
01/21/2006	PENDING	SUNNY, DRY	MULLINS	11	CRA
PRESENT:	**VEHICLE:**	**CAMERA:**	**PRESET:**	**CLEANED:**	**RATE:**
A. SCHIEWECK	55168	FLAT CAMERA	3	HEAVY	0

STREET:	300 TAYLOR	MAP #1:	TYPE 3	MH:	8
CITY:	DAYTON,OHIO	MAP #2:		MH:	7
LOCALE:	PARKING LOT	TAPE #:	2016	TV'D LGTH:	45.8 ft

INSPECT REASON:	ANNUAL INSPECTION	PIPE SIZE:	12"
SECTION TYPE:	STORMWATER	MATERIAL:	VCP JT LGTH: 3 ft
AREA:		LINING:	NO RELINING
		RSRVD:	

REMARK:

1:125	POSITION	CODE	OBSERVATION	VCR #	PH	RATE
8						
	4.90	0	inspection begins at downstream manhole			0
7	45.80	0	inspection ends at upstream manhole			0

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INSPECTION REPORT

DATE:	WORK #:	WEATHER:	OPERATOR:	SECTION NR:	SECTION NAME:
01/21/2006	PENDING	SUNNY, DRY	MULLINS	12	CRA
PRESENT:	**VEHICLE:**	**CAMERA:**	**PRESET:**	**CLEANED:**	**RATE:**
A. SCHIEWECK	55168	FLAT CAMERA	3	HEAVY	0

STREET:	300 TAYLOR	MAP #1:	TYPE 3	MH:	8
CITY:	DAYTON,OHIO	MAP #2:		MH:	NORTHEAST
LOCALE:	PARKING LOT	TAPE #:	2016	TV'D LGTH:	20.6 ft

INSPECT REASON:	ANNUAL INSPECTION	PIPE SIZE:	8"
SECTION TYPE:	STORMWATER	MATERIAL:	VCP JT LGTH: 3 ft
AREA:		LINING:	NO RELINING
		RSRVD:	

REMARK:

1:50	POSITION	CODE	OBSERVATION	VCR #	PH	RATE
8						
	4.90	0	inspection begins at downstream manhole			0
	11.90	0	Circumferential Crack from 12 to 12 o'clock			2
NORTHEAST	20.60	0	inspection ends at upstream manhole			0

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INSPECTION REPORT

DATE:	WORK #:	WEATHER:	OPERATOR:	SECTION NR:	SECTION NAME:
01/21/2006	PENDING	SUNNY, DRY	MULLINS	13	CRA
PRESENT:	**VEHICLE:**	**CAMERA:**	**PRESET:**	**CLEANED:**	**RATE:**
A. SCHIEWECK	55168	FLAT CAMERA	3	HEAVY	0

STREET:	300 TAYLOR	MAP #1:	TYPE 3	MH:	8
CITY:	DAYTON,OHIO	MAP #2:		MH:	SOUTHEAST
LOCALE:	PARKING LOT	TAPE #:	2016	TV'D LGTH:	24.3 ft

INSPECT REASON:	ANNUAL INSPECTION	PIPE SIZE:	12"
SECTION TYPE:	STORMWATER	MATERIAL:	VCP JT LGTH: 3 ft
AREA:		LINING:	NO RELINING
		RSRVD:	

REMARK:

1:75 POSITION	CODE	OBSERVATION	VCR #	PH	RATE
8					
4.90	0	inspection begins at downstream manhole			0
SOUTHEAST 24.30	0	inspection ends at upstream manhole, REMARK: CB DESTROYED			0

Inland Waters Pollution Control
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INSPECTION REPORT

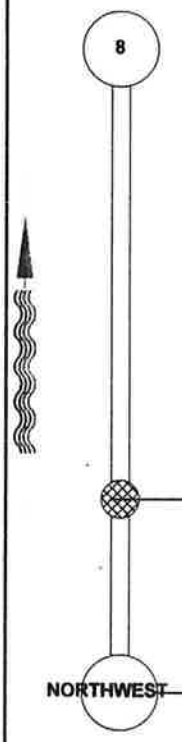
DATE:	WORK #:	WEATHER:	OPERATOR:	SECTION NR:	SECTION NAME:
01/21/2006	PENDING	SUNNY, DRY	MULLINS	14	CRA
PRESENT:	**VEHICLE:**	**CAMERA:**	**PRESET:**	**CLEANED:**	**RATE:**
A. SCHIEWECK	55168	FLAT CAMERA	3	HEAVY	0

STREET:	300 TAYLOR	MAP #1:	TYPE 3	MH:	8
CITY:	DAYTON,OHIO	MAP #2:		MH:	NORTHWEST
LOCALE:	PARKING LOT	TAPE #:	2016	TV'D LGTH:	7 ft

INSPECT REASON:	ANNUAL INSPECTION	PIPE SIZE:	12"
SECTION TYPE:	STORMWATER	MATERIAL:	VCP JT LGTH: 3 ft
AREA:		LINING:	NO RELINING
		RSRVD:	

REMARK:

1:25	POSITION	CODE	OBSERVATION	VCR #	PH	RATE
	4.90	0	inspection begins at downstream manhole			0
NORTHWEST	7.00	0	inspection abandoned, REMARK: PIPE ABANDONED			0



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Detroit, Michigan
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INSPECTION REPORT

DATE:	WORK #:	WEATHER:	OPERATOR:	SECTION NR:	SECTION NAME:
01/21/2006	PENDING	SUNNY, DRY	MULLINS	15	CRA
PRESENT:	**VEHICLE:**	**CAMERA:**	**PRESET:**	**CLEANED:**	**RATE:**
A. SCHIEWECK	55168	FLAT CAMERA	3	HEAVY	0

STREET:	300 TAYLOR	MAP #1:	TYPE 3	MH:	8
CITY:	DAYTON,OHIO	MAP #2:		MH:	9
LOCALE:	PARKING LOT	TAPE #:	2016	TV'D LGTH:	44.3 ft

INSPECT REASON:	ANNUAL INSPECTION	PIPE SIZE:	18"
SECTION TYPE:	STORMWATER	MATERIAL:	VCP JT LGTH: 3 ft
AREA:		LINING:	NO RELINING
		RSRVD:	

REMARK:

1:100	POSITION	CODE	OBSERVATION	VCR #	PH	RATE
8						
	4.90	0	inspection begins at upstream manhole			0
	24.50	0	Multiple Cracks from 12 to 12 o'clock			2
9	44.30	0	inspection ends at downstream manhole			0

Inland Waters Pollution Control
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INSPECTION REPORT

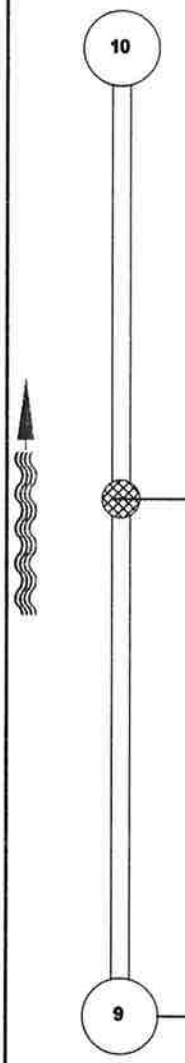
DATE:	WORK #:	WEATHER:	OPERATOR:	SECTION NR:	SECTION NAME:
01/21/2006	PENDING	SUNNY, DRY	MULLINS	16	CRA
PRESENT:	**VEHICLE:**	**CAMERA:**	**PRESET:**	**CLEANED:**	**RATE:**
A. SCHIEWECK	55168	FLAT CAMERA	3	HEAVY	0

STREET:	300 TAYLOR	MAP #1:	TYPE 3	MH:	10
CITY:	DAYTON,OHIO	MAP #2:		MH:	9
LOCALE:	PARKING LOT	TAPE #:	2016	TV'D LGTH:	10.5 ft

INSPECT REASON:	ANNUAL INSPECTION	PIPE SIZE:	18"
SECTION TYPE:	STORMWATER	MATERIAL:	VCP JT LGTH: 3 ft
AREA:		LINING:	NO RELINING
		RSRVD:	

REMARK:

1:25	POSITION	CODE	OBSERVATION	VCR #	PH	RATE
	4.90	0	inspection begins at downstream manhole			0
	10.50	0	inspection ends at upstream manhole			0



Inland Waters Pollution Control
2021 S. Schaefer Hwy
Detroit, Michigan
Tel: 800-992-9118, Fax:

INSPECTION REPORT

DATE:	WORK #:	WEATHER:	OPERATOR:	SECTION NR:	SECTION NAME:
01/21/2006	PENDING	SUNNY, DRY	MULLINS	17	CRA
PRESENT:	**VEHICLE:**	**CAMERA:**	**PRESET:**	**CLEANED:**	**RATE:**
A. SCHIEWECK	55168	FLAT CAMERA	3	HEAVY	0

STREET:	300 TAYLOR	MAP #1:	TYPE 3	MH:	10
CITY:	DAYTON,OHIO	MAP #2:		MH:	11
LOCALE:	PARKING LOT	TAPE #:	2016	TV'D LGTH:	110.8 ft

INSPECT REASON:	ANNUAL INSPECTION	PIPE SIZE:	15"
SECTION TYPE:	STORMWATER	MATERIAL:	VCP JT LGTH: 3 ft
AREA:		LINING:	NO RELINING
		RSRVD:	

REMARK:

1:250 POSITION	CODE	OBSERVATION	VCR #	PH	RATE
4.90	0	inspection begins at upstream manhole			0
22.50	0	Longitudinal Crack at 12 o´clock			2
32.90	0	Multiple Cracks from 12 to 12 o´clock			2
41.20	0	service connection at 02 o´clock			0
110.80	0	inspection ends at downstream manhole			0

Inland Waters Pollution Control
2021 S. Schaefer Hwy
Detroit, Michigan
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INSPECTION REPORT

DATE:	WORK #:	WEATHER:	OPERATOR:	SECTION NR:	SECTION NAME:
01/21/2006	PENDING	SUNNY, DRY	MULLINS	18	CRA
PRESENT:	**VEHICLE:**	**CAMERA:**	**PRESET:**	**CLEANED:**	**RATE:**
A. SCHIEWECK	55168	FLAT CAMERA	3	HEAVY	0

STREET:	300 TAYLOR	MAP #1:	TYPE 3	MH:	11
CITY:	DAYTON,OHIO	MAP #2:		MH:	CB11
LOCALE:	PARKING LOT	TAPE #:	2016	TV'D LGTH:	19.5 ft

INSPECT REASON:	ANNUAL INSPECTION	PIPE SIZE:	10"
SECTION TYPE:	STORMWATER	MATERIAL:	VCP JT LGTH: 3 ft
AREA:		LINING:	NO RELINING
		RSRVD:	

REMARK:

1:50	POSITION	CODE	OBSERVATION	VCR #	PH	RATE
11						
	4.90	0	inspection begins at downstream manhole			0
CB11	19.50	0	inspection ends at upstream manhole			0

Inland Waters Pollution Control
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Detroit, Michigan
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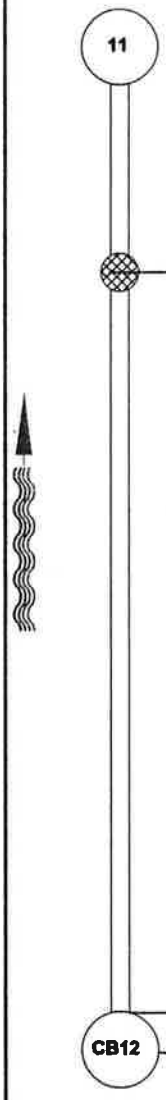
INSPECTION REPORT

DATE:	WORK #:	WEATHER:	OPERATOR:	SECTION NR:	SECTION NAME:
01/21/2006	PENDING	SUNNY, DRY	MULLINS	19	CRA
PRESENT:	**VEHICLE:**	**CAMERA:**	**PRESET:**	**CLEANED:**	**RATE:**
A. SCHIEWECK	55168	FLAT CAMERA	3	HEAVY	150

STREET:	300 TAYLOR	MAP #1:	TYPE 3	MH:	11
CITY:	DAYTON,OHIO	MAP #2:		MH:	CB12
LOCALE:	PARKING LOT	TAPE #:	2016	TV'D LGTH:	21.7 ft

INSPECT REASON:	ANNUAL INSPECTION	PIPE SIZE:	10"
SECTION TYPE:	STORMWATER	MATERIAL:	VCP JT LGTH: 3 ft
AREA:		LINING:	NO RELINING
		RSRVD:	

REMARK:



1:50 POSITION	CODE	OBSERVATION	VCR #	PH	RATE
4.90	0	inspection begins at downstream manhole			0
20.90	150	offset joint, slight			1
21.70	0	inspection ends at upstream manhole			0

Inland Waters Pollution Control
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Detroit, Michigan
Tel: 800-992-9118, Fax:

INSPECTION REPORT

DATE:	WORK #:	WEATHER:	OPERATOR:	SECTION NR:	SECTION NAME:
01/26/2006	PENDING	SUNNY, DRY	MULLINS	20	CRA
PRESENT:	**VEHICLE:**	**CAMERA:**	**PRESET:**	**CLEANED:**	**RATE:**
A. SCHIEWECK	55168	FLAT CAMERA	3	HEAVY	0

STREET:	300 TAYLOR	MAP #1:	TYPE 3	MH:	11
CITY:	DAYTON,OHIO	MAP #2:		MH:	13
LOCALE:	PARKING LOT	TAPE #:	2016	TV'D LGTH:	37.6 ft

INSPECT REASON:	ANNUAL INSPECTION	PIPE SIZE:	18"
SECTION TYPE:	STORMWATER	MATERIAL:	VCP JT LGTH: 3 ft
AREA:		LINING:	NO RELINING
		RSRVD:	

REMARK:

1:100	POSITION	CODE	OBSERVATION	VCR #	PH	RATE
11						
	4.90	0	inspection begins at upstream manhole			0
13	37.60	0	inspection ends at downstream manhole			0

Inland Waters Pollution Control
2021 S. Schaefer Hwy
Detroit, Michigan
Tel: 800-992-9118, Fax:

INSPECTION REPORT

DATE:	WORK #:	WEATHER:	OPERATOR:	SECTION NR:	SECTION NAME:
01/26/2006	PENDING	SUNNY, DRY	MULLINS	21	CRA
PRESENT:	**VEHICLE:**	**CAMERA:**	**PRESET:**	**CLEANED:**	**RATE:**
A. SCHIEWECK	55168	FLAT CAMERA	3	HEAVY	0

STREET:	300 TAYLOR	MAP #1:	TYPE 3	MH:	14
CITY:	DAYTON,OHIO	MAP #2:		MH:	13
LOCALE:	PARKING LOT	TAPE #:	2016	TV'D LGTH:	20.2 ft

INSPECT REASON:	ANNUAL INSPECTION	PIPE SIZE:	18"
SECTION TYPE:	STORMWATER	MATERIAL:	VCP JT LGTH: 3 ft
AREA:		LINING:	NO RELINING
		RSRVD:	

REMARK:

1:50	POSITION	CODE	OBSERVATION	VCR #	PH	RATE
14						
	4.90	0	inspection begins at downstream manhole			0
13	20.20	0	inspection ends at upstream manhole			0

Inland Waters Pollution Control
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Detroit, Michigan
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INSPECTION REPORT

DATE:	WORK #:	WEATHER:	OPERATOR:	SECTION NR:	SECTION NAME:
01/26/2006	PENDING	SUNNY, DRY	MULLINS	22	CRA
PRESENT:	**VEHICLE:**	**CAMERA:**	**PRESET:**	**CLEANED:**	**RATE:**
A. SCHIEWECK	55168	FLAT CAMERA	3	HEAVY	0

STREET:	300 TAYLOR	MAP #1:	TYPE 3	MH:	14
CITY:	DAYTON,OHIO	MAP #2:		MH:	18
LOCALE:	PARKING LOT	TAPE #:	2016	TV'D LGTH:	137.2 ft

INSPECT REASON:	ANNUAL INSPECTION	PIPE SIZE:	20"
SECTION TYPE:	STORMWATER	MATERIAL:	VCP JT LGTH: 3 ft
AREA:		LINING:	NO RELINING
		RSRVD:	

REMARK:

1:325	POSITION	CODE	OBSERVATION	VCR #	PH	RATE
14	4.90	0	inspection begins at upstream manhole			0
	25.20	0	service connection at 03 o'clock			0
19	137.20	0	inspection ends at downstream manhole			0

Inland Waters Pollution Control
2021 S. Schaefer Hwy
Detroit, Michigan
Tel: 800-992-9118, Fax:

INSPECTION REPORT

DATE:	WORK #:	WEATHER:	OPERATOR:	SECTION NR:	SECTION NAME:
01/26/2006	PENDING	SUNNY, DRY	MULLINS	23	CRA
PRESENT:	**VEHICLE:**	**CAMERA:**	**PRESET:**	**CLEANED:**	**RATE:**
A. SCHIEWECK	55168	FLAT CAMERA	3	HEAVY	0

STREET:	300 TAYLOR	MAP #1:	TYPE 3	MH:	18
CITY:	DAYTON,OHIO	MAP #2:		MH:	19
LOCALE:	PARKING LOT	TAPE #:	2016	TV'D LGTH:	14.9 ft

INSPECT REASON:	ANNUAL INSPECTION	PIPE SIZE:	24"
SECTION TYPE:	STORMWATER	MATERIAL:	VCP JT LGTH: 3 ft
AREA:		LINING:	NO RELINING
		RSRVD:	

REMARK:

1:50	POSITION	CODE	OBSERVATION	VCR #	PH	RATE
18						
	4.90	0	inspection begins at upstream manhole			0
19	14.90	0	inspection ends at downstream manhole, REMARK: MANHOLE TO THE LEFT			0

Inland Waters Pollution Control
2021 S. Schaefer Hwy
Detroit, Michigan
Tel: 800-992-9118, Fax:

INSPECTION REPORT

DATE:	WORK #:	WEATHER:	OPERATOR:	SECTION NR:	SECTION NAME:
01/26/2006	PENDING	SUNNY, DRY	MULLINS	24	CRA
PRESENT:	**VEHICLE:**	**CAMERA:**	**PRESET:**	**CLEANED:**	**RATE:**
A. SCHIEWECK	55168	FLAT CAMERA	3	HEAVY	0

STREET:	300 TAYLOR	MAP #1:	TYPE 3	MH:	19
CITY:	DAYTON,OHIO	MAP #2:		MH:	INT-7
LOCALE:	PARKING LOT	TAPE #:	2016	TV'D LGTH:	82.3 ft

INSPECT REASON:	ANNUAL INSPECTION	PIPE SIZE:	30"
SECTION TYPE:	STORMWATER	MATERIAL:	VCP JT LGTH: 3 ft
AREA:		LINING:	NO RELINING
		RSRVD:	

REMARK:

1:200 POSITION	CODE	OBSERVATION	VCR #	PH	RATE
5.00	0	inspection begins at upstream manhole			0
17.40	0	pipe Broken at 06 o'clock			3
26.50	0	camera under water			1
37.00	0	camera out of water			0
37.40	0	service connection at 01 o'clock			0
82.30	0	inspection ends at downstream manhole, REMARK: INT-7			0

Inland Waters Pollution Control
2021 S. Schaefer Hwy
Detroit, Michigan
Tel: 800-992-9118, Fax:

INSPECTION REPORT

DATE:	WORK #:	WEATHER:	OPERATOR:	SECTION NR:	SECTION NAME:
01/26/2006	PENDING	SUNNY, DRY	MULLINS	25	CRA
PRESENT:	**VEHICLE:**	**CAMERA:**	**PRESET:**	**CLEANED:**	**RATE:**
A. SCHIEWECK	55168	FLAT CAMERA	3	HEAVY	0

STREET:	300 TAYLOR	MAP #1:	TYPE 3	MH:	25
CITY:	DAYTON,OHIO	MAP #2:		MH:	INT-7
LOCALE:	PARKING LOT	TAPE #:	2016	TV'D LGTH:	15.5 ft

INSPECT REASON:	ANNUAL INSPECTION	PIPE SIZE:	30"
SECTION TYPE:	STORMWATER	MATERIAL:	CONCRETE JT LGTH: 3 ft
AREA:		LINING:	NO RELINING
		RSRVD:	

REMARK:

1:50	POSITION	CODE	OBSERVATION	VCR #	PH	RATE
25						
	4.90	0	inspection begins at downstream manhole			0
INT-7	15.50	0	inspection ends at upstream manhole, REMARK: INT-7			0

Inland Waters Pollution Control
2021 S. Schaefer Hwy
Detroit, Michigan
Tel: 800-992-9118, Fax:

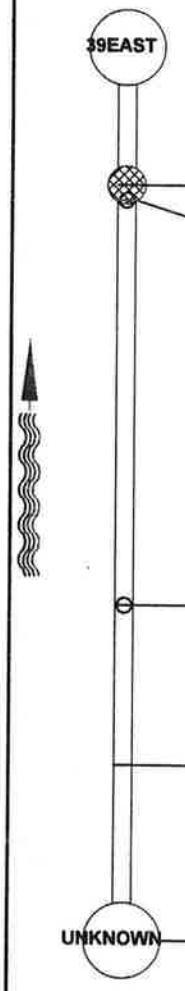
INSPECTION REPORT

DATE:	WORK #:	WEATHER:	OPERATOR:	SECTION NR:	SECTION NAME:
01/27/2006	PENDING	SUNNY, DRY	MULLINS	26	CRA
PRESENT:	**VEHICLE:**	**CAMERA:**	**PRESET:**	**CLEANED:**	**RATE:**
A. SCHIEWECK	55168	FLAT CAMERA	3	HEAVY	0

STREET:	300 TAYLOR	MAP #1:	TYPE 3	MH:	39EAST
CITY:	DAYTON,OHIO	MAP #2:		MH:	UNKNOWN
LOCALE:	PARKING LOT	TAPE #:	2016	TV'D LGTH:	19.4 ft

INSPECT REASON:	ANNUAL INSPECTION	PIPE SIZE:	10"
SECTION TYPE:	STORMWATER	MATERIAL:	VCP JT LGTH: 3 ft
AREA:		LINING:	NO RELINING
		RSRVD:	

REMARK:



1:50 POSITION	CODE	OBSERVATION	VCR #	PH	RATE
3.00	0	inspection begins at downstream manhole			0
3.30	0	service connection at 12 o´clock			0
12.10	0	service connection at 12 o´clock			0
15.60	0	Hole in pipe at 02 o´clock			3
19.40	0	inspection ends at BULK HEADED			0

Inland Waters Pollution Control
2021 S. Schaefer Hwy
Detroit, Michigan
Tel: 800-992-9118, Fax:

INSPECTION REPORT

DATE:	WORK #:	WEATHER:	OPERATOR:	SECTION NR:	SECTION NAME:
01/27/2006	PENDING	SUNNY, DRY	MULLINS	27	CRA
PRESENT:	**VEHICLE:**	**CAMERA:**	**PRESET:**	**CLEANED:**	**RATE:**
A. SCHIEWECK	55168	FLAT CAMERA	3	HEAVY	0

STREET:	300 TAYLOR	MAP #1:	TYPE 3	MH:	39NORTH
CITY:	DAYTON,OHIO	MAP #2:		MH:	34
LOCALE:	PARKING LOT	TAPE #:	2016	TV'D LGTH:	9.2 ft

INSPECT REASON:	ANNUAL INSPECTION	PIPE SIZE:	8"
SECTION TYPE:	STORMWATER	MATERIAL:	CAST IRON JT LGTH: 3 ft
AREA:		LINING:	NO RELINING
		RSRVD:	

REMARK:

1:25	POSITION	CODE	OBSERVATION	VCR #	PH	RATE
39NORTH						
	3.00	0	inspection begins at upstream manhole			0
	6.40	0	pipe bends DOWN			0
34	9.20	0	inspection ends atMAIN TO MH 34			0

APPENDIX R

BUSTR NFA LETTERS AND CLOSURE ASSESSMENT REPORTS

Department of Commerce
Division of State Fire Marshal
John R. Kasich, Governor
David Goodman, Director

September 5, 2012

VIA EMAIL & REGULAR MAIL

LAURA FUNK
WESTON SOLUTIONS
711 EAST MONUMENT AVE.
SUITE 201
DAYTON, OHIO 45402

SITE: FORMER GENERAL MOTORS
HARRISON THERMAL SYSTEMS
300 TAYLOR ST
DAYTON, OH
MONTGOMERY COUNTY
RELEASES #57000003-N1, N2, N3,
N7, AND N9

RE: Class C Determination

To Whom It May Concern:

This letter shall serve notice that the above referenced releases have been classified by Bureau of Underground Storage Tank Regulations (BUSTR), Division of the State Fire Marshal, as "Class C" release files. The responsible party for the identified BUSTR releases is considered non-viable due to the bankruptcy filing that occurred in June 2009. Since there is no viable responsible party (owner or operator) to conduct corrective actions per ORC 3737.882, the release files are now classified as Class C.

If you have any questions, please contact me at 614-752-7938.

Sincerely,

Lori Stevens, Esq.
Legal Counsel for BUSTR

cc: Site File
OEPA - VAP

Bureau of Underground Storage Tank Regulations
8895 East Main Street
Reynoldsburg, OH 43068 U.S.A.

614 | 752 7938
Fax 614 | 752 7942
TTY/TDD 800 | 750 0750
www.com.ohio.gov

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Ohio Department of Commerce

Division of State Fire Marshal
Bureau of Underground Storage Tank Regulations
8895 E. Main St. • P.O. Box 687
Reynoldsburg, OH 43068-9009
(614) 752-7938 FAX (614) 752-7942
www.com.state.oh.us

Bob Taft
Governor

Lt. Governor Jennette Bradley
Director

October 06, 2003

PAMELA STUBBS
GM REALM, GM MORAINE ASSEMBLY
2601 STROOP RD
MORAINE, OH 45439-2631

SITE: THERMAL SYSTEMS
TANK #4 S OF BLDG 9
300 TAYLOR ST
DAYTON OH
MONTGOMERY COUNTY
RELEASE #57000003-N00004

RE: NO FURTHER ACTION STATUS REGARDING CORRECTIVE ACTION REQUIREMENTS

Dear Ms. Stubbs:

The Bureau of Underground Storage Tank Regulations (BUSTR) has reviewed all information submitted for the referenced release. Based on this information, BUSTR requires no further action under Ohio Administrative Code 1301:7-9-13, effective September 1992.

Thank you for your cooperation. If you have any questions, please contact our office at (614) 752-7938.

Sincerely,

Kelly J. Gill
Corrective Action Supervisor

xc: Site File
Andrew Steele, Dayton Fire Dept
Jim Shoemaker, Dayton wellfield Protection
Mark Case, Montgomery County Health Department

UNDERGROUND STORAGE TANK
CLOSURE ASSESSMENT REPORT
HARRISON DIVISION GMC
TAYLOR STREET - DAYTON, OH

Prepared for:

Harrison Division GMC
Dayton, Ohio

PN 6013

Prepared by:

Environmental Quality Management, Inc.
1310 Kemper Meadow Drive
Cincinnati, Ohio 45240

March 1993

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Appendix A - Plan View Drawings of Tank Sites
Appendix B - MSDS's for Non-Fuel Petroleum Products - Tanks Nos. 5 and 7
Appendix C - 30-Day Notification Letter and Closure Permit
Appendix D - Listing and Location of UST's Previously Closed
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SECTION 1.0

INTRODUCTION

Environmental Quality Management, Inc. (EQ) was retained as prime contractor by the Harrison Division GMC (Harrison) to permanently close four (4) underground storage tank (UST) systems at their facility in Dayton, Ohio. EQ and their tank removal subcontractor, Reliable Construction Services (Reliable) of Dayton, Ohio, initiated closure work at the facility on December 7, 1992 and substantially completed work by January 5, 1993. This report summarizes all of the UST removal and closure assessment activities that were completed by Reliable and EQ, respectively, as part of this project.

Owner/operator information and facility data for the UST systems, closed during this project, are provided below along with the state certified installers from EQ and Reliable who supervised onsite closure work:

Owner & Operator
Owner No. 7564
Harrison Division GMC
300 Taylor Street, PO Box 824
Dayton, Ohio 45401
Harrison Contact - W. John Ridd (513/455-4408)

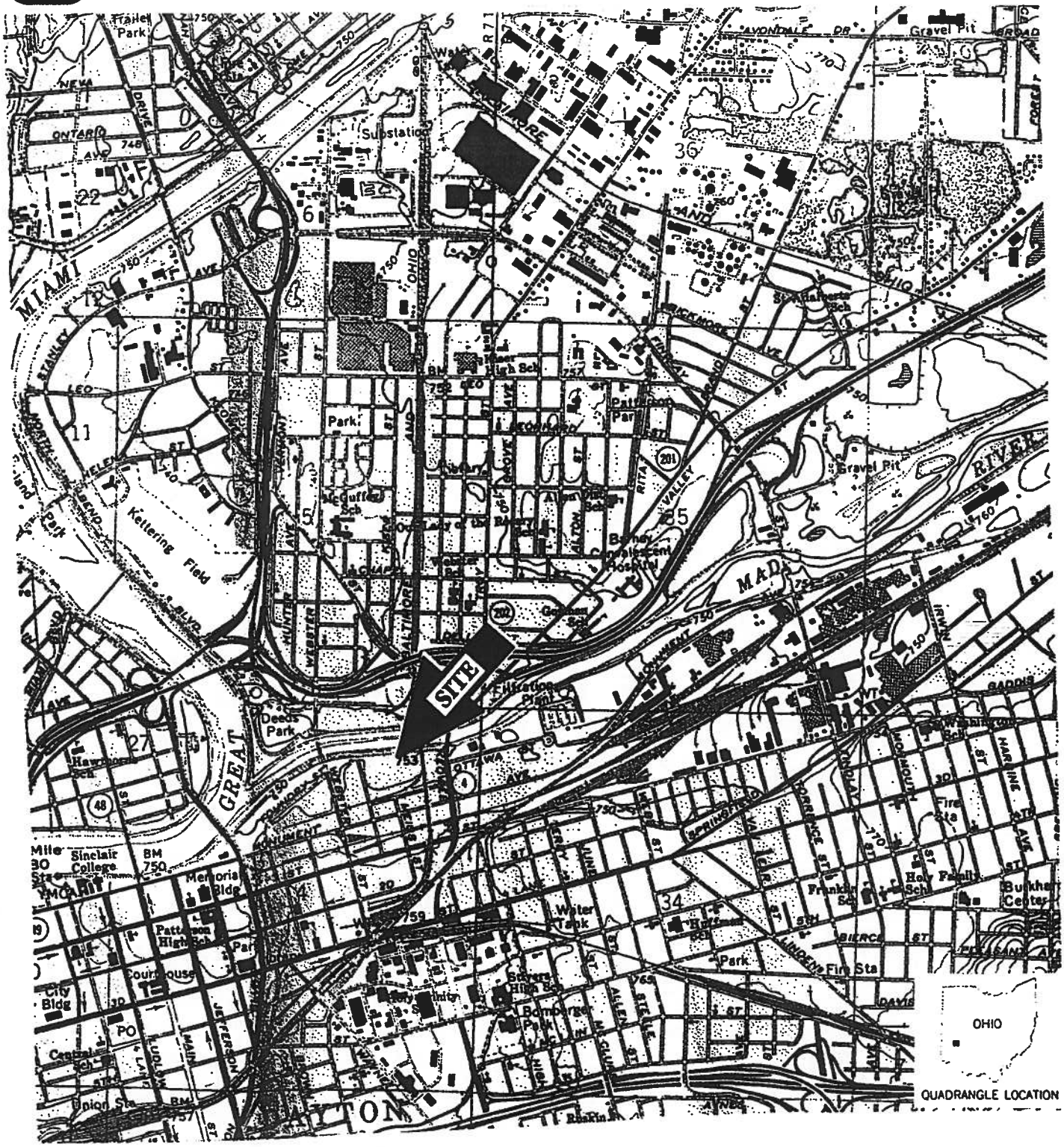
Facility Location
Facility No. 570003
Harrison Division GMC - Dayton Plant
300 Taylor Street
Montgomery County
Dayton, Ohio 45401

State Certified UST Installers
Thomas J. Wey (EQ)
ID #10-89-0342
and
Steven Kreusch (Reliable)
ID #10-89-0214

The location of the facility is provided as Figure 1-1. UST systems data are summarized in Table 1-1. The location of each of the four UST systems, at the facility, is provided in Figure 1-2. Appendix A contains plan view drawings for the UST systems which provide other site features (i.e., location of the facility property boundaries, above ground structures, adjacent streets, underground utilities, etc). Appendix B contains Material Safety Data Sheets for the non-fuel petroleum products contained in Tank Nos. 5 and 7.

Harrison submitted the 30-day Closure Notification letter to the Ohio Fire Marshal's - Bureau of Underground Storage Tank Regulations (BUSTR) and obtained the required permit from BUSTR, to permanently close the UST systems. Appendix C contains copies of the notification letter and the closure permit. Appendix D contains a listing and location of UST's removed, abandoned in-place or that have had a change in service.

The remainder of this report is organized into three sections. Section 2.0 provides a detailed description of the UST removals including a summary of site observations, the excavation limits and release reporting. Section 3.0 summarizes all of the closure assessment sampling and analysis activities, and Section 4.0 provides a summary of findings and conclusion.



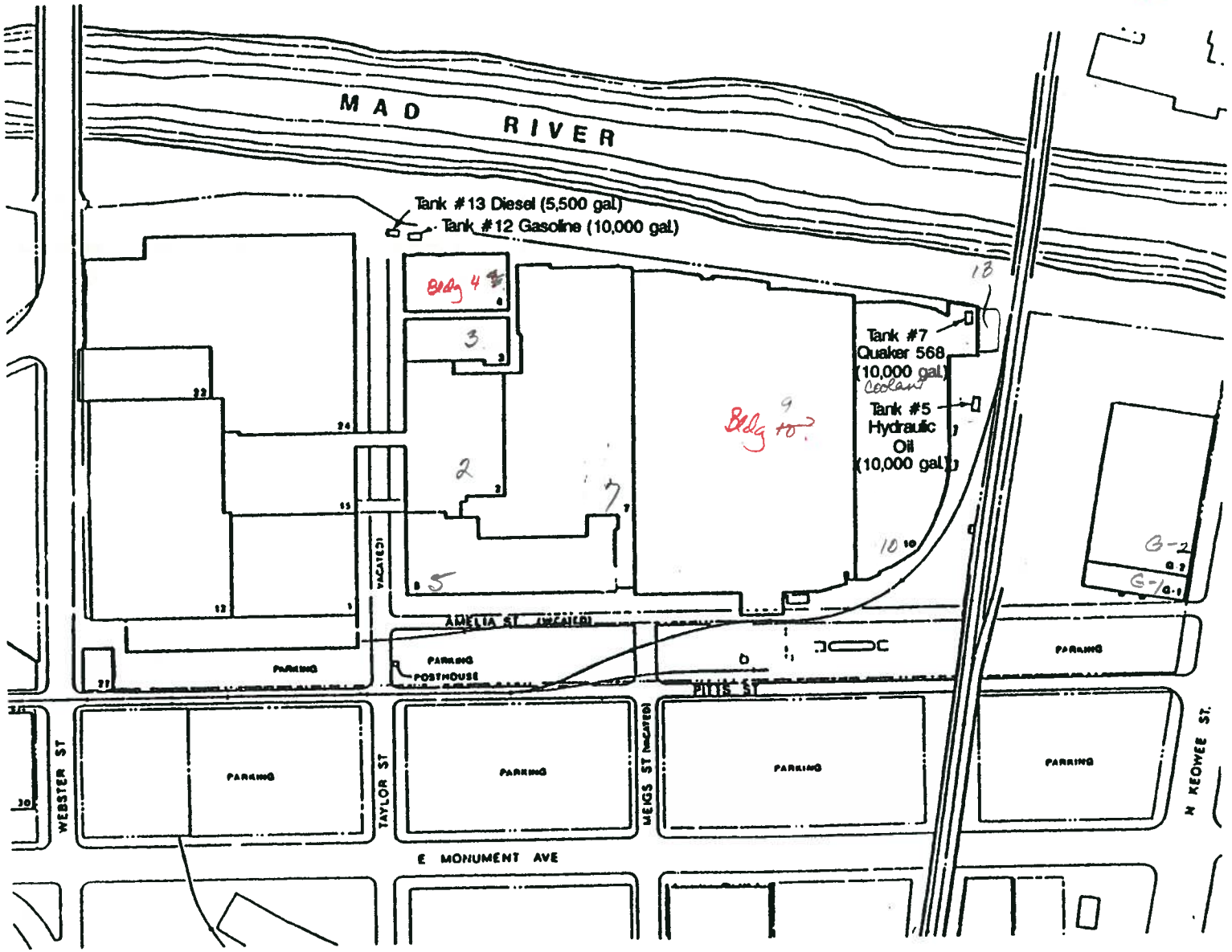
BASE MAP SOURCE: USGS Quadrangle, Dayton North, OH.
7.5 Minute Series (Topographic), Scale 1:24,000, Photorevised 1981

Site Location:	Figure 1-1. Location of Facility	Revision	No.	Date
Harrison Division GMC Dayton, Ohio				

TABLE 1-1. UST SYSTEMS DATA

Tank No.	Location	Status	System Use	Substance Stored	Date of Last Use	Age	Type of Construction	Capacity (gal.)	Dia. x Len.*
5	Building 10 driveway	Tank removed**, 12/21/92	Industrial	Polar HO 215A Hydraulic Oil	1/17/92	1972	Steel, single wall	10,000	10' x 17'
7	Inside Building 10	Tank removed**, 12/18/92	Industrial	Quaker 568 Coolant	1/17/92	1972	Steel, single wall	10,000	10' x 17'
12	North of Building 4	Tank removed**, 12/14/92	Industrial	Gasoline	1/20/92	1974	Steel, single wall	10,000	8' x 27'
13	North of Building 4	Tank removed**, 12/11/92	Industrial	Diesel fuel (Previously gasoline)	2/18/92	1974	Steel, single wall	6,500	8'6" x 16'

* Based on field measurements at closure.
** Closure of all UST systems was completed by January 5, 1993.



BASE MAP SOURCE: Harrison Div. GMC-Dayton Plant

Site Location:	Figure 1-2. Location of Tanks at Facility	Revision	No.	Date
Harrison Division GMC Dayton, Ohio				

SECTION 2.0

SUMMARY OF UST REMOVAL ACTIVITIES

Four UST systems were permanently closed by removal during this project. Closure activities were completed in accordance with Ohio Administrative Code (OAC) 1301:7-9-12. Removal work was completed under the direct supervision of a state certified UST Installer, as required by OAC 1301:7-9-11.

Project work was initiated on December 7th for Tank Nos. 12 and 13 and involved an underground 12-inch diameter high-pressure city water main existing along the western end of Tank No. 13. The water main was uncovered and found to be the blind-end of the line buried about 6-feet deep within 3-feet to the west end of Tank No. 13. While uncovering the water main, a bleed valve on the top of the line was broken and repairs were made to the line in conjunction with the city water department. Thereafter, Tank No. 13 was removed from the area north of Building 4 on December 11th followed by Tank No. 12 on December 14th. Tank No. 7 was removed from the inside of Building 10 on December 18th and Tank No. 5 was removed from the Building 10 driveway area on December 21st. Removal of piping for all UST's was completed by January 5, 1993. BUSTR Inspectors (Messrs. C. Stacks, B. Hoover, D. Parks or M. Waldron) visited the site to witness the removal of the UST systems.

Site observations, excavation limits, release reporting and other relevant information is organized and presented, by UST system, in the remainder of this section.

2.1 Tank No. 5 Hydraulic Oil

After this tank system was last used by Harrison's facility personnel in January of 1992, Harrison transferred the remaining product from the tank into containers for use at the facility. In December of 1992, just prior to removal of the tank, Brand Precision Services of Dayton (Brand) cleaned out the tank system and transferred all

of the residuals (liquids and solids) to the facility's onsite waste water treatment plant for proper treatment/disposal. At the time of closure, combustible gas meter readings taken of the tank atmosphere, in the presence of the BUSTR Inspector, indicated that inerting (purging) of the tank atmosphere prior to removal was not necessary.

Overburden material (pavement and soil) covering the tank was excavated and placed into 20-cubic yard rolloff boxes, provided by Brand. Excavation activities then continued along the west side and south end of the tank to a depth of 14-feet and the tank was removed from the pit. The remaining backfill material was then removed from the tank pit and all associated underground piping was also removed. Figure 3-1 (in Section 3 of this report) illustrates the final limits of the excavation zone and location of removed piping. All backfill material excavated from the tank pit, during and after removal of the tank, was placed into the roll-off boxes, tarped and staged for disposal characterization. A total of 280 cubic yards of material (14 roll-off boxes) was excavated during the removal of Tank No. 5.

Table 2-1 is a summary of the site condition based on field observations made during removal activities. Appendix E contains photographic documentation of the removal activities.

TABLE 2-1. SUMMARY OF SITE CONDITION BASED ON FIELD OBSERVATIONS - TANK NO. 5

Item	Description
Condition of Tank and Piping	Fair condition with heavy corrosion and pitting visible over most of tank shell. Lower 25% of tank shell dark, indicating contact with water table during seasonal high. Piping dry with low to moderate corrosion.
Backfill Materials	Well sorted sand, dry, light brown, visibly clean and no odors (petroleum or other).
Tank Pit	No free liquids (water or product). No evidence of release.
Soil Beyond Excavation Limits	Black, consolidated topsoil/sand/gravel, wood/shells/brick/debris. Tank pit appeared to be located in fill area. Dry, no petroleum odors, slightly malodorous (septic).

The rolloff boxes were tarped, staged and sampled at the facility pending receipt of waste characterization results from the lab (NET Midwest of Dayton-NET) for landfill disposal acceptance (at the ELDA Recycling and Disposal Facility in Cincinnati, Ohio-ELDA). A composite sample for all soil excavated during the removal of this tank was prepared by collecting five grab samples from each roll-off box using new disposable stainless steel sampling spoons that were left in each roll-off after sample collection. The grab samples were then composited into a single clean wide mouth glass container (32-ounce) with a teflon lined lid. The chain-of-custody form, analytical parameters requested, lab methods used and the lab results are presented in Section 3.0 of this report.

Appendix F contains waste disposal documentation for Tank No. 5 and all material excavated during removal activities.

2.2 Tank No. 7

Coolant

After this tank system was last used by Harrison's facility personnel in January of 1992, Harrison transferred the remaining product from the tank into containers for use at the facility. In December of 1992, just prior to removal of the tank, Brand cleaned out the tank system and transferred all of the residuals (liquids and solids) to the facility's onsite waste water treatment plant for proper treatment/disposal. At the time of closure, combustible gas meter readings taken of the tank atmosphere, in the presence of the BUSTR Inspector, indicated that inerting (purging) of the tank atmosphere prior to removal was not necessary.

Overburden material (pavement and soil) covering the tank was excavated, stockpiled and tarped at the facility on plastic sheeting bermed with bales of straw. Excavation activities then continued along the west side and south end of the tank to a depth of 14.5-feet and the tank was removed from the pit. The remaining backfill material was then removed from the tank pit and accessible underground piping was also removed. Exploratory work was performed to locate all piping for removal. However, underground piping beneath the building and loading dock areas was not accessible and removal was not possible. This situation was discussed with and

approved by the BUSTR inspector. Figure 3-2 (in Section 3 of this report) illustrates the final limits of the excavation zone and the location of removed piping. All backfill material excavated from the tank pit, during and after removal of the tank, was stockpiled for disposal characterization. Approximately 200 cubic yards of material were excavated during the removal of Tank No. 7.

Table 2-2 is a summary of the site conditions based on field observations. Appendix E contains photographic documentation of the removal activities.

TABLE 2-2. SUMMARY OF SITE CONDITION BASED ON FIELD OBSERVATIONS - TANK NO. 7

Item	Description
Condition of Tank and Piping	Hole noted in top of tank shell at 10 o'clock position along west side of tank, otherwise, good condition. Hole in tank not typical corrosion hole (i.e., no corrosion, scaling or pitting around hole(but more like puncture from heavy equipment or backfill debris. No stains around hole (indicative of leakage). Position of hole appeared to be in headspace area above high level of when tank full. Piping dry with moderate corrosion, pitting and scaling apparent. Report of suspected release made to BUSTR by Harrison (J. Ridd) based on observation of slight staining and odor in soil samples collected from the floor of the excavation. Piping (within limits of Tank excavation zone) was dry with moderate corrosion.
Backfill Materials	Sand and gravel, dry, brown/grey, no odor (petroleum or other).
Tank Pit	No free liquids (water or product). No evidence of release.
Soil Beyond Excavation Limits	Black/grey/brown consolidated topsoil/sand/gravel, wood/shells/brick/debris. Tank pit appeared to be located in fill area. Walls high moisture content and malodorous (septic). Floor high moisture with petroleum odor.

The stockpile was sampled and remained staged at the facility pending receipt of waste characterization results from NET for landfill disposal acceptance at ELDA. One 32-ounce composite sample (contained in a single clean wide mouth glass container with a teflon lined lid) representative of all soil excavated during the removal

of this tank, was prepared by compositing 25 grab samples from random locations along five traverses of the stockpile using new disposal stainless steel sampling spoons that were left in the stockpile after sample collection. The chain-of-custody form, analytical parameters requested, lab methods used and the lab results are presented in Section 3.0 of this report.

Appendix F contains waste disposal documentation for Tank No. 7 and all materials excavated during removal activities.

2.3 Tank Nos. 12 and 13

After these tank systems were last used by Harrison's facility personnel in January and February of 1992, Harrison transferred the product remaining in Tank No. 13 into an aboveground storage tank located in the area. In December of 1992, just prior to removal of the tanks, Brand cleaned out Tank No. 12 and Reliable cleaned out Tank No. 13. All of the residuals (liquids and solids) from tank clean out went into 55-gallon drums (16 total) for offsite disposal at the Safety-Kleen Corporation facility in New Castle, Kentucky (Safety-Kleen). Combustible gas meter readings taken of the tank atmospheres, in the presence of the BUSTR Inspector, indicated that inerting (purging) of the tank atmospheres prior to removal was not necessary for either tank.

Overburden material (pavement and soil) covering the tanks and backfill materials were excavated and handled as follows: the pavement was stockpiled and tarped at the facility on plastic sheeting; the overburden and backfill soil from both tanks was placed into 20-cubic yard roll-off boxes or waiting dump trucks. Excavation activities were discontinued at a depth of 11-feet where both tanks were found to be anchored to concrete ballast pads.

The ballast pad under Tank No. 13 was completely removed. Only the northwest quadrant of the ballast pad under Tank No. 12 was removed. The remainder of the pad was left in-place as a safety precaution, to protect the integrity of the shoring (installed along the north wall) and the foundations of the adjacent river levee wall and roof canopy columns. Concrete ballasts materials were stockpiled with the pavement for landfill disposal at ELDA. The overburden and backfill soil was

transported to Pinnacle Road Landfill of Dayton, Ohio (Pinnacle), for disposal. All pavement and concrete from the tank ballasts was approved for disposal at ELDA. All underground piping associated with both tanks was excavated and removed. Figure 3-3 (Section 3 of this report) illustrates the final limits of the excavation zones and location of removed piping. A breakdown of the total estimated quantity of solid material generated during the removal of all piping related to Tank Nos. 12 and 13 is summarized below:

- Stockpiled pavement concrete from ballast pads — 40 cubic yards
- Overburden and backfill materials in roll-offs (14) — 280 cubic yards
- Backfill loaded directly into dump trucks (10) — 170 cubic yards

Tables 2-3 and 2-4 are summaries of the site conditions for Tank Nos. 12 and 13 during removal activities, based on field observations. Appendix E contains photographic documentation of the removal activities.

TABLE 2-3. SUMMARY OF SITE CONDITIONS BASED ON FIELD OBSERVATIONS - TANK 12

Item	Description
Condition of Tank and Piping	Tank in good condition, moderate corrosion (pitting and scaling). Piping dry with heavy corrosion.
Backfill Materials	Well sorted sand, dry, light brown, visibly clean and no odors (petroleum or other).
Tank Pit	Ground water encountered at 11.25' below ground surface. No free product liquids. Water, heavy petroleum odors. Report of suspected release made to BUSTR by Harrison (J. Ridd) based on staining in soil at the static ground water level.
Soil Beyond Excavation Limits	Walls grey/brown sand and gravel, dry, no odors (petroleum or other). Floor below concrete ballast pad black/grey, sand and gravel saturated (water) and heavy petroleum odors at 12.5' depth.

TABLE 2-4. SUMMARY OF SITE CONDITIONS BASED ON FIELD OBSERVATIONS - TANK 13

Item	Description
Condition of Tank and Piping	Tank in good condition, moderate corrosion (pitting and scaling). Piping dry with heavy corrosion. Tank noted as having sealed manway on west end of tank.
Backfill Materials	Well sorted sand, dry, light brown, visibly clean and no odors (petroleum or other).
Tank Pit	Ground water encountered at 11.25' below ground surface. No free product liquids. Water, heavy petroleum odors. Report of suspected release made to BUSTR by Harrison (J. Ridd) based on staining in soil at the static ground water level.
Soil Beyond Excavation Limits	Walls grey/brown sand and gravel, dry, no odors (petroleum or other). Floor below concrete ballast pad black/grey, sand and gravel saturated (water) and heavy petroleum odors at 12.5' depth.

A representative composite sample of soil excavated during the removal of these two tanks was prepared by collecting five grab samples from each roll-off box using new disposable stainless steel sampling spoons that were left in each roll-off after sample collection. The grab samples were then composited into a single clean wide mouth glass container (32-ounce) with a teflon lined lid. The chain-of-custody form, analytical parameters requested, lab methods used and the lab results are presented in Section 3.0 of this report.

Appendix F contains waste disposal documentation for Tank Nos. 12 and 13, all residual products from tank clean out and all materials excavated during removal activities.

SECTION 3.0

CLOSURE ASSESSMENT SAMPLING AND ANALYSIS

Following the removal of each tank system and all backfill materials from each tank pit, closure assessment sampling activities were completed in accordance with OAC 1301:7-9-12. EQ's Project Manager communicated with Mr. Brian Tarver (BUSTR Office - Dayton, OH) before the start of UST removal activities to define the proper analytical parameters and methods for closure assessment samples collected from Tank Nos. 5 and 7. The products stored in these tanks were not specifically listed in the analytical group column of Table 1 contained in OAC 1301:7-9-13(D). MSDS's as contained in Appendix B of this report, for the products in these two tanks were sent to Mr. Tarver for review and it was determined that closure assessment samples collected for both tanks should be analyzed for total petroleum hydrocarbon (TPH) constituents using Method 418.1. Samples for Tank No. 12 (gasoline) were analyzed from analytical group one constituents (as defined in Table 1 of the previously cited regulation) using the specified methods. Samples for Tank No. 13 (diesel) were analyzed from analytical group two constituents (as defined in Table 1 of the previously cited regulation) using the specified methods.

Representative environmental samples (of soil and water) were collected during assessment sampling activities from the pipe trenches, from beneath pump pads (for Tank Nos. 12 and 13) and from the tank pit walls and floors. Each soil sample was collected in duplicate, using a new disposable stainless steel sampling spoon. The first sample from each location was double wrapped and sealed in plastic ziplock bags and stored at room temperature. This sample was screened for total organic vapors (TOV) in the field with Century Model 108 organic vapor analyzer - flame ionization detector (OVA-FID). The OVA-FID was precalibrated prior to field use following the manufacturer's specifications. The second sample from each location was sealed with a teflon lined lid in a new 4-ounce glass sample jar, labeled and stored in a sample

cooler for further analysis. One water sample was collected from the excavation zone for Tank Nos. 12 and 13, where ground water was encountered, and was subjected to field TOV screening. The water sample was collected from just below the water surface directly into a clean glass sample container.

Based on the field TOV screening results, as contained in Appendix G, and site observations, samples were selected for closure assessment purposes and were submitted to NET under chain-of-custody for further analysis.

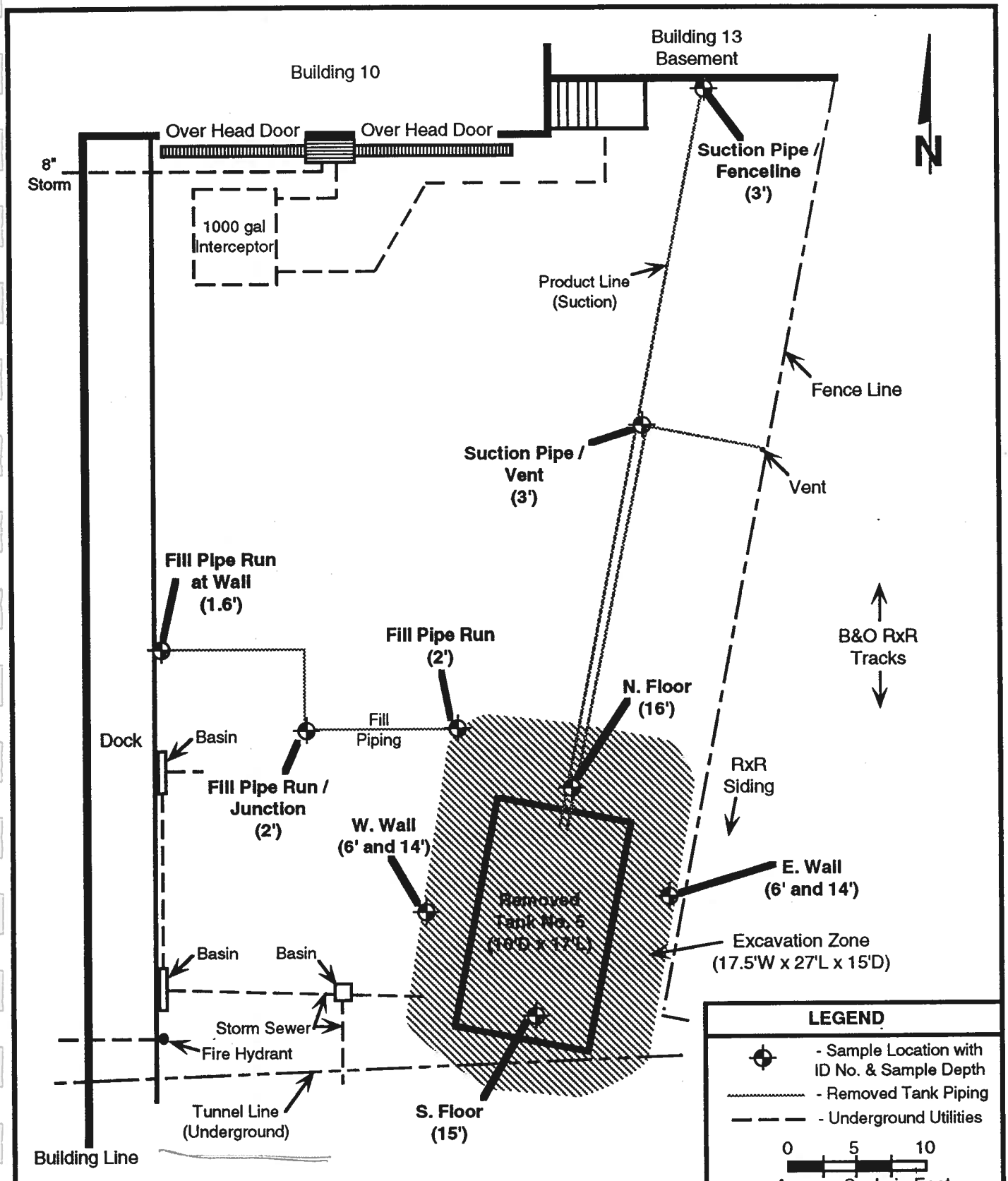
Appendix G contains the chain-of-custody forms and analytical reports from NET for all samples submitted for analysis. Laboratory data (i.e., dates of sample collection, dates received and analyzed by the lab, the laboratory information, analyst information methods, detection levels and QA/QC information) is provided in Appendix G.

The remainder of this section is organized by tank system and provides a summary of the following:

- Sampling identification numbers, locations and depths;
- Field TOV screening results;
- Laboratory analytical results
- Field observations made during sampling activities; and
- The results of the site feature scoring.

3.1 Tank No. 5

Figure 3-1 illustrates final excavation limits and provides the identification numbers, locations and depths for all samples submitted to NET for analyses. Table 3-1 presents a summary of the analytical results for all closure assessment samples from Tank No. 5. Note that this tank was filled from an above ground remote fill station located south of Building 9. Piping from this fill station was routed overhead through Building 9 and exited underground to the west of Tank No. 5. Therefore, closure assessment samples were not necessary for the above ground portions of the remote fill piping. Soil samples were collected, however, from beneath the underground piping of the fill system.



Site Location:	Figure 3-1. Closure Assessment Sampling Locations - Tank No. 5	Revision	No.	Date
Harrison Division GMC Dayton, Ohio				

TABLE 3-1. SUMMARY OF CLOSURE ASSESSMENT ANALYTICAL RESULTS FOR TANK NO. 5

Sample ID No.	Matrix	TPH[a] (ppm)	Fingerprint[b] (pos./neg.)
North Floor 16'	Soil	49200	NR
South Floor 15'-5"	Soil	6130	Negative
East Wall 6'	Soil	6	Negative
East Wall 14'	Soil	40000	NR
West Wall 6'	Soil	611	Negative
West Wall 14'	Soil	339	Negative
Suction Pipe/Fenceline	Soil	35	NR
Suction Pipe/Vent	Soil	143	NR
Fill Pipe Run	Soil	144	NR
Fill Pipe Run/Junction	Soil	17700	NR
Fill Pipe Run/at Wall	Soil	811	NR
Waste Composite[c]	Soil	1730	NR

[a] TPH by Method 418.1

[b] Fingerprint by GCFID

NR = Not Requested.

Negative indicates that Polar H0215A Hydraulic Oil from Tank No. 5 was not found to be present in the sample based on a GC fingerprint comparison.

[c] Waste Composite Sample also analyzed for TCLP metals, volatile organic and semi-volatile organic compounds (less pesticides and herbicides), ignitability, corrosivity, reactivity, total PCBs, percent moisture and free liquids using EPA approved analytical methods. Lab results determined the waste was not characteristically hazardous and waste was approved for landfill disposal at ELDA as a special non-hazardous waste. Appendix F contains copies of waste profiles and Appendix G contains the lab analysis data reports.

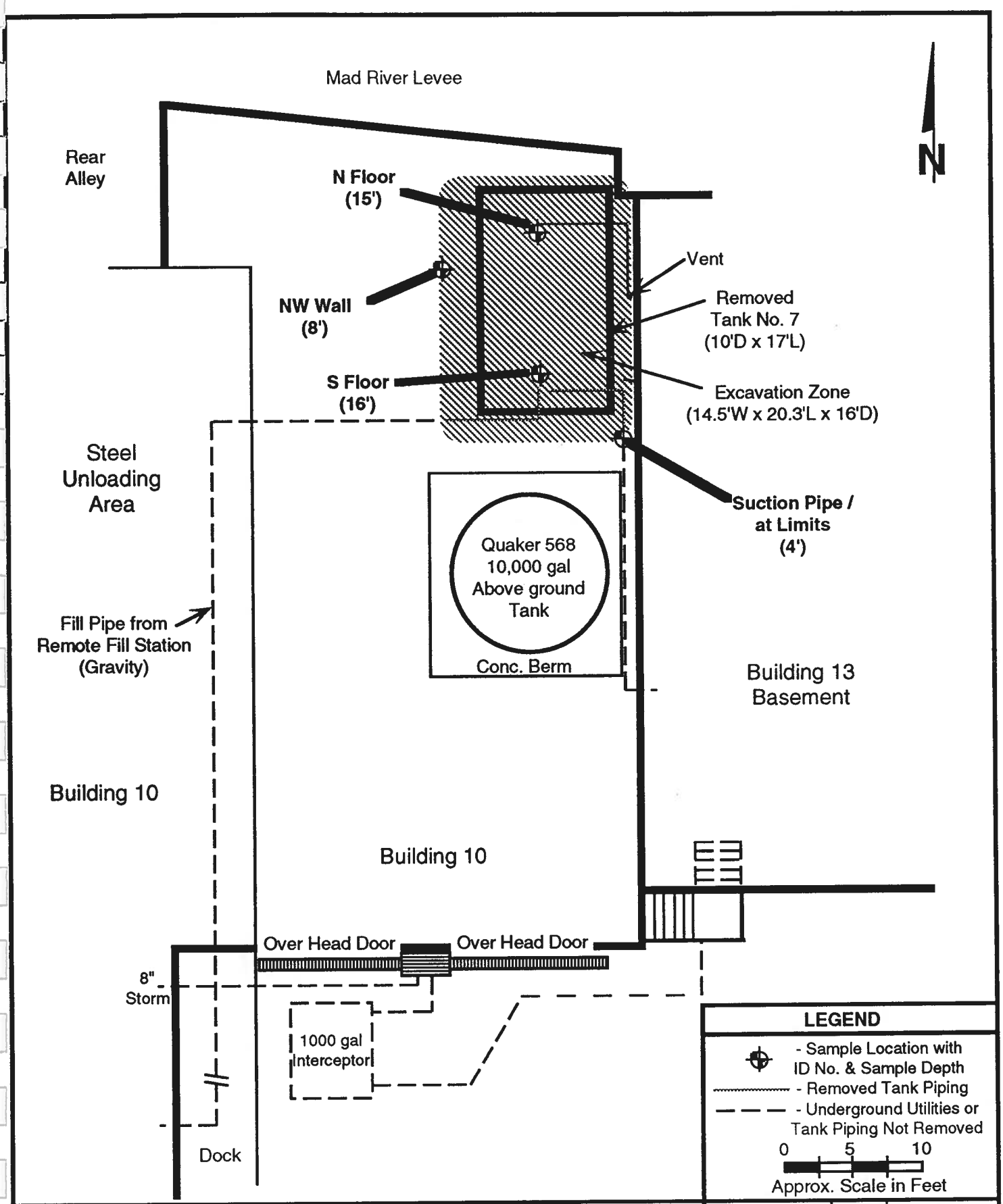
Field TOV readings were not registered above background readings for samples collected from this tank pit area except for the North Floor sample collected at the 16-foot depth which registered 28 parts per million (ppm) of TOV. Therefore samples submitted were collected from representative locations along the floor, east and west walls and from pipe trenches. The south wall of the tank pit was the concrete wall of a tunnel passing east/west under the railroad tracks to the east of the tank pit area. The north wall was comprised of clean sand in a backfilled pit of an UST that had previously been removed from the area.

Observations made during removal of the tank and closure assessment sampling suggest that Tank No. 5 had been buried in an area that had been filled-in (built-up) years ago with various types of material (i.e., consolidated topsoil, sand, gravel, wood, shells, bricks, and debris). Tank 5 was found to be enveloped in visibly clean well sorted sand type backfill material. The original tank pit walls, after all backfill material had been removed, were distinctly apparent based on nature and characteristics of the material as compared to the sand backfill. Because of these observations, four (randomly selected) of the six soil samples from the pit area that were submitted for TPH analyses were also fingerprinted by NET, using GCFID, against samples of clean Polar H0215A Hydraulic Oil product that had been stored in the tank. The results of this analysis are summarized in Table 3-1 of this report. NET determined that Polar H0215A Hydraulic Oil product from Tank No. 5 was not present in the four samples analyzed.

BUSTR's Site Feature Scoring System (SFSS) guidelines were used to complete a SFSS chart for Tank No. 5. A total score of 20 was derived for this site as indicated on the completed form contained in Appendix H of this report. Based on the total score, BUSTR's Category 1 Actions Levels would apply to this site.

3.2 Tank No. 7

Figure 3-2 illustrates final excavation limits and provides the identification numbers, locations and depths for all samples submitted to NET for analyses. Table 3-2 presents a summary of the analytical results for all closure assessment



Site Location:	Figure 3-2. Closure Assessment Sampling Locations - Tank No. 7	Revision	No.	Date
Harrison Division GMC Dayton, Ohio				

TABLE 3-2. SUMMARY OF CLOSURE ASSESSMENT ANALYTICAL RESULTS FOR TANK NO. 7

Sample ID No.	Matrix	TPH[a] (ppm)	Fingerprint[b] (pos./neg.)
North Floor 15'	Soil	27900	Negative
South Floor 16'	Soil	22300	NR
Northwest Wall 8'	Soil	63800	Inconclusive
Suction Pipe/At Limits	Soil	900	NR
Waste Composite[c]	Soil	1840	NR

[a] TPH by Method 418.1

[b] Fingerprint by GCFID

NR = Not Requested.

Negative indicates that Quaker 568 Coolant from Tank No. 5 was not found to be present in the sample based on a GC fingerprint comparison.

[c] Waste Composite Sample also analyzed for TCLP metals, volatile organic and semi-volatile organic compounds (less pesticides and herbicides), ignitability, corrosivity, reactivity, total PCB's, percent moisture and free liquids using EPA approved analytical methods. Lab results determined the waste was not characteristically hazardous and waste was approved for landfill disposal at ELDA as a special non-hazardous waste. Appendix F contains copies of waste profiles and Appendix G contains the lab analysis data reports.

samples from Tank No. 7. Note that this tank was filled from a remote fill station as with Tank No. 5. See Section 3.1 for a description of the remote fill system and Appendix E for photographs.

Field TOV readings were registered above background readings for the following samples collected from this tank pit:

° Floor Soil Samples
- North, South, East and West
- All samples 15' to 16' depth
- 75 to 150 ppm

° Wall Soil Samples
- Northwest Wall
- 8' depth
- 25 ppm

Observations made during removal of the tank and closure assessment sampling suggest that Tank No. 7 had been buried in an area that had been filled-in (built-up) years ago with various types of material (i.e., consolidated topsoil, sand, gravel, wood, shells, bricks, and debris). Tank No. 7 was found to be enveloped in visibly clean sand and gravel type backfill material. The original tank pit walls, after all backfill material had been removed, were distinctly apparent based on nature and characteristics of the material as compared to the sand and gravel backfill. Because of these observations, two (randomly selected) of the three soil samples from the pit area that were submitted for TPH analyses were also fingerprinted by NET, using GCFID, against samples of clean Quaker 568 Coolant product that had been stored in the tank. The results of this analysis are summarized in Table 3-2 of this report. NET determined that Quaker 568 Coolant product from Tank No. 7 was not present in the one sample analyzed while the results of the second fingerprint analyses were inconclusive.

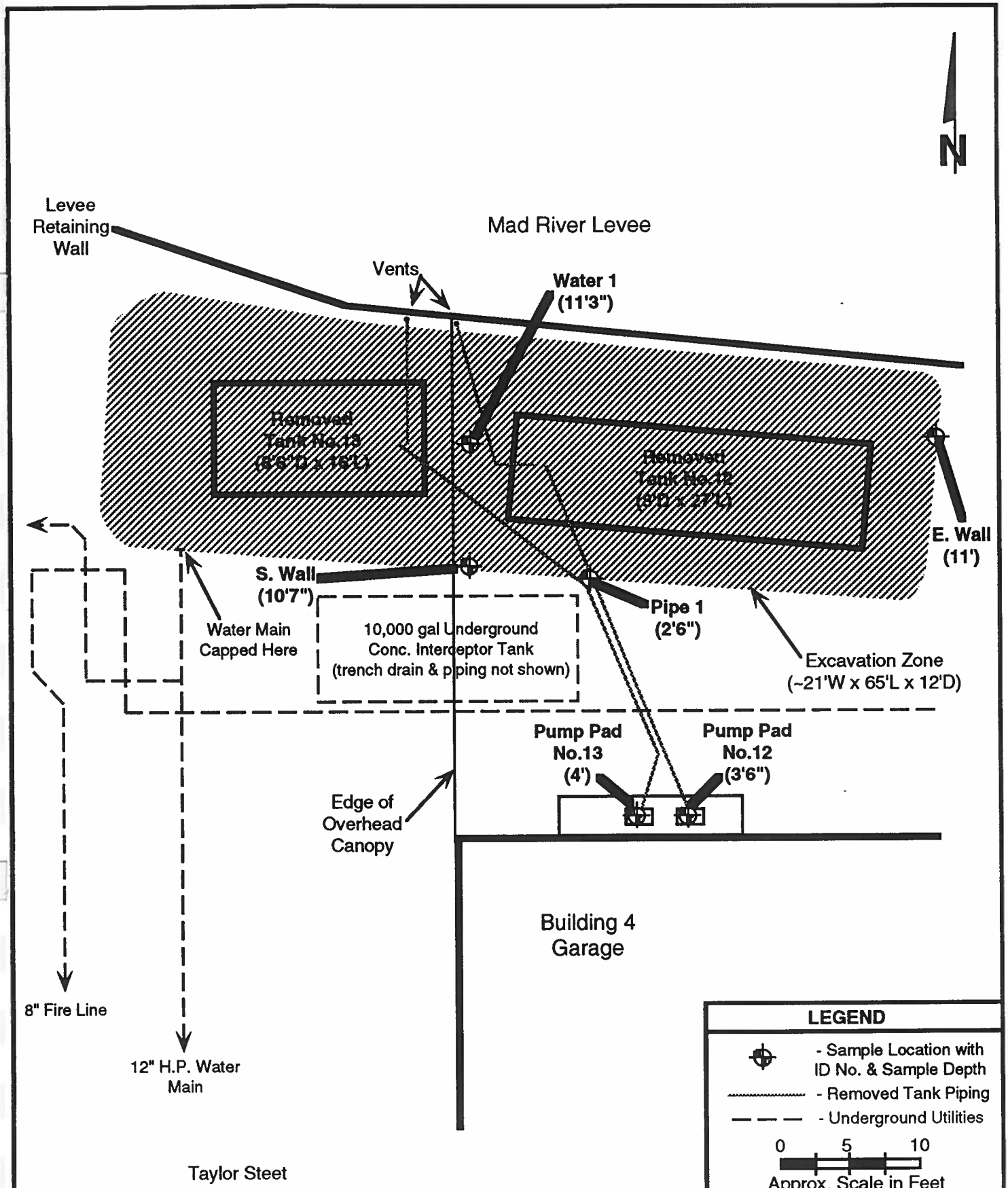
BUSTR's Site Feature Scoring System (SFSS) guidelines were used to complete an SFSS chart for Tank No. 7. A total score of 20 was derived for this site as indicated on the completed form contained in Appendix H of this report. Based on the total score, BUSTR's Category 1 Actions Levels would apply to this site.

3.3 Tank Nos. 12 and 13

Figure 3-3 illustrates final excavation limits and provides the identification numbers, locations and depths for all samples submitted to NET for analyses. Note that these two tank pits formed a common excavation zone. Table 3-3 presents a summary of the analytical results for all closure assessment samples from Tank Nos. 12 and 13. NET experienced matrix interference problems during analysis for benzene, toluene, ethylbenzene and xylenes (BTEX) as indicated by the higher than normal detection levels in Table 3-3. The interference was caused by high levels of non-target (not BTEX) organic compounds.

Field TOV readings were not registered for samples collected from this tank pit area except for the pump pad soil sample for Tank No. 12 which registered 50 ppm TOV and the water sample collected from the floor of the pit at the 11.25-foot depth which registered 35 parts per million (ppm) TOV. Sampling was not performed along the north wall since sheet piling was installed to protect adjacent foundations of the levee along the north wall.

Observations made during removal of the tank and closure assessment sampling suggest that the static ground water level did not reach the tank bottoms. A one-foot layer of sand backfill material was found to separate the bottom of Tank No. 12 from the top of the ballast pad. The upper half (~6 inches) of this sand layer that was in direct contact with the bottom of Tank No. 12 was visibly clean and odorless. The lower half of the sand layer that coincided with the static ground water level was grey/black in color and had heavy petroleum odors. Tank No. 13 was set directly (formed) into the concrete ballast pad that extended about four-feet up the side walls of the tank. The bottom elevation of the ballast pad under Tank No. 13 was about six-inches above static water level and rested on visibly clean sand backfill. Both tanks appeared to be enveloped (top, sides, ends and bottom) in visibly clean sand. Six inches below the bottom of each tank, the sand backfill was turned from a light brown to a grey/black color with petroleum odors apparent. The elevation of the stained sand backfill coincided with the static ground water level.



Site Location:	Figure 3-3. Closure Assessment Sampling Locations Tank Nos. 12 and 13	Revision	No.	Date
Harrison Division GMC Dayton, Ohio				

TABLE 3-3. SUMMARY OF CLOSURE ASSESSMENT ANALYTICAL RESULTS FOR TANK NOS. 12 AND 13

Sample ID No.	Matrix	TPH (by Method 418.1) (ppm)	TPH (by Method 8015) (ppm)	Benzene (by Method 8020) (ppb)	Toluene (by Method 8020) (ppb)	Ethyl benzene (by Method 8020) (ppb)	Xylenes (by Method 8020) (ppb)	PAH (by Method 8100 and 610)
Tank No. 12								
East Wall 11'	Soil	NA	7	ND, <24900	ND, <24900	ND, <24900	ND, <24900	NA
South Wall 10' - 7"	Soil	NA	14	ND, <25700	ND, <25700	ND, <25700	ND, <25700	NA
Pump Pad	Soil	NA	<5	196	210	220	1580	NA
Tank No. 13								
Pump Pad	Soil	162	NA	ND, <2	ND, <2	ND, <2	2.4	ND[a]
Tanks 12 & 13								
Water 1	Water	NA	NA	ND, <2000	2050	2350	13420	a & b
Pipe 1	Soil	39	ND, <5	2	5.8	<2	9.8	ND
Waste Comp. 1[c]	Soil	424	NR	NR	NR	NR	NR	NR
Waste Comp. 2[c]	Soil	2220	NR	NR	NR	NR	NR	NR

NA = Not Applicable.

ND = Not Detected, at lowest achievable quantification limit.

NR = Not Requested.

[a] = See Analytical Reports in Appendix for specific compounds and quantification limits.

[b] = Naphthalene detected at 110 ppb.
Phenanthrene detected at 32 ppb.
All other compounds not detected. See Analytical Reports in Appendix for specific compounds and quantification limits.

[c] = Waste Composite Sample also analyzed for TCLP metals, volatile organic and semi-volatile organic compounds (less pesticides and herbicides), ignitability, corrosivity, reactivity, total PCB's, percent moisture and free liquids using EPA approved analytical methods. Lab results determined the waste was not characteristically hazardous and waste was approved for landfill disposal at Pinnacle Road Landfill as a special non-hazardous waste. Appendix F contains copies of waste profiles and Appendix G contains the lab analysis data reports.

BUSTR's Site Feature Scoring System (SFSS) guidelines were used to complete a single SFSS chart for Tank Nos. 12 and 13 since the pits for both tanks formed a common excavation zone. A total score of 20 was derived for this site as indicated on the completed form contained in Appendix H of this report. Based on the total score, BUSTR's Category 1 Actions Levels would apply to this site.

SECTION 4.0

SUMMARY OF FINDINGS AND CONCLUSION

Harrison's Taylor Street facility is located in a sensitive area as defined in OAC 1301:7-9-09. Based on site observations during closure activities, ground water at the facility is estimated to exist at an average depth of fifteen feet. The predominant soil type (native soil) beyond the UST excavation limits was observed to consist of well sorted sand and gravel. Man-made receptors (i.e., city water lines, storm and/or sanitary sewer lines, process lines, etc.) exist near each of the closed UST sites. Each of the three tanks sites (Tank No. 5, Tank No. 7, and Tank Nos. 12 and 13) scored as Category 1 Action Level sites.

Closure assessment analytical results exceeded some of the Category 1 Action Levels for all tank systems closed as part of this project. However, it appears to be unlikely that the residual levels of petroleum hydrocarbon constituents resulted from releases from one or more of the UST closed during the project. This finding is based on the following information:

- The condition of each tank shell and all removed piping was generally good with only a minimal amount of pitting and scaling noted.
- One hole was found in the top of Tank No. 7. The hole was not a typical corrosion hole and may have been caused by puncture from a sharp object in the backfill material or may have been caused during installation or removal activities. Nonetheless, the hole was located towards the top of the tank such that leakage would only have occurred if the tank were overfilled. No staining was apparent around the hole that would have provided evidence of an overfill event and no overfills were reported by Harrison.
- The tank top fittings (fill pipe, product line and vent line flanges) were all found to be tight and dry.
- Petroleum staining was not apparent on the surface of any of the tank shells, piping or piping joints.

- All tanks were found to be backfilled and enveloped in visibly clean sand and/or gravel backfill material.

- TPH levels in composite samples of the backfill materials, for Tank Nos. 5 and 7, were generally lower than the TPH levels in soil samples from the excavation walls and floors. Typically a release from a tank system will first impact backfill materials resulting in higher levels of TPH in the backfill as compared to levels in surrounding soil.

- Visibly impacted and odorous soil was found in the native soil below visibly clean backfill materials in each tank pit. This observation tends to indicate that the petroleum hydrocarbon constituents detected in the native soil of each excavation zone resulted from a source unrelated to the operation and maintenance of the tank systems themselves.

- Based on the GCFID fingerprint analyses completed on soil samples from Tank Nos. 5 and 7, NET concluded that the petroleum hydrocarbon constituents in the native soil comprising the tank pits did not match the Polar H0215A Hydraulic Oil or Quaker 568 Coolant products stored in the tanks. This determination further suggests that the petroleum hydrocarbon constituents detected in the native soil of each excavation zone resulted from a source unrelated to the operation and maintenance of the tank systems themselves.

- Higher than normal laboratory detection levels for the BTEX constituents in closure assessment soil samples from Tank Nos. 12 and 13 were the result of matrix interferences from high level non-target (not BTEX) organic compounds, according to NET. This determination also suggests that the petroleum hydrocarbon constituents detected in the native soil of each excavation zone resulted from a source unrelated to the operation and maintenance of the tank systems themselves.

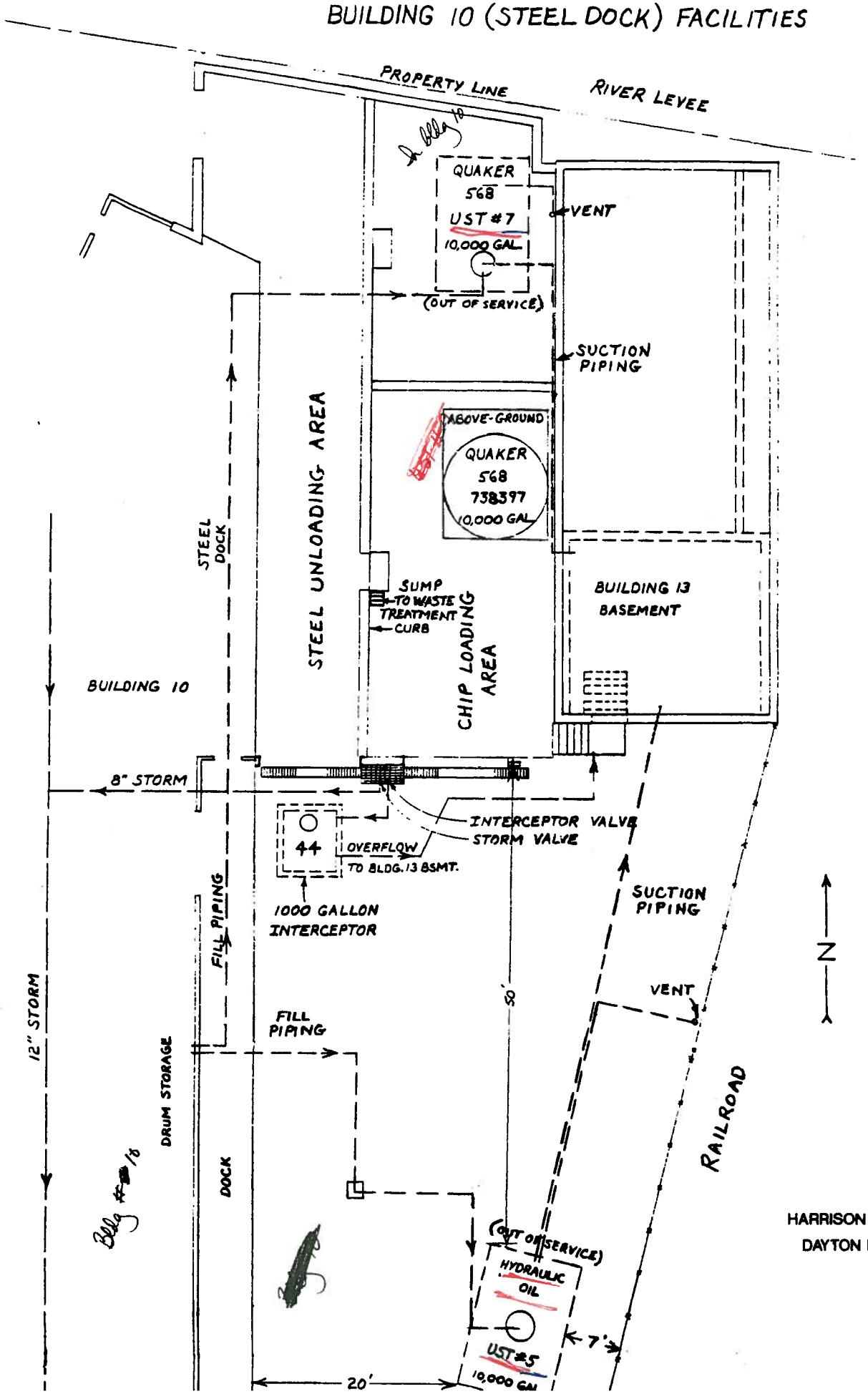
In conclusion, field observations supported by the results of the closure assessment activities indicate, with a high degree of probability, that the petroleum hydrocarbon constituents existing in subsurface soil and ground water (where encountered), resulted from a source unrelated to any release from one or more of the UST systems. As such, this closure assessment indicates that no release, as defined in OAC 1301:7-9-13(B)(2), has occurred from these tanks; and therefore a site assessment, per OAC 1301:7-9-13(I), is not required.

APPENDIX A

PLAN VIEW DRAWINGS OF TANK SITES

FIGURE 2

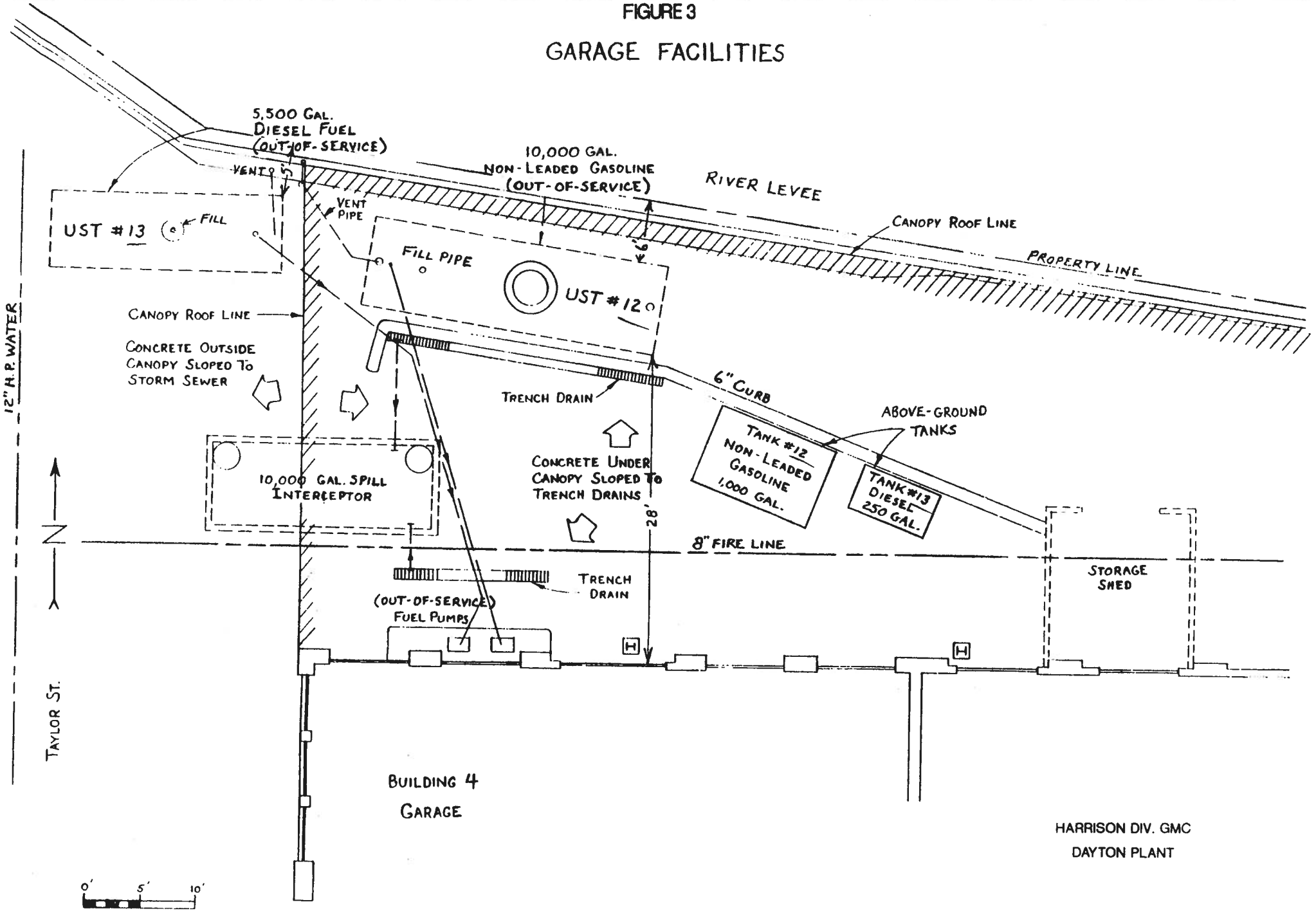
BUILDING 10 (STEEL DOCK) FACILITIES



HARRISON DIV. GMC
DAYTON PLANT

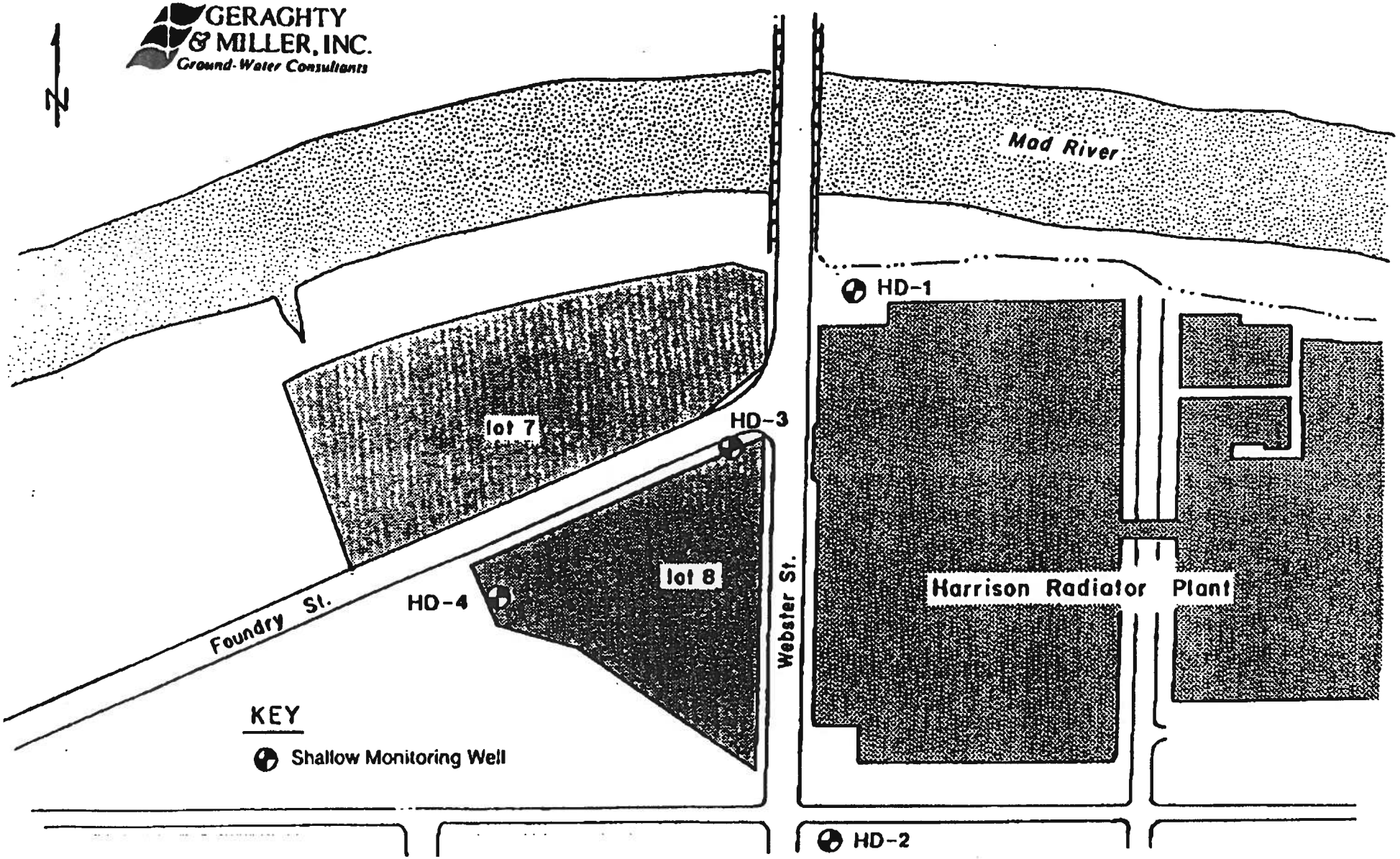
FIGURE 3

GARAGE FACILITIES



HARRISON DIV. GMC
DAYTON PLANT

Location of Shallow Monitoring Wells, Harrison Radiator Division - Dayton Plant, Dayton, Ohio



APPENDIX B

MSDS'S FOR NON-FUEL PETROLEUM PRODUCTS
TANKS NOS. 5 AND 7

TANK #5

HYDRAULIC OIL

GENERAL MOTORS CORPORATION
MATERIAL SAFETY DATA SHEET

4/6/88

SECTION I

PRODUCT NAME OR NUMBER (as it appears on label) POLAR HO 215A	GM COMMON CODE
MANUFACTURER'S NAME Polar, Inc.	EMERGENCY TELEPHONE NO. 513-222-4824
ADDRESS (Number, Street, City, State and Zip Code) 124 E. Third St., Suite 405; Dayton, OH 45402	MANUFACTURER'S D-U-N-S NO.
HAZARDOUS MATERIAL DESCRIPTION, PROPER SHIPPING NAME, HAZARD CLASS, HAZARD ID NO. (49 CFR 172.101) N/A	
ADDITIONAL HAZARD CLASSES (as applicable) N/A	
CHEMICAL FAMILY Hydrocarbon	FORMULA N/A

SECTION II — INGREDIENTS (list all ingredients)

CAS REGISTRY NO.	%W	%V	CHEMICAL NAME(S)	Listed as a Carcinogen in NTP, IARC or OSHA 1910(z) (specify)
64741-89-5		>99	Distillate, petroleum, solvent refined light paraffinic	NO
68442-22-8		<1	Zinc anti-wear package	NO

SECTION III — PHYSICAL DATA

BOILING POINT initial 566 °F ___ °C		SPECIFIC GRAVITY (H_2O = 1)	.88		
VAPOR PRESSURE 77 F 25 C ☒ <2 mm Hg ☐ psi		PERCENT VOLATILE BY VOLUME (%)	N/A	PERCENT SOLID BY WEIGHT (%)	N/A
VAPOR DENSITY (AIR = 1) Heavier than air		EVAPORATION RATE (butyl acetate = 1) butyl acetate	0.1	slower than ether	
SOLUBILITY IN WATER negligible		pH	N/A		
APPEARANCE AND ODOR Light brown clear - typical oil odor				IS MATERIAL: GAS ☐ LIQUID ☒ PASTE ☐ SOLID ☐ POWDER ☐	

SECTION IV — FIRE AND EXPLOSION HAZARD DATA

FLASH POINT min. 360 °F ___ °C method used ASTM D92	FLAMMABLE LIMITS not available	LEL		UEL
EXTINGUISHING MEDIA Foam, carbon dioxide, dry chemical				
SPECIAL FIRE FIGHTING PROCEDURES Wear self contained breathing apparatus with a full face piece - operated in pressure demand or other positive pressure mode when fighting fires.				
UNUSUAL FIRE AND EXPLOSION HAZARDS Unknown				

TEL:

Eyes: can cause irritation, redness & tearing: Skin: Prolonged or repeated contact can cause moderate irritation

THRESHOLD LIMIT VALUE xxx
PERMISSIBLE EXPOSURE LIMIT ☐ 5mg/m³
OTHER LIMIT ☐

Breathing/Swallowing - can cause nausea.

PRIMARY ROUTES OF ENTRY Inhalation ☐ Skin Contact ☐ Other (specify)

EMERGENCY AND FIRST AID PROCEDURES
Skin: Thoroughly wash skin with waterless hand cleaner, then soap and water-discard soaked clothing - Eyes - Flush with large amounts of water, get medical attention. Swallowing: Do nor induce vomiting - seek medical help.

SECTION VI-REACTIVITY DATA

STABILITY	UNSTABLE		CONDITIONS TO AVOID
	STABLE	xxx	N/A

INCOMPATIBILITY (materials to avoid)
Avoid contact with strong oxidizers

HAZARDOUS DECOMPOSITION PRODUCTS:
Oxides of carbon, smoke

HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID
	WILL NOT OCCUR	xxx	N/A

SECTION VII-SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
Eliminate all sources of ignition. Confine spill, pump liquid to storage. Absorb liquid with sand, clay, earth floor absorbent.

WASTE DISPOSAL METHOD
Burn under controlled conditions or deposit in disposal site in compliance with local, federal & state regu

CERCLA (Superfund) REPORTABLE QUANTITY (in lbs)
N/A

RCRA HAZARDOUS WASTE NO. (40 CFR 261.33)
N/A

VOLATILE ORGANIC COMPOUND (VOC) (as packaged, minus water)
N/A

☐ Theoretical _____ lb/gal ☐ Analytical _____ lb/gal

SECTION VIII-SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (specify type) If TLV is exceeded use NIOSH/MSHA jointly approved air supplied respirator sufficient to maintain exposure below [illegible]

VENTILATION	LOCAL EXHAUST (Specify Rate) Sufficient to maintain below TLV limit	SPECIAL N/A
	MECHANICAL (General) (Specify Rate) Normal	OTHER N/A

PROTECTIVE GLOVES (specify type) Neoprene or nitrile rubber

EYE PROTECTION (specify type) chemical splash goggles

OTHER PROTECTIVE EQUIPMENT
Wear impervious clothing and boots

SECTION IX-SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING
Empty containers retain product residues. All hazard precaurions given in this data sheet sould be observed.

OTHER PRECAUTIONS
None

Seller agrees not to assert any claim (other than a claim for a patent infringement) against General Motors Corporation for any use or disclosure of any technical data or information disclosed in connection with this questionnaire.

PLEASE COMPLETE QUESTIONNAIRE AND RETURN TO:

Name (print) David VonDerau

Signature [signature]

Title Sales Representative

Date 4/6/88

TEL:

TANK #7

MATERIAL SAFETY DATA SHEET 37007

~~#738397~~

SECTION I

PRODUCT NAME OR NUMBER (as it appears on label) MICROGRIND 568-FR	GM COMMON CODE
MANUFACTURER'S NAME QUAKER CHEMICAL CORPORATION	EMERGENCY TELEPHONE NO. 215-828-4250
ADDRESS (Number, Street, City, State and Zip Code) Elm and Lee Sts. Conshohocken, PA 19428-0809	MANUFACTURER'S D-U-N-S NO. 00-235-0866
HAZARDOUS MATERIAL DESCRIPTION, PROPER SHIPPING NAME, HAZARD CLASS, HAZARD ID NO. (49 CFR 172.101) NONE	
ADDITIONAL HAZARD CLASSES (as applicable) NA	
CHEMICAL FAMILY Complex Mixture	FORMULA Complex Mixture

SECTION II — INGREDIENTS (list all ingredients)

CAS REGISTRY NO.	%W	%V	CHEMICAL NAME(S)	Listed as a Carcinogen in NTP, IARC or OSHA 1910(z) (specify)
68140-08-9	5-10		Fatty Alkanolamide	
68608-26-4	1-5		Petroleum Sulfonate Salt	
64741-53-3	1-5		Mineral Oils	
Proprietary	1-5		Fatty Acids	
111-42-2	1-5		Alkanolamines	
61791-14-8	1-5		Ethoxylated Fatty Amine	
112-34-5	1-5		Glycol Ethers	
7632-00-0	1-5		Nitrite Salt	
Proprietary	1-5		Aliphatic Carboxylic Acid	
6440-58-0	1-5		Hydantoin Derivative	
129-17-9	< 1		Dye	
7732-18-5	70-80		Water	

SECTION III — PHYSICAL DATA

BOILING POINT ~212 °F ___ °C		SPECIFIC GRAVITY (H_2O = 1)	1.013		
VAPOR PRESSURE ___ °F ___ °C ☐ mm Hg ☐ psi N.D.		PERCENT VOLATILE BY VOLUME (%)	N.D.	PERCENT SOLID BY WEIGHT (%)	N.
VAPOR DENSITY (AIR = 1)	N.D.	EVAPORATION RATE (= 1)	N.D.		
SOLUBILITY IN WATER	Complete	pH =	9.1		
APPEARANCE AND ODOR	Clear blue liquid			IS MATERIAL: GAS PASTE LIQUID SOLID POWDER	

SECTION IV — FIRE AND EXPLOSION HAZARD DATA

FLASH POINT ___ °F ___ °C method used NA boils ~212°F	FLAMMABLE LIMITS N.D.	LEL N.D.	UEL N.D.
EXTINGUISHING MEDIA	CO_2, foam and dry chemical		
SPECIAL FIRE FIGHTING PROCEDURES	Use NIOSH/MSHA approved respirators		
UNUSUAL FIRE AND EXPLOSION HAZARDS	None		

TEL:

EFFECTS OF OVEREXPOSURE — Conditions to Avoid May cause eye irritation. Repeated or prolonged contact with base product may cause skin irritation.	THRESHOLD LIMIT VALUE ☒ NOT ESTABLIS PERMISSIBLE EXPOSURE LIMIT ☐ OTHER LIMIT ☐
PRIMARY ROUTES OF ENTRY Inhalation ☐ Skin Contact ☒ Other (specify)	
EMERGENCY AND FIRST AID PROCEDURES EYES.-Flush with cool running water for 15 mins. Get medical aid. SKIN: Wash thoroughly with soap and water. Get medical check if necessary. INGESTION: Call a physician. INHALATION: Remove to fresh air and call a physician. Apply artificial respiration if necessary.	

SECTION VI-REACTIVITY DATA

STABILITY	UNSTABLE		CONDITIONS TO AVOID
	STABLE	X	
INCOMPATIBILITY (materials to avoid)			Strong oxidizers, strong acids
HAZARDOUS DECOMPOSITION PRODUCTS:			(thermal) NONE
HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID
	WILL NOT OCCUR	X	NONE

SECTION VII-SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
Flush away with large volumes of water and wash area with mild detergent and water.

WASTE DISPOSAL METHOD Use acid/alum spill and dispose of in accordance with local, state and federal EPA regulations.

CERCLA (Superfund) REPORTABLE QUANTITY (in lbs)
NA

RCRA HAZARDOUS WASTE NO. (40 CFR 261.33)
NA

VOLATILE ORGANIC COMPOUND (VOC) (as packaged, minus water)
NA

☐ Theoretical _____ lb/gal ☐ Analytical 8.44 lb/gal

SECTION VIII-SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (specify type)
FOR FIRE CONDITIONS ONLY: Wear NIOSH/MSHA approved respirators.

VENTILATION	LOCAL EXHAUST (Specify Rate)	Recommended	SPECIAL N.A.
	MECHANICAL (General) (Specify Rate)	Acceptable	OTHER N.A.
PROTECTIVE GLOVES (specify type)	Recommended	EYE PROTECTION (specify type)	Wear Safety Glasses
OTHER PROTECTIVE EQUIPMENT	Eye wash facility and safety shower		

SECTION IX-SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING
NONE

OTHER PRECAUTIONS
NONE

829JLNCB

Seller agrees not to assert any claim (other than a claim for a patent infringement) against General Motors Corporation for any use or disclosure of any technical data or information disclosed in connection with this questionnaire.

PLEASE COMPLETE QUESTIONNAIRE AND RETURN TO:

Name (print) Kathryn F Strang

Signature

APPENDIX C

30-DAY NOTIFICATION LETTER AND CLOSURE PERMIT

HARRISON

Harrison Radiator
Division of General Motors Corporation
P.O. Box 824
Dayton, Ohio 45401-0824

May 11, 1992

Release Prevention Manager
Division of State Fire Marshal
Bureau of Underground Storage Tank Regulations
7510 East Main Street
P.O. Box 525
Reynoldsburg, Ohio 43068-3395

RE: Notification of Intent to Permanently Close Underground Storage Tanks - Harrison Div. GMC, Dayton Plant

Dear Sir:

This notification is being submitted in accordance with federal regulations 40 CFR 280.71(a) and the Ohio Fire Code, as required, prior to initiating closure of underground storage tanks at the Harrison Div. GMC - Dayton Plant, located at 300 Taylor Street in Dayton, Ohio.

Harrison is currently planning the permanent closure of four underground storage tanks at this site, designated as follows:

Tank #	Capacity (Gal.)	Location	Material
5	10,000	East of Bldg. 10	Hydraulic oil
7	10,000	Inside Bldg. 10	Quaker 568 (machining coolant)
12	10,000	North of Bldg. 4	Non-leaded gasoline
13	5,500	North of Bldg. 4	Diesel fuel

All closure activities will be conducted in accordance with federal and state regulatory requirements, and will be supervised by a Certified Tank Installer. Closure activities are anticipated to begin during July, 1992.

If you have any questions, please contact me on (513) 455-4408.

Sincerely,

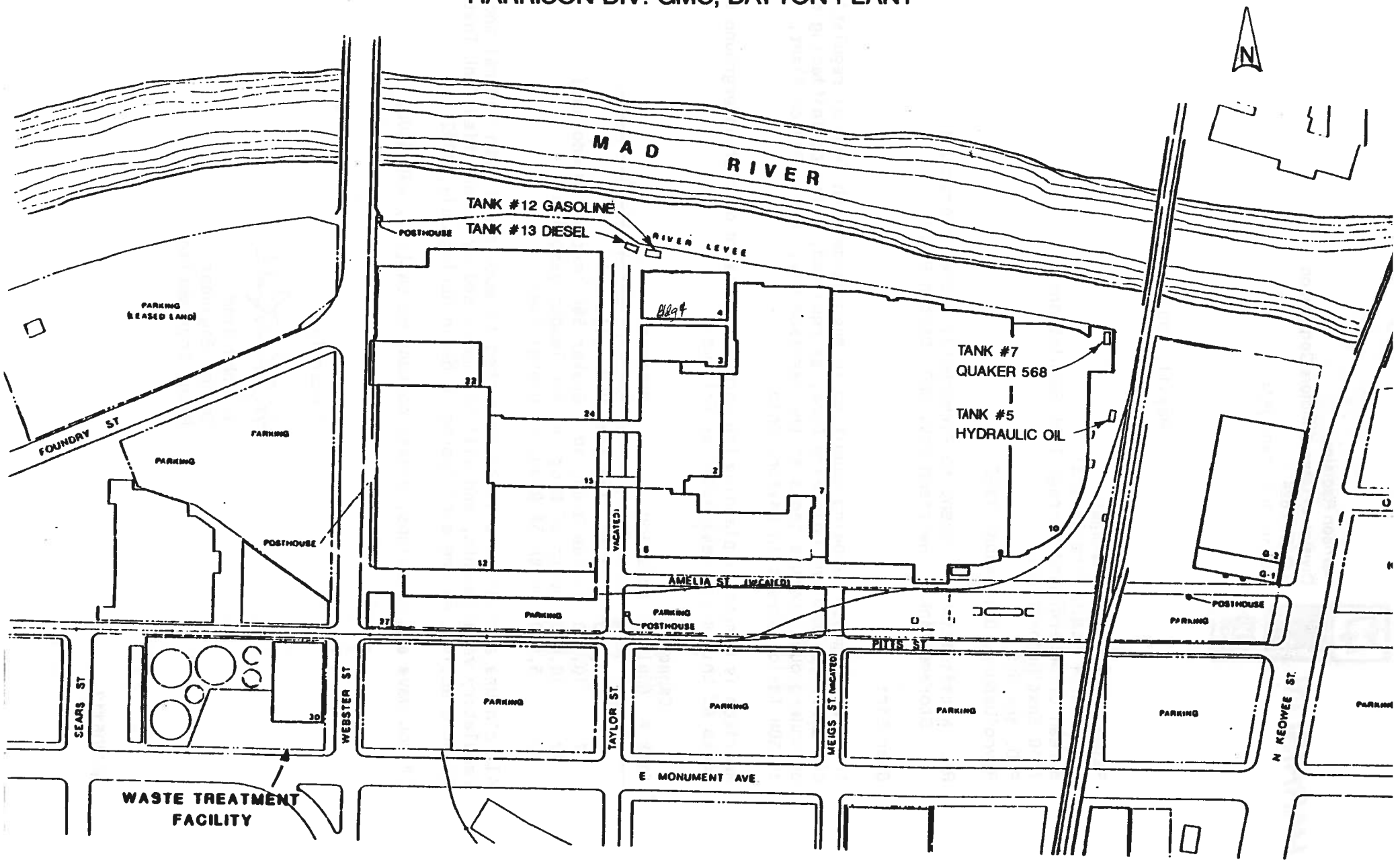
W. John Ridd

W. John Ridd
Senior Engineer
Plant Engineering

/WJR05112

CLOSURE OF REGULATED UNDERGROUND STORAGE TANKS

HARRISON DIV. GMC, DAYTON PLANT



5-12-92

STATE OF OHIO
DEPARTMENT OF COMMERCE – DIVISION OF STATE FIRE MARSHAL
BUREAU OF UNDERGROUND STORAGE TANK REGULATIONS
8895 EAST MAIN STREET, P.O. BOX 687
REYNOLDSBURG, OH 43068-0687

PERMIT FOR UNDERGROUND STORAGE TANKS

PERMIT NO.: 7222
ISSUE DATE: 10/21/92

I. OWNERSHIP OF TANKS	II. LOCATION OF TANKS
OWNER NO. 7564 GMC HARRISON DIVISION 300 TAYLOR STREET, PO BX 824 DAYTON, OH 45401 W. JOHN RIDD 513-455-4408	INCIDENT NO. 578530-00 FACILITY NO. 570003 GMC HARRISON DIVISION-DAYTON PLANT 300 TAYLOR STREET MONTGOMERY COUNTY DAYTON, OH 45401
III. CONTRACTOR	**IV. LOCAL FIRE DEPARTMENT**
OUT TO BID	DAYTON FIRE DEPT 300 N MAIN STREET DAYTON, OH 45402

V. PERMIT ISSUED FOR:
Removal of (4) 10,000 GAL UST'S

VI. CONDITIONS (NOTE: PERMIT EXPIRES SIX (6) MONTHS FROM DATE OF ISSUE. FEE IS NON-REFUNDABLE)

1. **Inspector will ask to see UST installer's proof of certification. Inspector must be present for the following:**
   Immediately before purging operations begin, immediately before the tank is cut open for any purpose, and the actual removal of the UST system from the ground.

2. **Certified installer must be on-site for the following:**
   a. The cleaning and purging of the UST system;
   b. The actual excavation and removal of the UST system or any of its components;
   c. All testing associated with the cleaning and purging processes;
   d. Any time during the removal in which components of the UST system are disconnected or capped.

DIVISION OF STATE FIRE MARSHAL

BUREAU USE ONLY

CERTIFIED INSTALLER: _____ ID NO.: 10-90-0342

INSPECTOR'S SIGNATURE: _____ DATE: 12-21-92

COM 5208 (08/92) FORMS DISTRIBUTION: WHITE COPY–TANK OWNER; CANARY AND PINK COPIES–BUREAU

APPENDIX D

LISTING AND LOCATION OF UST'S PREVIOUSLY CLOSED

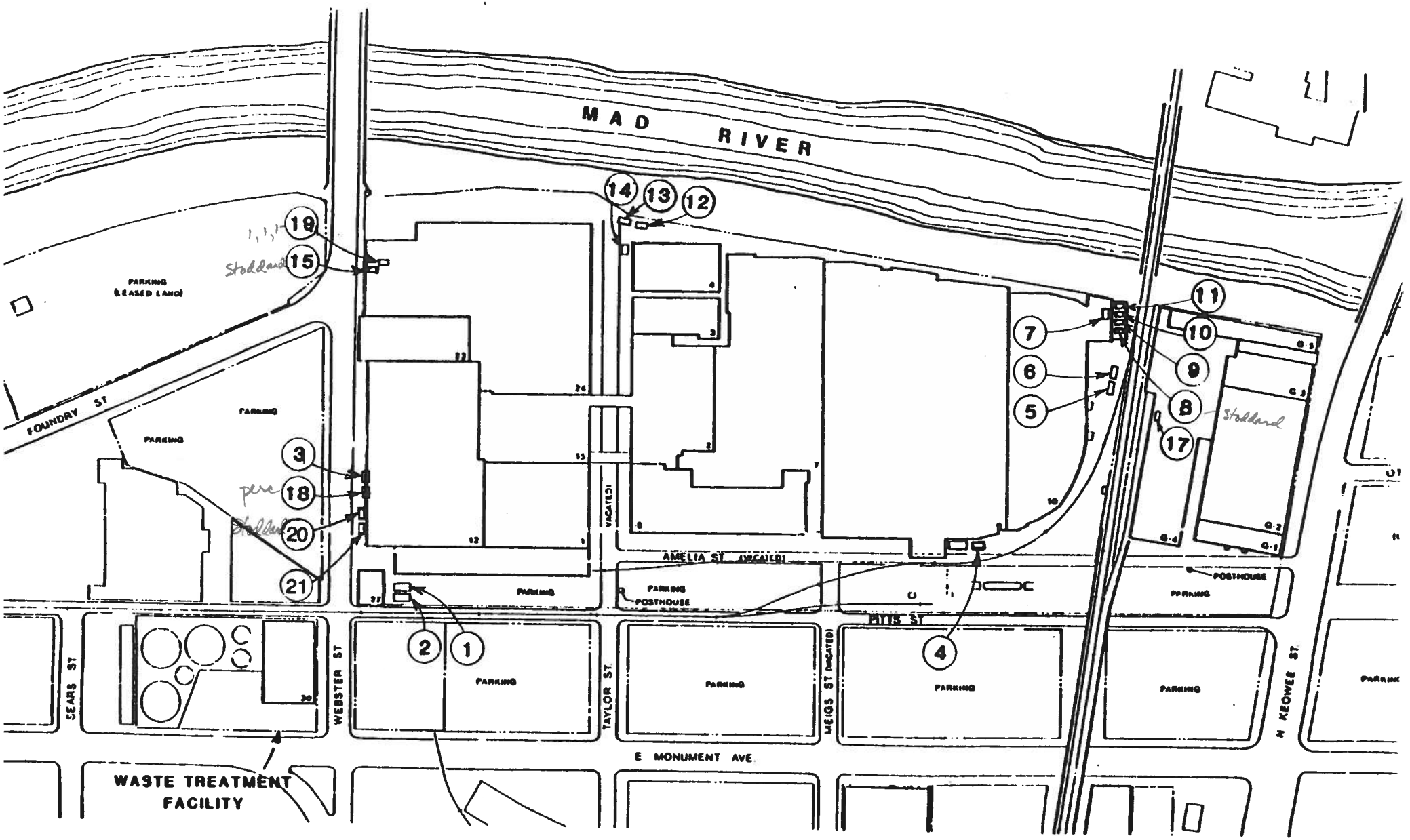
REGULATED UNDERGROUND STORAGE TANKS 2/3/93

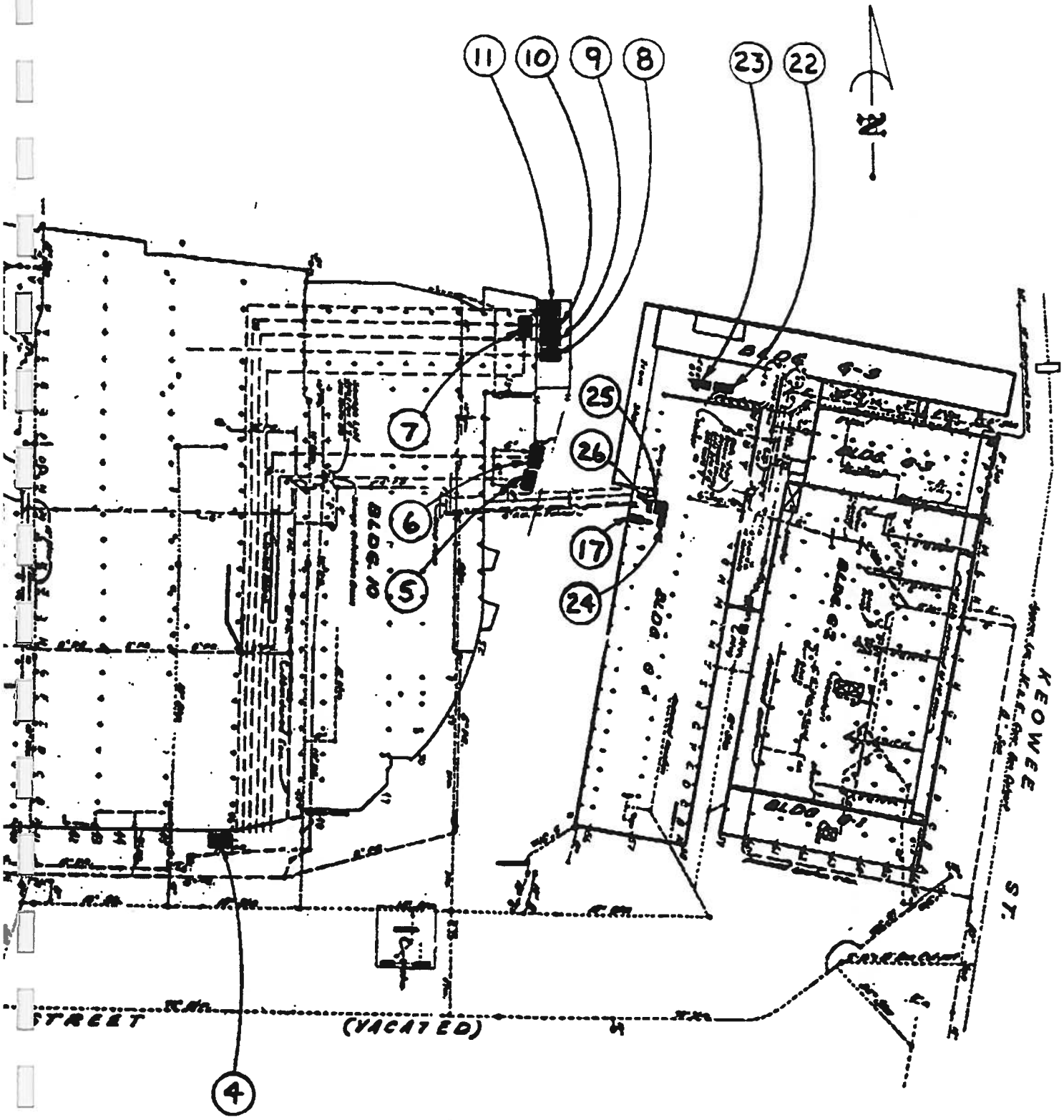
HARRISON DIV. GMC - DAYTON PLANT

NO.	MATERIAL	LOCATION	VOLUME (GAL.)	STATUS
1	REFRIGERANT OIL	S OF BLDG.12	20,000	INACTIVE
2	REFRIGERANT OIL	S OF BLDG.12	20,000	INACTIVE
3	REFRIGERANT OIL	W OF BLDG.12	10,000	REMOVED 12/89
4	HYDRAULIC OIL	S OF BLDG.9	10,000	REMOVED 12/89
5	HYDRAULIC OIL	E OF BLDG.10	10,000	REMOVED 12/92
6	COOLANT (CIMCOOL)	E OF BLDG.10	10,000	REMOVED 12/89
7	COOLANT (QUAKER 568)	UNDER BLDG.10	10,000	REMOVED 12/92
8	STODDARD SOLVENT	BSMT.BLDG.13	10,000	REMOVED 12/89
9	S-9 BLENDING OIL	BSMT.BLDG.13	10,000	REMOVED 12/89
10	OIL RESIDUE	BSMT.BLDG.13	10,000	REMOVED 12/89
11	CUTTING OIL	BSMT.BLDG.13	10,000	REMOVED 12/89
12	NON-LEADED GASOLINE	N OF GARAGE	10,000	REMOVED 12/92
13	DIESEL FUEL	NW OF GARAGE	5,500	REMOVED 12/92
14	DIESEL FUEL	W OF GARAGE	2,000	REMOVED 12/89
15	CLEAN STODDARD SOLVENT	UNDER BLDG.24	3,000	TEMP.CLOSED 12/89
17	CUTTING OIL	UNDER BLDG.G4	1,200	CLOSED IN PLACE
18	CLEAN PERCHLOROETHYLENE	W OF BLDG.12	10,000	REMOVED 12/89
19	CLEAN 1,1,1-TRICHLOROETHANE	UNDER BLDG.24	3,000	TEMP.CLOSED 12/89
20	STODDARD SOLVENT	W OF BLDG.12	10,000	REMOVED 12/88
21	KEROSENE	W OF BLDG.12	10,000	REMOVED 12/88
22	CUTTING OIL	UNDER BLDG.G4	2,000	REMOVED 12/88
23	CUTTING OIL	UNDER BLDG.G4	5,000	REMOVED 12/88
24	CUTTING OIL	UNDER BLDG.G4	8,000	REMOVED 12/88
25	CUTTING OIL	UNDER BLDG.G4	1,800	REMOVED 12/88
26	CUTTING OIL	UNDER BLDG.G4	1,800	REMOVED 12/88

REGULATED UNDERGROUND STORAGE TANKS

HARRISON RADIATOR – DAYTON PLANT




11
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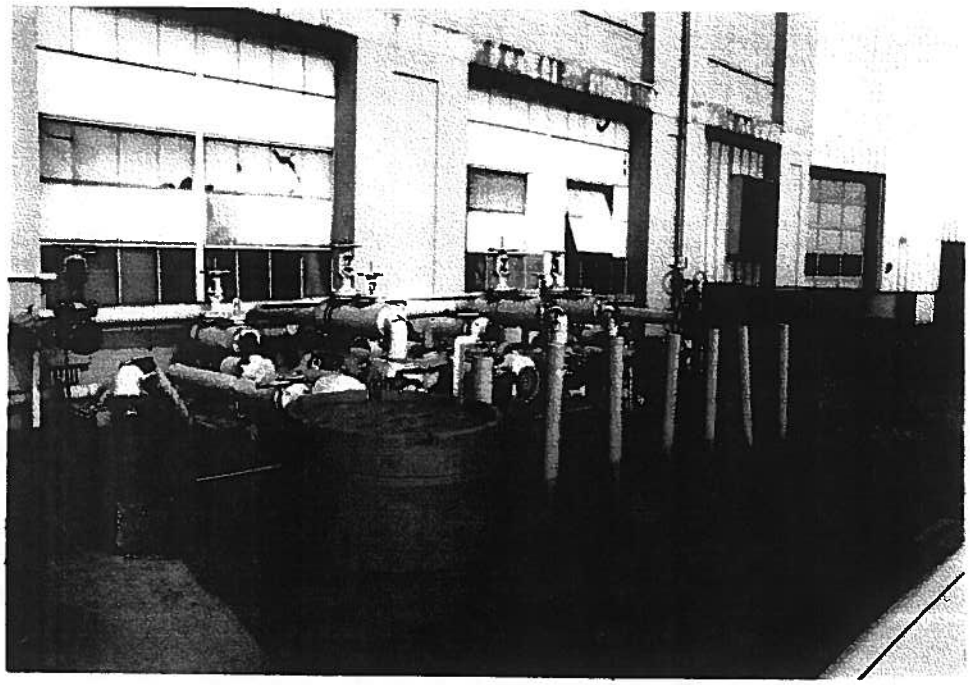
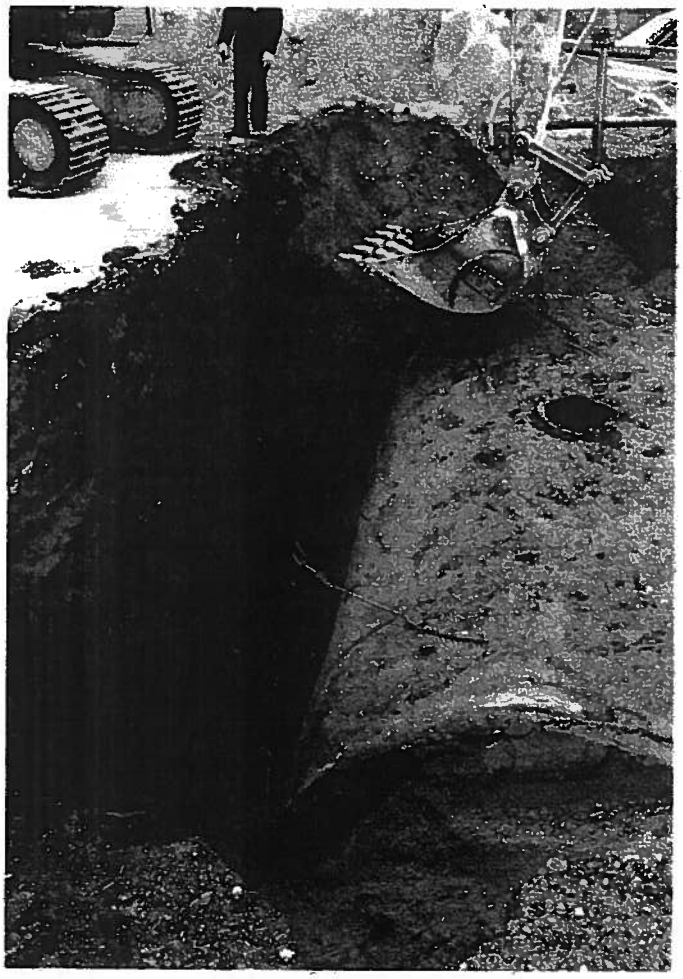
4
BLOCK
KEOWEE
ST.
(VACATED)

APPENDIX E

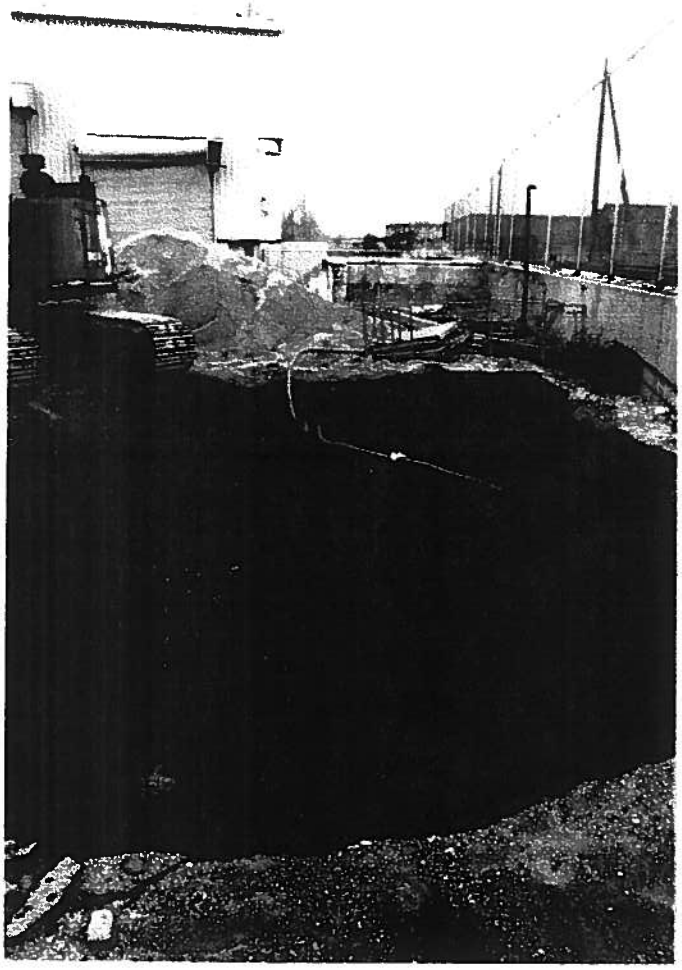
PHOTOGRAPHS



**Remote Aboveground Fill Station for
Tank Nos. 5 & 7
(Located Southeast Corner of Building No. 9**



**View of Tank No. 5
Uncovered and Ready
For Removal**

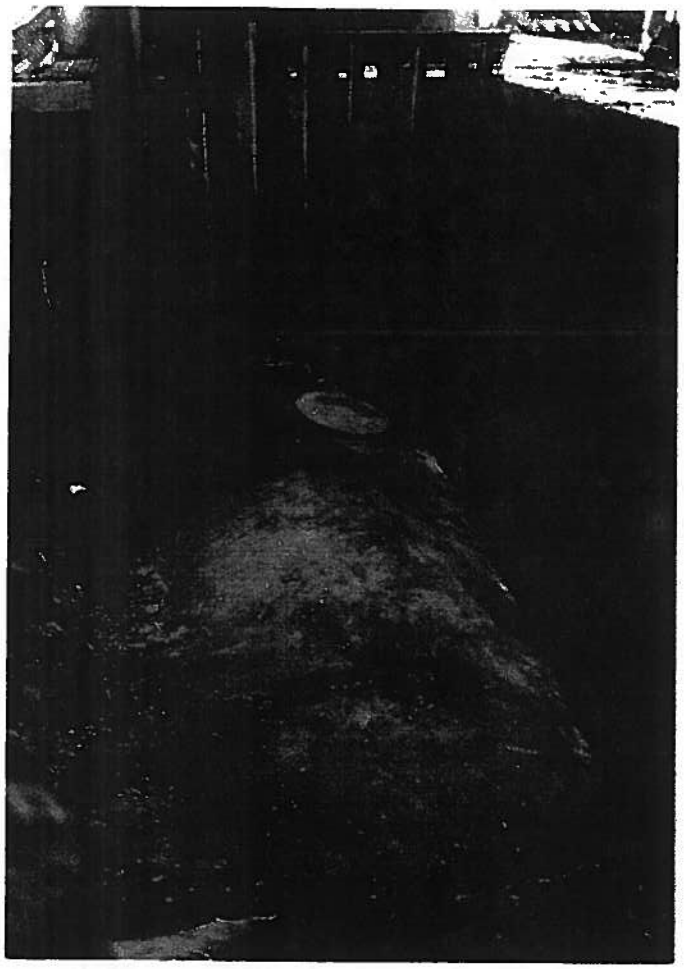


View to North of
Tank No. 5 Pit
Following Removal

View to Northeast of Tank No. 5 Pit
Following Removal

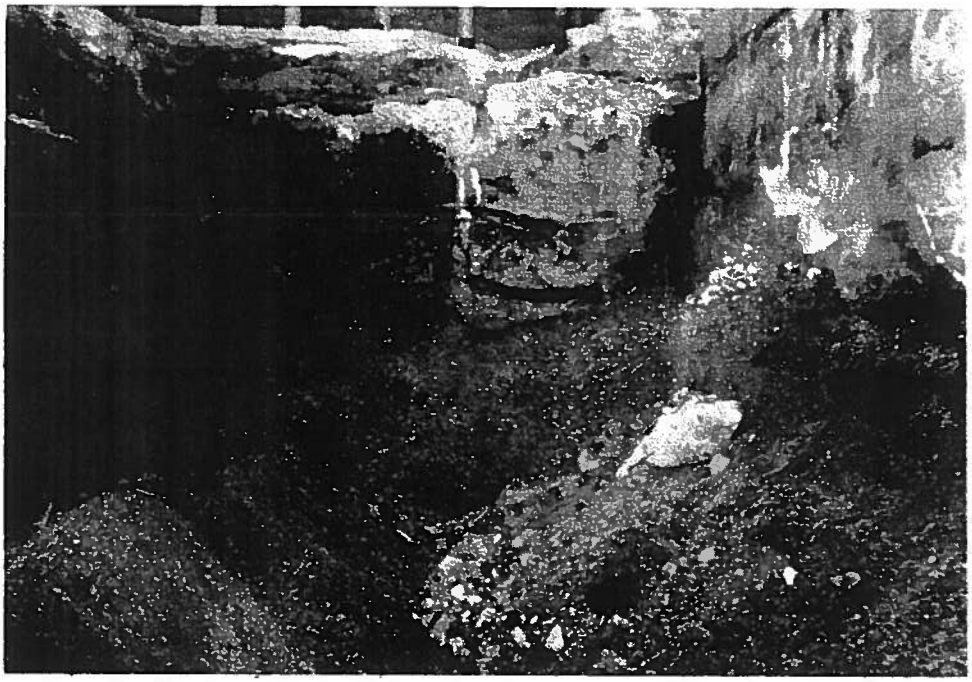
View of Tank No. 5 Following Removal

View of Tank No. 5 Being Cut-up Prior to Shipment to Franklin Iron and Metal



View of Tank No. 7
Uncovered and Ready
For Removal

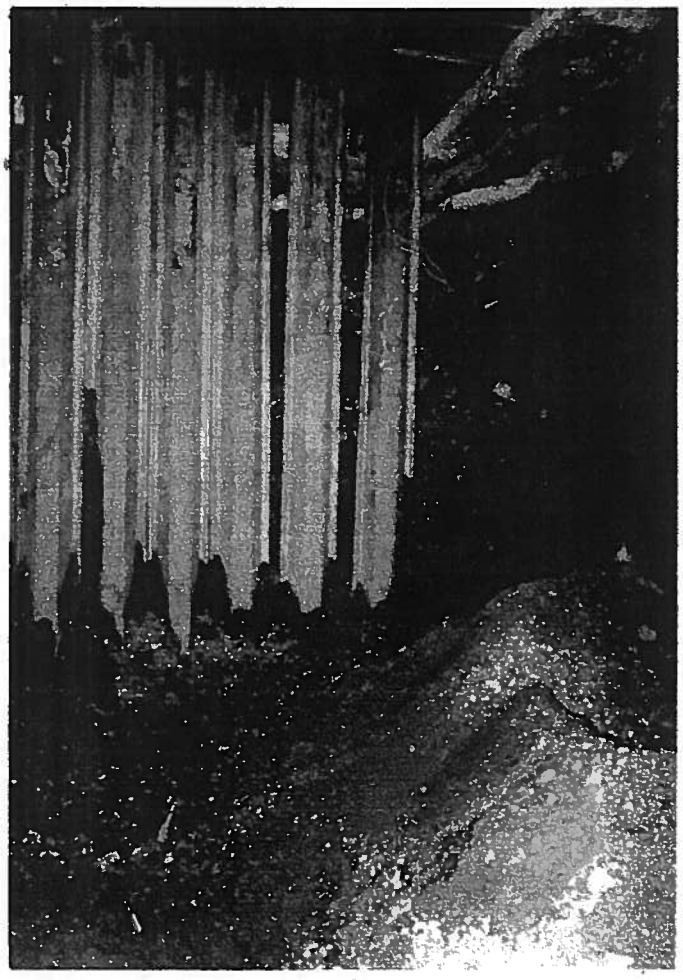
View to North of
Tank No. 7 Pit
Following Removal



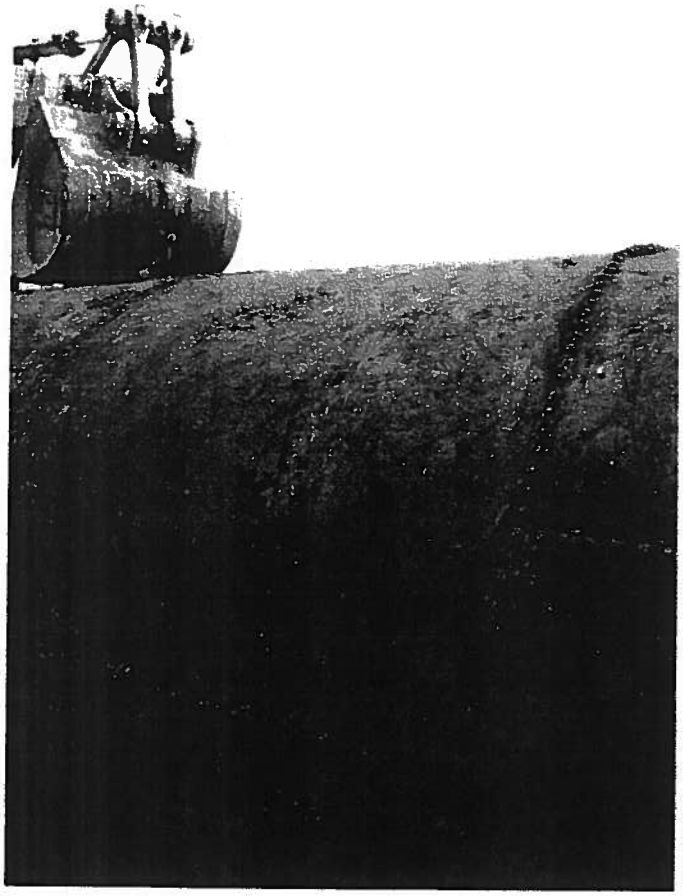
View of Floor and North Wall, Tank No. 7 Pit

View of Northwest Wall, Tank No. 7 Pit

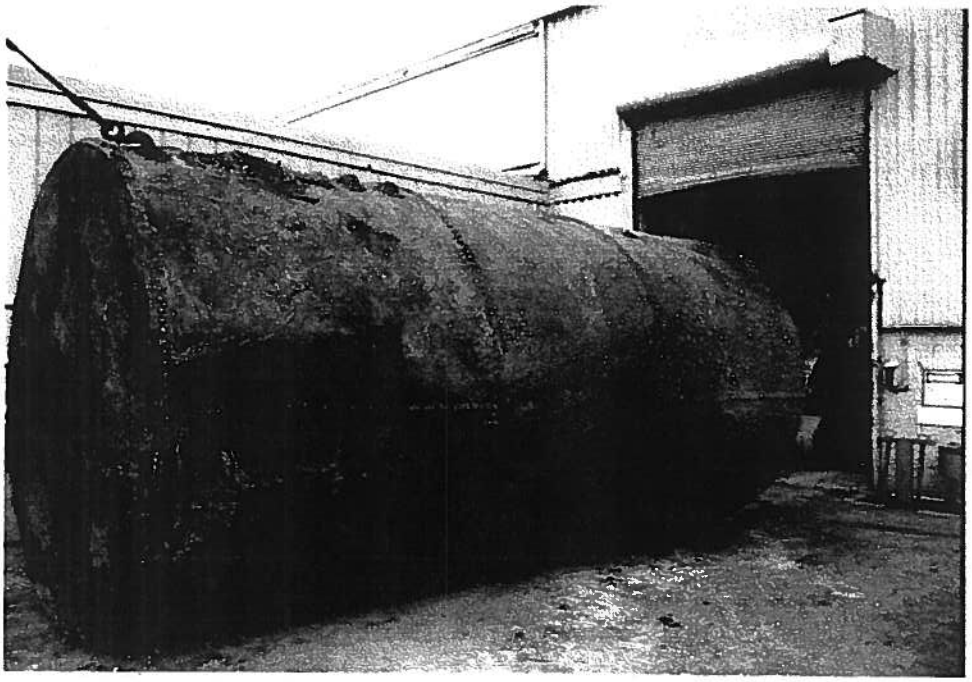
View of Southwest Wall,
Tank No. 7 Pit



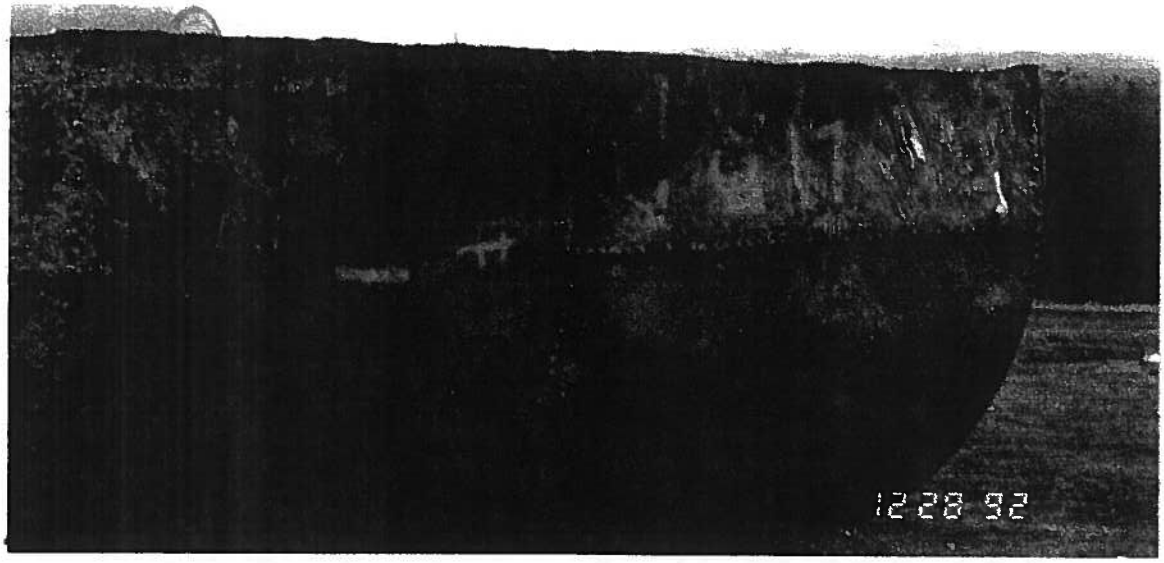
View of Floor and South
Wall, Tank No. 7 Pit



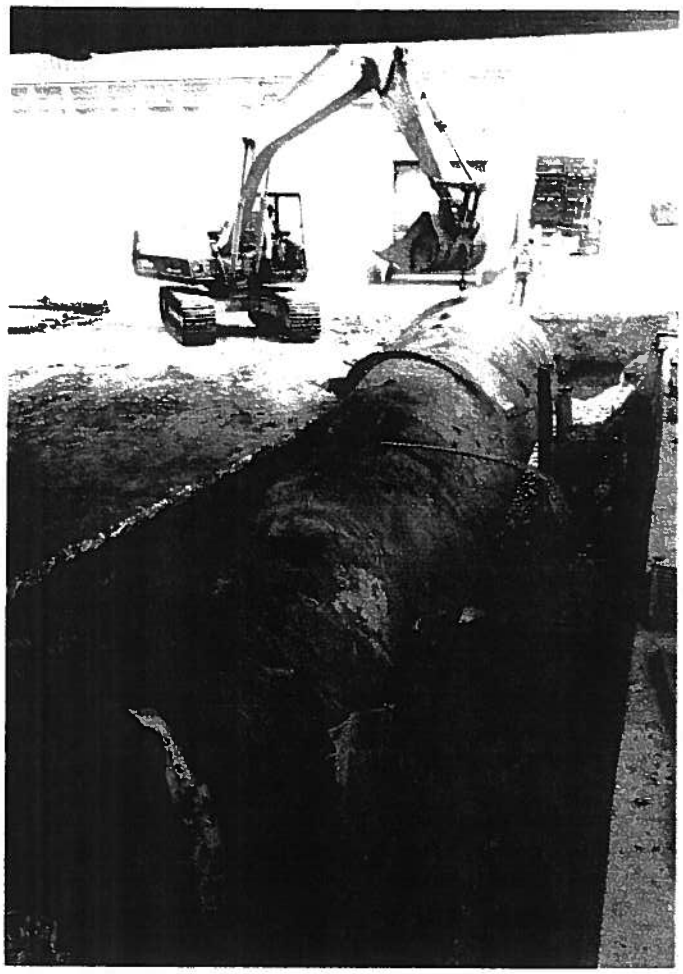
View of Hole in Shell of Tank No. 7 (Hole Located at 10 O'clock Position Along West Side in Center of Tank)



View of Tank No. 7 Following Removal

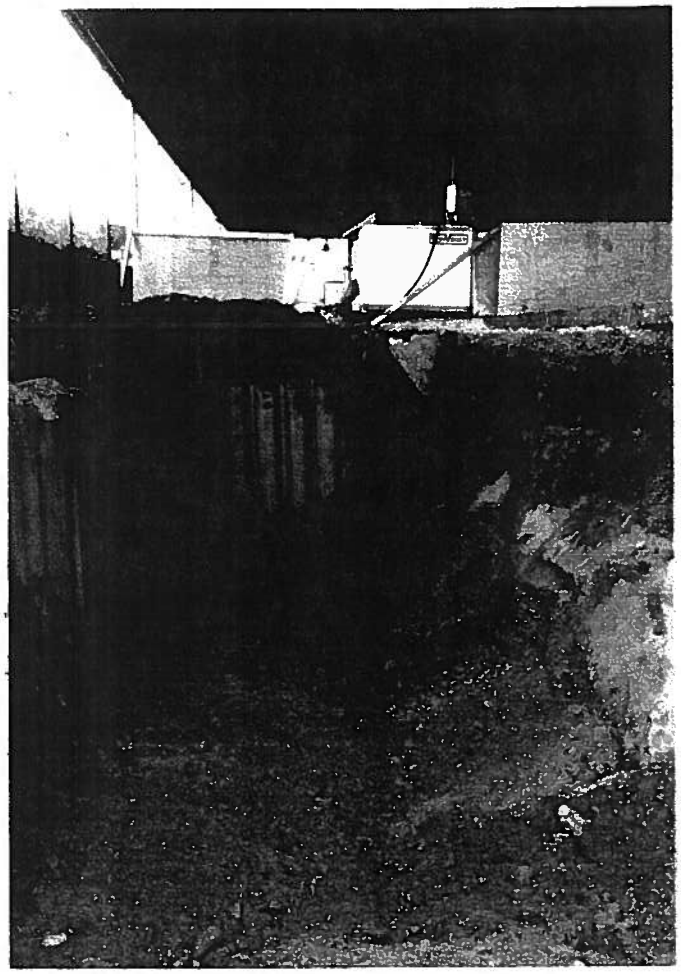


View of Tank No. 7 Being Cut-up Prior to Shipment to Franklin Iron and Metal

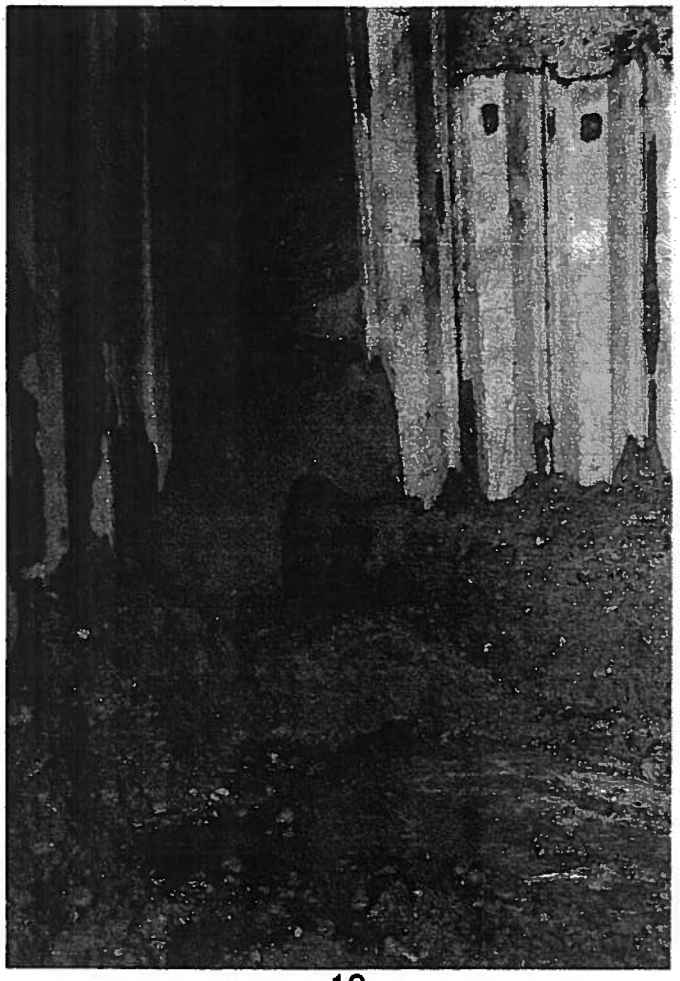


View of Tank No. 12
Being Prepared

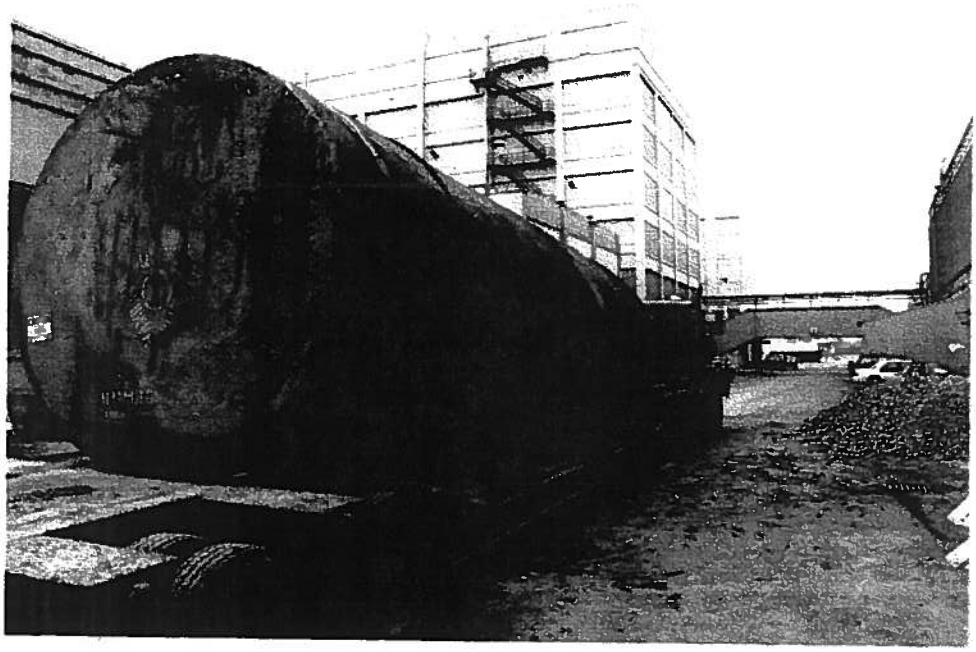
View to West of Tank No. 12
Pit Floor Following Removal



View to East of
Tank No. 12 Pit



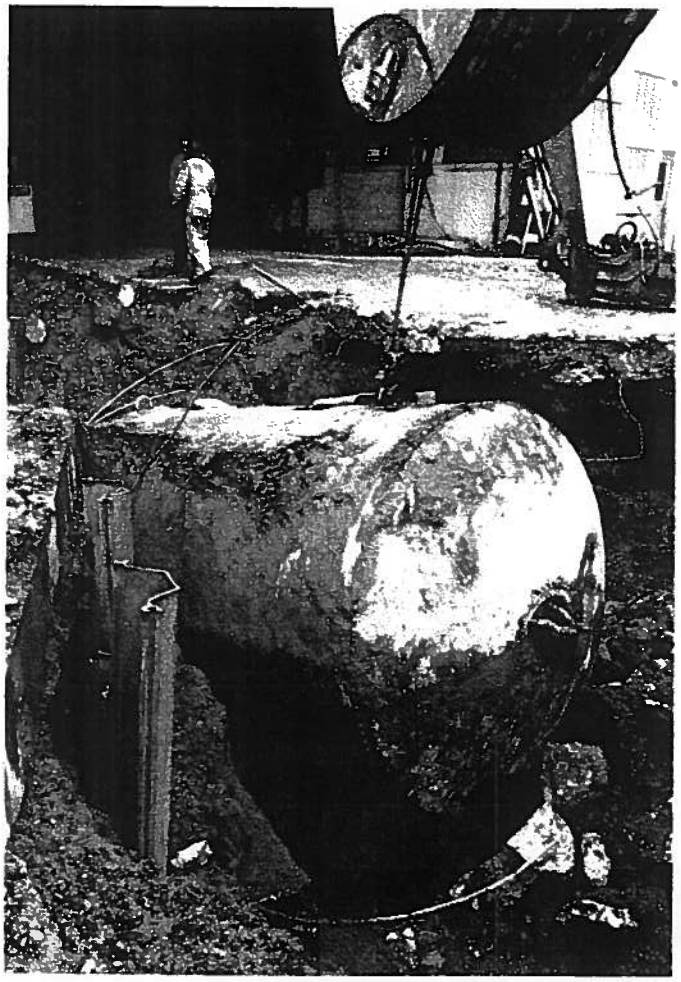
View of Water in Floor
of Tank No. 12 Pit and
Soil Sampling Location
(Black Spot in Center)



**View of Tank No. 12 Loaded on Trailer
For Removal From Site**

**View of Tank No. 12 Cut-up Prior to
Shipment to Franklin Iron and Metal**

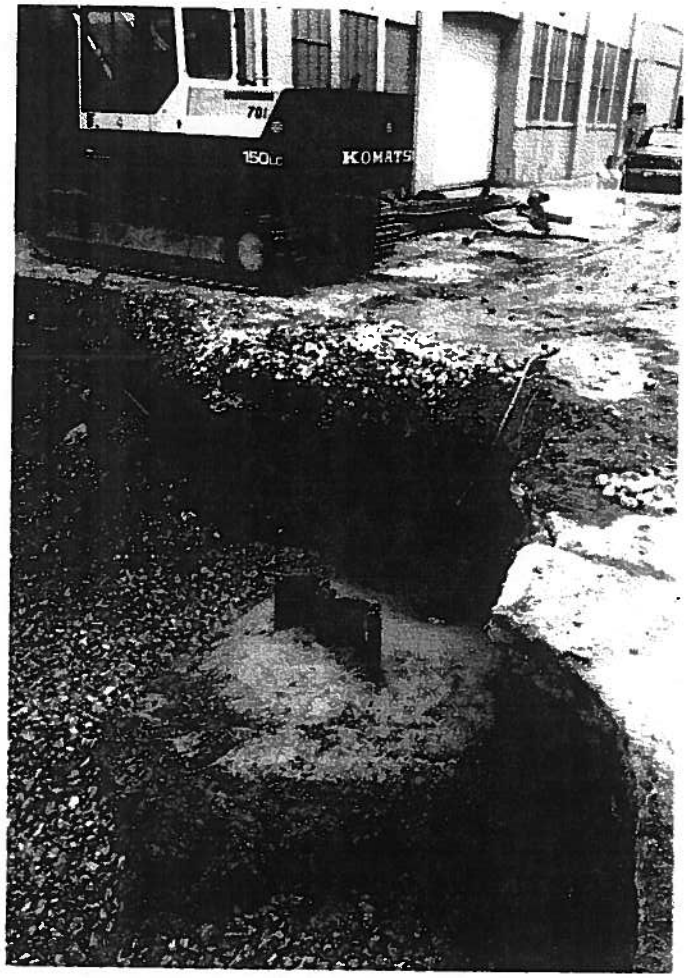
View of Tank No. 13
Uncovered and Cleanout
Complete



View of Tank No. 13
Being Removed

View to East of
Tank No. 13 Pit
Following Removal

View to West of
Tank No. 13 Pit
Following Removal



View of Southwest Corner of Tank No. 13 Pit - Thrust Wall Behind End Cap of 12" Water Main

View of Tank No. 13 Being Cut-up Prior to Shipment to Franklin Iron and Metal

APPENDIX F

DISPOSAL DOCUMENTATION

GENERATOR'S WASTE PROFILE SHEET

PLEASE PRINT IN INK OR TYPE

Waste Profile Sheet Code: WMNA 140985

This form is to be used to comply with the requirements of a waste agreement.

INSTRUCTIONS FOR COMPLETING THIS FORM ARE ATTACHED

(Shaded Areas For Contractor Use Only)

Decision Expiration Date: / /

Contractor Sales Rep#: _____ Service Agr. Renewal Date: / /

A. WASTE GENERATOR INFORMATION

1. Generator Name: Harrison Dayton - Div. GMC
2. SIC Code: 3585
3. Facility Address (site of waste generation): 300 Taylor Street
4. Generator City, State/Province: Dayton, Ohio
5. Zip/Postal Code: 45401
6. Generator USEPA/Federal ID #: OHD017958604
7. State/Province ID #:
8. Technical Contact: Robin Lang / John Ridd (513) 455-4408
9. Phone: (513) 455 - 4509

B. WASTE STREAM INFORMATION (See Instructions)

1. Name of Waste: Waste Comp. Tank 5
2. Process Generating Waste: UST Excavated soil related to removal of Tank #5 (Hydraulic Oil)
3. Annual Amount/Units: 300 cu.yd.
4. Type A ☒ Type B ☐
5. Special Handling Instructions/Supplemental Information: To be hauled by Brand, Inc.; Bill to Harrison P.O. # DN-75118-A
6. Incidental Waste Types and Amounts: Concrete, gravel, asphalt (<10%)

C. TRANSPORTATION INFORMATION

1. Method of Shipment: ☐ Bulk Liquid ☐ Bulk Sludge ☒ Bulk Solid ☐ Drum/Box ☐ Other
2. Supplemental Shipping Information:
3. Is this a DOT hazardous material? ☒ No ☐ Yes (If yes, complete 4, 5 & 6)
4. Hazard Class/ID #:
5. Reportable Quantity/Units (lb/kg):
6. Shipping Name:

D. TECHNICAL MANAGER DECISION (Check One) ☐ **APPROVED** ☐ **DISAPPROVED** ☐ Check if additional information is attached

If Disapproved, Explain:

If Approved, Continue.

1. Management Method(s)
2. Precautions, Conditions, or Limitations on Approval:

For Type A Wastes, Laboratory Analysis of a Representative Sample Was: ☐ Waived ☐ Attached

If waived, explain why:

List Non-WMI Facility that is Approved to Manage this Waste: Date:

Tech. Mgr. Signature: Name (Print): Date:

E. MANAGEMENT FACILITY INFORMATION / DECISION

1. Proposed Management Facility:
2. Proposed Intermediate Transfer Facility: 3. Transporter:

Management Facility Gen. Mgr. Decision (Check One) ☐ **APPROVED** ☐ **DISAPPROVED**

If Disapproved, Explain:

If Approved, List Precautions, Conditions, or Limitations on Approval:

General Mgr. Signature: Name (Print): Date:

Turn Page and Complete Side 2 (If Type B Special Waste, only complete Part J of Side 2)

GENERATOR'S WASTE PROFILE SHEET

PLEASE PRINT IN INK OR TYPE

F. PHYSICAL CHARACTERISTICS OF WASTE (See Instructions)

1. Color	2. Does the waste have a strong incidental odor?	3. Physical State @ 70 F/21°C:	4. Layers	5. Specific Gravity	6. Free Liquids:
Brown, Grey, white } Mix	☒ No ☐ Yes; if so, describe:	☒ Solid ☐ Semi-Solid ☐ Liquid ☐ Powder ☐ Other:	☐ Multi-layered ☐ Bi-layered ☒ Single Phased	Range > 1.0	☐ Yes ☒ No Volume:

7. pH: ☐ ≤2 ☐ > 2-4 ☐ 4-7 ☐ 7 ☒ 7-10 ☐ 10- <12.5 ☐ ≥12.5 ☐ Range ☐ NA

8. Flash Point: ☐ None ☐ <140°F/60°C ☐ 140 - 199°F/60 - 93°C ☒ ≥200°F/93°C ☒ Closed Cup ☐ Open Cup

G. CHEMICAL COMPOSITION

	RANGE (MIN-MAX)
1. Soil	80 - 95 %
Concrete	0 - 10 %
Asphalt	0 - 5 %
Gravel	0 - 5 %
Petroleum Hydrocarbons	< 0.2 %
	- %
	- %
	- %
	- %
Total:	115 %

2. Does the waste contain any of the following? (provide concentration if known):

	NO	or LESS THAN	or ACTUAL
PCBs	☒	☐ < 50 ppm	< 0.5 ppm
Cyanides	☐	☒ < 30 ppm	< 0.089 ppm
Sulfides	☐	☒ < 500 ppm	206 ppm

Please note: Unless analytical results are attached, the chemical composition identification should include, at a minimum, Arsenic, Barium, Cadmium, Chromium, Lead, Mercury, Selenium, Silver, Pesticides, Herbicides, and any other TCLP constituents that may be present in the waste. The total composition must be greater than or equal to 100%. (.0001% = 1 ppm or 1 mg/l)

3. Indicate method used to determine composition (if provided): ☒ TCLP ☐ Total ☐ Other: _____

H. SAMPLING SOURCE (e.g., Drum, Lagoon, Pit, Pond, Tank, Vat) Roll-off Boxes

I. REPRESENTATIVE SAMPLE CERTIFICATION

1. Print Sampler's Name: Tom Wey
2. Sample Date: 12/23/92
3. Sampler's Title: _____
4. Sampler's Employer (if other than Generator): Environmental Quality Management, Inc.

The sampler's signature certifies that any sample submitted is representative of the waste described above pursuant to 40 CFR 261.20(c) or equivalent rules.

5. Sampler's Signature _____

J. GENERATOR CERTIFICATION

By signing this profile sheet, the Generator certifies:

1. This waste is not a "Hazardous Waste" as defined by USEPA or Canadian Federal regulation and/or the state/province.
2. This waste does not contain regulated radioactive materials or regulated concentrations of PCB's (Polychlorinated Biphenyls).
3. The unshaded portions of this sheet and the attachments contain true and accurate descriptions of the waste material. All relevant information regarding known or suspected hazards in the possession of the Generator has been disclosed.
4. The Generator has read and understands the Contractor's Definition of Special Waste included in Part B.5. of the attached instructions form. All types and amounts of special wastes provided in incidental amounts have been identified in section B.6. of this form.
5. The analytical data presented herein or attached hereto were derived from testing a representative sample taken in accordance with 40 CFR 261.20(c) or equivalent rules.
6. If any changes occur in the character of the waste, the Generator shall notify the Contractor prior to providing the waste to the Contractor.

7. Signature W. John Ridd
8. Title Senior Engineer
9. Name (Type or Print) W. John Ridd
10. Date 1/8/93

GENERATOR'S WASTE PROFILE SHEET

PLEASE PRINT IN INK OR TYPE

Waste Profile Sheet Cod

WMNA 014456

form is to be used to comply with the requirements of a waste agreement.

INSTRUCTIONS FOR COMPLETING THIS FORM ARE ATTACHED

(Shaded Areas For Contractor Use O[illegible])

Decision Expiration Date: / /

Contractor Sales Rep#: _____

Service Agr. Renewal Date: / /

A. WASTE GENERATOR INFORMATION

1. Generator Name: HARRISON DAYTON GMC
2. SIC Code: 3585
3. Facility Address (site of waste generation): 300 TAYLOR ST
4. Generator City, State/Province: DAYTON, OHIO
5. Zip/Postal Code: 45401
6. Generator USEPA/Federal ID #: OHD017958604
7. State/Province ID #:
8. Technical Contact: ROBIN LONG
9. Phone: (513) 455 - 4509

B. WASTE STREAM INFORMATION (See Instructions)

1. Name of Waste: CONTAMINATED SOIL
2. Process Generating Waste: TANK 7 REMOVAL (QUAKER 568 COOLANT TANK)
3. Annual Amount/Units: 200 CY
4. Type A ☒ Type B ☐
5. Special Handling Instructions/Supplemental Information: TO BE HANDLED BY BRAND
6. Incidental Waste Types and Amounts: CONCRETE AND GRAVEL < 10 %

C. TRANSPORTATION INFORMATION

1. Method of Shipment: ☐ Bulk Liquid ☐ Bulk Sludge ☒ Bulk Solid ☐ Drum/Box ☐ Other
2. Supplemental Shipping Information:
3. Is this a DOT hazardous material? ☒ No ☐ Yes (If yes, complete 4, 5 & 6)
4. Hazard Class/ID #:
5. Reportable Quantity/Units (lb/kg):
6. Shipping Name:

D. TECHNICAL MANAGER DECISION (Check One) ☐ **APPROVED** ☐ **DISAPPROVED** ☐ Check if additional information is attached

If Disapproved, Explain:

If Approved, Continue.

1. Management Method(s)
2. Precautions, Conditions, or Limitations on Approval:

For Type A Wastes, Laborat[illegible] of a Representative Sample Was: ☐ Waived ☐ Attached

If waived, explain why:

List Non-WMI Facility that is [illegible] this Waste: Date:

Tech. Mgr. Signature: Name (Print): Date:

MANAGEMENT FACILITY INFORMATION / DECISION

1. Proposed Management Facility:
2. Proposed Intermediate Transfer Facility:
3. Transporter:

Management Facility Gen. Mgr. Decision (Check One) ☐ APPROVED ☐ [illegible]

If [illegible]

proved, List

Precautions, Conditions, or

Limitations on Approval:

General Mgr. Signature: Name (Print): Date:

Turn Page and Complete Side 2 (If Type B Special Waste, only complete Part J of Side 2)

GENERATOR'S WASTE PROFILE SHEET

PLEASE PRINT IN INK OR TYPE

F. PHYSICAL CHARACTERISTICS OF WASTE (See Instructions)

1. Color	2. Does the waste have a strong incidental odor?	3. Physical State @ 70 F/21°C:	4. Layers	5. Specific Gravity	6. Free Liquids:
BROWN MISC	☒ No ☐ Yes: if so, describe:	☒ Solid ☐ Semi-Solid ☐ Liquid ☐ Powder ☐ Other:	☐ Multi-layered ☐ Bi-layered ☒ Single Phased	Range 7 . 1.0	☐ Yes ☒ No Volume:

7. pH: ☐ ≤2 ☐ > 2-4 ☐ 4-7 ☐ 7 ☒ 7-10 ☐ 10- <12.5 ☐ ≥12.5 ☐ Range ☐ NA

8. Flash Point: ☐ None ☐ <140°F/60°C ☐ 140 - 199°F/60 - 93°C ☒ ≥200°F/93°C ☒ Closed Cup ☐ Open Cup

G. CHEMICAL COMPOSITION

	RANGE (MIN-MAX)
1. SOIL	80 . 95 %
CONCRETE	0 . 10 %
GRAVEL	0 . 5 %
PETROLEUM HYDROCARBONS	< 0.2 %
	- %
SEE ATTACHED ANALYSIS	- %
	- %
	- %
	- %
Total:	110.2 %

2. Does the waste contain any of the following? (provide concentration if known):

	NO	or LESS THAN	or ACTUAL
PCBs	☐	☒ < 50 ppm	2.98 ppm
Cyanides	☐	☐ < 30 ppm	<0.093 ppm
Sulfides	☐	☐ < 500 ppm	<7.46 ppm

Please note: Unless analytical results are attached, the chemical composition identification should include, at a minimum, Arsenic, Barium, Cadmium, Chromium, Lead, Mercury, Selenium, Silver, Pesticides, Herbicides, and any other TCLP constituents that may be present in the waste. The total composition must be greater than or equal to 100%. (.0001% = 1 ppm or 1 mg/l)

3. Indicate method used to determine composition (if provided): ☒ TCLP ☐ Total ☐ Other _____

H. SAMPLING SOURCE (e.g., Drum, Lagoon, Pit, Pond, Tank, Vat) STOCK PILES

I. REPRESENTATIVE SAMPLE CERTIFICATION

1. Print Sampler's Name: TOM WEY 2. Sample Date: 12-18-92
3. Sampler's Title: _____
4. Sampler's Employer (if other than Generator): ENVIRONMENTAL QUALITY MANAGEMENT, INC.

The sampler's signature certifies that any sample submitted is representative of the waste described above pursuant to 40 CFR 261.20(c) or equivalent rules.

5. Sampler's Signature SEE ATTACHED

J. GENERATOR CERTIFICATION THIS CERTIFICATION MADE ON BEHALF OF GENERAL MOTORS CORPORATION

By signing this profile sheet, the Generator cetifies:

1. This waste is not a "Hazardous Waste" as defined by USEPA or Canadian Federal regulation and/or the state/province
2. This waste does not contain regulated radioactive materials or regulated concentrations of PCB's (Polychlorinated Biphenyls)
3. The unshaded portions of this sheet and the attachments contain true and accurate descriptions of the waste material. All relevant information regarding known or suspected hazards in the possession of the Generator has been disclosed.
4. The Generator has read and understands the Contractor's Definition of Special Waste included in Part B.5. of the attached instructions form. All types and amounts of special wastes provided in incidental amounts have been identified in section B.6. of this form.
5. The analytical data presented herein or attached hereto were derived from testing a representative sample taken in accordance with 40 CFR 261.20(c) or equivalent rules.
6. If any changes occur in the character of the waste, the Generator shall notify the Contractor prior to providing the waste to the Contractor.

7. Signature Robin L Long 8. Title SR ENGINEER

9. Name (Type or Print) ROBIN L LONG 10. Date 3-9-93

GENERATOR'S WASTE PROFILE SHEET

PLEASE PRINT IN INK OR TYPE

Waste Profile Sheet Code
WMNA 140984

This form is to be used to comply with the requirements of a waste agreement.

INSTRUCTIONS FOR COMPLETING THIS FORM ARE ATTACHED

(Shaded Areas For Contractor Use Only)

Contractor Sales Rep#: _____

Decision Expiration Date: / /

Service Agr. Renewal Date: / /

A. WASTE GENERATOR INFORMATION

1. Generator Name: Harrison Dayton - Div. GMC
2. SIC Code: 3585
3. Facility Address (site of waste generation): 300 Taylor Street
4. Generator City, State/Province: Dayton, Ohio
5. Zip/Postal Code: 45401
6. Generator USEPA/Federal ID #: OHD017958604
7. State/Province ID #: _____
8. Technical Contact: Robin Lang / John Ridd (513) 455-4408
9. Phone: (513) 455 - 4509

B. WASTE STREAM INFORMATION (See Instructions)

1. Name of Waste: Waste Comp 1 & Waste Comp. 2 (Rolloffs 1-10 & 11-14)
2. Process Generating Waste: UST Excavated soil related to removal of Tank #12 (gasoline) and Tank #13 (dies
3. Annual Amount/Units: 620 cu. yd.
4. Type A ☒ Type B ☐
5. Special Handling Instructions/Supplemental Information: To be hauled by Brand, Inc., or Jergens; Bill to Harrison P.O. # DN-75118-A
6. Incidental Waste Types and Amounts: Concrete, gravel, asphalt (10%)

C. TRANSPORTATION INFORMATION

1. Method of Shipment: ☐ Bulk Liquid ☐ Bulk Sludge ☒ Bulk Solid ☐ Drum/Box ☐ Other _____
2. Supplemental Shipping Information: _____
3. Is this a DOT hazardous material? ☒ No ☐ Yes (If yes, complete 4, 5 & 6) 4. Hazard Class/ID #: _____
5. Reportable Quantity/Units (lb/kg): _____ 6. Shipping Name: _____

D. TECHNICAL MANAGER DECISION (Check One) ☐ APPROVED ☐ DISAPPROVED ☐ Check if additional information is attached

If Disapproved, Explain: _____

If Approved, Continue.

1. Management Method(s) _____

Precautions, Conditions, or Limitations on Approval: _____

For Type A Wastes, Laboratory Analysis of a Representative Sample Was: ☐ Waived ☐ Attached

If waived, explain why: _____

List Non-WMI Facility that is Approved to Manage this Waste: _____ Date: _____

Tech. Mgr. Signature: _____ Name (Print): _____ Date: _____

E. MANAGEMENT FACILITY INFORMATION / DECISION

1. Proposed Management Facility: _____
2. Proposed Intermediate Transfer Facility: _____ 3. Transporter: _____
4. **Management Facility Gen. Mgr. Decision (Check One)** ☐ APPROVED ☐ DISAPPROVED

If Disapproved, Explain: _____

If Approved, List Precautions, Conditions, or Limitations on Approval: _____

General Mgr. Signature: _____ Name (Print): _____ Date: _____

Turn Page and Complete Side 2 (If Type B Special Waste, only complete Part J of Side 2)

GENERATOR'S WASTE PROFILE SHEET

PLEASE PRINT IN INK OR TYPE

F. PHYSICAL CHARACTERISTICS OF WASTE (See Instructions)

1. Color	2. Does the waste have a strong incidental odor?	3. Physical State @ 70 F/21 C:	4. Layers	5. Specific Gravity	6. Free Liquids:
Brown, Grey, white } Mix	☒ No ☐ Yes: if so. describe:	☒ Solid ☐ Semi-Solid ☐ Liquid ☐ Powder ☐ Other:	☐ Multi-layered ☐ Bi-layered ☒ Single Phased	Range > 1.0	☐ Yes ☒ No Volume:

7. pH: ☐ ≤2 ☐ > 2-4 ☐ 4-7 ☐ 7 ☒ 7-10 ☐ 10- <12.5 ☐ ≥12.5 ☐ Range ☐ NA

8. Flash Point: ☐ None ☐ <140°F/60°C ☐ 140 - 199°F/60 - 93°C ☒ ≥200°F/93°C ☒ Closed Cup ☐ Open Cup

G. CHEMICAL COMPOSITION

	RANGE (MIN-MAX)
1. Soil	80 - 95 %
Concrete	0 - 10 %
Asphalt	0 - 5 %
Gravel	0 - 5 %
Petroleum Hydrocarbons	< 0.3 %
	- %
	- %
	- %
	- %
Total:	115 %

2. Does the waste contain any of the following? (provide concentration if known):

	NO	or	LESS THAN	or	ACTUAL
PCBs	☐		☒ < 50 ppm		< 0.5 ppm
Cyanides	☐		☒ < 30 ppm		< 7.71 ppm
Sulfides	☐		☒ < 500 ppm		< 0.121 ppm

Please note: Unless analytical results are attached, the chemical composition identification should include, at a minimum, Arsenic, Barium, Cadmium, Chromium, Lead, Mercury, Selenium, Silver, Pesticides, Herbicides, and any other TCLP constituents that may be present in the waste. The total composition must be greater than or equal to 100%. (.0001% = 1 ppm or 1 mg/l)

3. Indicate method used to determine composition (if provided): ☒ TCLP ☐ Total ☐ Other: _____

H. SAMPLING SOURCE (e.g., Drum, Lagoon, Pit, Pond, Tank, Vat) Excavation Area / Boxes

I. REPRESENTATIVE SAMPLE CERTIFICATION

1. Print Sampler's Name: Tom Wey
2. Sample Date: 12/14/92
3. Sampler's Title: _____
4. Sampler's Employer (if other than Generator): Environmental Quality Management, Inc.

The sampler's signature certifies that any sample submitted is representative of the waste described above pursuant to 40 CFR 261.20(c) or equivalent rules.

5. Sampler's Signature _____

J. GENERATOR CERTIFICATION

By signing this profile sheet, the Generator certifies:

1. This waste is not a "Hazardous Waste" as defined by USEPA or Canadian Federal regulation and/or the state/province.
2. This waste does not contain regulated radioactive materials or regulated concentrations of PCB's (Polychlorinated Biphenyls).
3. The unshaded portions of this sheet and the attachments contain true and accurate descriptions of the waste material. All relevant information regarding known or suspected hazards in the possession of the Generator has been disclosed.
4. The Generator has read and understands the Contractor's Definition of Special Waste included in Part B.5. of the attached instructions f... All types and amounts of special wastes provided in incidental amounts have been identified in section B.6. of this form.
5. The analytical data presented herein or attached hereto were derived from testing a representative sample taken in accordance with 40 CFR 261.20(c) or equivalent rules.
6. If any changes occur in the character of the waste, the Generator shall notify the Contractor prior to providing the waste to the Contracto...

7. Signature W. John Ridd
8. Title Senior Engineer
9. Name (Type or Print) W. John Ridd
10. Date 12/18/92

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039. Expires 9-30-94

9-30-94

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. OHD017959860 4 — Manifest Document No. 93011

2. Page 1 of 1 — Information in the shaded areas is not required by Federal law.

3. Generator's Name and Mailing Address
Harrison, Div. GMC
300 Taylor St.
Dayton, OH 45401

4. Generator's Phone (513) 455-4408

A. State Manifest Document Number: 93011

B. State Generator's ID: same

5. Transporter 1 Company Name: HazMat Environmental Group, Inc.

6. US EPA ID Number: NYD980760994 7

C. State Transporter's ID: 113437 NY

D. Transporter's Phone: (716)827-1200

7. Transporter 2 Company Name

8. US EPA ID Number

E. State Transporter's ID

F. Transporter's Phone

9. Designated Facility Name and Site Address
Safety-Kleen Corp.
State HWY 146
New Castle, KY 40050

10. US EPA ID Number: KYD053348108

G. State Facility's ID

H. Facility's Phone: (502)845-2453

11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)	HM	12. Containers No.	12. Containers Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. RQ, Waste Paint Related Material, Flammable Liquid, UN1263, (F005,D001)	X	001	DM	00393	P	F005 D001
b. RQ, Waste Paint 3, UN1263, PG III, (D001)	X	002	DM	00735	P	D001
c. RQ, Waste Gasoline, 3, UN1203, PG II, (D001)	X	015	DM	05756	P	D001 D018
d. RQ, Waste Petroleum Distillates, N.O.S., 3, UN1268 PG III, (Aliphatic & Aromatic Hydrocarbons, D001)	X	001	DM	00383	P	D001

J. Additional Descriptions for Materials Listed Above
a.) Paint Thinner
b.) Black Paint
c.) Gasoline & Water
d.) Diesel Fuel & Water

K. Handling Codes for Wastes Listed Above: S01/S02/T50

15. Special Handling Instructions and Additional Information
a.) Control # 97539-2
b.) Control # 167954
c.) Control # 167952-2
d.) Control # 163400-6

EMERGENCY RESPONSE INFO ATTACHED!
EMERGENCY RESPONSE: (513)455-4743

5160523

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name	Signature	Month	Day	Year
Robert A. Humphrey	Robert A. Humphrey	03	01	93

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
George Marsh	George Marsh	03	01	93

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Printed/Typed Name	Signature	Month	Day	Year
Ellen Hamlin	Ellen Hamlin	03	02	93

GENERATOR — TRANSPORTER — FACILITY

Style F15 REV-6 Printed by Labelmaster, An American Labelmark Co., Chicago, IL 60646 (800)621-5808

EPA Form 8700-22 (Rev 9-88) Previous editions are obsolete.

PRINTED ON RECYCLED PAPER USING SOYBEAN INK

PREQUALIFICATION EVALUATION - ENVIROSYSTEMS
GENERATOR SURVEY

COMPLETED: 12/23/92
REVISED: 12/23/92

A C C E P T

ENVIROSYSTEMS FUELS
HARRISON RADIATORS
DIESEL FUEL WATER

A C C E P T

CONTROL #: 0000163400-8
LAB #: 0000017772-7
SURVEY #: 0000258844

CUSTOMER INFORMATION: 0000-60-7727

FEDERAL EPA ID: OHD017958604
STATE EPA ID:

HARRISON RADIATORS
300 TAYLOR ST
PO BOX 824
DAYTON OH 45401

ATTN: CHRIS RICHARDS

SALESPERSON: GARY OGLE

GENERATOR: HARRISON RADIATORS
NATURE OF BUSINESS: GM PARTS S.I.C. NO:
FEDERAL EPA ID: OHD017958604 IL: MO: ST: ID: STATUS: LQG
FACILITY ADDRESS: FOR MANIFEST BILLING:
300 TAYLOR ST
DAYTON OH 45401
GENERAL DESCRIPTION: DIESEL FUEL WATER
PROCESS DESCRIPTION: TANK REMOVAL
GENERATION AMOUNT: 1 DRUMS PER MONTH
AMOUNT ON HAND: 1 IN DRUMS
SHIPPING FREQUENCY: MO IN DRUMS
COLOR: BROWN PCT SOLIDS NOT SAMPLED: PH RANGE: 4-10
LAYERS OR PHASES: ONE PHYSICAL STATE: LIQUID VISCOSITY: LOW

MATERIAL COMPOSITION:	CODE	MAX	TYPICAL
DIESEL FUEL	DF		
WATER	W		

ATTACHMENTS: NONE
RESTRICTED SUBSTANCES: NONE
EPA WASTE DESCRIPTION AND TREATMENT STANDARDS: RCRA HAZARDOUS WASTE: YES

OTHER EPA WASTE CODES: D001
P.O. NO: TYPE OF SAMPLE: COMPOSITE # OF DRUMS SAMPLED: 1 TAKEN BY: SK REP
NAME: CHRIS RICHARDS TITLE: ENVRIO COORD 12/11/1992 (513) 485-9266

CORPORATE REVIEWS:	DISPOSITION	REVIEWER	DATE
TECHNICAL:	ACCEPT	MJK	12/23/92
REGULATORY:	ACCEPT	CAP	12/23/92
OPERATING:	ACCEPT	DWH	12/23/92

POSSIBLE FACILITIES: 658 642 654 000161
PRICING CODE:
PART NUMBER: 82101
WASTE,SPECIFIC FUELS

APPROVED FACILITIES:

SAFETY-KLEEN CORP	SAFETY-KLEEN CORP	SAFETY-KLEEN CORP
STATE HWY 146	581 MILLIKEN DR SE	633 EAST 138TH ST
NEW CASTLE KY 40050	HEBRON OH 43025	DOLTON IL 60419
FED EPA#: KYD053348108	OHD980587364	ILD980613913
STATE EPA#:		0310690006
TELEPHONE: 502/845-2453	614/929-3532	708/849-4850
STATE CODE:		000161

EPA WASTE CODES
D001

APPROVD 0001090 DRUM OR BULK
DOT-EPA RQ WASTE PETROLEUM DISTILLATES, N.O.S.
DESC. (ALIPHATIC AND AROMATIC HYDROCARBONS)
3 UN1268 PG III (D001)(ERG#27)

0000888 NOT FOR MANIFEST
PROPER SHIPPING DESCRIPTION WAS BASED ON SURVEY INFORMATION RATHER THAN ANALYSIS. SEE COMMENTS FOR DETAILS AND NOTICES.

COMMENTS: OK FOR FUEL. D001 BASED ON SURVEY.

THIS SERVES AS NOTICE PER. 40CFR264.12(B), THAT THE FACILITY(IES) NOTED ABOVE HAS THE APPROPRIATE PERMITS AND IS WILLING TO RECEIVE THE MATERIAL DESCRIBED.

CONTINUED ON NEXT PAGE

COMPLETED: 12/23/92
REVISED: 12/23/92

BRANCH/SUBMITTER: 012300
ENVIROSYSTEMS

A C C E P T

A C C E P T

ENVIROSYSTEMS FUELS
HARRISON RADIATORS
DIESEL FUEL WATER

CONTROL #: 0163400-6
SURVEY #: 258844

GENERAL ANALYSIS OF TOTAL SAMPLE

COLOR	:	BROWN
WATER CONTENT	:	46.7 WT%
NON-VOLATILE RESIDUE	:	7.9 WT% DESCRIPTION: SOLID
FLAMMABILITY	:	NO FLASH AT 75 F BY SETAFLASH
FLAMMABILITY	:	
PH	:	EXTRACT BY METER 7.2
RADIOACTIVITY	:	NONE DETECTED

COMMENTS: AQ LAYER IS DARK YELLOW/SLUDGE IS BROWN/EMS - YES

FUEL EVALUATION OF TOTAL SAMPLE

HEAT CONTENT:		9700 BTU/LB	ASH UPON COMBUSTION:		0.9 WT%
TOTAL FLUORINE	F : <	0.1 WT%	TOTAL CHLORINE	CL: <	0.1 WT%
TOTAL BROMINE	BR: <	0.1 WT%	TOTAL SULFUR	S :	0.2 WT%

GENERAL COMPOSITION:

	SPECIFIC GRAVITY	VISCOSITY (CENTIPOISE)	GENERAL COMPOSITION BY: APPEARANCE (VOL%)	TOTAL (WT %)
AQUEOUS PHASE (FREE WATER)			44.0	44.0
ORGANIC PHASE (FEEDSTOCK)			44.0	44.0
BOTTOM SLUDGE (SEMISOLIDS)			12.0	12.0
BOTTOM SOLID (SETTLED SOLIDS)			0.0	0.0
TOTAL	.949	68 CPS	100.0	100.0

SPECIFIC COMPOSITION OF TOTAL SAMPLE

	COMPOSITION OF:	TOTAL SAMPLE (WT%)	TOTAL SAMPLE (WT%)
WATER CONTENT		46.7	46.7
NON-VOLATILE RESIDUE	DESCRIPTION: SOLID	7.9	7.9
VOLATILE ORGANICS BY DIFFERENCE		45.4	45.4
TOTAL		100.0	100.0

VOLATILE ORGANIC COMPOSITION OF TOTAL SAMPLE BY GAS CHROMATOGRAPHY

SAMPLE PREPARATION METHODS: CS2-EXTRACT
DETECTION METHODS : FID, FID

COMPOUND NAME	CODE	CAS NUMBER	COMPOSITION OF: VOLATILE ORGANICS (WT%)	VOLATILE ORGANICS (WT%)	TOTAL SAMPLE (WT%)
HIGH-BOILING ALIPHATIC HYDROCARBONS (C14-C20)	HHC	0-34-0	62.3	62.3	28.3
MEDIUM-BOILING ALIPHATIC HYDROCARBONS (C9-C13)	MHC	8030-30-6	35.1	35.1	15.9
TOTAL OTHERS (<1.0% EACH)	TO	0-05-5	2.6	2.6	1.2
TOTAL			100.0	100.0	45.4

SUMMARY OF VOLATILE ORGANIC COMPOSITION BY COMPOUND CHEMICAL CLASS WT%:

ALCOHOLS		ALIPHATIC HYDROCARBONS	97.4
AROMATIC HYDROCARBONS		CHLORINATED SOLVENTS	
ESTERS		ETHERS	
GLYCOL ETHERS		INHIBITORS	
KETONES		NITROGEN COMPOUNDS	

SPECIFIC ORGANIC COMPOSITION

POLYCHLORINATED BIPHENYLS (PCBS): NONE DETECTED <

LABORATORY REVIEW: A
LEVEL: 1 SEG CODE: RELEASED: 12/22/92
LAB REVIEWERS: MDG VDG ANALYZED: 12/22/92

TRACKING INFORMATION:	DATE	FACILITY
SURVEY RECEIVED :	12/16/92	SK NEWCASTLE, K
SAMPLE RECEIVED :	12/16/92	
RESAMPLE SHIPPED :		
RESAMPLE RECEIVED:		

THE ANALYSES CONTAINED HEREIN ARE PERFORMED SOLELY FOR THE PURPOSE OF QUALIFYING THE ANALYZED MATERIALS FOR ACCEPTANCE BY SAFETY-KLEEN IN ACCORDANCE WITH ITS PERMITS AND PROCESSING CAPABILITY.

NOTICE OF LAND DISPOSAL RESTRICTION OF WASTE IS REQUIRED UNDER 40 CFR PART 268.
EPA WASTE CODES FOR LDR: D001
ANALYSIS DOES NOT INDICATE THAT MATERIAL IS CALIFORNIA LIST HALOGENATED ORGANIC COMPOUND WASTE.

END OF DOCUMENT

80920 - R2273 (RUN 02/17/93) PREQUALIFICATION EVALUATION - ENVIROSYSTEMS PAGE 1
PROJECT: PREQUALIFICATION GENERATOR SURVEY COMPLETED: 02/17/93
BRANCH/TERRITORY: 012300 REVISED: 02/17/93
ENVIROSYSTEMS

A C C E P T

safety-kleen

A C C E P T

ENVIROSYSTEMS FUELS
HARRISON DIV OF GMC
UNLEADED GAS

CONTROL #: 0000187952-2
LAB #: 0000019032-9
SURVEY #: 0000246495

CUSTOMER INFORMATION: 0000-60-0581

FEDERAL EPA ID:
STATE EPA ID:

GENERAL MOTORS
AUTO COMPONENT GROUP/DISB
ANAL DEPT/PO BOX 436040
PONTIAC MI 48343

ATTN: JOHN RIDD

SALESPERSON:

GENERATOR: HARRISON DIV OF GMC
NATURE OF BUSINESS: GM PARTS S.I.C. NO:
FEDERAL EPA ID: OHD017958604 IL: MO: ST: ID: STATUS: LOG
FACILITY ADDRESS: FOR MANIFEST BILLING:
300 TAYLOR ST
DAYTON OH 45401
GENERAL DESCRIPTION: UNLEADED GAS
PROCESS DESCRIPTION: TANK CLEAN OUT
GENERATION AMOUNT: 16 DRUMS PER YEAR
AMOUNT ON HAND: 16 IN DRUMS
SHIPPING FREQUENCY: YEAR IN DRUMS
COLOR: BROWN PCT SOLIDS NOT SAMPLED: PH RANGE: 4-10
LAYERS OR PHASES: ONE PHYSICAL STATE: LIQUID VISCOSITY: LOW

MATERIAL COMPOSITION:	CODE	MAX	TYPICAL
WATER	W		
UNLEADED GAS			

ATTACHMENTS: NONE
RESTRICTED SUBSTANCES: NONE
HAZARD CLASS: NUMBER: NEED ASSISTANCE
EPA WASTE DESCRIPTION AND TREATMENT STANDARDS: RCRA HAZARDOUS WASTE: YES

OTHER EPA WASTE CODES: D001
P.O. NO: TYPE OF SAMPLE: COMPOSITE # OF DRUMS SAMPLED: 1 TAKEN BY: SK REP
NAME: JOHN RIDD TITLE: SENIOR ENG 01/29/1993 (513) 456-4428

CORPORATE REVIEWS:	DISPOSITION	REVIEWER	DATE
TECHNICAL:	ACCEPT	CAP	02/17/93
REGULATORY:	ACCEPT	CAP	02/17/93
OPERATING:	ACCEPT	JWH	02/17/93

POSSIBLE FACILITIES: 658 654 000161
PRICING CODE:
PART NUMBER: 82101
WASTE,SPECIFIC FUELS

APPROVED FACILITIES:

SAFETY-KLEEN CORP	SAFETY-KLEEN CORP
STATE HWY 146	633 EAST 138TH ST
NEW CASTLE KY 40050	DOLTON IL 60419
FED EPA#: KYD053348108	ILD980613913
STATE EPA#:	0310690006
TELEPHONE: 502/845-2453	708/849-4850
STATE CODE:	000161

EPA WASTE CODES
D001 D018

APPROVD 0001086 DRUM OR BULK
DOT-EPA RQ WASTE GASOLINE
DESC. 3 UN1203 PG II
(D018,D001)(ERG#27)
COMMENTS: OK FOR FUEL.

THIS SERVES AS NOTICE PER, 40CFR264.12(B), THAT THE FACILITY(IES) NOTED ABOVE HAS THE APPROPRIATE PERMITS AND IS WILLING TO RECEIVE THE MATERIAL DESCRIBED.

80920 - R2273 (RUN 02/17/93) PREQUALIFICATION EVALUATION - ENVIROSYSTEMS
MATERIAL ANALYSIS

COMPLETED: 02/17/93
REVISED: 02/17/93

BRANCH/SUBMITTER: 012300
ENVIROSYSTEMS

A C C E P T

A C C E P T

ENVIROSYSTEMS FUELS
HARRISON DIV OF GMC
UNLEADED GAS

CONTROL #: 0167952-2
SURVEY #: 246495

GENERAL ANALYSIS OF TOTAL SAMPLE

COLOR	: RED
WATER CONTENT	: < 0.1 WT%
NON-VOLATILE RESIDUE	: 0.4 WT% DESCRIPTION: SOLID
FLAMMABILITY	: FLASHED AT 73 F BY SETAFLASH
FLAMMABILITY	: FLASHED AT 140 F BY SETAFLASH
PH	: EXTRACT BY METER 7.4
RADIOACTIVITY	: NONE DETECTED

FUEL EVALUATION OF TOTAL SAMPLE

HEAT CONTENT:	19000 BTU/LB	ASH UPON COMBUSTION:	0.2 WT%
TOTAL FLUORINE F :	< 0.1 WT%	TOTAL CHLORINE CL:	< 0.1 WT%
TOTAL BROMINE BR:	< 0.1 WT%	TOTAL SULFUR S :	< 0.1 WT%

COMMENTS: FLASHES ON SETA AT 200

GENERAL COMPOSITION:

	SPECIFIC GRAVITY	VISCOSITY (CENTIPOISE)	GENERAL COMPOSITION BY: APPEARANCE (VOL%)	TOTAL (WT %)
AQUEOUS PHASE (FREE WATER)			0.0	0.0
ORGANIC PHASE (FEEDSTOCK)			100.0	100.0
BOTTOM SLUDGE (SEMISOLIDS)			0.0	0.0
BOTTOM SOLID (SETTLED SOLIDS)			0.0	0.0
TOTAL	.750	< 50 CPS	100.0	100.0

SPECIFIC COMPOSITION OF TOTAL SAMPLE

	COMPOSITION OF:	TOTAL SAMPLE (WT%)	TOTAL SAMPLE (WT%)
WATER CONTENT		0.1	0.1
NON-VOLATILE RESIDUE	DESCRIPTION: SOLID	0.4	0.4
VOLATILE ORGANICS BY DIFFERENCE		99.5	99.5
TOTAL		100.0	100.0

VOLATILE ORGANIC COMPOSITION OF TOTAL SAMPLE BY GAS CHROMATOGRAPHY

SAMPLE PREPARATION METHODS: NEAT
DETECTION METHODS : FID, FID

COMPOUND NAME	CODE	CAS NUMBER	COMPOSITION OF: VOLATILE ORGANICS (WT%)	VOLATILE ORGANICS (WT%)	TOTAL SAMPLE (WT%)
GASOLINE	GAS	8006-61-9	99.3	99.3	98.8
TOTAL OTHERS (<1.0% EACH)	TO	0-05-5	0.7	0.7	0.7
TOTAL			100.0	100.0	99.5

SUMMARY OF VOLATILE ORGANIC COMPOSITION BY COMPOUND CHEMICAL CLASS WT%:

ALCOHOLS		ALIPHATIC HYDROCARBONS	99.3
AROMATIC HYDROCARBONS		CHLORINATED SOLVENTS	
ESTERS		ETHERS	
GLYCOL ETHERS		INHIBITORS	
KETONES		NITROGEN COMPOUNDS	

SPECIFIC ORGANIC COMPOSITION

POLYCHLORINATED BIPHENYLS (PCBS): NONE DETECTED <

LABORATORY REVIEW: A
LEVEL: 1 SEG CODE: RELEASED: 02/16/93
LAB REVIEWERS: SRB SRB ANALYZED: 02/16/93

TRACKING INFORMATION:	DATE	FACILITY
SURVEY RECEIVED :	02/04/93	NEWCASTLE PREQ
SAMPLE RECEIVED :	02/04/93	
RESAMPLE SHIPPED :		
RESAMPLE RECEIVED:		

THE ANALYSES CONTAINED HEREIN ARE PERFORMED SOLELY FOR THE PURPOSE OF QUALIFYING THE ANALYZED MATERIALS FOR ACCEPTANCE BY SAFETY-KLEEN IN ACCORDANCE WITH ITS PERMITS AND PROCESSING CAPABILITY.

NOTICE OF LAND DISPOSAL RESTRICTION OF WASTE IS REQUIRED UNDER 40 CFR PART 268.
EPA WASTE CODES FOR LDR: D001 D018
ANALYSIS DOES NOT INDICATE THAT MATERIAL IS CALIFORNIA LIST HALOGENATED ORGANIC COMPOUND WASTE.

END OF DOCUMENT

FUEL TANK DEMOLITION

Certification

I certify to Reliable Construction that described fuel tank has been destroyed to a degree that reuse as a container of any substance in not possible.

Tank Size: 10,000 gallons _____ ft. x _____

Identifying Numbers: #5

Tank Material: Steel

Destroyed by (Company Name): Henry Jergens Contractor, Inc.

Address (Street): 1280 Brandt Pike

(City, State, Zip): Dayton, OH 45404

By (Name and Title): Charles Jergens, Vice-President

Supervised by (Company Name): Reliable Construction

Address (Street): 1639 Stanley Avenue

(City, State, Zip): Dayton, OH 45404

By (Name and Title): David L. Mitchell

President

The Above Described Fuel Storage Tank Was Removed From:

Address (Street): 300 Taylor Street

(City, State, Zip): Dayton, OH 45402

On (Date): January 5, 1993

Removed by (Company Name): Henry Jergens Contractor, Inc.

Address (Street): 1280 Brandt Pike

(City, State, Zip): Dayton, OH 45404

By (Name and Title): Charles Jergens, Vice-President

Note: The above tank was disposed of at Franklin Iron & Metal
2015 East First Street
Dayton, OH 45403

FUEL TANK DEMOLITION

Certification

I certify to Reliable Construction that described fuel tank has been destroyed to a degree that reuse as a container of any substance in not possible.

Tank Size: 10,000 gallons _____ ft.x _____

Identifying Numbers: #7

Tank Material: Steel

Destroyed by (Company Name): Henry Jergens Contractor, Inc.

Address (Street): 1280 Brandt Pike

(City, State, Zip): Dayton, OH 45404

By (Name and Title): Charles Jergens, Vice-President

Supervised by (Company Name): Reliable Construction

Address (Street): 1639 Stanley Avenue

(City, State, Zip): Dayton, OH 45404

By (Name and Title): David L. Mitchell

President

The Above Described Fuel Storage Tank Was Removed From:

Address (Street): 300 Taylor Street

(City, State, Zip): Dayton, OH 45402

On (Date): December 18, 1992

Removed by (Company Name): Henry Jergens Contractor, Inc.

Address (Street): 1280 Brandt Pike

(City, State, Zip): Dayton, OH 45404

By (Name and Title): Charles Jergens, Vice-President

Note: The above tank was disposed of at Franklin Iron & Metal
2015 East Third Street
Dayton, OH 45403

for transmittal memo 7671 # of pages ▸ 4

FUEL TANK DEMOLITION

Certification

I certify to Reliable Construction that described fuel tank has been destroyed to a degree that reuse as a container of any substance in not possible.

Tank Size: 10,000 gallons _____ ft. x _____

Identifying Numbers: #12

Tank Material: Steel

Destroyed by (Company Name): Henry Jergens Contractor, Inc.

Address (Street): 1280 Brandt Pike

(City, State, Zip): Dayton, OH 45404

By (Name and Title): Charles Jergens - Vice-President

Supervised by (Company Name): Reliable Construction

Address (Street): 1639 Stanley Avenue

(City, State, Zip): Dayton, OH 45404

By (Name and Title): David L. Mitchell

President

The Above Described Fuel Storage Tank Was Removed From:

Address (Street): 300 Taylor Street

(City, State, Zip): Dayton, OH 45402

On (Date): December 14, 1992

Removed by (Company Name): Henry Jergens Contractor, Inc.

Address (Street): 1280 Brandt Pike

(City, State, Zip): Dayton, OH 45404

By (Name and Title): Charles Jergens - Vice-President

Note: The above tank was disposed of at Franklin Iron & Metal
2015 East Third Street
Dayton, OH 45403

FUEL TANK DEMOLITION

Certification

I certify to Reliable Construction that described fuel tank has been destroyed to a degree that reuse as a container of any substance in not possible.

Tank Size: 5,500 gallons _____ ft. x _____

Identifying Numbers: #13

Tank Material: Steel

Destroyed by (Company Name): Henry Jergens Contractor, Inc.

Address (Street): 1280 Brandt Pike

(City, State, Zip): Dayton, OH 45404

By (Name and Title): Charles Jergens - Vice-President

Supervised by (Company Name): Reliable Construction

Address (Street): 1639 Stanley Avenue

(City, State, Zip): Dayton, OH 45404

By (Name and Title): David L. Mitchell

President

The Above Described Fuel Storage Tank Was Removed From:

Address (Street): 300 Taylor Street

(City, State, Zip): Dayton, OH 45402

On (Date): December 11, 1992

Removed by (Company Name): Henry Jergens Contractor, Inc.

Address (Street): 1280 Brandt Pike

(City, State, Zip): Dayton, OH 45404

By (Name and Title): Charles Jergens - Vice-President

Note: The above tank was disposed of at Franklin Iron & Metal
2015 East Third Street
Dayton, OH 45403

APPENDIX G

ANALYTICAL REPORTS - LABORATORY AND FIELD TOV SCREENING

NET NATIONAL ENVIRONMENTAL TESTING, INC.

Dayton Division
3601 South Dixie Drive
Dayton, OH 45439
Tel: (513) 294-6856
Fax: (513) 294-7816

CHAIN OF CUSTODY

Client HARR. RAIL DIV./GM	Project Name JST REMOVAL/CLOSURE ASSESSMENT
Send Report to: MR. JOHN RIDD	
Address P.O. Box 324 DAYTON, OHIO 45401	Collected by: T. J. WEY ENV. QUALITY MGT., INC 513/325-7500
Telephone 513/455-4408	

Collection Information								Parameters															
Sample ID	Sampling Location	Date	Time	GRAB	COMP	Sample Type	No. of Container	BTEX 8020	TPH 418.1	TPH - 8015	PAH - 8100	BTEX - 602	PAH - 610	TCLP *	IGNITABILITY	CORROSIVITY	TOTAL ORBS	% MOISTURE	TRPH 413.1 (SOLID FILTER)				
PIT 1	PIPE TRENCH FOR TANK 12 + 13	12/14	1400	X		SOIL	4	X	X	X	X												X
WATER 1	CENTER OF PIT TANK 12 + 13	12/14	1430	X		WATER	4					X	X										X
PUMP PAD #12	UNDER PUMP PAD TANK 12	12/14	1500	X		SOIL	2	X		X													X
PUMP PAD #13	UNDER PUMP PAD TANK 13	12/14	1500	X		SOIL	3	X	X		X												X
WASTE COMP. 2	ROLL OFF BOX NOS 11-14 AND PIT SOILS	12/14	1530		X	SOIL	1		X					X	X	X	X	X	X				X

Remarks: * TCLP COMPLETE LESS PEST. + HERB.
** RUSH THIS SAMPLE ONLY. RESULTS TO J. RIDD BY 12/18/92

Relinquished by:	Date Time	Received by:	Date Time
	12/14/92 1700hr		

Shipping Notes/Lab Comments

Received for NET Midwest by: 12/14 1400

Samples Field Filtered: ___ Yes ___ No
Seals Intact Upon Receipt: ___ Yes ___ No ___ N/A

NATIONAL ENVIRONMENTAL TESTING, INC.

Dayton Division
3601 South Dixie Drive
Dayton, OH 45439
Tel: (513) 294-6856
Fax: (513) 294-7816

ANALYTICAL REPORT

John Ridd
HARRISON RADIATOR DIVISION
P.O. Box 824
Dayton, OH 45401

01/08/1993

JOB NUMBER: 92.16332

SAMPLE NO.: 171829

Sample Description: Pipe 1-Trench for Tank 12 & 13

Date Taken: 12/14/1992

Date Received: 12/14/1992

Parameter	Result	Unit	Date Anal.	Analyst
BTEX-M 8020, NON-AQUEOUS				
Benzene	2.0	ug/Kg	12/23/1992	dde
Ethylbenzene	<2.	ug/Kg	12/23/1992	dde
Toluene	5.8	ug/Kg	12/23/1992	dde
Xylenes, Total	9.8	ug/Kg	12/23/1992	dde
Surrogate: BFB	86	%	12/23/1992	dde
TPH - GC/FID Non-aq	<5.	mg/Kg	12/16/1992	gak
TPH - Method 418.1 Non-aq	39. Note	mg/Kg	12/18/1992	kkw
PAH's - Method 8100 NONAQUEOUS				
Acenaphthene	<1.	mg/Kg	12/29/1992	gag
Acenaphthylene	<1.	mg/Kg	12/29/1992	gag
Anthracene	<1.	mg/Kg	12/29/1992	gag
Benzo(a)anthracene	<2.	mg/Kg	12/29/1992	gag
Benzo(b)fluoranthene	<2.	mg/Kg	12/29/1992	gag
Benzo(k)fluoranthene	<2.	mg/Kg	12/29/1992	gag
Benzo(a)pyrene	<2.	mg/Kg	12/29/1992	gag
Benzo(g,h,i)perylene	<5.	mg/Kg	12/29/1992	gag
Chrysene	<2.	mg/Kg	12/29/1992	gag
Dibenzo(a,h)anthracene	<5.	mg/Kg	12/29/1992	gag
Fluoranthene	<1.	mg/Kg	12/29/1992	gag
Fluroene	<1.	mg/Kg	12/29/1992	gag
Indeno(1,2,3-cd)pyrene	<5.	mg/Kg	12/29/1992	gag
Naphthalene	<1.	mg/Kg	12/29/1992	gag
Phenanthrene	<1.	mg/Kg	12/29/1992	gag
Pyrene	<1.	mg/Kg	12/29/1992	gag
Surrogate: Dibenzofuran	74	%	12/29/1992	gag

cc: Norm Sawdey

John Andrejcio
Project Manager

OCEAN GROUP

NATIONAL ENVIRONMENTAL TESTING, INC.

Dayton Division
3601 South Dixie Drive
Dayton, OH 45439
Tel: (513) 294-6856
Fax: (513) 294-7816

ANALYTICAL REPORT

John Ridd
HARRISON RADIATOR DIVISION
P.O. Box 824
Dayton, OH 45401

01/08/1993

JOB NUMBER: 92.16332

SAMPLE NO.: 171830

Sample Description: Method Blank

Date Taken:

Date Received: 12/14/1992

Parameter	Result	Unit	Date Anal.	Analyst
BTEX-M 8020, NON-AQUEOUS				
Benzene	<2.	ug/Kg	12/23/1992	dde
Ethylbenzene	<2.	ug/Kg	12/23/1992	dde
Toluene	<2.	ug/Kg	12/23/1992	dde
Xylenes, Total	<2.	ug/Kg	12/23/1992	dde
Surrogate: BFB	94	%	12/23/1992	dde
TPH - GC/FID Non-aq	<5.	mg/Kg	12/16/1992	gak
TPH - Method 418.1 Non-aq	38.	mg/Kg	12/18/1992	kkw
PAH's - Method 8100 NONAQUEOUS				
Acenaphthene	<1.	mg/Kg	12/29/1992	gag
Acenaphthylene	<1.	mg/Kg	12/29/1992	gag
Anthracene	<1.	mg/Kg	12/29/1992	gag
Benzo(a)anthracene	<2.	mg/Kg	12/29/1992	gag
Benzo(b)fluoranthene	<2.	mg/Kg	12/29/1992	gag
Benzo(k)fluoranthene	<2.	mg/Kg	12/29/1992	gag
Benzo(a)pyrene	<2.	mg/Kg	12/29/1992	gag
Benzo(g,h,i)perylene	<5.	mg/Kg	12/29/1992	gag
Chrysene	<2.	mg/Kg	12/29/1992	gag
Dibenzo(a,h)anthracene	<5.	mg/Kg	12/29/1992	gag
Fluoranthene	<1.	mg/Kg	12/29/1992	gag
Fluroene	<1.	mg/Kg	12/29/1992	gag
Indeno(1,2,3-cd)pyrene	<5.	mg/Kg	12/29/1992	gag
Naphthalene	<1.	mg/Kg	12/29/1992	gag
Phenanthrene	<1.	mg/Kg	12/29/1992	gag
Pyrene	<1.	mg/Kg	12/29/1992	gag
Surrogate: Dibenzofuran	NA	mg/Kg	12/29/1992	gag

John Andrejcio
Project Manager

DUPLICATE

OCEAN GROUP

NATIONAL ENVIRONMENTAL TESTING, INC.

Dayton Division
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ANALYTICAL REPORT

John Ridd
HARRISON RADIATOR DIVISION
P.O. Box 824
Dayton, OH 45401

01/08/1993

JOB NUMBER: 92.16332

SAMPLE NO.: 171831

Sample Description: Standard

Date Taken:

Date Received: 12/14/1992

Parameter	Result	Unit	Date Anal.	Analyst
BTEX-M 8020, NON-AQUEOUS				
Benzene	88 %	Recovery	12/23/1992	dde
Ethylbenzene	93 %	Recovery	12/23/1992	dde
Toluene	98 %	Recovery	12/23/1992	dde
Xylenes, Total	94 %	Recovery	12/23/1992	dde
Surrogate: BFB	95	%	12/23/1992	dde
TPH - GC/FID Non-aq	135 %	Recovery	12/16/1992	gak
TPH - Method 418.1 Non-aq	107 %	Recovery	12/18/1992	kkw
PAH's - Method 8100 NONAQUEOUS				
Acenaphthene	77	%	12/29/1992	gag
Acenaphthylene	NA		12/29/1992	gag
Anthracene	NA		12/29/1992	gag
Benzo(a)anthracene	NA		12/29/1992	gag
Benzo(b)fluoranthene	NA		12/29/1992	gag
Benzo(k)fluoranthene	NA		12/29/1992	gag
Benzo(a)pyrene	NA		12/29/1992	gag
Benzo(g,h,i)perylene	82	%	12/29/1992	gag
Chrysene	NA		12/29/1992	gag
Dibenzo(a,h)anthracene	NA		12/29/1992	gag
Fluoranthene	NA		12/29/1992	gag
Fluroene	70	%	12/29/1992	gag
Indeno(1,2,3-cd)pyrene	NA		12/29/1992	gag
Naphthalene	NA		12/29/1992	gag
Phenanthrene	NA		12/29/1992	gag
Pyrene	74	%	12/29/1992	gag
Surrogate: Dibenzofuran	NA		12/29/1992	gag

John Andrejcio
Project Manager

OCEAN GROUP

NATIONAL ENVIRONMENTAL TESTING, INC.

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The TPH 418.1 contained a value equivalent to 38 mg/Kg. The reported results have not been corrected for the blank value.

John Andrejcio
Project Manager

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ANALYTICAL REPORT

John Ridd
HARRISON RADIATOR DIVISION
P.O. Box 824
Dayton, OH 45401

12/30/1992

JOB NUMBER: 92.16337

SAMPLE NO.: 171840

Sample Description: Pump Pad #12-Under Pump Pad

Date Taken: 12/14/1992

Date Received: 12/14/1992

Parameter	Result	Unit	Date Anal.	Analyst
BTEX-M 8020, NON-AQUEOUS				
Benzene	196.	ug/Kg	12/23/1992	dde
Ethylbenzene	220.	ug/Kg	12/23/1992	dde
Toluene	210.	ug/Kg	12/23/1992	dde
Xylenes, Total	1580.	ug/Kg	12/23/1992	dde
Surrogate: BFB	98	%	12/23/1992	dde
TPH - GC/FID Non-aq	<5.	mg/Kg	12/16/1992	gak

cc: Norm Sawdey

John Andrejcio
Project Manager

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ANALYTICAL REPORT

John Ridd
HARRISON RADIATOR DIVISION
P.O. Box 824
Dayton, OH 45401

12/30/1992

JOB NUMBER: 92.16337

SAMPLE NO.: 171841

Sample Description: Method Blank

Date Taken:

Date Received: 12/14/1992

Parameter	Result	Unit	Date Anal.	Analyst
BTEX-M 8020, NON-AQUEOUS				
Benzene	<5.	ug/Kg	12/23/1992	dde
Ethylbenzene	<5.	ug/Kg	12/23/1992	dde
Toluene	<5.	ug/Kg	12/23/1992	dde
Xylenes, Total	<5.	ug/Kg	12/23/1992	dde
Surrogate: BFB	91	%	12/23/1992	dde
TPH - GC/FID Non-aq	<5.	mg/Kg	12/16/1992	gak

John Andrejcio
Project Manager

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ANALYTICAL REPORT

John Ridd
HARRISON RADIATOR DIVISION
P.O. Box 824
Dayton, OH 45401

12/30/1992

JOB NUMBER: 92.16337

SAMPLE NO.: 171842

Sample Description: Standard

Date Taken:

Date Received: 12/14/1992

Parameter	Result	Unit	Date Anal.	Analyst
BTEX-M 8020, NON-AQUEOUS				
Benzene	86 %	Recovery	12/23/1992	dde
Ethylbenzene	89 %	Recovery	12/23/1992	dde
Toluene	88 %	Recovery	12/23/1992	dde
Xylenes, Total	90 %	Recovery	12/23/1992	dde
Surrogate: BFB	91	%	12/23/1992	dde
TPH - GC/FID Non-aq	135 %	Recovery	12/16/1992	gak

John Andrejcio
Project Manager

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TPH/GC-FID

TPH by method 8015 was modified by use of gasoline as the standard for calibration.

John Andrejcio
Project Manager

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ANALYTICAL REPORT

John Ridd
HARRISON RADIATOR DIVISION
P.O. Box 824
Dayton, OH 45401

01/08/1993

JOB NUMBER: 92.16335

SAMPLE NO.: 171834

Sample Description: Water 1-Center of Pit Tank 12&13

Date Taken: 12/14/1992

Date Received: 12/14/1992

VOLATILES - M 602 AQUEOUS

Parameter	Result	Unit	Date Anal.	Analyst
Benzene	<2000.	ug/L	12/23/1992	dde
Ethylbenzene	2350.	ug/L	12/23/1992	dde
Toluene	2050.	ug/L	12/23/1992	dde
Xylenes, Total	13420.	ug/L	12/23/1992	dde
Surrogate: BFB	107	%	12/23/1992	dde

cc: Norm Sawdey

John Andrejcio
Project Manager

DUPLICATE

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ANALYTICAL REPORT

John Ridd
HARRISON RADIATOR DIVISION
P.O. Box 824
Dayton, OH 45401

01/08/1993

JOB NUMBER: 92.16335

SAMPLE NO.: 171834

Sample Description: Water 1-Center of Pit Tank 12&13

Date Taken: 12/14/1992

Date Received: 12/14/1992

Parameter	Result	Unit	Date Anal.	Analyst
PAH'S - Method 8100 Aqueous				
Acenaphthene	<10.	ug/L	12/29/1992	gag
Acenaphthylene	<10	ug/L	12/29/1992	gag
Anthracene	<10.	ug/L	12/29/1992	gag
Benzo(a)anthracene	<20.	ug/L	12/29/1992	gag
Benzo(b)fluoranthene	<20.	ug/L	12/29/1992	gag
Benzo(k)fluoranthene	<20.	ug/L	12/29/1992	gag
Benzo(a)pyrene	<20.	ug/L	12/29/1992	gag
Benzo(g,h,i)perylene	<50.	ug/L	12/29/1992	gag
Chrysene	<20.	ug/L	12/29/1992	gag
Dibenzo(a,h)anthracene	<50.	ug/L	12/29/1992	gag
Fluoranthene	<10.	ug/L	12/29/1992	gag
Fluorene	<10.	ug/L	12/29/1992	gag
Indeno(1,2,3-cd)pyrene	<50.	ug/L	12/29/1992	gag
Naphthalene	110.	ug/L	12/29/1992	gag
Phenanthrene	32.	ug/L	12/29/1992	gag
Pyrene	<10.	ug/L	12/29/1992	gag
Surrogate: Dibenzofuran	Note	%	12/29/1992	gag

John Andrejcio
Project Manager

OCEAN GROUP

DUPLICATE

NATIONAL ENVIRONMENTAL TESTING, INC.

Dayton Division
3601 South Dixie Drive
Dayton, OH 45439
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ANALYTICAL REPORT

John Ridd
HARRISON RADIATOR DIVISION
P.O. Box 824
Dayton, OH 45401

01/08/1993

JOB NUMBER: 92.16335

SAMPLE NO.: 171835

Sample Description: Method Blank

Date Taken:

Date Received: 12/14/1992

VOLATILES - M 602 AQUEOUS

Parameter	Result	Unit	Date Anal.	Analyst
Benzene	<2.	ug/L	12/23/1992	dde
Ethylbenzene	<2.	ug/L	12/23/1992	dde
Toluene	<2.	ug/L	12/23/1992	dde
Xylenes, Total	<2.	ug/L	12/23/1992	dde
Surrogate: BFB	94	%	12/23/1992	dde

John Andrejcio
Project Manager

OCEAN GROUP

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ANALYTICAL REPORT

John Ridd
HARRISON RADIATOR DIVISION
P.O. Box 824
Dayton, OH 45401

01/08/1993

JOB NUMBER: 92.16335

SAMPLE NO.: 171836

Sample Description: Standard

Date Taken:

Date Received: 12/14/1992

VOLATILES - M 602 AQUEOUS

arameter	Result		Unit	Date Anal.	Analyst
Benzene	88	%	Recovery	12/23/1992	dde
Ethylbenzene	93	%	Recovery	12/23/1992	dde
oluene	98	%	Recovery	12/23/1992	dde
ylenes, Total	97	%	Recovery	12/23/1992	dde
Surrogate: BFB	95		%	12/23/1992	dde

John Andrejcio
Project Manager

DUPLICATE

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ANALYTICAL REPORT

John Ridd
HARRISON RADIATOR DIVISION
P.O. Box 824
Dayton, OH 45401

01/08/1993
JOB NUMBER: 92.16335
SAMPLE NO.: 171836

Sample Description: Standard

Date Taken:

Date Received: 12/14/1992

Parameter	Result		Unit	Date Anal.	Analyst
PAH'S - Method 8100 Aqueous					
Acenaphthene	77	%	Recovery	12/29/1992	gag
Acenaphthylene	NA			12/29/1992	gag
Anthracene	NA			12/29/1992	gag
Benzo(a)anthracene	NA			12/29/1992	gag
Benzo(b)fluoranthene	NA			12/29/1992	gag
Benzo(k)fluoranthene	NA			12/29/1992	gag
Benzo(a)pyrene	NA			12/29/1992	gag
Benzo(g,h,i)perylene	82	%	Recovery	12/29/1992	gag
Chrysene	NA			12/29/1992	gag
Dibenzo(a,h)anthracene	NA			12/29/1992	gag
Fluoranthene	NA			12/29/1992	gag
Fluorene	70	%	Recovery	12/29/1992	gag
Indeno(1,2,3-cd)pyrene	NA			12/29/1992	gag
Naphthalene	NA			12/29/1992	gag
Phenanthrene	NA			12/29/1992	gag
Pyrene	74	%	Recovery	12/29/1992	gag
Surrogate: Dibenzofuran	NA			12/29/1992	gag

John Andrejcio
Project Manager

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NET S/N 171834

Analysis: PAH's 8100

Due to sample matrix, analysis had to be performed by method 8100 instead of 610. Elevated reporting limits were due to sample matrix, which resulted in the surrogate being diluted out.

John Andrejcio
Project Manager

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ANALYTICAL REPORT

John Ridd
HARRISON RADIATOR DIVISION
P.O. Box 824
Dayton, OH 45401

12/30/1992

JOB NUMBER: 92.16327

SAMPLE NO.: 171820

Sample Description: Waste Comp.2-Rolloff-11-14 & Pit

Date Taken: 12/14/1992

Date Received: 12/14/1992

Parameter	Result	Unit	Date Anal.	Analyst
Dry Weight	86.9	%	12/17/1992	kkj
Corrosivity (pH)	8.94	S.U.	12/18/1992	vmm
Ignitability (Flash Point)	>100.	Degree C	12/18/1992	mhr
Free Liquids	Complies		12/18/1992	mhr

cc: Norm Sawdey

John Andrejcio
Project Manager

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ANALYTICAL REPORT

John Ridd
HARRISON RADIATOR DIVISION
P.O. Box 824
Dayton, OH 45401

12/30/1992

JOB NUMBER: 92.16327

SAMPLE NO.: 171820

Sample Description: Waste Comp.2-Rolloff-11-14 & Pit

Date Taken: 12/14/1992

Date Received: 12/14/1992

Parameter	Result	Unit	Date Anal.	Analyst
PCBs, M 8080, NON-AQUEOUS				
Aroclor 1016	<0.5	mg/Kg	12/17/1992	gak
Aroclor 1221	<0.5	mg/Kg	12/17/1992	gak
Aroclor 1232	<0.5	mg/Kg	12/17/1992	gak
Aroclor 1242	<0.5	mg/Kg	12/17/1992	gak
Aroclor 1248	<0.5	mg/Kg	12/17/1992	gak
Aroclor 1254	<0.5	mg/Kg	12/17/1992	gak
Aroclor 1260	<0.5	mg/Kg	12/17/1992	gak
Surrogate: 2,4,5,6-TCX	112 NOTE	%	12/17/1992	gak
Surrogate: DCB	31	%	12/17/1992	gak
TPH - Method 418.1 Non-aq	2220.	mg/Kg	12/18/1992	kkw

John Andrejcio
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ANALYTICAL REPORT

John Ridd
HARRISON RADIATOR DIVISION
P.O. Box 824
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12/30/1992

JOB NUMBER: 92.16327

SAMPLE NO.: 171821

Sample Description: Spike of Waste Comp.2-Rolloff-11-14 & Pit

Date Taken:

Date Received: 12/14/1992

Parameter	Result	Unit	Date Anal.	Analyst
TCLP - Arsenic	84 %	Recovery	12/18/1992	lgl
TCLP - Barium	104 %	Recovery	12/18/1992	clg
TCLP - Cadmium	101 %	Recovery	12/18/1992	lgl
TCLP - Chromium	113 %	Recovery	12/18/1992	clg
TCLP - Lead	95 %	Recovery	12/18/1992	clg
TCLP - Mercury	108 %	Recovery	12/16/1992	rlr
TCLP - Selenium	97 %	Recovery	12/18/1992	lgl
TCLP - Silver	100 %	Recovery	12/18/1992	lgl

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John Ridd
HARRISON RADIATOR DIVISION
P.O. Box 824
Dayton, OH 45401

12/30/1992

JOB NUMBER: 92.16327

SAMPLE NO.: 171821

Sample Description: Spike of Waste Comp.2-Rolloff-11-14 & Pit

Date Taken:

Date Received: 12/14/1992

VOLATILES - TCLP

Parameter	Result	Unit	Date Anal.	Analyst
TCLP-Benzene	93 %	Recovery	12/16/1992	nkp
TCLP-Carbon tetrachloride	93 %	Recovery	12/16/1992	nkp
TCLP-Chlorobenzene	89 %	Recovery	12/16/1992	nkp
TCLP-Chloroform	89 %	Recovery	12/16/1992	nkp
TCLP-1,2-Dichloroethane	90 %	Recovery	12/16/1992	nkp
TCLP-1,1-Dichloroethene	87 %	Recovery	12/16/1992	nkp
TCLP-Methyl ethyl ketone (MEK)	88 %	Recovery	12/16/1992	nkp
TCLP-Tetrachloroethene	92 %	Recovery	12/16/1992	nkp
TCLP-Trichloroethene	87 %	Recovery	12/16/1992	nkp
TCLP-Vinyl chloride	98 %	Recovery	12/16/1992	nkp
Surrogate: d4-1,2-DCE	101	%	12/16/1992	nkp
Surrogate: d8-Toluene	107	%	12/16/1992	nkp
Surrogate: BFB	96	%	12/16/1992	nkp

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HARRISON RADIATOR DIVISION
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12/30/1992

JOB NUMBER: 92.16327

SAMPLE NO.: 171821

Sample Description: Spike of Waste Comp.2-Rolloff-11-14 & Pit

Date Taken:

Date Received: 12/14/1992

BASE NEUTRAL COMPOUNDS - TCLP

Parameter	Result		Unit	Date Anal.	Analyst
TCLP-1,4-Dichlorobenzene	64	%	Recovery	12/17/1992	dmg
TCLP-2,4-Dinitrotoluene	78	%	Recovery	12/17/1992	dmg
TCLP-Hexachlorobenzene	64	%	Recovery	12/17/1992	dmg
TCLP-Hexachlorobutadiene	67	%	Recovery	12/17/1992	dmg
TCLP-Hexachloroethane	70	%	Recovery	12/17/1992	dmg
TCLP-Nitrobenzene	80	%	Recovery	12/17/1992	dmg
TCLP-Pyridine	54	%	Recovery	12/17/1992	dmg
Surrogate: d5-Nitrobenzene	71		%	12/17/1992	dmg
Surrogate: 2-Fluorobiphenyl	70		%	12/17/1992	dmg
Surrogate: d14-Terphenyl	73		%	12/17/1992	dmg

John Andrejcio
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12/30/1992

JOB NUMBER: 92.16327

SAMPLE NO.: 171821

Sample Description: Spike of Waste Comp.2-Rolloff-11-14 & Pit

Date Taken:

Date Received: 12/14/1992

ACID COMPOUNDS - TCLP

Parameter	Result	Unit	Date Anal.	Analyst
TCLP ortho-Methylphenol	29 %	Recovery	12/17/1992	dmg
TCLP meta & para-Methylphenol	17 %	Recovery	12/17/1992	dmg
TCLP-Pentachlorophenol	83 %	Recovery	12/17/1992	dmg
TCLP 2,4,5-Trichlorophenol	69 %	Recovery	12/17/1992	dmg
TCLP 2,4,6-Trichlorophenol	66 %	Recovery	12/17/1992	dmg
Surrogate: d6-Phenol	38	%	12/17/1992	dmg
Surrogate: 2-Fluorophenol	30	%	12/17/1992	dmg
Surrogate: Tribromophenol	65	%	12/17/1992	dmg

John Andrejcio
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12/30/1992

JOB NUMBER: 92.16327

SAMPLE NO.: 171822

Sample Description: Corrected R. of Waste Comp.2-Rolloff-11-14 & Pit

Date Taken:

Date Received: 12/14/1992

Parameter	Result	Unit	Date Anal.	Analyst
TCLP - Arsenic	<0.050	mg/L	12/18/1992	lgl
TCLP - Barium	<5.0	mg/L	12/18/1992	clg
TCLP - Cadmium	<0.50	mg/L	12/18/1992	lgl
TCLP - Chromium	<0.40	mg/L	12/18/1992	clg
TCLP - Lead	<1.0	mg/L	12/18/1992	clg
TCLP - Mercury	<0.0002	mg/L	12/16/1992	rlr
TCLP - Selenium	<0.050	mg/L	12/18/1992	lgl
TCLP - Silver	<0.20	mg/L	12/18/1992	lgl

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12/30/1992

JOB NUMBER: 92.16327

SAMPLE NO.: 171822

Sample Description: Corrected R. of Waste Comp.2-Rolloff-11-14 & Pit

Date Taken:

Date Received: 12/14/1992

VOLATILES - TCLP

arameter	Result	Unit	Date Anal.	Analyst
TCLP-Benzene	<100.	ug/L	12/16/1992	nkp
CLP-Carbon tetrachloride	<100.	ug/L	12/16/1992	nkp
CLP-Chlorobenzene	<100.	ug/L	12/16/1992	nkp
TCLP-Chloroform	<100.	ug/L	12/16/1992	nkp
CLP-1,2-Dichloroethane	<100.	ug/L	12/16/1992	nkp
CLP-1,1-Dichloroethene	<100.	ug/L	12/16/1992	nkp
CLP-Methyl ethyl ketone (MEK)	<200.	ug/L	12/16/1992	nkp
TCLP-Tetrachloroethene	<100.	ug/L	12/16/1992	nkp
CLP-Trichloroethene	<100.	ug/L	12/16/1992	nkp
CLP-Vinyl chloride	<100.	ug/L	12/16/1992	nkp
Surrogate: d4-1,2-DCE	NA	%	12/16/1992	nkp
Surrogate: d8-Toluene	NA	%	12/16/1992	nkp
urrogate: BFB	NA	%	12/16/1992	nkp

John Andrejcio
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12/30/1992

JOB NUMBER: 92.16327

SAMPLE NO.: 171822

Sample Description: Corrected R. of Waste Comp.2-Rolloff-11-14 & Pit

Date Taken:

Date Received: 12/14/1992

BASE NEUTRAL COMPOUNDS - TCLP

Parameter	Result	Unit	Date Anal.	Analyst
TCLP-1,4-Dichlorobenzene	<40.	ug/L	12/17/1992	dmg
TCLP-2,4-Dinitrotoluene	<40.	ug/L	12/17/1992	dmg
TCLP-Hexachlorobenzene	<40.	ug/L	12/17/1992	dmg
TCLP-Hexachlorobutadiene	<40.	ug/L	12/17/1992	dmg
TCLP-Hexachloroethane	<40.	ug/L	12/17/1992	dmg
TCLP-Nitrobenzene	<40.	ug/L	12/17/1992	dmg
TCLP-Pyridine	<40.	ug/L	12/17/1992	dmg
Surrogate: d5-Nitrobenzene	NA	%	12/17/1992	dmg
Surrogate: 2-Fluorobiphenyl	NA	%	12/17/1992	dmg
Surrogate: d14-Terphenyl	NA	%	12/17/1992	dmg

John Andrejcio
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P.O. Box 824
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12/30/1992

JOB NUMBER: 92.16327

SAMPLE NO.: 171822

Sample Description: Corrected R. of Waste Comp.2-Rolloff-11-14 & Pit

Date Taken:

Date Received: 12/14/1992

ACID COMPOUNDS - TCLP

Parameter	Result	Unit	Date Anal.	Analyst
TCLP ortho-Methylphenol	<40.	ug/L	12/17/1992	dmg
TCLP meta & para-Methylphenol	<40.	ug/L	12/17/1992	dmg
TCLP-Pentachlorophenol	<40.	ug/L	12/17/1992	dmg
TCLP 2,4,5-Trichlorophenol	<40.	ug/L	12/17/1992	dmg
TCLP 2,4,6-Trichlorophenol	<40.	ug/L	12/17/1992	dmg
Surrogate: d6-Phenol	NA	%	12/17/1992	dmg
Surrogate: 2-Fluorophenol	NA	%	12/17/1992	dmg
Surrogate: Tribromophenol	NA	%	12/17/1992	dmg

John Anarejcio
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ANALYTICAL REPORT

John Ridd
HARRISON RADIATOR DIVISION
P.O. Box 824
Dayton, OH 45401

12/30/1992
JOB NUMBER: 92.16327
SAMPLE NO.: 171823

Sample Description: Method Blank

Date Taken:

Date Received: 12/14/1992

Parameter	Result	Unit	Date Anal.	Analyst
TCLP - Arsenic	<0.0050	mg/L	12/18/1992	lgl
TCLP - Barium	<0.50	mg/L	12/18/1992	clg
TCLP - Cadmium	<0.50	mg/L	12/18/1992	lgl
TCLP - Chromium	<0.40	mg/L	12/18/1992	clg
TCLP - Lead	<0.10	mg/L	12/18/1992	clg
TCLP - Mercury	<0.0002	mg/L	12/16/1992	rlr
TCLP - Selenium	<0.0050	mg/L	12/18/1992	lgl
TCLP - Silver	<0.040	mg/L	12/18/1992	lgl

John Andrejcio
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John Ridd
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P.O. Box 824
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12/30/1992

JOB NUMBER: 92.16327

SAMPLE NO.: 171823

Sample Description: Method Blank

Date Taken:

Date Received: 12/14/1992

VOLATILES - TCLP

Parameter	Result	Unit	Date Anal.	Analyst
TCLP-Benzene	<100.	ug/L	12/16/1992	nkp
TCLP-Carbon tetrachloride	<100.	ug/L	12/16/1992	nkp
TCLP-Chlorobenzene	<100.	ug/L	12/16/1992	nkp
TCLP-Chloroform	<100.	ug/L	12/16/1992	nkp
TCLP-1,2-Dichloroethane	<100.	ug/L	12/16/1992	nkp
TCLP-1,1-Dichloroethene	<100.	ug/L	12/16/1992	nkp
TCLP-Methyl ethyl ketone (MEK)	<200.	ug/L	12/16/1992	nkp
TCLP-Tetrachloroethene	<100.	ug/L	12/16/1992	nkp
TCLP-Trichloroethene	<100.	ug/L	12/16/1992	nkp
TCLP-Vinyl chloride	<100.	ug/L	12/16/1992	nkp
Surrogate: d4-1,2-DCE	93	%	12/16/1992	nkp
Surrogate: d8-Toluene	102	%	12/16/1992	nkp
Surrogate: BFB	90	%	12/16/1992	nkp

John Andrejcio
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ANALYTICAL REPORT

John Ridd
HARRISON RADIATOR DIVISION
P.O. Box 824
Dayton, OH 45401

12/30/1992

JOB NUMBER: 92.16327

SAMPLE NO.: 171823

Sample Description: Method Blank

Date Taken:

Date Received: 12/14/1992

BASE NEUTRAL COMPOUNDS - TCLP

Parameter	Result	Unit	Date Anal.	Analyst
TCLP-1,4-Dichlorobenzene	<4.	ug/L	12/17/1992	dmg
TCLP-2,4-Dinitrotoluene	<4.	ug/L	12/17/1992	dmg
TCLP-Hexachlorobenzene	<4.	ug/L	12/17/1992	dmg
TCLP-Hexachlorobutadiene	<4.	ug/L	12/17/1992	dmg
TCLP-Hexachloroethane	<4.	ug/L	12/17/1992	dmg
TCLP-Nitrobenzene	<4.	ug/L	12/17/1992	dmg
TCLP-Pyridine	<4.	ug/L	12/17/1992	dmg
Surrogate: d5-Nitrobenzene	74	%	12/17/1992	dmg
Surrogate: 2-Fluorobiphenyl	67	%	12/17/1992	dmg
Surrogate: d14-Terphenyl	75	%	12/17/1992	dmg

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12/30/1992

JOB NUMBER: 92.16327

SAMPLE NO.: 171823

Sample Description: Method Blank

Date Taken:

Date Received: 12/14/1992

ACID COMPOUNDS - TCLP

Parameter	Result	Unit	Date Anal.	Analyst
TCLP ortho-Methylphenol	<4.	ug/L	12/17/1992	dmg
TCLP meta & para-Methylphenol	<4.	ug/L	12/17/1992	dmg
TCLP-Pentachlorophenol	<4.	ug/L	12/17/1992	dmg
TCLP 2,4,5-Trichlorophenol	<4.	ug/L	12/17/1992	dmg
TCLP 2,4,6-Trichlorophenol	<4.	ug/L	12/17/1992	dmg
Surrogate: d6-Phenol	37	%	12/17/1992	dmg
Surrogate: 2-Fluorophenol	45	%	12/17/1992	dmg
Surrogate: Tribromophenol	76	%	12/17/1992	dmg

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12/30/1992

JOB NUMBER: 92.16327

SAMPLE NO.: 171823

Sample Description: Method Blank

Date Taken:

Date Received: 12/14/1992

Parameter	Result	Unit	Date Anal.	Analyst
PCBs, M 8080, NON-AQUEOUS				
Aroclor 1016	<0.5	mg/Kg	12/18/1992	gak
Aroclor 1221	<0.5	mg/Kg	12/18/1992	gak
Aroclor 1232	<0.5	mg/Kg	12/18/1992	gak
Aroclor 1242	<0.5	mg/Kg	12/18/1992	gak
Aroclor 1248	<0.5	mg/Kg	12/18/1992	gak
Aroclor 1254	<0.5	mg/Kg	12/18/1992	gak
Aroclor 1260	<0.5	mg/Kg	12/18/1992	gak
Surrogate: 2,4,5,6-TCX	73	%	12/18/1992	gak
Surrogate: DCB	14	%	12/18/1992	gak
TPH - Method 418.1 Non-aq	38.	mg/Kg	12/18/1992	kkw

John Andrejcio
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ANALYTICAL REPORT

John Ridd
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P.O. Box 824
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12/30/1992

JOB NUMBER: 92.16327

SAMPLE NO.: 171824

Sample Description: Standard

Date Taken:

Date Received: 12/14/1992

Parameter	Result	Unit	Date Anal.	Analyst
TCLP - Arsenic	103 %	Recovery	12/18/1992	lgl
TCLP - Barium	101 %	Recovery	12/18/1992	clg
TCLP - Cadmium	98 %	Recovery	12/18/1992	lgl
TCLP - Chromium	97 %	Recovery	12/18/1992	clg
TCLP - Lead	94 %	Recovery	12/18/1992	clg
TCLP - Mercury	100 %	Recovery	12/16/1992	rlr
TCLP - Selenium	94 %	Recovery	12/18/1992	lgl
TCLP - Silver	99 %	Recovery	12/18/1992	lgl

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P.O. Box 824
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12/30/1992

JOB NUMBER: 92.16327

SAMPLE NO.: 171824

Sample Description: Standard

Date Taken:

Date Received: 12/14/1992

VOLATILES - TCLP

BASE NEUTRAL COMPOUNDS - TCLP

ACID COMPOUNDS - TCLP

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12/30/1992

JOB NUMBER: 92.16327

SAMPLE NO.: 171824

Sample Description: Standard

Date Taken:

Date Received: 12/14/1992

Parameter	Result	Unit	Date Anal.	Analyst
PCBs, M 8080, NON-AQUEOUS				
Aroclor 1016	NA		12/18/1992	gak
Aroclor 1221	NA		12/18/1992	gak
Aroclor 1232	NA		12/18/1992	gak
Aroclor 1242	97 %	Recovery	12/18/1992	gak
Aroclor 1248	NA		12/18/1992	gak
Aroclor 1254	NA		12/18/1992	gak
Aroclor 1260	96 %	Recovery	12/18/1992	gak
Surrogate: 2,4,5,6-TCX	NA		12/18/1992	gak
Surrogate: DCB	NA		12/18/1992	gak
TPH - Method 418.1 Non-aq	107 %	Recovery	12/18/1992	kkw

John Andrejcio
Project Manager

OCEAN GROUP

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Sample #171820
Analysis: PCBs - Non-aqueous

This sample has a surrogate recovery outside of the established limits for aqueous samples. No limits have yet been established for non-aqueous samples.

Sample #171820
Analysis: Acid/Base-Neutral Semi-Volatiles

Recovery of 2-Fluorophenol was below the level recommended by the method (21-110%). The sample was re-extracted with in holding times and re-analyzed. The surrogate recoveries were acceptable for the re-extract and the initial results were not changed.

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In accordance with the revised test procedure for U.S. EPA method 1311 (TCLP test, SW-846), the raw data needs to be corrected for analytical bias before comparison to the listed maximum TCLP contaminant levels.

Per your request, the reported test results have been corrected for the spike recoveries.

*Per NET policy, results that show no detection have not been corrected for the spike bias.

We have also included the spike recovery data for the requested parameters.

To calculate the corrected values, the following formula was employed:

Corrected value = reported result / % recovery x 100

John Andrejcio
Project Manager

OCEAN GROUP

WASTE COMP
RO 11-14
+ PIT

Continuing Calibration Check
HSL Compounds

Case No: Calibration Date: 12/16/92
SAS No: Time: 08:19
Standard No: Laboratory ID: 00026
Instrument ID: GCMS-D Initial Calibration Date: 12/03/92

Minimum $\overline{RF}$ for SPCC is .3/.25 Maximum % Diff for CCC is 25%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC	
Dichlorodifluoromethane	1.31697	1.36025	3.29			
Chloromethane	.51460	.43418	15.63		**	
Vinyl chloride	.44188	.39264	11.14	*		
Bromomethane	.91630	.87836	4.14			
Chloroethane	.34196	.30086	12.02			
Trichlorofluoromethane	1.60260	1.37444	14.24			
Acrolein	.01637	.00721	55.92			
1,1-Dichloroethene	.72044	.65776	8.70	*		
Methyl Iodide	2.49480	2.19442	12.04			
Carbon disulfide	2.18138	2.07766	4.75			
Acetone	.10611	.09716	8.43			(Conc=125.00)
Allyl Chloride	.62843	.52215	16.91			
Acrylonitrile	.11089	.09700	12.53			
Methylene chloride	.82110	.71595	12.81			
1,2-trans-Dichloroethene	.78534	.73408	6.53			
1,1-Dichloroethane	1.36536	1.23637	9.45		**	
Chloroprene	.15294	.07576	50.47			(Conc=25.00)
1,2-cis-Dichloroethene	.94363	.88969	5.72			
Proprionitrile	.05550	.04617	16.81			(Conc=800.00)
Methacrylonitrile	.26180	.24388	6.85			
Chloroform	1.87310	1.74899	6.63	*		
d4-1,2-Dichloroethane (surr)	1.06456	1.04890	1.47			
1,2-Dichloroethane	1.05895	1.00190	5.39			
Vinyl acetate	.27761	.27651	.40			
2-Butanone	.01226	.01121	8.62			(Conc=175.00)
1,1,1-Trichloroethane	.39431	.37654	4.51			
Benzene	.50483	.48428	4.07			
Carbon tetrachloride	.38016	.37278	1.94			
1,2-Dichloropropane	.21533	.20940	2.75	*		
Trichloroethene	.31100	.32773	5.38			
Dibromomethane	.28072	.27891	.65			
Methyl Methacrylate	.16337	.14751	9.71			

RF - Response Factor from daily standard file at 50.00 ug/L

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Continuing Calibration Check
HSL Compounds

Case No: Calibration Date: 12/16/92

Contractor: Time: 08:19

Contract No: Laboratory ID: >D0325

Instrument ID: GCMS-D Initial Calibration Date: 12/03/92

Minimum $\overline{RF}$ for SPCC is .3/.25 Maximum % Diff for CCC is 25%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC	
Bromodichloromethane	.45149	.44176	2.15			
2-Chloroethyl vinyl ether	.10508	.10726	2.08			
1,3-cis-Dichloropropene	.34283	.33013	3.70			
1,3-trans-Dichloropropene	.31637	.30341	4.10			
1,1,2-Trichloroethane	.24050	.23658	1.63			
Ethyl Methacrylate	.25471	.24218	4.92			
Dibromochloromethane	.52117	.52327	.40			
1,2-Dibromoethane (EDB)	.41560	.41416	.35			
Bromoform	.41492	.41122	.89		**	
4-Methyl-2-pentanone	.26521	.24541	7.47			(Conc=125.00)
d8-Toluene (surr)	1.05058	1.01795	3.11			
Toluene	.48249	.46191	4.27	*		
2-Hexanone	.15243	.14124	7.34			(Conc=125.00)
Tetrachloroethene	.51645	.53100	2.82			
Chlorobenzene	.71285	.71825	.76		**	
1,1,1,2-Tetrachloroethane	.41492	.41712	.53			
Ethylbenzene	.30373	.28461	6.30	*		
m&p-Xylene	.38130	.38028	.27			(Conc=100.00)
Styrene	.65248	.63428	2.79			
o-Xylene	.37051	.36288	2.06			
1,1,2,2-Tetrachloroethane	.49793	.46115	7.39		**	
1,2,3-Trichloropropane	.14391	.13269	7.79			
trans-1,4-Dichloro-2-Butene	.06089	.05451	10.47			
4-Bromofluorobenzene (surr)	.69056	.65594	5.01			
Pentachloroethane	.33984	.33595	1.15			
1,2-Dibromo-3-chloropropane	.15885	.14178	10.74			

RF - Response Factor from daily standard file at 50.00 ug/L

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: NET MIDWEST-DAYTON Contract:

Lab Code: Case No.: 555555 SAS No.: SDG No.: 999999

Instrument ID: GCMSE Calibration Date: 12/18/92 Time: 15:50

Lab File ID: >E7190 Init. Calib. Date(s): 12/18/92

Min RRF050 for SPCC(#) = 0.050 Max %D for CCC(*) = 25%

COMPOUND		RRF	RRF050	%D
N-Nitrosodimethylamine		.784	.822	4.8
Pyridine		1.413	1.454	2.9
Phenol	*	1.892	2.182	15.3*
Aniline		2.336	1.916	18.0
bis(2-Chloroethyl)ether		1.617	1.916	18.5
2-Chlorophenol		1.236	1.414	14.5
1,3-Dichlorobenzene		1.628	1.727	6.1
1,4-Dichlorobenzene	*	1.503	1.673	11.3*
Benzyl alcohol		1.493	1.528	2.3
1,2-Dichlorobenzene		1.530	1.755	14.7
2-Methylphenol		1.297	1.444	11.3
2,2'-oxybis(1-Chloropropane		2.422	2.572	6.2
3 & 4-Methylphenol		1.728	2.068	19.6
N-Nitroso-di-n-propylamine	#	1.378	1.340	2.7#
Hexachloroethane		.657	.717	9.1
Nitrobenzene		.455	.497	9.1
Isophorone		.993	1.062	6.9
2-Nitrophenol	*	.237	.260	9.7*
2,4-Dimethylphenol		.388	.415	7.0
Benzoic acid		.258	.265	2.7
bis(2-Chloroethoxy)methane		.555	.612	10.2
2,4-Dichlorophenol	*	.300	.334	11.4*
1,2,4-Trichlorobenzene		.318	.348	9.4
Naphthalene		.972	1.110	14.2
4-Chloroaniline		.480	.536	11.7
Hexachlorobutadiene	*	.149	.167	11.6*
4-Chloro-3-methylphenol	*	.356	.371	4.3*
2-Methylnaphthalene		.733	.816	11.4
Hexachlorocyclopentadiene	#	.278	.331	19.1#
2,4,6-Trichlorophenol	*	.376	.414	10.3*
2,4,5-Trichlorophenol		.395	.435	9.9
2-Chloronaphthalene		1.141	1.307	14.6
2-Nitroaniline		.546	.605	10.7
Dimethylphthalate		1.517	1.704	12.3
Acenaphthylene		1.748	1.950	11.6
2,6-Dinitrotoluene		.383	.427	11.5
3-Nitroaniline		.409	.445	8.7

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

ab Name: NET MIDWEST-DAYTON Contract:

ab Code: Case No.: 555555 SAS No.: SDG No.: 999999

nstrument ID: GCMSE Calibration Date: 12/18/92 Time: 15:50

ab File ID: >E7190 Init. Calib. Date(s): 12/18/92

in RRF050 for SPCC(#) = 0.050 Max %D for CCC(*) = 25

COMPOUND		RRF	RRF050	%D
Acenaphthene	*	1.031	1.180	14.4*
2,4-Dinitrophenol	#	.223	.231	3.6#
4-Nitrophenol	#	.314	.339	8.0#
Dibenzofuran		1.593	1.800	13.0
2,4-Dinitrotoluene		.524	.587	11.9
Diethylphthalate		1.558	1.750	12.3
4-Chlorophenyl-phenylether		.584	.669	14.5
Fluorene		1.203	1.356	12.7
4-Nitroaniline		.383	.408	6.5
4,6-Dinitro-2-methylphenol		.156	.183	17.3
1,2-Diphenylhydrazine/Azobe		1.035	1.175	13.5
N-Nitrosodiphenylamine as D*		.562	.657	16.9*
4-Bromophenyl-phenylether		.193	.218	13.0
Hexachlorobenzene		.222	.249	12.2
Pentachlorophenol	*	.153	.165	7.5*
Phenanthrene		1.006	1.110	10.3
Anthracene		1.023	1.162	13.6
Carbazole		.949	1.057	11.4
Di-n-butylphthalate		1.622	1.878	15.8
Fluoranthene	*	1.023	1.154	12.9*
Pyrene		1.411	1.510	7.0
Butylbenzylphthalate		.998	1.065	6.7
Benzidine		.348	.436	25.2
3,3'-Dichlorobenzidine		.358	.401	12.0
Benz(a)anthracene		1.237	1.346	8.8
Chrysene		1.010	1.169	15.7
bis(2-Ethylhexyl)phthalate		1.327	1.519	14.5
Di-n-octylphthalate		2.371	2.725	14.9
Benzo(b+k)fluoranthene		1.076	1.217	13.0
Benz(a)pyrene	*	1.040	1.165	12.1*
Indeno(1,2,3-c,d)pyrene		.902	1.029	14.0
Dibenz(a,h)anthracene		.754	.861	14.2
Benzo(g,h,i)perylene		.730	.832	14.0
d5-Nitrobenzene (sur)		.449	.472	6.4
2-Fluorobiphenyl (sur)		.692	.749	8.3
d14-p-Terphenyl (sur)		1.050	1.164	10.9
d6-Phenol (sur)		1.639	1.871	14.2
2-Fluorophenol (sur)		1.538	1.619	5.3
2,4,6-Tribromophenol (sur)		.194	.214	10.6

JOB 12-18 Rush 50%

NET NATIONAL ENVIRONMENTAL TESTING, INC.®

Dayton Division
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Dayton, OH 45439
Tel: (513) 294-6856
Fax: (513) 294-7816

CHAIN OF CUSTODY

Client HARR. RAD. DIV/GM	Project Name UST REMOVAL/CLOSURE ASSESSMENT
Send Report to: MR. JOHN RIDD	
Address P.O. Box 324 DAYTON, OH 45401	Collected by: T.J. WEY ENV. QUALITY MGT., INC 513/335-7500
Telephone # 513/455-4403	

Collection Information								Parameters																
Sample ID	Sampling Location	Date	Time	GRAB	COMP	Sample Type	No. of Container	TPH 418.1	TCLP*	IGNITABILITY	CORROSIVITY	REACTIVITY	TOTAL PCB's	% MOISTURE	FLUE LIQ. CONTENT									
WASTE COMP. 1	Rolloff Box Nos. 1 to 10	12/14	1200		X	SOIL	1	X	X	X	X	X	X	X	X									X

Remarks: * TCLP COMPLETE LESS PEST. + HERB.
RESULTS TO BE REPORTED TO J. RIDD BY 12/18/92

Relinquished by:	Date	Time	Received by:	Date	Time
[signature]	12/14	1245			

Shipping Notes/Lab Comments

Received for NET Midwest by: [signature] 12-14 1245

Samples Field Filtered: ___ Yes ___ No
Seals Intact Upon Receipt: ___ Yes ___ No ___ N/A

NATIONAL ENVIRONMENTAL TESTING, INC.

Dayton Division
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Dayton, OH 45439
Tel: (513) 294-6856
Fax: (513) 294-7816

ANALYTICAL REPORT

John Ridd
HARRISON RADIATOR DIVISION
P.O. Box 824
Dayton, OH 45401

12/22/1992

JOB NUMBER: 92.16291

SAMPLE NO.: 171719

Sample Description: Waste Comp.1-Rolloff-1 to 10

Date Taken: 12/14/1992

Date Received: 12/14/1992

Parameter	Result	Unit	Date Anal.	Analyst
Dry Weight	84.8	%	12/17/1992	kkj
Corrosivity (pH)	9.02	S.U.	12/18/1992	vmm
Ignitability (Flash Point)	>100.	Degree C	12/18/1992	mhr
Free Liquids	Complies		12/18/1992	mhr
Reactive Sulfide	<7.71	mg/Kg	12/17/1992	alm
Reactive Cyanide	<0.121	mg/Kg	12/17/1992	alm

cc: Norm Sawdey

John Andrejcio
Project Manager

DUPLICATE

OCEAN GROUP

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

John Ridd
HARRISON RADIATOR DIVISION
P.O. Box 824
Dayton, OH 45401

12/22/1992

JOB NUMBER: 92.16291

SAMPLE NO.: 171719

Sample Description: Waste Comp.1-Rolloff-1 to 10

Date Taken: 12/14/1992

Date Received: 12/14/1992

Parameter	Result	Unit	Date Anal.	Analyst
PCBs, M 8080, NON-AQUEOUS				
Aroclor 1016	<0.5	mg/Kg	12/17/1992	gak
Aroclor 1221	<0.5	mg/Kg	12/17/1992	gak
Aroclor 1232	<0.5	mg/Kg	12/17/1992	gak
Aroclor 1242	<0.5	mg/Kg	12/17/1992	gak
Aroclor 1248	<0.5	mg/Kg	12/17/1992	gak
Aroclor 1254	<0.5	mg/Kg	12/17/1992	gak
Aroclor 1260	<0.5	mg/Kg	12/17/1992	gak
Surrogate: 2,4,5,6-TCX	84	%	12/17/1992	gak
Surrogate: DCB	55	%	12/17/1992	gak
TPH - Method 418.1 Non-aq	424.	mg/Kg	12/18/1992	kkw

John Andrejcio
Project Manager

DUPLICATE

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ANALYTICAL REPORT

John Ridd
HARRISON RADIATOR DIVISION
P.O. Box 824
Dayton, OH 45401

12/22/1992

JOB NUMBER: 92.16291

SAMPLE NO.: 171720

Sample Description: Spike of Waste Comp.1-Rolloff-1 to 10

Date Taken:

Date Received: 12/14/1992

Parameter	Result	Unit	Date Anal.	Analyst
TCLP - Arsenic	88 %	Recovery	12/16/1992	lgl
TCLP - Barium	103 %	Recovery	12/16/1992	clg
TCLP - Cadmium	101 %	Recovery	12/18/1992	lgl
TCLP - Chromium	116 %	Recovery	12/16/1992	clg
TCLP - Lead	102 %	Recovery	12/17/1992	clg
TCLP - Mercury	108 %	Recovery	12/16/1992	rlr
TCLP - Selenium	96 %	Recovery	12/16/1992	lgl
TCLP - Silver	46 %	Recovery	12/18/1992	lgl

DUPLICATE

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ANALYTICAL REPORT

John Ridd
HARRISON RADIATOR DIVISION
P.O. Box 824
Dayton, OH 45401

12/22/1992

JOB NUMBER: 92.16291

SAMPLE NO.: 171720

Sample Description: Spike of Waste Comp.1-Rolloff-1 to 10

Date Taken:

Date Received: 12/14/1992

VOLATILES - TCLP

Parameter	Result	Unit	Date Anal.	Analyst
TCLP-Benzene	93 %	Recovery	12/16/1992	nkp
TCLP-Carbon tetrachloride	89 %	Recovery	12/16/1992	nkp
TCLP-Chlorobenzene	90 %	Recovery	12/16/1992	nkp
TCLP-Chloroform	89 %	Recovery	12/16/1992	nkp
TCLP-1,2-Dichloroethane	91 %	Recovery	12/16/1992	nkp
TCLP-1,1-Dichloroethene	89 %	Recovery	12/16/1992	nkp
TCLP-Methyl ethyl ketone (MEK)	89 %	Recovery	12/16/1992	nkp
TCLP-Tetrachloroethene	90 %	Recovery	12/16/1992	nkp
TCLP-Trichloroethene	87 %	Recovery	12/16/1992	nkp
TCLP-Vinyl chloride	100 %	Recovery	12/16/1992	nkp
Surrogate: d4-1,2-DCE	101	%	12/16/1992	nkp
Surrogate: d8-Toluene	106	%	12/16/1992	nkp
Surrogate: BFB	98	%	12/16/1992	nkp

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ANALYTICAL REPORT

John Ridd
HARRISON RADIATOR DIVISION
P.O. Box 824
Dayton, OH 45401

12/22/1992

JOB NUMBER: 92.16291

SAMPLE NO.: 171720

Sample Description: Spike of Waste Comp.1-Rolloff-1 to 10

Date Taken:

Date Received: 12/14/1992

BASE NEUTRAL COMPOUNDS - TCLP

Parameter	Result	Unit	Date Anal.	Analyst
TCLP-1,4-Dichlorobenzene	67 %	Recovery	12/16/1992	dmg
TCLP-2,4-Dinitrotoluene	85 %	Recovery	12/16/1992	dmg
TCLP-Hexachlorobenzene	67 %	Recovery	12/16/1992	dmg
TCLP-Hexachlorobutadiene	70 %	Recovery	12/16/1992	dmg
TCLP-Hexachloroethane	72 %	Recovery	12/16/1992	dmg
TCLP-Nitrobenzene	90 %	Recovery	12/16/1992	dmg
TCLP-Pyridine	65 %	Recovery	12/16/1992	dmg
Surrogate: d5-Nitrobenzene	93	%	12/16/1992	dmg
Surrogate: 2-Fluorobiphenyl	76	%	12/16/1992	dmg
Surrogate: d14-Terphenyl	93	%	12/16/1992	dmg

John Andrejcio
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ANALYTICAL REPORT

John Ridd
HARRISON RADIATOR DIVISION
P.O. Box 824
Dayton, OH 45401

12/22/1992

JOB NUMBER: 92.16291

SAMPLE NO.: 171720

Sample Description: Spike of Waste Comp.1-Rolloff-1 to 10

Date Taken:

Date Received: 12/14/1992

ACID COMPOUNDS - TCLP

Parameter	Result	Unit	Date Anal.	Analyst
TCLP ortho-Methylphenol	25 %	Recovery	12/16/1992	dmg
TCLP meta & para-Methylphenol	17 %	Recovery	12/16/1992	dmg
TCLP-Pentachlorophenol	100 %	Recovery	12/16/1992	dmg
TCLP 2,4,5-Trichlorophenol	63 %	Recovery	12/16/1992	dmg
TCLP 2,4,6-Trichlorophenol	63 %	Recovery	12/16/1992	dmg
Surrogate: d6-Phenol	29	%	12/16/1992	dmg
Surrogate: 2-Fluorophenol	26	%	12/16/1992	dmg
Surrogate: Tribromophenol	73	%	12/16/1992	dmg

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Project Manager

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ANALYTICAL REPORT

John Ridd
HARRISON RADIATOR DIVISION
P.O. Box 824
Dayton, OH 45401

12/22/1992

JOB NUMBER: 92.16291

SAMPLE NO.: 171721

Sample Description: Corrected R. of Waste Comp.1-Rolloff-1 to 10

Date Taken:

Date Received: 12/14/1992

Parameter	Result	Unit	Date Anal.	Analyst
TCLP - Arsenic	<0.050	mg/L	12/16/1992	lgl
TCLP - Barium	<5.0	mg/L	12/16/1992	clg
TCLP - Cadmium	<0.50	mg/L	12/18/1992	lgl
TCLP - Chromium	<0.40	mg/L	12/16/1992	clg
TCLP - Lead	<1.0	mg/L	12/17/1992	clg
TCLP - Mercury	<0.0002	mg/L	12/16/1992	rlr
TCLP - Selenium	<0.050	mg/L	12/16/1992	lgl
TCLP - Silver	<0.200	mg/L	12/18/1992	lgl

DUPLICATE

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Project Manager

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ANALYTICAL REPORT

John Ridd
HARRISON RADIATOR DIVISION
P.O. Box 824
Dayton, OH 45401

12/22/1992

JOB NUMBER: 92.16291

SAMPLE NO.: 171721

Sample Description: Corrected R. of Waste Comp.1-Rolloff-1 to 10

Date Taken:

Date Received: 12/14/1992

VOLATILES - TCLP

Parameter	Result	Unit	Date Anal.	Analyst
TCLP-Benzene	<100.	ug/L	12/16/1992	nkp
TCLP-Carbon tetrachloride	<100.	ug/L	12/16/1992	nkp
TCLP-Chlorobenzene	<100.	ug/L	12/16/1992	nkp
TCLP-Chloroform	<100.	ug/L	12/16/1992	nkp
TCLP-1,2-Dichloroethane	<100.	ug/L	12/16/1992	nkp
TCLP-1,1-Dichloroethene	<100.	ug/L	12/16/1992	nkp
TCLP-Methyl ethyl ketone (MEK)	<200.	ug/L	12/16/1992	nkp
TCLP-Tetrachloroethene	<100.	ug/L	12/16/1992	nkp
TCLP-Trichloroethene	<100.	ug/L	12/16/1992	nkp
TCLP-Vinyl chloride	<100.	ug/L	12/16/1992	nkp
Surrogate: d4-1,2-DCE	NA	%	12/16/1992	nkp
Surrogate: d8-Toluene	NA	%	12/16/1992	nkp
Surrogate: BFB	NA	%	12/16/1992	nkp

DUPLICATE

John Andrejcio
Project Manager

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ANALYTICAL REPORT

John Ridd
HARRISON RADIATOR DIVISION
P.O. Box 824
Dayton, OH 45401

12/22/1992

JOB NUMBER: 92.16291

SAMPLE NO.: 171721

Sample Description: Corrected R. of Waste Comp.1-Rolloff-1 to 10

Date Taken: Date Received: 12/14/1992

BASE NEUTRAL COMPOUNDS - TCLP

Parameter	Result	Unit	Date Anal.	Analyst
TCLP-1,4-Dichlorobenzene	<40.	ug/L	12/16/1992	dmg
TCLP-2,4-Dinitrotoluene	<40.	ug/L	12/16/1992	dmg
TCLP-Hexachlorobenzene	<40.	ug/L	12/16/1992	dmg
TCLP-Hexachlorobutadiene	<40.	ug/L	12/16/1992	dmg
TCLP-Hexachloroethane	<40.	ug/L	12/16/1992	dmg
TCLP-Nitrobenzene	<40.	ug/L	12/16/1992	dmg
TCLP-Pyridine	<40.	ug/L	12/16/1992	dmg
Surrogate: d5-Nitrobenzene	NA	%	12/16/1992	dmg
Surrogate: 2-Fluorobiphenyl	NA	%	12/16/1992	dmg
Surrogate: d14-Terphenyl	NA	%	12/16/1992	dmg

DUPLICATE

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ANALYTICAL REPORT

John Ridd
HARRISON RADIATOR DIVISION
P.O. Box 824
Dayton, OH 45401

12/22/1992

JOB NUMBER: 92.16291

SAMPLE NO.: 171721

Sample Description: Corrected R. of Waste Comp.1-Rolloff-1 to 10

Date Taken:

Date Received: 12/14/1992

ACID COMPOUNDS - TCLP

Parameter	Result	Unit	Date Anal.	Analyst
TCLP ortho-Methylphenol	<40.	ug/L	12/16/1992	dmg
TCLP meta & para-Methylphenol	<40.	ug/L	12/16/1992	dmg
TCLP-Pentachlorophenol	<40.	ug/L	12/16/1992	dmg
TCLP 2,4,5-Trichlorophenol	<40.	ug/L	12/16/1992	dmg
TCLP 2,4,6-Trichlorophenol	<40.	ug/L	12/16/1992	dmg
Surrogate: d6-Phenol	NA	%	12/16/1992	dmg
Surrogate: 2-Fluorophenol	NA	%	12/16/1992	dmg
Surrogate: Tribromophenol	NA	%	12/16/1992	dmg

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ANALYTICAL REPORT

John Ridd
HARRISON RADIATOR DIVISION
P.O. Box 824
Dayton, OH 45401

12/22/1992

JOB NUMBER: 92.16291

SAMPLE NO.: 171724

Sample Description: Method Blank

Date Taken:

Date Received: 12/14/1992

Parameter	Result	Unit	Date Anal.	Analyst
Reactive Sulfide	<0.20	mg/Kg	12/17/1992	alm
Reactive Cyanide	<0.005	mg/Kg	12/17/1992	alm
TCLP - Arsenic	<0.0050	mg/L	12/16/1992	lgl
TCLP - Barium	<0.50	mg/L	12/16/1992	clg
TCLP - Cadmium	<0.50	mg/L	12/18/1992	lgl
TCLP - Chromium	<0.040	mg/L	12/16/1992	clg
TCLP - Lead	<0.10	mg/L	12/17/1992	clg
TCLP - Mercury	<0.0002	mg/L	12/16/1992	rlr
TCLP - Selenium	<0.0050	mg/L	12/16/1992	lgl
TCLP - Silver	<0.040	mg/L	12/18/1992	lgl

John Andrejcio
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ANALYTICAL REPORT

John Ridd
HARRISON RADIATOR DIVISION
P.O. Box 824
Dayton, OH 45401

12/22/1992

JOB NUMBER: 92.16291

SAMPLE NO.: 171724

Sample Description: Method Blank

Date Taken:

Date Received: 12/14/1992

VOLATILES - TCLP

Parameter	Result	Unit	Date Anal.	Analyst
TCLP-Benzene	<100.	ug/L	12/16/1992	nkp
TCLP-Carbon tetrachloride	<100.	ug/L	12/16/1992	nkp
TCLP-Chlorobenzene	<100.	ug/L	12/16/1992	nkp
TCLP-Chloroform	<100.	ug/L	12/16/1992	nkp
TCLP-1,2-Dichloroethane	<100.	ug/L	12/16/1992	nkp
TCLP-1,1-Dichloroethene	<100.	ug/L	12/16/1992	nkp
TCLP-Methyl ethyl ketone (MEK)	<200.	ug/L	12/16/1992	nkp
TCLP-Tetrachloroethene	<100.	ug/L	12/16/1992	nkp
TCLP-Trichloroethene	<100.	ug/L	12/16/1992	nkp
TCLP-Vinyl chloride	<100.	ug/L	12/16/1992	nkp
Surrogate: d4-1,2-DCE	93	%	12/16/1992	nkp
Surrogate: d8-Toluene	102	%	12/16/1992	nkp
Surrogate: BFB	90	%	12/16/1992	nkp

John Andrejcio
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ANALYTICAL REPORT

John Ridd
HARRISON RADIATOR DIVISION
P.O. Box 824
Dayton, OH 45401

12/22/1992

JOB NUMBER: 92.16291

SAMPLE NO.: 171724

Sample Description: Method Blank

Date Taken:

Date Received: 12/14/1992

BASE NEUTRAL COMPOUNDS - TCLP

arameter	Result	Unit	Date Anal.	Analyst
TCLP-1,4-Dichlorobenzene	<4.	ug/L	12/16/1992	dmg
CLP-2,4-Dinitrotoluene	<4.	ug/L	12/16/1992	dmg
CLP-Hexachlorobenzene	<4.	ug/L	12/16/1992	dmg
TCLP-Hexachlorobutadiene	<4.	ug/L	12/16/1992	dmg
TCLP-Hexachloroethane	<4.	ug/L	12/16/1992	dmg
CLP-Nitrobenzene	<4.	ug/L	12/16/1992	dmg
CLP-Pyridine	<4.	ug/L	12/16/1992	dmg
Surrogate: d5-Nitrobenzene	52	%	12/16/1992	dmg
urrogate: 2-Fluorobiphenyl	43	%	12/16/1992	dmg
urrogate: d14-Terphenyl	51	%	12/16/1992	dmg

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12/22/1992

JOB NUMBER: 92.16291

SAMPLE NO.: 171724

Sample Description: Method Blank

Date Taken:

Date Received: 12/14/1992

ACID COMPOUNDS - TCLP

Parameter	Result	Unit	Date Anal.	Analyst
TCLP ortho-Methylphenol	<4.	ug/L	12/16/1992	dmg
TCLP meta & para-Methylphenol	<4.	ug/L	12/16/1992	dmg
TCLP-Pentachlorophenol	<4.	ug/L	12/16/1992	dmg
TCLP 2,4,5-Trichlorophenol	<4.	ug/L	12/16/1992	dmg
TCLP 2,4,6-Trichlorophenol	<4.	ug/L	12/16/1992	dmg
Surrogate: d6-Phenol	26	%	12/16/1992	dmg
Surrogate: 2-Fluorophenol	35	%	12/16/1992	dmg
Surrogate: Tribromophenol	52	%	12/16/1992	dmg

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12/22/1992

JOB NUMBER: 92.16291

SAMPLE NO.: 171724

Sample Description: Method Blank

Date Taken:

Date Received: 12/14/1992

Parameter	Result	Unit	Date Anal.	Analyst
PCBs, M 8080, NON-AQUEOUS				
Aroclor 1016	<0.5	mg/Kg	12/22/1992	dde
Aroclor 1221	<0.5	mg/Kg	12/22/1992	dde
Aroclor 1232	<0.5	mg/Kg	12/22/1992	dde
Aroclor 1242	<0.5	mg/Kg	12/22/1992	dde
Aroclor 1248	<0.5	mg/Kg	12/22/1992	dde
Aroclor 1254	<0.5	mg/Kg	12/22/1992	dde
Aroclor 1260	<0.5	mg/Kg	12/22/1992	dde
Surrogate: 2,4,5,6-TCX	90	%	12/22/1992	dde
Surrogate: DCB	101	%	12/22/1992	dde
TPH - Method 418.1 Non-aq	38.	mg/Kg	12/18/1992	kkw

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ANALYTICAL REPORT

John Ridd
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12/22/1992
JOB NUMBER: 92.16291
SAMPLE NO.: 171725

Sample Description: Standard

Date Taken:

Date Received: 12/14/1992

Parameter	Result	Unit	Date Anal.	Analyst
Reactive Sulfide	96 %	Recovery	12/17/1992	alm
Reactive Cyanide	96 %	Recovery	12/17/1992	alm
TCLP - Arsenic	104 %	Recovery	12/16/1992	lgl
TCLP - Barium	97 %	Recovery	12/16/1992	clg
TCLP - Cadmium	98 %	Recovery	12/18/1992	lgl
TCLP - Chromium	99 %	Recovery	12/16/1992	clg
TCLP - Lead	97 %	Recovery	12/17/1992	clg
TCLP - Mercury	100 %	Recovery	12/16/1992	rlr
TCLP - Selenium	95 %	Recovery	12/16/1992	lgl
TCLP - Silver	101 %	Recovery	12/18/1992	lgl

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ANALYTICAL REPORT

John Ridd
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12/22/1992
JOB NUMBER: 92.16291
SAMPLE NO.: 171725

Sample Description: Standard

Date Taken:

Date Received: 12/14/1992

VOLATILES - TCLP

BASE NEUTRAL COMPOUNDS - TCLP

ACID COMPOUNDS - TCLP

John Andrejcio
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ANALYTICAL REPORT

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12/22/1992
JOB NUMBER: 92.16291
SAMPLE NO.: 171725

Sample Description: Standard

Date Taken:

Date Received: 12/14/1992

Parameter	Result	Unit	Date Anal.	Analyst
PCBs, M 8080, NON-AQUEOUS				
Aroclor 1016	NA		12/18/1992	gak
Aroclor 1221	NA		12/18/1992	gak
Aroclor 1232	NA		12/18/1992	gak
Aroclor 1242	97 %	Recovery	12/18/1992	gak
Aroclor 1248	NA		12/18/1992	gak
Aroclor 1254	NA		12/18/1992	gak
Aroclor 1260	96 %	Recovery	12/18/1992	gak
Surrogate: 2,4,5,6-TCX	NA		12/18/1992	gak
Surrogate: DCB	NA		12/18/1992	gak
TPH - Method 418.1 Non-aq	107 %	Recovery	12/18/1992	kkw

John Andrejcio
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Sample #171719
Analysis: Acid/Base-Neutral Semi-Volatiles

Recovery of d6-Phenol and 2-Fluorophenol were below the levels recommended by the method (10-94% and 21-100%, respectively.)

Duplicate extraction and analysis confirmed the low recovery of of 2-fluorophenol (acid surrogate.) d-6 Phenol was slightly better. Matrix interference is suspected.

John Andrejcio
Project Manager

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In accordance with the revised test procedure for U.S. EPA method 1311 (TCLP test, SW-846), the raw data needs to be corrected for analytical bias before comparison to the listed maximum TCLP contaminant levels.

Per your request, the reported test results have been corrected for the spike recoveries.

*Per NET policy, results that show no detection have not been corrected for the spike bias.

We have also included the spike recovery data for the requested parameters.

To calculate the corrected values, the following formula was employed:

Corrected value = reported result / % recovery x 100

John Andrejcio
Project Manager

OCEAN GROUP

Continuing Calibration Check
HSL Compounds

Lab No: Calibration Date: 12/16/92
Time: 08:19
Contract No: Laboratory ID: 000126
Instrument ID: GCMS-D Initial Calibration Date: 12/03/92

Minimum $\overline{RF}$ for SPCC is .3/.25 Maximum % Diff for CCC is 25%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC	
Dichlorodifluoromethane	1.31697	1.36025	3.29			
Chloromethane	.51460	.43418	15.63		**	
Vinyl chloride	.44188	.39264	11.14	*		
Bromomethane	.91630	.87836	4.14			
Chloroethane	.34196	.30086	12.02			
Trichlorofluoromethane	1.60260	1.37444	14.24			
Acrolein	.01637	.00721	55.92			
1,1-Dichloroethene	.72044	.65776	8.70	*		
Methyl Iodide	2.49480	2.19442	12.04			
Carbon disulfide	2.18138	2.07766	4.75			
Acetone	.10611	.09716	8.43			(Conc=125.00)
Allyl Chloride	.62843	.52215	16.91			
Acrylonitrile	.11089	.09700	12.53			
Methylene chloride	.82110	.71595	12.81			
1,2-trans-Dichloroethene	.78534	.73408	6.53			
1,1-Dichloroethane	1.36536	1.23637	9.45		**	
Chloroprene	.15294	.07576	50.47			(Conc=25.00)
1,2-cis-Dichloroethene	.94363	.88969	5.72			
Proprionitrile	.05550	.04617	16.81			(Conc=800.00)
Methacrylonitrile	.26180	.24388	6.85			
Chloroform	1.87310	1.74899	6.63	*		
d4-1,2-Dichloroethane (surr)	1.06456	1.04890	1.47			
1,2-Dichloroethane	1.05895	1.00190	5.39			
Vinyl acetate	.27761	.27651	.40			
2-Butanone	.01226	.01121	8.62			(Conc=175.00)
1,1,1-Trichloroethane	.39431	.37654	4.51			
Benzene	.50483	.48428	4.07			
Carbon tetrachloride	.38016	.37278	1.94			
1,2-Dichloropropane	.21533	.20940	2.75	*		
Trichloroethene	.31100	.32773	5.38			
Dibromomethane	.28072	.27891	.65			
Methyl Methacrylate	.16337	.14751	9.71			

RF - Response Factor from daily standard file at 50.00 ug/L

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Continuing Calibration Check
HSL Compounds

Lab No: _____ Calibration Date: 12/16/92

Contractor: _____ Time: 08:19

Contract No: _____ Laboratory ID: >D0325

Instrument ID: GCMS-D Initial Calibration Date: 12/03/92

Minimum $\overline{RF}$ for SPCC is .3/.25 Maximum % Diff for CCC is 25%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC	
Bromodichloromethane	.45149	.44176	2.15			
2-Chloroethyl vinyl ether	.10508	.10726	2.08			
1,3-cis-Dichloropropene	.34283	.33013	3.70			
1,3-trans-Dichloropropene	.31637	.30341	4.10			
1,1,2-Trichloroethane	.24050	.23658	1.63			
Ethyl Methacrylate	.25471	.24218	4.92			
Dibromochloromethane	.52117	.52327	.40			
1,2-Dibromoethane (EDB)	.41560	.41416	.35			
Bromoform	.41492	.41122	.89		**	
4-Methyl-2-pentanone	.26521	.24541	7.47			(Conc=125.00)
d8-Toluene (surr)	1.05058	1.01795	3.11			
Toluene	.48249	.46191	4.27	*		
2-Hexanone	.15243	.14124	7.34			(Conc=125.00)
Tetrachloroethene	.51645	.53100	2.82			
Chlorobenzene	.71285	.71825	.76		**	
1,1,1,2-Tetrachloroethane	.41492	.41712	.53			
Ethylbenzene	.30373	.28461	6.30	*		
m&p-Xylene	.38130	.38028	.27			(Conc=100.00)
Styrene	.65248	.63428	2.79			
o-Xylene	.37051	.36288	2.06			
1,1,2,2-Tetrachloroethane	.49793	.46115	7.39		**	
1,2,3-Trichloropropane	.14391	.13269	7.79			
trans-1,4-Dichloro-2-Butene	.06089	.05451	10.47			
4-Bromofluorobenzene (surr)	.69056	.65594	5.01			
Pentachloroethane	.33984	.33595	1.15			
1,2-Dibromo-3-chloropropane	.15885	.14178	10.74			

RF - Response Factor from daily standard file at 50.00 ug/L

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: NET MIDWEST-DAYTON Contract:

Lab Code: Case No.: 555555 SAS No.: SDG No.: 999999

Instrument ID: GCMSE Calibration Date: 12/28/92 Time: 14:54

Lab File ID: >E7268 Init. Calib. Date(s): 12/28/92

Min RRF050 for SPCC(#) = 0.050 Max %D for CCC(*) = 25%

COMPOUND		RRF	RRF050	%D	
N-Nitrosodimethylamine		1.189	1.136	4.4	
Pyridine		1.456	1.406	3.4	
Phenol	*	1.908	1.645	13.8	*
Aniline		1.598	1.540	3.6	
bis(2-Chloroethyl)ether		2.095	1.924	8.2	
2-Chlorophenol		1.472	1.250	15.1	
1,3-Dichlorobenzene		1.362	1.191	12.6	
1,4-Dichlorobenzene	*	1.955	1.737	11.1	*
Benzyl alcohol		1.383	1.289	6.8	
1,2-Dichlorobenzene		1.633	1.558	5.8	
2-Methylphenol		1.208	1.043	13.7	
2,2'-oxybis(1-Chloropropane		2.355	2.351	.2	
3 & 4-Methylphenol		1.631	1.658	1.7	
N-Nitroso-di-n-propylamine	#	1.170	1.105	5.5	#
Hexachloroethane		.666	.621	6.7	
Nitrobenzene		.472	.481	.9	
Isophorone		1.007	1.090	8.2	
2-Nitrophenol	*	.196	.191	2.6	*
2,4-Dimethylphenol		.468	.488	6.1	
Benzoic acid		.193	.197	2.5	
bis(2-Chloroethoxy)methane		.594	.633	6.6	
2,4-Dichlorophenol	*	.362	.361	.1	*
1,2,4-Trichlorobenzene		.403	.414	2.8	
Naphthalene		1.055	1.150	7.1	
4-Chloroaniline		.514	.505	1.9	
Hexachlorobutadiene	*	.293	.293	.1	*
4-Chloro-3-methylphenol	*	.376	.398	5.8	*
2-Methylnaphthalene		.703	.725	9.9	
Hexachlorocyclopentadiene	#	.371	.312	15.9	#
2,4,6-Trichlorophenol	*	.525	.507	3.4	*
2,4,5-Trichlorophenol		.529	.492	7.0	
2-Chloronaphthalene		1.410	1.572	11.5	
2-Nitroaniline		.503	.464	7.9	
Dimethylphthalate		1.945	2.181	12.2	
Acenaphthylene		1.948	2.198	12.8	
2,6-Dinitrotoluene		.385	.323	16.0	
3-Nitroaniline		.319	.332	4.0	

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: NET MIDWEST-DAYTON Contract:

Lab Code: Case No.: 555555 SAS No.: SDG No.: 999999

Instrument ID: GCMSE Calibration Date: 12/28/92 Time: 14:54

Lab File ID: >E7268 Init. Calib. Date(s): 12/28/92

Min RRF050 for SPCC(#) = 0.050 Max %D for CCC(*) = 25%

COMPOUND		RRF	RRF050	%D
Acenaphthene	*	1.271	1.393	9.6*
2,4-Dinitrophenol	#	.092	.080	13.4#
4-Nitrophenol	#	.255	.260	2.0#
Dibenzofuran		1.777	2.032	14.3
2,4-Dinitrotoluene		.494	.410	17.0
Diethylphthalate		1.933	2.202	13.9
4-Chlorophenyl-phenylether		.784	.841	7.4
Fluorene		1.279	1.368	6.9
4-Nitroaniline		.206	.250	21.4
4,6-Dinitro-2-methylphenol		.098	.098	.7
1,2-Diphenylhydrazine/Azobe		1.067	1.179	10.5
N-Nitrosodiphenylamine as D*		.661	.730	10.5*
4-Bromophenyl-phenylether		.333	.328	1.6
Hexachlorobenzene		.406	.397	2.2
Pentachlorophenol	*	.153	.160	5.1*
Phenanthrene		1.106	1.181	6.8
Anthracene		1.093	1.165	6.7
Carbazole		.509	.649	27.6
Di-n-butylphthalate		1.988	2.021	1.7
Fluoranthene	*	1.047	1.138	8.7*
Pyrene		1.552	1.792	15.5
Butylbenzylphthalate		1.020	1.218	19.4
Benzidine		.132	.140	6.2
3,3'-Dichlorobenzidine		.285	.317	11.3
Benz(a)anthracene		1.290	1.423	10.3
Chrysene		1.103	1.240	12.4
bis(2-Ethylhexyl)phthalate		1.558	1.756	12.8
Di-n-octylphthalate		3.835	3.792	1.0
Benzo(b+k)fluoranthene		1.506	1.448	3.9
Benz(a)pyrene	*	1.266	1.020	19.5*
Indeno(1,2,3-c,d)pyrene		.912	.855	6.2
Dibenz(a,h)anthracene		.756	.713	5.7
Benzo(g,h,i)perylene		.705	.657	6.8
d5-Nitrobenzene (sur)		.456	.453	.7
2-Fluorobiphenyl (sur)		.768	.848	10.4
d14-p-Terphenyl (sur)		1.369	1.561	14.0
d6-Phenol (sur)		1.672	1.734	3.4
2-Fluorophenol (sur)		1.466	1.281	12.6
2,4,6-Tribromophenol (sur)		.388	.408	5.0

NET NATIONAL ENVIRONMENTAL TESTING, INC.

Dayton Division
3601 South Dixie Drive
Dayton, OH 45439
Tel: (513) 294-6856
Fax: (513) 294-7816

CHAIN OF CUSTODY

Client HARR. RAD. DIV/GM	Project Name UST REMOVAL/CLOSURE ASSESSMENT
Send Report to: MR. JOHN ROAD	
Address P.O. Box 824 DAYTON, OH. 45401	Collected by: T.J. WEY ENV. QUALITY MGT, INC 513/325-7500
Telephone # 513/455-4408	

Collection Information								Parameters																
Sample ID	Sampling Location	Date	Time	GRAB	COMP	Sample Type	No. of Container	TPH 418.1	TCLP *	Ignitability	Corrosivity	Reactivity	Total PCB's	% Moisture	FREE 418.1 (Paint Filter)									
WASTE COMP. TANK 7	WASTE PILE FROM TANK 7	12/18	1500		X	SOIL	4	X	X	X	X	X	X	X	X	PLEASE COMP. 4 CONTAINERS FOR ANALYSIS								X
PEA GRAVEL	BACKFILL MATERIAL	12/18	1400		X	SOIL	1	X																X
S. FLOOR TANK 7	SOUTH FLOOR 16' TANK 7	"	1230	X		"	1	X																X
N. FLOOR TANK 7	NORTH FLOOR 15' TANK 7	"	"	X		"	1	X																X
NW WALL TANK 7	NORTHWEST WALL 3', TANK 7	"	"	X		"	1	X																X

Remarks: * TCLP COMPLETE LESS PEST. + HERB.

Relinquished by:	Date	Time	Received by:	Date	Time
T.J. Wey	12/18	1639			

Shipping Notes/Lab Comments

Received for NET Midwest by: Mary Ellen Courtney 12-18-92 1639

Samples Field Filtered: ___ Yes X No
Seals Intact Upon Receipt: ___ Yes X No ___ N/A

NATIONAL ENVIRONMENTAL TESTING, INC.

Dayton Division
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ANALYTICAL REPORT

John Ridd
HARRISON RADIATOR DIVISION
P.O. Box 824
Dayton, OH 45401

01/06/1993

JOB NUMBER: 92.16608

DATE RECEIVED: 12/18/1992

SAMPLE NO.	SAMPLE DESCRIPTION	RESULT	UNIT	DATE ANAL.	ANALYST	METHOD
172642	Pea Gravel-Backfill Materials					
	TPH - Method 418.1 Non-aq	8.	mg/Kg	12/30/1992	rjs	EPA-418.1
SAMPLE NO.	SAMPLE DESCRIPTION	RESULT	UNIT	DATE ANAL.	ANALYST	METHOD
172643	S. Floor Tank 16'-Tank 7					
	TPH - Method 418.1 Non-aq	22300.	mg/Kg	12/30/1992	rjs	EPA-418.1
SAMPLE NO.	SAMPLE DESCRIPTION	RESULT	UNIT	DATE ANAL.	ANALYST	METHOD
172644	N. Floor Tank 15'-Tank 7					
	TPH - Method 418.1 Non-aq	27900.	mg/Kg	12/31/1992	rjs	EPA-418.1
SAMPLE NO.	SAMPLE DESCRIPTION	RESULT	UNIT	DATE ANAL.	ANALYST	METHOD
172645	NW Wall 8'-Tank 7					
	TPH - Method 418.1 Non-aq	63800.	mg/Kg	12/31/1992	rjs	EPA-418.1
SAMPLE NO.	SAMPLE DESCRIPTION	RESULT	UNIT	DATE ANAL.	ANALYST	METHOD
172646	Method Blank					
	TPH - Method 418.1 Non-aq	<5.	mg/Kg	12/31/1992	rjs	EPA-418.1
SAMPLE NO.	SAMPLE DESCRIPTION	RESULT	UNIT	DATE ANAL.	ANALYST	METHOD
172647	Standard					
	TPH - Method 418.1 Non-aq	93 %	Recovery	12/31/1992	rjs	EPA-418.1

cc: Norm Sawdey

John Andrejcio
Project Manager

DUPLICATE

OCEAN GROUP

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

John Ridd
HARRISON RADIATOR DIVISION
P.O. Box 824
Dayton, OH 45401

01/06/1993

JOB NUMBER: 92.16607

SAMPLE NO.: 172637

Sample Description: Waste Comp. Tank 7-Comp.

Date Taken: 12/18/1992

Date Received: 12/18/1992

Parameter	Result	Unit	Date Anal.	Analyst
Moisture, Gravimetric	12.9	%	12/30/1992	kkj
Corrosivity (pH)	8.07	S.U.	12/30/1992	vmm
Ignitability (Flash Point)	>100.	Degree C	12/29/1992	mhr
Free Liquids	Complies.		12/29/1992	mhr
Reactive Sulfide	<7.46	mg/Kg	12/29/1992	alm
Reactive Cyanide	<0.093	mg/Kg	12/29/1992	alm

cc: Norm Sawdey

John Andrejcio
Project Manager

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ANALYTICAL REPORT

John Ridd
HARRISON RADIATOR DIVISION
P.O. Box 824
Dayton, OH 45401

01/06/1993

JOB NUMBER: 92.16607

SAMPLE NO.: 172637

Sample Description: Waste Comp. Tank 7-Comp.

Date Taken: 12/18/1992

Date Received: 12/18/1992

Parameter	Result	Unit	Date Anal.	Analyst
PCBs, M 8080, NON-AQUEOUS				
Aroclor 1016	<0.5	mg/Kg	12/31/1992	dde
Aroclor 1221	<0.5	mg/Kg	12/31/1992	dde
Aroclor 1232	<0.5	mg/Kg	12/31/1992	dde
Aroclor 1242	<0.5	mg/Kg	12/31/1992	dde
Aroclor 1248	<0.5	mg/Kg	12/31/1992	dde
Aroclor 1254	<0.5	mg/Kg	12/31/1992	dde
Aroclor 1260	2.98	mg/Kg	12/31/1992	dde
Surrogate: 2,4,5,6-TCX	68	%	12/31/1992	dde
Surrogate: DCB	98	%	12/31/1992	dde
TPH - Method 418.1 Non-aq	1840.	mg/Kg	12/30/1992	rjs

John Andrejcio
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ANALYTICAL REPORT

John Ridd
HARRISON RADIATOR DIVISION
P.O. Box 824
Dayton, OH 45401

01/06/1993

JOB NUMBER: 92.16607

SAMPLE NO.: 172638

Sample Description: Spike of Waste Comp. Tank 7-Comp.

Date Taken:

Date Received: 12/18/1992

Parameter	Result	Unit	Date Anal.	Analyst
TCLP - Arsenic	96 %	Recovery	12/30/1992	lgl
TCLP - Barium	107 %	Recovery	12/30/1992	clg
TCLP - Cadmium	100 %	Recovery	12/30/1992	clg
TCLP - Chromium	113 %	Recovery	12/29/1992	clg
TCLP - Lead	102 %	Recovery	12/29/1992	clg
TCLP - Mercury	67 %	Recovery	12/29/1992	rlr
TCLP - Selenium	93 %	Recovery	12/30/1992	lgl
TCLP - Silver	72 %	Recovery	12/30/1992	clg

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P.O. Box 824
Dayton, OH 45401

01/06/1993

JOB NUMBER: 92.16607

SAMPLE NO.: 172638

Sample Description: Spike of Waste Comp. Tank 7-Comp.

Date Taken:

Date Received: 12/18/1992

VOLATILES - TCLP

arameter	Result	Unit	Date Anal.	Analyst
TCLP-Benzene	91 %	Recovery	12/23/1992	nkp
CLP-Carbon tetrachloride	94 %	Recovery	12/23/1992	nkp
CLP-Chlorobenzene	84 %	Recovery	12/23/1992	nkp
CLP-Chloroform	78 %	Recovery	12/23/1992	nkp
TCLP-1,2-Dichloroethane	80 %	Recovery	12/23/1992	nkp
CLP-1,1-Dichloroethene	90 %	Recovery	12/23/1992	nkp
CLP-Methyl ethyl ketone (MEK)	83 %	Recovery	12/23/1992	nkp
TCLP-Tetrachloroethene	87 %	Recovery	12/23/1992	nkp
TCLP-Trichloroethene	87 %	Recovery	12/23/1992	nkp
CLP-Vinyl chloride	104 %	Recovery	12/23/1992	nkp
urrogate: d4-1,2-DCE	92	%	12/23/1992	nkp
Surrogate: d8-Toluene	102	%	12/23/1992	nkp
Surrogate: BFB	86	%	12/23/1992	nkp

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01/06/1993

JOB NUMBER: 92.16607

SAMPLE NO.: 172638

Sample Description: Spike of Waste Comp. Tank 7-Comp.

Date Taken:

Date Received: 12/18/1992

BASE NEUTRAL COMPOUNDS - TCLP

Parameter	Result	Unit	Date Anal.	Analyst
TCLP-1,4-Dichlorobenzene	74 %	Recovery	01/04/1993	dmg
TCLP-2,4-Dinitrotoluene	83 %	Recovery	01/04/1993	dmg
TCLP-Hexachlorobenzene	76 %	Recovery	01/04/1993	dmg
TCLP-Hexachlorobutadiene	56 %	Recovery	01/04/1993	dmg
TCLP-Hexachloroethane	59 %	Recovery	01/04/1993	dmg
TCLP-Nitrobenzene	78 %	Recovery	01/04/1993	dmg
TCLP-Pyridine	36 %	Recovery	01/04/1993	dmg
Surrogate: d5-Nitrobenzene	75	%	01/04/1993	dmg
Surrogate: 2-Fluorobiphenyl	64	%	01/04/1993	dmg
Surrogate: d14-Terphenyl	72	%	01/04/1993	dmg

John Andrejcio
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01/06/1993

JOB NUMBER: 92.16607

SAMPLE NO.: 172638

Sample Description: Spike of Waste Comp. Tank 7-Comp.

Date Taken:

Date Received: 12/18/1992

ACID COMPOUNDS - TCLP

Parameter	Result	Unit	Date Anal.	Analyst
TCLP ortho-Methylphenol	65 %	Recovery	01/04/1993	dmg
TCLP meta & para-Methylphenol	54 %	Recovery	01/04/1993	dmg
TCLP-Pentachlorophenol	73 %	Recovery	01/04/1993	dmg
TCLP 2,4,5-Trichlorophenol	84 %	Recovery	01/04/1993	dmg
TCLP 2,4,6-Trichlorophenol	78 %	Recovery	01/04/1993	dmg
Surrogate: d6-Phenol	34	%	01/04/1993	dmg
Surrogate: 2-Fluorophenol	48	%	01/04/1993	dmg
Surrogate: Tribromophenol	80	%	01/04/1993	dmg

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P.O. Box 824
Dayton, OH 45401

01/06/1993
JOB NUMBER: 92.16607
SAMPLE NO.: 172639

Sample Description: Corrected R. of Waste Comp. Tank 7-Comp.

Date Taken:

Date Received: 12/18/1992

Parameter	Result	Unit	Date Anal.	Analyst
TCLP - Arsenic	<0.050	mg/L	12/30/1992	lgl
TCLP - Barium	3.38	mg/L	12/30/1992	clg
TCLP - Cadmium	<0.50	mg/L	12/30/1992	clg
TCLP - Chromium	<0.40	mg/L	12/29/1992	clg
TCLP - Lead	<1.0	mg/L	12/29/1992	clg
TCLP - Mercury	<0.002	mg/L	12/29/1992	rlr
TCLP - Selenium	<0.050	mg/L	12/30/1992	lgl
TCLP - Silver	<0.20	mg/L	12/30/1992	clg

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01/06/1993

JOB NUMBER: 92.16607

SAMPLE NO.: 172639

Sample Description: Corrected R. of Waste Comp. Tank 7-Comp.

Date Taken:

Date Received: 12/18/1992

VOLATILES - TCLP

Parameter	Result	Unit	Date Anal.	Analyst
TCLP-Benzene	<100.	ug/L	12/23/1992	nkp
TCLP-Carbon tetrachloride	<100.	ug/L	12/23/1992	nkp
TCLP-Chlorobenzene	<100.	ug/L	12/23/1992	nkp
TCLP-Chloroform	<100.	ug/L	12/23/1992	nkp
TCLP-1,2-Dichloroethane	<100.	ug/L	12/23/1992	nkp
TCLP-1,1-Dichloroethene	<100.	ug/L	12/23/1992	nkp
TCLP-Methyl ethyl ketone (MEK)	<200.	ug/L	12/23/1992	nkp
TCLP-Tetrachloroethene	<100.	ug/L	12/23/1992	nkp
TCLP-Trichloroethene	<100.	ug/L	12/23/1992	nkp
TCLP-Vinyl chloride	<100.	ug/L	12/23/1992	nkp
Surrogate: d4-1,2-DCE	NA	%	12/23/1992	nkp
Surrogate: d8-Toluene	NA	%	12/23/1992	nkp
Surrogate: BFB	NA	%	12/23/1992	nkp

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01/06/1993

JOB NUMBER: 92.16607

SAMPLE NO.: 172639

Sample Description: Corrected R. of Waste Comp. Tank 7-Comp.

Date Taken:

Date Received: 12/18/1992

BASE NEUTRAL COMPOUNDS - TCLP

Parameter	Result	Unit	Date Anal.	Analyst
TCLP-1,4-Dichlorobenzene	<40.	ug/L	01/04/1993	dmg
TCLP-2,4-Dinitrotoluene	<40.	ug/L	01/04/1993	dmg
TCLP-Hexachlorobenzene	<40.	ug/L	01/04/1993	dmg
TCLP-Hexachlorobutadiene	<40.	ug/L	01/04/1993	dmg
TCLP-Hexachloroethane	<40.	ug/L	01/04/1993	dmg
TCLP-Nitrobenzene	<40.	ug/L	01/04/1993	dmg
TCLP-Pyridine	<40.	ug/L	01/04/1993	dmg
Surrogate: d5-Nitrobenzene	NA	%	01/04/1993	dmg
Surrogate: 2-Fluorobiphenyl	NA	%	01/04/1993	dmg
Surrogate: d14-Terphenyl	NA	%	01/04/1993	dmg

John Andrejcio
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01/06/1993

JOB NUMBER: 92.16607

SAMPLE NO.: 172639

Sample Description: Corrected R. of Waste Comp. Tank 7-Comp.

Date Taken:

Date Received: 12/18/1992

ACID COMPOUNDS - TCLP

Parameter	Result	Unit	Date Anal.	Analyst
TCLP ortho-Methylphenol	<40.	ug/L	01/04/1993	dmg
TCLP meta & para-Methylphenol	<40.	ug/L	01/04/1993	dmg
TCLP-Pentachlorophenol	<40.	ug/L	01/04/1993	dmg
TCLP 2,4,5-Trichlorophenol	<40.	ug/L	01/04/1993	dmg
TCLP 2,4,6-Trichlorophenol	<40.	ug/L	01/04/1993	dmg
Surrogate: d6-Phenol	NA	%	01/04/1993	dmg
Surrogate: 2-Fluorophenol	NA	%	01/04/1993	dmg
Surrogate: Tribromophenol	NA	%	01/04/1993	dmg

John Andrejcio
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ANALYTICAL REPORT

John Ridd
HARRISON RADIATOR DIVISION
P.O. Box 824
Dayton, OH 45401

01/06/1993

JOB NUMBER: 92.16607

SAMPLE NO.: 172640

Sample Description: Method Blank

Date Taken:

Date Received: 12/18/1992

Parameter	Result	Unit	Date Anal.	Analyst
Reactive Sulfide	<0.20	mg/L	12/29/1992	alm
Reactive Cyanide	<0.005	mg/L	12/29/1992	alm
TCLP - Arsenic	<0.0050	mg/L	12/30/1992	lgl
TCLP - Barium	<0.50	mg/L	12/30/1992	clg
TCLP - Cadmium	<0.050	mg/L	12/30/1992	clg
TCLP - Chromium	<0.040	mg/L	12/29/1992	clg
TCLP - Lead	<0.10	mg/L	12/29/1992	clg
TCLP - Mercury	<0.0002	mg/L	12/29/1992	rlr
TCLP - Selenium	<0.0050	mg/L	12/30/1992	lgl
TCLP - Silver	<0.040	mg/L	12/30/1992	clg

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01/06/1993

JOB NUMBER: 92.16607

SAMPLE NO.: 172640

Sample Description: Method Blank

Date Taken:

Date Received: 12/18/1992

VOLATILES - TCLP

Parameter	Result	Unit	Date Anal.	Analyst
TCLP-Benzene	<100.	ug/L	12/23/1992	nkp
TCLP-Carbon tetrachloride	<100.	ug/L	12/23/1992	nkp
TCLP-Chlorobenzene	<100.	ug/L	12/23/1992	nkp
TCLP-Chloroform	<100.	ug/L	12/23/1992	nkp
TCLP-1,2-Dichloroethane	<100.	ug/L	12/23/1992	nkp
TCLP-1,1-Dichloroethene	<100.	ug/L	12/23/1992	nkp
TCLP-Methyl ethyl ketone (MEK)	<200.	ug/L	12/23/1992	nkp
TCLP-Tetrachloroethene	<100.	ug/L	12/23/1992	nkp
TCLP-Trichloroethene	<100.	ug/L	12/23/1992	nkp
TCLP-Vinyl chloride	<100.	ug/L	12/23/1992	nkp
Surrogate: d4-1,2-DCE	96	%	12/23/1992	nkp
Surrogate: d8-Toluene	96	%	12/23/1992	nkp
Surrogate: BFB	88	%	12/23/1992	nkp

John Andrejcio
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ANALYTICAL REPORT

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01/06/1993

JOB NUMBER: 92.16607

SAMPLE NO.: 172640

Sample Description: Method Blank

Date Taken:

Date Received: 12/18/1992

BASE NEUTRAL COMPOUNDS - TCLP

Parameter	Result	Unit	Date Anal.	Analyst
TCLP-1,4-Dichlorobenzene	<4.	ug/L	12/29/1992	dmg
TCLP-2,4-Dinitrotoluene	<4.	ug/L	12/29/1992	dmg
TCLP-Hexachlorobenzene	<4.	ug/L	12/29/1992	dmg
TCLP-Hexachlorobutadiene	<4.	ug/L	12/29/1992	dmg
TCLP-Hexachloroethane	<4.	ug/L	12/29/1992	dmg
TCLP-Nitrobenzene	<4.	ug/L	12/29/1992	dmg
TCLP-Pyridine	<4.	ug/L	12/29/1992	dmg
Surrogate: d5-Nitrobenzene	90	%	12/29/1992	dmg
Surrogate: 2-Fluorobiphenyl	70	%	12/29/1992	dmg
Surrogate: d14-Terphenyl	78	%	12/29/1992	dmg

John Andrejcio
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01/06/1993

JOB NUMBER: 92.16607

SAMPLE NO.: 172640

Sample Description: Method Blank

Date Taken:

Date Received: 12/18/1992

ACID COMPOUNDS - TCLP

Parameter	Result	Unit	Date Anal.	Analyst
TCLP ortho-Methylphenol	<4.	ug/L	12/29/1992	dmg
TCLP meta & para-Methylphenol	<4.	ug/L	12/29/1992	dmg
TCLP-Pentachlorophenol	<4.	ug/L	12/29/1992	dmg
TCLP 2,4,5-Trichlorophenol	<4.	ug/L	12/29/1992	dmg
TCLP 2,4,6-Trichlorophenol	<4.	ug/L	12/29/1992	dmg
Surrogate: d6-Phenol	39	%	12/29/1992	dmg
Surrogate: 2-Fluorophenol	64	%	12/29/1992	dmg
Surrogate: Tribromophenol	83	%	12/29/1992	dmg

John Andrejcio
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01/06/1993

JOB NUMBER: 92.16607

SAMPLE NO.: 172640

Sample Description: Method Blank

Date Taken:

Date Received: 12/18/1992

Parameter	Result	Unit	Date Anal.	Analyst
PCBs, M 8080, NON-AQUEOUS				
Aroclor 1016	<0.5	mg/Kg	12/31/1992	dde
Aroclor 1221	<0.5	mg/Kg	12/31/1992	dde
Aroclor 1232	<0.5	mg/Kg	12/31/1992	dde
Aroclor 1242	<0.5	mg/Kg	12/31/1992	dde
Aroclor 1248	<0.5	mg/Kg	12/31/1992	dde
Aroclor 1254	<0.5	mg/Kg	12/31/1992	dde
Aroclor 1260	<0.5	mg/Kg	12/31/1992	dde
Surrogate: 2,4,5,6-TCX	78	%	12/31/1992	dde
Surrogate: DCB	83	%	12/31/1992	dde
TPH - Method 418.1 Non-aq	<5.	mg/Kg	12/30/1992	rjs

John Andrejcio
Project Manager

OCEAN GROUP

NATIONAL ENVIRONMENTAL TESTING, INC.

Dayton Division
3601 South Dixie Drive
Dayton, OH 45439
Tel: (513) 294-6856
Fax: (513) 294-7816

ANALYTICAL REPORT

John Ridd
HARRISON RADIATOR DIVISION
P.O. Box 824
Dayton, OH 45401

01/06/1993

JOB NUMBER: 92.16607

SAMPLE NO.: 172641

Sample Description: Standard

Date Taken:

Date Received: 12/18/1992

Parameter	Result	Unit	Date Anal.	Analyst
Reactive Sulfide	94 %	Recovery	12/29/1992	alm
Reactive Cyanide	93 %	Recovery	12/29/1992	alm
TCLP - Arsenic	99 %	Recovery	12/30/1992	lgl
TCLP - Barium	109 %	Recovery	12/30/1992	clg
TCLP - Cadmium	100 %	Recovery	12/30/1992	clg
TCLP - Chromium	102 %	Recovery	12/29/1992	clg
TCLP - Lead	101 %	Recovery	12/29/1992	clg
TCLP - Mercury	91 %	Recovery	12/29/1992	rlr
TCLP - Selenium	97 %	Recovery	12/30/1992	lgl
TCLP - Silver	100 %	Recovery	12/30/1992	clg

John Andrejcio
Project Manager

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ANALYTICAL REPORT

John Ridd
HARRISON RADIATOR DIVISION
P.O. Box 824
Dayton, OH 45401

01/06/1993

JOB NUMBER: 92.16607

SAMPLE NO.: 172641

Sample Description: Standard

Date Taken:

Date Received: 12/18/1992

VOLATILES - TCLP

BASE NEUTRAL COMPOUNDS - TCLP

ACID COMPOUNDS - TCLP

John Andrejcio
Project Manager

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ANALYTICAL REPORT

John Ridd
HARRISON RADIATOR DIVISION
P.O. Box 824
Dayton, OH 45401

01/06/1993

JOB NUMBER: 92.16607

SAMPLE NO.: 172641

Sample Description: Standard

Date Taken:

Date Received: 12/18/1992

Parameter	Result	Unit	Date Anal.	Analyst
PCBs, M 8080, NON-AQUEOUS				
Aroclor 1016	NA	mg/Kg	12/31/1992	dde
Aroclor 1221	NA	mg/Kg	12/31/1992	dde
Aroclor 1232	NA	mg/Kg	12/31/1992	dde
Aroclor 1242	102 %	Recovery	12/31/1992	dde
Aroclor 1248	NA	mg/Kg	12/31/1992	dde
Aroclor 1254	NA	mg/Kg	12/31/1992	dde
Aroclor 1260	94 %	Recovery	12/31/1992	dde
Surrogate: 2,4,5,6-TCX	NA	%	12/31/1992	dde
Surrogate: DCB	NA	%	12/31/1992	dde
TPH - Method 418.1 Non-aq	93 %	Recovery	12/30/1992	rjs

John Andrejcio
Project Manager

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In accordance with the revised test procedure for U.S. EPA method 1311 (TCLP test, SW-846), the raw data needs to be corrected for analytical bias before comparison to the listed maximum TCLP contaminant levels.

Per your request, the reported test results have been corrected for the spike recoveries.

*Per NET policy, results that show no detection have not been corrected for the spike bias.

We have also included the spike recovery data for the requested parameters.

To calculate the corrected values, the following formula was employed:

Corrected value = reported result / % recovery x 100

John Andrejcio
Project Manager

OCEAN GROUP

NET NATIONAL ENVIRONMENTAL TESTING, INC.

Dayton Division
3601 South Dixie Drive
Dayton, OH 45439
Tel: (513) 294-6856
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Sample #172637,172638
Analysis:Acid/Base-Neutral Semi-Volatiles

The following compound in the Laboratory Control Standard (LCS) extracted with this sample had percent recoveries outside the recommended range.

COMPOUND	% RECOVERY	ACCEPTABLE RANGE
Hexachloroethane	140 %	40-113%

John Andrejcio
Project Manager

OCEAN GROUP

Continuing Calibration Check
HSL Compounds

Case No: Calibration Date: 12/23/92

Contractor: Time: 10:40

Contract No: Laboratory ID: >D0416

Instrument ID: GCMS-D Initial Calibration Date: 12/03/92

Minimum $\overline{RF}$ for SPCC is .3/.25 Maximum % Diff for CCC is 25%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC	
Dichlorodifluoromethane	1.31697	1.32739	.79			
Chloromethane	.51460	.42253	17.89		**	
Vinyl chloride	.44188	.39683	10.19	*		
Bromomethane	.91630	.92930	1.42			
Chloroethane	.34196	.30944	9.51			
Trichlorofluoromethane	1.60260	1.41599	11.64			
Acrolein	.01637	.00683	58.26			
1,1-Dichloroethene	.72044	.64832	10.01	*		
Methyl Iodide	2.49480	2.34662	5.94			
Carbon disulfide	2.18138	2.19806	.76			
Acetone	.10611	.10123	4.60			(Conc=125.00)
Allyl Chloride	.62843	.58199	7.39			
Acrylonitrile	.11089	.10368	6.50			
Methylene chloride	.82110	.76725	6.56			
1,2-trans-Dichloroethene	.78534	.79984	1.85			
1,1-Dichloroethane	1.36536	1.35492	.76		**	
Chloroprene	.15294	.14054	8.11			(Conc=25.00)
1,2-cis-Dichloroethene	.94363	.96677	2.45			
Proprionitrile	.05550	.05984	7.83			(Conc=800.00)
Methacrylonitrile	.26180	.26253	.28			
Chloroform	1.87310	1.89921	1.39	*		
d4-1,2-Dichloroethane (surr)	1.06456	1.09539	2.90			
1,2-Dichloroethane	1.05895	1.10290	4.15			
Vinyl acetate	.27761	.29118	4.89			
2-Butanone	.01226	.01152	6.10			(Conc=175.00)
1,1,1-Trichloroethane	.39431	.38107	3.36			
Benzene	.50483	.50581	.19			
Carbon tetrachloride	.38016	.36425	4.19			
1,2-Dichloropropane	.21533	.21698	.77	*		
Trichloroethene	.31100	.32954	5.96			
Dibromomethane	.28072	.28898	2.94			
Methyl Methacrylate	.16337	.16140	1.20			

RF - Response Factor from daily standard file at 50.00 ug/L

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

Continuing Calibration Check
HSL Compounds

ase No: _____ Calibration Date: 12/23/92

ontractor: _____ Time: 10:40

ontract No: _____ Laboratory ID: >D0416

nstrument ID: GCMS-D _____ Initial Calibration Date: 12/03/92

Minimum $\overline{RF}$ for SPCC is .3/.25 Maximum % Diff for CCC is 25%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC	
Bromodichloromethane	.45149	.46364	2.69			
2-Chloroethyl vinyl ether	.10508	.11628	10.66			
1,3-cis-Dichloropropene	.34283	.34635	1.03			
1,3-trans-Dichloropropene	.31637	.31749	.35			
1,1,2-Trichloroethane	.24050	.24175	.52			
Ethyl Methacrylate	.25471	.25302	.66			
Dibromochloromethane	.52117	.51654	.89			
1,2-Dibromoethane (EDB)	.41560	.41059	1.20			
Bromoform	.41492	.41139	.85		**	
4-Methyl-2-pentanone	.26521	.26376	.55			(Conc=125.00)
d8-Toluene (surr)	1.05058	1.06994	1.84			
Toluene	.48249	.50157	3.95	*		
2-Hexanone	.15243	.14984	1.70			(Conc=125.00)
Tetrachloroethene	.51645	.54238	5.02			
Chlorobenzene	.71285	.77061	8.10		**	
1,1,1,2-Tetrachloroethane	.41492	.45911	10.65			
Ethylbenzene	.30373	.31925	5.11	*		
m&p-Xylene	.38130	.40800	7.00			(Conc=100.00)
Styrene	.65248	.69348	6.28		•	
o-Xylene	.37051	.39376	6.27			
1,1,2,2-Tetrachloroethane	.49793	.49745	.10		**	
1,2,3-Trichloropropane	.14391	.13809	4.04			
trans-1,4-Dichloro-2-Butene	.06089	.05914	2.87			
4-Bromofluorobenzene (surr)	.69056	.64839	6.11			
Pentachloroethane	.33984	.36359	6.99			
1,2-Dibromo-3-chloropropane	.15885	.14907	6.16			

RF - Response Factor from daily standard file at 50.00 ug/L

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

* - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: NET MIDWEST-DAYTON Contract:

Lab Code: Case No.: 555555 SAS No.: SDG No.: 999999

Instrument ID: GCMSE Calibration Date: 12/29/92 Time: 16:39

Lab File ID: >E7295 Init. Calib. Date(s): 12/29/92

Min RRF050 for SPCC(#) = 0.050 Max %D for CCC(*) = 25%

COMPOUND		RRF	RRF050	%D
N-Nitrosodimethylamine		1.120	1.144	2.1
Pyridine		1.378	1.246	9.6
Phenol	*	1.780	1.640	7.9*
Aniline		1.483	1.291	13.0
bis(2-Chloroethyl)ether		1.999	1.710	14.4
2-Chlorophenol		1.400	1.177	16.0
1,3-Dichlorobenzene		1.231	1.149	6.7
1,4-Dichlorobenzene	*	1.870	1.584	15.3*
Benzyl alcohol		1.325	1.253	5.4
1,2-Dichlorobenzene		1.551	1.409	9.1
2-Methylphenol		1.143	.985	13.8
2,2'-oxybis(1-Chloropropane		2.145	1.635	23.8
3 & 4-Methylphenol		1.584	1.530	3.4
N-Nitroso-di-n-propylamine	#	1.084	1.008	6.9#
Hexachloroethane		.640	.674	5.2
Nitrobenzene		.484	.495	2.2
Isophorone		1.007	1.035	2.8
2-Nitrophenol	*	.253	.210	16.8*
2,4-Dimethylphenol		.467	.466	.2
Benzoic acid		.208	.226	8.4
bis(2-Chloroethoxy)methane		.596	.560	6.1
2,4-Dichlorophenol	*	.388	.372	4.2*
1,2,4-Trichlorobenzene		.400	.423	5.8
Naphthalene		1.049	1.119	6.7
4-Chloroaniline		.497	.500	.6
Hexachlorobutadiene	*	.290	.292	.7*
4-Chloro-3-methylphenol	*	.413	.412	.2*
2-Methylnaphthalene		.725	.803	10.8
Hexachlorocyclopentadiene	#	.458	.353	23.0#
2,4,6-Trichlorophenol	*	.558	.467	16.2*
2,4,5-Trichlorophenol		.570	.538	5.6
2-Chloronaphthalene		1.406	1.382	1.7
2-Nitroaniline		.584	.462	21.0
Dimethylphthalate		1.999	2.034	1.8
Acenaphthylene		1.987	1.921	3.3
2,6-Dinitrotoluene		.456	.343	24.8
3-Nitroaniline		.407	.346	15.0

172133
172134
172139
172137

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: NET MIDWEST-DAYTON Contract:

Lab Code: Case No.: 555555 SAS No.: SDG No.: 999999

Instrument ID: GCMSE Calibration Date: 12/29/92 Time: 16:39

Lab File ID: >E7299 Init. Calib. Date(s): 12/29/92

Min RRF050 for SPCC(#) = 0.050 Max %D For CCC(*) = 2

COMPOUND		RRF	RRF050	%D
Acenaphthene	*	1.321	1.236	6.5*
2,4-Dinitrophenol	#	.167	.162	2.8#
4-Nitrophenol	#	.317	.325	2.4#
Dibenzofuran		1.851	1.827	1.3
2,4-Dinitrotoluene		.626	.499	20.3
Diethylphthalate		2.124	2.120	.2
4-Chlorophenyl-phenylether		.778	.758	2.6
Fluorene		1.362	1.319	3.1
4-Nitroaniline		.282	.277	2.0
4,6-Dinitro-2-methylphenol		.156	.167	7.5
1,2-Diphenylhydrazine/Azobe		1.054	1.171	11.1
N-Nitrosodiphenylamine as D*		.692	.677	2.2*
4-Bromophenyl-phenylether		.308	.317	2.9
Hexachlorobenzene		.397	.435	9.6
Pentachlorophenol	*	.193	.190	1.7*
Phenanthrene		1.078	1.226	13.7
Anthracene		1.083	1.210	11.7
Carbazole		.693	.743	7.2
Di-n-butylphthalate		2.017	2.127	5.4
Fluoranthene	*	1.093	1.212	10.9*
Pyrene		1.387	1.406	1.4
Butylbenzylphthalate		1.044	1.080	3.4
Benzidine		.186	.160	13.9
3,3'-Dichlorobenzidine		.405	.338	16.5
Benz(a)anthracene		1.276	1.258	1.4
Chrysene		1.109	1.157	4.4
bis(2-Ethylhexyl)phthalate		1.465	1.524	4.0
Di-n-octylphthalate		3.070	2.638	14.1
Benzo(b+k)fluoranthene		1.326	1.410	6.3
Benz(a)pyrene	*	1.213	1.193	1.7*
Indeno(1,2,3-c,d)pyrene		1.120	1.020	8.9
Dibenz(a,h)anthracene		.952	.818	14.1
Benzo(g,h,i)perylene		.923	.804	12.9
d5-Nitrobenzene (sur)		.485	.470	3.1
2-Fluorobiphenyl (sur)		.792	.858	8.4
d14-p-Terphenyl (sur)		1.147	1.241	8.2
d6-Phenol (sur)		1.565	1.622	3.6
2-Fluorophenol (sur)		1.323	1.228	7.2
2,4,6-Tribromophenol (sur)		.441	.425	3.6

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: NET MIDWEST-DAYTON Contract:

Lab Code: Case No.: 555555 SAS No.: SDG No.: 999999

Instrument ID: GCMSE Calibration Date: 01/04/93 Time: 14:20

Lab File ID: >E7337 Init. Calib. Date(s): 01/04/93

Min RRF050 for SPCC(#) = 0.050 Max %D for CCC(*) = 25%

COMPOUND		RRF	RRF050	%D
N-Nitrosodimethylamine		.948	.963	1.5
Pyridine		1.235	1.272	3.0
Phenol	*	1.976	2.087	5.6*
Aniline		2.074	2.271	9.5
bis(2-Chloroethyl)ether		1.689	1.738	2.9
2-Chlorophenol		1.535	1.519	1.1
1,3-Dichlorobenzene		1.634	1.666	1.9
1,4-Dichlorobenzene	*	1.653	1.614	2.4*
Benzyl alcohol		1.469	1.510	2.8
1,2-Dichlorobenzene		1.618	1.629	.7
2-Methylphenol		1.291	1.288	.2
2,2'-oxybis(1-Chloropropane		1.829	1.961	7.2
3 & 4-Methylphenol		1.771	1.791	1.1
N-Nitroso-di-n-propylamine	#	1.210	1.199	.9#
Hexachloroethane		.709	.699	1.5
Nitrobenzene		.507	.522	2.8
Isophorone		1.008	1.041	3.3
2-Nitrophenol	*	.265	.270	2.0*
2,4-Dimethylphenol		.468	.480	2.5
Benzoic acid		.220	.203	7.4
bis(2-Chloroethoxy)methane		.583	.599	2.8
2,4-Dichlorophenol	*	.374	.376	.4*
1,2,4-Trichlorobenzene		.388	.389	.2
Naphthalene		1.100	1.145	4.1
4-Chloroaniline		.515	.562	9.1
Hexachlorobutadiene	*	.245	.255	4.1*
4-Chloro-3-methylphenol	*	.421	.443	5.2*
2-Methylnaphthalene		.796	.822	3.3
Hexachlorocyclopentadiene	#	.434	.406	6.6#
2,4,6-Trichlorophenol	*	.487	.473	2.9*
2,4,5-Trichlorophenol		.512	.504	1.5
2-Chloronaphthalene		1.321	1.331	.7
2-Nitroaniline		.550	.534	3.0
Dimethylphthalate		1.761	1.762	.0
Acenaphthylene		1.895	1.938	2.3
2,6-Dinitrotoluene		.406	.387	4.7
3-Nitroaniline		.442	.445	.7

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: NET MIDWEST-DAYTON Contract:

Lab Code: Case No.: 555555 SAS No.: SDG No.: 999999

Instrument ID: GCMSE Calibration Date: 01/04/93 Time: 14:20

Lab File ID: >E7337 Init. Calib. Date(s): 01/04/93

Min RRF050 for SPCC(#) = 0.050 Max %D for CCC(*) = 25%

COMPOUND		RRF	RRF050	%D	
Acenaphthene	*	1.237	1.242	.4	*
2,4-Dinitrophenol	#	.204	.170	16.8	#
4-Nitrophenol	#	.329	.332	1.0	#
Dibenzofuran		1.817	1.792	1.4	
2,4-Dinitrotoluene		.598	.583	2.6	
Diethylphthalate		1.835	1.815	1.1	
4-Chlorophenyl-phenylether		.687	.702	2.2	
Fluorene		1.282	1.299	1.3	
4-Nitroaniline		.382	.398	4.1	
4,6-Dinitro-2-methylphenol		.181	.173	4.7	
1,2-Diphenylhydrazine/Azobe		1.036	1.036	.0	
N-Nitrosodiphenylamine as D	*	.663	.661	.3	*
4-Bromophenyl-phenylether		.271	.275	1.2	
Hexachlorobenzene		.360	.376	4.5	
Pentachlorophenol	*	.177	.181	2.4	*
Phenanthrene		1.114	1.164	4.5	
Anthracene		1.141	1.178	3.2	
Carbazole		.940	1.028	9.4	
Di-n-butylphthalate		1.694	1.737	2.6	
Fluoranthene	*	1.145	1.190	3.9	*
Pyrene		1.610	1.567	2.7	
Butylbenzylphthalate		.942	.932	1.1	
Benzidine		.288	.455	58.3	
3,3'-Dichlorobenzidine		.467	.448	4.0	
Benz(a)anthracene		1.356	1.279	5.7	
Chrysene		1.143	1.205	5.4	
bis(2-Ethylhexyl)phthalate		1.198	1.162	3.0	
Di-n-octylphthalate		2.380	2.338	1.8	
Benzo(b+k)fluoranthene		1.274	1.311	2.9	
Benz(a)pyrene	*	1.134	1.179	4.0	*
Indeno(1,2,3-c,d)pyrene		.849	.885	4.2	
Dibenz(a,h)anthracene		.714	.739	3.4	
Benzo(g,h,i)perylene		.670	.699	4.3	
d5-Nitrobenzene (sur)		.505	.515	2.2	
2-Fluorobiphenyl (sur)		.826	.863	4.5	
d14-p-Terphenyl (sur)		1.272	1.248	1.9	
d6-Phenol (sur)		1.811	1.871	3.3	
2-Fluorophenol (sur)		1.562	1.543	1.2	

MULTICOMPONENT PESTICIDE/PCB CONTINUING CALIBRATION VERIFICATION
FORM NET-PEST 10C

NATIONAL ENVIRONMENTAL TESTING, INC.
Dayton Division

Date of Analysis: 12-31-92 Job Number: —

Initial Calibration Date: 12/17/92 Analyst: GK/CSD

Initial Calibration Avg. RF: — Instrument ID: GC#5

Pesticide/Arochlor: 1260 Standard Conc: 0.25 ug/ml

Analytical Column(1) 8.50×10^{-7}

Peak	RT	RT Window	Area for each peak	Total Area
1	20.48	20.34-20.50	58388	
2	20.90	20.76-20.92	63793	277426
3	23.51	23.37-23.53	45437	
4	23.77	23.63-23.79	30894	
5	24.07	23.93-24.09	78914	

Daily RF: 9.01×10^{-7} % RPD 6.00

Quant(ug/ml): 0.236 % Rec. 94

Confirmation Column (2) 1.37×10^{-6}

Peak	RT	RT Window	Area for each peak	Total Area
1		18.65-18.81		
2		19.41-19.57		
3		20.28-20.44		
4		22.38-22.54		
5				

Daily RF: _____ % RPD _____

Quant(ug/ml): _____ % Rec. _____

MULTICOMPONENT PESTICIDE/PCB CONTINUING CALIBRATION VERIFICATION
FORM NET-PEST 10C

NATIONAL ENVIRONMENTAL TESTING, INC.
Dayton Division

Date of Analysis: 12-31-92 Job Number: —

Initial Calibration Date: 12/17/92 Analyst: CSH

Initial Calibration Avg. RF: — Instrument ID: GC#5

Pesticide/Arochlor: 1242 Standard Conc: 0.25 ug/ml

Analytical Column(1) 1.30×10^{-6}

Peak	RT	RT Window	Area for each peak	Total Area
1	11.62	11.49-11.65	19715	
2	13.04	12.92-13.08	42188	196380
3	14.41	14.29-14.45	73240	
4	17.52	17.40-17.56	33905	
5	17.71	17.59-17.75	27282	

Daily RF: 1.27×10^{-6} % RPD 2.31

Quant(ug/ml): 0.255 ug/ml % Rec. 102.

Confirmation Column (2) 2.23×10^{-6}

Peak	RT	RT Window	Area for each peak	Total Area
1		10.17-10.33		
2		12.63-12.19		
3		12.88-13.04		
4		15.01-15.17		
5		16.53-16.69		

Daily RF: _____ % RPD _____

Quant(ug/ml): _____ % Rec. _____

NET NATIONAL ENVIRONMENTAL TESTING, INC.

Dayton Division
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Tel: (513) 294-6856
Fax: (513) 294-7816

CHAIN OF CUSTODY

Client: HARR. RAD. DIV/GM
Send Report to: MR. JOHN RIDD
Address: P.O. Box 824
Telephone #: DAYTON, OH 45401 513/455-4403

Project Name: UST REMOVAL/CLOSURE ASSESSMENT
Collected by: T.J. WEY ENV. QUALITY MGT., INC. 513/825-7500

Collection Information								Parameters													
Sample ID	Sampling Location	Date	Time	GRAB	COMP	Sample Type	No. of Container	TPH 418.1	TCLP *	IGNITABILITY	CORROSIVITY	REACTIVITY	TCLP RCRA's	%MOISTURE	FLASH UP (PENSKY-MARTENS)	GC FINGERPRINT	BTEX 8020	TPH 8015			
WASTE COMP. TANK 5	COMP. OF RUNOFFS FOR TANK 5	12/23	1100		X	SOIL	1	X	X	X	X	X	X	X	X						✓
QUAKER PRODUCT	HYDRAULIC OIL FROM TANK 5	12/23	1130	X		LIQ.	1									X					✓
QUAKER PRODUCT	COOLING OIL FROM TANK 7	12/23	1130	X		LIQ.	1									X					✓
S. WALL 10'-7" TANK 12	SOUTH WALL @ 10'-7"	12/22	1300	X		SOIL	1										X	X			✓
E. WALL 11', TANK 12	EAST WALL @ 11'	12/22	1300	X		SOIL	1										X	X			✓

Remarks: *TCLP COMPLETE LESS PEST. & HERB.

Relinquished by:	Date	Time	Received by:	Date	Time
T.J. Wey	12/23/92	1252			

Shipping Notes/Lab Comments

Received for NET Midwest by: Robin Hamlet 12/24 1245

Samples Field Filtered: ___ Yes ___ No
Seals Intact Upon Receipt: ___ Yes ___ No ___ N/A

NET NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

John Ridd
HARRISON RADIATOR DIVISION
P.O. Box 824
Dayton, OH 45401

01/07/1993

JOB NUMBER: 92.16784

DATE RECEIVED: 12/23/1992

Sample # 173254 and 173255

On the basis of GC finger print comparison the material identified as "Quaker Product from tank #7" was not found to be present in sample 173254 (N. Floor-Tank 7).

The comparison results for sample 173255 (NW. Wall-Tank 7) were inconclusive.

cc: Norm Sawdey

John Andrejcio
Project Manager

OCEAN GROUP

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ANALYTICAL REPORT

John Ridd
HARRISON RADIATOR DIVISION
P.O. Box 824
Dayton, OH 45401

01/06/1993

JOB NUMBER: 92.16766

SAMPLE NO.: 173218

Sample Description: Waste Comp. Tank 5-Comp.

Date Taken: 12/23/1992

Date Received: 12/23/1992

Parameter	Result	Unit	Date Anal.	Analyst
Moisture, Gravimetric	9.70	%	12/31/1992	kkj
Corrosivity (pH)	8.93	S.U.	12/30/1992	vmm
Ignitability (Flash Point)	>100.	Degree C	01/04/1993	mhr
Free Liquids	Complies.		12/29/1992	mhr
Reactive Sulfide	206.	mg/Kg	12/31/1992	alm
Reactive Cyanide	<0.099	mg/Kg	12/31/1992	alm

cc: Norm Sawdey

John Andrejcio
Project Manager

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ANALYTICAL REPORT

John Ridd
HARRISON RADIATOR DIVISION
P.O. Box 824
Dayton, OH 45401

01/06/1993

JOB NUMBER: 92.16766

SAMPLE NO.: 173218

Sample Description: Waste Comp. Tank 5-Comp.

Date Taken: 12/23/1992

Date Received: 12/23/1992

Parameter	Result	Unit	Date Anal.	Analyst
PCBs, M 8080, NON-AQUEOUS				
Aroclor 1016	<0.5	mg/Kg	12/31/1992	dde
Aroclor 1221	<0.5	mg/Kg	12/31/1992	dde
Aroclor 1232	<0.5	mg/Kg	12/31/1992	dde
Aroclor 1242	<0.5	mg/Kg	12/31/1992	dde
Aroclor 1248	<0.5	mg/Kg	12/31/1992	dde
Aroclor 1254	<0.5	mg/Kg	12/31/1992	dde
Aroclor 1260	<0.5	mg/Kg	12/31/1992	dde
Surrogate: 2,4,5,6-TCX	71	%	12/31/1992	dde
Surrogate: DCB	78	%	12/31/1992	dde
TPH - Method 418.1 Non-aq	1730.	mg/Kg	12/31/1992	rjs

John Andrejcio
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01/06/1993

JOB NUMBER: 92.16766

SAMPLE NO.: 173221

Sample Description: Spike of Waste Comp. Tank 5-Comp.

Date Taken:

Date Received: 12/23/1992

Parameter	Result	Unit	Date Anal.	Analyst
TCLP - Arsenic	80 %	Recovery	01/04/1993	deh
TCLP - Barium	111 %	Recovery	01/06/1993	rlr
TCLP - Cadmium	103 %	Recovery	01/04/1993	rlr
TCLP - Chromium	113 %	Recovery	01/04/1993	rlr
TCLP - Lead	102 %	Recovery	01/04/1993	rlr
TCLP - Mercury	132 %	Recovery	01/05/1993	lgl
TCLP - Selenium	82 %	Recovery	01/04/1993	deh
TCLP - Silver	96 %	Recovery	01/06/1993	deh

John Andrejcio
Project Manager

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P.O. Box 824
Dayton, OH 45401

01/06/1993

JOB NUMBER: 92.16766

SAMPLE NO.: 173221

Sample Description: Spike of Waste Comp. Tank 5-Comp.

Date Taken:

Date Received: 12/23/1992

VOLATILES - TCLP

Parameter	Result	Unit	Date Anal.	Analyst
TCLP-Benzene	88 %	Recovery	12/30/1992	nkp
TCLP-Carbon tetrachloride	90 %	Recovery	12/30/1992	nkp
TCLP-Chlorobenzene	84 %	Recovery	12/30/1992	nkp
TCLP-Chloroform	75 %	Recovery	12/30/1992	nkp
TCLP-1,2-Dichloroethane	79 %	Recovery	12/30/1992	nkp
TCLP-1,1-Dichloroethene	93 %	Recovery	12/30/1992	nkp
TCLP-Methyl ethyl ketone (MEK)	66 %	Recovery	12/30/1992	nkp
TCLP-Tetrachloroethene	89 %	Recovery	12/30/1992	nkp
TCLP-Trichloroethene	85 %	Recovery	12/30/1992	nkp
TCLP-Vinyl chloride	97 %	Recovery	12/30/1992	nkp
Surrogate: d4-1,2-DCE	88	%	12/30/1992	nkp
Surrogate: d8-Toluene	106	%	12/30/1992	nkp
Surrogate: BFB	95	%	12/30/1992	nkp

John Andrejcio
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01/06/1993

JOB NUMBER: 92.16766

SAMPLE NO.: 173221

Sample Description: Spike of Waste Comp. Tank 5-Comp.

Date Taken:

Date Received: 12/23/1992

BASE NEUTRAL COMPOUNDS - TCLP

Parameter	Result	Unit	Date Anal.	Analyst
TCLP-1,4-Dichlorobenzene	85 %	Recovery	01/04/1993	dmg
TCLP-2,4-Dinitrotoluene	92 %	Recovery	01/04/1993	dmg
TCLP-Hexachlorobenzene	83 %	Recovery	01/04/1993	dmg
TCLP-Hexachlorobutadiene	65 %	Recovery	01/04/1993	dmg
TCLP-Hexachloroethane	70 %	Recovery	01/04/1993	dmg
TCLP-Nitrobenzene	87 %	Recovery	01/04/1993	dmg
TCLP-Pyridine	67 %	Recovery	01/04/1993	dmg
Surrogate: d5-Nitrobenzene	87	%	01/04/1993	dmg
Surrogate: 2-Fluorobiphenyl	70	%	01/04/1993	dmg
Surrogate: d14-Terphenyl	86	%	01/04/1993	dmg

John Andrejcio
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01/06/1993

JOB NUMBER: 92.16766

SAMPLE NO.: 173221

Sample Description: Spike of Waste Comp. Tank 5-Comp.

Date Taken:

Date Received: 12/23/1992

ACID COMPOUNDS - TCLP

Parameter	Result	Unit	Date Anal.	Analyst
TCLP ortho-Methylphenol	88 %	Recovery	01/04/1993	dmg
TCLP meta & para-Methylphenol	83 %	Recovery	01/04/1993	dmg
TCLP-Pentachlorophenol	84 %	Recovery	01/04/1993	dmg
TCLP 2,4,5-Trichlorophenol	93 %	Recovery	01/04/1993	dmg
TCLP 2,4,6-Trichlorophenol	91 %	Recovery	01/04/1993	dmg
Surrogate: d6-Phenol	54	%	01/04/1993	dmg
Surrogate: 2-Fluorophenol	72	%	01/04/1993	dmg
Surrogate: Tribromophenol	84	%	01/04/1993	dmg

DUPLICATE

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01/06/1993

JOB NUMBER: 92.16766

SAMPLE NO.: 173222

Sample Description: Corrected R. of Waste Comp. Tank 5-Comp.

Date Taken:

Date Received: 12/23/1992

Parameter	Result	Unit	Date Anal.	Analyst
TCLP - Arsenic	<0.050	mg/L	01/04/1993	deh
TCLP - Barium	<5.0	mg/L	01/06/1993	rlr
TCLP - Cadmium	<0.50	mg/L	01/04/1993	rlr
TCLP - Chromium	<0.40	mg/L	01/04/1993	rlr
TCLP - Lead	<1.0	mg/L	01/04/1993	rlr
TCLP - Mercury	<0.0020	mg/L	01/05/1993	lgl
TCLP - Selenium	<0.050	mg/L	01/04/1993	deh
TCLP - Silver	<0.20	mg/L	01/06/1993	deh

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01/06/1993

JOB NUMBER: 92.16766

SAMPLE NO.: 173222

Sample Description: Corrected R. of Waste Comp. Tank 5-Comp.

Date Taken:

Date Received: 12/23/1992

VOLATILES - TCLP

Parameter	Result	Unit	Date Anal.	Analyst
TCLP-Benzene	<100.	ug/L	12/30/1992	nkp
TCLP-Carbon tetrachloride	<100.	ug/L	12/30/1992	nkp
TCLP-Chlorobenzene	<100.	ug/L	12/30/1992	nkp
TCLP-Chloroform	<100.	ug/L	12/30/1992	nkp
TCLP-1,2-Dichloroethane	<100.	ug/L	12/30/1992	nkp
TCLP-1,1-Dichloroethene	<100.	ug/L	12/30/1992	nkp
TCLP-Methyl ethyl ketone (MEK)	<200.	ug/L	12/30/1992	nkp
TCLP-Tetrachloroethene	<100.	ug/L	12/30/1992	nkp
TCLP-Trichloroethene	<100.	ug/L	12/30/1992	nkp
TCLP-Vinyl chloride	<100.	ug/L	12/30/1992	nkp
Surrogate: d4-1,2-DCE	NA	%	12/30/1992	nkp
Surrogate: d8-Toluene	NA	%	12/30/1992	nkp
Surrogate: BFB	NA	%	12/30/1992	nkp

John Andrejcio
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Dayton, OH 45401

01/06/1993

JOB NUMBER: 92.16766

SAMPLE NO.: 173222

Sample Description: Corrected R. of Waste Comp. Tank 5-Comp.

Date Taken:

Date Received: 12/23/1992

BASE NEUTRAL COMPOUNDS - TCLP

Parameter	Result	Unit	Date Anal.	Analyst
TCLP-1,4-Dichlorobenzene	<40.	ug/L	01/04/1993	dmg
TCLP-2,4-Dinitrotoluene	<40.	ug/L	01/04/1993	dmg
TCLP-Hexachlorobenzene	<40.	ug/L	01/04/1993	dmg
TCLP-Hexachlorobutadiene	<40.	ug/L	01/04/1993	dmg
TCLP-Hexachloroethane	<40.	ug/L	01/04/1993	dmg
TCLP-Nitrobenzene	<40.	ug/L	01/04/1993	dmg
TCLP-Pyridine	<40.	ug/L	01/04/1993	dmg
Surrogate: d5-Nitrobenzene	NA	%	01/04/1993	dmg
Surrogate: 2-Fluorobiphenyl	NA	%	01/04/1993	dmg
Surrogate: d14-Terphenyl	NA	%	01/04/1993	dmg

John Andrejcio
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ANALYTICAL REPORT

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HARRISON RADIATOR DIVISION
P.O. Box 824
Dayton, OH 45401

01/06/1993

JOB NUMBER: 92.16766

SAMPLE NO.: 173222

Sample Description: Corrected R. of Waste Comp. Tank 5-Comp.

Date Taken:

Date Received: 12/23/1992

ACID COMPOUNDS - TCLP

Parameter	Result	Unit	Date Anal.	Analyst
TCLP ortho-Methylphenol	<40.	ug/L	01/04/1993	dmg
TCLP meta & para-Methylphenol	<40.	ug/L	01/04/1993	dmg
TCLP-Pentachlorophenol	<40.	ug/L	01/04/1993	dmg
TCLP 2,4,5-Trichlorophenol	<40.	ug/L	01/04/1993	dmg
TCLP 2,4,6-Trichlorophenol	<40.	ug/L	01/04/1993	dmg
Surrogate: d6-Phenol	NA	%	01/04/1993	dmg
Surrogate: 2-Fluorophenol	NA	%	01/04/1993	dmg
Surrogate: Tribromophenol	NA	%	01/04/1993	dmg

John Andrejcio
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01/06/1993

JOB NUMBER: 92.16766

SAMPLE NO.: 173219

Sample Description: S. Wall 10-7-Tank 12-Grab

Date Taken: 12/22/1992

Date Received: 12/23/1992

Parameter	Result	Unit	Date Anal.	Analyst
BTEX-M 8020, NON-AQUEOUS				
Benzene	<25700.	ug/Kg	01/05/1993	dde
Ethylbenzene	<25700.	ug/Kg	01/05/1993	dde
Toluene	<25700.	ug/Kg	01/05/1993	dde
Xylenes, Total	<25700.	ug/Kg	01/05/1993	dde
Surrogate: BFB	99 Note	%	01/05/1993	dde
TPH - GC/FID Non-aq	14.0	mg/Kg	01/04/1993	gak

John Andrejcio
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01/06/1993

JOB NUMBER: 92.16766

SAMPLE NO.: 173220

Sample Description: E. Wall 11-Tank 12-Grab

Date Taken: 12/22/1992

Date Received: 12/23/1992

Parameter	Result	Unit	Date Anal.	Analyst
BTEX-M 8020, NON-AQUEOUS				
Benzene	<24900.	ug/Kg	01/05/1993	dde
Ethylbenzene	<24900.	ug/Kg	01/05/1993	dde
Toluene	<24900.	ug/Kg	01/05/1993	dde
Xylenes, Total	<24900.	ug/Kg	01/05/1993	dde
Surrogate: BFB	99 Note	%	01/05/1993	dde
TPH - GC/FID Non-aq	7.0	mg/Kg	01/04/1993	gak

John Andrejcio
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01/06/1993

JOB NUMBER: 92.16766

SAMPLE NO.: 173223

Sample Description: Method Blank

Date Taken:

Date Received: 12/23/1992

Parameter	Result	Unit	Date Anal.	Analyst
Reactive Sulfide	<0.20	mg/L	12/31/1992	alm
Reactive Cyanide	<0.005	mg/L	12/31/1992	alm
TCLP - Arsenic	<0.0050	mg/L	01/04/1993	deh
TCLP - Barium	<0.50	mg/L	01/06/1993	rlr
TCLP - Cadmium	<0.050	mg/L	01/04/1993	rlr
TCLP - Chromium	<0.040	mg/L	01/04/1993	rlr
TCLP - Lead	<0.10	mg/L	01/04/1993	rlr
TCLP - Mercury	<0.0020	mg/L	01/05/1993	lgl
TCLP - Selenium	<0.0050	mg/L	01/04/1993	deh
TCLP - Silver	<0.040	mg/L	01/06/1993	deh

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01/06/1993

JOB NUMBER: 92.16766

SAMPLE NO.: 173223

Sample Description: Method Blank

Date Taken:

Date Received: 12/23/1992

VOLATILES - TCLP

Parameter	Result	Unit	Date Anal.	Analyst
TCLP-Benzene	<100.	ug/L	12/30/1992	nkp
TCLP-Carbon tetrachloride	<100.	ug/L	12/30/1992	nkp
TCLP-Chlorobenzene	<100.	ug/L	12/30/1992	nkp
TCLP-Chloroform	<100.	ug/L	12/30/1992	nkp
TCLP-1,2-Dichloroethane	<100.	ug/L	12/30/1992	nkp
TCLP-1,1-Dichloroethene	<100.	ug/L	12/30/1992	nkp
TCLP-Methyl ethyl ketone (MEK)	<200.	ug/L	12/30/1992	nkp
TCLP-Tetrachloroethene	<100.	ug/L	12/30/1992	nkp
TCLP-Trichloroethene	<100.	ug/L	12/30/1992	nkp
TCLP-Vinyl chloride	<100.	ug/L	12/30/1992	nkp
Surrogate: d4-1,2-DCE	95	%	12/30/1992	nkp
Surrogate: d8-Toluene	105	%	12/30/1992	nkp
Surrogate: BFB	105	%	12/30/1992	nkp

John Andrejcio
Project Manager

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01/06/1993

JOB NUMBER: 92.16766

SAMPLE NO.: 173223

Sample Description: Method Blank

Date Taken:

Date Received: 12/23/1992

BASE NEUTRAL COMPOUNDS - TCLP

Parameter	Result	Unit	Date Anal.	Analyst
TCLP-1,4-Dichlorobenzene	<40.	ug/L	01/04/1993	dmg
TCLP-2,4-Dinitrotoluene	<40.	ug/L	01/04/1993	dmg
TCLP-Hexachlorobenzene	<40.	ug/L	01/04/1993	dmg
TCLP-Hexachlorobutadiene	<40.	ug/L	01/04/1993	dmg
TCLP-Hexachloroethane	<40.	ug/L	01/04/1993	dmg
TCLP-Nitrobenzene	<40.	ug/L	01/04/1993	dmg
TCLP-Pyridine	<40.	ug/L	01/04/1993	dmg
Surrogate: d5-Nitrobenzene	78	%	01/04/1993	dmg
Surrogate: 2-Fluorobiphenyl	66	%	01/04/1993	dmg
Surrogate: d14-Terphenyl	78	%	01/04/1993	dmg

John Andrejcio
Project Manager

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01/06/1993

JOB NUMBER: 92.16766

SAMPLE NO.: 173223

Sample Description: Method Blank

Date Taken:

Date Received: 12/23/1992

ACID COMPOUNDS - TCLP

Parameter	Result	Unit	Date Anal.	Analyst
TCLP ortho-Methylphenol	<40.	ug/L	01/04/1993	dmg
TCLP meta & para-Methylphenol	<40.	ug/L	01/04/1993	dmg
TCLP-Pentachlorophenol	<40.	ug/L	01/04/1993	dmg
TCLP 2,4,5-Trichlorophenol	<40.	ug/L	01/04/1993	dmg
TCLP 2,4,6-Trichlorophenol	<40.	ug/L	01/04/1993	dmg
Surrogate: d6-Phenol	33	%	01/04/1993	dmg
Surrogate: 2-Fluorophenol	48	%	01/04/1993	dmg
Surrogate: Tribromophenol	78	%	01/04/1993	dmg

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01/06/1993

JOB NUMBER: 92.16766

SAMPLE NO.: 173223

Sample Description: Method Blank

Date Taken:

Date Received: 12/23/1992

Parameter	Result	Unit	Date Anal.	Analyst
PCBs, M 8080, NON-AQUEOUS				
Aroclor 1016	<0.5	mg/Kg	12/31/1992	dde
Aroclor 1221	<0.5	mg/Kg	12/31/1992	dde
Aroclor 1232	<0.5	mg/Kg	12/31/1992	dde
Aroclor 1242	<0.5	mg/Kg	12/31/1992	dde
Aroclor 1248	<0.5	mg/Kg	12/31/1992	dde
Aroclor 1254	<0.5	mg/Kg	12/31/1992	dde
Aroclor 1260	<0.5	mg/Kg	12/31/1992	dde
Surrogate: 2,4,5,6-TCX	78	%	12/31/1992	dde
Surrogate: DCB	83	%	12/31/1992	dde
BTEX-M 8020, NON-AQUEOUS				
Benzene	<5.	ug/Kg	01/05/1993	dde
Ethylbenzene	<5.	ug/Kg	01/05/1993	dde
Toluene	<5.	ug/Kg	01/05/1993	dde
Xylenes, Total	<5.	ug/Kg	01/05/1993	dde
Surrogate: BFB	95	%	01/05/1993	dde
TPH - GC/FID Non-aq	<5.	mg/Kg	01/04/1993	gak
TPH - Method 418.1 Non-aq	<5.	mg/Kg	12/31/1992	rjs

John Andrejcio
Project Manager

OCEAN GROUP

NATIONAL ENVIRONMENTAL TESTING, INC.

Dayton Division
3601 South Dixie Drive
Dayton, OH 45439
Tel: (513) 294-6856
Fax: (513) 294-7816

ANALYTICAL REPORT

John Ridd
HARRISON RADIATOR DIVISION
P.O. Box 824
Dayton, OH 45401

01/06/1993

JOB NUMBER: 92.16766

SAMPLE NO.: 173224

Sample Description: Standards

Date Taken:

Date Received: 12/23/1992

Parameter	Result	Unit	Date Anal.	Analyst
Reactive Sulfide	94 %	Recovery	12/31/1992	alm
Reactive Cyanide	104 %	Recovery	12/31/1992	alm
TCLP - Arsenic	99 %	Recovery	01/04/1993	deh
TCLP - Barium	99 %	Recovery	01/06/1993	rlr
TCLP - Cadmium	100 %	Recovery	01/04/1993	rlr
TCLP - Chromium	102 %	Recovery	01/04/1993	rlr
TCLP - Lead	101 %	Recovery	01/04/1993	rlr
TCLP - Mercury	99 %	Recovery	01/05/1993	lgl
TCLP - Selenium	97 %	Recovery	01/04/1993	deh
TCLP - Silver	102 %	Recovery	01/06/1993	deh

John Andrejcio
Project Manager

OCEAN GROUP

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

John Ridd
HARRISON RADIATOR DIVISION
P.O. Box 824
Dayton, OH 45401

01/06/1993

JOB NUMBER: 92.16766

SAMPLE NO.: 173224

Sample Description: Standards

Date Taken:

Date Received: 12/23/1992

VOLATILES - TCLP

BASE NEUTRAL COMPOUNDS - TCLP

ACID COMPOUNDS - TCLP

John Andrejcio
Project Manager

OCEAN GROUP

NET NATIONAL ENVIRONMENTAL TESTING, INC.

Dayton Division
3601 South Dixie Drive
Dayton, OH 45439
Tel: (513) 294-6856
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ANALYTICAL REPORT

John Ridd
HARRISON RADIATOR DIVISION
P.O. Box 824
Dayton, OH 45401

01/06/1993

JOB NUMBER: 92.16766

SAMPLE NO.: 173224

Sample Description: Standards

Date Taken:

Date Received: 12/23/1992

Parameter	Result	Unit	Date Anal.	Analyst
PCBs, M 8080, NON-AQUEOUS				
Aroclor 1016	NA	mg/Kg	12/31/1992	dde
Aroclor 1221	NA	mg/Kg	12/31/1992	dde
Aroclor 1232	NA	mg/Kg	12/31/1992	dde
Aroclor 1242	102 %	Recovery	12/31/1992	dde
Aroclor 1248	NA	mg/Kg	12/31/1992	dde
Aroclor 1254	NA	mg/Kg	12/31/1992	dde
Aroclor 1260	94 %	Recovery	12/31/1992	dde
Surrogate: 2,4,5,6-TCX	NA	%	12/31/1992	dde
Surrogate: DCB	NA	%	12/31/1992	dde
BTEX-M 8020, NON-AQUEOUS				
Benzene	101 %	Recovery	01/05/1993	dde
Ethylbenzene	107 %	Recovery	01/05/1993	dde
Toluene	97 %	Recovery	01/05/1993	dde
Xylenes, Total	101 %	Recovery	01/05/1993	dde
Surrogate: BFB	95	%	01/05/1993	dde
TPH - GC/FID Non-aq	108 %	Recovery	01/04/1993	gak
TPH - Method 418.1 Non-aq	93 %	Recovery	12/31/1992	rjs

John Andrejcio
Project Manager

OCEAN GROUP

NATIONAL ENVIRONMENTAL TESTING, INC.

Dayton Division
3601 South Dixie Drive
Dayton, OH 45439
Tel: (513) 294-6856
Fax: (513) 294-7816

In accordance with the revised test procedure for U.S. EPA method 1311 (TCLP test, SW-846), the raw data needs to be corrected for analytical bias before comparison to the listed maximum TCLP contaminant levels.

Per your request, the reported test results have been corrected for the spike recoveries.

*Per NET policy, results that show no detection have not been corrected for the spike bias.

We have also included the spike recovery data for the requested parameters.

To calculate the corrected values, the following formula was employed:

Corrected value = reported result / % recovery x 100

Sample #173219 & 173220
Analysis: BTEX Non-Aq

Elevated reporting limits are due to matrix interference.

John Andrejcio
Project Manager

OCEAN GROUP

173218-220

92,1C

Continuing Calibration Check
HSL Compounds

Case No: Calibration Date: 12/30/92

Contractor: Time: 08:30

Contract No: Laboratory ID: >D0449

Instrument ID: GCMS-D Initial Calibration Date: 12/03/92

Minimum $\overline{RF}$ for SPCC is .3/.25 Maximum % Diff for CCC is 25%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC	
Dichlorodifluoromethane	1.31697	1.46452	11.20			
Chloromethane	.51460	.45089	12.38		**	
Vinyl chloride	.44188	.43892	.67	*		
Bromomethane	.91630	.95857	4.61			
Chloroethane	.34196	.30233	11.59			
Trichlorofluoromethane	1.60260	1.57914	1.46			
Acrolein	.01637	.00682	58.35			
1,1-Dichloroethene	.72044	.68489	4.93	*		
Methyl Iodide	2.49480	2.41245	3.30			
Carbon disulfide	2.18138	2.27501	4.29			
Acetone	.10611	.10119	4.64			(Conc=125.00)
Allyl Chloride	.62843	.55266	12.06			
Acrylonitrile	.11089	.10450	5.76			
Methylene chloride	.82110	.79709	2.92			
1,2-trans-Dichloroethene	.78534	.83557	6.40			
1,1-Dichloroethane	1.36536	1.34604	1.42		**	
Chloroprene	.15294	.14267	6.71			(Conc=25.00)
1,2-cis-Dichloroethene	.94363	.98186	4.05			
Proprionitrile	.05550	.05439	2.00	*		(Conc=800.00)
Methacrylonitrile	.26180	.25379	3.06			
Chloroform	1.87310	1.91120	2.03	*		
d4-1,2-Dichloroethane (surr)	1.06456	1.08255	1.69			
1,2-Dichloroethane	1.05895	1.08744	2.69			
Vinyl acetate	.27761	.29583	6.56			
2-Butanone	.01226	.01179	3.84			(Conc=175.00)
1,1,1-Trichloroethane	.39431	.40560	2.86			
Benzene	.50483	.51333	1.68			
Carbon tetrachloride	.38016	.38937	2.42			
1,2-Dichloropropane	.21533	.22036	2.34	*		
Trichloroethene	.31100	.33958	9.19			
Dibromomethane	.28072	.29877	6.43			
Methyl Methacrylate	.16337	.15862	2.91			

RF - Response Factor from daily standard file at 50.00 ug/L

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

173218-22c

Continuing Calibration Check
HSL Compounds

Case No: _____ Calibration Date: 12/30/92

Contractor: _____ Time: 08:30

Contract No: _____ Laboratory ID: >D0449

Instrument ID: GCMS-D Initial Calibration Date: 12/03/92

Minimum $\overline{RF}$ for SPCC is .3/.25 Maximum % Diff for CCC is 25%

Compound	$\overline{RF}$	RF	%Diff	CCC	SPCC	
Bromodichloromethane	.45149	.48421	7.25			
2-Chloroethyl vinyl ether	.10508	.11714	11.48			
1,3-cis-Dichloropropene	.34283	.35030	2.18			
1,3-trans-Dichloropropene	.31637	.32370	2.32			
1,1,2-Trichloroethane	.24050	.24907	3.57			
Ethyl Methacrylate	.25471	.25904	1.70			
Dibromochloromethane	.52117	.54150	3.90			
1,2-Dibromoethane (EDB)	.41560	.42345	1.89			
Bromoform	.41492	.43299	4.36		**	
4-Methyl-2-pentanone	.26521	.25088	5.40			(Conc=125.00)
d8-Toluene (surr)	1.05058	1.00499	4.34			
Toluene	.48249	.48304	.11	*		
2-Hexanone	.15243	.14286	6.28			(Conc=125.00)
Tetrachloroethene	.51645	.55470	7.41			
Chlorobenzene	.71285	.74987	5.19		**	
1,1,1,2-Tetrachloroethane	.41492	.44458	7.15			
Ethylbenzene	.30373	.31550	3.87	*		
m&p-Xylene	.38130	.40487	6.18			(Conc=100.00)
Styrene	.65248	.67489	3.44			
o-Xylene	.37051	.38249	3.23			
1,1,2,2-Tetrachloroethane	.49793	.47910	3.78		**	
1,2,3-Trichloropropane	.14391	.13627	5.31			
trans-1,4-Dichloro-2-Butene	.06089	.05836	4.16			
4-Bromofluorobenzene (surr)	.69056	.57327	16.98			
Pentachloroethane	.33984	.35884	5.59			
1,2-Dibromo-3-chloropropane	.15885	.14619	7.97			

RF - Response Factor from daily standard file at 50.00 ug/L

$\overline{RF}$ - Average Response Factor from Initial Calibration Form VI

%Diff - % Difference from original average or curve

CCC - Calibration Check Compounds (*) SPCC - System Performance Check Compounds (**)

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: NET MIDWEST-DAYTON Contract:

Lab Code: Case No.: 555555 SAS No.: SDG No.: 999999

Instrument ID: GCMSE Calibration Date: 01/04/93 Time: 14:20

Lab File ID: >E7337 Init. Calib. Date(s): 01/04/93

Min RRF050 for SPCC(#) = 0.050 Max %D for CCC(*) = 25%

COMPOUND		RRF	RRF050	%D
N-Nitrosodimethylamine		.948	.963	1.5
Pyridine		1.235	1.272	3.0
Phenol	*	1.976	2.087	5.6*
Aniline		2.074	2.271	9.5
bis(2-Chloroethyl)ether		1.689	1.738	2.9
2-Chlorophenol		1.535	1.519	1.1
1,3-Dichlorobenzene		1.634	1.666	1.9
1,4-Dichlorobenzene	*	1.653	1.614	2.4*
Benzyl alcohol		1.469	1.510	2.8
1,2-Dichlorobenzene		1.618	1.629	.7
2-Methylphenol		1.291	1.288	.2
2,2'-oxybis(1-Chloropropane		1.829	1.961	7.2
3 & 4-Methylphenol		1.771	1.791	1.1
N-Nitroso-di-n-propylamine	#	1.210	1.199	.9#
Hexachloroethane		.709	.699	1.5
Nitrobenzene		.507	.522	2.8
Isophorone		1.008	1.041	3.3
2-Nitrophenol	*	.265	.270	2.0*
2,4-Dimethylphenol		.468	.480	2.5
Benzoic acid		.220	.203	7.4
bis(2-Chloroethoxy)methane		.583	.599	2.8
2,4-Dichlorophenol	*	.374	.376	.4*
1,2,4-Trichlorobenzene		.388	.389	.2
Naphthalene		1.100	1.145	4.1
4-Chloroaniline		.515	.562	9.1
Hexachlorobutadiene	*	.245	.255	4.1*
4-Chloro-3-methylphenol	*	.421	.443	5.2*
2-Methylnaphthalene		.796	.822	3.3
Hexachlorocyclopentadiene	#	.434	.406	6.6#
2,4,6-Trichlorophenol	*	.487	.473	2.9*
2,4,5-Trichlorophenol		.512	.504	1.5
2-Chloronaphthalene		1.321	1.331	.7
2-Nitroaniline		.550	.534	3.0
Dimethylphthalate		1.761	1.762	.0
Acenaphthylene		1.895	1.938	2.3
2,6-Dinitrotoluene		.406	.387	4.7
3-Nitroaniline		.442	.445	.7

7C

SEMIVOLATILE CONTINUING CALIBRATION CHECK

Lab Name: NET MIDWEST-DAYTON Contract:

Lab Code: Case No.: 555555 SAS No.: SDG No.: 999999

Instrument ID: GCMSE Calibration Date: 01/04/93 Time: 14:20

Lab File ID: >E7337 Init. Calib. Date(s): 01/04/93

Min RRF050 for SPCC(#) = 0.050 Max %D for CCC(*) = 25

COMPOUND		RRF	RRF050	%D
Acenaphthene	*	1.237	1.242	.4*
2,4-Dinitrophenol	#	.204	.170	16.8#
4-Nitrophenol	#	.329	.332	1.0#
Dibenzofuran		1.817	1.792	1.4
2,4-Dinitrotoluene		.598	.583	2.6
Diethylphthalate		1.835	1.815	1.1
4-Chlorophenyl-phenylether		.687	.702	2.2
Fluorene		1.282	1.299	1.3
4-Nitroaniline		.382	.398	4.1
4,6-Dinitro-2-methylphenol		.181	.173	4.7
1,2-Diphenylhydrazine/Azobe		1.036	1.036	.0
N-Nitrosodiphenylamine as D	*	.663	.661	.3*
4-Bromophenyl-phenylether		.271	.275	1.2
Hexachlorobenzene		.360	.376	4.5
Pentachlorophenol	*	.177	.181	2.4*
Phenanthrene		1.114	1.164	4.5
Anthracene		1.141	1.178	3.2
Carbazole		.940	1.028	9.4
Di-n-butylphthalate		1.694	1.737	2.6
Fluoranthene	*	1.145	1.190	3.9*
Pyrene		1.610	1.567	2.7
Butylbenzylphthalate		.942	.932	1.1
Benzidine		.288	.455	58.3
3,3'-Dichlorobenzidine		.467	.448	4.0
Benz(a)anthracene		1.356	1.279	5.7
Chrysene		1.143	1.205	5.4
bis(2-Ethylhexyl)phthalate		1.198	1.162	3.0
Di-n-octylphthalate		2.380	2.338	1.8
Benzo(b+k)fluoranthene		1.274	1.311	2.9
Benz(a)pyrene	*	1.134	1.179	4.0*
Indeno(1,2,3-c,d)pyrene		.849	.885	4.2
Dibenz(a,h)anthracene		.714	.739	3.4
Benzo(g,h,i)perylene		.670	.699	4.3
d5-Nitrobenzene (sur)		.505	.515	2.2
2-Fluorobiphenyl (sur)		.826	.863	4.5
d14-p-Terphenyl (sur)		1.272	1.248	1.9
d6-Phenol (sur)		1.811	1.871	3.3
2-Fluorophenol (sur)		1.562	1.543	1.2
2,4,6-Tribromophenol (sur)		.380	.377	.8

NET NATIONAL ENVIRONMENTAL TESTING, INC.

Dayton Division
3601 South Dixie Drive
Dayton, OH 45439
Tel: (513) 294-6856
Fax: (513) 294-7816

CHAIN OF CUSTODY

Client: HARR. RAD. DLJ/GM
Send Report to: MR. JOHN RHOAD
Address: P.O. BOX 824 DAYTON, OH 45401
Telephone #: 513/455-4408

Project Name: UST REMOVAL/CLOSURE ASSESSMENT
Collected by: T. J. WEY
ENV. QUALITY MGT, INC.
513/825-7500

Collection Information								Parameters																
Sample ID	Sampling Location	Date	Time	GRAB	COMP	Sample Type	No. of Container	TPH 418.1	GC FINGERPRINT DIESEL PRODUCT															
N. FLOOR 16' TANK	5 NORTH FLOOR @ 16'	12/23	1100	X		SOIL	1	X																✓
S. FLOOR 15'-5" TANK	5 SOUTH FLOOR @ 15'-5"	12/23	1100	X		SOIL	1	X	X															✓
E. WALL 6' TANK	5 EAST WALL @ 6'	12/23	1100	X		SOIL	1	X	X															✓
E. WALL 14' TANK	5 EAST WALL @ 14'	12/23	1100	X		SOIL	1	X																✓
W. WALL 6' TANK	5 WEST WALL @ 6'	12/23	1100	X		SOIL	1	X	X															✓
N. WALL 14' TANK	5 WEST WALL @ 14'	12/23	1100	X		SOIL	1	X	X															✓

Remarks: _____

Relinquished by:	Date	Time	Received by:	Date	Time
[signature]	12/23/92	1152			

Shipping Notes/Lab Comments

Received for NET Midwest by: [signature] 12/22 1252

Samples Field Filtered: ___ Yes ___ No
Seals Intact Upon Receipt: ___ Yes ___ No ___ N/A

NET NATIONAL ENVIRONMENTAL TESTING, INC.

Dayton Division
3601 South Dixie Drive
Dayton, OH 45439
Tel: (513) 294-6856
Fax: (513) 294-7816

CHAIN OF CUSTODY

Client HARR. RAIL DIV / GM	Project Name UST REMOVAL / CLOSURE ASSESSMENT
Send Report to: MR. JOHN RIDD	
Address P.O. Box 824 DAYTON, OH 45401	Collected by: T. J. WEY
Telephone # 513/455-4408	ENV. QUALITY MGT. INC 513/825-7500

Collection Information								Parameters														
Sample ID	Sampling Location	Date	Time	GRAB	COMP	Sample Type	No. of Containers	GC Fingerprint Quantify Product														
N. FLOOR TANK 7	NORTH FLOOR 15', TANK 7	12/18	1230	X		SOIL	1	X														X
NW WALL TANK 7	NORTHWEST WALL 8', TANK 7	12/18	1230	X		SOIL	1	X														X
	BOTH SAMPLES SUBMITTED PREVIOUSLY ON 12/18 FOR TPH ANALYSES.																					

Remarks: _____

Relinquished by:	Date Time	Received by:	Date Time
	12/23/92 1250hr		

Shipping Notes/Lab Comments

Received for NET Midwest by: Robin Lamb 1230

Samples Field Filtered: ___ Yes ___ No
Seals Intact Upon Receipt: ___ Yes ___ No ___ N/A

NATIONAL ENVIRONMENTAL TESTING, INC.

Dayton Division
3601 South Dixie Drive
Dayton, OH 45439
Tel: (513) 294-6856
Fax: (513) 294-7816

ANALYTICAL REPORT

John Ridd
HARRISON RADIATOR DIVISION
P.O. Box 824
Dayton, OH 45401

01/07/1993

JOB NUMBER: 92.16780

DATE RECEIVED: 12/23/1992

SAMPLE NO.	SAMPLE DESCRIPTION	RESULT	UNIT	DATE ANAL.	ANALYST	METHOD
173238	North Floor 16'-Tank 5-Grab					
	TPH - Method 418.1 Non-aq	49200.	mg/Kg	12/31/1992	rjs	EPA-418.1
SAMPLE NO.	SAMPLE DESCRIPTION	RESULT	UNIT	DATE ANAL.	ANALYST	METHOD
173239	South Floor 15'-5"-Tank 5-Grab					
	TPH - Method 418.1 Non-aq GC ANALYSIS-NONAQUEOUS	6130.	mg/Kg	12/31/1992	rjs	EPA-418.1
SAMPLE NO.	SAMPLE DESCRIPTION	RESULT	UNIT	DATE ANAL.	ANALYST	METHOD
173240	East Wall 6'-Tank 5-Grab					
	TPH - Method 418.1 Non-aq GC ANALYSIS-NONAQUEOUS	6.	mg/Kg	12/31/1992	rjs	EPA-418.1
SAMPLE NO.	SAMPLE DESCRIPTION	RESULT	UNIT	DATE ANAL.	ANALYST	METHOD
173241	East Wall 14'-Tank 5-Grab					
	TPH - Method 418.1 Non-aq	40000.	mg/Kg	12/31/1992	rjs	EPA-418.1
SAMPLE NO.	SAMPLE DESCRIPTION	RESULT	UNIT	DATE ANAL.	ANALYST	METHOD
173242	West Wall 6'-Tank 5-Grab					
	TPH - Method 418.1 Non-aq GC ANALYSIS-NONAQUEOUS	611.	mg/Kg	12/31/1992	rjs	EPA-418.1

cc: Norm Sawdey

John Andrejcio
Project Manager

DUPLICATE

OCEAN GROUP

NATIONAL ENVIRONMENTAL TESTING, INC.

Dayton Division
3601 South Dixie Drive
Dayton, OH 45439
Tel: (513) 294-6856
Fax: (513) 294-7816

ANALYTICAL REPORT

John Ridd
HARRISON RADIATOR DIVISION
P.O. Box 824
Dayton, OH 45401

01/07/1993

JOB NUMBER: 92.16780

DATE RECEIVED: 12/23/1992

SAMPLE NO.	SAMPLE DESCRIPTION	RESULT	UNIT	DATE ANAL.	ANALYST	METHOD
173243	West Wall 14'-Tank 5-Grab					
	TPH - Method 418.1 Non-aq	339.	mg/Kg	12/31/1992	rjs	EPA-418.1
	GC ANALYSIS-NONAQUEOUS					
SAMPLE NO.	SAMPLE DESCRIPTION	RESULT	UNIT	DATE ANAL.	ANALYST	METHOD
173244	Method Blank					
	TPH - Method 418.1 Non-aq	22.	mg/Kg	12/31/1992	rjs	EPA-418.1
SAMPLE NO.	SAMPLE DESCRIPTION	RESULT	UNIT	DATE ANAL.	ANALYST	METHOD
173245	Standard					
	TPH - Method 418.1 Non-aq	109 %	Recovery	12/31/1992	rjs	EPA-418.1

John Andrejcio
Project Manager

OCEAN GROUP

NATIONAL ENVIRONMENTAL TESTING, INC.

Dayton Division
3601 South Dixie Drive
Dayton, OH 45439
Tel: (513) 294-6856
Fax: (513) 294-7816

Sample # 173239, 173240, 173242 and 173243.

On the basis of GC finger print comparison the material identified as "Polar Product from tank #5" was not found to be present in the following samples: 173239, 173240, 173242 and 173243.

John Andrejcio
Project Manager

DUPLICATE

OCEAN GROUP

NET NATIONAL ENVIRONMENTAL TESTING, INC.®

Dayton Division
3601 South Dixie Drive
Dayton, OH 45439
Tel: (513) 294-6856
Fax: (513) 294-7816

CHAIN OF CUSTODY

Client HARRISON RAD. DIV. / GM	Project Name UST REMOVAL / CLOSURE ASSESSMENT
Send Report to: MR. JOHN RIDD	
Address P.O. BOX 824 DAYTON, OH. 45401	Collected by: T. GREETIS ENV. QUALITY UGMT INC. 513/825-7500
Telephone # (513) 455-4408	

Collection Information								Parameters													
Sample ID	Sampling Location	Date	Time	GRAB	COMP	Sample Type	No. of Container	TPH 418.1													Preserved
#1	UST 5 SUCTION PIPE AT FENCELINE	01/05	1125	X		SOIL	1	X													✓
#2	UST 5 SUCTION PIPE AT VENT INTERSECTN	01/05	1130	X		SOIL	1	X													✓
#3	UST 7 SUCTION PIPE AT LIMITS OF EXC.	01/05	1215	X		SOIL	1	X													✓
#4	UST 5 FILL PIPE RUN	01/05	1235	X		SOIL	1	X													✓
#5	UST 5 FILL PIPE AT JUNCTION BOX	01/05	1237	X		SOIL	1	X													✓
#6	UST 5 FILL PIPE AT WALL OF BLDG DOCK.	01/05	100	X		SOIL	1	X													✓

Remarks: _____

Relinquished by:	Date	Time	Received by:	Date	Time
Timothy A. Greetis	01/05/95	340p			

Shipping Notes/Lab Comments

Received for NET Midwest by: 1-5-95 1541

Samples Field Filtered: ___ Yes ___ No
Seals Intact Upon Receipt: ___ Yes ___ No ___ N/A

NET NATIONAL ENVIRONMENTAL TESTING, INC.®

Dayton Division
3601 South Dixie Drive
Dayton, OH 45439
Tel: (513) 294-6856
Fax: (513) 294-7816

ANALYTICAL REPORT

John Ridd
HARRISON RADIATOR DIVISION
P.O. Box 824
Dayton, OH 45401

01/12/1993

JOB NUMBER: 92.17141

DATE RECEIVED: 01/05/1993

SAMPLE NO.	SAMPLE DESCRIPTION	RESULT	UNIT	DATE ANAL.	ANALYST	METHOD
174533	#1 UST 5 Suction Pipe/Fenceline					
	TPH - Method 418.1 Non-aq	35.	mg/Kg	01/08/1993	kkw	EPA-418.1
SAMPLE NO.	SAMPLE DESCRIPTION	RESULT	UNIT	DATE ANAL.	ANALYST	METHOD
174534	#2 UST 5 Suction Pipe/Vent					
	TPH - Method 418.1 Non-aq	143.	mg/Kg	01/08/1993	kkw	EPA-418.1
SAMPLE NO.	SAMPLE DESCRIPTION	RESULT	UNIT	DATE ANAL.	ANALYST	METHOD
174535	#3 UST 7 Suction Pipe/At Limits					
	TPH - Method 418.1 Non-aq	900.	mg/Kg	01/08/1993	kkw	EPA-418.1
SAMPLE NO.	SAMPLE DESCRIPTION	RESULT	UNIT	DATE ANAL.	ANALYST	METHOD
174536	#4 UST 5 Fill Pipe Run					
	TPH - Method 418.1 Non-aq	144.	mg/Kg	01/08/1993	kkw	EPA-418.1
SAMPLE NO.	SAMPLE DESCRIPTION	RESULT	UNIT	DATE ANAL.	ANALYST	METHOD
174537	#5 UST 5 Fill Pipe Run/Junction					
	TPH - Method 418.1 Non-aq	17700.	mg/Kg	01/08/1993	kkw	EPA-418.1
SAMPLE NO.	SAMPLE DESCRIPTION	RESULT	UNIT	DATE ANAL.	ANALYST	METHOD
174538	#6 UST 5 Fill Pipe Run/at Wall					
	TPH - Method 418.1 Non-aq	811.	mg/Kg	01/08/1993	kkw	EPA-418.1

cc: Norm Sawdey

John Andrejcio
Project Manager

OCEAN GROUP

DUPLICATE

NATIONAL ENVIRONMENTAL TESTING, INC.

Dayton Division
3601 South Dixie Drive
Dayton, OH 45439
Tel: (513) 294-6856
Fax: (513) 294-7816

ANALYTICAL REPORT

John Ridd
HARRISON RADIATOR DIVISION
P.O. Box 824
Dayton, OH 45401

01/12/1993

JOB NUMBER: 92.17141

DATE RECEIVED: 01/05/1993

SAMPLE NO.	SAMPLE DESCRIPTION	RESULT	UNIT	DATE ANAL.	ANALYST	METHOD
174539	Method Blank					
TPH - Method 418.1 Non-aq		55.	mg/Kg	01/08/1993	kkw	EPA-418.1
SAMPLE NO.	**SAMPLE DESCRIPTION**	**RESULT**	**UNIT**	**DATE ANAL.**	**ANALYST**	**METHOD**
174540	Standard					
TPH - Method 418.1 Non-aq		99 %	Recovery	01/08/1993	kkw	EPA-418.1

John Andrejcio
Project Manager

OCEAN GROUP

DUPLICATE

NATIONAL ENVIRONMENTAL TESTING, INC.

Dayton Division
3601 South Dixie Drive
Dayton, OH 45439
Tel: (513) 294-6856
Fax: (513) 294-7816

NET S/N 174533-174538
Analysis - TPH 418.1

The method blank for these samples contained a TPH value equivalent to 55 mg/Kg. This value has not been subtracted from the reported results.

John Andrejcio
Project Manager

OCEAN GROUP

DUPLICATE

EQ SOIL VAPOR LOG

BOREHOLE: TANK NOS. 12+13 PIT
SITE NAME: HARRISON DIV GMC
PROJECT NO: 6013
PROJECT TITLE: UST CLOSURE ASSESSMENT

DATE SAMPLED: 12/14/92
DATE SCREENED SAME
INSTRUMENT USED: OVA-FID
CALIBRATION GAS: SPAN 100 PPM CH4
SCREENED BY: T. WEY

DEPTH INTERVAL OR SAMPLE INTERVAL	VAPOR SCREENING RESULTS UNITS: PPM (ABOVE BACKGROUND @ 1 PPM)	COMMENTS
PUMP PAD - TANK 12	5#	~3.5' SANDY
" " - TANK 13	Ø	" "
PIPE TRENCH 1 (12+13)	Ø	~4'
WATER FROM PIT (12+13)	35 PPM	~11.25' ODOROUS
BACKFILL (12+13)	Ø	COMP. 1+2
NORTH WALL	NA	SOIL PLUG
" " , W 10'	Ø	
EAST WALL, N 11'	Ø	
" " , S 8'	Ø	
WEST " , N 8'	Ø	
" " , S 6'	Ø	
SOUTH WALL, W1	Ø	
W2	Ø	
CENTER	Ø	
E1	Ø	
E2	Ø	
FLOOR (W, E + CENTER)	<10	HOMOGENOUS BLACK/ODOROUS
WATER LEVEL	ABOVE FLOOR — NO FURTHER SOIL SAMPLING	

ENVIRONMENTAL QUALITY MANAGEMENT, INC.
1310 Kemper Meadow Drive Suite 100
Cincinnnati, Ohio 45240

EQ SOIL VAPOR LOG

BOREHOLE: TANK No. 12 PIT
SITE NAME: HARRISON - TAYLOR ST.
PROJECT NO: 6013
PROJECT TITLE: UST CLOSURE ASSESSMENT

DATE SAMPLED: 12/22/92
DATE SCREENED SAME
INSTRUMENT USED: OVA-FID
CALIBRATION GAS: SPAN 100 ppm CH4
SCREENED BY: T. WEY

DEPTH INTERVAL OR SAMPLE INTERVAL	VAPOR SCREENING RESULTS UNITS: ppm (ABOVE BACKGROUND @ 1 ppm)	COMMENTS
SAMPLES COLLECTED AFTER REMOVING + LOADED TO TRUCKS FOR PINNACLE ROAD LF.		BACKFILL EXCAVATED
SOUTH WALL ~10'-7"	0	
EAST WALL ~11'	0	

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1310 Kemper Meadow Drive Suite 100
Cincinnnati, Ohio 45240

EQ SOIL VAPOR LOG

BOREHOLE: TANK No. 7 PIT
SITE NAME: HARRISON DIV. GMC
PROJECT NO: 6013
PROJECT TITLE: UST CLOSURE ASSESSMENT

DATE SAMPLED: 12/18/92
DATE SCREENED SAME
INSTRUMENT USED: OVA-FID
CALIBRATION GAS: SPAN 100 ppm CH4
SCREENED BY: T. WEY

DEPTH INTERVAL OR SAMPLE INTERVAL	VAPOR SCREENING RESULTS UNITS: ppm (ABOVE BACKGROUND @ 2 PPM)	COMMENTS
NORTH WALL, WEST	6' 0	
" , EAST	12' 0	
EAST WALL	NA	CONCRETE WALL (ADJ. BASEMENT)
SOUTH WALL, E 8'	0	TARD SHEET PILING
" " , W 10'	0	" " "
WEST WALL, N 8'	25	
WEST WALL, S 12'	0	
FLOOR, N 15'	150	ODOROUS
FLOOR, S 16'	120	↓
FLOOR, E 15'	75	
FLOOR, W 15'	90	
BACKFILL	0	

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EQ

SOIL VAPOR LOG

BOREHOLE: TANK No. 5 PIT
SITE NAME: HARRISON DIV. GMC
PROJECT NO: 6013
PROJECT TITLE: UST CLOSURE ASSESSMENT

DATE SAMPLED: 12/23/93
DATE SCREENED SAME
INSTRUMENT USED: OVA-FID
CALIBRATION GAS: 100 PPM CH4
SCREENED BY: T. WEY

DEPTH INTERVAL OR SAMPLE INTERVAL	VAPOR SCREENING RESULTS UNITS: PPM (ABOVE BACKGROUND LEVEL OF 2 PPM)	COMMENTS
NORTH WALL	0	CLEAN SAND BACKFILL FROM
		PIT THAT PREVIOUSLY CONTAINED UST
WEST WALL, N. ~6'	0	
WEST WALL, S. ~14'	0	
SOUTH WALL	NA	CONCRETE WALL OF UNDERGROUND
		TUNNEL
EAST WALL, N. ~6'	0	
EAST WALL, S. ~14'	0	
NORTH FLOOR	28 PPM	
SOUTH FLOOR	0	
EAST FLOOR	0	
WEST FLOOR	0	
BACKFILL	0	

ENVIRONMENTAL QUALITY MANAGEMENT, INC.
1310 Kemper Meadow Drive Suite 100
Cincinnnati, Ohio 45240

APPENDIX H

SITE FEATURE SCORING SYSTEM (SFSS) CHECKLIST AND CHARTS

SFM SITE FEATURE SCORING SYSTEM (SFSS) CHECKLIST

(SUBMIT TO SFM AS APPENDIX OR ADDENDUM TO CLOSURE REPORT)

I. OWNERSHIP OF TANKS	II. LOCATION OF TANKS
OWNER NO. 7564 GMC HARRISON DIVISION 300 TAYLOR STREET, PO BX 824 DAYTON, OH 45401 W. JOHN RIDD 513-455-4408	INCIDENT NO. 578530-00 FACILITY NO. 570003 GMC HARRISON DIVISION-DAYTON PLANT 300 TAYLOR STREET MONTGOMERY COUNTY DAYTON, OH 45401

SFSS WRITTEN REPORT MUST INCLUDE THE FOLLOWING:

SFM USE	PAGE NO.	
_____	App. H	A. The completed "SFSS Chart".
_____	4-1	B. Written report which must include justification for site features 1 through 4 which include th e following:
		1. Distance of UST system from closest potable-water supply source currently in use within 1/4 mile.
		2. Average depth to groundwater.
		3. Predominant soil type of substratum in UST excavation.
		4. Natural and/or man-made conduits/receptors near closed UST system.
_____	Tables 3-1,3-2 & 3-3	C. Soil and/or groundwater analytical sample results in table format from closure report.

NOTE: DEFICIENT "SFSS REPORTS AND CHARTS" SUBMITTED TO OUR OFFICE WILL BE RETURNED TO THE OWNER FOR COMPLETION. SEND THE "SFSS REPORT AND CHART" TO THE ADDRESS AS INDICATED ON THE ENCLOSED COVER LETTER.

Preparer Name: Thomas J. Wey Signature: T. J. Wey Date: 3/1/93

Owner/Operator: W. John Ridd Signature: W. John Ridd Date: 3/29/93

BUREAU USE ONLY

Reviewed By: _____ Signature: _____ Date: _____

SFM SITE FEATURE SCORING SYSTEM (SFSS) CHART

(USE "SFSS GUIDELINES" TO COMPLETE THIS CHART)

I. OWNERSHIP OF TANKS	II. LOCATION OF TANKS
OWNER NO. 7564 GMC HARRISON DIVISION 300 TAYLOR STREET, PO BX 824 DAYTON, OH 45401 W. JOHN RIDD 513-455-4408	INCIDENT NO. 578530-00 FACILITY NO. 570003 GMC HARRISON DIVISION-DAYTON PLANT 300 TAYLOR STREET MONTGOMERY COUNTY DAYTON, OH 45401 TANK NO. 5

Site Features	COLUMN A		COLUMN B		COLUMN C		COLUMN D	
	Score 20	Enter Score	Score 15	Enter Score	Score 10	Enter Score	Score 5	Enter Score
1. Distance of UST system from closest potable-water supply source currently in use is:	> 1000 ft.		300-1000 ft		< 300 ft.		Inside of designated sensitive area	5
2. Depth to groundwater is:	> 50 ft.		31-50 ft.		15-30 ft. or unknown		< 15 ft.	5
3. Predominant soil type of substratum is:	Clay or shale		Silt or clayey sands or fine sandstone		Silty sand or fine sand, unknown, or sandstone		Clean sand, gravel, or conglomerate	5
4. Natural and/or man-made conduits or receptors - See Worksheet Below	< 8		8-10		11-13		> 13	5
Subtotals:		0		0		0		20
							TOTAL SCORE (SUBTOTALS)	20

SITE FEATURE 4 WORKSHEET:

Basements or subsurface foundations within 100 feet of UST system	4 points	X
Storm sewer within 50 feet of UST system	4 points	X
Sanitary sewer within 50 feet of UST system	4 points	
Septic system leach field within 50 feet of UST system	2 points	
Water line main within 50 feet of UST system	1 point	
Natural Gas line main within 50 feet of UST system	1 point	
Bedrock area prone to dissolution along joints of fractures within 100 feet of UST system	1 point	
Faults or known fractures within 100 feet of UST system	1 point	
Buried telephone/television cable main within 50 feet of UST system	1 point	
Buried electrical cable main within 50 feet of UST system	1 point	
	TOTAL POINTS	8

SSFS ACTION LEVELS (PPM)

CONSTITUENT	CATEGORY 1	CATEGORY 2	CATEGORY 3	CATEGORY 4
TOTAL SCORE	< 31	31-50	51-70	> 71
Soil BTEX	.006/4/6/28	.170/7/10/47	.335/9/14/67	.500/12/18/85
Groundwater BTEX	.005/1/.700/10	.005/1/.700/10	.005/1/700/10	.005/1/ 700/10
Soil TPH (Gasoline)	105	300	450	600
Soil TPH (Others)	380	642	904	1156

SFM SITE FEATURE SCORING SYSTEM (SFSS) CHART

(USE "SFSS GUIDELINES" TO COMPLETE THIS CHART)

I. OWNERSHIP OF TANKS	II. LOCATION OF TANKS
OWNER NO. 7564 GMC HARRISON DIVISION 300 TAYLOR STREET, PO BX 824 DAYTON, OH 45401 W. JOHN RIDD 513-455-4408	INCIDENT NO. 578530-00 FACILITY NO. 570003 GMC HARRISON DIVISION-DAYTON PLANT 300 TAYLOR STREET MONTGOMERY COUNTY DAYTON, OH 45401 TANK NO. 7

Site Features	COLUMN A		COLUMN B		COLUMN C		COLUMN D	
	Score 20	Enter Score	Score 15	Enter Score	Score 10	Enter Score	Score 5	Enter Score
1. Distance of UST system from closest potable-water supply source currently in use is:	> 1000 ft.		300-1000 ft		< 300 ft.		Inside of designated sensitive area	5
2. Depth to groundwater is:	> 50 ft.		31-50 ft.		15-30 ft. or unknown		< 15 ft.	5
3. Predominant soil type of substratum is:	Clay or shale		Silt or clayey sands or fine sandstone		Silty sand or fine sand, unknown, or sandstone		Clean sand, gravel, or conglomerate	5
4. Natural and/or man-made conduits or receptors - See Worksheet Below	< 8		8-10		11-13		> 13	5
Subtotals:		0		0		0		20
							TOTAL SCORE (SUBTOTALS)	20

SITE FEATURE 4 WORKSHEET:

Basements or subsurface foundations within 100 feet of UST system	4 points	X
Storm sewer within 50 feet of UST system	4 points	X
Sanitary sewer within 50 feet of UST system	4 points	
Septic system leach field within 50 feet of UST system	2 points	
Water line main within 50 feet of UST system	1 point	
Natural Gas line main within 50 feet of UST system	1 point	
Bedrock area prone to dissolution along joints of fractures within 100 feet of UST system	1 point	
Faults or known fractures within 100 feet of UST system	1 point	
Buried telephone/television cable main within 50 feet of UST system	1 point	
Buried electrical cable main within 50 feet of UST system	1 point	
	TOTAL POINTS	8

SSFS ACTION LEVELS (PPM)

CONSTITUENT	CATEGORY 1	CATEGORY 2	CATEGORY 3	CATEGORY 4
TOTAL SCORE	< 31	31-50	51-70	> 71
Soil BTEX	.006/4/6/28	.170/7/10/47	.335/9/14/67	.500/12/18/85
Groundwater BTEX	.005/1/.700/10	.005/1/.700/10	.005/1/700/10	.005/1/.700/10
Soil TPH (Gasoline)	105	300	450	600
Soil TPH (Others)	380	642	904	1156

SFM SITE FEATURE SCORING SYSTEM (SFSS) CHART

(USE "SFSS GUIDELINES" TO COMPLETE THIS CHART)

I. OWNERSHIP OF TANKS	II. LOCATION OF TANKS
OWNER NO. 7564 GMC HARRISON DIVISION 300 TAYLOR STREET, PO BX 824 DAYTON, OH 45401 W. JOHN RIDD 513-455-4408	INCIDENT NO. 578530-00 FACILITY NO. 570003 GMC HARRISON DIVISION-DAYTON PLANT 300 TAYLOR STREET MONTGOMERY COUNTY DAYTON, OH 45401 TANK NOS. 12 & 13

Site Features	COLUMN A		COLUMN B		COLUMN C		COLUMN D	
	Score 20	Enter Score	Score 15	Enter Score	Score 10	Enter Score	Score 5	Enter Score
1. Distance of UST system from closest potable-water supply source currently in use is:	> 1000 ft.		300-1000 ft		< 300 ft.		Inside of designated sensitive area	5
2. Depth to groundwater is:	> 50 ft.		31-50 ft.		15-30 ft. or unknown		< 15 ft.	5
3. Predominant soil type of substratum is:	Clay or shale		Silt or clayey sands or fine sandstone		Silty sand or fine sand, unknown, or sandstone		Clean sand, gravel, or conglomerate	5
4. Natural and/or man-made conduits or receptors - See Worksheet Below	< 8		8-10		11-13		> 13	5
Subtotals:		0		0		0		20
							TOTAL SCORE (SUBTOTALS)	20

SITE FEATURE 4 WORKSHEET:

Basements or subsurface foundations within 100 feet of UST system	4 points	X
Storm sewer within 50 feet of UST system	4 points	X
Sanitary sewer within 50 feet of UST system	4 points	
Septic system leach field within 50 feet of UST system	2 points	
Water line main within 50 feet of UST system	1 point	X
Natural Gas line main within 50 feet of UST system	1 point	
Bedrock area prone to dissolution along joints of fractures within 100 feet of UST system	1 point	
Faults or known fractures within 100 feet of UST system	1 point	
Buried telephone/television cable main within 50 feet of UST system	1 point	
Buried electrical cable main within 50 feet of UST system	1 point	
	TOTAL POINTS	9

SSFS ACTION LEVELS (PPM)

CONSTITUENT	CATEGORY 1	CATEGORY 2	CATEGORY 3	CATEGORY 4
TOTAL SCORE	< 31	31-50	51-70	> 71
Soil BTEX	.006/4/6/28	.170/7/10/47	.335/9/14/67	.500/12/18/85
Groundwater BTEX	.005/1/.700/10	.005/1/.700/10	.005/1/700/10	.005/1/.700/10
Soil TPH (Gasoline)	105	300	450	600
Soil TPH (Others)	380	642	904	1156

Department of Commerce
Division of State Fire Marshal

Ted Strickland, Governor
Kimberly A Zurz, Director

May 03, 2010

PAMELA BARNETT
GM MORAINE ASSEMBLY
2601 STROOP RD
MORAINE, OH 45439-1410

SITE: THERMAL SYSTEMS
(UST #12 – LOADING DOCK-BLDG 7)
300 TAYLOR ST
DAYTON OH
MONTGOMERY COUNTY
RELEASE #57000003-N00007

RE: TIER 1 SOURCE INVESTIGATION REQUIRED

Dear Ms. Barnett:

The Bureau of Underground Storage Tank Regulations (BUSTR) has reviewed your report titled "BUSTR Closure Form - 2005" that was received on April 7, 2010. BUSTR has determined that soil and/or ground water contamination exists in excess of the action levels applicable to this site. You are required to perform a Tier 1 Source Investigation as prescribed in Ohio Administrative Code 1301:7-9-13(H), effective March 2005, and explained in BUSTR's *Technical Guidance Manual (2005)*. These documents describe the activities that must be performed during the tier evaluation and the information that is to be submitted to BUSTR. You must submit either the Tier 1 Evaluation or the Tier 1 Delineation Notification report on or before August 03, 2010.

Publications that may help you to understand the requirements for compliance with BUSTR's rules and regulations may be found on the Internet at http://www.com state.oh.us/fire/bustMain.aspx *or* by calling our office.

Thank you for your cooperation. If you have any questions, please contact me at 614-752-7928.

Sincerely,

Scott Sigler, CHMM
Environmental Specialist

xc: Site File

Bureau of Underground Storage Tank Regulations
8895 East Main Street
Reynoldsburg, OH 43068 U.S.A.

614 | 752 7938
Fax 614 | 752 7942
TTY/TDD 800 | 750 0750
www.com.ohio.gov

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BUSTR CLOSURE FORM – 2005

(Due within ninety days from the date of sample collection)

OWNER/OPERATOR AND FACILITY DATA

UST OWNER INFORMATION:

COMPANY: The City of Dayton, OH
ADDRESS: 101 West Third Street
CITY, STATE: Dayton, OH
ZIP: 45402
CONTACT PERSON: Mr. Chris Lipson
PHONE: 937-333-3820
PERMIT #: NA

FACILITY INFORMATION:

COMPANY: Former General Motors/Harrison/Delphi Site.
ADDRESS: 300 Taylor Street
CITY: Dayton
COUNTY: Montgomery
LAT/LONG: 39.76647, -84.179879
FACILITY ID#: NA
FIRE DEPARTMENT: City of Dayton

UST OPERATOR INFORMATION:

COMPANY: NA
ADDRESS:
CITY, STATE:
ZIP:
CONTACT PERSON:
PHONE:

PROPERTY OWNER INFORMATION:

COMPANY: City of Dayton, Ohio
ADDRESS: 101 W. Third Street
CITY, STATE: Dayton, OH
ZIP: 45402
CONTACT PERSON: Chris Lipson
PHONE: 937-333-3820

DATE THE UST WAS LAST USED: 1987 (reportedly)
PERSON (COMPANY) THAT LAST USED THE UST: General Motors Corp.

SITE HISTORY AND VISUAL SITE EVALUATION

During former operations by General Motors/Harrison/Delphi, the tank collected used Stoddard solvent (degreasing solvent) from various locations throughout the facility through above-ground piping. At the time the tank was registered with BUSTR, the facility ID was 57000003 and the tank was identified as Tank ID 12. The tank was located beneath the Building 7 loading dock at the facility (see site plan). The tank was reportedly last used in 1987 when it was emptied, cleaned and taken out of service. The UST was closed in place by permanent abandonment in 2001 with permission from the State Fire Marshall (20 February 2001). The 2001 closure was conducted under supervision of a BUSTR-certified UST installer and inspected by a BUSTR-certified Inspector (see Appendix G). In 2009, The City of Dayton elected to demolish the facility for redevelopment and the abandoned tank was removed. The tank cavity was exposed by demolition of the overlying building and pavement, then the flowable fill (from the 2001 closure) was removed from the tank, the tank was removed, and tank was cut-up and recycled.

CLOSURE CONCLUSIONS

Select one of the following:

☒ A TIER 1 SOURCE INVESTIGATION IS REQUIRED

☐ NO FURTHER ACTION REQUESTED

Revised 3/4/2005

UNDERGROUND STORAGE TANK (UST) SYSTEM DATA

UST #	AGE	CAPACITY	PRODUCT	CONST. MATERIAL	UST STATUS	DATE LAST USED	PIPE STATUS	DISP. STATUS	DATE REMOVED
1	Unknown	10,000 gal	Stoddard Solvent	Steel	R	1987	NA	NA	12-16-10

STATUS= OOS<90 *– Out of Service < 90 days* ***OOS>90*** *– Out of Service > 90 days* ***RE*** *- Replace* ***R*** *- Removed*
CIU *- Currently In Use* ***NA*** *- Not Applicable* ***CIS*** *- Change in Service* ***CIP*** *- Closed in Place*

SAMPLE DATA

SAMPLE COLLECTION PROCEDURES:

SAMPLE PRESERVATION: Samples collected in jars for possible submission to the laboratory were photographed then placed into a cooler with ice immediately following sample collection. The cooler was maintained with ice until the samples were delivered to the laboratory under chain-of-custody.

SAMPLING EQUIPMENT: Samples were collected with disposable scoops. A new scoop was used for each sample.

SAMPLING METHOD: Soil samples from the excavation were collected using the bucket of the track hoe and disposable scoops. The sampler wore a new pair of disposable nitrile gloves for each sample and a new scoop was used for each sample. For the stockpile samples, the collection method was the same, except that the pile was sampled directly by hand digging with a small shovel at the selected location to a depth of 1 ft, then the sample was collected with a scoop from the bottom of hole.

FIELD SCREENING:

INSTRUMENT USED: RAE Systems, Inc. Multi-RAE Plus Photoionization Detector

METHODOLOGY USED: Each sample was split as follows: one portion placed into two 4 oz. glass jars with teflon lids for submission to the laboratory; a second portion was placed into a new, clean one-quart Ziploc bag for field screening. The screening sample in the Ziploc bag was allowed to equilibrate in the sun for approximately 15 minutes, then the headspace was screened using the Multi-RAE. Concentrations were measured in parts per million.

CALIBRATION PROCEDURES:

The Multi-RAE was calibrated prior to use using a certified compressed gas cylinder (100 ppm isobutylene) on the morning of use. The instrument response was checked at the end of the work day with the isobutylene standard.

GROUNDWATER DATA

MARK THE CORRECT CHOICE:

SENSITIVE AREA: YES ☒ NO ☐ (Great Miami/Little Miami River Basins of Southwestern Ohio)

DEPTH TO GROUND WATER: < 15' ☒ 15-30' ☐ 31-50' ☐ > 50' ☐ ACTUAL DEPTH: _____
IF UNKNOWN DEPTH TO GROUND WATER, DEFAULT TO <15 FEET
IF A DEPTH TO GROUND WATER OTHER THAN <15' IS USED, DOCUMENTATION MUST BE PROVIDED.

WAS WATER PRESENT IN EXCAVATION?	YES ☐	NO ☒
WAS A WATER SAMPLE TAKEN?	YES ☐	NO ☒
WATER SAMPLE COLLECTED AFTER EXCAVATION EVACUATED?	YES ☐	NO ☒

IF NO, EXPLAIN: No water was present in the excavation.

SOIL DATA

CIRCLE CORRECT CHOICE:

SOIL CLASSIFICATION:	SOIL CLASS 1	SOIL CLASS 2	SOIL CLASS 3
SOIL SYMBOL:	GW, GP, GM, GC, SW, SP, SM,	SC, ML, CL, OL, MH	CH, OH, PT

MARK THE CORRECT CHOICE: SOIL CLASS 1 ☒ SOIL CLASS 2 ☐ SOIL CLASS 3 ☐

NOTE: GEOTECHNICAL LAB ANALYSIS MUST BE PROVIDED IF SOIL CLASS 2 OR 3 IS USED

FIELD SCREENING DATA

DATE SAMPLE COLLECTED	SAMPLE ID	LOCATION	DEPTH	FIELD SCREENING READING	SUBMITTED TO LAB?
12-16-09	091216-1	Wall-southwest	9 ft	0.1 ppm	☐
12-16-09	091216-2	Wall-northwest	8 ft	14.7 ppm	☐
12-16-09	091216-3	Bottom-south end	12 ft	97.5 ppm	☒
12-16-09	091216-4	Wall-southeast	9 ft	28.9 ppm	☐
12-16-09	091216-5	Wall-northeast	8 ft	181 ppm	☒
12-16-09	091216-6	Bottom-north end	12 ft	41.6 ppm	☐
12-16-09	091216-7	Stockpile-north	1 ft.	30.5 ppm	☒
12-16-09	091216-8	Stockpile-south	1 ft.	1.3 ppm	☒
12-16-09	091216-9	Stockpile-center	1 ft.	1.2 ppm	☐
					☐
					☐
					☐
					☐
					☐
					☐

NAME AND AFFILIATION OF PERSON COLLECTING SAMPLES:
David Robinson, Weston Solutions, Inc.

DIMENSIONS OF EXCAVATION: 25' (L) x 12' (W) x 12' (H)

LABORATORY DATA

LABORATORY NAME: Belmont Labs

ADDRESS: 25 Holiday Drive, Englewood, OH 45322

PHONE #: 937-832-8242

LABORATORY ANALYST NAME: Holly Green

CHEMICAL OF CONCERN / TEST METHOD: TPH C10-C34, TPH-GRO, VOC/BTEX, SVOC, PCB's

DATE SAMPLES RECEIVED BY LAB: 12-17-09

DATE SAMPLES ANALYZED BY LAB: VOCs, SVOCs, TPH: 12-18-09 to 12-22-09; PCB's (stockpile): 1-4-10

UST EXCAVATION ANALYTICAL RESULTS

SAMPLE ID:	WATER	WATER	ACTION LEVEL	SOIL 091216-3	SOIL 091216-5	SOIL	SOIL	ACTION LEVEL
CHEMICAL OF CONCERN:								
BENZENE			0.005	<0.022	<0.013			0.149
TOLUENE			1	<0.022	<0.013			49.1
ETHYLBENZENE			0.7	0.120	<0.264			45.5
TOTAL XYLENES (*)			10	0.727	<0.791			15.7
MTBE			0.04	<0.0441	<0.0261			0.470
BENZO (a) ANTHRACENE			0.00026	<0.125	<1.05			11.0
BENZO (a) PYRENE			0.0002	<0.125	<1.05			1.1
BENZO (b) FLUORANTHENE			0.00017	<0.125	<1.05			11.0
BENZO (k) FLUORANTHENE			0.0017	<0.125	<1.05			110.0
CHRYSENE			0.047	<0.125	<1.05			1,100.0
DIBENZ (a,h) ANTHRACENE			0.0002	<0.125	<1.05			1.1
INDENO (1,2,3-cd) PYRENE			0.00022	<0.125	<1.05			11.0
NAPHTHALENE			0.14	<0.125	<1.05			39.8
TPH (C6-C12)			-	213	1,850			1,000.0
TPH (C10-C20)			-	429	1,530			2,000.0
TPH (C20-C34)			-	3,330	9,000			5,000.0
OTHER:								
2-CHLOROTOLUENE				<0.0221	0.927			
2-HEXANONE				<0.0882	0.552			
4-CHLOROTOLUENE				<0.0221	0.598			

(*) Value listed is a sum of the analytical results for m,p-Xylene and o-Xylene

Concentrations are reported in mg/kg for soil and mg/L for water

IF ACTION LEVELS ARE EXCEEDED, CONDUCT A TIER 1 SOURCE INVESTIGATION PURSUANT TO OAC 1301:7-9-13(H).

PIPING RUN, REMOTE FILL PIPE, DISPENSER ISLAND ANALYTICAL RESULTS

SAMPLE ID:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	ACTION LEVEL
CHEMICAL OF CONCERN:								
BENZENE								0.149
TOLUENE								49.1
ETHYLBENZENE								45.5
TOTAL XYLENES								15.7
MTBE								0.470
BENZO (a) ANTHRACENE								11.0
BENZO (a) PYRENE								1.1
BENZO (b) FLUORANTHENE								11.0
BENZO (k) FLUORANTHENE								110.0
CHRYSENE								1,100.0
DIBENZ (a,h) ANTHRACENE								1.1
INDENO (1,2,3-cd) PYRENE								11.0
NAPHTHALENE								39.8
TPH (C6-C12)								1,000.0
TPH (C10-C20)								2,000.0
TPH (C20-C34)								5,000.0
OTHER:								

IF ACTION LEVELS ARE EXCEEDED, CONDUCT A TIER 1 SOURCE INVESTIGATION PURSUANT TO OAC 1301:7-9-13(H).

STOCKPILE ANALYTICAL RESULTS

STOCKPILE ID:	091216-7	091216-8					ACTION LEVEL	RE-USE LEVEL
CUBIC YARDS:	22	22						
STOCKPILE DISPOSITION*	L	L						
CHEMICAL OF CONCERN:								
BENZENE	<0.0272	<0.00573					0.149	0.015
TOLUENE	<0.0272	<0.00573					49.1	4.91
ETHYLBENZENE	<0.0272	<0.00573					45.5	4.55
TOTAL XYLENES	0.0799	<0.0172					15.7	15.7
MTBE	<0.0545	<0.0115					0.470	0.047
BENZO (a) ANTHRACENE	<0.114	<0.114					11.0	2.2
BENZO (a) PYRENE	<0.114	<0.114					1.1	1.1
BENZO (b) FLUORANTHENE	<0.114	<0.114					11.0	5.53
BENZO (k) FLUORANTHENE	<0.114	<0.114					110.0	1.97
CHRYSENE	<0.114	<0.114					1,100.0	1.27
DIBENZ (a,h) ANTHRACENE	<0.114	<0.114					1.1	0.94
INDENO (1,2,3-cd) PYRENE	<0.114	<0.114					11.0	0.15
NAPHTHALENE	0.131	<0.114					39.8	3.98
TPH (C6-C12)	<11.1	<8.72					1,000.0	1,000.0
TPH (C10-C20)	1,670	<11.5					2,000.0	2,000.0
TPH (C20-C34)	7,790	<573					5,000.0	5,000.0
OTHER:								
PCB's: AROCLOR 1242	31.5	< 2.29						
PCB's: AROCLOR 1248	<0.0229	11.7						
2-CHLOROTOLUENE	0.0438	<0.00573						
4-CHLOROTOLUENE	0.107	<0.00573						
BROMOBENZENE	0.0493	<0.00573						

*R=*RETURNED TO CAVITY* L=*LANDFILL* S=*STOCKPILED* T=*TREATMENT BY O/O (requires PCS Treatment Plan)*

WASTE DISPOSAL DATA

UST SYSTEM DISPOSITION:

NAME: Franklin Iron & Metal, Recycler

ADDRESS: 2015 E. First Street

CITY/STATE/ZIP: Dayton, OH 45403

PRODUCT DISPOSITION:

NAME:
ADDRESS:
CITY:
STATE/ZIP:
VOLUME/GALLONS: NA

WASTEWATER DISPOSITION:

NAME:
ADDRESS:
CITY:
STATE/ZIP:
VOLUME/GALLONS: Empty

PETROLEUM CONTAMINATED SOIL (PCS) FORM

This form should be completed and submitted within 120 days of generating a stockpile, within 180 days of placing the soil in portable containers, or prior to storage or treatment, whichever comes first.
A separate PCS form shall be completed for each stockpile generated.

OWNER/OPERATOR INFORMATION

OWNER/OPERATOR NAME	CONTACT PERSON:	AREA CODE-PHONE
The City of Dayton, Ohio	Chris Lipson	937-333-3820

CITY	STATE	ZIP CODE
101 West Third Street, Dayton	OH	45402

UST FACILITY INFORMATION	STORAGE FACILITY INFORMATION	FACILITY WHERE SOILS WILL BE DISPOSED OF OR TREATED
FACILITY ID#	FACILITY ID#	
FACILITY NAME GM/Harrison/Delphi	FACILITY NAME	FACILITY NAME Wayne Disposal, Inc.
ADDRESS 300 Taylor Street	ADDRESS	ADDRESS 49350 North I-94 Service Drive
CITY / STATE / ZIP CODE Dayton / OH / 45402	CITY / STATE / ZIP CODE	CITY / STATE / ZIP CODE Belleville / MI / 48111
TELEPHONE / COUNTY 937-333-3820 / Montgomery	TELEPHONE / COUNTY / DATE TRANSFERRED	STOCKPILE DESIGNATION (e.g., pile #1, pile from waste oil cavity, etc.) Pile from Bldg 7 UST excavation

DATE STOCKPILE WAS GENERATED 12-17-09

Cubic Yards

_____	On-site treatment (requires a treatment plan)
_____	Off-site treatment (requires a treatment plan)
_____	Soil analysis falls below Rule 16 re-use levels (RUL)
_____	Returned to excavation (below site specific action levels) (RTE BAL)
_____	Returned to excavation (above site specific action levels) (RTE AAL)
_____	Disposal at a landfill (LFL)
22	Disposal at a treatment facility (COM)
_____	Stockpile remains on-site (provide written explanation) (SOS)

MISCELLANEOUS DATA

ADDITIONAL INFORMATION WHICH IS REQUIRED BY OAC 1301:7-9-12 OR ADDITIONAL INFORMATION WHICH CLARIFIES CLOSURE ACTIVITIES SHALL BE SUBMITTED AS APPENDICIES TO THIS REPORT.

THE FOLLOWING ITEMS MUST BE ATTACHED:

Appendix A – Figures (includes Topographic & Site Maps)
Appendix B - Permit
Appendix C - Field inspection report
Appendix D - Laboratory analytical report
Appendix E - Chain of custody form
Appendix F - Disposal documentation
Appendix G – Miscellaneous Data

SITE MAP: Site maps, drawn to scale, must be included in Appendix A. Maps should include property boundaries, street locations, UST cavity dimensions, above ground structures, UST systems, adjacent properties, sample locations, any utilities, and the location(s) of previously closed UST systems.

CERTIFIED FIRE SAFETY INSPECTOR:

NAME: NA
COMPANY/FD:
ADDRESS:
PHONE #:
INSPECTOR ID #:

CERTIFIED INSTALLER:

NAME: NA
COMPANY
ADDRESS
PHONE #
ID #:

Note: No certified installer or fire safety inspector are listed because the tank had been abandoned in place with approval of the State Fire Marshall in 2001.

CLOSURE FORM PREPARED BY:

NAME: David Robinson
COMPANY: Weston Solutions, Inc.
ADDRESS: 711 E. Monument Ave., #201, Dayton, OH 45402
PHONE #: 937-531-4400
EMAIL: david.robinson@westonsolutions.com

Closure Form **must** be signed by the UST owner/operator. The owner/operator is responsible for ensuring all data is accurate, and the closure form is legible and complete.

OWNER / OPERATOR SIGNATURE: _____

PRINT NAME: **Chris Lipson** **DATE:** _____

CHEMICALS OF CONCERN AND RECOMMENDED LABORATORY METHODS

Analytical Group 1 - light distillate products - including unleaded gasoline, leaded gasoline and aviation gasoline;

Analytical Group 2 - middle distillate products - including diesel, light fuel oils, stoddard solvents, mineral spirits, kerosene, and jet fuels;

Analytical Group 3 - heavy petroleum distillate products - including, but not limited to, lubricating and hydraulic oils;

Analytical Group 4 - used oil

Analytical Group 5 - unknown petroleum products or petroleum products other than those listed in analytical groups 1, 2, 3 and 4. Additional chemical(s) of concern and analytical methods must be selected, as appropriate, based on reasonably available information related to the product stored, including additives, impurities and degradation products. In addition, chemical(s) of concern should be selected based on their toxicity, mobility, and persistence in the environment. The owners and operators shall consult with the fire marshal for the appropriate chemical(s) of concern for products not in analytical group 1, 2, 3 and 4.

	Analytical Group Number	**1**	**2**	**3**	**4**	**5**	**Analytical Methods**
		Light Distillates	Middle Distillates	Heavy Distillates	Used Oil	Unknowns & Others	
	Chemical						
Aromatics	Benzene	x	x		x		8021/8260
	Toluene	x	x		x		
	Ethylbenzene	x	x		x		
	o, m and p-Xylenes	x	x		x		
Additives	Methyl tertiary-butyl ether (MTBE)	x			x		
Polynuclear Aromatics	Benzo(a)anthracene		x	x	x		8270/8310
	Benzo(a)pyrene		x	x	x		
	Benzo(b)fluoranthene		x	x	x		
	Benzo(k)fluoranthene		x	x	x		
	Chrysene		x	x	x		
	Dibenz(a,h)anthracene		x	x	x		
	Indeno(1,2,3-c,d)pyrene		x	x	x		
	Naphthalene		x	x	x		
Chlorinated Hydrocarbons	Volatile Organic Hydrocarbons				x		8260
Total Petroleum Hydrocarbons *1	TPH (C6 – C12)	x			x		8015
	TPH (C10 – C20)		x		x		
	TPH (C20 – C34)			x	x		
	Varies based on UST contents			x	x	*2	

*1 TPH analysis is not required for ground water samples.

*2 Additional chemical(s) of concern and analytical methods must be selected, as appropriate, based on reasonably available information related to the product stored, including additives, impurities and degradation products. In addition, chemical(s) of concern should be selected based on their toxicity, mobility, and persistence in the environment. The owners and operators shall consult with the fire marshal for the appropriate chemical(s) of concern for products not in analytical group 1, 2, 3 and 4.

BUSTR CLOSURE ACTION LEVELS					
Chemicals of Concern	**Soil Action Levels**			**Water**	**PCS Re-use**
	Class 1 Soils	**Class 2 Soils**	**Class 3 Soils**		
Benzene	0.149	0.252	0.937	0.005	0.015
Toluene	49.1	70.8	86.0	1	4.91
Ethylbenzene	45.5	83.0	282.0	0.7	4.55
Total Xylenes	15.7	18.0	21.7	10	15.7
MTBE	0.470	0.788	3.440	0.04	0.047
Benzo(a)anthracene	11.0	11.0	11.0	0.00026	2.2
Benzo(a)pyrene	1.1	1.1	1.1	0.0002	1.1
Benzo(b)flouranthene	11.0	11.0	11.0	0.00017	5.53
Benzo(k)flouranthene	110.0	110.0	110.0	0.0017	1.97
Chrysene	1,100.0	1,100.0	1,100.0	0.047	1.27
Dibenz(a,h)anthracene	1.1	1.1	1.1	0.0002	0.94
Indeno(1,2,3-cd) pyrene	11.0	11.0	11.0	0.00022	0.15
Naphthalene	39.8	54.0	54.0	0.14	3.98
TPH C_6-C_{12}	1,000.0	5,000.0	8,000.0	-	1,000.0
TPH C_{10}-C_{20}	2,000.0	10,000.0	20,000.0	-	2,000.0
TPH C_{20}-C_{34}	5,000.0	20,000.0	40,000.0	-	5,000.0

Soil contaminant levels in mg/kg

Water contaminant levels in mg/L

APPENDICES

Appendix A – Figures

Figure 1 - Site Location Topographical Plan

Figure 2 - Site Map

Appendix B – Permit

NA

Appendix C - Field inspection report

NA

Appendix D - Laboratory Analytical Report

Belmont Laboratories – Work Order 09L0975

Belmont Laboratories – Work Order 09L1351

Appendix E – Chain-of-Custody Form

Appendix F - Disposal Documentation

Franklin Iron & Metal Dump Tickets for Tank Recycling

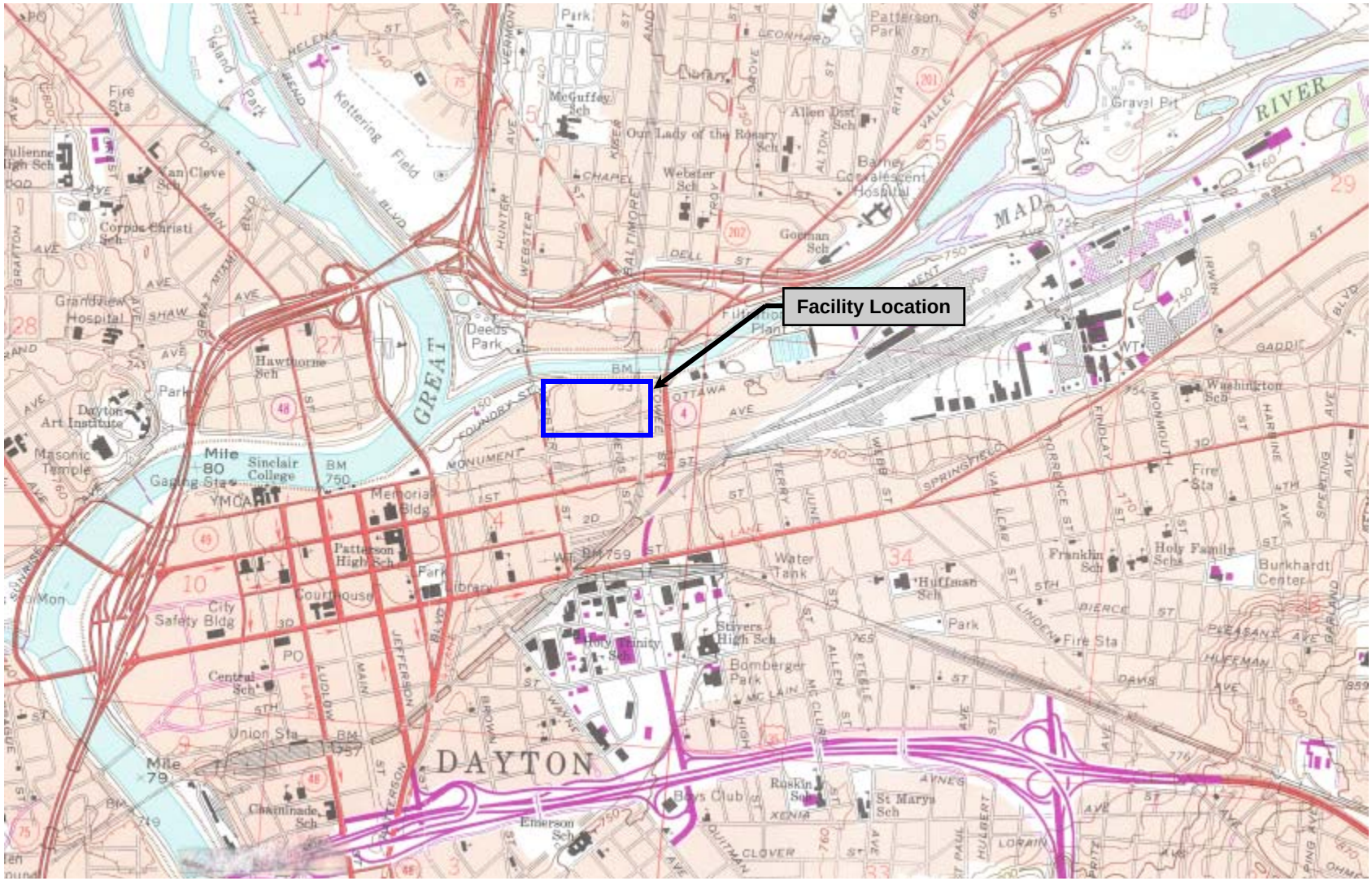
Wayne Disposal – Soil Manifest and Certificate of Disposal

Appendix G – Miscellaneous Data

Site Photographs

2001 Tank Abandonment Report

APPENDIX A



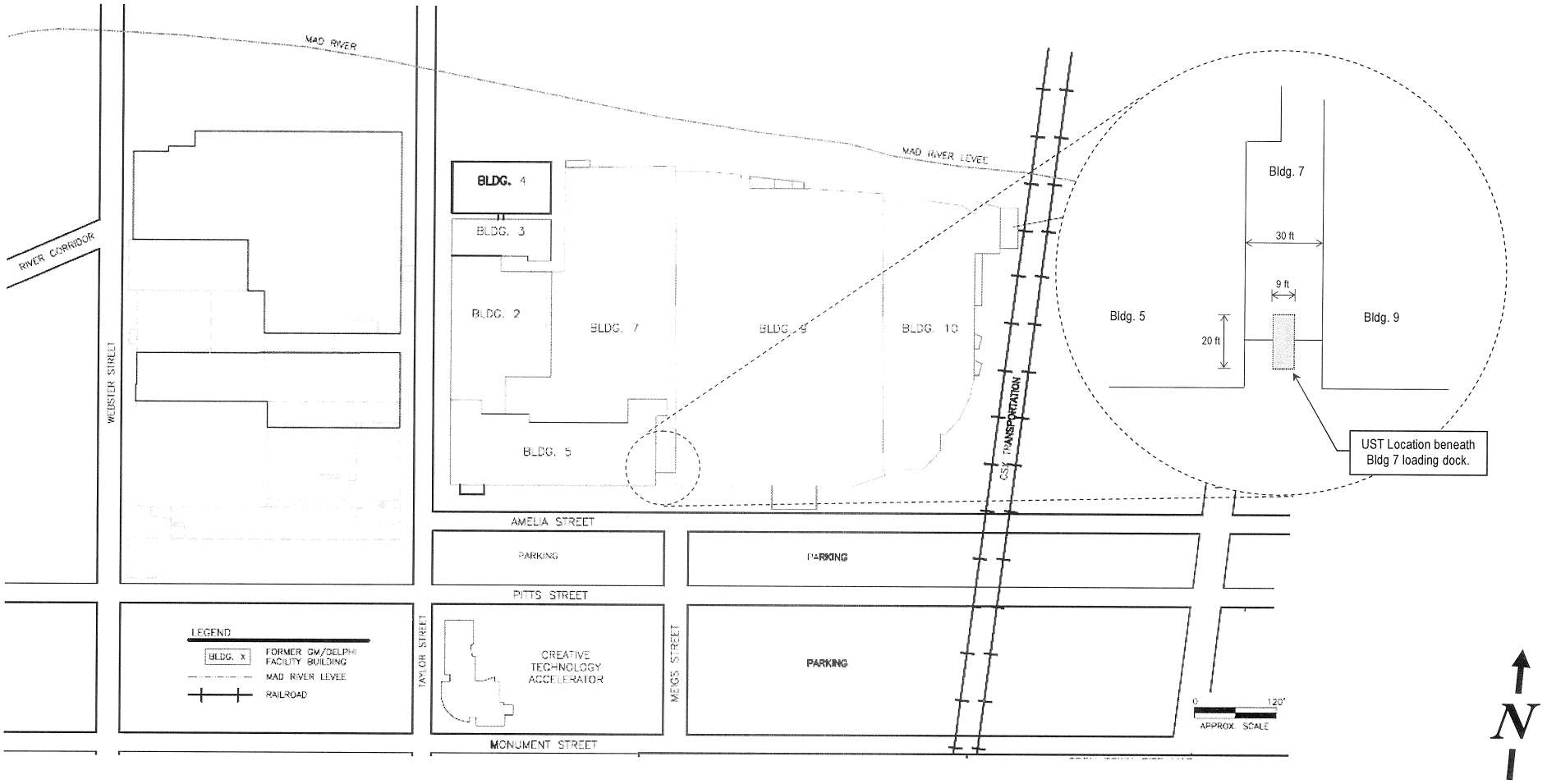
Site Location Topographical Map

USGS 7.5 min. "Dayton-North"

WESTON SOLUTIONS

711 E. Monument Ave.
Dayton, OH 45402
937.531.4400

Client: **City of Dayton, Ohio**		Project: 12473.005.005	Dwn. By: **DTR**	Date: **9-Mar-10**
Description: **Techtown Redevelopment** **300 Taylor Street** **Dayton, OH 45402**			Scale: **NTS**	Sheet No. **Fig. 1**



UST Location Plan

Note: All buildings shown in the drawing have been demolished.

WESTON SOLUTIONS
711 E. Monument Ave.
Dayton, OH 45402
937.531.4400

Client:	Project:	Dwn. By:	Date:
City of Dayton, Ohio	12473.005.005	DTR	9-Mar-10
Description: Techtown Redevelopment 300 Taylor Street Dayton, OH 45402		Scale: NTS	Sheet No. Fig. 2

APPENDIX B

There are no applicable documents for Appendix B

APPENDIX C

There are no applicable documents for Appendix C

APPENDIX D

Monday, December 28, 2009

Laura Funk
Weston Solutions, Inc. - Dayton
711 East Monument, Ste 201
Dayton, OHIO 45402
TEL: (937) 531-4400
FAX (937) 384-4201

RE: 12473.005.005 Work Order: 09L0975

Belmont Labs received 4 sample(s) on 12/17/2009 for the analyses presented in the following report.

Belmont Labs attests that all analytical methods were performed using acceptable methods, and that the QA/QC procedures stipulated in these methods were followed. USEPA's RCRA Program regards a statement of quality assurance as a legal means of assuring that acceptable and uniform laboratory methods and QA/QC practices were followed by the laboratory.

If you have any questions regarding the test results, please feel free to call me at (937) 832-8242.

Respectfully submitted,

Holly Green
Project Manager

Certifications: NELAP/NELAC - #04130 VAP - #CL0032
Ohio EPA Drinking water - #836 Ohio EPA Drinking water (Micro) - #872

Belmont Labs **Date:** 12/28/2009

CLIENT: Weston Solutions, Inc. - Dayton **Lab Order:** 09L0975
Project: 12473.005.005

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Sampled Date	Received Date
09L0975-01A	091216-3	12/16/2009 4:00:00PM	12/17/2009
09L0975-01B	091216-3	12/16/2009 4:00:00PM	12/17/2009
09L0975-02A	091216-5	12/16/2009 4:00:00PM	12/17/2009
09L0975-02B	091216-5	12/16/2009 4:00:00PM	12/17/2009
09L0975-03A	091216-7	12/16/2009 4:00:00PM	12/17/2009
09L0975-03B	091216-7	12/16/2009 4:00:00PM	12/17/2009
09L0975-04A	091216-8	12/16/2009 4:00:00PM	12/17/2009
09L0975-04B	091216-8	12/16/2009 4:00:00PM	12/17/2009

Belmont Labs **Date:** 12/28/2009

CLIENT: Weston Solutions, Inc. - Dayton **Lab Order:** 09L0975
Project: 12473.005.005

Lab ID: 09L0975-01 **Collection Date:** 12/16/2009 4:00:00PM
Client Sample ID: 091216-3 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Analyzed
TPH C10-34	**SW 8015**					**Analyst: DAG**	
C10 to C20	**429**	12.4		mg/kg dry	1	0951300	12/21/2009 4:15:00PM
C20 to C34	**3330**	622		mg/kg dry	1	0951300	12/21/2009 4:15:00PM
Surrogate: o-Terphenyl	*636 %*		*S-04*	*48-115*		*0951300*	12/21/2009 4:15:00PM
TPH GRO C6-C12	**SW 8015**					**Analyst: KDS**	
Gasoline Range Organics, C6 - C12	**213**	12.5	D	mg/kg dry	1.99	0952175	12/22/2009 6:53:00PM
Surrogate: a,a,a-Tr fluorotoluene	*93.0 %*			*59-162*		*0952175*	12/22/2009 6:53:00PM
VOC 8260	**SW 8260A**					**Analyst: kds**	
1,1,1,2-Tetrachloroethane	BDL	0.0221		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
1,1,1-Trichloroethane	BDL	0.0221		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
1,1,2,2-Tetrachloroethane	BDL	0.0221		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
1,1,2-Trichloroethane	BDL	0.0221		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
1,1-Dichloroethane	BDL	0.0221		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
1,1-Dichloroethene	BDL	0.0221		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
1,1-Dichloropropene	BDL	0.0221		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
1,2-Dibromoethane	BDL	0.0221		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
1,2-Dichloroethane	BDL	0.0221		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
1,2-Dichloropropane	BDL	0.0221		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
1,3-Dichloropropane	BDL	0.0221		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
2,2-Dichloropropane	BDL	0.0221		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
2-Butanone	BDL	0.0882		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
2-Chloroethyl vinyl ether	BDL	0.110		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
2-Chlorotoluene	BDL	0.0221		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
2-Hexanone	BDL	0.0882		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
4-Chlorotoluene	BDL	0.0221		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
4-Methyl-2-pentanone	BDL	0.0882		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
Acetone	BDL	0.221		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
Acetonitrile	BDL	0.176		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
Acrolein	BDL	0.0882		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
Acrylonitrile	BDL	0.0882		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
Allyl chloride	BDL	0.0441		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
Benzene	BDL	0.0221		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
Bromobenzene	BDL	0.0221		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
Bromochloromethane	BDL	0.0221		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
Bromodichloromethane	BDL	0.0221		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
Bromoform	BDL	0.0221		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
Bromomethane	BDL	0.0221		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
Carbon Disulfide	BDL	0.0882		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
Carbon Tetrachloride	BDL	0.0221		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
Chlorobenzene	BDL	0.0221		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
Chloroethane	BDL	0.0221		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
Chloroform	BDL	0.0221		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
Chloromethane	BDL	0.0221		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM

Lab ID: 09L0975-01 **Collection Date:** 12/16/2009 4:00:00PM
Client Sample ID: 091216-3 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Analyzed
cis-1,2-Dichloroethene	BDL	0.0221		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
cis-1,3-Dichloropropene	BDL	0.0221		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
Dibromochloromethane	BDL	0.0221		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
Dibromomethane	BDL	0.0221		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
Dichlorodifluoromethane	BDL	0.0221		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
Ethylbenzene	**0.120**	0.0221		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
Iodomethane	BDL	0.0441		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
Methylene Chloride	BDL	0.0221		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
Methyl tert-Butyl Ether	BDL	0.0441		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
m,p-Xylene	**0.362**	0.0441		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
n-Hexane	BDL	0.0221		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
o-Xylene	**0.365**	0.0221		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
Styrene	BDL	0.0221		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
Tetrachloroethene	BDL	0.0221		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
Toluene	BDL	0.0221		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
trans-1,2-Dichloroethene	BDL	0.0221		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
trans-1,3-Dichloropropene	BDL	0.0221		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
Trichloroethene	BDL	0.0221		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
Trichlorofluoromethane	BDL	0.0221		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
Vinyl Chloride	BDL	0.0221		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
Vinyl acetate	BDL	0.0441		mg/kg dry	3.52	0951322	12/18/2009 5:48:00AM
Surrogate: 4-Bromofluorobenzene	*769 %*		*S-04*	*34-118*		*0951322*	12/18/2009 5:48:00AM
Surrogate: Dibromofluoromethane	*81.9 %*			*61-152*		*0951322*	12/18/2009 5:48:00AM
Surrogate: Toluene-d8	*69.5 %*			*44-119*		*0951322*	12/18/2009 5:48:00AM
Surrogate: 1,2-Dichloroethane-d4	*84.6 %*			*39-123*		*0951322*	12/18/2009 5:48:00AM
PMOIST	**D 2216**					**Analyst: AD**	
Percent Moisture	**20.2**			% by Weight	1	0952183	12/23/2009 12:00:00AM
PAH_FULL_8270	**SW 8270C**					**Analyst: dag**	
2-Methylnaphthalene	BDL	0.125		mg/kg dry	1	0951299	12/22/2009 7:53:00AM
Acenaphthene	BDL	0.125		mg/kg dry	1	0951299	12/22/2009 7:53:00AM
Acenaphthylene	BDL	0.125		mg/kg dry	1	0951299	12/22/2009 7:53:00AM
Anthracene	BDL	0.125		mg/kg dry	1	0951299	12/22/2009 7:53:00AM
Benz(a)anthracene	BDL	0.125		mg/kg dry	1	0951299	12/22/2009 7:53:00AM
Benzo(a)pyrene	BDL	0.125		mg/kg dry	1	0951299	12/22/2009 7:53:00AM
Benzo(b)fluoranthene	BDL	0.125		mg/kg dry	1	0951299	12/22/2009 7:53:00AM
Benzo(g,h,i)perylene	BDL	0.125		mg/kg dry	1	0951299	12/22/2009 7:53:00AM
Benzo(k)fluoranthene	BDL	0.125		mg/kg dry	1	0951299	12/22/2009 7:53:00AM
Chrysene	BDL	0.125		mg/kg dry	1	0951299	12/22/2009 7:53:00AM
Dibenz(a,h)anthracene	BDL	0.125		mg/kg dry	1	0951299	12/22/2009 7:53:00AM
Fluoranthene	BDL	0.125		mg/kg dry	1	0951299	12/22/2009 7:53:00AM
Fluorene	BDL	0.125		mg/kg dry	1	0951299	12/22/2009 7:53:00AM
Indeno(1,2,3-cd)pyrene	BDL	0.125		mg/kg dry	1	0951299	12/22/2009 7:53:00AM

Belmont Labs **Date:** 12/28/2009

CLIENT: Weston Solutions, Inc. - Dayton **Lab Order:** 09L0975
Project: 12473.005.005

Lab ID: 09L0975-01 **Collection Date:** 12/16/2009 4:00:00PM
Client Sample ID: 091216-3 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Analyzed
Naphthalene	BDL	0.125		mg/kg dry	1	0951299	12/22/2009 7:53:00AM
Phenanthrene	BDL	0.125		mg/kg dry	1	0951299	12/22/2009 7:53:00AM
Pyrene	BDL	0.125		mg/kg dry	1	0951299	12/22/2009 7:53:00AM
Surrogate: Nitrobenzene-d5	*103 %*			*57-116*		*0951299*	12/22/2009 7:53:00AM
Surrogate: 2-Fluorobiphenyl	*92.1 %*			*64-110*		*0951299*	12/22/2009 7:53:00AM
Surrogate: Terphenyl-d14	*84.9 %*			*46-124*		*0951299*	12/22/2009 7:53:00AM

CLIENT: Weston Solutions, Inc. - Dayton **Lab Order:** 09L0975
Project: 12473.005.005

Lab ID: 09L0975-02 **Collection Date:** 12/16/2009 4:00:00PM
Client Sample ID: 091216-5 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Analyzed
TPH C10-34	**SW 8015**					**Analyst: DAG**	
C10 to C20	**1530**	105	D	mg/kg dry	10	0951300	12/22/2009 10:04:00AM
C20 to C34	**9000**	525		mg/kg dry	1	0951300	12/21/2009 4:51:00PM
Surrogate: o-Terphenyl	*99.3 %*			*48-115*		*0951300*	12/21/2009 4:51:00PM
TPH GRO C6-C12	**SW 8015**					**Analyst: KDS**	
Gasoline Range Organics, C6 - C12	**1850**	264	D	mg/kg dry	50	0952175	12/23/2009 2:03:00AM
Surrogate: a,a,a-Tr fluorotoluene	*103 %*			*59-162*		*0952175*	12/23/2009 2:03:00AM
VOC 8260	**SW 8260A**					**Analyst: kds**	
1,1,1,2-Tetrachloroethane	BDL	0.264	R-01	mg/kg dry	50	0951322	12/18/2009 7:37:00PM
1,1,1-Trichloroethane	BDL	0.0130		mg/kg dry	2.47	0951322	12/18/2009 4:42:00AM
1,1,2,2-Tetrachloroethane	BDL	0.264	R-01	mg/kg dry	50	0951322	12/18/2009 7:37:00PM
1,1,2-Trichloroethane	BDL	0.0130		mg/kg dry	2.47	0951322	12/18/2009 4:42:00AM
1,1-Dichloroethane	BDL	0.0130		mg/kg dry	2.47	0951322	12/18/2009 4:42:00AM
1,1-Dichloroethene	BDL	0.0130		mg/kg dry	2.47	0951322	12/18/2009 4:42:00AM
1,1-Dichloropropene	BDL	0.0130		mg/kg dry	2.47	0951322	12/18/2009 4:42:00AM
1,2-Dibromoethane	BDL	0.264	R-01	mg/kg dry	50	0951322	12/18/2009 7:37:00PM
1,2-Dichloroethane	BDL	0.0130		mg/kg dry	2.47	0951322	12/18/2009 4:42:00AM
1,2-Dichloropropane	BDL	0.0130		mg/kg dry	2.47	0951322	12/18/2009 4:42:00AM
1,3-Dichloropropane	BDL	0.0130		mg/kg dry	2.47	0951322	12/18/2009 4:42:00AM
2,2-Dichloropropane	BDL	0.0130		mg/kg dry	2.47	0951322	12/18/2009 4:42:00AM
2-Butanone	BDL	0.0521		mg/kg dry	2.47	0951322	12/18/2009 4:42:00AM
2-Chloroethyl vinyl ether	BDL	0.0651		mg/kg dry	2.47	0951322	12/18/2009 4:42:00AM
2-Chlorotoluene	**0.927**	0.264	R-01	mg/kg dry	50	0951322	12/18/2009 7:37:00PM
2-Hexanone	**0.552**	0.0521		mg/kg dry	2.47	0951322	12/18/2009 4:42:00AM
4-Chlorotoluene	**0.598**	0.264	R-01	mg/kg dry	50	0951322	12/18/2009 7:37:00PM
4-Methyl-2-pentanone	BDL	0.0521		mg/kg dry	2.47	0951322	12/18/2009 4:42:00AM
Acetone	BDL	0.130		mg/kg dry	2.47	0951322	12/18/2009 4:42:00AM
Acetonitrile	BDL	0.104		mg/kg dry	2.47	0951322	12/18/2009 4:42:00AM
Acrolein	BDL	0.0521		mg/kg dry	2.47	0951322	12/18/2009 4:42:00AM
Acrylonitrile	BDL	0.0521		mg/kg dry	2.47	0951322	12/18/2009 4:42:00AM
Allyl chloride	BDL	0.0261		mg/kg dry	2.47	0951322	12/18/2009 4:42:00AM
Benzene	BDL	0.0130		mg/kg dry	2.47	0951322	12/18/2009 4:42:00AM
Bromobenzene	BDL	0.264	R-01	mg/kg dry	50	0951322	12/18/2009 7:37:00PM
Bromochloromethane	BDL	0.0130		mg/kg dry	2.47	0951322	12/18/2009 4:42:00AM
Bromodichloromethane	BDL	0.0130		mg/kg dry	2.47	0951322	12/18/2009 4:42:00AM
Bromoform	BDL	0.264	R-01	mg/kg dry	50	0951322	12/18/2009 7:37:00PM
Bromomethane	BDL	0.0130		mg/kg dry	2.47	0951322	12/18/2009 4:42:00AM
Carbon Disulfide	BDL	0.0521		mg/kg dry	2.47	0951322	12/18/2009 4:42:00AM
Carbon Tetrachloride	BDL	0.0130		mg/kg dry	2.47	0951322	12/18/2009 4:42:00AM
Chlorobenzene	BDL	0.264	R-01	mg/kg dry	50	0951322	12/18/2009 7:37:00PM
Chloroethane	BDL	0.0130		mg/kg dry	2.47	0951322	12/18/2009 4:42:00AM
Chloroform	BDL	0.0130		mg/kg dry	2.47	0951322	12/18/2009 4:42:00AM
Chloromethane	BDL	0.0130		mg/kg dry	2.47	0951322	12/18/2009 4:42:00AM

CLIENT: Weston Solutions, Inc. - Dayton **Lab Order:** 09L0975
Project: 12473.005.005

Lab ID: 09L0975-02 **Collection Date:** 12/16/2009 4:00:00PM
Client Sample ID: 091216-5 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Analyzed
cis-1,2-Dichloroethene	BDL	0.0130		mg/kg dry	2.47	0951322	12/18/2009 4:42:00AM
cis-1,3-Dichloropropene	BDL	0.0130		mg/kg dry	2.47	0951322	12/18/2009 4:42:00AM
Dibromochloromethane	BDL	0.264	R-01	mg/kg dry	50	0951322	12/18/2009 7:37:00PM
Dibromomethane	BDL	0.0130		mg/kg dry	2.47	0951322	12/18/2009 4:42:00AM
Dichlorodifluoromethane	BDL	0.0130		mg/kg dry	2.47	0951322	12/18/2009 4:42:00AM
Ethylbenzene	BDL	0.264	R-01	mg/kg dry	50	0951322	12/18/2009 7:37:00PM
Iodomethane	BDL	0.0261		mg/kg dry	2.47	0951322	12/18/2009 4:42:00AM
Methylene Chloride	BDL	0.0130		mg/kg dry	2.47	0951322	12/18/2009 4:42:00AM
Methyl tert-Butyl Ether	BDL	0.0261		mg/kg dry	2.47	0951322	12/18/2009 4:42:00AM
m,p-Xylene	BDL	0.527	R-01	mg/kg dry	50	0951322	12/18/2009 7:37:00PM
n-Hexane	BDL	0.0130		mg/kg dry	2.47	0951322	12/18/2009 4:42:00AM
o-Xylene	BDL	0.264	R-01	mg/kg dry	50	0951322	12/18/2009 7:37:00PM
Styrene	BDL	0.264	R-01	mg/kg dry	50	0951322	12/18/2009 7:37:00PM
Tetrachloroethene	BDL	0.264	R-01	mg/kg dry	50	0951322	12/18/2009 7:37:00PM
Toluene	BDL	0.0130		mg/kg dry	2.47	0951322	12/18/2009 4:42:00AM
trans-1,2-Dichloroethene	BDL	0.0130		mg/kg dry	2.47	0951322	12/18/2009 4:42:00AM
trans-1,3-Dichloropropene	BDL	0.0130		mg/kg dry	2.47	0951322	12/18/2009 4:42:00AM
Trichloroethene	BDL	0.0130		mg/kg dry	2.47	0951322	12/18/2009 4:42:00AM
Trichlorofluoromethane	BDL	0.0130		mg/kg dry	2.47	0951322	12/18/2009 4:42:00AM
Vinyl Chloride	BDL	0.0130		mg/kg dry	2.47	0951322	12/18/2009 4:42:00AM
Vinyl acetate	BDL	0.0261		mg/kg dry	2.47	0951322	12/18/2009 4:42:00AM
Surrogate: 4-Bromofluorobenzene	*1790 %*		*S-04*	*34-118*		*0951322*	12/18/2009 4:42:00AM
Surrogate: Dibromofluoromethane	*83.8 %*			*61-152*		*0951322*	12/18/2009 4:42:00AM
Surrogate: Toluene-d8	*103 %*			*44-119*		*0951322*	12/18/2009 4:42:00AM
Surrogate: 1,2-Dichloroethane-d4	*88.9 %*			*39-123*		*0951322*	12/18/2009 4:42:00AM
PMOIST	**D 2216**					**Analyst: AD**	
Percent Moisture	**5.19**			% by Weight	1	0952183	12/23/2009 12:00:00AM
PAH_FULL_8270	**SW 8270C**					**Analyst: dag**	
2-Methylnaphthalene	BDL	1.05		mg/kg dry	10	0951299	12/24/2009 5:36:00AM
Acenaphthene	BDL	1.05		mg/kg dry	10	0951299	12/24/2009 5:36:00AM
Acenaphthylene	BDL	1.05		mg/kg dry	10	0951299	12/24/2009 5:36:00AM
Anthracene	BDL	1.05		mg/kg dry	10	0951299	12/24/2009 5:36:00AM
Benz(a)anthracene	BDL	1.05		mg/kg dry	10	0951299	12/24/2009 5:36:00AM
Benzo(a)pyrene	BDL	1.05		mg/kg dry	10	0951299	12/24/2009 5:36:00AM
Benzo(b)fluoranthene	BDL	1.05		mg/kg dry	10	0951299	12/24/2009 5:36:00AM
Benzo(g,h,i)perylene	BDL	1.05		mg/kg dry	10	0951299	12/24/2009 5:36:00AM
Benzo(k)fluoranthene	BDL	1.05		mg/kg dry	10	0951299	12/24/2009 5:36:00AM
Chrysene	BDL	1.05		mg/kg dry	10	0951299	12/24/2009 5:36:00AM
Dibenz(a,h)anthracene	BDL	1.05		mg/kg dry	10	0951299	12/24/2009 5:36:00AM
Fluoranthene	BDL	1.05		mg/kg dry	10	0951299	12/24/2009 5:36:00AM
Fluorene	BDL	1.05		mg/kg dry	10	0951299	12/24/2009 5:36:00AM
Indeno(1,2,3-cd)pyrene	BDL	1.05		mg/kg dry	10	0951299	12/24/2009 5:36:00AM

Belmont Labs **Date:** 12/28/2009

CLIENT: Weston Solutions, Inc. - Dayton **Lab Order:** 09L0975
Project: 12473.005.005

Lab ID: 09L0975-02 **Collection Date:** 12/16/2009 4:00:00PM
Client Sample ID: 091216-5 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Analyzed
Naphthalene	BDL	1.05		mg/kg dry	10	0951299	12/24/2009 5:36:00AM
Phenanthrene	BDL	1.05		mg/kg dry	10	0951299	12/24/2009 5:36:00AM
Pyrene	BDL	1.05		mg/kg dry	10	0951299	12/24/2009 5:36:00AM
Surrogate: Nitrobenzene-d5	*235 %*		*S-04*	*57-116*		*0951299*	12/24/2009 5:36:00AM
Surrogate: 2-Fluorobiphenyl	*95.7 %*			*64-110*		*0951299*	12/24/2009 5:36:00AM
Surrogate: Terphenyl-d14	*88.0 %*			*46-124*		*0951299*	12/24/2009 5:36:00AM

Belmont Labs **Date:** 12/28/2009

CLIENT: Weston Solutions, Inc. - Dayton **Lab Order:** 09L0975
Project: 12473.005.005

Lab ID: 09L0975-03 **Collection Date:** 12/16/2009 4:00:00PM
Client Sample ID: 091216-7 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Analyzed
TPH C10-34	**SW 8015**					**Analyst: DAG**	
C10 to C20	**1670**	114	D	mg/kg dry	10	0951300	12/22/2009 10:40:00AM
C20 to C34	**7790**	570		mg/kg dry	1	0951300	12/21/2009 5:27:00PM
Surrogate: o-Terphenyl	*121 %*		*S-04*	*48-115*		*0951300*	12/21/2009 5:27:00PM
TPH GRO C6-C12	**SW 8015**					**Analyst: KDS**	
Gasoline Range Organics, C6 - C12	BDL	11.1		mg/kg dry	1.93	0952175	12/22/2009 7:59:00PM
Surrogate: a,a,a-Tr fluorotoluene	*98.0 %*			*59-162*		*0952175*	12/22/2009 7:59:00PM
VOC 8260	**SW 8260A**					**Analyst: kds**	
1,1,1,2-Tetrachloroethane	BDL	0.0272		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
1,1,1-Trichloroethane	BDL	0.0272		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
1,1,2,2-Tetrachloroethane	BDL	0.0272		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
1,1,2-Trichloroethane	BDL	0.0272		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
1,1-Dichloroethane	BDL	0.0272		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
1,1-Dichloroethene	BDL	0.0272		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
1,1-Dichloropropene	BDL	0.0272		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
1,2-Dibromoethane	BDL	0.0272		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
1,2-Dichloroethane	BDL	0.0272		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
1,2-Dichloropropane	BDL	0.0272		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
1,3-Dichloropropane	BDL	0.0272		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
2,2-Dichloropropane	BDL	0.0272		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
2-Butanone	BDL	0.109		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
2-Chloroethyl vinyl ether	BDL	0.136		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
2-Chlorotoluene	**0.0438**	0.0272		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
2-Hexanone	BDL	0.109		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
4-Chlorotoluene	**0.107**	0.0272		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
4-Methyl-2-pentanone	BDL	0.109		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
Acetone	BDL	0.272		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
Acetonitrile	BDL	0.218		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
Acrolein	BDL	0.109		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
Acrylonitrile	BDL	0.109		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
Allyl chloride	BDL	0.0545		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
Benzene	BDL	0.0272		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
Bromobenzene	**0.0493**	0.0272		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
Bromochloromethane	BDL	0.0272		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
Bromodichloromethane	BDL	0.0272		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
Bromoform	BDL	0.0272		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
Bromomethane	BDL	0.0272		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
Carbon Disulfide	BDL	0.109		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
Carbon Tetrachloride	BDL	0.0272		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
Chlorobenzene	BDL	0.0272		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
Chloroethane	BDL	0.0272		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
Chloroform	BDL	0.0272		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
Chloromethane	BDL	0.0272		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM

CLIENT: Weston Solutions, Inc. - Dayton **Lab Order:** 09L0975
Project: 12473.005.005

Lab ID: 09L0975-03 **Collection Date:** 12/16/2009 4:00:00PM
Client Sample ID: 091216-7 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Analyzed
cis-1,2-Dichloroethene	BDL	0.0272		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
cis-1,3-Dichloropropene	BDL	0.0272		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
Dibromochloromethane	BDL	0.0272		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
Dibromomethane	BDL	0.0272		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
Dichlorodifluoromethane	BDL	0.0272		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
Ethylbenzene	BDL	0.0272		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
Iodomethane	BDL	0.0545		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
Methylene Chloride	BDL	0.0272		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
Methyl tert-Butyl Ether	BDL	0.0545		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
m,p-Xylene	BDL	0.0545		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
n-Hexane	BDL	0.0272		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
o-Xylene	**0.0799**	0.0272		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
Styrene	BDL	0.0272		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
Tetrachloroethene	BDL	0.0272		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
Toluene	BDL	0.0272		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
trans-1,2-Dichloroethene	BDL	0.0272		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
trans-1,3-Dichloropropene	BDL	0.0272		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
Trichloroethene	BDL	0.0272		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
Trichlorofluoromethane	BDL	0.0272		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
Vinyl Chloride	BDL	0.0272		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
Vinyl acetate	BDL	0.0545		mg/kg dry	4.75	0951324	12/18/2009 8:43:00PM
Surrogate: 4-Bromofluorobenzene		*384 %*	*S-04*	*34-118*		*0951324*	12/18/2009 8:43:00PM
Surrogate: Dibromofluoromethane		*67.8 %*		*61-152*		*0951324*	12/18/2009 8:43:00PM
Surrogate: Toluene-d8		*93.2 %*		*44-119*		*0951324*	12/18/2009 8:43:00PM
Surrogate: 1,2-Dichloroethane-d4		*71.0 %*		*39-123*		*0951324*	12/18/2009 8:43:00PM
PMOIST		**D 2216**				**Analyst: AD**	
Percent Moisture	**12.8**			% by Weight	1	0952183	12/23/2009 12:00:00AM
PAH_FULL_8270		**SW 8270C**				**Analyst: dag**	
2-Methylnaphthalene	BDL	0.114		mg/kg dry	1	0951299	12/24/2009 6:14:00AM
Acenaphthene	BDL	0.114		mg/kg dry	1	0951299	12/24/2009 6:14:00AM
Acenaphthylene	BDL	0.114		mg/kg dry	1	0951299	12/24/2009 6:14:00AM
Anthracene	BDL	0.114		mg/kg dry	1	0951299	12/24/2009 6:14:00AM
Benz(a)anthracene	BDL	0.114		mg/kg dry	1	0951299	12/24/2009 6:14:00AM
Benzo(a)pyrene	BDL	0.114		mg/kg dry	1	0951299	12/24/2009 6:14:00AM
Benzo(b)fluoranthene	BDL	0.114		mg/kg dry	1	0951299	12/24/2009 6:14:00AM
Benzo(g,h,i)perylene	BDL	0.114		mg/kg dry	1	0951299	12/24/2009 6:14:00AM
Benzo(k)fluoranthene	BDL	0.114		mg/kg dry	1	0951299	12/24/2009 6:14:00AM
Chrysene	BDL	0.114		mg/kg dry	1	0951299	12/24/2009 6:14:00AM
Dibenz(a,h)anthracene	BDL	0.114		mg/kg dry	1	0951299	12/24/2009 6:14:00AM
Fluoranthene	BDL	0.114		mg/kg dry	1	0951299	12/24/2009 6:14:00AM
Fluorene	BDL	0.114		mg/kg dry	1	0951299	12/24/2009 6:14:00AM
Indeno(1,2,3-cd)pyrene	BDL	0.114		mg/kg dry	1	0951299	12/24/2009 6:14:00AM

Belmont Labs **Date:** 12/28/2009

CLIENT: Weston Solutions, Inc. - Dayton **Lab Order:** 09L0975
Project: 12473.005.005

Lab ID: 09L0975-03 **Collection Date:** 12/16/2009 4:00:00PM
Client Sample ID: 091216-7 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Analyzed
Naphthalene	**0.131**	0.114		mg/kg dry	1	0951299	12/24/2009 6:14:00AM
Phenanthrene	BDL	0.114		mg/kg dry	1	0951299	12/24/2009 6:14:00AM
Pyrene	BDL	0.114		mg/kg dry	1	0951299	12/24/2009 6:14:00AM
Surrogate: Nitrobenzene-d5	*46.7 %*		*S-04*	*57-116*		*0951299*	12/24/2009 6:14:00AM
Surrogate: 2-Fluorobiphenyl	*96.4 %*			*64-110*		*0951299*	12/24/2009 6:14:00AM
Surrogate: Terphenyl-d14	*75.8 %*			*46-124*		*0951299*	12/24/2009 6:14:00AM

Lab ID: 09L0975-04 **Collection Date:** 12/16/2009 4:00:00PM
Client Sample ID: 091216-8 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Analyzed
TPH C10-34	**SW 8015**					**Analyst: DAG**	
C10 to C20	BDL	11.5		mg/kg dry	1	0951300	12/21/2009 6:03:00PM
C20 to C34	BDL	573		mg/kg dry	1	0951300	12/21/2009 6:03:00PM
Surrogate: o-Terphenyl	*89.7 %*			*48-115*		*0951300*	12/21/2009 6:03:00PM
TPH GRO C6-C12	**SW 8015**					**Analyst: KDS**	
Gasoline Range Organics, C6 - C12	BDL	8.72		mg/kg dry	1.52	0952175	12/22/2009 8:32:00PM
Surrogate: a,a,a-Tr fluorotoluene	*100 %*			*59-162*		*0952175*	12/22/2009 8:32:00PM
VOC 8260	**SW 8260A**					**Analyst: kds**	
1,1,1,2-Tetrachloroethane	BDL	0.00573		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
1,1,1-Trichloroethane	BDL	0.00573		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
1,1,2,2-Tetrachloroethane	BDL	0.00573		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
1,1,2-Trichloroethane	BDL	0.00573		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
1,1-Dichloroethane	BDL	0.00573		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
1,1-Dichloroethene	BDL	0.00573		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
1,1-Dichloropropene	BDL	0.00573		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
1,2-Dibromoethane	BDL	0.00573		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
1,2-Dichloroethane	BDL	0.00573		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
1,2-Dichloropropane	BDL	0.00573		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
1,3-Dichloropropane	BDL	0.00573		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
2,2-Dichloropropane	BDL	0.00573		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
2-Butanone	BDL	0.0229		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
2-Chloroethyl vinyl ether	BDL	0.0287		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
2-Chlorotoluene	BDL	0.00573		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
2-Hexanone	BDL	0.0229		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
4-Chlorotoluene	BDL	0.00573		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
4-Methyl-2-pentanone	BDL	0.0229		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
Acetone	BDL	0.0573		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
Acetonitrile	BDL	0.0459		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
Acrolein	BDL	0.0229		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
Acrylonitrile	BDL	0.0229		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
Allyl chloride	BDL	0.0115		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
Benzene	BDL	0.00573		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
Bromobenzene	BDL	0.00573		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
Bromochloromethane	BDL	0.00573		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
Bromodichloromethane	BDL	0.00573		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
Bromoform	BDL	0.00573		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
Bromomethane	BDL	0.00573		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
Carbon Disulfide	BDL	0.0229		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
Carbon Tetrachloride	BDL	0.00573		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
Chlorobenzene	BDL	0.00573		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
Chloroethane	BDL	0.00573		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
Chloroform	BDL	0.00573		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
Chloromethane	BDL	0.00573		mg/kg dry	1	0951322	12/18/2009 2:32:00AM

CLIENT: Weston Solutions, Inc. - Dayton **Lab Order:** 09L0975
Project: 12473.005.005

Lab ID: 09L0975-04 **Collection Date:** 12/16/2009 4:00:00PM
Client Sample ID: 091216-8 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Analyzed
cis-1,2-Dichloroethene	BDL	0.00573		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
cis-1,3-Dichloropropene	BDL	0.00573		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
Dibromochloromethane	BDL	0.00573		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
Dibromomethane	BDL	0.00573		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
Dichlorodifluoromethane	BDL	0.00573		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
Ethylbenzene	BDL	0.00573		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
Iodomethane	BDL	0.0115		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
Methylene Chloride	BDL	0.00573		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
Methyl tert-Butyl Ether	BDL	0.0115		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
m,p-Xylene	BDL	0.0115		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
n-Hexane	BDL	0.00573		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
o-Xylene	BDL	0.00573		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
Styrene	BDL	0.00573		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
Tetrachloroethene	BDL	0.00573		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
Toluene	BDL	0.00573		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
trans-1,2-Dichloroethene	BDL	0.00573		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
trans-1,3-Dichloropropene	BDL	0.00573		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
Trichloroethene	BDL	0.00573		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
Trichlorofluoromethane	BDL	0.00573		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
Vinyl Chloride	BDL	0.00573		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
Vinyl acetate	BDL	0.0115		mg/kg dry	1	0951322	12/18/2009 2:32:00AM
Surrogate: 4-Bromofluorobenzene		*98.4 %*		*34-118*		*0951322*	12/18/2009 2:32:00AM
Surrogate: Dibromofluoromethane		*55.2 %*	*S-04*	*61-152*		*0951322*	12/18/2009 2:32:00AM
Surrogate: Toluene-d8		*96.1 %*		*44-119*		*0951322*	12/18/2009 2:32:00AM
Surrogate: 1,2-Dichloroethane-d4		*73.2 %*		*39-123*		*0951322*	12/18/2009 2:32:00AM
PMOIST		**D 2216**				**Analyst: AD**	
Percent Moisture	**12.8**			% by Weight	1	0952183	12/23/2009 12:00:00AM
PAH_FULL_8270		**SW 8270C**				**Analyst: dag**	
2-Methylnaphthalene	BDL	0.114		mg/kg dry	1	0951299	12/24/2009 6:52:00AM
Acenaphthene	BDL	0.114		mg/kg dry	1	0951299	12/24/2009 6:52:00AM
Acenaphthylene	BDL	0.114		mg/kg dry	1	0951299	12/24/2009 6:52:00AM
Anthracene	BDL	0.114		mg/kg dry	1	0951299	12/24/2009 6:52:00AM
Benz(a)anthracene	BDL	0.114		mg/kg dry	1	0951299	12/24/2009 6:52:00AM
Benzo(a)pyrene	BDL	0.114		mg/kg dry	1	0951299	12/24/2009 6:52:00AM
Benzo(b)fluoranthene	BDL	0.114		mg/kg dry	1	0951299	12/24/2009 6:52:00AM
Benzo(g,h,i)perylene	BDL	0.114		mg/kg dry	1	0951299	12/24/2009 6:52:00AM
Benzo(k)fluoranthene	BDL	0.114		mg/kg dry	1	0951299	12/24/2009 6:52:00AM
Chrysene	BDL	0.114		mg/kg dry	1	0951299	12/24/2009 6:52:00AM
Dibenz(a,h)anthracene	BDL	0.114		mg/kg dry	1	0951299	12/24/2009 6:52:00AM
Fluoranthene	BDL	0.114		mg/kg dry	1	0951299	12/24/2009 6:52:00AM
Fluorene	BDL	0.114		mg/kg dry	1	0951299	12/24/2009 6:52:00AM
Indeno(1,2,3-cd)pyrene	BDL	0.114		mg/kg dry	1	0951299	12/24/2009 6:52:00AM

Belmont Labs **Date:** 12/28/2009

CLIENT: Weston Solutions, Inc. - Dayton **Lab Order:** 09L0975
Project: 12473.005.005

Lab ID: 09L0975-04 **Collection Date:** 12/16/2009 4:00:00PM
Client Sample ID: 091216-8 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Analyzed
Naphthalene	BDL	0.114		mg/kg dry	1	0951299	12/24/2009 6:52:00AM
Phenanthrene	BDL	0.114		mg/kg dry	1	0951299	12/24/2009 6:52:00AM
Pyrene	BDL	0.114		mg/kg dry	1	0951299	12/24/2009 6:52:00AM
Surrogate: Nitrobenzene-d5	*96.4 %*			*57-116*		*0951299*	12/24/2009 6:52:00AM
Surrogate: 2-Fluorobiphenyl	*89.0 %*			*64-110*		*0951299*	12/24/2009 6:52:00AM
Surrogate: Terphenyl-d14	*91.0 %*			*46-124*		*0951299*	12/24/2009 6:52:00AM

Belmont Labs
The Environmental Service Company.

ANALYTICAL REQUEST
CHAIN OF CUSTODY

Internal Lab Order Number 091097

Purchase Order No.	Quote No.	Client Project
0062907		12473.005.005

INVOICE TO
Name: LAURA FUNK
Company: ~~THE~~ WESTON SOLUTIONS
Address: 711 E. MONUMENT, #201
City, State, Zip: DAYTON, OH 45402

REPORT TO
Name: LAURA FUNK
Company: WESTON
Mailing Address: 711 E. Monument, #201
City, State, Zip: Dayton, OH 45402
Phone No.: 937-531-4400 Fax No.: -4401

Date Results Req: 12-21-09
Rush Charges Authorized? ☒ Yes ☐ No
Fax Results ☐
Special Instructions:
Additional QC Requirements: Level 2, Level 3, Level 4 (Charges Apply)

Regulatory Type
☐ NPDES
☐ RCRA
☐ SDWA
☐ VAP
☑ Other
Collected in State of OH

Matrix Key
DW - Drinking Water
GW - Ground Water
S - Soil/Solid
SL - Sludge
WW - Waste Water
Specify Other

ANALYSIS REQUESTED
(Enter an "X" in the box below to indicate request and circle preservative)

CLIENT SAMPLE IDENTIFICATION	Date Sampled	Time	Comp	Grab	Matrix	Number of Containers	VOCs (8260) HNO3, HCl, H2SO4, Ice, None, Other	MTBE (8260) HNO3, HCl, H2SO4, Ice, None, Other	PAHs (8270) HNO3, HCl, H2SO4, Ice, None, Other	TPH (C6-C12) HNO3, HCl, H2SO4, Ice, None, Other	TPH (C10-C20) HNO3, HCl, H2SO4, Ice, None, Other	TPH (C20-C34) HNO3, HCl, H2SO4, Ice, None, Other			Lab Only
091216-3	12/16/09	1600		✓		2	✓	✓	✓	✓	✓	✓			
091216-5	↓	↓		✓		2	✓	✓	✓	✓	✓	✓			
091216-7				✓		2	✓	✓	✓	✓	✓	✓			
091216-8	↓	↓		✓		2	✓	✓	✓	✓	✓	✓			
* LAST ITEM															*
									8						

CHAIN OF CUSTODY (if required)

Relinquished by: [signature] Date/Time 12/17/09 0900
Relinquished by: Date/Time
Method of Shipment: Delivered W.I
Sampled by: [signature] Date 12/16/09

Received by: Date/Time
Received at lab by: [signature] Date/Time 12-17-09 9:00
Cooler Temp. 2.8° Custody Seals ☐ Yes ☐ No

Client Comments

DISTRIBUTION:
WHITE - Laboratory
YELLOW - Accounting

Please return completed form and samples to Belmont Labs • 25 Holiday Drive • Englewood, OH 45322 • 937.832.8242 • Fax 937.832.2868

A & B Litho-Form #9786-5/02

Extractable Hydrocarbons by 8015 - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0951300 - PREP_DRO_S										
Blank (0951300-BLK1)				Prepared: 12/18/09 Analyzed: 12/21/09						
C10 to C20	BDL	10.0	mg/kg wet							
C20 to C34	BDL	500	mg/kg wet							
Surrogate: o-Terphenyl	*9.30*		*mg/kg wet*	*10.00*		*93.0*	*48-115*			
LCS (0951300-BS1)				Prepared: 12/18/09 Analyzed: 12/21/09						
C10 to C20	143	10.0	mg/kg wet	126.1		113	52-119		11	
Surrogate: o-Terphenyl	*8.44*		*mg/kg wet*	*10.00*		*84.4*	*48-115*			
LCS Dup (0951300-BSD1)				Prepared: 12/18/09 Analyzed: 12/21/09						
C10 to C20	133	10.0	mg/kg wet	126.1		106	52-119	7.20	11	
Surrogate: o-Terphenyl	*7.74*		*mg/kg wet*	*10.00*		*77.4*	*48-115*			

Petroleum Hydrocarbons by GC FID - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0952175 - GC Prep										
Blank (0952175-BLK1)				Prepared & Analyzed: 12/22/09						
Gasoline Range Organics, C6 - C12	BDL	5.00	mg/kg wet							
Surrogate: a,a,a-Tr fluorotoluene	*0.0970*		*mg/L*	*0.1000*		*97.0*	*59-162*			
LCS (0952175-BS1)				Prepared & Analyzed: 12/22/09						
Gasoline Range Organics, C6 - C12	10.3	5.00	mg/kg wet	10.00		103	81-112		10	
Surrogate: a,a,a-Tr fluorotoluene	*0.0950*		*mg/L*	*0.1000*		*95.0*	*59-162*			
LCS Dup (0952175-BSD1)				Prepared & Analyzed: 12/22/09						
Gasoline Range Organics, C6 - C12	10.7	5.00	mg/kg wet	10.00		107	81-112	3.63	10	
Surrogate: a,a,a-Tr fluorotoluene	*0.0950*		*mg/L*	*0.1000*		*95.0*	*59-162*			
Matrix Spike (0952175-MS1)	**Source: 09L1070-04**			Prepared: 12/22/09 Analyzed: 12/23/09						
Gasoline Range Organics, C6 - C12	11.3	4.70	mg/kg wet	20.00	3.95	36.8	20-100		20	D
Surrogate: a,a,a-Tr fluorotoluene	*0.0740*		*mg/L*	*0.1000*		*74.0*	*59-162*			

Volatile Organic Compounds by EPA Method 8260A/B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0951322 - VOC PREP										
Blank (0951322-BLK1)				Prepared & Analyzed: 12/17/09						
1,1,1,2-Tetrachloroethane	BDL	0.00500	mg/kg wet							
1,1,1-Trichloroethane	BDL	0.00500	mg/kg wet							
1,1,2,2-Tetrachloroethane	BDL	0.00500	mg/kg wet							
1,1,2-Trichloroethane	BDL	0.00500	mg/kg wet							
1,1-Dichloroethane	BDL	0.00500	mg/kg wet							
1,1-Dichloroethene	BDL	0.00500	mg/kg wet							
1,1-Dichloropropene	BDL	0.00500	mg/kg wet							
1,2-Dibromoethane	BDL	0.00500	mg/kg wet							
1,2-Dichloroethane	BDL	0.00500	mg/kg wet							
1,2-Dichloropropane	BDL	0.00500	mg/kg wet							
1,3-Dichloropropane	BDL	0.00500	mg/kg wet							
2,2-Dichloropropane	BDL	0.00500	mg/kg wet							
2-Butanone	BDL	0.0200	mg/kg wet							
2-Chloroethyl vinyl ether	BDL	0.0250	mg/kg wet							
2-Chlorotoluene	BDL	0.00500	mg/kg wet							
2-Hexanone	BDL	0.0200	mg/kg wet							
4-Chlorotoluene	BDL	0.00500	mg/kg wet							
4-Methyl-2-pentanone	BDL	0.0200	mg/kg wet							
Acetone	BDL	0.0500	mg/kg wet							
Acetonitrile	BDL	0.0400	mg/kg wet							
Acrolein	BDL	0.0200	mg/kg wet							
Acrylonitrile	BDL	0.0200	mg/kg wet							
Allyl chloride	BDL	0.0100	mg/kg wet							
Benzene	BDL	0.00500	mg/kg wet							
Bromobenzene	BDL	0.00500	mg/kg wet							
Bromochloromethane	BDL	0.00500	mg/kg wet							
Bromodichloromethane	BDL	0.00500	mg/kg wet							
Bromoform	BDL	0.00500	mg/kg wet							
Bromomethane	BDL	0.00500	mg/kg wet							
Carbon Disulfide	BDL	0.0200	mg/kg wet							
Carbon Tetrachloride	BDL	0.00500	mg/kg wet							
Chlorobenzene	BDL	0.00500	mg/kg wet							
Chloroethane	BDL	0.00500	mg/kg wet							
Chloroform	BDL	0.00500	mg/kg wet							
Chloromethane	BDL	0.00500	mg/kg wet							
cis-1,2-Dichloroethene	BDL	0.00500	mg/kg wet							
cis-1,3-Dichloropropene	BDL	0.00500	mg/kg wet							
Dibromochloromethane	BDL	0.00500	mg/kg wet							
Dibromomethane	BDL	0.00500	mg/kg wet							
Dichlorodifluoromethane	BDL	0.00500	mg/kg wet							
Ethylbenzene	BDL	0.00500	mg/kg wet							
Iodomethane	BDL	0.0100	mg/kg wet							
Methylene Chloride	BDL	0.00500	mg/kg wet							
Methyl tert-Butyl Ether	BDL	0.0100	mg/kg wet							
m,p-Xylene	BDL	0.0100	mg/kg wet							

Volatile Organic Compounds by EPA Method 8260A/B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0951322 - VOC PREP										
Blank (0951322-BLK1)				Prepared & Analyzed: 12/17/09						
n-Hexane	BDL	0.00500	mg/kg wet							
o-Xylene	BDL	0.00500	mg/kg wet							
Styrene	BDL	0.00500	mg/kg wet							
Tetrachloroethene	BDL	0.00500	mg/kg wet							
Toluene	BDL	0.00500	mg/kg wet							
trans-1,2-Dichloroethene	BDL	0.00500	mg/kg wet							
trans-1,3-Dichloropropene	BDL	0.00500	mg/kg wet							
Trichloroethene	BDL	0.00500	mg/kg wet							
Trichlorofluoromethane	BDL	0.00500	mg/kg wet							
Vinyl Chloride	BDL	0.00500	mg/kg wet							
Vinyl acetate	BDL	0.0100	mg/kg wet							
Surrogate: 4-Bromofluorobenzene	*45.1*		*ug/L*	*50.00*		*90.2*	*34-118*			
Surrogate: Dibromofluoromethane	*39.1*		*ug/L*	*50.00*		*78.2*	*61-152*			
Surrogate: Toluene-d8	*47.0*		*ug/L*	*50.00*		*93.9*	*44-119*			
Surrogate: 1,2-Dichloroethane-d4	*36.5*		*ug/L*	*50.00*		*73.0*	*39-123*			
Blank (0951322-BLK2)				Prepared & Analyzed: 12/18/09						
1,1,1,2-Tetrachloroethane	BDL	0.00500	mg/kg wet							
1,1,1-Trichloroethane	BDL	0.00500	mg/kg wet							
1,1,2,2-Tetrachloroethane	BDL	0.00500	mg/kg wet							
1,1,2-Trichloroethane	BDL	0.00500	mg/kg wet							
1,1-Dichloroethane	BDL	0.00500	mg/kg wet							
1,1-Dichloroethene	BDL	0.00500	mg/kg wet							
1,1-Dichloropropene	BDL	0.00500	mg/kg wet							
1,2-Dibromoethane	BDL	0.00500	mg/kg wet							
1,2-Dichloroethane	BDL	0.00500	mg/kg wet							
1,2-Dichloropropane	BDL	0.00500	mg/kg wet							
1,3-Dichloropropane	BDL	0.00500	mg/kg wet							
2,2-Dichloropropane	BDL	0.00500	mg/kg wet							
2-Butanone	BDL	0.0200	mg/kg wet							
2-Chloroethyl vinyl ether	BDL	0.0250	mg/kg wet							
2-Chlorotoluene	BDL	0.00500	mg/kg wet							
2-Hexanone	BDL	0.0200	mg/kg wet							
4-Chlorotoluene	BDL	0.00500	mg/kg wet							
4-Methyl-2-pentanone	BDL	0.0200	mg/kg wet							
Acetone	BDL	0.0500	mg/kg wet							
Acetonitrile	BDL	0.0400	mg/kg wet							
Acrolein	BDL	0.0200	mg/kg wet							
Acrylonitrile	BDL	0.0200	mg/kg wet							
Allyl chloride	BDL	0.0100	mg/kg wet							
Benzene	BDL	0.00500	mg/kg wet							
Bromobenzene	BDL	0.00500	mg/kg wet							
Bromochloromethane	BDL	0.00500	mg/kg wet							
Bromodichloromethane	BDL	0.00500	mg/kg wet							
Bromoform	BDL	0.00500	mg/kg wet							

Volatile Organic Compounds by EPA Method 8260A/B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0951322 - VOC PREP										
Blank (0951322-BLK2)				Prepared & Analyzed: 12/18/09						
Bromomethane	BDL	0.00500	mg/kg wet							
Carbon Disulfide	BDL	0.0200	mg/kg wet							
Carbon Tetrachloride	BDL	0.00500	mg/kg wet							
Chlorobenzene	BDL	0.00500	mg/kg wet							
Chloroethane	BDL	0.00500	mg/kg wet							
Chloroform	BDL	0.00500	mg/kg wet							
Chloromethane	BDL	0.00500	mg/kg wet							
cis-1,2-Dichloroethene	BDL	0.00500	mg/kg wet							
cis-1,3-Dichloropropene	BDL	0.00500	mg/kg wet							
Dibromochloromethane	BDL	0.00500	mg/kg wet							
Dibromomethane	BDL	0.00500	mg/kg wet							
Dichlorodifluoromethane	BDL	0.00500	mg/kg wet							
Ethylbenzene	BDL	0.00500	mg/kg wet							
Iodomethane	BDL	0.0100	mg/kg wet							
Methylene Chloride	BDL	0.00500	mg/kg wet							
Methyl tert-Butyl Ether	BDL	0.0100	mg/kg wet							
m,p-Xylene	BDL	0.0100	mg/kg wet							
n-Hexane	BDL	0.00500	mg/kg wet							
o-Xylene	BDL	0.00500	mg/kg wet							
Styrene	BDL	0.00500	mg/kg wet							
Tetrachloroethene	BDL	0.00500	mg/kg wet							
Toluene	BDL	0.00500	mg/kg wet							
trans-1,2-Dichloroethene	BDL	0.00500	mg/kg wet							
trans-1,3-Dichloropropene	BDL	0.00500	mg/kg wet							
Trichloroethene	BDL	0.00500	mg/kg wet							
Trichlorofluoromethane	BDL	0.00500	mg/kg wet							
Vinyl Chloride	BDL	0.00500	mg/kg wet							
Vinyl acetate	BDL	0.0100	mg/kg wet							
Surrogate: 4-Bromofluorobenzene	*47.2*		*ug/L*	*50.00*		*94.4*	*34-118*			
Surrogate: Dibromofluoromethane	*38.2*		*ug/L*	*50.00*		*76.5*	*61-152*			
Surrogate: Toluene-d8	*48.2*		*ug/L*	*50.00*		*96.4*	*44-119*			
Surrogate: 1,2-Dichloroethane-d4	*35.6*		*ug/L*	*50.00*		*71.3*	*39-123*			

Volatile Organic Compounds by EPA Method 8260A/B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0951322 - VOC PREP										
Blank (0951322-BLK3)				Prepared & Analyzed: 12/20/09						
1,1,1,2-Tetrachloroethane	BDL	0.00500	mg/kg wet							
1,1,1-Trichloroethane	BDL	0.00500	mg/kg wet							
1,1,2,2-Tetrachloroethane	BDL	0.00500	mg/kg wet							
1,1,2-Trichloroethane	BDL	0.00500	mg/kg wet							
1,1-Dichloroethane	BDL	0.00500	mg/kg wet							
1,1-Dichloroethene	BDL	0.00500	mg/kg wet							
1,1-Dichloropropene	BDL	0.00500	mg/kg wet							
1,2-Dibromoethane	BDL	0.00500	mg/kg wet							
1,2-Dichloroethane	BDL	0.00500	mg/kg wet							
1,2-Dichloropropane	BDL	0.00500	mg/kg wet							
1,3-Dichloropropane	BDL	0.00500	mg/kg wet							
2,2-Dichloropropane	BDL	0.00500	mg/kg wet							
2-Butanone	BDL	0.0200	mg/kg wet							
2-Chloroethyl vinyl ether	BDL	0.0250	mg/kg wet							
2-Chlorotoluene	BDL	0.00500	mg/kg wet							
2-Hexanone	BDL	0.0200	mg/kg wet							
4-Chlorotoluene	BDL	0.00500	mg/kg wet							
4-Methyl-2-pentanone	BDL	0.0200	mg/kg wet							
Acetone	BDL	0.0500	mg/kg wet							
Acetonitrile	BDL	0.0400	mg/kg wet							
Acrolein	BDL	0.0200	mg/kg wet							
Acrylonitrile	BDL	0.0200	mg/kg wet							
Allyl chloride	BDL	0.0100	mg/kg wet							
Benzene	BDL	0.00500	mg/kg wet							
Bromobenzene	BDL	0.00500	mg/kg wet							
Bromochloromethane	BDL	0.00500	mg/kg wet							
Bromodichloromethane	BDL	0.00500	mg/kg wet							
Bromoform	BDL	0.00500	mg/kg wet							
Bromomethane	BDL	0.00500	mg/kg wet							
Carbon Disulfide	BDL	0.0200	mg/kg wet							
Carbon Tetrachloride	BDL	0.00500	mg/kg wet							
Chlorobenzene	BDL	0.00500	mg/kg wet							
Chloroethane	BDL	0.00500	mg/kg wet							
Chloroform	BDL	0.00500	mg/kg wet							
Chloromethane	BDL	0.00500	mg/kg wet							
cis-1,2-Dichloroethene	BDL	0.00500	mg/kg wet							
cis-1,3-Dichloropropene	BDL	0.00500	mg/kg wet							
Dibromochloromethane	BDL	0.00500	mg/kg wet							
Dibromomethane	BDL	0.00500	mg/kg wet							
Dichlorodifluoromethane	BDL	0.00500	mg/kg wet							
Ethylbenzene	BDL	0.00500	mg/kg wet							
Iodomethane	BDL	0.0100	mg/kg wet							
Methylene Chloride	BDL	0.00500	mg/kg wet							
Methyl tert-Butyl Ether	BDL	0.0100	mg/kg wet							
m,p-Xylene	BDL	0.0100	mg/kg wet							

Volatile Organic Compounds by EPA Method 8260A/B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0951322 - VOC PREP										
Blank (0951322-BLK3)				Prepared & Analyzed: 12/20/09						
n-Hexane	BDL	0.00500	mg/kg wet							
o-Xylene	BDL	0.00500	mg/kg wet							
Styrene	BDL	0.00500	mg/kg wet							
Tetrachloroethene	BDL	0.00500	mg/kg wet							
Toluene	BDL	0.00500	mg/kg wet							
trans-1,2-Dichloroethene	BDL	0.00500	mg/kg wet							
trans-1,3-Dichloropropene	BDL	0.00500	mg/kg wet							
Trichloroethene	BDL	0.00500	mg/kg wet							
Trichlorofluoromethane	BDL	0.00500	mg/kg wet							
Vinyl Chloride	BDL	0.00500	mg/kg wet							
Vinyl acetate	BDL	0.0100	mg/kg wet							
Surrogate: 4-Bromofluorobenzene	*46.4*		*ug/L*	*50.00*		*92.9*	*34-118*			
Surrogate: Dibromofluoromethane	*39.0*		*ug/L*	*50.00*		*77.9*	*61-152*			
Surrogate: Toluene-d8	*45.9*		*ug/L*	*50.00*		*91.7*	*44-119*			
Surrogate: 1,2-Dichloroethane-d4	*34.1*		*ug/L*	*50.00*		*68.3*	*39-123*			
LCS (0951322-BS1)				Prepared & Analyzed: 12/17/09						
1,1,1,2-Tetrachloroethane	0.0224	0.00500	mg/kg wet	0.02000		112	56-128		12	
1,1,1-Trichloroethane	0.0202	0.00500	mg/kg wet	0.02000		101	58-127		20	
1,1,2,2-Tetrachloroethane	0.0230	0.00500	mg/kg wet	0.02000		115	61-125		21	
1,1,2-Trichloroethane	0.0209	0.00500	mg/kg wet	0.02000		104	65-126		16	
1,1-Dichloroethane	0.0199	0.00500	mg/kg wet	0.02000		99.6	60-130		17	
1,1-Dichloroethene	0.0222	0.00500	mg/kg wet	0.02000		111	62-142		19	
1,1-Dichloropropene	0.0212	0.00500	mg/kg wet	0.02000		106	65-125		14	
1,2-Dibromoethane	0.0210	0.00500	mg/kg wet	0.02000		105	39-149		20	
1,2-Dichloroethane	0.0186	0.00500	mg/kg wet	0.02000		92.8	58-128		18	
1,2-Dichloropropane	0.0197	0.00500	mg/kg wet	0.02000		98.3	66-123		15	
1,3-Dichloropropane	0.0203	0.00500	mg/kg wet	0.02000		101	61-125		14	
2,2-Dichloropropane	0.0198	0.00500	mg/kg wet	0.02000		98.9	22-97		39	L
2-Butanone	0.0458	0.0200	mg/kg wet	0.08000		57.2	10-143		36	
2-Chloroethyl vinyl ether	0.0452	0.0250	mg/kg wet	0.02000		226	62-129		22	L
2-Chlorotoluene	0.0222	0.00500	mg/kg wet	0.02000		111	63-126		20	
2-Hexanone	0.0840	0.0200	mg/kg wet	0.08000		105	27-144		40	
4-Chlorotoluene	0.0224	0.00500	mg/kg wet	0.02000		112	56-130		18	
4-Methyl-2-pentanone	0.0867	0.0200	mg/kg wet	0.08000		108	10-184		40	
Acetone	0.0462	0.0500	mg/kg wet	0.08000		57.8	10-172		39	
Acetonitrile	0.0128	0.0400	mg/kg wet	0.02000		63.8	20-149		20	
Acrylonitrile	0.0152	0.0200	mg/kg wet	0.02000		75.8				
Allyl chloride	0.0217	0.0100	mg/kg wet	0.02000		109				
Benzene	0.0200	0.00500	mg/kg wet	0.02000		100	67-124		16	
Bromobenzene	0.0224	0.00500	mg/kg wet	0.02000		112	61-125		16	
Bromochloromethane	0.0181	0.00500	mg/kg wet	0.02000		90.7	55-131		16	
Bromodichloromethane	0.0197	0.00500	mg/kg wet	0.02000		98.6	58-131		21	
Bromoform	0.0239	0.00500	mg/kg wet	0.02000		119	51-136		18	
Bromomethane	0.0222	0.00500	mg/kg wet	0.02000		111	58-190		34	

Volatile Organic Compounds by EPA Method 8260A/B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0951322 - VOC PREP										
LCS (0951322-BS1)				Prepared & Analyzed: 12/17/09						
Carbon Disulfide	0.0232	0.0200	mg/kg wet	0.02000		116	40-156		16	
Carbon Tetrachloride	0.0206	0.00500	mg/kg wet	0.02000		103	46-137		25	
Chlorobenzene	0.0207	0.00500	mg/kg wet	0.02000		104	65-123		18	
Chloroethane	0.0203	0.00500	mg/kg wet	0.02000		102				
Chloroform	0.0181	0.00500	mg/kg wet	0.02000		90.4	64-127		16	
Chloromethane	0.0215	0.00500	mg/kg wet	0.02000		108	29-148		24	
cis-1,2-Dichloroethene	0.0190	0.00500	mg/kg wet	0.02000		95.0	65-128		16	
cis-1,3-Dichloropropene	0.0202	0.00500	mg/kg wet	0.02000		101	27-156		23	
Dibromochloromethane	0.0222	0.00500	mg/kg wet	0.02000		111	53-128		16	
Dibromomethane	0.0196	0.00500	mg/kg wet	0.02000		97.9	55-128		22	
Dichlorodifluoromethane	0.0314	0.00500	mg/kg wet	0.02000		157	25-167		32	
Ethylbenzene	0.0207	0.00500	mg/kg wet	0.02000		104	66-123		16	
Iodomethane	0.0192	0.0100	mg/kg wet	0.02000		96.1	32-150		28	
Methylene Chloride	0.00286	0.00500	mg/kg wet	0.02000		14.3	35-149		12	L
Methyl tert-Butyl Ether	0.0181	0.0100	mg/kg wet	0.02000		90.4	46-142		25	
m,p-Xylene	0.0409	0.0100	mg/kg wet	0.04000		102	66-126		16	
n-Hexane	0.0149	0.00500	mg/kg wet	0.02000		74.3	10-189		21	
o-Xylene	0.0215	0.00500	mg/kg wet	0.02000		108	63-124		17	
Styrene	0.0224	0.00500	mg/kg wet	0.02000		112	63-125		15	
Tetrachloroethene	0.0202	0.00500	mg/kg wet	0.02000		101	29-174		30	
Toluene	0.0197	0.00500	mg/kg wet	0.02000		98.6	70-122		16	
trans-1,2-Dichloroethene	0.0201	0.00500	mg/kg wet	0.02000		101	63-129		18	
trans-1,3-Dichloropropene	0.0198	0.00500	mg/kg wet	0.02000		98.8	38-135		18	
Trichloroethene	0.0197	0.00500	mg/kg wet	0.02000		98.6	68-126		18	
Trichlorofluoromethane	0.0185	0.00500	mg/kg wet	0.02000		92.4	52-142		26	
Vinyl Chloride	0.0221	0.00500	mg/kg wet	0.02000		110				
Vinyl acetate	0.0193	0.0100	mg/kg wet	0.02000		96.6				
Surrogate: 4-Bromofluorobenzene	*45.2*		*ug/L*	*50.00*		*90.4*	*34-118*			
Surrogate: Dibromofluoromethane	*37.3*		*ug/L*	*50.00*		*74.5*	*61-152*			
Surrogate: Toluene-d8	*45.0*		*ug/L*	*50.00*		*90.1*	*44-119*			
Surrogate: 1,2-Dichloroethane-d4	*36.0*		*ug/L*	*50.00*		*72.1*	*39-123*			

Volatile Organic Compounds by EPA Method 8260A/B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0951322 - VOC PREP										
LCS (0951322-BS2)				Prepared & Analyzed: 12/18/09						
1,1,1,2-Tetrachloroethane	0.0206	0.00500	mg/kg wet	0.02000		103	56-128		12	
1,1,1-Trichloroethane	0.0185	0.00500	mg/kg wet	0.02000		92.4	58-127		20	
1,1,2,2-Tetrachloroethane	0.0213	0.00500	mg/kg wet	0.02000		106	61-125		21	
1,1,2-Trichloroethane	0.0205	0.00500	mg/kg wet	0.02000		102	65-126		16	
1,1-Dichloroethane	0.0192	0.00500	mg/kg wet	0.02000		95.8	60-130		17	
1,1-Dichloroethene	0.0203	0.00500	mg/kg wet	0.02000		101	62-142		19	
1,1-Dichloropropene	0.0189	0.00500	mg/kg wet	0.02000		94.4	65-125		14	
1,2-Dibromoethane	0.0209	0.00500	mg/kg wet	0.02000		104	39-149		20	
1,2-Dichloroethane	0.0190	0.00500	mg/kg wet	0.02000		94.8	58-128		18	
1,2-Dichloropropane	0.0196	0.00500	mg/kg wet	0.02000		98.0	66-123		15	
1,3-Dichloropropane	0.0204	0.00500	mg/kg wet	0.02000		102	61-125		14	
2,2-Dichloropropane	0.0189	0.00500	mg/kg wet	0.02000		94.4	22-97		39	
2-Butanone	0.0496	0.0200	mg/kg wet	0.08000		62.0	10-143		36	
2-Chloroethyl vinyl ether	0.0362	0.0250	mg/kg wet	0.02000		181	62-129		22	L
2-Chlorotoluene	0.0199	0.00500	mg/kg wet	0.02000		99.4	63-126		20	
2-Hexanone	0.0773	0.0200	mg/kg wet	0.08000		96.7	27-144		40	
4-Chlorotoluene	0.0200	0.00500	mg/kg wet	0.02000		100	56-130		18	
4-Methyl-2-pentanone	0.0801	0.0200	mg/kg wet	0.08000		100	10-184		40	
Acetone	0.0464	0.0500	mg/kg wet	0.08000		58.0	10-172		39	
Acetonitrile	0.0116	0.0400	mg/kg wet	0.02000		57.8	20-149		20	
Acrylonitrile	0.0150	0.0200	mg/kg wet	0.02000		75.2				
Allyl chloride	0.0210	0.0100	mg/kg wet	0.02000		105				
Benzene	0.0191	0.00500	mg/kg wet	0.02000		95.6	67-124		16	
Bromobenzene	0.0196	0.00500	mg/kg wet	0.02000		97.8	61-125		16	
Bromochloromethane	0.0178	0.00500	mg/kg wet	0.02000		89.2	55-131		16	
Bromodichloromethane	0.0195	0.00500	mg/kg wet	0.02000		97.4	58-131		21	
Bromoform	0.0223	0.00500	mg/kg wet	0.02000		111	51-136		18	
Bromomethane	0.0194	0.00500	mg/kg wet	0.02000		97.2	58-190		34	
Carbon Disulfide	0.0206	0.0200	mg/kg wet	0.02000		103	40-156		16	
Carbon Tetrachloride	0.0180	0.00500	mg/kg wet	0.02000		90.0	46-137		25	
Chlorobenzene	0.0191	0.00500	mg/kg wet	0.02000		95.3	65-123		18	
Chloroethane	0.0191	0.00500	mg/kg wet	0.02000		95.7				
Chloroform	0.0177	0.00500	mg/kg wet	0.02000		88.7	64-127		16	R
Chloromethane	0.0239	0.00500	mg/kg wet	0.02000		120	29-148		24	
cis-1,2-Dichloroethene	0.0188	0.00500	mg/kg wet	0.02000		94.2	65-128		16	R
cis-1,3-Dichloropropene	0.0207	0.00500	mg/kg wet	0.02000		104	27-156		23	
Dibromochloromethane	0.0209	0.00500	mg/kg wet	0.02000		104	53-128		16	L, R
Dibromomethane	0.0201	0.00500	mg/kg wet	0.02000		100	55-128		22	
Dichlorodifluoromethane	0.0310	0.00500	mg/kg wet	0.02000		155	25-167		32	
Ethylbenzene	0.0191	0.00500	mg/kg wet	0.02000		95.4	66-123		16	L, R
Iodomethane	0.0180	0.0100	mg/kg wet	0.02000		89.8	32-150		28	
Methylene Chloride	0.00917	0.00500	mg/kg wet	0.02000		45.8	35-149		12	
Methyl tert-Butyl Ether	0.0189	0.0100	mg/kg wet	0.02000		94.3	46-142		25	
m,p-Xylene	0.0383	0.0100	mg/kg wet	0.04000		95.8	66-126		16	L, R
n-Hexane	0.0216	0.00500	mg/kg wet	0.02000		108	10-189		21	

Volatile Organic Compounds by EPA Method 8260A/B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0951322 - VOC PREP										
LCS (0951322-BS2)				Prepared & Analyzed: 12/18/09						
o-Xylene	0.0201	0.00500	mg/kg wet	0.02000		100	63-124		17	L, R
Styrene	0.0204	0.00500	mg/kg wet	0.02000		102	63-125		15	L, R
Tetrachloroethene	0.0168	0.00500	mg/kg wet	0.02000		84.0	29-174		30	R
Toluene	0.0183	0.00500	mg/kg wet	0.02000		91.6	70-122		16	R
trans-1,2-Dichloroethene	0.0188	0.00500	mg/kg wet	0.02000		93.8	63-129		18	R
trans-1,3-Dichloropropene	0.0195	0.00500	mg/kg wet	0.02000		97.4	38-135		18	R
Trichloroethene	0.0179	0.00500	mg/kg wet	0.02000		89.5	68-126		18	R
Trichlorofluoromethane	0.0165	0.00500	mg/kg wet	0.02000		82.4	52-142		26	
Vinyl Chloride	0.0210	0.00500	mg/kg wet	0.02000		105				
Vinyl acetate	0.0204	0.0100	mg/kg wet	0.02000		102				
Surrogate: 4-Bromofluorobenzene	*47.8*		*ug/L*	*50.00*		*95.6*	*34-118*			
Surrogate: Dibromofluoromethane	*38.3*		*ug/L*	*50.00*		*76.5*	*61-152*			
Surrogate: Toluene-d8	*46.1*		*ug/L*	*50.00*		*92.3*	*44-119*			
Surrogate: 1,2-Dichloroethane-d4	*35.2*		*ug/L*	*50.00*		*70.3*	*39-123*			
LCS (0951322-BS3)				Prepared & Analyzed: 12/20/09						
1,1,1,2-Tetrachloroethane	0.0199	0.00500	mg/kg wet	0.02000		99.6	56-128		12	
1,1,1-Trichloroethane	0.0186	0.00500	mg/kg wet	0.02000		92.8	58-127		20	
1,1,2,2-Tetrachloroethane	0.0216	0.00500	mg/kg wet	0.02000		108	61-125		21	
1,1,2-Trichloroethane	0.0183	0.00500	mg/kg wet	0.02000		91.4	65-126		16	
1,1-Dichloroethane	0.0175	0.00500	mg/kg wet	0.02000		87.5	60-130		17	
1,1-Dichloroethene	0.0192	0.00500	mg/kg wet	0.02000		96.0	62-142		19	
1,1-Dichloropropene	0.0182	0.00500	mg/kg wet	0.02000		90.8	65-125		14	
1,2-Dibromoethane	0.0182	0.00500	mg/kg wet	0.02000		91.2	39-149		20	
1,2-Dichloroethane	0.0169	0.00500	mg/kg wet	0.02000		84.4	58-128		18	
1,2-Dichloropropane	0.0170	0.00500	mg/kg wet	0.02000		85.2	66-123		15	
1,3-Dichloropropane	0.0176	0.00500	mg/kg wet	0.02000		88.3	61-125		14	
2,2-Dichloropropane	0.0178	0.00500	mg/kg wet	0.02000		88.9	22-97		39	
2-Butanone	0.0434	0.0200	mg/kg wet	0.08000		54.2	10-143		36	
2-Chloroethyl vinyl ether	BDL	0.0250	mg/kg wet	0.02000			62-129		22	
2-Chlorotoluene	0.0193	0.00500	mg/kg wet	0.02000		96.4	63-126		20	
2-Hexanone	0.0775	0.0200	mg/kg wet	0.08000		96.9	27-144		40	
4-Chlorotoluene	0.0196	0.00500	mg/kg wet	0.02000		98.1	56-130		18	
4-Methyl-2-pentanone	0.0778	0.0200	mg/kg wet	0.08000		97.2	10-184		40	
Acetone	0.0422	0.0500	mg/kg wet	0.08000		52.7	10-172		39	
Acetonitrile	0.0123	0.0400	mg/kg wet	0.02000		61.4	20-149		20	
Acrylonitrile	0.0139	0.0200	mg/kg wet	0.02000		69.4				
Allyl chloride	0.0198	0.0100	mg/kg wet	0.02000		98.9				
Benzene	0.0179	0.00500	mg/kg wet	0.02000		89.5	67-124		16	
Bromobenzene	0.0195	0.00500	mg/kg wet	0.02000		97.4	61-125		16	
Bromochloromethane	0.0166	0.00500	mg/kg wet	0.02000		83.0	55-131		16	
Bromodichloromethane	0.0180	0.00500	mg/kg wet	0.02000		90.0	58-131		21	
Bromoform	0.0211	0.00500	mg/kg wet	0.02000		105	51-136		18	
Bromomethane	0.0255	0.00500	mg/kg wet	0.02000		128	58-190		34	
Carbon Disulfide	0.0197	0.0200	mg/kg wet	0.02000		98.4	40-156		16	

Volatile Organic Compounds by EPA Method 8260A/B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0951322 - VOC PREP										
LCS (0951322-BS3)				Prepared & Analyzed: 12/20/09						
Carbon Tetrachloride	0.0184	0.00500	mg/kg wet	0.02000		92.0	46-137		25	
Chlorobenzene	0.0182	0.00500	mg/kg wet	0.02000		91.1	65-123		18	
Chloroethane	0.0222	0.00500	mg/kg wet	0.02000		111				
Chloroform	0.0163	0.00500	mg/kg wet	0.02000		81.5	64-127		16	
Chloromethane	0.0214	0.00500	mg/kg wet	0.02000		107	29-148		24	
cis-1,2-Dichloroethene	0.0171	0.00500	mg/kg wet	0.02000		85.6	65-128		16	
cis-1,3-Dichloropropene	0.0177	0.00500	mg/kg wet	0.02000		88.6	27-156		23	
Dibromochloromethane	0.0195	0.00500	mg/kg wet	0.02000		97.4	53-128		16	
Dibromomethane	0.0166	0.00500	mg/kg wet	0.02000		83.2	55-128		22	
Dichlorodifluoromethane	0.0279	0.00500	mg/kg wet	0.02000		140	25-167		32	
Ethylbenzene	0.0186	0.00500	mg/kg wet	0.02000		93.0	66-123		16	
Iodomethane	0.0169	0.0100	mg/kg wet	0.02000		84.5	32-150		28	
Methylene Chloride	BDL	0.00500	mg/kg wet	0.02000			35-149		12	
Methyl tert-Butyl Ether	0.0159	0.0100	mg/kg wet	0.02000		79.6	46-142		25	
m,p-Xylene	0.0359	0.0100	mg/kg wet	0.04000		89.8	66-126		16	
n-Hexane	0.0207	0.00500	mg/kg wet	0.02000		104	10-189		21	
o-Xylene	0.0190	0.00500	mg/kg wet	0.02000		94.8	63-124		17	
Styrene	0.0201	0.00500	mg/kg wet	0.02000		101	63-125		15	
Tetrachloroethene	0.0163	0.00500	mg/kg wet	0.02000		81.4	29-174		30	
Toluene	0.0176	0.00500	mg/kg wet	0.02000		87.9	70-122		16	
trans-1,2-Dichloroethene	0.0181	0.00500	mg/kg wet	0.02000		90.7	63-129		18	
trans-1,3-Dichloropropene	0.0174	0.00500	mg/kg wet	0.02000		87.0	38-135		18	
Trichloroethene	0.0175	0.00500	mg/kg wet	0.02000		87.7	68-126		18	
Trichlorofluoromethane	0.0191	0.00500	mg/kg wet	0.02000		95.7	52-142		26	
Vinyl Chloride	0.0215	0.00500	mg/kg wet	0.02000		108				
Vinyl acetate	0.0179	0.0100	mg/kg wet	0.02000		89.6				
Surrogate: 4-Bromofluorobenzene	*46.5*		*ug/L*	*50.00*		*93.1*	*34-118*			
Surrogate: Dibromofluoromethane	*37.6*		*ug/L*	*50.00*		*75.3*	*61-152*			
Surrogate: Toluene-d8	*44.5*		*ug/L*	*50.00*		*89.0*	*44-119*			
Surrogate: 1,2-Dichloroethane-d4	*35.3*		*ug/L*	*50.00*		*70.6*	*39-123*			

Volatile Organic Compounds by EPA Method 8260A/B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0951322 - VOC PREP										
LCS Dup (0951322-BSD1)				Prepared & Analyzed: 12/17/09						
1,1,1,2-Tetrachloroethane	0.0228	0.00500	mg/kg wet	0.02000		114	56-128	1.60	12	
1,1,1-Trichloroethane	0.0200	0.00500	mg/kg wet	0.02000		100	58-127	0.847	20	
1,1,2,2-Tetrachloroethane	0.0236	0.00500	mg/kg wet	0.02000		118	61-125	2.49	21	
1,1,2-Trichloroethane	0.0204	0.00500	mg/kg wet	0.02000		102	65-126	2.18	16	
1,1-Dichloroethane	0.0192	0.00500	mg/kg wet	0.02000		96.0	60-130	3.63	17	
1,1-Dichloroethene	0.0212	0.00500	mg/kg wet	0.02000		106	62-142	4.29	19	
1,1-Dichloropropene	0.0205	0.00500	mg/kg wet	0.02000		102	65-125	3.36	14	
1,2-Dibromoethane	0.0202	0.00500	mg/kg wet	0.02000		101	39-149	3.54	20	
1,2-Dichloroethane	0.0184	0.00500	mg/kg wet	0.02000		92.2	58-128	0.703	18	
1,2-Dichloropropane	0.0193	0.00500	mg/kg wet	0.02000		96.5	66-123	1.85	15	
1,3-Dichloropropane	0.0201	0.00500	mg/kg wet	0.02000		100	61-125	1.09	14	
2,2-Dichloropropane	0.0185	0.00500	mg/kg wet	0.02000		92.7	22-97	6.47	39	
2-Butanone	0.0400	0.0200	mg/kg wet	0.08000		50.0	10-143	13.4	36	
2-Chloroethyl vinyl ether	0.0432	0.0250	mg/kg wet	0.02000		216	62-129	4.41	22	L
2-Chlorotoluene	0.0224	0.00500	mg/kg wet	0.02000		112	63-126	0.941	20	
2-Hexanone	0.0806	0.0200	mg/kg wet	0.08000		101	27-144	4.11	40	
4-Chlorotoluene	0.0227	0.00500	mg/kg wet	0.02000		113	56-130	1.33	18	
4-Methyl-2-pentanone	0.0814	0.0200	mg/kg wet	0.08000		102	10-184	6.33	40	
Acetone	0.0435	0.0500	mg/kg wet	0.08000		54.4	10-172	6.02	39	
Acetonitrile	0.0121	0.0400	mg/kg wet	0.02000		60.4	20-149	5.55	20	
Acrylonitrile	0.0140	0.0200	mg/kg wet	0.02000		70.1		7.81		
Allyl chloride	0.0211	0.0100	mg/kg wet	0.02000		106		2.94		
Benzene	0.0199	0.00500	mg/kg wet	0.02000		99.6	67-124	0.401	16	
Bromobenzene	0.0224	0.00500	mg/kg wet	0.02000		112	61-125	0.134	16	
Bromochloromethane	0.0181	0.00500	mg/kg wet	0.02000		90.6	55-131	0.166	16	
Bromodichloromethane	0.0194	0.00500	mg/kg wet	0.02000		97.2	58-131	1.48	21	
Bromoform	0.0246	0.00500	mg/kg wet	0.02000		123	51-136	2.81	18	
Bromomethane	0.0229	0.00500	mg/kg wet	0.02000		114	58-190	3.19	34	
Carbon Disulfide	0.0221	0.0200	mg/kg wet	0.02000		111	40-156	4.63	16	
Carbon Tetrachloride	0.0195	0.00500	mg/kg wet	0.02000		97.7	46-137	5.33	25	
Chlorobenzene	0.0207	0.00500	mg/kg wet	0.02000		103	65-123	0.193	18	
Chloroethane	0.0190	0.00500	mg/kg wet	0.02000		95.0		6.62		
Chloroform	0.0177	0.00500	mg/kg wet	0.02000		88.3	64-127	2.41	16	
Chloromethane	0.0206	0.00500	mg/kg wet	0.02000		103	29-148	4.42	24	
cis-1,2-Dichloroethene	0.0184	0.00500	mg/kg wet	0.02000		92.0	65-128	3.21	16	
cis-1,3-Dichloropropene	0.0198	0.00500	mg/kg wet	0.02000		99.1	27-156	1.75	23	
Dibromochloromethane	0.0222	0.00500	mg/kg wet	0.02000		111	53-128	0.180	16	
Dibromomethane	0.0185	0.00500	mg/kg wet	0.02000		92.6	55-128	5.51	22	
Dichlorodifluoromethane	0.0290	0.00500	mg/kg wet	0.02000		145	25-167	7.79	32	
Ethylbenzene	0.0206	0.00500	mg/kg wet	0.02000		103	66-123	0.435	16	
Iodomethane	0.0187	0.0100	mg/kg wet	0.02000		93.7	32-150	2.53	28	
Methylene Chloride	0.00502	0.00500	mg/kg wet	0.02000		25.1	35-149	54.8	12	R
Methyl tert-Butyl Ether	0.0177	0.0100	mg/kg wet	0.02000		88.4	46-142	2.13	25	
m,p-Xylene	0.0405	0.0100	mg/kg wet	0.04000		101	66-126	0.836	16	
n-Hexane	0.0142	0.00500	mg/kg wet	0.02000		70.8	10-189	4.82	21	

Volatile Organic Compounds by EPA Method 8260A/B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0951322 - VOC PREP										
LCS Dup (0951322-BSD1)				Prepared & Analyzed: 12/17/09						
o-Xylene	0.0214	0.00500	mg/kg wet	0.02000		107	63-124	0.372	17	
Styrene	0.0231	0.00500	mg/kg wet	0.02000		115	63-125	3.13	15	
Tetrachloroethene	0.0208	0.00500	mg/kg wet	0.02000		104	29-174	2.83	30	
Toluene	0.0192	0.00500	mg/kg wet	0.02000		95.9	70-122	2.73	16	
trans-1,2-Dichloroethene	0.0195	0.00500	mg/kg wet	0.02000		97.7	63-129	3.02	18	
trans-1,3-Dichloropropene	0.0194	0.00500	mg/kg wet	0.02000		97.1	38-135	1.74	18	
Trichloroethene	0.0193	0.00500	mg/kg wet	0.02000		96.4	68-126	2.15	18	
Trichlorofluoromethane	0.0174	0.00500	mg/kg wet	0.02000		87.2	52-142	5.79	26	
Vinyl Chloride	0.0210	0.00500	mg/kg wet	0.02000		105		5.06		
Vinyl acetate	0.0175	0.0100	mg/kg wet	0.02000		87.6		9.72		
Surrogate: 4-Bromofluorobenzene	*45.3*		*ug/L*	*50.00*		*90.6*	*34-118*			
Surrogate: Dibromofluoromethane	*36.7*		*ug/L*	*50.00*		*73.5*	*61-152*			
Surrogate: Toluene-d8	*45.4*		*ug/L*	*50.00*		*90.8*	*44-119*			
Surrogate: 1,2-Dichloroethane-d4	*33.8*		*ug/L*	*50.00*		*67.6*	*39-123*			
LCS Dup (0951322-BSD2)				Prepared & Analyzed: 12/18/09						
1,1,1,2-Tetrachloroethane	0.0269	0.00500	mg/kg wet	0.02000		135	56-128	26.5	12	L, R
1,1,1-Trichloroethane	0.0245	0.00500	mg/kg wet	0.02000		123	58-127	28.0	20	R
1,1,2,2-Tetrachloroethane	0.0248	0.00500	mg/kg wet	0.02000		124	61-125	15.1	21	
1,1,2-Trichloroethane	0.0254	0.00500	mg/kg wet	0.02000		127	65-126	21.2	16	L, R
1,1-Dichloroethane	0.0240	0.00500	mg/kg wet	0.02000		120	60-130	22.5	17	R
1,1-Dichloroethene	0.0259	0.00500	mg/kg wet	0.02000		130	62-142	24.4	19	R
1,1-Dichloropropene	0.0250	0.00500	mg/kg wet	0.02000		125	65-125	28.1	14	R
1,2-Dibromoethane	0.0251	0.00500	mg/kg wet	0.02000		126	39-149	18.6	20	
1,2-Dichloroethane	0.0236	0.00500	mg/kg wet	0.02000		118	58-128	21.7	18	R
1,2-Dichloropropane	0.0247	0.00500	mg/kg wet	0.02000		123	66-123	23.0	15	R
1,3-Dichloropropane	0.0253	0.00500	mg/kg wet	0.02000		126	61-125	21.2	14	L, R
2,2-Dichloropropane	0.0242	0.00500	mg/kg wet	0.02000		121	22-97	24.7	39	L
2-Butanone	0.0523	0.0200	mg/kg wet	0.08000		65.3	10-143	5.30	36	
2-Chloroethyl vinyl ether	0.0409	0.0250	mg/kg wet	0.02000		205	62-129	12.1	22	L
2-Chlorotoluene	0.0264	0.00500	mg/kg wet	0.02000		132	63-126	28.1	20	L, R
2-Hexanone	0.0879	0.0200	mg/kg wet	0.08000		110	27-144	12.8	40	
4-Chlorotoluene	0.0260	0.00500	mg/kg wet	0.02000		130	56-130	26.0	18	R
4-Methyl-2-pentanone	0.0927	0.0200	mg/kg wet	0.08000		116	10-184	14.7	40	
Acetone	0.0528	0.0500	mg/kg wet	0.08000		66.0	10-172	12.8	39	
Acetonitrile	0.0133	0.0400	mg/kg wet	0.02000		66.7	20-149	14.2	20	
Acrylonitrile	0.0190	0.0200	mg/kg wet	0.02000		95.0		23.2		
Allyl chloride	0.0277	0.0100	mg/kg wet	0.02000		139		27.6		
Benzene	0.0246	0.00500	mg/kg wet	0.02000		123	67-124	24.9	16	R
Bromobenzene	0.0258	0.00500	mg/kg wet	0.02000		129	61-125	27.3	16	L, R
Bromochloromethane	0.0221	0.00500	mg/kg wet	0.02000		111	55-131	21.5	16	R
Bromodichloromethane	0.0252	0.00500	mg/kg wet	0.02000		126	58-131	25.5	21	R
Bromoform	0.0263	0.00500	mg/kg wet	0.02000		131	51-136	16.4	18	
Bromomethane	0.0182	0.00500	mg/kg wet	0.02000		90.9	58-190	6.70	34	
Carbon Disulfide	0.0263	0.0200	mg/kg wet	0.02000		132	40-156	24.3	16	R

Volatile Organic Compounds by EPA Method 8260A/B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0951322 - VOC PREP										
LCS Dup (0951322-BSD2)				Prepared & Analyzed: 12/18/09						
Carbon Tetrachloride	0.0241	0.00500	mg/kg wet	0.02000		120	46-137	28.8	25	R
Chlorobenzene	0.0254	0.00500	mg/kg wet	0.02000		127	65-123	28.4	18	A-01a, R
Chloroethane	0.0160	0.00500	mg/kg wet	0.02000		79.8		18.1		
Chloroform	0.0221	0.00500	mg/kg wet	0.02000		111	64-127	21.9	16	R
Chloromethane	0.0210	0.00500	mg/kg wet	0.02000		105	29-148	13.2	24	
cis-1,2-Dichloroethene	0.0234	0.00500	mg/kg wet	0.02000		117	65-128	21.5	16	R
cis-1,3-Dichloropropene	0.0260	0.00500	mg/kg wet	0.02000		130	27-156	22.8	23	
Dibromochloromethane	0.0263	0.00500	mg/kg wet	0.02000		131	53-128	22.8	16	L, R
Dibromomethane	0.0240	0.00500	mg/kg wet	0.02000		120	55-128	18.0	22	
Dichlorodifluoromethane	0.0276	0.00500	mg/kg wet	0.02000		138	25-167	11.3	32	
Ethylbenzene	0.0256	0.00500	mg/kg wet	0.02000		128	66-123	29.1	16	L, R
Iodomethane	0.0220	0.0100	mg/kg wet	0.02000		110	32-150	20.3	28	
Methylene Chloride	0.00934	0.00500	mg/kg wet	0.02000		46.7	35-149	1.84	12	
Methyl tert-Butyl Ether	0.0219	0.0100	mg/kg wet	0.02000		110	46-142	14.9	25	
m,p-Xylene	0.0510	0.0100	mg/kg wet	0.04000		128	66-126	28.4	16	L, R
n-Hexane	0.0199	0.00500	mg/kg wet	0.02000		99.5	10-189	8.38	21	
o-Xylene	0.0267	0.00500	mg/kg wet	0.02000		134	63-124	28.4	17	L, R
Styrene	0.0273	0.00500	mg/kg wet	0.02000		137	63-125	29.3	15	L, R
Tetrachloroethene	0.0233	0.00500	mg/kg wet	0.02000		116	29-174	32.3	30	R
Toluene	0.0244	0.00500	mg/kg wet	0.02000		122	70-122	28.6	16	R
trans-1,2-Dichloroethene	0.0243	0.00500	mg/kg wet	0.02000		122	63-129	25.8	18	R
trans-1,3-Dichloropropene	0.0250	0.00500	mg/kg wet	0.02000		125	38-135	24.9	18	R
Trichloroethene	0.0228	0.00500	mg/kg wet	0.02000		114	68-126	23.9	18	R
Trichlorofluoromethane	0.0150	0.00500	mg/kg wet	0.02000		75.2	52-142	9.26	26	
Vinyl Chloride	0.0185	0.00500	mg/kg wet	0.02000		92.5		12.6		
Vinyl acetate	0.0232	0.0100	mg/kg wet	0.02000		116		13.0		
Surrogate: 4-Bromofluorobenzene	*48.5*		*ug/L*	*50.00*		*97.0*	*34-118*			
Surrogate: Dibromofluoromethane	*37.9*		*ug/L*	*50.00*		*75.8*	*61-152*			
Surrogate: Toluene-d8	*46.0*		*ug/L*	*50.00*		*92.0*	*44-119*			
Surrogate: 1,2-Dichloroethane-d4	*35.4*		*ug/L*	*50.00*		*70.7*	*39-123*			

Volatile Organic Compounds by EPA Method 8260A/B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0951322 - VOC PREP										
LCS Dup (0951322-BSD3)				Prepared & Analyzed: 12/20/09						
1,1,1,2-Tetrachloroethane	0.0169	0.00500	mg/kg wet	0.02000		84.7	56-128	16.2	12	R
1,1,1-Trichloroethane	0.0178	0.00500	mg/kg wet	0.02000		89.2	58-127	3.90	20	
1,1,2,2-Tetrachloroethane	0.0157	0.00500	mg/kg wet	0.02000		78.5	61-125	31.9	21	R
1,1,2-Trichloroethane	0.0153	0.00500	mg/kg wet	0.02000		76.4	65-126	17.9	16	R
1,1-Dichloroethane	0.0172	0.00500	mg/kg wet	0.02000		85.9	60-130	1.85	17	
1,1-Dichloroethene	0.0192	0.00500	mg/kg wet	0.02000		95.8	62-142	0.261	19	
1,1-Dichloropropene	0.0176	0.00500	mg/kg wet	0.02000		87.8	65-125	3.42	14	
1,2-Dibromoethane	0.0160	0.00500	mg/kg wet	0.02000		79.8	39-149	13.4	20	
1,2-Dichloroethane	0.0160	0.00500	mg/kg wet	0.02000		80.2	58-128	5.10	18	
1,2-Dichloropropane	0.0161	0.00500	mg/kg wet	0.02000		80.4	66-123	5.80	15	
1,3-Dichloropropane	0.0154	0.00500	mg/kg wet	0.02000		76.8	61-125	13.8	14	
2,2-Dichloropropane	0.0176	0.00500	mg/kg wet	0.02000		87.8	22-97	1.30	39	
2-Butanone	0.0339	0.0200	mg/kg wet	0.08000		42.4	10-143	24.6	36	
2-Chloroethyl vinyl ether	BDL	0.0250	mg/kg wet	0.02000			62-129		22	
2-Chlorotoluene	0.0166	0.00500	mg/kg wet	0.02000		83.2	63-126	14.6	20	
2-Hexanone	0.0546	0.0200	mg/kg wet	0.08000		68.2	27-144	34.7	40	
4-Chlorotoluene	0.0167	0.00500	mg/kg wet	0.02000		83.4	56-130	16.2	18	
4-Methyl-2-pentanone	0.0577	0.0200	mg/kg wet	0.08000		72.2	10-184	29.6	40	
Acetone	0.0375	0.0500	mg/kg wet	0.08000		46.8	10-172	11.9	39	
Acetonitrile	0.0105	0.0400	mg/kg wet	0.02000		52.7	20-149	15.2	20	
Acrylonitrile	0.0137	0.0200	mg/kg wet	0.02000		68.4		1.45		
Allyl chloride	0.0190	0.0100	mg/kg wet	0.02000		95.0		4.08		
Benzene	0.0171	0.00500	mg/kg wet	0.02000		85.7	67-124	4.34	16	
Bromobenzene	0.0164	0.00500	mg/kg wet	0.02000		81.8	61-125	17.4	16	R
Bromochloromethane	0.0156	0.00500	mg/kg wet	0.02000		78.2	55-131	5.90	16	
Bromodichloromethane	0.0162	0.00500	mg/kg wet	0.02000		80.9	58-131	10.6	21	
Bromoform	0.0165	0.00500	mg/kg wet	0.02000		82.6	51-136	24.1	18	R
Bromomethane	0.0260	0.00500	mg/kg wet	0.02000		130	58-190	2.06	34	
Carbon Disulfide	0.0190	0.0200	mg/kg wet	0.02000		95.0	40-156	3.57	16	
Carbon Tetrachloride	0.0175	0.00500	mg/kg wet	0.02000		87.3	46-137	5.24	25	
Chlorobenzene	0.0169	0.00500	mg/kg wet	0.02000		84.6	65-123	7.46	18	
Chloroethane	0.0231	0.00500	mg/kg wet	0.02000		115		3.80		
Chloroform	0.0159	0.00500	mg/kg wet	0.02000		79.4	64-127	2.67	16	
Chloromethane	0.0218	0.00500	mg/kg wet	0.02000		109	29-148	1.90	24	
cis-1,2-Dichloroethene	0.0166	0.00500	mg/kg wet	0.02000		82.8	65-128	3.27	16	
cis-1,3-Dichloropropene	0.0165	0.00500	mg/kg wet	0.02000		82.6	27-156	6.89	23	
Dibromochloromethane	0.0168	0.00500	mg/kg wet	0.02000		84.0	53-128	14.8	16	
Dibromomethane	0.0159	0.00500	mg/kg wet	0.02000		79.4	55-128	4.74	22	
Dichlorodifluoromethane	0.0287	0.00500	mg/kg wet	0.02000		143	25-167	2.72	32	
Ethylbenzene	0.0172	0.00500	mg/kg wet	0.02000		86.0	66-123	7.88	16	
Iodomethane	0.0166	0.0100	mg/kg wet	0.02000		82.8	32-150	1.97	28	
Methylene Chloride	BDL	0.00500	mg/kg wet	0.02000			35-149		12	
Methyl tert-Butyl Ether	0.0145	0.0100	mg/kg wet	0.02000		72.6	46-142	9.20	25	
m,p-Xylene	0.0338	0.0100	mg/kg wet	0.04000		84.5	66-126	6.17	16	
n-Hexane	0.0209	0.00500	mg/kg wet	0.02000		104	10-189	0.818	21	

Volatile Organic Compounds by EPA Method 8260A/B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0951322 - VOC PREP										
LCS Dup (0951322-BSD3)				Prepared & Analyzed: 12/20/09						
o-Xylene	0.0172	0.00500	mg/kg wet	0.02000		86.2	63-124	9.50	17	
Styrene	0.0168	0.00500	mg/kg wet	0.02000		83.8	63-125	18.3	15	R
Tetrachloroethene	0.0158	0.00500	mg/kg wet	0.02000		79.0	29-174	3.12	30	
Toluene	0.0167	0.00500	mg/kg wet	0.02000		83.4	70-122	5.31	16	
trans-1,2-Dichloroethene	0.0175	0.00500	mg/kg wet	0.02000		87.6	63-129	3.42	18	
trans-1,3-Dichloropropene	0.0151	0.00500	mg/kg wet	0.02000		75.4	38-135	14.2	18	
Trichloroethene	0.0168	0.00500	mg/kg wet	0.02000		83.8	68-126	4.55	18	
Trichlorofluoromethane	0.0202	0.00500	mg/kg wet	0.02000		101	52-142	5.54	26	
Vinyl Chloride	0.0232	0.00500	mg/kg wet	0.02000		116		7.47		
Vinyl acetate	0.0153	0.0100	mg/kg wet	0.02000		76.3		16.0		
Surrogate: 4-Bromofluorobenzene	*46.0*		*ug/L*	*50.00*		*92.1*	*34-118*			
Surrogate: Dibromofluoromethane	*36.9*		*ug/L*	*50.00*		*73.9*	*61-152*			
Surrogate: Toluene-d8	*43.8*		*ug/L*	*50.00*		*87.6*	*44-119*			
Surrogate: 1,2-Dichloroethane-d4	*32.2*		*ug/L*	*50.00*		*64.4*	*39-123*			
Matrix Spike (0951322-MS1)		**Source: 09L0975-04**		Prepared: 12/17/09 Analyzed: 12/18/09						
1,1,1,2-Tetrachloroethane	0.0175	0.00556	mg/kg dry	0.02294	ND	76.2	10-115		109	
1,1,1-Trichloroethane	0.0178	0.00556	mg/kg dry	0.02294	ND	77.8	16-131		72	
1,1,2,2-Tetrachloroethane	BDL	0.00556	mg/kg dry	0.02294	ND		17-105		78	M
1,1,2-Trichloroethane	0.0139	0.00556	mg/kg dry	0.02294	ND	60.6	10-140		59	
1,1-Dichloroethane	0.0189	0.00556	mg/kg dry	0.02294	ND	82.3	21-131		56	
1,1-Dichloroethene	0.0261	0.00556	mg/kg dry	0.02294	ND	114	10-154		64	
1,1-Dichloropropene	0.0164	0.00556	mg/kg dry	0.02294	ND	71.5	10-122		76	
1,2-Dibromoethane	0.0186	0.00556	mg/kg dry	0.02294	ND	81.2	10-117		92	
1,2-Dichloroethane	0.0187	0.00556	mg/kg dry	0.02294	ND	81.5	17-136		55	
1,2-Dichloropropane	0.0180	0.00556	mg/kg dry	0.02294	ND	78.5	25-118		58	
1,3-Dichloropropane	0.0189	0.00556	mg/kg dry	0.02294	ND	82.4	10-123		70	
2,2-Dichloropropane	0.0162	0.00556	mg/kg dry	0.02294	ND	70.7	10-145		45	
2-Butanone	0.0483	0.0222	mg/kg dry	0.09175	ND	52.6				
2-Chloroethyl vinyl ether	0.0298	0.0278	mg/kg dry	0.02294	ND	130				
2-Chlorotoluene	0.0132	0.00556	mg/kg dry	0.02294	ND	57.6	10-95		87	
2-Hexanone	0.0870	0.0222	mg/kg dry	0.09175	ND	94.8	10-128		22	
4-Chlorotoluene	0.0128	0.00556	mg/kg dry	0.02294	ND	55.7	10-96		91	
4-Methyl-2-pentanone	0.0882	0.0222	mg/kg dry	0.09175	ND	96.1				
Acetone	0.0937	0.0556	mg/kg dry	0.09175	0.0513	46.2				
Acetonitrile	0.00712	0.0445	mg/kg dry	0.02294	ND	31.0				
Acrylonitrile	0.0146	0.0222	mg/kg dry	0.02294	ND	63.7	10-124		111	
Allyl chloride	0.0189	0.0111	mg/kg dry	0.02294	ND	82.6				
Benzene	0.0185	0.00556	mg/kg dry	0.02294	ND	80.6	10-159		67	
Bromobenzene	0.0144	0.00556	mg/kg dry	0.02294	ND	62.6	10-100		90	
Bromochloromethane	0.0182	0.00556	mg/kg dry	0.02294	ND	79.3	22-128		64	
Bromodichloromethane	0.0165	0.00556	mg/kg dry	0.02294	ND	71.9	10-116		96	
Bromoform	0.0204	0.00556	mg/kg dry	0.02294	ND	88.9	10-100		103	
Bromomethane	0.0210	0.00556	mg/kg dry	0.02294	ND	91.6	10-126		97	
Carbon Disulfide	0.00862	0.0222	mg/kg dry	0.02294	ND	37.6	10-122		78	

Volatile Organic Compounds by EPA Method 8260A/B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0951322 - VOC PREP										
Matrix Spike (0951322-MS1)	**Source: 09L0975-04**			Prepared: 12/17/09 Analyzed: 12/18/09						
Carbon Tetrachloride	0.0158	0.00556	mg/kg dry	0.02294	ND	68.7	10-116		89	
Chlorobenzene	0.0145	0.00556	mg/kg dry	0.02294	ND	63.4	10-110		77	
Chloroethane	0.0218	0.00556	mg/kg dry	0.02294	ND	95.2				
Chloroform	0.0168	0.00556	mg/kg dry	0.02294	ND	73.4	19-140		60	
Chloromethane	0.0246	0.00556	mg/kg dry	0.02294	ND	107	10-145		34	
cis-1,2-Dichloroethene	0.0174	0.00556	mg/kg dry	0.02294	ND	76.0	11-146		64	
cis-1,3-Dichloropropene	0.0169	0.00556	mg/kg dry	0.02294	ND	73.9	10-107		89	
Dibromochloromethane	0.0185	0.00556	mg/kg dry	0.02294	ND	80.7	10-109		119	
Dibromomethane	0.0181	0.00556	mg/kg dry	0.02294	ND	79.0	15-125		67	
Dichlorodifluoromethane	0.0312	0.00556	mg/kg dry	0.02294	ND	136				
Ethylbenzene	0.0138	0.00556	mg/kg dry	0.02294	ND	59.9	10-126		66	
Iodomethane	0.0169	0.0111	mg/kg dry	0.02294	ND	73.8	10-122		72	
Methylene Chloride	0.00247	0.00556	mg/kg dry	0.02294	ND	10.8	18-154		50	M
Methyl tert-Butyl Ether	0.0191	0.0111	mg/kg dry	0.02294	ND	83.4	28-145		47	
m,p-Xylene	0.0259	0.0111	mg/kg dry	0.04588	ND	56.4	10-116		69	
n-Hexane	0.00533	0.00556	mg/kg dry	0.02294	ND	23.2	10-137		105	
o-Xylene	0.0144	0.00556	mg/kg dry	0.02294	ND	62.6	10-121		68	
Styrene	0.0144	0.00556	mg/kg dry	0.02294	ND	62.7	10-104		67	
Tetrachloroethene	0.0178	0.00556	mg/kg dry	0.02294	ND	77.8	10-131		78	
Toluene	0.0153	0.00556	mg/kg dry	0.02294	ND	66.9	13-119		68	
trans-1,2-Dichloroethene	0.0172	0.00556	mg/kg dry	0.02294	ND	75.1	13-129		65	
trans-1,3-Dichloropropene	0.0161	0.00556	mg/kg dry	0.02294	ND	70.3	10-107		78	
Trichloroethene	0.0324	0.00556	mg/kg dry	0.02294	ND	141	10-204		70	
Trichlorofluoromethane	0.0179	0.00556	mg/kg dry	0.02294	ND	78.1				
Vinyl Chloride	0.0224	0.00556	mg/kg dry	0.02294	ND	97.7				
Vinyl acetate	BDL	0.0111	mg/kg dry	0.02294	ND					
Surrogate: 4-Bromofluorobenzene	*48.3*		*ug/L*	*50.00*		*96.7*	*34-118*			
Surrogate: Dibromofluoromethane	*26.1*		*ug/L*	*50.00*		*52.1*	*61-152*			*S-04*
Surrogate: Toluene-d8	*46.0*		*ug/L*	*50.00*		*92.1*	*44-119*			
Surrogate: 1,2-Dichloroethane-d4	*38.2*		*ug/L*	*50.00*		*76.4*	*39-123*			

Volatile Organic Compounds by EPA Method 8260A/B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0951322 - VOC PREP										
Matrix Spike Dup (0951322-MSD1)	**Source: 09L0975-04**			Prepared: 12/17/09 Analyzed: 12/18/09						
1,1,1,2-Tetrachloroethane	0.0198	0.00562	mg/kg dry	0.02294	ND	86.4	10-115	12.6	109	
1,1,1-Trichloroethane	0.0202	0.00562	mg/kg dry	0.02294	ND	88.1	16-131	12.4	72	
1,1,2,2-Tetrachloroethane	BDL	0.00562	mg/kg dry	0.02294	ND		17-105		78	M
1,1,2-Trichloroethane	0.0152	0.00562	mg/kg dry	0.02294	ND	66.1	10-140	8.72	59	
1,1-Dichloroethane	0.0204	0.00562	mg/kg dry	0.02294	ND	88.8	21-131	7.64	56	
1,1-Dichloroethene	0.0268	0.00562	mg/kg dry	0.02294	ND	117	10-154	2.50	64	
1,1-Dichloropropene	0.0197	0.00562	mg/kg dry	0.02294	ND	85.8	10-122	18.1	76	
1,2-Dibromoethane	0.0201	0.00562	mg/kg dry	0.02294	ND	87.5	10-117	7.44	92	
1,2-Dichloroethane	0.0196	0.00562	mg/kg dry	0.02294	ND	85.6	17-136	4.88	55	
1,2-Dichloropropane	0.0199	0.00562	mg/kg dry	0.02294	ND	86.7	25-118	10.0	58	
1,3-Dichloropropane	0.0199	0.00562	mg/kg dry	0.02294	ND	86.8	10-123	5.23	70	
2,2-Dichloropropane	0.0183	0.00562	mg/kg dry	0.02294	ND	79.6	10-145	11.9	45	
2-Butanone	0.0523	0.0225	mg/kg dry	0.09175	ND	57.0		8.05		
2-Chloroethyl vinyl ether	0.0303	0.0281	mg/kg dry	0.02294	ND	132		1.66		
2-Chlorotoluene	0.0172	0.00562	mg/kg dry	0.02294	ND	74.9	10-95	26.0	87	
2-Hexanone	0.0850	0.0225	mg/kg dry	0.09175	ND	92.6	10-128	2.37	22	
4-Chlorotoluene	0.0165	0.00562	mg/kg dry	0.02294	ND	71.7	10-96	25.1	91	
4-Methyl-2-pentanone	0.0878	0.0225	mg/kg dry	0.09175	ND	95.7		0.436		
Acetone	0.0949	0.0562	mg/kg dry	0.09175	0.0513	47.6		1.36		
Acetonitrile	0.0123	0.0450	mg/kg dry	0.02294	ND	53.4		53.0		
Acrylonitrile	0.0153	0.0225	mg/kg dry	0.02294	ND	66.6	10-124	4.39	111	
Allyl chloride	0.0215	0.0112	mg/kg dry	0.02294	ND	93.6		12.5		
Benzene	0.0202	0.00562	mg/kg dry	0.02294	ND	87.9	10-159	8.72	67	
Bromobenzene	0.0176	0.00562	mg/kg dry	0.02294	ND	76.8	10-100	20.5	90	
Bromochloromethane	0.0189	0.00562	mg/kg dry	0.02294	ND	82.6	22-128	4.04	64	
Bromodichloromethane	0.0181	0.00562	mg/kg dry	0.02294	ND	78.9	10-116	9.37	96	
Bromoform	0.0218	0.00562	mg/kg dry	0.02294	ND	95.2	10-100	6.85	103	
Bromomethane	0.0208	0.00562	mg/kg dry	0.02294	ND	90.6	10-126	1.17	97	
Carbon Disulfide	0.0189	0.0225	mg/kg dry	0.02294	ND	82.5	10-122	74.8	78	
Carbon Tetrachloride	0.0197	0.00562	mg/kg dry	0.02294	ND	86.1	10-116	22.4	89	
Chlorobenzene	0.0175	0.00562	mg/kg dry	0.02294	ND	76.4	10-110	18.6	77	
Chloroethane	0.0195	0.00562	mg/kg dry	0.02294	ND	85.0		11.3		
Chloroform	0.0182	0.00562	mg/kg dry	0.02294	ND	79.1	19-140	7.48	60	
Chloromethane	0.0230	0.00562	mg/kg dry	0.02294	ND	100	10-145	6.83	34	
cis-1,2-Dichloroethene	0.0188	0.00562	mg/kg dry	0.02294	ND	82.0	11-146	7.69	64	
cis-1,3-Dichloropropene	0.0188	0.00562	mg/kg dry	0.02294	ND	81.9	10-107	10.3	89	
Dibromochloromethane	0.0201	0.00562	mg/kg dry	0.02294	ND	87.4	10-109	8.04	119	
Dibromomethane	0.0198	0.00562	mg/kg dry	0.02294	ND	86.4	15-125	9.04	67	
Dichlorodifluoromethane	0.0258	0.00562	mg/kg dry	0.02294	ND	112		19.1		
Ethylbenzene	0.0183	0.00562	mg/kg dry	0.02294	ND	79.6	10-126	28.2	66	
Iodomethane	0.0189	0.0112	mg/kg dry	0.02294	ND	82.5	10-122	11.1	72	
Methylene Chloride	0.00248	0.00562	mg/kg dry	0.02294	ND	10.8	18-154	0.574	50	M
Methyl tert-Butyl Ether	0.0195	0.0112	mg/kg dry	0.02294	ND	85.0	28-145	1.84	47	
m,p-Xylene	0.0346	0.0112	mg/kg dry	0.04588	ND	75.4	10-116	28.9	69	
n-Hexane	0.00943	0.00562	mg/kg dry	0.02294	ND	41.1	10-137	55.6	105	

Volatile Organic Compounds by EPA Method 8260A/B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0951322 - VOC PREP										
Matrix Spike Dup (0951322-MSD1)	**Source: 09L0975-04**			Prepared: 12/17/09 Analyzed: 12/18/09						
o-Xylene	0.0186	0.00562	mg/kg dry	0.02294	ND	81.0	10-121	25.6	68	
Styrene	0.0181	0.00562	mg/kg dry	0.02294	ND	78.8	10-104	22.9	67	
Tetrachloroethene	0.0233	0.00562	mg/kg dry	0.02294	ND	102	10-131	26.5	78	
Toluene	0.0185	0.00562	mg/kg dry	0.02294	ND	80.7	13-119	18.7	68	
trans-1,2-Dichloroethene	0.0196	0.00562	mg/kg dry	0.02294	ND	85.3	13-129	12.7	65	
trans-1,3-Dichloropropene	0.0178	0.00562	mg/kg dry	0.02294	ND	77.7	10-107	9.99	78	
Trichloroethene	0.0359	0.00562	mg/kg dry	0.02294	ND	156	10-204	10.3	70	
Trichlorofluoromethane	0.0160	0.00562	mg/kg dry	0.02294	ND	69.9		11.2		
Vinyl Chloride	0.0203	0.00562	mg/kg dry	0.02294	ND	88.7		9.70		
Vinyl acetate	BDL	0.0112	mg/kg dry	0.02294	ND					
Surrogate: 4-Bromofluorobenzene	*47.7*		*ug/L*	*50.00*		*95.3*	*34-118*			
Surrogate: Dibromofluoromethane	*26.4*		*ug/L*	*50.00*		*52.8*	*61-152*			*S-04*
Surrogate: Toluene-d8	*45.7*		*ug/L*	*50.00*		*91.5*	*44-119*			
Surrogate: 1,2-Dichloroethane-d4	*38.2*		*ug/L*	*50.00*		*76.4*	*39-123*			
Batch 0951324 - VOC PREP										
Blank (0951324-BLK1)				Prepared & Analyzed: 12/18/09						
1,1,1,2-Tetrachloroethane	BDL	0.00500	mg/kg wet							
1,1,1-Trichloroethane	BDL	0.00500	mg/kg wet							
1,1,2,2-Tetrachloroethane	BDL	0.00500	mg/kg wet							
1,1,2-Trichloroethane	BDL	0.00500	mg/kg wet							
1,1-Dichloroethane	BDL	0.00500	mg/kg wet							
1,1-Dichloroethene	BDL	0.00500	mg/kg wet							
1,1-Dichloropropene	BDL	0.00500	mg/kg wet							
1,2-Dibromoethane	BDL	0.00500	mg/kg wet							
1,2-Dichloroethane	BDL	0.00500	mg/kg wet							
1,2-Dichloropropane	BDL	0.00500	mg/kg wet							
1,3-Dichloropropane	BDL	0.00500	mg/kg wet							
2,2-Dichloropropane	BDL	0.00500	mg/kg wet							
2-Butanone	BDL	0.0200	mg/kg wet							
2-Chloroethyl vinyl ether	BDL	0.0250	mg/kg wet							
2-Chlorotoluene	BDL	0.00500	mg/kg wet							
2-Hexanone	BDL	0.0200	mg/kg wet							
4-Chlorotoluene	BDL	0.00500	mg/kg wet							
4-Methyl-2-pentanone	BDL	0.0200	mg/kg wet							
Acetone	BDL	0.0500	mg/kg wet							
Acetonitrile	BDL	0.0400	mg/kg wet							
Acrolein	BDL	0.0200	mg/kg wet							
Acrylonitrile	BDL	0.0200	mg/kg wet							
Allyl chloride	BDL	0.0100	mg/kg wet							
Benzene	BDL	0.00500	mg/kg wet							
Bromobenzene	BDL	0.00500	mg/kg wet							
Bromochloromethane	BDL	0.00500	mg/kg wet							
Bromodichloromethane	BDL	0.00500	mg/kg wet							

Volatile Organic Compounds by EPA Method 8260A/B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0951324 - VOC PREP										
Blank (0951324-BLK1)				Prepared & Analyzed: 12/18/09						
Bromoform	BDL	0.00500	mg/kg wet							
Bromomethane	BDL	0.00500	mg/kg wet							
Carbon Disulfide	BDL	0.0200	mg/kg wet							
Carbon Tetrachloride	BDL	0.00500	mg/kg wet							
Chlorobenzene	BDL	0.00500	mg/kg wet							
Chloroethane	BDL	0.00500	mg/kg wet							
Chloroform	BDL	0.00500	mg/kg wet							
Chloromethane	BDL	0.00500	mg/kg wet							
cis-1,2-Dichloroethene	BDL	0.00500	mg/kg wet							
cis-1,3-Dichloropropene	BDL	0.00500	mg/kg wet							
Dibromochloromethane	BDL	0.00500	mg/kg wet							
Dibromomethane	BDL	0.00500	mg/kg wet							
Dichlorodifluoromethane	BDL	0.00500	mg/kg wet							
Ethylbenzene	BDL	0.00500	mg/kg wet							
Iodomethane	BDL	0.0100	mg/kg wet							
Methylene Chloride	BDL	0.00500	mg/kg wet							
Methyl tert-Butyl Ether	BDL	0.0100	mg/kg wet							
m,p-Xylene	BDL	0.0100	mg/kg wet							
n-Hexane	BDL	0.00500	mg/kg wet							
o-Xylene	BDL	0.00500	mg/kg wet							
Styrene	BDL	0.00500	mg/kg wet							
Tetrachloroethene	BDL	0.00500	mg/kg wet							
Toluene	BDL	0.00500	mg/kg wet							
trans-1,2-Dichloroethene	BDL	0.00500	mg/kg wet							
trans-1,3-Dichloropropene	BDL	0.00500	mg/kg wet							
Trichloroethene	BDL	0.00500	mg/kg wet							
Trichlorofluoromethane	BDL	0.00500	mg/kg wet							
Vinyl Chloride	BDL	0.00500	mg/kg wet							
Vinyl acetate	BDL	0.0100	mg/kg wet							
Surrogate: 4-Bromofluorobenzene	*47.2*		*ug/L*	*50.00*		*94.4*	*34-118*			
Surrogate: Dibromofluoromethane	*38.2*		*ug/L*	*50.00*		*76.5*	*61-152*			
Surrogate: Toluene-d8	*48.2*		*ug/L*	*50.00*		*96.4*	*44-119*			
Surrogate: 1,2-Dichloroethane-d4	*35.6*		*ug/L*	*50.00*		*71.3*	*39-123*			

Volatile Organic Compounds by EPA Method 8260A/B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0951324 - VOC PREP										
LCS (0951324-BS1)				Prepared & Analyzed: 12/18/09						
1,1,1,2-Tetrachloroethane	0.0206	0.00500	mg/kg wet	0.02000		103	56-128		12	
1,1,1-Trichloroethane	0.0185	0.00500	mg/kg wet	0.02000		92.4	58-127		20	
1,1,2,2-Tetrachloroethane	0.0213	0.00500	mg/kg wet	0.02000		106	61-125		21	
1,1,2-Trichloroethane	0.0205	0.00500	mg/kg wet	0.02000		102	65-126		16	
1,1-Dichloroethane	0.0192	0.00500	mg/kg wet	0.02000		95.8	60-130		17	
1,1-Dichloroethene	0.0203	0.00500	mg/kg wet	0.02000		101	62-142		19	
1,1-Dichloropropene	0.0189	0.00500	mg/kg wet	0.02000		94.4	65-125		14	
1,2-Dibromoethane	0.0209	0.00500	mg/kg wet	0.02000		104	39-149		20	
1,2-Dichloroethane	0.0190	0.00500	mg/kg wet	0.02000		94.8	58-128		18	
1,2-Dichloropropane	0.0196	0.00500	mg/kg wet	0.02000		98.0	66-123		15	
1,3-Dichloropropane	0.0204	0.00500	mg/kg wet	0.02000		102	61-125		14	
2,2-Dichloropropane	0.0189	0.00500	mg/kg wet	0.02000		94.4	22-97		39	
2-Butanone	0.0496	0.0200	mg/kg wet	0.08000		62.0	10-143		36	
2-Chloroethyl vinyl ether	0.0362	0.0250	mg/kg wet	0.02000		181	62-129		22	L
2-Chlorotoluene	0.0199	0.00500	mg/kg wet	0.02000		99.4	63-126		20	
2-Hexanone	0.0773	0.0200	mg/kg wet	0.08000		96.7	27-144		40	
4-Chlorotoluene	0.0200	0.00500	mg/kg wet	0.02000		100	56-130		18	
4-Methyl-2-pentanone	0.0801	0.0200	mg/kg wet	0.08000		100	10-184		40	
Acetone	0.0464	0.0500	mg/kg wet	0.08000		58.0	10-172		39	
Acetonitrile	0.0116	0.0400	mg/kg wet	0.02000		57.8	20-149		20	
Acrylonitrile	0.0150	0.0200	mg/kg wet	0.02000		75.2				
Allyl chloride	0.0210	0.0100	mg/kg wet	0.02000		105				
Benzene	0.0191	0.00500	mg/kg wet	0.02000		95.6	67-124		16	
Bromobenzene	0.0196	0.00500	mg/kg wet	0.02000		97.8	61-125		16	
Bromochloromethane	0.0178	0.00500	mg/kg wet	0.02000		89.2	55-131		16	
Bromodichloromethane	0.0195	0.00500	mg/kg wet	0.02000		97.4	58-131		21	
Bromoform	0.0223	0.00500	mg/kg wet	0.02000		111	51-136		18	
Bromomethane	0.0194	0.00500	mg/kg wet	0.02000		97.2	58-190		34	
Carbon Disulfide	0.0206	0.0200	mg/kg wet	0.02000		103	40-156		16	
Carbon Tetrachloride	0.0180	0.00500	mg/kg wet	0.02000		90.0	46-137		25	
Chlorobenzene	0.0191	0.00500	mg/kg wet	0.02000		95.3	65-123		18	
Chloroethane	0.0191	0.00500	mg/kg wet	0.02000		95.7				
Chloroform	0.0177	0.00500	mg/kg wet	0.02000		88.7	64-127		16	
Chloromethane	0.0239	0.00500	mg/kg wet	0.02000		120	29-148		24	
cis-1,2-Dichloroethene	0.0188	0.00500	mg/kg wet	0.02000		94.2	65-128		16	
cis-1,3-Dichloropropene	0.0207	0.00500	mg/kg wet	0.02000		104	27-156		23	
Dibromochloromethane	0.0209	0.00500	mg/kg wet	0.02000		104	53-128		16	
Dibromomethane	0.0201	0.00500	mg/kg wet	0.02000		100	55-128		22	
Dichlorodifluoromethane	0.0310	0.00500	mg/kg wet	0.02000		155	25-167		32	
Ethylbenzene	0.0191	0.00500	mg/kg wet	0.02000		95.4	66-123		16	
Iodomethane	0.0180	0.0100	mg/kg wet	0.02000		89.8	32-150		28	
Methylene Chloride	0.00917	0.00500	mg/kg wet	0.02000		45.8	35-149		12	
Methyl tert-Butyl Ether	0.0189	0.0100	mg/kg wet	0.02000		94.3	46-142		25	
m,p-Xylene	0.0383	0.0100	mg/kg wet	0.04000		95.8	66-126		16	
n-Hexane	0.0216	0.00500	mg/kg wet	0.02000		108	10-189		21	

Volatile Organic Compounds by EPA Method 8260A/B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0951324 - VOC PREP										
LCS (0951324-BS1)				Prepared & Analyzed: 12/18/09						
o-Xylene	0.0201	0.00500	mg/kg wet	0.02000		100	63-124		17	
Styrene	0.0204	0.00500	mg/kg wet	0.02000		102	63-125		15	
Tetrachloroethene	0.0168	0.00500	mg/kg wet	0.02000		84.0	29-174		30	
Toluene	0.0183	0.00500	mg/kg wet	0.02000		91.6	70-122		16	
trans-1,2-Dichloroethene	0.0188	0.00500	mg/kg wet	0.02000		93.8	63-129		18	
trans-1,3-Dichloropropene	0.0195	0.00500	mg/kg wet	0.02000		97.4	38-135		18	
Trichloroethene	0.0179	0.00500	mg/kg wet	0.02000		89.5	68-126		18	
Trichlorofluoromethane	0.0165	0.00500	mg/kg wet	0.02000		82.4	52-142		26	
Vinyl Chloride	0.0210	0.00500	mg/kg wet	0.02000		105				
Vinyl acetate	0.0204	0.0100	mg/kg wet	0.02000		102				
Surrogate: 4-Bromofluorobenzene	*47.8*		*ug/L*	*50.00*		*95.6*	*34-118*			
Surrogate: Dibromofluoromethane	*38.3*		*ug/L*	*50.00*		*76.5*	*61-152*			
Surrogate: Toluene-d8	*46.1*		*ug/L*	*50.00*		*92.3*	*44-119*			
Surrogate: 1,2-Dichloroethane-d4	*35.2*		*ug/L*	*50.00*		*70.3*	*39-123*			
LCS Dup (0951324-BSD1)				Prepared & Analyzed: 12/18/09						
1,1,1,2-Tetrachloroethane	0.0269	0.00500	mg/kg wet	0.02000		135	56-128	26.5	12	L, R
1,1,1-Trichloroethane	0.0245	0.00500	mg/kg wet	0.02000		123	58-127	28.0	20	R
1,1,2,2-Tetrachloroethane	0.0248	0.00500	mg/kg wet	0.02000		124	61-125	15.1	21	
1,1,2-Trichloroethane	0.0254	0.00500	mg/kg wet	0.02000		127	65-126	21.2	16	L, R
1,1-Dichloroethane	0.0240	0.00500	mg/kg wet	0.02000		120	60-130	22.5	17	R
1,1-Dichloroethene	0.0259	0.00500	mg/kg wet	0.02000		130	62-142	24.4	19	R
1,1-Dichloropropene	0.0250	0.00500	mg/kg wet	0.02000		125	65-125	28.1	14	R
1,2-Dibromoethane	0.0251	0.00500	mg/kg wet	0.02000		126	39-149	18.6	20	
1,2-Dichloroethane	0.0236	0.00500	mg/kg wet	0.02000		118	58-128	21.7	18	R
1,2-Dichloropropane	0.0247	0.00500	mg/kg wet	0.02000		123	66-123	23.0	15	R
1,3-Dichloropropane	0.0253	0.00500	mg/kg wet	0.02000		126	61-125	21.2	14	L, R
2,2-Dichloropropane	0.0242	0.00500	mg/kg wet	0.02000		121	22-97	24.7	39	L
2-Butanone	0.0523	0.0200	mg/kg wet	0.08000		65.3	10-143	5.30	36	
2-Chloroethyl vinyl ether	0.0409	0.0250	mg/kg wet	0.02000		205	62-129	12.1	22	L
2-Chlorotoluene	0.0264	0.00500	mg/kg wet	0.02000		132	63-126	28.1	20	L, R
2-Hexanone	0.0879	0.0200	mg/kg wet	0.08000		110	27-144	12.8	40	
4-Chlorotoluene	0.0260	0.00500	mg/kg wet	0.02000		130	56-130	26.0	18	R
4-Methyl-2-pentanone	0.0927	0.0200	mg/kg wet	0.08000		116	10-184	14.7	40	
Acetone	0.0528	0.0500	mg/kg wet	0.08000		66.0	10-172	12.8	39	
Acetonitrile	0.0133	0.0400	mg/kg wet	0.02000		66.7	20-149	14.2	20	
Acrylonitrile	0.0190	0.0200	mg/kg wet	0.02000		95.0		23.2		
Allyl chloride	0.0277	0.0100	mg/kg wet	0.02000		139		27.6		
Benzene	0.0246	0.00500	mg/kg wet	0.02000		123	67-124	24.9	16	R
Bromobenzene	0.0258	0.00500	mg/kg wet	0.02000		129	61-125	27.3	16	L, R
Bromochloromethane	0.0221	0.00500	mg/kg wet	0.02000		111	55-131	21.5	16	R
Bromodichloromethane	0.0252	0.00500	mg/kg wet	0.02000		126	58-131	25.5	21	R
Bromoform	0.0263	0.00500	mg/kg wet	0.02000		131	51-136	16.4	18	
Bromomethane	0.0182	0.00500	mg/kg wet	0.02000		90.9	58-190	6.70	34	
Carbon Disulfide	0.0263	0.0200	mg/kg wet	0.02000		132	40-156	24.3	16	R

Volatile Organic Compounds by EPA Method 8260A/B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0951324 - VOC PREP										
LCS Dup (0951324-BSD1)				Prepared & Analyzed: 12/18/09						
Carbon Tetrachloride	0.0241	0.00500	mg/kg wet	0.02000		120	46-137	28.8	25	R
Chlorobenzene	0.0254	0.00500	mg/kg wet	0.02000		127	65-123	28.4	18	A-01, R
Chloroethane	0.0160	0.00500	mg/kg wet	0.02000		79.8		18.1		
Chloroform	0.0221	0.00500	mg/kg wet	0.02000		111	64-127	21.9	16	R
Chloromethane	0.0210	0.00500	mg/kg wet	0.02000		105	29-148	13.2	24	
cis-1,2-Dichloroethene	0.0234	0.00500	mg/kg wet	0.02000		117	65-128	21.5	16	R
cis-1,3-Dichloropropene	0.0260	0.00500	mg/kg wet	0.02000		130	27-156	22.8	23	
Dibromochloromethane	0.0263	0.00500	mg/kg wet	0.02000		131	53-128	22.8	16	L, R
Dibromomethane	0.0240	0.00500	mg/kg wet	0.02000		120	55-128	18.0	22	
Dichlorodifluoromethane	0.0276	0.00500	mg/kg wet	0.02000		138	25-167	11.3	32	
Ethylbenzene	0.0256	0.00500	mg/kg wet	0.02000		128	66-123	29.1	16	L, R
Iodomethane	0.0220	0.0100	mg/kg wet	0.02000		110	32-150	20.3	28	
Methylene Chloride	0.00934	0.00500	mg/kg wet	0.02000		46.7	35-149	1.84	12	
Methyl tert-Butyl Ether	0.0219	0.0100	mg/kg wet	0.02000		110	46-142	14.9	25	
m,p-Xylene	0.0510	0.0100	mg/kg wet	0.04000		128	66-126	28.4	16	L, R
n-Hexane	0.0199	0.00500	mg/kg wet	0.02000		99.5	10-189	8.38	21	
o-Xylene	0.0267	0.00500	mg/kg wet	0.02000		134	63-124	28.4	17	L, R
Styrene	0.0273	0.00500	mg/kg wet	0.02000		137	63-125	29.3	15	L, R
Tetrachloroethene	0.0233	0.00500	mg/kg wet	0.02000		116	29-174	32.3	30	R
Toluene	0.0244	0.00500	mg/kg wet	0.02000		122	70-122	28.6	16	R
trans-1,2-Dichloroethene	0.0243	0.00500	mg/kg wet	0.02000		122	63-129	25.8	18	R
trans-1,3-Dichloropropene	0.0250	0.00500	mg/kg wet	0.02000		125	38-135	24.9	18	R
Trichloroethene	0.0228	0.00500	mg/kg wet	0.02000		114	68-126	23.9	18	R
Trichlorofluoromethane	0.0150	0.00500	mg/kg wet	0.02000		75.2	52-142	9.26	26	
Vinyl Chloride	0.0185	0.00500	mg/kg wet	0.02000		92.5		12.6		
Vinyl acetate	0.0232	0.0100	mg/kg wet	0.02000		116		13.0		
Surrogate: 4-Bromofluorobenzene	*48.5*		*ug/L*	*50.00*		*97.0*	*34-118*			
Surrogate: Dibromofluoromethane	*37.9*		*ug/L*	*50.00*		*75.8*	*61-152*			
Surrogate: Toluene-d8	*46.0*		*ug/L*	*50.00*		*92.0*	*44-119*			
Surrogate: 1,2-Dichloroethane-d4	*35.4*		*ug/L*	*50.00*		*70.7*	*39-123*			

Semivolatile Organic Compounds by EPA Method 8270C - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0951299 - PREP_SVOC_S										
Blank (0951299-BLK1)				Prepared: 12/18/09 Analyzed: 12/21/09						
2-Methylnaphthalene	BDL	0.100	mg/kg wet							
Acenaphthene	BDL	0.100	mg/kg wet							
Acenaphthylene	BDL	0.100	mg/kg wet							
Anthracene	BDL	0.100	mg/kg wet							
Benz(a)anthracene	BDL	0.100	mg/kg wet							
Benzo(a)pyrene	BDL	0.100	mg/kg wet							
Benzo(b)fluoranthene	BDL	0.100	mg/kg wet							
Benzo(g,h,i)perylene	BDL	0.100	mg/kg wet							
Benzo(k)fluoranthene	BDL	0.100	mg/kg wet							
Chrysene	BDL	0.100	mg/kg wet							
Dibenz(a,h)anthracene	BDL	0.100	mg/kg wet							
Fluoranthene	BDL	0.100	mg/kg wet							
Fluorene	BDL	0.100	mg/kg wet							
Indeno(1,2,3-cd)pyrene	BDL	0.100	mg/kg wet							
Naphthalene	BDL	0.100	mg/kg wet							
Phenanthrene	BDL	0.100	mg/kg wet							
Pyrene	BDL	0.100	mg/kg wet							
Surrogate: Nitrobenzene-d5	*1.24*		*mg/kg wet*	*1.333*		*93.3*	*57-116*			
Surrogate: 2-Fluorobiphenyl	*1.12*		*mg/kg wet*	*1.333*		*84.1*	*64-110*			
Surrogate: Terphenyl-d14	*1.05*		*mg/kg wet*	*1.333*		*78.8*	*46-124*			
LCS (0951299-BS1)				Prepared: 12/18/09 Analyzed: 12/21/09						
2-Methylnaphthalene	3.05	0.100	mg/kg wet	3.333		91.5				
Acenaphthene	2.97	0.100	mg/kg wet	3.333		89.2	66-102		13	
Acenaphthylene	3.18	0.100	mg/kg wet	3.333		95.5				
Anthracene	3.13	0.100	mg/kg wet	3.333		93.9				
Benz(a)anthracene	3.08	0.100	mg/kg wet	3.333		92.4				
Benzo(a)pyrene	2.69	0.100	mg/kg wet	3.333		80.6				
Benzo(b)fluoranthene	2.56	0.100	mg/kg wet	3.333		76.7				
Benzo(g,h,i)perylene	3.46	0.100	mg/kg wet	3.333		104				
Benzo(k)fluoranthene	2.85	0.100	mg/kg wet	3.333		85.6				
Chrysene	3.19	0.100	mg/kg wet	3.333		95.8				
Dibenz(a,h)anthracene	3.42	0.100	mg/kg wet	3.333		103				
Fluoranthene	3.13	0.100	mg/kg wet	3.333		94.0				
Fluorene	3.11	0.100	mg/kg wet	3.333		93.4				
Indeno(1,2,3-cd)pyrene	3.38	0.100	mg/kg wet	3.333		102				
Naphthalene	2.94	0.100	mg/kg wet	3.333		88.2				
Phenanthrene	2.90	0.100	mg/kg wet	3.333		87.0				
Pyrene	3.04	0.100	mg/kg wet	3.333		91.2	47-123		15	
Surrogate: Nitrobenzene-d5	*1.25*		*mg/kg wet*	*1.333*		*94.1*	*57-116*			
Surrogate: 2-Fluorobiphenyl	*1.23*		*mg/kg wet*	*1.333*		*92.2*	*64-110*			
Surrogate: Terphenyl-d14	*1.02*		*mg/kg wet*	*1.333*		*76.8*	*46-124*			

Semivolatile Organic Compounds by EPA Method 8270C - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0951299 - PREP_SVOC_S										
LCS Dup (0951299-BSD1)				Prepared: 12/18/09 Analyzed: 12/21/09						
2-Methylnaphthalene	3.23	0.100	mg/kg wet	3.333		97.0		5.85		
Acenaphthene	2.93	0.100	mg/kg wet	3.333		87.9	66-102	1.48	13	
Acenaphthylene	3.07	0.100	mg/kg wet	3.333		92.1		3.69		
Anthracene	3.09	0.100	mg/kg wet	3.333		92.6		1.38		
Benz(a)anthracene	3.03	0.100	mg/kg wet	3.333		91.0		1.55		
Benzo(a)pyrene	2.71	0.100	mg/kg wet	3.333		81.4		1.01		
Benzo(b)fluoranthene	2.62	0.100	mg/kg wet	3.333		78.7		2.59		
Benzo(g,h,i)perylene	3.64	0.100	mg/kg wet	3.333		109		5.06		
Benzo(k)fluoranthene	3.09	0.100	mg/kg wet	3.333		92.8		7.99		
Chrysene	3.17	0.100	mg/kg wet	3.333		95.0		0.807		
Dibenz(a,h)anthracene	3.45	0.100	mg/kg wet	3.333		104		0.999		
Fluoranthene	3.02	0.100	mg/kg wet	3.333		90.6		3.73		
Fluorene	3.08	0.100	mg/kg wet	3.333		92.3		1.16		
Indeno(1,2,3-cd)pyrene	3.54	0.100	mg/kg wet	3.333		106		4.51		
Naphthalene	2.93	0.100	mg/kg wet	3.333		87.9		0.329		
Phenanthrene	2.70	0.100	mg/kg wet	3.333		81.0		7.11		
Pyrene	3.02	0.100	mg/kg wet	3.333		90.5	47-123	0.782	15	
Surrogate: Nitrobenzene-d5	*1.30*		*mg/kg wet*	*1.333*		*97.1*	*57-116*			
Surrogate: 2-Fluorobiphenyl	*1.16*		*mg/kg wet*	*1.333*		*86.8*	*64-110*			
Surrogate: Terphenyl-d14	*0.982*		*mg/kg wet*	*1.333*		*73.7*	*46-124*			

Notes and Definitions

S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
R-05	The sample was diluted due to the presence of high levels of non-target analytes resulting in elevated reporting limits.
R-01	The Reporting Limit for this analyte has been raised to account for matrix interference.
R	RPD outside of accepted recovery limits.
M	Matrix spike and/or matrix spike duplicate recovery outside of acceptance limits.
L	Laboratory control sample recovery outside of acceptance limits.
D	Data reported from a dilution
A-01a	Chlorobenzene was high in the LCSD, but was not detected in the samples.
A-01	Chlorobenzene was high in the LCSD, but analyte was not detected in the samples.

Sample preservation was met unless otherwise noted.

Belmont Labs
The Environmental Service Company.

Tuesday, January 5, 2010

Laura Funk
Weston Solutions, Inc. - Dayton
711 East Monument, Ste 201
Dayton, OHIO 45402
TEL: (937) 531-4400
FAX (937) 384-4201

RE: Additional Analysis

Work Order: 09L1351

Belmont Labs received 2 sample(s) on 12/28/2009 for the analyses presented in the following report.

Belmont Labs attests that all analytical methods were performed using acceptable methods, and that the QA/QC procedures stipulated in these methods were followed. USEPA's RCRA Program regards a statement of quality assurance as a legal means of assuring that acceptable and uniform laboratory methods and QA/QC practices were followed by the laboratory.

If you have any questions regarding the test results, please feel free to call me at (937) 832-8242.

Respectfully submitted,

Holly Green
Project Manager

Certifications: NELAP/NELAC - #04130 VAP - #CL0032
Ohio EPA Drinking water - #836 Ohio EPA Drinking water (Micro) - #872

Belmont Labs **Date:** 1/5/2010

CLIENT:	Weston Solutions, Inc. - Dayton	**Lab Order:**	09L1351
Project:	Additional Analysis		

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Sampled Date	Received Date
09L1351-01A	091216-7-additional Analysis	12/16/2009 4:10:00PM	12/28/2009
09L1351-02A	091216-8-additional Analysis	12/16/2009 4:00:00PM	12/28/2009

Belmont Labs **Date:** 1/5/2010

CLIENT: Weston Solutions, Inc. - Dayton **Lab Order:** 09L1351
Project: Additional Analysis

Lab ID: 09L1351-01 **Collection Date:** 12/16/2009 4:10:00PM
Client Sample ID: 091216-7-additional Analysis **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Analyzed
PCB_8082	**SW 8082**					**Analyst: DAG**	
Aroclor 1016	BDL	2.29		mg/kg dry	100	0953070	1/4/2010 3:36:00PM
Aroclor 1221	BDL	2.29		mg/kg dry	100	0953070	1/4/2010 3:36:00PM
Aroclor 1232	BDL	2.29		mg/kg dry	100	0953070	1/4/2010 3:36:00PM
Aroclor 1242	BDL	2.29		mg/kg dry	100	0953070	1/4/2010 3:36:00PM
Aroclor 1248	**31.5**	2.29		mg/kg dry	100	0953070	1/4/2010 3:36:00PM
Aroclor 1254	BDL	2.29		mg/kg dry	100	0953070	1/4/2010 3:36:00PM
Aroclor 1260	BDL	2.29		mg/kg dry	100	0953070	1/4/2010 3:36:00PM
Surrogate: Decachlorobiphenyl		*%*	*S-01*	*40-159*		*0953070*	1/4/2010 3:36:00PM
Surrogate: Tetrachloro-m-xylene		*%*	*S-01*	*47-125*		*0953070*	1/4/2010 3:36:00PM
PMOIST	**D 2216**					**Analyst: AD**	
Percent Moisture	**12.8**			% by Weight	1	1002001	12/23/2009 12:00:00AM

Belmont Labs **Date:** 1/5/2010

CLIENT: Weston Solutions, Inc. - Dayton **Lab Order:** 09L1351
Project: Additional Analysis

Lab ID: 09L1351-02 **Collection Date:** 12/16/2009 4:00:00PM
Client Sample ID: 091216-8-additional Analysis **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Analyzed
PCB_8082	**SW 8082**					**Analyst: DAG**	
Aroclor 1016	BDL	0.0229		mg/kg dry	1	0953070	1/4/2010 5:15:00PM
Aroclor 1221	BDL	0.0229		mg/kg dry	1	0953070	1/4/2010 5:15:00PM
Aroclor 1232	BDL	0.0229		mg/kg dry	1	0953070	1/4/2010 5:15:00PM
Aroclor 1242	**11.7**	0.229		mg/kg dry	10	0953070	1/5/2010 11:38:00AM
Aroclor 1248	BDL	0.0229		mg/kg dry	1	0953070	1/4/2010 5:15:00PM
Aroclor 1254	BDL	0.0229		mg/kg dry	1	0953070	1/4/2010 5:15:00PM
Aroclor 1260	BDL	0.0229		mg/kg dry	1	0953070	1/4/2010 5:15:00PM
Surrogate: Decachlorobiphenyl	*65.0 %*			*40-159*		*0953070*	1/4/2010 5:15:00PM
Surrogate: Tetrachloro-m-xylene	*57.0 %*			*47-125*		*0953070*	1/4/2010 5:15:00PM
PMOIST	**D 2216**					**Analyst: AD**	
Percent Moisture	**12.8**			% by Weight	1	1002001	12/23/2009 12:00:00AM

Add On – Recheck Form

Date Initiated: 12/28/09

Initiated by: Tim Smith

Client: Weston Solutions - Dayton

Report To: Laura Funk

Belmont Sample #:	09L0975-03	09L0975-04
Client Sample ID:	091216-7	091216-8
Date Received:	← 12/17/09 09:00 →	
Date/Time Collection:	12/16/09 1600	12/16/09 1600
Keep Till Date:	← 1/16/09 →	

Sample Matrix:

- ☐ Aqueous
- ☐ Groundwater
- ☐ Wastewater
- ☒ Soil
- ☐ Sludge

Package Level:

- ☐ Level I
- ☒ Level II
- ☐ Level III
- ☐ Level IV
- ☐ VAP

Reason:

- ☒ Addition
- ☐ Recheck

Please list tests or any additional information in the space provided below:

PCBs

09L1351

Polychlorinated Biphenyls by EPA Method 8082 - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0953070 - PREP_PP_S										
Blank (0953070-BLK1)				Prepared: 12/29/09 Analyzed: 01/04/10						
Aroclor 1016	BDL	0.0200	mg/kg wet							
Aroclor 1221	BDL	0.0200	mg/kg wet							
Aroclor 1232	BDL	0.0200	mg/kg wet							
Aroclor 1242	BDL	0.0200	mg/kg wet							
Aroclor 1248	BDL	0.0200	mg/kg wet							
Aroclor 1254	BDL	0.0200	mg/kg wet							
Aroclor 1260	BDL	0.0200	mg/kg wet							
Surrogate: Decachlorobiphenyl	*0.0263*		*mg/kg wet*	*0.03333*		*79.0*	*40-159*			
Surrogate: Tetrachloro-m-xylene	*0.0247*		*mg/kg wet*	*0.03333*		*74.0*	*47-125*			
LCS (0953070-BS1)				Prepared: 12/29/09 Analyzed: 01/04/10						
Aroclor 1016	0.263	0.0200	mg/kg wet	0.3333		78.8	55-144		24	
Aroclor 1260	0.290	0.0200	mg/kg wet	0.3333		87.0	51-153		25	
Surrogate: Decachlorobiphenyl	*0.0280*		*mg/kg wet*	*0.03333*		*84.0*	*40-159*			
Surrogate: Tetrachloro-m-xylene	*0.0270*		*mg/kg wet*	*0.03333*		*81.0*	*47-125*			
LCS Dup (0953070-BSD1)				Prepared: 12/29/09 Analyzed: 01/04/10						
Aroclor 1016	0.279	0.0200	mg/kg wet	0.3333		83.8	55-144	6.15	24	
Aroclor 1260	0.298	0.0200	mg/kg wet	0.3333		89.5	51-153	2.83	25	
Surrogate: Decachlorobiphenyl	*0.0283*		*mg/kg wet*	*0.03333*		*85.0*	*40-159*			
Surrogate: Tetrachloro-m-xylene	*0.0270*		*mg/kg wet*	*0.03333*		*81.0*	*47-125*			

Notes and Definitions

S-01 The surrogate recovery for this sample is not available due to sample dilution required from high analyte concentration and/or matrix interference's.

R-05 The sample was diluted due to the presence of high levels of non-target analytes resulting in elevated reporting limits.

Sample preservation was met unless otherwise noted.

APPENDIX E

Belmont Labs™
The Environmental Service Company.

ANALYTICAL REQUEST CHAIN OF CUSTODY

Internal Lab Order Number _____

Purchase Order No.	Quote No.	Client Project
0062907		12473.005.005

INVOICE TO
Name: LAURA FUNK
Company: ~~THEM~~ WESTON SOLUTIONS
Address: 711 E. MONUMENT, #201
City, State, Zip: DAYTON, OH 45402

REPORT TO
Name: LAURA FUNK
Company: WESTON
Mailing Address: 711 E. Monument, #201
City, State, Zip: Dayton, OH 45402
Phone No.: 937-531-4400 Fax No.: -4401

Date Results Req: 12-21-09
Rush Charges Authorized? ☒ Yes ☐ No
Fax Results ☐

Special Instructions:

Additional QC Requirements: Level 2, Level 3, Level 4 (Charges Apply)

Regulatory Type
☐ NPDES
☐ RCRA
☐ SDWA
☐ VAP
☐ Other
Collected in State of OH

Matrix Key
DW - Drinking Water
GW - Ground Water
S - Soil/Solid
SL - Sludge
WW - Waste Water
Specify Other

ANALYSIS REQUESTED
(Enter an "X" in the box below to indicate request and circle preservative)

CLIENT SAMPLE IDENTIFICATION	Date Sampled	Time	Comp	Grab	Matrix	Number of Containers	VOCs (8260)	MTBE (8260)	PAHs (8270)	TPH (C6-C12)	TPH (C10-C20)	TPH (C20-C34)	Lab Only
091216-3	12/16/09	1600		✓		2	✓	✓	✓	✓	✓	✓	
091216-5	↓	↓		✓		2	✓	✓	✓	✓	✓	✓	
091216-7				✓		2	✓	✓	✓	✓	✓	✓	
091216-8				✓		2	✓	✓	✓	✓	✓	✓	
* LAST ITEM													*

CHAIN OF CUSTODY (if required)

Relinquished by: _____ Date/Time 12/17/09 0900
Relinquished by: _____ Date/Time
Method of Shipment: Delivered W.I

Received by: _____ Date/Time
Received at lab by: _____ Date/Time 12-17-09 9:00
Cooler Temp. 2.8° Custody Seals ☐ Yes ☐ No

Sampled by: _____ Date 12/16/09

Client Comments

DISTRIBUTION:
WHITE - Laboratory
YELLOW - Accounting

Please return completed form and samples to Belmont Labs • 25 Holiday Drive • Englewood, OH 45322 • 937.832.8242 • Fax 937.832.2868

A & B Litho-Form #9786-5/02

APPENDIX F

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: OHD 017958604
2. Page 1 of
3. Emergency Response Phone: 937-237-0097
4. Manifest Tracking Number: 000737605 FLE

5. Generator's Name and Mailing Address: CITY OF DAYTON, 711 E MONUMENT AVENUE SUITE 201, DAYTON, OHIO 45402

Generator's Site Address (if different than mailing address): 300 TAYLOR STREET, DAYTON, OHIO 45402

Generator's Phone: 937-333-3820

6. Transporter 1 Company Name: VEOLIA ES INDUSTRIAL SERVICES, INC. — U.S. EPA ID Number: TXR000077970

7. Transporter 2 Company Name: — U.S. EPA ID Number:

8. Designated Facility Name and Site Address: Wayne disposal inc., 49350 north I-94 Service Drive, Belleville, MI 48111 — U.S. EPA ID Number: MID048090633

Facility's Phone: 800-592-5489

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. UN3432, POLYCHLORINATED BIPHENYLS, SOLIDS 9, II	001	DT	~~40,000~~ 20,000	P	PCB1
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information

Dump 257

APPROVAL # A1090798DI PCB [illegible]

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: [illegible] — Signature: [signature] — Month / Day / Year

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: David H Griesnop — Signature: [signature] — Month 01 Day 29 Year 10

Transporter 2 Printed/Typed Name: — Signature: — Month / Day / Year

18. Discrepancy: Actual weight 28,791K OK per Tim Delph @ Veolia as agent for generator. 2-1-10 RW

18a. Discrepancy Indication Space ☒ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator) — U.S. EPA ID Number:

Facility's Phone:

18c. Signature of Alternate Facility (or Generator) — Month / Day / Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1. 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name: Michael Rohde — Signature: [signature] — Month 1 Day 29 Year 10

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

12473-005-005-0600-10

FILE 6-2

STEVE R. RAUCH INC

EXCAVATION and DEMOLITION

1550 Soldiers Home - West Carrollton Rd.
Dayton, OH 45418
800-626-7611

No.: 04572

Date: 12-17-09

Job Name: TECH TOWN
BLDG 2

Customer: FRANKLIN IRON & METAL

Address: DAYTON OH

GROSS	69780
TARE	51740
NET	18040
ADJ	-200
	17840

#2 SHT/REBAR
Material

Truck / Trailer

Driver

X

Weigher

41865BF

CERTIFIED WEIGHT ON FAIRBANKS SCALE

Date [illegible] Order Number [illegible]

Customer's Name: [illegible]

Commodity [illegible]

Remarks [illegible]

lbs. Gross

lbs. Tare Driver — On ______ Off ______

lbs. Net @ ______ Price Amount ______

Shipper ______ Weighmaster ______

Signature ______

04572

FRANKLIN IRON & METAL CORPORATION P 481974

2015 EAST FIRST STREET
DAYTON, OHIO 45403
(937) 253-8184

RECEIVING REPORT

DATE 12-17, 20 2[illegible]

CUSTOMER NAME: [illegible] INC

ADDRESS [illegible]

ORDER NO. [illegible] TRUCK NO. [illegible] VIA

WEIGHT	DESCRIPTION	PRICE	AMOUNT
	SHEET IRON		
	UNPREPARED STEEL		
	STEEL TURNINGS		
	CAST IRON		
	UNCLEAN MOTORS		
	STEEL CLIPS		
	NON FERROUS		
[illegible] 04572			

57599

TREBNICK SYSTEMS • 937.743.1550 • www.trebnick.com

CUSTOMER COPY

APPENDIX G

Site: Tech Town East Phase Demolition
Photo Number: 01 **Date:** December 16, 2009
Direction: Northwest **Photographer:** Dave Robinson
Subject: West wall of tank cavity comprised of a concrete wall.

Site: Tech Town East Phase Demolition
Photo Number: 02 **Date:** December 16, 2009
Direction: Northeast **Photographer:** Dave Robinson
Subject: Looking northeast along tank cavity.

Site: Tech Town East Phase Demolition
Photo Number: 03 **Date:** December 16, 2009
Direction: Northeast **Photographer:** Dave Robinson
Subject: Pieces of tank adjacent to excavation.

Site: Tech Town East Phase Demolition
Photo Number: 04 **Date:** December 16, 2009
Direction: Northwest **Photographer:** Dave Robinson
Subject: Excavation samples.

Site: Tech Town East Phase Demolition
Photo Number: 05
Date: December 16, 2009
Direction: Northeast
Photographer: Dave Robinson
Subject: Excavation and stockpile looking northeast.

BUSTR CLOSURE ASSESSMENT REPORT
FORMER DELPHI HARRISON THERMAL SYSTEMS
BUSTR TANK ID 12 – BUILDING 7 LOADING DOCK
300 TAYLOR STREET
DAYTON, MONTGOMERY COUNTY, OHIO
BUSTR FACILITY ID 57000003

by

Haley & Aldrich, Inc.
Cleveland, OH

for

Remediation and Liability Management Company, Inc.
Moraine, OH

File No. 79032-013
June 2001

HALEY & ALDRICH

BUSTR CLOSURE FORM

OWNER/OPERATOR AND FACILITY DATA:

OWNER INFORMATION:
NAME: REALM, INC.
ADDRESS: 3600 Dryden, Plant Engineering
CITY, STATE: Moraine, OH
ZIP: 45439-1410
CONTACT PERSON: Pamela L. Stubbs
PHONE #: (937)-395-5092

PERMIT #: P00003

FACILITY INFORMATION:
NAME: Thermal Systems
ADDRESS: 300 Taylor St.
CITY: Dayton, OH
COUNTY: Montgomery
OPERATOR: Delphi Harrison Thermal Systems
PHONE #:
FACILITY ID#: 57000003
FIRE DEPARTMENT: Dayton Fire Department
FDID #:

SITE HISTORY & VISUAL SITE EVALUATION:

Tank formerly collected used Stoddard Solvent (degreaser) from locations throughout the facility through above ground piping. Building 7 loading dock was constructed over north half of UST. Tank was last used in 1987 when it was emptied and cleaned; all piping was removed. Tank was permanently abandoned in place with permission of State Fire Marshall (dated 2/20/2001).

UNDERGROUND STORAGE (UST) SYSTEM DATA:

TANK #	AGE	CAPACITY	PRODUCT	CONST. MATERIAL	TANK STATUS	HOLES YES/NO	PIPE STATUS	HOLES YES/NO	DISP.	DATE REMOVED
1	Unknown	10,000 gal.	Stoddard	Steel	A	No	NA	NA	NA	3/16/01

STATUS= TC-Temporary Closure RE-Replace R-Removed CIU-Currently In Use NA-Not Applicable
CIS-Change in Service A-Abandoned In Place

SAMPLE DATA:

SAMPLE COLLECTION PROCEDURES:
SAMPLE PRESERVATION: ice in cooler

SAMPLING EQUIPMENT:

SAMPLING METHOD: Cut a hole in the bottom of the tank on the North and South ends. Collected soil samples for screening laboratory analysis of material located directly below the north and south ends of the tank. Samples were screened using a PID for VOCs and the sample with the highest total VOC reading was submitted for analysis.

FIELD SCREENING:
INSTRUMENT USED: Multi-RAE with PID
METHODOLOGY USED Placed material to be used for screening in a clean glass jar. Placed aluminum foil over the top of the jar and screwed on the teflon lid for screening once the sample approximately reached ambient temperature. The teflon lid was removed and the probe for the Multi-RAE was used to pierce the aluminum foil and read the VOC concentration.

CALIBRATION PROCEDURES:
Calibration of the PID was performed using 100 ppm of isobutylene on 3/13/01.

GROUNDWATER DATA:

CIRCLE CORRECT CHOICE:

SENSITIVE AREA: [YES] / NO

DEPTH TO GROUNDWATER: <15' [15-30] 31-50 >50' ACTUAL DEPTH NA
IF UNKNOWN DEPTH TO GROUNDWATER, DEFAULT TO <15 FEET

WAS WATER PRESENT IN EXCAVATION? YES / [NO]
WAS A WATER SAMPLE TAKEN? YES / [NO]
WATER SAMPLE COLLECTED AFTER EXCAVATION EVACUATED: YES / [NO]
IF NO EXPLAIN:
UST was closed in place. No excavation was conducted.

SOIL DATA:

CIRCLE CORRECT CHOICE:

SOIL CLASSIFICATION: [SAND/GRAVEL] SILTY/CLAYEY SANDS CLAY/SILT

SOIL SYMBOL: GW [GP] GM GC SW SP SM SC ML CL OL MH CH OH PT

ATTACH SIGNED BUSTR SOIL CLASSIFICATION CHART AS APPENDICIES

FIELD SCREENING DATA:

DATE SAMPLE COLLECTED	SAMPLE ID	LOCATION	DEPTH	FIELD SCREENING READING	SUBMITTED TO LAB? YES/NO
3/16/01	B7-IPC-N-1	North end of tank	0-1' beneath tank invert	284 ppm	Yes
3/16/01	B7-IPC-N-2	North end of tank	1-2' beneath tank invert	---	No
3/16/01	B7-IPC-S-1	South end of tank	0-1' beneath tank invert	150 ppm	Yes
3/16/01	B7-IPC-S-2	South end of tank	1-2' beneath tank invert	---	No

NAME AND AFFILIATION OF PERSON COLLECTING SAMPLES:
Keith Aragona: Haley & Aldrich, Inc.

A COPY OF THE CHAIN OF CUSTODY AND THE LABORATORY DATA SHEETS MUST BE ATTACHED AS AN APPENDIX.

LABORATORY DATA:

LABORATORY NAME: Test America
ADDRESS: 3601 S. Dixie Drive; Dayton, Ohio 45439
PHONE #: (937)-294-6856
LABORATORY ANALYST NAME: MRH / JRW
DATE SAMPLES RECEIVED BY LAB: 3/15/01
DATE SAMPLES ANALYZED BY LAB: 3/19/01 - 3/20/01

EXCAVATION ANALYTICAL RESULTS:

SAMPLE ID:	WATER	SOIL B7-IPC-N-1	SOIL B7-IPC-S-1	SOIL	SOIL	SOIL	SOIL	TEST METHOD
CHEMICAL OF CONCERN:		mg/kg	mg/kg					
BENZENE		<0.035	<0.037					
TOLUENE		0.108	0.0518					
ETHYLBENZENE		1.330	0.395					
TOTAL XYLENES		2.890	1.710					
MTBE		<0.035	<0.035					
BENZO (a) ANTHRACENE		<3.510	<1.820					
BENZO (a) PYRENE		0.463	<1.820					
BENZO (b) FLUORANTHENE		<3.510	<1.820					
BENZO (k) FLUORANTHENE		<3.510	<1.820					
CHRYSENE		<3.510	<1.820					
DIBENZ (a,h) ANTHRACENE		<0.351	<1.820					
INDENO (1,2,3,-CD) PYRENE		<3.510	<1.820					
NAPTHALENE		10.8	13.0					
TPH (C10-C20)	N/A							
TPH (C20-C34)	N/A							
OTHER :								

IF ACTION LEVELS ARE EXCEEDED, CONDUCT A TIER 1 INVESTIGATION ACCORDING TO OAC 1301:7-9-13(H).

STOCKPILE ANALYTICAL RESULTS:

STOCKPILE ID:								TEST METHOD
CUBIC YARDS:								
STOCKPILE DISPOSITION*								

*R=*RETURNED TO CAVITY* L=*LANDFILL* S=*STOCKPILED* T=*TREATMENT BY O/O*

CHEMICAL OF CONCERN:								
BENZENE								
TOLUENE								
ETHYLBENZENE								
TOTAL XYLENES								
MTBE								
BENZO (a) ANTHRACENE								
BENZO (a) PYRENE								
BENZO (b) FLUORANTHENE								
BENZO (k) FLUORANTHENE								
CHRYSENE								
DIBENZ (a,h) ANTHRACENE								
INDENO (1,2,3,-CD) PYRENE								
NAPTHALENE								
TPH (C10-C20)								
TPH (C20-C34)								
OTHER:								

WASTE DISPOSAL DATA

UST SYSTEM DISPOSITION:
NAME:
ADDRESS:
CITY/STATE/ZIP:

PRODUCT DISPOSITION:
NAME: NA- Tank had been emptied and cleaned in 1987.
ADDRESS:
CITY:
STATE/ZIP:
VOLUME/GALLONS:

WASTEWATER DISPOSITION:
NAME: United Waste Water Services, Inc.
ADDRESS: 11807 Reading Road
CITY: Cincinnati
STATE/ZIP: OH / 45241
VOLUME/GALLONS: 5,000 gallons

The Petroleum Contaminated Soil (PCS) Form must be completed (See Closure Packet, call SFM/BUSTR, or visit our web site). The PCS laboratory data sheets must be attached to the PCS Form.

MISCELLANEOUS DATA

ADDITIONAL INFORMATION, WHICH CLARIFIES CLOSURE ACTIVITIES, SHALL BE SUBMITTED AS APPENDICIES TO THIS REPORT.

COPY OF PERMIT & FIELD INSPECTION REPORT:
MUST BE ATTACHED

SITE MAP: Site maps, drawn to scale, must be attached. Maps should include property boundaries, street locations, UST cavity dimensions, above ground structures, UST systems, adjacent properties, sample locations, water wells within 2000 feet of the site, any utilities, and the location(s) of previously closed UST systems.

CERTIFIED FIRE SAFETY INSPECTOR:
NAME: Doug Parks
COMPANY/FD: State Fire Marshall
ADDRESS: 6066Tussing Road POBox6087 Reynoldsburg, Ohio43068
PHONE #: (937)-833-2227
INSPECTOR ID#: 202

CERTIFIED INSTALLER:
NAME: Bill Curran
ID#: 10-90-0968

Closure Form must be signed by the UST owner/operator. The owner/operator is responsible for ensuring all data is accurate, and the closure form is legible and complete.

OWNER/OPERATOR SIGNATURE: William J. McFarland

PRINT NAME: WILLIAM J. MCFARLAND DATE: 6-11-01

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I. INTRODUCTION AND REGULATORY HISTORY

This *Closure Assessment Report* is submitted by Remediation and Liability Management Company, Inc. (REALM), a wholly owned subsidiary of General Motors Corporation (GM), to document closure assessment required by Ohio Administrative Code (OAC) 1301:7-9-12(K). The *Closure Assessment Report* and BUSTR Closure Form comply with the reporting requirements of OAC 1301:7-9-12(L).

An underground storage tank (UST) identified by the Bureau of Underground Storage Tank Regulations (BUSTR) as Tank ID 12 was recently closed beneath the loading dock at Building 7 of the former Delphi Harrison Thermal Systems (DHTS) facility. This UST was formerly identified by BUSTR as Tank No. 29. The UST was closed in place by permanent abandonment. The State Fire Marshal granted permission on 20 February 2001 for permanent in place abandonment.

The installation date for the UST at Building 7 is unknown. It appears that an expansion of Building 7 was constructed over the north half of the tank during the mid-1970's.

The UST had collected used Stoddard degreasing solvent from facility operations. Used or "dirty" solvent was collected and delivered to the UST through overhead piping.

The used Stoddard solvent that collected in the UST was distilled on site for reuse at the facility. Solvent distillation was performed in the Building 24 Still Room. The distilled or "clean" solvents were stored in USTs beneath the Still Room. Closure of the Still Room USTs is the subject of a separate *Closure Assessment Report*. Clean Stoddard solvent was redistributed throughout the facility through overhead piping. Tank 12 and the associated solvent distillation processes were taken out of service in 1987.

Historically, the used solvent collection USTs (including Tank 12 that is the subject of this *Closure Assessment Report*) and associated distillation equipment were considered by General Motors (GM) and Ohio EPA as RCRA-regulated hazardous waste units. During that time the used solvent USTs were regulated by Ohio EPA while the clean solvent USTs were registered with and regulated by BUSTR. During negotiations with Ohio EPA regarding RCRA closure of hazardous waste USTs, the Ohio Attorney General and Ohio EPA agreed with GM *"that all components of the solvent distillation process, with the exception of the 'still bottoms storage tank' fall within the exclusion* (from RCRA regulations) *of OAC 3745-51-04(7)(a)"* (Ohio Attorney General 9 September 1998). Subsequent to that ruling, GM registered the used solvent USTs (including Tank ID 12) with BUSTR.

All UST closure activities were performed under the supervision of a BUSTR-certified UST Installer and inspected by a BUSTR Fire Safety Inspector. (See Section 6 for installer and inspector contacts.)

There were a number of other BUSTR tank areas at the facility. All USTs have been removed and/or closed in place. Some tank areas are in the BUSTR site assessment process. In addition to tank areas, there are several operational areas of the facility where environmental concerns still exist. In order to address the site-wide environmental concerns, REALM and USEPA have recently signed a Voluntary Agreement under the RCRA Corrective Action program. Under this Voluntary Agreement, REALM has agreed to investigate and remediate several areas that have been identified at the facility.

The following sections of this *Closure Assessment Report* describe and document each element of UST closure. The sections correspond to the BUSTR Closure Form that is included. Color photographs are included in Appendix A. Other supporting documentation such as waste disposal receipts, laboratory analytical reports, closure permits, water well data and utility information are included as appendices.

II. UST OWNER DATA

GM owned and operated the Delphi Harrison Thermal Systems facility at 300 Taylor Street in Dayton, (Montgomery County) Ohio. The facility location is shown on Figure 1, a USGS topographic map. The 35-acre facility had 15 buildings with combined office/manufacturing floor space of nearly 1.3 million square feet, and 11 paved parking lots. The facility plan is shown on Figure 2 and depicts buildings, parking lots, named streets and the Tank 12 area at the Building 7 loading dock that was recently closed. There were a number of other closed BUSTR tank storage areas at the facility. The facility manufactured and assembled automotive air conditioning compressors and related system components.

Tank 12, the subject of this *Closure Assessment Report,* was taken out of service in 1987. At that time, GM emptied and cleaned the UST and associated distillation equipment.

GM sold the property in 1996 to Peerless Transportation Company who currently operates a trucking and warehouse facility. GM, through REALM, its subsidiary, retained responsibility for tank closure.

For closure purposes, the UST owner/operator is:

REALM, Inc.
3600 Dryden Road
c/o Plant Engineering
Moraine, OH 45439-1410
Ms. Pamela L. Stubbs, P.G.
Project manager
937-395-5092

III. UST SYSTEM DATA

System data for Tank 12, the 10,000-gallon capacity UST at the Building 7 Loading Dock, are summarized on Table 1.

An expansion of Building 7 was constructed during the mid-1970's and covered the north half of the tank. A sketch of the tank and surrounding features is shown on Figure 3. Subsequently, a portion of the loading dock was enclosed and a trash compactor was placed over the UST. Historically, stormwater runoff from the roadway accumulated in the loading dock since the dock was graded toward the building.

The tank collected Stoddard solvent that had been used for degreasing in facility operations. Stoddard solvent is prepared as a mixture of aliphatic (i.e. straight chain) hydrocarbons ranging from nonane (C_9H_{20}) to dodecane ($C_{12}H_{26}$). The C_9 to C_{12} hydrocarbon chain is within BUSTR's Group 2 middle distillates.

IV. WASTE DISPOSAL

4.1 Waste Water

Water had collected in the tank after it had been emptied and cleaned in 1987. Washwater was also generated by steam pressure washing the tank.

The UST at Building 7 had collected through the manway 5,000 gallons of surface water that accumulated in the loading dock. At closure, water was sampled, vacuumed and disposed by United Waste Water Services, Inc. (Cincinnati, OH). The water that accumulated in the tank did not exhibit concentrations of any volatile organic constituent above the laboratory's reporting limits. Washwater from steam cleaning the tank interior was vacuumed, stored temporarily on site in a Frac Tank, sampled and disposed by Dynecol, Inc. (Detroit, MI). Disposal receipts are included in Appendix B.

4.2 Disposable Personal Protective Equipment

Disposable personal protective equipment (PPE) such as coveralls, pullover boots, gloves and respirator cartridges were contained in drums. Drums of PPE will be characterized and appropriately disposed.

V. SAMPLE COLLECTION, FIELD SCREENING AND LABORATORY RESULTS

Soil samples were collected directly beneath the tank at Building 7 by drilling holes through each end of the tank. Sample collection, field screening and laboratory analytical results are described on the attached BUSTR Closure Form. The complete laboratory analytical reports and chain-of-custody documentation are included in Appendix C.

Soil samples from the Stoddard solvent UST at Building 7 were analyzed for BUSTR's Group 2 middle distillates by the required analytical methods [OAC 1301:7-9-13(H)(1)(b)(I)(b) and Table 1]. Stoddard solvent is prepared as a mixture of aliphatic (i.e. straight chain) hydrocarbons ranging from nonane (C_9H_{20}) to dodecane ($C_{12}H_{26}$). BUSTR analysis for middle distillates includes the polynuclear aromatic hydrocarbons (PAH) that are a ring configuration. However, in Stoddard solvent, the PAH would have been refined out of the straight chain aliphatic Stoddard solvent mixture.

None of the benzene, toluene, ethylbenzene or xylene (BTEX) constituents were reported above the BUSTR Closure Action Levels. None of the PAH constituents were reported above the laboratory's reporting limits except naphthalene; however, the concentration of naphthalene is below the BUSTR Closure Action Level.

The tank interior was decontaminated by steam pressure washing. Washwater was vacuumed from the tank. The tank was filled with lean concrete, also known as "flowable fill" or LSM-50. This concrete has a low compressive strength compared to structural concrete. It is inert, delivered "ready-mix", easily placed and hydrates to a solid form. The tank was capped with normal strength (3,000 psi) concrete. A concrete cap was also placed over the south end of the tank inside the open loading bay.

VI. INSTALLER, INSPECTOR AND PERMITS

The BUSTR-Certified Installer is listed below:

Bill Curran ID # 10-90-0968
Compliance Technologies, Inc.
4510 E. 71st Street
Cuyahoga Heights, OH 44105
216-341-1800

The Fire Safety Inspector is listed below:

Doug Parks Inspector #202
BUSTR
6606 Tussing Road
Reynoldsburg, OH 43068-9009
937-833-2227

Copies of the BUSTR Closure Permit (Permit No. P00003) and the State Fire Marshal's permission to permanently abandon the UST in place are included in Appendix D.

VII. MISCELLANEOUS DATA

7.1 Water Well Data

Well logs for production wells within one-half mile of the site were obtained from Ohio Department of Natural Resources (Ohio DNR). Ohio DNR records indicate the presence of at least 13 located wells and 16 unlocated wells. Copies of Ohio DNR water well logs are included in Appendix E. The located wells are for non-potable use. A well is also located at the nearby Dayton Dragons baseball stadium, although no Ohio DNR well log was available. This non-potable well is used for irrigation of the field.

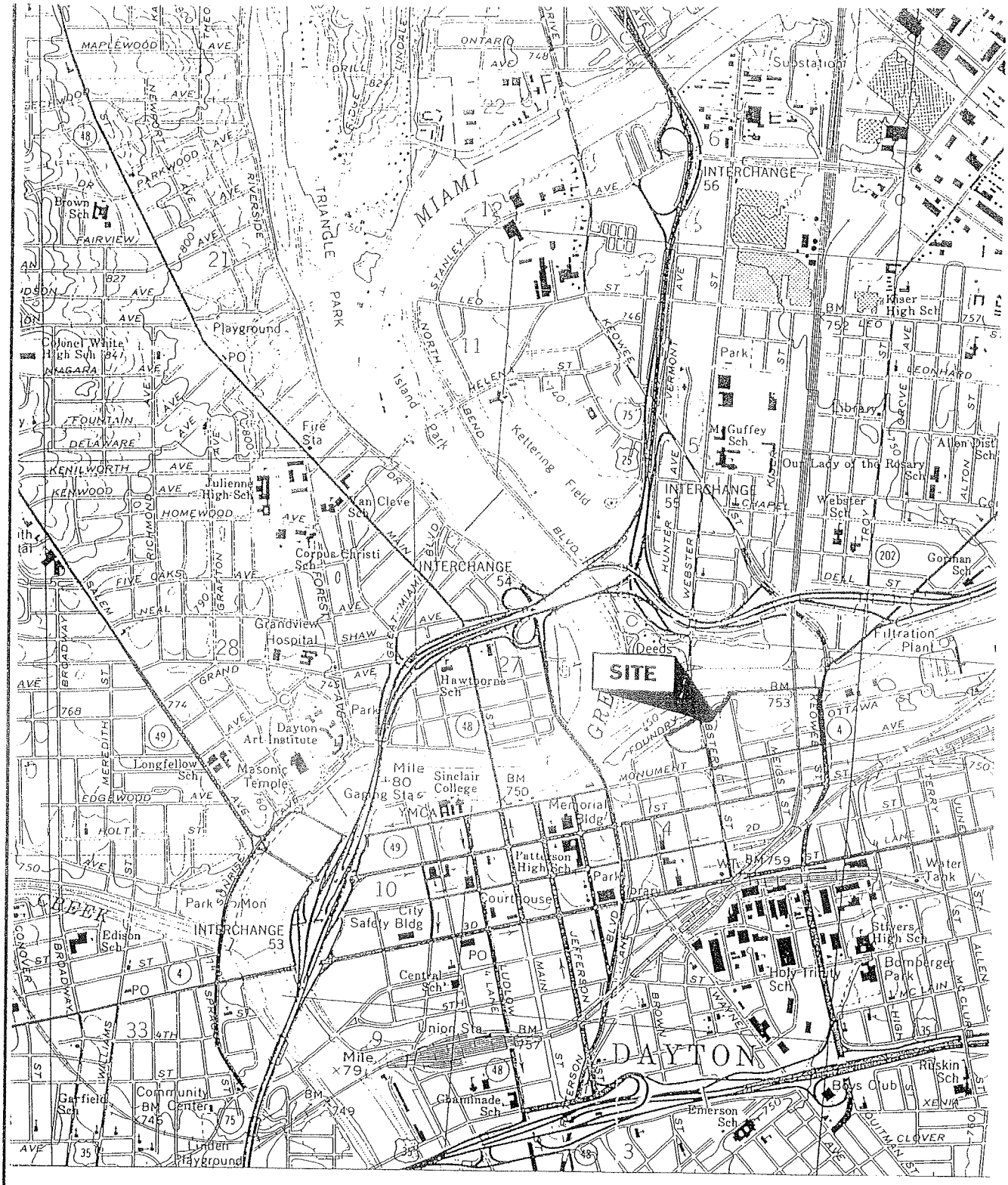
The nearest Dayton wellhead protection area is the Mad River Wellfield that is located upgradient of the site, across the Mad River, and approximately one-half mile east of the site.

7.2 Site Maps

Additional site maps are included in Appendix F. Maps show the locations of buried sewers and the locations of previously closed UST systems at the site.

TABLE 1
UST SYSTEM DATA - BUILDING 7
Realm, Inc.
Former Delphi Harrison Thermal Systems

BUSTR Tank ID	Former BUSTR Tank No.	Capacity/ Dimensions	Contents	Age at Closure	Date Last Used	Construction	Location
12	29	10,000 gal./ 5 ft. diameter x 20 ft.	Used Stoddard Solvent	Unknown	1987	1/4" Steel	Building 7 Loading Dock



OHIO

QUADRANGLE LOCATION

N

USGS QUADRANGLE: DAYTON NORTH, OH.

FILE NO: 79032-013

HALLY & AFFRICH

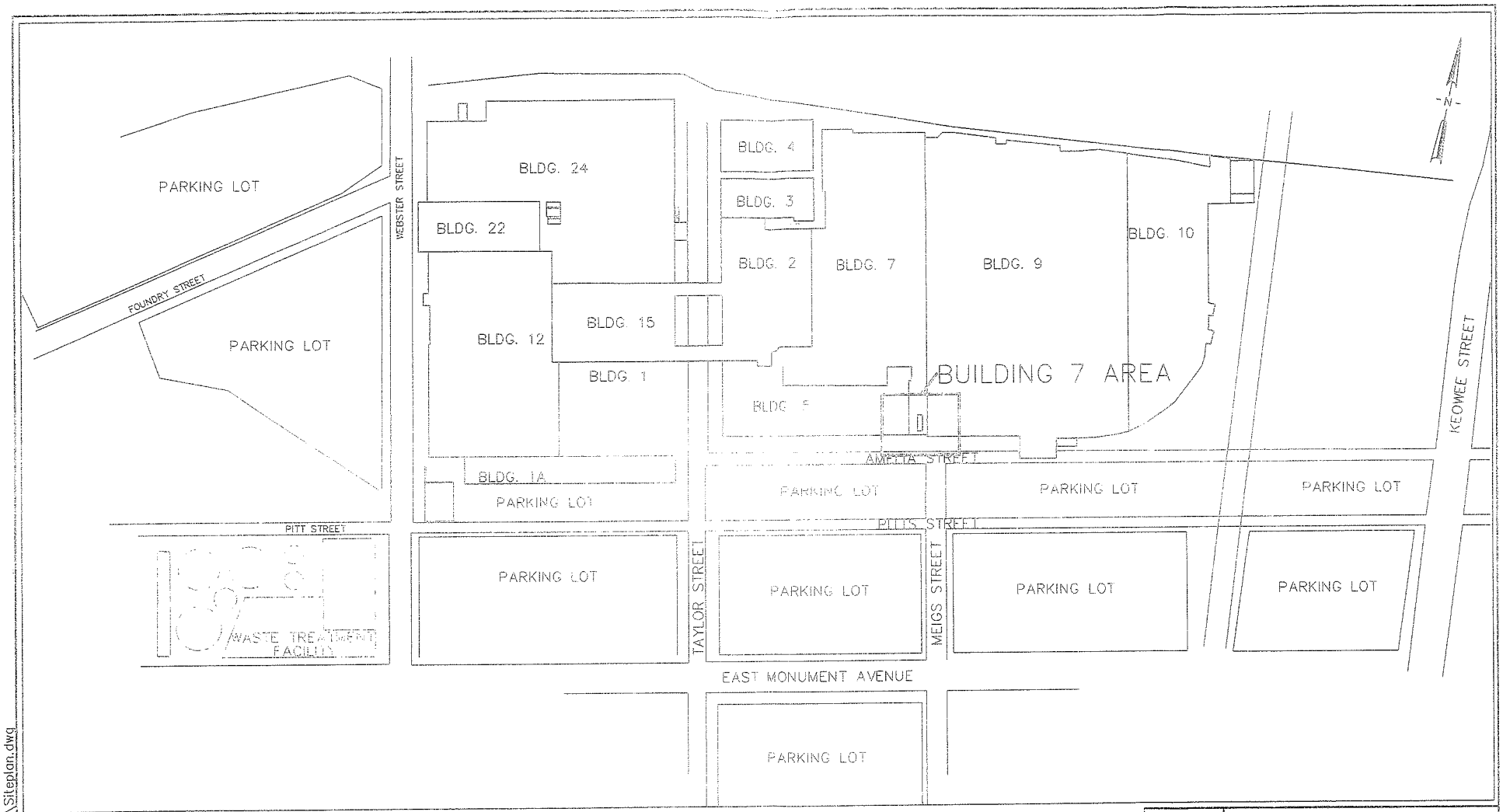
GENERAL MOTORS CORPORATION
DELPHI HARRISON THERMAL
SYSTEMS FACILITY
DAYTON, OHIO

PROJECT LOCUS

SCALE: 1 IN. = 2,000 FT.

MAY 2001

FIGURE 1



NOTES:
1) BASE SITE PLAN OBTAINED FROM GENERAL MOTORS
2) TANK LOCATIONS ARE APPROXIMATE
3) SEE TEXT FOR ADDITIONAL INFORMATION.
4) SEE REFERENCED FIGURES FOR DESIGN DETAILS.

GENERAL MOTORS CORP.
DELPHI HARRISON THERMAL SYSTEMS
DAYTON, OHIO
CLOSURE SPECIFICATION
REALM

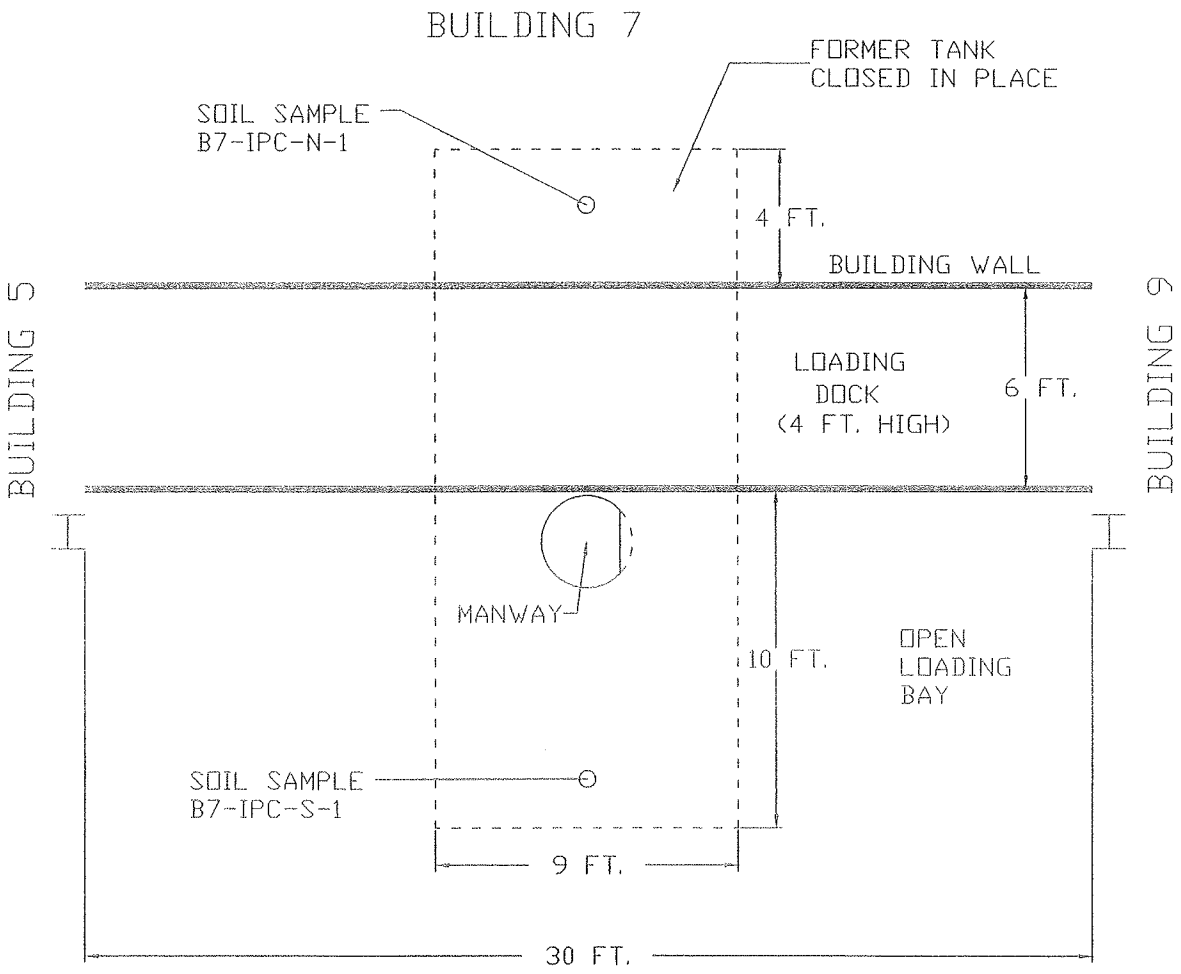
SITE PLAN

SCALE: 1 INCH = 150 FEET

MAY 2001

FILE NO:G:\79032\013\Siteplan.dwg

FIGURE 2



FILE NO:G:\79032\013\BUSTR.TANK.dwg

HALEY & ALDRICH

REALM, INC.
FORMER DELPHI HARRISON THERMAL SYSTEMS
300 TAYLOR STREET
DAYTON, OH

BUSTR UST AT BUILDING 7

SCALE: AS SHOWN

FEBRUARY, 2001

FIGURE 3

APPENDIX S

COD-5 COMFORT LETTERS

Weston Solutions, Inc.
714 East Monument Avenue, Suite 107
Dayton, Ohio 45402
(937) 531-4400

19 March 2009

Mr. Chris Lipson
City of Dayton
Department of Economic Development
101 West Third Street
Dayton, OH 45402

RE: Phase I Property Assessment Amendment - Parcel COD-5,
719 East Monument Avenue, Dayton Ohio

Dear Mr. Lipson:

This letter report serves as an amendment to the Phase I Property Assessment Report completed in September 2005. Although the subject property assessed in the September 2005 report included three parcels, this Phase I Amendment applies to parcel COD-5 only (Property). COD-5 is located at 719 East Monument Avenue and bound by Pitt Street to the north, Taylor Street to the west, East Monument Avenue to the south, and Meigs Street to the east.

Background

COD-5 is one of the seven parcels of land subject to a Voluntary Corrective Action Agreement between the United States Environmental Protection Agency (U.S. EPA) and the City of Dayton. COD-5 is also part of the property that received Clean Ohio grant funding and thus, per the grant requirements, will be included in the Ohio Voluntary Action Program (VAP) No Further Action (NFA) Letter for the larger Tech Town Redevelopment property.

Weston Solutions, Inc. (WESTON®) prepared an Ohio Voluntary Action Program (VAP)-compliant Phase I Property Assessment for three parcels including COD-5 in September 2005. The purpose of the Phase I Assessment was to identify the potential for environmental impacts associated with the historical and current use of the Property, or from activities taking place on adjacent and surrounding properties. The Phase I report concluded that potential releases of hazardous substances or petroleum may have occurred on the Property. The Phase I identified the western half of the Property as an Area of Concern warranting further investigation based upon its historical setting of a millwright shop, a machine shop, and a coal pile.

The purpose of this Phase I amendment is to identify any changes in the environmental condition of the Property, or areas surrounding the Property, that have occurred since the last Phase I site reconnaissance. In accordance with Technical Decision Compendium VA 30007.03.001, activities required to complete a Phase I Property Assessment amendment must include, at a minimum, the following:

- Identifying any changes in ownership or property uses.

- Inspecting the property to determine whether any new releases of hazardous substances or petroleum have or may have occurred on, underlying, or are emanating from the Property or whether conditions have changed since the Phase I inspection.
- Determining whether on-property or off-property operations may have caused a new release or have changed in a way that has altered the regulatory compliance of the facility.
- Identifying any changes in the current or future land use.

The sections that follow address each of these elements and activities completed to further investigate and remediate the Property.

Property Ownership and Land Use

The City of Dayton owns the Property. In 2008, CityWide Development Corporation (CityWide) in partnership with the City of Dayton began construction of the Creative Technology Accelerator (CTA), a 42,000 square foot LEED-certified building intended to house technology-based businesses. As of the date of this Amendment, construction is ongoing and the anticipated completion date is August 2009. As a result of ongoing construction activities, the Property is no longer available for parking for the adjacent Entrepreneurs Center as previously reported in the September 2005 Phase I Assessment Report. Figure 1 (attached) shows the Property and outline of the CTA building. The Master Plan envisions a mirror-image of the CTA will be built on the eastern half of the property. This building would also be used for commercial or light industrial use.

Changes to Property and Adjacent Properties

As discussed in the preceding paragraph, the CTA is being constructed on the western half of the Property. The eastern half of the Property remains a paved parking lot although access is limited by ongoing construction activities. Plans for the CTA include use of geothermal heating and cooling, and the associated groundwater extraction (geothermal) well will be located on the Property, just east of the CTA building. The geothermal well will be double cased and will extract groundwater from the lower aquifer. It is anticipated that monitoring well Day-20 will be abandoned and sealed as part of the construction activities.

The adjacent properties to the north, which made up the General Motors (GM) Harrison Radiator Thermal Systems plant, have been undergoing active abatement, demolition, remediation, and site preparation activities consistent with the City of Dayton's Tech Town redevelopment plans. Many of the former GM buildings located immediately north of the Property have been demolished or are in the process of being demolished. In addition to interim remedial measures performed by GM as part of its Resource Conservation and Recovery Act (RCRA) Performance Based Corrective Action, several areas of environmental contamination have been identified

during redevelopment activities and have been or are in the process of being assessed and remediated, as applicable.

The City of Dayton completed an infrastructure project in Taylor Street, Meigs Street, and Pitt Street surrounding the Property. Several areas of soil contamination (lead, petroleum, and polychlorinated biphenyl (PCB) contaminants) were identified around the infrastructure lines, removed, and disposed of offsite in accordance with applicable federal and state regulations.

The parking lot located at the northeast corner of Keowee Street and Monument Avenue is slated for development as a new City of Dayton facility maintenance building. Land preparation activities have been initiated and construction is expected to begin within the next year.

The nearby building located at the southwest corner of Monument Avenue and Taylor Street has been partially razed. The eastern half of the building was demolished. Whereas the other aforementioned redevelopment-related activities are under the control of the City of Dayton or CityWide, this site improvement was completed by a private party.

Investigative and Remedial Activities

Geophysical Survey

An Electromagnetic (EM) Terrain Conductivity survey was conducted in December 2005 to identify and locate any buried metallic objects, such as tanks, vaults, or drums. Ground penetrating radar (GPR) was used to further characterize areas that were identified as potentially significant EM responses. The results of these two geophysical studies were documented in a report dated February 2006.

A region of elevated terrain conductivity was identified in the eastern region of the Property. This was deemed to be a likely area of conductive fill (e.g. rubble/demolition debris, slag, cinders, etc.) As a result of this finding, the area of concern designated for Phase II Environmental Assessment was expanded to include the entire Property.

The geophysical survey identified one area along the northern boundary of the Property with moderate strength electromagnetic conductivity and in-phase responses, indicative of a metallic object with possible surrounding reinforced concrete. To further investigate this anomalous finding, a test pit was dug in this area to a depth of 10 feet. The test pit contained mostly sheet-metal debris and sand and gravel. The test pit was backfilled with the excavated sand and gravel and capped with additional clean gravel. No further investigation of the anomaly was warranted.

Archaeological Study

The Ohio Historic Preservation Office (OHPO) provided consultation on the larger Tech Town development in response to communication initiated as part of the Environmental Assessment performed per the National Environmental Policy Acts. Per OHPO's request, an archaeological background study was performed on the Property. The background study investigated the settlement and use history of the site prior to its development as a parking lot. Under the supervision of a Professional Archaeologist working with a Geomorphologist, the western half of the Property was excavated to the approximate depth of native undisturbed soil (depths ranging from 4 to 8 feet). Large excavation equipment was used to carefully peel away the layers of material until possible historic features were uncovered. At that point, a supporting team of field archaeologists used hand tools to more fully reveal the features. Some industrial waste, typically shards of sheet metal, was also unearthed.

The excavation uncovered 15 intact, to partially intact, historic features. These included five structural foundations (mortared limestone), eight shaft features (privies, wells), and two cisterns. These features were potentially significant cultural resources which were then studied and excavated in detail. All of the features were mapped and documented and most were fully excavated to depth with artifact recovery. A modest assemblage (5,000+) of historic artifacts was recovered and laboratory analyzed. The recovered materials represented a typical residential collection with shards of china, glassware, and related items being the most common. Animal bones gave some idea of the diet. The assemblage covered primarily the late 19th to very early 20th centuries.

The field activities were performed in the autumn of 2007 and the investigation was documented in a report by Gray & Pape of Cincinnati, Ohio dated December 22, 2008. The data generated were sufficient to address historic research themes related to consumer patterns of the time, and privy construction and abandonment.

Phase II Property Assessment

A Phase II Property Assessment including soil and groundwater sampling was conducted in May 2006. The results from each of these activities are summarized below. The Phase II Property Assessment results are documented in the RCRA Facility Investigation Report dated March 2007.

Soil Investigation

In May 2006, WESTON collected soil from eight sampling locations on the subject property using rotosonic drilling techniques. Surface soil (i.e. interval below the existing asphalt) was sampled at all eight soil borings and subsurface soil samples were collected from four of the borings. The borings were advanced to the shallow groundwater at approximately 10 feet below

ground surface. A total of 12 investigative soil samples were collected from the subject property and submitted to the laboratory for the following analyses:

- Priority pollutant metals.
- Volatile organic compounds (VOCs).
- Semi-volatile organic compounds (SVOCs).
- PCBs.
- Diesel range organic (TPH-DRO).

For screening purposes, the analytical results were compared to U.S. EPA Preliminary Remedial Goals (PRGs), Ohio VAP Commercial/Industrial Land Use Direct Contact Standards, and Ohio VAP Construction Worker Direct Contact Standards. Benzo(a)pyrene was detected at a concentration exceeding the Ohio VAP Direct Contact Commercial/Industrial Standard in one surface soil sample, SS16, at a concentration of 13.2 milligram per kilogram (mg/kg). No other soil sampling results from the subject property exceeded the Ohio VAP Direct Contact Commercial/Industrial Standards or the Ohio VAP Construction Worker Standards.

Four chemicals were detected at concentrations exceeding the PRGs: arsenic, benzo(a)anthracene, benzo(b)fluoranthene, and benzo(a)pyrene. Table 1 presents sampling results that exceed the PRGs. These chemicals also exceeded screening levels for migration to groundwater.

Groundwater Investigation

A groundwater investigation was conducted in May 2006. WESTON collected groundwater samples from nine existing monitoring wells. One well is located on parcel COD-5, three wells are located south of parcel COD-5, four wells are located on two parking lots east of parcel COD-5, and one well is located on the east side of Keowee Street. Groundwater flow is from the southeast to northwest.

Trichloroethene (TCE) was detected at concentrations exceeding the Federal Maximum Contaminant Level (MCL) in samples collected from the onsite well and five of the offsite wells, including the two upgradient wells. The MCL is a federal drinking water standard that also serves as the applicable standard for groundwater in the Ohio VAP. No other chemicals were detected in the groundwater above MCLs or screening levels.

Risk Assessment

A property-specific assessment of risk was completed in accordance with *Risk Assessment Guidance for Superfund, Volume I, Human Health Evaluation Manual, (Part A) (U.S. EPA 1989)*. The objective of the Risk Assessment was to determine if hazardous waste or hazardous constituents are present on Property at concentrations that pose an unacceptable risk to human health and the environment. Surface soil, subsurface soil, and groundwater samples results were

used to evaluate direct contact human health exposure pathways and subsurface vapor intrusion pathways.

The Risk Assessment was completed using the following core assumptions: the property will be restricted to commercial or industrial land use, extraction and use of groundwater will be restricted and shall not include potable uses. The risk assessment concluded that:

- Cancer risk estimates for the direct contact exposure pathway for a commercial/industrial worker and a construction worker fell within the U.S. EPA risk management range of 1×10^{-4} to 1×10^{-6}. Noncancer hazard quotients did not exceed the noncancer target risk goal of 1. Arsenic concentrations are consistent with background concentrations for this area; thus, potential risks from arsenic exposure are not considered to be site-related.
- The cumulative cancer risk estimates for subsurface vapor intrusion from soil do not exceed the U.S. EPA's risk management range of 1×10^{-6} to 1×10^{-4} in COD-5. The noncancer risk estimates for subsurface vapor intrusion from soil in COD-5 do not exceed the U.S. EPA noncancer risk goal of 1.
- The cumulative cancer risk estimate from groundwater for a future commercial building falls within the U.S. EPA risk management range of 1×10^{-6} to 1×10^{-4}. After adjusting the toxicity value for TCE to the value recommended by Ohio EPA (2006), the total cancer risk estimate is 3×10^{-7}. The noncancer risk estimates for subsurface vapor intrusion from groundwater do not exceed the U.S. EPA risk goal of 1. VOCs in groundwater are attributed to an offsite upgradient source; therefore, the contaminant sources driving the potential risks from subsurface vapor intrusion from groundwater are not considered to be site-related.
- No significant ecological habitat occupies the Property and will not in the future, and no important ecological resources exist on the Property or in its vicinity; therefore, no ecological impacts are anticipated for the Property.

Remedial Measures

Although the Risk Assessment concluded that with the exception of institutional controls restricting land and groundwater uses, the Property meets applicable risk goals for the City's RCRA Voluntary Corrective Action; remedial measures were required to achieve the Ohio VAP standards. As previously described, benzo(a)pyrene was present in one surface soil sample at a concentration of 13.2 mg/kg which exceeds the Ohio VAP Commercial/Industrial Standard of 7.7 mg/kg (effective 03/2009; previously 6.3 mg/kg).

On 22 May 2007, a backhoe was used to excavate the area at SS-16 to a depth of three feet, and to a lateral radius of 10 feet. The removal area is depicted on Figure 2. Approximately 40 tons of fill/soil were loaded into dump trucks and transported directly to a municipal solid waste landfill. The excavation was inspected visually to confirm that all noticeably-impacted material was

removed. Three confirmation samples were collected from the excavation and submitted to Test America Laboratory for polyaromatic hydrocarbons (PAHs) analysis. Each of the three sampling locations were representative of both sidewall and floor verification samples because the shallow depth and loose consistency of the fill/soil material resulted in a conical excavation. The final confirmation results and comparison standards are provided in Table 2. All results met Ohio VAP commercial/industrial land use standards. Following receipt of the verification results, the excavation was backfilled with crushed concrete.

Based upon the data collected along with the application of a commercial/industrial land use restriction and groundwater use restriction, the COD-5 remedial action is considered complete. A vapor barrier that was installed beneath the CTA building slab will provide additional protection from potential intrusion of VOCs for future occupants of the building. The final demonstration that COD-5 meets applicable VAP standards, including calculation of cumulative risk levels, will be documented in a No Further Action Letter to be prepared once the property to the north of COD-5 achieves applicable standards.

At the City of Dayton's request, Ohio EPA and U.S. EPA both provided comfort letters stating that with the exception of institutional controls restricting land and groundwater uses, no further remedial measures were anticipated or needed.

Closing

As discussed herein, several changes to the Property have taken place since the 2005 Phase I Assessment Report. These include environmental and historical investigations, remediation, and construction. There is no evidence of any new releases of hazardous substances or petroleum on, underlying, or are emanating from the Property.

WESTON appreciates the opportunity to provide this Phase I Property Assessment Report Amendment. Please call me at (937) 531-4402 if you have any questions.

Sincerely,
WESTON SOLUTIONS, INC.

Laura Funk
Project Manager

Attachment (Tables, Figures)

Attachment

Table 1: Chemicals Detected Above PRGs on COD-5 (mg/kg)

Analyte	U.S. EPA Region 9 PRGs for industrial land use (mg/kg)	Sample ID:	B01-0-05	B01-0-10	B02-0-05	B02-1-05	B02-0-10
		Date:	5/18/2006	5/18/2006	5/18/2006	5/18/2006	5/18/2006
		Depth (feet bgs):	0-5	5-10	0-5	0-5	5-10
Arsenic	1.6		**4.8**	**4**	**8.5**	**8.9**	**3.4**
Benzo(a)anthracene	2.1		0.403	ND	0.619	ND	ND
Benzo(b)fluoranthene	2.1		0.627	0.344	1.19	0.384	0.389
Benzo(a)pyrene	0.21		**0.391**	0.191	**0.665**	**0.234**	0.199

Analyte	U.S. EPA Region 9 PRGs for industrial land use (mg/kg)	Sample ID:	B03-0-05	B03-0-10	B04-0-05	B04-0-10
		Date:	5/18/2006	5/18/2006	5/18/2006	5/18/2006
		Depth (feet bgs):	0-5	5-10	0-5	5-10
Arsenic	1.6		**6.1**	ND	**5.4**	**6.2**
Benzo(a)anthracene	2.1		ND	0.57	ND	0.481
Benzo(b)fluoranthene	2.1		***8.85***	1.24	ND	0.821
Benzo(a)pyrene	0.21		**4.93**	**0.941**	ND	**0.415**

Analyte	U.S. EPA Region 9 PRGs for industrial land use (mg/kg)	Sample ID:	SS15-0-01	SS16-0-01	SS17-0-01	SS18-0-01
		Date:	5/18/2006	5/18/2006	5/18/2006	5/18/2006
		Depth (feet bgs):	0-1	0-1	0-1	0-1
Arsenic	1.6		**6.4**	**7.5**	ND	**8.3**
Benzo(a)anthracene	2.1		ND	***16.5***	ND	ND
Benzo(b)fluoranthene	2.1		ND	***23.8***	ND	ND
Benzo(a)pyrene	0.21		ND	***13.2***	ND	ND

Note: concentrations exceeding PRGs are shown in bold
bgs – below ground surface
ND – not detected

Table 2 Parcel COD-5 Final Confirmation Results (mg/kg)

Analyte	U.S. EPA Region 9 PRGs for industrial land use (mg/kg)	contact standards for commercial/ industrial land use (mg/kg)	Ohio VAP direct contact standards for construction and excavation activities (mg/kg)	Sample ID:	COD05-N003	COD05-C004	COD05-S005
				Date:	5/22/2007	5/22/2007	5/22/2007
Acenaphthylene	29,000	56,000	440,000		<0.0867	<0.0839	0.173
Anthracene	100,000	280,000	1,000,000		<0.0867	<0.0839	0.125
Benzo(a)anthracene	2.1	76	680		<0.0867	<0.0839	0.283
Benzo(b)fluoranthene	2.1	77	690		<0.0867	<0.0839	0.273
Benzo(k)fluoranthene	21	770	6,900		<0.0867	<0.0839	0.218
Benzo(a)pyrene	0.21	7.7	69		<0.0867	<0.0839	0.279
Benzo(ghi)perylene	NS	NS	NS		<0.0867	<0.0839	0.262
Chrysene	210	7,600	69,000		<0.0867	<0.0839	0.259
Fluoranthene	22,000	37,000	290,000		<0.0867	0.169	0.437
Indeno(1,2,3-cd)pyrene	2.1	77	690		<0.0867	<0.0839	0.192
Phenanthrene	NS	NS	NS		<0.0867	<0.0839	0.15
Pyrene	29,000	28,000	220,000		<0.0867	0.134	0.384

Note:
NS - no standard established
All units are in milligrams per kilogram (mg/kg)

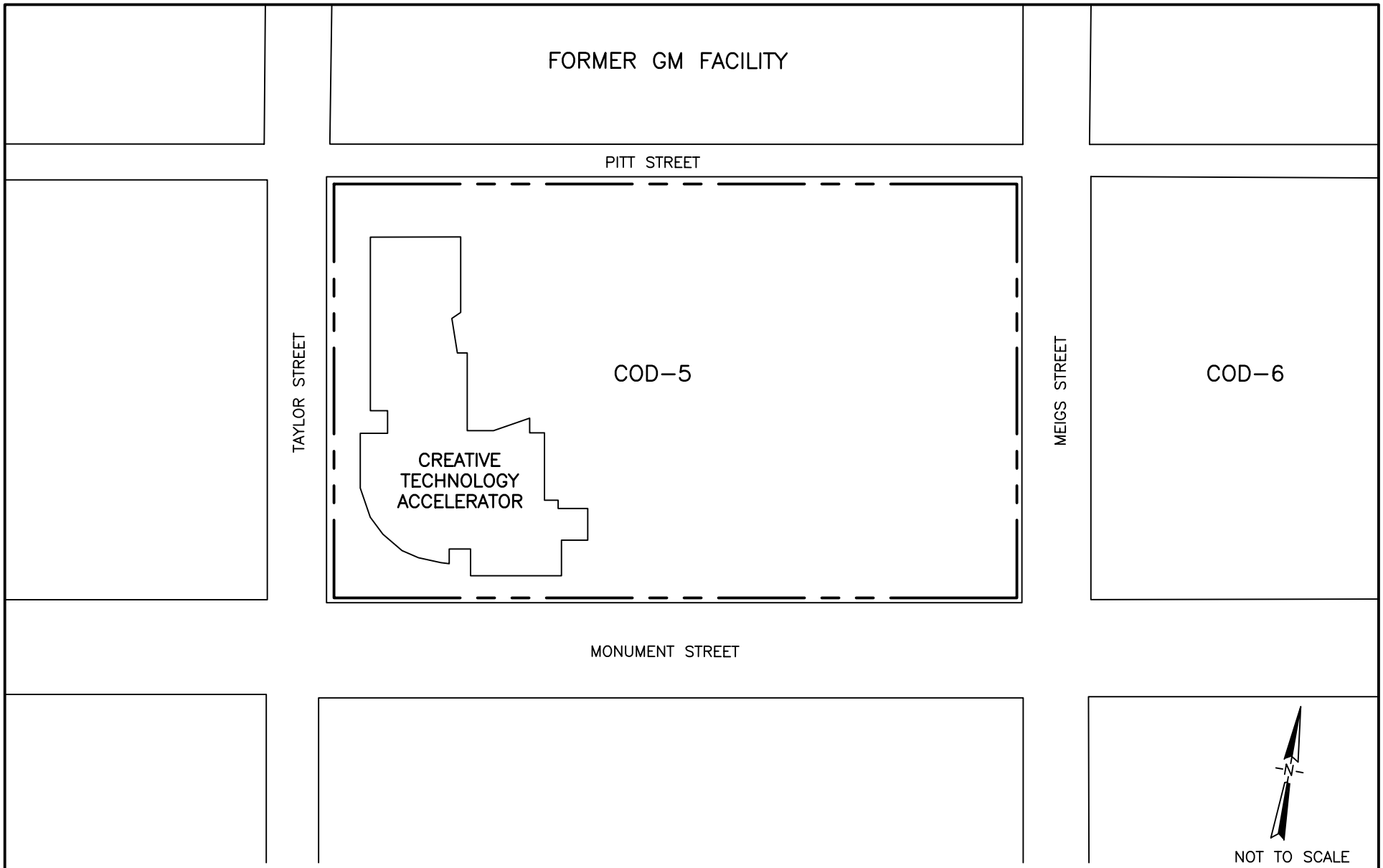


FIGURE 1

WESTON SOLUTIONS

714 E. Monument Ave.
Suite 107
Dayton, Ohio
45402

SITE PLAN

COD–5

Dayton, Ohio

J:\CAD93\000\01405.dwg, 3/18/2009 2:53:40 PM

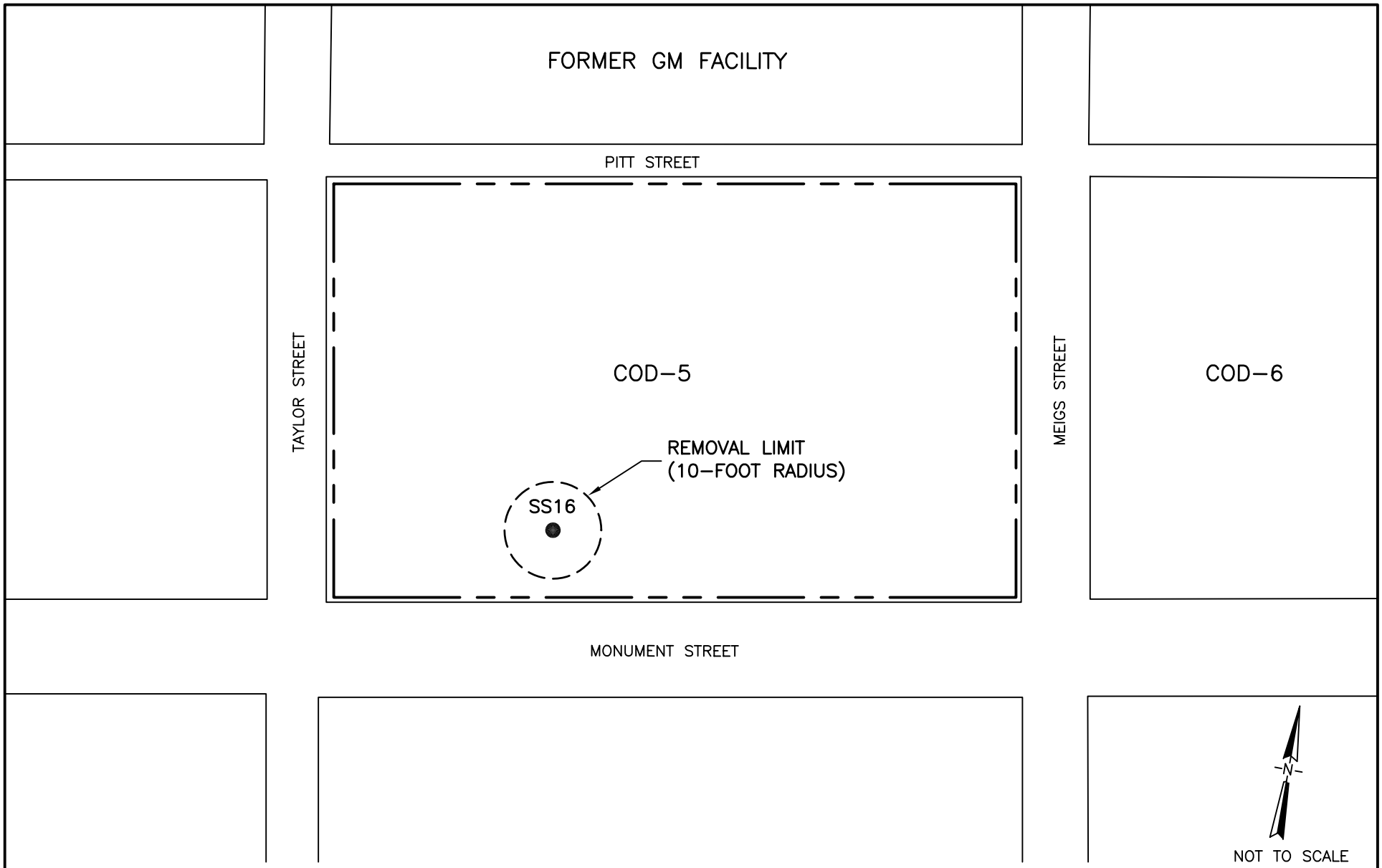


FIGURE 2

WESTON SOLUTIONS

714 E. Monument Ave.
Suite 107
Dayton, Ohio
45402

COD–5 REMEDIAL ACTION

REMOVAL AREA

Dayton, Ohio

J:\CAD93\000\01405.dwg, 3/18/2009 2:41:56 PM

OhioEPA
State of Ohio Environmental Protection Agency

Southwest District Office

401 E. Fifth St.
Dayton, Ohio 45402

TELE: (937) 285-6357 FAX: (937) 285-6249
www.epa.state.oh.us

Ted Strickland, Governor
Lee Fisher, Lieutenant Governor
Chris Korleski, Director

April 23, 2007

Chris Lipson, Economic Development
City of Dayton
101 W. Third Street
Dayton, Ohio 45402

Re: Remedy Plan for Creative technology Accelerator, Parcel Lot COD-5
City of Dayton Tech Town Project

Dear Mr. Lipson:

On April 17, 2007, I met with you and your environmental consultants, Laura Funk and Brad White, regarding the environmental assessment work and planned remedial work for Parcel Lot COD-5 of the City of Dayton's Tech Town Project. On April 18, 2007, I was sent a follow-up letter outlining the information that was discussed at that meeting. Based on the information presented in the meeting and in the April 18th letter, Ohio EPA concurs that the proposed remedial activities will achieve compliance with VAP standards on Lot COD-5 and that further remedial actions are not anticipated.

This Property-specific guidance is provided based on information provided to Ohio EPA about the conditions or circumstances at the Property. Therefore, the provided guidance may not be accurate if actual conditions or circumstances are different from those presented, or if newly discovered conditions or circumstances are identified.

This letter and any accompanying guidance do not constitute an action of the Director; they are only intended to serve as guidance on compliance with the VAP rules. Moreover, the technical comments and guidance provided herein do not constitute applicable standards or a determination that the Property will meet applicable standards. Finally, please note that the Volunteer is responsible for achieving and demonstrating compliance with applicable standards at the Property before a no further action letter and a covenant not to sue may be issued under the Voluntary Action Program.

If you have any questions or concerns related to this review or would like to schedule a meeting or conference call, please feel free to contact me at (937) 285-6035.

Sincerely,

Stephanie McChesney

Stephanie McChesney
Site Coordinator
Division of Emergency and Remedial Response

cc via e-mail: Brad White, Weston Solutions, Inc.
Laura Funk, Weston Solutions, Inc.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGIONS 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

NOV 0 8 2007

REPLY TO THE ATTENTION OF: LU-9J

Gwen Eberly, Development Services Manager
Office of Economic Development
The City of Dayton
101 W. Third Street
Dayton, Ohio 45401

RE: August 14, 2007, Request for Assistance;
Voluntary Corrective Action Agreement
Comfort/Status Letter for Area COD-5

Dear Ms. Eberly:

Thank you for your August 14, 2007, request to the United States Environmental Protection Agency ("U.S. EPA") for assistance in obtaining a "comfort letter" addressing area COD-5 of the former General Motors plant (U.S. EPA site identification number OHD 017 958 604) in Dayton. Parcel COD-5 is bordered by Pitt Street to the North, Meigs Street to the East, Monument Street to the South, and Taylor Street to the West. It is our understanding from your letter that the City of Dayton ("the City") has requested this comfort letter in order to meet conditions of a grant that the City has received from the Economic Development Administration. We also understand that the City plans to redevelop parcel COD-5 by constructing an office building.

In order to ensure that environmental issues at the former General Motors ("GM") site are identified and addressed, the City entered into a Voluntary Corrective Action Agreement ("VCAA") with the U.S. EPA on March 17, 2006, for seven parcels of land in Dayton that were once part of the GM plant. The City is currently approaching the provisions of the VCAA in two phases, with the earlier phase addressing lots COD-5, COD-6, and COD-7. It is our understanding that these three parcels are slated to become part of the "Dayton Technology Campus."

Our records show that the City submitted plans and reports described in the VCAA to the U.S. EPA as the investigation of these parcels progressed, including the submittal of (1) a Resource Conservation and Recovery Act ("RCRA") Facility Investigation report in March 2007, (2) an Environmental Indicators report in May 2007, and (3) a Corrective Measures Study in July 2007. In addition, the City conducted a risk assessment to attempt to demonstrate that further cleanup activities in area COD-5 would not be necessary.

The risk assessment, which was prepared by Weston (the City's contractor) and submitted to U.S. EPA in October 2007, quantitatively evaluated the health risk for two populations that could potentially be exposed to contaminants during future redevelopment of COD-5. The first

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population, construction workers, would be performing activities related to completing the new facility on the parcel. The second population, routine commercial/office workers, would occupy the proposed building. Appropriate exposure pathways for soil and groundwater were evaluated for each potentially exposed population, including volatile chemical vapors seeping through the building foundation from contaminated soils and groundwater. Cumulative risk estimates for the commercial/office worker and the construction worker were below[1] conservative risk levels for cancer and non-cancer health effects.

We have now finalized our review of the risk assessment and agree that further corrective measures do not appear to be necessary at COD-5 other than institutional exposure controls including land use restrictions and groundwater use restrictions.

Based on our current information, it does not appear that construction of the proposed building on area COD-5 would interfere with the City's ability to complete any activities necessary to meet the City's obligations under the VCAA. However, the City should take the following precautions as it proceeds with the redevelopment:

1) In order to ensure protection of commercial/office workers, the City should include post-construction verification monitoring, as appropriate, for potential organic vapor intrusion.

2) In order to ensure protection of construction workers, the City should verify that any excavation deeper than ten feet is addressed by the construction health and safety plan so as to limit exposure to deep soils which were not considered in the risk assessment.

Based on our review of the March 2007 RCRA Facility Investigation Report, the May 2007 Environmental Indicators Report, and the October 2007 Risk Assessment, we do not plan or anticipate requiring corrective measures for area COD-5 beyond the above-mentioned land use controls (i.e., limiting the property to commercial/industrial use), and groundwater use restrictions (i.e., prohibiting the use of groundwater in the upper aquifer). However, the U.S. EPA does reserve the right to require additional corrective measures at COD-5 in the event that new information becomes available or site conditions changes in a way that indicates a release of hazardous constituents which may pose a threat to human health and/or the environment.

Please also be advised that this letter does not constitute a Final Decision for parcel COD-5 as provided in the VCAA. Section V.C.7 of the March 17, 2006, VCAA states that the U.S. EPA will provide the public with an opportunity to review and comment on its proposed final corrective measures, including a detailed description and justification for its proposals (i.e., the Statement of Basis). The VCAA goes on to state that following the public comment period, U.S. EPA will select the final corrective measures and provide notification of its decision and rationale in a Final Decision and Response to Comments. The public process and Final Decision will be completed at a later date, when proposed corrective measures are available for all the

[1] Risks were within the target risk range of 1E-06 to 1E-04 for cancer risk and less than 1.0 hazard index for noncancer health effects (specific values were 7E-05 and 0.3 for commercial/office workers and 5E-06 and 0.3 for construction workers).

parcels addressed by the VCAA. Until the completion of this process, the RCRA corrective action activities at COD-5 cannot be considered complete.

Based on an October 30, 2007, conference call among you, other representatives of the City, and certain members of my staff, we understand that the City has committed to announcing the U.S. EPA's issuance of this letter to interested members of the community, and to making a copy of this letter available to the public. Please ensure that this announcement is made before significant activities commence at the site.

I hope you find this letter responsive to your request. The U.S. EPA is committed to facilitating the productive and sustainable reuse of formerly contaminated sites, and is pleased to have the opportunity to assist you in your revitalization efforts in Dayton.

If you have any questions, please call Mr. Gary Victorine of my staff at 312-886-1479.

Sincerely,

Jose G. Cisneros, Chief
Remediation and Reuse Branch

cc: Allen Debus
Gary Victorine
Colleen Olsberg
Mony Chabria, USEPA-ORC
Harold O'Connell, OEPA-SWDO
Jean Caufield, GM
Chris Lipson, City of Dayton
Norm Essman, City Wide Development Corp.

APPENDIX T

AUGUST 2008 – KELCHNER INC.

ANALYTICAL REPORT AND MANIFEST SUMMARY

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

4738 Gateway Circle Dayton, OH 45440 (800) 572-9839
339 W. Walton Blvd Pontiac, MI 48340 (800) 526-4951

September 11, 2008

Client:

Kelchner
50 Advanced Dr
Springboro, OH 45066

Attn: Jeff Kelchner

Work Order: DRH1210
Project Name: Tech Town
Project Number: Tech Town

Date Received: 08/26/08

Samples logged in at Dayton laboratory.

An executed copy of the Chain of Custody is also included as an addendum to this report.

If you have any questions relating to this analytical report, please contact your Laboratory Project Manager at the number shown above.

SAMPLE IDENTIFICATION	LAB NUMBER	COLLECTION DATE AND TIME
GM Materials Tech Town	DRH1210-01	08/26/08 07:45

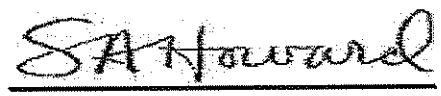
Case Narrative: Final.

Ohio Certification Number: 4074, 857

Reproduction of this analytical report is permitted only in its entirety. This report shall not be reproduced except in full without the written approval of the laboratory.

TestAmerica Laboratories, Inc. certifies that the analytical results contained herein apply only to the samples tested as received by our Laboratory.

Report Approved By:



This report has been electronically signed.

TestAmerica Dayton
Shelly A. Howard
Dayton Project Manager

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

4738 Gateway Circle Dayton, OH 45440 (800) 572-9839
339 W. Walton Blvd Pontiac, MI 48340 (800) 526-4951

Kelchner
50 Advanced Dr
Springboro, OH 45066
Jeff Kelchner

Work Order: DRH1210
Project: Tech Town
Project Number: Tech Town

Received: 08/26/08
Reported: 09/11/08 15:43

ANALYTICAL REPORT

Analyte	Sample Result	Data Qualifiers	Units	Rpt Limit	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: DRH1210-01 (GM Materials Tech Town - Non-aqueous)					**Sampled: 08/26/08 07:45**			**Recvd: 08/26/08 08:46**	
General Chemistry Parameters									
% Solids	**63.5**		%	0.100	1	08/26/08 15:25	JLB	8081116	SW 846
Total Metals									
Arsenic	<15.6		mg/kg dry	15.6	100	08/27/08 18:49	EKH	8081125	SW 6020A
Barium	**217**		mg/kg dry	7.80	100	08/27/08 18:49	EKH	8081125	SW 6020A
Cadmium	<1.72	RL1	mg/kg dry	1.72	100	08/27/08 18:49	EKH	8081125	SW 6020A
Chromium	**21.7**		mg/kg dry	3.90	50	08/28/08 11:40	EKH	8081125	SW 6020A
Lead	**128**		mg/kg dry	1.56	100	08/27/08 18:49	EKH	8081125	SW 6020A
Mercury	**0.916**	M	mg/kg dry	0.0635	5	08/29/08 15:25	JPP	8081212	SW 7471A
Selenium	<15.6		mg/kg dry	15.6	100	08/27/08 18:49	EKH	8081125	SW 6020A
Silver	**0.936**		mg/kg dry	0.780	100	08/27/08 18:49	EKH	8081125	SW 6020A
Volatile Organic Compounds by GC/MS									
Acetone	<154		ug/kg dry	154	1	08/28/08 12:57	JXC	8081136	SW 8260A
Acrolein	<77.2		ug/kg dry	77.2	1	08/28/08 12:57	JXC	8081136	SW 8260A
Acrylonitrile	<77.2		ug/kg dry	77.2	1	08/28/08 12:57	JXC	8081136	SW 8260A
Allyl chloride	<7.72		ug/kg dry	7.72	1	08/28/08 12:57	JXC	8081136	SW 8260A
Benzene	<7.72		ug/kg dry	7.72	1	08/28/08 12:57	JXC	8081136	SW 8260A
Bromobenzene	<7.72		ug/kg dry	7.72	1	08/28/08 12:57	JXC	8081136	SW 8260A
Bromochloromethane	<7.72		ug/kg dry	7.72	1	08/28/08 12:57	JXC	8081136	SW 8260A
Bromodichloromethane (Dichlorobromomethane)	<7.72		ug/kg dry	7.72	1	08/28/08 12:57	JXC	8081136	SW 8260A
Bromoform	<7.72		ug/kg dry	7.72	1	08/28/08 12:57	JXC	8081136	SW 8260A
Bromomethane (Methyl bromide)	<15.4		ug/kg dry	15.4	1	08/28/08 12:57	JXC	8081136	SW 8260A
2-Butanone (MEK)	<77.2		ug/kg dry	77.2	1	08/28/08 12:57	JXC	8081136	SW 8260A
tert-Butylbenzene	<7.72		ug/kg dry	7.72	1	08/28/08 12:57	JXC	8081136	SW 8260A
sec-Butylbenzene	<7.72		ug/kg dry	7.72	1	08/28/08 12:57	JXC	8081136	SW 8260A
n-Butylbenzene	<7.72		ug/kg dry	7.72	1	08/28/08 12:57	JXC	8081136	SW 8260A
Carbon disulfide	<7.72		ug/kg dry	7.72	1	08/28/08 12:57	JXC	8081136	SW 8260A
Carbon tetrachloride	<7.72		ug/kg dry	7.72	1	08/28/08 12:57	JXC	8081136	SW 8260A
Chlorobenzene	<7.72		ug/kg dry	7.72	1	08/28/08 12:57	JXC	8081136	SW 8260A
Chloroethane	<15.4		ug/kg dry	15.4	1	08/28/08 12:57	JXC	8081136	SW 8260A
2-Chloroethylvinyl ether	<7.72		ug/kg dry	7.72	1	08/28/08 12:57	JXC	8081136	SW 8260A
Chloroform	<7.72		ug/kg dry	7.72	1	08/28/08 12:57	JXC	8081136	SW 8260A
Chloromethane (Methyl chloride)	<15.4		ug/kg dry	15.4	1	08/28/08 12:57	JXC	8081136	SW 8260A
Chloroprene	<7.72		ug/kg dry	7.72	1	08/28/08 12:57	JXC	8081136	SW 8260A
4-Chlorotoluene	<7.72		ug/kg dry	7.72	1	08/28/08 12:57	JXC	8081136	SW 8260A
2-Chlorotoluene	<7.72		ug/kg dry	7.72	1	08/28/08 12:57	JXC	8081136	SW 8260A
Cyclohexane	<77.2		ug/kg dry	77.2	1	08/28/08 12:57	JXC	8081136	SW 8260A
Dibromochloromethane (Chlorodibromomethane)	<7.72		ug/kg dry	7.72	1	08/28/08 12:57	JXC	8081136	SW 8260A
1,2-Dibromo-3-chloropropane	<7.72		ug/kg dry	7.72	1	08/28/08 12:57	JXC	8081136	SW 8260A
1,2-Dibromoethane (EDB)	<7.72		ug/kg dry	7.72	1	08/28/08 12:57	JXC	8081136	SW 8260A
Dibromomethane	<7.72		ug/kg dry	7.72	1	08/28/08 12:57	JXC	8081136	SW 8260A
trans-1,4-Dichloro-2-butene	<7.72		ug/kg dry	7.72	1	08/28/08 12:57	JXC	8081136	SW 8260A
1,2-Dichlorobenzene	<7.72		ug/kg dry	7.72	1	08/28/08 12:57	JXC	8081136	SW 8260A

Kelchner
50 Advanced Dr
Springboro, OH 45066
Jeff Kelchner

Work Order: DRH1210
Project: Tech Town
Project Number: Tech Town

Received: 08/26/08
Reported: 09/11/08 15:43

ANALYTICAL REPORT

Sample ID: DRH1210-01 (GM Materials Tech Town - Non-aqueous) - cont. **Sampled: 08/26/08 07:45** **Recvd: 08/26/08 08:46**

Volatile Organic Compounds by GC/MS - cont.

Analyte	Sample Result	Data Qualifiers	Units	Rpt Limit	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
1,4-Dichlorobenzene	<7.72		ug/kg dry	7.72	1	08/28/08 12:57	JXC	8081136	SW 8260A
1,3-Dichlorobenzene	<7.72		ug/kg dry	7.72	1	08/28/08 12:57	JXC	8081136	SW 8260A
Dichlorodifluoromethane	<7.72		ug/kg dry	7.72	1	08/28/08 12:57	JXC	8081136	SW 8260A
1,1-Dichloroethane	<7.72		ug/kg dry	7.72	1	08/28/08 12:57	JXC	8081136	SW 8260A
1,2-Dichloroethane	<7.72		ug/kg dry	7.72	1	08/28/08 12:57	JXC	8081136	SW 8260A
cis-1,2-Dichloroethene	<7.72		ug/kg dry	7.72	1	08/28/08 12:57	JXC	8081136	SW 8260A
1,2-Dichloroethene (total)	<15.4		ug/kg dry	15.4	1	08/28/08 12:57	JXC	8081136	SW 8260A
trans-1,2-Dichloroethene	<7.72		ug/kg dry	7.72	1	08/28/08 12:57	JXC	8081136	SW 8260A
1,1-Dichloroethene	<7.72		ug/kg dry	7.72	1	08/28/08 12:57	JXC	8081136	SW 8260A
1,3-Dichloropropane	<7.72		ug/kg dry	7.72	1	08/28/08 12:57	JXC	8081136	SW 8260A
2,2-Dichloropropane	<7.72		ug/kg dry	7.72	1	08/28/08 12:57	JXC	8081136	SW 8260A
1,2-Dichloropropane	<7.72		ug/kg dry	7.72	1	08/28/08 12:57	JXC	8081136	SW 8260A
1,3-Dichloropropene (total)	<7.72		ug/kg dry	7.72	1	08/28/08 12:57	JXC	8081136	SW 8260A
1,1-Dichloropropene	<7.72		ug/kg dry	7.72	1	08/28/08 12:57	JXC	8081136	SW 8260A
cis-1,3-Dichloropropene	<7.72		ug/kg dry	7.72	1	08/28/08 12:57	JXC	8081136	SW 8260A
trans-1,3-Dichloropropene	<7.72		ug/kg dry	7.72	1	08/28/08 12:57	JXC	8081136	SW 8260A
Diethyl ether	<7.72		ug/kg dry	7.72	1	08/28/08 12:57	JXC	8081136	SW 8260A
Ethyl acetate	<77.2		ug/kg dry	77.2	1	08/28/08 12:57	JXC	8081136	SW 8260A
Ethylbenzene	<7.72		ug/kg dry	7.72	1	08/28/08 12:57	JXC	8081136	SW 8260A
Ethyl methacrylate	<7.72		ug/kg dry	7.72	1	08/28/08 12:57	JXC	8081136	SW 8260A
Hexachlorobutadiene	<7.72		ug/kg dry	7.72	1	08/28/08 12:57	JXC	8081136	SW 8260A
n-Hexane	<30.9		ug/kg dry	30.9	1	08/28/08 12:57	JXC	8081136	SW 8260A
2-Hexanone	<77.2		ug/kg dry	77.2	1	08/28/08 12:57	JXC	8081136	SW 8260A
Iodomethane	<7.72		ug/kg dry	7.72	1	08/28/08 12:57	JXC	8081136	SW 8260A
Isopropylbenzene (Cumene)	<7.72		ug/kg dry	7.72	1	08/28/08 12:57	JXC	8081136	SW 8260A
p-Isopropyltoluene	<7.72		ug/kg dry	7.72	1	08/28/08 12:57	JXC	8081136	SW 8260A
Methacrylonitrile	<7.72		ug/kg dry	7.72	1	08/28/08 12:57	JXC	8081136	SW 8260A
Methyl tert-butyl ether	<7.72		ug/kg dry	7.72	1	08/28/08 12:57	JXC	8081136	SW 8260A
Methylene chloride	27.1	L1, A-01, B	ug/kg dry	15.4	1	08/28/08 12:57	JXC	8081136	SW 8260A
Methyl methacrylate	<7.72		ug/kg dry	7.72	1	08/28/08 12:57	JXC	8081136	SW 8260A
2-Methylnaphthalene	<7.72		ug/kg dry	7.72	1	08/28/08 12:57	JXC	8081136	SW 8260A
4-Methyl-2-pentanone (MIBK)	<77.2		ug/kg dry	77.2	1	08/28/08 12:57	JXC	8081136	SW 8260A
Naphthalene	<7.72		ug/kg dry	7.72	1	08/28/08 12:57	JXC	8081136	SW 8260A
2-Nitropropane	<15.4		ug/kg dry	15.4	1	08/28/08 12:57	JXC	8081136	SW 8260A
Pentachloroethane	<7.72		ug/kg dry	7.72	1	08/28/08 12:57	JXC	8081136	SW 8260A
Propionitrile	<77.2		ug/kg dry	77.2	1	08/28/08 12:57	JXC	8081136	SW 8260A
n-Propylbenzene	<7.72		ug/kg dry	7.72	1	08/28/08 12:57	JXC	8081136	SW 8260A
Styrene	<7.72		ug/kg dry	7.72	1	08/28/08 12:57	JXC	8081136	SW 8260A
1,1,1,2-Tetrachloroethane	<7.72		ug/kg dry	7.72	1	08/28/08 12:57	JXC	8081136	SW 8260A
1,1,2,2-Tetrachloroethane	<7.72		ug/kg dry	7.72	1	08/28/08 12:57	JXC	8081136	SW 8260A
Tetrachloroethene	<7.72		ug/kg dry	7.72	1	08/28/08 12:57	JXC	8081136	SW 8260A
Toluene	<7.72		ug/kg dry	7.72	1	08/28/08 12:57	JXC	8081136	SW 8260A
1,2,3-Trichlorobenzene	<7.72		ug/kg dry	7.72	1	08/28/08 12:57	JXC	8081136	SW 8260A

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

4738 Gateway Circle Dayton, OH 45440 (800) 572-9839
339 W. Walton Blvd Pontiac, MI 48340 (800) 526-4951

Kelchner
50 Advanced Dr
Springboro, OH 45066
Jeff Kelchner

Work Order: DRH1210
Project: Tech Town
Project Number: Tech Town

Received: 08/26/08
Reported: 09/11/08 15:43

ANALYTICAL REPORT

Analyte	Sample Result	Data Qualifiers	Units	Rpt Limit	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: DRH1210-01 (GM Materials Tech Town - Non-aqueous) - cont.					**Sampled:**	**08/26/08 07:45**		**Recvd: 08/26/08 08:46**	
Volatile Organic Compounds by GC/MS - cont.									
1,2,4-Trichlorobenzene	<7.72		ug/kg dry	7.72	1	08/28/08 12:57	JXC	8081136	SW 8260A
1,1,1-Trichloroethane	<7.72		ug/kg dry	7.72	1	08/28/08 12:57	JXC	8081136	SW 8260A
1,1,2-Trichloroethane	<7.72		ug/kg dry	7.72	1	08/28/08 12:57	JXC	8081136	SW 8260A
Trichloroethene	<7.72		ug/kg dry	7.72	1	08/28/08 12:57	JXC	8081136	SW 8260A
Trichlorofluoromethane	<7.72		ug/kg dry	7.72	1	08/28/08 12:57	JXC	8081136	SW 8260A
1,2,3-Trichloropropane	<7.72		ug/kg dry	7.72	1	08/28/08 12:57	JXC	8081136	SW 8260A
1,1,2-Trichlorotrifluoroethane	<7.72		ug/kg dry	7.72	1	08/28/08 12:57	JXC	8081136	SW 8260A
1,2,4-Trimethylbenzene	<7.72		ug/kg dry	7.72	1	08/28/08 12:57	JXC	8081136	SW 8260A
1,3,5-Trimethylbenzene	<7.72		ug/kg dry	7.72	1	08/28/08 12:57	JXC	8081136	SW 8260A
Vinyl Acetate	<7.72		ug/kg dry	7.72	1	08/28/08 12:57	JXC	8081136	SW 8260A
Vinyl chloride	<3.09		ug/kg dry	3.09	1	08/28/08 12:57	JXC	8081136	SW 8260A
m,p-Xylene	<7.72		ug/kg dry	7.72	1	08/28/08 12:57	JXC	8081136	SW 8260A
o-Xylene	<7.72		ug/kg dry	7.72	1	08/28/08 12:57	JXC	8081136	SW 8260A
Xylenes, total	<7.72		ug/kg dry	7.72	1	08/28/08 12:57	JXC	8081136	SW 8260A
Surr: 1,2-Dichloroethane-d4 (80-120%)	*106 %*					08/28/08 12:57	JXC	8081136	SW 8260A
Surr: Dibromofluoromethane (80-120%)	*110 %*					08/28/08 12:57	JXC	8081136	SW 8260A
Surr: Toluene-d8 (80-120%)	*99 %*					08/28/08 12:57	JXC	8081136	SW 8260A
Surr: 4-Bromofluorobenzene (80-120%)	*104 %*					08/28/08 12:57	JXC	8081136	SW 8260A
TCLP Metals by 1311/6000/7000									
Arsenic	<0.500		mg/L	0.500	1	09/08/08 17:01	CAJ	8090230	SW 6010B
Barium	**2.51**		mg/L	0.100	1	09/08/08 17:01	CAJ	8090230	SW 6010B
Cadmium	<0.150		mg/L	0.150	1	09/08/08 17:01	CAJ	8090230	SW 6010B
Chromium	<0.200		mg/L	0.200	1	09/08/08 17:01	CAJ	8090230	SW 6010B
Lead	<0.400		mg/L	0.400	1	09/08/08 17:01	CAJ	8090230	SW 6010B
Mercury	<0.00100		mg/L	0.00100	1	09/10/08 16:05	MJW	8090241	SW 7470A
Selenium	<0.500		mg/L	0.500	1	09/08/08 17:01	CAJ	8090230	SW 6010B
Silver	<0.200		mg/L	0.200	1	09/08/08 17:01	CAJ	8090230	SW 6010B
Extraction	ND		N/A	NA	1	09/03/08 13:07	TAD	8090075	SW 1311
TCLP Pesticides by EPA Method 1311/8081A									
Methoxychlor	<0.00100	MNR1	mg/L	0.00100	1	09/10/08 18:30	jau	8090163	SW 8081
gamma-BHC (Lindane)	<0.00100	MNR1	mg/L	0.00100	1	09/10/08 18:30	jau	8090163	SW 8081
Chlordane	<0.00200	MNR1	mg/L	0.00200	1	09/10/08 18:30	jau	8090163	SW 8081
Endrin	<0.00100	MNR1	mg/L	0.00100	1	09/10/08 18:30	jau	8090163	SW 8081
Heptachlor	<0.00100	MNR1	mg/L	0.00100	1	09/10/08 18:30	jau	8090163	SW 8081
Heptachlor epoxide	<0.00100	MNR1	mg/L	0.00100	1	09/10/08 18:30	jau	8090163	SW 8081
Toxaphene	<0.00200	MNR1	mg/L	0.00200	1	09/10/08 18:30	jau	8090163	SW 8081
Surr: Tetrachloro-meta-xylene (14-150%)	*88 %*					09/10/08 18:30	jau	8090163	SW 8081
Surr: Decachlorobiphenyl (12-150%)	*97 %*	*A-01a*				09/10/08 18:30	jau	8090163	SW 8081
TCLP Volatile Organic Compounds by EPA Method 1311/8260B									
Extraction	ND		N/A	NA	1	09/03/08 13:08	TAD	8090077	SW 1311
Benzene	<0.200	M	mg/L	0.200	200	09/04/08 10:39	PRB	8090150	SW 8260B
2-Butanone (MEK)	<2.50	M	mg/L	2.50	200	09/04/08 10:39	PRB	8090150	SW 8260B
Carbon tetrachloride	<0.200	M	mg/L	0.200	200	09/04/08 10:39	PRB	8090150	SW 8260B
Chlorobenzene	<0.200	M	mg/L	0.200	200	09/04/08 10:39	PRB	8090150	SW 8260B

Kelchner
50 Advanced Dr
Springboro, OH 45066
Jeff Kelchner

Work Order: DRH1210
Project: Tech Town
Project Number: Tech Town

Received: 08/26/08
Reported: 09/11/08 15:43

ANALYTICAL REPORT

Analyte	Sample Result	Data Qualifiers	Units	Rpt Limit	Dilution Factor	Date Analyzed	Analyst	Seq/ Batch	Method
Sample ID: DRH1210-01 (GM Materials Tech Town - Non-aqueous) - cont.					**Sampled: 08/26/08 07:45**			**Recvd: 08/26/08 08:46**	
TCLP Volatile Organic Compounds by EPA Method 1311/8260B - cont.									
Chloroform	<0.200	M	mg/L	0.200	200	09/04/08 10:39	PRB	8090150	SW 8260B
1,2-Dichloroethane	<0.200	M	mg/L	0.200	200	09/04/08 10:39	PRB	8090150	SW 8260B
1,1-Dichloroethene	<0.200	M	mg/L	0.200	200	09/04/08 10:39	PRB	8090150	SW 8260B
Tetrachloroethene	<0.200	M,L1	mg/L	0.200	200	09/04/08 10:39	PRB	8090150	SW 8260B
Trichloroethene	<0.200	M	mg/L	0.200	200	09/04/08 10:39	PRB	8090150	SW 8260B
Vinyl chloride	<0.200	M	mg/L	0.200	200	09/04/08 10:39	PRB	8090150	SW 8260B
Surr: 1,2-Dichloroethane-d4 (80-120%)	*100 %*	*M*				09/04/08 10:39	PRB	8090150	SW 8260B
Surr: Dibromofluoromethane (80-120%)	*105 %*	*M*				09/04/08 10:39	PRB	8090150	SW 8260B
Surr: Toluene-d8 (80-120%)	*98 %*	*M*				09/04/08 10:39	PRB	8090150	SW 8260B
Surr: 4-Bromofluorobenzene (80-120%)	*101 %*	*M*				09/04/08 10:39	PRB	8090150	SW 8260B
TCLP Semivolatile Compounds by EPA Method 1311/8270C									
Extraction	ND		N/A	NA	1	09/03/08 13:07	TAD	8090075	SW 1311
1,4-Dichlorobenzene	<0.100		mg/L	0.100	1	09/08/08 19:37	sgs	8090165	SW 8270C
2,4-Dinitrotoluene	<0.100		mg/L	0.100	1	09/08/08 19:37	sgs	8090165	SW 8270C
Hexachlorobenzene	<0.100		mg/L	0.100	1	09/08/08 19:37	sgs	8090165	SW 8270C
Hexachlorobutadiene	<0.100		mg/L	0.100	1	09/08/08 19:37	sgs	8090165	SW 8270C
Hexachloroethane	<0.100		mg/L	0.100	1	09/08/08 19:37	sgs	8090165	SW 8270C
2-Methylphenol (o-Cresol)	<0.100		mg/L	0.100	1	09/08/08 19:37	sgs	8090165	SW 8270C
3&4-Methylphenol (m&p Cresol)	<0.100		mg/L	0.100	1	09/08/08 19:37	sgs	8090165	SW 8270C
Nitrobenzene	<0.100		mg/L	0.100	1	09/08/08 19:37	sgs	8090165	SW 8270C
Pentachlorophenol	<0.100		mg/L	0.100	1	09/08/08 19:37	sgs	8090165	SW 8270C
Pyridine	<0.100		mg/L	0.100	1	09/08/08 19:37	sgs	8090165	SW 8270C
2,4,5-Trichlorophenol	<0.100		mg/L	0.100	1	09/08/08 19:37	sgs	8090165	SW 8270C
2,4,6-Trichlorophenol	<0.100		mg/L	0.100	1	09/08/08 19:37	sgs	8090165	SW 8270C
Surr: 2-Fluorophenol (21-145%)	*77 %*					09/08/08 19:37	sgs	8090165	SW 8270C
Surr: Phenol-d6 (10-149%)	*80 %*					09/08/08 19:37	sgs	8090165	SW 8270C
Surr: Nitrobenzene-d5 (35-124%)	*99 %*					09/08/08 19:37	sgs	8090165	SW 8270C
Surr: 2-Fluorobiphenyl (43-134%)	*83 %*					09/08/08 19:37	sgs	8090165	SW 8270C
Surr: 2,4,6-Tribromophenol (21-146%)	*85 %*					09/08/08 19:37	sgs	8090165	SW 8270C
Surr: Terphenyl-d14 (34-149%)	*81 %*					09/08/08 19:37	sgs	8090165	SW 8270C
Total Petroleum Hydrocarbons									
GRO (C6-C12)	<61.3	RL1	mg/kg dry	61.3	84	08/26/08 18:03	plc	8081087	SW 8015B
DRO (C10-C20)	643	M	mg/kg dry	110	1	08/27/08 18:13	plc	8081142	SW 8015B
DRO (C20-C34)	1110	M	mg/kg dry	221	1	08/27/08 18:13	plc	8081142	SW 8015B
Surr: o-Terphenyl (10-115%)	*68 %*					08/27/08 18:13	plc	8081142	SW 8015B
Surr: a,a,a-Trifluorotoluene (76-137%)	*97 %*					08/26/08 18:03	plc	8081087	SW 8015B
Surr: 4-Bromofluorobenzene (59-151%)	*96 %*					08/26/08 18:03	plc	8081087	SW 8015B
TCLP Chlorinated Herbicides by EPA Method 8151									
2,4-D	<0.100		mg/L	0.100	1	09/06/08 08:57	BES	8090326	SW846 1311/8151A
2,4,5-TP (Silvex)	<0.100		mg/L	0.100	1	09/06/08 08:57	BES	8090326	SW846 1311/8151A
Surr: Dichloroacetic Acid (10-150%)	*56 %*					09/06/08 08:57	BES	8090326	SW846 1311/8151A

Kelchner	Work Order:	DRH1210	Received:	08/26/08
50 Advanced Dr	Project:	Tech Town	Reported:	09/11/08 15:43
Springboro, OH 45066	Project Number:	Tech Town		
Jeff Kelchner				

CERTIFICATION SUMMARY

Subcontracted Laboratories

TestAmerica - Nashville, TN NELAC Cert #11342/NY, Kentucky Cert #90038 DW,0019, Louisiana Cert #01945/NELAC,NELAP, New York Cert #11342/NELAC,NELAP, North Carolina Cert #387, Ohio Cert #CL0033, Pennsylvania Cert #68-585 PENDING, Utah Cert #TAN6157260177
2960 Foster Creighton Dr. - Nashville, TN 37204

Method Performed: SW846 1311/8151A
Samples: DRH1210-01

Any abnormalities or departures from sample acceptance policy shall be documented on the Chain of Custody and/or Case Narrative included with this report.

For information concerning certifications of this facility or another TestAmerica facility, please visit our website at www.TestAmericaInc.com

Samples collected by TestAmerica Field Services personnel are noted on the Chain of Custody (COC).

DATA QUALIFIERS AND DEFINITIONS

A-01	Methylene Chloride is a common laboratory contaminant. The result for this analyte should be treated as estimated.
A-01a	Pre-CCV recovery for this surrogate was above the laboratory limit of 15%.
B	Analyte was detected in the associated Method Blank.
L1	Laboratory Control Sample and/or Laboratory Control Sample Duplicate recovery was above acceptance limits.
M	The MS, MSD, and/or RPD are outside of acceptance limits due to matrix interference. Please see Blank Spike (LCS).
MNR1	There was no MS/MSD analyzed with this batch due to insufficient sample volume. See Blank Spike/Blank Spike Duplicate.
RL1	Reporting limit raised due to sample matrix effects.

ADDITIONAL COMMENTS

Results are reported on a wet weight basis unless otherwise noted.

ARH1210

CHAIN OF CUSTODY

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Dayton Division
3601 South Dixie Drive
Dayton Ohio 45439

Phone: 937-294-6856
Toll Free: 800-572-9839
Fax: 937-294-7816

Client Name: Kelchner
Address: 50 Advance Dr.
City/State/Zip: Spring Boro Ohio 45066
Project Manager: Jeff Kelchner
Telephone Number: 937 704 9890 Fax No.: 937 704 9885
Sampler Name: (Print) Ross McDonald
~~Sampler Signature:~~ [signature]

To assist us in using the proper analytical methods, is this work being conducted for regulatory purposes?
State in which sampling occurred ________
Compliance Monitoring? Yes No
Enforcement Action? Yes No

Project: ________
Invoice To: ________
QUOTE NO: ________
PO: ________

Sample ID	Date Sampled	Time Sampled	No. of Containers Shipped	Grab	Composite	Field Filtered	Preservative: HNO_3	HCl	NaOH	H_2SO_4 Plastic	H_2SO_4 Glass	None	Other	Matrix: SOIL	WATER	Analyze For: Metals - RCRA per J. Kelchner BTO 8-26-08	VOC	DRO-GRO	RUSH TAT (Pre-Schedule)	RUSH Due Date	Standard 7-10 Business Days	Email Results	Electronic Deliverables	Comments / Matrix
GM Materials-Tech Town	8-26-08	745AM	1	✓								✓				2	✓	✓	X	8-28				NOTE: Received in 1 large bucket, transferred to 2-8oz jars, 2-4oz jars in lab by BTO BTO 8-26-08

Special Instructions:

Relinquished by:	Date	Time	Received by:	Date	Time
[signature]	8-26-08	846	[signature] BTO 8-26-08		
Relinquished by:	Date	Time	Received by TestAmerica:	Date	Time
			[signature]	8-26-08	0846

Laboratory Comments:
Temperature Upon Receipt: 12°C
VOCs Free of Headspace? Y N (NA)
Sample Containers Intact? (Y) N
WI

TestAmerica THE LEADER IN ENVIRONMENTAL TESTING

Client Kelchner Discrepancies ☐

Work Order DRH1210 Rushes or Short Holds ☒

Cooler/Sample Receipt Form

Are samples soils requiring USDA quarantine? Yes No
If yes notify PM immediately (circle one)

Method of Shipment:

~~Walk in~~ Fed Ex UPS TAL Courier Field Other_____ Tracking #_____

Opened Date/Time _____ Initials_____

Receipt Questions	Y	N	n/a	"NO" answers require a comment
COC present	✓			
Containers in good condition (unbroken and not leaking)	✓			
Appropriate containers used		✓		Initially received in a gallon bucket. Transferred to 2-4oz jars, 2-4oz jars at time of receipt.
Correct preservation on the COC	✓			
Numbers of samples match COC	✓			
If used, custody seals were intact			✓	
Sample containers filled adequately for requested parameters	✓			
Client labels match COC	✓			
Samples received within hold time	✓			
VOA samples received without headspace in excess of 6 mm.			✓	
Trip Blanks received for each cooler with VOAs			✓	

Cooler Temperatures

Temp Acceptable? YES	Temp Acceptable? NO	Cooler ID	Uncorrected	Corrected	Affected Samples
☐	☒	_____	13	12 °C	From field
☐	☐	_____	_____	_____ °C	
☐	☐	_____	_____	_____ °C	
☐	☐	_____	_____	_____ °C	

Thermometer ID T

Client Contact Record (required for discrepancies, unless agreement is on file with project) Date & Time _____

Contact via: ☐phone ☐email ☐ other _____ Person contacted _____

Discussion/Resolution _____

_____ of 1 Pages

PM Signature

Approval: J084146MDI
Waste Code: D008
Receipt Status: All
Trans Mode (Inbound/Outbound): Both
Bulk Mode (Bulk/Non-Bulk): Both

Receipt List

Michigan Disposal, Inc.

21 Michigan Disposal Waste Treatment Plant

Receipt ID	Manifest/BOL / Commingled	Customer	Generator		Waste Stream	Approval / Product TSDF Approval	Waste Code	Bill Unit	Quantity	Rec.Status	Fpr. Status / Outbound	Date
447914-1	000177334VES 006041	VEOLIA ES TECHNICAL S	OHR000151084	CITY OF DAYTON		J084146MDI	D008	TONS	25.97	Accepted	Accepted	10/23/2008
447915-1	000177335VES 006041	VEOLIA ES TECHNICAL S	OHR000151084	CITY OF DAYTON		J084146MDI	D008	TONS	25.48	Accepted	Accepted	10/23/2008
447917-1	000177337VES 006041	VEOLIA ES TECHNICAL S	OHR000151084	CITY OF DAYTON		J084146MDI	D008	TONS	24.45	Accepted	Accepted	10/23/2008
447922-1	000177336VES 006041	VEOLIA ES TECHNICAL S	OHR000151084	CITY OF DAYTON		J084146MDI	D008	TONS	27.27	Accepted	Accepted	10/23/2008
447923-1	000177339VES 006041	VEOLIA ES TECHNICAL S	OHR000151084	CITY OF DAYTON		J084146MDI	D008	TONS	30.38	Accepted	Accepted	10/23/2008
447924-1	000177338VES 006041	VEOLIA ES TECHNICAL S	OHR000151084	CITY OF DAYTON		J084146MDI	D008	TONS	23.83	Accepted	Accepted	10/23/2008
447925-1	000177342VES 006041	VEOLIA ES TECHNICAL S	OHR000151084	CITY OF DAYTON		J084146MDI	D008	TONS	25.67	Accepted	Accepted	10/23/2008
447926-1	000177340VES 006041	VEOLIA ES TECHNICAL S	OHR000151084	CITY OF DAYTON		J084146MDI	D008	TONS	32.22	Accepted	Accepted	10/23/2008
447928-1	000177341VES 006041	VEOLIA ES TECHNICAL S	OHR000151084	CITY OF DAYTON		J084146MDI	D008	TONS	38.38	Accepted	Accepted	10/23/2008
447929-1	000177343VES 006041	VEOLIA ES TECHNICAL S	OHR000151084	CITY OF DAYTON		J084146MDI	D008	TONS	24.89	Accepted	Accepted	10/23/2008
447979-1	000177412VES 006041	VEOLIA ES TECHNICAL S	OHR000151084	CITY OF DAYTON		J084146MDI	D008	TONS	20.28	Accepted	Accepted	10/24/2008
448002-1	000177414VES 006041	VEOLIA ES TECHNICAL S	OHR000151084	CITY OF DAYTON		J084146MDI	D008	TONS	24.59	Accepted	Accepted	10/24/2008
448004-1	000177413VES 006041	VEOLIA ES TECHNICAL S	OHR000151084	CITY OF DAYTON		J084146MDI	D008	TONS	33.32	Accepted	Accepted	10/24/2008
448005-1	000177415VES 006041	VEOLIA ES TECHNICAL S	OHR000151084	CITY OF DAYTON		J084146MDI	D008	TONS	29.45	Accepted	Accepted	10/24/2008
448013-1	000177419VES 006041	VEOLIA ES TECHNICAL S	OHR000151084	CITY OF DAYTON		J084146MDI	D008	TONS	24.28	Accepted	Accepted	10/24/2008
448014-1	000177418VES 006041	VEOLIA ES TECHNICAL S	OHR000151084	CITY OF DAYTON		J084146MDI	D008	TONS	23.2	Accepted	Accepted	10/24/2008
448015-1	000177420VES 006041	VEOLIA ES TECHNICAL S	OHR000151084	CITY OF DAYTON		J084146MDI	D008	TONS	28.06	Accepted	Accepted	10/24/2008
448016-1	000177416VES 006041	VEOLIA ES TECHNICAL S	OHR000151084	CITY OF DAYTON		J084146MDI	D008	TONS	31.55	Accepted	Accepted	10/24/2008
448017-1	000177421VES 006041	VEOLIA ES TECHNICAL S	OHR000151084	CITY OF DAYTON		J084146MDI	D008	TONS	25.31	Accepted	Accepted	10/24/2008
448019-1	000177422VES 006041	VEOLIA ES TECHNICAL S	OHR000151084	CITY OF DAYTON		J084146MDI	D008	TONS	29.97	Accepted	Accepted	10/24/2008
448050-1	000177423VES 006041	VEOLIA ES TECHNICAL S	OHR000151084	CITY OF DAYTON		J084146MDI	D008	TONS	33.96	Accepted	Accepted	10/27/2008
448054-1	000177424VES 006041	VEOLIA ES TECHNICAL S	OHR000151084	CITY OF DAYTON		J084146MDI	D008	TONS	22.43	Accepted	Accepted	10/27/2008
448058-1	000177428VES 006041	VEOLIA ES TECHNICAL S	OHR000151084	CITY OF DAYTON		J084146MDI	D008	TONS	26.9	Accepted	Accepted	10/27/2008
448059-1	000177427VES 006041	VEOLIA ES TECHNICAL S	OHR000151084	CITY OF DAYTON		J084146MDI	D008	TONS	26.17	Accepted	Accepted	10/27/2008
448060-1	000177425VES 006041	VEOLIA ES TECHNICAL S	OHR000151084	CITY OF DAYTON		J084146MDI	D008	TONS	24.75	Accepted	Accepted	10/27/2008
448061-1	000177426VES 006041	VEOLIA ES TECHNICAL S	OHR000151084	CITY OF DAYTON		J084146MDI	D008	TONS	22.86	Accepted	Accepted	10/27/2008
448065-1	000177430VES 006041	VEOLIA ES TECHNICAL S	OHR000151084	CITY OF DAYTON		J084146MDI	D008	TONS	24.33	Accepted	Accepted	10/27/2008
448068-1	000177432VES 006041	VEOLIA ES TECHNICAL S	OHR000151084	CITY OF DAYTON		J084146MDI	D008	TONS	20.15	Accepted	Accepted	10/27/2008
448069-1	000177429VES 006041	VEOLIA ES TECHNICAL S	OHR000151084	CITY OF DAYTON		J084146MDI	D008	TONS	27.84	Accepted	Accepted	10/27/2008
448070-1	000177431VES 006041	VEOLIA ES TECHNICAL S	OHR000151084	CITY OF DAYTON		J084146MDI	D008	TONS	31.94	Accepted	Accepted	10/27/2008
448106-1	000177435VES 006041	VEOLIA ES TECHNICAL S	OHR000151084	CITY OF DAYTON		J084146MDI	D008	TONS	28.09	Accepted	Accepted	10/28/2008
448108-1	000177436VES 006041	VEOLIA ES TECHNICAL S	OHR000151084	CITY OF DAYTON		J084146MDI	D008	TONS	25.69	Accepted	Accepted	10/28/2008
448110-1	000177434VES 006041	VEOLIA ES TECHNICAL S	OHR000151084	CITY OF DAYTON		J084146MDI	D008	TONS	28.135	Accepted	Accepted	10/28/2008
448112-1	000177437VES 006041	VEOLIA ES TECHNICAL S	OHR000151084	CITY OF DAYTON		J084146MDI	D008	TONS	25.02	Accepted	Accepted	10/28/2008
448113-1	000165959VES 006041	VEOLIA ES TECHNICAL S	OHR000151084	CITY OF DAYTON		J084146MDI	D008	TONS	29.16	Accepted	Accepted	10/28/2008

Approval: J084146MDI
Waste Code: D008
Receipt Status: All
Trans Mode (Inbound/Outbound): Both
Bulk Mode (Bulk/Non-Bulk): Both

Receipt List

Michigan Disposal, Inc.

21 Michigan Disposal Waste Treatment Plant

Receipt ID	Manifest/BOL / Commingled	Customer	Generator	Waste Stream	Approval / Product TSDF Approval	Waste Code	Bill Unit	Quantity	Rec.Status	Fpr. Status / Outbound	Date
448117-1	000177433VES	006041 VEOLIA ES TECHNICAL S	OHR000151084 CITY OF DAYTON		J084146MDI	D008	TONS	31.77	Accepted	Accepted	10/28/2008
448126-1	000165952VES	006041 VEOLIA ES TECHNICAL S	OHR000151084 CITY OF DAYTON		J084146MDI	D008	TONS	24.02	Accepted	Accepted	10/28/2008
448127-1	000165951VES	006041 VEOLIA ES TECHNICAL S	OHR000151084 CITY OF DAYTON		J084146MDI	D008	TONS	28.25	Accepted	Accepted	10/28/2008
448128-1	000165954VES	006041 VEOLIA ES TECHNICAL S	OHR000151084 CITY OF DAYTON		J084146MDI	D008	TONS	24.82	Accepted	Accepted	10/28/2008
448130-1	000165953VES	006041 VEOLIA ES TECHNICAL S	OHR000151084 CITY OF DAYTON		J084146MDI	D008	TONS	21.64	Accepted	Accepted	10/28/2008
448168-1	000165955VES	006041 VEOLIA ES TECHNICAL S	OHR000151084 CITY OF DAYTON		J084146MDI	D008	TONS	21.55	Accepted	Accepted	10/29/2008
448170-1	000165957VES	006041 VEOLIA ES TECHNICAL S	OHR000151084 CITY OF DAYTON		J084146MDI	D008	TONS	28.41	Accepted	Accepted	10/29/2008
448173-1	000165958VES	006041 VEOLIA ES TECHNICAL S	OHR000151084 CITY OF DAYTON		J084146MDI	D008	TONS	24.53	Accepted	Accepted	10/29/2008
448174-1	000165956VES	006041 VEOLIA ES TECHNICAL S	OHR000151084 CITY OF DAYTON		J084146MDI	D008	TONS	27.22	Accepted	Accepted	10/29/2008
448177-1	000165960VES	006041 VEOLIA ES TECHNICAL S	OHR000151084 CITY OF DAYTON		J084146MDI	D008	TONS	35.98	Accepted	Accepted	10/29/2008
448183-1	000165961VES	006041 VEOLIA ES TECHNICAL S	OHR000151084 CITY OF DAYTON		J084146MDI	D008	TONS	25.64	Accepted	Accepted	10/29/2008
448184-1	000165962VES	006041 VEOLIA ES TECHNICAL S	OHR000151084 CITY OF DAYTON		J084146MDI	D008	TONS	22.84	Accepted	Accepted	10/29/2008
448185-1	000165965VES	006041 VEOLIA ES TECHNICAL S	OHR000151084 CITY OF DAYTON		J084146MDI	D008	TONS	25.09	Accepted	Accepted	10/29/2008
448186-1	000165964VES	006041 VEOLIA ES TECHNICAL S	OHR000151084 CITY OF DAYTON		J084146MDI	D008	TONS	28.95	Accepted	Accepted	10/29/2008
448187-1	000165963VES	006041 VEOLIA ES TECHNICAL S	OHR000151084 CITY OF DAYTON		J084146MDI	D008	TONS	26.93	Accepted	Accepted	10/29/2008
					Total quantity for bill unit TONS:			**1343.615**			

APPENDIX U

WATER MAIN INSTALLATION SAMPLING REPORT

Weston Solutions, Inc.
714 E. Monument Avenue Suite 215
Dayton, OH 45402
(937) 531-4400 · Fax (937) 531-4401
www.westonsolutions.com

28 July 2017

Mr. Chris Lipson
City of Dayton
Office of Economic Development
101 West Third Street
Dayton, Ohio 45401

Re: Water Main Installation Sampling Report W.O. No.:12473.005.008
Former GM/Delphi Harrison Thermal Systems Facility

Dear Mr. Lipson:

This letter documents the results of soil sampling conducted by Weston Solutions, Inc. (WESTON) at the authorization of the City of Dayton (City) during the River Corridor Water Improvement Project involving the installation of a water main through the Former GM/Delphi Harrison Thermal Systems Facility property located at 300 Taylor Street, Dayton, Ohio (Site). Test pit sampling was conducted on 16 April 2014 to refine the waste management requirements in vicinity of investigative location SB-254B prior to the water main installation. Soil sampling was conducted on 2 May and 29 May 2014 in accordance with the *Waste Management Plan - River Corridor Water Improvements Project* (Waste Management Plan) prepared by WESTON in 2013. The May 2014 soil sampling was conducted to characterize soil removed in the vicinity of soil borings SB-250 and SB-254B for disposal and to determine polychlorinated biphenyl (PCB) concentrations in soil remaining on the Site in the vicinity of soil boring SB-250.

Background

The River Corridor Water Improvement Project implemented by the City's Department of Water included removing a soil berm from the work area, open cut trenching through concrete slabs to a depth of approximately 7 feet (ft) below grade, and installing a water main through the Site. Prior to commencement of the River Corridor Water Improvement Project, WESTON conducted a soil investigation in April 2013 to determine material handling and waste disposal requirements applicable to soil that would be removed during trenching activities. WESTON installed soil borings at 100 ft intervals along the route of the proposed water main and collected and analyzed soil samples above (berm soil) and below (sub-berm soil) the concrete slab (**Figure 1**). The analytical results of the soil sampling were documented in a letter report titled *Soil Investigation Report – River Corridor Water Improvement Project*, dated 22 May 2013.

Analytical results from the April 2013 soil investigation indicated special handling was warranted in the vicinity of two of the soil borings, SB-250 and SB-254B. Soil samples collected from soil boring SB-250 contained 42.3 milligrams per kilogram (mg/kg) of PCBs in the 2 to 4 ft below ground surface (bgs) interval. Soil samples collected from soil boring SB-254B at 9 to 10 ft bgs contained 2.64 milligrams per liter (mg/L) of tetrachloroethene (PCE) (Toxicity Characteristic Leaching Procedure [TCLP] analysis). WESTON prepared the Waste Management Plan that identified risk mitigation procedures and material handling and waste disposal requirements to be

implemented by the City during the River Corridor Water Improvement Project. The Waste Management Plan included a requirement for additional soil sampling during excavation in the vicinity of soil borings SB-250 and SB-254B.

Sampling Procedures

Prior to the water main installation, six test pits were excavated to a depth of seven to eight ft bgs, along a 100 ft section of the proposed water line (50 ft east and west of soil boring SB-254B). Sub-berm soil samples were collected on 16 April 2014 from the test pits and analyzed for TCLP volatile organic compounds (VOCs). Test pit locations are shown on **Figure 1**.

During the water main installation, sub-berm soil characterized in soil boring SB-250 was removed during trenching activities and placed into covered roll-off containers. On 2 May 2014, a total of 12 soil samples were collected from 3 locations along the trench (near soil boring SB-250, 15 ft east of soil boring SB-250, and 15 ft west of soil boring SB-250). Two soil samples were collected from both the north and south sidewalls of the trench at each location directly below the one ft thick concrete slab. The soil samples were collected at depths of 0 and 4 ft below the concrete slab. All soil samples were collected directly from the excavator bucket and placed into laboratory-supplied jars. **Figure 1** depicts the soil sample locations and PCB analytical results.

On 29 May 2014, sub-berm soil in the area of soil boring SB-254B was removed during trenching activities and placed into covered roll-off containers. Sub-berm soil excavated from 10 ft east of soil boring SB-254B to 10 ft west of soil boring SB-254B was field screened with a photoionization detector (PID) as it was being placed into the roll-off containers. During excavation activities, two discrete soil samples were collected from the excavator bucket. In addition, one composite sample was collected from each roll-off container. The discrete soil samples were analyzed for VOCs, and the composite soil samples were analyzed for TCLP VOCs.

Analytical Results

The test pit samples collected in the vicinity of soil boring SB-245B were analyzed for TCLP VOCs by Belmont Laboratory using United States Environmental Protection Agency (U.S. EPA) Method Solid Waste (SW)-8260B. The analytical results indicated that PCE was detected in three soil samples and trichloroethylene (TCE) was detected in two soil samples; other VOCs were not detected. The maximum detected concentrations of 0.0556 mg/L (PCE) and 0.0948 mg/L (TCE) were below the regulatory levels for characteristic hazardous waste. The laboratory data package is provided in **Attachment A**. Based on these results, the soil segregated for special handling during the water main installation was limited to the segment of trenching within 10 ft east and west of soil boring SB-254B.

The soil samples collected from the soil boring SB-250 area were analyzed for PCBs by Ohio VAP-certified ALS Environmental Laboratory (#CL0022) using U.S. EPA Method SW-8082. PCB Aroclor 1254 was detected in 11 of the 12 samples. The maximum PCB concentration detected was 14 mg/kg Aroclor 1254 in the soil sample collected 15 ft east of soil boring SB-250 (north sidewall; 0 ft depth beneath the concrete slab). The analytical results are summarized in **Table 1**; the laboratory data package is provided in **Attachment A**.

The discrete soil samples collected from excavated soils in the soil boring SB-254B area were analyzed for VOCs by Ohio VAP-certified Belmont Laboratory (#CL0032) using U.S. EPA Method SW-8260B. The only VOCs detected in the discrete soil samples were PCE (46.7 mg/kg maximum detected concentration) and TCE (6.39 mg/kg maximum detected concentration). VOCs were not detected in the composite soil samples which were analyzed for TCLP VOCs. The analytical results are summarized in **Table 2**; the laboratory data package is provided in **Attachment A**.

Soil Disposal

A soil sample collected from soil boring SB-250 in April 2013 contained 42.3 mg/kg PCBs at a depth of 2 to 4 ft bgs. The analytical results of the May 2014 sampling in the soil boring SB-250 area indicated that the surrounding soils also contained PCBs at concentrations below 50 mg/kg. The soil excavated from the area of soil boring SB-250 was transported to the Wayne Disposal, Inc. Site #2 Landfill in Belleville, Michigan for disposal in compliance with 40 Code of Federal Regulations (CFR) 761.61(a)(5)(i)(B)(2)(ii) based upon U.S. EPA's approval of WESTON's August 2010 *Work Plan for Risk-Based Management of PCB-Contaminated Material* and subsequent communications with Mr. Peter Ramanauskas of U.S. EPA Region 5.

The 2013 soil sample results from soil boring SB-254B indicated that soil excavated from the area of soil boring SB-254B could potentially be characteristically hazardous for PCE. The analytical results of soil samples collected in April 2014 (from test pits) and in May 2014 (from the soil excavated in the vicinity of soil boring SB-254B) indicated the soil was non-hazardous. Low concentrations of VOCs were detected in discrete grab soil samples, however TCLP VOCs were not detected at concentrations above the hazardous waste regulatory limits in the composite soil samples. The soil excavated from the water main trench within 10 feet east and west of soil boring SB-254B was transported to the Wayne Disposal, Inc. Site #2 Landfill in Belleville, Michigan for disposal.

The disposal manifests for the soil are included in **Attachment B**.

Closing

The soil sampling conducted in the vicinity of soil borings SB-250 and SB-254B was performed in general accordance with the Waste Management Plan. The PCB-contaminated soil in the vicinity of soil boring SB-250 and VOC-contaminated soil in the vicinity of soil boring SB-254B were excavated and managed according to the Waste Management Plan. Soil from both areas was disposed at the Wayne Disposal Inc. Site #2 Landfill in Belleville, Michigan. The soil removed from within 15 ft east and west of SB-250 was disposed as PCB remediation waste in accordance with 40 CFR 761.61(a)(5)(i)(B)(2)(ii). Confirmation sampling in the vicinity of soil boring SB-250 indicated that PCB-concentrations in the sidewall soil of the trench were below 25 mg/kg. The analytical results of soil samples collected during the excavation of VOC-contaminated soil in the vicinity of soil boring SB-254B indicated the excavated soil was non-hazardous.

WESTON appreciates the opportunity to provide professional environmental services to the City. Please feel free to contact me at (906) 523-2311 if you have any questions or require additional information.

Very truly yours,
WESTON SOLUTIONS, INC.

Michelle Bakkila
Project Manager

Attachments

FIGURE

FILE: FSOMI01.J:\GIS_Projects\Dayton\Tech_Town\mxds\Planning\2015_07July\Fig1_TT_May2014_Results_v20170719.mxd 3:19:47 PM 7/19/2017 Thummaj

PCB Sample Location (May 2014)
Test Pit Sample Location (April 2014)
Soil Boring Location (2013)
Soil Removal Areas
Water Line (from City of Dayton)

Notes:
- Sample Depth is relative to concrete slab and is denoted in the Sample ID i.e. TT-PCB-15W-N0-05022104 indicates that a sample was collected 15 ft west of SB-250 from the north sidewall at a depth of 0 ft below the slab.
- The slab in the vicinity of SB-250 is 1 ft thick from 2.5 to 3.5 ft below ground surface

N

0 60 Ft

Prepared For:
CITY OF DAYTON
101 West Third Street
Dayton, Ohio 45402

Prepared By:
WESTON SOLUTIONS, INC.
714 East Monument Avenue
Suite 215
Dayton, Ohio 45402

Figure 1
PCB Confirmation Sample Results and Excavated Areas
Former GM/Delphi Harrison Thermal Systems Facility
Dayton, Montgomery County, Ohio

TABLES

Table 1
PCB Soil Sampling Results
Water Main Installation
Former GM/Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Sample ID	Chemical / Units / Date	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Total PCBs
	Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
TT-PCB-15E-N0-050214	5/2/2014	0.11 U	0.23 U	0.11 U	0.11 U	0.11 U	**14**	0.56 U	**14**
TT-PCB-15E-N4-050214	5/2/2014	0.14 U	0.28 U	0.14 U	0.14 U	0.14 U	**9.3**	0.69 U	**9.3**
TT-PCB-15E-S0-050214	5/2/2014	0.12 U	0.23 U	0.12 U	0.12 U	0.12 U	**13**	0.58 U	**13**
TT-PCB-15E-S4-050214	5/2/2014	0.13 U	0.27 U	0.13 U	0.13 U	0.13 U	**10**	0.67 U	**10**
TT-PCB-250-N0-050214	5/2/2014	0.12 U	0.23 U	0.12 U	0.12 U	0.12 U	**6.1**	0.59 U	**6.1**
TT-PCB-250-N4-050214	5/2/2014	0.12 U	0.23 U	0.12 U	0.12 U	0.12 U	**1.7**	0.12 U	**1.7**
TT-PCB-250-S0-050214	5/2/2014	0.11 U	0.23 U	0.11 U	0.11 U	0.11 U	**8.4**	0.57 U	**8.4**
TT-PCB-250-S4-050214	5/2/2014	0.12 U	0.24 U	0.12 U	0.12 U	0.12 U	**1.8**	0.12 U	**1.8**
TT-PCB-15W-N0-050214	5/2/2014	0.12 U	0.24 U	0.12 U	0.12 U	0.12 U	**0.44**	0.12 U	**0.44**
TT-PCB-15W-N4-050214	5/2/2014	0.12 U	0.23 U	0.12 U	0.12 U	0.12 U	**4.4**	0.12 U	**4.4**
TT-PCB-15W-S0-050214	5/2/2014	0.12 U	0.23 U	0.12 U	0.12 U	0.12 U	**1.4**	0.12 U	**1.4**
TT-PCB-15W-S4-050214	5/2/2014	0.14 U	0.27 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.27 U
Ohio VAP C/I Direct Contact	--	100	14	14	20	20	20	20	20

Notes:
Total PCBs were calculated as a sum of all detected aroclors
Bold indicates analyte was detected in the analysis
Highlight indicates analyte exceeded at least one regulatory action limit
Ohio VAP C/I Direct Contact = Ohio Voluntary Action Program Commercial and Industrial Land Use Generic Direct Contact Soil Standard for a Single Chemical (Ohio Revised Code: 3745-300-08, 2015)
mg/kg = milligrams per kilogram
ID = identification
U = Analyzed but not detected above the Method Detection Limit

Table 2
VOC Soil Sampling Results
Water Main Installation
Former GM/Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Sample ID	Chemical	Tetrachloroethene	Trichloroethene	TCLP VOCs
	Units	mg/kg	mg/kg	mg/L
	Date			
TT-Box 01-Grab01-052914	5/29/2014	**12**	**1.71**	NA
TT-Box 02-Grab02-052914	5/29/2014	**46.7**	**6.39**	NA
TT-Box 01-Comp-052914	5/29/2014	NA	NA	BDL
TT-Box 02-Comp-052914	5/29/2014	NA	NA	BDL
Ohio VAP C/I Direct Contact	--	170	51	NE

Notes:

Only detected analytes are shown

Bold indicates analyte was detected in the analysis

Highlight indicates analyte exceeded at least one regulatory action limit

Ohio VAP C/I Direct Contact = Ohio Voluntary Action Program Commercial and Industrial Land Use Generic Direct Contact Soil Standard for a Single Chemical (Ohio Revised Code: 3745-300-08, 2015)

mg/kg = milligrams per kilogram

mg/L = milligrams per liter

BDL =Analyte is below detection limits

ID = identification

NA = not analyzed

NE = not established

ATTACHMENT A
DATA PACKAGES

Wednesday, April 23, 2014
Analytical Results

Laura Funk
Weston Solutions, Inc. - Dayton
711 East Monument, Suite 201
Dayton, OHIO 45402
TEL: (937) 531-4400
FAX (937) 384-4201

RE: Tech Town

Work Order: 14D0874

Belmont Labs received 6 sample(s) on 4/16/2014 for the analyses presented in the following report.

Belmont Labs attests that all analytical methods were performed using acceptable methods, and that the QA/QC procedures stipulated in these methods were followed. USEPA's RCRA Program regards a statement of quality assurance as a legal means of assuring that acceptable and uniform laboratory methods and QA/QC practices were followed by the laboratory.

If you have any questions regarding the test results, please feel free to call me at (937) 832-8242.

Respectfully submitted,

Jason Lykins
Project Manager

Certifications: NELAP/NELAC - #04130 VAP - #CL0032
Ohio EPA Drinking water - #836 Ohio EPA Drinking water (Micro) - #872

Belmont Labs **Date:** 4/23/2014

CLIENT: Weston Solutions, Inc. - Dayton **Lab Order:** 14D0874
Project: Tech Town

Work Order Sample Summary

The results of analyses performed on the following samples submitted to Belmont Labs are found in this report.

Field Sample ID	Lab ID	Matrix	Method Reference	Subcontract Lab
TT-Teswt Pit -1-041614	14D0874-01	Soil	EPA 1311	
			SW 8260B	
TT-Teswt Pit -2-041614	14D0874-02	Soil	EPA 1311	
			SW 8260B	
TT-Teswt Pit -3-041614	14D0874-03	Soil	EPA 1311	
			SW 8260B	
TT-Teswt Pit -4-041614	14D0874-04	Soil	EPA 1311	
			SW 8260B	
TT-Teswt Pit -5-041614	14D0874-05	Soil	EPA 1311	
			SW 8260B	
TT-Teswt Pit -6-041614	14D0874-06	Soil	EPA 1311	
			SW 8260B	

CLIENT: Weston Solutions, Inc. - Dayton **Lab Order:** 14D0874
Project: Tech Town

Lab ID: 14D0874-01 **Collection Date:** 4/16/2014 2:10:00PM
Client Sample ID: TT-Teswt Pit -1-041614 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Analyzed
TCLP VOC		**SW 8260B**				**Analyst: JAP**	
TCLP 1,1-Dichloroethene	BDL	0.200		mg/L	40	1417139	4/22/2014 2:02:00PM
TCLP 1,2-Dichloroethane	BDL	0.200		mg/L	40	1417139	4/22/2014 2:02:00PM
TCLP 2-Butanone	BDL	0.800		mg/L	40	1417139	4/22/2014 2:02:00PM
TCLP Benzene	BDL	0.200		mg/L	40	1417139	4/22/2014 2:02:00PM
TCLP Carbon tetrachloride	BDL	0.200		mg/L	40	1417139	4/22/2014 2:02:00PM
TCLP Chlorobenzene	BDL	0.200		mg/L	40	1417139	4/22/2014 2:02:00PM
TCLP Chloroform	BDL	0.200		mg/L	40	1417139	4/22/2014 2:02:00PM
TCLP Vinyl chloride	BDL	0.200		mg/L	40	1417139	4/22/2014 2:02:00PM
TCLP Trichloroethene	BDL	0.200		mg/L	40	1417139	4/22/2014 2:02:00PM
TCLP Tetrachloroethene	BDL	0.200		mg/L	40	1417139	4/22/2014 2:02:00PM
Surrogate: 4-Bromofluorobenzene		*96.0 %*		*66-125*		*1417139*	4/22/2014 2:02:00PM
Surrogate: Dibromofluoromethane		*107 %*		*75-130*		*1417139*	4/22/2014 2:02:00PM
Surrogate: Toluene-d8		*112 %*		*76-131*		*1417139*	4/22/2014 2:02:00PM
Surrogate: 1,2-Dichloroethane-d4		*102 %*		*75-124*		*1417139*	4/22/2014 2:02:00PM

Lab ID: 14D0874-02 **Collection Date:** 4/16/2014 2:06:00PM
Client Sample ID: TT-Teswt Pit -2-041614 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Analyzed
TCLP VOC		**SW 8260B**				**Analyst: JAP**	
TCLP 1,1-Dichloroethene	BDL	0.200		mg/L	40	1417139	4/22/2014 2:37:00PM
TCLP 1,2-Dichloroethane	BDL	0.200		mg/L	40	1417139	4/22/2014 2:37:00PM
TCLP 2-Butanone	BDL	0.800		mg/L	40	1417139	4/22/2014 2:37:00PM
TCLP Benzene	BDL	0.200		mg/L	40	1417139	4/22/2014 2:37:00PM
TCLP Carbon tetrachloride	BDL	0.200		mg/L	40	1417139	4/22/2014 2:37:00PM
TCLP Chlorobenzene	BDL	0.200		mg/L	40	1417139	4/22/2014 2:37:00PM
TCLP Chloroform	BDL	0.200		mg/L	40	1417139	4/22/2014 2:37:00PM
TCLP Vinyl chloride	BDL	0.200		mg/L	40	1417139	4/22/2014 2:37:00PM
TCLP Trichloroethene	BDL	0.200		mg/L	40	1417139	4/22/2014 2:37:00PM
TCLP Tetrachloroethene	**0.0216**	0.200	J	mg/L	40	1417139	4/22/2014 2:37:00PM
Surrogate: 4-Bromofluorobenzene		*99.3 %*		*66-125*		*1417139*	4/22/2014 2:37:00PM
Surrogate: Dibromofluoromethane		*104 %*		*75-130*		*1417139*	4/22/2014 2:37:00PM
Surrogate: Toluene-d8		*112 %*		*76-131*		*1417139*	4/22/2014 2:37:00PM
Surrogate: 1,2-Dichloroethane-d4		*101 %*		*75-124*		*1417139*	4/22/2014 2:37:00PM

CLIENT: Weston Solutions, Inc. - Dayton **Lab Order:** 14D0874
Project: Tech Town

Lab ID: 14D0874-03 **Collection Date:** 4/16/2014 2:00:00PM
Client Sample ID: TT-Teswt Pit -3-041614 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Analyzed
TCLP VOC		**SW 8260B**				**Analyst: JAP**	
TCLP 1,1-Dichloroethene	BDL	0.200		mg/L	40	1417139	4/22/2014 3:12:00PM
TCLP 1,2-Dichloroethane	BDL	0.200		mg/L	40	1417139	4/22/2014 3:12:00PM
TCLP 2-Butanone	BDL	0.800		mg/L	40	1417139	4/22/2014 3:12:00PM
TCLP Benzene	BDL	0.200		mg/L	40	1417139	4/22/2014 3:12:00PM
TCLP Carbon tetrachloride	BDL	0.200		mg/L	40	1417139	4/22/2014 3:12:00PM
TCLP Chlorobenzene	BDL	0.200		mg/L	40	1417139	4/22/2014 3:12:00PM
TCLP Chloroform	BDL	0.200		mg/L	40	1417139	4/22/2014 3:12:00PM
TCLP Vinyl chloride	BDL	0.200		mg/L	40	1417139	4/22/2014 3:12:00PM
TCLP Trichloroethene	BDL	0.200		mg/L	40	1417139	4/22/2014 3:12:00PM
TCLP Tetrachloroethene	BDL	0.200		mg/L	40	1417139	4/22/2014 3:12:00PM
Surrogate: 4-Bromofluorobenzene		*97.5 %*		*66-125*		*1417139*	4/22/2014 3:12:00PM
Surrogate: Dibromofluoromethane		*107 %*		*75-130*		*1417139*	4/22/2014 3:12:00PM
Surrogate: Toluene-d8		*112 %*		*76-131*		*1417139*	4/22/2014 3:12:00PM
Surrogate: 1,2-Dichloroethane-d4		*98.6 %*		*75-124*		*1417139*	4/22/2014 3:12:00PM

Lab ID: 14D0874-04 **Collection Date:** 4/16/2014 1:40:00PM
Client Sample ID: TT-Teswt Pit -4-041614 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Analyzed
TCLP VOC		**SW 8260B**				**Analyst: JAP**	
TCLP 1,1-Dichloroethene	BDL	0.200		mg/L	40	1417139	4/22/2014 3:47:00PM
TCLP 1,2-Dichloroethane	BDL	0.200		mg/L	40	1417139	4/22/2014 3:47:00PM
TCLP 2-Butanone	BDL	0.800		mg/L	40	1417139	4/22/2014 3:47:00PM
TCLP Benzene	BDL	0.200		mg/L	40	1417139	4/22/2014 3:47:00PM
TCLP Carbon tetrachloride	BDL	0.200		mg/L	40	1417139	4/22/2014 3:47:00PM
TCLP Chlorobenzene	BDL	0.200		mg/L	40	1417139	4/22/2014 3:47:00PM
TCLP Chloroform	BDL	0.200		mg/L	40	1417139	4/22/2014 3:47:00PM
TCLP Vinyl chloride	BDL	0.200		mg/L	40	1417139	4/22/2014 3:47:00PM
TCLP Trichloroethene	**0.0948**	0.200	J	mg/L	40	1417139	4/22/2014 3:47:00PM
TCLP Tetrachloroethene	**0.0556**	0.200	J	mg/L	40	1417139	4/22/2014 3:47:00PM
Surrogate: 4-Bromofluorobenzene		*98.4 %*		*66-125*		*1417139*	4/22/2014 3:47:00PM
Surrogate: Dibromofluoromethane		*110 %*		*75-130*		*1417139*	4/22/2014 3:47:00PM
Surrogate: Toluene-d8		*107 %*		*76-131*		*1417139*	4/22/2014 3:47:00PM
Surrogate: 1,2-Dichloroethane-d4		*101 %*		*75-124*		*1417139*	4/22/2014 3:47:00PM

Lab ID: 14D0874-05 **Collection Date:** 4/16/2014 1:47:00PM
Client Sample ID: TT-Teswt Pit -5-041614 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Analyzed

CLIENT: Weston Solutions, Inc. - Dayton **Lab Order:** 14D0874
Project: Tech Town

Lab ID: 14D0874-05 **Collection Date:** 4/16/2014 1:47:00PM
Client Sample ID: TT-Teswt Pit -5-041614 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Analyzed
TCLP VOC		**SW 8260B**				**Analyst: JAP**	
TCLP 1,1-Dichloroethene	BDL	0.200		mg/L	40	1417139	4/22/2014 4:21:00PM
TCLP 1,2-Dichloroethane	BDL	0.200		mg/L	40	1417139	4/22/2014 4:21:00PM
TCLP 2-Butanone	BDL	0.800		mg/L	40	1417139	4/22/2014 4:21:00PM
TCLP Benzene	BDL	0.200		mg/L	40	1417139	4/22/2014 4:21:00PM
TCLP Carbon tetrachloride	BDL	0.200		mg/L	40	1417139	4/22/2014 4:21:00PM
TCLP Chlorobenzene	BDL	0.200		mg/L	40	1417139	4/22/2014 4:21:00PM
TCLP Chloroform	BDL	0.200		mg/L	40	1417139	4/22/2014 4:21:00PM
TCLP Vinyl chloride	BDL	0.200		mg/L	40	1417139	4/22/2014 4:21:00PM
TCLP Trichloroethene	BDL	0.200		mg/L	40	1417139	4/22/2014 4:21:00PM
TCLP Tetrachloroethene	**0.0416**	0.200	J	mg/L	40	1417139	4/22/2014 4:21:00PM
Surrogate: 4-Bromofluorobenzene		*98.4 %*		*66-125*		*1417139*	4/22/2014 4:21:00PM
Surrogate: Dibromofluoromethane		*110 %*		*75-130*		*1417139*	4/22/2014 4:21:00PM
Surrogate: Toluene-d8		*110 %*		*76-131*		*1417139*	4/22/2014 4:21:00PM
Surrogate: 1,2-Dichloroethane-d4		*105 %*		*75-124*		*1417139*	4/22/2014 4:21:00PM

Lab ID: 14D0874-06 **Collection Date:** 4/16/2014 1:53:00PM
Client Sample ID: TT-Teswt Pit -6-041614 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Analyzed
TCLP VOC		**SW 8260B**				**Analyst: JAP**	
TCLP 1,1-Dichloroethene	BDL	0.200		mg/L	40	1417139	4/22/2014 4:55:00PM
TCLP 1,2-Dichloroethane	BDL	0.200		mg/L	40	1417139	4/22/2014 4:55:00PM
TCLP 2-Butanone	BDL	0.800		mg/L	40	1417139	4/22/2014 4:55:00PM
TCLP Benzene	BDL	0.200		mg/L	40	1417139	4/22/2014 4:55:00PM
TCLP Carbon tetrachloride	BDL	0.200		mg/L	40	1417139	4/22/2014 4:55:00PM
TCLP Chlorobenzene	BDL	0.200		mg/L	40	1417139	4/22/2014 4:55:00PM
TCLP Chloroform	BDL	0.200		mg/L	40	1417139	4/22/2014 4:55:00PM
TCLP Vinyl chloride	BDL	0.200		mg/L	40	1417139	4/22/2014 4:55:00PM
TCLP Trichloroethene	**0.0328**	0.200	J	mg/L	40	1417139	4/22/2014 4:55:00PM
TCLP Tetrachloroethene	BDL	0.200		mg/L	40	1417139	4/22/2014 4:55:00PM
Surrogate: 4-Bromofluorobenzene		*93.5 %*		*66-125*		*1417139*	4/22/2014 4:55:00PM
Surrogate: Dibromofluoromethane		*117 %*		*75-130*		*1417139*	4/22/2014 4:55:00PM
Surrogate: Toluene-d8		*110 %*		*76-131*		*1417139*	4/22/2014 4:55:00PM
Surrogate: 1,2-Dichloroethane-d4		*109 %*		*75-124*		*1417139*	4/22/2014 4:55:00PM

Notes and Definitions

J Analyte detected below quantitation limits. Estimated concentration for TICs.

Belmont Labs
The Environmental Service Company.

ANALYTICAL REQUEST CHAIN OF CUSTODY

Internal Lab Order Number 14D0874

Purchase Order No.	Quote No.	Client Project

INVOICE TO
Name
Company
Address
City, State, Zip

REPORT TO
Name: LAURA FUNK
Company: WESTON SOLUTIONS
Mailing Address: 711 E MONUMENT AVE #201
City, State, Zip: DAYTON, OH 45402
Phone No.: 937-531-4400 Email Address: laura.funk@westonsolutions.com

☐ Rush analysis required - results required by _____(Date)
Contact Belmont Labs prior to sending rush samples

Special Instructions:
** TCLP VOC on 5 day TAT **

Additional QC Requirements: Level 2, Level 3, Level 4 (Charges Apply)

Regulatory Type
☐ NPDES ☐ BUSTR
☐ RCRA ☐ NELAC
☐ SDWA
☒ VAP
☐ Other
Collected in State of OH

ANALYSIS REQUESTED
(Enter an "X" in the box below to indicate request and circle preservative)

CLIENT SAMPLE IDENTIFICATION	Date Sampled	Time	Comp	Grab	Matrix	Number of Containers	TCLP VOCs HNO_3, HCl, H_2SO_4, ICE, NONE, OTHER	*please place one jar on HOLD HNO_3, HCl, H_2SO_4, ICE, NONE, OTHER	HNO_3, HCl, H_2SO_4, ICE, NONE, OTHER	HNO_3, HCl, H_2SO_4, ICE, NONE, OTHER	HNO_3, HCl, H_2SO_4, ICE, NONE, OTHER	HNO_3, HCl, H_2SO_4, ICE, NONE, OTHER	HNO_3, HCl, H_2SO_4, ICE, NONE, OTHER	HNO_3, HCl, H_2SO_4, ICE, NONE, OTHER	Lab Only
TT-TestPIT-1-041614	4/16/14	1410			Soil	2	X	X							
TT-TestPIT-2-041614		1406					X	X							
TT-TestPIT-3-041614		1400					X	X							
TT-TestPIT-4-041614		1340					X	X							
TT-TestPIT-5-041614		1347					X	X							
TT-TestPIT-6-041614		1353					X	X							
						12	Soil								

CHAIN OF CUSTODY (if required)

Relinquished by: _____ Date/Time 4/16/14 1514 Received by: _____ Date/Time

Relinquished by: _____ Date/Time Received at lab by: _____ Date/Time 4.16.14 1514

Method of Shipment: WI Cooler Temp. 6°C ICE Custody Seals ☐ Yes ☒ No

Sampled by: _____ Date 4/16/14

Client Comments

DISTRIBUTION:
WHITE - Laboratory
YELLOW - Client

Failure to complete all portions of this form may delay analysis.

Houston Business Forms - Form #14374 7/13

Belmont Labs **Date:** 4/23/2014

Sample Receipt Summary

14D0874

Client:	Weston Solutions, Inc. - Dayton	Project Manager:	Jason Lykins
Project:	Howard Paper Mill, Dayton, OH	Project Number:	Tech Town

Report To:
Laura Funk
711 East Monument, Suite 201
Dayton OHIO 45402
Phone: (937) 531-4400
Fax: (937) 384-4201

WO Due Date:	4/23/2014 5:00:00PM
TAT (Days):	5
Received By:	Scott Pander
Received:	4/16/2014 3:14:00PM
Logged In By:	Peggy Whitaker
Logged In:	4/16/2014 3:49:00PM

Receipt Temp (C):	**6.0**
Custody Seals	False
Container Intact	True
COC/Labels agree	True
Received on ice	True
VOC vials had zero head space	False
Approved Container	True
Sufficient volume received	True
Received within HT	True
Shipped By:	**Walk-in**

Samples Received:

Laboratory ID:	Field ID:	Date/Time Sampled:	Matrix:
14D0874-01	TT-Teswt Pit -1-041614	4/16/2014 2:10:00PM	Soil
14D0874-02	TT-Teswt Pit -2-041614	4/16/2014 2:06:00PM	Soil
14D0874-03	TT-Teswt Pit -3-041614	4/16/2014 2:00:00PM	Soil
14D0874-04	TT-Teswt Pit -4-041614	4/16/2014 1:40:00PM	Soil
14D0874-05	TT-Teswt Pit -5-041614	4/16/2014 1:47:00PM	Soil
14D0874-06	TT-Teswt Pit -6-041614	4/16/2014 1:53:00PM	Soil

Sample Notes:

08-May-2014

Laura Funk
Weston Solutions
711 E. Monument Ave, #201
Dayton, OH 45402

Tel: (937) 760-3087
Fax: (937) 531-4401

Re: Tech Town; Project No.: 12473.005.008.0660 Work Order: **1405110**

Dear Laura,

ALS Environmental received 12 samples on 05-May-2014 01:01 PM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

QC sample results for this data met laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Laboratory Group. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 18.

If you have any questions regarding this report, please feel free to contact me.

Sincerely,

Rob Nieman

Electronically approved by: Rob Nieman

Rob Nieman
Project Manager

ALS Environmental

Date: 08-May-14

Client: Weston Solutions
Project: Tech Town; Project No.: 12473.005.008.0660
Work Order: **1405110**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
1405110-01	TT-PCB-15E-N0-050214	Soil		5/2/2014 16:42	5/5/2014 13:01	☐
1405110-02	TT-PCB-15E-N4-050214	Soil		5/2/2014 16:43	5/5/2014 13:01	☐
1405110-03	TT-PCB-15E-S0-050214	Soil		5/2/2014 16:45	5/5/2014 13:01	☐
1405110-04	TT-PCB-15E-S4-050214	Soil		5/2/2014 16:46	5/5/2014 13:01	☐
1405110-05	TT-PCB-250-N0-050214	Soil		5/2/2014 16:48	5/5/2014 13:01	☐
1405110-06	TT-PCB-250-N4-050214	Soil		5/2/2014 16:49	5/5/2014 13:01	☐
1405110-07	TT-PCB-250-S0-050214	Soil		5/2/2014 16:51	5/5/2014 13:01	☐
1405110-08	TT-PCB-250-S4-050214	Soil		5/2/2014 16:52	5/5/2014 13:01	☐
1405110-09	TT-PCB-15W-N0-050214	Soil		5/2/2014 16:54	5/5/2014 13:01	☐
1405110-10	TT-PCB-15W-N4-050214	Soil		5/2/2014 16:55	5/5/2014 13:01	☐
1405110-11	TT-PCB-15W-S0-050214	Soil		5/2/2014 16:57	5/5/2014 13:01	☐
1405110-12	TT-PCB-15W-S4-050214	Soil		5/2/2014 16:58	5/5/2014 13:01	☐

ALS Environmental

Date: 08-May-14

Client: Weston Solutions
Project: Tech Town; Project No.: 12473.005.008.0660
Work Order: 1405110

Case Narrative

The analyses requested were analyzed according to Ohio Voluntary Action Program requirements. Affidavits are available upon request.

The analytical data provided relates directly to the samples received by ALS Laboratory Group and for only the analyses requested.

QC sample results for this data met laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Laboratory Group. Samples will be disposed in 30 days unless storage arrangements are made.

ALS Environmental

Date: *08-May-14*

Client: Weston Solutions
Project: Tech Town; Project No.: 12473.005.008.0660 **Work Order:** 1405110
Sample ID: TT-PCB-15E-N0-050214 **Lab ID:** 1405110-01
Collection Date: 5/2/2014 04:42 PM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS			**SW8082**		Prep Date: **5/6/2014**	Analyst: **SAD**
Aroclor 1016	ND		0.11	mg/Kg-dry	1	5/8/2014
Aroclor 1221	ND		0.23	mg/Kg-dry	1	5/8/2014
Aroclor 1232	ND		0.11	mg/Kg-dry	1	5/8/2014
Aroclor 1242	ND		0.11	mg/Kg-dry	1	5/8/2014
Aroclor 1248	ND		0.11	mg/Kg-dry	1	5/8/2014
Aroclor 1254	**14**		**0.56**	**mg/Kg-dry**	5	5/8/2014
Aroclor 1260	ND		0.56	mg/Kg-dry	5	5/8/2014
Surr: Decachlorobiphenyl	*90.8*		*22-156*	*%REC*	1	5/8/2014
Surr: Tetrachloro-m-xylene	*89.2*		*34-145*	*%REC*	1	5/8/2014
MOISTURE			**SM2540B**		Prep Date: **5/6/2014**	Analyst: **KMW**
Moisture	**12**		**0.010**	**% of sample**	1	5/6/2014

Note:

ALS Environmental

Date: *08-May-14*

Client: Weston Solutions
Project: Tech Town; Project No.: 12473.005.008.0660 **Work Order:** 1405110
Sample ID: TT-PCB-15E-N4-050214 **Lab ID:** 1405110-02
Collection Date: 5/2/2014 04:43 PM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS			**SW8082**		Prep Date: **5/6/2014**	Analyst: **SAD**
Aroclor 1016	ND		0.14	mg/Kg-dry	1	5/8/2014
Aroclor 1221	ND		0.28	mg/Kg-dry	1	5/8/2014
Aroclor 1232	ND		0.14	mg/Kg-dry	1	5/8/2014
Aroclor 1242	ND		0.14	mg/Kg-dry	1	5/8/2014
Aroclor 1248	ND		0.14	mg/Kg-dry	1	5/8/2014
Aroclor 1254	**9.3**		**0.69**	**mg/Kg-dry**	5	5/8/2014
Aroclor 1260	ND		0.69	mg/Kg-dry	5	5/8/2014
Surr: Decachlorobiphenyl	*77.6*		*22-156*	*%REC*	1	5/8/2014
Surr: Tetrachloro-m-xylene	*63.6*		*34-145*	*%REC*	1	5/8/2014
MOISTURE			**SM2540B**		Prep Date: **5/6/2014**	Analyst: **KMW**
Moisture	**28**		**0.010**	**% of sample**	1	5/6/2014

Note:

ALS Environmental

Date: *08-May-14*

Client: Weston Solutions
Project: Tech Town; Project No.: 12473.005.008.0660 **Work Order:** 1405110
Sample ID: TT-PCB-15E-S0-050214 **Lab ID:** 1405110-03
Collection Date: 5/2/2014 04:45 PM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS			**SW8082**		Prep Date: **5/6/2014**	Analyst: **SAD**
Aroclor 1016	ND		0.12	mg/Kg-dry	1	5/8/2014
Aroclor 1221	ND		0.23	mg/Kg-dry	1	5/8/2014
Aroclor 1232	ND		0.12	mg/Kg-dry	1	5/8/2014
Aroclor 1242	ND		0.12	mg/Kg-dry	1	5/8/2014
Aroclor 1248	ND		0.12	mg/Kg-dry	1	5/8/2014
Aroclor 1254	**13**		**0.58**	**mg/Kg-dry**	5	5/8/2014
Aroclor 1260	ND		0.58	mg/Kg-dry	5	5/8/2014
Surr: Decachlorobiphenyl	*84.2*		*22-156*	*%REC*	1	5/8/2014
Surr: Tetrachloro-m-xylene	*82.8*		*34-145*	*%REC*	1	5/8/2014
MOISTURE			**SM2540B**		Prep Date: **5/6/2014**	Analyst: **KMW**
Moisture	**14**		**0.010**	**% of sample**	1	5/6/2014

Note:

ALS Environmental

Date: *08-May-14*

Client: Weston Solutions
Project: Tech Town; Project No.: 12473.005.008.0660 **Work Order:** 1405110
Sample ID: TT-PCB-15E-S4-050214 **Lab ID:** 1405110-04
Collection Date: 5/2/2014 04:46 PM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS			**SW8082**		Prep Date: **5/6/2014**	Analyst: **SAD**
Aroclor 1016	ND		0.13	mg/Kg-dry	1	5/8/2014
Aroclor 1221	ND		0.27	mg/Kg-dry	1	5/8/2014
Aroclor 1232	ND		0.13	mg/Kg-dry	1	5/8/2014
Aroclor 1242	ND		0.13	mg/Kg-dry	1	5/8/2014
Aroclor 1248	ND		0.13	mg/Kg-dry	1	5/8/2014
Aroclor 1254	**10**		**0.67**	**mg/Kg-dry**	5	5/8/2014
Aroclor 1260	ND		0.67	mg/Kg-dry	5	5/8/2014
Surr: Decachlorobiphenyl	*80.6*		*22-156*	*%REC*	1	5/8/2014
Surr: Tetrachloro-m-xylene	*75.8*		*34-145*	*%REC*	1	5/8/2014
MOISTURE			**SM2540B**		Prep Date: **5/6/2014**	Analyst: **KMW**
Moisture	**25**		**0.010**	**% of sample**	1	5/6/2014

Note:

ALS Environmental

Date: *08-May-14*

Client: Weston Solutions
Project: Tech Town; Project No.: 12473.005.008.0660 **Work Order:** 1405110
Sample ID: TT-PCB-250-N0-050214 **Lab ID:** 1405110-05
Collection Date: 5/2/2014 04:48 PM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS			**SW8082**		Prep Date: **5/6/2014**	Analyst: **SAD**
Aroclor 1016	ND		0.12	mg/Kg-dry	1	5/8/2014
Aroclor 1221	ND		0.23	mg/Kg-dry	1	5/8/2014
Aroclor 1232	ND		0.12	mg/Kg-dry	1	5/8/2014
Aroclor 1242	ND		0.12	mg/Kg-dry	1	5/8/2014
Aroclor 1248	ND		0.12	mg/Kg-dry	1	5/8/2014
Aroclor 1254	**6.1**		**0.59**	**mg/Kg-dry**	5	5/8/2014
Aroclor 1260	ND		0.59	mg/Kg-dry	5	5/8/2014
Surr: Decachlorobiphenyl	*82.2*		*22-156*	*%REC*	1	5/8/2014
Surr: Tetrachloro-m-xylene	*79.6*		*34-145*	*%REC*	1	5/8/2014
MOISTURE			**SM2540B**		Prep Date: **5/6/2014**	Analyst: **KMW**
Moisture	**14**		**0.010**	**% of sample**	1	5/6/2014

Note:

ALS Environmental

Date: *08-May-14*

Client: Weston Solutions
Project: Tech Town; Project No.: 12473.005.008.0660 **Work Order:** 1405110
Sample ID: TT-PCB-250-N4-050214 **Lab ID:** 1405110-06
Collection Date: 5/2/2014 04:49 PM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS			**SW8082**		Prep Date: **5/6/2014**	Analyst: **SAD**
Aroclor 1016	ND		0.12	mg/Kg-dry	1	5/8/2014
Aroclor 1221	ND		0.23	mg/Kg-dry	1	5/8/2014
Aroclor 1232	ND		0.12	mg/Kg-dry	1	5/8/2014
Aroclor 1242	ND		0.12	mg/Kg-dry	1	5/8/2014
Aroclor 1248	ND		0.12	mg/Kg-dry	1	5/8/2014
Aroclor 1254	**1.7**		**0.12**	**mg/Kg-dry**	1	5/8/2014
Aroclor 1260	ND		0.12	mg/Kg-dry	1	5/8/2014
Surr: Decachlorobiphenyl	*87.2*		*22-156*	*%REC*	1	5/8/2014
Surr: Tetrachloro-m-xylene	*84.4*		*34-145*	*%REC*	1	5/8/2014
MOISTURE			**SM2540B**		Prep Date: **5/6/2014**	Analyst: **KMW**
Moisture	**14**		**0.010**	**% of sample**	1	5/6/2014

Note:

ALS Environmental

Date: *08-May-14*

Client: Weston Solutions
Project: Tech Town; Project No.: 12473.005.008.0660 **Work Order:** 1405110
Sample ID: TT-PCB-250-S0-050214 **Lab ID:** 1405110-07
Collection Date: 5/2/2014 04:51 PM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS			**SW8082**		Prep Date: **5/6/2014**	Analyst: **SAD**
Aroclor 1016	ND		0.11	mg/Kg-dry	1	5/8/2014
Aroclor 1221	ND		0.23	mg/Kg-dry	1	5/8/2014
Aroclor 1232	ND		0.11	mg/Kg-dry	1	5/8/2014
Aroclor 1242	ND		0.11	mg/Kg-dry	1	5/8/2014
Aroclor 1248	ND		0.11	mg/Kg-dry	1	5/8/2014
Aroclor 1254	**8.4**		**0.57**	**mg/Kg-dry**	5	5/8/2014
Aroclor 1260	ND		0.57	mg/Kg-dry	5	5/8/2014
Surr: Decachlorobiphenyl	*87.6*		*22-156*	*%REC*	1	5/8/2014
Surr: Tetrachloro-m-xylene	*91.2*		*34-145*	*%REC*	1	5/8/2014
MOISTURE			**SM2540B**		Prep Date: **5/6/2014**	Analyst: **KMW**
Moisture	**12**		**0.010**	**% of sample**	1	5/6/2014

Note:

ALS Environmental

Date: *08-May-14*

Client: Weston Solutions
Project: Tech Town; Project No.: 12473.005.008.0660 **Work Order:** 1405110
Sample ID: TT-PCB-250-S4-050214 **Lab ID:** 1405110-08
Collection Date: 5/2/2014 04:52 PM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS			**SW8082**		Prep Date: **5/6/2014**	Analyst: **SAD**
Aroclor 1016	ND		0.12	mg/Kg-dry	1	5/8/2014
Aroclor 1221	ND		0.24	mg/Kg-dry	1	5/8/2014
Aroclor 1232	ND		0.12	mg/Kg-dry	1	5/8/2014
Aroclor 1242	ND		0.12	mg/Kg-dry	1	5/8/2014
Aroclor 1248	ND		0.12	mg/Kg-dry	1	5/8/2014
Aroclor 1254	**1.8**		**0.12**	**mg/Kg-dry**	1	5/8/2014
Aroclor 1260	ND		0.12	mg/Kg-dry	1	5/8/2014
Surr: Decachlorobiphenyl	*87.6*		*22-156*	*%REC*	1	5/8/2014
Surr: Tetrachloro-m-xylene	*90.8*		*34-145*	*%REC*	1	5/8/2014
MOISTURE			**SM2540B**		Prep Date: **5/6/2014**	Analyst: **KMW**
Moisture	**16**		**0.010**	**% of sample**	1	5/6/2014

Note:

ALS Environmental

Date: *08-May-14*

Client: Weston Solutions
Project: Tech Town; Project No.: 12473.005.008.0660 **Work Order:** 1405110
Sample ID: TT-PCB-15W-N0-050214 **Lab ID:** 1405110-09
Collection Date: 5/2/2014 04:54 PM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS			**SW8082**		Prep Date: **5/6/2014**	Analyst: **SAD**
Aroclor 1016	ND		0.12	mg/Kg-dry	1	5/8/2014
Aroclor 1221	ND		0.24	mg/Kg-dry	1	5/8/2014
Aroclor 1232	ND		0.12	mg/Kg-dry	1	5/8/2014
Aroclor 1242	ND		0.12	mg/Kg-dry	1	5/8/2014
Aroclor 1248	ND		0.12	mg/Kg-dry	1	5/8/2014
Aroclor 1254	**0.44**		**0.12**	**mg/Kg-dry**	1	5/8/2014
Aroclor 1260	ND		0.12	mg/Kg-dry	1	5/8/2014
Surr: Decachlorobiphenyl	*88.6*		*22-156*	*%REC*	1	5/8/2014
Surr: Tetrachloro-m-xylene	*89.8*		*34-145*	*%REC*	1	5/8/2014
MOISTURE			**SM2540B**		Prep Date: **5/6/2014**	Analyst: **KMW**
Moisture	**16**		**0.010**	**% of sample**	1	5/6/2014

Note:

ALS Environmental

Date: *08-May-14*

Client: Weston Solutions
Project: Tech Town; Project No.: 12473.005.008.0660 **Work Order:** 1405110
Sample ID: TT-PCB-15W-N4-050214 **Lab ID:** 1405110-10
Collection Date: 5/2/2014 04:55 PM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS			**SW8082**		Prep Date: **5/6/2014**	Analyst: **SAD**
Aroclor 1016	ND		0.12	mg/Kg-dry	1	5/8/2014
Aroclor 1221	ND		0.23	mg/Kg-dry	1	5/8/2014
Aroclor 1232	ND		0.12	mg/Kg-dry	1	5/8/2014
Aroclor 1242	ND		0.12	mg/Kg-dry	1	5/8/2014
Aroclor 1248	ND		0.12	mg/Kg-dry	1	5/8/2014
Aroclor 1254	**4.4**		**0.12**	**mg/Kg-dry**	1	5/8/2014
Aroclor 1260	ND		0.12	mg/Kg-dry	1	5/8/2014
Surr: Decachlorobiphenyl	*88.0*		*22-156*	*%REC*	1	5/8/2014
Surr: Tetrachloro-m-xylene	*88.4*		*34-145*	*%REC*	1	5/8/2014
MOISTURE			**SM2540B**		Prep Date: **5/6/2014**	Analyst: **KMW**
Moisture	**12**		**0.010**	**% of sample**	1	5/6/2014

Note:

ALS Environmental

Date: *08-May-14*

Client: Weston Solutions
Project: Tech Town; Project No.: 12473.005.008.0660 **Work Order:** 1405110
Sample ID: TT-PCB-15W-S0-050214 **Lab ID:** 1405110-11
Collection Date: 5/2/2014 04:57 PM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS			**SW8082**		Prep Date: **5/6/2014**	Analyst: **SAD**
Aroclor 1016	ND		0.12	mg/Kg-dry	1	5/8/2014
Aroclor 1221	ND		0.23	mg/Kg-dry	1	5/8/2014
Aroclor 1232	ND		0.12	mg/Kg-dry	1	5/8/2014
Aroclor 1242	ND		0.12	mg/Kg-dry	1	5/8/2014
Aroclor 1248	ND		0.12	mg/Kg-dry	1	5/8/2014
Aroclor 1254	**1.4**		**0.12**	**mg/Kg-dry**	1	5/8/2014
Aroclor 1260	ND		0.12	mg/Kg-dry	1	5/8/2014
Surr: Decachlorobiphenyl	*87.4*		*22-156*	*%REC*	1	5/8/2014
Surr: Tetrachloro-m-xylene	*90.0*		*34-145*	*%REC*	1	5/8/2014
MOISTURE			**SM2540B**		Prep Date: **5/6/2014**	Analyst: **KMW**
Moisture	**13**		**0.010**	**% of sample**	1	5/6/2014

Note:

ALS Environmental

Date: *08-May-14*

Client: Weston Solutions
Project: Tech Town; Project No.: 12473.005.008.0660 **Work Order:** 1405110
Sample ID: TT-PCB-15W-S4-050214 **Lab ID:** 1405110-12
Collection Date: 5/2/2014 04:58 PM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
PCBS			**SW8082**		Prep Date: **5/6/2014**	Analyst: **SAD**
Aroclor 1016	ND		0.14	mg/Kg-dry	1	5/8/2014
Aroclor 1221	ND		0.27	mg/Kg-dry	1	5/8/2014
Aroclor 1232	ND		0.14	mg/Kg-dry	1	5/8/2014
Aroclor 1242	ND		0.14	mg/Kg-dry	1	5/8/2014
Aroclor 1248	ND		0.14	mg/Kg-dry	1	5/8/2014
Aroclor 1254	ND		0.14	mg/Kg-dry	1	5/8/2014
Aroclor 1260	ND		0.14	mg/Kg-dry	1	5/8/2014
Surr: Decachlorobiphenyl	*89.6*		*22-156*	*%REC*	1	5/8/2014
Surr: Tetrachloro-m-xylene	*92.8*		*34-145*	*%REC*	1	5/8/2014
MOISTURE			**SM2540B**		Prep Date: **5/6/2014**	Analyst: **KMW**
Moisture	**27**		**0.010**	**% of sample**	1	5/6/2014

Note:

ALS Environmental

Date: 08-May-14

Client: Weston Solutions

QC BATCH REPORT

Work Order: 1405110

Project: Tech Town; Project No.: 12473.005.008.0660

Batch ID: **22150** Instrument ID: **GC3** Method: **SW8082**

MBLK Sample ID: **MBLK-22150-22150** Units: **mg/Kg** Analysis Date: **5/8/2014**

Client ID: Run ID: **GC3_140508A** SeqNo: **818972** Prep Date: **5/6/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aroclor 1016	ND	0.10								
Aroclor 1221	ND	0.20								
Aroclor 1232	ND	0.10								
Aroclor 1242	ND	0.10								
Aroclor 1248	ND	0.10								
Aroclor 1254	ND	0.10								
Aroclor 1260	ND	0.10								
Surr: Decachlorobiphenyl	0.0908	0	*0.1*	0	*90.8*	*22-156*	0			
Surr: Tetrachloro-m-xylene	0.0934	0	*0.1*	0	*93.4*	*34-145*	0			

LCS Sample ID: **LCS-22150-22150** Units: **mg/Kg** Analysis Date: **5/8/2014**

Client ID: Run ID: **GC3_140508A** SeqNo: **818973** Prep Date: **5/6/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aroclor 1260	2.165	0.10	2	0	108	50-133	0			
Surr: Decachlorobiphenyl	0.0962	0	*0.1*	0	*96.2*	*22-156*	0			
Surr: Tetrachloro-m-xylene	0.0986	0	*0.1*	0	*98.6*	*34-145*	0			

MS Sample ID: **1405110-06AMS** Units: **mg/Kg** Analysis Date: **5/8/2014**

Client ID: **TT-PCB-250-N4-050214** Run ID: **GC3_140508A** SeqNo: **818980** Prep Date: **5/6/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aroclor 1260	2.682	0.10	1.996	0	134	31-150	0			
Surr: Decachlorobiphenyl	0.09142	0	*0.0998*	0	*91.6*	*22-156*	0			
Surr: Tetrachloro-m-xylene	0.08204	0	*0.0998*	0	*82.2*	*34-145*	0			

MSD Sample ID: **1405110-06AMSD** Units: **mg/Kg** Analysis Date: **5/8/2014**

Client ID: **TT-PCB-250-N4-050214** Run ID: **GC3_140508A** SeqNo: **818981** Prep Date: **5/6/2014** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aroclor 1260	2.38	0.10	2.02	0	118	31-150	2.682	12	53	
Surr: Decachlorobiphenyl	0.09273	0	*0.101*	0	*91.8*	*22-156*	0.09142	*1.42*		
Surr: Tetrachloro-m-xylene	0.08525	0	*0.101*	0	*84.4*	*34-145*	0.08204	*3.85*		

The following samples were analyzed in this batch:

1405110-01A	1405110-02A	1405110-03A
1405110-04A	1405110-05A	1405110-06A
1405110-07A	1405110-08A	1405110-09A
1405110-10A	1405110-11A	1405110-12A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Weston Solutions
Project: Tech Town; Project No.: 12473.005.008.0660
WorkOrder: **1405110**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL

Acronym	Description
DUP	Method Duplicate
E	EPA Method
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SDL	Sample Detection Limit
SW	SW-846 Method

Units Reported	Description
% of sample	
mg/Kg-dry	

ALS Environmental

Sample Receipt Checklist

Client Name: **WESTON-DAYTON** Date/Time Received: **05-May-14 13:01**

Work Order: **1405110** Received by: **JNW**

Checklist completed by: Jan Wilcox 05-May-14 Reviewed by: Rob Nieman 06-May-14
eSignature Date eSignature Date

Matrices:
Carrier name: ALSHN

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☑	Not Present ☐
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	4.7		
Cooler(s)/Kit(s):	109708		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☐	N/A ☐
pH adjusted by:	-		

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:

Wednesday, June 4, 2014

Analytical Results

Laura Funk

Weston Solutions, Inc. - Dayton
711 East Monument, Suite 201
Dayton, OHIO 45402

TEL: (937) 531-4400

FAX (937) 384-4201

RE: Tech Town

Work Order: 14E1571

Belmont Labs received 2 sample(s) on 5/29/2014 for the analyses presented in the following report.

Belmont Labs attests that all analytical methods were performed using acceptable methods, and that the QA/QC procedures stipulated in these methods were followed.

If you have any questions regarding the test results, please feel free to call me at (937) 832-8242.

Respectfully submitted,

Jason Lykins

Project Manager

Certifications: NELAP/NELAC - #04130 VAP - #CL0032
Ohio EPA Drinking water - #836 Ohio EPA Drinking water (Micro) - #872

Belmont Labs **Date:** 6/4/2014

CLIENT: Weston Solutions, Inc. - Dayton **Lab Order:** 14E1571
Project: Tech Town

Work Order Sample Summary

The results of analyses performed on the following samples submitted to Belmont Labs are found in this report.

Field Sample ID	Lab ID	Matrix	Method Reference	Subcontract Lab
TT-Box 01-Grab01-052914	14E1571-01	Soil	D 2216	
			SW 8260B	
TT-Box 02-Grab02-052914	14E1571-02	Soil	D 2216	
			SW 8260B	

CLIENT: Weston Solutions, Inc. - Dayton **Lab Order:** 14E1571
Project: Tech Town

Lab ID: 14E1571-01 **Collection Date:** 5/29/2014 9:20:00AM
Client Sample ID: TT-Box 01-Grab01-052914 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Prepared	Date Analyzed
VOC 8260_5035		**SW 8260B**					**Analyst: JAP**	
1,1,1,2-Tetrachloroethane	BDL	0.519	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 3:26:00PM
1,1,1-Trichloroethane	BDL	0.519	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 3:26:00PM
1,1,2,2-Tetrachloroethane	BDL	0.519	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 3:26:00PM
1,1,2-Trichloroethane	BDL	0.519	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 3:26:00PM
1,1-Dichloroethane	BDL	0.519	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 3:26:00PM
1,1-Dichloroethene	BDL	0.519	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 3:26:00PM
1,1-Dichloropropene	BDL	0.519	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 3:26:00PM
1,2,3-Trichlorobenzene	BDL	0.519	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 3:26:00PM
1,2,3-Trichloropropane	BDL	0.519	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 3:26:00PM
1,2,4-Trichlorobenzene	BDL	0.519	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 3:26:00PM
1,2,4-Trimethylbenzene	BDL	0.519	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 3:26:00PM
1,2-Dibromo-3-chloropropane	BDL	1.04	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 3:26:00PM
1,2-Dibromoethane	BDL	0.519	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 3:26:00PM
1,2-Dichlorobenzene	BDL	0.519	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 3:26:00PM
1,2-Dichloroethane	BDL	0.519	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 3:26:00PM
1,2-Dichloropropane	BDL	0.519	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 3:26:00PM
1,3,5-Trimethylbenzene	BDL	0.519	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 3:26:00PM
1,3-Dichlorobenzene	BDL	0.519	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 3:26:00PM
1,3-Dichloropropane	BDL	0.519	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 3:26:00PM
1,4-Dichlorobenzene	BDL	0.519	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 3:26:00PM
2,2-Dichloropropane	BDL	0.519	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 3:26:00PM
2-Butanone	BDL	2.08	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 3:26:00PM
2-Chlorotoluene	BDL	0.519	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 3:26:00PM
2-Hexanone	BDL	2.08	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 3:26:00PM
4-Chlorotoluene	BDL	0.519	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 3:26:00PM
4-Isopropyltoluene	BDL	0.519	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 3:26:00PM
4-Methyl-2-pentanone	BDL	2.08	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 3:26:00PM
Acetone	BDL	5.19	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 3:26:00PM
Acetonitrile	BDL	4.15	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 3:26:00PM
Acrolein	BDL	5.19	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 3:26:00PM
Acrylonitrile	BDL	2.08	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 3:26:00PM
Allyl chloride	BDL	1.04	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 3:26:00PM
Benzene	BDL	0.519	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 3:26:00PM
Bromobenzene	BDL	0.519	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 3:26:00PM
Bromochloromethane	BDL	0.519	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 3:26:00PM
Bromodichloromethane	BDL	0.519	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 3:26:00PM
Bromoform	BDL	0.519	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 3:26:00PM
Bromomethane	BDL	0.519	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 3:26:00PM
Carbon Disulfide	BDL	2.08	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 3:26:00PM
Carbon Tetrachloride	BDL	0.519	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 3:26:00PM
Chlorobenzene	BDL	0.519	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 3:26:00PM
Chloroethane	BDL	0.519	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 3:26:00PM

CLIENT: Weston Solutions, Inc. - Dayton **Lab Order:** 14E1571
Project: Tech Town

Lab ID: 14E1571-01 **Collection Date:** 5/29/2014 9:20:00AM
Client Sample ID: TT-Box 01-Grab01-052914 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Prepared	Date Analyzed
Chloroform	BDL	0.519	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 3:26:00PM
Chloromethane	BDL	0.519	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 3:26:00PM
cis-1,2-Dichloroethene	BDL	0.519	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 3:26:00PM
cis-1,3-Dichloropropene	BDL	0.519	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 3:26:00PM
Dibromochloromethane	BDL	0.519	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 3:26:00PM
Dibromomethane	BDL	0.519	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 3:26:00PM
Dichlorodifluoromethane	BDL	0.519	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 3:26:00PM
Ethylbenzene	BDL	0.519	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 3:26:00PM
Hexachlorobutadiene	BDL	0.519	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 3:26:00PM
Iodomethane	BDL	1.04	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 3:26:00PM
Isopropylbenzene	BDL	0.519	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 3:26:00PM
Methylene Chloride	BDL	0.519	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 3:26:00PM
Methyl tert-Butyl Ether	BDL	1.04	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 3:26:00PM
m,p-Xylene	BDL	1.04	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 3:26:00PM
Naphthalene	BDL	0.519	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 3:26:00PM
n-Butylbenzene	BDL	0.519	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 3:26:00PM
n-Hexane	BDL	0.519	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 3:26:00PM
n-Propylbenzene	BDL	0.519	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 3:26:00PM
o-Xylene	BDL	0.519	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 3:26:00PM
sec-Butylbenzene	BDL	0.519	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 3:26:00PM
Styrene	BDL	0.519	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 3:26:00PM
tert_Butylbenzene	BDL	0.519	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 3:26:00PM
Tetrachloroethene	**12.0**	0.519		mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 3:26:00PM
Toluene	BDL	0.519	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 3:26:00PM
trans-1,2-Dichloroethene	BDL	0.519	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 3:26:00PM
trans-1,3-Dichloropropene	BDL	0.519	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 3:26:00PM
Trichloroethene	**1.71**	0.519		mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 3:26:00PM
Trichlorofluoromethane	BDL	0.519	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 3:26:00PM
Vinyl Chloride	BDL	0.519	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 3:26:00PM
Vinyl acetate	BDL	1.04	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 3:26:00PM
Surrogate: 4-Bromofluorobenzene	*89.8 %*			*69-130*		*1422268*	5/29/2014 2:00:00PM	5/29/2014 3:26:00PM
Surrogate: Dibromofluoromethane	*105 %*			*66-136*		*1422268*	5/29/2014 2:00:00PM	5/29/2014 3:26:00PM
Surrogate: Toluene-d8	*97.7 %*			*67-139*		*1422268*	5/29/2014 2:00:00PM	5/29/2014 3:26:00PM
Surrogate: 1,2-Dichloroethane-d4	*103 %*			*67-136*		*1422268*	5/29/2014 2:00:00PM	5/29/2014 3:26:00PM
PMOIST	**D 2216**						**Analyst: CW**	
Percent Moisture	**13.1**			% by Weight	1	1423064	6/2/2014 3:47:00PM	6/2/2014 3:47:00PM

CLIENT: Weston Solutions, Inc. - Dayton **Lab Order:** 14E1571
Project: Tech Town

Lab ID: 14E1571-02 **Collection Date:** 5/29/2014 11:05:00AM
Client Sample ID: TT-Box 02-Grab02-052914 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Prepared	Date Analyzed
VOC 8260_5035		**SW 8260B**					**Analyst: JAP**	
1,1,1,2-Tetrachloroethane	BDL	0.225	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 4:00:00PM
1,1,1-Trichloroethane	BDL	0.225	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 4:00:00PM
1,1,2,2-Tetrachloroethane	BDL	0.225	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 4:00:00PM
1,1,2-Trichloroethane	BDL	0.225	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 4:00:00PM
1,1-Dichloroethane	BDL	0.225	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 4:00:00PM
1,1-Dichloroethene	BDL	0.225	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 4:00:00PM
1,1-Dichloropropene	BDL	0.225	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 4:00:00PM
1,2,3-Trichlorobenzene	BDL	0.225	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 4:00:00PM
1,2,3-Trichloropropane	BDL	0.225	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 4:00:00PM
1,2,4-Trichlorobenzene	BDL	0.225	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 4:00:00PM
1,2,4-Trimethylbenzene	BDL	0.225	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 4:00:00PM
1,2-Dibromo-3-chloropropane	BDL	0.451	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 4:00:00PM
1,2-Dibromoethane	BDL	0.225	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 4:00:00PM
1,2-Dichlorobenzene	BDL	0.225	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 4:00:00PM
1,2-Dichloroethane	BDL	0.225	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 4:00:00PM
1,2-Dichloropropane	BDL	0.225	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 4:00:00PM
1,3,5-Trimethylbenzene	BDL	0.225	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 4:00:00PM
1,3-Dichlorobenzene	BDL	0.225	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 4:00:00PM
1,3-Dichloropropane	BDL	0.225	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 4:00:00PM
1,4-Dichlorobenzene	BDL	0.225	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 4:00:00PM
2,2-Dichloropropane	BDL	0.225	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 4:00:00PM
2-Butanone	BDL	0.901	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 4:00:00PM
2-Chlorotoluene	BDL	0.225	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 4:00:00PM
2-Hexanone	BDL	0.901	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 4:00:00PM
4-Chlorotoluene	BDL	0.225	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 4:00:00PM
4-Isopropyltoluene	BDL	0.225	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 4:00:00PM
4-Methyl-2-pentanone	BDL	0.901	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 4:00:00PM
Acetone	BDL	2.25	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 4:00:00PM
Acetonitrile	BDL	1.80	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 4:00:00PM
Acrolein	BDL	2.25	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 4:00:00PM
Acrylonitrile	BDL	0.901	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 4:00:00PM
Allyl chloride	BDL	0.451	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 4:00:00PM
Benzene	BDL	0.225	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 4:00:00PM
Bromobenzene	BDL	0.225	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 4:00:00PM
Bromochloromethane	BDL	0.225	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 4:00:00PM
Bromodichloromethane	BDL	0.225	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 4:00:00PM
Bromoform	BDL	0.225	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 4:00:00PM
Bromomethane	BDL	0.225	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 4:00:00PM
Carbon Disulfide	BDL	0.901	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 4:00:00PM
Carbon Tetrachloride	BDL	0.225	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 4:00:00PM
Chlorobenzene	BDL	0.225	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 4:00:00PM
Chloroethane	BDL	0.225	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 4:00:00PM

CLIENT: Weston Solutions, Inc. - Dayton **Lab Order:** 14E1571
Project: Tech Town

Lab ID: 14E1571-02 **Collection Date:** 5/29/2014 11:05:00AM
Client Sample ID: TT-Box 02-Grab02-052914 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Prepared	Date Analyzed
Chloroform	BDL	0.225	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 4:00:00PM
Chloromethane	BDL	0.225	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 4:00:00PM
cis-1,2-Dichloroethene	BDL	0.225	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 4:00:00PM
cis-1,3-Dichloropropene	BDL	0.225	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 4:00:00PM
Dibromochloromethane	BDL	0.225	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 4:00:00PM
Dibromomethane	BDL	0.225	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 4:00:00PM
Dichlorodifluoromethane	BDL	0.225	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 4:00:00PM
Ethylbenzene	BDL	0.225	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 4:00:00PM
Hexachlorobutadiene	BDL	0.225	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 4:00:00PM
Iodomethane	BDL	0.451	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 4:00:00PM
Isopropylbenzene	BDL	0.225	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 4:00:00PM
Methylene Chloride	BDL	0.225	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 4:00:00PM
Methyl tert-Butyl Ether	BDL	0.451	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 4:00:00PM
m,p-Xylene	BDL	0.451	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 4:00:00PM
Naphthalene	BDL	0.225	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 4:00:00PM
n-Butylbenzene	BDL	0.225	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 4:00:00PM
n-Hexane	BDL	0.225	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 4:00:00PM
n-Propylbenzene	BDL	0.225	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 4:00:00PM
o-Xylene	BDL	0.225	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 4:00:00PM
sec-Butylbenzene	BDL	0.225	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 4:00:00PM
Styrene	BDL	0.225	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 4:00:00PM
tert_Butylbenzene	BDL	0.225	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 4:00:00PM
Tetrachloroethene	**46.7**	5.39		mg/kg dry	1000	1422268	5/29/2014 2:00:00PM	5/29/2014 5:09:00PM
Toluene	BDL	0.225	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 4:00:00PM
trans-1,2-Dichloroethene	BDL	0.225	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 4:00:00PM
trans-1,3-Dichloropropene	BDL	0.225	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 4:00:00PM
Trichloroethene	**6.39**	0.225		mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 4:00:00PM
Trichlorofluoromethane	BDL	0.225	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 4:00:00PM
Vinyl Chloride	BDL	0.225	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 4:00:00PM
Vinyl acetate	BDL	0.451	R-01	mg/kg dry	50	1422268	5/29/2014 2:00:00PM	5/29/2014 4:00:00PM
Surrogate: 4-Bromofluorobenzene	*97.1 %*			*69-130*		*1422268*	5/29/2014 2:00:00PM	5/29/2014 5:09:00PM
Surrogate: 4-Bromofluorobenzene	*89.4 %*			*69-130*		*1422268*	5/29/2014 2:00:00PM	5/29/2014 4:00:00PM
Surrogate: Dibromofluoromethane	*102 %*			*66-136*		*1422268*	5/29/2014 2:00:00PM	5/29/2014 4:00:00PM
Surrogate: Dibromofluoromethane	*111 %*			*66-136*		*1422268*	5/29/2014 2:00:00PM	5/29/2014 5:09:00PM
Surrogate: Toluene-d8	*97.2 %*			*67-139*		*1422268*	5/29/2014 2:00:00PM	5/29/2014 4:00:00PM
Surrogate: Toluene-d8	*108 %*			*67-139*		*1422268*	5/29/2014 2:00:00PM	5/29/2014 5:09:00PM
Surrogate: 1,2-Dichloroethane-d4	*104 %*			*67-136*		*1422268*	5/29/2014 2:00:00PM	5/29/2014 5:09:00PM
Surrogate: 1,2-Dichloroethane-d4	*97.7 %*			*67-136*		*1422268*	5/29/2014 2:00:00PM	5/29/2014 4:00:00PM
PMOIST	**D 2216**							**Analyst: CW**
Percent Moisture	**7.24**			% by Weight	1	1423146	6/3/2014 2:38:00PM	6/4/2014 12:00:00AM

CLIENT: Weston Solutions, Inc. - Dayton
Project: Tech Town
Lab Order: 14E1571

Lab ID: 14E1571-02
Client Sample ID: TT-Box 02-Grab02-052914
Collection Date: 5/29/2014 11:05:00AM
Matrix: Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Prepared	Date Analyzed

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1422268 - VOC PREP										
Blank (1422268-BLK1)				Prepared & Analyzed: 05/29/14						
1,1,1,2-Tetrachloroethane	BDL	0.00500	mg/kg wet							
1,1,1-Trichloroethane	BDL	0.00500	mg/kg wet							
1,1,2,2-Tetrachloroethane	BDL	0.00500	mg/kg wet							
1,1,2-Trichloroethane	BDL	0.00500	mg/kg wet							
1,1-Dichloroethane	BDL	0.00500	mg/kg wet							
1,1-Dichloroethene	BDL	0.00500	mg/kg wet							
1,1-Dichloropropene	BDL	0.00500	mg/kg wet							
1,2,3-Trichlorobenzene	BDL	0.00500	mg/kg wet							
1,2,3-Trichloropropane	BDL	0.00500	mg/kg wet							
1,2,4-Trichlorobenzene	BDL	0.00500	mg/kg wet							
1,2,4-Trimethylbenzene	BDL	0.00500	mg/kg wet							
1,2-Dibromo-3-chloropropane	BDL	0.0100	mg/kg wet							
1,2-Dibromoethane	BDL	0.00500	mg/kg wet							
1,2-Dichlorobenzene	BDL	0.00500	mg/kg wet							
1,2-Dichloroethane	BDL	0.00500	mg/kg wet							
1,2-Dichloropropane	BDL	0.00500	mg/kg wet							
1,3,5-Trimethylbenzene	BDL	0.00500	mg/kg wet							
1,3-Dichlorobenzene	BDL	0.00500	mg/kg wet							
1,3-Dichloropropane	BDL	0.00500	mg/kg wet							
1,4-Dichlorobenzene	BDL	0.00500	mg/kg wet							
2,2-Dichloropropane	BDL	0.00500	mg/kg wet							
2-Butanone	BDL	0.0200	mg/kg wet							
2-Chlorotoluene	BDL	0.00500	mg/kg wet							
2-Hexanone	BDL	0.0200	mg/kg wet							
4-Chlorotoluene	BDL	0.00500	mg/kg wet							
4-Isopropyltoluene	BDL	0.00500	mg/kg wet							
4-Methyl-2-pentanone	BDL	0.0200	mg/kg wet							
Acetone	BDL	0.0500	mg/kg wet							
Acetonitrile	BDL	0.0400	mg/kg wet							
Acrolein	BDL	0.0500	mg/kg wet							
Acrylonitrile	BDL	0.0200	mg/kg wet							
Allyl chloride	BDL	0.0100	mg/kg wet							
Benzene	BDL	0.00500	mg/kg wet							
Bromobenzene	BDL	0.00500	mg/kg wet							
Bromochloromethane	BDL	0.00500	mg/kg wet							
Bromodichloromethane	BDL	0.00500	mg/kg wet							
Bromoform	BDL	0.00500	mg/kg wet							
Bromomethane	BDL	0.00500	mg/kg wet							
Carbon Disulfide	BDL	0.0200	mg/kg wet							
Carbon Tetrachloride	BDL	0.00500	mg/kg wet							
Chlorobenzene	BDL	0.00500	mg/kg wet							
Chloroethane	BDL	0.00500	mg/kg wet							
Chloroform	BDL	0.00500	mg/kg wet							
Chloromethane	BDL	0.00500	mg/kg wet							
cis-1,2-Dichloroethene	BDL	0.00500	mg/kg wet							

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1422268 - VOC PREP										
Blank (1422268-BLK1)				Prepared & Analyzed: 05/29/14						
cis-1,3-Dichloropropene	BDL	0.00500	mg/kg wet							
Dibromochloromethane	BDL	0.00500	mg/kg wet							
Dibromomethane	BDL	0.00500	mg/kg wet							
Dichlorodifluoromethane	BDL	0.00500	mg/kg wet							
Ethylbenzene	BDL	0.00500	mg/kg wet							
Hexachlorobutadiene	BDL	0.00500	mg/kg wet							
Iodomethane	BDL	0.0100	mg/kg wet							
Isopropylbenzene	BDL	0.00500	mg/kg wet							
Methylene Chloride	BDL	0.00500	mg/kg wet							
Methyl tert-Butyl Ether	BDL	0.0100	mg/kg wet							
m,p-Xylene	BDL	0.0100	mg/kg wet							
Naphthalene	BDL	0.00500	mg/kg wet							
n-Butylbenzene	BDL	0.00500	mg/kg wet							
n-Hexane	BDL	0.00500	mg/kg wet							
n-Propylbenzene	BDL	0.00500	mg/kg wet							
o-Xylene	BDL	0.00500	mg/kg wet							
sec-Butylbenzene	BDL	0.00500	mg/kg wet							
Styrene	BDL	0.00500	mg/kg wet							
tert_Butylbenzene	BDL	0.00500	mg/kg wet							
Tetrachloroethene	BDL	0.00500	mg/kg wet							
Toluene	BDL	0.00500	mg/kg wet							
trans-1,2-Dichloroethene	BDL	0.00500	mg/kg wet							
trans-1,3-Dichloropropene	BDL	0.00500	mg/kg wet							
Trichloroethene	BDL	0.00500	mg/kg wet							
Trichlorofluoromethane	BDL	0.00500	mg/kg wet							
Vinyl Chloride	BDL	0.00500	mg/kg wet							
Vinyl acetate	BDL	0.0100	mg/kg wet							
Surrogate: 4-Bromofluorobenzene	*44.6*		*ug/L*	*50.00*		*89.1*	*69-130*			
Surrogate: Dibromofluoromethane	*52.0*		*ug/L*	*50.00*		*104*	*66-136*			
Surrogate: Toluene-d8	*49.2*		*ug/L*	*50.00*		*98.3*	*67-139*			
Surrogate: 1,2-Dichloroethane-d4	*50.5*		*ug/L*	*50.00*		*101*	*67-136*			

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1422268 - VOC PREP										
LCS (1422268-BS1)				Prepared & Analyzed: 05/29/14						
1,1,1,2-Tetrachloroethane	0.0198	0.00500	mg/kg wet	0.02000		99.3	69.2-126			
1,1,1-Trichloroethane	0.0213	0.00500	mg/kg wet	0.02000		106	65.1-133			
1,1,2,2-Tetrachloroethane	0.0188	0.00500	mg/kg wet	0.02000		94.0	68.5-131			
1,1,2-Trichloroethane	0.0208	0.00500	mg/kg wet	0.02000		104	71.5-128			
1,1-Dichloroethane	0.0217	0.00500	mg/kg wet	0.02000		108	65.5-131			
1,1-Dichloroethene	0.0211	0.00500	mg/kg wet	0.02000		106	54.4-139			
1,1-Dichloropropene	0.0209	0.00500	mg/kg wet	0.02000		105	66.6-132			
1,2,3-Trichlorobenzene	0.0198	0.00500	mg/kg wet	0.02000		99.0	56.3-154			
1,2,3-Trichloropropane	0.0187	0.00500	mg/kg wet	0.02000		93.4	65.6-132			
1,2,4-Trichlorobenzene	0.0197	0.00500	mg/kg wet	0.02000		98.4	56.2-151			
1,2,4-Trimethylbenzene	0.0194	0.00500	mg/kg wet	0.02000		97.0	61.2-140			
1,2-Dibromo-3-chloropropane	0.0176	0.0100	mg/kg wet	0.02000		88.2	57.4-144			
1,2-Dibromoethane	0.0193	0.00500	mg/kg wet	0.02000		96.4	69.5-126			
1,2-Dichlorobenzene	0.0200	0.00500	mg/kg wet	0.02000		100	66.4-137			
1,2-Dichloroethane	0.0208	0.00500	mg/kg wet	0.02000		104	65.4-131			
1,2-Dichloropropane	0.0211	0.00500	mg/kg wet	0.02000		105	71-126			
1,3,5-Trimethylbenzene	0.0195	0.00500	mg/kg wet	0.02000		97.4	62.1-138			
1,3-Dichlorobenzene	0.0200	0.00500	mg/kg wet	0.02000		99.8	64.7-139			
1,3-Dichloropropane	0.0207	0.00500	mg/kg wet	0.02000		103	70.1-128			
1,4-Dichlorobenzene	0.0197	0.00500	mg/kg wet	0.02000		98.6	63.6-139			
2-Butanone	0.0366	0.0200	mg/kg wet	0.04000		91.4	57.3-143			
2-Chlorotoluene	0.0197	0.00500	mg/kg wet	0.02000		98.6	63-137			
2-Hexanone	0.0353	0.0200	mg/kg wet	0.04000		88.3	55.1-147			
4-Chlorotoluene	0.0200	0.00500	mg/kg wet	0.02000		100	62.3-139			
4-Isopropyltoluene	0.0202	0.00500	mg/kg wet	0.02000		101	61.5-141			
4-Methyl-2-pentanone	0.0398	0.0200	mg/kg wet	0.04000		99.6	60.1-138			
Acetone	0.0343	0.0500	mg/kg wet	0.04000		85.8	23.8-186			
Acetonitrile	0.0179	0.0400	mg/kg wet	0.02000		89.6	42.6-157			
Acrolein	0.0366	0.0500	mg/kg wet	0.04000		91.4	10-200			
Acrylonitrile	0.0199	0.0200	mg/kg wet	0.02000		99.6	58.4-135			
Allyl chloride	0.0210	0.0100	mg/kg wet	0.02000		105	61.2-134			
Benzene	0.0205	0.00500	mg/kg wet	0.02000		102	71.3-126			
Bromobenzene	0.0197	0.00500	mg/kg wet	0.02000		98.4	66.9-133			
Bromochloromethane	0.0220	0.00500	mg/kg wet	0.02000		110	67.1-133			
Bromodichloromethane	0.0207	0.00500	mg/kg wet	0.02000		104	65.8-128			
Bromoform	0.0178	0.00500	mg/kg wet	0.02000		88.8	61.1-129			
Bromomethane	0.0192	0.00500	mg/kg wet	0.02000		96.2	32-162			
Carbon Disulfide	0.0204	0.0200	mg/kg wet	0.02000		102	38.3-151			
Carbon Tetrachloride	0.0215	0.00500	mg/kg wet	0.02000		107	64.6-133			
Chlorobenzene	0.0201	0.00500	mg/kg wet	0.02000		100	69.4-131			
Chloroethane	0.0273	0.00500	mg/kg wet	0.02000		136	36.6-158			
Chloroform	0.0213	0.00500	mg/kg wet	0.02000		106	68.4-130			
Chloromethane	0.0202	0.00500	mg/kg wet	0.02000		101	56.9-150			
cis-1,2-Dichloroethene	0.0212	0.00500	mg/kg wet	0.02000		106	66.4-132			
cis-1,3-Dichloropropene	0.0202	0.00500	mg/kg wet	0.02000		101	68-129			

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1422268 - VOC PREP										
LCS (1422268-BS1)				Prepared & Analyzed: 05/29/14						
Dibromochloromethane	0.0194	0.00500	mg/kg wet	0.02000		96.9	66-127			
Dibromomethane	0.0208	0.00500	mg/kg wet	0.02000		104	65.9-130			
Dichlorodifluoromethane	0.0217	0.00500	mg/kg wet	0.02000		108	55-166			
Ethylbenzene	0.0196	0.00500	mg/kg wet	0.02000		97.9	70-130			
Hexachlorobutadiene	0.0203	0.00500	mg/kg wet	0.02000		102	50.5-166			
Iodomethane	0.0208	0.0100	mg/kg wet	0.02000		104	47-151			
Isopropylbenzene	0.0196	0.00500	mg/kg wet	0.02000		98.1	69.8-132			
Methylene Chloride	0.0191	0.00500	mg/kg wet	0.02000		95.4	47-134			
Methyl tert-Butyl Ether	0.0204	0.0100	mg/kg wet	0.02000		102	59.4-132			
m,p-Xylene	0.0396	0.0100	mg/kg wet	0.04000		99.0	68-134			
Naphthalene	0.0197	0.00500	mg/kg wet	0.02000		98.3	51.2-154			
n-Butylbenzene	0.0193	0.00500	mg/kg wet	0.02000		96.7	57.6-149			
n-Hexane	0.0202	0.00500	mg/kg wet	0.02000		101	33.5-149			
n-Propylbenzene	0.0193	0.00500	mg/kg wet	0.02000		96.4	67-138			
o-Xylene	0.0204	0.00500	mg/kg wet	0.02000		102	67.7-132			
sec-Butylbenzene	0.0209	0.00500	mg/kg wet	0.02000		104	66.8-138			
Styrene	0.0198	0.00500	mg/kg wet	0.02000		99.2	63.5-135			
tert_Butylbenzene	0.0202	0.00500	mg/kg wet	0.02000		101	66.4-136			
Tetrachloroethene	0.0189	0.00500	mg/kg wet	0.02000		94.3	66.7-135			
Toluene	0.0209	0.00500	mg/kg wet	0.02000		105	70.4-130			
trans-1,2-Dichloroethene	0.0211	0.00500	mg/kg wet	0.02000		105	62.9-136			
trans-1,3-Dichloropropene	0.0203	0.00500	mg/kg wet	0.02000		102	67.3-132			
Trichloroethene	0.0210	0.00500	mg/kg wet	0.02000		105	66.6-132			
Trichlorofluoromethane	0.0227	0.00500	mg/kg wet	0.02000		113	48.2-151			
Vinyl Chloride	0.0199	0.00500	mg/kg wet	0.02000		99.7	46.5-150			
Vinyl acetate	0.0177	0.0100	mg/kg wet	0.02000		88.6	37.7-176			
Surrogate: 4-Bromofluorobenzene	*48.2*		*ug/L*	*50.00*		*96.4*	*69-130*			
Surrogate: Dibromofluoromethane	*53.8*		*ug/L*	*50.00*		*108*	*66-136*			
Surrogate: Toluene-d8	*50.8*		*ug/L*	*50.00*		*102*	*67-139*			
Surrogate: 1,2-Dichloroethane-d4	*51.0*		*ug/L*	*50.00*		*102*	*67-136*			

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1422268 - VOC PREP										
LCS Dup (1422268-BSD1)				Prepared & Analyzed: 05/29/14						
1,1,1,2-Tetrachloroethane	0.0193	0.00500	mg/kg wet	0.02000		96.7	69.2-126	2.60	21.7	
1,1,1-Trichloroethane	0.0203	0.00500	mg/kg wet	0.02000		102	65.1-133	4.66	22.1	
1,1,2,2-Tetrachloroethane	0.0185	0.00500	mg/kg wet	0.02000		92.6	68.5-131	1.55	24.9	
1,1,2-Trichloroethane	0.0205	0.00500	mg/kg wet	0.02000		102	71.5-128	1.41	21.6	
1,1-Dichloroethane	0.0208	0.00500	mg/kg wet	0.02000		104	65.5-131	4.10	21.7	
1,1-Dichloroethene	0.0205	0.00500	mg/kg wet	0.02000		103	54.4-139	2.88	24.9	
1,1-Dichloropropene	0.0193	0.00500	mg/kg wet	0.02000		96.6	66.6-132	8.00	22.7	
1,2,3-Trichlorobenzene	0.0208	0.00500	mg/kg wet	0.02000		104	56.3-154	5.22	28.3	
1,2,3-Trichloropropane	0.0186	0.00500	mg/kg wet	0.02000		92.8	65.6-132	0.698	25.6	
1,2,4-Trichlorobenzene	0.0196	0.00500	mg/kg wet	0.02000		98.1	56.2-151	0.356	27.8	
1,2,4-Trimethylbenzene	0.0199	0.00500	mg/kg wet	0.02000		99.4	61.2-140	2.49	24.6	
1,2-Dibromo-3-chloropropane	0.0183	0.0100	mg/kg wet	0.02000		91.4	57.4-144	3.56	25.9	
1,2-Dibromoethane	0.0190	0.00500	mg/kg wet	0.02000		95.2	69.5-126	1.31	22.3	
1,2-Dichlorobenzene	0.0197	0.00500	mg/kg wet	0.02000		98.3	66.4-137	1.81	23.6	
1,2-Dichloroethane	0.0207	0.00500	mg/kg wet	0.02000		103	65.4-131	0.819	20.1	
1,2-Dichloropropane	0.0197	0.00500	mg/kg wet	0.02000		98.4	71-126	6.97	20.6	
1,3,5-Trimethylbenzene	0.0190	0.00500	mg/kg wet	0.02000		94.8	62.1-138	2.76	25.5	
1,3-Dichlorobenzene	0.0196	0.00500	mg/kg wet	0.02000		98.0	64.7-139	1.82	25	
1,3-Dichloropropane	0.0198	0.00500	mg/kg wet	0.02000		99.0	70.1-128	4.35	21.4	
1,4-Dichlorobenzene	0.0191	0.00500	mg/kg wet	0.02000		95.7	63.6-139	2.99	24.9	
2-Butanone	0.0390	0.0200	mg/kg wet	0.04000		97.4	57.3-143	6.36	25.9	
2-Chlorotoluene	0.0186	0.00500	mg/kg wet	0.02000		92.8	63-137	5.96	25.8	
2-Hexanone	0.0363	0.0200	mg/kg wet	0.04000		90.7	55.1-147	2.63	30.2	
4-Chlorotoluene	0.0187	0.00500	mg/kg wet	0.02000		93.7	62.3-139	6.50	25.5	
4-Isopropyltoluene	0.0194	0.00500	mg/kg wet	0.02000		97.0	61.5-141	3.84	27	
4-Methyl-2-pentanone	0.0396	0.0200	mg/kg wet	0.04000		99.0	60.1-138	0.529	27.2	
Acetone	0.0361	0.0500	mg/kg wet	0.04000		90.2	23.8-186	5.06	42.1	
Acetonitrile	0.0213	0.0400	mg/kg wet	0.02000		107	42.6-157	17.4	30	
Acrolein	0.0376	0.0500	mg/kg wet	0.04000		93.9	10-200	2.72	41.3	
Acrylonitrile	0.0195	0.0200	mg/kg wet	0.02000		97.7	58.4-135	1.98	28.7	
Allyl chloride	0.0207	0.0100	mg/kg wet	0.02000		104	61.2-134	1.29	25	
Benzene	0.0197	0.00500	mg/kg wet	0.02000		98.4	71.3-126	3.98	19.3	
Bromobenzene	0.0194	0.00500	mg/kg wet	0.02000		96.9	66.9-133	1.54	23	
Bromochloromethane	0.0221	0.00500	mg/kg wet	0.02000		110	67.1-133	0.227	21.4	
Bromodichloromethane	0.0200	0.00500	mg/kg wet	0.02000		100	65.8-128	3.49	21.5	
Bromoform	0.0181	0.00500	mg/kg wet	0.02000		90.4	61.1-129	1.73	24.4	
Bromomethane	0.0179	0.00500	mg/kg wet	0.02000		89.4	32-162	7.44	31.2	
Carbon Disulfide	0.0198	0.0200	mg/kg wet	0.02000		98.8	38.3-151	3.04	25.2	
Carbon Tetrachloride	0.0200	0.00500	mg/kg wet	0.02000		99.8	64.6-133	7.39	22.4	
Chlorobenzene	0.0196	0.00500	mg/kg wet	0.02000		98.2	69.4-131	2.27	21.3	
Chloroethane	0.0254	0.00500	mg/kg wet	0.02000		127	36.6-158	7.05	26.6	
Chloroform	0.0217	0.00500	mg/kg wet	0.02000		108	68.4-130	1.77	21.1	
Chloromethane	0.0189	0.00500	mg/kg wet	0.02000		94.3	56.9-150	7.11	24.4	
cis-1,2-Dichloroethene	0.0212	0.00500	mg/kg wet	0.02000		106	66.4-132	0.330	21	
cis-1,3-Dichloropropene	0.0197	0.00500	mg/kg wet	0.02000		98.6	68-129	2.70	21	

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1422268 - VOC PREP										
LCS Dup (1422268-BSD1)				Prepared & Analyzed: 05/29/14						
Dibromochloromethane	0.0191	0.00500	mg/kg wet	0.02000		95.6	66-127	1.30	22.9	
Dibromomethane	0.0207	0.00500	mg/kg wet	0.02000		103	65.9-130	0.627	21.1	
Dichlorodifluoromethane	0.0210	0.00500	mg/kg wet	0.02000		105	55-166	3.14	28.4	
Ethylbenzene	0.0190	0.00500	mg/kg wet	0.02000		95.2	70-130	2.74	21.4	
Hexachlorobutadiene	0.0193	0.00500	mg/kg wet	0.02000		96.6	50.5-166	5.14	37.3	
Iodomethane	0.0210	0.0100	mg/kg wet	0.02000		105	47-151	1.19	23.3	
Isopropylbenzene	0.0186	0.00500	mg/kg wet	0.02000		93.2	69.8-132	5.12	22.8	
Methylene Chloride	0.0188	0.00500	mg/kg wet	0.02000		94.1	47-134	1.42	29.4	
Methyl tert-Butyl Ether	0.0212	0.0100	mg/kg wet	0.02000		106	59.4-132	4.09	23.9	
m,p-Xylene	0.0380	0.0100	mg/kg wet	0.04000		95.0	68-134	4.18	22.8	
Naphthalene	0.0204	0.00500	mg/kg wet	0.02000		102	51.2-154	3.55	29.3	
n-Butylbenzene	0.0188	0.00500	mg/kg wet	0.02000		93.8	57.6-149	3.04	28.9	
n-Hexane	0.0192	0.00500	mg/kg wet	0.02000		96.2	33.5-149	4.96	30.9	
n-Propylbenzene	0.0185	0.00500	mg/kg wet	0.02000		92.5	67-138	4.13	27	
o-Xylene	0.0192	0.00500	mg/kg wet	0.02000		96.0	67.7-132	6.11	22.3	
sec-Butylbenzene	0.0194	0.00500	mg/kg wet	0.02000		96.8	66.8-138	7.51	25.7	
Styrene	0.0191	0.00500	mg/kg wet	0.02000		95.4	63.5-135	3.85	23.2	
tert_Butylbenzene	0.0197	0.00500	mg/kg wet	0.02000		98.7	66.4-136	2.40	23.8	
Tetrachloroethene	0.0177	0.00500	mg/kg wet	0.02000		88.6	66.7-135	6.29	25.1	
Toluene	0.0196	0.00500	mg/kg wet	0.02000		98.2	70.4-130	6.41	19.8	
trans-1,2-Dichloroethene	0.0204	0.00500	mg/kg wet	0.02000		102	62.9-136	3.13	22.1	
trans-1,3-Dichloropropene	0.0196	0.00500	mg/kg wet	0.02000		98.0	67.3-132	3.51	21.7	
Trichloroethene	0.0204	0.00500	mg/kg wet	0.02000		102	66.6-132	2.56	20.7	
Trichlorofluoromethane	0.0219	0.00500	mg/kg wet	0.02000		109	48.2-151	3.64	25.8	
Vinyl Chloride	0.0192	0.00500	mg/kg wet	0.02000		96.1	46.5-150	3.68	25	
Vinyl acetate	0.0176	0.0100	mg/kg wet	0.02000		88.2	37.7-176	0.566	30.1	
Surrogate: 4-Bromofluorobenzene	*46.1*		*ug/L*	*50.00*		*92.2*	*69-130*			
Surrogate: Dibromofluoromethane	*53.7*		*ug/L*	*50.00*		*107*	*66-136*			
Surrogate: Toluene-d8	*48.6*		*ug/L*	*50.00*		*97.3*	*67-139*			
Surrogate: 1,2-Dichloroethane-d4	*50.3*		*ug/L*	*50.00*		*101*	*67-136*			

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1422268 - VOC PREP										
Matrix Spike (1422268-MS1)	**Source: 14E1229-25**			Prepared & Analyzed: 05/29/14						
1,1,1,2-Tetrachloroethane	0.179	0.0537	mg/kg dry	0.2146	ND	83.4	38-121			
1,1,1-Trichloroethane	0.183	0.0537	mg/kg dry	0.2146	ND	85.0	35-131			
1,1,2,2-Tetrachloroethane	0.147	0.0537	mg/kg dry	0.2146	ND	68.5	12-144			
1,1,2-Trichloroethane	0.177	0.0537	mg/kg dry	0.2146	ND	82.4	33-126			
1,1-Dichloroethane	0.188	0.0537	mg/kg dry	0.2146	ND	87.7	44-119			
1,1-Dichloroethene	0.177	0.0537	mg/kg dry	0.2146	ND	82.2	31-125			
1,1-Dichloropropene	0.158	0.0537	mg/kg dry	0.2146	ND	73.4	34-126			
1,2,3-Trichlorobenzene	0.120	0.0537	mg/kg dry	0.2146	ND	56.1	10-110			
1,2,3-Trichloropropane	0.160	0.0537	mg/kg dry	0.2146	ND	74.6	10-136			
1,2,4-Trichlorobenzene	0.117	0.0537	mg/kg dry	0.2146	ND	54.3	10-87			
1,2,4-Trimethylbenzene	0.161	0.0537	mg/kg dry	0.2146	ND	75.1	14-129			
1,2-Dibromo-3-chloropropane	0.153	0.107	mg/kg dry	0.2146	ND	71.4	10-148			
1,2-Dibromoethane	0.173	0.0537	mg/kg dry	0.2146	ND	80.5	31-123			
1,2-Dichlorobenzene	0.153	0.0537	mg/kg dry	0.2146	ND	71.5	12-103			
1,2-Dichloroethane	0.197	0.0537	mg/kg dry	0.2146	ND	91.8	48-114			
1,2-Dichloropropane	0.183	0.0537	mg/kg dry	0.2146	ND	85.1	44-118			
1,3,5-Trimethylbenzene	0.159	0.0537	mg/kg dry	0.2146	ND	74.1	16-130			
1,3-Dichlorobenzene	0.145	0.0537	mg/kg dry	0.2146	ND	67.5	12-106			
1,3-Dichloropropane	0.175	0.0537	mg/kg dry	0.2146	ND	81.5	31-128			
1,4-Dichlorobenzene	0.146	0.0537	mg/kg dry	0.2146	ND	68.2	12-102			
2-Butanone	0.425	0.215	mg/kg dry	0.4292	ND	99.1	10-159			
2-Chlorotoluene	0.148	0.0537	mg/kg dry	0.2146	ND	69.0	18-108			
2-Hexanone	0.366	0.215	mg/kg dry	0.4292	ND	85.2	10-194			
4-Chlorotoluene	0.145	0.0537	mg/kg dry	0.2146	ND	67.5	10-116			
4-Isopropyltoluene	0.148	0.0537	mg/kg dry	0.2146	ND	69.0	16-123			
4-Methyl-2-pentanone	0.380	0.215	mg/kg dry	0.4292	ND	88.5	10-186			
Acetone	0.608	0.537	mg/kg dry	0.4292	ND	142	10-218			
Acetonitrile	0.185	0.429	mg/kg dry	0.2146	ND	86.4	22-170			
Acrolein	0.143	0.537	mg/kg dry	0.4292	ND	33.3	10-200			
Acrylonitrile	0.191	0.215	mg/kg dry	0.2146	ND	88.8	22-140			
Allyl chloride	0.175	0.107	mg/kg dry	0.2146	ND	81.7	28-128			
Benzene	0.172	0.0537	mg/kg dry	0.2146	ND	80.2	39-126			
Bromobenzene	0.154	0.0537	mg/kg dry	0.2146	ND	71.6	15-109			
Bromochloromethane	0.205	0.0537	mg/kg dry	0.2146	ND	95.6	47-124			
Bromodichloromethane	0.183	0.0537	mg/kg dry	0.2146	ND	85.1	40-114			
Bromoform	0.162	0.0537	mg/kg dry	0.2146	ND	75.4	19-119			
Bromomethane	0.187	0.0537	mg/kg dry	0.2146	ND	87.2	10-173			
Carbon Disulfide	0.162	0.215	mg/kg dry	0.2146	ND	75.6	17-133			
Carbon Tetrachloride	0.174	0.0537	mg/kg dry	0.2146	ND	80.8	23-128			
Chlorobenzene	0.166	0.0537	mg/kg dry	0.2146	ND	77.4	27-111			
Chloroethane	0.214	0.0537	mg/kg dry	0.2146	ND	99.7	17-153			
Chloroform	0.194	0.0537	mg/kg dry	0.2146	ND	90.2	35-130			
Chloromethane	0.172	0.0537	mg/kg dry	0.2146	ND	80.0	22-139			
cis-1,2-Dichloroethene	0.187	0.0537	mg/kg dry	0.2146	ND	87.0	42-118			
cis-1,3-Dichloropropene	0.173	0.0537	mg/kg dry	0.2146	ND	80.5	27-113			

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1422268 - VOC PREP										
Matrix Spike (1422268-MS1)	**Source: 14E1229-25**			Prepared & Analyzed: 05/29/14						
Dibromochloromethane	0.178	0.0537	mg/kg dry	0.2146	ND	83.0	29-122			
Dibromomethane	0.189	0.0537	mg/kg dry	0.2146	ND	87.9	39-126			
Dichlorodifluoromethane	0.174	0.0537	mg/kg dry	0.2146	ND	81.0	10-184			
Ethylbenzene	0.158	0.0537	mg/kg dry	0.2146	ND	73.8	27-117			
Hexachlorobutadiene	0.133	0.0537	mg/kg dry	0.2146	ND	62.0	10-115			
Iodomethane	0.179	0.107	mg/kg dry	0.2146	ND	83.4	10-127			
Isopropylbenzene	0.156	0.0537	mg/kg dry	0.2146	ND	72.8	24-119			
Methylene Chloride	0.186	0.0537	mg/kg dry	0.2146	ND	86.6	10-179			
Methyl tert-Butyl Ether	0.196	0.107	mg/kg dry	0.2146	ND	91.5	38-126			
m,p-Xylene	0.318	0.107	mg/kg dry	0.4292	ND	74.2	26-114			
Naphthalene	0.140	0.0537	mg/kg dry	0.2146	ND	65.0	10-114			
n-Butylbenzene	0.127	0.0537	mg/kg dry	0.2146	ND	59.3	10-118			
n-Hexane	0.150	0.0537	mg/kg dry	0.2146	ND	69.8	10-122			
n-Propylbenzene	0.142	0.0537	mg/kg dry	0.2146	ND	66.3	16-114			
o-Xylene	0.165	0.0537	mg/kg dry	0.2146	ND	77.1	28-119			
sec-Butylbenzene	0.156	0.0537	mg/kg dry	0.2146	ND	72.5	10-144			
Styrene	0.157	0.0537	mg/kg dry	0.2146	ND	73.0	17-104			
tert_Butylbenzene	0.168	0.0537	mg/kg dry	0.2146	ND	78.3	12-152			
Tetrachloroethene	0.153	0.0537	mg/kg dry	0.2146	ND	71.3	24-114			
Toluene	0.169	0.0537	mg/kg dry	0.2146	ND	78.8	32-121			
trans-1,2-Dichloroethene	0.175	0.0537	mg/kg dry	0.2146	ND	81.7	32-122			
trans-1,3-Dichloropropene	0.171	0.0537	mg/kg dry	0.2146	ND	79.7	19-109			
Trichloroethene	0.187	0.0537	mg/kg dry	0.2146	ND	87.2	42-109			
Trichlorofluoromethane	0.187	0.0537	mg/kg dry	0.2146	ND	87.1	10-158			
Vinyl Chloride	0.168	0.0537	mg/kg dry	0.2146	ND	78.5	22-143			
Vinyl acetate	0.0820	0.107	mg/kg dry	0.2146	ND	38.2	10-127			
Surrogate: 4-Bromofluorobenzene	*35.4*		*ug/L*	*50.00*		*70.7*	*69-130*			
Surrogate: Dibromofluoromethane	*45.2*		*ug/L*	*50.00*		*90.5*	*66-136*			
Surrogate: Toluene-d8	*39.1*		*ug/L*	*50.00*		*78.2*	*67-139*			
Surrogate: 1,2-Dichloroethane-d4	*45.0*		*ug/L*	*50.00*		*89.9*	*67-136*			

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1422268 - VOC PREP										
Matrix Spike Dup (1422268-MSD1)	**Source: 14E1229-25**			Prepared & Analyzed: 05/29/14						
1,1,1,2-Tetrachloroethane	0.192	0.0556	mg/kg dry	0.2225	ND	86.1	38-121	6.84	50	
1,1,1-Trichloroethane	0.189	0.0556	mg/kg dry	0.2225	ND	84.8	35-131	3.31	60	
1,1,2,2-Tetrachloroethane	0.153	0.0556	mg/kg dry	0.2225	ND	68.8	12-144	4.04	51	
1,1,2-Trichloroethane	0.185	0.0556	mg/kg dry	0.2225	ND	83.2	33-126	4.57	46	
1,1-Dichloroethane	0.194	0.0556	mg/kg dry	0.2225	ND	87.3	44-119	3.20	48	
1,1-Dichloroethene	0.179	0.0556	mg/kg dry	0.2225	ND	80.6	31-125	1.64	61	
1,1-Dichloropropene	0.165	0.0556	mg/kg dry	0.2225	ND	74.3	34-126	4.75	81	
1,2,3-Trichlorobenzene	0.133	0.0556	mg/kg dry	0.2225	ND	59.8	10-110	10.1	71	
1,2,3-Trichloropropane	0.166	0.0556	mg/kg dry	0.2225	ND	74.7	10-136	3.73	58	
1,2,4-Trichlorobenzene	0.127	0.0556	mg/kg dry	0.2225	ND	57.0	10-87	8.45	60	
1,2,4-Trimethylbenzene	0.176	0.0556	mg/kg dry	0.2225	ND	79.2	14-129	8.91	71	
1,2-Dibromo-3-chloropropane	0.171	0.111	mg/kg dry	0.2225	ND	76.7	10-148	10.8	57	
1,2-Dibromoethane	0.181	0.0556	mg/kg dry	0.2225	ND	81.5	31-123	4.83	56	
1,2-Dichlorobenzene	0.171	0.0556	mg/kg dry	0.2225	ND	76.8	12-103	10.7	80	
1,2-Dichloroethane	0.204	0.0556	mg/kg dry	0.2225	ND	91.8	48-114	3.66	40	
1,2-Dichloropropane	0.190	0.0556	mg/kg dry	0.2225	ND	85.4	44-118	3.95	48	
1,3,5-Trimethylbenzene	0.177	0.0556	mg/kg dry	0.2225	ND	79.6	16-130	10.7	74	
1,3-Dichlorobenzene	0.161	0.0556	mg/kg dry	0.2225	ND	72.3	12-106	10.4	60	
1,3-Dichloropropane	0.186	0.0556	mg/kg dry	0.2225	ND	83.8	31-128	6.38	50	
1,4-Dichlorobenzene	0.162	0.0556	mg/kg dry	0.2225	ND	72.9	12-102	10.2	80	
2-Butanone	0.425	0.222	mg/kg dry	0.4450	ND	95.5	10-159	0.0990	60	
2-Chlorotoluene	0.159	0.0556	mg/kg dry	0.2225	ND	71.4	18-108	6.88	75	
2-Hexanone	0.359	0.222	mg/kg dry	0.4450	ND	80.6	10-194	1.98	58	
4-Chlorotoluene	0.150	0.0556	mg/kg dry	0.2225	ND	67.4	10-116	3.45	80	
4-Isopropyltoluene	0.163	0.0556	mg/kg dry	0.2225	ND	73.4	16-123	9.77	80	
4-Methyl-2-pentanone	0.382	0.222	mg/kg dry	0.4450	ND	85.8	10-186	0.618	60	
Acetone	0.600	0.556	mg/kg dry	0.4450	ND	135	10-218	1.26	60	
Acetonitrile	0.197	0.445	mg/kg dry	0.2225	ND	88.5	22-170	6.00	70	
Acrolein	0.119	0.556	mg/kg dry	0.4450	ND	26.7	10-200	18.5	50	
Acrylonitrile	0.187	0.222	mg/kg dry	0.2225	ND	84.0	22-140	1.90	69	
Allyl chloride	0.176	0.111	mg/kg dry	0.2225	ND	79.1	28-128	0.369	68	
Benzene	0.181	0.0556	mg/kg dry	0.2225	ND	81.4	39-126	5.08	61	
Bromobenzene	0.164	0.0556	mg/kg dry	0.2225	ND	73.5	15-109	6.15	50	
Bromochloromethane	0.211	0.0556	mg/kg dry	0.2225	ND	95.0	47-124	2.92	48	
Bromodichloromethane	0.191	0.0556	mg/kg dry	0.2225	ND	85.9	40-114	4.42	49	
Bromoform	0.166	0.0556	mg/kg dry	0.2225	ND	74.6	19-119	2.60	63	
Bromomethane	0.152	0.0556	mg/kg dry	0.2225	ND	68.2	10-173	20.8	40	
Carbon Disulfide	0.172	0.222	mg/kg dry	0.2225	ND	77.3	17-133	5.82	74	
Carbon Tetrachloride	0.182	0.0556	mg/kg dry	0.2225	ND	81.7	23-128	4.65	60	
Chlorobenzene	0.175	0.0556	mg/kg dry	0.2225	ND	78.4	27-111	4.95	50	
Chloroethane	0.230	0.0556	mg/kg dry	0.2225	ND	103	17-153	7.05	75	
Chloroform	0.199	0.0556	mg/kg dry	0.2225	ND	89.5	35-130	2.77	52	
Chloromethane	0.173	0.0556	mg/kg dry	0.2225	ND	77.9	22-139	0.879	42	
cis-1,2-Dichloroethene	0.196	0.0556	mg/kg dry	0.2225	ND	88.1	42-118	4.91	63	
cis-1,3-Dichloropropene	0.182	0.0556	mg/kg dry	0.2225	ND	81.9	27-113	5.39	50	

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1422268 - VOC PREP										
Matrix Spike Dup (1422268-MSD1)	**Source: 14E1229-25**			Prepared & Analyzed: 05/29/14						
Dibromochloromethane	0.185	0.0556	mg/kg dry	0.2225	ND	83.1	29-122	3.72	59	
Dibromomethane	0.191	0.0556	mg/kg dry	0.2225	ND	85.8	39-126	1.07	48	
Dichlorodifluoromethane	0.178	0.0556	mg/kg dry	0.2225	ND	80.2	10-184	2.61	108	
Ethylbenzene	0.168	0.0556	mg/kg dry	0.2225	ND	75.6	27-117	6.01	40	
Hexachlorobutadiene	0.150	0.0556	mg/kg dry	0.2225	ND	67.3	10-115	11.9	57	
Iodomethane	0.189	0.111	mg/kg dry	0.2225	ND	85.0	10-127	5.44	50	
Isopropylbenzene	0.164	0.0556	mg/kg dry	0.2225	ND	73.8	24-119	4.90	60	
Methylene Chloride	0.191	0.0556	mg/kg dry	0.2225	ND	85.8	10-179	2.62	58	
Methyl tert-Butyl Ether	0.204	0.111	mg/kg dry	0.2225	ND	91.8	38-126	3.98	50	
m,p-Xylene	0.335	0.111	mg/kg dry	0.4450	ND	75.4	26-114	5.17	40	
Naphthalene	0.147	0.0556	mg/kg dry	0.2225	ND	66.2	10-114	5.28	64	
n-Butylbenzene	0.143	0.0556	mg/kg dry	0.2225	ND	64.5	10-118	11.8	60	
n-Hexane	0.156	0.0556	mg/kg dry	0.2225	ND	70.3	10-122	4.24	70	
n-Propylbenzene	0.149	0.0556	mg/kg dry	0.2225	ND	66.8	16-114	4.35	60	
o-Xylene	0.175	0.0556	mg/kg dry	0.2225	ND	78.8	28-119	5.78	40	
sec-Butylbenzene	0.175	0.0556	mg/kg dry	0.2225	ND	78.5	10-144	11.5	60	
Styrene	0.159	0.0556	mg/kg dry	0.2225	ND	71.5	17-104	1.46	40	
tert_Butylbenzene	0.188	0.0556	mg/kg dry	0.2225	ND	84.5	12-152	11.2	71	
Tetrachloroethene	0.160	0.0556	mg/kg dry	0.2225	ND	71.8	24-114	4.30	50	
Toluene	0.180	0.0556	mg/kg dry	0.2225	ND	81.0	32-121	6.41	40	
trans-1,2-Dichloroethene	0.183	0.0556	mg/kg dry	0.2225	ND	82.4	32-122	4.45	50	
trans-1,3-Dichloropropene	0.180	0.0556	mg/kg dry	0.2225	ND	81.0	19-109	5.16	51	
Trichloroethene	0.200	0.0556	mg/kg dry	0.2225	ND	89.8	42-109	6.48	38	
Trichlorofluoromethane	0.189	0.0556	mg/kg dry	0.2225	ND	85.0	10-158	1.10	120	
Vinyl Chloride	0.174	0.0556	mg/kg dry	0.2225	ND	78.2	22-143	3.28	60	
Vinyl acetate	0.0793	0.111	mg/kg dry	0.2225	ND	35.6	10-127	3.31	119	
Surrogate: 4-Bromofluorobenzene	*35.8*		*ug/L*	*50.00*		*71.6*	*69-130*			
Surrogate: Dibromofluoromethane	*46.0*		*ug/L*	*50.00*		*92.0*	*66-136*			
Surrogate: Toluene-d8	*40.3*		*ug/L*	*50.00*		*80.7*	*67-139*			
Surrogate: 1,2-Dichloroethane-d4	*44.5*		*ug/L*	*50.00*		*88.9*	*67-136*			

Notes and Definitions

R-01 The Reporting Limit for this analyte has been raised to account for matrix interference.

BDL Analyte is below detection limits

Sample preservation was met unless otherwise noted.

Belmont Labs
The Environmental Service Company.

ANALYTICAL REQUEST CHAIN OF CUSTODY

Internal Lab Order Number 14E1571 14E1572

Purchase Order No.	Quote No.	Client Project

INVOICE TO
Name: LAURA FUNK
Company: WESTON SOLUTIONS
Address: 711 E MONUMENT AVE #201
City, State, Zip: DAYTON, OH 45402

REPORT TO
Name
Company
Mailing Address
City, State, Zip
Phone No. Email Address

☐ Rush analysis required - results required by _____(Date)
Contact Belmont Labs prior to sending rush samples

Special Instructions:
3 DAY TAT
Additional QC Requirements: Level 2, Level 3, Level 4 (Charges Apply)

Regulatory Type
☐ NPDES ☐ BUSTR
☐ RCRA ☐ NELAC
☐ SDWA
☒ VAP
☐ Other
Collected in State of OH

ANALYSIS REQUESTED
(Enter an "X" in the box below to indicate request and circle preservative)

CLIENT SAMPLE IDENTIFICATION	Date Sampled	Time	Comp	Grab	Matrix	Number of Containers	VOCs: HNO_3, HCl, H_2SO_4, ICE, NONE, OTHER	TCLP VOCs: HNO_3, HCl, H_2SO_4, ICE, NONE, OTHER	HNO_3, HCl, H_2SO_4, ICE, NONE, OTHER	HNO_3, HCl, H_2SO_4, ICE, NONE, OTHER	HNO_3, HCl, H_2SO_4, ICE, NONE, OTHER	HNO_3, HCl, H_2SO_4, ICE, NONE, OTHER	HNO_3, HCl, H_2SO_4, ICE, NONE, OTHER	HNO_3, HCl, H_2SO_4, ICE, NONE, OTHER	Lab Only
TT-BOX 01-GRAB 01-052914	5/29/14	0920		X	Soil	1	X								
TT-BOX 01-COMP-052914		0945	X			2		X							
TT-BOX 02-GRAB 02-052914		1105		X		1	X								
TT-BOX 02-~~GRAB~~ COMP-052914		1125	X			2		X							
* LAST ITEM															KH

CHAIN OF CUSTODY (if required)

Relinquished by: _____ Date/Time 5/29/14 1355 Received by: _____ Date/Time _____

Relinquished by: _____ Date/Time _____ Received at lab by: P. Whitaker Date/Time 5/29 1355

Method of Shipment: WI Cooler Temp. 4° Ice Custody Seals ☒ Yes ☐ No

Sampled by: Greg Roussos Date 5/29/14

Client Comments

DISTRIBUTION:
WHITE - Laboratory
YELLOW - Client

Failure to complete all portions of this form may delay analysis.

Houston Business Forms - Form #14374 7/13

Belmont Labs **Date:** 6/4/2014

Sample Receipt Summary

14E1571

Client:	Weston Solutions, Inc. - Dayton	Project Manager:	Jason Lykins
Project:	Tech Town Delineation and Tier 1	Project Number:	Tech Town

Report To:
Laura Funk
711 East Monument, Suite 201
Dayton OHI(45402
Phone: (937) 531-4400
Fax: (937) 384-4201

WO Due Date:	6/3/2014 5:00:00PM
TAT (Days):	3
Received By:	Peggy Whitaker
Received:	5/29/2014 1:55:00PM
Logged In By:	Peggy Whitaker
Logged In:	5/29/2014 3:43:00PM

Receipt Temp (C):	**4.0**
Custody Seals	True
Container Intact	True
COC/Labels agree	True
Received on ice	True
VOC vials had zero head space	False
Approved Container	True
Sufficient volume received	True
Received within HT	True
Shipped By:	**Walk-in**

Samples Received:

Laboratory ID:	Field ID:	Date/Time Sampled:	Matrix:
14E1571-02	TT-Box 02-Grab02-052914	5/29/2014 11:05:00AM	Soil
14E1571-01	TT-Box 01-Grab01-052914	5/29/2014 9:20:00AM	Soil

Sample Notes:

6/2/14 JML. The dry weight container did not contain any sample for 14E1571-02. Per telephone conversation with Greg Roussos, use sample 14E1572-02 container for PMOIST determination.

Wednesday, June 4, 2014

Analytical Results

Laura Funk

Weston Solutions, Inc. - Dayton
711 East Monument, Suite 201
Dayton, OHIO 45402

TEL: (937) 531-4400

FAX (937) 384-4201

RE: Tech Town

Work Order: 14E1572

Belmont Labs received 2 sample(s) on 5/29/2014 for the analyses presented in the following report.

Belmont Labs attests that all analytical methods were performed using acceptable methods, and that the QA/QC procedures stipulated in these methods were followed.

If you have any questions regarding the test results, please feel free to call me at (937) 832-8242.

Respectfully submitted,

Jason Lykins

Project Manager

Certifications: NELAP/NELAC - #04130 VAP - #CL0032
Ohio EPA Drinking water - #836 Ohio EPA Drinking water (Micro) - #872

Belmont Labs

Date: 6/4/2014

CLIENT: Weston Solutions, Inc. - Dayton
Project: Tech Town

Lab Order: 14E1572

Work Order Sample Summary

The results of analyses performed on the following samples submitted to Belmont Labs are found in this report.

Field Sample ID	Lab ID	Matrix	Method Reference	Subcontract Lab
TT-Box 01-Comp-052914	14E1572-01	Soil	EPA 1311	
			SW 8260B	
TT-Box 02-Comp-052914	14E1572-02	Soil	EPA 1311	
			SW 8260B	

Belmont Labs **Date:** 6/4/2014

CLIENT: Weston Solutions, Inc. - Dayton **Lab Order:** 14E1572
Project: Tech Town

Lab ID: 14E1572-01 **Collection Date:** 5/29/2014 9:45:00AM
Client Sample ID: TT-Box 01-Comp-052914 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Prepared	Date Analyzed
TCLP VOC		**SW 8260B**					**Analyst: EAH**	
TCLP 1,1-Dichloroethene	BDL	0.200		mg/L	40	1423145	6/3/2014 12:02:00PM	6/3/2014 8:55:00PM
TCLP 1,2-Dichloroethane	BDL	0.200		mg/L	40	1423145	6/3/2014 12:02:00PM	6/3/2014 8:55:00PM
TCLP 2-Butanone	BDL	0.800		mg/L	40	1423145	6/3/2014 12:02:00PM	6/3/2014 8:55:00PM
TCLP Benzene	BDL	0.200		mg/L	40	1423145	6/3/2014 12:02:00PM	6/3/2014 8:55:00PM
TCLP Carbon tetrachloride	BDL	0.200		mg/L	40	1423145	6/3/2014 12:02:00PM	6/3/2014 8:55:00PM
TCLP Chlorobenzene	BDL	0.200		mg/L	40	1423145	6/3/2014 12:02:00PM	6/3/2014 8:55:00PM
TCLP Chloroform	BDL	0.200		mg/L	40	1423145	6/3/2014 12:02:00PM	6/3/2014 8:55:00PM
TCLP Vinyl chloride	BDL	0.200		mg/L	40	1423145	6/3/2014 12:02:00PM	6/3/2014 8:55:00PM
TCLP Trichloroethene	BDL	0.200		mg/L	40	1423145	6/3/2014 12:02:00PM	6/3/2014 8:55:00PM
TCLP Tetrachloroethene	BDL	0.200		mg/L	40	1423145	6/3/2014 12:02:00PM	6/3/2014 8:55:00PM
Surrogate: 4-Bromofluorobenzene	*93.8 %*			*66-125*		*1423145*	6/3/2014 12:02:00PM	6/3/2014 8:55:00PM
Surrogate: Dibromofluoromethane	*102 %*			*75-130*		*1423145*	6/3/2014 12:02:00PM	6/3/2014 8:55:00PM
Surrogate: Toluene-d8	*99.9 %*			*76-131*		*1423145*	6/3/2014 12:02:00PM	6/3/2014 8:55:00PM
Surrogate: 1,2-Dichloroethane-d4	*95.7 %*			*75-124*		*1423145*	6/3/2014 12:02:00PM	6/3/2014 8:55:00PM

CLIENT: Weston Solutions, Inc. - Dayton **Lab Order:** 14E1572
Project: Tech Town

Lab ID: 14E1572-02 **Collection Date:** 5/29/2014 11:25:00AM
Client Sample ID: TT-Box 02-Comp-052914 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Prepared	Date Analyzed
TCLP VOC		**SW 8260B**					**Analyst: EAH**	
TCLP 1,1-Dichloroethene	BDL	0.200		mg/L	40	1423145	6/3/2014 12:02:00PM	6/3/2014 9:33:00PM
TCLP 1,2-Dichloroethane	BDL	0.200		mg/L	40	1423145	6/3/2014 12:02:00PM	6/3/2014 9:33:00PM
TCLP 2-Butanone	BDL	0.800		mg/L	40	1423145	6/3/2014 12:02:00PM	6/3/2014 9:33:00PM
TCLP Benzene	BDL	0.200		mg/L	40	1423145	6/3/2014 12:02:00PM	6/3/2014 9:33:00PM
TCLP Carbon tetrachloride	BDL	0.200		mg/L	40	1423145	6/3/2014 12:02:00PM	6/3/2014 9:33:00PM
TCLP Chlorobenzene	BDL	0.200		mg/L	40	1423145	6/3/2014 12:02:00PM	6/3/2014 9:33:00PM
TCLP Chloroform	BDL	0.200		mg/L	40	1423145	6/3/2014 12:02:00PM	6/3/2014 9:33:00PM
TCLP Vinyl chloride	BDL	0.200		mg/L	40	1423145	6/3/2014 12:02:00PM	6/3/2014 9:33:00PM
TCLP Trichloroethene	BDL	0.200		mg/L	40	1423145	6/3/2014 12:02:00PM	6/3/2014 9:33:00PM
TCLP Tetrachloroethene	BDL	0.200		mg/L	40	1423145	6/3/2014 12:02:00PM	6/3/2014 9:33:00PM
Surrogate: 4-Bromofluorobenzene	*92.1 %*			*66-125*		*1423145*	6/3/2014 12:02:00PM	6/3/2014 9:33:00PM
Surrogate: Dibromofluoromethane	*103 %*			*75-130*		*1423145*	6/3/2014 12:02:00PM	6/3/2014 9:33:00PM
Surrogate: Toluene-d8	*100 %*			*76-131*		*1423145*	6/3/2014 12:02:00PM	6/3/2014 9:33:00PM
Surrogate: 1,2-Dichloroethane-d4	*94.4 %*			*75-124*		*1423145*	6/3/2014 12:02:00PM	6/3/2014 9:33:00PM

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1423145 - VOC PREP										
Blank (1423145-BLK1)				Prepared & Analyzed: 06/03/14						
TCLP 1,1-Dichloroethene	BDL	0.00500	mg/L							
TCLP 1,2-Dichloroethane	BDL	0.00500	mg/L							
TCLP 2-Butanone	BDL	0.0200	mg/L							
TCLP Benzene	BDL	0.00500	mg/L							
TCLP Carbon tetrachloride	BDL	0.00500	mg/L							
TCLP Chlorobenzene	BDL	0.00500	mg/L							
TCLP Chloroform	BDL	0.00500	mg/L							
TCLP Vinyl chloride	BDL	0.00500	mg/L							
TCLP Trichloroethene	BDL	0.00500	mg/L							
TCLP Tetrachloroethene	BDL	0.00500	mg/L							
Surrogate: 4-Bromofluorobenzene	*48.1*		*ug/L*	*50.00*		*96.2*	*66-125*			
Surrogate: Dibromofluoromethane	*49.6*		*ug/L*	*50.00*		*99.1*	*75-130*			
Surrogate: Toluene-d8	*50.5*		*ug/L*	*50.00*		*101*	*76-131*			
Surrogate: 1,2-Dichloroethane-d4	*46.1*		*ug/L*	*50.00*		*92.1*	*75-124*			
Blank (1423145-BLK2)				Prepared & Analyzed: 06/03/14						
TCLP 1,1-Dichloroethene	BDL	0.200	mg/L							
TCLP 1,2-Dichloroethane	BDL	0.200	mg/L							
TCLP 2-Butanone	BDL	0.800	mg/L							
TCLP Benzene	BDL	0.200	mg/L							
TCLP Carbon tetrachloride	BDL	0.200	mg/L							
TCLP Chlorobenzene	BDL	0.200	mg/L							
TCLP Chloroform	BDL	0.200	mg/L							
TCLP Vinyl chloride	BDL	0.200	mg/L							
TCLP Trichloroethene	BDL	0.200	mg/L							
TCLP Tetrachloroethene	BDL	0.200	mg/L							
Surrogate: 4-Bromofluorobenzene	*47.0*		*ug/L*	*50.00*		*94.0*	*66-125*			
Surrogate: Dibromofluoromethane	*51.0*		*ug/L*	*50.00*		*102*	*75-130*			
Surrogate: Toluene-d8	*50.6*		*ug/L*	*50.00*		*101*	*76-131*			
Surrogate: 1,2-Dichloroethane-d4	*48.6*		*ug/L*	*50.00*		*97.1*	*75-124*			

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1423145 - VOC PREP										
LCS (1423145-BS1)				Prepared & Analyzed: 06/03/14						
TCLP 1,1-Dichloroethene	0.0180	0.00500	mg/L	0.02000		89.9	54.4-139			
TCLP 1,2-Dichloroethane	0.0200	0.00500	mg/L	0.02000		100	65.4-131			
TCLP 2-Butanone	0.0410	0.0200	mg/L	0.04000		102	57.3-143			
TCLP Benzene	0.0186	0.00500	mg/L	0.02000		92.8	71.3-126			
TCLP Carbon tetrachloride	0.0220	0.00500	mg/L	0.02000		110	64.6-133			
TCLP Chlorobenzene	0.0196	0.00500	mg/L	0.02000		97.8	69.4-131			
TCLP Chloroform	0.0190	0.00500	mg/L	0.02000		95.0	68.4-130			
TCLP Vinyl chloride	0.0192	0.00500	mg/L	0.02000		95.8	46.5-150			
TCLP Trichloroethene	0.0202	0.00500	mg/L	0.02000		101	66.6-132			
TCLP Tetrachloroethene	0.0200	0.00500	mg/L	0.02000		100	66.7-135			
Surrogate: 4-Bromofluorobenzene	*50.9*		*ug/L*	*50.00*		*102*	*66-125*			
Surrogate: Dibromofluoromethane	*50.7*		*ug/L*	*50.00*		*101*	*75-130*			
Surrogate: Toluene-d8	*52.6*		*ug/L*	*50.00*		*105*	*76-131*			
Surrogate: 1,2-Dichloroethane-d4	*46.5*		*ug/L*	*50.00*		*93.0*	*75-124*			
LCS Dup (1423145-BSD1)				Prepared & Analyzed: 06/03/14						
TCLP 1,1-Dichloroethene	0.0169	0.00500	mg/L	0.02000		84.7	54.4-139	5.96	24.9	
TCLP 1,2-Dichloroethane	0.0186	0.00500	mg/L	0.02000		93.2	65.4-131	6.99	20.1	
TCLP 2-Butanone	0.0330	0.0200	mg/L	0.04000		82.5	57.3-143	21.7	25.9	
TCLP Benzene	0.0172	0.00500	mg/L	0.02000		86.2	71.3-126	7.49	19.3	
TCLP Carbon tetrachloride	0.0203	0.00500	mg/L	0.02000		102	64.6-133	8.17	22.4	
TCLP Chlorobenzene	0.0184	0.00500	mg/L	0.02000		91.8	69.4-131	6.43	21.3	
TCLP Chloroform	0.0179	0.00500	mg/L	0.02000		89.6	68.4-130	5.74	21.1	
TCLP Vinyl chloride	0.0177	0.00500	mg/L	0.02000		88.3	46.5-150	8.15	25	
TCLP Trichloroethene	0.0185	0.00500	mg/L	0.02000		92.4	66.6-132	8.64	20.7	
TCLP Tetrachloroethene	0.0188	0.00500	mg/L	0.02000		93.8	66.7-135	6.44	25.1	
Surrogate: 4-Bromofluorobenzene	*49.8*		*ug/L*	*50.00*		*99.7*	*66-125*			
Surrogate: Dibromofluoromethane	*50.4*		*ug/L*	*50.00*		*101*	*75-130*			
Surrogate: Toluene-d8	*50.6*		*ug/L*	*50.00*		*101*	*76-131*			
Surrogate: 1,2-Dichloroethane-d4	*45.7*		*ug/L*	*50.00*		*91.4*	*75-124*			

Notes and Definitions

BDL Analyte is below detection limits

Sample preservation was met unless otherwise noted.

Belmont Labs
The Environmental Service Company.

ANALYTICAL REQUEST CHAIN OF CUSTODY

Internal Lab Order Number 14E1571 14E1572

Purchase Order No.	Quote No.	Client Project

INVOICE TO
Name: LAURA FUNK
Company: WESTON SOLUTIONS
Address: 711 E MOUUMGNT AVE #201
City, State, Zip: DAYTON, OH 45402

REPORT TO
Name
Company
Mailing Address
City, State, Zip
Phone No. Email Address

☐ Rush analysis required - results required by _____(Date)
Contact Belmont Labs prior to sending rush samples

Special Instructions:
3 DAY TAT
Additional QC Requirements: Level 2, Level 3, Level 4 (Charges Apply)

Regulatory Type
☐ NPDES ☐ BUSTR
☐ RCRA ☐ NELAC
☐ SDWA
☑ VAP
☐ Other
Collected in State of OH

ANALYSIS REQUESTED
(Enter an "X" in the box below to indicate request and circle preservative)

CLIENT SAMPLE IDENTIFICATION	Date Sampled	Time	Comp	Grab	Matrix	Number of Containers	VOCs HNO_3, HCl, H_2SO_4, ICE, NONE, OTHER	TCLP VOCs HNO_3, HCl, H_2SO_4, ICE, NONE, OTHER	HNO_3, HCl, H_2SO_4, ICE, NONE, OTHER	HNO_3, HCl, H_2SO_4, ICE, NONE, OTHER	HNO_3, HCl, H_2SO_4, ICE, NONE, OTHER	HNO_3, HCl, H_2SO_4, ICE, NONE, OTHER	HNO_3, HCl, H_2SO_4, ICE, NONE, OTHER	HNO_3, HCl, H_2SO_4, ICE, NONE, OTHER	Lab Only
TT-BOX 01-GRAB 01-052914	5/29/14	0920		X	soil	1	X								
TT-BOX 01-COMP-052914		0945	X			2		X							
TT-BOX 02-GRAB 02-052914		1105		X		1	X								
TT-BOX 02-~~GRAB~~ COMP-052914		1125	X			2		X							
* LAST ITEM															XX

CHAIN OF CUSTODY (if required)

Relinquished by: _____ Date/Time 5/29/14 1355 Received by: _____ Date/Time _____

Relinquished by: _____ Date/Time _____ Received at lab by: P. Whitaker Date/Time 5/29 1355

Method of Shipment: WI Cooler Temp. 4° Ice Custody Seals ☒ Yes ☐ No

Sampled by: Greg Roussos Date 5/29/14

Client Comments

DISTRIBUTION:
WHITE - Laboratory
YELLOW - Client

Failure to complete all portions of this form may delay analysis.

Houston Business Forms - Form #14374 7/13

Belmont Labs **Date:** 6/4/2014

Sample Receipt Summary

14E1572

Client:	Weston Solutions, Inc. - Dayton	Project Manager:	Jason Lykins
Project:	Tech Town Delineation and Tier 1	Project Number:	Tech Town

Report To:
Laura Funk
711 East Monument, Suite 201
Dayton OHI(45402
Phone: (937) 531-4400
Fax: (937) 384-4201

WO Due Date:	6/4/2014 5:00:00PM
TAT (Days):	4
Received By:	Peggy Whitaker
Received:	5/29/2014 1:55:00PM
Logged In By:	Peggy Whitaker
Logged In:	5/29/2014 3:48:00PM

Receipt Temp (C):	**4.0**
Custody Seals	True
Container Intact	True
COC/Labels agree	True
Received on ice	True
VOC vials had zero head space	False
Approved Container	True
Sufficient volume received	True
Received within HT	True
Shipped By:	**Walk-in**

Samples Received:

Laboratory ID:	Field ID:	Date/Time Sampled:	Matrix:
14E1572-02	TT-Box 02-Comp-052914	5/29/2014 11:25:00AM	Soil
14E1572-01	TT-Box 01-Comp-052914	5/29/2014 9:45:00AM	Soil

Sample Notes:

ATTACHMENT B
WASTE MANIFESTS

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: OHD 017 955 604
2. Page 1 of: 1
3. Emergency Response Phone: 614-285-6090
4. Manifest Tracking Number: 006809692 JJK

GENERATOR

5. Generator's Name and Mailing Address
CITY OF DAYTON
101 WEST THIRD ST #430
DAYTON, OH 45402
DAN DINNEN 937-505-3022
Generator's Phone:

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name: TONAWANDA TANK TRANSPORT SERVICE, INC.
U.S. EPA ID Number: NYD 097 844 801

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address
WAYNE DISPOSAL, INC. SITE #2 LANDFILL
49350 N I-94 SERVICE DRIVE
BELLEVILLE, MI 48111
(800) 592-5489
Facility's Phone:
U.S. EPA ID Number: MID 043 090 633

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
	1. NON-REGULATED MATERIAL	001	CM	20	Y			
	2.							
	3.							
	4.							

14. Special Handling Instructions and Additional Information
1. P1451346DI / PCE Contaminated Soil (NH)

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: CHRIS HOLMES
Signature
Month: 6 Day: 12 Year: 14

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name
Signature
Month: 6 Day: 13 Year: 14

Transporter 2 Printed/Typed Name
Signature
Month Day Year

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1. 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name
Signature
Month Day Year

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

GENERATOR'S INITIAL COPY

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
OHD 017 956 604	1	614-286-6690	006809693 JJK

GENERATOR

5. Generator's Name and Mailing Address
CITY OF DAYTON
101 WEST THIRD ST #430
DAYTON, OH 45402
Generator's Phone: DAN DIENNEN 937-605-3022

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name
TONAWANDA TANK TRANSPORT SERVICE, INC.
U.S. EPA ID Number: NYD 097 644 501

7. Transporter 2 Company Name
U.S. EPA ID Number:

8. Designated Facility Name and Site Address
WAYNE DISPOSAL, INC. SITE #2 LANDFILL
49350 N I-94 SERVICE DRIVE
BELLEVILLE, MI 48111
Facility's Phone: (800) 592-5489
U.S. EPA ID Number: MID 048 090 633

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
	1. NON-REGULATED MATERIAL	001	CM	20	Y	
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1. F145134WDI / PCE Contaminated Soil (NR)

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: CHRIS HOLMES
Signature:
Month: 6 Day: 12 Year: 14

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Barry Woodruff
Signature:
Month: 6 Day: 13 Year: 14

Transporter 2 Printed/Typed Name:
Signature:
Month: Day: Year:

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number:
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month: Day: Year:

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name:
Signature:
Month: Day: Year:

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: OHD 017 958 604
2. Page 1 of: 1
3. Emergency Response Phone:
4. Manifest Tracking Number: **013194951 JJK**

GENERATOR

5. Generator's Name and Mailing Address: CITY OF DAYTON
101 WEST THIRD ST #430
DAYTON, OH 45402
Generator's Phone: Ron Dixon 937-465-3082

Generator's Site Address (if different than mailing address):
300 TAYLOR ST
DAYTON, OH 45402

6. Transporter 1 Company Name: Tonawanda Tank Transport, Inc
U.S. EPA ID Number: NYD 097 644 801

7. Transporter 2 Company Name:
U.S. EPA ID Number:

8. Designated Facility Name and Site Address: WAYNE DISPOSAL, INC. SITE #2 LANDFILL
49350 N I-94 SERVICE DRIVE
BELLEVILLE, MI 48111
Facility's Phone: (800) 592-5489
U.S. EPA ID Number: MID 048 090 633

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, UN3432, Polychlorinated biphenyls, solid, mixture, 9, PGII, PCBs, ERG #171	001	CM	4,000	K	PCB1
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1. E145103WDI / PCB Contaminated Soil Unique Container ID: C-100

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Greg Roussos ON BEHALF OF CITY OF DAYTON
Signature: ON BEHALF OF CITY OF DAYTON
Month: 5 Day: 29 Year: 14

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Doug Pettit
Signature:
Month: 5 Day: 29 Year: 14

Transporter 2 Printed/Typed Name:
Signature:
Month: Day: Year:

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month: Day: Year:

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
PCB			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name:
Signature:
Month: Day: Year:

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

GENERATOR'S INITIAL COPY

Please print or type. (Form designed for use on elite (12-pitch) typewriter.) Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
OHD 017 958 604	1	614-333-4620	013194950 JJK

GENERATOR

5. Generator's Name and Mailing Address
CITY OF DAYTON
101 WEST THIRD ST #430
DAYTON, OH 45402
Generator's Phone: Bob Dicaro 937-665-3022

Generator's Site Address (if different than mailing address)
300 TAYLOR ST
DAYTON, OH 45402

6. Transporter 1 Company Name: Tonawanda Tank Transport, Inc.
U.S. EPA ID Number: NYD 097 644 801

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address
WAYNE DISPOSAL, INC SITE #2 LANDFILL
49350 N I-94 SERVICE DRIVE
BELLEVILLE, MI 48111
Facility's Phone: (800) 592-5489
U.S. EPA ID Number: MID 048 090 633

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, UN3432, Polychlorinated biphenyls, solid, mixture, 9, PGII, PCBs, ERG #171	001	CM	18,000	K	PCB1
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1. E145103WDI / PCB Contaminated Soil Unique Container ID: C-101

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Greg Lewis on behalf of Edgett Brothers
Signature
Month: 5 Day: 23 Year: 14

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: NELSON E. KENNEDY
Signature
Month: 5 Day: 23 Year: 14

Transporter 2 Printed/Typed Name
Signature
Month Day Year

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
PCB			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name
Signature
Month Day Year

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

GENERATOR'S INITIAL COPY

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
OHD 017 958 604	1	614-259-6610	013194952 JJK

GENERATOR

5. Generator's Name and Mailing Address
CITY OF DAYTON
101 WEST THIRD ST #430
DAYTON, OH 45402
Generator's Phone:

Generator's Site Address (if different than mailing address)
300 TAYLOR ST
DAYTON, OH 45402

6. Transporter 1 Company Name
Tonawanda Tank Transport, Inc.

U.S. EPA ID Number
NYD 097 644 801

7. Transporter 2 Company Name

U.S. EPA ID Number

8. Designated Facility Name and Site Address
WAYNE DISPOSAL, INC SITE #2 LANDFILL
49350 N I-94 SERVICE DRIVE
BELLEVILLE, MI 48111
Facility's Phone: (800) 592-5489

U.S. EPA ID Number
MID 048 090 633

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, UN3432, Polychlorinated biphenyls, solid, mixture, 9, PGII, PCBs, ERG #171	001	CM	12,000	K KG	PCB1
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1. E145103WDI / PCB Contaminated Soil Unique Container ID: C-103

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: Greg Kovacs On behalf of City of Dayton
Signature: On behalf of City of Dayton
Month: 5 Day: 22 Year: 14

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. ✓ Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: HEATH E. KENNEDY
Signature:
Month: 5 Day: 22 Year: 14

Transporter 2 Printed/Typed Name:
Signature:
Month: Day: Year:

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator)
Month: Day: Year:

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
PCB			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

Printed/Typed Name:
Signature:
Month: Day: Year:

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

GENERATOR'S INITIAL COPY

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
OHD 017 958 604	1		013194953 JJK

GENERATOR

5. Generator's Name and Mailing Address: CITY OF DAYTON
101 WEST THIRD ST #430
DAYTON, OH 45402
Generator's Phone:

Generator's Site Address (if different than mailing address)
300 TAYLOR ST
DAYTON, OH 45402

6. Transporter 1 Company Name: Tonawanda Tank Transport, Inc.
U.S. EPA ID Number: NYD 097 644 801

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address: WAYNE DISPOSAL, INC SITE #2 LANDFILL
49350 N I-94 SERVICE DRIVE
BELLEVILLE, MI 48111
Facility's Phone: (800) 592-5489
U.S. EPA ID Number: MID 048 090 633

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
X	1. RQ, UN3432, Polychlorinated biphenyls, solid, mixture, 9, PGII, PCBs, ERG #171	001	C M		K G 3400	PCB1
	2.					
	3.					
	4.					

14. Special Handling Instructions and Additional Information
1. E145103WDI / PCB Contaminated Soil Unique Container ID: C-102

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name | Signature | Month | Day | Year

INTL

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name	Signature	Month	Day	Year
BRUCE CLIPPER		05	22	14
Transporter 2 Printed/Typed Name	Signature	Month	Day	Year

DESIGNATED FACILITY

18. Discrepancy

18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator) | U.S. EPA ID Number
Facility's Phone:

18c. Signature of Alternate Facility (or Generator) | Month | Day | Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
PCB			

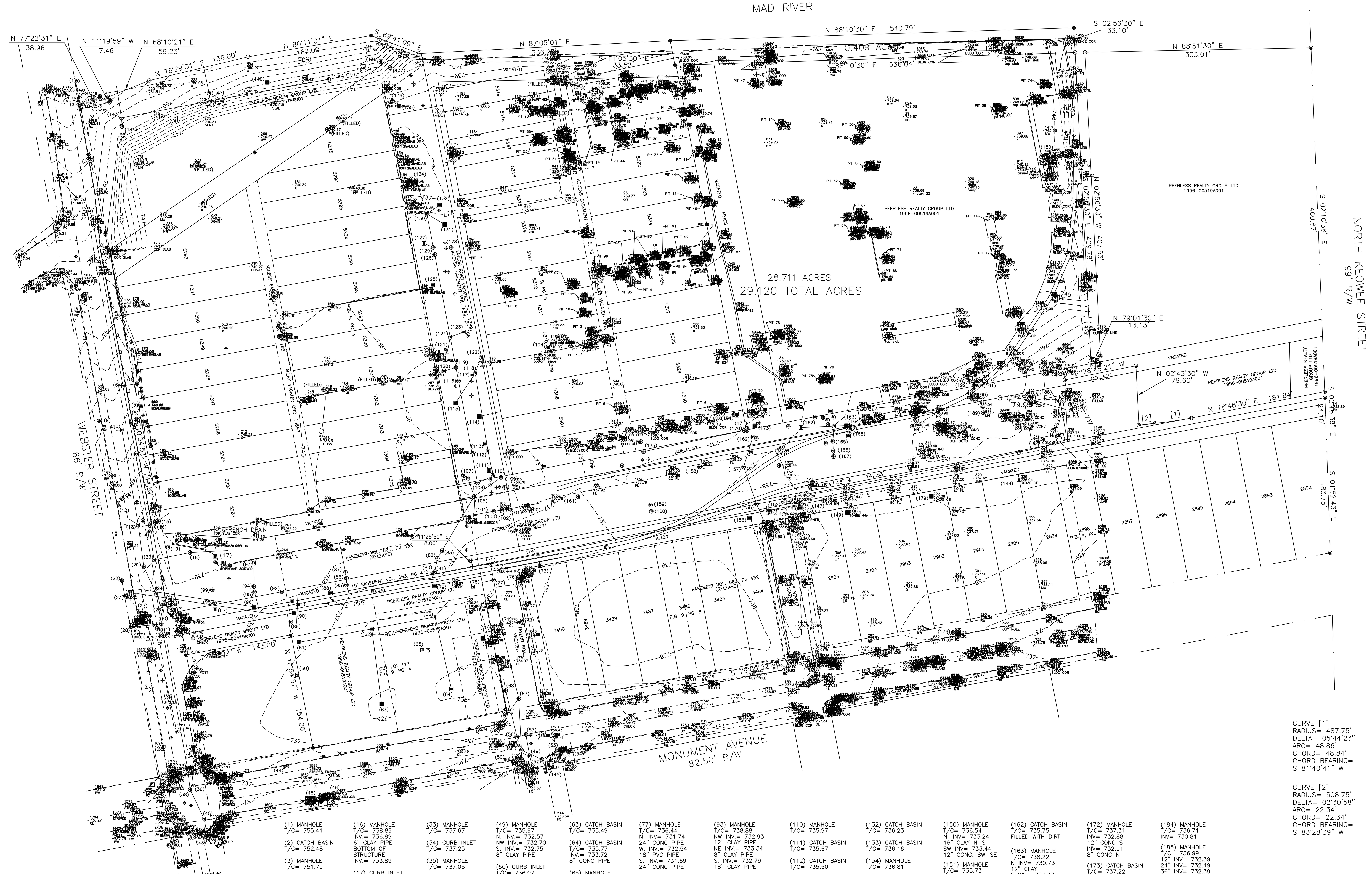
20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a

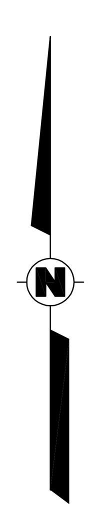
Printed/Typed Name	Signature	Month	Day	Year

APPENDIX V

GRADE CHANGE DOCUMENTATION

NO	DATE	REVISION RECORD DESCRIPTION	BY
△			





SCALE: 1"=60'

60 0 60 120

Pit Detail

No.	Top	Bottom	Note
1	739.8	733.0	
2	739.8	738.9	
3	739.7		No Access
4	739.8	730.1	
5	740.0	731.9	
6	740.1	730.7	
7	739.8		No Access
8	739.6	736.4	
9	739.7	736.1	
10	739.7	738.8	Partially Filled
11	739.7	739.1	Partially Filled
12	739.8	731.4	
13	739.7	739.0	Partially Filled
14	739.7	737.5	Partially Filled
15	739.7	737.1	
16	739.7	738.1	
17	739.7	738.1	
18	739.6	738.5	
19	739.7	736.7	Partially Filled
20	739.7	736.3	
21	739.7	736.3	
22	739.8	736.5	
23	739.8	738.3	Mostly Filled
24	739.7	737.6	Mostly Filled
25	739.7	739.1	Partially Filled

Pit Detail

No.	Top	Bottom	Note
26	739.8		No Access
27	739.7	736.8	
28	739.7	737.9	
29	739.6	738.0	Partially Filled
30	739.5	737.2	
31	739.7	737.7	
32	739.7		No Access
33	739.7	737.5	Partially Filled
34	739.7	735.8	
35	739.7	738.1	Mostly Filled
36	739.7	737.5	Mostly Filled
37	739.8	736.7	
38	739.7	736.9	
39	739.7		No Access
40	739.7	736.4	
41	739.7		Mostly Filled
42	739.8		No Access
43	739.6	734.6	
44	739.8	729.4	
45	739.8		No Access
46	739.8		No Access
47	739.8	739.0	Partially Filled
48	739.8	738.1	
49	739.7		No Access
50	739.7		Mostly Filled

Pit Detail

No.	Top	Bottom	Note
51	738.2	732.5	
52	738.2	732.2	
53	738.3	736.1	
54	738.0	735.8	
55	738.3	732.8	
56	738.2	736.3	
57	737.3		No Access
58	739.9	736.9	
59	739.6	737.2	
60	739.6	738.8	Partially Filled
61	739.6	738.7	Partially Filled
62	739.7	736.7	
63	739.6	738.4	
64	739.8	738.9	
65	739.7	739.4	
66	739.8	739.1	
67	739.8	739.4	
68	739.7	739.2	
69	739.7	735.3	
70	739.7		No Access
71	740.0	736.4	
72	740.0	739.6	Mostly Filled
73	740.0	736.4	
74	744.9	742.9	Partially Filled
75	739.6	733.3	

PIT DETAIL

No.	Top	Bottom	Note
76	739.5	733.8	
77	739.9	739.0	
78	739.9	737.1	
79	739.6	734.1	
80	739.6	736.0	
81	739.7	735.4	
82	739.8	735.8	
83	739.7	738.7	
84	739.7	738.3	
85	739.8	737.2	
86	739.7	737.6	
87	739.7	738.6	
88	739.8	736.1	
89	739.8	736.8	
90	739.8	736.4	
91	739.7	736.8	
92	739.7	737.2	
93	739.8	735.9	
94	739.7	735.3	Partially Filled
95	739.7	732.5	
96	739.6	733.0	
97	739.7	736.1	
98	738.5	737.7	
99	738.5	738.0	Partially Filled
100	738.5	730.9	

◎ Found P.K. Nail

◉ Set P.K. Nail

○ Found 5/8" Iron Pipe with an ID Cap stamped WOOLPERT

● Set 3/4" Iron Pipe, 30" in Length with an ID Cap stamped CEC PROP CORNER

⊗ Found Chiseled X

BENCH MARK #1
BEING A CONCRETE MONUMENT ON THE SOUTH SIDE OF MONUMENT AVENUE AND EAST OF THE INTERSECTION OF WEBSTER STREET AND MONUMENT AVENUE 832 FEET ±.
ELEV.= 737.20'
N.= 647531.53, E.= 1496370.85

BENCH MARK #2
BEING A CONCRETE MONUMENT 204 FEET ± NORTH OF THE NORTH SIDE OF MONUMENT AVENUE AND EAST OF THE INTERSECTION OF WEBSTER STREET AND MONUMENT AVENUE 462 FEET ±. ELEV.= 736.90'
N.= 647740.87, E.= 1495953.87

BENCH MARK #3
BEING A CONCRETE MONUMENT ON THE EAST SIDE OF WEBSTER STREET AND NORTH OF THE INTERSECTION OF MONUMENT AVENUE AND WEBSTER STREET 203 FEET ±.
ELEV.= 737.35'
N.= 647652.86, E.= 1495498.52

CURVE [1]
RADIUS= 487.75'
DELTA= 05°44'23"
ARC= 48.86'
CHORD= 48.84'
CHORD BEARING= S 81°40'41" W

CURVE [2]
RADIUS= 508.75'
DELTA= 02°30'58"
ARC= 22.34'
CHORD= 22.34'
CHORD BEARING= S 83°28'39" W

CURVE [3]
RADIUS= 509.75'
DELTA= 02°04'26"
ARC= 18.45'
CHORD= 18.45'
CHORD BEARING= S 74°06'21" W

CURVE [4]
RADIUS= 487.75'
DELTA= 05°44'23"
ARC= 48.86'
CHORD= 48.84'
CHORD BEARING= S 75°56'20" W

(1) MANHOLE
T/C= 755.41

(2) CATCH BASIN
T/C= 752.48

(3) MANHOLE
T/C= 751.79

(4) MANHOLE
T/C= 749.47'
S. INV.= 732.51

(5) MANHOLE
T/C= 744.25

(6) MANHOLE
T/C= 743.36
INV. 732.16
E. INV.= 732.21

(7) CATCH BASIN
T/C= 743.07

(8) CURB INLET
T/C= 742.08

(9) CURB INLET
T/C= 741.85

(10) MANHOLE
T/C= 742.11
S. INV.= 735.91
18" CLAY PIPE

(11) MANHOLE
T/C= 740.80
INV.= 732.05
NE INV.= 733.60

(12) CURB INLET
T/C= 739.35

(13) MANHOLE
T/C= 738.77
INV.=731.37
18" CLAY PIPE
NW INV.= 731.60
18" CLAY PIPE

(14) MANHOLE
T/C= 738.38
INV.= 731.93
18" CLAY PIPE

(15) MANHOLE
T/C= 738.95
INV.= 736.78
6" CLAY PIPE
BOTTOM OF STRUCTURE
INV.= 733.80

(16) MANHOLE
T/C= 738.89
INV.= 736.89
6" CLAY PIPE
BOTTOM OF STRUCTURE
INV.= 733.89

(17) CURB INLET
T/C= 738.56

(18) MANHOLE
T/C= 738.16

(19) MANHOLE
T/C= 738.47

(20) MANHOLE
T/C= 738.22
INV.= 731.47
18" CLAY PIPE
E. INV.= 731.52
18" CLAY PIPE

(21) MANHOLE
T/C= 738.25
INV.= 730.81

(22) MANHOLE
T/C= 738.59

(23) MANHOLE
T/C= 738.17

(24) MANHOLE
T/C= 737.99
INV.= 727.64

(25) CURB INLET
T/C= 737.33

(26) MANHOLE
T/C= 737.79

(27) CURB INLET
T/C= 737.52

(28) MANHOLE
T/C= 737.54

(29) MANHOLE
T/C= 737.92

(30) MANHOLE
T/C= 737.89

(31) MANHOLE
T/C= 737.80

(32) CURB INLET
T/C= 736.98

(33) MANHOLE
T/C= 737.67

(34) CURB INLET
T/C= 737.25

(35) MANHOLE
T/C= 737.05

(36) MANHOLE
T/C= 737.52
N. INV.= 731.47
E. INV.= 731.77
12" CLAY PIPE

(37) MANHOLE
T/C= 737.10
INV.= 730.75
12" CLAY PIPE

(38) MANHOLE
T/C= 737.59

(39) MANHOLE
T/C= 737.15

(40) MANHOLE
T/C= 737.81
INV.= 730.16

(41) CURB INLET
T/C= 738.25

(42) CURB INLET
T/C= 738.62

(43) MANHOLE
T/C= 738.34
INV.= 730.19

(44) CURB INLET
T/C= 736.19

(45) CURB INLET
T/C= 736.10

(46) CURB INLET
T/C= 735.82

(47) CURB INLET
T/C= 735.34

(48) MANHOLE
T/C= 735.73
N. INV.= 733.38
S. INV.= 733.53
W. INV.= 733.48
12" PVC PIPE

(49) MANHOLE
T/C= 735.97
N. INV.= 732.57
NW INV.= 732.70
S. INV.= 732.75
8" CLAY PIPE

(50) CURB INLET
T/C= 736.07
INV.= 733.67
12" PVC PIPE

(51) MANHOLE
T/C= 736.12
INV.= 732.72

(52) MANHOLE
T/C= 735.89
INV.= 733.79

(53) CURB INLET
T/C= 736.22
INV.= 733.60
12" PIPE

(54) MANHOLE
T/C= 736.38

(55) MANHOLE
T/C= 736.27

(56) MANHOLE
T/C= 736.31

(57) MANHOLE
T/C= 736.39
INV.= 732.79
8" CLAY PIPE

(58) CURB INLET
T/C= 736.23
INV.= 732.33
12" CONC PIPE

(59) CURB INLET
T/C= 736.06
INV.= 733.46
12" CONC PIPE

(60) MANHOLE
T/C= 736.65

(61) CATCH BASIN
T/C= 736.18

(62) CATCH BASIN
T/C= 735.80
W INV.= 733.10
S. INV.= 733.52
E. INV.= 733.05
8" CONC PIPE

(63) CATCH BASIN
T/C= 735.49

(64) CATCH BASIN
T/C= 735.77
INV.= 733.72
8" CONC PIPE

(65) MANHOLE
T/C= 736.25

(66) CATCH BASIN
T/C= 735.82

(67) MANHOLE
T/C=

(68) MANHOLE
T/C= 735.44
INV.= 733.44
10" STEEL PIPE

(69) CATCH BASIN
T/C= 736.17

(70) CURB INLET
T/C= 734.90
INV.= 732.70
12" CONC PIPE

(71) MANHOLE
T/C= 735.59
INV.= 731.49
24" CONC PIPE
W. INV.= 732.32
12" CONC PIPE
E. INV.= 731.59
12" CONC PIPE

(72) CURB INLET
T/C= 735.78
INV.= 733.09
12" CONC PIPE

(73) CATCH BASIN
T/C= 736.58
INV.= 734.16
12" CONC. PIPE

(74) CATCH BASIN
T/C= 736.61
INV.= 728.21

(75) MANHOLE
T/C= 736.64
INV.= 728.44
S INV.= 731.34
2' CONC PIPE

(76) MANHOLE
T/C= 736.05

(77) MANHOLE
T/C= 736.44
N. INV= 731.74
24" CONC PIPE
W. INV.= 732.54
18" PVC PIPE
S. INV.= 731.69
24" CONC PIPE

(78) MANHOLE
T/C= 736.31

(79) CATCH BASIN
T/C= 736.59

(80) CATCH BASIN
T/C= 736.87
INV.= 728.19
S. INV.= 734.29

(81) MANHOLE
T/C= 736.87
INV.= 728.32

(82) MANHOLE
T/C= 737.46
INV.= 729.96

(83) MANHOLE
T/C= 737.54
INV.= 729.94

(84) MANHOLE
T/C= 737.08

(85) MANHOLE
T/C= 737.79

(86) MANHOLE
T/C= 737.79

(87) MANHOLE
T/C= 737.89

(88) CATCH BASIN
T/C= 737.15

(89) MANHOLE
T/C= 737.22

(90) CATCH BASIN
T/C= 737.21

(91) CATCH BASIN
T/C= 737.19

(92) CATCH BASIN
T/C= 738.13

(93) MANHOLE
T/C= 738.88
NW INV.= 732.93
12" CLAY PIPE
NE INV.= 733.34
8" CLAY PIPE
S. INV.= 732.79
18" CLAY PIPE

(94) MANHOLE
T/C= 738.82
INV.= 731.82
18" CLAY PIPE

(95) MANHOLE
T/C= 737.37
INV.= 730.17

(96) CATCH BASIN
T/C= 737.37

(97) CATCH BASIN
T/C= 739.27

(98) MANHOLE
T/C= 739.58

(99) MANHOLE
T/C= 739.73

(100) MANHOLE
T/C= 737.77

(101) MANHOLE
T/C= 737.50

(102) MANHOLE
T/C= 737.51

(103) MANHOLE
T/C= 737.28

(104) CATCH BASIN
T/C= 736.93

(105) MANHOLE
T/C= 736.70
INV.= 729.90
24" PIPE
S INV.= 730.00
36" PLASTIC PIPE
N. INV.= 730.20
18" STEEL PIPE

(106) MANHOLE
T/C= 736.88

(107) MANHOLE
T/C= 735.70

(108) MANHOLE
T/C= 736.57

(109) MANHOLE
T/C= 736.35

(110) MANHOLE
T/C= 735.97

(111) CATCH BASIN
T/C= 735.67

(112) CATCH BASIN
T/C= 735.50

(113) CATCH BASIN
T/C= 735.28

(114) CATCH BASIN
T/C= 735.34

(115) CATCH BASIN
T/C= 735.56

(116) MANHOLE
T/C= 736.39

(117) CATCH BASIN
T/C= 735.71

(118) MANHOLE
T/C= 735.96

(119) MANHOLE
T/C= 736.22

(120) CATCH BASIN
T/C= 736.55

(121) CURB INLET

(122) MANHOLE
T/C= 736.49

(123) CATCH BASIN
T/C= 735.99

(124) MANHOLE
T/C= 736.61

(125) CATCH BASIN
T/C= 736.03

(126) MANHOLE
T/C= 736.90

(127) CATCH BASIN
T/C= 736.12

(128) MANHOLE
T/C= 736.70

(129) MANHOLE
T/C= 736.80

(130) MANHOLE
T/C= 736.92

(131) CATCH BASIN
T/C= 736.19

(132) CATCH BASIN
T/C= 736.23

(133) CATCH BASIN
T/C= 736.16

(134) MANHOLE
T/C= 736.81

(135) CATCH BASIN
T/C= 736.80

(136) MANHOLE
T/C= 737.50

(137) MANHOLE
T/C= 738.76

(138) CATCH BASIN
T/C= 739.18

(139) MANHOLE
T/C=

(140) CATCH BASIN
T/C= 741.70

(141) MANHOLE
T/C= 747.52

(142) MANHOLE
T/C= 747.60

(143) MANHOLE
T/C= 751.80

(144) MANHOLE
T/C= 751.85

(145) CURB INLET
T/C= 736.20

(146) CATCH BASIN
T/C= 736.37
INV= 733.17
14" PLASTIC

(147) MANHOLE
T/C= 736.90
INV= 728.72

(148) MANHOLE
T/C= 736.90
INV= 728.72

(148) CATCH BASIN
T/C= 736.94
INV=734.06
14" CONC.

(149) CATCH BASIN
T/C= 737.11
INV= 734.54
14" CONC.

(150) MANHOLE
T/C= 736.54
N. INV= 733.24
16" CLAY N-S
SW INV= 733.44
12" CONC. SW-SE

(151) MANHOLE
T/C= 735.73
INV=731.93
16" PIPE

(152) MANHOLE
T/C= 736.76
INV= 728.65
CONC. PIPE E-W
S INV= 733.11
18" CONC

(153) CURB INLET
T/C= 736.12
INV= 733.41
12" CONC.

(154) CURB INLET
T/C= 736.15
INV= 733.35
12" CONC

(155) MANHOLE
T/C= 737.12
INV= 732.70
16" CONC

(156) CATCH BASIN
T/C= 736.50
INV=733.30
12" CONC

(157) MANHOLE
T/C= 735.07
INV= 729.66
12" CONC.

(158) MANHOLE
T/C= 738.34
INV=733.40
16" PLASTIC

(159) MANHOLE
T/C= 738.14
INV= 726.11
PIT

(160) MANHOLE
T/C= 738.05
INV= 736.02
PIT

(161) MANHOLE
T/C= 737.96
INV= 732.96
12" PLASTIC

(162) CATCH BASIN
T/C= 735.75
FILLED WITH DIRT

(163) MANHOLE
T/C= 738.22
N INV= 730.73
12" CLAY
E INV= 734.47
8" METAL
W INV= 735.57
8" METAL

(164) CATCH BASIN
T/C= 738.38
INV= 734.93
12" METAL

(165) MANHOLE
T/C= 738.01
N-S INV= 730.56
12" CLAY N
30" CONC. S
NE INV= 735.41
12" CONC
E INV= 730.59
24" CONC

(166) MANHOLE
T/C= 738.35
INV= 729.03
30" CONC N-S

(167) MANHOLE
T/C= 738.37
INV= 726.87
30" CONC N-S

(168) CATCH BASIN
T/C= 738.38
INV= FILLED

(169) MANHOLE
T/C= 737.26
INV= 733.86
14" CLAY N-S

(170) MANHOLE
T/C= 737.09
INV= 731.84
12" CONC. N
INV= 731.66
18" CONC W
INV= 731.89
12" CONC

(171) MANHOLE
T/C= 737.08
INV= 73731.99
18" CONC W
INV= 730.93
36" CONC W

(172) MANHOLE
T/C= 737.31
INV= 732.88
12" CONC S
INV= 732.91
8" CONC N

(173) CATCH BASIN
T/C= 737.22
INV= FILLED

(174) CATCH BASIN
T/C= 736.48
INV= FILLED

(175) MANHOLE
T/C= 736.67
INV= 729.42
18" CONC N
INV= 729.77
30" CONC E
INV= 729.82
30" CONC W

(176) MANHOLE
T/C= 738.23
E INV= 734.58
N INV= 734.49
SW INV= 734.50
12" CLAY

(177) MANHOLE
T/C= 737.84
N INV= 734.29
E INV= 734.34
12" CLAY

(178) MANHOLE
T/C= 737.72
INV= 735.15
8" CONC W
INV= 735.32
4" PVC S

(179) CATCH BASIN
T/C= 737.06
INV= 734.16
14" CONC

(180) CATCH BASIN
T/C= 745.28
INV= 743.38

(181) MANHOLE
T/C= 745.57
INV= 739.87

(182) MANHOLE
T/C= 740.06
INV= 732.26

(183) MANHOLE
T/C= 738.98
INV= FILLED

(184) MANHOLE
T/C= 736.71
INV= 730.81

(185) MANHOLE
T/C= 736.99
12" INV= 732.39
24" INV= 732.49
36" INV= 732.39

(186) MANHOLE
T/C= 737.59
INV= 731.09

(187) MANHOLE
T/C= 737.54
INV= 730.39

(188) MANHOLE
T/C= 738.11
INV= 730.01

(189) MANHOLE
T/C= 739.41
18" INV= 731.91
24" INV= 732.06

(190) MANHOLE
T/C= 739.50
LOCKED

(191) MANHOLE
T/C= 739.77
FILLED

(192) MANHOLE
T/C= 739.74
FILLED

(193) MANHOLE
T/C= 740.02
24" INV= 734.17
8" INV= 737.18
6" INV= 737.92

(194) MANHOLE
T/C= 740.03
W INV= 734.18
E INV= 733.89

(UN1) The Utility information shown hereon either on or above ground was physically located in the field and is accurate. All underground information shown was taking from plans provided by their respective utility companies or markings by the Ohio Utility Protection Services and we can not guarantee their accuracy or completeness.

(UN2) The location of the 72" pipe shown on hereon was taking from utility plans only that was provide by the City of Dayton.

SYMBOL LEGEND

	CATCH BASIN		CURB INLET
	UTILITY POLE		MANHOLE
	FIRE HYDRANT		WATER VALVE
	MONITORING WELL		WATER MANHOLE
	TROLLY POLE		TELE MANHOLE
	GAS VALVE		ELEC MANHOLE
	ELEC. TRANSFORMER		GUYWIRE
	TRAFFIC POLE		TRAFFIC BOX
	TELE. PEDISTAL		GAS MANHOLE
	SIGN		UTILITY PULL BOX
	SPRINKLER VALVE		ANCHOR POLE
G	OUPS GAS MARKING	W	OUPS WATER MARKING
E	OUPS ELEC. MARKING	T	OUPS TELE. MARKING
	BOLLARD		FENCE

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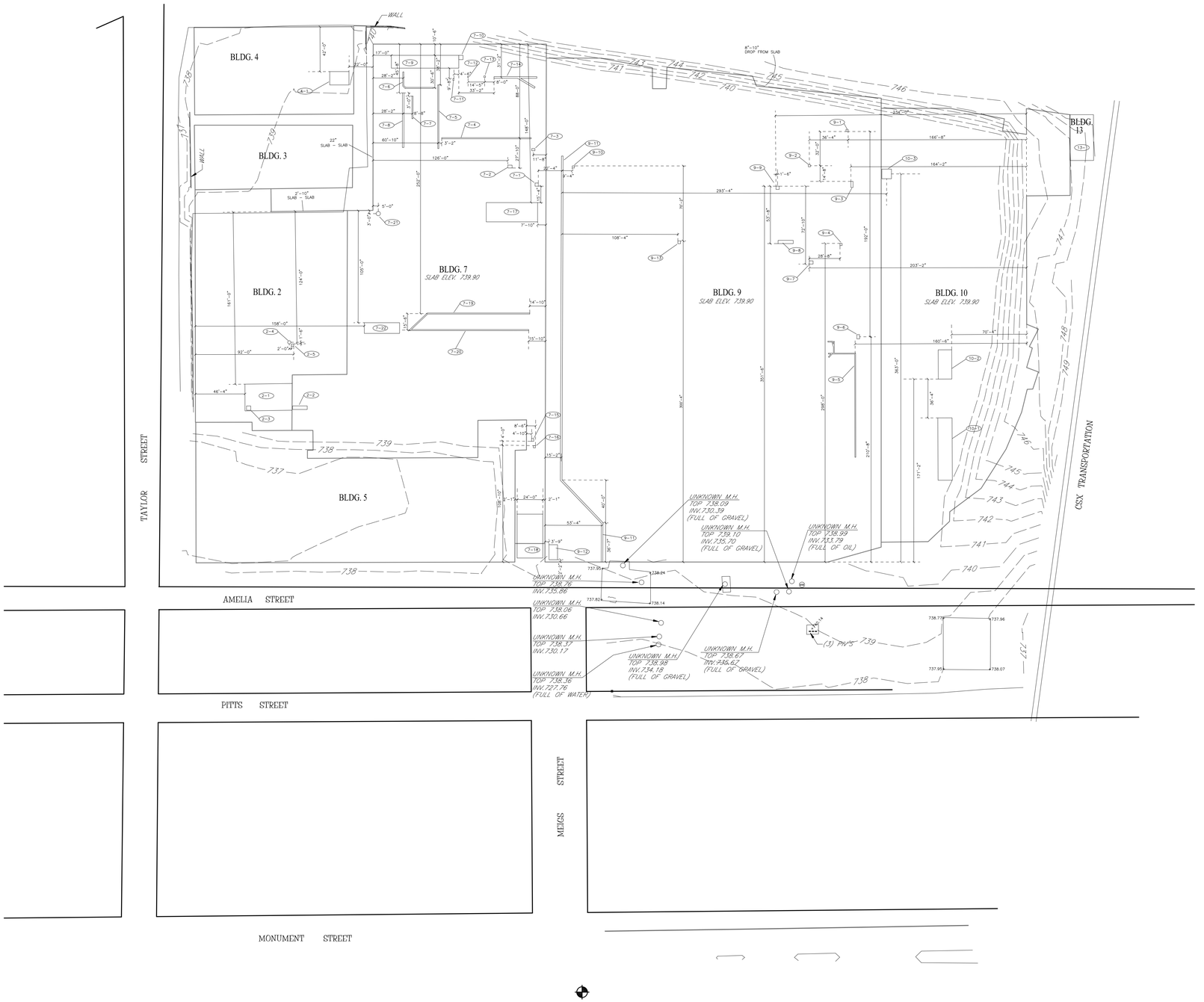
Chicago, IL Export, PA St. Louis, MO

TECH TOWN REDEVELOPMENT
CITY OF DAYTON
MONTGOMERY COUNTY, OHIO

EDIT DATE: 3/3/06	DWN BY:	MJW	APPROVED BY:	
SCALE: 1"= 60'	CHKD. BY:	JD	PROJ NO:	060-277
TOPOGRAPHIC MAP			SHEET 1 OF 1	
			DRAWING NUMBER 1	

NORTH



TECH TOWN PHASE II PROJECT
PIT/TRENCH MEASUREMENTS

PIT AND TRENCH MEASUREMENTS					
BLDG #	PIT/TRENCH #	WIDTH	LENGTH	DEPTH	NOTES
2	2-1	25'-0"	41'-6"	8'-0"	2 BASEMENT
2	2-2	3'-4"	13'-8"	8'-0"	SLOPED(STAIRS)
2	2-3	4'-0"	4'-0"	3'-6"	
2	2-4	1'-6"	-	6'-6"	ROUND MANHOLE
2	2-5	2'-2"	2'-2"	6'-6"	
4	4-1	18'-0"	12'-6"	7'-0"	
7	7-1	3'-0"	3'-0"	2'-6"	
7	7-2	2'-8"	4'-0"	1'-8"	
7	7-3	2'-0"	3'-0"	3'-0"	
7	7-4	1'-0"	83'-8"	2'-0"=4'-6"	DEPTH FROM E>W
7	7-5	1'-0"	59'-6"	2'-0"	
7	7-6	1'-0"	42'-0"	2'-6"	
7	7-7	1'-0"	21'-0"	2-0"	
7	7-8	1'-6"	51'-0"	3'-0"	
7	7-9	12'-0"	63'-0"	8'-6"/12'-6"	DEPTH = E 1/3 OF PIT 12'-6"
7	7-10	4'-0"	4'-0"	4'-6"	
7	7-11	2'-0"	1'-0"	2'-6"	
7	7-12	1'-0"	10"	2'-0"	
7	7-13	1'-6"	1'-6"	1'-6"	
7	7-14	1'-6"	62'-0"	8"-1'-6"	DEPTH FROM E>W
7	7-15	2'-8"	2'-0"	5'-0"	
7	7-16	2'-0"	2'-0"	5'-0"	
7	7-17	18'-0	48'-0"	10'-4"	
7	7-18	24'-0"	41'-0"	13'-6"	
7	7-19	1'-0"	118'-6"	3'-6"	
7	7-20	1'-0"	111'-0"	3'-0"	
7	7-21	2'-0"	-	5'-0"	ROUND MANHOLE
7	7-22	10'-0"	33'-0"	8'-6"	
9	9-1	2'-0"	2'-0"	3'-0"	
9	9-2	2'-0"	2'-0"	4'-0"	
9	9-3	5'-8"	2'-0"	2'-0"	
9	9-4	2'-0"	2'-0"	3'-4"	
9	9-5	10"	140'-0"	1'-6"	
9	9-6	4'-0"	2'-6"	2'-0"	
9	9-7	3'-0"	3'-6"	6'-6"	
9	9-8	3'-0"	14'-2"	2'-0"	
9	9-9	3'-0"	3'-0"	3'-0"	
9	9-10	2'-0"	2'-0"	3'-6"	
9	9-11	1'-6"	395'-0"	4'-0"	
9	9-12	14'-0"	8'-0"	3'-6"	
9	9-13	2'-6"	2'-6"	2'-3"	
10	10-1	13'-4"	58'-4"	6'-0"	CONTAM. DIRT DOWN 2'-0"
10	10-2	12'-8"	27'-4"	5'-10"	CONTAM. DIRT DOWN 3'-0"
10	10-3	9'-0"	9'-0"	8"	
13	13-1	22'-0"	42'-10"	11'-6"	CONTAM. SOIL @ 11'-6"

Page 1 of 1

NOTES:

1. TRENCH & PITS HAVE BEEN CRACKED ON BUILDING SLAB 5 AND BUILDING SLAB 13. BUILDING SLABS 2, 3, 4, 7, 9, & 10 ARE STILL INTACT.
2. BUILDING 5 NORTH & EAST WALLS REMAIN BUT SLABS HAVE BEEN CRACKED.
3. WATER AND GAS SERVICES HAVE BEEN TURNED OFF BUT STILL REMAIN OUTSIDE OF BUILDINGS. NO UTILITIES HAVE BEEN REMOVED.
4. NO SUBSURFACE OBSTRUCTIONS OR UTILITIES WERE ENCOUNTERED DURING DEMOLITION EXCEPT AN EXISTING SANITARY SEWER NEAR THE SOUTHWEST CORNER OF BUILDING #5.

AREA OF TOPSOIL
103,450 S.F. = 2.37 ACRES

SITE BENCHMARK
CITY OF DAYTON BENCHMARK #228
CONCRETE MONUMENT ON THE SOUTH SIDE OF MONUMENT STREET NEAR THE INTERSECTION OF MEIGS STREET.

B.M. ELEV.=737.19

GRAPHIC SCALE
50 0 25 50
1 inch = 50 ft.

2 WORKING DAYS
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FAX:(937)384-0062

No.	Revision	Date

SCALE: Horz. 1"=50'
Date 5/10/2010
Design: ____ Drawn: gw Checked: hb

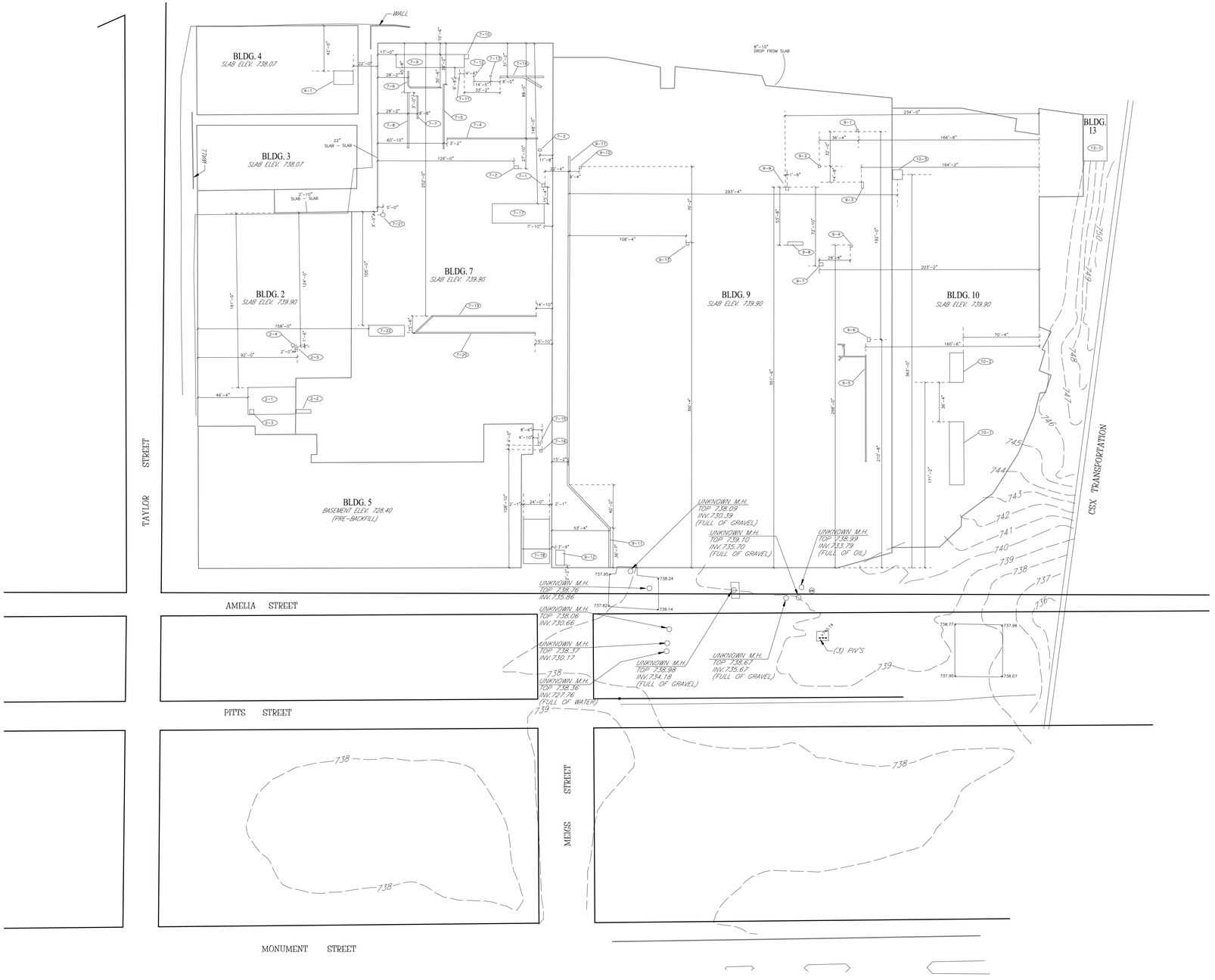
POST BACKFILL CONDITIONS

TECH TOWN DEVELOPMENT PROJECT
300 TAYLOR STREET
DAYTON, OHIO 45402

SHEET NO.
2 of 2

BASE DWG. 1737d PROJ. NO.: 1737 TAB FILE: demo

NORTH



TECH TOWN PHASE II PROJECT
PIT/TRENCH MEASUREMENTS

PIT AND TRENCH MEASUREMENTS					
BLDG #	PIT/TRENCH #	WIDTH	LENGTH	DEPTH	NOTES
2	2-1	25'-0"	41'-6"	8'-0"	2 BASEMENT
2	2-2	3'-4"	13'-8"	8'-0"	SLOPED(STAIRS)
2	2-3	4'-0"	4'-0"	3'-6"	
2	2-4	1'-6"	-	6'-6"	ROUND MANHOLE
2	2-5	2'-2"	2'-2"	6'-6"	
4	4-1	18'-0"	12'-6"	7'-0"	
7	7-1	3'-0"	3'-0"	2'-6"	
7	7-2	2'-8"	4'-0"	1'-8"	
7	7-3	2'-0"	3'-0"	3'-0"	
7	7-4	1'-0"	83'-8"	2'-0"=4'-6"	DEPTH FROM E>W
7	7-5	1'-0"	59'-6"	2'-0"	
7	7-6	1'-0"	42-0"	2'-6"	
7	7-7	1'-0"	21'-0"	2-0"	
7	7-8	1'-6"	51'-0"	3'-0"	
7	7-9	12'-0"	63'-0"	8'-6"/12'-6"	DEPTH = E 1/3 OF PIT 12'-6"
7	7-10	4'-0"	4'-0"	4'-6"	
7	7-11	2'-0"	1'-0"	2'-6"	
7	7-12	1'-0"	10"	2'-0"	
7	7-13	1'-6"	1'-6"	1'-6"	
7	7-14	1'-6"	62'-0"	8">1'-6"	DEPTH FROM E>W
7	7-15	2'-8"	2'-0"	5'-0"	
7	7-16	2'-0"	2'-0"	5'-0"	
7	7-17	18'-0	48'-0"	10'-4"	
7	7-18	24'-0"	41'-0"	13'-6"	
7	7-19	1'-0"	118'-6"	3'-6"	
7	7-20	1'-0"	111'-0"	3'-0"	
7	7-21	2'-0"	-	5'-0"	ROUND MANHOLE
7	7-22	10'-0"	33'-0"	8'-6"	
9	9-1	2'-0"	2'-0"	3'-0"	
9	9-2	2'-0"	2'-0"	4'-0"	
9	9-3	5'-8"	2'-0"	2'-0"	
9	9-4	2'-0"	2'-0"	3'-4"	
9	9-5	10"	140'-0"	1'-6"	
9	9-6	4'-0"	2'-6"	2'-0"	
9	9-7	3'-0"	3'-6"	6'-6"	
9	9-8	3'-0"	14'-2"	2'-0"	
9	9-9	3'-0"	3'-0"	3'-0"	
9	9-10	2'-0"	2'-0"	3'-6"	
9	9-11	1'-6"	395'-0"	4'-0"	
9	9-12	14'-0"	8'-0"	3'-6"	
9	9-13	2'-6"	2'-6"	2'-3"	
10	10-1	13'-4"	58'-4"	6'-0"	CONTAM. DIRT DOWN 2'-0"
10	10-2	12'-8"	27'-4"	5'-10"	CONTAM. DIRT DOWN 3'-0"
10	10-3	9'-0"	9'-0"	8"	
13	13-1	22'-0"	42'-10"	11'-6"	CONTAM. SOIL @ 11'-6"

Page 1 of 1

NOTES:

1. TRENCH & PITS HAVE BEEN CRACKED ON BUILDING SLAB 5 AND BUILDING SLAB 13. BUILDING SLABS 2, 3, 4, 7, 9, & 10 ARE STILL INTACT.
2. BUILDING 5 NORTH & EAST WALLS REMAIN BUT SLABS HAVE BEEN CRACKED.
3. WATER AND GAS SERVICES HAVE BEEN TURNED OFF BUT STILL REMAIN OUTSIDE OF BUILDINGS. NO UTILITIES HAVE BEEN REMOVED.
4. NO SUBSURFACE OBSTRUCTIONS OR UTILITIES WERE ENCOUNTERED DURING DEMOLITION EXCEPT AN EXISTING SANITARY SEWER NEAR THE SOUTHWEST CORNER OF BUILDING #5.

AREA OF TOPSOIL
103,450 S.F. = 2.37 ACRES

SITE BENCHMARK

CITY OF DAYTON BENCHMARK #228
CONCRETE MONUMENT ON THE SOUTH SIDE OF MONUMENT STREET NEAR THE INTERSECTION OF MEIGS STREET.

B.M. ELEV.=737.19

GRAPHIC SCALE
50 0 25 50
1 inch = 50 ft.

2 WORKING DAYS BEFORE YOU DIG
CALL TOLL FREE 800-362-2764
OHIO UTILITIES PROTECTION SERVICE

PREPARED BY:
BURKHARDT ENGINEERING COMPANY
195 BYERS ROAD
SUITE 202
MIAMISBURG, OHIO 45342
PHONE:(937)384-0060
FAX:(937)384-0062

Revision | Date | No.

SCALE Horz. 1"=50'
Date 5/10/2010
Design: ___ jow
Drawn: ___
Checked: ___ tb

POST DEMOLITION / PRE BACKFILL CONDITIONS

TECH TOWN DEVELOPMENT PROJECT
300 TAYLOR STREET
DAYTON, OHIO 45402

SHEET NO.
1 of 2

BASE DWG. 1737d PROJ. NO.: 1737 TAB FILE: demo

APPENDIX W

BORROW SOURCE EVALUATION FORMS

Off-Site Borrow Source Certification

1. Date of Off-Site source Inspection:_8/7/06_____
2. Time of Inspection:__9:00_____**AM**/PM
3. Conducted by: Tim Merk_____
4. Soil Source: Moraine Materials Quarry and crushed concrete from spoils._____
5. Historical and current property use of soil source:_It is used as a sand and gravel pit. Former farm land._____
_____
_____
_____
6. Any previous environmental investigations conducted at this location? __x___ yes _____ no (if yes, please attach documentation)
7. Any visual signs of waste, soil staining, etc? _____ yes __x___ no
8. If "yes", describe:
_____
_____
_____
_____
_____
9. Additional information regarding environmental condition of soil? _ODOT approved clean sand and gravel source. Including the environmental sampling and inspections._____
_____
_____
_____
10. Sampling method: _NA_____
_____
_____
_____
_____
11. Sampling Date: NA_____
12. Sampling Time: _____AM/PM
13. Sampler: NA_____
14. Provide sketch of sample locations (minimum 3 composite samples):

NA

15. Sample analytical parameters: VOCs, SVOCs, RCRA Metals, PCBs, _____(others as warranted) NA
16. Sample IDs: __NA_____

17. Samples appropriately preserved? _____ yes _____ no
18. Date samples submitted to a VAP-certified lab? _____
19. Analytical results and lab affidavit attached? _____ yes _____ no
    If "no", explain: ____No samples taken. Site is an approved ODOT source for backfill.

20. Any results exceed Ohio VAP direct contact residential land use standards or Ohio EPA derived leach-based values? Any VOCs detected for which a leach-based standard is not published?
_NA_____

21. Other comments on analytical results:

22. Acceptable as an off-site source of fill? __X__ yes _____ no

*** END OF SECTION ***

SOIL MATERIAL SOURCE FORM

GENERAL INFORMATION

Soil Material Source Identification:	Prime Court Top Soil Name	1930 Prime Court, Troy, OH 45373 Address
Soil Material Source Owner:	Scarff's Nursery, Inc. Name	411 N Dayton Lakeview Road New Carlisle, OH 45344 Address

Current Property Use: Professional Offices

(Use additional pages clearly marked, if necessary).

Historic Property Use: Pasture for a Dairy Farm. Approximately 20 years ago surrounding land was sold and subdivided for commercial/industrial development with this portion remaining undeveloped agricultural land. In 2008 top soil was stripped , moved and stockpiled on agricultural land owned by Scarff Nursery, Inc. located at 10700 W. National Road, New Carlisle, OH 45344.

(Use additional pages clearly marked, if necessary).

Were previous investigations (geotechnical and/or environmental) conducted at this source? ____ **Yes** __X__ **No**

If yes, attach a copy to this form.

SOIL MATERIAL SOURCE FORM

SOIL SOURCE INSPECTION

Date of Inspection: May 8, 2009 Time of Inspection: 9:30 AM

Inspector's Name: Mike Broyles, member Company Name: R. M. Broyles Company LLC

Observations (include visual evidence of contamination, soil staining, stressed vegetation, presence of waste, etc.)

Observed a total of five soil stockpiles located on agricultural land at 10700 National Road, New Carlisle, OH. The soils appeared to be dark brown top soil with miscellaneous grass and vegetation growth. Soils surround the stockpiles were vegetation covered. The three (3) stockpiles located on the south side of the soil storage area were identified as the soils to be tested and certified. The southern-most soil pile was designated PILE 1, the soil pile immediately north was designated PILE 2, and the next pile north was designated PILE 3. PILE 1 measured approximately 55 feet in length and 15 feet wide at the base with a height of approximately five feet (5') for an approximate volume of 115 cubic yards. PILE 2 measured approximately 70 feet in length and 15 feet wide at the base with a height of approximately five feet (5') for an approximate volume of 160 cubic yards. PILE 3 measured approximately 100 feet in length and 15 feet wide at the base with a height of approximately five feet (5') for an approximate volume of 200 cubic yards. There was no visual evidence of of contamination, soil staining, stressed vegetation, or presence of waste.

(Use additional pages clearly marked, if necessary).

SOIL MATERIAL SOURCE FORM

SOIL SOURCE SAMPLING

Sampler's Name: R. Michael Broyles, member
R. M. Broyles Company LLC

VAP-Certified Laboratory Name: **BELMONT LABS**
VAP Certification No: **CL00032**
Sample Preservation Method(s): Jars placed in ice-filled cooler.

Attach a sketch of the soil source and the approximate sample locations with this form.

Date	Time	Sample ID	Matrix	Containers	Constituents: SW-846, 6010B P.P. Metals, Totals	SW-846, 8260 VOCs	SW-846, 8270 SVOCs				Remarks
5/8/09	09:30	PILE 1	Soil	3 Glass Jars	X	X	X				
5/8/09	09:40	PILE 2	Soil	3 Glass Jars	X	X	X				
5/8/09	09:45	PILE 3	Soil	3 Glass Jars	X	X	X				

NOTES:

1. List constituents to be analyzed and mark each included.
2. Provide container type and number of containers.

Date Samples Submitted to VAP-Certified Laboratory: 5/8/09 Sampler's Signature. R Michael Broyles

Sampling Methods: Top 12 inches of soil removed using clean nitrile gloves. Lid removed from each 4 oz. jar and jar then pressed into soil until full. Jar exterior wiped clean with clean paper towel. Teflon lid secured on jar. Jar placed immediately back into ice-filled Lab cooler. Repeated for each sample taken

(Use additional pages clearly marked, if necessary).

SOIL MATERIAL SOURCE FORM

SOIL SOURCE ANALYTICAL RESULTS

Attach the analytical results, the laboratory affidavit, and the chain-of-custody with this form.

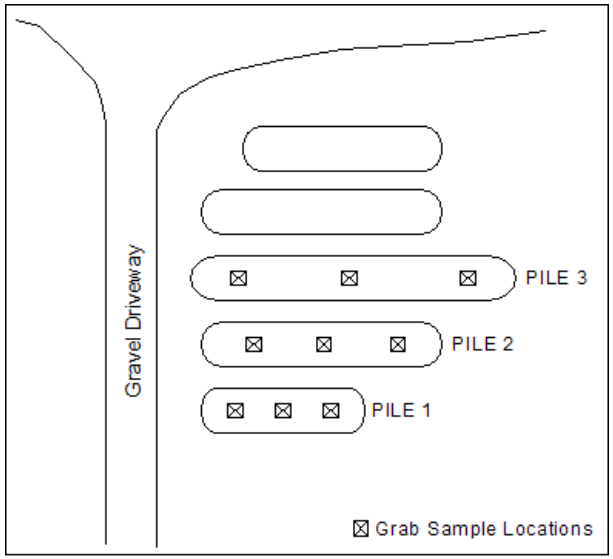
Provide a discussion of the analytical results (include any excedence(s) of the Ohio VAP direct contact residential land use standards):

Laboratory analytical results for Scarff's Nursery, Inc. Prime Court Top Soil PILE 1, PILE 2 and PILE 3 were below Ohio VAP Table II Generic direct-contact Soil Standards for Carcinogenic and Noncarcinogenic Chemicals of Concern - Residential Land Use Category.

(Use additional pages clearly marked, if necessary).

Contractor's Certification to use Soil Source X Yes ___ No Engineer's Approval of the Soil Source ___ Yes ___ No

AERIAL PHOTO
10700 W. National Road, New Carlisle, Ohio



Friday, May 15, 2009

Mike Broyles
RM Broyles Company LLC
PO Box 13154
Dayton, OH 45413
TEL: (937) 242-6338
FAX (937) 558-5582

RE: Scarff

Belmont Labs received 3 sample(s) on 5/8/2009 for the analyses presented in the following report.

Belmont Labs attests that all analytical methods were performed using acceptable methods, and that the QA/QC procedures stipulated in these methods were followed. USEPA's RCRA Program regards a statement of quality assurance as a legal means of assuring that acceptable and uniform laboratory methods and QA/QC practices were followed by the laboratory.

If you have any questions regarding the test results, please feel free to call me at (937) 832-8242.

Respectfully submitted,

Holly Green
Project Manager

Certifications: NELAP/NELAC - #04130 VAP - #CL0032
Ohio EPA Drinking water - #836 Ohio EPA Drinking water (Micro) - #872

Belmont Labs **Date:** 5/15/2009

CLIENT: RM Broyles Company LLC **Lab Order:** 09E0413
Project: Scarff

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Sampled Date	Received Date
09E0413-01A	Pile 1	5/8/2009 9:30:00AM	5/8/2009
09E0413-01B	Pile 1	5/8/2009 9:30:00AM	5/8/2009
09E0413-01C	Pile 1	5/8/2009 9:30:00AM	5/8/2009
09E0413-02A	Pile 2	5/8/2009 9:40:00AM	5/8/2009
09E0413-02B	Pile 2	5/8/2009 9:40:00AM	5/8/2009
09E0413-02C	Pile 2	5/8/2009 9:40:00AM	5/8/2009
09E0413-03A	Pile 3	5/8/2009 9:45:00AM	5/8/2009
09E0413-03B	Pile 3	5/8/2009 9:45:00AM	5/8/2009
09E0413-03C	Pile 3	5/8/2009 9:45:00AM	5/8/2009

Belmont Labs **Date:** 5/15/2009

CLIENT: RM Broyles Company LLC
Project: Scarff
Lab Order: 09E0413

Lab ID: 09E0413-01
Client Sample ID: Pile 1
Collection Date: 5/8/2009 9:30:00AM
Matrix: Soil

Analysis	Result	MDL	PQL	Qual	Units	Dilution	Batch	Date Analyzed
PP Metals List		**SW 6010B**					**Analyst: RJE**	
Antimony	BDL	0.465	5.54		mg/kg dry	1	0920226	5/15/2009 5:23:31AM
Arsenic	**11.3**	0.485	1.11		mg/kg dry	1	0920226	5/15/2009 5:23:31AM
Beryllium	**0.758**	0.0102	0.554		mg/kg dry	1	0920226	5/15/2009 5:23:31AM
Cadmium	BDL	0.0216	1.11		mg/kg dry	1	0920226	5/15/2009 5:23:31AM
Chromium	**16.0**	0.0490	1.11		mg/kg dry	1	0920226	5/15/2009 5:23:31AM
Copper	**20.7**	0.233	1.11		mg/kg dry	1	0920226	5/15/2009 5:23:31AM
Lead	**20.3**	0.368	5.54		mg/kg dry	1	0920226	5/15/2009 5:23:31AM
Nickel	**18.9**	0.140	1.11		mg/kg dry	1	0920226	5/15/2009 5:23:31AM
Selenium	BDL	0.565	5.54		mg/kg dry	1	0920226	5/15/2009 5:23:31AM
Silver	BDL	0.0538	1.11		mg/kg dry	1	0920226	5/15/2009 5:23:31AM
Thallium	BDL	0.417	5.54		mg/kg dry	1	0920226	5/15/2009 5:23:31AM
Zinc	**71.5**	0.435	5.54		mg/kg dry	1	0920226	5/15/2009 5:23:31AM
VOC 8260		**SW 8260A**					**Analyst: kds**	
1,1,1,2-Tetrachloroethane	BDL	0.00292	0.00643		mg/kg dry	1	0920125	5/14/2009 4:06:00PM
1,1,1-Trichloroethane	BDL	0.00263	0.00643		mg/kg dry	1	0920125	5/14/2009 4:06:00PM
1,1,2,2-Tetrachloroethane	BDL	0.00205	0.00643		mg/kg dry	1	0920125	5/14/2009 4:06:00PM
1,1,2-Trichloroethane	BDL	0.00255	0.00643		mg/kg dry	1	0920125	5/14/2009 4:06:00PM
1,1-Dichloroethane	BDL	0.000793	0.00643		mg/kg dry	1	0920125	5/14/2009 4:06:00PM
1,1-Dichloroethene	BDL	0.00203	0.00643		mg/kg dry	1	0920125	5/14/2009 4:06:00PM
1,1-Dichloropropene	BDL	0.00165	0.00643		mg/kg dry	1	0920125	5/14/2009 4:06:00PM
1,2-Dibromoethane	BDL	0.00293	0.00643		mg/kg dry	1	0920125	5/14/2009 4:06:00PM
1,2-Dichloroethane	BDL	0.00264	0.00643		mg/kg dry	1	0920125	5/14/2009 4:06:00PM
1,2-Dichloropropane	BDL	0.00208	0.00643		mg/kg dry	1	0920125	5/14/2009 4:06:00PM
1,3-Dichloropropane	BDL	0.00249	0.00643		mg/kg dry	1	0920125	5/14/2009 4:06:00PM
2,2-Dichloropropane	BDL	0.00324	0.00643		mg/kg dry	1	0920125	5/14/2009 4:06:00PM
2-Butanone	BDL	0.00563	0.0257		mg/kg dry	1	0920125	5/14/2009 4:06:00PM
2-Chloroethyl vinyl ether	BDL	0.00208	0.0129		mg/kg dry	1	0920125	5/14/2009 4:06:00PM
2-Chlorotoluene	BDL	0.00172	0.00643		mg/kg dry	1	0920125	5/14/2009 4:06:00PM
2-Hexanone	BDL	0.00489	0.0257		mg/kg dry	1	0920125	5/14/2009 4:06:00PM
4-Chlorotoluene	BDL	0.00214	0.00643		mg/kg dry	1	0920125	5/14/2009 4:06:00PM
4-Methyl-2-pentanone	BDL	0.00313	0.0257		mg/kg dry	1	0920125	5/14/2009 4:06:00PM
Acetone	BDL	0.00744	0.0643		mg/kg dry	1	0920125	5/14/2009 4:06:00PM
Acetonitrile	BDL	0.00314	0.0515		mg/kg dry	1	0920125	5/14/2009 4:06:00PM
Acrolein	BDL	0.0127	0.0257		mg/kg dry	1	0920125	5/14/2009 4:06:00PM
Acrylonitrile	BDL	0.000806	0.0257		mg/kg dry	1	0920125	5/14/2009 4:06:00PM
Allyl chloride	BDL	0.00554	0.0129		mg/kg dry	1	0920125	5/14/2009 4:06:00PM
Benzene	BDL	0.00196	0.00643		mg/kg dry	1	0920125	5/14/2009 4:06:00PM
Bromobenzene	BDL	0.00221	0.00643		mg/kg dry	1	0920125	5/14/2009 4:06:00PM
Bromochloromethane	BDL	0.000516	0.00643		mg/kg dry	1	0920125	5/14/2009 4:06:00PM
Bromodichloromethane	BDL	0.00226	0.00643		mg/kg dry	1	0920125	5/14/2009 4:06:00PM
Bromoform	BDL	0.00171	0.00643		mg/kg dry	1	0920125	5/14/2009 4:06:00PM
Bromomethane	BDL	0.00295	0.00643		mg/kg dry	1	0920125	5/14/2009 4:06:00PM
Carbon Disulfide	BDL	0.00220	0.0257		mg/kg dry	1	0920125	5/14/2009 4:06:00PM
Carbon Tetrachloride	BDL	0.00314	0.00643		mg/kg dry	1	0920125	5/14/2009 4:06:00PM

Belmont Labs **Date:** 5/15/2009

CLIENT: RM Broyles Company LLC
Project: Scarff
Lab Order: 09E0413

Lab ID: 09E0413-01
Client Sample ID: Pile 1
Collection Date: 5/8/2009 9:30:00AM
Matrix: Soil

Analysis	Result	MDL	PQL	Qual	Units	Dilution	Batch	Date Analyzed
Chlorobenzene	BDL	0.00208	0.00643		mg/kg dry	1	0920125	5/14/2009 4:06:00PM
Chloroethane	BDL	0.00178	0.00643		mg/kg dry	1	0920125	5/14/2009 4:06:00PM
Chloroform	BDL	0.00202	0.00643		mg/kg dry	1	0920125	5/14/2009 4:06:00PM
Chloromethane	BDL	0.000753	0.00643		mg/kg dry	1	0920125	5/14/2009 4:06:00PM
cis-1,2-Dichloroethene	BDL	0.00243	0.00643		mg/kg dry	1	0920125	5/14/2009 4:06:00PM
cis-1,3-Dichloropropene	BDL	0.000910	0.00643		mg/kg dry	1	0920125	5/14/2009 4:06:00PM
Dibromochloromethane	BDL	0.00230	0.00643		mg/kg dry	1	0920125	5/14/2009 4:06:00PM
Dibromomethane	BDL	0.00211	0.00643		mg/kg dry	1	0920125	5/14/2009 4:06:00PM
Dichlorodifluoromethane	BDL	0.000635	0.00643		mg/kg dry	1	0920125	5/14/2009 4:06:00PM
Ethylbenzene	BDL	0.00189	0.00643		mg/kg dry	1	0920125	5/14/2009 4:06:00PM
Iodomethane	BDL	0.000979	0.0129		mg/kg dry	1	0920125	5/14/2009 4:06:00PM
Methylene Chloride	BDL	0.00238	0.00643		mg/kg dry	1	0920125	5/14/2009 4:06:00PM
Methyl tert-Butyl Ether	BDL	0.00436	0.0129		mg/kg dry	1	0920125	5/14/2009 4:06:00PM
m,p-Xylene	BDL	0.00393	0.0129		mg/kg dry	1	0920125	5/14/2009 4:06:00PM
n-Hexane	BDL	0.00232	0.00643		mg/kg dry	1	0920125	5/14/2009 4:06:00PM
o-Xylene	BDL	0.00203	0.00643		mg/kg dry	1	0920125	5/14/2009 4:06:00PM
Styrene	BDL	0.00199	0.00643		mg/kg dry	1	0920125	5/14/2009 4:06:00PM
Tetrachloroethene	BDL	0.00225	0.00643		mg/kg dry	1	0920125	5/14/2009 4:06:00PM
Toluene	BDL	0.00189	0.00643		mg/kg dry	1	0920125	5/14/2009 4:06:00PM
trans-1,2-Dichloroethene	BDL	0.00215	0.00643		mg/kg dry	1	0920125	5/14/2009 4:06:00PM
trans-1,3-Dichloropropene	BDL	0.00392	0.00643		mg/kg dry	1	0920125	5/14/2009 4:06:00PM
Trichloroethene	BDL	0.00178	0.00643		mg/kg dry	1	0920125	5/14/2009 4:06:00PM
Trichlorofluoromethane	BDL	0.00319	0.00643		mg/kg dry	1	0920125	5/14/2009 4:06:00PM
Vinyl Chloride	BDL	0.00134	0.00643		mg/kg dry	1	0920125	5/14/2009 4:06:00PM
Vinyl acetate	BDL	0.00580	0.0129		mg/kg dry	1	0920125	5/14/2009 4:06:00PM
Surrogate: 4-Bromofluorobenzene		*75.3 %*			*34-118*		*0920125*	5/14/2009 4:06:00PM
Surrogate: Dibromofluoromethane		*85.0 %*			*61-152*		*0920125*	5/14/2009 4:06:00PM
Surrogate: Toluene-d8		*82.8 %*			*44-119*		*0920125*	5/14/2009 4:06:00PM
Surrogate: 1,2-Dichloroethane-d4		*78.7 %*			*39-123*		*0920125*	5/14/2009 4:06:00PM
PMOIST		**D 2216**					**Analyst: AD**	
Percent Moisture	**22.3**				% by Weight	1	0920267	5/15/2009 2:31:00PM
SVOC 8270		**SW 8270C**					**Analyst: DAG**	
1,2,4,5-Tetrachlorobenzene	BDL	0.0180	0.127		mg/kg dry	1	0920126	5/14/2009 12:47:00AM
1,2,4-Trichlorobenzene	BDL	0.0140	0.127		mg/kg dry	1	0920126	5/14/2009 12:47:00AM
1,2-Dichlorobenzene	BDL	0.0116	0.127		mg/kg dry	1	0920126	5/14/2009 12:47:00AM
1,2-Diphenylhydrazine	BDL	0.0244	0.127		mg/kg dry	1	0920126	5/14/2009 12:47:00AM
1,3-Dichlorobenzene	BDL	0.0175	0.127		mg/kg dry	1	0920126	5/14/2009 12:47:00AM
1,4-Dichlorobenzene	BDL	0.0130	0.127		mg/kg dry	1	0920126	5/14/2009 12:47:00AM
2,3,4,6-Tetrachlorophenol	BDL	0.0205	0.127		mg/kg dry	1	0920126	5/14/2009 12:47:00AM
2,4,5-Trichlorophenol	BDL	0.0203	0.127		mg/kg dry	1	0920126	5/14/2009 12:47:00AM
2,4,6-Trichlorophenol	BDL	0.0157	0.127		mg/kg dry	1	0920126	5/14/2009 12:47:00AM
2,4-Dichlorophenol	BDL	0.0148	0.127		mg/kg dry	1	0920126	5/14/2009 12:47:00AM

CLIENT: RM Broyles Company LLC **Lab Order:** 09E0413
Project: Scarff

Lab ID: 09E0413-01 **Collection Date:** 5/8/2009 9:30:00AM
Client Sample ID: Pile 1 **Matrix:** Soil

Analysis	Result	MDL	PQL	Qual	Units	Dilution	Batch	Date Analyzed
2,4-Dimethylphenol	BDL	0.0178	0.127		mg/kg dry	1	0920126	5/14/2009 12:47:00AM
2,4-Dinitrophenol	BDL	0.0165	0.127		mg/kg dry	1	0920126	5/14/2009 12:47:00AM
2,4-Dinitrotoluene	BDL	0.0189	0.127		mg/kg dry	1	0920126	5/14/2009 12:47:00AM
2,6-Dichlorophenol	BDL	0.0147	0.127		mg/kg dry	1	0920126	5/14/2009 12:47:00AM
2,6-Dinitrotoluene	BDL	0.0170	0.127		mg/kg dry	1	0920126	5/14/2009 12:47:00AM
2-Chloronaphthalene	BDL	0.0184	0.127		mg/kg dry	1	0920126	5/14/2009 12:47:00AM
2-Chlorophenol	BDL	0.0153	0.127		mg/kg dry	1	0920126	5/14/2009 12:47:00AM
2-Methylnaphthalene	BDL	0.0154	0.127		mg/kg dry	1	0920126	5/14/2009 12:47:00AM
2-Methylphenol	BDL	0.0165	0.127		mg/kg dry	1	0920126	5/14/2009 12:47:00AM
2-Nitrophenol	BDL	0.00994	0.127		mg/kg dry	1	0920126	5/14/2009 12:47:00AM
3 & 4-Methylphenol	BDL	0.0251	0.127		mg/kg dry	1	0920126	5/14/2009 12:47:00AM
4,6-Dinitro-2-methylphenol	BDL	0.0166	0.127		mg/kg dry	1	0920126	5/14/2009 12:47:00AM
4-Bromophenyl phenyl ether	BDL	0.0149	0.127		mg/kg dry	1	0920126	5/14/2009 12:47:00AM
4-Chloro-3-methylphenol	BDL	0.0112	0.127		mg/kg dry	1	0920126	5/14/2009 12:47:00AM
4-Chlorophenyl phenyl ether	BDL	0.0170	0.127		mg/kg dry	1	0920126	5/14/2009 12:47:00AM
4-Nitrophenol	BDL	0.0129	0.127		mg/kg dry	1	0920126	5/14/2009 12:47:00AM
Acenaphthene	BDL	0.00173	0.127		mg/kg dry	1	0920126	5/14/2009 12:47:00AM
Acenaphthylene	BDL	0.0181	0.127		mg/kg dry	1	0920126	5/14/2009 12:47:00AM
Acetophenone	BDL	0.00879	0.127		mg/kg dry	1	0920126	5/14/2009 12:47:00AM
Aniline	BDL	0.0154	0.127		mg/kg dry	1	0920126	5/14/2009 12:47:00AM
Anthracene	BDL	0.119	0.127		mg/kg dry	1	0920126	5/14/2009 12:47:00AM
Benz(a)anthracene	BDL	0.0173	0.127		mg/kg dry	1	0920126	5/14/2009 12:47:00AM
Benzidine	BDL	0.0227	0.127		mg/kg dry	1	0920126	5/14/2009 12:47:00AM
Benzo(a)pyrene	BDL	0.0110	0.127		mg/kg dry	1	0920126	5/14/2009 12:47:00AM
Benzo(b)fluoranthene	BDL	0.0204	0.127		mg/kg dry	1	0920126	5/14/2009 12:47:00AM
Benzo(g,h,i)perylene	BDL	0.0133	0.127		mg/kg dry	1	0920126	5/14/2009 12:47:00AM
Benzo(k)fluoranthene	BDL	0.0170	0.127		mg/kg dry	1	0920126	5/14/2009 12:47:00AM
Benzyl Alcohol	BDL	0.0147	0.127		mg/kg dry	1	0920126	5/14/2009 12:47:00AM
Bis(2-chloroethoxy)methane	BDL	0.0212	0.127		mg/kg dry	1	0920126	5/14/2009 12:47:00AM
bis-(2-Chloroethyl)ether	BDL	0.0190	0.127		mg/kg dry	1	0920126	5/14/2009 12:47:00AM
Bis(2-ethylhexyl)phthalate	BDL	0.0205	0.127		mg/kg dry	1	0920126	5/14/2009 12:47:00AM
Butyl benzyl phthalate	BDL	0.0152	0.127		mg/kg dry	1	0920126	5/14/2009 12:47:00AM
Chrysene	BDL	0.0117	0.127		mg/kg dry	1	0920126	5/14/2009 12:47:00AM
Dibenz(a,h)anthracene	BDL	0.0155	0.127		mg/kg dry	1	0920126	5/14/2009 12:47:00AM
Dibenzofuran	BDL	0.0168	0.127		mg/kg dry	1	0920126	5/14/2009 12:47:00AM
Diethyl phthalate	BDL	0.0196	0.127		mg/kg dry	1	0920126	5/14/2009 12:47:00AM
Dimethyl phthalate	BDL	0.0168	0.127		mg/kg dry	1	0920126	5/14/2009 12:47:00AM
Di-n-butyl phthalate	BDL	0.0158	0.127		mg/kg dry	1	0920126	5/14/2009 12:47:00AM
Di-n-octyl phthalate	BDL	0.0152	0.127		mg/kg dry	1	0920126	5/14/2009 12:47:00AM
Fluoranthene	BDL	0.00973	0.127		mg/kg dry	1	0920126	5/14/2009 12:47:00AM
Fluorene	BDL	0.0165	0.127		mg/kg dry	1	0920126	5/14/2009 12:47:00AM
Hexachlorobenzene	BDL	0.0173	0.127		mg/kg dry	1	0920126	5/14/2009 12:47:00AM
Hexachlorobutadiene	BDL	0.0121	0.127		mg/kg dry	1	0920126	5/14/2009 12:47:00AM
Hexachlorocyclopentadiene	BDL	0.0182	0.127		mg/kg dry	1	0920126	5/14/2009 12:47:00AM
Hexachloroethane	BDL	0.0130	0.127		mg/kg dry	1	0920126	5/14/2009 12:47:00AM
Hexachloropropene	BDL	0.0200	0.127		mg/kg dry	1	0920126	5/14/2009 12:47:00AM

Lab ID: 09E0413-01 **Collection Date:** 5/8/2009 9:30:00AM
Client Sample ID: Pile 1 **Matrix:** Soil

Analysis	Result	MDL	PQL	Qual	Units	Dilution	Batch	Date Analyzed
Indeno(1,2,3-cd)pyrene	BDL	0.0166	0.127		mg/kg dry	1	0920126	5/14/2009 12:47:00AM
Isophorone	BDL	0.0115	0.127		mg/kg dry	1	0920126	5/14/2009 12:47:00AM
Naphthalene	BDL	0.0163	0.127		mg/kg dry	1	0920126	5/14/2009 12:47:00AM
Nitrobenzene	BDL	0.0160	0.127		mg/kg dry	1	0920126	5/14/2009 12:47:00AM
N-Nitrosodimethylamine	BDL	0.0203	0.127		mg/kg dry	1	0920126	5/14/2009 12:47:00AM
N-Nitroso-di-n-butylamine	BDL	0.0163	0.127		mg/kg dry	1	0920126	5/14/2009 12:47:00AM
N-Nitrosodi-n-propylamine	BDL	0.0177	0.127		mg/kg dry	1	0920126	5/14/2009 12:47:00AM
N-Nitrosodiphenylamine	BDL	0.0296	0.127		mg/kg dry	1	0920126	5/14/2009 12:47:00AM
Pentachlorobenzene	BDL	0.0185	0.127		mg/kg dry	1	0920126	5/14/2009 12:47:00AM
Pentachloronitrobenzene	BDL	0.0192	0.127		mg/kg dry	1	0920126	5/14/2009 12:47:00AM
Pentachlorophenol	BDL	0.0191	0.127		mg/kg dry	1	0920126	5/14/2009 12:47:00AM
Phenanthrene	BDL	0.0121	0.127		mg/kg dry	1	0920126	5/14/2009 12:47:00AM
Phenol	BDL	0.0182	0.127		mg/kg dry	1	0920126	5/14/2009 12:47:00AM
Pyrene	BDL	0.0201	0.127		mg/kg dry	1	0920126	5/14/2009 12:47:00AM
Pyridine	BDL	0.0277	0.127		mg/kg dry	1	0920126	5/14/2009 12:47:00AM
Bis(2-chloroisopropyl)ether	BDL	0.0172	0.127		mg/kg dry	1	0920126	5/14/2009 12:47:00AM
Surrogate: 2-Fluorophenol		*45.3 %*			*18-59*		*0920126*	5/14/2009 12:47:00AM
Surrogate: Phenol-d6		*43.1 %*			*14-64*		*0920126*	5/14/2009 12:47:00AM
Surrogate: Nitrobenzene-d5		*39.9 %*			*28-58*		*0920126*	5/14/2009 12:47:00AM
Surrogate: 2-Fluorobiphenyl		*45.8 %*			*32-55*		*0920126*	5/14/2009 12:47:00AM
Surrogate: 2,4,6-Tribromophenol		*57.6 %*			*22-72*		*0920126*	5/14/2009 12:47:00AM
Surrogate: Terphenyl-d14		*48.5 %*			*26-60*		*0920126*	5/14/2009 12:47:00AM
HG		**SW 7471**					**Analyst:**	**KC**
Mercury	BDL	0.00213	0.131		mg/kg dry	1	0920227	5/15/2009 10:08:13AM

Belmont Labs **Date:** 5/15/2009

CLIENT: RM Broyles Company LLC
Project: Scarff
Lab Order: 09E0413

Lab ID: 09E0413-02
Client Sample ID: Pile 2
Collection Date: 5/8/2009 9:40:00AM
Matrix: Soil

Analysis	Result	MDL	PQL	Qual	Units	Dilution	Batch	Date Analyzed
PP Metals List		**SW 6010B**					**Analyst:**	**RJE**
Antimony	BDL	0.544	6.48		mg/kg dry	1	0920226	5/15/2009 5:28:20AM
Arsenic	**12.5**	0.567	1.30		mg/kg dry	1	0920226	5/15/2009 5:28:20AM
Beryllium	**0.736**	0.0119	0.648		mg/kg dry	1	0920226	5/15/2009 5:28:20AM
Cadmium	BDL	0.0253	1.30		mg/kg dry	1	0920226	5/15/2009 5:28:20AM
Chromium	**17.8**	0.0573	1.30		mg/kg dry	1	0920226	5/15/2009 5:28:20AM
Copper	**19.3**	0.273	1.30		mg/kg dry	1	0920226	5/15/2009 5:28:20AM
Lead	**20.2**	0.430	6.48		mg/kg dry	1	0920226	5/15/2009 5:28:20AM
Nickel	**19.4**	0.163	1.30		mg/kg dry	1	0920226	5/15/2009 5:28:20AM
Selenium	BDL	0.660	6.48		mg/kg dry	1	0920226	5/15/2009 5:28:20AM
Silver	BDL	0.0629	1.30		mg/kg dry	1	0920226	5/15/2009 5:28:20AM
Thallium	BDL	0.487	6.48		mg/kg dry	1	0920226	5/15/2009 5:28:20AM
Zinc	**70.1**	0.508	6.48		mg/kg dry	1	0920226	5/15/2009 5:28:20AM
VOC 8260		**SW 8260A**					**Analyst:**	**kds**
1,1,1,2-Tetrachloroethane	BDL	0.00294	0.00648		mg/kg dry	1	0920125	5/14/2009 4:39:00PM
1,1,1-Trichloroethane	BDL	0.00265	0.00648		mg/kg dry	1	0920125	5/14/2009 4:39:00PM
1,1,2,2-Tetrachloroethane	BDL	0.00206	0.00648		mg/kg dry	1	0920125	5/14/2009 4:39:00PM
1,1,2-Trichloroethane	BDL	0.00257	0.00648		mg/kg dry	1	0920125	5/14/2009 4:39:00PM
1,1-Dichloroethane	BDL	0.000799	0.00648		mg/kg dry	1	0920125	5/14/2009 4:39:00PM
1,1-Dichloroethene	BDL	0.00204	0.00648		mg/kg dry	1	0920125	5/14/2009 4:39:00PM
1,1-Dichloropropene	BDL	0.00166	0.00648		mg/kg dry	1	0920125	5/14/2009 4:39:00PM
1,2-Dibromoethane	BDL	0.00295	0.00648		mg/kg dry	1	0920125	5/14/2009 4:39:00PM
1,2-Dichloroethane	BDL	0.00266	0.00648		mg/kg dry	1	0920125	5/14/2009 4:39:00PM
1,2-Dichloropropane	BDL	0.00210	0.00648		mg/kg dry	1	0920125	5/14/2009 4:39:00PM
1,3-Dichloropropane	BDL	0.00251	0.00648		mg/kg dry	1	0920125	5/14/2009 4:39:00PM
2,2-Dichloropropane	BDL	0.00326	0.00648		mg/kg dry	1	0920125	5/14/2009 4:39:00PM
2-Butanone	BDL	0.00567	0.0259		mg/kg dry	1	0920125	5/14/2009 4:39:00PM
2-Chloroethyl vinyl ether	BDL	0.00210	0.0130		mg/kg dry	1	0920125	5/14/2009 4:39:00PM
2-Chlorotoluene	BDL	0.00173	0.00648		mg/kg dry	1	0920125	5/14/2009 4:39:00PM
2-Hexanone	BDL	0.00492	0.0259		mg/kg dry	1	0920125	5/14/2009 4:39:00PM
4-Chlorotoluene	BDL	0.00216	0.00648		mg/kg dry	1	0920125	5/14/2009 4:39:00PM
4-Methyl-2-pentanone	BDL	0.00315	0.0259		mg/kg dry	1	0920125	5/14/2009 4:39:00PM
Acetone	BDL	0.00750	0.0648		mg/kg dry	1	0920125	5/14/2009 4:39:00PM
Acetonitrile	BDL	0.00316	0.0518		mg/kg dry	1	0920125	5/14/2009 4:39:00PM
Acrolein	BDL	0.0128	0.0259		mg/kg dry	1	0920125	5/14/2009 4:39:00PM
Acrylonitrile	BDL	0.000812	0.0259		mg/kg dry	1	0920125	5/14/2009 4:39:00PM
Allyl chloride	BDL	0.00558	0.0130		mg/kg dry	1	0920125	5/14/2009 4:39:00PM
Benzene	BDL	0.00198	0.00648		mg/kg dry	1	0920125	5/14/2009 4:39:00PM
Bromobenzene	BDL	0.00223	0.00648		mg/kg dry	1	0920125	5/14/2009 4:39:00PM
Bromochloromethane	BDL	0.000520	0.00648		mg/kg dry	1	0920125	5/14/2009 4:39:00PM
Bromodichloromethane	BDL	0.00227	0.00648		mg/kg dry	1	0920125	5/14/2009 4:39:00PM
Bromoform	BDL	0.00173	0.00648		mg/kg dry	1	0920125	5/14/2009 4:39:00PM
Bromomethane	BDL	0.00297	0.00648		mg/kg dry	1	0920125	5/14/2009 4:39:00PM
Carbon Disulfide	BDL	0.00222	0.0259		mg/kg dry	1	0920125	5/14/2009 4:39:00PM
Carbon Tetrachloride	BDL	0.00317	0.00648		mg/kg dry	1	0920125	5/14/2009 4:39:00PM

Belmont Labs **Date:** 5/15/2009

CLIENT: RM Broyles Company LLC
Project: Scarff
Lab Order: 09E0413

Lab ID: 09E0413-02
Client Sample ID: Pile 2
Collection Date: 5/8/2009 9:40:00AM
Matrix: Soil

Analysis	Result	MDL	PQL	Qual	Units	Dilution	Batch	Date Analyzed
Chlorobenzene	BDL	0.00210	0.00648		mg/kg dry	1	0920125	5/14/2009 4:39:00PM
Chloroethane	BDL	0.00180	0.00648		mg/kg dry	1	0920125	5/14/2009 4:39:00PM
Chloroform	BDL	0.00204	0.00648		mg/kg dry	1	0920125	5/14/2009 4:39:00PM
Chloromethane	BDL	0.000759	0.00648		mg/kg dry	1	0920125	5/14/2009 4:39:00PM
cis-1,2-Dichloroethene	BDL	0.00245	0.00648		mg/kg dry	1	0920125	5/14/2009 4:39:00PM
cis-1,3-Dichloropropene	BDL	0.000917	0.00648		mg/kg dry	1	0920125	5/14/2009 4:39:00PM
Dibromochloromethane	BDL	0.00232	0.00648		mg/kg dry	1	0920125	5/14/2009 4:39:00PM
Dibromomethane	BDL	0.00212	0.00648		mg/kg dry	1	0920125	5/14/2009 4:39:00PM
Dichlorodifluoromethane	BDL	0.000639	0.00648		mg/kg dry	1	0920125	5/14/2009 4:39:00PM
Ethylbenzene	BDL	0.00191	0.00648		mg/kg dry	1	0920125	5/14/2009 4:39:00PM
Iodomethane	BDL	0.000986	0.0130		mg/kg dry	1	0920125	5/14/2009 4:39:00PM
Methylene Chloride	BDL	0.00240	0.00648		mg/kg dry	1	0920125	5/14/2009 4:39:00PM
Methyl tert-Butyl Ether	BDL	0.00439	0.0130		mg/kg dry	1	0920125	5/14/2009 4:39:00PM
m,p-Xylene	BDL	0.00396	0.0130		mg/kg dry	1	0920125	5/14/2009 4:39:00PM
n-Hexane	BDL	0.00233	0.00648		mg/kg dry	1	0920125	5/14/2009 4:39:00PM
o-Xylene	BDL	0.00204	0.00648		mg/kg dry	1	0920125	5/14/2009 4:39:00PM
Styrene	BDL	0.00201	0.00648		mg/kg dry	1	0920125	5/14/2009 4:39:00PM
Tetrachloroethene	BDL	0.00227	0.00648		mg/kg dry	1	0920125	5/14/2009 4:39:00PM
Toluene	BDL	0.00190	0.00648		mg/kg dry	1	0920125	5/14/2009 4:39:00PM
trans-1,2-Dichloroethene	BDL	0.00216	0.00648		mg/kg dry	1	0920125	5/14/2009 4:39:00PM
trans-1,3-Dichloropropene	BDL	0.00395	0.00648		mg/kg dry	1	0920125	5/14/2009 4:39:00PM
Trichloroethene	BDL	0.00179	0.00648		mg/kg dry	1	0920125	5/14/2009 4:39:00PM
Trichlorofluoromethane	BDL	0.00321	0.00648		mg/kg dry	1	0920125	5/14/2009 4:39:00PM
Vinyl Chloride	BDL	0.00135	0.00648		mg/kg dry	1	0920125	5/14/2009 4:39:00PM
Vinyl acetate	BDL	0.00585	0.0130		mg/kg dry	1	0920125	5/14/2009 4:39:00PM
Surrogate: 4-Bromofluorobenzene		*77.1 %*			*34-118*		*0920125*	5/14/2009 4:39:00PM
Surrogate: Dibromofluoromethane		*86.5 %*			*61-152*		*0920125*	5/14/2009 4:39:00PM
Surrogate: Toluene-d8		*82.2 %*			*44-119*		*0920125*	5/14/2009 4:39:00PM
Surrogate: 1,2-Dichloroethane-d4		*77.6 %*			*39-123*		*0920125*	5/14/2009 4:39:00PM
PMOIST		**D 2216**					**Analyst:**	**AD**
Percent Moisture	**22.8**				% by Weight	1	0920267	5/15/2009 2:31:00PM
SVOC 8270		**SW 8270C**					**Analyst:**	**DAG**
1,2,4,5-Tetrachlorobenzene	BDL	0.0181	0.128		mg/kg dry	1	0920126	5/14/2009 1:29:00AM
1,2,4-Trichlorobenzene	BDL	0.0140	0.128		mg/kg dry	1	0920126	5/14/2009 1:29:00AM
1,2-Dichlorobenzene	BDL	0.0117	0.128		mg/kg dry	1	0920126	5/14/2009 1:29:00AM
1,2-Diphenylhydrazine	BDL	0.0245	0.128		mg/kg dry	1	0920126	5/14/2009 1:29:00AM
1,3-Dichlorobenzene	BDL	0.0176	0.128		mg/kg dry	1	0920126	5/14/2009 1:29:00AM
1,4-Dichlorobenzene	BDL	0.0130	0.128		mg/kg dry	1	0920126	5/14/2009 1:29:00AM
2,3,4,6-Tetrachlorophenol	BDL	0.0206	0.128		mg/kg dry	1	0920126	5/14/2009 1:29:00AM
2,4,5-Trichlorophenol	BDL	0.0204	0.128		mg/kg dry	1	0920126	5/14/2009 1:29:00AM
2,4,6-Trichlorophenol	BDL	0.0158	0.128		mg/kg dry	1	0920126	5/14/2009 1:29:00AM
2,4-Dichlorophenol	BDL	0.0148	0.128		mg/kg dry	1	0920126	5/14/2009 1:29:00AM

Belmont Labs **Date:** 5/15/2009

CLIENT: RM Broyles Company LLC
Project: Scarff
Lab Order: 09E0413

Lab ID: 09E0413-02
Client Sample ID: Pile 2
Collection Date: 5/8/2009 9:40:00AM
Matrix: Soil

Analysis	Result	MDL	PQL	Qual	Units	Dilution	Batch	Date Analyzed
2,4-Dimethylphenol	BDL	0.0179	0.128		mg/kg dry	1	0920126	5/14/2009 1:29:00AM
2,4-Dinitrophenol	BDL	0.0166	0.128		mg/kg dry	1	0920126	5/14/2009 1:29:00AM
2,4-Dinitrotoluene	BDL	0.0190	0.128		mg/kg dry	1	0920126	5/14/2009 1:29:00AM
2,6-Dichlorophenol	BDL	0.0147	0.128		mg/kg dry	1	0920126	5/14/2009 1:29:00AM
2,6-Dinitrotoluene	BDL	0.0171	0.128		mg/kg dry	1	0920126	5/14/2009 1:29:00AM
2-Chloronaphthalene	BDL	0.0185	0.128		mg/kg dry	1	0920126	5/14/2009 1:29:00AM
2-Chlorophenol	BDL	0.0153	0.128		mg/kg dry	1	0920126	5/14/2009 1:29:00AM
2-Methylnaphthalene	BDL	0.0155	0.128		mg/kg dry	1	0920126	5/14/2009 1:29:00AM
2-Methylphenol	BDL	0.0166	0.128		mg/kg dry	1	0920126	5/14/2009 1:29:00AM
2-Nitrophenol	BDL	0.00998	0.128		mg/kg dry	1	0920126	5/14/2009 1:29:00AM
3 & 4-Methylphenol	BDL	0.0252	0.128		mg/kg dry	1	0920126	5/14/2009 1:29:00AM
4,6-Dinitro-2-methylphenol	BDL	0.0166	0.128		mg/kg dry	1	0920126	5/14/2009 1:29:00AM
4-Bromophenyl phenyl ether	BDL	0.0150	0.128		mg/kg dry	1	0920126	5/14/2009 1:29:00AM
4-Chloro-3-methylphenol	BDL	0.0113	0.128		mg/kg dry	1	0920126	5/14/2009 1:29:00AM
4-Chlorophenyl phenyl ether	BDL	0.0171	0.128		mg/kg dry	1	0920126	5/14/2009 1:29:00AM
4-Nitrophenol	BDL	0.0130	0.128		mg/kg dry	1	0920126	5/14/2009 1:29:00AM
Acenaphthene	BDL	0.00174	0.128		mg/kg dry	1	0920126	5/14/2009 1:29:00AM
Acenaphthylene	BDL	0.0181	0.128		mg/kg dry	1	0920126	5/14/2009 1:29:00AM
Acetophenone	BDL	0.00882	0.128		mg/kg dry	1	0920126	5/14/2009 1:29:00AM
Aniline	BDL	0.0155	0.128		mg/kg dry	1	0920126	5/14/2009 1:29:00AM
Anthracene	BDL	0.119	0.128		mg/kg dry	1	0920126	5/14/2009 1:29:00AM
Benz(a)anthracene	BDL	0.0174	0.128		mg/kg dry	1	0920126	5/14/2009 1:29:00AM
Benzidine	BDL	0.0228	0.128		mg/kg dry	1	0920126	5/14/2009 1:29:00AM
Benzo(a)pyrene	BDL	0.0111	0.128		mg/kg dry	1	0920126	5/14/2009 1:29:00AM
Benzo(b)fluoranthene	BDL	0.0205	0.128		mg/kg dry	1	0920126	5/14/2009 1:29:00AM
Benzo(g,h,i)perylene	BDL	0.0133	0.128		mg/kg dry	1	0920126	5/14/2009 1:29:00AM
Benzo(k)fluoranthene	BDL	0.0170	0.128		mg/kg dry	1	0920126	5/14/2009 1:29:00AM
Benzyl Alcohol	BDL	0.0148	0.128		mg/kg dry	1	0920126	5/14/2009 1:29:00AM
Bis(2-chloroethoxy)methane	BDL	0.0212	0.128		mg/kg dry	1	0920126	5/14/2009 1:29:00AM
bis-(2-Chloroethyl)ether	BDL	0.0190	0.128		mg/kg dry	1	0920126	5/14/2009 1:29:00AM
Bis(2-ethylhexyl)phthalate	BDL	0.0206	0.128		mg/kg dry	1	0920126	5/14/2009 1:29:00AM
Butyl benzyl phthalate	BDL	0.0152	0.128		mg/kg dry	1	0920126	5/14/2009 1:29:00AM
Chrysene	BDL	0.0117	0.128		mg/kg dry	1	0920126	5/14/2009 1:29:00AM
Dibenz(a,h)anthracene	BDL	0.0156	0.128		mg/kg dry	1	0920126	5/14/2009 1:29:00AM
Dibenzofuran	BDL	0.0169	0.128		mg/kg dry	1	0920126	5/14/2009 1:29:00AM
Diethyl phthalate	BDL	0.0196	0.128		mg/kg dry	1	0920126	5/14/2009 1:29:00AM
Dimethyl phthalate	BDL	0.0169	0.128		mg/kg dry	1	0920126	5/14/2009 1:29:00AM
Di-n-butyl phthalate	BDL	0.0158	0.128		mg/kg dry	1	0920126	5/14/2009 1:29:00AM
Di-n-octyl phthalate	BDL	0.0152	0.128		mg/kg dry	1	0920126	5/14/2009 1:29:00AM
Fluoranthene	BDL	0.00977	0.128		mg/kg dry	1	0920126	5/14/2009 1:29:00AM
Fluorene	BDL	0.0165	0.128		mg/kg dry	1	0920126	5/14/2009 1:29:00AM
Hexachlorobenzene	BDL	0.0174	0.128		mg/kg dry	1	0920126	5/14/2009 1:29:00AM
Hexachlorobutadiene	BDL	0.0121	0.128		mg/kg dry	1	0920126	5/14/2009 1:29:00AM
Hexachlorocyclopentadiene	BDL	0.0182	0.128		mg/kg dry	1	0920126	5/14/2009 1:29:00AM
Hexachloroethane	BDL	0.0130	0.128		mg/kg dry	1	0920126	5/14/2009 1:29:00AM
Hexachloropropene	BDL	0.0201	0.128		mg/kg dry	1	0920126	5/14/2009 1:29:00AM

Belmont Labs **Date:** 5/15/2009

CLIENT: RM Broyles Company LLC
Project: Scarff
Lab Order: 09E0413

Lab ID: 09E0413-02
Client Sample ID: Pile 2
Collection Date: 5/8/2009 9:40:00AM
Matrix: Soil

Analysis	Result	MDL	PQL	Qual	Units	Dilution	Batch	Date Analyzed
Indeno(1,2,3-cd)pyrene	BDL	0.0167	0.128		mg/kg dry	1	0920126	5/14/2009 1:29:00AM
Isophorone	BDL	0.0116	0.128		mg/kg dry	1	0920126	5/14/2009 1:29:00AM
Naphthalene	BDL	0.0163	0.128		mg/kg dry	1	0920126	5/14/2009 1:29:00AM
Nitrobenzene	BDL	0.0160	0.128		mg/kg dry	1	0920126	5/14/2009 1:29:00AM
N-Nitrosodimethylamine	BDL	0.0204	0.128		mg/kg dry	1	0920126	5/14/2009 1:29:00AM
N-Nitroso-di-n-butylamine	BDL	0.0164	0.128		mg/kg dry	1	0920126	5/14/2009 1:29:00AM
N-Nitrosodi-n-propylamine	BDL	0.0177	0.128		mg/kg dry	1	0920126	5/14/2009 1:29:00AM
N-Nitrosodiphenylamine	BDL	0.0297	0.128		mg/kg dry	1	0920126	5/14/2009 1:29:00AM
Pentachlorobenzene	BDL	0.0185	0.128		mg/kg dry	1	0920126	5/14/2009 1:29:00AM
Pentachloronitrobenzene	BDL	0.0193	0.128		mg/kg dry	1	0920126	5/14/2009 1:29:00AM
Pentachlorophenol	BDL	0.0191	0.128		mg/kg dry	1	0920126	5/14/2009 1:29:00AM
Phenanthrene	BDL	0.0121	0.128		mg/kg dry	1	0920126	5/14/2009 1:29:00AM
Phenol	BDL	0.0183	0.128		mg/kg dry	1	0920126	5/14/2009 1:29:00AM
Pyrene	BDL	0.0202	0.128		mg/kg dry	1	0920126	5/14/2009 1:29:00AM
Pyridine	BDL	0.0278	0.128		mg/kg dry	1	0920126	5/14/2009 1:29:00AM
Bis(2-chloroisopropyl)ether	BDL	0.0173	0.128		mg/kg dry	1	0920126	5/14/2009 1:29:00AM
Surrogate: 2-Fluorophenol		*42.5 %*			*18-59*		*0920126*	5/14/2009 1:29:00AM
Surrogate: Phenol-d6		*45.2 %*			*14-64*		*0920126*	5/14/2009 1:29:00AM
Surrogate: Nitrobenzene-d5		*46.3 %*			*28-58*		*0920126*	5/14/2009 1:29:00AM
Surrogate: 2-Fluorobiphenyl		*47.2 %*			*32-55*		*0920126*	5/14/2009 1:29:00AM
Surrogate: 2,4,6-Tribromophenol		*56.6 %*			*22-72*		*0920126*	5/14/2009 1:29:00AM
Surrogate: Terphenyl-d14		*50.6 %*			*26-60*		*0920126*	5/14/2009 1:29:00AM
HG		**SW 7471**					**Analyst: KC**	
Mercury	BDL	0.00207	0.127		mg/kg dry	1	0920227	5/15/2009 10:08:13AM

Belmont Labs **Date:** 5/15/2009

CLIENT: RM Broyles Company LLC
Project: Scarff
Lab Order: 09E0413

Lab ID: 09E0413-03
Client Sample ID: Pile 3
Collection Date: 5/8/2009 9:45:00AM
Matrix: Soil

Analysis	Result	MDL	PQL	Qual	Units	Dilution	Batch	Date Analyzed
PP Metals List		**SW 6010B**					**Analyst: RJE**	
Antimony	BDL	0.562	6.70		mg/kg dry	1	0920226	5/15/2009 5:32:56AM
Arsenic	**14.6**	0.586	1.34		mg/kg dry	1	0920226	5/15/2009 5:32:56AM
Beryllium	**0.800**	0.0123	0.670		mg/kg dry	1	0920226	5/15/2009 5:32:56AM
Cadmium	**1.37**	0.0261	1.34		mg/kg dry	1	0920226	5/15/2009 5:32:56AM
Chromium	**15.7**	0.0592	1.34		mg/kg dry	1	0920226	5/15/2009 5:32:56AM
Copper	**22.8**	0.282	1.34		mg/kg dry	1	0920226	5/15/2009 5:32:56AM
Lead	**25.7**	0.444	6.70		mg/kg dry	1	0920226	5/15/2009 5:32:56AM
Nickel	**24.1**	0.169	1.34		mg/kg dry	1	0920226	5/15/2009 5:32:56AM
Selenium	BDL	0.682	6.70		mg/kg dry	1	0920226	5/15/2009 5:32:56AM
Silver	BDL	0.0650	1.34		mg/kg dry	1	0920226	5/15/2009 5:32:56AM
Thallium	BDL	0.504	6.70		mg/kg dry	1	0920226	5/15/2009 5:32:56AM
Zinc	**81.6**	0.525	6.70		mg/kg dry	1	0920226	5/15/2009 5:32:56AM
VOC 8260		**SW 8260A**					**Analyst: kds**	
1,1,1,2-Tetrachloroethane	BDL	0.00292	0.00643		mg/kg dry	1	0920125	5/14/2009 5:12:00PM
1,1,1-Trichloroethane	BDL	0.00263	0.00643		mg/kg dry	1	0920125	5/14/2009 5:12:00PM
1,1,2,2-Tetrachloroethane	BDL	0.00205	0.00643		mg/kg dry	1	0920125	5/14/2009 5:12:00PM
1,1,2-Trichloroethane	BDL	0.00255	0.00643		mg/kg dry	1	0920125	5/14/2009 5:12:00PM
1,1-Dichloroethane	BDL	0.000792	0.00643		mg/kg dry	1	0920125	5/14/2009 5:12:00PM
1,1-Dichloroethene	BDL	0.00202	0.00643		mg/kg dry	1	0920125	5/14/2009 5:12:00PM
1,1-Dichloropropene	BDL	0.00165	0.00643		mg/kg dry	1	0920125	5/14/2009 5:12:00PM
1,2-Dibromoethane	BDL	0.00293	0.00643		mg/kg dry	1	0920125	5/14/2009 5:12:00PM
1,2-Dichloroethane	BDL	0.00264	0.00643		mg/kg dry	1	0920125	5/14/2009 5:12:00PM
1,2-Dichloropropane	BDL	0.00208	0.00643		mg/kg dry	1	0920125	5/14/2009 5:12:00PM
1,3-Dichloropropane	BDL	0.00249	0.00643		mg/kg dry	1	0920125	5/14/2009 5:12:00PM
2,2-Dichloropropane	BDL	0.00324	0.00643		mg/kg dry	1	0920125	5/14/2009 5:12:00PM
2-Butanone	BDL	0.00563	0.0257		mg/kg dry	1	0920125	5/14/2009 5:12:00PM
2-Chloroethyl vinyl ether	BDL	0.00208	0.0129		mg/kg dry	1	0920125	5/14/2009 5:12:00PM
2-Chlorotoluene	BDL	0.00172	0.00643		mg/kg dry	1	0920125	5/14/2009 5:12:00PM
2-Hexanone	BDL	0.00489	0.0257		mg/kg dry	1	0920125	5/14/2009 5:12:00PM
4-Chlorotoluene	BDL	0.00214	0.00643		mg/kg dry	1	0920125	5/14/2009 5:12:00PM
4-Methyl-2-pentanone	BDL	0.00313	0.0257		mg/kg dry	1	0920125	5/14/2009 5:12:00PM
Acetone	BDL	0.00744	0.0643		mg/kg dry	1	0920125	5/14/2009 5:12:00PM
Acetonitrile	BDL	0.00314	0.0514		mg/kg dry	1	0920125	5/14/2009 5:12:00PM
Acrolein	BDL	0.0127	0.0257		mg/kg dry	1	0920125	5/14/2009 5:12:00PM
Acrylonitrile	BDL	0.000806	0.0257		mg/kg dry	1	0920125	5/14/2009 5:12:00PM
Allyl chloride	BDL	0.00553	0.0129		mg/kg dry	1	0920125	5/14/2009 5:12:00PM
Benzene	BDL	0.00196	0.00643		mg/kg dry	1	0920125	5/14/2009 5:12:00PM
Bromobenzene	BDL	0.00221	0.00643		mg/kg dry	1	0920125	5/14/2009 5:12:00PM
Bromochloromethane	BDL	0.000516	0.00643		mg/kg dry	1	0920125	5/14/2009 5:12:00PM
Bromodichloromethane	BDL	0.00226	0.00643		mg/kg dry	1	0920125	5/14/2009 5:12:00PM
Bromoform	BDL	0.00171	0.00643		mg/kg dry	1	0920125	5/14/2009 5:12:00PM
Bromomethane	BDL	0.00295	0.00643		mg/kg dry	1	0920125	5/14/2009 5:12:00PM
Carbon Disulfide	BDL	0.00220	0.0257		mg/kg dry	1	0920125	5/14/2009 5:12:00PM
Carbon Tetrachloride	BDL	0.00314	0.00643		mg/kg dry	1	0920125	5/14/2009 5:12:00PM

Belmont Labs **Date:** 5/15/2009

CLIENT: RM Broyles Company LLC
Project: Scarff
Lab Order: 09E0413

Lab ID: 09E0413-03
Client Sample ID: Pile 3
Collection Date: 5/8/2009 9:45:00AM
Matrix: Soil

Analysis	Result	MDL	PQL	Qual	Units	Dilution	Batch	Date Analyzed
Chlorobenzene	BDL	0.00208	0.00643		mg/kg dry	1	0920125	5/14/2009 5:12:00PM
Chloroethane	BDL	0.00178	0.00643		mg/kg dry	1	0920125	5/14/2009 5:12:00PM
Chloroform	BDL	0.00202	0.00643		mg/kg dry	1	0920125	5/14/2009 5:12:00PM
Chloromethane	BDL	0.000753	0.00643		mg/kg dry	1	0920125	5/14/2009 5:12:00PM
cis-1,2-Dichloroethene	BDL	0.00243	0.00643		mg/kg dry	1	0920125	5/14/2009 5:12:00PM
cis-1,3-Dichloropropene	BDL	0.000910	0.00643		mg/kg dry	1	0920125	5/14/2009 5:12:00PM
Dibromochloromethane	BDL	0.00230	0.00643		mg/kg dry	1	0920125	5/14/2009 5:12:00PM
Dibromomethane	BDL	0.00211	0.00643		mg/kg dry	1	0920125	5/14/2009 5:12:00PM
Dichlorodifluoromethane	BDL	0.000634	0.00643		mg/kg dry	1	0920125	5/14/2009 5:12:00PM
Ethylbenzene	BDL	0.00189	0.00643		mg/kg dry	1	0920125	5/14/2009 5:12:00PM
Iodomethane	BDL	0.000978	0.0129		mg/kg dry	1	0920125	5/14/2009 5:12:00PM
Methylene Chloride	BDL	0.00238	0.00643		mg/kg dry	1	0920125	5/14/2009 5:12:00PM
Methyl tert-Butyl Ether	BDL	0.00435	0.0129		mg/kg dry	1	0920125	5/14/2009 5:12:00PM
m,p-Xylene	BDL	0.00393	0.0129		mg/kg dry	1	0920125	5/14/2009 5:12:00PM
n-Hexane	BDL	0.00231	0.00643		mg/kg dry	1	0920125	5/14/2009 5:12:00PM
o-Xylene	BDL	0.00203	0.00643		mg/kg dry	1	0920125	5/14/2009 5:12:00PM
Styrene	BDL	0.00199	0.00643		mg/kg dry	1	0920125	5/14/2009 5:12:00PM
Tetrachloroethene	BDL	0.00225	0.00643		mg/kg dry	1	0920125	5/14/2009 5:12:00PM
Toluene	BDL	0.00189	0.00643		mg/kg dry	1	0920125	5/14/2009 5:12:00PM
trans-1,2-Dichloroethene	BDL	0.00214	0.00643		mg/kg dry	1	0920125	5/14/2009 5:12:00PM
trans-1,3-Dichloropropene	BDL	0.00392	0.00643		mg/kg dry	1	0920125	5/14/2009 5:12:00PM
Trichloroethene	BDL	0.00178	0.00643		mg/kg dry	1	0920125	5/14/2009 5:12:00PM
Trichlorofluoromethane	BDL	0.00319	0.00643		mg/kg dry	1	0920125	5/14/2009 5:12:00PM
Vinyl Chloride	BDL	0.00134	0.00643		mg/kg dry	1	0920125	5/14/2009 5:12:00PM
Vinyl acetate	BDL	0.00580	0.0129		mg/kg dry	1	0920125	5/14/2009 5:12:00PM
Surrogate: 4-Bromofluorobenzene		*78.2 %*			*34-118*		*0920125*	5/14/2009 5:12:00PM
Surrogate: Dibromofluoromethane		*89.1 %*			*61-152*		*0920125*	5/14/2009 5:12:00PM
Surrogate: Toluene-d8		*82.2 %*			*44-119*		*0920125*	5/14/2009 5:12:00PM
Surrogate: 1,2-Dichloroethane-d4		*86.6 %*			*39-123*		*0920125*	5/14/2009 5:12:00PM
PMOIST		**D 2216**					**Analyst:**	**AD**
Percent Moisture	**22.2**				% by Weight	1	0920267	5/15/2009 2:31:00PM
SVOC 8270		**SW 8270C**					**Analyst:**	**DAG**
1,2,4,5-Tetrachlorobenzene	BDL	0.0181	0.128		mg/kg dry	1	0920126	5/14/2009 2:11:00AM
1,2,4-Trichlorobenzene	BDL	0.0141	0.128		mg/kg dry	1	0920126	5/14/2009 2:11:00AM
1,2-Dichlorobenzene	BDL	0.0117	0.128		mg/kg dry	1	0920126	5/14/2009 2:11:00AM
1,2-Diphenylhydrazine	BDL	0.0245	0.128		mg/kg dry	1	0920126	5/14/2009 2:11:00AM
1,3-Dichlorobenzene	BDL	0.0176	0.128		mg/kg dry	1	0920126	5/14/2009 2:11:00AM
1,4-Dichlorobenzene	BDL	0.0131	0.128		mg/kg dry	1	0920126	5/14/2009 2:11:00AM
2,3,4,6-Tetrachlorophenol	BDL	0.0207	0.128		mg/kg dry	1	0920126	5/14/2009 2:11:00AM
2,4,5-Trichlorophenol	BDL	0.0205	0.128		mg/kg dry	1	0920126	5/14/2009 2:11:00AM
2,4,6-Trichlorophenol	BDL	0.0159	0.128		mg/kg dry	1	0920126	5/14/2009 2:11:00AM
2,4-Dichlorophenol	BDL	0.0149	0.128		mg/kg dry	1	0920126	5/14/2009 2:11:00AM

Belmont Labs **Date:** 5/15/2009

CLIENT: RM Broyles Company LLC **Lab Order:** 09E0413
Project: Scarff

Lab ID: 09E0413-03 **Collection Date:** 5/8/2009 9:45:00AM
Client Sample ID: Pile 3 **Matrix:** Soil

Analysis	Result	MDL	PQL	Qual	Units	Dilution	Batch	Date Analyzed
2,4-Dimethylphenol	BDL	0.0179	0.128		mg/kg dry	1	0920126	5/14/2009 2:11:00AM
2,4-Dinitrophenol	BDL	0.0166	0.128		mg/kg dry	1	0920126	5/14/2009 2:11:00AM
2,4-Dinitrotoluene	BDL	0.0190	0.128		mg/kg dry	1	0920126	5/14/2009 2:11:00AM
2,6-Dichlorophenol	BDL	0.0148	0.128		mg/kg dry	1	0920126	5/14/2009 2:11:00AM
2,6-Dinitrotoluene	BDL	0.0171	0.128		mg/kg dry	1	0920126	5/14/2009 2:11:00AM
2-Chloronaphthalene	BDL	0.0186	0.128		mg/kg dry	1	0920126	5/14/2009 2:11:00AM
2-Chlorophenol	BDL	0.0154	0.128		mg/kg dry	1	0920126	5/14/2009 2:11:00AM
2-Methylnaphthalene	BDL	0.0155	0.128		mg/kg dry	1	0920126	5/14/2009 2:11:00AM
2-Methylphenol	BDL	0.0166	0.128		mg/kg dry	1	0920126	5/14/2009 2:11:00AM
2-Nitrophenol	BDL	0.0100	0.128		mg/kg dry	1	0920126	5/14/2009 2:11:00AM
3 & 4-Methylphenol	BDL	0.0253	0.128		mg/kg dry	1	0920126	5/14/2009 2:11:00AM
4,6-Dinitro-2-methylphenol	BDL	0.0167	0.128		mg/kg dry	1	0920126	5/14/2009 2:11:00AM
4-Bromophenyl phenyl ether	BDL	0.0150	0.128		mg/kg dry	1	0920126	5/14/2009 2:11:00AM
4-Chloro-3-methylphenol	BDL	0.0113	0.128		mg/kg dry	1	0920126	5/14/2009 2:11:00AM
4-Chlorophenyl phenyl ether	BDL	0.0171	0.128		mg/kg dry	1	0920126	5/14/2009 2:11:00AM
4-Nitrophenol	BDL	0.0130	0.128		mg/kg dry	1	0920126	5/14/2009 2:11:00AM
Acenaphthene	BDL	0.00174	0.128		mg/kg dry	1	0920126	5/14/2009 2:11:00AM
Acenaphthylene	BDL	0.0182	0.128		mg/kg dry	1	0920126	5/14/2009 2:11:00AM
Acetophenone	BDL	0.00885	0.128		mg/kg dry	1	0920126	5/14/2009 2:11:00AM
Aniline	BDL	0.0155	0.128		mg/kg dry	1	0920126	5/14/2009 2:11:00AM
Anthracene	BDL	0.119	0.128		mg/kg dry	1	0920126	5/14/2009 2:11:00AM
Benz(a)anthracene	BDL	0.0174	0.128		mg/kg dry	1	0920126	5/14/2009 2:11:00AM
Benzidine	BDL	0.0229	0.128		mg/kg dry	1	0920126	5/14/2009 2:11:00AM
Benzo(a)pyrene	BDL	0.0111	0.128		mg/kg dry	1	0920126	5/14/2009 2:11:00AM
Benzo(b)fluoranthene	BDL	0.0206	0.128		mg/kg dry	1	0920126	5/14/2009 2:11:00AM
Benzo(g,h,i)perylene	BDL	0.0134	0.128		mg/kg dry	1	0920126	5/14/2009 2:11:00AM
Benzo(k)fluoranthene	BDL	0.0171	0.128		mg/kg dry	1	0920126	5/14/2009 2:11:00AM
Benzyl Alcohol	BDL	0.0148	0.128		mg/kg dry	1	0920126	5/14/2009 2:11:00AM
Bis(2-chloroethoxy)methane	BDL	0.0213	0.128		mg/kg dry	1	0920126	5/14/2009 2:11:00AM
bis-(2-Chloroethyl)ether	BDL	0.0191	0.128		mg/kg dry	1	0920126	5/14/2009 2:11:00AM
Bis(2-ethylhexyl)phthalate	BDL	0.0207	0.128		mg/kg dry	1	0920126	5/14/2009 2:11:00AM
Butyl benzyl phthalate	BDL	0.0153	0.128		mg/kg dry	1	0920126	5/14/2009 2:11:00AM
Chrysene	BDL	0.0118	0.128		mg/kg dry	1	0920126	5/14/2009 2:11:00AM
Dibenz(a,h)anthracene	BDL	0.0156	0.128		mg/kg dry	1	0920126	5/14/2009 2:11:00AM
Dibenzofuran	BDL	0.0169	0.128		mg/kg dry	1	0920126	5/14/2009 2:11:00AM
Diethyl phthalate	BDL	0.0197	0.128		mg/kg dry	1	0920126	5/14/2009 2:11:00AM
Dimethyl phthalate	BDL	0.0169	0.128		mg/kg dry	1	0920126	5/14/2009 2:11:00AM
Di-n-butyl phthalate	BDL	0.0159	0.128		mg/kg dry	1	0920126	5/14/2009 2:11:00AM
Di-n-octyl phthalate	BDL	0.0153	0.128		mg/kg dry	1	0920126	5/14/2009 2:11:00AM
Fluoranthene	BDL	0.00980	0.128		mg/kg dry	1	0920126	5/14/2009 2:11:00AM
Fluorene	BDL	0.0166	0.128		mg/kg dry	1	0920126	5/14/2009 2:11:00AM
Hexachlorobenzene	BDL	0.0174	0.128		mg/kg dry	1	0920126	5/14/2009 2:11:00AM
Hexachlorobutadiene	BDL	0.0122	0.128		mg/kg dry	1	0920126	5/14/2009 2:11:00AM
Hexachlorocyclopentadiene	BDL	0.0183	0.128		mg/kg dry	1	0920126	5/14/2009 2:11:00AM
Hexachloroethane	BDL	0.0131	0.128		mg/kg dry	1	0920126	5/14/2009 2:11:00AM
Hexachloropropene	BDL	0.0201	0.128		mg/kg dry	1	0920126	5/14/2009 2:11:00AM

Belmont Labs **Date:** 5/15/2009

CLIENT: RM Broyles Company LLC
Project: Scarff
Lab Order: 09E0413

Lab ID: 09E0413-03
Client Sample ID: Pile 3
Collection Date: 5/8/2009 9:45:00AM
Matrix: Soil

Analysis	Result	MDL	PQL	Qual	Units	Dilution	Batch	Date Analyzed
Indeno(1,2,3-cd)pyrene	BDL	0.0167	0.128		mg/kg dry	1	0920126	5/14/2009 2:11:00AM
Isophorone	BDL	0.0116	0.128		mg/kg dry	1	0920126	5/14/2009 2:11:00AM
Naphthalene	BDL	0.0164	0.128		mg/kg dry	1	0920126	5/14/2009 2:11:00AM
Nitrobenzene	BDL	0.0161	0.128		mg/kg dry	1	0920126	5/14/2009 2:11:00AM
N-Nitrosodimethylamine	BDL	0.0205	0.128		mg/kg dry	1	0920126	5/14/2009 2:11:00AM
N-Nitroso-di-n-butylamine	BDL	0.0165	0.128		mg/kg dry	1	0920126	5/14/2009 2:11:00AM
N-Nitrosodi-n-propylamine	BDL	0.0178	0.128		mg/kg dry	1	0920126	5/14/2009 2:11:00AM
N-Nitrosodiphenylamine	BDL	0.0298	0.128		mg/kg dry	1	0920126	5/14/2009 2:11:00AM
Pentachlorobenzene	BDL	0.0186	0.128		mg/kg dry	1	0920126	5/14/2009 2:11:00AM
Pentachloronitrobenzene	BDL	0.0194	0.128		mg/kg dry	1	0920126	5/14/2009 2:11:00AM
Pentachlorophenol	BDL	0.0192	0.128		mg/kg dry	1	0920126	5/14/2009 2:11:00AM
Phenanthrene	BDL	0.0121	0.128		mg/kg dry	1	0920126	5/14/2009 2:11:00AM
Phenol	BDL	0.0183	0.128		mg/kg dry	1	0920126	5/14/2009 2:11:00AM
Pyrene	BDL	0.0202	0.128		mg/kg dry	1	0920126	5/14/2009 2:11:00AM
Pyridine	BDL	0.0279	0.128		mg/kg dry	1	0920126	5/14/2009 2:11:00AM
Bis(2-chloroisopropyl)ether	BDL	0.0173	0.128		mg/kg dry	1	0920126	5/14/2009 2:11:00AM
Surrogate: 2-Fluorophenol		*40.0 %*			*18-59*		*0920126*	5/14/2009 2:11:00AM
Surrogate: Phenol-d6		*41.5 %*			*14-64*		*0920126*	5/14/2009 2:11:00AM
Surrogate: Nitrobenzene-d5		*41.3 %*			*28-58*		*0920126*	5/14/2009 2:11:00AM
Surrogate: 2-Fluorobiphenyl		*47.3 %*			*32-55*		*0920126*	5/14/2009 2:11:00AM
Surrogate: 2,4,6-Tribromophenol		*58.8 %*			*22-72*		*0920126*	5/14/2009 2:11:00AM
Surrogate: Terphenyl-d14		*49.0 %*			*26-60*		*0920126*	5/14/2009 2:11:00AM
HG		**SW 7471**					**Analyst: KC**	
Mercury	BDL	0.00217	0.133		mg/kg dry	1	0920227	5/15/2009 10:08:13AM

Belmont Labs
The Environmental Service Company.

ANALYTICAL REQUEST CHAIN OF CUSTODY

Internal Lab Order Number 09E0413

Purchase Order No.	Quote No.	Client Project
		SCARFF

INVOICE TO
Name: MIKE BROYLES, MEMBER
Company: RM BROYLES COMPANY LLC
Address: P.O. BOX 13154
City, State, Zip: DAYTON, OH 45413

REPORT TO
Name:
Company:
Mailing Address:
City, State, Zip:
Phone No. Fax No.

Date Results Req: Rush Charges Authorized? ☐ Yes ☐ No
Fax Results ☐

Special Instructions:

Additional QC Requirements: Level 2, Level 3, Level 4 (Charges Apply)

Regulatory Type
☐ NPDES
☐ RCRA
☐ SDWA
☒ VAP
☐ Other
Collected in State of OH

Matrix Key
DW - Drinking Water
GW - Ground Water
S - Soil/Solid
SL - Sludge
WW - Waste Water
Specify Other

ANALYSIS REQUESTED
(Enter an "X" in the box below to indicate request and circle preservative)

CLIENT SAMPLE IDENTIFICATION	Date Sampled	Time	Comp	Grab	Matrix	Number of Containers	SW-846, 6010B P.P. METALS, TOTALS (HNO3, HCl, H2SO4, Ice, None, Other)	SW-846, 8260 VOCs (HNO3, HCl, H2SO4, Ice, None, Other)	SW-846, 8270 SVOCs (HNO3, HCl, H2SO4, Ice, None, Other)	(HNO3, HCl, H2SO4, Ice, None, Other)	(HNO3, HCl, H2SO4, Ice, None, Other)	(HNO3, HCl, H2SO4, Ice, None, Other)	(HNO3, HCl, H2SO4, Ice, None, Other)	(HNO3, HCl, H2SO4, Ice, None, Other)	Lab Only
PILE1	5.8.09	9:30		X	S	3	X	X	X						
PILE2	5.8.09	9:40		X	S	3	X	X	X						
PILE3	5.8.09	9:45		X	S	3	X	X	X						
						9 ICP									

CHAIN OF CUSTODY (if required)

Relinquished by: [signature] Date/Time 5/8/09 15:45 Received by: Date/Time

Relinquished by: Date/Time Received at lab by: Date/Time 5.8.09 1545

Method of Shipment: WALK-IN Cooler Temp. 3.8°C Custody Seals ☐ Yes ☒ No

Sampled by: R. Michael Broyles, member Date 5.8.09

Client Comments

Please return completed form and samples to Belmont Labs • 25 Holiday Drive • Englewood, OH 45322 • 937.832.8242 • Fax 937.832.2868

DISTRIBUTION:
WHITE - Laboratory
YELLOW - Accounting
PINK - Client Retains

A & B Litho-Form #9786-5/02

Total Metals by ICP - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0920226 - PREP_ICP_S										
Blank (0920226-BLK1)				Prepared: 05/14/09 Analyzed: 05/15/09						
Antimony	BDL	5.00	mg/kg wet							
Arsenic	BDL	1.00	mg/kg wet							
Beryllium	BDL	0.500	mg/kg wet							
Cadmium	BDL	1.00	mg/kg wet							
Chromium	BDL	1.00	mg/kg wet							
Copper	BDL	1.00	mg/kg wet							
Lead	BDL	5.00	mg/kg wet							
Nickel	BDL	1.00	mg/kg wet							
Selenium	BDL	5.00	mg/kg wet							
Silver	BDL	1.00	mg/kg wet							
Thallium	BDL	5.00	mg/kg wet							
Zinc	BDL	5.00	mg/kg wet							
LCS (0920226-BS1)				Prepared: 05/14/09 Analyzed: 05/15/09						
Antimony	98.3	5.00	mg/kg wet	100.0		98.3	80-120			
Arsenic	97.9	1.00	mg/kg wet	100.0		97.9	80-120			
Beryllium	102	0.500	mg/kg wet	100.0		102	80-120			
Cadmium	98.7	1.00	mg/kg wet	100.0		98.7	80-120			
Chromium	98.3	1.00	mg/kg wet	100.0		98.3	80-120			
Copper	97.9	1.00	mg/kg wet	100.0		97.9	80-120			
Lead	98.7	5.00	mg/kg wet	100.0		98.7	80-120			
Nickel	96.6	1.00	mg/kg wet	100.0		96.6	80-120			
Selenium	101	5.00	mg/kg wet	100.0		101	80-120			
Silver	104	1.00	mg/kg wet	100.0		104	80-120			
Thallium	92.6	5.00	mg/kg wet	100.0		92.6	80-120			
Zinc	103	5.00	mg/kg wet	100.0		103	80-120			
LCS Dup (0920226-BSD1)				Prepared: 05/14/09 Analyzed: 05/15/09						
Antimony	96.5	5.00	mg/kg wet	100.0		96.5	80-120	1.85	20	
Arsenic	95.8	1.00	mg/kg wet	100.0		95.8	80-120	2.17	20	
Beryllium	100	0.500	mg/kg wet	100.0		100	80-120	1.98	20	
Cadmium	96.4	1.00	mg/kg wet	100.0		96.4	80-120	2.36	20	
Chromium	95.9	1.00	mg/kg wet	100.0		95.9	80-120	2.47	20	
Copper	96.0	1.00	mg/kg wet	100.0		96.0	80-120	1.96	20	
Lead	96.4	5.00	mg/kg wet	100.0		96.4	80-120	2.36	20	
Nickel	94.2	1.00	mg/kg wet	100.0		94.2	80-120	2.52	20	
Selenium	99.9	5.00	mg/kg wet	100.0		99.9	80-120	1.10	20	
Silver	98.1	1.00	mg/kg wet	100.0		98.1	80-120	5.84	20	
Thallium	91.3	5.00	mg/kg wet	100.0		91.3	80-120	1.41	20	
Zinc	97.4	5.00	mg/kg wet	100.0		97.4	80-120	5.59	20	

Total Metals by ICP - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0920226 - PREP_ICP_S										
Matrix Spike (0920226-MS1)	**Source: 09E0209-28**			Prepared: 05/14/09 Analyzed: 05/15/09						
Antimony	141	6.83	mg/kg dry	136.5	9.97	95.7	75-125			
Arsenic	153	1.37	mg/kg dry	136.5	19.9	97.4	75-125			
Beryllium	131	0.683	mg/kg dry	136.5	0.515	95.3	75-125			
Cadmium	127	1.37	mg/kg dry	136.5	1.67	91.6	75-125			
Chromium	183	1.37	mg/kg dry	136.5	42.9	103	75-125			
Copper	451	1.37	mg/kg dry	136.5	254	144	75-125			QM-05
Lead	191	6.83	mg/kg dry	136.5	79.1	82.1	75-125			
Nickel	272	1.37	mg/kg dry	136.5	96.0	129	75-125			QM-05
Selenium	124	6.83	mg/kg dry	136.5	ND	90.5	75-125			
Silver	131	1.37	mg/kg dry	136.5	ND	95.8	75-125			
Thallium	112	6.83	mg/kg dry	136.5	ND	81.9	75-125			
Zinc	706	6.83	mg/kg dry	136.5	494	155	75-125			QM-05
Matrix Spike Dup (0920226-MSD1)	**Source: 09E0209-28**			Prepared: 05/14/09 Analyzed: 05/15/09						
Antimony	143	6.40	mg/kg dry	128.0	9.97	104	75-125	1.92	20	
Arsenic	148	1.28	mg/kg dry	128.0	19.9	100	75-125	2.94	20	
Beryllium	123	0.640	mg/kg dry	128.0	0.515	95.6	75-125	6.14	20	
Cadmium	119	1.28	mg/kg dry	128.0	1.67	91.6	75-125	6.34	20	
Chromium	200	1.28	mg/kg dry	128.0	42.9	123	75-125	8.74	20	
Copper	640	1.28	mg/kg dry	128.0	254	302	75-125	34.7	20	QM-05
Lead	232	6.40	mg/kg dry	128.0	79.1	119	75-125	19.2	20	
Nickel	352	1.28	mg/kg dry	128.0	96.0	200	75-125	25.7	20	QM-05
Selenium	115	6.40	mg/kg dry	128.0	ND	89.7	75-125	7.34	20	
Silver	127	1.28	mg/kg dry	128.0	ND	98.9	75-125	3.27	20	
Thallium	105	6.40	mg/kg dry	128.0	ND	82.3	75-125	5.96	20	
Zinc	1080	6.40	mg/kg dry	128.0	494	459	75-125	42.0	20	QM-05

Volatile Organic Compounds by EPA Method 8260A/B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0920125 - VOC PREP										
Blank (0920125-BLK1)				Prepared: 05/13/09 Analyzed: 05/14/09						
1,1,1,2-Tetrachloroethane	BDL	0.00500	mg/kg wet							
1,1,1-Trichloroethane	BDL	0.00500	mg/kg wet							
1,1,2,2-Tetrachloroethane	BDL	0.00500	mg/kg wet							
1,1,2-Trichloroethane	BDL	0.00500	mg/kg wet							
1,1-Dichloroethane	BDL	0.00500	mg/kg wet							
1,1-Dichloroethene	BDL	0.00500	mg/kg wet							
1,1-Dichloropropene	BDL	0.00500	mg/kg wet							
1,2-Dibromoethane	BDL	0.00500	mg/kg wet							
1,2-Dichloroethane	BDL	0.00500	mg/kg wet							
1,2-Dichloropropane	BDL	0.00500	mg/kg wet							
1,3-Dichloropropane	BDL	0.00500	mg/kg wet							
2,2-Dichloropropane	BDL	0.00500	mg/kg wet							
2-Butanone	BDL	0.0200	mg/kg wet							
2-Chloroethyl vinyl ether	BDL	0.0100	mg/kg wet							
2-Chlorotoluene	BDL	0.00500	mg/kg wet							
2-Hexanone	BDL	0.0200	mg/kg wet							
4-Chlorotoluene	BDL	0.00500	mg/kg wet							
4-Methyl-2-pentanone	BDL	0.0200	mg/kg wet							
Acetone	BDL	0.0500	mg/kg wet							
Acetonitrile	BDL	0.0400	mg/kg wet							
Acrolein	BDL	0.0200	mg/kg wet							
Acrylonitrile	BDL	0.0200	mg/kg wet							
Allyl chloride	BDL	0.0100	mg/kg wet							
Benzene	BDL	0.00500	mg/kg wet							
Bromobenzene	BDL	0.00500	mg/kg wet							
Bromochloromethane	BDL	0.00500	mg/kg wet							
Bromodichloromethane	BDL	0.00500	mg/kg wet							
Bromoform	BDL	0.00500	mg/kg wet							
Bromomethane	BDL	0.00500	mg/kg wet							
Carbon Disulfide	BDL	0.0200	mg/kg wet							
Carbon Tetrachloride	BDL	0.00500	mg/kg wet							
Chlorobenzene	BDL	0.00500	mg/kg wet							
Chloroethane	BDL	0.00500	mg/kg wet							
Chloroform	BDL	0.00500	mg/kg wet							
Chloromethane	BDL	0.00500	mg/kg wet							
cis-1,2-Dichloroethene	BDL	0.00500	mg/kg wet							
cis-1,3-Dichloropropene	BDL	0.00500	mg/kg wet							
Dibromochloromethane	BDL	0.00500	mg/kg wet							
Dibromomethane	BDL	0.00500	mg/kg wet							
Dichlorodifluoromethane	BDL	0.00500	mg/kg wet							
Ethylbenzene	BDL	0.00500	mg/kg wet							
Iodomethane	BDL	0.0100	mg/kg wet							
Methylene Chloride	BDL	0.00500	mg/kg wet							
Methyl tert-Butyl Ether	BDL	0.0100	mg/kg wet							
m,p-Xylene	BDL	0.0100	mg/kg wet							

Volatile Organic Compounds by EPA Method 8260A/B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0920125 - VOC PREP										
Blank (0920125-BLK1)				Prepared: 05/13/09 Analyzed: 05/14/09						
n-Hexane	BDL	0.00500	mg/kg wet							
o-Xylene	BDL	0.00500	mg/kg wet							
Styrene	BDL	0.00500	mg/kg wet							
Tetrachloroethene	BDL	0.00500	mg/kg wet							
Toluene	BDL	0.00500	mg/kg wet							
trans-1,2-Dichloroethene	BDL	0.00500	mg/kg wet							
trans-1,3-Dichloropropene	BDL	0.00500	mg/kg wet							
Trichloroethene	BDL	0.00500	mg/kg wet							
Trichlorofluoromethane	BDL	0.00500	mg/kg wet							
Vinyl Chloride	BDL	0.00500	mg/kg wet							
Vinyl acetate	BDL	0.0100	mg/kg wet							
Surrogate: 4-Bromofluorobenzene	*42.9*		*ug/L*	*50.00*		*85.8*	*34-118*			
Surrogate: Dibromofluoromethane	*42.3*		*ug/L*	*50.00*		*84.6*	*61-152*			
Surrogate: Toluene-d8	*41.8*		*ug/L*	*50.00*		*83.6*	*44-119*			
Surrogate: 1,2-Dichloroethane-d4	*40.1*		*ug/L*	*50.00*		*80.2*	*39-123*			
LCS (0920125-BS1)				Prepared: 05/13/09 Analyzed: 05/14/09						
1,1,2,2-Tetrachloroethane	0.0192	0.00500	mg/kg wet	0.02000		95.8	61-125			
1,1,2-Trichloroethane	0.0199	0.00500	mg/kg wet	0.02000		99.6	65-126			
1,1-Dichloroethane	0.0205	0.00500	mg/kg wet	0.02000		103	60-130			
1,1-Dichloroethene	0.0210	0.00500	mg/kg wet	0.02000		105	62-142			
1,1-Dichloropropene	0.0200	0.00500	mg/kg wet	0.02000		99.8	65-125			
1,2-Dichloroethane	0.0203	0.00500	mg/kg wet	0.02000		102	58-128			
1,2-Dichloropropane	0.0199	0.00500	mg/kg wet	0.02000		99.4	66-123			
2,2-Dichloropropane	0.0105	0.00500	mg/kg wet	0.02000		52.4	22-97			
2-Chloroethyl vinyl ether	0.0199	0.0100	mg/kg wet	0.02000		99.4	62-129			
2-Chlorotoluene	0.0203	0.00500	mg/kg wet	0.02000		101	63-126			
4-Chlorotoluene	0.0195	0.00500	mg/kg wet	0.02000		97.6	56-130			
4-Methyl-2-pentanone	0.0380	0.0200	mg/kg wet	0.04000		95.0	10-184			
Acetone	0.0384	0.0500	mg/kg wet	0.04000		95.9	10-172			
Acetonitrile	0.0197	0.0400	mg/kg wet	0.02000		98.6	20-149			
Acrylonitrile	0.0192	0.0200	mg/kg wet	0.02000		96.0	0-200			
Allyl chloride	0.0206	0.0100	mg/kg wet	0.02000		103	0-200			
Benzene	0.0201	0.00500	mg/kg wet	0.02000		100	67-124			
Bromobenzene	0.0195	0.00500	mg/kg wet	0.02000		97.4	61-125			
Bromochloromethane	0.0195	0.00500	mg/kg wet	0.02000		97.6	55-131			
Bromodichloromethane	0.0211	0.00500	mg/kg wet	0.02000		106	58-131			
Bromomethane	0.0430	0.00500	mg/kg wet	0.02000		215	58-190			L
Carbon Disulfide	0.0218	0.0200	mg/kg wet	0.02000		109	40-156			
Chlorobenzene	0.0201	0.00500	mg/kg wet	0.02000		100	65-123			
Chloroethane	0.0203	0.00500	mg/kg wet	0.02000		102	0-200			
Chloroform	0.0206	0.00500	mg/kg wet	0.02000		103	64-127			
Chloromethane	0.0173	0.00500	mg/kg wet	0.02000		86.5	29-148			
cis-1,2-Dichloroethene	0.0207	0.00500	mg/kg wet	0.02000		104	65-128			
Dibromomethane	0.0198	0.00500	mg/kg wet	0.02000		98.8	55-128			

Volatile Organic Compounds by EPA Method 8260A/B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0920125 - VOC PREP										
LCS (0920125-BS1)				Prepared: 05/13/09 Analyzed: 05/14/09						
Dichlorodifluoromethane	0.0171	0.00500	mg/kg wet	0.02000		85.4	25-167			
Ethylbenzene	0.0202	0.00500	mg/kg wet	0.02000		101	66-123			
Methylene Chloride	0.0234	0.00500	mg/kg wet	0.02000		117	35-149			
m,p-Xylene	0.0390	0.0100	mg/kg wet	0.04000		97.4	66-126			
n-Hexane	0.0179	0.00500	mg/kg wet	0.01802		99.5	10-189			
o-Xylene	0.0195	0.00500	mg/kg wet	0.02000		97.3	63-124			
Styrene	0.0208	0.00500	mg/kg wet	0.02000		104	63-125			
Tetrachloroethene	0.0195	0.00500	mg/kg wet	0.02000		97.4	29-174			
Toluene	0.0199	0.00500	mg/kg wet	0.02000		99.5	70-122			
trans-1,2-Dichloroethene	0.0199	0.00500	mg/kg wet	0.02000		99.3	63-129			
Trichloroethene	0.0196	0.00500	mg/kg wet	0.02000		98.0	68-126			
Trichlorofluoromethane	0.0186	0.00500	mg/kg wet	0.02000		93.1	52-142			
Vinyl Chloride	0.0178	0.00500	mg/kg wet	0.02000		88.8	0-200			
Vinyl acetate	BDL	0.0100	mg/kg wet	0.02000			0-200			
Surrogate: 4-Bromofluorobenzene	*43.4*		*ug/L*	*50.00*		*86.7*	*34-118*			
Surrogate: Dibromofluoromethane	*41.8*		*ug/L*	*50.00*		*83.5*	*61-152*			
Surrogate: Toluene-d8	*42.4*		*ug/L*	*50.00*		*84.9*	*44-119*			
Surrogate: 1,2-Dichloroethane-d4	*39.6*		*ug/L*	*50.00*		*79.2*	*39-123*			
LCS Dup (0920125-BSD1)				Prepared: 05/13/09 Analyzed: 05/14/09						
1,1,2,2-Tetrachloroethane	0.0201	0.00500	mg/kg wet	0.02000		100	61-125	4.64	21	
1,1,2-Trichloroethane	0.0212	0.00500	mg/kg wet	0.02000		106	65-126	6.36	16	
1,1-Dichloroethane	0.0210	0.00500	mg/kg wet	0.02000		105	60-130	2.17	17	
1,1-Dichloroethene	0.0214	0.00500	mg/kg wet	0.02000		107	62-142	1.70	19	
1,1-Dichloropropene	0.0208	0.00500	mg/kg wet	0.02000		104	65-125	3.93	14	
1,2-Dichloroethane	0.0214	0.00500	mg/kg wet	0.02000		107	58-128	5.09	18	
1,2-Dichloropropane	0.0207	0.00500	mg/kg wet	0.02000		103	66-123	3.85	15	
2,2-Dichloropropane	0.00832	0.00500	mg/kg wet	0.02000		41.6	22-97	23.1	39	
2-Chloroethyl vinyl ether	0.0207	0.0100	mg/kg wet	0.02000		103	62-129	3.85	22	
2-Chlorotoluene	0.0196	0.00500	mg/kg wet	0.02000		98.2	63-126	3.20	20	
4-Chlorotoluene	0.0191	0.00500	mg/kg wet	0.02000		95.4	56-130	2.38	18	
4-Methyl-2-pentanone	0.0422	0.0200	mg/kg wet	0.04000		105	10-184	10.4	40	
Acetone	0.0410	0.0500	mg/kg wet	0.04000		102	10-172	6.58	39	
Acetonitrile	0.0214	0.0400	mg/kg wet	0.02000		107	20-149	8.22	20	
Acrylonitrile	0.0213	0.0200	mg/kg wet	0.02000		107	0-200	10.4	200	
Allyl chloride	0.0214	0.0100	mg/kg wet	0.02000		107	0-200	3.96	200	
Benzene	0.0208	0.00500	mg/kg wet	0.02000		104	67-124	3.62	16	
Bromobenzene	0.0188	0.00500	mg/kg wet	0.02000		94.0	61-125	3.60	16	
Bromochloromethane	0.0204	0.00500	mg/kg wet	0.02000		102	55-131	4.41	16	
Bromodichloromethane	0.0217	0.00500	mg/kg wet	0.02000		108	58-131	2.71	21	
Bromomethane	0.0405	0.00500	mg/kg wet	0.02000		203	58-190	6.08	34	L
Carbon Disulfide	0.0220	0.0200	mg/kg wet	0.02000		110	40-156	1.05	16	
Chlorobenzene	0.0211	0.00500	mg/kg wet	0.02000		105	65-123	4.91	18	
Chloroethane	0.0217	0.00500	mg/kg wet	0.02000		109	0-200	6.80	200	
Chloroform	0.0209	0.00500	mg/kg wet	0.02000		105	64-127	1.30	16	

Volatile Organic Compounds by EPA Method 8260A/B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0920125 - VOC PREP										
LCS Dup (0920125-BSD1)				Prepared: 05/13/09 Analyzed: 05/14/09						
Chloromethane	0.0196	0.00500	mg/kg wet	0.02000		97.8	29-148	12.3	24	
cis-1,2-Dichloroethene	0.0207	0.00500	mg/kg wet	0.02000		103	65-128	0.193	16	
Dibromomethane	0.0208	0.00500	mg/kg wet	0.02000		104	55-128	5.08	22	
Dichlorodifluoromethane	0.0191	0.00500	mg/kg wet	0.02000		95.6	25-167	11.2	32	
Ethylbenzene	0.0209	0.00500	mg/kg wet	0.02000		104	66-123	3.21	16	
Methylene Chloride	0.0241	0.00500	mg/kg wet	0.02000		120	35-149	2.99	12	
m,p-Xylene	0.0373	0.0100	mg/kg wet	0.04000		93.3	66-126	4.27	16	
n-Hexane	0.0197	0.00500	mg/kg wet	0.01802		110	10-189	9.61	21	
o-Xylene	0.0188	0.00500	mg/kg wet	0.02000		94.2	63-124	3.18	17	
Styrene	0.0195	0.00500	mg/kg wet	0.02000		97.6	63-125	6.20	15	
Tetrachloroethene	0.0191	0.00500	mg/kg wet	0.02000		95.5	29-174	1.97	30	
Toluene	0.0201	0.00500	mg/kg wet	0.02000		101	70-122	1.05	16	
trans-1,2-Dichloroethene	0.0204	0.00500	mg/kg wet	0.02000		102	63-129	2.44	18	
Trichloroethene	0.0203	0.00500	mg/kg wet	0.02000		101	68-126	3.36	18	
Trichlorofluoromethane	0.0206	0.00500	mg/kg wet	0.02000		103	52-142	10.2	26	
Vinyl Chloride	0.0203	0.00500	mg/kg wet	0.02000		102	0-200	13.3	200	
Vinyl acetate	BDL	0.0100	mg/kg wet	0.02000			0-200		200	
Surrogate: 4-Bromofluorobenzene	*39.6*		*ug/L*	*50.00*		*79.3*	*34-118*			
Surrogate: Dibromofluoromethane	*42.2*		*ug/L*	*50.00*		*84.3*	*61-152*			
Surrogate: Toluene-d8	*41.3*		*ug/L*	*50.00*		*82.6*	*44-119*			
Surrogate: 1,2-Dichloroethane-d4	*40.8*		*ug/L*	*50.00*		*81.6*	*39-123*			
Matrix Spike (0920125-MS1)		**Source: 09E0413-02**		Prepared: 05/13/09 Analyzed: 05/14/09						
1,1,1,2-Tetrachloroethane	0.0201	0.00648	mg/kg dry	0.02591	ND	77.5	10-115			
1,1,1-Trichloroethane	0.0207	0.00648	mg/kg dry	0.02591	ND	79.9	16-131			
1,1,2,2-Tetrachloroethane	0.0203	0.00648	mg/kg dry	0.02591	ND	78.4	17-105			
1,1,2-Trichloroethane	0.0197	0.00648	mg/kg dry	0.02591	ND	75.9	10-140			
1,1-Dichloroethane	0.0223	0.00648	mg/kg dry	0.02591	ND	86.1	21-131			
1,1-Dichloroethene	0.0221	0.00648	mg/kg dry	0.02591	ND	85.3	10-154			
1,1-Dichloropropene	0.0198	0.00648	mg/kg dry	0.02591	ND	76.2	10-122			
1,2-Dibromoethane	0.0193	0.00648	mg/kg dry	0.02591	ND	74.4	10-117			
1,2-Dichloroethane	0.0207	0.00648	mg/kg dry	0.02591	ND	79.8	17-136			
1,2-Dichloropropane	0.0200	0.00648	mg/kg dry	0.02591	ND	77.1	25-118			
1,3-Dichloropropane	0.0192	0.00648	mg/kg dry	0.02591	ND	74.0	10-123			
2,2-Dichloropropane	0.0193	0.00648	mg/kg dry	0.02591	ND	74.6	10-145			
2-Butanone	BDL	0.0259	mg/kg dry	0.05183	ND		0-200			
2-Chloroethyl vinyl ether	0.0200	0.0130	mg/kg dry	0.02591	ND	77.1	0-200			
2-Chlorotoluene	0.0190	0.00648	mg/kg dry	0.02591	ND	73.4	10-95			
2-Hexanone	0.0268	0.0259	mg/kg dry	0.05183	ND	51.6	10-128			
4-Chlorotoluene	0.0171	0.00648	mg/kg dry	0.02591	ND	65.8	10-96			
4-Methyl-2-pentanone	0.0346	0.0259	mg/kg dry	0.05183	ND	66.8	0-200			
Acetone	0.0494	0.0648	mg/kg dry	0.05183	ND	95.3	0-200			
Acetonitrile	0.0102	0.0518	mg/kg dry	0.02591	ND	39.4	0-200			
Acrylonitrile	0.0154	0.0259	mg/kg dry	0.02591	ND	59.6	10-124			
Allyl chloride	0.0212	0.0130	mg/kg dry	0.02591	ND	81.7	0-200			

Volatile Organic Compounds by EPA Method 8260A/B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0920125 - VOC PREP										
Matrix Spike (0920125-MS1)	**Source: 09E0413-02**			Prepared: 05/13/09 Analyzed: 05/14/09						
Benzene	0.0204	0.00648	mg/kg dry	0.02591	ND	78.8	10-159			
Bromobenzene	0.0179	0.00648	mg/kg dry	0.02591	ND	69.1	10-100			
Bromochloromethane	0.0196	0.00648	mg/kg dry	0.02591	ND	75.8	22-128			
Bromodichloromethane	0.0198	0.00648	mg/kg dry	0.02591	ND	76.6	10-116			
Bromoform	0.0173	0.00648	mg/kg dry	0.02591	ND	66.9	10-100			
Bromomethane	0.0250	0.00648	mg/kg dry	0.02591	ND	96.6	10-126			
Carbon Disulfide	0.0229	0.0259	mg/kg dry	0.02591	ND	88.3	10-122			
Carbon Tetrachloride	0.0195	0.00648	mg/kg dry	0.02591	ND	75.3	10-116			
Chlorobenzene	0.0194	0.00648	mg/kg dry	0.02591	ND	74.7	10-110			
Chloroethane	0.0192	0.00648	mg/kg dry	0.02591	ND	73.9	0-200			
Chloroform	0.0214	0.00648	mg/kg dry	0.02591	ND	82.8	19-140			
Chloromethane	0.0195	0.00648	mg/kg dry	0.02591	ND	75.1	10-145			
cis-1,2-Dichloroethene	0.0211	0.00648	mg/kg dry	0.02591	ND	81.5	11-146			
cis-1,3-Dichloropropene	0.0168	0.00648	mg/kg dry	0.02591	ND	64.8	10-107			
Dibromochloromethane	0.0187	0.00648	mg/kg dry	0.02591	ND	72.3	10-109			
Dibromomethane	0.0200	0.00648	mg/kg dry	0.02591	ND	77.1	15-125			
Dichlorodifluoromethane	0.0202	0.00648	mg/kg dry	0.02591	ND	77.9	0-200			
Ethylbenzene	0.0206	0.00648	mg/kg dry	0.02591	ND	79.5	10-126			
Iodomethane	0.0164	0.0130	mg/kg dry	0.02591	ND	63.3	10-122			
Methylene Chloride	0.0257	0.00648	mg/kg dry	0.02591	ND	99.0	18-154			
Methyl tert-Butyl Ether	0.0211	0.0130	mg/kg dry	0.02591	ND	81.2	28-145			
m,p-Xylene	0.0372	0.0130	mg/kg dry	0.05183	ND	71.8	10-116			
n-Hexane	0.0200	0.00648	mg/kg dry	0.02334	ND	85.6	10-137			
o-Xylene	0.0174	0.00648	mg/kg dry	0.02591	ND	67.0	10-121			
Styrene	0.0163	0.00648	mg/kg dry	0.02591	ND	62.9	10-104			
Tetrachloroethene	0.0193	0.00648	mg/kg dry	0.02591	ND	74.6	10-131			
Toluene	0.0203	0.00648	mg/kg dry	0.02591	ND	78.4	13-119			
trans-1,2-Dichloroethene	0.0221	0.00648	mg/kg dry	0.02591	ND	85.4	13-129			
trans-1,3-Dichloropropene	0.0178	0.00648	mg/kg dry	0.02591	ND	68.5	10-107			
Trichloroethene	0.0197	0.00648	mg/kg dry	0.02591	ND	76.1	10-204			
Trichlorofluoromethane	0.0209	0.00648	mg/kg dry	0.02591	ND	80.6	0-200			
Vinyl Chloride	0.0221	0.00648	mg/kg dry	0.02591	ND	85.1	0-200			
Vinyl acetate	BDL	0.0130	mg/kg dry	0.02591	ND		0-200			
Surrogate: 4-Bromofluorobenzene	*42.0*		*ug/L*	*50.00*		*83.9*	*34-118*			
Surrogate: Dibromofluoromethane	*38.8*		*ug/L*	*50.00*		*77.6*	*61-152*			
Surrogate: Toluene-d8	*40.8*		*ug/L*	*50.00*		*81.6*	*44-119*			
Surrogate: 1,2-Dichloroethane-d4	*37.8*		*ug/L*	*50.00*		*75.6*	*39-123*			

Volatile Organic Compounds by EPA Method 8260A/B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0920125 - VOC PREP										
Matrix Spike Dup (0920125-MSD1)	**Source: 09E0413-02**			Prepared: 05/13/09 Analyzed: 05/14/09						
1,1,1,2-Tetrachloroethane	0.0213	0.00648	mg/kg dry	0.02591	ND	82.1	10-115	5.76	109	
1,1,1-Trichloroethane	0.0222	0.00648	mg/kg dry	0.02591	ND	85.6	16-131	6.95	72	
1,1,2,2-Tetrachloroethane	0.0223	0.00648	mg/kg dry	0.02591	ND	86.2	17-105	9.48	78	
1,1,2-Trichloroethane	0.0234	0.00648	mg/kg dry	0.02591	ND	90.2	10-140	17.3	59	
1,1-Dichloroethane	0.0233	0.00648	mg/kg dry	0.02591	ND	89.9	21-131	4.38	56	
1,1-Dichloroethene	0.0234	0.00648	mg/kg dry	0.02591	ND	90.2	10-154	5.64	64	
1,1-Dichloropropene	0.0216	0.00648	mg/kg dry	0.02591	ND	83.2	10-122	8.78	76	
1,2-Dibromoethane	0.0223	0.00648	mg/kg dry	0.02591	ND	85.9	10-117	14.3	92	
1,2-Dichloroethane	0.0225	0.00648	mg/kg dry	0.02591	ND	86.7	17-136	8.35	55	
1,2-Dichloropropane	0.0228	0.00648	mg/kg dry	0.02591	ND	87.8	25-118	13.0	58	
1,3-Dichloropropane	0.0229	0.00648	mg/kg dry	0.02591	ND	88.2	10-123	17.6	70	
2,2-Dichloropropane	0.0143	0.00648	mg/kg dry	0.02591	ND	55.0	10-145	30.2	45	
2-Butanone	0.0357	0.0259	mg/kg dry	0.05183	ND	68.8	0-200		200	
2-Chloroethyl vinyl ether	0.0228	0.0130	mg/kg dry	0.02591	ND	87.8	0-200	13.0	200	
2-Chlorotoluene	0.0191	0.00648	mg/kg dry	0.02591	ND	73.8	10-95	0.543	87	
2-Hexanone	0.0337	0.0259	mg/kg dry	0.05183	ND	65.1	10-128	23.1	22	R
4-Chlorotoluene	0.0186	0.00648	mg/kg dry	0.02591	ND	71.8	10-96	8.65	91	
4-Methyl-2-pentanone	0.0376	0.0259	mg/kg dry	0.05183	ND	72.6	0-200	8.28	200	
Acetone	0.0545	0.0648	mg/kg dry	0.05183	ND	105	0-200	9.90	200	
Acetonitrile	0.0148	0.0518	mg/kg dry	0.02591	ND	56.9	0-200	36.4	200	
Acrylonitrile	0.0146	0.0259	mg/kg dry	0.02591	ND	56.3	10-124	5.78	111	
Allyl chloride	0.0222	0.0130	mg/kg dry	0.02591	ND	85.5	0-200	4.48	200	
Benzene	0.0224	0.00648	mg/kg dry	0.02591	ND	86.6	10-159	9.43	67	
Bromobenzene	0.0193	0.00648	mg/kg dry	0.02591	ND	74.3	10-100	7.32	90	
Bromochloromethane	0.0231	0.00648	mg/kg dry	0.02591	ND	89.2	22-128	16.3	64	
Bromodichloromethane	0.0227	0.00648	mg/kg dry	0.02591	ND	87.6	10-116	13.4	96	
Bromoform	0.0208	0.00648	mg/kg dry	0.02591	ND	80.3	10-100	18.3	103	
Bromomethane	0.0240	0.00648	mg/kg dry	0.02591	ND	92.7	10-126	4.07	97	
Carbon Disulfide	0.0236	0.0259	mg/kg dry	0.02591	ND	91.1	10-122	3.12	78	
Carbon Tetrachloride	0.0221	0.00648	mg/kg dry	0.02591	ND	85.1	10-116	12.3	89	
Chlorobenzene	0.0201	0.00648	mg/kg dry	0.02591	ND	77.8	10-110	4.00	77	
Chloroethane	0.0189	0.00648	mg/kg dry	0.02591	ND	73.0	0-200	1.23	200	
Chloroform	0.0231	0.00648	mg/kg dry	0.02591	ND	88.9	19-140	7.22	60	
Chloromethane	0.0190	0.00648	mg/kg dry	0.02591	ND	73.2	10-145	2.56	34	
cis-1,2-Dichloroethene	0.0227	0.00648	mg/kg dry	0.02591	ND	87.5	11-146	7.10	64	
cis-1,3-Dichloropropene	0.0199	0.00648	mg/kg dry	0.02591	ND	76.8	10-107	16.9	89	
Dibromochloromethane	0.0221	0.00648	mg/kg dry	0.02591	ND	85.3	10-109	16.6	119	
Dibromomethane	0.0238	0.00648	mg/kg dry	0.02591	ND	91.7	15-125	17.3	67	
Dichlorodifluoromethane	0.0196	0.00648	mg/kg dry	0.02591	ND	75.7	0-200	2.86	200	
Ethylbenzene	0.0211	0.00648	mg/kg dry	0.02591	ND	81.4	10-126	2.30	66	
Iodomethane	0.0177	0.0130	mg/kg dry	0.02591	ND	68.3	10-122	7.59	72	
Methylene Chloride	0.0271	0.00648	mg/kg dry	0.02591	ND	105	18-154	5.50	50	
Methyl tert-Butyl Ether	0.0238	0.0130	mg/kg dry	0.02591	ND	91.9	28-145	12.3	47	
m,p-Xylene	0.0385	0.0130	mg/kg dry	0.05183	ND	74.4	10-116	3.52	69	
n-Hexane	0.0190	0.00648	mg/kg dry	0.02334	ND	81.4	10-137	4.99	105	

Volatile Organic Compounds by EPA Method 8260A/B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0920125 - VOC PREP										
Matrix Spike Dup (0920125-MSD1)	**Source: 09E0413-02**			Prepared: 05/13/09 Analyzed: 05/14/09						
o-Xylene	0.0200	0.00648	mg/kg dry	0.02591	ND	77.3	10-121	14.3	68	
Styrene	0.0192	0.00648	mg/kg dry	0.02591	ND	74.0	10-104	16.1	67	
Tetrachloroethene	0.0217	0.00648	mg/kg dry	0.02591	ND	83.9	10-131	11.8	78	
Toluene	0.0214	0.00648	mg/kg dry	0.02591	ND	82.4	13-119	4.98	68	
trans-1,2-Dichloroethene	0.0230	0.00648	mg/kg dry	0.02591	ND	88.7	13-129	3.85	65	
trans-1,3-Dichloropropene	0.0204	0.00648	mg/kg dry	0.02591	ND	78.8	10-107	14.0	78	
Trichloroethene	0.0214	0.00648	mg/kg dry	0.02591	ND	82.6	10-204	8.25	70	
Trichlorofluoromethane	0.0205	0.00648	mg/kg dry	0.02591	ND	79.2	0-200	1.75	200	
Vinyl Chloride	0.0214	0.00648	mg/kg dry	0.02591	ND	82.5	0-200	3.16	200	
Vinyl acetate	BDL	0.0130	mg/kg dry	0.02591	ND		0-200		200	
Surrogate: 4-Bromofluorobenzene	*41.9*		*ug/L*	*50.00*		*83.8*	*34-118*			
Surrogate: Dibromofluoromethane	*43.1*		*ug/L*	*50.00*		*86.1*	*61-152*			
Surrogate: Toluene-d8	*41.6*		*ug/L*	*50.00*		*83.2*	*44-119*			
Surrogate: 1,2-Dichloroethane-d4	*42.5*		*ug/L*	*50.00*		*85.0*	*39-123*			

Semivolatile Organic Compounds by EPA Method 8270C - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0920126 - PREP_SVOC_S										
Blank (0920126-BLK1)				Prepared & Analyzed: 05/13/09						
1,2,4,5-Tetrachlorobenzene	BDL	0.100	mg/kg wet							
1,2,4-Trichlorobenzene	BDL	0.100	mg/kg wet							
1,2-Dichlorobenzene	BDL	0.100	mg/kg wet							
1,2-Diphenylhydrazine	BDL	0.100	mg/kg wet							
1,3-Dichlorobenzene	BDL	0.100	mg/kg wet							
1,4-Dichlorobenzene	BDL	0.100	mg/kg wet							
2,3,4,6-Tetrachlorophenol	BDL	0.100	mg/kg wet							
2,4,5-Trichlorophenol	BDL	0.100	mg/kg wet							
2,4,6-Trichlorophenol	BDL	0.100	mg/kg wet							
2,4-Dichlorophenol	BDL	0.100	mg/kg wet							
2,4-Dimethylphenol	BDL	0.100	mg/kg wet							
2,4-Dinitrophenol	BDL	0.100	mg/kg wet							
2,4-Dinitrotoluene	BDL	0.100	mg/kg wet							
2,6-Dichlorophenol	BDL	0.100	mg/kg wet							
2,6-Dinitrotoluene	BDL	0.100	mg/kg wet							
2-Chloronaphthalene	BDL	0.100	mg/kg wet							
2-Chlorophenol	BDL	0.100	mg/kg wet							
2-Methylnaphthalene	BDL	0.100	mg/kg wet							
2-Methylphenol	BDL	0.100	mg/kg wet							
2-Nitrophenol	BDL	0.100	mg/kg wet							
3 & 4-Methylphenol	BDL	0.100	mg/kg wet							
4,6-Dinitro-2-methylphenol	BDL	0.100	mg/kg wet							
4-Bromophenyl phenyl ether	BDL	0.100	mg/kg wet							
4-Chloro-3-methylphenol	BDL	0.100	mg/kg wet							
4-Chlorophenyl phenyl ether	BDL	0.100	mg/kg wet							
4-Nitrophenol	BDL	0.100	mg/kg wet							
Acenaphthene	BDL	0.100	mg/kg wet							
Acenaphthylene	BDL	0.100	mg/kg wet							
Acetophenone	BDL	0.100	mg/kg wet							
Aniline	BDL	0.100	mg/kg wet							
Anthracene	BDL	0.100	mg/kg wet							
Benz(a)anthracene	BDL	0.100	mg/kg wet							
Benzidine	BDL	0.100	mg/kg wet							
Benzo(a)pyrene	BDL	0.100	mg/kg wet							
Benzo(b)fluoranthene	BDL	0.100	mg/kg wet							
Benzo(g,h,i)perylene	BDL	0.100	mg/kg wet							
Benzo(k)fluoranthene	BDL	0.100	mg/kg wet							
Benzyl Alcohol	BDL	0.100	mg/kg wet							
Bis(2-chloroethoxy)methane	BDL	0.100	mg/kg wet							
bis-(2-Chloroethyl)ether	BDL	0.100	mg/kg wet							
Bis(2-ethylhexyl)phthalate	BDL	0.100	mg/kg wet							
Butyl benzyl phthalate	BDL	0.100	mg/kg wet							
Chrysene	BDL	0.100	mg/kg wet							
Dibenz(a,h)anthracene	BDL	0.100	mg/kg wet							
Dibenzofuran	BDL	0.100	mg/kg wet							

Semivolatile Organic Compounds by EPA Method 8270C - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0920126 - PREP_SVOC_S										
Blank (0920126-BLK1)				Prepared & Analyzed: 05/13/09						
Diethyl phthalate	BDL	0.100	mg/kg wet							
Dimethyl phthalate	BDL	0.100	mg/kg wet							
Di-n-butyl phthalate	BDL	0.100	mg/kg wet							
Di-n-octyl phthalate	BDL	0.100	mg/kg wet							
Fluoranthene	BDL	0.100	mg/kg wet							
Fluorene	BDL	0.100	mg/kg wet							
Hexachlorobenzene	BDL	0.100	mg/kg wet							
Hexachlorobutadiene	BDL	0.100	mg/kg wet							
Hexachlorocyclopentadiene	BDL	0.100	mg/kg wet							
Hexachloroethane	BDL	0.100	mg/kg wet							
Hexachloropropene	BDL	0.100	mg/kg wet							
Indeno(1,2,3-cd)pyrene	BDL	0.100	mg/kg wet							
Isophorone	BDL	0.100	mg/kg wet							
Naphthalene	BDL	0.100	mg/kg wet							
Nitrobenzene	BDL	0.100	mg/kg wet							
N-Nitrosodimethylamine	BDL	0.100	mg/kg wet							
N-Nitroso-di-n-butylamine	BDL	0.100	mg/kg wet							
N-Nitrosodi-n-propylamine	BDL	0.100	mg/kg wet							
N-Nitrosodiphenylamine	BDL	0.100	mg/kg wet							
Pentachlorobenzene	BDL	0.100	mg/kg wet							
Pentachloronitrobenzene	BDL	0.100	mg/kg wet							
Pentachlorophenol	BDL	0.100	mg/kg wet							
Phenanthrene	BDL	0.100	mg/kg wet							
Phenol	BDL	0.100	mg/kg wet							
Pyrene	BDL	0.100	mg/kg wet							
Pyridine	BDL	0.100	mg/kg wet							
Bis(2-chloroisopropyl)ether	BDL	0.100	mg/kg wet							
Surrogate: 2-Fluorophenol	*0.588*		*mg/kg wet*	*1.333*		*44.1*	*18-59*			
Surrogate: Phenol-d6	*0.597*		*mg/kg wet*	*1.333*		*44.8*	*14-64*			
Surrogate: Nitrobenzene-d5	*0.558*		*mg/kg wet*	*1.333*		*41.8*	*28-58*			
Surrogate: 2-Fluorobiphenyl	*0.607*		*mg/kg wet*	*1.333*		*45.5*	*32-55*			
Surrogate: 2,4,6-Tribromophenol	*0.751*		*mg/kg wet*	*1.333*		*56.3*	*22-72*			
Surrogate: Terphenyl-d14	*0.652*		*mg/kg wet*	*1.333*		*48.9*	*26-60*			

Semivolatile Organic Compounds by EPA Method 8270C - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0920126 - PREP_SVOC_S										
LCS (0920126-BS1)				Prepared & Analyzed: 05/13/09						
1,2,4-Trichlorobenzene	2.90	0.100	mg/kg wet	3.333		86.9	60-106			
1,2-Dichlorobenzene	2.18	0.100	mg/kg wet	3.333		65.4	0-200			
1,3-Dichlorobenzene	2.17	0.100	mg/kg wet	3.333		65.0	0-200			
1,4-Dichlorobenzene	2.14	0.100	mg/kg wet	3.333		64.2	60-101			
2,3,4,6-Tetrachlorophenol	4.18	0.100	mg/kg wet	3.333		125	0-200			
2,4,5-Trichlorophenol	4.05	0.100	mg/kg wet	3.333		122	0-200			
2,4,6-Trichlorophenol	3.42	0.100	mg/kg wet	3.333		103	0-200			
2,4-Dichlorophenol	2.73	0.100	mg/kg wet	3.333		82.0	0-200			
2,4-Dimethylphenol	2.46	0.100	mg/kg wet	3.333		73.9	0-200			
2,4-Dinitrophenol	2.77	0.100	mg/kg wet	3.333		83.2	0-200			
2,4-Dinitrotoluene	3.30	0.100	mg/kg wet	3.333		99.1	66-115			
2,6-Dinitrotoluene	3.79	0.100	mg/kg wet	3.333		114	0-200			
2-Chloronaphthalene	3.59	0.100	mg/kg wet	3.333		108	0-200			
2-Chlorophenol	2.31	0.100	mg/kg wet	3.333		69.2	56-108			
2-Methylnaphthalene	2.63	0.100	mg/kg wet	3.333		79.0	0-200			
2-Methylphenol	2.34	0.100	mg/kg wet	3.333		70.3	0-200			
2-Nitrophenol	2.69	0.100	mg/kg wet	3.333		80.8	0-200			
3 & 4-Methylphenol	2.42	0.100	mg/kg wet	3.333		72.6	0-200			
4,6-Dinitro-2-methylphenol	BDL	0.100	mg/kg wet	3.333			0-200			
4-Bromophenyl phenyl ether	2.70	0.100	mg/kg wet	3.333		81.0	0-200			
4-Chloro-3-methylphenol	2.41	0.100	mg/kg wet	3.333		72.4	57-106			
4-Chlorophenyl phenyl ether	3.60	0.100	mg/kg wet	3.333		108	0-200			
4-Nitrophenol	3.31	0.100	mg/kg wet	3.333		99.2	18-139			
Acenaphthene	3.22	0.100	mg/kg wet	3.333		96.7	66-102			
Acenaphthylene	3.17	0.100	mg/kg wet	3.333		95.0	0-200			
Aniline	1.10	0.100	mg/kg wet	3.333		33.1	0-200			
Anthracene	2.48	0.100	mg/kg wet	3.333		74.4	0-200			
Benz(a)anthracene	2.32	0.100	mg/kg wet	3.333		69.7	0-200			
Benzo(a)pyrene	2.62	0.100	mg/kg wet	3.333		78.7	0-200			
Benzo(b)fluoranthene	2.34	0.100	mg/kg wet	3.333		70.1	0-200			
Benzo(g,h,i)perylene	2.82	0.100	mg/kg wet	3.333		84.7	0-200			
Benzo(k)fluoranthene	2.42	0.100	mg/kg wet	3.333		72.6	0-200			
Benzyl Alcohol	2.47	0.100	mg/kg wet	3.333		74.0	0-200			
Bis(2-chloroethoxy)methane	2.19	0.100	mg/kg wet	3.333		65.7	0-200			
bis-(2-Chloroethyl)ether	1.99	0.100	mg/kg wet	3.333		59.6	0-200			
Bis(2-ethylhexyl)phthalate	2.91	0.100	mg/kg wet	3.333		87.4	0-200			
Butyl benzyl phthalate	3.05	0.100	mg/kg wet	3.333		91.6	0-200			
Chrysene	2.64	0.100	mg/kg wet	3.333		79.2	0-200			
Dibenz(a,h)anthracene	3.10	0.100	mg/kg wet	3.333		92.9	0-200			
Dibenzofuran	3.07	0.100	mg/kg wet	3.333		92.2	0-200			
Diethyl phthalate	3.20	0.100	mg/kg wet	3.333		95.9	0-200			
Dimethyl phthalate	3.32	0.100	mg/kg wet	3.333		99.5	0-200			
Di-n-butyl phthalate	2.23	0.100	mg/kg wet	3.333		66.9	0-200			
Di-n-octyl phthalate	2.65	0.100	mg/kg wet	3.333		79.5	0-200			
Fluoranthene	2.50	0.100	mg/kg wet	3.333		75.0	0-200			

Semivolatile Organic Compounds by EPA Method 8270C - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0920126 - PREP_SVOC_S										
LCS (0920126-BS1)				Prepared & Analyzed: 05/13/09						
Fluorene	3.40	0.100	mg/kg wet	3.333		102	0-200			
Hexachlorobenzene	2.75	0.100	mg/kg wet	3.333		82.4	0-200			
Hexachlorobutadiene	2.84	0.100	mg/kg wet	3.333		85.3	0-200			
Hexachlorocyclopentadiene	4.64	0.100	mg/kg wet	3.333		139	0-200			
Hexachloroethane	2.41	0.100	mg/kg wet	3.333		72.2	0-200			
Indeno(1,2,3-cd)pyrene	2.91	0.100	mg/kg wet	3.333		87.4	0-200			
Isophorone	2.50	0.100	mg/kg wet	3.333		74.9	0-200			
Naphthalene	2.50	0.100	mg/kg wet	3.333		75.1	0-200			
Nitrobenzene	2.36	0.100	mg/kg wet	3.333		70.9	0-200			
N-Nitrosodimethylamine	1.85	0.100	mg/kg wet	3.333		55.5	0-200			
N-Nitrosodi-n-propylamine	2.62	0.100	mg/kg wet	3.333		78.7	47-106			
N-Nitrosodiphenylamine	2.46	0.100	mg/kg wet	3.333		73.9	0-200			
Pentachlorophenol	2.19	0.100	mg/kg wet	3.333		65.6	46-118			
Phenanthrene	2.22	0.100	mg/kg wet	3.333		66.7	0-200			
Phenol	2.33	0.100	mg/kg wet	3.333		69.8	52-99			
Pyrene	3.26	0.100	mg/kg wet	3.333		97.8	47-123			
Pyridine	1.85	0.100	mg/kg wet	3.333		55.4	0-200			
Surrogate: 2-Fluorophenol	*0.487*		*mg/kg wet*	*1.333*		*36.6*	*18-59*			
Surrogate: Phenol-d6	*0.496*		*mg/kg wet*	*1.333*		*37.2*	*14-64*			
Surrogate: Nitrobenzene-d5	*0.537*		*mg/kg wet*	*1.333*		*40.3*	*28-58*			
Surrogate: 2-Fluorobiphenyl	*0.687*		*mg/kg wet*	*1.333*		*51.5*	*32-55*			
Surrogate: 2,4,6-Tribromophenol	*0.864*		*mg/kg wet*	*1.333*		*64.8*	*22-72*			
Surrogate: Terphenyl-d14	*0.587*		*mg/kg wet*	*1.333*		*44.1*	*26-60*			
LCS Dup (0920126-BSD1)				Prepared & Analyzed: 05/13/09						
1,2,4-Trichlorobenzene	3.19	0.100	mg/kg wet	3.333		95.8	60-106	9.75	12	
1,2-Dichlorobenzene	2.34	0.100	mg/kg wet	3.333		70.1	0-200	6.96	200	
1,3-Dichlorobenzene	2.41	0.100	mg/kg wet	3.333		72.4	0-200	10.7	200	
1,4-Dichlorobenzene	2.38	0.100	mg/kg wet	3.333		71.5	60-101	10.7	13	
2,3,4,6-Tetrachlorophenol	4.25	0.100	mg/kg wet	3.333		128	0-200	1.60	200	
2,4,5-Trichlorophenol	4.57	0.100	mg/kg wet	3.333		137	0-200	12.0	200	
2,4,6-Trichlorophenol	3.74	0.100	mg/kg wet	3.333		112	0-200	8.77	200	
2,4-Dichlorophenol	3.02	0.100	mg/kg wet	3.333		90.5	0-200	9.90	200	
2,4-Dimethylphenol	2.76	0.100	mg/kg wet	3.333		82.9	0-200	11.5	200	
2,4-Dinitrophenol	3.21	0.100	mg/kg wet	3.333		96.4	0-200	14.8	200	
2,4-Dinitrotoluene	3.50	0.100	mg/kg wet	3.333		105	66-115	5.82	15	
2,6-Dinitrotoluene	4.27	0.100	mg/kg wet	3.333		128	0-200	11.9	200	
2-Chloronaphthalene	4.09	0.100	mg/kg wet	3.333		123	0-200	13.0	200	
2-Chlorophenol	2.43	0.100	mg/kg wet	3.333		72.9	56-108	5.09	14	
2-Methylnaphthalene	2.76	0.100	mg/kg wet	3.333		82.9	0-200	4.83	200	
2-Methylphenol	2.50	0.100	mg/kg wet	3.333		75.0	0-200	6.47	200	
2-Nitrophenol	3.02	0.100	mg/kg wet	3.333		90.7	0-200	11.5	200	
3 & 4-Methylphenol	2.66	0.100	mg/kg wet	3.333		79.9	0-200	9.51	200	
4,6-Dinitro-2-methylphenol	BDL	0.100	mg/kg wet	3.333			0-200		200	
4-Bromophenyl phenyl ether	2.91	0.100	mg/kg wet	3.333		87.2	0-200	7.29	200	

Semivolatile Organic Compounds by EPA Method 8270C - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0920126 - PREP_SVOC_S										
LCS Dup (0920126-BSD1)				Prepared & Analyzed: 05/13/09						
4-Chloro-3-methylphenol	2.57	0.100	mg/kg wet	3.333		77.1	57-106	6.40	21	
4-Chlorophenyl phenyl ether	4.15	0.100	mg/kg wet	3.333		124	0-200	14.2	200	
4-Nitrophenol	3.61	0.100	mg/kg wet	3.333		108	18-139	8.79	56	
Acenaphthene	3.21	0.100	mg/kg wet	3.333		96.4	66-102	0.321	13	
Acenaphthylene	3.44	0.100	mg/kg wet	3.333		103	0-200	8.37	200	
Aniline	1.15	0.100	mg/kg wet	3.333		34.6	0-200	4.55	200	
Anthracene	2.72	0.100	mg/kg wet	3.333		81.5	0-200	9.15	200	
Benz(a)anthracene	2.48	0.100	mg/kg wet	3.333		74.4	0-200	6.44	200	
Benzo(a)pyrene	2.97	0.100	mg/kg wet	3.333		89.2	0-200	12.5	200	
Benzo(b)fluoranthene	2.53	0.100	mg/kg wet	3.333		75.9	0-200	8.07	200	
Benzo(g,h,i)perylene	2.98	0.100	mg/kg wet	3.333		89.3	0-200	5.31	200	
Benzo(k)fluoranthene	2.77	0.100	mg/kg wet	3.333		83.2	0-200	13.5	200	
Benzyl Alcohol	2.75	0.100	mg/kg wet	3.333		82.5	0-200	10.9	200	
Bis(2-chloroethoxy)methane	2.29	0.100	mg/kg wet	3.333		68.6	0-200	4.33	200	
bis-(2-Chloroethyl)ether	1.96	0.100	mg/kg wet	3.333		59.0	0-200	1.10	200	
Bis(2-ethylhexyl)phthalate	3.11	0.100	mg/kg wet	3.333		93.2	0-200	6.44	200	
Butyl benzyl phthalate	3.20	0.100	mg/kg wet	3.333		96.1	0-200	4.81	200	
Chrysene	2.81	0.100	mg/kg wet	3.333		84.4	0-200	6.44	200	
Dibenz(a,h)anthracene	3.32	0.100	mg/kg wet	3.333		99.6	0-200	6.94	200	
Dibenzofuran	3.55	0.100	mg/kg wet	3.333		106	0-200	14.4	200	
Diethyl phthalate	3.55	0.100	mg/kg wet	3.333		107	0-200	10.5	200	
Dimethyl phthalate	3.91	0.100	mg/kg wet	3.333		117	0-200	16.3	200	
Di-n-butyl phthalate	2.41	0.100	mg/kg wet	3.333		72.4	0-200	7.97	200	
Di-n-octyl phthalate	2.77	0.100	mg/kg wet	3.333		83.1	0-200	4.38	200	
Fluoranthene	2.85	0.100	mg/kg wet	3.333		85.5	0-200	13.0	200	
Fluorene	3.78	0.100	mg/kg wet	3.333		113	0-200	10.5	200	
Hexachlorobenzene	3.04	0.100	mg/kg wet	3.333		91.3	0-200	10.2	200	
Hexachlorobutadiene	3.02	0.100	mg/kg wet	3.333		90.7	0-200	6.12	200	
Hexachlorocyclopentadiene	5.52	0.100	mg/kg wet	3.333		166	0-200	17.5	200	
Hexachloroethane	2.48	0.100	mg/kg wet	3.333		74.5	0-200	3.12	200	
Indeno(1,2,3-cd)pyrene	2.89	0.100	mg/kg wet	3.333		86.7	0-200	0.758	200	
Isophorone	2.23	0.100	mg/kg wet	3.333		66.8	0-200	11.5	200	
Naphthalene	2.75	0.100	mg/kg wet	3.333		82.5	0-200	9.45	200	
Nitrobenzene	2.66	0.100	mg/kg wet	3.333		79.7	0-200	11.6	200	
N-Nitrosodimethylamine	2.08	0.100	mg/kg wet	3.333		62.5	0-200	11.9	200	
N-Nitrosodi-n-propylamine	2.66	0.100	mg/kg wet	3.333		79.7	47-106	1.26	21	
N-Nitrosodiphenylamine	2.74	0.100	mg/kg wet	3.333		82.3	0-200	10.7	200	
Pentachlorophenol	2.46	0.100	mg/kg wet	3.333		73.7	46-118	11.7	14	
Phenanthrene	2.44	0.100	mg/kg wet	3.333		73.1	0-200	9.16	200	
Phenol	2.47	0.100	mg/kg wet	3.333		74.0	52-99	5.78	15	
Pyrene	3.50	0.100	mg/kg wet	3.333		105	47-123	7.14	15	
Pyridine	2.15	0.100	mg/kg wet	3.333		64.5	0-200	15.2	200	
Surrogate: 2-Fluorophenol	*0.528*		*mg/kg wet*	*1.333*		*39.6*	*18-59*			
Surrogate: Phenol-d6	*0.522*		*mg/kg wet*	*1.333*		*39.2*	*14-64*			

Semivolatile Organic Compounds by EPA Method 8270C - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0920126 - PREP_SVOC_S										
LCS Dup (0920126-BSD1)				Prepared & Analyzed: 05/13/09						
Surrogate: Nitrobenzene-d5	*0.578*		*mg/kg wet*	*1.333*		*43.4*	*28-58*			
Surrogate: 2-Fluorobiphenyl	*0.690*		*mg/kg wet*	*1.333*		*51.8*	*32-55*			
Surrogate: 2,4,6-Tribromophenol	*0.957*		*mg/kg wet*	*1.333*		*71.8*	*22-72*			
Surrogate: Terphenyl-d14	*0.615*		*mg/kg wet*	*1.333*		*46.2*	*26-60*			
Matrix Spike (0920126-MS1)	**Source: 09E0413-03**			Prepared: 05/13/09	Analyzed: 05/14/09					
1,2,4-Trichlorobenzene	4.01	0.128	mg/kg dry	4.268	ND	93.8	49-106			
1,2-Dichlorobenzene	2.87	0.128	mg/kg dry	4.268	ND	67.2	0-200			
1,3-Dichlorobenzene	2.90	0.128	mg/kg dry	4.268	ND	67.9	0-200			
1,4-Dichlorobenzene	2.86	0.128	mg/kg dry	4.268	ND	67.1	63-94			
2,3,4,6-Tetrachlorophenol	4.66	0.128	mg/kg dry	4.268	ND	109	0-200			
2,4,5-Trichlorophenol	4.87	0.128	mg/kg dry	4.268	ND	114	0-200			
2,4,6-Trichlorophenol	4.55	0.128	mg/kg dry	4.268	ND	106	0-200			
2,4-Dichlorophenol	3.78	0.128	mg/kg dry	4.268	ND	88.5	0-200			
2,4-Dimethylphenol	3.52	0.128	mg/kg dry	4.268	ND	82.4	0-200			
2,4-Dinitrophenol	3.49	0.128	mg/kg dry	4.268	ND	81.8	0-200			
2,4-Dinitrotoluene	4.91	0.128	mg/kg dry	4.268	ND	115	60-117			
2,6-Dinitrotoluene	4.65	0.128	mg/kg dry	4.268	ND	109	0-200			
2-Chloronaphthalene	4.34	0.128	mg/kg dry	4.268	ND	102	0-200			
2-Chlorophenol	2.88	0.128	mg/kg dry	4.268	ND	67.6	52-99			
2-Methylnaphthalene	3.63	0.128	mg/kg dry	4.268	ND	85.0	0-200			
2-Methylphenol	3.17	0.128	mg/kg dry	4.268	ND	74.3	0-200			
2-Nitrophenol	3.75	0.128	mg/kg dry	4.268	ND	87.9	0-200			
3 & 4-Methylphenol	3.34	0.128	mg/kg dry	4.268	ND	78.3	0-200			
4,6-Dinitro-2-methylphenol	BDL	0.128	mg/kg dry	4.268	ND		0-200			
4-Bromophenyl phenyl ether	3.62	0.128	mg/kg dry	4.268	ND	84.8	0-200			
4-Chloro-3-methylphenol	3.57	0.128	mg/kg dry	4.268	ND	83.6	55-99			
4-Chlorophenyl phenyl ether	4.43	0.128	mg/kg dry	4.268	ND	104	0-200			
4-Nitrophenol	3.78	0.128	mg/kg dry	4.268	ND	88.7	18-135			
Acenaphthene	3.82	0.128	mg/kg dry	4.268	ND	89.6	66-98			
Acenaphthylene	3.79	0.128	mg/kg dry	4.268	ND	88.8	0-200			
Aniline	2.80	0.128	mg/kg dry	4.268	ND	65.6	0-200			
Anthracene	3.32	0.128	mg/kg dry	4.268	ND	77.7	0-200			
Benz(a)anthracene	3.13	0.128	mg/kg dry	4.268	ND	73.3	0-200			
Benzo(a)pyrene	3.63	0.128	mg/kg dry	4.268	ND	85.0	0-200			
Benzo(b)fluoranthene	3.07	0.128	mg/kg dry	4.268	ND	72.0	0-200			
Benzo(g,h,i)perylene	3.80	0.128	mg/kg dry	4.268	ND	89.0	0-200			
Benzo(k)fluoranthene	2.81	0.128	mg/kg dry	4.268	ND	65.9	0-200			
Benzyl Alcohol	3.39	0.128	mg/kg dry	4.268	ND	79.5	0-200			
Bis(2-chloroethoxy)methane	3.10	0.128	mg/kg dry	4.268	ND	72.5	0-200			
bis-(2-Chloroethyl)ether	2.62	0.128	mg/kg dry	4.268	ND	61.3	0-200			
Bis(2-ethylhexyl)phthalate	3.61	0.128	mg/kg dry	4.268	ND	84.7	0-200			
Butyl benzyl phthalate	3.80	0.128	mg/kg dry	4.268	ND	89.0	0-200			
Chrysene	3.55	0.128	mg/kg dry	4.268	ND	83.2	0-200			
Dibenz(a,h)anthracene	4.21	0.128	mg/kg dry	4.268	ND	98.5	0-200			

Semivolatile Organic Compounds by EPA Method 8270C - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0920126 - PREP_SVOC_S										
Matrix Spike (0920126-MS1)	**Source: 09E0413-03**			Prepared: 05/13/09 Analyzed: 05/14/09						
Dibenzofuran	3.84	0.128	mg/kg dry	4.268	ND	90.0	0-200			
Diethyl phthalate	3.73	0.128	mg/kg dry	4.268	ND	87.4	0-200			
Dimethyl phthalate	0.253	0.128	mg/kg dry	4.268	ND	5.92	0-200			
Di-n-butyl phthalate	3.07	0.128	mg/kg dry	4.268	0.0431	71.0	0-200			
Di-n-octyl phthalate	3.29	0.128	mg/kg dry	4.268	ND	77.2	0-200			
Fluoranthene	3.49	0.128	mg/kg dry	4.268	ND	81.9	0-200			
Fluorene	4.20	0.128	mg/kg dry	4.268	ND	98.3	0-200			
Hexachlorobenzene	3.72	0.128	mg/kg dry	4.268	ND	87.1	0-200			
Hexachlorobutadiene	3.94	0.128	mg/kg dry	4.268	ND	92.3	0-200			
Hexachlorocyclopentadiene	6.15	0.128	mg/kg dry	4.268	ND	144	0-200			
Hexachloroethane	3.05	0.128	mg/kg dry	4.268	ND	71.4	0-200			
Indeno(1,2,3-cd)pyrene	3.86	0.128	mg/kg dry	4.268	ND	90.5	0-200			
Isophorone	2.96	0.128	mg/kg dry	4.268	ND	69.4	0-200			
Naphthalene	3.43	0.128	mg/kg dry	4.268	ND	80.4	0-200			
Nitrobenzene	3.38	0.128	mg/kg dry	4.268	ND	79.3	0-200			
N-Nitrosodimethylamine	3.07	0.128	mg/kg dry	4.268	ND	72.0	0-200			
N-Nitrosodi-n-propylamine	3.57	0.128	mg/kg dry	4.268	ND	83.7	53-91			
N-Nitrosodiphenylamine	3.53	0.128	mg/kg dry	4.268	ND	82.7	0-200			
Pentachlorophenol	3.10	0.128	mg/kg dry	4.268	ND	72.6	36-131			
Phenanthrene	2.98	0.128	mg/kg dry	4.268	ND	69.7	0-200			
Phenol	3.08	0.128	mg/kg dry	4.268	ND	72.2	55-87			
Pyrene	4.22	0.128	mg/kg dry	4.268	ND	98.8	51-123			
Pyridine	2.92	0.128	mg/kg dry	4.268	ND	68.4	0-200			
Surrogate: 2-Fluorophenol	*0.619*		*mg/kg dry*	*1.707*		*36.3*	*18-59*			
Surrogate: Phenol-d6	*0.654*		*mg/kg dry*	*1.707*		*38.3*	*14-64*			
Surrogate: Nitrobenzene-d5	*0.741*		*mg/kg dry*	*1.707*		*43.4*	*28-58*			
Surrogate: 2-Fluorobiphenyl	*0.820*		*mg/kg dry*	*1.707*		*48.0*	*32-55*			
Surrogate: 2,4,6-Tribromophenol	*1.02*		*mg/kg dry*	*1.707*		*59.6*	*22-72*			
Surrogate: Terphenyl-d14	*0.756*		*mg/kg dry*	*1.707*		*44.3*	*26-60*			

Semivolatile Organic Compounds by EPA Method 8270C - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0920126 - PREP_SVOC_S										
Matrix Spike Dup (0920126-MSD1)	**Source: 09E0413-03**			Prepared: 05/13/09 Analyzed: 05/14/09						
1,2,4-Trichlorobenzene	4.13	0.128	mg/kg dry	4.250	ND	97.2	49-106	3.12	10	
1,2-Dichlorobenzene	3.03	0.128	mg/kg dry	4.250	ND	71.2	0-200	5.26	200	
1,3-Dichlorobenzene	3.02	0.128	mg/kg dry	4.250	ND	71.1	0-200	4.09	200	
1,4-Dichlorobenzene	2.98	0.128	mg/kg dry	4.250	ND	70.2	63-94	4.11	13	
2,3,4,6-Tetrachlorophenol	4.72	0.128	mg/kg dry	4.250	ND	111	0-200	1.38	200	
2,4,5-Trichlorophenol	5.10	0.128	mg/kg dry	4.250	ND	120	0-200	4.66	200	
2,4,6-Trichlorophenol	4.56	0.128	mg/kg dry	4.250	ND	107	0-200	0.374	200	
2,4-Dichlorophenol	3.91	0.128	mg/kg dry	4.250	ND	92.1	0-200	3.57	200	
2,4-Dimethylphenol	3.73	0.128	mg/kg dry	4.250	ND	87.8	0-200	5.85	200	
2,4-Dinitrophenol	3.60	0.128	mg/kg dry	4.250	ND	84.8	0-200	3.12	200	
2,4-Dinitrotoluene	3.64	0.128	mg/kg dry	4.250	ND	85.7	60-117	29.6	17	R
2,6-Dinitrotoluene	4.81	0.128	mg/kg dry	4.250	ND	113	0-200	3.48	200	
2-Chloronaphthalene	4.31	0.128	mg/kg dry	4.250	ND	101	0-200	0.657	200	
2-Chlorophenol	3.07	0.128	mg/kg dry	4.250	ND	72.3	52-99	6.31	10	
2-Methylnaphthalene	3.66	0.128	mg/kg dry	4.250	ND	86.2	0-200	0.982	200	
2-Methylphenol	3.19	0.128	mg/kg dry	4.250	ND	75.1	0-200	0.667	200	
2-Nitrophenol	3.97	0.128	mg/kg dry	4.250	ND	93.4	0-200	5.65	200	
3 & 4-Methylphenol	3.42	0.128	mg/kg dry	4.250	ND	80.6	0-200	2.49	200	
4,6-Dinitro-2-methylphenol	BDL	0.128	mg/kg dry	4.250	ND		0-200		200	
4-Bromophenyl phenyl ether	3.74	0.128	mg/kg dry	4.250	ND	88.1	0-200	3.32	200	
4-Chloro-3-methylphenol	3.46	0.128	mg/kg dry	4.250	ND	81.4	55-99	3.02	17	
4-Chlorophenyl phenyl ether	4.46	0.128	mg/kg dry	4.250	ND	105	0-200	0.652	200	
4-Nitrophenol	4.01	0.128	mg/kg dry	4.250	ND	94.3	18-135	5.71	14	
Acenaphthene	3.98	0.128	mg/kg dry	4.250	ND	93.6	66-98	3.99	16	
Acenaphthylene	3.96	0.128	mg/kg dry	4.250	ND	93.1	0-200	4.27	200	
Aniline	3.01	0.128	mg/kg dry	4.250	ND	70.9	0-200	7.41	200	
Anthracene	3.39	0.128	mg/kg dry	4.250	ND	79.8	0-200	2.18	200	
Benz(a)anthracene	3.10	0.128	mg/kg dry	4.250	ND	72.9	0-200	0.923	200	
Benzo(a)pyrene	3.70	0.128	mg/kg dry	4.250	ND	87.1	0-200	2.09	200	
Benzo(b)fluoranthene	3.23	0.128	mg/kg dry	4.250	ND	76.0	0-200	5.06	200	
Benzo(g,h,i)perylene	3.89	0.128	mg/kg dry	4.250	ND	91.6	0-200	2.38	200	
Benzo(k)fluoranthene	3.78	0.128	mg/kg dry	4.250	ND	88.9	0-200	29.3	200	
Benzyl Alcohol	3.69	0.128	mg/kg dry	4.250	ND	86.8	0-200	8.37	200	
Bis(2-chloroethoxy)methane	3.23	0.128	mg/kg dry	4.250	ND	76.1	0-200	4.32	200	
bis-(2-Chloroethyl)ether	2.72	0.128	mg/kg dry	4.250	ND	64.0	0-200	3.87	200	
Bis(2-ethylhexyl)phthalate	3.55	0.128	mg/kg dry	4.250	ND	83.6	0-200	1.68	200	
Butyl benzyl phthalate	3.70	0.128	mg/kg dry	4.250	ND	87.1	0-200	2.67	200	
Chrysene	3.52	0.128	mg/kg dry	4.250	ND	82.7	0-200	0.973	200	
Dibenz(a,h)anthracene	4.37	0.128	mg/kg dry	4.250	ND	103	0-200	3.86	200	
Dibenzofuran	3.88	0.128	mg/kg dry	4.250	ND	91.4	0-200	1.07	200	
Diethyl phthalate	3.98	0.128	mg/kg dry	4.250	ND	93.5	0-200	6.39	200	
Dimethyl phthalate	4.34	0.128	mg/kg dry	4.250	ND	102	0-200	178	200	
Di-n-butyl phthalate	3.11	0.128	mg/kg dry	4.250	0.0431	72.1	0-200	1.15	200	
Di-n-octyl phthalate	3.36	0.128	mg/kg dry	4.250	ND	79.0	0-200	1.93	200	
Fluoranthene	3.42	0.128	mg/kg dry	4.250	ND	80.6	0-200	2.02	200	

Semivolatile Organic Compounds by EPA Method 8270C - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0920126 - PREP_SVOC_S										
Matrix Spike Dup (0920126-MSD1)	**Source: 09E0413-03**			Prepared: 05/13/09 Analyzed: 05/14/09						
Fluorene	4.15	0.128	mg/kg dry	4.250	ND	97.5	0-200	1.22	200	
Hexachlorobenzene	3.77	0.128	mg/kg dry	4.250	ND	88.6	0-200	1.30	200	
Hexachlorobutadiene	4.03	0.128	mg/kg dry	4.250	ND	94.8	0-200	2.33	200	
Hexachlorocyclopentadiene	5.99	0.128	mg/kg dry	4.250	ND	141	0-200	2.53	200	
Hexachloroethane	3.26	0.128	mg/kg dry	4.250	ND	76.8	0-200	6.93	200	
Indeno(1,2,3-cd)pyrene	4.08	0.128	mg/kg dry	4.250	ND	96.0	0-200	5.46	200	
Isophorone	2.75	0.128	mg/kg dry	4.250	ND	64.8	0-200	7.37	200	
Naphthalene	3.63	0.128	mg/kg dry	4.250	ND	85.5	0-200	5.66	200	
Nitrobenzene	3.39	0.128	mg/kg dry	4.250	ND	79.7	0-200	0.123	200	
N-Nitrosodimethylamine	2.45	0.128	mg/kg dry	4.250	ND	57.6	0-200	22.6	200	
N-Nitrosodi-n-propylamine	3.61	0.128	mg/kg dry	4.250	ND	84.9	53-91	0.933	12	
N-Nitrosodiphenylamine	3.48	0.128	mg/kg dry	4.250	ND	81.8	0-200	1.57	200	
Pentachlorophenol	3.16	0.128	mg/kg dry	4.250	ND	74.3	36-131	1.95	23	
Phenanthrene	3.04	0.128	mg/kg dry	4.250	ND	71.6	0-200	2.19	200	
Phenol	3.25	0.128	mg/kg dry	4.250	ND	76.6	55-87	5.50	12	
Pyrene	4.15	0.128	mg/kg dry	4.250	ND	97.7	51-123	1.52	21	
Pyridine	3.17	0.128	mg/kg dry	4.250	ND	74.5	0-200	8.07	200	
Surrogate: 2-Fluorophenol	*0.644*		*mg/kg dry*	*1.700*		*37.9*	*18-59*			
Surrogate: Phenol-d6	*0.687*		*mg/kg dry*	*1.700*		*40.4*	*14-64*			
Surrogate: Nitrobenzene-d5	*0.769*		*mg/kg dry*	*1.700*		*45.3*	*28-58*			
Surrogate: 2-Fluorobiphenyl	*0.841*		*mg/kg dry*	*1.700*		*49.5*	*32-55*			
Surrogate: 2,4,6-Tribromophenol	*1.08*		*mg/kg dry*	*1.700*		*63.7*	*22-72*			
Surrogate: Terphenyl-d14	*0.710*		*mg/kg dry*	*1.700*		*41.8*	*26-60*			

Mercury Analysis - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0920227 - PREP_HG_S										
Blank (0920227-BLK1)				Prepared: 05/14/09 Analyzed: 05/15/09						
Mercury	BDL	0.100	mg/kg wet							
LCS (0920227-BS1)				Prepared: 05/14/09 Analyzed: 05/15/09						
Mercury	0.842	0.100	mg/kg wet	0.8333		101	80-120			
LCS Dup (0920227-BSD1)				Prepared: 05/14/09 Analyzed: 05/15/09						
Mercury	0.842	0.100	mg/kg wet	0.8333		101	80-120	0	20	
Matrix Spike (0920227-MS1)		**Source: 09E0413-01**		Prepared: 05/14/09 Analyzed: 05/15/09						
Mercury	1.02	0.124	mg/kg dry	1.037	0.0446	94	70-130			
Matrix Spike Dup (0920227-MSD1)		**Source: 09E0413-01**		Prepared: 05/14/09 Analyzed: 05/15/09						
Mercury	1.03	0.124	mg/kg dry	1.037	0.0446	95	70-130	1	30	

Notes and Definitions

R	RPD outside of accepted recovery limits.
QM-05	The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The LCS and/or LCSD were within acceptance limits showing that the laboratory is in control and the data is acceptable.
L	Laboratory control sample recovery outside of acceptance limits.
*	Result above regulatory limit

Off-Site Borrow Source Certification

Date of Off-Site Source Inspection: July 9, 2008

2. Time of Inspection: 12:30 AM/PM

Conducted by: R. Michael Broyles, member RM Broyles Company LLC

Soil Source: Excavated soils from utility installation St. Clair St., Dayton, OH

Historical and current property use of soil source: Public Right-of-Way, public street

Any previous environmental investigations conducted at this location? _____ yes X no
(yes, please attach documentation)

Any visual signs of waste, soil staining, etc? _____ yes X no
If "yes", describe:

Additional information regarding environmental condition of soil? _____

Sampling method: Top 12" of soil removed using clean spade and nitrile gloves, Teflon lids removed from wide-mouth, 4oz. glass sample jars. Jars pressed into newly exposed soils until filled. Jar's exterior swiped using clean paper towels. Teflon lids secured on sample jars and place in ice-filled cooler. Samples Jars transported to Belmont Lab with Chain-of-Custody

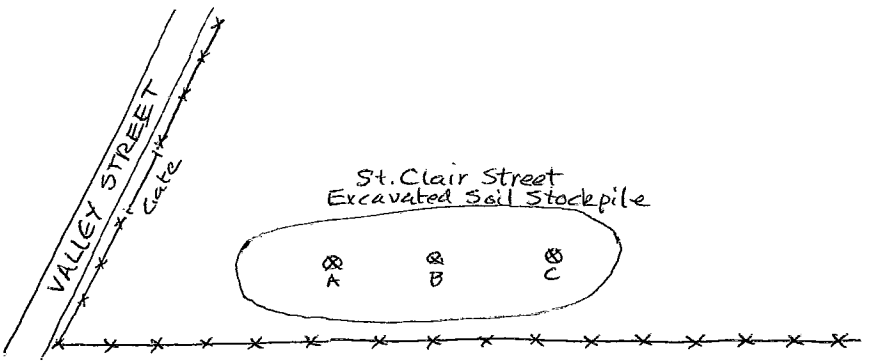
Sampling Date: July 9, 2008

12. Sampling Time: 12:50 AM/PM

Sampler: R. Michael Broyles

Provide sketch of sample locations (minimum 3 composite samples):

Soils were stockpiled at Jergen's Valley Street Clean Fill site, 2052 Valley Street, in a segregated pile at the Southwest corner of property. Soil Samples were taken from the stockpile area at 3 locations and composited for laboratory analysis. Samples from locations A, B and C were submitted S1.



15. Sample analytical parameters: VOCs, SVOCs, RCRA Metals, PCBs, _____(others as warranted)
16. Sample IDs: S-1

17. Samples appropriately preserved? X yes _____ no
18. Date samples submitted to a VAP-certified lab? July 9, 2008
19. Analytical results and lab affidavit attached? X yes _____ no
If "no", explain: _____

20. Any results exceed Ohio VAP direct contact residential land use standards or Ohio EPA derived leach-based values? Any VOCs detected for which a leach-based standard is not published?
No

21. Other comments on analytical results:

22. Acceptable as an off-site source of fill? X yes _____ no

END OF SECTION

RECEIVED JUL 29 2008

Belmont Labs™
The Environmental Service Company.

Wednesday, July 23, 2008

Pat Jergens
CF Jergens
1280 Brandt Pike
Dayton, OH 45404
TEL: (937) 233-1830
FAX

RE: CFJ Order No.: 0807568

Dear Pat Jergens:

Belmont Labs received 1 sample(s) on 7/9/2008 for the analyses presented in the following report.

Belmont Labs attests that all analytical methods were performed using acceptable methods, and that the QA/QC procedures stipulated in these methods were followed. USEPA's RCRA Program regards a statement of quality assurance as a legal means of assuring that acceptable and uniform laboratory methods and QA/QC practices were followed by the laboratory. Unless otherwise noted, all methods contained within this report are NELAC/NELAP certified.

NELAC/NELAP Cert. # 04130

If you have any questions regarding the test results, please feel free to call me at 937.832.8242.

Respectfully submitted,

QC LEVEL:

Belmont Labs

Date: *23-Jul-08*

CLIENT: CF Jergens
Project: CFJ
Lab Order: 0807568

Lab ID: 0807568-001
Collection Date: 7/9/2008 12:50:00 PM
Client Sample ID: S-1
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
PCBS IN SOIL OR SOLID WASTE		**SW8082**				Analyst: **DG**
Aroclor 1016	BDL	0.021		mg/Kg-dry	1	7/11/2008 5:04:00 PM
Aroclor 1221	BDL	0.021		mg/Kg-dry	1	7/11/2008 5:04:00 PM
Aroclor 1232	BDL	0.021		mg/Kg-dry	1	7/11/2008 5:04:00 PM
Aroclor 1242	BDL	0.021		mg/Kg-dry	1	7/11/2008 5:04:00 PM
Aroclor 1248	BDL	0.021		mg/Kg-dry	1	7/11/2008 5:04:00 PM
Aroclor 1254	BDL	0.021		mg/Kg-dry	1	7/11/2008 5:04:00 PM
Aroclor 1260	BDL	0.021		mg/Kg-dry	1	7/11/2008 5:04:00 PM
Surr: Decachlorobiphenyl	87.1	31-146		%REC	1	7/11/2008 5:04:00 PM
Surr: Tetrachloro-m-xylene	75.1	44-102		%REC	1	7/11/2008 5:04:00 PM
MERCURY, TOTAL		**SW7471**				Analyst: **RJE**
Mercury	BDL	0.13		mg/Kg-dry	1	7/23/2008
PERCENT MOISTURE		**D2216**				Analyst: **KC**
Percent Moisture	7.65			wt%	1	7/22/2008
ICP METALS, TOTAL		**SW6010B**				Analyst: **RJE**
Silver	BDL	1.02		mg/Kg-dry	1	7/23/2008 1:35:32 PM
Arsenic	4.57	1.02		mg/Kg-dry	1	7/23/2008 1:35:32 PM
Beryllium	BDL	0.511		mg/Kg-dry	1	7/23/2008 1:35:32 PM
Cadmium	BDL	1.02		mg/Kg-dry	1	7/23/2008 1:35:32 PM
Chromium	4.93	1.02		mg/Kg-dry	1	7/23/2008 1:35:32 PM
Copper	7.76	1.02		mg/Kg-dry	1	7/23/2008 1:35:32 PM
Nickel	5.88	1.02		mg/Kg-dry	1	7/23/2008 1:35:32 PM
Lead	10.4	5.11		mg/Kg-dry	1	7/23/2008 1:35:32 PM
Antimony	BDL	5.11		mg/Kg-dry	1	7/23/2008 1:35:32 PM
Selenium	BDL	5.11		mg/Kg-dry	1	7/23/2008 1:35:32 PM
Thallium	BDL	5.11		mg/Kg-dry	1	7/23/2008 1:35:32 PM
Zinc	29.3	5.11		mg/Kg-dry	1	7/23/2008 1:35:32 PM
SEMIVOLATILE ORGANICS		**SW8270C**				Analyst: **DG**
Pyridine	BDL	0.11		mg/Kg-dry	1	7/17/2008 6:23:00 AM
N-Nitrosodimethylamine	BDL	0.11		mg/Kg-dry	1	7/17/2008 6:23:00 AM
Aniline	BDL	0.11		mg/Kg-dry	1	7/17/2008 6:23:00 AM
Bis(2-chloroethyl)ether	BDL	0.11		mg/Kg-dry	1	7/17/2008 6:23:00 AM
Phenol	BDL	0.11		mg/Kg-dry	1	7/17/2008 6:23:00 AM
2-Chlorophenol	BDL	0.11		mg/Kg-dry	1	7/17/2008 6:23:00 AM
1,3-Dichlorobenzene	BDL	0.11		mg/Kg-dry	1	7/17/2008 6:23:00 AM
1,4-Dichlorobenzene	BDL	0.11		mg/Kg-dry	1	7/17/2008 6:23:00 AM
1,2-Dichlorobenzene	BDL	0.11		mg/Kg-dry	1	7/17/2008 6:23:00 AM
Benzyl alcohol	BDL	0.11		mg/Kg-dry	1	7/17/2008 6:23:00 AM
Bis(2-chloroisopropyl)ether	BDL	0.11		mg/Kg-dry	1	7/17/2008 6:23:00 AM
2-Methylphenol	BDL	0.11		mg/Kg-dry	1	7/17/2008 6:23:00 AM
Hexachloroethane	BDL	0.11		mg/Kg-dry	1	7/17/2008 6:23:00 AM
N-Nitrosodi-n-propylamine	BDL	0.11		mg/Kg-dry	1	7/17/2008 6:23:00 AM

Belmont Labs

Date: *23-Jul-08*

CLIENT: CF Jergens
Project: CFJ
Lab Order: 0807568

CASE NARRATIVE

Analytical Comments for METHOD PCB_8082_OIL, SAMPLE MB-18037: Surrogate is out high,but all analytes BDL.

Analytical Comments for METHOD PCB_8082_OIL, SAMPLE LCS-18037: Surrogate is out high,but all analytes BDL.

Analytical Comments for METHOD PCB_8082_OIL, SAMPLE LCSD-18037: Surrogate is out high,but all analytes BDL.

Analytical Comments for METHOD PCB_8082_OIL, SAMPLE MB-18037: Surrogate is out high,but sample is BDL.

Analytical Comments for METHOD PCB_8082_OIL, SAMPLE LCS-18037: Surrogate is out high,but sample is BDL.

Analytical Comments for METHOD PCB_8082_OIL, SAMPLE LCSD-18037: Surrogate is out high,but sample is BDL.

CLIENT: CF Jergens **Lab Order:** 0807568
Project: CFJ

SEMIVOLATILE ORGANICS		SW8270C			Analyst: DG
3 & 4-Methylphenol	BDL	0.11	mg/Kg-dry	1	7/17/2008 6:23:00 AM
Nitrobenzene	BDL	0.11	mg/Kg-dry	1	7/17/2008 6:23:00 AM
Acetophenone	BDL	0.11	mg/Kg-dry	1	7/17/2008 6:23:00 AM
Isophorone	BDL	0.11	mg/Kg-dry	1	7/17/2008 6:23:00 AM
2-Nitrophenol	BDL	0.11	mg/Kg-dry	1	7/17/2008 6:23:00 AM
2,4-Dimethylphenol	BDL	0.11	mg/Kg-dry	1	7/17/2008 6:23:00 AM
2,4-Dichlorophenol	BDL	0.11	mg/Kg-dry	1	7/17/2008 6:23:00 AM
Bis(2-chloroethoxy)methane	BDL	0.11	mg/Kg-dry	1	7/17/2008 6:23:00 AM
1,2,4-Trichlorobenzene	BDL	0.11	mg/Kg-dry	1	7/17/2008 6:23:00 AM
Naphthalene	BDL	0.11	mg/Kg-dry	1	7/17/2008 6:23:00 AM
Hexachloropropene	BDL	0.11	mg/Kg-dry	1	7/17/2008 6:23:00 AM
2,6-Dichlorophenol	BDL	0.11	mg/Kg-dry	1	7/17/2008 6:23:00 AM
2-Methylnaphthalene	BDL	0.11	mg/Kg-dry	1	7/17/2008 6:23:00 AM
Hexachlorobutadiene	BDL	0.11	mg/Kg-dry	1	7/17/2008 6:23:00 AM
N-Nitroso-di-n-butylamine	BDL	0.11	mg/Kg-dry	1	7/17/2008 6:23:00 AM
4-Chloro-3-methylphenol	BDL	0.11	mg/Kg-dry	1	7/17/2008 6:23:00 AM
1,2,4,5-Tetrachlorobenzene	BDL	0.11	mg/Kg-dry	1	7/17/2008 6:23:00 AM
Hexachlorocyclopentadiene	BDL	0.11	mg/Kg-dry	1	7/17/2008 6:23:00 AM
2,4,6-Trichlorophenol	BDL	0.11	mg/Kg-dry	1	7/17/2008 6:23:00 AM
2,4,5-Trichlorophenol	BDL	0.11	mg/Kg-dry	1	7/17/2008 6:23:00 AM
2-Chloronaphthalene	BDL	0.11	mg/Kg-dry	1	7/17/2008 6:23:00 AM
Acenaphthylene	BDL	0.11	mg/Kg-dry	1	7/17/2008 6:23:00 AM
Dimethyl phthalate	BDL	0.11	mg/Kg-dry	1	7/17/2008 6:23:00 AM
2,6-Dinitrotoluene	BDL	0.11	mg/Kg-dry	1	7/17/2008 6:23:00 AM
Acenaphthene	BDL	0.11	mg/Kg-dry	1	7/17/2008 6:23:00 AM
2,4-Dinitrophenol	BDL	0.11	mg/Kg-dry	1	7/17/2008 6:23:00 AM
Pentachlorobenzene	BDL	0.11	mg/Kg-dry	1	7/17/2008 6:23:00 AM
Dibenzofuran	BDL	0.11	mg/Kg-dry	1	7/17/2008 6:23:00 AM
2,4-Dinitrotoluene	BDL	0.11	mg/Kg-dry	1	7/17/2008 6:23:00 AM
2,3,4,6-Tetrachlorophenol	BDL	0.11	mg/Kg-dry	1	7/17/2008 6:23:00 AM
4-Nitrophenol	BDL	0.11	mg/Kg-dry	1	7/17/2008 6:23:00 AM
Fluorene	BDL	0.11	mg/Kg-dry	1	7/17/2008 6:23:00 AM
Diethyl phthalate	BDL	0.11	mg/Kg-dry	1	7/17/2008 6:23:00 AM
4-Chlorophenyl phenyl ether	BDL	0.11	mg/Kg-dry	1	7/17/2008 6:23:00 AM
Hexachlorobenzene	BDL	0.11	mg/Kg-dry	1	7/17/2008 6:23:00 AM
N-Nitrosodiphenylamine	BDL	0.11	mg/Kg-dry	1	7/17/2008 6:23:00 AM
4-Bromophenyl phenyl ether	BDL	0.11	mg/Kg-dry	1	7/17/2008 6:23:00 AM
Pentachlorophenol	BDL	0.11	mg/Kg-dry	1	7/17/2008 6:23:00 AM
Pentachloronitrobenzene	BDL	0.11	mg/Kg-dry	1	7/17/2008 6:23:00 AM
Anthracene	BDL	0.11	mg/Kg-dry	1	7/17/2008 6:23:00 AM
Phenanthrene	BDL	0.11	mg/Kg-dry	1	7/17/2008 6:23:00 AM
4,6-Dinitro-2-methylphenol	BDL	0.11	mg/Kg-dry	1	7/17/2008 6:23:00 AM
Di-n-butyl phthalate	BDL	0.11	mg/Kg-dry	1	7/17/2008 6:23:00 AM
Fluoranthene	BDL	0.11	mg/Kg-dry	1	7/17/2008 6:23:00 AM
Pyrene	BDL	0.11	mg/Kg-dry	1	7/17/2008 6:23:00 AM
Butyl benzyl phthalate	BDL	0.11	mg/Kg-dry	1	7/17/2008 6:23:00 AM
Benz(a)anthracene	BDL	0.11	mg/Kg-dry	1	7/17/2008 6:23:00 AM
Chrysene	BDL	0.11	mg/Kg-dry	1	7/17/2008 6:23:00 AM

CLIENT: CF Jergens **Lab Order:** 0807568
Project: CFJ

SEMIVOLATILE ORGANICS		SW8270C			Analyst: **DG**
Bis(2-ethylhexyl)phthalate	BDL	0.11	mg/Kg-dry	1	7/17/2008 6:23:00 AM
Di-n-octyl phthalate	BDL	0.11	mg/Kg-dry	1	7/17/2008 6:23:00 AM
Benzo(b)fluoranthene	BDL	0.11	mg/Kg-dry	1	7/17/2008 6:23:00 AM
Benzo(k)fluoranthene	BDL	0.11	mg/Kg-dry	1	7/17/2008 6:23:00 AM
Benzo(a)pyrene	BDL	0.11	mg/Kg-dry	1	7/17/2008 6:23:00 AM
Indeno(1,2,3-cd)pyrene	BDL	0.11	mg/Kg-dry	1	7/17/2008 6:23:00 AM
Dibenz(a,h)anthracene	BDL	0.11	mg/Kg-dry	1	7/17/2008 6:23:00 AM
Benzo(g,h,i)perylene	BDL	0.11	mg/Kg-dry	1	7/17/2008 6:23:00 AM
Benzidine	BDL	0.11	mg/Kg-dry	1	7/17/2008 6:23:00 AM
1,2-Diphenylhydrazine	BDL	0.11	mg/Kg-dry	1	7/17/2008 6:23:00 AM
Surr: 2-Fluorophenol	32.3	18-59	%REC	1	7/17/2008 6:23:00 AM
Surr: Phenol-d6	35.3	14-64	%REC	1	7/17/2008 6:23:00 AM
Surr: Nitrobenzene-d5	38.6	28-58	%REC	1	7/17/2008 6:23:00 AM
Surr: 2-Fluorobiphenyl	40.4	32-55	%REC	1	7/17/2008 6:23:00 AM
Surr: 2,4,6-Tribromophenol	35.6	22-72	%REC	1	7/17/2008 6:23:00 AM
Surr: p-Terphenyl-d14	46.1	26-60	%REC	1	7/17/2008 6:23:00 AM

VOLATILE ORGANIC ANALYSIS		SW8260A			Analyst: **MG**
Acrolein	BDL	0.021	mg/Kg-dry	0.99	7/12/2008 2:55:00 AM
Acrylonitrile	BDL	0.021	mg/Kg-dry	0.99	7/12/2008 2:55:00 AM
n-Hexane	BDL	0.0054	mg/Kg-dry	0.99	7/12/2008 2:55:00 AM
Dichlorodifluoromethane	BDL	0.0054	mg/Kg-dry	0.99	7/12/2008 2:55:00 AM
Chloromethane	BDL	0.0054	mg/Kg-dry	0.99	7/12/2008 2:55:00 AM
Vinyl chloride	BDL	0.0054	mg/Kg-dry	0.99	7/12/2008 2:55:00 AM
Bromomethane	BDL	0.0054	mg/Kg-dry	0.99	7/12/2008 2:55:00 AM
Chloroethane	BDL	0.0054	mg/Kg-dry	0.99	7/12/2008 2:55:00 AM
Acetonitrile	BDL	0.043	mg/Kg-dry	0.99	7/12/2008 2:55:00 AM
Trichlorofluoromethane	BDL	0.0054	mg/Kg-dry	0.99	7/12/2008 2:55:00 AM
Acetone	BDL	0.054	mg/Kg-dry	0.99	7/12/2008 2:55:00 AM
1,1-Dichloroethene	BDL	0.0054	mg/Kg-dry	0.99	7/12/2008 2:55:00 AM
Iodomethane	BDL	0.011	mg/Kg-dry	0.99	7/12/2008 2:55:00 AM
Methylene chloride	BDL	0.0054	mg/Kg-dry	0.99	7/12/2008 2:55:00 AM
Carbon disulfide	BDL	0.021	mg/Kg-dry	0.99	7/12/2008 2:55:00 AM
trans-1,2-Dichloroethene	BDL	0.0054	mg/Kg-dry	0.99	7/12/2008 2:55:00 AM
Methyl tert-butyl ether	BDL	0.011	mg/Kg-dry	0.99	7/12/2008 2:55:00 AM
1,1-Dichloroethane	BDL	0.0054	mg/Kg-dry	0.99	7/12/2008 2:55:00 AM
Vinyl acetate	BDL	0.011	mg/Kg-dry	0.99	7/12/2008 2:55:00 AM
2-Butanone	BDL	0.021	mg/Kg-dry	0.99	7/12/2008 2:55:00 AM
cis-1,2-Dichloroethene	BDL	0.0054	mg/Kg-dry	0.99	7/12/2008 2:55:00 AM
Bromochloromethane	BDL	0.0054	mg/Kg-dry	0.99	7/12/2008 2:55:00 AM
Chloroform	BDL	0.0054	mg/Kg-dry	0.99	7/12/2008 2:55:00 AM
2,2-Dichloropropane	BDL	0.0054	mg/Kg-dry	0.99	7/12/2008 2:55:00 AM
1,2-Dichloroethane	BDL	0.0054	mg/Kg-dry	0.99	7/12/2008 2:55:00 AM
1,1,1-Trichloroethane	BDL	0.0054	mg/Kg-dry	0.99	7/12/2008 2:55:00 AM
1,1-Dichloropropene	BDL	0.0054	mg/Kg-dry	0.99	7/12/2008 2:55:00 AM
Carbon tetrachloride	BDL	0.0054	mg/Kg-dry	0.99	7/12/2008 2:55:00 AM
Benzene	BDL	0.0054	mg/Kg-dry	0.99	7/12/2008 2:55:00 AM
Dibromomethane	BDL	0.0054	mg/Kg-dry	0.99	7/12/2008 2:55:00 AM

CLIENT: CF Jergens **Lab Order:** 0807568
Project: CFJ

VOLATILE ORGANIC ANALYSIS		SW8260A			Analyst: MG
1,2-Dichloropropane	BDL	0.0054	mg/Kg-dry	0.99	7/12/2008 2:55:00 AM
Trichloroethene	BDL	0.0054	mg/Kg-dry	0.99	7/12/2008 2:55:00 AM
Bromodichloromethane	BDL	0.0054	mg/Kg-dry	0.99	7/12/2008 2:55:00 AM
2-Chloroethyl vinyl ether	BDL	0.011	mg/Kg-dry	0.99	7/12/2008 2:55:00 AM
cis-1,3-Dichloropropene	BDL	0.0054	mg/Kg-dry	0.99	7/12/2008 2:55:00 AM
4-Methyl-2-pentanone	BDL	0.021	mg/Kg-dry	0.99	7/12/2008 2:55:00 AM
trans-1,3-Dichloropropene	BDL	0.0054	mg/Kg-dry	0.99	7/12/2008 2:55:00 AM
1,1,2-Trichloroethane	BDL	0.0054	mg/Kg-dry	0.99	7/12/2008 2:55:00 AM
Toluene	BDL	0.0054	mg/Kg-dry	0.99	7/12/2008 2:55:00 AM
1,3-Dichloropropane	BDL	0.0054	mg/Kg-dry	0.99	7/12/2008 2:55:00 AM
2-Hexanone	BDL	0.021	mg/Kg-dry	0.99	7/12/2008 2:55:00 AM
Dibromochloromethane	BDL	0.0054	mg/Kg-dry	0.99	7/12/2008 2:55:00 AM
1,2-Dibromoethane	BDL	0.0054	mg/Kg-dry	0.99	7/12/2008 2:55:00 AM
Tetrachloroethene	BDL	0.0054	mg/Kg-dry	0.99	7/12/2008 2:55:00 AM
1,1,1,2-Tetrachloroethane	BDL	0.0054	mg/Kg-dry	0.99	7/12/2008 2:55:00 AM
Chlorobenzene	BDL	0.0054	mg/Kg-dry	0.99	7/12/2008 2:55:00 AM
Ethylbenzene	BDL	0.0054	mg/Kg-dry	0.99	7/12/2008 2:55:00 AM
m,p-Xylene	BDL	0.011	mg/Kg-dry	0.99	7/12/2008 2:55:00 AM
Bromoform	BDL	0.0054	mg/Kg-dry	0.99	7/12/2008 2:55:00 AM
Styrene	BDL	0.0054	mg/Kg-dry	0.99	7/12/2008 2:55:00 AM
1,1,2,2-Tetrachloroethane	BDL	0.0054	mg/Kg-dry	0.99	7/12/2008 2:55:00 AM
o-Xylene	BDL	0.0054	mg/Kg-dry	0.99	7/12/2008 2:55:00 AM
Bromobenzene	BDL	0.0054	mg/Kg-dry	0.99	7/12/2008 2:55:00 AM
2-Chlorotoluene	BDL	0.0054	mg/Kg-dry	0.99	7/12/2008 2:55:00 AM
4-Chlorotoluene	BDL	0.0054	mg/Kg-dry	0.99	7/12/2008 2:55:00 AM
Surr: Dibromofluoromethane	109	58-152	%REC	0.99	7/12/2008 2:55:00 AM
Surr: 1,2-Dichloroethane-d4	108	50-164	%REC	0.99	7/12/2008 2:55:00 AM
Surr: Toluene-d8	91.5	58-155	%REC	0.99	7/12/2008 2:55:00 AM
Surr: 4-Bromofluorobenzene	82.1	54-133	%REC	0.99	7/12/2008 2:55:00 AM

CLIENT:	CF Jergens	**Lab Order:**	0807568
Project:	CFJ		

Data Qualifiers (Flags)

!	See Case Narrative
*	Value exceeds Maximum Contaminant Level
A	The total analyte is below detection limit; component analytes were not analyzed.
B	Analyte detected in the associated Method Blank
BDL	Below Detection limit
C	Sample result confirmed by reanalysis
E	Value above quantitation range
F	Unable to obtain a reliable result due to matrix interference
H	Analysis completed outside holding times
J	Analyte detected at an estimated concentration
K	Result from method of standard additions
N	Presumptive evidence of analyte present
NG	No growth
P	Sample preservation does not meet method requirements
PQL	Practical Quantitation Limit
S	Recovery is outside of acceptance limits
V	Calibration criteria exceeded, but acceptable by method

Belmont Labs
The Environmental Service Company.

ANALYTICAL REQUEST CHAIN OF CUSTODY

Internal Lab Order Number 0807568

Purchase Order No.	Quote No.	Client Project
		CFJ

INVOICE TO
Name: Pat Jergens
Company: Charles F Jergens Const. Inc
Address: 1280 Brandt Pike
City, State, Zip: Dayton, OH 45404

REPORT TO
Name: Same
Company:
Mailing Address:
City, State, Zip:
Phone No.: 937-233-3081 Fax No.: 233-2075

Date Results Req: Rush Charges Authorized? ☐ Yes ☐ No Fax Results ☐

Special Instructions:
VAP Clean Soils Analysis
Additional QC Requirements: Level 2, Level 3, Level 4 (Charges Apply)

Regulatory Type
☐ NPDES
☐ RCRA
☐ SDWA
☒ VAP
☐ Other
Collected in State of OH

Matrix Key
DW - Drinking Water
GW - Ground Water
S - Soil/Solid
SL - Sludge
WW - Waste Water
Specify Other

ANALYSIS REQUESTED
(Enter an "X" in the box below to indicate request and circle preservative)

CLIENT SAMPLE IDENTIFICATION	Date Sampled	Time	Comp	Grab	Matrix	Number of Containers	SW-846, 6010 B P.P. Metals, Totals HNO_3, HCl, H_2SO_4, Ice, None, Other	SW-846, 8260 VOCs HNO_3, HCl, H_2SO_4, Ice, None, Other	SW-846, 8270 SVOCs HNO_3, HCl, H_2SO_4, Ice, None, Other	SW-846, 8081 PCBs HNO_3, HCl, H_2SO_4, Ice, None, Other	HNO_3, HCl, H_2SO_4, Ice, None, Other	HNO_3, HCl, H_2SO_4, Ice, None, Other	HNO_3, HCl, H_2SO_4, Ice, None, Other	HNO_3, HCl, H_2SO_4, Ice, None, Other	Lab Only
S-1	7.9.08	12:50		X	S	3	X	X	X	X					

CHAIN OF CUSTODY (if required)

Relinquished by: [signature] Date/Time 7.9.08 16:55 Received by: Date/Time

Relinquished by: Date/Time Received at lab by: [signature] Date/Time 7/9/08 1655

Method of Shipment: Cooler Temp. 6°C Custody Seals ☐ Yes ☐ No

Sampled by: R. Michael Broyles, RM Broyles Co LLC Date 7.9.08 WI

Client Comments

Please return completed form and samples to Belmont Labs • 25 Holiday Drive • Englewood, OH 45322 • 937.832.8242 • Fax 937.832.2868

DISTRIBUTION:
WHITE - Laboratory
YELLOW - Accounting
PINK - Client Retains

A & B Litho-Form #9786-5/02

Bakkila, Michelle

From: Funk, Laura
Sent: Thursday, December 10, 2009 2:15 PM
To: 'jennifer@steverauch.com'; 'joel.mcdowell@sbcglobal.net'
Subject: Borrow Source Evaluation

RE: Tech Town

WESTON received the completed borrow source evaluation form, which has been supplemented with information verbally provided on 11/23/09 by Steve Rauch, owner of the borrow source property and through a site inspection performed by Tim Smith of WESTON. Rauch provided analytical results from three samples collected from the borrow source property. Sample Areas 1 and 2 were in close proximity to one another, south and southwest of the garage. Sample Area 3 was located roughly 500 ft west of Sample Area 2 and what appears to be at least a couple hundred feet southwest of Area 1.

The sample from Area 3 had detections of 2,4-Dinitrotoluene (DNT) and 2,6-DNT in excess of leach-based screening levels. As a result, Area 3 is rejected as a borrow source for Tech Town**.**

All sample results were impacted by chloroform and methylene chloride in excess of leach-based screening levels. Based upon the laboratory qualifiers this appears to be attributed to lab contamination (compounds also detected in the laboratory blank).

Soil in the vicinity of Areas 1 and 2 is conditionally approved as a borrow source. To verify that chloroform and methylene chloride are the result of lab contamination and achieve the minimum of 3 samples from the borrow, WESTON will collect and analyze a minimum of one additional composite sample of the borrow material during delivery. Approval is based upon results consistent with those provided through the borrow source evaluation.

Laura Funk, CP 286
Weston Solutions, Inc.
711 East Monument Avenue, Suite 201
Dayton, OH 45402
(937) 531-4402
fax: (937) 531-4401

APPENDIX X
ANALYTICAL REPORTS –
SOIL RELOCATED WITHIN GM PROPERTY

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Dayton
4738 Gateway Circle
Dayton, OH 45440
Tel: 800-572-9839

TestAmerica Job ID: DUC1063
Client Project/Site: 12473.005.007.0700
Client Project Description: Tech Town Remediation Ohio VAP

For:
Weston Solutions Inc. (Dayton, OH)
711 East Monument Ave. Suite 201
Dayton, OH 45402

Attn: Laura Funk

Authorized for release by:
04/12/2011 03:21:45 PM

Shelly A. Howard
Dayton Project Manager
Shelly.Howard@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

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Sample Summary

Client: Weston Solutions Inc. (Dayton, OH)
Project/Site: 12473.005.007

TestAmerica Job ID: DUC1063

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
DUC1063-01	TT-TSSP-01-C	Non-aqueous	03/18/11 10:15	03/18/11 16:25
DUC1063-02	TT-TSSP-02-C	Non-aqueous	03/18/11 10:35	03/18/11 16:25
DUC1063-03	TT-TSSP-03-C	Non-aqueous	03/18/11 10:50	03/18/11 16:25
DUC1063-04	TT-TSSP-04-C	Non-aqueous	03/18/11 11:05	03/18/11 16:25
DUC1063-05	TT-TSSP-05-C	Non-aqueous	03/18/11 11:20	03/18/11 16:25
DUC1063-06	TT-TSSP-06-C	Non-aqueous	03/18/11 11:40	03/18/11 16:25
DUC1063-07	TT-TSSP-07-C	Non-aqueous	03/18/11 11:55	03/18/11 16:25
DUC1063-08	TT-TSSP-01-G	Non-aqueous	03/18/11 13:20	03/18/11 16:25
DUC1063-09	TT-TSSP-02-G	Non-aqueous	03/18/11 13:30	03/18/11 16:25
DUC1063-10	TT-TSSP-03-G	Non-aqueous	03/18/11 13:35	03/18/11 16:25
DUC1063-11	TT-TSSP-04-G	Non-aqueous	03/18/11 13:45	03/18/11 16:25
DUC1063-12	TT-TSSP-05-G	Non-aqueous	03/18/11 13:55	03/18/11 16:25
DUC1063-13	TT-TSSP-06-G	Non-aqueous	03/18/11 14:00	03/18/11 16:25
DUC1063-14	TT-TSSP-07-G	Non-aqueous	03/18/11 14:10	03/18/11 16:25
DUC1063-15	Trip Blank	Water - NonPotable	03/18/11 00:00	03/18/11 16:25

Client: Weston Solutions Inc. (Dayton, OH)
Project/Site: 12473.005.007

TestAmerica Job ID: DUC1063

Job ID: DUC1063

Laboratory: TestAmerica Dayton

Narrative

Ohio VAP compliant.
PCB analysis performed at the North Canton Division of TestAmerica for VAP compliance.
The initial PCB data included a detection for aroclor 1254 and aroclor 1242 on sample DUC1063-06 (client ID TT-TSSP-06-C). A request to confirm this dual detection was made by the Dayton PM. The confirmation analysis shows no detection for aroclor 1242 above the reporting limit. However, chromatograms show a low level detection for AR1242 below the reporting limit. The low level detection, although below the RL, confirms the initial data.
Only the initial instance is reported as the re-extraction occured beyond the hold time.

AR1242 is reported from a one point calibration per method requirements.

Client Sample ID: TT-TSSP-01-C — Lab Sample ID: DUC1063-01

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Aroclor 1254	82		40	ug/kg	1	☼	8082	Total
Benzo (b) fluoranthene	0.456		0.352	mg/kg dry	1.00	☼	SW 8270C	total
Benzo (a) pyrene	0.469		0.176	mg/kg dry	1.00	☼	SW 8270C	total
Fluoranthene	0.455		0.352	mg/kg dry	1.00	☼	SW 8270C	total
Pyrene	0.457		0.352	mg/kg dry	1.00	☼	SW 8270C	total
Mercury	0.342	M	0.00984	mg/kg dry	1.00	☼	SW 7471A	total
Arsenic	8.81	RL3	7.70	mg/kg dry	10.0	☼	SW 6010B	total
Copper	176	M	7.69	mg/kg dry	10.0	☼	SW 6010B	total
Lead	41.0	M	30.7	mg/kg dry	10.0	☼	SW 6010B	total
Nickel	10.3		3.85	mg/kg dry	10.0	☼	SW 6010B	total
Zinc	58.8		19.3	mg/kg dry	10.0	☼	SW 6010B	total

Client Sample ID: TT-TSSP-02-C — Lab Sample ID: DUC1063-02

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Benzo (a) anthracene	0.970		0.368	mg/kg dry	1.00	☼	SW 8270C	total
Benzo (b) fluoranthene	1.07		0.368	mg/kg dry	1.00	☼	SW 8270C	total
Benzo (g,h,i) perylene	0.567		0.368	mg/kg dry	1.00	☼	SW 8270C	total
Benzo (k) fluoranthene	0.477		0.368	mg/kg dry	1.00	☼	SW 8270C	total
Benzo (a) pyrene	1.15		0.184	mg/kg dry	1.00	☼	SW 8270C	total
Chrysene	0.837		0.368	mg/kg dry	1.00	☼	SW 8270C	total
Dibenz (a,h) anthracene	0.349		0.184	mg/kg dry	1.00	☼	SW 8270C	total
Fluoranthene	1.12		0.368	mg/kg dry	1.00	☼	SW 8270C	total
Indeno (1,2,3-cd) pyrene	0.600		0.368	mg/kg dry	1.00	☼	SW 8270C	total
Phenanthrene	0.538		0.368	mg/kg dry	1.00	☼	SW 8270C	total
Pyrene	1.16		0.368	mg/kg dry	1.00	☼	SW 8270C	total
Mercury	0.485		0.0194	mg/kg dry	2.00	☼	SW 7471A	total
Arsenic	6.71		4.06	mg/kg dry	5.00	☼	SW 6010B	total
Chromium	8.59		8.09	mg/kg dry	5.00	☼	SW 6010B	total
Copper	23.0		4.05	mg/kg dry	5.00	☼	SW 6010B	total
Lead	36.1		16.2	mg/kg dry	5.00	☼	SW 6010B	total
Nickel	12.1		2.02	mg/kg dry	5.00	☼	SW 6010B	total
Zinc	59.0		10.2	mg/kg dry	5.00	☼	SW 6010B	total

Client Sample ID: TT-TSSP-03-C — Lab Sample ID: DUC1063-03

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Benzo (a) pyrene	0.229		0.182	mg/kg dry	1.00	☼	SW 8270C	total
Mercury	0.310		0.0102	mg/kg dry	1.00	☼	SW 7471A	total
Copper	12.8		8.14	mg/kg dry	10.0	☼	SW 6010B	total
Nickel	7.44		4.07	mg/kg dry	10.0	☼	SW 6010B	total
Zinc	44.1		20.4	mg/kg dry	10.0	☼	SW 6010B	total

Client Sample ID: TT-TSSP-04-C — Lab Sample ID: DUC1063-04

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Mercury	0.140		0.00935	mg/kg dry	1.00	☼	SW 7471A	total
Arsenic	4.79		3.80	mg/kg dry	5.00	☼	SW 6010B	total
Copper	16.4		3.80	mg/kg dry	5.00	☼	SW 6010B	total
Lead	19.8		15.2	mg/kg dry	5.00	☼	SW 6010B	total
Nickel	7.35		1.90	mg/kg dry	5.00	☼	SW 6010B	total
Zinc	48.5		9.52	mg/kg dry	5.00	☼	SW 6010B	total

Client Sample ID: TT-TSSP-05-C — Lab Sample ID: DUC1063-05

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Aroclor 1254	65		41	ug/kg	1	☼	8082	Total
Benzo (a) pyrene	0.288		0.180	mg/kg dry	1.00	☼	SW 8270C	total
Mercury	0.296		0.00996	mg/kg dry	1.00	☼	SW 7471A	total
Copper	23.1		7.81	mg/kg dry	10.0	☼	SW 6010B	total
Lead	47.7		31.2	mg/kg dry	10.0	☼	SW 6010B	total
Nickel	8.60		3.90	mg/kg dry	10.0	☼	SW 6010B	total
Zinc	124		19.6	mg/kg dry	10.0	☼	SW 6010B	total

Client Sample ID: TT-TSSP-06-C — Lab Sample ID: DUC1063-06

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Aroclor 1242	46		38	ug/kg	1	☼	8082	Total
Aroclor 1254	53		38	ug/kg	1	☼	8082	Total
Benzo (a) pyrene	0.264		0.175	mg/kg dry	1.00	☼	SW 8270C	total
Mercury	0.192		0.00967	mg/kg dry	1.00	☼	SW 7471A	total
Copper	16.9		7.68	mg/kg dry	10.0	☼	SW 6010B	total
Nickel	6.57		3.84	mg/kg dry	10.0	☼	SW 6010B	total
Zinc	34.9		19.3	mg/kg dry	10.0	☼	SW 6010B	total

Client Sample ID: TT-TSSP-07-C — Lab Sample ID: DUC1063-07

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Aroclor 1254	150		40	ug/kg	1	☼	8082	Total
Benzo (a) pyrene	0.266		0.162	mg/kg dry	1.00	☼	SW 8270C	total
Fluoranthene	0.432		0.325	mg/kg dry	1.00	☼	SW 8270C	total
Pyrene	0.417		0.325	mg/kg dry	1.00	☼	SW 8270C	total
Mercury	0.422		0.00913	mg/kg dry	1.00	☼	SW 7471A	total
Arsenic	7.27		3.62	mg/kg dry	5.00	☼	SW 6010B	total
Chromium	8.32		7.22	mg/kg dry	5.00	☼	SW 6010B	total
Copper	20.7		3.61	mg/kg dry	5.00	☼	SW 6010B	total
Lead	21.8		14.4	mg/kg dry	5.00	☼	SW 6010B	total
Nickel	11.7		1.81	mg/kg dry	5.00	☼	SW 6010B	total
Zinc	72.7		9.06	mg/kg dry	5.00	☼	SW 6010B	total

Client Sample ID: TT-TSSP-01-G — Lab Sample ID: DUC1063-08

No Detections.

Client Sample ID: TT-TSSP-02-G — Lab Sample ID: DUC1063-09

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Tetrachloroethene	0.0325		0.00737	mg/kg dry	1.00	☼	SW 8260B	total
Trichloroethene	0.0124		0.00737	mg/kg dry	1.00	☼	SW 8260B	total

Client Sample ID: TT-TSSP-03-G — Lab Sample ID: DUC1063-10

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Tetrachloroethene	0.0260		0.00546	mg/kg dry	1.00	☼	SW 8260B	total
Trichloroethene	0.0167		0.00546	mg/kg dry	1.00	☼	SW 8260B	total

Client Sample ID: TT-TSSP-04-G — Lab Sample ID: DUC1063-11

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Tetrachloroethene	0.0126		0.00528	mg/kg dry	1.00	☼	SW 8260B	total

Detection Summary

Client: Weston Solutions Inc. (Dayton, OH)
Project/Site: 12473.005.007

TestAmerica Job ID: DUC1063

Client Sample ID: TT-TSSP-05-G — Lab Sample ID: DUC1063-12

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Tetrachloroethene	0.0418		0.00548	mg/kg dry	1.00	☼	SW 8260B	total

Client Sample ID: TT-TSSP-06-G — Lab Sample ID: DUC1063-13

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Tetrachloroethene	0.0447		0.00537	mg/kg dry	1.00	☼	SW 8260B	total
Trichloroethene	0.0362		0.00537	mg/kg dry	1.00	☼	SW 8260B	total

Client Sample ID: TT-TSSP-07-G — Lab Sample ID: DUC1063-14

No Detections.

Client Sample ID: Trip Blank — Lab Sample ID: DUC1063-15

No Detections.

Client Sample ID: TT-TSSP-01-C
Date Collected: 03/18/11 10:15
Date Received: 03/18/11 16:25
Sampler Name: client

Lab Sample ID: DUC1063-01
Matrix: Non-aqueous
Percent Solids: 83.3
Sampler Phone Number: (937) 531-4400

Method: SW 8260A - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.117		0.117	mg/kg dry	☼	03/29/11 13:04	03/29/11 14:22	1.00
Benzene	<0.00583		0.00583	mg/kg dry	☼	03/29/11 13:04	03/29/11 14:22	1.00
Bromobenzene	<0.00583		0.00583	mg/kg dry	☼	03/29/11 13:04	03/29/11 14:22	1.00
Bromochloromethane	<0.00583		0.00583	mg/kg dry	☼	03/29/11 13:04	03/29/11 14:22	1.00
Bromodichloromethane (Dichlorobromomethane)	<0.00583		0.00583	mg/kg dry	☼	03/29/11 13:04	03/29/11 14:22	1.00
Bromoform	<0.00583		0.00583	mg/kg dry	☼	03/29/11 13:04	03/29/11 14:22	1.00
Bromomethane (Methyl bromide)	<0.0117		0.0117	mg/kg dry	☼	03/29/11 13:04	03/29/11 14:22	1.00
2-Butanone (MEK)	<0.0583		0.0583	mg/kg dry	☼	03/29/11 13:04	03/29/11 14:22	1.00
tert-Butylbenzene	<0.00583		0.00583	mg/kg dry	☼	03/29/11 13:04	03/29/11 14:22	1.00
sec-Butylbenzene	<0.00583		0.00583	mg/kg dry	☼	03/29/11 13:04	03/29/11 14:22	1.00
n-Butylbenzene	<0.00583		0.00583	mg/kg dry	☼	03/29/11 13:04	03/29/11 14:22	1.00
Carbon disulfide	<0.00583		0.00583	mg/kg dry	☼	03/29/11 13:04	03/29/11 14:22	1.00
Carbon tetrachloride	<0.00583		0.00583	mg/kg dry	☼	03/29/11 13:04	03/29/11 14:22	1.00
Chlorobenzene	<0.00583		0.00583	mg/kg dry	☼	03/29/11 13:04	03/29/11 14:22	1.00
Chloroethane	<0.0117		0.0117	mg/kg dry	☼	03/29/11 13:04	03/29/11 14:22	1.00
Chloroform	<0.00583		0.00583	mg/kg dry	☼	03/29/11 13:04	03/29/11 14:22	1.00
Chloromethane (Methyl chloride)	<0.0117		0.0117	mg/kg dry	☼	03/29/11 13:04	03/29/11 14:22	1.00
4-Chlorotoluene	<0.00583		0.00583	mg/kg dry	☼	03/29/11 13:04	03/29/11 14:22	1.00
2-Chlorotoluene	<0.00583		0.00583	mg/kg dry	☼	03/29/11 13:04	03/29/11 14:22	1.00
Dibromochloromethane (Chlorodibromomethane)	<0.00583		0.00583	mg/kg dry	☼	03/29/11 13:04	03/29/11 14:22	1.00
Dibromomethane	<0.00583		0.00583	mg/kg dry	☼	03/29/11 13:04	03/29/11 14:22	1.00
1,2-Dichlorobenzene	<0.00583		0.00583	mg/kg dry	☼	03/29/11 13:04	03/29/11 14:22	1.00
1,4-Dichlorobenzene	<0.00583		0.00583	mg/kg dry	☼	03/29/11 13:04	03/29/11 14:22	1.00
1,3-Dichlorobenzene	<0.00583		0.00583	mg/kg dry	☼	03/29/11 13:04	03/29/11 14:22	1.00
Dichlorodifluoromethane	<0.00583		0.00583	mg/kg dry	☼	03/29/11 13:04	03/29/11 14:22	1.00
1,1-Dichloroethane	<0.00583		0.00583	mg/kg dry	☼	03/29/11 13:04	03/29/11 14:22	1.00
1,2-Dichloroethane	<0.00583		0.00583	mg/kg dry	☼	03/29/11 13:04	03/29/11 14:22	1.00
cis-1,2-Dichloroethene	<0.00583		0.00583	mg/kg dry	☼	03/29/11 13:04	03/29/11 14:22	1.00
trans-1,2-Dichloroethene	<0.00583		0.00583	mg/kg dry	☼	03/29/11 13:04	03/29/11 14:22	1.00
1,1-Dichloroethene	<0.00583		0.00583	mg/kg dry	☼	03/29/11 13:04	03/29/11 14:22	1.00
1,3-Dichloropropane	<0.00583		0.00583	mg/kg dry	☼	03/29/11 13:04	03/29/11 14:22	1.00
2,2-Dichloropropane	<0.00583		0.00583	mg/kg dry	☼	03/29/11 13:04	03/29/11 14:22	1.00
1,2-Dichloropropane	<0.00583		0.00583	mg/kg dry	☼	03/29/11 13:04	03/29/11 14:22	1.00
1,1-Dichloropropene	<0.00583		0.00583	mg/kg dry	☼	03/29/11 13:04	03/29/11 14:22	1.00
cis-1,3-Dichloropropene	<0.00583		0.00583	mg/kg dry	☼	03/29/11 13:04	03/29/11 14:22	1.00
trans-1,3-Dichloropropene	<0.00583		0.00583	mg/kg dry	☼	03/29/11 13:04	03/29/11 14:22	1.00
Ethylbenzene	<0.00583		0.00583	mg/kg dry	☼	03/29/11 13:04	03/29/11 14:22	1.00
Hexachlorobutadiene	<0.00583		0.00583	mg/kg dry	☼	03/29/11 13:04	03/29/11 14:22	1.00
n-Hexane	<0.0233		0.0233	mg/kg dry	☼	03/29/11 13:04	03/29/11 14:22	1.00
2-Hexanone	<0.0583		0.0583	mg/kg dry	☼	03/29/11 13:04	03/29/11 14:22	1.00
Isopropylbenzene (Cumene)	<0.00583		0.00583	mg/kg dry	☼	03/29/11 13:04	03/29/11 14:22	1.00
p-Isopropyltoluene	<0.00583		0.00583	mg/kg dry	☼	03/29/11 13:04	03/29/11 14:22	1.00
Methyl tert-butyl ether	<0.00583		0.00583	mg/kg dry	☼	03/29/11 13:04	03/29/11 14:22	1.00
Methylene chloride	<0.0583		0.0583	mg/kg dry	☼	03/29/11 13:04	03/29/11 14:22	1.00
4-Methyl-2-pentanone (MIBK)	<0.0583		0.0583	mg/kg dry	☼	03/29/11 13:04	03/29/11 14:22	1.00
n-Propylbenzene	<0.00583		0.00583	mg/kg dry	☼	03/29/11 13:04	03/29/11 14:22	1.00
Styrene	<0.00583		0.00583	mg/kg dry	☼	03/29/11 13:04	03/29/11 14:22	1.00
1,1,1,2-Tetrachloroethane	<0.00583		0.00583	mg/kg dry	☼	03/29/11 13:04	03/29/11 14:22	1.00
1,1,2,2-Tetrachloroethane	<0.00583		0.00583	mg/kg dry	☼	03/29/11 13:04	03/29/11 14:22	1.00

Client Sample ID: TT-TSSP-01-C
Date Collected: 03/18/11 10:15
Date Received: 03/18/11 16:25
Sampler Name: client

Lab Sample ID: DUC1063-01
Matrix: Non-aqueous
Percent Solids: 83.3
Sampler Phone Number: (937) 531-4400

Method: SW 8260A - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	<0.00583		0.00583	mg/kg dry	☼	03/29/11 13:04	03/29/11 14:22	1.00
Toluene	<0.00583		0.00583	mg/kg dry	☼	03/29/11 13:04	03/29/11 14:22	1.00
1,2,4-Trichlorobenzene	<0.00583		0.00583	mg/kg dry	☼	03/29/11 13:04	03/29/11 14:22	1.00
1,1,1-Trichloroethane	<0.00583		0.00583	mg/kg dry	☼	03/29/11 13:04	03/29/11 14:22	1.00
1,1,2-Trichloroethane	<0.00583		0.00583	mg/kg dry	☼	03/29/11 13:04	03/29/11 14:22	1.00
Trichloroethene	<0.00583		0.00583	mg/kg dry	☼	03/29/11 13:04	03/29/11 14:22	1.00
Trichlorofluoromethane	<0.00583		0.00583	mg/kg dry	☼	03/29/11 13:04	03/29/11 14:22	1.00
1,2,4-Trimethylbenzene	<0.00583		0.00583	mg/kg dry	☼	03/29/11 13:04	03/29/11 14:22	1.00
1,3,5-Trimethylbenzene	<0.00583		0.00583	mg/kg dry	☼	03/29/11 13:04	03/29/11 14:22	1.00
Vinyl Acetate	<0.00583		0.00583	mg/kg dry	☼	03/29/11 13:04	03/29/11 14:22	1.00
Vinyl chloride	<0.00233		0.00233	mg/kg dry	☼	03/29/11 13:04	03/29/11 14:22	1.00
Xylenes, total	<0.00583		0.00583	mg/kg dry	☼	03/29/11 13:04	03/29/11 14:22	1.00

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4	*93*		*80 - 120*	*03/29/11 13:04*	*03/29/11 14:22*	*1.00*
Dibromofluoromethane	*90*		*80 - 120*	*03/29/11 13:04*	*03/29/11 14:22*	*1.00*
Toluene-d8	*107*		*80 - 120*	*03/29/11 13:04*	*03/29/11 14:22*	*1.00*
4-Bromofluorobenzene	*104*		*80 - 120*	*03/29/11 13:04*	*03/29/11 14:22*	*1.00*

Method: 8082 - PCBs (8082)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	<40		40	ug/kg	☼	03/22/11 12:45	03/24/11 10:45	1
Aroclor 1221	<40		40	ug/kg	☼	03/22/11 12:45	03/24/11 10:45	1
Aroclor 1232	<40		40	ug/kg	☼	03/22/11 12:45	03/24/11 10:45	1
Aroclor 1242	<40		40	ug/kg	☼	03/22/11 12:45	03/24/11 10:45	1
Aroclor 1248	<40		40	ug/kg	☼	03/22/11 12:45	03/24/11 10:45	1
Aroclor 1254	**82**		40	ug/kg	☼	03/22/11 12:45	03/24/11 10:45	1
Aroclor 1260	<40		40	ug/kg	☼	03/22/11 12:45	03/24/11 10:45	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*82*		*10 - 196*	*03/22/11 12:45*	*03/24/11 10:45*	*1*
Decachlorobiphenyl	*80*		*10 - 199*	*03/22/11 12:45*	*03/24/11 10:45*	*1*

Method: SW 8270C - Semivolatile Organics by GC/MS

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.352		0.352	mg/kg dry	☼	03/19/11 08:22	03/22/11 23:54	1.00
Acenaphthylene	<0.352		0.352	mg/kg dry	☼	03/19/11 08:22	03/22/11 23:54	1.00
Anthracene	<0.352		0.352	mg/kg dry	☼	03/19/11 08:22	03/22/11 23:54	1.00
Benzo (a) anthracene	<0.352		0.352	mg/kg dry	☼	03/19/11 08:22	03/22/11 23:54	1.00
Benzo (b) fluoranthene	**0.456**		0.352	mg/kg dry	☼	03/19/11 08:22	03/22/11 23:54	1.00
Benzo (g,h,i) perylene	<0.352		0.352	mg/kg dry	☼	03/19/11 08:22	03/22/11 23:54	1.00
Benzo (k) fluoranthene	<0.352		0.352	mg/kg dry	☼	03/19/11 08:22	03/22/11 23:54	1.00
Benzo (a) pyrene	**0.469**		0.176	mg/kg dry	☼	03/19/11 08:22	03/22/11 23:54	1.00
Benzoic acid	<3.52		3.52	mg/kg dry	☼	03/19/11 08:22	03/22/11 23:54	1.00
Benzyl alcohol	<0.704		0.704	mg/kg dry	☼	03/19/11 08:22	03/22/11 23:54	1.00
Bis(2-chloroethoxy)methane	<0.704		0.704	mg/kg dry	☼	03/19/11 08:22	03/22/11 23:54	1.00
Bis(2-chloroethyl)ether	<0.704		0.704	mg/kg dry	☼	03/19/11 08:22	03/22/11 23:54	1.00
Bis(2-chloroisopropyl) ether	<0.704		0.704	mg/kg dry	☼	03/19/11 08:22	03/22/11 23:54	1.00
Bis(2-ethylhexyl)phthalate	<0.704		0.704	mg/kg dry	☼	03/19/11 08:22	03/22/11 23:54	1.00
4-Bromophenyl phenyl ether	<0.704		0.704	mg/kg dry	☼	03/19/11 08:22	03/22/11 23:54	1.00

Client Sample ID: TT-TSSP-01-C
Date Collected: 03/18/11 10:15
Date Received: 03/18/11 16:25
Sampler Name: client

Lab Sample ID: DUC1063-01
Matrix: Non-aqueous
Percent Solids: 83.3
Sampler Phone Number: (937) 531-4400

Method: SW 8270C - Semivolatile Organics by GC/MS (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Butyl benzyl phthalate	<0.704		0.704	mg/kg dry	☼	03/19/11 08:22	03/22/11 23:54	1.00
4-Chloroaniline	<0.704		0.704	mg/kg dry	☼	03/19/11 08:22	03/22/11 23:54	1.00
4-Chloro-3-methylphenol	<0.704		0.704	mg/kg dry	☼	03/19/11 08:22	03/22/11 23:54	1.00
2-Chloronaphthalene	<0.704		0.704	mg/kg dry	☼	03/19/11 08:22	03/22/11 23:54	1.00
2-Chlorophenol	<0.704		0.704	mg/kg dry	☼	03/19/11 08:22	03/22/11 23:54	1.00
Chrysene	<0.352		0.352	mg/kg dry	☼	03/19/11 08:22	03/22/11 23:54	1.00
Dibenzofuran	<0.704		0.704	mg/kg dry	☼	03/19/11 08:22	03/22/11 23:54	1.00
1,2-Dichlorobenzene	<0.704		0.704	mg/kg dry	☼	03/19/11 08:22	03/22/11 23:54	1.00
1,3-Dichlorobenzene	<0.704		0.704	mg/kg dry	☼	03/19/11 08:22	03/22/11 23:54	1.00
1,4-Dichlorobenzene	<0.704		0.704	mg/kg dry	☼	03/19/11 08:22	03/22/11 23:54	1.00
Dibenz (a,h) anthracene	<0.176		0.176	mg/kg dry	☼	03/19/11 08:22	03/22/11 23:54	1.00
2,4-Dichlorophenol	<0.704		0.704	mg/kg dry	☼	03/19/11 08:22	03/22/11 23:54	1.00
Diethyl phthalate	<0.704		0.704	mg/kg dry	☼	03/19/11 08:22	03/22/11 23:54	1.00
2,4-Dimethylphenol	<0.704		0.704	mg/kg dry	☼	03/19/11 08:22	03/22/11 23:54	1.00
Dimethyl phthalate	<0.704		0.704	mg/kg dry	☼	03/19/11 08:22	03/22/11 23:54	1.00
4,6-Dinitro-2-methylphenol	<0.704		0.704	mg/kg dry	☼	03/19/11 08:22	03/22/11 23:54	1.00
2,4-Dinitrotoluene	<0.704		0.704	mg/kg dry	☼	03/19/11 08:22	03/22/11 23:54	1.00
2,6-Dinitrotoluene	<0.704		0.704	mg/kg dry	☼	03/19/11 08:22	03/22/11 23:54	1.00
Di-n-octyl phthalate	<0.704		0.704	mg/kg dry	☼	03/19/11 08:22	03/22/11 23:54	1.00
Fluoranthene	**0.455**		0.352	mg/kg dry	☼	03/19/11 08:22	03/22/11 23:54	1.00
Fluorene	<0.352		0.352	mg/kg dry	☼	03/19/11 08:22	03/22/11 23:54	1.00
Hexachlorobenzene	<0.352		0.352	mg/kg dry	☼	03/19/11 08:22	03/22/11 23:54	1.00
Hexachlorocyclopentadiene	<1.41		1.41	mg/kg dry	☼	03/19/11 08:22	03/22/11 23:54	1.00
Hexachloroethane	<0.704		0.704	mg/kg dry	☼	03/19/11 08:22	03/22/11 23:54	1.00
Indeno (1,2,3-cd) pyrene	<0.352		0.352	mg/kg dry	☼	03/19/11 08:22	03/22/11 23:54	1.00
Isophorone	<0.704		0.704	mg/kg dry	☼	03/19/11 08:22	03/22/11 23:54	1.00
2-Methylnaphthalene	<0.352		0.352	mg/kg dry	☼	03/19/11 08:22	03/22/11 23:54	1.00
2-Methylphenol (o-Cresol)	<0.704		0.704	mg/kg dry	☼	03/19/11 08:22	03/22/11 23:54	1.00
3&4-Methylphenol (m&p Cresol)	<0.704		0.704	mg/kg dry	☼	03/19/11 08:22	03/22/11 23:54	1.00
Naphthalene	<0.352		0.352	mg/kg dry	☼	03/19/11 08:22	03/22/11 23:54	1.00
Nitrobenzene	<0.704		0.704	mg/kg dry	☼	03/19/11 08:22	03/22/11 23:54	1.00
2-Nitrophenol	<0.704		0.704	mg/kg dry	☼	03/19/11 08:22	03/22/11 23:54	1.00
N-Nitrosodi-n-propylamine	<0.704		0.704	mg/kg dry	☼	03/19/11 08:22	03/22/11 23:54	1.00
Pentachlorophenol	<0.704		0.704	mg/kg dry	☼	03/19/11 08:22	03/22/11 23:54	1.00
Phenanthrene	<0.352		0.352	mg/kg dry	☼	03/19/11 08:22	03/22/11 23:54	1.00
Phenol	<0.704		0.704	mg/kg dry	☼	03/19/11 08:22	03/22/11 23:54	1.00
Pyrene	**0.457**		0.352	mg/kg dry	☼	03/19/11 08:22	03/22/11 23:54	1.00
1,2,4-Trichlorobenzene	<0.704		0.704	mg/kg dry	☼	03/19/11 08:22	03/22/11 23:54	1.00
2,4,5-Trichlorophenol	<0.704		0.704	mg/kg dry	☼	03/19/11 08:22	03/22/11 23:54	1.00
2,4,6-Trichlorophenol	<0.704		0.704	mg/kg dry	☼	03/19/11 08:22	03/22/11 23:54	1.00

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol	*75*		*20 - 135*	*03/19/11 08:22*	*03/22/11 23:54*	*1.00*
Phenol-d6	*87*		*20 - 150*	*03/19/11 08:22*	*03/22/11 23:54*	*1.00*
Nitrobenzene-d5	*76*		*30 - 135*	*03/19/11 08:22*	*03/22/11 23:54*	*1.00*
2-Fluorobiphenyl	*78*		*40 - 135*	*03/19/11 08:22*	*03/22/11 23:54*	*1.00*
2,4,6-Tribromophenol	*71*		*25 - 145*	*03/19/11 08:22*	*03/22/11 23:54*	*1.00*
Terphenyl-d14	*96*		*40 - 150*	*03/19/11 08:22*	*03/22/11 23:54*	*1.00*

Client: Weston Solutions Inc. (Dayton, OH)
Project/Site: 12473.005.007

TestAmerica Job ID: DUC1063

Client Sample ID: TT-TSSP-01-C
Date Collected: 03/18/11 10:15
Date Received: 03/18/11 16:25
Sampler Name: client

Lab Sample ID: DUC1063-01
Matrix: Non-aqueous
Percent Solids: 83.3
Sampler Phone Number: (937) 531-4400

Method: SW 7471A - Total Metals

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.342**	**M**	0.00984	mg/kg dry	☼	03/24/11 11:56	03/25/11 13:26	1.00

Method: SW 6010B - Total Metals

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<38.5	M, RL3	38.5	mg/kg dry	☼	03/21/11 11:07	03/24/11 15:30	10.0
Arsenic	**8.81**	**RL3**	7.70	mg/kg dry	☼	03/21/11 11:07	03/24/11 15:30	10.0
Beryllium	<1.93	RL3	1.93	mg/kg dry	☼	03/21/11 11:07	03/24/11 15:30	10.0
Cadmium	<11.5	RL3	11.5	mg/kg dry	☼	03/21/11 11:07	03/24/11 15:30	10.0
Chromium	<15.4	RL3	15.4	mg/kg dry	☼	03/21/11 11:07	03/24/11 15:30	10.0
Copper	**176**	**M**	7.69	mg/kg dry	☼	03/21/11 11:07	03/24/11 15:30	10.0
Lead	**41.0**	**M**	30.7	mg/kg dry	☼	03/21/11 11:07	03/24/11 15:30	10.0
Nickel	**10.3**		3.85	mg/kg dry	☼	03/21/11 11:07	03/24/11 15:30	10.0
Selenium	<38.5	RL3	38.5	mg/kg dry	☼	03/21/11 11:07	03/24/11 15:30	10.0
Silver	<15.4	RL3	15.4	mg/kg dry	☼	03/21/11 11:07	03/24/11 15:30	10.0
Thallium	<11.5	RL3	11.5	mg/kg dry	☼	03/21/11 11:07	03/24/11 15:30	10.0
Zinc	**58.8**		19.3	mg/kg dry	☼	03/21/11 11:07	03/24/11 15:30	10.0

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**82.5**		10.0	%			03/23/11 13:35	1

Method: SW 846 - General Chemistry Parameters

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dry Weight	**83.3**		0.100	%		03/21/11 12:07	03/21/11 12:07	1.00

Client Sample ID: TT-TSSP-02-C
Date Collected: 03/18/11 10:35
Date Received: 03/18/11 16:25
Sampler Name: client

Lab Sample ID: DUC1063-02
Matrix: Non-aqueous
Percent Solids: 79.1
Sampler Phone Number: (937) 531-4400

Method: SW 8260A - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.124		0.124	mg/kg dry	☼	03/29/11 13:06	03/29/11 14:53	1.00
Benzene	<0.00622		0.00622	mg/kg dry	☼	03/29/11 13:06	03/29/11 14:53	1.00
Bromobenzene	<0.00622		0.00622	mg/kg dry	☼	03/29/11 13:06	03/29/11 14:53	1.00
Bromochloromethane	<0.00622		0.00622	mg/kg dry	☼	03/29/11 13:06	03/29/11 14:53	1.00
Bromodichloromethane (Dichlorobromomethane)	<0.00622		0.00622	mg/kg dry	☼	03/29/11 13:06	03/29/11 14:53	1.00
Bromoform	<0.00622		0.00622	mg/kg dry	☼	03/29/11 13:06	03/29/11 14:53	1.00
Bromomethane (Methyl bromide)	<0.0124		0.0124	mg/kg dry	☼	03/29/11 13:06	03/29/11 14:53	1.00
2-Butanone (MEK)	<0.0622		0.0622	mg/kg dry	☼	03/29/11 13:06	03/29/11 14:53	1.00
tert-Butylbenzene	<0.00622		0.00622	mg/kg dry	☼	03/29/11 13:06	03/29/11 14:53	1.00
sec-Butylbenzene	<0.00622		0.00622	mg/kg dry	☼	03/29/11 13:06	03/29/11 14:53	1.00
n-Butylbenzene	<0.00622		0.00622	mg/kg dry	☼	03/29/11 13:06	03/29/11 14:53	1.00
Carbon disulfide	<0.00622		0.00622	mg/kg dry	☼	03/29/11 13:06	03/29/11 14:53	1.00
Carbon tetrachloride	<0.00622		0.00622	mg/kg dry	☼	03/29/11 13:06	03/29/11 14:53	1.00
Chlorobenzene	<0.00622		0.00622	mg/kg dry	☼	03/29/11 13:06	03/29/11 14:53	1.00
Chloroethane	<0.0124		0.0124	mg/kg dry	☼	03/29/11 13:06	03/29/11 14:53	1.00
Chloroform	<0.00622		0.00622	mg/kg dry	☼	03/29/11 13:06	03/29/11 14:53	1.00
Chloromethane (Methyl chloride)	<0.0124		0.0124	mg/kg dry	☼	03/29/11 13:06	03/29/11 14:53	1.00
4-Chlorotoluene	<0.00622		0.00622	mg/kg dry	☼	03/29/11 13:06	03/29/11 14:53	1.00
2-Chlorotoluene	<0.00622		0.00622	mg/kg dry	☼	03/29/11 13:06	03/29/11 14:53	1.00
Dibromochloromethane (Chlorodibromomethane)	<0.00622		0.00622	mg/kg dry	☼	03/29/11 13:06	03/29/11 14:53	1.00
Dibromomethane	<0.00622		0.00622	mg/kg dry	☼	03/29/11 13:06	03/29/11 14:53	1.00
1,2-Dichlorobenzene	<0.00622		0.00622	mg/kg dry	☼	03/29/11 13:06	03/29/11 14:53	1.00
1,4-Dichlorobenzene	<0.00622		0.00622	mg/kg dry	☼	03/29/11 13:06	03/29/11 14:53	1.00
1,3-Dichlorobenzene	<0.00622		0.00622	mg/kg dry	☼	03/29/11 13:06	03/29/11 14:53	1.00
Dichlorodifluoromethane	<0.00622		0.00622	mg/kg dry	☼	03/29/11 13:06	03/29/11 14:53	1.00
1,1-Dichloroethane	<0.00622		0.00622	mg/kg dry	☼	03/29/11 13:06	03/29/11 14:53	1.00
1,2-Dichloroethane	<0.00622		0.00622	mg/kg dry	☼	03/29/11 13:06	03/29/11 14:53	1.00
cis-1,2-Dichloroethene	<0.00622		0.00622	mg/kg dry	☼	03/29/11 13:06	03/29/11 14:53	1.00
trans-1,2-Dichloroethene	<0.00622		0.00622	mg/kg dry	☼	03/29/11 13:06	03/29/11 14:53	1.00
1,1-Dichloroethene	<0.00622		0.00622	mg/kg dry	☼	03/29/11 13:06	03/29/11 14:53	1.00
1,3-Dichloropropane	<0.00622		0.00622	mg/kg dry	☼	03/29/11 13:06	03/29/11 14:53	1.00
2,2-Dichloropropane	<0.00622		0.00622	mg/kg dry	☼	03/29/11 13:06	03/29/11 14:53	1.00
1,2-Dichloropropane	<0.00622		0.00622	mg/kg dry	☼	03/29/11 13:06	03/29/11 14:53	1.00
1,1-Dichloropropene	<0.00622		0.00622	mg/kg dry	☼	03/29/11 13:06	03/29/11 14:53	1.00
cis-1,3-Dichloropropene	<0.00622		0.00622	mg/kg dry	☼	03/29/11 13:06	03/29/11 14:53	1.00
trans-1,3-Dichloropropene	<0.00622		0.00622	mg/kg dry	☼	03/29/11 13:06	03/29/11 14:53	1.00
Ethylbenzene	<0.00622		0.00622	mg/kg dry	☼	03/29/11 13:06	03/29/11 14:53	1.00
Hexachlorobutadiene	<0.00622		0.00622	mg/kg dry	☼	03/29/11 13:06	03/29/11 14:53	1.00
n-Hexane	<0.0249		0.0249	mg/kg dry	☼	03/29/11 13:06	03/29/11 14:53	1.00
2-Hexanone	<0.0622		0.0622	mg/kg dry	☼	03/29/11 13:06	03/29/11 14:53	1.00
Isopropylbenzene (Cumene)	<0.00622		0.00622	mg/kg dry	☼	03/29/11 13:06	03/29/11 14:53	1.00
p-Isopropyltoluene	<0.00622		0.00622	mg/kg dry	☼	03/29/11 13:06	03/29/11 14:53	1.00
Methyl tert-butyl ether	<0.00622		0.00622	mg/kg dry	☼	03/29/11 13:06	03/29/11 14:53	1.00
Methylene chloride	<0.0622		0.0622	mg/kg dry	☼	03/29/11 13:06	03/29/11 14:53	1.00
4-Methyl-2-pentanone (MIBK)	<0.0622		0.0622	mg/kg dry	☼	03/29/11 13:06	03/29/11 14:53	1.00
n-Propylbenzene	<0.00622		0.00622	mg/kg dry	☼	03/29/11 13:06	03/29/11 14:53	1.00
Styrene	<0.00622		0.00622	mg/kg dry	☼	03/29/11 13:06	03/29/11 14:53	1.00
1,1,1,2-Tetrachloroethane	<0.00622		0.00622	mg/kg dry	☼	03/29/11 13:06	03/29/11 14:53	1.00
1,1,2,2-Tetrachloroethane	<0.00622		0.00622	mg/kg dry	☼	03/29/11 13:06	03/29/11 14:53	1.00

Client Sample ID: TT-TSSP-02-C
Date Collected: 03/18/11 10:35
Date Received: 03/18/11 16:25
Sampler Name: client

Lab Sample ID: DUC1063-02
Matrix: Non-aqueous
Percent Solids: 79.1
Sampler Phone Number: (937) 531-4400

Method: SW 8260A - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	<0.00622		0.00622	mg/kg dry	☼	03/29/11 13:06	03/29/11 14:53	1.00
Toluene	<0.00622		0.00622	mg/kg dry	☼	03/29/11 13:06	03/29/11 14:53	1.00
1,2,4-Trichlorobenzene	<0.00622		0.00622	mg/kg dry	☼	03/29/11 13:06	03/29/11 14:53	1.00
1,1,1-Trichloroethane	<0.00622		0.00622	mg/kg dry	☼	03/29/11 13:06	03/29/11 14:53	1.00
1,1,2-Trichloroethane	<0.00622		0.00622	mg/kg dry	☼	03/29/11 13:06	03/29/11 14:53	1.00
Trichloroethene	<0.00622		0.00622	mg/kg dry	☼	03/29/11 13:06	03/29/11 14:53	1.00
Trichlorofluoromethane	<0.00622		0.00622	mg/kg dry	☼	03/29/11 13:06	03/29/11 14:53	1.00
1,2,4-Trimethylbenzene	<0.00622		0.00622	mg/kg dry	☼	03/29/11 13:06	03/29/11 14:53	1.00
1,3,5-Trimethylbenzene	<0.00622		0.00622	mg/kg dry	☼	03/29/11 13:06	03/29/11 14:53	1.00
Vinyl Acetate	<0.00622		0.00622	mg/kg dry	☼	03/29/11 13:06	03/29/11 14:53	1.00
Vinyl chloride	<0.00249		0.00249	mg/kg dry	☼	03/29/11 13:06	03/29/11 14:53	1.00
Xylenes, total	<0.00622		0.00622	mg/kg dry	☼	03/29/11 13:06	03/29/11 14:53	1.00

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4	*92*		*80 - 120*	*03/29/11 13:06*	*03/29/11 14:53*	*1.00*
Dibromofluoromethane	*89*		*80 - 120*	*03/29/11 13:06*	*03/29/11 14:53*	*1.00*
Toluene-d8	*108*		*80 - 120*	*03/29/11 13:06*	*03/29/11 14:53*	*1.00*
4-Bromofluorobenzene	*103*		*80 - 120*	*03/29/11 13:06*	*03/29/11 14:53*	*1.00*

Method: 8082 - PCBs (8082)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	<41		41	ug/kg	☼	03/22/11 12:45	03/24/11 11:35	1
Aroclor 1221	<41		41	ug/kg	☼	03/22/11 12:45	03/24/11 11:35	1
Aroclor 1232	<41		41	ug/kg	☼	03/22/11 12:45	03/24/11 11:35	1
Aroclor 1242	<41		41	ug/kg	☼	03/22/11 12:45	03/24/11 11:35	1
Aroclor 1248	<41		41	ug/kg	☼	03/22/11 12:45	03/24/11 11:35	1
Aroclor 1254	<41		41	ug/kg	☼	03/22/11 12:45	03/24/11 11:35	1
Aroclor 1260	<41		41	ug/kg	☼	03/22/11 12:45	03/24/11 11:35	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*82*		*10 - 196*	*03/22/11 12:45*	*03/24/11 11:35*	*1*
Decachlorobiphenyl	*66*		*10 - 199*	*03/22/11 12:45*	*03/24/11 11:35*	*1*

Method: SW 8270C - Semivolatile Organics by GC/MS

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.368		0.368	mg/kg dry	☼	03/19/11 08:22	03/23/11 18:35	1.00
Acenaphthylene	<0.368		0.368	mg/kg dry	☼	03/19/11 08:22	03/23/11 18:35	1.00
Anthracene	<0.368		0.368	mg/kg dry	☼	03/19/11 08:22	03/23/11 18:35	1.00
Benzo (a) anthracene	**0.970**		0.368	mg/kg dry	☼	03/19/11 08:22	03/23/11 18:35	1.00
Benzo (b) fluoranthene	**1.07**		0.368	mg/kg dry	☼	03/19/11 08:22	03/23/11 18:35	1.00
Benzo (g,h,i) perylene	**0.567**		0.368	mg/kg dry	☼	03/19/11 08:22	03/23/11 18:35	1.00
Benzo (k) fluoranthene	**0.477**		0.368	mg/kg dry	☼	03/19/11 08:22	03/23/11 18:35	1.00
Benzo (a) pyrene	**1.15**		0.184	mg/kg dry	☼	03/19/11 08:22	03/23/11 18:35	1.00
Benzoic acid	<3.68		3.68	mg/kg dry	☼	03/19/11 08:22	03/23/11 18:35	1.00
Benzyl alcohol	<0.735		0.735	mg/kg dry	☼	03/19/11 08:22	03/23/11 18:35	1.00
Bis(2-chloroethoxy)methane	<0.735		0.735	mg/kg dry	☼	03/19/11 08:22	03/23/11 18:35	1.00
Bis(2-chloroethyl)ether	<0.735		0.735	mg/kg dry	☼	03/19/11 08:22	03/23/11 18:35	1.00
Bis(2-chloroisopropyl) ether	<0.735		0.735	mg/kg dry	☼	03/19/11 08:22	03/23/11 18:35	1.00
Bis(2-ethylhexyl)phthalate	<0.735		0.735	mg/kg dry	☼	03/19/11 08:22	03/23/11 18:35	1.00
4-Bromophenyl phenyl ether	<0.735		0.735	mg/kg dry	☼	03/19/11 08:22	03/23/11 18:35	1.00

Client Sample ID: TT-TSSP-02-C
Date Collected: 03/18/11 10:35
Date Received: 03/18/11 16:25
Sampler Name: client

Lab Sample ID: DUC1063-02
Matrix: Non-aqueous
Percent Solids: 79.1
Sampler Phone Number: (937) 531-4400

Method: SW 8270C - Semivolatile Organics by GC/MS (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Butyl benzyl phthalate	<0.735		0.735	mg/kg dry	☼	03/19/11 08:22	03/23/11 18:35	1.00
4-Chloroaniline	<0.735		0.735	mg/kg dry	☼	03/19/11 08:22	03/23/11 18:35	1.00
4-Chloro-3-methylphenol	<0.735		0.735	mg/kg dry	☼	03/19/11 08:22	03/23/11 18:35	1.00
2-Chloronaphthalene	<0.735		0.735	mg/kg dry	☼	03/19/11 08:22	03/23/11 18:35	1.00
2-Chlorophenol	<0.735		0.735	mg/kg dry	☼	03/19/11 08:22	03/23/11 18:35	1.00
Chrysene	**0.837**		0.368	mg/kg dry	☼	03/19/11 08:22	03/23/11 18:35	1.00
Dibenzofuran	<0.735		0.735	mg/kg dry	☼	03/19/11 08:22	03/23/11 18:35	1.00
1,2-Dichlorobenzene	<0.735		0.735	mg/kg dry	☼	03/19/11 08:22	03/23/11 18:35	1.00
1,3-Dichlorobenzene	<0.735		0.735	mg/kg dry	☼	03/19/11 08:22	03/23/11 18:35	1.00
1,4-Dichlorobenzene	<0.735		0.735	mg/kg dry	☼	03/19/11 08:22	03/23/11 18:35	1.00
Dibenz (a,h) anthracene	**0.349**		0.184	mg/kg dry	☼	03/19/11 08:22	03/23/11 18:35	1.00
2,4-Dichlorophenol	<0.735		0.735	mg/kg dry	☼	03/19/11 08:22	03/23/11 18:35	1.00
Diethyl phthalate	<0.735		0.735	mg/kg dry	☼	03/19/11 08:22	03/23/11 18:35	1.00
2,4-Dimethylphenol	<0.735		0.735	mg/kg dry	☼	03/19/11 08:22	03/23/11 18:35	1.00
Dimethyl phthalate	<0.735		0.735	mg/kg dry	☼	03/19/11 08:22	03/23/11 18:35	1.00
4,6-Dinitro-2-methylphenol	<0.735		0.735	mg/kg dry	☼	03/19/11 08:22	03/23/11 18:35	1.00
2,4-Dinitrotoluene	<0.735		0.735	mg/kg dry	☼	03/19/11 08:22	03/23/11 18:35	1.00
2,6-Dinitrotoluene	<0.735		0.735	mg/kg dry	☼	03/19/11 08:22	03/23/11 18:35	1.00
Di-n-octyl phthalate	<0.735		0.735	mg/kg dry	☼	03/19/11 08:22	03/23/11 18:35	1.00
Fluoranthene	**1.12**		0.368	mg/kg dry	☼	03/19/11 08:22	03/23/11 18:35	1.00
Fluorene	<0.368		0.368	mg/kg dry	☼	03/19/11 08:22	03/23/11 18:35	1.00
Hexachlorobenzene	<0.368		0.368	mg/kg dry	☼	03/19/11 08:22	03/23/11 18:35	1.00
Hexachlorocyclopentadiene	<1.47		1.47	mg/kg dry	☼	03/19/11 08:22	03/23/11 18:35	1.00
Hexachloroethane	<0.735		0.735	mg/kg dry	☼	03/19/11 08:22	03/23/11 18:35	1.00
Indeno (1,2,3-cd) pyrene	**0.600**		0.368	mg/kg dry	☼	03/19/11 08:22	03/23/11 18:35	1.00
Isophorone	<0.735		0.735	mg/kg dry	☼	03/19/11 08:22	03/23/11 18:35	1.00
2-Methylnaphthalene	<0.368		0.368	mg/kg dry	☼	03/19/11 08:22	03/23/11 18:35	1.00
2-Methylphenol (o-Cresol)	<0.735		0.735	mg/kg dry	☼	03/19/11 08:22	03/23/11 18:35	1.00
3&4-Methylphenol (m&p Cresol)	<0.735		0.735	mg/kg dry	☼	03/19/11 08:22	03/23/11 18:35	1.00
Naphthalene	<0.368		0.368	mg/kg dry	☼	03/19/11 08:22	03/23/11 18:35	1.00
Nitrobenzene	<0.735		0.735	mg/kg dry	☼	03/19/11 08:22	03/23/11 18:35	1.00
2-Nitrophenol	<0.735		0.735	mg/kg dry	☼	03/19/11 08:22	03/23/11 18:35	1.00
N-Nitrosodi-n-propylamine	<0.735		0.735	mg/kg dry	☼	03/19/11 08:22	03/23/11 18:35	1.00
Pentachlorophenol	<0.735		0.735	mg/kg dry	☼	03/19/11 08:22	03/23/11 18:35	1.00
Phenanthrene	**0.538**		0.368	mg/kg dry	☼	03/19/11 08:22	03/23/11 18:35	1.00
Phenol	<0.735		0.735	mg/kg dry	☼	03/19/11 08:22	03/23/11 18:35	1.00
Pyrene	**1.16**		0.368	mg/kg dry	☼	03/19/11 08:22	03/23/11 18:35	1.00
1,2,4-Trichlorobenzene	<0.735		0.735	mg/kg dry	☼	03/19/11 08:22	03/23/11 18:35	1.00
2,4,5-Trichlorophenol	<0.735		0.735	mg/kg dry	☼	03/19/11 08:22	03/23/11 18:35	1.00
2,4,6-Trichlorophenol	<0.735		0.735	mg/kg dry	☼	03/19/11 08:22	03/23/11 18:35	1.00

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol	*71*		*20 - 135*	*03/19/11 08:22*	*03/23/11 18:35*	*1.00*
Phenol-d6	*81*		*20 - 150*	*03/19/11 08:22*	*03/23/11 18:35*	*1.00*
Nitrobenzene-d5	*71*		*30 - 135*	*03/19/11 08:22*	*03/23/11 18:35*	*1.00*
2-Fluorobiphenyl	*71*		*40 - 135*	*03/19/11 08:22*	*03/23/11 18:35*	*1.00*
2,4,6-Tribromophenol	*74*		*25 - 145*	*03/19/11 08:22*	*03/23/11 18:35*	*1.00*
Terphenyl-d14	*94*		*40 - 150*	*03/19/11 08:22*	*03/23/11 18:35*	*1.00*

Client Sample ID: TT-TSSP-02-C
Lab Sample ID: DUC1063-02
Date Collected: 03/18/11 10:35
Matrix: Non-aqueous
Date Received: 03/18/11 16:25
Percent Solids: 79.1
Sampler Name: client
Sampler Phone Number: (937) 531-4400

Method: SW 7471A - Total Metals

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.485**		0.0194	mg/kg dry	☼	03/24/11 11:56	03/25/11 14:25	2.00

Method: SW 6010B - Total Metals

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<20.2		20.2	mg/kg dry	☼	03/21/11 11:07	03/24/11 12:05	5.00
Arsenic	**6.71**		4.06	mg/kg dry	☼	03/21/11 11:07	03/24/11 12:05	5.00
Beryllium	<1.02		1.02	mg/kg dry	☼	03/21/11 11:07	03/24/11 12:05	5.00
Cadmium	<6.08		6.08	mg/kg dry	☼	03/21/11 11:07	03/24/11 12:05	5.00
Chromium	**8.59**		8.09	mg/kg dry	☼	03/21/11 11:07	03/24/11 12:05	5.00
Copper	**23.0**		4.05	mg/kg dry	☼	03/21/11 11:07	03/24/11 12:05	5.00
Lead	**36.1**		16.2	mg/kg dry	☼	03/21/11 11:07	03/24/11 12:05	5.00
Nickel	**12.1**		2.02	mg/kg dry	☼	03/21/11 11:07	03/24/11 12:05	5.00
Selenium	<20.2		20.2	mg/kg dry	☼	03/21/11 11:07	03/24/11 12:05	5.00
Silver	<8.09		8.09	mg/kg dry	☼	03/21/11 11:07	03/24/11 12:05	5.00
Thallium	<6.08		6.08	mg/kg dry	☼	03/21/11 11:07	03/24/11 12:05	5.00
Zinc	**59.0**		10.2	mg/kg dry	☼	03/21/11 11:07	03/24/11 12:05	5.00

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**79.5**		10.0	%			03/23/11 13:35	1

Method: SW 846 - General Chemistry Parameters

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dry Weight	**79.1**		0.100	%		03/21/11 12:07	03/21/11 12:07	1.00

Client Sample ID: TT-TSSP-03-C
Date Collected: 03/18/11 10:50
Date Received: 03/18/11 16:25
Sampler Name: client

Lab Sample ID: DUC1063-03
Matrix: Non-aqueous
Percent Solids: 80.3
Sampler Phone Number: (937) 531-4400

Method: SW 8260A - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.125		0.125	mg/kg dry	☼	03/29/11 13:08	03/29/11 15:25	1.00
Benzene	<0.00623		0.00623	mg/kg dry	☼	03/29/11 13:08	03/29/11 15:25	1.00
Bromobenzene	<0.00623		0.00623	mg/kg dry	☼	03/29/11 13:08	03/29/11 15:25	1.00
Bromochloromethane	<0.00623		0.00623	mg/kg dry	☼	03/29/11 13:08	03/29/11 15:25	1.00
Bromodichloromethane (Dichlorobromomethane)	<0.00623		0.00623	mg/kg dry	☼	03/29/11 13:08	03/29/11 15:25	1.00
Bromoform	<0.00623		0.00623	mg/kg dry	☼	03/29/11 13:08	03/29/11 15:25	1.00
Bromomethane (Methyl bromide)	<0.0125		0.0125	mg/kg dry	☼	03/29/11 13:08	03/29/11 15:25	1.00
2-Butanone (MEK)	<0.0623		0.0623	mg/kg dry	☼	03/29/11 13:08	03/29/11 15:25	1.00
tert-Butylbenzene	<0.00623		0.00623	mg/kg dry	☼	03/29/11 13:08	03/29/11 15:25	1.00
sec-Butylbenzene	<0.00623		0.00623	mg/kg dry	☼	03/29/11 13:08	03/29/11 15:25	1.00
n-Butylbenzene	<0.00623		0.00623	mg/kg dry	☼	03/29/11 13:08	03/29/11 15:25	1.00
Carbon disulfide	<0.00623		0.00623	mg/kg dry	☼	03/29/11 13:08	03/29/11 15:25	1.00
Carbon tetrachloride	<0.00623		0.00623	mg/kg dry	☼	03/29/11 13:08	03/29/11 15:25	1.00
Chlorobenzene	<0.00623		0.00623	mg/kg dry	☼	03/29/11 13:08	03/29/11 15:25	1.00
Chloroethane	<0.0125		0.0125	mg/kg dry	☼	03/29/11 13:08	03/29/11 15:25	1.00
Chloroform	<0.00623		0.00623	mg/kg dry	☼	03/29/11 13:08	03/29/11 15:25	1.00
Chloromethane (Methyl chloride)	<0.0125		0.0125	mg/kg dry	☼	03/29/11 13:08	03/29/11 15:25	1.00
4-Chlorotoluene	<0.00623		0.00623	mg/kg dry	☼	03/29/11 13:08	03/29/11 15:25	1.00
2-Chlorotoluene	<0.00623		0.00623	mg/kg dry	☼	03/29/11 13:08	03/29/11 15:25	1.00
Dibromochloromethane (Chlorodibromomethane)	<0.00623		0.00623	mg/kg dry	☼	03/29/11 13:08	03/29/11 15:25	1.00
Dibromomethane	<0.00623		0.00623	mg/kg dry	☼	03/29/11 13:08	03/29/11 15:25	1.00
1,2-Dichlorobenzene	<0.00623		0.00623	mg/kg dry	☼	03/29/11 13:08	03/29/11 15:25	1.00
1,4-Dichlorobenzene	<0.00623		0.00623	mg/kg dry	☼	03/29/11 13:08	03/29/11 15:25	1.00
1,3-Dichlorobenzene	<0.00623		0.00623	mg/kg dry	☼	03/29/11 13:08	03/29/11 15:25	1.00
Dichlorodifluoromethane	<0.00623		0.00623	mg/kg dry	☼	03/29/11 13:08	03/29/11 15:25	1.00
1,1-Dichloroethane	<0.00623		0.00623	mg/kg dry	☼	03/29/11 13:08	03/29/11 15:25	1.00
1,2-Dichloroethane	<0.00623		0.00623	mg/kg dry	☼	03/29/11 13:08	03/29/11 15:25	1.00
cis-1,2-Dichloroethene	<0.00623		0.00623	mg/kg dry	☼	03/29/11 13:08	03/29/11 15:25	1.00
trans-1,2-Dichloroethene	<0.00623		0.00623	mg/kg dry	☼	03/29/11 13:08	03/29/11 15:25	1.00
1,1-Dichloroethene	<0.00623		0.00623	mg/kg dry	☼	03/29/11 13:08	03/29/11 15:25	1.00
1,3-Dichloropropane	<0.00623		0.00623	mg/kg dry	☼	03/29/11 13:08	03/29/11 15:25	1.00
2,2-Dichloropropane	<0.00623		0.00623	mg/kg dry	☼	03/29/11 13:08	03/29/11 15:25	1.00
1,2-Dichloropropane	<0.00623		0.00623	mg/kg dry	☼	03/29/11 13:08	03/29/11 15:25	1.00
1,1-Dichloropropene	<0.00623		0.00623	mg/kg dry	☼	03/29/11 13:08	03/29/11 15:25	1.00
cis-1,3-Dichloropropene	<0.00623		0.00623	mg/kg dry	☼	03/29/11 13:08	03/29/11 15:25	1.00
trans-1,3-Dichloropropene	<0.00623		0.00623	mg/kg dry	☼	03/29/11 13:08	03/29/11 15:25	1.00
Ethylbenzene	<0.00623		0.00623	mg/kg dry	☼	03/29/11 13:08	03/29/11 15:25	1.00
Hexachlorobutadiene	<0.00623		0.00623	mg/kg dry	☼	03/29/11 13:08	03/29/11 15:25	1.00
n-Hexane	<0.0249		0.0249	mg/kg dry	☼	03/29/11 13:08	03/29/11 15:25	1.00
2-Hexanone	<0.0623		0.0623	mg/kg dry	☼	03/29/11 13:08	03/29/11 15:25	1.00
Isopropylbenzene (Cumene)	<0.00623		0.00623	mg/kg dry	☼	03/29/11 13:08	03/29/11 15:25	1.00
p-Isopropyltoluene	<0.00623		0.00623	mg/kg dry	☼	03/29/11 13:08	03/29/11 15:25	1.00
Methyl tert-butyl ether	<0.00623		0.00623	mg/kg dry	☼	03/29/11 13:08	03/29/11 15:25	1.00
Methylene chloride	<0.0623		0.0623	mg/kg dry	☼	03/29/11 13:08	03/29/11 15:25	1.00
4-Methyl-2-pentanone (MIBK)	<0.0623		0.0623	mg/kg dry	☼	03/29/11 13:08	03/29/11 15:25	1.00
n-Propylbenzene	<0.00623		0.00623	mg/kg dry	☼	03/29/11 13:08	03/29/11 15:25	1.00
Styrene	<0.00623		0.00623	mg/kg dry	☼	03/29/11 13:08	03/29/11 15:25	1.00
1,1,1,2-Tetrachloroethane	<0.00623		0.00623	mg/kg dry	☼	03/29/11 13:08	03/29/11 15:25	1.00
1,1,2,2-Tetrachloroethane	<0.00623		0.00623	mg/kg dry	☼	03/29/11 13:08	03/29/11 15:25	1.00

Client Sample ID: TT-TSSP-03-C
Date Collected: 03/18/11 10:50
Date Received: 03/18/11 16:25
Sampler Name: client

Lab Sample ID: DUC1063-03
Matrix: Non-aqueous
Percent Solids: 80.3
Sampler Phone Number: (937) 531-4400

Method: SW 8260A - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	<0.00623		0.00623	mg/kg dry	☼	03/29/11 13:08	03/29/11 15:25	1.00
Toluene	<0.00623		0.00623	mg/kg dry	☼	03/29/11 13:08	03/29/11 15:25	1.00
1,2,4-Trichlorobenzene	<0.00623		0.00623	mg/kg dry	☼	03/29/11 13:08	03/29/11 15:25	1.00
1,1,1-Trichloroethane	<0.00623		0.00623	mg/kg dry	☼	03/29/11 13:08	03/29/11 15:25	1.00
1,1,2-Trichloroethane	<0.00623		0.00623	mg/kg dry	☼	03/29/11 13:08	03/29/11 15:25	1.00
Trichloroethene	<0.00623		0.00623	mg/kg dry	☼	03/29/11 13:08	03/29/11 15:25	1.00
Trichlorofluoromethane	<0.00623		0.00623	mg/kg dry	☼	03/29/11 13:08	03/29/11 15:25	1.00
1,2,4-Trimethylbenzene	<0.00623		0.00623	mg/kg dry	☼	03/29/11 13:08	03/29/11 15:25	1.00
1,3,5-Trimethylbenzene	<0.00623		0.00623	mg/kg dry	☼	03/29/11 13:08	03/29/11 15:25	1.00
Vinyl Acetate	<0.00623		0.00623	mg/kg dry	☼	03/29/11 13:08	03/29/11 15:25	1.00
Vinyl chloride	<0.00249		0.00249	mg/kg dry	☼	03/29/11 13:08	03/29/11 15:25	1.00
Xylenes, total	<0.00623		0.00623	mg/kg dry	☼	03/29/11 13:08	03/29/11 15:25	1.00

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4	*92*		*80 - 120*	*03/29/11 13:08*	*03/29/11 15:25*	*1.00*
Dibromofluoromethane	*90*		*80 - 120*	*03/29/11 13:08*	*03/29/11 15:25*	*1.00*
Toluene-d8	*107*		*80 - 120*	*03/29/11 13:08*	*03/29/11 15:25*	*1.00*
4-Bromofluorobenzene	*104*		*80 - 120*	*03/29/11 13:08*	*03/29/11 15:25*	*1.00*

Method: 8082 - PCBs (8082)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	<41		41	ug/kg	☼	03/22/11 12:45	03/24/11 11:51	1
Aroclor 1221	<41		41	ug/kg	☼	03/22/11 12:45	03/24/11 11:51	1
Aroclor 1232	<41		41	ug/kg	☼	03/22/11 12:45	03/24/11 11:51	1
Aroclor 1242	<41		41	ug/kg	☼	03/22/11 12:45	03/24/11 11:51	1
Aroclor 1248	<41		41	ug/kg	☼	03/22/11 12:45	03/24/11 11:51	1
Aroclor 1254	<41		41	ug/kg	☼	03/22/11 12:45	03/24/11 11:51	1
Aroclor 1260	<41		41	ug/kg	☼	03/22/11 12:45	03/24/11 11:51	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*71*		*10 - 196*	*03/22/11 12:45*	*03/24/11 11:51*	*1*
Decachlorobiphenyl	*58*		*10 - 199*	*03/22/11 12:45*	*03/24/11 11:51*	*1*

Method: SW 8270C - Semivolatile Organics by GC/MS

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.365		0.365	mg/kg dry	☼	03/19/11 08:22	03/23/11 00:31	1.00
Acenaphthylene	<0.365		0.365	mg/kg dry	☼	03/19/11 08:22	03/23/11 00:31	1.00
Anthracene	<0.365		0.365	mg/kg dry	☼	03/19/11 08:22	03/23/11 00:31	1.00
Benzo (a) anthracene	<0.365		0.365	mg/kg dry	☼	03/19/11 08:22	03/23/11 00:31	1.00
Benzo (b) fluoranthene	<0.365		0.365	mg/kg dry	☼	03/19/11 08:22	03/23/11 00:31	1.00
Benzo (g,h,i) perylene	<0.365		0.365	mg/kg dry	☼	03/19/11 08:22	03/23/11 00:31	1.00
Benzo (k) fluoranthene	<0.365		0.365	mg/kg dry	☼	03/19/11 08:22	03/23/11 00:31	1.00
Benzo (a) pyrene	**0.229**		0.182	mg/kg dry	☼	03/19/11 08:22	03/23/11 00:31	1.00
Benzoic acid	<3.65		3.65	mg/kg dry	☼	03/19/11 08:22	03/23/11 00:31	1.00
Benzyl alcohol	<0.729		0.729	mg/kg dry	☼	03/19/11 08:22	03/23/11 00:31	1.00
Bis(2-chloroethoxy)methane	<0.729		0.729	mg/kg dry	☼	03/19/11 08:22	03/23/11 00:31	1.00
Bis(2-chloroethyl)ether	<0.729		0.729	mg/kg dry	☼	03/19/11 08:22	03/23/11 00:31	1.00
Bis(2-chloroisopropyl) ether	<0.729		0.729	mg/kg dry	☼	03/19/11 08:22	03/23/11 00:31	1.00
Bis(2-ethylhexyl)phthalate	<0.729		0.729	mg/kg dry	☼	03/19/11 08:22	03/23/11 00:31	1.00
4-Bromophenyl phenyl ether	<0.729		0.729	mg/kg dry	☼	03/19/11 08:22	03/23/11 00:31	1.00

Client Sample ID: TT-TSSP-03-C
Date Collected: 03/18/11 10:50
Date Received: 03/18/11 16:25
Sampler Name: client

Lab Sample ID: DUC1063-03
Matrix: Non-aqueous
Percent Solids: 80.3
Sampler Phone Number: (937) 531-4400

Method: SW 8270C - Semivolatile Organics by GC/MS (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Butyl benzyl phthalate	<0.729		0.729	mg/kg dry	☼	03/19/11 08:22	03/23/11 00:31	1.00
4-Chloroaniline	<0.729		0.729	mg/kg dry	☼	03/19/11 08:22	03/23/11 00:31	1.00
4-Chloro-3-methylphenol	<0.729		0.729	mg/kg dry	☼	03/19/11 08:22	03/23/11 00:31	1.00
2-Chloronaphthalene	<0.729		0.729	mg/kg dry	☼	03/19/11 08:22	03/23/11 00:31	1.00
2-Chlorophenol	<0.729		0.729	mg/kg dry	☼	03/19/11 08:22	03/23/11 00:31	1.00
Chrysene	<0.365		0.365	mg/kg dry	☼	03/19/11 08:22	03/23/11 00:31	1.00
Dibenzofuran	<0.729		0.729	mg/kg dry	☼	03/19/11 08:22	03/23/11 00:31	1.00
1,2-Dichlorobenzene	<0.729		0.729	mg/kg dry	☼	03/19/11 08:22	03/23/11 00:31	1.00
1,3-Dichlorobenzene	<0.729		0.729	mg/kg dry	☼	03/19/11 08:22	03/23/11 00:31	1.00
1,4-Dichlorobenzene	<0.729		0.729	mg/kg dry	☼	03/19/11 08:22	03/23/11 00:31	1.00
Dibenz (a,h) anthracene	<0.182		0.182	mg/kg dry	☼	03/19/11 08:22	03/23/11 00:31	1.00
2,4-Dichlorophenol	<0.729		0.729	mg/kg dry	☼	03/19/11 08:22	03/23/11 00:31	1.00
Diethyl phthalate	<0.729		0.729	mg/kg dry	☼	03/19/11 08:22	03/23/11 00:31	1.00
2,4-Dimethylphenol	<0.729		0.729	mg/kg dry	☼	03/19/11 08:22	03/23/11 00:31	1.00
Dimethyl phthalate	<0.729		0.729	mg/kg dry	☼	03/19/11 08:22	03/23/11 00:31	1.00
4,6-Dinitro-2-methylphenol	<0.729		0.729	mg/kg dry	☼	03/19/11 08:22	03/23/11 00:31	1.00
2,4-Dinitrotoluene	<0.729		0.729	mg/kg dry	☼	03/19/11 08:22	03/23/11 00:31	1.00
2,6-Dinitrotoluene	<0.729		0.729	mg/kg dry	☼	03/19/11 08:22	03/23/11 00:31	1.00
Di-n-octyl phthalate	<0.729		0.729	mg/kg dry	☼	03/19/11 08:22	03/23/11 00:31	1.00
Fluoranthene	<0.365		0.365	mg/kg dry	☼	03/19/11 08:22	03/23/11 00:31	1.00
Fluorene	<0.365		0.365	mg/kg dry	☼	03/19/11 08:22	03/23/11 00:31	1.00
Hexachlorobenzene	<0.365		0.365	mg/kg dry	☼	03/19/11 08:22	03/23/11 00:31	1.00
Hexachlorocyclopentadiene	<1.46		1.46	mg/kg dry	☼	03/19/11 08:22	03/23/11 00:31	1.00
Hexachloroethane	<0.729		0.729	mg/kg dry	☼	03/19/11 08:22	03/23/11 00:31	1.00
Indeno (1,2,3-cd) pyrene	<0.365		0.365	mg/kg dry	☼	03/19/11 08:22	03/23/11 00:31	1.00
Isophorone	<0.729		0.729	mg/kg dry	☼	03/19/11 08:22	03/23/11 00:31	1.00
2-Methylnaphthalene	<0.365		0.365	mg/kg dry	☼	03/19/11 08:22	03/23/11 00:31	1.00
2-Methylphenol (o-Cresol)	<0.729		0.729	mg/kg dry	☼	03/19/11 08:22	03/23/11 00:31	1.00
3&4-Methylphenol (m&p Cresol)	<0.729		0.729	mg/kg dry	☼	03/19/11 08:22	03/23/11 00:31	1.00
Naphthalene	<0.365		0.365	mg/kg dry	☼	03/19/11 08:22	03/23/11 00:31	1.00
Nitrobenzene	<0.729		0.729	mg/kg dry	☼	03/19/11 08:22	03/23/11 00:31	1.00
2-Nitrophenol	<0.729		0.729	mg/kg dry	☼	03/19/11 08:22	03/23/11 00:31	1.00
N-Nitrosodi-n-propylamine	<0.729		0.729	mg/kg dry	☼	03/19/11 08:22	03/23/11 00:31	1.00
Pentachlorophenol	<0.729		0.729	mg/kg dry	☼	03/19/11 08:22	03/23/11 00:31	1.00
Phenanthrene	<0.365		0.365	mg/kg dry	☼	03/19/11 08:22	03/23/11 00:31	1.00
Phenol	<0.729		0.729	mg/kg dry	☼	03/19/11 08:22	03/23/11 00:31	1.00
Pyrene	<0.365		0.365	mg/kg dry	☼	03/19/11 08:22	03/23/11 00:31	1.00
1,2,4-Trichlorobenzene	<0.729		0.729	mg/kg dry	☼	03/19/11 08:22	03/23/11 00:31	1.00
2,4,5-Trichlorophenol	<0.729		0.729	mg/kg dry	☼	03/19/11 08:22	03/23/11 00:31	1.00
2,4,6-Trichlorophenol	<0.729		0.729	mg/kg dry	☼	03/19/11 08:22	03/23/11 00:31	1.00

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol	*74*		*20 - 135*	*03/19/11 08:22*	*03/23/11 00:31*	*1.00*
Phenol-d6	*86*		*20 - 150*	*03/19/11 08:22*	*03/23/11 00:31*	*1.00*
Nitrobenzene-d5	*74*		*30 - 135*	*03/19/11 08:22*	*03/23/11 00:31*	*1.00*
2-Fluorobiphenyl	*75*		*40 - 135*	*03/19/11 08:22*	*03/23/11 00:31*	*1.00*
2,4,6-Tribromophenol	*68*		*25 - 145*	*03/19/11 08:22*	*03/23/11 00:31*	*1.00*
Terphenyl-d14	*96*		*40 - 150*	*03/19/11 08:22*	*03/23/11 00:31*	*1.00*

Client Sample ID: TT-TSSP-03-C
Lab Sample ID: DUC1063-03
Date Collected: 03/18/11 10:50
Matrix: Non-aqueous
Date Received: 03/18/11 16:25
Percent Solids: 80.3
Sampler Name: client
Sampler Phone Number: (937) 531-4400

Method: SW 7471A - Total Metals

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.310**		0.0102	mg/kg dry	☼	03/24/11 11:56	03/25/11 13:30	1.00

Method: SW 6010B - Total Metals

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<40.7	RL3	40.7	mg/kg dry	☼	03/21/11 11:07	03/24/11 15:36	10.0
Arsenic	<8.15	RL3	8.15	mg/kg dry	☼	03/21/11 11:07	03/24/11 15:36	10.0
Beryllium	<2.04	RL3	2.04	mg/kg dry	☼	03/21/11 11:07	03/24/11 15:36	10.0
Cadmium	<12.2	RL3	12.2	mg/kg dry	☼	03/21/11 11:07	03/24/11 15:36	10.0
Chromium	<16.2	RL3	16.2	mg/kg dry	☼	03/21/11 11:07	03/24/11 15:36	10.0
Copper	**12.8**		8.14	mg/kg dry	☼	03/21/11 11:07	03/24/11 15:36	10.0
Lead	<32.5	RL3	32.5	mg/kg dry	☼	03/21/11 11:07	03/24/11 15:36	10.0
Nickel	**7.44**		4.07	mg/kg dry	☼	03/21/11 11:07	03/24/11 15:36	10.0
Selenium	<40.7	RL3	40.7	mg/kg dry	☼	03/21/11 11:07	03/24/11 15:36	10.0
Silver	<16.2	RL3	16.2	mg/kg dry	☼	03/21/11 11:07	03/24/11 15:36	10.0
Thallium	<12.2	RL3	12.2	mg/kg dry	☼	03/21/11 11:07	03/24/11 15:36	10.0
Zinc	**44.1**		20.4	mg/kg dry	☼	03/21/11 11:07	03/24/11 15:36	10.0

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**79.7**		10.0	%			03/23/11 13:35	1

Method: SW 846 - General Chemistry Parameters

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dry Weight	**80.3**		0.100	%		03/21/11 12:07	03/21/11 12:07	1.00

Client Sample ID: TT-TSSP-04-C
Lab Sample ID: DUC1063-04
Date Collected: 03/18/11 11:05
Matrix: Non-aqueous
Date Received: 03/18/11 16:25
Percent Solids: 84.9
Sampler Name: client
Sampler Phone Number: (937) 531-4400

Method: SW 8260A - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.116		0.116	mg/kg dry	☼	03/29/11 13:10	03/29/11 15:56	1.00
Benzene	<0.00578		0.00578	mg/kg dry	☼	03/29/11 13:10	03/29/11 15:56	1.00
Bromobenzene	<0.00578		0.00578	mg/kg dry	☼	03/29/11 13:10	03/29/11 15:56	1.00
Bromochloromethane	<0.00578		0.00578	mg/kg dry	☼	03/29/11 13:10	03/29/11 15:56	1.00
Bromodichloromethane (Dichlorobromomethane)	<0.00578		0.00578	mg/kg dry	☼	03/29/11 13:10	03/29/11 15:56	1.00
Bromoform	<0.00578		0.00578	mg/kg dry	☼	03/29/11 13:10	03/29/11 15:56	1.00
Bromomethane (Methyl bromide)	<0.0116		0.0116	mg/kg dry	☼	03/29/11 13:10	03/29/11 15:56	1.00
2-Butanone (MEK)	<0.0578		0.0578	mg/kg dry	☼	03/29/11 13:10	03/29/11 15:56	1.00
tert-Butylbenzene	<0.00578		0.00578	mg/kg dry	☼	03/29/11 13:10	03/29/11 15:56	1.00
sec-Butylbenzene	<0.00578		0.00578	mg/kg dry	☼	03/29/11 13:10	03/29/11 15:56	1.00
n-Butylbenzene	<0.00578		0.00578	mg/kg dry	☼	03/29/11 13:10	03/29/11 15:56	1.00
Carbon disulfide	<0.00578		0.00578	mg/kg dry	☼	03/29/11 13:10	03/29/11 15:56	1.00
Carbon tetrachloride	<0.00578		0.00578	mg/kg dry	☼	03/29/11 13:10	03/29/11 15:56	1.00
Chlorobenzene	<0.00578		0.00578	mg/kg dry	☼	03/29/11 13:10	03/29/11 15:56	1.00
Chloroethane	<0.0116		0.0116	mg/kg dry	☼	03/29/11 13:10	03/29/11 15:56	1.00
Chloroform	<0.00578		0.00578	mg/kg dry	☼	03/29/11 13:10	03/29/11 15:56	1.00
Chloromethane (Methyl chloride)	<0.0116		0.0116	mg/kg dry	☼	03/29/11 13:10	03/29/11 15:56	1.00
4-Chlorotoluene	<0.00578		0.00578	mg/kg dry	☼	03/29/11 13:10	03/29/11 15:56	1.00
2-Chlorotoluene	<0.00578		0.00578	mg/kg dry	☼	03/29/11 13:10	03/29/11 15:56	1.00
Dibromochloromethane (Chlorodibromomethane)	<0.00578		0.00578	mg/kg dry	☼	03/29/11 13:10	03/29/11 15:56	1.00
Dibromomethane	<0.00578		0.00578	mg/kg dry	☼	03/29/11 13:10	03/29/11 15:56	1.00
1,2-Dichlorobenzene	<0.00578		0.00578	mg/kg dry	☼	03/29/11 13:10	03/29/11 15:56	1.00
1,4-Dichlorobenzene	<0.00578		0.00578	mg/kg dry	☼	03/29/11 13:10	03/29/11 15:56	1.00
1,3-Dichlorobenzene	<0.00578		0.00578	mg/kg dry	☼	03/29/11 13:10	03/29/11 15:56	1.00
Dichlorodifluoromethane	<0.00578		0.00578	mg/kg dry	☼	03/29/11 13:10	03/29/11 15:56	1.00
1,1-Dichloroethane	<0.00578		0.00578	mg/kg dry	☼	03/29/11 13:10	03/29/11 15:56	1.00
1,2-Dichloroethane	<0.00578		0.00578	mg/kg dry	☼	03/29/11 13:10	03/29/11 15:56	1.00
cis-1,2-Dichloroethene	<0.00578		0.00578	mg/kg dry	☼	03/29/11 13:10	03/29/11 15:56	1.00
trans-1,2-Dichloroethene	<0.00578		0.00578	mg/kg dry	☼	03/29/11 13:10	03/29/11 15:56	1.00
1,1-Dichloroethene	<0.00578		0.00578	mg/kg dry	☼	03/29/11 13:10	03/29/11 15:56	1.00
1,3-Dichloropropane	<0.00578		0.00578	mg/kg dry	☼	03/29/11 13:10	03/29/11 15:56	1.00
2,2-Dichloropropane	<0.00578		0.00578	mg/kg dry	☼	03/29/11 13:10	03/29/11 15:56	1.00
1,2-Dichloropropane	<0.00578		0.00578	mg/kg dry	☼	03/29/11 13:10	03/29/11 15:56	1.00
1,1-Dichloropropene	<0.00578		0.00578	mg/kg dry	☼	03/29/11 13:10	03/29/11 15:56	1.00
cis-1,3-Dichloropropene	<0.00578		0.00578	mg/kg dry	☼	03/29/11 13:10	03/29/11 15:56	1.00
trans-1,3-Dichloropropene	<0.00578		0.00578	mg/kg dry	☼	03/29/11 13:10	03/29/11 15:56	1.00
Ethylbenzene	<0.00578		0.00578	mg/kg dry	☼	03/29/11 13:10	03/29/11 15:56	1.00
Hexachlorobutadiene	<0.00578		0.00578	mg/kg dry	☼	03/29/11 13:10	03/29/11 15:56	1.00
n-Hexane	<0.0231		0.0231	mg/kg dry	☼	03/29/11 13:10	03/29/11 15:56	1.00
2-Hexanone	<0.0578		0.0578	mg/kg dry	☼	03/29/11 13:10	03/29/11 15:56	1.00
Isopropylbenzene (Cumene)	<0.00578		0.00578	mg/kg dry	☼	03/29/11 13:10	03/29/11 15:56	1.00
p-Isopropyltoluene	<0.00578		0.00578	mg/kg dry	☼	03/29/11 13:10	03/29/11 15:56	1.00
Methyl tert-butyl ether	<0.00578		0.00578	mg/kg dry	☼	03/29/11 13:10	03/29/11 15:56	1.00
Methylene chloride	<0.0578		0.0578	mg/kg dry	☼	03/29/11 13:10	03/29/11 15:56	1.00
4-Methyl-2-pentanone (MIBK)	<0.0578		0.0578	mg/kg dry	☼	03/29/11 13:10	03/29/11 15:56	1.00
n-Propylbenzene	<0.00578		0.00578	mg/kg dry	☼	03/29/11 13:10	03/29/11 15:56	1.00
Styrene	<0.00578		0.00578	mg/kg dry	☼	03/29/11 13:10	03/29/11 15:56	1.00
1,1,1,2-Tetrachloroethane	<0.00578		0.00578	mg/kg dry	☼	03/29/11 13:10	03/29/11 15:56	1.00
1,1,2,2-Tetrachloroethane	<0.00578		0.00578	mg/kg dry	☼	03/29/11 13:10	03/29/11 15:56	1.00

Client Sample ID: TT-TSSP-04-C
Date Collected: 03/18/11 11:05
Date Received: 03/18/11 16:25
Sampler Name: client

Lab Sample ID: DUC1063-04
Matrix: Non-aqueous
Percent Solids: 84.9
Sampler Phone Number: (937) 531-4400

Method: SW 8260A - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	<0.00578		0.00578	mg/kg dry	☼	03/29/11 13:10	03/29/11 15:56	1.00
Toluene	<0.00578		0.00578	mg/kg dry	☼	03/29/11 13:10	03/29/11 15:56	1.00
1,2,4-Trichlorobenzene	<0.00578		0.00578	mg/kg dry	☼	03/29/11 13:10	03/29/11 15:56	1.00
1,1,1-Trichloroethane	<0.00578		0.00578	mg/kg dry	☼	03/29/11 13:10	03/29/11 15:56	1.00
1,1,2-Trichloroethane	<0.00578		0.00578	mg/kg dry	☼	03/29/11 13:10	03/29/11 15:56	1.00
Trichloroethene	<0.00578		0.00578	mg/kg dry	☼	03/29/11 13:10	03/29/11 15:56	1.00
Trichlorofluoromethane	<0.00578		0.00578	mg/kg dry	☼	03/29/11 13:10	03/29/11 15:56	1.00
1,2,4-Trimethylbenzene	<0.00578		0.00578	mg/kg dry	☼	03/29/11 13:10	03/29/11 15:56	1.00
1,3,5-Trimethylbenzene	<0.00578		0.00578	mg/kg dry	☼	03/29/11 13:10	03/29/11 15:56	1.00
Vinyl Acetate	<0.00578		0.00578	mg/kg dry	☼	03/29/11 13:10	03/29/11 15:56	1.00
Vinyl chloride	<0.00231		0.00231	mg/kg dry	☼	03/29/11 13:10	03/29/11 15:56	1.00
Xylenes, total	<0.00578		0.00578	mg/kg dry	☼	03/29/11 13:10	03/29/11 15:56	1.00

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4	*94*		*80 - 120*	*03/29/11 13:10*	*03/29/11 15:56*	*1.00*
Dibromofluoromethane	*89*		*80 - 120*	*03/29/11 13:10*	*03/29/11 15:56*	*1.00*
Toluene-d8	*107*		*80 - 120*	*03/29/11 13:10*	*03/29/11 15:56*	*1.00*
4-Bromofluorobenzene	*103*		*80 - 120*	*03/29/11 13:10*	*03/29/11 15:56*	*1.00*

Method: 8082 - PCBs (8082)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	<40		40	ug/kg	☼	03/22/11 12:45	03/24/11 12:08	1
Aroclor 1221	<40		40	ug/kg	☼	03/22/11 12:45	03/24/11 12:08	1
Aroclor 1232	<40		40	ug/kg	☼	03/22/11 12:45	03/24/11 12:08	1
Aroclor 1242	<40		40	ug/kg	☼	03/22/11 12:45	03/24/11 12:08	1
Aroclor 1248	<40		40	ug/kg	☼	03/22/11 12:45	03/24/11 12:08	1
Aroclor 1254	<40		40	ug/kg	☼	03/22/11 12:45	03/24/11 12:08	1
Aroclor 1260	<40		40	ug/kg	☼	03/22/11 12:45	03/24/11 12:08	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*88*		*10 - 196*	*03/22/11 12:45*	*03/24/11 12:08*	*1*
Decachlorobiphenyl	*70*		*10 - 199*	*03/22/11 12:45*	*03/24/11 12:08*	*1*

Method: SW 8270C - Semivolatile Organics by GC/MS - RE1

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<3.43	RL1	3.43	mg/kg dry	☼	03/19/11 08:22	03/24/11 14:04	10.0
Acenaphthylene	<3.43	RL1	3.43	mg/kg dry	☼	03/19/11 08:22	03/24/11 14:04	10.0
Anthracene	<3.43	RL1	3.43	mg/kg dry	☼	03/19/11 08:22	03/24/11 14:04	10.0
Benzo (a) anthracene	<3.43	RL1	3.43	mg/kg dry	☼	03/19/11 08:22	03/24/11 14:04	10.0
Benzo (b) fluoranthene	<3.43	RL1	3.43	mg/kg dry	☼	03/19/11 08:22	03/24/11 14:04	10.0
Benzo (g,h,i) perylene	<3.43	RL1	3.43	mg/kg dry	☼	03/19/11 08:22	03/24/11 14:04	10.0
Benzo (k) fluoranthene	<3.43	RL1	3.43	mg/kg dry	☼	03/19/11 08:22	03/24/11 14:04	10.0
Benzo (a) pyrene	<1.72	RL1	1.72	mg/kg dry	☼	03/19/11 08:22	03/24/11 14:04	10.0
Benzoic acid	<34.3	RL1	34.3	mg/kg dry	☼	03/19/11 08:22	03/24/11 14:04	10.0
Benzyl alcohol	<6.86	RL1	6.86	mg/kg dry	☼	03/19/11 08:22	03/24/11 14:04	10.0
Bis(2-chloroethoxy)methane	<6.86	RL1	6.86	mg/kg dry	☼	03/19/11 08:22	03/24/11 14:04	10.0
Bis(2-chloroethyl)ether	<6.86	RL1	6.86	mg/kg dry	☼	03/19/11 08:22	03/24/11 14:04	10.0
Bis(2-chloroisopropyl) ether	<6.86	RL1	6.86	mg/kg dry	☼	03/19/11 08:22	03/24/11 14:04	10.0
Bis(2-ethylhexyl)phthalate	<6.86	RL1	6.86	mg/kg dry	☼	03/19/11 08:22	03/24/11 14:04	10.0
4-Bromophenyl phenyl ether	<6.86	RL1	6.86	mg/kg dry	☼	03/19/11 08:22	03/24/11 14:04	10.0

Client Sample ID: TT-TSSP-04-C
Date Collected: 03/18/11 11:05
Date Received: 03/18/11 16:25
Sampler Name: client

Lab Sample ID: DUC1063-04
Matrix: Non-aqueous
Percent Solids: 84.9
Sampler Phone Number: (937) 531-4400

Method: SW 8270C - Semivolatile Organics by GC/MS - RE1 (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Butyl benzyl phthalate	<6.86	RL1	6.86	mg/kg dry	☼	03/19/11 08:22	03/24/11 14:04	10.0
4-Chloroaniline	<6.86	RL1	6.86	mg/kg dry	☼	03/19/11 08:22	03/24/11 14:04	10.0
4-Chloro-3-methylphenol	<6.86	RL1	6.86	mg/kg dry	☼	03/19/11 08:22	03/24/11 14:04	10.0
2-Chloronaphthalene	<6.86	RL1	6.86	mg/kg dry	☼	03/19/11 08:22	03/24/11 14:04	10.0
2-Chlorophenol	<6.86	RL1	6.86	mg/kg dry	☼	03/19/11 08:22	03/24/11 14:04	10.0
Chrysene	<3.43	RL1	3.43	mg/kg dry	☼	03/19/11 08:22	03/24/11 14:04	10.0
Dibenzofuran	<6.86	RL1	6.86	mg/kg dry	☼	03/19/11 08:22	03/24/11 14:04	10.0
1,2-Dichlorobenzene	<6.86	RL1	6.86	mg/kg dry	☼	03/19/11 08:22	03/24/11 14:04	10.0
1,3-Dichlorobenzene	<6.86	RL1	6.86	mg/kg dry	☼	03/19/11 08:22	03/24/11 14:04	10.0
1,4-Dichlorobenzene	<6.86	RL1	6.86	mg/kg dry	☼	03/19/11 08:22	03/24/11 14:04	10.0
Dibenz (a,h) anthracene	<1.72	RL1	1.72	mg/kg dry	☼	03/19/11 08:22	03/24/11 14:04	10.0
2,4-Dichlorophenol	<6.86	RL1	6.86	mg/kg dry	☼	03/19/11 08:22	03/24/11 14:04	10.0
Diethyl phthalate	<6.86	RL1	6.86	mg/kg dry	☼	03/19/11 08:22	03/24/11 14:04	10.0
2,4-Dimethylphenol	<6.86	RL1	6.86	mg/kg dry	☼	03/19/11 08:22	03/24/11 14:04	10.0
Dimethyl phthalate	<6.86	RL1	6.86	mg/kg dry	☼	03/19/11 08:22	03/24/11 14:04	10.0
4,6-Dinitro-2-methylphenol	<6.86	RL1	6.86	mg/kg dry	☼	03/19/11 08:22	03/24/11 14:04	10.0
2,4-Dinitrotoluene	<6.86	RL1	6.86	mg/kg dry	☼	03/19/11 08:22	03/24/11 14:04	10.0
2,6-Dinitrotoluene	<6.86	RL1	6.86	mg/kg dry	☼	03/19/11 08:22	03/24/11 14:04	10.0
Di-n-octyl phthalate	<6.86	RL1	6.86	mg/kg dry	☼	03/19/11 08:22	03/24/11 14:04	10.0
Fluoranthene	<3.43	RL1	3.43	mg/kg dry	☼	03/19/11 08:22	03/24/11 14:04	10.0
Fluorene	<3.43	RL1	3.43	mg/kg dry	☼	03/19/11 08:22	03/24/11 14:04	10.0
Hexachlorobenzene	<3.43	RL1	3.43	mg/kg dry	☼	03/19/11 08:22	03/24/11 14:04	10.0
Hexachlorocyclopentadiene	<13.7	RL1	13.7	mg/kg dry	☼	03/19/11 08:22	03/24/11 14:04	10.0
Hexachloroethane	<6.86	RL1	6.86	mg/kg dry	☼	03/19/11 08:22	03/24/11 14:04	10.0
Indeno (1,2,3-cd) pyrene	<3.43	RL1	3.43	mg/kg dry	☼	03/19/11 08:22	03/24/11 14:04	10.0
Isophorone	<6.86	RL1	6.86	mg/kg dry	☼	03/19/11 08:22	03/24/11 14:04	10.0
2-Methylnaphthalene	<3.43	RL1	3.43	mg/kg dry	☼	03/19/11 08:22	03/24/11 14:04	10.0
2-Methylphenol (o-Cresol)	<6.86	RL1	6.86	mg/kg dry	☼	03/19/11 08:22	03/24/11 14:04	10.0
3&4-Methylphenol (m&p Cresol)	<6.86	RL1	6.86	mg/kg dry	☼	03/19/11 08:22	03/24/11 14:04	10.0
Naphthalene	<3.43	RL1	3.43	mg/kg dry	☼	03/19/11 08:22	03/24/11 14:04	10.0
Nitrobenzene	<6.86	RL1	6.86	mg/kg dry	☼	03/19/11 08:22	03/24/11 14:04	10.0
2-Nitrophenol	<6.86	RL1	6.86	mg/kg dry	☼	03/19/11 08:22	03/24/11 14:04	10.0
N-Nitrosodi-n-propylamine	<6.86	RL1	6.86	mg/kg dry	☼	03/19/11 08:22	03/24/11 14:04	10.0
Pentachlorophenol	<6.86	RL1	6.86	mg/kg dry	☼	03/19/11 08:22	03/24/11 14:04	10.0
Phenanthrene	<3.43	RL1	3.43	mg/kg dry	☼	03/19/11 08:22	03/24/11 14:04	10.0
Phenol	<6.86	RL1	6.86	mg/kg dry	☼	03/19/11 08:22	03/24/11 14:04	10.0
Pyrene	<3.43	RL1	3.43	mg/kg dry	☼	03/19/11 08:22	03/24/11 14:04	10.0
1,2,4-Trichlorobenzene	<6.86	RL1	6.86	mg/kg dry	☼	03/19/11 08:22	03/24/11 14:04	10.0
2,4,5-Trichlorophenol	<6.86	RL1	6.86	mg/kg dry	☼	03/19/11 08:22	03/24/11 14:04	10.0
2,4,6-Trichlorophenol	<6.86	RL1	6.86	mg/kg dry	☼	03/19/11 08:22	03/24/11 14:04	10.0

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol	*64*	*RL1*	*20 - 135*	*03/19/11 08:22*	*03/24/11 14:04*	*10.0*
Phenol-d6	*68*	*RL1*	*20 - 150*	*03/19/11 08:22*	*03/24/11 14:04*	*10.0*
Nitrobenzene-d5	*57*	*RL1*	*30 - 135*	*03/19/11 08:22*	*03/24/11 14:04*	*10.0*
2-Fluorobiphenyl	*73*	*RL1*	*40 - 135*	*03/19/11 08:22*	*03/24/11 14:04*	*10.0*
2,4,6-Tribromophenol	*84*	*RL1*	*25 - 145*	*03/19/11 08:22*	*03/24/11 14:04*	*10.0*
Terphenyl-d14	*84*	*RL1*	*40 - 150*	*03/19/11 08:22*	*03/24/11 14:04*	*10.0*

Client Sample ID: TT-TSSP-04-C
Lab Sample ID: DUC1063-04
Date Collected: 03/18/11 11:05
Matrix: Non-aqueous
Date Received: 03/18/11 16:25
Percent Solids: 84.9
Sampler Name: client
Sampler Phone Number: (937) 531-4400

Method: SW 8270C - Semivolatile Organics by GC/MS - RE2

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<3.42	RL1	3.42	mg/kg dry	☼	03/24/11 16:09	03/28/11 16:42	10.0
Acenaphthylene	<3.42	RL1	3.42	mg/kg dry	☼	03/24/11 16:09	03/28/11 16:42	10.0
Anthracene	<3.42	RL1	3.42	mg/kg dry	☼	03/24/11 16:09	03/28/11 16:42	10.0
Benzo (a) anthracene	<3.42	RL1	3.42	mg/kg dry	☼	03/24/11 16:09	03/28/11 16:42	10.0
Benzo (b) fluoranthene	<3.42	RL1	3.42	mg/kg dry	☼	03/24/11 16:09	03/28/11 16:42	10.0
Benzo (g,h,i) perylene	<3.42	RL1	3.42	mg/kg dry	☼	03/24/11 16:09	03/28/11 16:42	10.0
Benzo (k) fluoranthene	<3.42	RL1	3.42	mg/kg dry	☼	03/24/11 16:09	03/28/11 16:42	10.0
Benzo (a) pyrene	<1.71	RL1	1.71	mg/kg dry	☼	03/24/11 16:09	03/28/11 16:42	10.0
Benzoic acid	<34.2	RL1	34.2	mg/kg dry	☼	03/24/11 16:09	03/28/11 16:42	10.0
Benzyl alcohol	<6.85	RL1	6.85	mg/kg dry	☼	03/24/11 16:09	03/28/11 16:42	10.0
Bis(2-chloroethoxy)methane	<6.85	RL1	6.85	mg/kg dry	☼	03/24/11 16:09	03/28/11 16:42	10.0
Bis(2-chloroethyl)ether	<6.85	RL1	6.85	mg/kg dry	☼	03/24/11 16:09	03/28/11 16:42	10.0
Bis(2-chloroisopropyl) ether	<6.85	RL1	6.85	mg/kg dry	☼	03/24/11 16:09	03/28/11 16:42	10.0
Bis(2-ethylhexyl)phthalate	<6.85	RL1	6.85	mg/kg dry	☼	03/24/11 16:09	03/28/11 16:42	10.0
4-Bromophenyl phenyl ether	<6.85	RL1	6.85	mg/kg dry	☼	03/24/11 16:09	03/28/11 16:42	10.0
Butyl benzyl phthalate	<6.85	RL1	6.85	mg/kg dry	☼	03/24/11 16:09	03/28/11 16:42	10.0
4-Chloroaniline	<6.85	RL1	6.85	mg/kg dry	☼	03/24/11 16:09	03/28/11 16:42	10.0
4-Chloro-3-methylphenol	<6.85	RL1	6.85	mg/kg dry	☼	03/24/11 16:09	03/28/11 16:42	10.0
2-Chloronaphthalene	<6.85	RL1	6.85	mg/kg dry	☼	03/24/11 16:09	03/28/11 16:42	10.0
2-Chlorophenol	<6.85	RL1	6.85	mg/kg dry	☼	03/24/11 16:09	03/28/11 16:42	10.0
Chrysene	<3.42	RL1	3.42	mg/kg dry	☼	03/24/11 16:09	03/28/11 16:42	10.0
Dibenzofuran	<6.85	RL1	6.85	mg/kg dry	☼	03/24/11 16:09	03/28/11 16:42	10.0
1,2-Dichlorobenzene	<6.85	RL1	6.85	mg/kg dry	☼	03/24/11 16:09	03/28/11 16:42	10.0
1,3-Dichlorobenzene	<6.85	RL1	6.85	mg/kg dry	☼	03/24/11 16:09	03/28/11 16:42	10.0
1,4-Dichlorobenzene	<6.85	RL1	6.85	mg/kg dry	☼	03/24/11 16:09	03/28/11 16:42	10.0
Dibenz (a,h) anthracene	<1.71	RL1	1.71	mg/kg dry	☼	03/24/11 16:09	03/28/11 16:42	10.0
2,4-Dichlorophenol	<6.85	RL1	6.85	mg/kg dry	☼	03/24/11 16:09	03/28/11 16:42	10.0
Diethyl phthalate	<6.85	RL1	6.85	mg/kg dry	☼	03/24/11 16:09	03/28/11 16:42	10.0
2,4-Dimethylphenol	<6.85	RL1	6.85	mg/kg dry	☼	03/24/11 16:09	03/28/11 16:42	10.0
Dimethyl phthalate	<6.85	RL1	6.85	mg/kg dry	☼	03/24/11 16:09	03/28/11 16:42	10.0
4,6-Dinitro-2-methylphenol	<6.85	RL1	6.85	mg/kg dry	☼	03/24/11 16:09	03/28/11 16:42	10.0
2,4-Dinitrotoluene	<6.85	RL1	6.85	mg/kg dry	☼	03/24/11 16:09	03/28/11 16:42	10.0
2,6-Dinitrotoluene	<6.85	RL1	6.85	mg/kg dry	☼	03/24/11 16:09	03/28/11 16:42	10.0
Di-n-octyl phthalate	<6.85	RL1	6.85	mg/kg dry	☼	03/24/11 16:09	03/28/11 16:42	10.0
Fluoranthene	<3.42	RL1	3.42	mg/kg dry	☼	03/24/11 16:09	03/28/11 16:42	10.0
Fluorene	<3.42	RL1	3.42	mg/kg dry	☼	03/24/11 16:09	03/28/11 16:42	10.0
Hexachlorobenzene	<3.42	RL1	3.42	mg/kg dry	☼	03/24/11 16:09	03/28/11 16:42	10.0
Hexachlorocyclopentadiene	<13.7	RL1	13.7	mg/kg dry	☼	03/24/11 16:09	03/28/11 16:42	10.0
Hexachloroethane	<6.85	RL1	6.85	mg/kg dry	☼	03/24/11 16:09	03/28/11 16:42	10.0
Indeno (1,2,3-cd) pyrene	<3.42	RL1	3.42	mg/kg dry	☼	03/24/11 16:09	03/28/11 16:42	10.0
Isophorone	<6.85	RL1	6.85	mg/kg dry	☼	03/24/11 16:09	03/28/11 16:42	10.0
2-Methylnaphthalene	<3.42	RL1	3.42	mg/kg dry	☼	03/24/11 16:09	03/28/11 16:42	10.0
2-Methylphenol (o-Cresol)	<6.85	RL1	6.85	mg/kg dry	☼	03/24/11 16:09	03/28/11 16:42	10.0
3&4-Methylphenol (m&p Cresol)	<6.85	RL1	6.85	mg/kg dry	☼	03/24/11 16:09	03/28/11 16:42	10.0
Naphthalene	<3.42	RL1	3.42	mg/kg dry	☼	03/24/11 16:09	03/28/11 16:42	10.0
Nitrobenzene	<6.85	RL1	6.85	mg/kg dry	☼	03/24/11 16:09	03/28/11 16:42	10.0
2-Nitrophenol	<6.85	RL1	6.85	mg/kg dry	☼	03/24/11 16:09	03/28/11 16:42	10.0
N-Nitrosodi-n-propylamine	<6.85	RL1	6.85	mg/kg dry	☼	03/24/11 16:09	03/28/11 16:42	10.0
Pentachlorophenol	<6.85	RL1	6.85	mg/kg dry	☼	03/24/11 16:09	03/28/11 16:42	10.0

Client Sample ID: TT-TSSP-04-C
Date Collected: 03/18/11 11:05
Date Received: 03/18/11 16:25
Sampler Name: client

Lab Sample ID: DUC1063-04
Matrix: Non-aqueous
Percent Solids: 84.9
Sampler Phone Number: (937) 531-4400

Method: SW 8270C - Semivolatile Organics by GC/MS - RE2 (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Phenanthrene	<3.42	RL1	3.42	mg/kg dry	☼	03/24/11 16:09	03/28/11 16:42	10.0
Phenol	<6.85	RL1	6.85	mg/kg dry	☼	03/24/11 16:09	03/28/11 16:42	10.0
Pyrene	<3.42	RL1	3.42	mg/kg dry	☼	03/24/11 16:09	03/28/11 16:42	10.0
1,2,4-Trichlorobenzene	<6.85	RL1	6.85	mg/kg dry	☼	03/24/11 16:09	03/28/11 16:42	10.0
2,4,5-Trichlorophenol	<6.85	RL1	6.85	mg/kg dry	☼	03/24/11 16:09	03/28/11 16:42	10.0
2,4,6-Trichlorophenol	<6.85	RL1	6.85	mg/kg dry	☼	03/24/11 16:09	03/28/11 16:42	10.0

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol	*72*	*RL1*	*20 - 135*	*03/24/11 16:09*	*03/28/11 16:42*	*10.0*
Phenol-d6	*81*	*RL1*	*20 - 150*	*03/24/11 16:09*	*03/28/11 16:42*	*10.0*
Nitrobenzene-d5	*72*	*RL1*	*30 - 135*	*03/24/11 16:09*	*03/28/11 16:42*	*10.0*
2-Fluorobiphenyl	*76*	*RL1*	*40 - 135*	*03/24/11 16:09*	*03/28/11 16:42*	*10.0*
2,4,6-Tribromophenol	*72*	*RL1*	*25 - 145*	*03/24/11 16:09*	*03/28/11 16:42*	*10.0*
Terphenyl-d14	*89*	*RL1*	*40 - 150*	*03/24/11 16:09*	*03/28/11 16:42*	*10.0*

Method: SW 7471A - Total Metals

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.140**		0.00935	mg/kg dry	☼	03/24/11 11:56	03/25/11 13:33	1.00

Method: SW 6010B - Total Metals

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<19.0		19.0	mg/kg dry	☼	03/21/11 11:07	03/24/11 12:11	5.00
Arsenic	**4.79**		3.80	mg/kg dry	☼	03/21/11 11:07	03/24/11 12:11	5.00
Beryllium	<0.952		0.952	mg/kg dry	☼	03/21/11 11:07	03/24/11 12:11	5.00
Cadmium	<5.70		5.70	mg/kg dry	☼	03/21/11 11:07	03/24/11 12:11	5.00
Chromium	<7.58		7.58	mg/kg dry	☼	03/21/11 11:07	03/24/11 12:11	5.00
Copper	**16.4**		3.80	mg/kg dry	☼	03/21/11 11:07	03/24/11 12:11	5.00
Lead	**19.8**		15.2	mg/kg dry	☼	03/21/11 11:07	03/24/11 12:11	5.00
Nickel	**7.35**		1.90	mg/kg dry	☼	03/21/11 11:07	03/24/11 12:11	5.00
Selenium	<19.0		19.0	mg/kg dry	☼	03/21/11 11:07	03/24/11 12:11	5.00
Silver	<7.58		7.58	mg/kg dry	☼	03/21/11 11:07	03/24/11 12:11	5.00
Thallium	<5.70		5.70	mg/kg dry	☼	03/21/11 11:07	03/24/11 12:11	5.00
Zinc	**48.5**		9.52	mg/kg dry	☼	03/21/11 11:07	03/24/11 12:11	5.00

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**82.1**		10.0	%			03/23/11 13:36	1

Method: SW 846 - General Chemistry Parameters

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dry Weight	**84.9**		0.100	%		03/21/11 12:07	03/21/11 12:07	1.00

Client Sample ID: TT-TSSP-05-C
Date Collected: 03/18/11 11:20
Date Received: 03/18/11 16:25
Sampler Name: client

Lab Sample ID: DUC1063-05
Matrix: Non-aqueous
Percent Solids: 81
Sampler Phone Number: (937) 531-4400

Method: SW 8260A - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.119		0.119	mg/kg dry	☼	03/29/11 13:15	03/29/11 16:27	1.00
Benzene	<0.00594		0.00594	mg/kg dry	☼	03/29/11 13:15	03/29/11 16:27	1.00
Bromobenzene	<0.00594		0.00594	mg/kg dry	☼	03/29/11 13:15	03/29/11 16:27	1.00
Bromochloromethane	<0.00594		0.00594	mg/kg dry	☼	03/29/11 13:15	03/29/11 16:27	1.00
Bromodichloromethane (Dichlorobromomethane)	<0.00594		0.00594	mg/kg dry	☼	03/29/11 13:15	03/29/11 16:27	1.00
Bromoform	<0.00594		0.00594	mg/kg dry	☼	03/29/11 13:15	03/29/11 16:27	1.00
Bromomethane (Methyl bromide)	<0.0119		0.0119	mg/kg dry	☼	03/29/11 13:15	03/29/11 16:27	1.00
2-Butanone (MEK)	<0.0594		0.0594	mg/kg dry	☼	03/29/11 13:15	03/29/11 16:27	1.00
tert-Butylbenzene	<0.00594		0.00594	mg/kg dry	☼	03/29/11 13:15	03/29/11 16:27	1.00
sec-Butylbenzene	<0.00594		0.00594	mg/kg dry	☼	03/29/11 13:15	03/29/11 16:27	1.00
n-Butylbenzene	<0.00594		0.00594	mg/kg dry	☼	03/29/11 13:15	03/29/11 16:27	1.00
Carbon disulfide	<0.00594		0.00594	mg/kg dry	☼	03/29/11 13:15	03/29/11 16:27	1.00
Carbon tetrachloride	<0.00594		0.00594	mg/kg dry	☼	03/29/11 13:15	03/29/11 16:27	1.00
Chlorobenzene	<0.00594		0.00594	mg/kg dry	☼	03/29/11 13:15	03/29/11 16:27	1.00
Chloroethane	<0.0119		0.0119	mg/kg dry	☼	03/29/11 13:15	03/29/11 16:27	1.00
Chloroform	<0.00594		0.00594	mg/kg dry	☼	03/29/11 13:15	03/29/11 16:27	1.00
Chloromethane (Methyl chloride)	<0.0119		0.0119	mg/kg dry	☼	03/29/11 13:15	03/29/11 16:27	1.00
4-Chlorotoluene	<0.00594		0.00594	mg/kg dry	☼	03/29/11 13:15	03/29/11 16:27	1.00
2-Chlorotoluene	<0.00594		0.00594	mg/kg dry	☼	03/29/11 13:15	03/29/11 16:27	1.00
Dibromochloromethane (Chlorodibromomethane)	<0.00594		0.00594	mg/kg dry	☼	03/29/11 13:15	03/29/11 16:27	1.00
Dibromomethane	<0.00594		0.00594	mg/kg dry	☼	03/29/11 13:15	03/29/11 16:27	1.00
1,2-Dichlorobenzene	<0.00594		0.00594	mg/kg dry	☼	03/29/11 13:15	03/29/11 16:27	1.00
1,4-Dichlorobenzene	<0.00594		0.00594	mg/kg dry	☼	03/29/11 13:15	03/29/11 16:27	1.00
1,3-Dichlorobenzene	<0.00594		0.00594	mg/kg dry	☼	03/29/11 13:15	03/29/11 16:27	1.00
Dichlorodifluoromethane	<0.00594		0.00594	mg/kg dry	☼	03/29/11 13:15	03/29/11 16:27	1.00
1,1-Dichloroethane	<0.00594		0.00594	mg/kg dry	☼	03/29/11 13:15	03/29/11 16:27	1.00
1,2-Dichloroethane	<0.00594		0.00594	mg/kg dry	☼	03/29/11 13:15	03/29/11 16:27	1.00
cis-1,2-Dichloroethene	<0.00594		0.00594	mg/kg dry	☼	03/29/11 13:15	03/29/11 16:27	1.00
trans-1,2-Dichloroethene	<0.00594		0.00594	mg/kg dry	☼	03/29/11 13:15	03/29/11 16:27	1.00
1,1-Dichloroethene	<0.00594		0.00594	mg/kg dry	☼	03/29/11 13:15	03/29/11 16:27	1.00
1,3-Dichloropropane	<0.00594		0.00594	mg/kg dry	☼	03/29/11 13:15	03/29/11 16:27	1.00
2,2-Dichloropropane	<0.00594		0.00594	mg/kg dry	☼	03/29/11 13:15	03/29/11 16:27	1.00
1,2-Dichloropropane	<0.00594		0.00594	mg/kg dry	☼	03/29/11 13:15	03/29/11 16:27	1.00
1,1-Dichloropropene	<0.00594		0.00594	mg/kg dry	☼	03/29/11 13:15	03/29/11 16:27	1.00
cis-1,3-Dichloropropene	<0.00594		0.00594	mg/kg dry	☼	03/29/11 13:15	03/29/11 16:27	1.00
trans-1,3-Dichloropropene	<0.00594		0.00594	mg/kg dry	☼	03/29/11 13:15	03/29/11 16:27	1.00
Ethylbenzene	<0.00594		0.00594	mg/kg dry	☼	03/29/11 13:15	03/29/11 16:27	1.00
Hexachlorobutadiene	<0.00594		0.00594	mg/kg dry	☼	03/29/11 13:15	03/29/11 16:27	1.00
n-Hexane	<0.0238		0.0238	mg/kg dry	☼	03/29/11 13:15	03/29/11 16:27	1.00
2-Hexanone	<0.0594		0.0594	mg/kg dry	☼	03/29/11 13:15	03/29/11 16:27	1.00
Isopropylbenzene (Cumene)	<0.00594		0.00594	mg/kg dry	☼	03/29/11 13:15	03/29/11 16:27	1.00
p-Isopropyltoluene	<0.00594		0.00594	mg/kg dry	☼	03/29/11 13:15	03/29/11 16:27	1.00
Methyl tert-butyl ether	<0.00594		0.00594	mg/kg dry	☼	03/29/11 13:15	03/29/11 16:27	1.00
Methylene chloride	<0.0594		0.0594	mg/kg dry	☼	03/29/11 13:15	03/29/11 16:27	1.00
4-Methyl-2-pentanone (MIBK)	<0.0594		0.0594	mg/kg dry	☼	03/29/11 13:15	03/29/11 16:27	1.00
n-Propylbenzene	<0.00594		0.00594	mg/kg dry	☼	03/29/11 13:15	03/29/11 16:27	1.00
Styrene	<0.00594		0.00594	mg/kg dry	☼	03/29/11 13:15	03/29/11 16:27	1.00
1,1,1,2-Tetrachloroethane	<0.00594		0.00594	mg/kg dry	☼	03/29/11 13:15	03/29/11 16:27	1.00
1,1,2,2-Tetrachloroethane	<0.00594		0.00594	mg/kg dry	☼	03/29/11 13:15	03/29/11 16:27	1.00

Client Sample ID: TT-TSSP-05-C
Date Collected: 03/18/11 11:20
Date Received: 03/18/11 16:25
Sampler Name: client

Lab Sample ID: DUC1063-05
Matrix: Non-aqueous
Percent Solids: 81
Sampler Phone Number: (937) 531-4400

Method: SW 8260A - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	<0.00594		0.00594	mg/kg dry	☼	03/29/11 13:15	03/29/11 16:27	1.00
Toluene	<0.00594		0.00594	mg/kg dry	☼	03/29/11 13:15	03/29/11 16:27	1.00
1,2,4-Trichlorobenzene	<0.00594		0.00594	mg/kg dry	☼	03/29/11 13:15	03/29/11 16:27	1.00
1,1,1-Trichloroethane	<0.00594		0.00594	mg/kg dry	☼	03/29/11 13:15	03/29/11 16:27	1.00
1,1,2-Trichloroethane	<0.00594		0.00594	mg/kg dry	☼	03/29/11 13:15	03/29/11 16:27	1.00
Trichloroethene	<0.00594		0.00594	mg/kg dry	☼	03/29/11 13:15	03/29/11 16:27	1.00
Trichlorofluoromethane	<0.00594		0.00594	mg/kg dry	☼	03/29/11 13:15	03/29/11 16:27	1.00
1,2,4-Trimethylbenzene	<0.00594		0.00594	mg/kg dry	☼	03/29/11 13:15	03/29/11 16:27	1.00
1,3,5-Trimethylbenzene	<0.00594		0.00594	mg/kg dry	☼	03/29/11 13:15	03/29/11 16:27	1.00
Vinyl Acetate	<0.00594		0.00594	mg/kg dry	☼	03/29/11 13:15	03/29/11 16:27	1.00
Vinyl chloride	<0.00238		0.00238	mg/kg dry	☼	03/29/11 13:15	03/29/11 16:27	1.00
Xylenes, total	<0.00594		0.00594	mg/kg dry	☼	03/29/11 13:15	03/29/11 16:27	1.00

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4	*98*		*80 - 120*	*03/29/11 13:15*	*03/29/11 16:27*	*1.00*
Dibromofluoromethane	*92*		*80 - 120*	*03/29/11 13:15*	*03/29/11 16:27*	*1.00*
Toluene-d8	*107*		*80 - 120*	*03/29/11 13:15*	*03/29/11 16:27*	*1.00*
4-Bromofluorobenzene	*102*		*80 - 120*	*03/29/11 13:15*	*03/29/11 16:27*	*1.00*

Method: 8082 - PCBs (8082)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	<41		41	ug/kg	☼	03/22/11 12:45	03/24/11 12:24	1
Aroclor 1221	<41		41	ug/kg	☼	03/22/11 12:45	03/24/11 12:24	1
Aroclor 1232	<41		41	ug/kg	☼	03/22/11 12:45	03/24/11 12:24	1
Aroclor 1242	<41		41	ug/kg	☼	03/22/11 12:45	03/24/11 12:24	1
Aroclor 1248	<41		41	ug/kg	☼	03/22/11 12:45	03/24/11 12:24	1
Aroclor 1254	**65**		41	ug/kg	☼	03/22/11 12:45	03/24/11 12:24	1
Aroclor 1260	<41		41	ug/kg	☼	03/22/11 12:45	03/24/11 12:24	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*86*		*10 - 196*	*03/22/11 12:45*	*03/24/11 12:24*	*1*
Decachlorobiphenyl	*72*		*10 - 199*	*03/22/11 12:45*	*03/24/11 12:24*	*1*

Method: SW 8270C - Semivolatile Organics by GC/MS

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.359		0.359	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:08	1.00
Acenaphthylene	<0.359		0.359	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:08	1.00
Anthracene	<0.359		0.359	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:08	1.00
Benzo (a) anthracene	<0.359		0.359	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:08	1.00
Benzo (b) fluoranthene	<0.359		0.359	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:08	1.00
Benzo (g,h,i) perylene	<0.359		0.359	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:08	1.00
Benzo (k) fluoranthene	<0.359		0.359	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:08	1.00
Benzo (a) pyrene	**0.288**		0.180	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:08	1.00
Benzoic acid	<3.59		3.59	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:08	1.00
Benzyl alcohol	<0.719		0.719	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:08	1.00
Bis(2-chloroethoxy)methane	<0.719		0.719	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:08	1.00
Bis(2-chloroethyl)ether	<0.719		0.719	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:08	1.00
Bis(2-chloroisopropyl) ether	<0.719		0.719	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:08	1.00
Bis(2-ethylhexyl)phthalate	<0.719		0.719	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:08	1.00
4-Bromophenyl phenyl ether	<0.719		0.719	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:08	1.00

Client Sample ID: TT-TSSP-05-C
Date Collected: 03/18/11 11:20
Date Received: 03/18/11 16:25
Sampler Name: client

Lab Sample ID: DUC1063-05
Matrix: Non-aqueous
Percent Solids: 81
Sampler Phone Number: (937) 531-4400

Method: SW 8270C - Semivolatile Organics by GC/MS (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Butyl benzyl phthalate	<0.719		0.719	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:08	1.00
4-Chloroaniline	<0.719		0.719	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:08	1.00
4-Chloro-3-methylphenol	<0.719		0.719	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:08	1.00
2-Chloronaphthalene	<0.719		0.719	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:08	1.00
2-Chlorophenol	<0.719		0.719	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:08	1.00
Chrysene	<0.359		0.359	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:08	1.00
Dibenzofuran	<0.719		0.719	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:08	1.00
1,2-Dichlorobenzene	<0.719		0.719	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:08	1.00
1,3-Dichlorobenzene	<0.719		0.719	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:08	1.00
1,4-Dichlorobenzene	<0.719		0.719	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:08	1.00
Dibenz (a,h) anthracene	<0.180		0.180	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:08	1.00
2,4-Dichlorophenol	<0.719		0.719	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:08	1.00
Diethyl phthalate	<0.719		0.719	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:08	1.00
2,4-Dimethylphenol	<0.719		0.719	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:08	1.00
Dimethyl phthalate	<0.719		0.719	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:08	1.00
4,6-Dinitro-2-methylphenol	<0.719		0.719	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:08	1.00
2,4-Dinitrotoluene	<0.719		0.719	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:08	1.00
2,6-Dinitrotoluene	<0.719		0.719	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:08	1.00
Di-n-octyl phthalate	<0.719		0.719	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:08	1.00
Fluoranthene	<0.359		0.359	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:08	1.00
Fluorene	<0.359		0.359	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:08	1.00
Hexachlorobenzene	<0.359		0.359	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:08	1.00
Hexachlorocyclopentadiene	<1.44		1.44	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:08	1.00
Hexachloroethane	<0.719		0.719	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:08	1.00
Indeno (1,2,3-cd) pyrene	<0.359		0.359	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:08	1.00
Isophorone	<0.719		0.719	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:08	1.00
2-Methylnaphthalene	<0.359		0.359	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:08	1.00
2-Methylphenol (o-Cresol)	<0.719		0.719	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:08	1.00
3&4-Methylphenol (m&p Cresol)	<0.719		0.719	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:08	1.00
Naphthalene	<0.359		0.359	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:08	1.00
Nitrobenzene	<0.719		0.719	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:08	1.00
2-Nitrophenol	<0.719		0.719	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:08	1.00
N-Nitrosodi-n-propylamine	<0.719		0.719	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:08	1.00
Pentachlorophenol	<0.719		0.719	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:08	1.00
Phenanthrene	<0.359		0.359	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:08	1.00
Phenol	<0.719		0.719	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:08	1.00
Pyrene	<0.359		0.359	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:08	1.00
1,2,4-Trichlorobenzene	<0.719		0.719	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:08	1.00
2,4,5-Trichlorophenol	<0.719		0.719	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:08	1.00
2,4,6-Trichlorophenol	<0.719		0.719	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:08	1.00

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol	*73*		*20 - 135*	*03/19/11 08:22*	*03/23/11 01:08*	*1.00*
Phenol-d6	*84*		*20 - 150*	*03/19/11 08:22*	*03/23/11 01:08*	*1.00*
Nitrobenzene-d5	*73*		*30 - 135*	*03/19/11 08:22*	*03/23/11 01:08*	*1.00*
2-Fluorobiphenyl	*73*		*40 - 135*	*03/19/11 08:22*	*03/23/11 01:08*	*1.00*
2,4,6-Tribromophenol	*71*		*25 - 145*	*03/19/11 08:22*	*03/23/11 01:08*	*1.00*
Terphenyl-d14	*100*		*40 - 150*	*03/19/11 08:22*	*03/23/11 01:08*	*1.00*

Client: Weston Solutions Inc. (Dayton, OH)
Project/Site: 12473.005.007

TestAmerica Job ID: DUC1063

Client Sample ID: TT-TSSP-05-C
Date Collected: 03/18/11 11:20
Date Received: 03/18/11 16:25
Sampler Name: client

Lab Sample ID: DUC1063-05
Matrix: Non-aqueous
Percent Solids: 81
Sampler Phone Number: (937) 531-4400

Method: SW 7471A - Total Metals

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.296**		0.00996	mg/kg dry	☼	03/24/11 11:56	03/25/11 13:35	1.00

Method: SW 6010B - Total Metals

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<39.0	RL3	39.0	mg/kg dry	☼	03/21/11 11:07	03/24/11 15:39	10.0
Arsenic	<7.82	RL3	7.82	mg/kg dry	☼	03/21/11 11:07	03/24/11 15:39	10.0
Beryllium	<1.96	RL3	1.96	mg/kg dry	☼	03/21/11 11:07	03/24/11 15:39	10.0
Cadmium	<11.7	RL3	11.7	mg/kg dry	☼	03/21/11 11:07	03/24/11 15:39	10.0
Chromium	<15.6	RL3	15.6	mg/kg dry	☼	03/21/11 11:07	03/24/11 15:39	10.0
Copper	**23.1**		7.81	mg/kg dry	☼	03/21/11 11:07	03/24/11 15:39	10.0
Lead	**47.7**		31.2	mg/kg dry	☼	03/21/11 11:07	03/24/11 15:39	10.0
Nickel	**8.60**		3.90	mg/kg dry	☼	03/21/11 11:07	03/24/11 15:39	10.0
Selenium	<39.0	RL3	39.0	mg/kg dry	☼	03/21/11 11:07	03/24/11 15:39	10.0
Silver	<15.6	RL3	15.6	mg/kg dry	☼	03/21/11 11:07	03/24/11 15:39	10.0
Thallium	<11.7	RL3	11.7	mg/kg dry	☼	03/21/11 11:07	03/24/11 15:39	10.0
Zinc	**124**		19.6	mg/kg dry	☼	03/21/11 11:07	03/24/11 15:39	10.0

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**80.7**		10.0	%			03/23/11 13:36	1

Method: SW 846 - General Chemistry Parameters

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dry Weight	**81.0**		0.100	%		03/21/11 12:07	03/21/11 12:07	1.00

Client Sample ID: TT-TSSP-06-C
Lab Sample ID: DUC1063-06
Date Collected: 03/18/11 11:40
Matrix: Non-aqueous
Date Received: 03/18/11 16:25
Percent Solids: 83.3
Sampler Name: client
Sampler Phone Number: (937) 531-4400

Method: SW 8260A - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.115		0.115	mg/kg dry	☼	03/29/11 13:18	03/29/11 16:58	1.00
Benzene	<0.00577		0.00577	mg/kg dry	☼	03/29/11 13:18	03/29/11 16:58	1.00
Bromobenzene	<0.00577		0.00577	mg/kg dry	☼	03/29/11 13:18	03/29/11 16:58	1.00
Bromochloromethane	<0.00577		0.00577	mg/kg dry	☼	03/29/11 13:18	03/29/11 16:58	1.00
Bromodichloromethane (Dichlorobromomethane)	<0.00577		0.00577	mg/kg dry	☼	03/29/11 13:18	03/29/11 16:58	1.00
Bromoform	<0.00577		0.00577	mg/kg dry	☼	03/29/11 13:18	03/29/11 16:58	1.00
Bromomethane (Methyl bromide)	<0.0115		0.0115	mg/kg dry	☼	03/29/11 13:18	03/29/11 16:58	1.00
2-Butanone (MEK)	<0.0577		0.0577	mg/kg dry	☼	03/29/11 13:18	03/29/11 16:58	1.00
tert-Butylbenzene	<0.00577		0.00577	mg/kg dry	☼	03/29/11 13:18	03/29/11 16:58	1.00
sec-Butylbenzene	<0.00577		0.00577	mg/kg dry	☼	03/29/11 13:18	03/29/11 16:58	1.00
n-Butylbenzene	<0.00577		0.00577	mg/kg dry	☼	03/29/11 13:18	03/29/11 16:58	1.00
Carbon disulfide	<0.00577		0.00577	mg/kg dry	☼	03/29/11 13:18	03/29/11 16:58	1.00
Carbon tetrachloride	<0.00577		0.00577	mg/kg dry	☼	03/29/11 13:18	03/29/11 16:58	1.00
Chlorobenzene	<0.00577		0.00577	mg/kg dry	☼	03/29/11 13:18	03/29/11 16:58	1.00
Chloroethane	<0.0115		0.0115	mg/kg dry	☼	03/29/11 13:18	03/29/11 16:58	1.00
Chloroform	<0.00577		0.00577	mg/kg dry	☼	03/29/11 13:18	03/29/11 16:58	1.00
Chloromethane (Methyl chloride)	<0.0115		0.0115	mg/kg dry	☼	03/29/11 13:18	03/29/11 16:58	1.00
4-Chlorotoluene	<0.00577		0.00577	mg/kg dry	☼	03/29/11 13:18	03/29/11 16:58	1.00
2-Chlorotoluene	<0.00577		0.00577	mg/kg dry	☼	03/29/11 13:18	03/29/11 16:58	1.00
Dibromochloromethane (Chlorodibromomethane)	<0.00577		0.00577	mg/kg dry	☼	03/29/11 13:18	03/29/11 16:58	1.00
Dibromomethane	<0.00577		0.00577	mg/kg dry	☼	03/29/11 13:18	03/29/11 16:58	1.00
1,2-Dichlorobenzene	<0.00577		0.00577	mg/kg dry	☼	03/29/11 13:18	03/29/11 16:58	1.00
1,4-Dichlorobenzene	<0.00577		0.00577	mg/kg dry	☼	03/29/11 13:18	03/29/11 16:58	1.00
1,3-Dichlorobenzene	<0.00577		0.00577	mg/kg dry	☼	03/29/11 13:18	03/29/11 16:58	1.00
Dichlorodifluoromethane	<0.00577		0.00577	mg/kg dry	☼	03/29/11 13:18	03/29/11 16:58	1.00
1,1-Dichloroethane	<0.00577		0.00577	mg/kg dry	☼	03/29/11 13:18	03/29/11 16:58	1.00
1,2-Dichloroethane	<0.00577		0.00577	mg/kg dry	☼	03/29/11 13:18	03/29/11 16:58	1.00
cis-1,2-Dichloroethene	<0.00577		0.00577	mg/kg dry	☼	03/29/11 13:18	03/29/11 16:58	1.00
trans-1,2-Dichloroethene	<0.00577		0.00577	mg/kg dry	☼	03/29/11 13:18	03/29/11 16:58	1.00
1,1-Dichloroethene	<0.00577		0.00577	mg/kg dry	☼	03/29/11 13:18	03/29/11 16:58	1.00
1,3-Dichloropropane	<0.00577		0.00577	mg/kg dry	☼	03/29/11 13:18	03/29/11 16:58	1.00
2,2-Dichloropropane	<0.00577		0.00577	mg/kg dry	☼	03/29/11 13:18	03/29/11 16:58	1.00
1,2-Dichloropropane	<0.00577		0.00577	mg/kg dry	☼	03/29/11 13:18	03/29/11 16:58	1.00
1,1-Dichloropropene	<0.00577		0.00577	mg/kg dry	☼	03/29/11 13:18	03/29/11 16:58	1.00
cis-1,3-Dichloropropene	<0.00577		0.00577	mg/kg dry	☼	03/29/11 13:18	03/29/11 16:58	1.00
trans-1,3-Dichloropropene	<0.00577		0.00577	mg/kg dry	☼	03/29/11 13:18	03/29/11 16:58	1.00
Ethylbenzene	<0.00577		0.00577	mg/kg dry	☼	03/29/11 13:18	03/29/11 16:58	1.00
Hexachlorobutadiene	<0.00577		0.00577	mg/kg dry	☼	03/29/11 13:18	03/29/11 16:58	1.00
n-Hexane	<0.0231		0.0231	mg/kg dry	☼	03/29/11 13:18	03/29/11 16:58	1.00
2-Hexanone	<0.0577		0.0577	mg/kg dry	☼	03/29/11 13:18	03/29/11 16:58	1.00
Isopropylbenzene (Cumene)	<0.00577		0.00577	mg/kg dry	☼	03/29/11 13:18	03/29/11 16:58	1.00
p-Isopropyltoluene	<0.00577		0.00577	mg/kg dry	☼	03/29/11 13:18	03/29/11 16:58	1.00
Methyl tert-butyl ether	<0.00577		0.00577	mg/kg dry	☼	03/29/11 13:18	03/29/11 16:58	1.00
Methylene chloride	<0.0577		0.0577	mg/kg dry	☼	03/29/11 13:18	03/29/11 16:58	1.00
4-Methyl-2-pentanone (MIBK)	<0.0577		0.0577	mg/kg dry	☼	03/29/11 13:18	03/29/11 16:58	1.00
n-Propylbenzene	<0.00577		0.00577	mg/kg dry	☼	03/29/11 13:18	03/29/11 16:58	1.00
Styrene	<0.00577		0.00577	mg/kg dry	☼	03/29/11 13:18	03/29/11 16:58	1.00
1,1,1,2-Tetrachloroethane	<0.00577		0.00577	mg/kg dry	☼	03/29/11 13:18	03/29/11 16:58	1.00
1,1,2,2-Tetrachloroethane	<0.00577		0.00577	mg/kg dry	☼	03/29/11 13:18	03/29/11 16:58	1.00

Client Sample ID: TT-TSSP-06-C
Date Collected: 03/18/11 11:40
Date Received: 03/18/11 16:25
Sampler Name: client

Lab Sample ID: DUC1063-06
Matrix: Non-aqueous
Percent Solids: 83.3
Sampler Phone Number: (937) 531-4400

Method: SW 8260A - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	<0.00577		0.00577	mg/kg dry	☼	03/29/11 13:18	03/29/11 16:58	1.00
Toluene	<0.00577		0.00577	mg/kg dry	☼	03/29/11 13:18	03/29/11 16:58	1.00
1,2,4-Trichlorobenzene	<0.00577		0.00577	mg/kg dry	☼	03/29/11 13:18	03/29/11 16:58	1.00
1,1,1-Trichloroethane	<0.00577		0.00577	mg/kg dry	☼	03/29/11 13:18	03/29/11 16:58	1.00
1,1,2-Trichloroethane	<0.00577		0.00577	mg/kg dry	☼	03/29/11 13:18	03/29/11 16:58	1.00
Trichloroethene	<0.00577		0.00577	mg/kg dry	☼	03/29/11 13:18	03/29/11 16:58	1.00
Trichlorofluoromethane	<0.00577		0.00577	mg/kg dry	☼	03/29/11 13:18	03/29/11 16:58	1.00
1,2,4-Trimethylbenzene	<0.00577		0.00577	mg/kg dry	☼	03/29/11 13:18	03/29/11 16:58	1.00
1,3,5-Trimethylbenzene	<0.00577		0.00577	mg/kg dry	☼	03/29/11 13:18	03/29/11 16:58	1.00
Vinyl Acetate	<0.00577		0.00577	mg/kg dry	☼	03/29/11 13:18	03/29/11 16:58	1.00
Vinyl chloride	<0.00231		0.00231	mg/kg dry	☼	03/29/11 13:18	03/29/11 16:58	1.00
Xylenes, total	<0.00577		0.00577	mg/kg dry	☼	03/29/11 13:18	03/29/11 16:58	1.00

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4	*93*		*80 - 120*	*03/29/11 13:18*	*03/29/11 16:58*	*1.00*
Dibromofluoromethane	*89*		*80 - 120*	*03/29/11 13:18*	*03/29/11 16:58*	*1.00*
Toluene-d8	*107*		*80 - 120*	*03/29/11 13:18*	*03/29/11 16:58*	*1.00*
4-Bromofluorobenzene	*102*		*80 - 120*	*03/29/11 13:18*	*03/29/11 16:58*	*1.00*

Method: 8082 - PCBs (8082)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	<38		38	ug/kg	☼	03/22/11 12:45	03/24/11 12:41	1
Aroclor 1221	<38		38	ug/kg	☼	03/22/11 12:45	03/24/11 12:41	1
Aroclor 1232	<38		38	ug/kg	☼	03/22/11 12:45	03/24/11 12:41	1
Aroclor 1242	**46**		38	ug/kg	☼	03/22/11 12:45	03/24/11 12:41	1
Aroclor 1248	<38		38	ug/kg	☼	03/22/11 12:45	03/24/11 12:41	1
Aroclor 1254	**53**		38	ug/kg	☼	03/22/11 12:45	03/24/11 12:41	1
Aroclor 1260	<38		38	ug/kg	☼	03/22/11 12:45	03/24/11 12:41	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*84*		*10 - 196*	*03/22/11 12:45*	*03/24/11 12:41*	*1*
Decachlorobiphenyl	*71*		*10 - 199*	*03/22/11 12:45*	*03/24/11 12:41*	*1*

Method: SW 8270C - Semivolatile Organics by GC/MS

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.350		0.350	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:26	1.00
Acenaphthylene	<0.350		0.350	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:26	1.00
Anthracene	<0.350		0.350	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:26	1.00
Benzo (a) anthracene	<0.350		0.350	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:26	1.00
Benzo (b) fluoranthene	<0.350		0.350	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:26	1.00
Benzo (g,h,i) perylene	<0.350		0.350	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:26	1.00
Benzo (k) fluoranthene	<0.350		0.350	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:26	1.00
Benzo (a) pyrene	**0.264**		0.175	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:26	1.00
Benzoic acid	<3.50		3.50	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:26	1.00
Benzyl alcohol	<0.701		0.701	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:26	1.00
Bis(2-chloroethoxy)methane	<0.701		0.701	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:26	1.00
Bis(2-chloroethyl)ether	<0.701		0.701	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:26	1.00
Bis(2-chloroisopropyl) ether	<0.701		0.701	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:26	1.00
Bis(2-ethylhexyl)phthalate	<0.701		0.701	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:26	1.00
4-Bromophenyl phenyl ether	<0.701		0.701	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:26	1.00

Client Sample ID: TT-TSSP-06-C
Date Collected: 03/18/11 11:40
Date Received: 03/18/11 16:25
Sampler Name: client

Lab Sample ID: DUC1063-06
Matrix: Non-aqueous
Percent Solids: 83.3
Sampler Phone Number: (937) 531-4400

Method: SW 8270C - Semivolatile Organics by GC/MS (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Butyl benzyl phthalate	<0.701		0.701	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:26	1.00
4-Chloroaniline	<0.701		0.701	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:26	1.00
4-Chloro-3-methylphenol	<0.701		0.701	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:26	1.00
2-Chloronaphthalene	<0.701		0.701	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:26	1.00
2-Chlorophenol	<0.701		0.701	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:26	1.00
Chrysene	<0.350		0.350	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:26	1.00
Dibenzofuran	<0.701		0.701	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:26	1.00
1,2-Dichlorobenzene	<0.701		0.701	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:26	1.00
1,3-Dichlorobenzene	<0.701		0.701	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:26	1.00
1,4-Dichlorobenzene	<0.701		0.701	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:26	1.00
Dibenz (a,h) anthracene	<0.175		0.175	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:26	1.00
2,4-Dichlorophenol	<0.701		0.701	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:26	1.00
Diethyl phthalate	<0.701		0.701	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:26	1.00
2,4-Dimethylphenol	<0.701		0.701	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:26	1.00
Dimethyl phthalate	<0.701		0.701	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:26	1.00
4,6-Dinitro-2-methylphenol	<0.701		0.701	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:26	1.00
2,4-Dinitrotoluene	<0.701		0.701	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:26	1.00
2,6-Dinitrotoluene	<0.701		0.701	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:26	1.00
Di-n-octyl phthalate	<0.701		0.701	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:26	1.00
Fluoranthene	<0.350		0.350	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:26	1.00
Fluorene	<0.350		0.350	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:26	1.00
Hexachlorobenzene	<0.350		0.350	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:26	1.00
Hexachlorocyclopentadiene	<1.40		1.40	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:26	1.00
Hexachloroethane	<0.701		0.701	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:26	1.00
Indeno (1,2,3-cd) pyrene	<0.350		0.350	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:26	1.00
Isophorone	<0.701		0.701	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:26	1.00
2-Methylnaphthalene	<0.350		0.350	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:26	1.00
2-Methylphenol (o-Cresol)	<0.701		0.701	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:26	1.00
3&4-Methylphenol (m&p Cresol)	<0.701		0.701	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:26	1.00
Naphthalene	<0.350		0.350	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:26	1.00
Nitrobenzene	<0.701		0.701	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:26	1.00
2-Nitrophenol	<0.701		0.701	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:26	1.00
N-Nitrosodi-n-propylamine	<0.701		0.701	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:26	1.00
Pentachlorophenol	<0.701		0.701	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:26	1.00
Phenanthrene	<0.350		0.350	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:26	1.00
Phenol	<0.701		0.701	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:26	1.00
Pyrene	<0.350		0.350	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:26	1.00
1,2,4-Trichlorobenzene	<0.701		0.701	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:26	1.00
2,4,5-Trichlorophenol	<0.701		0.701	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:26	1.00
2,4,6-Trichlorophenol	<0.701		0.701	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:26	1.00

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol	*71*		*20 - 135*	*03/19/11 08:22*	*03/23/11 01:26*	*1.00*
Phenol-d6	*84*		*20 - 150*	*03/19/11 08:22*	*03/23/11 01:26*	*1.00*
Nitrobenzene-d5	*72*		*30 - 135*	*03/19/11 08:22*	*03/23/11 01:26*	*1.00*
2-Fluorobiphenyl	*73*		*40 - 135*	*03/19/11 08:22*	*03/23/11 01:26*	*1.00*
2,4,6-Tribromophenol	*71*		*25 - 145*	*03/19/11 08:22*	*03/23/11 01:26*	*1.00*
Terphenyl-d14	*95*		*40 - 150*	*03/19/11 08:22*	*03/23/11 01:26*	*1.00*

Client: Weston Solutions Inc. (Dayton, OH)
Project/Site: 12473.005.007

TestAmerica Job ID: DUC1063

Client Sample ID: TT-TSSP-06-C
Date Collected: 03/18/11 11:40
Date Received: 03/18/11 16:25
Sampler Name: client

Lab Sample ID: DUC1063-06
Matrix: Non-aqueous
Percent Solids: 83.3
Sampler Phone Number: (937) 531-4400

Method: SW 7471A - Total Metals

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.192**		0.00967	mg/kg dry	☼	03/24/11 11:56	03/25/11 13:38	1.00

Method: SW 6010B - Total Metals

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<38.4	RL3	38.4	mg/kg dry	☼	03/21/11 11:07	03/24/11 15:42	10.0
Arsenic	<7.70	RL3	7.70	mg/kg dry	☼	03/21/11 11:07	03/24/11 15:42	10.0
Beryllium	<1.93	RL3	1.93	mg/kg dry	☼	03/21/11 11:07	03/24/11 15:42	10.0
Cadmium	<11.5	RL3	11.5	mg/kg dry	☼	03/21/11 11:07	03/24/11 15:42	10.0
Chromium	<15.3	RL3	15.3	mg/kg dry	☼	03/21/11 11:07	03/24/11 15:42	10.0
Copper	**16.9**		7.68	mg/kg dry	☼	03/21/11 11:07	03/24/11 15:42	10.0
Lead	<30.7	RL3	30.7	mg/kg dry	☼	03/21/11 11:07	03/24/11 15:42	10.0
Nickel	**6.57**		3.84	mg/kg dry	☼	03/21/11 11:07	03/24/11 15:42	10.0
Selenium	<38.4	RL3	38.4	mg/kg dry	☼	03/21/11 11:07	03/24/11 15:42	10.0
Silver	<15.3	RL3	15.3	mg/kg dry	☼	03/21/11 11:07	03/24/11 15:42	10.0
Thallium	<11.5	RL3	11.5	mg/kg dry	☼	03/21/11 11:07	03/24/11 15:42	10.0
Zinc	**34.9**		19.3	mg/kg dry	☼	03/21/11 11:07	03/24/11 15:42	10.0

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**88.0**		10.0	%			03/23/11 13:36	1

Method: SW 846 - General Chemistry Parameters

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dry Weight	**83.3**		0.100	%		03/21/11 12:07	03/21/11 12:07	1.00

Client Sample ID: TT-TSSP-07-C
Date Collected: 03/18/11 11:55
Date Received: 03/18/11 16:25
Sampler Name: client

Lab Sample ID: DUC1063-07
Matrix: Non-aqueous
Percent Solids: 89.7
Sampler Phone Number: (937) 531-4400

Method: SW 8260A - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.109		0.109	mg/kg dry	☼	03/29/11 13:20	03/29/11 17:29	1.00
Benzene	<0.00543		0.00543	mg/kg dry	☼	03/29/11 13:20	03/29/11 17:29	1.00
Bromobenzene	<0.00543		0.00543	mg/kg dry	☼	03/29/11 13:20	03/29/11 17:29	1.00
Bromochloromethane	<0.00543		0.00543	mg/kg dry	☼	03/29/11 13:20	03/29/11 17:29	1.00
Bromodichloromethane (Dichlorobromomethane)	<0.00543		0.00543	mg/kg dry	☼	03/29/11 13:20	03/29/11 17:29	1.00
Bromoform	<0.00543		0.00543	mg/kg dry	☼	03/29/11 13:20	03/29/11 17:29	1.00
Bromomethane (Methyl bromide)	<0.0109		0.0109	mg/kg dry	☼	03/29/11 13:20	03/29/11 17:29	1.00
2-Butanone (MEK)	<0.0543		0.0543	mg/kg dry	☼	03/29/11 13:20	03/29/11 17:29	1.00
tert-Butylbenzene	<0.00543		0.00543	mg/kg dry	☼	03/29/11 13:20	03/29/11 17:29	1.00
sec-Butylbenzene	<0.00543		0.00543	mg/kg dry	☼	03/29/11 13:20	03/29/11 17:29	1.00
n-Butylbenzene	<0.00543		0.00543	mg/kg dry	☼	03/29/11 13:20	03/29/11 17:29	1.00
Carbon disulfide	<0.00543		0.00543	mg/kg dry	☼	03/29/11 13:20	03/29/11 17:29	1.00
Carbon tetrachloride	<0.00543		0.00543	mg/kg dry	☼	03/29/11 13:20	03/29/11 17:29	1.00
Chlorobenzene	<0.00543		0.00543	mg/kg dry	☼	03/29/11 13:20	03/29/11 17:29	1.00
Chloroethane	<0.0109		0.0109	mg/kg dry	☼	03/29/11 13:20	03/29/11 17:29	1.00
Chloroform	<0.00543		0.00543	mg/kg dry	☼	03/29/11 13:20	03/29/11 17:29	1.00
Chloromethane (Methyl chloride)	<0.0109		0.0109	mg/kg dry	☼	03/29/11 13:20	03/29/11 17:29	1.00
4-Chlorotoluene	<0.00543		0.00543	mg/kg dry	☼	03/29/11 13:20	03/29/11 17:29	1.00
2-Chlorotoluene	<0.00543		0.00543	mg/kg dry	☼	03/29/11 13:20	03/29/11 17:29	1.00
Dibromochloromethane (Chlorodibromomethane)	<0.00543		0.00543	mg/kg dry	☼	03/29/11 13:20	03/29/11 17:29	1.00
Dibromomethane	<0.00543		0.00543	mg/kg dry	☼	03/29/11 13:20	03/29/11 17:29	1.00
1,2-Dichlorobenzene	<0.00543		0.00543	mg/kg dry	☼	03/29/11 13:20	03/29/11 17:29	1.00
1,4-Dichlorobenzene	<0.00543		0.00543	mg/kg dry	☼	03/29/11 13:20	03/29/11 17:29	1.00
1,3-Dichlorobenzene	<0.00543		0.00543	mg/kg dry	☼	03/29/11 13:20	03/29/11 17:29	1.00
Dichlorodifluoromethane	<0.00543		0.00543	mg/kg dry	☼	03/29/11 13:20	03/29/11 17:29	1.00
1,1-Dichloroethane	<0.00543		0.00543	mg/kg dry	☼	03/29/11 13:20	03/29/11 17:29	1.00
1,2-Dichloroethane	<0.00543		0.00543	mg/kg dry	☼	03/29/11 13:20	03/29/11 17:29	1.00
cis-1,2-Dichloroethene	<0.00543		0.00543	mg/kg dry	☼	03/29/11 13:20	03/29/11 17:29	1.00
trans-1,2-Dichloroethene	<0.00543		0.00543	mg/kg dry	☼	03/29/11 13:20	03/29/11 17:29	1.00
1,1-Dichloroethene	<0.00543		0.00543	mg/kg dry	☼	03/29/11 13:20	03/29/11 17:29	1.00
1,3-Dichloropropane	<0.00543		0.00543	mg/kg dry	☼	03/29/11 13:20	03/29/11 17:29	1.00
2,2-Dichloropropane	<0.00543		0.00543	mg/kg dry	☼	03/29/11 13:20	03/29/11 17:29	1.00
1,2-Dichloropropane	<0.00543		0.00543	mg/kg dry	☼	03/29/11 13:20	03/29/11 17:29	1.00
1,1-Dichloropropene	<0.00543		0.00543	mg/kg dry	☼	03/29/11 13:20	03/29/11 17:29	1.00
cis-1,3-Dichloropropene	<0.00543		0.00543	mg/kg dry	☼	03/29/11 13:20	03/29/11 17:29	1.00
trans-1,3-Dichloropropene	<0.00543		0.00543	mg/kg dry	☼	03/29/11 13:20	03/29/11 17:29	1.00
Ethylbenzene	<0.00543		0.00543	mg/kg dry	☼	03/29/11 13:20	03/29/11 17:29	1.00
Hexachlorobutadiene	<0.00543		0.00543	mg/kg dry	☼	03/29/11 13:20	03/29/11 17:29	1.00
n-Hexane	<0.0217		0.0217	mg/kg dry	☼	03/29/11 13:20	03/29/11 17:29	1.00
2-Hexanone	<0.0543		0.0543	mg/kg dry	☼	03/29/11 13:20	03/29/11 17:29	1.00
Isopropylbenzene (Cumene)	<0.00543		0.00543	mg/kg dry	☼	03/29/11 13:20	03/29/11 17:29	1.00
p-Isopropyltoluene	<0.00543		0.00543	mg/kg dry	☼	03/29/11 13:20	03/29/11 17:29	1.00
Methyl tert-butyl ether	<0.00543		0.00543	mg/kg dry	☼	03/29/11 13:20	03/29/11 17:29	1.00
Methylene chloride	<0.0543		0.0543	mg/kg dry	☼	03/29/11 13:20	03/29/11 17:29	1.00
4-Methyl-2-pentanone (MIBK)	<0.0543		0.0543	mg/kg dry	☼	03/29/11 13:20	03/29/11 17:29	1.00
n-Propylbenzene	<0.00543		0.00543	mg/kg dry	☼	03/29/11 13:20	03/29/11 17:29	1.00
Styrene	<0.00543		0.00543	mg/kg dry	☼	03/29/11 13:20	03/29/11 17:29	1.00
1,1,1,2-Tetrachloroethane	<0.00543		0.00543	mg/kg dry	☼	03/29/11 13:20	03/29/11 17:29	1.00
1,1,2,2-Tetrachloroethane	<0.00543		0.00543	mg/kg dry	☼	03/29/11 13:20	03/29/11 17:29	1.00

Client Sample ID: TT-TSSP-07-C
Date Collected: 03/18/11 11:55
Date Received: 03/18/11 16:25
Sampler Name: client

Lab Sample ID: DUC1063-07
Matrix: Non-aqueous
Percent Solids: 89.7
Sampler Phone Number: (937) 531-4400

Method: SW 8260A - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	<0.00543		0.00543	mg/kg dry	☼	03/29/11 13:20	03/29/11 17:29	1.00
Toluene	<0.00543		0.00543	mg/kg dry	☼	03/29/11 13:20	03/29/11 17:29	1.00
1,2,4-Trichlorobenzene	<0.00543		0.00543	mg/kg dry	☼	03/29/11 13:20	03/29/11 17:29	1.00
1,1,1-Trichloroethane	<0.00543		0.00543	mg/kg dry	☼	03/29/11 13:20	03/29/11 17:29	1.00
1,1,2-Trichloroethane	<0.00543		0.00543	mg/kg dry	☼	03/29/11 13:20	03/29/11 17:29	1.00
Trichloroethene	<0.00543		0.00543	mg/kg dry	☼	03/29/11 13:20	03/29/11 17:29	1.00
Trichlorofluoromethane	<0.00543		0.00543	mg/kg dry	☼	03/29/11 13:20	03/29/11 17:29	1.00
1,2,4-Trimethylbenzene	<0.00543		0.00543	mg/kg dry	☼	03/29/11 13:20	03/29/11 17:29	1.00
1,3,5-Trimethylbenzene	<0.00543		0.00543	mg/kg dry	☼	03/29/11 13:20	03/29/11 17:29	1.00
Vinyl Acetate	<0.00543		0.00543	mg/kg dry	☼	03/29/11 13:20	03/29/11 17:29	1.00
Vinyl chloride	<0.00217		0.00217	mg/kg dry	☼	03/29/11 13:20	03/29/11 17:29	1.00
Xylenes, total	<0.00543		0.00543	mg/kg dry	☼	03/29/11 13:20	03/29/11 17:29	1.00

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4	*92*		*80 - 120*	*03/29/11 13:20*	*03/29/11 17:29*	*1.00*
Dibromofluoromethane	*90*		*80 - 120*	*03/29/11 13:20*	*03/29/11 17:29*	*1.00*
Toluene-d8	*108*		*80 - 120*	*03/29/11 13:20*	*03/29/11 17:29*	*1.00*
4-Bromofluorobenzene	*101*		*80 - 120*	*03/29/11 13:20*	*03/29/11 17:29*	*1.00*

Method: 8082 - PCBs (8082)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	<40		40	ug/kg	☼	03/22/11 12:45	03/24/11 12:57	1
Aroclor 1221	<40		40	ug/kg	☼	03/22/11 12:45	03/24/11 12:57	1
Aroclor 1232	<40		40	ug/kg	☼	03/22/11 12:45	03/24/11 12:57	1
Aroclor 1242	<40		40	ug/kg	☼	03/22/11 12:45	03/24/11 12:57	1
Aroclor 1248	<40		40	ug/kg	☼	03/22/11 12:45	03/24/11 12:57	1
Aroclor 1254	**150**		40	ug/kg	☼	03/22/11 12:45	03/24/11 12:57	1
Aroclor 1260	<40		40	ug/kg	☼	03/22/11 12:45	03/24/11 12:57	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*80*		*10 - 196*	*03/22/11 12:45*	*03/24/11 12:57*	*1*
Decachlorobiphenyl	*67*		*10 - 199*	*03/22/11 12:45*	*03/24/11 12:57*	*1*

Method: SW 8270C - Semivolatile Organics by GC/MS

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.325		0.325	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:45	1.00
Acenaphthylene	<0.325		0.325	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:45	1.00
Anthracene	<0.325		0.325	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:45	1.00
Benzo (a) anthracene	<0.325		0.325	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:45	1.00
Benzo (b) fluoranthene	<0.325		0.325	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:45	1.00
Benzo (g,h,i) perylene	<0.325		0.325	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:45	1.00
Benzo (k) fluoranthene	<0.325		0.325	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:45	1.00
Benzo (a) pyrene	**0.266**		0.162	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:45	1.00
Benzoic acid	<3.25		3.25	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:45	1.00
Benzyl alcohol	<0.650		0.650	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:45	1.00
Bis(2-chloroethoxy)methane	<0.650		0.650	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:45	1.00
Bis(2-chloroethyl)ether	<0.650		0.650	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:45	1.00
Bis(2-chloroisopropyl) ether	<0.650		0.650	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:45	1.00
Bis(2-ethylhexyl)phthalate	<0.650		0.650	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:45	1.00
4-Bromophenyl phenyl ether	<0.650		0.650	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:45	1.00

Client Sample ID: TT-TSSP-07-C
Date Collected: 03/18/11 11:55
Date Received: 03/18/11 16:25
Sampler Name: client

Lab Sample ID: DUC1063-07
Matrix: Non-aqueous
Percent Solids: 89.7
Sampler Phone Number: (937) 531-4400

Method: SW 8270C - Semivolatile Organics by GC/MS (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Butyl benzyl phthalate	<0.650		0.650	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:45	1.00
4-Chloroaniline	<0.650		0.650	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:45	1.00
4-Chloro-3-methylphenol	<0.650		0.650	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:45	1.00
2-Chloronaphthalene	<0.650		0.650	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:45	1.00
2-Chlorophenol	<0.650		0.650	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:45	1.00
Chrysene	<0.325		0.325	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:45	1.00
Dibenzofuran	<0.650		0.650	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:45	1.00
1,2-Dichlorobenzene	<0.650		0.650	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:45	1.00
1,3-Dichlorobenzene	<0.650		0.650	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:45	1.00
1,4-Dichlorobenzene	<0.650		0.650	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:45	1.00
Dibenz (a,h) anthracene	<0.162		0.162	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:45	1.00
2,4-Dichlorophenol	<0.650		0.650	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:45	1.00
Diethyl phthalate	<0.650		0.650	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:45	1.00
2,4-Dimethylphenol	<0.650		0.650	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:45	1.00
Dimethyl phthalate	<0.650		0.650	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:45	1.00
4,6-Dinitro-2-methylphenol	<0.650		0.650	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:45	1.00
2,4-Dinitrotoluene	<0.650		0.650	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:45	1.00
2,6-Dinitrotoluene	<0.650		0.650	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:45	1.00
Di-n-octyl phthalate	<0.650		0.650	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:45	1.00
Fluoranthene	**0.432**		0.325	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:45	1.00
Fluorene	<0.325		0.325	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:45	1.00
Hexachlorobenzene	<0.325		0.325	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:45	1.00
Hexachlorocyclopentadiene	<1.30		1.30	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:45	1.00
Hexachloroethane	<0.650		0.650	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:45	1.00
Indeno (1,2,3-cd) pyrene	<0.325		0.325	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:45	1.00
Isophorone	<0.650		0.650	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:45	1.00
2-Methylnaphthalene	<0.325		0.325	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:45	1.00
2-Methylphenol (o-Cresol)	<0.650		0.650	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:45	1.00
3&4-Methylphenol (m&p Cresol)	<0.650		0.650	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:45	1.00
Naphthalene	<0.325		0.325	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:45	1.00
Nitrobenzene	<0.650		0.650	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:45	1.00
2-Nitrophenol	<0.650		0.650	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:45	1.00
N-Nitrosodi-n-propylamine	<0.650		0.650	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:45	1.00
Pentachlorophenol	<0.650		0.650	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:45	1.00
Phenanthrene	<0.325		0.325	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:45	1.00
Phenol	<0.650		0.650	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:45	1.00
Pyrene	**0.417**		0.325	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:45	1.00
1,2,4-Trichlorobenzene	<0.650		0.650	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:45	1.00
2,4,5-Trichlorophenol	<0.650		0.650	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:45	1.00
2,4,6-Trichlorophenol	<0.650		0.650	mg/kg dry	☼	03/19/11 08:22	03/23/11 01:45	1.00

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol	*42*		*20 - 135*	*03/19/11 08:22*	*03/23/11 01:45*	*1.00*
Phenol-d6	*47*		*20 - 150*	*03/19/11 08:22*	*03/23/11 01:45*	*1.00*
Nitrobenzene-d5	*39*		*30 - 135*	*03/19/11 08:22*	*03/23/11 01:45*	*1.00*
2-Fluorobiphenyl	*40*		*40 - 135*	*03/19/11 08:22*	*03/23/11 01:45*	*1.00*
2,4,6-Tribromophenol	*36*		*25 - 145*	*03/19/11 08:22*	*03/23/11 01:45*	*1.00*
Terphenyl-d14	*56*		*40 - 150*	*03/19/11 08:22*	*03/23/11 01:45*	*1.00*

Client Sample ID: TT-TSSP-07-C
Lab Sample ID: DUC1063-07
Date Collected: 03/18/11 11:55
Matrix: Non-aqueous
Date Received: 03/18/11 16:25
Percent Solids: 89.7
Sampler Name: client
Sampler Phone Number: (937) 531-4400

Method: SW 7471A - Total Metals

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.422**		0.00913	mg/kg dry	☼	03/24/11 11:56	03/25/11 13:40	1.00

Method: SW 6010B - Total Metals

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<18.1		18.1	mg/kg dry	☼	03/21/11 11:07	03/24/11 12:20	5.00
Arsenic	**7.27**		3.62	mg/kg dry	☼	03/21/11 11:07	03/24/11 12:20	5.00
Beryllium	<0.906		0.906	mg/kg dry	☼	03/21/11 11:07	03/24/11 12:20	5.00
Cadmium	<5.43		5.43	mg/kg dry	☼	03/21/11 11:07	03/24/11 12:20	5.00
Chromium	**8.32**		7.22	mg/kg dry	☼	03/21/11 11:07	03/24/11 12:20	5.00
Copper	**20.7**		3.61	mg/kg dry	☼	03/21/11 11:07	03/24/11 12:20	5.00
Lead	**21.8**		14.4	mg/kg dry	☼	03/21/11 11:07	03/24/11 12:20	5.00
Nickel	**11.7**		1.81	mg/kg dry	☼	03/21/11 11:07	03/24/11 12:20	5.00
Selenium	<18.1		18.1	mg/kg dry	☼	03/21/11 11:07	03/24/11 12:20	5.00
Silver	<7.22		7.22	mg/kg dry	☼	03/21/11 11:07	03/24/11 12:20	5.00
Thallium	<5.43		5.43	mg/kg dry	☼	03/21/11 11:07	03/24/11 12:20	5.00
Zinc	**72.7**		9.06	mg/kg dry	☼	03/21/11 11:07	03/24/11 12:20	5.00

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	**81.9**		10.0	%			03/23/11 13:36	1

Method: SW 846 - General Chemistry Parameters

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dry Weight	**89.7**		0.100	%		03/21/11 12:07	03/21/11 12:07	1.00

Client Sample ID: TT-TSSP-01-G
Lab Sample ID: DUC1063-08
Date Collected: 03/18/11 13:20
Matrix: Non-aqueous
Date Received: 03/18/11 16:25
Percent Solids: 65.4
Sampler Name: client
Sampler Phone Number: (937) 531-4400

Method: SW 8260B - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.159		0.159	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:22	1.00
Benzene	<0.00793		0.00793	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:22	1.00
Bromobenzene	<0.00793		0.00793	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:22	1.00
Bromochloromethane	<0.00793		0.00793	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:22	1.00
Bromodichloromethane (Dichlorobromomethane)	<0.00793		0.00793	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:22	1.00
Bromoform	<0.00793		0.00793	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:22	1.00
Bromomethane (Methyl bromide)	<0.0159		0.0159	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:22	1.00
2-Butanone (MEK)	<0.0793		0.0793	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:22	1.00
tert-Butylbenzene	<0.00793		0.00793	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:22	1.00
sec-Butylbenzene	<0.00793		0.00793	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:22	1.00
n-Butylbenzene	<0.00793		0.00793	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:22	1.00
Carbon disulfide	<0.00793		0.00793	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:22	1.00
Carbon tetrachloride	<0.00793		0.00793	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:22	1.00
Chlorobenzene	<0.00793		0.00793	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:22	1.00
Chloroethane	<0.0159		0.0159	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:22	1.00
Chloroform	<0.00793		0.00793	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:22	1.00
Chloromethane (Methyl chloride)	<0.0159		0.0159	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:22	1.00
4-Chlorotoluene	<0.00793		0.00793	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:22	1.00
2-Chlorotoluene	<0.00793		0.00793	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:22	1.00
Dibromochloromethane (Chlorodibromomethane)	<0.00793		0.00793	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:22	1.00
Dibromomethane	<0.00793		0.00793	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:22	1.00
1,2-Dichlorobenzene	<0.00793		0.00793	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:22	1.00
1,4-Dichlorobenzene	<0.00793		0.00793	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:22	1.00
1,3-Dichlorobenzene	<0.00793		0.00793	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:22	1.00
Dichlorodifluoromethane	<0.00793		0.00793	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:22	1.00
1,1-Dichloroethane	<0.00793		0.00793	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:22	1.00
1,2-Dichloroethane	<0.00793		0.00793	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:22	1.00
cis-1,2-Dichloroethene	<0.00793		0.00793	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:22	1.00
trans-1,2-Dichloroethene	<0.00793		0.00793	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:22	1.00
1,1-Dichloroethene	<0.00793		0.00793	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:22	1.00
1,3-Dichloropropane	<0.00793		0.00793	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:22	1.00
2,2-Dichloropropane	<0.00793		0.00793	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:22	1.00
1,2-Dichloropropane	<0.00793		0.00793	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:22	1.00
1,1-Dichloropropene	<0.00793		0.00793	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:22	1.00
cis-1,3-Dichloropropene	<0.00793		0.00793	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:22	1.00
trans-1,3-Dichloropropene	<0.00793		0.00793	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:22	1.00
Ethylbenzene	<0.00793		0.00793	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:22	1.00
Hexachlorobutadiene	<0.00793		0.00793	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:22	1.00
n-Hexane	<0.0317		0.0317	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:22	1.00
2-Hexanone	<0.0793		0.0793	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:22	1.00
Isopropylbenzene (Cumene)	<0.00793		0.00793	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:22	1.00
p-Isopropyltoluene	<0.00793		0.00793	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:22	1.00
Methyl tert-butyl ether	<0.00793		0.00793	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:22	1.00
Methylene chloride	<0.0793		0.0793	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:22	1.00
4-Methyl-2-pentanone (MIBK)	<0.0793		0.0793	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:22	1.00
n-Propylbenzene	<0.00793		0.00793	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:22	1.00
Styrene	<0.00793		0.00793	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:22	1.00
1,1,1,2-Tetrachloroethane	<0.00793		0.00793	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:22	1.00
1,1,2,2-Tetrachloroethane	<0.00793		0.00793	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:22	1.00

Client Sample ID: TT-TSSP-01-G
Lab Sample ID: DUC1063-08
Date Collected: 03/18/11 13:20
Matrix: Non-aqueous
Date Received: 03/18/11 16:25
Percent Solids: 65.4
Sampler Name: client
Sampler Phone Number: (937) 531-4400

Method: SW 8260B - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	<0.00793		0.00793	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:22	1.00
Toluene	<0.00793		0.00793	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:22	1.00
1,2,4-Trichlorobenzene	<0.00793		0.00793	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:22	1.00
1,1,1-Trichloroethane	<0.00793		0.00793	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:22	1.00
1,1,2-Trichloroethane	<0.00793		0.00793	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:22	1.00
Trichloroethene	<0.00793		0.00793	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:22	1.00
Trichlorofluoromethane	<0.00793		0.00793	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:22	1.00
1,2,4-Trimethylbenzene	<0.00793		0.00793	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:22	1.00
1,3,5-Trimethylbenzene	<0.00793		0.00793	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:22	1.00
Vinyl Acetate	<0.00793		0.00793	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:22	1.00
Vinyl chloride	<0.00317		0.00317	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:22	1.00
Xylenes, total	<0.00793		0.00793	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:22	1.00

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4	*94*		*80 - 120*	*03/25/11 12:55*	*03/25/11 17:22*	*1.00*
Dibromofluoromethane	*91*		*80 - 120*	*03/25/11 12:55*	*03/25/11 17:22*	*1.00*
Toluene-d8	*107*		*80 - 120*	*03/25/11 12:55*	*03/25/11 17:22*	*1.00*
4-Bromofluorobenzene	*97*		*80 - 120*	*03/25/11 12:55*	*03/25/11 17:22*	*1.00*

Method: SW 846 - General Chemistry Parameters

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dry Weight	**65.4**		0.100	%		03/21/11 12:07	03/21/11 12:07	1.00

Client Sample ID: TT-TSSP-02-G
Date Collected: 03/18/11 13:30
Date Received: 03/18/11 16:25
Sampler Name: client

Lab Sample ID: DUC1063-09
Matrix: Non-aqueous
Percent Solids: 81.9
Sampler Phone Number: (937) 531-4400

Method: SW 8260B - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.147		0.147	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:53	1.00
Benzene	<0.00737		0.00737	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:53	1.00
Bromobenzene	<0.00737		0.00737	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:53	1.00
Bromochloromethane	<0.00737		0.00737	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:53	1.00
Bromodichloromethane (Dichlorobromomethane)	<0.00737		0.00737	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:53	1.00
Bromoform	<0.00737		0.00737	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:53	1.00
Bromomethane (Methyl bromide)	<0.0147		0.0147	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:53	1.00
2-Butanone (MEK)	<0.0737		0.0737	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:53	1.00
tert-Butylbenzene	<0.00737		0.00737	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:53	1.00
sec-Butylbenzene	<0.00737		0.00737	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:53	1.00
n-Butylbenzene	<0.00737		0.00737	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:53	1.00
Carbon disulfide	<0.00737		0.00737	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:53	1.00
Carbon tetrachloride	<0.00737		0.00737	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:53	1.00
Chlorobenzene	<0.00737		0.00737	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:53	1.00
Chloroethane	<0.0147		0.0147	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:53	1.00
Chloroform	<0.00737		0.00737	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:53	1.00
Chloromethane (Methyl chloride)	<0.0147		0.0147	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:53	1.00
4-Chlorotoluene	<0.00737		0.00737	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:53	1.00
2-Chlorotoluene	<0.00737		0.00737	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:53	1.00
Dibromochloromethane (Chlorodibromomethane)	<0.00737		0.00737	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:53	1.00
Dibromomethane	<0.00737		0.00737	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:53	1.00
1,2-Dichlorobenzene	<0.00737		0.00737	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:53	1.00
1,4-Dichlorobenzene	<0.00737		0.00737	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:53	1.00
1,3-Dichlorobenzene	<0.00737		0.00737	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:53	1.00
Dichlorodifluoromethane	<0.00737		0.00737	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:53	1.00
1,1-Dichloroethane	<0.00737		0.00737	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:53	1.00
1,2-Dichloroethane	<0.00737		0.00737	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:53	1.00
cis-1,2-Dichloroethene	<0.00737		0.00737	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:53	1.00
trans-1,2-Dichloroethene	<0.00737		0.00737	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:53	1.00
1,1-Dichloroethene	<0.00737		0.00737	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:53	1.00
1,3-Dichloropropane	<0.00737		0.00737	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:53	1.00
2,2-Dichloropropane	<0.00737		0.00737	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:53	1.00
1,2-Dichloropropane	<0.00737		0.00737	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:53	1.00
1,1-Dichloropropene	<0.00737		0.00737	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:53	1.00
cis-1,3-Dichloropropene	<0.00737		0.00737	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:53	1.00
trans-1,3-Dichloropropene	<0.00737		0.00737	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:53	1.00
Ethylbenzene	<0.00737		0.00737	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:53	1.00
Hexachlorobutadiene	<0.00737		0.00737	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:53	1.00
n-Hexane	<0.0295		0.0295	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:53	1.00
2-Hexanone	<0.0737		0.0737	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:53	1.00
Isopropylbenzene (Cumene)	<0.00737		0.00737	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:53	1.00
p-Isopropyltoluene	<0.00737		0.00737	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:53	1.00
Methyl tert-butyl ether	<0.00737		0.00737	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:53	1.00
Methylene chloride	<0.0737		0.0737	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:53	1.00
4-Methyl-2-pentanone (MIBK)	<0.0737		0.0737	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:53	1.00
n-Propylbenzene	<0.00737		0.00737	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:53	1.00
Styrene	<0.00737		0.00737	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:53	1.00
1,1,1,2-Tetrachloroethane	<0.00737		0.00737	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:53	1.00
1,1,2,2-Tetrachloroethane	<0.00737		0.00737	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:53	1.00

Client Sample ID: TT-TSSP-02-G
Lab Sample ID: DUC1063-09
Date Collected: 03/18/11 13:30
Matrix: Non-aqueous
Date Received: 03/18/11 16:25
Percent Solids: 81.9
Sampler Name: client
Sampler Phone Number: (937) 531-4400

Method: SW 8260B - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	**0.0325**		0.00737	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:53	1.00
Toluene	<0.00737		0.00737	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:53	1.00
1,2,4-Trichlorobenzene	<0.00737		0.00737	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:53	1.00
1,1,1-Trichloroethane	<0.00737		0.00737	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:53	1.00
1,1,2-Trichloroethane	<0.00737		0.00737	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:53	1.00
Trichloroethene	**0.0124**		0.00737	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:53	1.00
Trichlorofluoromethane	<0.00737		0.00737	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:53	1.00
1,2,4-Trimethylbenzene	<0.00737		0.00737	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:53	1.00
1,3,5-Trimethylbenzene	<0.00737		0.00737	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:53	1.00
Vinyl Acetate	<0.00737		0.00737	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:53	1.00
Vinyl chloride	<0.00295		0.00295	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:53	1.00
Xylenes, total	<0.00737		0.00737	mg/kg dry	☼	03/25/11 12:55	03/25/11 17:53	1.00

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4	*96*		*80 - 120*	*03/25/11 12:55*	*03/25/11 17:53*	*1.00*
Dibromofluoromethane	*92*		*80 - 120*	*03/25/11 12:55*	*03/25/11 17:53*	*1.00*
Toluene-d8	*107*		*80 - 120*	*03/25/11 12:55*	*03/25/11 17:53*	*1.00*
4-Bromofluorobenzene	*99*		*80 - 120*	*03/25/11 12:55*	*03/25/11 17:53*	*1.00*

Method: SW 846 - General Chemistry Parameters

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dry Weight	**81.9**		0.100	%		03/21/11 12:07	03/21/11 12:07	1.00

Client Sample ID: TT-TSSP-03-G
Lab Sample ID: DUC1063-10
Date Collected: 03/18/11 13:35
Matrix: Non-aqueous
Date Received: 03/18/11 16:25
Percent Solids: 77.6
Sampler Name: client
Sampler Phone Number: (937) 531-4400

Method: SW 8260B - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.109		0.109	mg/kg dry	☼	03/25/11 12:55	03/25/11 14:44	1.00
Benzene	<0.00546		0.00546	mg/kg dry	☼	03/25/11 12:55	03/25/11 14:44	1.00
Bromobenzene	<0.00546		0.00546	mg/kg dry	☼	03/25/11 12:55	03/25/11 14:44	1.00
Bromochloromethane	<0.00546		0.00546	mg/kg dry	☼	03/25/11 12:55	03/25/11 14:44	1.00
Bromodichloromethane (Dichlorobromomethane)	<0.00546		0.00546	mg/kg dry	☼	03/25/11 12:55	03/25/11 14:44	1.00
Bromoform	<0.00546		0.00546	mg/kg dry	☼	03/25/11 12:55	03/25/11 14:44	1.00
Bromomethane (Methyl bromide)	<0.0109		0.0109	mg/kg dry	☼	03/25/11 12:55	03/25/11 14:44	1.00
2-Butanone (MEK)	<0.0546		0.0546	mg/kg dry	☼	03/25/11 12:55	03/25/11 14:44	1.00
tert-Butylbenzene	<0.00546		0.00546	mg/kg dry	☼	03/25/11 12:55	03/25/11 14:44	1.00
sec-Butylbenzene	<0.00546		0.00546	mg/kg dry	☼	03/25/11 12:55	03/25/11 14:44	1.00
n-Butylbenzene	<0.00546		0.00546	mg/kg dry	☼	03/25/11 12:55	03/25/11 14:44	1.00
Carbon disulfide	<0.00546		0.00546	mg/kg dry	☼	03/25/11 12:55	03/25/11 14:44	1.00
Carbon tetrachloride	<0.00546		0.00546	mg/kg dry	☼	03/25/11 12:55	03/25/11 14:44	1.00
Chlorobenzene	<0.00546		0.00546	mg/kg dry	☼	03/25/11 12:55	03/25/11 14:44	1.00
Chloroethane	<0.0109		0.0109	mg/kg dry	☼	03/25/11 12:55	03/25/11 14:44	1.00
Chloroform	<0.00546		0.00546	mg/kg dry	☼	03/25/11 12:55	03/25/11 14:44	1.00
Chloromethane (Methyl chloride)	<0.0109		0.0109	mg/kg dry	☼	03/25/11 12:55	03/25/11 14:44	1.00
4-Chlorotoluene	<0.00546		0.00546	mg/kg dry	☼	03/25/11 12:55	03/25/11 14:44	1.00
2-Chlorotoluene	<0.00546		0.00546	mg/kg dry	☼	03/25/11 12:55	03/25/11 14:44	1.00
Dibromochloromethane (Chlorodibromomethane)	<0.00546		0.00546	mg/kg dry	☼	03/25/11 12:55	03/25/11 14:44	1.00
Dibromomethane	<0.00546		0.00546	mg/kg dry	☼	03/25/11 12:55	03/25/11 14:44	1.00
1,2-Dichlorobenzene	<0.00546		0.00546	mg/kg dry	☼	03/25/11 12:55	03/25/11 14:44	1.00
1,4-Dichlorobenzene	<0.00546		0.00546	mg/kg dry	☼	03/25/11 12:55	03/25/11 14:44	1.00
1,3-Dichlorobenzene	<0.00546		0.00546	mg/kg dry	☼	03/25/11 12:55	03/25/11 14:44	1.00
Dichlorodifluoromethane	<0.00546		0.00546	mg/kg dry	☼	03/25/11 12:55	03/25/11 14:44	1.00
1,1-Dichloroethane	<0.00546		0.00546	mg/kg dry	☼	03/25/11 12:55	03/25/11 14:44	1.00
1,2-Dichloroethane	<0.00546		0.00546	mg/kg dry	☼	03/25/11 12:55	03/25/11 14:44	1.00
cis-1,2-Dichloroethene	<0.00546		0.00546	mg/kg dry	☼	03/25/11 12:55	03/25/11 14:44	1.00
trans-1,2-Dichloroethene	<0.00546		0.00546	mg/kg dry	☼	03/25/11 12:55	03/25/11 14:44	1.00
1,1-Dichloroethene	<0.00546		0.00546	mg/kg dry	☼	03/25/11 12:55	03/25/11 14:44	1.00
1,3-Dichloropropane	<0.00546		0.00546	mg/kg dry	☼	03/25/11 12:55	03/25/11 14:44	1.00
2,2-Dichloropropane	<0.00546		0.00546	mg/kg dry	☼	03/25/11 12:55	03/25/11 14:44	1.00
1,2-Dichloropropane	<0.00546		0.00546	mg/kg dry	☼	03/25/11 12:55	03/25/11 14:44	1.00
1,1-Dichloropropene	<0.00546		0.00546	mg/kg dry	☼	03/25/11 12:55	03/25/11 14:44	1.00
cis-1,3-Dichloropropene	<0.00546		0.00546	mg/kg dry	☼	03/25/11 12:55	03/25/11 14:44	1.00
trans-1,3-Dichloropropene	<0.00546		0.00546	mg/kg dry	☼	03/25/11 12:55	03/25/11 14:44	1.00
Ethylbenzene	<0.00546		0.00546	mg/kg dry	☼	03/25/11 12:55	03/25/11 14:44	1.00
Hexachlorobutadiene	<0.00546		0.00546	mg/kg dry	☼	03/25/11 12:55	03/25/11 14:44	1.00
n-Hexane	<0.0218		0.0218	mg/kg dry	☼	03/25/11 12:55	03/25/11 14:44	1.00
2-Hexanone	<0.0546		0.0546	mg/kg dry	☼	03/25/11 12:55	03/25/11 14:44	1.00
Isopropylbenzene (Cumene)	<0.00546		0.00546	mg/kg dry	☼	03/25/11 12:55	03/25/11 14:44	1.00
p-Isopropyltoluene	<0.00546		0.00546	mg/kg dry	☼	03/25/11 12:55	03/25/11 14:44	1.00
Methyl tert-butyl ether	<0.00546		0.00546	mg/kg dry	☼	03/25/11 12:55	03/25/11 14:44	1.00
Methylene chloride	<0.0546		0.0546	mg/kg dry	☼	03/25/11 12:55	03/25/11 14:44	1.00
4-Methyl-2-pentanone (MIBK)	<0.0546		0.0546	mg/kg dry	☼	03/25/11 12:55	03/25/11 14:44	1.00
n-Propylbenzene	<0.00546		0.00546	mg/kg dry	☼	03/25/11 12:55	03/25/11 14:44	1.00
Styrene	<0.00546		0.00546	mg/kg dry	☼	03/25/11 12:55	03/25/11 14:44	1.00
1,1,1,2-Tetrachloroethane	<0.00546		0.00546	mg/kg dry	☼	03/25/11 12:55	03/25/11 14:44	1.00
1,1,2,2-Tetrachloroethane	<0.00546		0.00546	mg/kg dry	☼	03/25/11 12:55	03/25/11 14:44	1.00

Client Sample ID: TT-TSSP-03-G
Lab Sample ID: DUC1063-10
Date Collected: 03/18/11 13:35
Matrix: Non-aqueous
Date Received: 03/18/11 16:25
Percent Solids: 77.6
Sampler Name: client
Sampler Phone Number: (937) 531-4400

Method: SW 8260B - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	**0.0260**		0.00546	mg/kg dry	☼	03/25/11 12:55	03/25/11 14:44	1.00
Toluene	<0.00546		0.00546	mg/kg dry	☼	03/25/11 12:55	03/25/11 14:44	1.00
1,2,4-Trichlorobenzene	<0.00546		0.00546	mg/kg dry	☼	03/25/11 12:55	03/25/11 14:44	1.00
1,1,1-Trichloroethane	<0.00546		0.00546	mg/kg dry	☼	03/25/11 12:55	03/25/11 14:44	1.00
1,1,2-Trichloroethane	<0.00546		0.00546	mg/kg dry	☼	03/25/11 12:55	03/25/11 14:44	1.00
Trichloroethene	**0.0167**		0.00546	mg/kg dry	☼	03/25/11 12:55	03/25/11 14:44	1.00
Trichlorofluoromethane	<0.00546		0.00546	mg/kg dry	☼	03/25/11 12:55	03/25/11 14:44	1.00
1,2,4-Trimethylbenzene	<0.00546		0.00546	mg/kg dry	☼	03/25/11 12:55	03/25/11 14:44	1.00
1,3,5-Trimethylbenzene	<0.00546		0.00546	mg/kg dry	☼	03/25/11 12:55	03/25/11 14:44	1.00
Vinyl Acetate	<0.00546		0.00546	mg/kg dry	☼	03/25/11 12:55	03/25/11 14:44	1.00
Vinyl chloride	<0.00218		0.00218	mg/kg dry	☼	03/25/11 12:55	03/25/11 14:44	1.00
Xylenes, total	<0.00546		0.00546	mg/kg dry	☼	03/25/11 12:55	03/25/11 14:44	1.00

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4	*95*		*80 - 120*	*03/25/11 12:55*	*03/25/11 14:44*	*1.00*
Dibromofluoromethane	*91*		*80 - 120*	*03/25/11 12:55*	*03/25/11 14:44*	*1.00*
Toluene-d8	*105*		*80 - 120*	*03/25/11 12:55*	*03/25/11 14:44*	*1.00*
4-Bromofluorobenzene	*100*		*80 - 120*	*03/25/11 12:55*	*03/25/11 14:44*	*1.00*

Method: SW 846 - General Chemistry Parameters

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dry Weight	**77.6**		0.100	%		03/21/11 13:00	03/21/11 13:00	1.00

Client Sample ID: TT-TSSP-04-G
Lab Sample ID: DUC1063-11
Date Collected: 03/18/11 13:45
Matrix: Non-aqueous
Date Received: 03/18/11 16:25
Percent Solids: 81.3
Sampler Name: client
Sampler Phone Number: (937) 531-4400

Method: SW 8260B - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.106		0.106	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:15	1.00
Benzene	<0.00528		0.00528	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:15	1.00
Bromobenzene	<0.00528		0.00528	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:15	1.00
Bromochloromethane	<0.00528		0.00528	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:15	1.00
Bromodichloromethane (Dichlorobromomethane)	<0.00528		0.00528	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:15	1.00
Bromoform	<0.00528		0.00528	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:15	1.00
Bromomethane (Methyl bromide)	<0.0106		0.0106	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:15	1.00
2-Butanone (MEK)	<0.0528		0.0528	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:15	1.00
tert-Butylbenzene	<0.00528		0.00528	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:15	1.00
sec-Butylbenzene	<0.00528		0.00528	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:15	1.00
n-Butylbenzene	<0.00528		0.00528	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:15	1.00
Carbon disulfide	<0.00528		0.00528	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:15	1.00
Carbon tetrachloride	<0.00528		0.00528	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:15	1.00
Chlorobenzene	<0.00528		0.00528	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:15	1.00
Chloroethane	<0.0106		0.0106	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:15	1.00
Chloroform	<0.00528		0.00528	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:15	1.00
Chloromethane (Methyl chloride)	<0.0106		0.0106	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:15	1.00
4-Chlorotoluene	<0.00528		0.00528	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:15	1.00
2-Chlorotoluene	<0.00528		0.00528	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:15	1.00
Dibromochloromethane (Chlorodibromomethane)	<0.00528		0.00528	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:15	1.00
Dibromomethane	<0.00528		0.00528	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:15	1.00
1,2-Dichlorobenzene	<0.00528		0.00528	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:15	1.00
1,4-Dichlorobenzene	<0.00528		0.00528	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:15	1.00
1,3-Dichlorobenzene	<0.00528		0.00528	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:15	1.00
Dichlorodifluoromethane	<0.00528		0.00528	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:15	1.00
1,1-Dichloroethane	<0.00528		0.00528	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:15	1.00
1,2-Dichloroethane	<0.00528		0.00528	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:15	1.00
cis-1,2-Dichloroethene	<0.00528		0.00528	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:15	1.00
trans-1,2-Dichloroethene	<0.00528		0.00528	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:15	1.00
1,1-Dichloroethene	<0.00528		0.00528	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:15	1.00
1,3-Dichloropropane	<0.00528		0.00528	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:15	1.00
2,2-Dichloropropane	<0.00528		0.00528	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:15	1.00
1,2-Dichloropropane	<0.00528		0.00528	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:15	1.00
1,1-Dichloropropene	<0.00528		0.00528	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:15	1.00
cis-1,3-Dichloropropene	<0.00528		0.00528	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:15	1.00
trans-1,3-Dichloropropene	<0.00528		0.00528	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:15	1.00
Ethylbenzene	<0.00528		0.00528	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:15	1.00
Hexachlorobutadiene	<0.00528		0.00528	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:15	1.00
n-Hexane	<0.0211		0.0211	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:15	1.00
2-Hexanone	<0.0528		0.0528	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:15	1.00
Isopropylbenzene (Cumene)	<0.00528		0.00528	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:15	1.00
p-Isopropyltoluene	<0.00528		0.00528	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:15	1.00
Methyl tert-butyl ether	<0.00528		0.00528	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:15	1.00
Methylene chloride	<0.0528		0.0528	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:15	1.00
4-Methyl-2-pentanone (MIBK)	<0.0528		0.0528	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:15	1.00
n-Propylbenzene	<0.00528		0.00528	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:15	1.00
Styrene	<0.00528		0.00528	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:15	1.00
1,1,1,2-Tetrachloroethane	<0.00528		0.00528	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:15	1.00
1,1,2,2-Tetrachloroethane	<0.00528		0.00528	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:15	1.00

Client Sample ID: TT-TSSP-04-G
Lab Sample ID: DUC1063-11
Date Collected: 03/18/11 13:45
Matrix: Non-aqueous
Date Received: 03/18/11 16:25
Percent Solids: 81.3
Sampler Name: client
Sampler Phone Number: (937) 531-4400

Method: SW 8260B - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	**0.0126**		0.00528	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:15	1.00
Toluene	<0.00528		0.00528	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:15	1.00
1,2,4-Trichlorobenzene	<0.00528		0.00528	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:15	1.00
1,1,1-Trichloroethane	<0.00528		0.00528	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:15	1.00
1,1,2-Trichloroethane	<0.00528		0.00528	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:15	1.00
Trichloroethene	<0.00528		0.00528	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:15	1.00
Trichlorofluoromethane	<0.00528		0.00528	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:15	1.00
1,2,4-Trimethylbenzene	<0.00528		0.00528	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:15	1.00
1,3,5-Trimethylbenzene	<0.00528		0.00528	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:15	1.00
Vinyl Acetate	<0.00528		0.00528	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:15	1.00
Vinyl chloride	<0.00211		0.00211	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:15	1.00
Xylenes, total	<0.00528		0.00528	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:15	1.00

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4	*95*		*80 - 120*	*03/25/11 12:55*	*03/25/11 15:15*	*1.00*
Dibromofluoromethane	*92*		*80 - 120*	*03/25/11 12:55*	*03/25/11 15:15*	*1.00*
Toluene-d8	*106*		*80 - 120*	*03/25/11 12:55*	*03/25/11 15:15*	*1.00*
4-Bromofluorobenzene	*98*		*80 - 120*	*03/25/11 12:55*	*03/25/11 15:15*	*1.00*

Method: SW 846 - General Chemistry Parameters

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dry Weight	**81.3**		0.100	%		03/21/11 13:00	03/21/11 13:00	1.00

Client Sample ID: TT-TSSP-05-G
Date Collected: 03/18/11 13:55
Date Received: 03/18/11 16:25
Sampler Name: client

Lab Sample ID: DUC1063-12
Matrix: Non-aqueous
Percent Solids: 77.6
Sampler Phone Number: (937) 531-4400

Method: SW 8260B - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.110		0.110	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:46	1.00
Benzene	<0.00548		0.00548	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:46	1.00
Bromobenzene	<0.00548		0.00548	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:46	1.00
Bromochloromethane	<0.00548		0.00548	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:46	1.00
Bromodichloromethane (Dichlorobromomethane)	<0.00548		0.00548	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:46	1.00
Bromoform	<0.00548		0.00548	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:46	1.00
Bromomethane (Methyl bromide)	<0.0110		0.0110	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:46	1.00
2-Butanone (MEK)	<0.0548		0.0548	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:46	1.00
tert-Butylbenzene	<0.00548		0.00548	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:46	1.00
sec-Butylbenzene	<0.00548		0.00548	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:46	1.00
n-Butylbenzene	<0.00548		0.00548	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:46	1.00
Carbon disulfide	<0.00548		0.00548	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:46	1.00
Carbon tetrachloride	<0.00548		0.00548	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:46	1.00
Chlorobenzene	<0.00548		0.00548	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:46	1.00
Chloroethane	<0.0110		0.0110	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:46	1.00
Chloroform	<0.00548		0.00548	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:46	1.00
Chloromethane (Methyl chloride)	<0.0110		0.0110	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:46	1.00
4-Chlorotoluene	<0.00548		0.00548	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:46	1.00
2-Chlorotoluene	<0.00548		0.00548	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:46	1.00
Dibromochloromethane (Chlorodibromomethane)	<0.00548		0.00548	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:46	1.00
Dibromomethane	<0.00548		0.00548	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:46	1.00
1,2-Dichlorobenzene	<0.00548		0.00548	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:46	1.00
1,4-Dichlorobenzene	<0.00548		0.00548	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:46	1.00
1,3-Dichlorobenzene	<0.00548		0.00548	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:46	1.00
Dichlorodifluoromethane	<0.00548		0.00548	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:46	1.00
1,1-Dichloroethane	<0.00548		0.00548	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:46	1.00
1,2-Dichloroethane	<0.00548		0.00548	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:46	1.00
cis-1,2-Dichloroethene	<0.00548		0.00548	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:46	1.00
trans-1,2-Dichloroethene	<0.00548		0.00548	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:46	1.00
1,1-Dichloroethene	<0.00548		0.00548	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:46	1.00
1,3-Dichloropropane	<0.00548		0.00548	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:46	1.00
2,2-Dichloropropane	<0.00548		0.00548	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:46	1.00
1,2-Dichloropropane	<0.00548		0.00548	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:46	1.00
1,1-Dichloropropene	<0.00548		0.00548	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:46	1.00
cis-1,3-Dichloropropene	<0.00548		0.00548	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:46	1.00
trans-1,3-Dichloropropene	<0.00548		0.00548	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:46	1.00
Ethylbenzene	<0.00548		0.00548	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:46	1.00
Hexachlorobutadiene	<0.00548		0.00548	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:46	1.00
n-Hexane	<0.0219		0.0219	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:46	1.00
2-Hexanone	<0.0548		0.0548	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:46	1.00
Isopropylbenzene (Cumene)	<0.00548		0.00548	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:46	1.00
p-Isopropyltoluene	<0.00548		0.00548	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:46	1.00
Methyl tert-butyl ether	<0.00548		0.00548	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:46	1.00
Methylene chloride	<0.0548		0.0548	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:46	1.00
4-Methyl-2-pentanone (MIBK)	<0.0548		0.0548	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:46	1.00
n-Propylbenzene	<0.00548		0.00548	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:46	1.00
Styrene	<0.00548		0.00548	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:46	1.00
1,1,1,2-Tetrachloroethane	<0.00548		0.00548	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:46	1.00
1,1,2,2-Tetrachloroethane	<0.00548		0.00548	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:46	1.00

Client Sample ID: TT-TSSP-05-G
Lab Sample ID: DUC1063-12
Date Collected: 03/18/11 13:55
Matrix: Non-aqueous
Date Received: 03/18/11 16:25
Percent Solids: 77.6
Sampler Name: client
Sampler Phone Number: (937) 531-4400

Method: SW 8260B - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	**0.0418**		0.00548	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:46	1.00
Toluene	<0.00548		0.00548	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:46	1.00
1,2,4-Trichlorobenzene	<0.00548		0.00548	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:46	1.00
1,1,1-Trichloroethane	<0.00548		0.00548	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:46	1.00
1,1,2-Trichloroethane	<0.00548		0.00548	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:46	1.00
Trichloroethene	<0.00548		0.00548	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:46	1.00
Trichlorofluoromethane	<0.00548		0.00548	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:46	1.00
1,2,4-Trimethylbenzene	<0.00548		0.00548	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:46	1.00
1,3,5-Trimethylbenzene	<0.00548		0.00548	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:46	1.00
Vinyl Acetate	<0.00548		0.00548	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:46	1.00
Vinyl chloride	<0.00219		0.00219	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:46	1.00
Xylenes, total	<0.00548		0.00548	mg/kg dry	☼	03/25/11 12:55	03/25/11 15:46	1.00

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4	*96*		*80 - 120*	*03/25/11 12:55*	*03/25/11 15:46*	*1.00*
Dibromofluoromethane	*92*		*80 - 120*	*03/25/11 12:55*	*03/25/11 15:46*	*1.00*
Toluene-d8	*106*		*80 - 120*	*03/25/11 12:55*	*03/25/11 15:46*	*1.00*
4-Bromofluorobenzene	*101*		*80 - 120*	*03/25/11 12:55*	*03/25/11 15:46*	*1.00*

Method: SW 846 - General Chemistry Parameters

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dry Weight	**77.6**		0.100	%		03/21/11 13:00	03/21/11 13:00	1.00

Client Sample ID: TT-TSSP-06-G
Lab Sample ID: DUC1063-13
Date Collected: 03/18/11 14:00
Matrix: Non-aqueous
Date Received: 03/18/11 16:25
Percent Solids: 78.5
Sampler Name: client
Sampler Phone Number: (937) 531-4400

Method: SW 8260B - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.107		0.107	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:18	1.00
Benzene	<0.00537		0.00537	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:18	1.00
Bromobenzene	<0.00537		0.00537	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:18	1.00
Bromochloromethane	<0.00537		0.00537	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:18	1.00
Bromodichloromethane (Dichlorobromomethane)	<0.00537		0.00537	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:18	1.00
Bromoform	<0.00537		0.00537	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:18	1.00
Bromomethane (Methyl bromide)	<0.0107		0.0107	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:18	1.00
2-Butanone (MEK)	<0.0537		0.0537	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:18	1.00
tert-Butylbenzene	<0.00537		0.00537	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:18	1.00
sec-Butylbenzene	<0.00537		0.00537	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:18	1.00
n-Butylbenzene	<0.00537		0.00537	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:18	1.00
Carbon disulfide	<0.00537		0.00537	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:18	1.00
Carbon tetrachloride	<0.00537		0.00537	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:18	1.00
Chlorobenzene	<0.00537		0.00537	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:18	1.00
Chloroethane	<0.0107		0.0107	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:18	1.00
Chloroform	<0.00537		0.00537	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:18	1.00
Chloromethane (Methyl chloride)	<0.0107		0.0107	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:18	1.00
4-Chlorotoluene	<0.00537		0.00537	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:18	1.00
2-Chlorotoluene	<0.00537		0.00537	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:18	1.00
Dibromochloromethane (Chlorodibromomethane)	<0.00537		0.00537	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:18	1.00
Dibromomethane	<0.00537		0.00537	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:18	1.00
1,2-Dichlorobenzene	<0.00537		0.00537	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:18	1.00
1,4-Dichlorobenzene	<0.00537		0.00537	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:18	1.00
1,3-Dichlorobenzene	<0.00537		0.00537	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:18	1.00
Dichlorodifluoromethane	<0.00537		0.00537	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:18	1.00
1,1-Dichloroethane	<0.00537		0.00537	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:18	1.00
1,2-Dichloroethane	<0.00537		0.00537	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:18	1.00
cis-1,2-Dichloroethene	<0.00537		0.00537	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:18	1.00
trans-1,2-Dichloroethene	<0.00537		0.00537	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:18	1.00
1,1-Dichloroethene	<0.00537		0.00537	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:18	1.00
1,3-Dichloropropane	<0.00537		0.00537	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:18	1.00
2,2-Dichloropropane	<0.00537		0.00537	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:18	1.00
1,2-Dichloropropane	<0.00537		0.00537	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:18	1.00
1,1-Dichloropropene	<0.00537		0.00537	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:18	1.00
cis-1,3-Dichloropropene	<0.00537		0.00537	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:18	1.00
trans-1,3-Dichloropropene	<0.00537		0.00537	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:18	1.00
Ethylbenzene	<0.00537		0.00537	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:18	1.00
Hexachlorobutadiene	<0.00537		0.00537	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:18	1.00
n-Hexane	<0.0215		0.0215	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:18	1.00
2-Hexanone	<0.0537		0.0537	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:18	1.00
Isopropylbenzene (Cumene)	<0.00537		0.00537	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:18	1.00
p-Isopropyltoluene	<0.00537		0.00537	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:18	1.00
Methyl tert-butyl ether	<0.00537		0.00537	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:18	1.00
Methylene chloride	<0.0537		0.0537	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:18	1.00
4-Methyl-2-pentanone (MIBK)	<0.0537		0.0537	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:18	1.00
n-Propylbenzene	<0.00537		0.00537	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:18	1.00
Styrene	<0.00537		0.00537	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:18	1.00
1,1,1,2-Tetrachloroethane	<0.00537		0.00537	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:18	1.00
1,1,2,2-Tetrachloroethane	<0.00537		0.00537	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:18	1.00

Client Sample ID: TT-TSSP-06-G
Lab Sample ID: DUC1063-13
Date Collected: 03/18/11 14:00
Matrix: Non-aqueous
Date Received: 03/18/11 16:25
Percent Solids: 78.5
Sampler Name: client
Sampler Phone Number: (937) 531-4400

Method: SW 8260B - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	**0.0447**		0.00537	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:18	1.00
Toluene	<0.00537		0.00537	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:18	1.00
1,2,4-Trichlorobenzene	<0.00537		0.00537	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:18	1.00
1,1,1-Trichloroethane	<0.00537		0.00537	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:18	1.00
1,1,2-Trichloroethane	<0.00537		0.00537	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:18	1.00
Trichloroethene	**0.0362**		0.00537	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:18	1.00
Trichlorofluoromethane	<0.00537		0.00537	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:18	1.00
1,2,4-Trimethylbenzene	<0.00537		0.00537	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:18	1.00
1,3,5-Trimethylbenzene	<0.00537		0.00537	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:18	1.00
Vinyl Acetate	<0.00537		0.00537	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:18	1.00
Vinyl chloride	<0.00215		0.00215	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:18	1.00
Xylenes, total	<0.00537		0.00537	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:18	1.00

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4	*96*		*80 - 120*	*03/25/11 12:55*	*03/25/11 16:18*	*1.00*
Dibromofluoromethane	*92*		*80 - 120*	*03/25/11 12:55*	*03/25/11 16:18*	*1.00*
Toluene-d8	*106*		*80 - 120*	*03/25/11 12:55*	*03/25/11 16:18*	*1.00*
4-Bromofluorobenzene	*100*		*80 - 120*	*03/25/11 12:55*	*03/25/11 16:18*	*1.00*

Method: SW 846 - General Chemistry Parameters

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dry Weight	**78.5**		0.100	%		03/21/11 13:00	03/21/11 13:00	1.00

Client Sample ID: TT-TSSP-07-G
Date Collected: 03/18/11 14:10
Date Received: 03/18/11 16:25
Sampler Name: client

Lab Sample ID: DUC1063-14
Matrix: Non-aqueous
Percent Solids: 73
Sampler Phone Number: (937) 531-4400

Method: SW 8260B - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<0.126		0.126	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:49	1.00
Benzene	<0.00629		0.00629	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:49	1.00
Bromobenzene	<0.00629		0.00629	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:49	1.00
Bromochloromethane	<0.00629		0.00629	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:49	1.00
Bromodichloromethane (Dichlorobromomethane)	<0.00629		0.00629	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:49	1.00
Bromoform	<0.00629		0.00629	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:49	1.00
Bromomethane (Methyl bromide)	<0.0126		0.0126	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:49	1.00
2-Butanone (MEK)	<0.0629		0.0629	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:49	1.00
tert-Butylbenzene	<0.00629		0.00629	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:49	1.00
sec-Butylbenzene	<0.00629		0.00629	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:49	1.00
n-Butylbenzene	<0.00629		0.00629	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:49	1.00
Carbon disulfide	<0.00629		0.00629	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:49	1.00
Carbon tetrachloride	<0.00629		0.00629	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:49	1.00
Chlorobenzene	<0.00629		0.00629	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:49	1.00
Chloroethane	<0.0126		0.0126	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:49	1.00
Chloroform	<0.00629		0.00629	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:49	1.00
Chloromethane (Methyl chloride)	<0.0126		0.0126	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:49	1.00
4-Chlorotoluene	<0.00629		0.00629	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:49	1.00
2-Chlorotoluene	<0.00629		0.00629	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:49	1.00
Dibromochloromethane (Chlorodibromomethane)	<0.00629		0.00629	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:49	1.00
Dibromomethane	<0.00629		0.00629	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:49	1.00
1,2-Dichlorobenzene	<0.00629		0.00629	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:49	1.00
1,4-Dichlorobenzene	<0.00629		0.00629	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:49	1.00
1,3-Dichlorobenzene	<0.00629		0.00629	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:49	1.00
Dichlorodifluoromethane	<0.00629		0.00629	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:49	1.00
1,1-Dichloroethane	<0.00629		0.00629	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:49	1.00
1,2-Dichloroethane	<0.00629		0.00629	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:49	1.00
cis-1,2-Dichloroethene	<0.00629		0.00629	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:49	1.00
trans-1,2-Dichloroethene	<0.00629		0.00629	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:49	1.00
1,1-Dichloroethene	<0.00629		0.00629	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:49	1.00
1,3-Dichloropropane	<0.00629		0.00629	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:49	1.00
2,2-Dichloropropane	<0.00629		0.00629	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:49	1.00
1,2-Dichloropropane	<0.00629		0.00629	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:49	1.00
1,1-Dichloropropene	<0.00629		0.00629	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:49	1.00
cis-1,3-Dichloropropene	<0.00629		0.00629	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:49	1.00
trans-1,3-Dichloropropene	<0.00629		0.00629	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:49	1.00
Ethylbenzene	<0.00629		0.00629	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:49	1.00
Hexachlorobutadiene	<0.00629		0.00629	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:49	1.00
n-Hexane	<0.0252		0.0252	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:49	1.00
2-Hexanone	<0.0629		0.0629	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:49	1.00
Isopropylbenzene (Cumene)	<0.00629		0.00629	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:49	1.00
p-Isopropyltoluene	<0.00629		0.00629	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:49	1.00
Methyl tert-butyl ether	<0.00629		0.00629	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:49	1.00
Methylene chloride	<0.0629		0.0629	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:49	1.00
4-Methyl-2-pentanone (MIBK)	<0.0629		0.0629	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:49	1.00
n-Propylbenzene	<0.00629		0.00629	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:49	1.00
Styrene	<0.00629		0.00629	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:49	1.00
1,1,1,2-Tetrachloroethane	<0.00629		0.00629	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:49	1.00
1,1,2,2-Tetrachloroethane	<0.00629		0.00629	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:49	1.00

Client Sample ID: TT-TSSP-07-G
Lab Sample ID: DUC1063-14
Date Collected: 03/18/11 14:10
Matrix: Non-aqueous
Date Received: 03/18/11 16:25
Percent Solids: 73
Sampler Name: client
Sampler Phone Number: (937) 531-4400

Method: SW 8260B - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	<0.00629		0.00629	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:49	1.00
Toluene	<0.00629		0.00629	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:49	1.00
1,2,4-Trichlorobenzene	<0.00629		0.00629	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:49	1.00
1,1,1-Trichloroethane	<0.00629		0.00629	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:49	1.00
1,1,2-Trichloroethane	<0.00629		0.00629	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:49	1.00
Trichloroethene	<0.00629		0.00629	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:49	1.00
Trichlorofluoromethane	<0.00629		0.00629	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:49	1.00
1,2,4-Trimethylbenzene	<0.00629		0.00629	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:49	1.00
1,3,5-Trimethylbenzene	<0.00629		0.00629	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:49	1.00
Vinyl Acetate	<0.00629		0.00629	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:49	1.00
Vinyl chloride	<0.00252		0.00252	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:49	1.00
Xylenes, total	<0.00629		0.00629	mg/kg dry	☼	03/25/11 12:55	03/25/11 16:49	1.00

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4	*95*		*80 - 120*	*03/25/11 12:55*	*03/25/11 16:49*	*1.00*
Dibromofluoromethane	*92*		*80 - 120*	*03/25/11 12:55*	*03/25/11 16:49*	*1.00*
Toluene-d8	*107*		*80 - 120*	*03/25/11 12:55*	*03/25/11 16:49*	*1.00*
4-Bromofluorobenzene	*99*		*80 - 120*	*03/25/11 12:55*	*03/25/11 16:49*	*1.00*

Method: SW 846 - General Chemistry Parameters

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dry Weight	**73.0**		0.100	%		03/21/11 13:00	03/21/11 13:00	1.00

Client Sample ID: Trip Blank

Lab Sample ID: DUC1063-15

Date Collected: 03/18/11 00:00

Matrix: Water - NonPotable

Date Received: 03/18/11 16:25

Sampler Name:

Sampler Phone Number: (937) 531-4400

Method: SW 8260B - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	<20.0		20.0	ug/L		03/21/11 09:20	03/21/11 15:57	1.00
Benzene	<1.00		1.00	ug/L		03/21/11 09:20	03/21/11 15:57	1.00
Bromobenzene	<1.00		1.00	ug/L		03/21/11 09:20	03/21/11 15:57	1.00
Bromochloromethane	<1.00		1.00	ug/L		03/21/11 09:20	03/21/11 15:57	1.00
Bromodichloromethane (Dichlorobromomethane)	<1.00		1.00	ug/L		03/21/11 09:20	03/21/11 15:57	1.00
Bromoform	<1.00		1.00	ug/L		03/21/11 09:20	03/21/11 15:57	1.00
Bromomethane (Methyl bromide)	<5.00		5.00	ug/L		03/21/11 09:20	03/21/11 15:57	1.00
2-Butanone (MEK)	<12.5		12.5	ug/L		03/21/11 09:20	03/21/11 15:57	1.00
tert-Butylbenzene	<1.00		1.00	ug/L		03/21/11 09:20	03/21/11 15:57	1.00
sec-Butylbenzene	<1.00		1.00	ug/L		03/21/11 09:20	03/21/11 15:57	1.00
n-Butylbenzene	<1.00		1.00	ug/L		03/21/11 09:20	03/21/11 15:57	1.00
Carbon disulfide	<1.00		1.00	ug/L		03/21/11 09:20	03/21/11 15:57	1.00
Carbon tetrachloride	<1.00		1.00	ug/L		03/21/11 09:20	03/21/11 15:57	1.00
Chlorobenzene	<1.00		1.00	ug/L		03/21/11 09:20	03/21/11 15:57	1.00
Chloroethane	<5.00		5.00	ug/L		03/21/11 09:20	03/21/11 15:57	1.00
Chloroform	<1.00		1.00	ug/L		03/21/11 09:20	03/21/11 15:57	1.00
Chloromethane (Methyl chloride)	<5.00		5.00	ug/L		03/21/11 09:20	03/21/11 15:57	1.00
4-Chlorotoluene	<1.00		1.00	ug/L		03/21/11 09:20	03/21/11 15:57	1.00
2-Chlorotoluene	<1.00		1.00	ug/L		03/21/11 09:20	03/21/11 15:57	1.00
Dibromochloromethane (Chlorodibromomethane)	<1.00		1.00	ug/L		03/21/11 09:20	03/21/11 15:57	1.00
Dibromomethane	<1.00		1.00	ug/L		03/21/11 09:20	03/21/11 15:57	1.00
1,2-Dichlorobenzene	<1.00		1.00	ug/L		03/21/11 09:20	03/21/11 15:57	1.00
1,4-Dichlorobenzene	<1.00		1.00	ug/L		03/21/11 09:20	03/21/11 15:57	1.00
1,3-Dichlorobenzene	<1.00		1.00	ug/L		03/21/11 09:20	03/21/11 15:57	1.00
Dichlorodifluoromethane	<1.00		1.00	ug/L		03/21/11 09:20	03/21/11 15:57	1.00
1,1-Dichloroethane	<1.00		1.00	ug/L		03/21/11 09:20	03/21/11 15:57	1.00
1,2-Dichloroethane	<1.00		1.00	ug/L		03/21/11 09:20	03/21/11 15:57	1.00
cis-1,2-Dichloroethene	<1.00		1.00	ug/L		03/21/11 09:20	03/21/11 15:57	1.00
trans-1,2-Dichloroethene	<1.00		1.00	ug/L		03/21/11 09:20	03/21/11 15:57	1.00
1,1-Dichloroethene	<1.00		1.00	ug/L		03/21/11 09:20	03/21/11 15:57	1.00
1,3-Dichloropropane	<1.00		1.00	ug/L		03/21/11 09:20	03/21/11 15:57	1.00
2,2-Dichloropropane	<1.00		1.00	ug/L		03/21/11 09:20	03/21/11 15:57	1.00
1,2-Dichloropropane	<1.00		1.00	ug/L		03/21/11 09:20	03/21/11 15:57	1.00
1,1-Dichloropropene	<1.00		1.00	ug/L		03/21/11 09:20	03/21/11 15:57	1.00
cis-1,3-Dichloropropene	<1.00		1.00	ug/L		03/21/11 09:20	03/21/11 15:57	1.00
trans-1,3-Dichloropropene	<1.00		1.00	ug/L		03/21/11 09:20	03/21/11 15:57	1.00
Ethylbenzene	<1.00		1.00	ug/L		03/21/11 09:20	03/21/11 15:57	1.00
Hexachlorobutadiene	<5.00		5.00	ug/L		03/21/11 09:20	03/21/11 15:57	1.00
n-Hexane	<5.00		5.00	ug/L		03/21/11 09:20	03/21/11 15:57	1.00
2-Hexanone	<10.0		10.0	ug/L		03/21/11 09:20	03/21/11 15:57	1.00
Isopropylbenzene (Cumene)	<1.00		1.00	ug/L		03/21/11 09:20	03/21/11 15:57	1.00
p-Isopropyltoluene	<1.00		1.00	ug/L		03/21/11 09:20	03/21/11 15:57	1.00
Methyl tert-butyl ether	<1.00		1.00	ug/L		03/21/11 09:20	03/21/11 15:57	1.00
Methylene chloride	<50.0		50.0	ug/L		03/21/11 09:20	03/21/11 15:57	1.00
4-Methyl-2-pentanone (MIBK)	<12.5		12.5	ug/L		03/21/11 09:20	03/21/11 15:57	1.00
n-Propylbenzene	<1.00		1.00	ug/L		03/21/11 09:20	03/21/11 15:57	1.00
Styrene	<1.00		1.00	ug/L		03/21/11 09:20	03/21/11 15:57	1.00
1,1,1,2-Tetrachloroethane	<1.00		1.00	ug/L		03/21/11 09:20	03/21/11 15:57	1.00
1,1,2,2-Tetrachloroethane	<1.00		1.00	ug/L		03/21/11 09:20	03/21/11 15:57	1.00

Client Sample ID: Trip Blank
Lab Sample ID: DUC1063-15
Date Collected: 03/18/11 00:00
Matrix: Water - NonPotable
Date Received: 03/18/11 16:25
Sampler Name:
Sampler Phone Number: (937) 531-4400

Method: SW 8260B - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	<1.00		1.00	ug/L		03/21/11 09:20	03/21/11 15:57	1.00
Toluene	<1.00		1.00	ug/L		03/21/11 09:20	03/21/11 15:57	1.00
1,2,4-Trichlorobenzene	<5.00		5.00	ug/L		03/21/11 09:20	03/21/11 15:57	1.00
1,1,1-Trichloroethane	<1.00		1.00	ug/L		03/21/11 09:20	03/21/11 15:57	1.00
1,1,2-Trichloroethane	<1.00		1.00	ug/L		03/21/11 09:20	03/21/11 15:57	1.00
Trichloroethene	<1.00		1.00	ug/L		03/21/11 09:20	03/21/11 15:57	1.00
Trichlorofluoromethane	<1.00		1.00	ug/L		03/21/11 09:20	03/21/11 15:57	1.00
1,2,4-Trimethylbenzene	<1.00		1.00	ug/L		03/21/11 09:20	03/21/11 15:57	1.00
1,3,5-Trimethylbenzene	<1.00		1.00	ug/L		03/21/11 09:20	03/21/11 15:57	1.00
Vinyl Acetate	<5.00		5.00	ug/L		03/21/11 09:20	03/21/11 15:57	1.00
Vinyl chloride	<1.00		1.00	ug/L		03/21/11 09:20	03/21/11 15:57	1.00
Xylenes, Total	<2.00		2.00	ug/L		03/21/11 09:20	03/21/11 15:57	1.00

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4	*100*		*80 - 120*	*03/21/11 09:20*	*03/21/11 15:57*	*1.00*
Dibromofluoromethane	*102*		*80 - 120*	*03/21/11 09:20*	*03/21/11 15:57*	*1.00*
Toluene-d8	*96*		*80 - 120*	*03/21/11 09:20*	*03/21/11 15:57*	*1.00*
4-Bromofluorobenzene	*101*		*80 - 120*	*03/21/11 09:20*	*03/21/11 15:57*	*1.00*

Method: SW 8260A - Volatile Organic Compounds by GC/MS

Lab Sample ID: 11C1125-BLK1
Matrix: Non-aqueous
Analysis Batch: 11C1125

Client Sample ID: 11C1125-BLK1
Prep Type: total
Prep Batch: 11C1125_P

Analyte	Blank Result	Blank Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00500		0.00500	mg/kg wet		03/29/11 13:00	03/29/11 13:51	1.00
Bromodichloromethane (Dichlorobromomethane)	<0.00500		0.00500	mg/kg wet		03/29/11 13:00	03/29/11 13:51	1.00
Bromoform	<0.00500		0.00500	mg/kg wet		03/29/11 13:00	03/29/11 13:51	1.00
Bromomethane (Methyl bromide)	<0.0100		0.0100	mg/kg wet		03/29/11 13:00	03/29/11 13:51	1.00
Carbon tetrachloride	<0.00500		0.00500	mg/kg wet		03/29/11 13:00	03/29/11 13:51	1.00
Chlorobenzene	<0.00500		0.00500	mg/kg wet		03/29/11 13:00	03/29/11 13:51	1.00
Chloroethane	<0.0100		0.0100	mg/kg wet		03/29/11 13:00	03/29/11 13:51	1.00
Chloroform	<0.00500		0.00500	mg/kg wet		03/29/11 13:00	03/29/11 13:51	1.00
Chloromethane (Methyl chloride)	<0.0100		0.0100	mg/kg wet		03/29/11 13:00	03/29/11 13:51	1.00
Dibromochloromethane (Chlorodibromomethane)	<0.00500		0.00500	mg/kg wet		03/29/11 13:00	03/29/11 13:51	1.00
1,2-Dichlorobenzene	<0.00500		0.00500	mg/kg wet		03/29/11 13:00	03/29/11 13:51	1.00
1,4-Dichlorobenzene	<0.00500		0.00500	mg/kg wet		03/29/11 13:00	03/29/11 13:51	1.00
1,3-Dichlorobenzene	<0.00500		0.00500	mg/kg wet		03/29/11 13:00	03/29/11 13:51	1.00
1,1-Dichloroethane	<0.00500		0.00500	mg/kg wet		03/29/11 13:00	03/29/11 13:51	1.00
1,2-Dichloroethane	<0.00500		0.00500	mg/kg wet		03/29/11 13:00	03/29/11 13:51	1.00
trans-1,2-Dichloroethene	<0.00500		0.00500	mg/kg wet		03/29/11 13:00	03/29/11 13:51	1.00
1,1-Dichloroethene	<0.00500		0.00500	mg/kg wet		03/29/11 13:00	03/29/11 13:51	1.00
1,2-Dichloropropane	<0.00500		0.00500	mg/kg wet		03/29/11 13:00	03/29/11 13:51	1.00
cis-1,3-Dichloropropene	<0.00500		0.00500	mg/kg wet		03/29/11 13:00	03/29/11 13:51	1.00
trans-1,3-Dichloropropene	<0.00500		0.00500	mg/kg wet		03/29/11 13:00	03/29/11 13:51	1.00
Ethylbenzene	<0.00500		0.00500	mg/kg wet		03/29/11 13:00	03/29/11 13:51	1.00
Methylene chloride	<0.0500		0.0500	mg/kg wet		03/29/11 13:00	03/29/11 13:51	1.00
1,1,2,2-Tetrachloroethane	<0.00500		0.00500	mg/kg wet		03/29/11 13:00	03/29/11 13:51	1.00
Tetrachloroethene	<0.00500		0.00500	mg/kg wet		03/29/11 13:00	03/29/11 13:51	1.00
Toluene	<0.00500		0.00500	mg/kg wet		03/29/11 13:00	03/29/11 13:51	1.00
1,1,1-Trichloroethane	<0.00500		0.00500	mg/kg wet		03/29/11 13:00	03/29/11 13:51	1.00
1,1,2-Trichloroethane	<0.00500		0.00500	mg/kg wet		03/29/11 13:00	03/29/11 13:51	1.00
Trichloroethene	<0.00500		0.00500	mg/kg wet		03/29/11 13:00	03/29/11 13:51	1.00
Trichlorofluoromethane	<0.00500		0.00500	mg/kg wet		03/29/11 13:00	03/29/11 13:51	1.00
Vinyl chloride	<0.00200		0.00200	mg/kg wet		03/29/11 13:00	03/29/11 13:51	1.00

Surrogate	*Blank % Recovery*	*Blank Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4	*94*		*80 - 120*	*03/29/11 13:00*	*03/29/11 13:51*	*1.00*
Dibromofluoromethane	*91*		*80 - 120*	*03/29/11 13:00*	*03/29/11 13:51*	*1.00*
Toluene-d8	*106*		*80 - 120*	*03/29/11 13:00*	*03/29/11 13:51*	*1.00*
4-Bromofluorobenzene	*102*		*80 - 120*	*03/29/11 13:00*	*03/29/11 13:51*	*1.00*

Lab Sample ID: 11C1125-BS1
Matrix: Non-aqueous
Analysis Batch: 11C1125

Client Sample ID: 11C1125-BS1
Prep Type: total
Prep Batch: 11C1125_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Benzene	0.020000	0.0232		mg/kg wet		116	73 - 120
Bromodichloromethane (Dichlorobromomethane)	0.020000	0.0196		mg/kg wet		98	72 - 120
Bromoform	0.020000	0.0200		mg/kg wet		100	61 - 120
Bromomethane (Methyl bromide)	0.020000	0.0283	L1	mg/kg wet		142	52 - 123
Carbon tetrachloride	0.020000	0.0191		mg/kg wet		96	64 - 122
Chlorobenzene	0.020000	0.0255	L1	mg/kg wet		127	67 - 121
Chloroethane	0.020000	0.0239		mg/kg wet		119	53 - 129

Method: SW 8260A - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 11C1125-BS1
Matrix: Non-aqueous
Analysis Batch: 11C1125

Client Sample ID: 11C1125-BS1
Prep Type: total
Prep Batch: 11C1125_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Chloroform	0.020000	0.0227		mg/kg wet		114	68 - 122
Chloromethane (Methyl chloride)	0.020000	0.0214		mg/kg wet		107	40 - 139
Dibromochloromethane (Chlorodibromomethane)	0.020000	0.0202		mg/kg wet		101	54 - 152
1,2-Dichlorobenzene	0.020000	0.0278	L1	mg/kg wet		139	74 - 120
1,4-Dichlorobenzene	0.020000	0.0276	L1	mg/kg wet		138	71 - 120
1,3-Dichlorobenzene	0.020000	0.0273	L1	mg/kg wet		136	72 - 120
1,1-Dichloroethane	0.020000	0.0221		mg/kg wet		110	63 - 125
1,2-Dichloroethane	0.020000	0.0223		mg/kg wet		111	70 - 120
trans-1,2-Dichloroethene	0.020000	0.0233		mg/kg wet		117	70 - 120
1,1-Dichloroethene	0.020000	0.0212		mg/kg wet		106	57 - 130
1,2-Dichloropropane	0.020000	0.0225		mg/kg wet		113	68 - 120
cis-1,3-Dichloropropene	0.020000	0.0211		mg/kg wet		105	70 - 121
trans-1,3-Dichloropropene	0.020000	0.0223		mg/kg wet		111	64 - 120
Ethylbenzene	0.020000	0.0252	L1	mg/kg wet		126	69 - 123
Methylene chloride	0.020000	0.0177		mg/kg wet		89	46 - 124
1,1,2,2-Tetrachloroethane	0.020000	0.0284	L1	mg/kg wet		142	69 - 120
Tetrachloroethene	0.020000	0.0246		mg/kg wet		123	58 - 133
Toluene	0.020000	0.0263	L1	mg/kg wet		131	63 - 126
1,1,1-Trichloroethane	0.020000	0.0220		mg/kg wet		110	63 - 125
1,1,2-Trichloroethane	0.020000	0.0248	L1	mg/kg wet		124	71 - 120
Trichloroethene	0.020000	0.0226		mg/kg wet		113	71 - 120
Trichlorofluoromethane	0.020000	0.0225		mg/kg wet		112	60 - 128
Vinyl chloride	0.020000	0.0223		mg/kg wet		112	40 - 140

Surrogate	*LCS % Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4	*92*		*80 - 120*
Dibromofluoromethane	*93*		*80 - 120*
Toluene-d8	*106*		*80 - 120*
4-Bromofluorobenzene	*102*		*80 - 120*

Method: SW 8260B - Volatile Organic Compounds by GC/MS

Lab Sample ID: 11C0849-BLK1
Matrix: Water - NonPotable
Analysis Batch: 11C0849

Client Sample ID: 11C0849-BLK1
Prep Type: total
Prep Batch: 11C0849_P

Analyte	Blank Result	Blank Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<1.00		1.00	ug/L		03/21/11 09:20	03/21/11 13:20	1.00
Bromodichloromethane (Dichlorobromomethane)	<1.00		1.00	ug/L		03/21/11 09:20	03/21/11 13:20	1.00
Bromoform	<1.00		1.00	ug/L		03/21/11 09:20	03/21/11 13:20	1.00
Bromomethane (Methyl bromide)	<5.00		5.00	ug/L		03/21/11 09:20	03/21/11 13:20	1.00
Carbon tetrachloride	<1.00		1.00	ug/L		03/21/11 09:20	03/21/11 13:20	1.00
Chlorobenzene	<1.00		1.00	ug/L		03/21/11 09:20	03/21/11 13:20	1.00
Chloroethane	<5.00		5.00	ug/L		03/21/11 09:20	03/21/11 13:20	1.00
Chloroform	<1.00		1.00	ug/L		03/21/11 09:20	03/21/11 13:20	1.00
Chloromethane (Methyl chloride)	<5.00		5.00	ug/L		03/21/11 09:20	03/21/11 13:20	1.00
Dibromochloromethane (Chlorodibromomethane)	<1.00		1.00	ug/L		03/21/11 09:20	03/21/11 13:20	1.00
1,2-Dichlorobenzene	<1.00		1.00	ug/L		03/21/11 09:20	03/21/11 13:20	1.00
1,4-Dichlorobenzene	<1.00		1.00	ug/L		03/21/11 09:20	03/21/11 13:20	1.00

Method: SW 8260B - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 11C0849-BLK1
Matrix: Water - NonPotable
Analysis Batch: 11C0849

Client Sample ID: 11C0849-BLK1
Prep Type: total
Prep Batch: 11C0849_P

Analyte	Blank Result	Blank Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	<1.00		1.00	ug/L		03/21/11 09:20	03/21/11 13:20	1.00
1,1-Dichloroethane	<1.00		1.00	ug/L		03/21/11 09:20	03/21/11 13:20	1.00
1,2-Dichloroethane	<1.00		1.00	ug/L		03/21/11 09:20	03/21/11 13:20	1.00
trans-1,2-Dichloroethene	<1.00		1.00	ug/L		03/21/11 09:20	03/21/11 13:20	1.00
1,1-Dichloroethene	<1.00		1.00	ug/L		03/21/11 09:20	03/21/11 13:20	1.00
1,2-Dichloropropane	<1.00		1.00	ug/L		03/21/11 09:20	03/21/11 13:20	1.00
cis-1,3-Dichloropropene	<1.00		1.00	ug/L		03/21/11 09:20	03/21/11 13:20	1.00
trans-1,3-Dichloropropene	<1.00		1.00	ug/L		03/21/11 09:20	03/21/11 13:20	1.00
Ethylbenzene	<1.00		1.00	ug/L		03/21/11 09:20	03/21/11 13:20	1.00
n-Hexane	<5.00		5.00	ug/L		03/21/11 09:20	03/21/11 13:20	1.00
Methylene chloride	<5.00		5.00	ug/L		03/21/11 09:20	03/21/11 13:20	1.00
1,1,2,2-Tetrachloroethane	<1.00		1.00	ug/L		03/21/11 09:20	03/21/11 13:20	1.00
Tetrachloroethene	<1.00		1.00	ug/L		03/21/11 09:20	03/21/11 13:20	1.00
Toluene	<1.00		1.00	ug/L		03/21/11 09:20	03/21/11 13:20	1.00
1,1,1-Trichloroethane	<1.00		1.00	ug/L		03/21/11 09:20	03/21/11 13:20	1.00
1,1,2-Trichloroethane	<1.00		1.00	ug/L		03/21/11 09:20	03/21/11 13:20	1.00
Trichloroethene	<1.00		1.00	ug/L		03/21/11 09:20	03/21/11 13:20	1.00
Trichlorofluoromethane	<1.00		1.00	ug/L		03/21/11 09:20	03/21/11 13:20	1.00
Vinyl chloride	<1.00		1.00	ug/L		03/21/11 09:20	03/21/11 13:20	1.00

Surrogate	*Blank % Recovery*	*Blank Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4	*102*		*80 - 120*	*03/21/11 09:20*	*03/21/11 13:20*	*1.00*
Dibromofluoromethane	*103*		*80 - 120*	*03/21/11 09:20*	*03/21/11 13:20*	*1.00*
Toluene-d8	*95*		*80 - 120*	*03/21/11 09:20*	*03/21/11 13:20*	*1.00*
4-Bromofluorobenzene	*98*		*80 - 120*	*03/21/11 09:20*	*03/21/11 13:20*	*1.00*

Lab Sample ID: 11C0849-BS1
Matrix: Water - NonPotable
Analysis Batch: 11C0849

Client Sample ID: 11C0849-BS1
Prep Type: total
Prep Batch: 11C0849_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Benzene	20.000	22.0		ug/L		110	79 - 120
Bromodichloromethane (Dichlorobromomethane)	20.000	22.3		ug/L		112	76 - 121
Bromoform	20.000	19.3		ug/L		97	69 - 120
Bromomethane (Methyl bromide)	20.000	19.4		ug/L		97	64 - 120
Carbon tetrachloride	20.000	20.4		ug/L		102	70 - 129
Chlorobenzene	20.000	19.8		ug/L		99	78 - 120
Chloroethane	20.000	21.9		ug/L		109	67 - 120
Chloroform	20.000	21.6		ug/L		108	77 - 120
Chloromethane (Methyl chloride)	20.000	18.2		ug/L		91	58 - 120
Dibromochloromethane (Chlorodibromomethane)	20.000	19.5		ug/L		97	76 - 123
1,2-Dichlorobenzene	20.000	20.2		ug/L		101	78 - 123
1,4-Dichlorobenzene	20.000	19.7		ug/L		99	74 - 120
1,3-Dichlorobenzene	20.000	19.6		ug/L		98	76 - 121
1,1-Dichloroethane	20.000	22.6		ug/L		113	79 - 120
1,2-Dichloroethane	20.000	22.1		ug/L		111	75 - 120
trans-1,2-Dichloroethene	20.000	22.4		ug/L		112	79 - 120
1,1-Dichloroethene	20.000	20.8		ug/L		104	71 - 121

Method: SW 8260B - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 11C0849-BS1
Matrix: Water - NonPotable
Analysis Batch: 11C0849

Client Sample ID: 11C0849-BS1
Prep Type: total
Prep Batch: 11C0849_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
1,2-Dichloropropane	20.000	23.2		ug/L		116	80 - 120
cis-1,3-Dichloropropene	20.000	23.4		ug/L		117	80 - 120
trans-1,3-Dichloropropene	20.000	20.0		ug/L		100	74 - 120
Ethylbenzene	20.000	20.8		ug/L		104	79 - 120
n-Hexane	20.000	31.0		ug/L		155	57 - 180
Methylene chloride	20.000	23.6		ug/L		118	76 - 120
1,1,2,2-Tetrachloroethane	20.000	22.5		ug/L		113	74 - 120
Tetrachloroethene	20.000	20.0		ug/L		100	62 - 128
Toluene	20.000	21.6		ug/L		108	79 - 120
1,1,1-Trichloroethane	20.000	22.1		ug/L		111	74 - 121
1,1,2-Trichloroethane	20.000	21.1		ug/L		106	75 - 120
Trichloroethene	20.000	22.6		ug/L		113	77 - 120
Trichlorofluoromethane	20.000	20.6		ug/L		103	71 - 136
Vinyl chloride	20.000	20.2		ug/L		101	65 - 126

Surrogate	*LCS % Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4	*101*		*80 - 120*
Dibromofluoromethane	*102*		*80 - 120*
Toluene-d8	*94*		*80 - 120*
4-Bromofluorobenzene	*103*		*80 - 120*

Lab Sample ID: 11C0849-MS1
Matrix: Water - NonPotable
Analysis Batch: 11C0849

Client Sample ID: DUC0856-01
Prep Type: total
Prep Batch: 11C0849_P

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Result	Matrix Spike Qualifier	Unit	D	% Rec	% Rec. Limits
Benzene	<1.00		20.000	24.0		ug/L		120	79 - 120
Bromodichloromethane (Dichlorobromomethane)	<1.00		20.000	21.6		ug/L		108	76 - 121
Bromoform	<1.00		20.000	15.8		ug/L		79	69 - 120
Bromomethane (Methyl bromide)	<5.00		20.000	19.9		ug/L		100	64 - 120
Carbon tetrachloride	<1.00		20.000	21.0		ug/L		105	70 - 129
Chlorobenzene	<1.00		20.000	21.1		ug/L		106	78 - 120
Chloroethane	<5.00		20.000	23.3		ug/L		117	67 - 120
Chloroform	<1.00		20.000	22.2		ug/L		111	77 - 120
Chloromethane (Methyl chloride)	<5.00		20.000	22.2		ug/L		111	58 - 120
Dibromochloromethane (Chlorodibromomethane)	<1.00		20.000	16.2		ug/L		81	76 - 123
1,2-Dichlorobenzene	<1.00		20.000	19.7		ug/L		99	78 - 123
1,4-Dichlorobenzene	<1.00		20.000	20.4		ug/L		102	74 - 120
1,3-Dichlorobenzene	<1.00		20.000	19.8		ug/L		99	76 - 121
1,1-Dichloroethane	<1.00		20.000	24.1	M	ug/L		121	79 - 120
1,2-Dichloroethane	<1.00		20.000	21.4		ug/L		107	75 - 120
trans-1,2-Dichloroethene	<1.00		20.000	22.5		ug/L		112	79 - 120
1,1-Dichloroethene	<1.00		20.000	21.7		ug/L		108	71 - 121
1,2-Dichloropropane	<1.00		20.000	24.5	M	ug/L		123	80 - 120
cis-1,3-Dichloropropene	<1.00		20.000	23.0		ug/L		115	80 - 120
trans-1,3-Dichloropropene	<1.00		20.000	20.2		ug/L		101	74 - 120
Ethylbenzene	<1.00		20.000	21.7		ug/L		108	79 - 120
n-Hexane	<5.00		20.000	24.9		ug/L		125	57 - 180

Method: SW 8260B - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 11C0849-MS1
Matrix: Water - NonPotable
Analysis Batch: 11C0849

Client Sample ID: DUC0856-01
Prep Type: total
Prep Batch: 11C0849_P

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Result	Matrix Spike Qualifier	Unit	D	% Rec	% Rec. Limits
Methylene chloride	<5.00		20.000	21.1		ug/L		105	76 - 120
1,1,2,2-Tetrachloroethane	<1.00		20.000	19.0		ug/L		95	74 - 120
Tetrachloroethene	<1.00		20.000	19.5		ug/L		98	62 - 128
Toluene	<1.00		20.000	21.6		ug/L		108	79 - 120
1,1,1-Trichloroethane	<1.00		20.000	22.4		ug/L		112	74 - 121
1,1,2-Trichloroethane	<1.00		20.000	21.2		ug/L		106	75 - 120
Trichloroethene	<1.00		20.000	23.3		ug/L		116	77 - 120
Trichlorofluoromethane	<1.00		20.000	22.1		ug/L		110	71 - 136
Vinyl chloride	<1.00		20.000	22.4		ug/L		112	65 - 126

Surrogate	*Matrix Spike % Recovery*	*Matrix Spike Qualifier*	*Limits*
1,2-Dichloroethane-d4	*98*		*80 - 120*
Dibromofluoromethane	*100*		*80 - 120*
Toluene-d8	*94*		*80 - 120*
4-Bromofluorobenzene	*99*		*80 - 120*

Lab Sample ID: 11C0849-MSD1
Matrix: Water - NonPotable
Analysis Batch: 11C0849

Client Sample ID: DUC0856-01
Prep Type: total
Prep Batch: 11C0849_P

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Dup Result	Matrix Spike Dup Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Benzene	<1.00		20.000	24.2	M	ug/L		121	79 - 120	0.9	25
Bromodichloromethane (Dichlorobromomethane)	<1.00		20.000	22.3		ug/L		111	76 - 121	3	25
Bromoform	<1.00		20.000	16.5		ug/L		83	69 - 120	5	25
Bromomethane (Methyl bromide)	<5.00		20.000	23.4		ug/L		117	64 - 120	16	25
Carbon tetrachloride	<1.00		20.000	22.5		ug/L		113	70 - 129	7	25
Chlorobenzene	<1.00		20.000	21.0		ug/L		105	78 - 120	0.4	25
Chloroethane	<5.00		20.000	24.4	M	ug/L		122	67 - 120	5	25
Chloroform	<1.00		20.000	23.1		ug/L		115	77 - 120	4	25
Chloromethane (Methyl chloride)	<5.00		20.000	22.8		ug/L		114	58 - 120	3	25
Dibromochloromethane (Chlorodibromomethane)	<1.00		20.000	18.0		ug/L		90	76 - 123	10	25
1,2-Dichlorobenzene	<1.00		20.000	21.1		ug/L		106	78 - 123	7	25
1,4-Dichlorobenzene	<1.00		20.000	20.6		ug/L		103	74 - 120	0.9	25
1,3-Dichlorobenzene	<1.00		20.000	20.8		ug/L		104	76 - 121	5	25
1,1-Dichloroethane	<1.00		20.000	24.5	M	ug/L		123	79 - 120	2	25
1,2-Dichloroethane	<1.00		20.000	22.1		ug/L		110	75 - 120	3	25
trans-1,2-Dichloroethene	<1.00		20.000	23.2		ug/L		116	79 - 120	3	25
1,1-Dichloroethene	<1.00		20.000	22.5		ug/L		112	71 - 121	4	25
1,2-Dichloropropane	<1.00		20.000	24.9	M	ug/L		124	80 - 120	1	25
cis-1,3-Dichloropropene	<1.00		20.000	23.8		ug/L		119	80 - 120	4	25
trans-1,3-Dichloropropene	<1.00		20.000	19.6		ug/L		98	74 - 120	4	25
Ethylbenzene	<1.00		20.000	21.7		ug/L		109	79 - 120	0.2	25
n-Hexane	<5.00		20.000	21.7		ug/L		109	57 - 180	14	25
Methylene chloride	<5.00		20.000	21.8		ug/L		109	76 - 120	3	25
1,1,2,2-Tetrachloroethane	<1.00		20.000	20.0		ug/L		100	74 - 120	5	25
Tetrachloroethene	<1.00		20.000	19.2		ug/L		96	62 - 128	1	25
Toluene	<1.00		20.000	21.9		ug/L		109	79 - 120	2	25
1,1,1-Trichloroethane	<1.00		20.000	23.0		ug/L		115	74 - 121	3	25

Method: SW 8260B - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 11C0849-MSD1
Matrix: Water - NonPotable
Analysis Batch: 11C0849

Client Sample ID: DUC0856-01
Prep Type: total
Prep Batch: 11C0849_P

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Dup Result	Matrix Spike Dup Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
1,1,2-Trichloroethane	<1.00		20.000	20.7		ug/L		104	75 - 120	2	25
Trichloroethene	<1.00		20.000	24.3	M	ug/L		122	77 - 120	4	25
Trichlorofluoromethane	<1.00		20.000	22.7		ug/L		113	71 - 136	3	25
Vinyl chloride	<1.00		20.000	23.5		ug/L		117	65 - 126	5	25

Surrogate	*Matrix Spike Dup % Recovery*	*Matrix Spike Dup Qualifier*	*Limits*
1,2-Dichloroethane-d4	*97*		*80 - 120*
Dibromofluoromethane	*102*		*80 - 120*
Toluene-d8	*94*		*80 - 120*
4-Bromofluorobenzene	*99*		*80 - 120*

Lab Sample ID: 11C1068-BLK1
Matrix: Encore
Analysis Batch: 11C1068

Client Sample ID: 11C1068-BLK1
Prep Type: total
Prep Batch: 11C1068_P

Analyte	Blank Result	Blank Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00500		0.00500	mg/kg wet		03/25/11 12:53	03/25/11 14:10	1.00
Bromodichloromethane (Dichlorobromomethane)	<0.00500		0.00500	mg/kg wet		03/25/11 12:53	03/25/11 14:10	1.00
Bromoform	<0.00500		0.00500	mg/kg wet		03/25/11 12:53	03/25/11 14:10	1.00
Bromomethane (Methyl bromide)	<0.0100		0.0100	mg/kg wet		03/25/11 12:53	03/25/11 14:10	1.00
Carbon tetrachloride	<0.00500		0.00500	mg/kg wet		03/25/11 12:53	03/25/11 14:10	1.00
Chlorobenzene	<0.00500		0.00500	mg/kg wet		03/25/11 12:53	03/25/11 14:10	1.00
Chloroethane	<0.0100		0.0100	mg/kg wet		03/25/11 12:53	03/25/11 14:10	1.00
Chloroform	<0.00500		0.00500	mg/kg wet		03/25/11 12:53	03/25/11 14:10	1.00
Chloromethane (Methyl chloride)	<0.0100		0.0100	mg/kg wet		03/25/11 12:53	03/25/11 14:10	1.00
Dibromochloromethane (Chlorodibromomethane)	<0.00500		0.00500	mg/kg wet		03/25/11 12:53	03/25/11 14:10	1.00
1,2-Dichlorobenzene	<0.00500		0.00500	mg/kg wet		03/25/11 12:53	03/25/11 14:10	1.00
1,4-Dichlorobenzene	<0.00500		0.00500	mg/kg wet		03/25/11 12:53	03/25/11 14:10	1.00
1,3-Dichlorobenzene	<0.00500		0.00500	mg/kg wet		03/25/11 12:53	03/25/11 14:10	1.00
1,1-Dichloroethane	<0.00500		0.00500	mg/kg wet		03/25/11 12:53	03/25/11 14:10	1.00
1,2-Dichloroethane	<0.00500		0.00500	mg/kg wet		03/25/11 12:53	03/25/11 14:10	1.00
trans-1,2-Dichloroethene	<0.00500		0.00500	mg/kg wet		03/25/11 12:53	03/25/11 14:10	1.00
1,1-Dichloroethene	<0.00500		0.00500	mg/kg wet		03/25/11 12:53	03/25/11 14:10	1.00
1,2-Dichloropropane	<0.00500		0.00500	mg/kg wet		03/25/11 12:53	03/25/11 14:10	1.00
cis-1,3-Dichloropropene	<0.00500		0.00500	mg/kg wet		03/25/11 12:53	03/25/11 14:10	1.00
trans-1,3-Dichloropropene	<0.00500		0.00500	mg/kg wet		03/25/11 12:53	03/25/11 14:10	1.00
Ethylbenzene	<0.00500		0.00500	mg/kg wet		03/25/11 12:53	03/25/11 14:10	1.00
Methylene chloride	<0.0500		0.0500	mg/kg wet		03/25/11 12:53	03/25/11 14:10	1.00
1,1,2,2-Tetrachloroethane	<0.00500		0.00500	mg/kg wet		03/25/11 12:53	03/25/11 14:10	1.00
Tetrachloroethene	<0.00500		0.00500	mg/kg wet		03/25/11 12:53	03/25/11 14:10	1.00
Toluene	<0.00500		0.00500	mg/kg wet		03/25/11 12:53	03/25/11 14:10	1.00
1,1,1-Trichloroethane	<0.00500		0.00500	mg/kg wet		03/25/11 12:53	03/25/11 14:10	1.00
1,1,2-Trichloroethane	<0.00500		0.00500	mg/kg wet		03/25/11 12:53	03/25/11 14:10	1.00
Trichloroethene	<0.00500		0.00500	mg/kg wet		03/25/11 12:53	03/25/11 14:10	1.00
Trichlorofluoromethane	<0.00500		0.00500	mg/kg wet		03/25/11 12:53	03/25/11 14:10	1.00
Vinyl chloride	<0.00200		0.00200	mg/kg wet		03/25/11 12:53	03/25/11 14:10	1.00

Surrogate	*Blank % Recovery*	*Blank Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4	*94*		*80 - 120*	*03/25/11 12:53*	*03/25/11 14:10*	*1.00*

Method: SW 8260B - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 11C1068-BLK1
Matrix: Encore
Analysis Batch: 11C1068

Client Sample ID: 11C1068-BLK1
Prep Type: total
Prep Batch: 11C1068_P

Surrogate	Blank % Recovery	Blank Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane	*92*		*80 - 120*	*03/25/11 12:53*	*03/25/11 14:10*	*1.00*
Toluene-d8	*107*		*80 - 120*	*03/25/11 12:53*	*03/25/11 14:10*	*1.00*
4-Bromofluorobenzene	*100*		*80 - 120*	*03/25/11 12:53*	*03/25/11 14:10*	*1.00*

Lab Sample ID: 11C1068-BS1
Matrix: Encore
Analysis Batch: 11C1068

Client Sample ID: 11C1068-BS1
Prep Type: total
Prep Batch: 11C1068_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Benzene	0.020000	0.0220		mg/kg wet		110	73 - 120
Bromodichloromethane (Dichlorobromomethane)	0.020000	0.0187		mg/kg wet		93	72 - 120
Bromoform	0.020000	0.0166		mg/kg wet		83	61 - 120
Bromomethane (Methyl bromide)	0.020000	0.0279	L1	mg/kg wet		140	52 - 123
Carbon tetrachloride	0.020000	0.0193		mg/kg wet		97	64 - 122
Chlorobenzene	0.020000	0.0228		mg/kg wet		114	67 - 121
Chloroethane	0.020000	0.0226		mg/kg wet		113	53 - 129
Chloroform	0.020000	0.0212		mg/kg wet		106	68 - 122
Chloromethane (Methyl chloride)	0.020000	0.0197		mg/kg wet		98	40 - 139
Dibromochloromethane (Chlorodibromomethane)	0.020000	0.0184		mg/kg wet		92	54 - 152
1,2-Dichlorobenzene	0.020000	0.0237		mg/kg wet		118	74 - 120
1,4-Dichlorobenzene	0.020000	0.0240		mg/kg wet		120	71 - 120
1,3-Dichlorobenzene	0.020000	0.0238		mg/kg wet		119	72 - 120
1,1-Dichloroethane	0.020000	0.0208		mg/kg wet		104	63 - 125
1,2-Dichloroethane	0.020000	0.0205		mg/kg wet		102	70 - 120
trans-1,2-Dichloroethene	0.020000	0.0216		mg/kg wet		108	70 - 120
1,1-Dichloroethene	0.020000	0.0204		mg/kg wet		102	57 - 130
1,2-Dichloropropane	0.020000	0.0210		mg/kg wet		105	68 - 120
cis-1,3-Dichloropropene	0.020000	0.0199		mg/kg wet		99	70 - 121
trans-1,3-Dichloropropene	0.020000	0.0202		mg/kg wet		101	64 - 120
Ethylbenzene	0.020000	0.0232		mg/kg wet		116	69 - 123
Methylene chloride	0.020000	0.0283	L1	mg/kg wet		141	46 - 124
1,1,2,2-Tetrachloroethane	0.020000	0.0209		mg/kg wet		104	69 - 120
Tetrachloroethene	0.020000	0.0225		mg/kg wet		113	58 - 133
Toluene	0.020000	0.0242		mg/kg wet		121	63 - 126
1,1,1-Trichloroethane	0.020000	0.0208		mg/kg wet		104	63 - 125
1,1,2-Trichloroethane	0.020000	0.0212		mg/kg wet		106	71 - 120
Trichloroethene	0.020000	0.0216		mg/kg wet		108	71 - 120
Trichlorofluoromethane	0.020000	0.0222		mg/kg wet		111	60 - 128
Vinyl chloride	0.020000	0.0212		mg/kg wet		106	40 - 140

Surrogate	LCS % Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4	*96*		*80 - 120*
Dibromofluoromethane	*93*		*80 - 120*
Toluene-d8	*105*		*80 - 120*
4-Bromofluorobenzene	*99*		*80 - 120*

Method: 8082 - PCBs (8082)

Lab Sample ID: A1C210434001D — **Client Sample ID: DUC1063-01**
Matrix: Solid — **Prep Type: Total**
Analysis Batch: 1081018 — **Prep Batch: 1081029**

Analyte	Sample Result	Sample Qualifier	Spike Added	SD1 Result	SD1 Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Aroclor 1016			400	330		ug/kg	☼	82	10 - 199	7.8	30
Aroclor 1260			400	400		ug/kg	☼	98	10 - 199	16	30

Surrogate	*SD1 % Recovery*	*SD1 Qualifier*	*Limits*
Tetrachloro-m-xylene	*82*		*10 - 196*
Decachlorobiphenyl	*77*		*10 - 199*

Lab Sample ID: A1C210434001S — **Client Sample ID: DUC1063-01**
Matrix: Solid — **Prep Type: Total**
Analysis Batch: 1081018 — **Prep Batch: 1081029**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS1 Result	MS1 Qualifier	Unit	D	% Rec	% Rec. Limits
Aroclor 1016	<40		400	310		ug/kg	☼	76	10 - 199
Aroclor 1260	<40		400	340		ug/kg	☼	84	10 - 199

Surrogate	*MS1 % Recovery*	*MS1 Qualifier*	*Limits*
Tetrachloro-m-xylene	*75*		*10 - 196*
Decachlorobiphenyl	*64*		*10 - 199*

Lab Sample ID: A1C220000029B — **Client Sample ID: INTRA-LAB BLANK**
Matrix: Solid — **Prep Type: Total**
Analysis Batch: 1081029 — **Prep Batch: 1081029_P**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	<33		33	ug/kg		03/22/11 12:45	03/24/11 13:14	1
Aroclor 1221	<33		33	ug/kg		03/22/11 12:45	03/24/11 13:14	1
Aroclor 1232	<33		33	ug/kg		03/22/11 12:45	03/24/11 13:14	1
Aroclor 1242	<33		33	ug/kg		03/22/11 12:45	03/24/11 13:14	1
Aroclor 1248	<33		33	ug/kg		03/22/11 12:45	03/24/11 13:14	1
Aroclor 1254	<33		33	ug/kg		03/22/11 12:45	03/24/11 13:14	1
Aroclor 1260	<33		33	ug/kg		03/22/11 12:45	03/24/11 13:14	1

Surrogate	*MB % Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*83*		*10 - 196*	*03/22/11 12:45*	*03/24/11 13:14*	*1*
Decachlorobiphenyl	*72*		*10 - 199*	*03/22/11 12:45*	*03/24/11 13:14*	*1*

Lab Sample ID: A1C220000029C — **Client Sample ID: CHECK SAMPLE**
Matrix: Solid — **Prep Type: Total**
Analysis Batch: 1081029 — **Prep Batch: 1081029_P**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Aroclor 1016	330	320		ug/kg		96	34 - 127
Aroclor 1260	330	310		ug/kg		92	32 - 141

Surrogate	*LCS % Recovery*	*LCS Qualifier*	*Limits*
Tetrachloro-m-xylene	*97*		*10 - 196*
Decachlorobiphenyl	*84*		*10 - 199*

Method: SW 8270C - Semivolatile Organics by GC/MS

Lab Sample ID: 11C0750-BLK1
Matrix: Non-aqueous
Analysis Batch: 11C0750

Client Sample ID: 11C0750-BLK1
Prep Type: total
Prep Batch: 11C0750_P

Analyte	Blank Result	Blank Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.294		0.294	mg/kg wet		03/19/11 08:22	03/21/11 20:38	1.00
Acenaphthylene	<0.294		0.294	mg/kg wet		03/19/11 08:22	03/21/11 20:38	1.00
Anthracene	<0.294		0.294	mg/kg wet		03/19/11 08:22	03/21/11 20:38	1.00
Benzo (a) anthracene	<0.294		0.294	mg/kg wet		03/19/11 08:22	03/21/11 20:38	1.00
Benzo (b) fluoranthene	<0.294		0.294	mg/kg wet		03/19/11 08:22	03/21/11 20:38	1.00
Benzo (g,h,i) perylene	<0.294		0.294	mg/kg wet		03/19/11 08:22	03/21/11 20:38	1.00
Benzo (k) fluoranthene	<0.294		0.294	mg/kg wet		03/19/11 08:22	03/21/11 20:38	1.00
Benzo (a) pyrene	<0.147		0.147	mg/kg wet		03/19/11 08:22	03/21/11 20:38	1.00
Benzoic acid	<2.94		2.94	mg/kg wet		03/19/11 08:22	03/21/11 20:38	1.00
Benzyl alcohol	<0.588		0.588	mg/kg wet		03/19/11 08:22	03/21/11 20:38	1.00
Bis(2-chloroethoxy)methane	<0.588		0.588	mg/kg wet		03/19/11 08:22	03/21/11 20:38	1.00
Bis(2-chloroethyl)ether	<0.588		0.588	mg/kg wet		03/19/11 08:22	03/21/11 20:38	1.00
Bis(2-chloroisopropyl) ether	<0.588		0.588	mg/kg wet		03/19/11 08:22	03/21/11 20:38	1.00
Bis(2-ethylhexyl)phthalate	<0.588		0.588	mg/kg wet		03/19/11 08:22	03/21/11 20:38	1.00
4-Bromophenyl phenyl ether	<0.588		0.588	mg/kg wet		03/19/11 08:22	03/21/11 20:38	1.00
Butyl benzyl phthalate	<0.588		0.588	mg/kg wet		03/19/11 08:22	03/21/11 20:38	1.00
4-Chloroaniline	<0.588		0.588	mg/kg wet		03/19/11 08:22	03/21/11 20:38	1.00
4-Chloro-3-methylphenol	<0.588		0.588	mg/kg wet		03/19/11 08:22	03/21/11 20:38	1.00
2-Chloronaphthalene	<0.588		0.588	mg/kg wet		03/19/11 08:22	03/21/11 20:38	1.00
2-Chlorophenol	<0.588		0.588	mg/kg wet		03/19/11 08:22	03/21/11 20:38	1.00
Chrysene	<0.294		0.294	mg/kg wet		03/19/11 08:22	03/21/11 20:38	1.00
Dibenzofuran	<0.588		0.588	mg/kg wet		03/19/11 08:22	03/21/11 20:38	1.00
1,2-Dichlorobenzene	<0.588		0.588	mg/kg wet		03/19/11 08:22	03/21/11 20:38	1.00
1,3-Dichlorobenzene	<0.588		0.588	mg/kg wet		03/19/11 08:22	03/21/11 20:38	1.00
1,4-Dichlorobenzene	<0.588		0.588	mg/kg wet		03/19/11 08:22	03/21/11 20:38	1.00
Dibenz (a,h) anthracene	<0.147		0.147	mg/kg wet		03/19/11 08:22	03/21/11 20:38	1.00
2,4-Dichlorophenol	<0.588		0.588	mg/kg wet		03/19/11 08:22	03/21/11 20:38	1.00
Diethyl phthalate	<0.588		0.588	mg/kg wet		03/19/11 08:22	03/21/11 20:38	1.00
2,4-Dimethylphenol	<0.588		0.588	mg/kg wet		03/19/11 08:22	03/21/11 20:38	1.00
Dimethyl phthalate	<0.588		0.588	mg/kg wet		03/19/11 08:22	03/21/11 20:38	1.00
4,6-Dinitro-2-methylphenol	<0.588		0.588	mg/kg wet		03/19/11 08:22	03/21/11 20:38	1.00
2,4-Dinitrotoluene	<0.588		0.588	mg/kg wet		03/19/11 08:22	03/21/11 20:38	1.00
2,6-Dinitrotoluene	<0.588		0.588	mg/kg wet		03/19/11 08:22	03/21/11 20:38	1.00
Di-n-octyl phthalate	<0.588		0.588	mg/kg wet		03/19/11 08:22	03/21/11 20:38	1.00
Fluoranthene	<0.294		0.294	mg/kg wet		03/19/11 08:22	03/21/11 20:38	1.00
Fluorene	<0.294		0.294	mg/kg wet		03/19/11 08:22	03/21/11 20:38	1.00
Hexachlorobenzene	<0.294		0.294	mg/kg wet		03/19/11 08:22	03/21/11 20:38	1.00
Hexachlorocyclopentadiene	<1.18		1.18	mg/kg wet		03/19/11 08:22	03/21/11 20:38	1.00
Hexachloroethane	<0.588		0.588	mg/kg wet		03/19/11 08:22	03/21/11 20:38	1.00
Indeno (1,2,3-cd) pyrene	<0.294		0.294	mg/kg wet		03/19/11 08:22	03/21/11 20:38	1.00
Isophorone	<0.588		0.588	mg/kg wet		03/19/11 08:22	03/21/11 20:38	1.00
2-Methylnaphthalene	<0.294		0.294	mg/kg wet		03/19/11 08:22	03/21/11 20:38	1.00
2-Methylphenol (o-Cresol)	<0.588		0.588	mg/kg wet		03/19/11 08:22	03/21/11 20:38	1.00
3&4-Methylphenol (m&p Cresol)	<0.588		0.588	mg/kg wet		03/19/11 08:22	03/21/11 20:38	1.00
Naphthalene	<0.294		0.294	mg/kg wet		03/19/11 08:22	03/21/11 20:38	1.00
Nitrobenzene	<0.588		0.588	mg/kg wet		03/19/11 08:22	03/21/11 20:38	1.00
2-Nitrophenol	<0.588		0.588	mg/kg wet		03/19/11 08:22	03/21/11 20:38	1.00
N-Nitrosodi-n-propylamine	<0.588		0.588	mg/kg wet		03/19/11 08:22	03/21/11 20:38	1.00
Pentachlorophenol	<0.588		0.588	mg/kg wet		03/19/11 08:22	03/21/11 20:38	1.00

Method: SW 8270C - Semivolatile Organics by GC/MS (Continued)

Lab Sample ID: 11C0750-BLK1
Matrix: Non-aqueous
Analysis Batch: 11C0750

Client Sample ID: 11C0750-BLK1
Prep Type: total
Prep Batch: 11C0750_P

Analyte	Blank Result	Blank Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Phenanthrene	<0.294		0.294	mg/kg wet		03/19/11 08:22	03/21/11 20:38	1.00
Phenol	<0.588		0.588	mg/kg wet		03/19/11 08:22	03/21/11 20:38	1.00
Pyrene	<0.294		0.294	mg/kg wet		03/19/11 08:22	03/21/11 20:38	1.00
1,2,4-Trichlorobenzene	<0.588		0.588	mg/kg wet		03/19/11 08:22	03/21/11 20:38	1.00
2,4,5-Trichlorophenol	<0.588		0.588	mg/kg wet		03/19/11 08:22	03/21/11 20:38	1.00
2,4,6-Trichlorophenol	<0.588		0.588	mg/kg wet		03/19/11 08:22	03/21/11 20:38	1.00

Surrogate	*Blank % Recovery*	*Blank Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol	*63*		*20 - 135*	*03/19/11 08:22*	*03/21/11 20:38*	*1.00*
Phenol-d6	*75*		*20 - 150*	*03/19/11 08:22*	*03/21/11 20:38*	*1.00*
Nitrobenzene-d5	*69*		*30 - 135*	*03/19/11 08:22*	*03/21/11 20:38*	*1.00*
2-Fluorobiphenyl	*65*		*40 - 135*	*03/19/11 08:22*	*03/21/11 20:38*	*1.00*
2,4,6-Tribromophenol	*43*		*25 - 145*	*03/19/11 08:22*	*03/21/11 20:38*	*1.00*
Terphenyl-d14	*80*		*40 - 150*	*03/19/11 08:22*	*03/21/11 20:38*	*1.00*

Lab Sample ID: 11C0750-BS1
Matrix: Non-aqueous
Analysis Batch: 11C0750

Client Sample ID: 11C0750-BS1
Prep Type: total
Prep Batch: 11C0750_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Acenaphthene	2.9412	2.28		mg/kg wet		77	30 - 150
Acenaphthylene	2.9412	2.33		mg/kg wet		79	35 - 150
Anthracene	2.9412	2.39		mg/kg wet		81	40 - 150
Benzo (a) anthracene	2.9412	2.31		mg/kg wet		78	40 - 150
Benzo (b) fluoranthene	2.9412	1.92		mg/kg wet		65	30 - 150
Benzo (g,h,i) perylene	2.9412	2.17		mg/kg wet		74	25 - 150
Benzo (k) fluoranthene	2.9412	2.82		mg/kg wet		96	35 - 150
Benzo (a) pyrene	2.9412	2.54		mg/kg wet		86	35 - 150
Benzyl alcohol	2.9412	2.22		mg/kg wet		76	20 - 150
Bis(2-chloroethoxy)methane	2.9412	2.45		mg/kg wet		83	30 - 150
Bis(2-chloroethyl)ether	2.9412	2.46		mg/kg wet		84	20 - 150
Bis(2-chloroisopropyl) ether	2.9412	2.87		mg/kg wet		98	15 - 150
Bis(2-ethylhexyl)phthalate	2.9412	2.44		mg/kg wet		83	25 - 150
4-Bromophenyl phenyl ether	2.9412	1.89		mg/kg wet		64	35 - 150
Butyl benzyl phthalate	2.9412	2.61		mg/kg wet		89	30 - 150
4-Chloroaniline	2.9412	2.07		mg/kg wet		70	15 - 150
4-Chloro-3-methylphenol	2.9412	2.21		mg/kg wet		75	30 - 150
2-Chloronaphthalene	2.9412	2.14		mg/kg wet		73	30 - 150
2-Chlorophenol	2.9412	2.21		mg/kg wet		75	20 - 150
Chrysene	2.9412	2.56		mg/kg wet		87	30 - 150
Dibenzofuran	2.9412	2.12		mg/kg wet		72	35 - 150
1,2-Dichlorobenzene	2.9412	1.94		mg/kg wet		66	20 - 150
1,3-Dichlorobenzene	2.9412	2.06		mg/kg wet		70	20 - 145
1,4-Dichlorobenzene	2.9412	2.03		mg/kg wet		69	25 - 145
Dibenz (a,h) anthracene	2.9412	1.80		mg/kg wet		61	25 - 150
2,4-Dichlorophenol	2.9412	2.00		mg/kg wet		68	30 - 150
Diethyl phthalate	2.9412	2.14		mg/kg wet		73	35 - 150
2,4-Dimethylphenol	2.9412	2.00		mg/kg wet		68	25 - 145
Dimethyl phthalate	2.9412	2.13		mg/kg wet		72	40 - 150

Method: SW 8270C - Semivolatile Organics by GC/MS (Continued)

Lab Sample ID: 11C0750-BS1
Matrix: Non-aqueous
Analysis Batch: 11C0750

Client Sample ID: 11C0750-BS1
Prep Type: total
Prep Batch: 11C0750_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
4,6-Dinitro-2-methylphenol	2.9412	2.03		mg/kg wet		69	10 - 150
2,4-Dinitrotoluene	2.9412	1.78		mg/kg wet		60	35 - 150
2,6-Dinitrotoluene	2.9412	2.17		mg/kg wet		74	35 - 150
Di-n-octyl phthalate	2.9412	2.10		mg/kg wet		71	35 - 150
Fluoranthene	2.9412	2.35		mg/kg wet		80	35 - 150
Fluorene	2.9412	2.20		mg/kg wet		75	35 - 150
Hexachlorobenzene	2.9412	1.79		mg/kg wet		61	30 - 150
Hexachlorocyclopentadiene	2.9412	1.39		mg/kg wet		47	20 - 130
Hexachloroethane	2.9412	1.83		mg/kg wet		62	15 - 150
Indeno (1,2,3-cd) pyrene	2.9412	1.87		mg/kg wet		64	25 - 150
Isophorone	2.9412	2.54		mg/kg wet		86	25 - 150
2-Methylnaphthalene	2.9412	2.05		mg/kg wet		70	30 - 150
2-Methylphenol (o-Cresol)	2.9412	2.17		mg/kg wet		74	20 - 150
3&4-Methylphenol (m&p Cresol)	2.9412	2.22		mg/kg wet		76	25 - 150
Naphthalene	2.9412	2.21		mg/kg wet		75	30 - 150
Nitrobenzene	2.9412	2.36		mg/kg wet		80	25 - 150
2-Nitrophenol	2.9412	2.17		mg/kg wet		74	25 - 150
N-Nitrosodi-n-propylamine	2.9412	2.53		mg/kg wet		86	20 - 150
Pentachlorophenol	2.9412	1.57		mg/kg wet		53	15 - 145
Phenanthrene	2.9412	2.37		mg/kg wet		81	40 - 150
Phenol	2.9412	2.36		mg/kg wet		80	20 - 150
Pyrene	2.9412	2.65		mg/kg wet		90	35 - 150
1,2,4-Trichlorobenzene	2.9412	1.95		mg/kg wet		66	30 - 150
2,4,5-Trichlorophenol	2.9412	2.16		mg/kg wet		73	25 - 150
2,4,6-Trichlorophenol	2.9412	1.64		mg/kg wet		56	25 - 150

Surrogate	*LCS % Recovery*	*LCS Qualifier*	*Limits*
2-Fluorophenol	*71*		*20 - 135*
Phenol-d6	*84*		*20 - 150*
Nitrobenzene-d5	*77*		*30 - 135*
2-Fluorobiphenyl	*71*		*40 - 135*
2,4,6-Tribromophenol	*50*		*25 - 145*
Terphenyl-d14	*79*		*40 - 150*

Lab Sample ID: 11C0750-MS1
Matrix: Non-aqueous
Analysis Batch: 11C0750

Client Sample ID: TT-TSSP-01-C
Prep Type: total
Prep Batch: 11C0750_P

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Result	Matrix Spike Qualifier	Unit	D	% Rec	% Rec. Limits
Acenaphthene	<0.352		3.5218	3.06		mg/kg dry	☼	87	30 - 150
Acenaphthylene	<0.352		3.5218	3.03		mg/kg dry	☼	86	35 - 150
Anthracene	<0.352		3.5218	3.32		mg/kg dry	☼	94	40 - 150
Benzo (a) anthracene	<0.352		3.5218	3.51		mg/kg dry	☼	90	40 - 150
Benzo (b) fluoranthene	0.456		3.5218	3.49		mg/kg dry	☼	86	30 - 150
Benzo (g,h,i) perylene	<0.352		3.5218	2.98		mg/kg dry	☼	77	25 - 150
Benzo (k) fluoranthene	<0.352		3.5218	3.51		mg/kg dry	☼	100	35 - 150
Benzo (a) pyrene	0.469		3.5218	4.03		mg/kg dry	☼	101	35 - 150
Benzyl alcohol	<0.704		3.5218	2.89		mg/kg dry	☼	82	20 - 150
Bis(2-chloroethoxy)methane	<0.704		3.5218	3.23		mg/kg dry	☼	92	30 - 150

Method: SW 8270C - Semivolatile Organics by GC/MS (Continued)

Lab Sample ID: 11C0750-MS1
Matrix: Non-aqueous
Analysis Batch: 11C0750

Client Sample ID: TT-TSSP-01-C
Prep Type: total
Prep Batch: 11C0750_P

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Result	Matrix Spike Qualifier	Unit	D	% Rec	% Rec. Limits
Bis(2-chloroethyl)ether	<0.704		3.5218	3.20		mg/kg dry	☼	91	20 - 150
Bis(2-chloroisopropyl) ether	<0.704		3.5218	3.68		mg/kg dry	☼	104	15 - 150
Bis(2-ethylhexyl)phthalate	<0.704		3.5218	3.52		mg/kg dry	☼	100	25 - 150
4-Bromophenyl phenyl ether	<0.704		3.5218	2.62		mg/kg dry	☼	74	35 - 150
Butyl benzyl phthalate	<0.704		3.5218	3.70		mg/kg dry	☼	105	30 - 150
4-Chloroaniline	<0.704		3.5218	2.44		mg/kg dry	☼	69	15 - 150
4-Chloro-3-methylphenol	<0.704		3.5218	3.12		mg/kg dry	☼	89	30 - 150
2-Chloronaphthalene	<0.704		3.5218	2.76		mg/kg dry	☼	78	30 - 150
2-Chlorophenol	<0.704		3.5218	2.92		mg/kg dry	☼	83	20 - 150
Chrysene	<0.352		3.5218	3.76		mg/kg dry	☼	98	30 - 150
Dibenzofuran	<0.704		3.5218	2.80		mg/kg dry	☼	79	35 - 150
1,2-Dichlorobenzene	<0.704		3.5218	2.63		mg/kg dry	☼	75	20 - 150
1,3-Dichlorobenzene	<0.704		3.5218	2.74		mg/kg dry	☼	78	20 - 145
1,4-Dichlorobenzene	<0.704		3.5218	2.67		mg/kg dry	☼	76	25 - 145
Dibenz (a,h) anthracene	<0.176		3.5218	2.58		mg/kg dry	☼	73	25 - 150
2,4-Dichlorophenol	<0.704		3.5218	2.85		mg/kg dry	☼	81	30 - 150
Diethyl phthalate	<0.704		3.5218	2.74		mg/kg dry	☼	78	35 - 150
2,4-Dimethylphenol	<0.704		3.5218	2.16		mg/kg dry	☼	61	25 - 145
Dimethyl phthalate	<0.704		3.5218	2.68		mg/kg dry	☼	76	40 - 150
4,6-Dinitro-2-methylphenol	<0.704		3.5218	1.20		mg/kg dry	☼	34	10 - 150
2,4-Dinitrotoluene	<0.704		3.5218	2.33		mg/kg dry	☼	66	35 - 150
2,6-Dinitrotoluene	<0.704		3.5218	2.82		mg/kg dry	☼	80	35 - 150
Di-n-octyl phthalate	<0.704		3.5218	3.33		mg/kg dry	☼	95	35 - 150
Fluoranthene	0.455		3.5218	3.99		mg/kg dry	☼	100	35 - 150
Fluorene	<0.352		3.5218	3.00		mg/kg dry	☼	85	35 - 150
Hexachlorobenzene	<0.352		3.5218	2.51		mg/kg dry	☼	71	30 - 150
Hexachlorocyclopentadiene	<1.41		3.5218	1.38		mg/kg dry	☼	39	20 - 130
Hexachloroethane	<0.704		3.5218	2.44		mg/kg dry	☼	69	15 - 150
Indeno (1,2,3-cd) pyrene	<0.352		3.5218	2.68		mg/kg dry	☼	69	25 - 150
Isophorone	<0.704		3.5218	3.24		mg/kg dry	☼	92	25 - 150
2-Methylnaphthalene	<0.352		3.5218	2.93		mg/kg dry	☼	83	30 - 150
2-Methylphenol (o-Cresol)	<0.704		3.5218	2.80		mg/kg dry	☼	80	20 - 150
3&4-Methylphenol (m&p Cresol)	<0.704		3.5218	2.99		mg/kg dry	☼	85	25 - 150
Naphthalene	<0.352		3.5218	3.01		mg/kg dry	☼	86	30 - 150
Nitrobenzene	<0.704		3.5218	3.07		mg/kg dry	☼	87	25 - 150
2-Nitrophenol	<0.704		3.5218	2.88		mg/kg dry	☼	82	25 - 150
N-Nitrosodi-n-propylamine	<0.704		3.5218	3.30		mg/kg dry	☼	94	20 - 150
Pentachlorophenol	<0.704		3.5218	1.84		mg/kg dry	☼	52	15 - 145
Phenanthrene	<0.352		3.5218	3.64		mg/kg dry	☼	97	40 - 150
Phenol	<0.704		3.5218	3.14		mg/kg dry	☼	89	20 - 150
Pyrene	0.457		3.5218	4.41		mg/kg dry	☼	112	35 - 150
1,2,4-Trichlorobenzene	<0.704		3.5218	2.71		mg/kg dry	☼	77	30 - 150
2,4,5-Trichlorophenol	<0.704		3.5218	2.96		mg/kg dry	☼	84	25 - 150
2,4,6-Trichlorophenol	<0.704		3.5218	2.13		mg/kg dry	☼	61	25 - 150

Surrogate	*Matrix Spike % Recovery*	*Matrix Spike Qualifier*	*Limits*
2-Fluorophenol	*68*		*20 - 135*
Phenol-d6	*83*		*20 - 150*
Nitrobenzene-d5	*74*		*30 - 135*

Method: SW 8270C - Semivolatile Organics by GC/MS (Continued)

Lab Sample ID: 11C0750-MS1
Matrix: Non-aqueous
Analysis Batch: 11C0750

Client Sample ID: TT-TSSP-01-C
Prep Type: total
Prep Batch: 11C0750_P

Surrogate	*Matrix Spike % Recovery*	*Matrix Spike Qualifier*	*Limits*
2-Fluorobiphenyl	*67*		*40 - 135*
2,4,6-Tribromophenol	*49*		*25 - 145*
Terphenyl-d14	*79*		*40 - 150*

Lab Sample ID: 11C0750-MSD1
Matrix: Non-aqueous
Analysis Batch: 11C0750

Client Sample ID: TT-TSSP-01-C
Prep Type: total
Prep Batch: 11C0750_P

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Dup Result	Matrix Spike Dup Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Acenaphthene	<0.352		3.5074	3.31		mg/kg dry	☼	94	30 - 150	8	50
Acenaphthylene	<0.352		3.5074	3.23		mg/kg dry	☼	92	35 - 150	7	50
Anthracene	<0.352		3.5074	3.60		mg/kg dry	☼	103	40 - 150	8	50
Benzo (a) anthracene	<0.352		3.5074	3.91		mg/kg dry	☼	102	40 - 150	11	50
Benzo (b) fluoranthene	0.456		3.5074	4.33		mg/kg dry	☼	110	30 - 150	22	50
Benzo (g,h,i) perylene	<0.352		3.5074	2.94		mg/kg dry	☼	76	25 - 150	1	50
Benzo (k) fluoranthene	<0.352		3.5074	3.39		mg/kg dry	☼	97	35 - 150	3	50
Benzo (a) pyrene	0.469		3.5074	4.53		mg/kg dry	☼	116	35 - 150	12	50
Benzyl alcohol	<0.704		3.5074	3.08		mg/kg dry	☼	88	20 - 150	7	50
Bis(2-chloroethoxy)methane	<0.704		3.5074	3.43		mg/kg dry	☼	98	30 - 150	6	50
Bis(2-chloroethyl)ether	<0.704		3.5074	3.43		mg/kg dry	☼	98	20 - 150	7	50
Bis(2-chloroisopropyl) ether	<0.704		3.5074	4.00		mg/kg dry	☼	114	15 - 150	8	50
Bis(2-ethylhexyl)phthalate	<0.704		3.5074	3.50		mg/kg dry	☼	100	25 - 150	0.8	50
4-Bromophenyl phenyl ether	<0.704		3.5074	2.80		mg/kg dry	☼	80	35 - 150	7	50
Butyl benzyl phthalate	<0.704		3.5074	3.71		mg/kg dry	☼	106	30 - 150	0.3	50
4-Chloroaniline	<0.704		3.5074	2.60		mg/kg dry	☼	74	15 - 150	7	50
4-Chloro-3-methylphenol	<0.704		3.5074	3.18		mg/kg dry	☼	91	30 - 150	2	50
2-Chloronaphthalene	<0.704		3.5074	3.02		mg/kg dry	☼	86	30 - 150	9	50
2-Chlorophenol	<0.704		3.5074	3.13		mg/kg dry	☼	89	20 - 150	7	50
Chrysene	<0.352		3.5074	4.00		mg/kg dry	☼	105	30 - 150	6	50
Dibenzofuran	<0.704		3.5074	3.03		mg/kg dry	☼	86	35 - 150	8	50
1,2-Dichlorobenzene	<0.704		3.5074	2.85		mg/kg dry	☼	81	20 - 150	8	50
1,3-Dichlorobenzene	<0.704		3.5074	2.91		mg/kg dry	☼	83	20 - 145	6	50
1,4-Dichlorobenzene	<0.704		3.5074	2.86		mg/kg dry	☼	81	25 - 145	7	50
Dibenz (a,h) anthracene	<0.176		3.5074	2.62		mg/kg dry	☼	75	25 - 150	1	50
2,4-Dichlorophenol	<0.704		3.5074	2.99		mg/kg dry	☼	85	30 - 150	5	50
Diethyl phthalate	<0.704		3.5074	2.95		mg/kg dry	☼	84	35 - 150	7	50
2,4-Dimethylphenol	<0.704		3.5074	2.29		mg/kg dry	☼	65	25 - 145	6	50
Dimethyl phthalate	<0.704		3.5074	2.93		mg/kg dry	☼	83	40 - 150	9	50
4,6-Dinitro-2-methylphenol	<0.704		3.5074	1.09		mg/kg dry	☼	31	10 - 150	9	50
2,4-Dinitrotoluene	<0.704		3.5074	2.46		mg/kg dry	☼	70	35 - 150	5	50
2,6-Dinitrotoluene	<0.704		3.5074	4.11		mg/kg dry	☼	117	35 - 150	37	50
Di-n-octyl phthalate	<0.704		3.5074	3.36		mg/kg dry	☼	96	35 - 150	0.7	50
Fluoranthene	0.455		3.5074	4.63		mg/kg dry	☼	119	35 - 150	15	50
Fluorene	<0.352		3.5074	3.31		mg/kg dry	☼	94	35 - 150	10	50
Hexachlorobenzene	<0.352		3.5074	2.57		mg/kg dry	☼	73	30 - 150	2	50
Hexachlorocyclopentadiene	<1.41		3.5074	1.11		mg/kg dry	☼	32	20 - 130	22	50
Hexachloroethane	<0.704		3.5074	2.65		mg/kg dry	☼	76	15 - 150	8	50
Indeno (1,2,3-cd) pyrene	<0.352		3.5074	2.72		mg/kg dry	☼	70	25 - 150	1	50
Isophorone	<0.704		3.5074	3.47		mg/kg dry	☼	99	25 - 150	7	50

Method: SW 8270C - Semivolatile Organics by GC/MS (Continued)

Lab Sample ID: 11C0750-MSD1
Matrix: Non-aqueous
Analysis Batch: 11C0750

Client Sample ID: TT-TSSP-01-C
Prep Type: total
Prep Batch: 11C0750_P

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Dup Result	Matrix Spike Dup Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
2-Methylnaphthalene	<0.352		3.5074	3.09		mg/kg dry	☼	88	30 - 150	5	50
2-Methylphenol (o-Cresol)	<0.704		3.5074	3.03		mg/kg dry	☼	86	20 - 150	8	50
3&4-Methylphenol (m&p Cresol)	<0.704		3.5074	3.23		mg/kg dry	☼	92	25 - 150	8	50
Naphthalene	<0.352		3.5074	3.19		mg/kg dry	☼	91	30 - 150	6	50
Nitrobenzene	<0.704		3.5074	3.34		mg/kg dry	☼	95	25 - 150	8	50
2-Nitrophenol	<0.704		3.5074	3.03		mg/kg dry	☼	86	25 - 150	5	50
N-Nitrosodi-n-propylamine	<0.704		3.5074	3.60		mg/kg dry	☼	103	20 - 150	9	50
Pentachlorophenol	<0.704		3.5074	1.89		mg/kg dry	☼	54	15 - 145	3	50
Phenanthrene	<0.352		3.5074	4.25		mg/kg dry	☼	115	40 - 150	15	50
Phenol	<0.704		3.5074	3.34		mg/kg dry	☼	95	20 - 150	6	50
Pyrene	0.457		3.5074	4.81		mg/kg dry	☼	124	35 - 150	9	50
1,2,4-Trichlorobenzene	<0.704		3.5074	2.81		mg/kg dry	☼	80	30 - 150	4	50
2,4,5-Trichlorophenol	<0.704		3.5074	3.28		mg/kg dry	☼	94	25 - 150	10	50
2,4,6-Trichlorophenol	<0.704		3.5074	2.27		mg/kg dry	☼	65	25 - 150	6	50

Surrogate	*Matrix Spike Dup % Recovery*	*Matrix Spike Dup Qualifier*	*Limits*
2-Fluorophenol	*69*		*20 - 135*
Phenol-d6	*87*		*20 - 150*
Nitrobenzene-d5	*78*		*30 - 135*
2-Fluorobiphenyl	*71*		*40 - 135*
2,4,6-Tribromophenol	*50*		*25 - 145*
Terphenyl-d14	*78*		*40 - 150*

Lab Sample ID: 11C0895-BLK1
Matrix: Non-aqueous
Analysis Batch: 11C0895

Client Sample ID: 11C0895-BLK1
Prep Type: total
Prep Batch: 11C0895_P

Analyte	Blank Result	Blank Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.294		0.294	mg/kg wet		03/24/11 06:00	03/24/11 11:35	1.00
Acenaphthylene	<0.294		0.294	mg/kg wet		03/24/11 06:00	03/24/11 11:35	1.00
Anthracene	<0.294		0.294	mg/kg wet		03/24/11 06:00	03/24/11 11:35	1.00
Benzo (a) anthracene	<0.294		0.294	mg/kg wet		03/24/11 06:00	03/24/11 11:35	1.00
Benzo (b) fluoranthene	<0.294		0.294	mg/kg wet		03/24/11 06:00	03/24/11 11:35	1.00
Benzo (g,h,i) perylene	<0.294		0.294	mg/kg wet		03/24/11 06:00	03/24/11 11:35	1.00
Benzo (k) fluoranthene	<0.294		0.294	mg/kg wet		03/24/11 06:00	03/24/11 11:35	1.00
Benzo (a) pyrene	<0.147		0.147	mg/kg wet		03/24/11 06:00	03/24/11 11:35	1.00
Benzoic acid	<2.94		2.94	mg/kg wet		03/24/11 06:00	03/24/11 11:35	1.00
Benzyl alcohol	<0.588		0.588	mg/kg wet		03/24/11 06:00	03/24/11 11:35	1.00
Bis(2-chloroethoxy)methane	<0.588		0.588	mg/kg wet		03/24/11 06:00	03/24/11 11:35	1.00
Bis(2-chloroethyl)ether	<0.588		0.588	mg/kg wet		03/24/11 06:00	03/24/11 11:35	1.00
Bis(2-chloroisopropyl) ether	<0.588		0.588	mg/kg wet		03/24/11 06:00	03/24/11 11:35	1.00
Bis(2-ethylhexyl)phthalate	<0.588		0.588	mg/kg wet		03/24/11 06:00	03/24/11 11:35	1.00
4-Bromophenyl phenyl ether	<0.588		0.588	mg/kg wet		03/24/11 06:00	03/24/11 11:35	1.00
Butyl benzyl phthalate	<0.588		0.588	mg/kg wet		03/24/11 06:00	03/24/11 11:35	1.00
4-Chloroaniline	<0.588		0.588	mg/kg wet		03/24/11 06:00	03/24/11 11:35	1.00
4-Chloro-3-methylphenol	<0.588		0.588	mg/kg wet		03/24/11 06:00	03/24/11 11:35	1.00
2-Chloronaphthalene	<0.588		0.588	mg/kg wet		03/24/11 06:00	03/24/11 11:35	1.00
2-Chlorophenol	<0.588		0.588	mg/kg wet		03/24/11 06:00	03/24/11 11:35	1.00
Chrysene	<0.294		0.294	mg/kg wet		03/24/11 06:00	03/24/11 11:35	1.00

Method: SW 8270C - Semivolatile Organics by GC/MS (Continued)

Lab Sample ID: 11C0895-BLK1
Matrix: Non-aqueous
Analysis Batch: 11C0895

Client Sample ID: 11C0895-BLK1
Prep Type: total
Prep Batch: 11C0895_P

Analyte	Blank Result	Blank Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Dibenzofuran	<0.588		0.588	mg/kg wet		03/24/11 06:00	03/24/11 11:35	1.00
1,2-Dichlorobenzene	<0.588		0.588	mg/kg wet		03/24/11 06:00	03/24/11 11:35	1.00
1,3-Dichlorobenzene	<0.588		0.588	mg/kg wet		03/24/11 06:00	03/24/11 11:35	1.00
1,4-Dichlorobenzene	<0.588		0.588	mg/kg wet		03/24/11 06:00	03/24/11 11:35	1.00
Dibenz (a,h) anthracene	<0.147		0.147	mg/kg wet		03/24/11 06:00	03/24/11 11:35	1.00
2,4-Dichlorophenol	<0.588		0.588	mg/kg wet		03/24/11 06:00	03/24/11 11:35	1.00
Diethyl phthalate	<0.588		0.588	mg/kg wet		03/24/11 06:00	03/24/11 11:35	1.00
2,4-Dimethylphenol	<0.588		0.588	mg/kg wet		03/24/11 06:00	03/24/11 11:35	1.00
Dimethyl phthalate	<0.588		0.588	mg/kg wet		03/24/11 06:00	03/24/11 11:35	1.00
4,6-Dinitro-2-methylphenol	<0.588		0.588	mg/kg wet		03/24/11 06:00	03/24/11 11:35	1.00
2,4-Dinitrotoluene	<0.588		0.588	mg/kg wet		03/24/11 06:00	03/24/11 11:35	1.00
2,6-Dinitrotoluene	<0.588		0.588	mg/kg wet		03/24/11 06:00	03/24/11 11:35	1.00
Di-n-octyl phthalate	<0.588		0.588	mg/kg wet		03/24/11 06:00	03/24/11 11:35	1.00
Fluoranthene	<0.294		0.294	mg/kg wet		03/24/11 06:00	03/24/11 11:35	1.00
Fluorene	<0.294		0.294	mg/kg wet		03/24/11 06:00	03/24/11 11:35	1.00
Hexachlorobenzene	<0.294		0.294	mg/kg wet		03/24/11 06:00	03/24/11 11:35	1.00
Hexachlorocyclopentadiene	<1.18		1.18	mg/kg wet		03/24/11 06:00	03/24/11 11:35	1.00
Hexachloroethane	<0.588		0.588	mg/kg wet		03/24/11 06:00	03/24/11 11:35	1.00
Indeno (1,2,3-cd) pyrene	<0.294		0.294	mg/kg wet		03/24/11 06:00	03/24/11 11:35	1.00
Isophorone	<0.588		0.588	mg/kg wet		03/24/11 06:00	03/24/11 11:35	1.00
2-Methylnaphthalene	<0.294		0.294	mg/kg wet		03/24/11 06:00	03/24/11 11:35	1.00
2-Methylphenol (o-Cresol)	<0.588		0.588	mg/kg wet		03/24/11 06:00	03/24/11 11:35	1.00
3&4-Methylphenol (m&p Cresol)	<0.588		0.588	mg/kg wet		03/24/11 06:00	03/24/11 11:35	1.00
Naphthalene	<0.294		0.294	mg/kg wet		03/24/11 06:00	03/24/11 11:35	1.00
Nitrobenzene	<0.588		0.588	mg/kg wet		03/24/11 06:00	03/24/11 11:35	1.00
2-Nitrophenol	<0.588		0.588	mg/kg wet		03/24/11 06:00	03/24/11 11:35	1.00
N-Nitrosodi-n-propylamine	<0.588		0.588	mg/kg wet		03/24/11 06:00	03/24/11 11:35	1.00
Pentachlorophenol	<0.588		0.588	mg/kg wet		03/24/11 06:00	03/24/11 11:35	1.00
Phenanthrene	<0.294		0.294	mg/kg wet		03/24/11 06:00	03/24/11 11:35	1.00
Phenol	<0.588		0.588	mg/kg wet		03/24/11 06:00	03/24/11 11:35	1.00
Pyrene	<0.294		0.294	mg/kg wet		03/24/11 06:00	03/24/11 11:35	1.00
1,2,4-Trichlorobenzene	<0.588		0.588	mg/kg wet		03/24/11 06:00	03/24/11 11:35	1.00
2,4,5-Trichlorophenol	<0.588		0.588	mg/kg wet		03/24/11 06:00	03/24/11 11:35	1.00
2,4,6-Trichlorophenol	<0.588		0.588	mg/kg wet		03/24/11 06:00	03/24/11 11:35	1.00

Surrogate	*Blank % Recovery*	*Blank Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol	*77*		*20 - 135*	*03/24/11 06:00*	*03/24/11 11:35*	*1.00*
Phenol-d6	*79*		*20 - 150*	*03/24/11 06:00*	*03/24/11 11:35*	*1.00*
Nitrobenzene-d5	*70*		*30 - 135*	*03/24/11 06:00*	*03/24/11 11:35*	*1.00*
2-Fluorobiphenyl	*74*		*40 - 135*	*03/24/11 06:00*	*03/24/11 11:35*	*1.00*
2,4,6-Tribromophenol	*82*		*25 - 145*	*03/24/11 06:00*	*03/24/11 11:35*	*1.00*
Terphenyl-d14	*88*		*40 - 150*	*03/24/11 06:00*	*03/24/11 11:35*	*1.00*

Lab Sample ID: 11C0895-BS1
Matrix: Non-aqueous
Analysis Batch: 11C0895

Client Sample ID: 11C0895-BS1
Prep Type: total
Prep Batch: 11C0895_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Acenaphthene	2.9412	0.442	L4	mg/kg wet		15	30 - 150

Method: SW 8270C - Semivolatile Organics by GC/MS (Continued)

Lab Sample ID: 11C0895-BS1
Matrix: Non-aqueous
Analysis Batch: 11C0895

Client Sample ID: 11C0895-BS1
Prep Type: total
Prep Batch: 11C0895_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Acenaphthylene	2.9412	0.451	L4	mg/kg wet		15	35 - 150
Anthracene	2.9412	0.437	L4	mg/kg wet		15	40 - 150
Benzo (a) anthracene	2.9412	0.495	L4	mg/kg wet		17	40 - 150
Benzo (b) fluoranthene	2.9412	0.435	L4	mg/kg wet		15	30 - 150
Benzo (g,h,i) perylene	2.9412	0.507	L4	mg/kg wet		17	25 - 150
Benzo (k) fluoranthene	2.9412	0.459	L4	mg/kg wet		16	35 - 150
Benzo (a) pyrene	2.9412	0.524	L4	mg/kg wet		18	35 - 150
Benzyl alcohol	2.9412	0.302	L4	mg/kg wet		10	20 - 150
Bis(2-chloroethoxy)methane	2.9412	0.361	L4	mg/kg wet		12	30 - 150
Bis(2-chloroethyl)ether	2.9412	0.367	L4	mg/kg wet		12	20 - 150
Bis(2-chloroisopropyl) ether	2.9412	0.321	L4	mg/kg wet		11	15 - 150
Bis(2-ethylhexyl)phthalate	2.9412	0.433	L4	mg/kg wet		15	25 - 150
4-Bromophenyl phenyl ether	2.9412	0.414	L4	mg/kg wet		14	35 - 150
Butyl benzyl phthalate	2.9412	0.437	L4	mg/kg wet		15	30 - 150
4-Chloroaniline	2.9412	0.362	L4	mg/kg wet		12	15 - 150
4-Chloro-3-methylphenol	2.9412	0.340	L4	mg/kg wet		12	30 - 150
2-Chloronaphthalene	2.9412	0.444	L4	mg/kg wet		15	30 - 150
2-Chlorophenol	2.9412	0.365	L4	mg/kg wet		12	20 - 150
Chrysene	2.9412	0.495	L4	mg/kg wet		17	30 - 150
Dibenzofuran	2.9412	0.454	L4	mg/kg wet		15	35 - 150
1,2-Dichlorobenzene	2.9412	0.359	L4	mg/kg wet		12	20 - 150
1,3-Dichlorobenzene	2.9412	0.383	L4	mg/kg wet		13	20 - 145
1,4-Dichlorobenzene	2.9412	0.379	L4	mg/kg wet		13	25 - 145
Dibenz (a,h) anthracene	2.9412	0.528	L4	mg/kg wet		18	25 - 150
2,4-Dichlorophenol	2.9412	0.364	L4	mg/kg wet		12	30 - 150
Diethyl phthalate	2.9412	0.441	L4	mg/kg wet		15	35 - 150
2,4-Dimethylphenol	2.9412	0.346	L4	mg/kg wet		12	25 - 145
Dimethyl phthalate	2.9412	0.432	L4	mg/kg wet		15	40 - 150
4,6-Dinitro-2-methylphenol	2.9412	0.393	L4	mg/kg wet		13	10 - 150
2,4-Dinitrotoluene	2.9412	0.346	L4	mg/kg wet		12	35 - 150
2,6-Dinitrotoluene	2.9412	0.372	L4	mg/kg wet		13	35 - 150
Di-n-octyl phthalate	2.9412	0.512	L4	mg/kg wet		17	35 - 150
Fluoranthene	2.9412	0.482	L4	mg/kg wet		16	35 - 150
Fluorene	2.9412	0.445	L4	mg/kg wet		15	35 - 150
Hexachlorobenzene	2.9412	0.407	L4	mg/kg wet		14	30 - 150
Hexachlorocyclopentadiene	2.9412	0.399	L4	mg/kg wet		14	20 - 130
Hexachloroethane	2.9412	0.368	L4	mg/kg wet		12	15 - 150
Indeno (1,2,3-cd) pyrene	2.9412	0.511	L4	mg/kg wet		17	25 - 150
Isophorone	2.9412	0.342	L4	mg/kg wet		12	25 - 150
2-Methylnaphthalene	2.9412	0.424	L4	mg/kg wet		14	30 - 150
2-Methylphenol (o-Cresol)	2.9412	0.348	L4	mg/kg wet		12	20 - 150
3&4-Methylphenol (m&p Cresol)	2.9412	0.343	L4	mg/kg wet		12	25 - 150
Naphthalene	2.9412	0.439	L4	mg/kg wet		15	30 - 150
Nitrobenzene	2.9412	0.346	L4	mg/kg wet		12	25 - 150
2-Nitrophenol	2.9412	0.361	L4	mg/kg wet		12	25 - 150
N-Nitrosodi-n-propylamine	2.9412	0.311	L4	mg/kg wet		11	20 - 150
Pentachlorophenol	2.9412	0.459	L4	mg/kg wet		16	15 - 145
Phenanthrene	2.9412	0.447	L4	mg/kg wet		15	40 - 150
Phenol	2.9412	0.347	L4	mg/kg wet		12	20 - 150
Pyrene	2.9412	0.491	L4	mg/kg wet		17	35 - 150

Method: SW 8270C - Semivolatile Organics by GC/MS (Continued)

Lab Sample ID: 11C0895-BS1
Matrix: Non-aqueous
Analysis Batch: 11C0895

Client Sample ID: 11C0895-BS1
Prep Type: total
Prep Batch: 11C0895_P

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits		
1,2,4-Trichlorobenzene			2.9412	0.428	L4	mg/kg wet		15	30 - 150		
2,4,5-Trichlorophenol			2.9412	0.376	L4	mg/kg wet		13	25 - 150		
2,4,6-Trichlorophenol			2.9412	0.374	L4	mg/kg wet		13	25 - 150		

Surrogate	*LCS % Recovery*	*LCS Qualifier*	*Limits*
2-Fluorophenol	*28*		*20 - 135*
Phenol-d6	*29*		*20 - 150*
Nitrobenzene-d5	*25*	*Z6*	*30 - 135*
2-Fluorobiphenyl	*33*	*Z6*	*40 - 135*
2,4,6-Tribromophenol	*27*		*25 - 145*
Terphenyl-d14	*37*	*Z6*	*40 - 150*

Lab Sample ID: 11C0895-MS1
Matrix: Non-aqueous
Analysis Batch: 11C0895

Client Sample ID: DUC1098-05RE1
Prep Type: total
Prep Batch: 11C0895_P

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Result	Matrix Spike Qualifier	Unit	D	% Rec	% Rec. Limits		
Acenaphthene	<0.294		2.9189	2.43		mg/kg wet		83	30 - 150		
Acenaphthylene	<0.294		2.9189	2.45		mg/kg wet		84	35 - 150		
Anthracene	<0.294		2.9189	2.50		mg/kg wet		86	40 - 150		
Benzo (a) anthracene	<0.294		2.9189	2.68		mg/kg wet		92	40 - 150		
Benzo (b) fluoranthene	<0.294		2.9189	2.21		mg/kg wet		76	30 - 150		
Benzo (g,h,i) perylene	<0.294		2.9189	2.92		mg/kg wet		100	25 - 150		
Benzo (k) fluoranthene	<0.294		2.9189	2.50		mg/kg wet		86	35 - 150		
Benzo (a) pyrene	<0.147		2.9189	2.64		mg/kg wet		91	35 - 150		
Benzyl alcohol	<0.587		2.9189	1.88		mg/kg wet		65	20 - 150		
Bis(2-chloroethoxy)methane	<0.587		2.9189	2.20		mg/kg wet		75	30 - 150		
Bis(2-chloroethyl)ether	<0.587		2.9189	2.09		mg/kg wet		72	20 - 150		
Bis(2-chloroisopropyl) ether	<0.587		2.9189	1.86		mg/kg wet		64	15 - 150		
Bis(2-ethylhexyl)phthalate	<0.587		2.9189	2.59		mg/kg wet		89	25 - 150		
4-Bromophenyl phenyl ether	<0.587		2.9189	2.40		mg/kg wet		82	35 - 150		
Butyl benzyl phthalate	<0.587		2.9189	2.63		mg/kg wet		90	30 - 150		
4-Chloroaniline	<0.587		2.9189	1.96		mg/kg wet		67	15 - 150		
4-Chloro-3-methylphenol	<0.587		2.9189	2.15		mg/kg wet		74	30 - 150		
2-Chloronaphthalene	<0.587		2.9189	2.54		mg/kg wet		87	30 - 150		
2-Chlorophenol	<0.587		2.9189	2.12		mg/kg wet		73	20 - 150		
Chrysene	<0.294		2.9189	2.61		mg/kg wet		89	30 - 150		
Dibenzofuran	<0.587		2.9189	2.47		mg/kg wet		85	35 - 150		
1,2-Dichlorobenzene	<0.587		2.9189	2.09		mg/kg wet		72	20 - 150		
1,3-Dichlorobenzene	<0.587		2.9189	2.13		mg/kg wet		73	20 - 145		
1,4-Dichlorobenzene	<0.587		2.9189	2.12		mg/kg wet		72	25 - 145		
Dibenz (a,h) anthracene	<0.147		2.9189	2.93		mg/kg wet		100	25 - 150		
2,4-Dichlorophenol	<0.587		2.9189	2.27		mg/kg wet		78	30 - 150		
Diethyl phthalate	<0.587		2.9189	2.36		mg/kg wet		81	35 - 150		
2,4-Dimethylphenol	<0.587		2.9189	1.99		mg/kg wet		68	25 - 145		
Dimethyl phthalate	<0.587		2.9189	2.34		mg/kg wet		80	40 - 150		
4,6-Dinitro-2-methylphenol	<0.587		2.9189	1.54		mg/kg wet		53	10 - 150		
2,4-Dinitrotoluene	<0.587		2.9189	2.22		mg/kg wet		76	35 - 150		
2,6-Dinitrotoluene	<0.587		2.9189	2.28		mg/kg wet		78	35 - 150		

Method: SW 8270C - Semivolatile Organics by GC/MS (Continued)

Lab Sample ID: 11C0895-MS1
Matrix: Non-aqueous
Analysis Batch: 11C0895

Client Sample ID: DUC1098-05RE1
Prep Type: total
Prep Batch: 11C0895_P

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Result	Matrix Spike Qualifier	Unit	D	% Rec	% Rec. Limits
Di-n-octyl phthalate	<0.587		2.9189	2.71		mg/kg wet		93	35 - 150
Fluoranthene	<0.294		2.9189	2.75		mg/kg wet		94	35 - 150
Fluorene	<0.294		2.9189	2.49		mg/kg wet		85	35 - 150
Hexachlorobenzene	<0.294		2.9189	2.39		mg/kg wet		82	30 - 150
Hexachlorocyclopentadiene	<1.17		2.9189	1.60		mg/kg wet		55	20 - 130
Hexachloroethane	<0.587		2.9189	2.08		mg/kg wet		71	15 - 150
Indeno (1,2,3-cd) pyrene	<0.294		2.9189	2.71		mg/kg wet		93	25 - 150
Isophorone	<0.587		2.9189	2.07		mg/kg wet		71	25 - 150
2-Methylnaphthalene	<0.294		2.9189	2.42		mg/kg wet		83	30 - 150
2-Methylphenol (o-Cresol)	<0.587		2.9189	1.99		mg/kg wet		68	20 - 150
3&4-Methylphenol (m&p Cresol)	<0.587		2.9189	2.05		mg/kg wet		70	25 - 150
Naphthalene	<0.294		2.9189	2.50		mg/kg wet		86	30 - 150
Nitrobenzene	<0.587		2.9189	1.99		mg/kg wet		68	25 - 150
2-Nitrophenol	<0.587		2.9189	2.40		mg/kg wet		82	25 - 150
N-Nitrosodi-n-propylamine	<0.587		2.9189	1.89		mg/kg wet		65	20 - 150
Pentachlorophenol	<0.587		2.9189	1.81		mg/kg wet		62	15 - 145
Phenanthrene	<0.294		2.9189	2.45		mg/kg wet		84	40 - 150
Phenol	<0.587		2.9189	2.03		mg/kg wet		69	20 - 150
Pyrene	<0.294		2.9189	2.57		mg/kg wet		88	35 - 150
1,2,4-Trichlorobenzene	<0.587		2.9189	2.52		mg/kg wet		86	30 - 150
2,4,5-Trichlorophenol	<0.587		2.9189	2.47		mg/kg wet		84	25 - 150
2,4,6-Trichlorophenol	<0.587		2.9189	2.27		mg/kg wet		78	25 - 150

Surrogate	*Matrix Spike % Recovery*	*Matrix Spike Qualifier*	*Limits*
2-Fluorophenol	*71*		*20 - 135*
Phenol-d6	*77*		*20 - 150*
Nitrobenzene-d5	*68*		*30 - 135*
2-Fluorobiphenyl	*76*		*40 - 135*
2,4,6-Tribromophenol	*77*		*25 - 145*
Terphenyl-d14	*86*		*40 - 150*

Lab Sample ID: 11C0895-MSD1
Matrix: Non-aqueous
Analysis Batch: 11C0895

Client Sample ID: DUC1098-05RE1
Prep Type: total
Prep Batch: 11C0895_P

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Dup Result	Matrix Spike Dup Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Acenaphthene	<0.294		2.9412	2.23		mg/kg wet		76	30 - 150	9	50
Acenaphthylene	<0.294		2.9412	2.23		mg/kg wet		76	35 - 150	10	50
Anthracene	<0.294		2.9412	2.35		mg/kg wet		80	40 - 150	6	50
Benzo (a) anthracene	<0.294		2.9412	2.45		mg/kg wet		83	40 - 150	9	50
Benzo (b) fluoranthene	<0.294		2.9412	2.11		mg/kg wet		72	30 - 150	5	50
Benzo (g,h,i) perylene	<0.294		2.9412	2.61		mg/kg wet		89	25 - 150	11	50
Benzo (k) fluoranthene	<0.294		2.9412	2.16		mg/kg wet		73	35 - 150	15	50
Benzo (a) pyrene	<0.147		2.9412	2.44		mg/kg wet		83	35 - 150	8	50
Benzyl alcohol	<0.587		2.9412	1.70		mg/kg wet		58	20 - 150	10	50
Bis(2-chloroethoxy)methane	<0.587		2.9412	1.96		mg/kg wet		67	30 - 150	11	50
Bis(2-chloroethyl)ether	<0.587		2.9412	1.86		mg/kg wet		63	20 - 150	12	50
Bis(2-chloroisopropyl) ether	<0.587		2.9412	1.68		mg/kg wet		57	15 - 150	10	50
Bis(2-ethylhexyl)phthalate	<0.587		2.9412	2.34		mg/kg wet		79	25 - 150	10	50

Method: SW 8270C - Semivolatile Organics by GC/MS (Continued)

Lab Sample ID: 11C0895-MSD1
Matrix: Non-aqueous
Analysis Batch: 11C0895

Client Sample ID: DUC1098-05RE1
Prep Type: total
Prep Batch: 11C0895_P

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Dup Result	Matrix Spike Dup Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
4-Bromophenyl phenyl ether	<0.587		2.9412	2.26		mg/kg wet		77	35 - 150	6	50
Butyl benzyl phthalate	<0.587		2.9412	2.38		mg/kg wet		81	30 - 150	10	50
4-Chloroaniline	<0.587		2.9412	1.80		mg/kg wet		61	15 - 150	9	50
4-Chloro-3-methylphenol	<0.587		2.9412	1.99		mg/kg wet		68	30 - 150	8	50
2-Chloronaphthalene	<0.587		2.9412	2.31		mg/kg wet		78	30 - 150	9	50
2-Chlorophenol	<0.587		2.9412	1.93		mg/kg wet		66	20 - 150	9	50
Chrysene	<0.294		2.9412	2.44		mg/kg wet		83	30 - 150	7	50
Dibenzofuran	<0.587		2.9412	2.25		mg/kg wet		76	35 - 150	10	50
1,2-Dichlorobenzene	<0.587		2.9412	1.87		mg/kg wet		64	20 - 150	11	50
1,3-Dichlorobenzene	<0.587		2.9412	1.87		mg/kg wet		64	20 - 145	13	50
1,4-Dichlorobenzene	<0.587		2.9412	1.91		mg/kg wet		65	25 - 145	10	50
Dibenz (a,h) anthracene	<0.147		2.9412	2.65		mg/kg wet		90	25 - 150	10	50
2,4-Dichlorophenol	<0.587		2.9412	2.09		mg/kg wet		71	30 - 150	8	50
Diethyl phthalate	<0.587		2.9412	2.15		mg/kg wet		73	35 - 150	9	50
2,4-Dimethylphenol	<0.587		2.9412	1.87		mg/kg wet		63	25 - 145	6	50
Dimethyl phthalate	<0.587		2.9412	2.15		mg/kg wet		73	40 - 150	9	50
4,6-Dinitro-2-methylphenol	<0.587		2.9412	1.30		mg/kg wet		44	10 - 150	17	50
2,4-Dinitrotoluene	<0.587		2.9412	1.99		mg/kg wet		68	35 - 150	11	50
2,6-Dinitrotoluene	<0.587		2.9412	2.08		mg/kg wet		71	35 - 150	9	50
Di-n-octyl phthalate	<0.587		2.9412	2.54		mg/kg wet		86	35 - 150	6	50
Fluoranthene	<0.294		2.9412	2.60		mg/kg wet		88	35 - 150	6	50
Fluorene	<0.294		2.9412	2.36		mg/kg wet		80	35 - 150	5	50
Hexachlorobenzene	<0.294		2.9412	2.32		mg/kg wet		79	30 - 150	3	50
Hexachlorocyclopentadiene	<1.17		2.9412	1.29		mg/kg wet		44	20 - 130	22	50
Hexachloroethane	<0.587		2.9412	1.86		mg/kg wet		63	15 - 150	11	50
Indeno (1,2,3-cd) pyrene	<0.294		2.9412	2.43		mg/kg wet		82	25 - 150	11	50
Isophorone	<0.587		2.9412	1.90		mg/kg wet		65	25 - 150	9	50
2-Methylnaphthalene	<0.294		2.9412	2.21		mg/kg wet		75	30 - 150	9	50
2-Methylphenol (o-Cresol)	<0.587		2.9412	1.83		mg/kg wet		62	20 - 150	8	50
3&4-Methylphenol (m&p Cresol)	<0.587		2.9412	1.92		mg/kg wet		65	25 - 150	7	50
Naphthalene	<0.294		2.9412	2.23		mg/kg wet		76	30 - 150	11	50
Nitrobenzene	<0.587		2.9412	1.80		mg/kg wet		61	25 - 150	10	50
2-Nitrophenol	<0.587		2.9412	2.12		mg/kg wet		72	25 - 150	12	50
N-Nitrosodi-n-propylamine	<0.587		2.9412	1.76		mg/kg wet		60	20 - 150	7	50
Pentachlorophenol	<0.587		2.9412	1.60		mg/kg wet		54	15 - 145	13	50
Phenanthrene	<0.294		2.9412	2.30		mg/kg wet		78	40 - 150	7	50
Phenol	<0.587		2.9412	1.86		mg/kg wet		63	20 - 150	9	50
Pyrene	<0.294		2.9412	2.40		mg/kg wet		82	35 - 150	7	50
1,2,4-Trichlorobenzene	<0.587		2.9412	2.22		mg/kg wet		75	30 - 150	13	50
2,4,5-Trichlorophenol	<0.587		2.9412	2.28		mg/kg wet		77	25 - 150	8	50
2,4,6-Trichlorophenol	<0.587		2.9412	2.10		mg/kg wet		71	25 - 150	8	50

Surrogate	*Matrix Spike Dup % Recovery*	*Matrix Spike Dup Qualifier*	*Limits*
2-Fluorophenol	*66*		*20 - 135*
Phenol-d6	*70*		*20 - 150*
Nitrobenzene-d5	*63*		*30 - 135*
2-Fluorobiphenyl	*76*		*40 - 135*
2,4,6-Tribromophenol	*71*		*25 - 145*
Terphenyl-d14	*75*		*40 - 150*

Method: SW 8270C - Semivolatile Organics by GC/MS (Continued)

Lab Sample ID: 11C0955-BLK1
Matrix: Non-aqueous
Analysis Batch: 11C0955

Client Sample ID: 11C0955-BLK1
Prep Type: total
Prep Batch: 11C0955_P

Analyte	Blank Result	Blank Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	<0.294		0.294	mg/kg wet		03/24/11 16:09	03/25/11 19:22	1.00
Acenaphthylene	<0.294		0.294	mg/kg wet		03/24/11 16:09	03/25/11 19:22	1.00
Anthracene	<0.294		0.294	mg/kg wet		03/24/11 16:09	03/25/11 19:22	1.00
Benzo (a) anthracene	<0.294		0.294	mg/kg wet		03/24/11 16:09	03/25/11 19:22	1.00
Benzo (b) fluoranthene	<0.294		0.294	mg/kg wet		03/24/11 16:09	03/25/11 19:22	1.00
Benzo (g,h,i) perylene	<0.294		0.294	mg/kg wet		03/24/11 16:09	03/25/11 19:22	1.00
Benzo (k) fluoranthene	<0.294		0.294	mg/kg wet		03/24/11 16:09	03/25/11 19:22	1.00
Benzo (a) pyrene	<0.147		0.147	mg/kg wet		03/24/11 16:09	03/25/11 19:22	1.00
Benzoic acid	<2.94		2.94	mg/kg wet		03/24/11 16:09	03/25/11 19:22	1.00
Benzyl alcohol	<0.588		0.588	mg/kg wet		03/24/11 16:09	03/25/11 19:22	1.00
Bis(2-chloroethoxy)methane	<0.588		0.588	mg/kg wet		03/24/11 16:09	03/25/11 19:22	1.00
Bis(2-chloroethyl)ether	<0.588		0.588	mg/kg wet		03/24/11 16:09	03/25/11 19:22	1.00
Bis(2-chloroisopropyl) ether	<0.588		0.588	mg/kg wet		03/24/11 16:09	03/25/11 19:22	1.00
Bis(2-ethylhexyl)phthalate	<0.588		0.588	mg/kg wet		03/24/11 16:09	03/25/11 19:22	1.00
4-Bromophenyl phenyl ether	<0.588		0.588	mg/kg wet		03/24/11 16:09	03/25/11 19:22	1.00
Butyl benzyl phthalate	<0.588		0.588	mg/kg wet		03/24/11 16:09	03/25/11 19:22	1.00
4-Chloroaniline	<0.588		0.588	mg/kg wet		03/24/11 16:09	03/25/11 19:22	1.00
4-Chloro-3-methylphenol	<0.588		0.588	mg/kg wet		03/24/11 16:09	03/25/11 19:22	1.00
2-Chloronaphthalene	<0.588		0.588	mg/kg wet		03/24/11 16:09	03/25/11 19:22	1.00
2-Chlorophenol	<0.588		0.588	mg/kg wet		03/24/11 16:09	03/25/11 19:22	1.00
Chrysene	<0.294		0.294	mg/kg wet		03/24/11 16:09	03/25/11 19:22	1.00
Dibenzofuran	<0.588		0.588	mg/kg wet		03/24/11 16:09	03/25/11 19:22	1.00
1,2-Dichlorobenzene	<0.588		0.588	mg/kg wet		03/24/11 16:09	03/25/11 19:22	1.00
1,3-Dichlorobenzene	<0.588		0.588	mg/kg wet		03/24/11 16:09	03/25/11 19:22	1.00
1,4-Dichlorobenzene	<0.588		0.588	mg/kg wet		03/24/11 16:09	03/25/11 19:22	1.00
Dibenz (a,h) anthracene	<0.147		0.147	mg/kg wet		03/24/11 16:09	03/25/11 19:22	1.00
2,4-Dichlorophenol	<0.588		0.588	mg/kg wet		03/24/11 16:09	03/25/11 19:22	1.00
Diethyl phthalate	<0.588		0.588	mg/kg wet		03/24/11 16:09	03/25/11 19:22	1.00
2,4-Dimethylphenol	<0.588		0.588	mg/kg wet		03/24/11 16:09	03/25/11 19:22	1.00
Dimethyl phthalate	<0.588		0.588	mg/kg wet		03/24/11 16:09	03/25/11 19:22	1.00
4,6-Dinitro-2-methylphenol	<0.588		0.588	mg/kg wet		03/24/11 16:09	03/25/11 19:22	1.00
2,4-Dinitrotoluene	<0.588		0.588	mg/kg wet		03/24/11 16:09	03/25/11 19:22	1.00
2,6-Dinitrotoluene	<0.588		0.588	mg/kg wet		03/24/11 16:09	03/25/11 19:22	1.00
Di-n-octyl phthalate	<0.588		0.588	mg/kg wet		03/24/11 16:09	03/25/11 19:22	1.00
Fluoranthene	<0.294		0.294	mg/kg wet		03/24/11 16:09	03/25/11 19:22	1.00
Fluorene	<0.294		0.294	mg/kg wet		03/24/11 16:09	03/25/11 19:22	1.00
Hexachlorobenzene	<0.294		0.294	mg/kg wet		03/24/11 16:09	03/25/11 19:22	1.00
Hexachlorocyclopentadiene	<1.18		1.18	mg/kg wet		03/24/11 16:09	03/25/11 19:22	1.00
Hexachloroethane	<0.588		0.588	mg/kg wet		03/24/11 16:09	03/25/11 19:22	1.00
Indeno (1,2,3-cd) pyrene	<0.294		0.294	mg/kg wet		03/24/11 16:09	03/25/11 19:22	1.00
Isophorone	<0.588		0.588	mg/kg wet		03/24/11 16:09	03/25/11 19:22	1.00
2-Methylnaphthalene	<0.294		0.294	mg/kg wet		03/24/11 16:09	03/25/11 19:22	1.00
2-Methylphenol (o-Cresol)	<0.588		0.588	mg/kg wet		03/24/11 16:09	03/25/11 19:22	1.00
3&4-Methylphenol (m&p Cresol)	<0.588		0.588	mg/kg wet		03/24/11 16:09	03/25/11 19:22	1.00
Naphthalene	<0.294		0.294	mg/kg wet		03/24/11 16:09	03/25/11 19:22	1.00
Nitrobenzene	<0.588		0.588	mg/kg wet		03/24/11 16:09	03/25/11 19:22	1.00
2-Nitrophenol	<0.588		0.588	mg/kg wet		03/24/11 16:09	03/25/11 19:22	1.00
N-Nitrosodi-n-propylamine	<0.588		0.588	mg/kg wet		03/24/11 16:09	03/25/11 19:22	1.00
Pentachlorophenol	<0.588		0.588	mg/kg wet		03/24/11 16:09	03/25/11 19:22	1.00

Method: SW 8270C - Semivolatile Organics by GC/MS (Continued)

Lab Sample ID: 11C0955-BLK1
Matrix: Non-aqueous
Analysis Batch: 11C0955

Client Sample ID: 11C0955-BLK1
Prep Type: total
Prep Batch: 11C0955_P

Analyte	Blank Result	Blank Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Phenanthrene	<0.294		0.294	mg/kg wet		03/24/11 16:09	03/25/11 19:22	1.00
Phenol	<0.588		0.588	mg/kg wet		03/24/11 16:09	03/25/11 19:22	1.00
Pyrene	<0.294		0.294	mg/kg wet		03/24/11 16:09	03/25/11 19:22	1.00
1,2,4-Trichlorobenzene	<0.588		0.588	mg/kg wet		03/24/11 16:09	03/25/11 19:22	1.00
2,4,5-Trichlorophenol	<0.588		0.588	mg/kg wet		03/24/11 16:09	03/25/11 19:22	1.00
2,4,6-Trichlorophenol	<0.588		0.588	mg/kg wet		03/24/11 16:09	03/25/11 19:22	1.00

Surrogate	*Blank % Recovery*	*Blank Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol	*77*		*20 - 135*	*03/24/11 16:09*	*03/25/11 19:22*	*1.00*
Phenol-d6	*75*		*20 - 150*	*03/24/11 16:09*	*03/25/11 19:22*	*1.00*
Nitrobenzene-d5	*86*		*30 - 135*	*03/24/11 16:09*	*03/25/11 19:22*	*1.00*
2-Fluorobiphenyl	*76*		*40 - 135*	*03/24/11 16:09*	*03/25/11 19:22*	*1.00*
2,4,6-Tribromophenol	*85*		*25 - 145*	*03/24/11 16:09*	*03/25/11 19:22*	*1.00*
Terphenyl-d14	*76*		*40 - 150*	*03/24/11 16:09*	*03/25/11 19:22*	*1.00*

Lab Sample ID: 11C0955-BS1
Matrix: Non-aqueous
Analysis Batch: 11C0955

Client Sample ID: 11C0955-BS1
Prep Type: total
Prep Batch: 11C0955_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Acenaphthene	2.9412	2.62		mg/kg wet		89	30 - 150
Acenaphthylene	2.9412	2.59		mg/kg wet		88	35 - 150
Anthracene	2.9412	2.51		mg/kg wet		85	40 - 150
Benzo (a) anthracene	2.9412	2.81		mg/kg wet		96	40 - 150
Benzo (b) fluoranthene	2.9412	2.69		mg/kg wet		91	30 - 150
Benzo (g,h,i) perylene	2.9412	2.71		mg/kg wet		92	25 - 150
Benzo (k) fluoranthene	2.9412	2.59		mg/kg wet		88	35 - 150
Benzo (a) pyrene	2.9412	3.16		mg/kg wet		107	35 - 150
Benzyl alcohol	2.9412	2.52		mg/kg wet		86	20 - 150
Bis(2-chloroethoxy)methane	2.9412	2.59		mg/kg wet		88	30 - 150
Bis(2-chloroethyl)ether	2.9412	2.51		mg/kg wet		85	20 - 150
Bis(2-chloroisopropyl) ether	2.9412	2.40		mg/kg wet		82	15 - 150
Bis(2-ethylhexyl)phthalate	2.9412	2.80		mg/kg wet		95	25 - 150
4-Bromophenyl phenyl ether	2.9412	2.69		mg/kg wet		91	35 - 150
Butyl benzyl phthalate	2.9412	2.90		mg/kg wet		98	30 - 150
4-Chloroaniline	2.9412	2.65		mg/kg wet		90	15 - 150
4-Chloro-3-methylphenol	2.9412	2.68		mg/kg wet		91	30 - 150
2-Chloronaphthalene	2.9412	2.65		mg/kg wet		90	30 - 150
2-Chlorophenol	2.9412	2.52		mg/kg wet		86	20 - 150
Chrysene	2.9412	2.63		mg/kg wet		89	30 - 150
Dibenzofuran	2.9412	2.53		mg/kg wet		86	35 - 150
1,2-Dichlorobenzene	2.9412	2.43		mg/kg wet		83	20 - 150
1,3-Dichlorobenzene	2.9412	2.44		mg/kg wet		83	20 - 145
1,4-Dichlorobenzene	2.9412	2.46		mg/kg wet		84	25 - 145
Dibenz (a,h) anthracene	2.9412	2.77		mg/kg wet		94	25 - 150
2,4-Dichlorophenol	2.9412	2.65		mg/kg wet		90	30 - 150
Diethyl phthalate	2.9412	2.68		mg/kg wet		91	35 - 150
2,4-Dimethylphenol	2.9412	2.52		mg/kg wet		86	25 - 145
Dimethyl phthalate	2.9412	2.64		mg/kg wet		90	40 - 150

Method: SW 8270C - Semivolatile Organics by GC/MS (Continued)

Lab Sample ID: 11C0955-BS1
Matrix: Non-aqueous
Analysis Batch: 11C0955

Client Sample ID: 11C0955-BS1
Prep Type: total
Prep Batch: 11C0955_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
4,6-Dinitro-2-methylphenol	2.9412	2.46		mg/kg wet		84	10 - 150
2,4-Dinitrotoluene	2.9412	2.38		mg/kg wet		81	35 - 150
2,6-Dinitrotoluene	2.9412	2.58		mg/kg wet		88	35 - 150
Di-n-octyl phthalate	2.9412	3.02		mg/kg wet		103	35 - 150
Fluoranthene	2.9412	2.61		mg/kg wet		89	35 - 150
Fluorene	2.9412	2.62		mg/kg wet		89	35 - 150
Hexachlorobenzene	2.9412	2.67		mg/kg wet		91	30 - 150
Hexachlorocyclopentadiene	2.9412	2.43		mg/kg wet		82	20 - 130
Hexachloroethane	2.9412	2.53		mg/kg wet		86	15 - 150
Indeno (1,2,3-cd) pyrene	2.9412	2.74		mg/kg wet		93	25 - 150
Isophorone	2.9412	2.71		mg/kg wet		92	25 - 150
2-Methylnaphthalene	2.9412	2.75		mg/kg wet		93	30 - 150
2-Methylphenol (o-Cresol)	2.9412	2.49		mg/kg wet		85	20 - 150
3&4-Methylphenol (m&p Cresol)	2.9412	2.79		mg/kg wet		95	25 - 150
Naphthalene	2.9412	2.67		mg/kg wet		91	30 - 150
Nitrobenzene	2.9412	2.46		mg/kg wet		84	25 - 150
2-Nitrophenol	2.9412	2.68		mg/kg wet		91	25 - 150
N-Nitrosodi-n-propylamine	2.9412	2.55		mg/kg wet		87	20 - 150
Pentachlorophenol	2.9412	2.44		mg/kg wet		83	15 - 145
Phenanthrene	2.9412	2.39		mg/kg wet		81	40 - 150
Phenol	2.9412	2.40		mg/kg wet		81	20 - 150
Pyrene	2.9412	2.64		mg/kg wet		90	35 - 150
1,2,4-Trichlorobenzene	2.9412	2.71		mg/kg wet		92	30 - 150
2,4,5-Trichlorophenol	2.9412	2.47		mg/kg wet		84	25 - 150
2,4,6-Trichlorophenol	2.9412	2.60		mg/kg wet		88	25 - 150

Surrogate	*LCS % Recovery*	*LCS Qualifier*	*Limits*
2-Fluorophenol	*76*		*20 - 135*
Phenol-d6	*78*		*20 - 150*
Nitrobenzene-d5	*86*		*30 - 135*
2-Fluorobiphenyl	*72*		*40 - 135*
2,4,6-Tribromophenol	*87*		*25 - 145*
Terphenyl-d14	*75*		*40 - 150*

Method: SW 7471A - Total Metals

Lab Sample ID: 11C0927-BLK1
Matrix: Non-aqueous
Analysis Batch: 11C0927

Client Sample ID: 11C0927-BLK1
Prep Type: total
Prep Batch: 11C0927_P

Analyte	Blank Result	Blank Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00833		0.00833	mg/kg wet		03/24/11 11:56	03/25/11 12:57	1.00

Lab Sample ID: 11C0927-BS1
Matrix: Non-aqueous
Analysis Batch: 11C0927

Client Sample ID: 11C0927-BS1
Prep Type: total
Prep Batch: 11C0927_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Mercury	0.083333	0.0955		mg/kg wet		115	80 - 120

Method: SW 7471A - Total Metals (Continued)

Lab Sample ID: 11C0927-BS2 — **Client Sample ID: 11C0927-BS2**
Matrix: Non-aqueous — **Prep Type: total**
Analysis Batch: 11C0927 — **Prep Batch: 11C0927_P**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Mercury	0.083333	0.0965		mg/kg wet		116	80 - 120

Lab Sample ID: 11C0927-BS3 — **Client Sample ID: 11C0927-BS3**
Matrix: Non-aqueous — **Prep Type: total**
Analysis Batch: 11C0927 — **Prep Batch: 11C0927_P**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Mercury	0.083333	0.0943		mg/kg wet		113	80 - 120

Lab Sample ID: 11C0927-BS4 — **Client Sample ID: 11C0927-BS4**
Matrix: Non-aqueous — **Prep Type: total**
Analysis Batch: 11C0927 — **Prep Batch: 11C0927_P**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Mercury	0.083333	0.0985		mg/kg wet		118	80 - 120

Lab Sample ID: 11C0927-MS1 — **Client Sample ID: TT-TSSP-01-C**
Matrix: Non-aqueous — **Prep Type: total**
Analysis Batch: 11C0927 — **Prep Batch: 11C0927_P**

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Result	Matrix Spike Qualifier	Unit	D	% Rec	% Rec. Limits
Mercury	0.342	M	0.092379	0.580	M	mg/kg dry	☼	258	75 - 125

Lab Sample ID: 11C0927-MSD1 — **Client Sample ID: TT-TSSP-01-C**
Matrix: Non-aqueous — **Prep Type: total**
Analysis Batch: 11C0927 — **Prep Batch: 11C0927_P**

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Dup Result	Matrix Spike Dup Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Mercury	0.342	M	0.095311	0.463	M	mg/kg dry	☼	127	75 - 125	22	20

Lab Sample ID: 11C0927-DUP1 — **Client Sample ID: TT-TSSP-01-C**
Matrix: Non-aqueous — **Prep Type: total**
Analysis Batch: 11C0927 — **Prep Batch: 11C0927_P**

Analyte	Sample Result	Sample Qualifier	Duplicate Result	Duplicate Qualifier	Unit	D	RPD	RPD Limit
Mercury	0.342	M	0.320		mg/kg dry	☼	7	10

Method: SW 6010B - Total Metals

Lab Sample ID: 11C0770-BLK1 — **Client Sample ID: 11C0770-BLK1**
Matrix: Non-aqueous — **Prep Type: total**
Analysis Batch: 11C0770 — **Prep Batch: 11C0770_P**

Analyte	Blank Result	Blank Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<3.33		3.33	mg/kg wet		03/21/11 11:07	03/24/11 11:26	1.00
Arsenic	<3.33		3.33	mg/kg wet		03/21/11 11:07	03/24/11 11:26	1.00
Beryllium	<0.167		0.167	mg/kg wet		03/21/11 11:07	03/24/11 11:26	1.00
Cadmium	<1.00		1.00	mg/kg wet		03/21/11 11:07	03/24/11 11:26	1.00
Chromium	<1.33		1.33	mg/kg wet		03/21/11 11:07	03/24/11 11:26	1.00
Copper	<0.666		0.666	mg/kg wet		03/21/11 11:07	03/24/11 11:26	1.00
Lead	<2.66		2.66	mg/kg wet		03/21/11 11:07	03/24/11 11:26	1.00

Method: SW 6010B - Total Metals (Continued)

Lab Sample ID: 11C0770-BLK1
Matrix: Non-aqueous
Analysis Batch: 11C0770

Client Sample ID: 11C0770-BLK1
Prep Type: total
Prep Batch: 11C0770_P

Analyte	Blank Result	Blank Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Nickel	<0.333		0.333	mg/kg wet		03/21/11 11:07	03/24/11 11:26	1.00
Selenium	<3.33		3.33	mg/kg wet		03/21/11 11:07	03/24/11 11:26	1.00
Silver	<1.33		1.33	mg/kg wet		03/21/11 11:07	03/24/11 11:26	1.00
Thallium	<3.33		3.33	mg/kg wet		03/21/11 11:07	03/24/11 11:26	1.00
Zinc	<1.67		1.67	mg/kg wet		03/21/11 11:07	03/24/11 11:26	1.00

Lab Sample ID: 11C0770-BS1
Matrix: Non-aqueous
Analysis Batch: 11C0770

Client Sample ID: 11C0770-BS1
Prep Type: total
Prep Batch: 11C0770_P

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Antimony	33.333	29.8		mg/kg wet		89	80 - 120
Arsenic	33.333	29.7		mg/kg wet		89	80 - 120
Beryllium	33.333	29.9		mg/kg wet		90	80 - 120
Cadmium	33.333	30.1		mg/kg wet		90	80 - 120
Chromium	33.333	29.3		mg/kg wet		88	80 - 120
Copper	33.333	30.2		mg/kg wet		91	80 - 120
Lead	33.333	28.9		mg/kg wet		87	80 - 120
Nickel	33.333	29.0		mg/kg wet		87	80 - 120
Selenium	33.333	29.7		mg/kg wet		89	80 - 120
Silver	33.333	29.2		mg/kg wet		88	80 - 120
Thallium	166.67	143		mg/kg wet		86	80 - 120
Zinc	33.333	29.8		mg/kg wet		90	80 - 120

Lab Sample ID: 11C0770-MS1
Matrix: Non-aqueous
Analysis Batch: 11C0770

Client Sample ID: TT-TSSP-01-C
Prep Type: total
Prep Batch: 11C0770_P

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Result	Matrix Spike Qualifier	Unit	D	% Rec	% Rec. Limits
Antimony	<38.5	M, RL3	38.991	21.9	M	mg/kg dry	☼	56	75 - 125
Arsenic	8.81	RL3	38.991	45.9		mg/kg dry	☼	95	75 - 125
Beryllium	<1.93	RL3	38.991	36.6		mg/kg dry	☼	93	75 - 125
Cadmium	<11.5	RL3	38.991	44.2		mg/kg dry	☼	112	75 - 125
Chromium	<15.4	RL3	38.991	44.5		mg/kg dry	☼	91	75 - 125
Copper	176	M	38.991	70.8	M	mg/kg dry	☼	-270	75 - 125
Lead	41.0	M	38.991	80.2		mg/kg dry	☼	100	75 - 125
Nickel	10.3		38.991	48.4		mg/kg dry	☼	98	75 - 125
Selenium	<38.5	RL3	38.991	37.7		mg/kg dry	☼	97	75 - 125
Silver	<15.4	RL3	38.991	38.4		mg/kg dry	☼	98	75 - 125
Thallium	<11.5	RL3	194.96	177		mg/kg dry	☼	91	75 - 125
Zinc	58.8		38.991	99.3		mg/kg dry	☼	104	75 - 125

Lab Sample ID: 11C0770-MSD1
Matrix: Non-aqueous
Analysis Batch: 11C0770

Client Sample ID: TT-TSSP-01-C
Prep Type: total
Prep Batch: 11C0770_P

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Dup Result	Matrix Spike Dup Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Antimony	<38.5	M, RL3	38.739	22.0	M	mg/kg dry	☼	57	75 - 125	0.6	20
Arsenic	8.81	RL3	38.739	43.7		mg/kg dry	☼	90	75 - 125	5	20
Beryllium	<1.93	RL3	38.739	35.7		mg/kg dry	☼	91	75 - 125	3	20

Method: SW 6010B - Total Metals (Continued)

Lab Sample ID: 11C0770-MSD1 — **Client Sample ID: TT-TSSP-01-C**
Matrix: Non-aqueous — **Prep Type: total**
Analysis Batch: 11C0770 — **Prep Batch: 11C0770_P**

Analyte	Sample Result	Sample Qualifier	Spike Added	Matrix Spike Dup Result	Matrix Spike Dup Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Cadmium	<11.5	RL3	38.739	43.1		mg/kg dry	☼	110	75 - 125	3	20
Chromium	<15.4	RL3	38.739	47.8		mg/kg dry	☼	101	75 - 125	7	20
Copper	176	M	38.739	66.1	M	mg/kg dry	☼	-284	75 - 125	7	20
Lead	41.0	M	38.739	64.3	M	mg/kg dry	☼	60	75 - 125	22	20
Nickel	10.3		38.739	49.9		mg/kg dry	☼	102	75 - 125	3	20
Selenium	<38.5	RL3	38.739	37.2		mg/kg dry	☼	96	75 - 125	1	20
Silver	<15.4	RL3	38.739	38.3		mg/kg dry	☼	99	75 - 125	0.2	20
Thallium	<11.5	RL3	193.70	173		mg/kg dry	☼	89	75 - 125	2	20
Zinc	58.8		38.739	101		mg/kg dry	☼	109	75 - 125	2	20

Method: 160.3 MOD - Solids, Percent (as TS - 160.3 MOD) - Solids

Lab Sample ID: A1C170401001X — **Client Sample ID: INTRA-LAB QC**
Matrix: Solid — **Prep Type: Total**
Analysis Batch: 1081198

Analyte	Sample Result	Sample Qualifier		LR1 Result	LR1 Qualifier	Unit	D			RPD	RPD Limit
Percent Solids	21.9			19.8		%				10	20

Lab Sample ID: A1C210434006X — **Client Sample ID: DUC1063-06 DUP**
Matrix: Solid — **Prep Type: Total**
Analysis Batch: 1081198

Analyte	Sample Result	Sample Qualifier		LR1 Result	LR1 Qualifier	Unit	D			RPD	RPD Limit
Percent Solids	88.0			86.1		%				2.1	20

Lab Sample ID: A1C220000297B — **Client Sample ID: INTRA-LAB BLANK**
Matrix: Solid — **Prep Type: Total**
Analysis Batch: 1081297

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	<10.0		10.0	%			03/23/11 13:34	1

Method: SW 846 - General Chemistry Parameters

Lab Sample ID: 11C0773-DUP1 — **Client Sample ID: DUC0995-01**
Matrix: Non-aqueous — **Prep Type: total**
Analysis Batch: 11C0773 — **Prep Batch: 11C0773_P**

Analyte	Sample Result	Sample Qualifier		Duplicate Result	Duplicate Qualifier	Unit	D			RPD	RPD Limit
Dry Weight	34.6			34.0		%				2	10

Lab Sample ID: 11C0773-DUP2 — **Client Sample ID: TT-TSSP-01-C**
Matrix: Non-aqueous — **Prep Type: total**
Analysis Batch: 11C0773 — **Prep Batch: 11C0773_P**

Analyte	Sample Result	Sample Qualifier		Duplicate Result	Duplicate Qualifier	Unit	D			RPD	RPD Limit
Dry Weight	83.3			83.9		%				0.7	10

Method: SW 846 - General Chemistry Parameters (Continued)

Lab Sample ID: 11C0776-DUP1
Matrix: Non-aqueous
Analysis Batch: 11C0776

Client Sample ID: DUC1068-05
Prep Type: total
Prep Batch: 11C0776_P

Analyte	Sample Result	Sample Qualifier		Duplicate Result	Duplicate Qualifier	Unit	D			RPD	RPD Limit
Dry Weight	84.2			83.9		%				0.3	10

Lab Sample ID: 11C0776-DUP2
Matrix: Non-aqueous
Analysis Batch: 11C0776

Client Sample ID: DUC1106-01
Prep Type: total
Prep Batch: 11C0776_P

Analyte	Sample Result	Sample Qualifier		Duplicate Result	Duplicate Qualifier	Unit	D			RPD	RPD Limit
Dry Weight	79.0			78.7		%				0.3	10

Certification Summary

Client: Weston Solutions Inc. (Dayton, OH)
Project/Site: 12473.005.007

TestAmerica Job ID: DUC1063

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica Dayton	Indiana	State Program	5	C-OH-10
TestAmerica Dayton	Kentucky	Kentucky UST	4	8
TestAmerica Dayton	Michigan	State Program	5	9931
TestAmerica Dayton	Ohio	OVAP	5	CL0018
TestAmerica Dayton	Ohio	State Program	5	OH-00010
TestAmerica Dayton	Ohio	State Program	5	OH-00010
TestAmerica Dayton	Ohio	State Program	5	OH-00010
TestAmerica Dayton	Ohio	State Program	5	OH-00010
TestAmerica Dayton	Ohio	State Program	5	OH-00010
TestAmerica Dayton	Pennsylvania	NELAC	3	68-00577
TestAmerica North Canton		USDA		P330-08-00123
TestAmerica North Canton	ACLASS	DoD ELAP	0	ADE-1437
TestAmerica North Canton	California	NELAC	9	01144CA
TestAmerica North Canton	Connecticut	State Program	1	PH-0590
TestAmerica North Canton	Florida	NELAC	4	E87225
TestAmerica North Canton	Georgia	Georgia EPD	4	N/A
TestAmerica North Canton	Illinois	NELAC	5	200004
TestAmerica North Canton	Kansas	NELAC	7	E-10336
TestAmerica North Canton	Kentucky	State Program	4	58
TestAmerica North Canton	Minnesota	NELAC	5	039-999-348
TestAmerica North Canton	Nevada	State Program	9	OH-000482008A
TestAmerica North Canton	New Jersey	NELAC	2	OH001
TestAmerica North Canton	New York	NELAC	2	10975
TestAmerica North Canton	New York	NELAC	2	10975
TestAmerica North Canton	Ohio	OVAP	5	CL0024
TestAmerica North Canton	Pennsylvania	NELAC	3	68-00340
TestAmerica North Canton	West Virginia	West Virginia DEP	3	210
TestAmerica North Canton	Wisconsin	State Program	5	999518190

Accreditation may not be offered or required for all methods and analytes reported in this package. Please contact your project manager for the laboratory's current list of certified methods and analytes.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

REVISED

PROJECT NO. DUC1063

DUC1063

Lot #: A1C210434

Shelly Howard

TestAmerica Dayton
4738 Gateway Circle Drive
Kettering, OH 45440

TESTAMERICA LABORATORIES, INC.

Designee for

Approved for release.
Denise D. Heckler
Project Manager
4/11/2011 1:52 PM

Amy L. McCormick
Project Manager
amy.mccormick@testamericainc.com

April 08, 2011

TestAmerica Laboratories, Inc.
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ACCREDITED IN ACCORDANCE WITH nelac

CASE NARRATIVE

A1C210434

Revised

The following report contains the analytical results for seven solid samples submitted to TestAmerica North Canton by TestAmerica Dayton from the DUC1063 Site, project number DUC1063. The samples were received March 21, 2011, according to documented sample acceptance procedures and were analyzed in accordance with Ohio Voluntary Action Program protocols, where applicable.

Report has been revised to provide PCB verification analysis on sample DUC1063-06.

TestAmerica utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameter(s) listed on the analytical methods summary page in accordance with the method(s) indicated. Preliminary results were provided to Shelly Howard on March 25, 2011. A summary of QC data for these analyses is included at the back of the report.

TestAmerica North Canton attests to the validity of the laboratory data generated by TestAmerica facilities reported herein. All analyses performed by TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the applicable methods. TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by a dry weight adjustment footnote at the bottom of the analytical report page. The list of parameters which are never reported on a dry weight basis is included on the Sample Summary.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory. This laboratory report is confidential and is intended for the sole use of TestAmerica and its client.

All parameters were evaluated to the reporting limit.

Please refer to the Quality Control Elements Narrative following this case narrative for additional quality control information.

If you have any questions, please call the Project Manager, Amy L. McCormick, at 330-497-9396.

CASE NARRATIVE (continued)

This report is sequentially paginated. The final page of the report is labeled as "END OF REPORT."

SUPPLEMENTAL QC INFORMATION

SAMPLE RECEIVING

The temperatures of the coolers upon sample receipt were 1.3 and 1.9°C.

POLYCHLORINATED BIPHENYLS-8082

The analytical results met the requirements of the laboratory's QA/QC program.

GENERAL CHEMISTRY

The analytical results met the requirements of the laboratory's QA/QC program.

QUALITY CONTROL ELEMENTS NARRATIVE

TestAmerica conducts a quality assurance/quality control (QA/QC) program designed to provide scientifically valid and legally defensible data. Toward this end, several types of quality control indicators are incorporated into the QA/QC program, which is described in detail in QA Policy, QA-003. These indicators are introduced into the sample testing process to provide a mechanism for the assessment of the analytical data. Program or agency specific requirements take precedence over the requirements listed in this narrative.

QC BATCH

Environmental samples are taken through the testing process in groups called Quality Control Batches (QC batches). A QC batch contains up to twenty environmental samples of a similar matrix (water, soil) that are processed using the same reagents and standards. TestAmerica North Canton requires that each environmental sample be associated with a QC batch.

Several quality control samples are included in each QC batch and are processed identically to the twenty environmental samples.

For SW846/RCRA methods, QC samples include a Method Blank (MB), a Laboratory Control Sample (LCS) and, a Matrix Spike/Matrix Spike Duplicate (MS/MSD) pair or a Matrix Spike/Sample Duplicate (MS/DU) pair.
For 600 series/CWA methods, QC samples include a Method Blank (MB), a Laboratory Control Sample (LCS) and, where appropriate, a Matrix Spike (MS). An MS is prepared and analyzed at a 10% frequency for GC Methods and at a 5% frequency for GC/MS methods.

LABORATORY CONTROL SAMPLE

The Laboratory Control Sample is a QC sample that is created by adding known concentrations of a full or partial set of target analytes to a matrix similar to that of the environmental samples in the QC batch. Multi peak responders may not be included in the target spike list due to co-elution. The LCS analyte recovery results are used to monitor the analytical process and provide evidence that the laboratory is performing the method within acceptable guidelines. Failure to meet the established recovery guidelines requires the repreparation and reanalysis of all samples in the QC batch, with the exception of poor performing analytes. A list of these analytes is listed below. No corrective action is taken if these analytes do not meet criteria.Comparison of only the failed parameters from the first batch are evaluated. The only exception to the rework requirement is that if the LCS recoveries are biased high and the associated sample is ND (non-detected) for the parameter(s) of interest, the batch is acceptable.

Poor performers

Method 8270 Water and Solid:	
4-Nitrophenol	3,3' – Dichlorobenzidine
Benzoic Acid	2,4,6 - Tribromophenol
Phenol	2,4-Dinitrophenol
Phenol-d5	Pentachlorophenol
4,6-Dinitro-2-methylphenol	Hexachlorocyclopentadiene (LCG only)
Benzyl Alcohol	4-Chloroaniline
Method 8151 Solid	
Dinoseb	
Method 8260 Water and Solid	
Dichlorodifluoromethane	Hexachlorobutadiene
Trichlorofluoromethane	Naphthalene
Chloroethane	1,2,3-Trichlorobenzene
Acetone	1,2,4-Trichlorobenzene
Bromomethane	2,2-Dichloropropane
Bromoform	Chloromethane

METHOD BLANK

The Method Blank is a QC sample consisting of all the reagents used in analyzing the environmental samples contained in the QC batch. Method Blank results are used to determine if interference or contamination in the analytical system could lead to the reporting of false positive data or elevated analyte concentrations. All target analytes must be below the reporting limits (RL) or the associated sample(s) must be ND except under the following circumstances:

- Common organic contaminants may be present at concentrations up to 5 times the reporting limits. Common metals contaminants may be present at concentrations up to 2 times the reporting limit, or the reported blank concentration must be ten fold less than the concentration reported in the associated environmental samples. (See common laboratory contaminants listed in the table.)

Volatile (GC or GC/MS)	Semivolatile (GC/MS)	Metals ICP-MS	Metals ICP Trace
Methylene Chloride, Acetone, 2-Butanone	Phthalate Esters	Copper, Iron, Zinc, Lead, Calcium, Magnesium, Potassium, Sodium, Barium, Chromium, Manganese	Copper, Iron, Zinc, Lead

- Organic blanks will be accepted if compounds detected in the blank are present in the associated samples at levels 10 times the blank level. Inorganic blanks will be accepted if elements detected in the blank are present in the associated samples at 20 times the blank level.

- Blanks will be accepted if the compounds/elements detected are not present in any of the associated environmental samples.

Failure to meet these Method Blank criteria requires the repreparation and reanalysis of all samples in the QC batch.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

A Matrix Spike and a Matrix Spike Duplicate are a pair of environmental samples to which known concentrations of a full or partial set of target analytes are added. The MS/MSD results are determined in the same manner as the results of the environmental sample used to prepare the MS/MSD. The analyte recoveries and the relative percent differences (RPDs) of the recoveries are calculated and used to evaluate the effect of the sample matrix on the analytical results. Due to the potential variability of the matrix of each sample, the MS/MSD results do not have an immediate bearing on any samples except the one spiked; therefore, the associated batch MS/MSD may not reflect the same compounds as the samples contained in the analytical report. When these MS/MSD results fail to meet acceptance criteria, the data is evaluated. If the LCS is within acceptance criteria, the batch is considered acceptable.

For certain methods, a Matrix Spike/Sample Duplicate may be included in the QC batch in place of the MS/MSD. For the parameters (i.e. pH, ignitability) where it is not possible to prepare a spiked sample, a Sample Duplicate may be included in the QC batch. However, a Sample Duplicate is less likely to provide usable precision statistics depending on the likelihood of finding concentrations below the standard reporting limit. When the Sample Duplicate result fails to meet acceptance criteria, the data is evaluated.

For certain methods (600 series methods/CWA), a Matrix Spike is required in place of a Matrix Spike/Matrix Spike Duplicate or Matrix Spike/Sample Duplicate.

The acceptance criteria do not apply to samples that are diluted.

SURROGATE COMPOUNDS

In addition to these batch-related QC indicators, each organic environmental and QC sample is spiked with surrogate compounds. Surrogates are organic chemicals that behave similarly to the analytes of interest and that are rarely present in the environment. Surrogate recoveries are used to monitor the individual performance of a sample in the analytical system.

If surrogate recoveries are biased high in the LCS, or the Method Blank, and the associated sample(s) are ND, the batch is acceptable. Otherwise, if the LCS, or Method Blank surrogate(s) fail to meet recovery criteria, the entire sample batch is reprepared and reanalyzed. If the surrogate recoveries are outside criteria for environmental samples, the samples will be reprepared and reanalyzed unless there is objective evidence of matrix interference or if the sample dilution is greater than the threshold outlined in the associated method SOP.

The acceptance criteria do not apply to samples that are diluted. All other surrogate recoveries will be reported.

For the GC/MS BNA methods, the surrogate criterion is that two of the three surrogates for each fraction must meet acceptance criteria. The third surrogate must have a recovery of ten percent or greater. For the Pesticide and PCB methods, the surrogate criterion is that one of two surrogate compounds must meet acceptance criteria. The second surrogate must have a recovery of 10% or greater.

TestAmerica Certifications and Approvals:

The laboratory is certified for the analytes listed on the documents below. These are available upon request.
California (#01144CA), Connecticut (#PH-0590), Florida (#E87225),

Illinois (#200004), Kansas (#E10336), Minnesota (#39-999-348), New Jersey (#OH001), New York (#10975), Nevada (#OH-000482008A), OhioVAP (#CL0024), Pennsylvania (#008), West Virginia (#210), Wisconsin (#999518190), DoD ELAP (ADE-1437) USDA Soil Permit (P33-08-00123)

EXECUTIVE SUMMARY - Detection Highlights

A1C210434

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
DUC1063-01 03/18/11 10:15 001				
Aroclor 1254	82	40	ug/kg	SW846 8082
Percent Solids	82.5	10.0	%	MCAWW 160.3 MOD
DUC1063-02 03/18/11 10:35 002				
Percent Solids	79.5	10.0	%	MCAWW 160.3 MOD
DUC1063-03 03/18/11 10:50 003				
Percent Solids	79.7	10.0	%	MCAWW 160.3 MOD
DUC1063-04 03/18/11 11:05 004				
Percent Solids	82.1	10.0	%	MCAWW 160.3 MOD
DUC1063-05 03/18/11 11:20 005				
Aroclor 1254	65	41	ug/kg	SW846 8082
Percent Solids	80.7	10.0	%	MCAWW 160.3 MOD
DUC1063-06 03/18/11 11:40 006				
Aroclor 1242	46	38	ug/kg	SW846 8082
Aroclor 1254	53	38	ug/kg	SW846 8082
Aroclor 1254	59	38	ug/kg	SW846 8082
Percent Solids	88.0	10.0	%	MCAWW 160.3 MOD
DUC1063-07 03/18/11 11:55 007				
Aroclor 1254	150	40	ug/kg	SW846 8082
Percent Solids	81.9	10.0	%	MCAWW 160.3 MOD

ANALYTICAL METHODS SUMMARY

A1C210434

PARAMETER	ANALYTICAL METHOD
PCBs by SW-846 8082	SW846 8082
Total Residue as Percent Solids	MCAWW 160.3 MOD

References:

MCAWW "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and subsequent revisions.

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

SAMPLE SUMMARY

A1C210434

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
MFXQ2	001	DUC1063-01	03/18/11	10:15
MFXQ7	002	DUC1063-02	03/18/11	10:35
MFXQ8	003	DUC1063-03	03/18/11	10:50
MFXQ9	004	DUC1063-04	03/18/11	11:05
MFXRA	005	DUC1063-05	03/18/11	11:20
MFXRC	006	DUC1063-06	03/18/11	11:40
MFXRD	007	DUC1063-07	03/18/11	11:55

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

TestAmerica Dayton

Client Sample ID: DUC1063-01

GC Semivolatiles

Lot-Sample #...: A1C210434-001 **Work Order #...:** MFXQ21AA **Matrix.....:** SO
Date Sampled...: 03/18/11 10:15 **Date Received..:** 03/21/11
Prep Date.....: 03/22/11 **Analysis Date..:** 03/24/11
Prep Batch #...: 1081029
Dilution Factor: 1
% Moisture.....: 17 **Method.....:** SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	40	ug/kg
Aroclor 1221	ND	40	ug/kg
Aroclor 1232	ND	40	ug/kg
Aroclor 1242	ND	40	ug/kg
Aroclor 1248	ND	40	ug/kg
Aroclor 1254	**82**	**40**	**ug/kg**
Aroclor 1260	ND	40	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	82	(10 - 196)
Decachlorobiphenyl	80	(10 - 199)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

TestAmerica Dayton

Client Sample ID: DUC1063-01

General Chemistry

Lot-Sample #...: A1C210434-001 **Work Order #...:** MFXQ2 **Matrix.....:** SO
Date Sampled...: 03/18/11 10:15 **Date Received..:** 03/21/11
% Moisture.....: 17

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids	**82.5**	**10.0**	**%**	**MCAWW 160.3 MOD**	**03/22-03/23/11**	**1081297**

Dilution Factor: 1

TestAmerica Dayton

Client Sample ID: DUC1063-02

GC Semivolatiles

Lot-Sample #...: A1C210434-002 **Work Order #...:** MFXQ71AA **Matrix.....:** SO
Date Sampled...: 03/18/11 10:35 **Date Received..:** 03/21/11
Prep Date.....: 03/22/11 **Analysis Date..:** 03/24/11
Prep Batch #...: 1081029
Dilution Factor: 1
% Moisture.....: 20 **Method.....:** SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	41	ug/kg
Aroclor 1221	ND	41	ug/kg
Aroclor 1232	ND	41	ug/kg
Aroclor 1242	ND	41	ug/kg
Aroclor 1248	ND	41	ug/kg
Aroclor 1254	ND	41	ug/kg
Aroclor 1260	ND	41	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	82	(10 - 196)
Decachlorobiphenyl	66	(10 - 199)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

TestAmerica Dayton

Client Sample ID: DUC1063-02

General Chemistry

Lot-Sample #...: A1C210434-002 **Work Order #...:** MFXQ7 **Matrix.....:** SO
Date Sampled...: 03/18/11 10:35 **Date Received..:** 03/21/11
% Moisture.....: 20

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids	**79.5**	**10.0**	**%**	**MCAWW 160.3 MOD**	**03/22-03/23/11**	**1081297**

Dilution Factor: 1

TestAmerica Dayton

Client Sample ID: DUC1063-03

GC Semivolatiles

Lot-Sample #...: A1C210434-003 **Work Order #...:** MFXQ81AA **Matrix.....:** SO
Date Sampled...: 03/18/11 10:50 **Date Received..:** 03/21/11
Prep Date.....: 03/22/11 **Analysis Date..:** 03/24/11
Prep Batch #...: 1081029
Dilution Factor: 1
% Moisture.....: 20 **Method.....:** SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	41	ug/kg
Aroclor 1221	ND	41	ug/kg
Aroclor 1232	ND	41	ug/kg
Aroclor 1242	ND	41	ug/kg
Aroclor 1248	ND	41	ug/kg
Aroclor 1254	ND	41	ug/kg
Aroclor 1260	ND	41	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	71	(10 - 196)
Decachlorobiphenyl	58	(10 - 199)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

TestAmerica Dayton

Client Sample ID: DUC1063-03

General Chemistry

Lot-Sample #...: A1C210434-003 **Work Order #...:** MFXQ8 **Matrix.....:** SO
Date Sampled...: 03/18/11 10:50 **Date Received..:** 03/21/11
% Moisture.....: 20

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids	**79.7**	**10.0**	**%**	**MCAWW 160.3 MOD**	**03/22-03/23/11**	**1081297**

Dilution Factor: 1

TestAmerica Dayton

Client Sample ID: DUC1063-04

GC Semivolatiles

Lot-Sample #...: A1C210434-004 **Work Order #...:** MFXQ91AA **Matrix.....:** SO
Date Sampled...: 03/18/11 11:05 **Date Received..:** 03/21/11
Prep Date.....: 03/22/11 **Analysis Date..:** 03/24/11
Prep Batch #...: 1081029
Dilution Factor: 1
% Moisture.....: 18 **Method.....:** SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	40	ug/kg
Aroclor 1221	ND	40	ug/kg
Aroclor 1232	ND	40	ug/kg
Aroclor 1242	ND	40	ug/kg
Aroclor 1248	ND	40	ug/kg
Aroclor 1254	ND	40	ug/kg
Aroclor 1260	ND	40	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	88	(10 - 196)
Decachlorobiphenyl	70	(10 - 199)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

TestAmerica Dayton

Client Sample ID: DUC1063-04

General Chemistry

Lot-Sample #...: A1C210434-004 **Work Order #...:** MFXQ9 **Matrix.....:** SO
Date Sampled...: 03/18/11 11:05 **Date Received..:** 03/21/11
% Moisture.....: 18

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids	**82.1**	**10.0**	**%**	**MCAWW 160.3 MOD**	**03/22-03/23/11**	**1081297**

Dilution Factor: 1

TestAmerica Dayton

Client Sample ID: DUC1063-05

GC Semivolatiles

Lot-Sample #...: A1C210434-005 **Work Order #...:** MFXRA1AA **Matrix.....:** SO
Date Sampled...: 03/18/11 11:20 **Date Received..:** 03/21/11
Prep Date.....: 03/22/11 **Analysis Date..:** 03/24/11
Prep Batch #...: 1081029
Dilution Factor: 1
% Moisture.....: 19 **Method.....:** SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	41	ug/kg
Aroclor 1221	ND	41	ug/kg
Aroclor 1232	ND	41	ug/kg
Aroclor 1242	ND	41	ug/kg
Aroclor 1248	ND	41	ug/kg
Aroclor 1254	**65**	**41**	**ug/kg**
Aroclor 1260	ND	41	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	86	(10 - 196)
Decachlorobiphenyl	72	(10 - 199)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

TestAmerica Dayton

Client Sample ID: DUC1063-05

General Chemistry

Lot-Sample #...: A1C210434-005 **Work Order #...:** MFXRA **Matrix.....:** SO
Date Sampled...: 03/18/11 11:20 **Date Received..:** 03/21/11
% Moisture.....: 19

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids	**80.7**	**10.0**	**%**	**MCAWW 160.3 MOD**	**03/22-03/23/11**	**1081297**

Dilution Factor: 1

TestAmerica Dayton

Client Sample ID: DUC1063-06

GC Semivolatiles

Lot-Sample #...: A1C210434-006 **Work Order #...:** MFXRC1AA **Matrix.....:** SO
Date Sampled...: 03/18/11 11:40 **Date Received..:** 03/21/11
Prep Date.....: 03/22/11 **Analysis Date..:** 03/24/11
Prep Batch #...: 1081029
Dilution Factor: 1
% Moisture.....: 12 **Method.....:** SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	38	ug/kg
Aroclor 1221	ND	38	ug/kg
Aroclor 1232	ND	38	ug/kg
Aroclor 1242	**46**	**38**	**ug/kg**
Aroclor 1248	ND	38	ug/kg
Aroclor 1254	**53**	**38**	**ug/kg**
Aroclor 1260	ND	38	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	84	(10 - 196)
Decachlorobiphenyl	71	(10 - 199)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

TestAmerica Dayton

Client Sample ID: DUC1063-06

GC Semivolatiles

Lot-Sample #...: A1C210434-006 **Work Order #...:** MFXRC2AA **Matrix.....:** SO
Date Sampled...: 03/18/11 11:40 **Date Received..:** 03/21/11
Prep Date.....: 04/02/11 **Analysis Date..:** 04/05/11
Prep Batch #...: 1091302
Dilution Factor: 1
% Moisture.....: 12 **Method.....:** SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	38	ug/kg
Aroclor 1221	ND	38	ug/kg
Aroclor 1232	ND	38	ug/kg
Aroclor 1242	ND	38	ug/kg
Aroclor 1248	ND	38	ug/kg
Aroclor 1254	**59**	**38**	**ug/kg**
Aroclor 1260	ND	38	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	90	(10 - 196)
Decachlorobiphenyl	85	(10 - 199)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

TestAmerica Dayton

Client Sample ID: DUC1063-06

General Chemistry

Lot-Sample #...: A1C210434-006 **Work Order #...:** MFXRC **Matrix.....:** SO
Date Sampled...: 03/18/11 11:40 **Date Received..:** 03/21/11
% Moisture.....: 12

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids	**88.0**	**10.0**	**%**	**MCAWW 160.3 MOD**	**03/22-03/23/11**	**1081297**

Dilution Factor: 1

TestAmerica Dayton

Client Sample ID: DUC1063-07

GC Semivolatiles

Lot-Sample #...: A1C210434-007 **Work Order #...:** MFXRD1AA **Matrix.....:** SO
Date Sampled...: 03/18/11 11:55 **Date Received..:** 03/21/11
Prep Date.....: 03/22/11 **Analysis Date..:** 03/24/11
Prep Batch #...: 1081029
Dilution Factor: 1
% Moisture.....: 18 **Method.....:** SW846 8082

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Aroclor 1016	ND	40	ug/kg
Aroclor 1221	ND	40	ug/kg
Aroclor 1232	ND	40	ug/kg
Aroclor 1242	ND	40	ug/kg
Aroclor 1248	ND	40	ug/kg
Aroclor 1254	**150**	**40**	**ug/kg**
Aroclor 1260	ND	40	ug/kg

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	80	(10 - 196)
Decachlorobiphenyl	67	(10 - 199)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

TestAmerica Dayton

Client Sample ID: DUC1063-07

General Chemistry

Lot-Sample #...: A1C210434-007 **Work Order #...:** MFXRD **Matrix.....:** SO
Date Sampled...: 03/18/11 11:55 **Date Received..:** 03/21/11
% Moisture.....: 18

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids	**81.9**	**10.0**	**%**	**MCAWW 160.3 MOD**	**03/22-03/23/11**	**1081297**

Dilution Factor: 1

QUALITY CONTROL SECTION

METHOD BLANK REPORT

GC Semivolatiles

Client Lot #...: A1C210434 **Work Order #...:** MF0JM1AA **Matrix.....:** SOLID
MB Lot-Sample #: A1C220000-029

Prep Date.....: 03/22/11
Analysis Date..: 03/24/11 **Prep Batch #...:** 1081029
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Aroclor 1016	ND	33	ug/kg	SW846 8082
Aroclor 1221	ND	33	ug/kg	SW846 8082
Aroclor 1232	ND	33	ug/kg	SW846 8082
Aroclor 1242	ND	33	ug/kg	SW846 8082
Aroclor 1248	ND	33	ug/kg	SW846 8082
Aroclor 1254	ND	33	ug/kg	SW846 8082
Aroclor 1260	ND	33	ug/kg	SW846 8082

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	83	(10 - 196)
Decachlorobiphenyl	72	(10 - 199)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC Semivolatiles

Client Lot #...: A1C210434 **Work Order #...:** MGG6D1AA **Matrix.....:** SOLID
MB Lot-Sample #: A1D010000-302

Prep Date.....: 04/02/11
Analysis Date..: 04/05/11 **Prep Batch #...:** 1091302
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Aroclor 1016	ND	33	ug/kg	SW846 8082
Aroclor 1221	ND	33	ug/kg	SW846 8082
Aroclor 1232	ND	33	ug/kg	SW846 8082
Aroclor 1242	ND	33	ug/kg	SW846 8082
Aroclor 1248	ND	33	ug/kg	SW846 8082
Aroclor 1254	ND	33	ug/kg	SW846 8082
Aroclor 1260	ND	33	ug/kg	SW846 8082

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	89	(10 - 196)
Decachlorobiphenyl	82	(10 - 199)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

General Chemistry

Client Lot #...: A1C210434 **Matrix.....:** SOLID

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids		Work Order #: MF12C1AA		MB Lot-Sample #:	A1C220000-297	
	ND	10.0	%	MCAWW 160.3 MOD	03/22-03/23/11	1081297
		Dilution Factor: 1				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC Semivolatiles

Client Lot #...: A1C210434 **Work Order #...:** MF0JM1AC **Matrix.....:** SOLID
LCS Lot-Sample#: A1C220000-029
Prep Date.....: 03/22/11 **Analysis Date..:** 03/24/11
Prep Batch #...: 1081029
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
Aroclor 1016	**96**	**(34 - 127)**	**SW846 8082**
Aroclor 1260	**92**	**(32 - 141)**	**SW846 8082**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	97	(10 - 196)
Decachlorobiphenyl	84	(10 - 199)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC Semivolatiles

Client Lot #...: A1C210434 **Work Order #...:** MGG6D1AC **Matrix.....:** SOLID
LCS Lot-Sample#: A1D010000-302
Prep Date.....: 04/02/11 **Analysis Date..:** 04/05/11
Prep Batch #...: 1091302
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
Aroclor 1016	**91**	**(34 - 127)**	**SW846 8082**
Aroclor 1260	**79**	**(32 - 141)**	**SW846 8082**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	96	(10 - 196)
Decachlorobiphenyl	90	(10 - 199)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC Semivolatiles

Client Lot #...: A1C210434 **Work Order #...:** MFXQ21AD-MS **Matrix.....:** SO
MS Lot-Sample #: A1C210434-001 MFXQ21AE-MSD
Date Sampled...: 03/18/11 10:15 **Date Received..:** 03/21/11
Prep Date.....: 03/22/11 **Analysis Date..:** 03/24/11
Prep Batch #...: 1081029
Dilution Factor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Aroclor 1016	**76**	**(10 - 199)**			**SW846 8082**
	82	**(10 - 199)**	**7.8**	**(0-30)**	**SW846 8082**
Aroclor 1260	**84**	**(10 - 199)**			**SW846 8082**
	98	**(10 - 199)**	**16**	**(0-30)**	**SW846 8082**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	75	(10 - 196)
	82	(10 - 196)
Decachlorobiphenyl	64	(10 - 199)
	77	(10 - 199)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

Results and reporting limits have been adjusted for dry weight.

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC Semivolatiles

Client Lot #...: A1C210434 **Work Order #...:** MGGMF1A1-MS **Matrix.....:** SOLID
MS Lot-Sample #: A1D010499-007 MGGMF1A2-MSD
Date Sampled...: 03/31/11 11:05 **Date Received..:** 04/01/11
Prep Date.....: 04/02/11 **Analysis Date..:** 04/05/11
Prep Batch #...: 1091302
Dilution Factor: 1 **% Moisture.....:** 6.2

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Aroclor 1016	**86**	**(10 - 199)**			**SW846 8082**
	85	**(10 - 199)**	**0.87**	**(0-30)**	**SW846 8082**
Aroclor 1260	**82**	**(10 - 199)**			**SW846 8082**
	80	**(10 - 199)**	**1.5**	**(0-30)**	**SW846 8082**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Tetrachloro-m-xylene	87	(10 - 196)
	84	(10 - 196)
Decachlorobiphenyl	87	(10 - 199)
	88	(10 - 199)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

Results and reporting limits have been adjusted for dry weight.

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: A1C210434 **Work Order #...:** MFQ2D-SMP **Matrix.....:** SOLID
MFQ2D-DUP
Date Sampled...: 02/01/11 12:05 **Date Received..:** 02/03/11
% Moisture.....: 78

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids						SD Lot-Sample #: A1C170401-001		
	21.9	19.8	%	10	(0-20)	MCAWW 160.3 MOD	03/22-03/23/11	1081297

Dilution Factor: 1

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: A1C210434 **Work Order #...:** MFXRC-SMP **Matrix.....:** SO
MFXRC-DUP
Date Sampled...: 03/18/11 11:40 **Date Received..:** 03/21/11
% Moisture.....: 12

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Percent Solids						SD Lot-Sample #: A1C210434-006		
	88.0	86.1	%	2.1	(0-20)	MCAWW 160.3 MOD	03/22-03/23/11	1081297

Dilution Factor: 1

SUBCONTRACT ORDER

TestAmerica Dayton

DUC1063

SENDING LABORATORY:

TestAmerica Dayton
4738 Gateway Circle
Dayton, OH 45440
Phone: 800-572-9839
Fax: 937-499-1249
Project Manager: Shelly A. Howard

RECEIVING LABORATORY:

TestAmerica North Canton
4101 Shuffel Dr. NW
North Canton, OH 44720
Phone :330-497-9396
Fax: 330-497-0772

Analysis	Due	Expires	Laboratory ID	Comments
Sample ID: DUC1063-01	**Non-aque**	**Sampled:03/18/11 10:15**		
PCBs SW 8082	03/25/11 23:00	03/17/12 10:15		VAP
Containers Supplied:				
4 oz. Glass Jar (B)				
Sample ID: DUC1063-02	**Non-aque**	**Sampled:03/18/11 10:35**		
PCBs SW 8082	03/25/11 23:00	03/17/12 10:35		VAP
Containers Supplied:				
4 oz. Glass Jar (B)				
Sample ID: DUC1063-03	**Non-aque**	**Sampled:03/18/11 10:50**		
PCBs SW 8082	03/25/11 23:00	03/17/12 10:50		VAP
Containers Supplied:				
4 oz. Glass Jar (B)				
Sample ID: DUC1063-04	**Non-aque**	**Sampled:03/18/11 11:05**		
PCBs SW 8082	03/25/11 23:00	03/17/12 11:05		VAP
Containers Supplied:				
4 oz. Glass Jar (B)				
Sample ID: DUC1063-05	**Non-aque**	**Sampled:03/18/11 11:20**		
PCBs SW 8082	03/25/11 23:00	03/17/12 11:20		VAP
Containers Supplied:				
4 oz. Glass Jar (B)				
Sample ID: DUC1063-06	**Non-aque**	**Sampled:03/18/11 11:40**		
PCBs SW 8082	03/25/11 23:00	03/17/12 11:40		VAP
Containers Supplied:				
4 oz. Glass Jar (B)				

Released By	Date	Received By	Date
[signature]	3/18/11 1715	[signature]	3/21/11 0930
Released By	Date	Received By	Date

SUBCONTRACT ORDER

TestAmerica Dayton

DUC1063

Analysis	Due	Expires	Laboratory ID	Comments
Sample ID: DUC1063-07	**Non-aque**	**Sampled:03/18/11 11:55**		
PCBs SW 8082	03/25/11 23:00	03/17/12 11:55		VAP
Containers Supplied:				
4 oz. Glass Jar (B)				

Released By	Date	Received By	Date
[signature]	3/18/11 17:15	[signature]	3/21/11 0930
Released By	Date	Received By	Date

TestAmerica Cooler Receipt Form/Narrative **Lot Number:** 410210434
North Canton Facility

Client TA-Dayton Project DUC Idle3 By: (Signature)
Cooler Received on 3/21/11 Opened on 3/21/11
FedEx ☒ UPS ☐ DHL ☐ FAS ☐ Stetson ☐ Client Drop Off ☐ TestAmerica Courier ☐ Other
TestAmerica Cooler # Multiple Coolers ☒ Foam Box ☐ Client Cooler ☐ Other

1. Were custody seals on the outside of the cooler(s)? Yes ☒ No ☐ Intact? Yes ☒ No ☐ NA ☐
   If YES, Quantity 2 Quantity Unsalvageable
   Were custody seals on the outside of cooler(s) signed and dated? Yes ☒ No ☐ NA ☐
   Were custody seals on the bottle(s)? Yes ☐ No ☒
   If YES, are there any exceptions?
2. Shippers' packing slip attached to the cooler(s)? Yes ☒ No ☐
3. Did custody papers accompany the sample(s)? Yes ☒ No ☐ Relinquished by client? Yes ☒ No ☐
4. Were the custody papers signed in the appropriate place? Yes ☒ No ☐
5. Packing material used: Bubble Wrap ☒ Foam ☐ None ☐ Other
6. Cooler temperature upon receipt °C See back of form for multiple coolers/temps ☒
   METHOD: IR ☒ Other ☐
   COOLANT: Wet Ice ☒ Blue Ice ☐ Dry Ice ☐ Water ☐ None ☐
7. Did all bottles arrive in good condition (Unbroken)? Yes ☒ No ☐
8. Could all bottle labels be reconciled with the COC? Yes ☒ No ☐
9. Were sample(s) at the correct pH upon receipt? Yes ☐ No ☐ NA ☒
10. Were correct bottle(s) used for the test(s) indicated? Yes ☒ No ☐
11. Were air bubbles >6 mm in any VOA vials? Yes ☐ No ☐ NA ☒
12. Sufficient quantity received to perform indicated analyses? Yes ☒ No ☐
13. Was a trip blank present in the cooler(s)? Yes ☐ No ☒ Were VOAs on the COC? Yes ☐ No ☒

Contacted PM Date by via Verbal ☐ Voice Mail ☐ Other ☐
Concerning

14. CHAIN OF CUSTODY

The following discrepancies occurred:

15. SAMPLE CONDITION

Sample(s) were received after the recommended holding time had expired.
Sample(s) were received in a broken container.
Sample(s) were received with bubble >6 mm in diameter. (Notify PM)

16. SAMPLE PRESERVATION

Sample(s) were further preserved in Sample Receiving to meet recommended pH level(s). *Nitric Acid Lot#* 100110-HNO_3; *Sulfuric Acid Lot#* 110410-H_2SO_4; *Sodium Hydroxide Lot#* 100108 -*NaOH; Hydrochloric Acid Lot#* 092006-*HCl; Sodium Hydroxide and Zinc Acetate Lot#* 100108-$(CH_3COO)_2ZN/NaOH$. What time was preservative added to sample(s)?

Client ID	pH	Date	Initials

TestAmerica Cooler Receipt Form/Narrative
North Canton Facility

Client ID	pH	Date	Initials

Cooler #	Temp. °C	Method	Coolant
TA no #	1.9	IR	Ice
TA no #	1.3	↓	↓

Discrepancies Cont'd:

END OF REPORT

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Certified Lab Affidavit

State of Ohio)
) ss:
County of Montgomery)

I, ***Shelly Howard***, being first duly sworn according to law, state that, to the best of my knowledge, information and belief:

1. I am an adult over the age of eighteen years old and competent to testify herein.

2. I am employed by TestAmerica Laboratories, Inc. as ***Project Manager***. I am authorized to submit this affidavit on behalf of the laboratory.

3. The purpose of this submission is to support a request for a no further action letter or other aspects of a voluntary action, under Ohio's Voluntary Action Program (VAP) as set forth in Ohio Revised Code Chapter 3746 and Ohio Administrative Code (OAC) Chapter 3745-300.

4. TestAmerica Laboratories, Inc. performed analyses for ***Weston Solutions Inc.*** for a voluntary action at property known as ***Tech Town Taylor Street*** located in ***Dayton, Ohio.***

5. This affidavit applies to and is submitted with the following information, data, documents or reports for the property:

Document ID	Date of Document
DUC1063	***March 31, 2011***

6. TestAmerica Laboratories, Inc. was a VAP certified laboratory pursuant to OAC 3745-300-04 when it performed the analyses referenced herein.

7. The analyses under this affidavit consist of certified data, as described by OAC 3745-300-04.

8. TestAmerica Laboratories, Inc. performed the analyses within its current VAP certification (CL0018). The laboratory was certified for each analyte, parameter group and method used at the time that it performed the analyses. The analyses were performed consistent with the laboratory's standard operating procedures and quality assurance program plan as approved under OAC 3745-300-04.

9. The information, data, documents and reports identified under this affidavit are true, accurate and complete.

Further affiant sayeth naught.

Signature of Affiant

DONNA L CORVO NOTARY PUBLIC STATE OF OHIO My Comm. Expires March 2, 2015

Sworn to before me and subscribed in my presence this 31st day of March, 2011.

Notary Public

Qualifier Definition/Glossary

Client: Weston Solutions Inc. (Dayton, OH)
Project/Site: 12473.005.007

TestAmerica Job ID: DUC1063

Qualifiers

GCMS Volatiles

Qualifier	Qualifier Description
L1	Laboratory Control Sample and/or Laboratory Control Sample Duplicate recovery was above acceptance limits.
M	The MS, MSD, and/or RPD are outside of acceptance limits due to matrix interference. Please see Blank Spike (LCS).

GCMS Semivolatiles

Qualifier	Qualifier Description
L4	Laboratory Control Sample and/or Laboratory Control Sample Duplicate recovery was below the acceptance limits. A low bias to sample results is indicated.
RL1	Reporting limit raised due to sample matrix effects.
Z6	Surrogate recovery was below acceptance limits.

Mercury

Qualifier	Qualifier Description
M	The MS, MSD, and/or RPD are outside of acceptance limits due to matrix interference. Please see Blank Spike (LCS).

Metals-ICP

Qualifier	Qualifier Description
M	The MS, MSD, and/or RPD are outside of acceptance limits due to matrix interference. Please see Blank Spike (LCS).
RL3	Reporting limit raised due to high concentrations of non-target analytes.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis.
EPA	United States Environmental Protection Agency
ND	Not Detected above the reporting level.
MDL	Method Detection Limit
RL	Reporting Limit
RE, RE1 (etc.)	Indicates a Re-extraction or Reanalysis of the sample.
%R	Percent Recovery
RPD	Relative Percent Difference, a measure of the relative difference between two points.

Chain of Custody Record

DUC1063

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratory location: Dayton, OH
Regulatory program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other Ohio VAP

TestAmerica Laboratories, Inc.

Client Contact				
Company Name: Weston Solutions, Inc.	**Client Project Manager:** Laura Funk	**Site Contact:**	**Lab Contact:** Shelly Howard	**COC No:** 1
Address: 711 E Monument Ave, Ste 201	**Telephone:** (937) 531-4400	**Telephone:**	**Telephone:** (937) 499-1228	1 of 2 COCs
City/State/Zip: Dayton/OH/45402	**Email:** Laura.Funk@WestonSolutions.com	**Analysis Turnaround Time (In BUS days)**	**Analyses**	**For lab use only**
Phone: (937) 531-4400		TAT if different from below ☐ 3 weeks ☑ 2 weeks ☐ 1 week ☐ 2 days ☐ 1 day		Walk-in client ☐ Lab pickup ☐ Lab sampling ☐
Project Name: Tech Town Taylor St. Sampling	**Method of Shipment/Carrier:**			
Project Number: 12473.005.007.~~0700~~ 0750	**Shipping/Tracking No:**			Job/SDG No:
PO #				

Sample Identification	Sample Date	Sample Time	Matrix: Air	Aqueous	Sediment	Solid	Other: Soil	Containers & Preservatives: H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Unpres	Other: MeOH VPBW	Filtered Sample (Y/N)	Composite=C / Grab=G	VOCs	SVOCs	PP metals	TPH - DRO	PCBs	Sample Specific Notes / Special Instructions:
TT-TSSP-01-C	3/18/11	1015					X						2			C		X	X	X	X	
TT-TSSP-02-C		1035											2			C		X	X	X	X	
TT-TSSP-03-C		1050											2			C		X	X	X	X	
TT-TSSP-04-C		1105											2			C		X	X	X	X	
TT-TSSP-05-C		1120											2			C		X	X	X	X	
TT-TSSP-06-C		1140											2			C		X	X	X	X	
TT-TSSP-07-C		1155											2			C		X	X	X	X	
TT-TSSP-01-G		1320												1		G	X					
TT-TSSP-02-G		1330												1		G	X					
TT-TSSP-03-G		1335												1		G	X					

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return to Client ☑ Disposal By Lab ☐ Archive For _____ Months

Special Instructions/QC Requirements & Comments:

Analyses need to be Ohio VAP certified

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
David Sera	Weston	3/18/11 1422			
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company: TA	Date/Time: 3/18/11 1625

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TAL-0018 (1008)

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Cooler/Sample Receipt

☐ MSDS or Known Hazard Information Supplied by Client
☐ Bottle stickers applied ☐ ELEMENT comment entered ☐ MSDS/COC scanned/emailed to EH&S
☐ Discrepancies Client ID Weston
☐ Short Hold Work Order # DUC1003
☐ Rush ☐24hr ☐2day ☐3day ☐5day ☐other
Receipt evaluation performed by - Initials: SD Date: 3/18/11 Time: 1625

Method of Shipment:
☐ Walk-In Client ☐ TestAmerica Field/Courier
☐ Other Client/3rd Party Courier
☐ Fed Ex Tracking #
☐ UPS Tracking #
☐ Other

Shipping Container Type:
☑ Cooler ☐ Box
☐ None ☐ Other
Packing Materials:
☐ Plastic Bags ☐ Foam
☐ Bubble Wrap ☐ Paper
☐ Packing Peanuts ☐ None
☐ Other

Custody Seals Intact:
☐ Yes ☐ No
☑ N/A (not used or required)
Cooling Materials:
☐ Ice *(solid)* ☐ Ice *(Melted)*
☐ Blue Ice ☐ None
☐ Other

Are there any soil samples from areas requiring USDA quarantine? *(AL, AR, AZ, CA, FL, GA, HI, ID, LA MS, NC, NM, NY, OK, SC, TN, TX, VA, Puerto Rico, Virgin Islands, any other Non-Domestic area)* ☐ No ☐ Yes (If Yes, *Project Manager must be notified).*

Receipt Temperatures ☐ Check if Additional Sheets Required

Thermometer ID	Observed (°C)	Corrected (°C)	Temp Blank	Sample Temp	Received on same day sampled?	Acceptable?*	Cooler ID	Note Affected Samples if temperature not acceptable
G	8.6	8.1	☑	☐	☑Yes ☐No	☑Yes ☐No		
G	8.9	8.4	☑	☐	☑Yes ☐No	☑Yes ☐No		
			☐	☐	☐Yes ☐No	☐Yes ☐No		

* Receipt temperatures are considered acceptable if the samples are received on the same day they were collected & show signs that the cooling process has started. Temperature acceptance for most tests is ≤6.0°C, **but not frozen**. For additional information, please refer to SOP DT-SCA-004 ***Sample Receipt and Login, Attachment 2 – Holding Times, Preservation and Container Requirements***.

Receipt Questions**	Y	N	n/a	"No" answers require additional comment
COC present & TA receipt signature, date, & time properly documented?	✓			
Containers & labels in good condition? *(unbroken, not leaking, appropriately filled, labels legible & attached)*	✓			
Appropriate containers used & adequate volume provided?	✓			
Number of sample containers match COC?	✓			
Samples received within hold time?	✓			
Samples submitted for GRO and Volatiles analyses (8260, 624, 524) received without headspace?			—	
Was a Trip Blank received with VOA samples?	✓			
Were the samples free of any questionable physical conformities? For example, field duplicates or multiple bottles of the same sample do not significantly vary in appearance (color, proportion of solids, etc.)	✓			
Were the COC, bottle labels, and all other items free of all other discrepancies or issues that would need to be addressed with the Project Manager and/or Client?	✓			

** May not be applicable if samples are not for compliance testing

Client Contact Record
Contact via: ☐ Phone ☐ Email ☐ Other **Person Contacted:** **Date/Time:**
☐ Discrepancy allowance agreement is on record in the client project file.
Discussion/Resolution:

Any additional documentation and clarification from client must be noted in the narrative and/or scanned into the COC directory.

3/22/11
Reviewed by PM Signature Date

Belmont Labs
The Environmental Service Company.

Friday, October 2, 2009

Laura Funk

Weston Solutions, Inc. - Dayton
711 East Monument, Ste 201
Dayton, OHIO 45402

TEL: (937) 531-4400

FAX (937) 384-4201

RE: Phase II Dayton Tech Town Redevelopment Work Order: 09I1357

Belmont Labs received 14 sample(s) on 9/24/2009 for the analyses presented in the following report.

Belmont Labs attests that all analytical methods were performed using acceptable methods, and that the QA/QC procedures stipulated in these methods were followed. USEPA's RCRA Program regards a statement of quality assurance as a legal means of assuring that acceptable and uniform laboratory methods and QA/QC practices were followed by the laboratory.

If you have any questions regarding the test results, please feel free to call me at (937) 832-8242.

Respectfully submitted,

Linda Carew For Holly Green
Project Manager

Certifications: NELAP/NELAC - #04130 VAP - #CL0032
Ohio EPA Drinking water - #836 Ohio EPA Drinking water (Micro) - #872

CLIENT: Weston Solutions, Inc. - Dayton
Project: Phase II Dayton Tech Town Redevelopment
Lab Order: 09I1357

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Sampled Date	Received Date
09I1357-01A	P3-C-092409	9/24/2009 11:10:00AM	9/24/2009
09I1357-02A	P3-G-092409	9/24/2009 11:12:00AM	9/24/2009
09I1357-03A	P2-C-092409	9/24/2009 11:25:00AM	9/24/2009
09I1357-04A	P2-G-092409	9/24/2009 11:28:00AM	9/24/2009
09I1357-05A	P1-S5-C-092409	9/24/2009 1:40:00PM	9/24/2009
09I1357-06A	P1-S5-G-092409	9/24/2009 1:42:00PM	9/24/2009
09I1357-07A	P1-S4-C-092409	9/24/2009 1:55:00PM	9/24/2009
09I1357-08A	P1-S4-G-092409	9/24/2009 1:58:00PM	9/24/2009
09I1357-09A	P1-S3-C-092409	9/24/2009 2:15:00PM	9/24/2009
09I1357-10A	P1-S3-G-092409	9/24/2009 2:17:00PM	9/24/2009
09I1357-11A	P1-S2-C-092409	9/24/2009 2:25:00PM	9/24/2009
09I1357-12A	P1-S2-G-092409	9/24/2009 2:27:00PM	9/24/2009
09I1357-13A	P1-S1-C-092409	9/24/2009 2:45:00PM	9/24/2009
09I1357-14A	P1-S1-G-092409	9/24/2009 2:47:00PM	9/24/2009

Belmont Labs **Date:** 10/2/2009

CLIENT: Weston Solutions, Inc. - Dayton **Lab Order:** 09I1357
Project: Phase II Dayton Tech Town Redevelopment

Lab ID: 09I1357-01 **Collection Date:** 9/24/2009 11:10:00AM
Client Sample ID: P3-C-092409 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Analyzed
PP Metals List		**SW 6010B**				**Analyst: RJE**	
Antimony	BDL	5.58		mg/kg dry	1	0940167	9/30/2009 8:58:24PM
Arsenic	**4.26**	1.12		mg/kg dry	1	0940167	9/30/2009 8:58:24PM
Beryllium	BDL	0.558		mg/kg dry	1	0940167	9/30/2009 8:58:24PM
Cadmium	BDL	1.12		mg/kg dry	1	0940167	9/30/2009 8:58:24PM
Chromium	**7.27**	1.12		mg/kg dry	1	0940167	9/30/2009 8:58:24PM
Copper	**22.8**	1.12		mg/kg dry	1	0940167	9/30/2009 8:58:24PM
Lead	**29.0**	5.58		mg/kg dry	1	0940167	9/30/2009 8:58:24PM
Nickel	**6.96**	1.12		mg/kg dry	1	0940167	9/30/2009 8:58:24PM
Selenium	BDL	5.58		mg/kg dry	1	0940167	9/30/2009 8:58:24PM
Silver	BDL	1.12		mg/kg dry	1	0940167	9/30/2009 8:58:24PM
Thallium	BDL	5.58		mg/kg dry	1	0940167	9/30/2009 8:58:24PM
Zinc	**57.1**	5.58		mg/kg dry	1	0940167	9/30/2009 8:58:24PM
PCB_8082		**SW 8082**				**Analyst: DAG**	
Aroclor 1016	BDL	0.0221		mg/kg dry	1	0940042	9/29/2009 4:49:00PM
Aroclor 1221	BDL	0.0221		mg/kg dry	1	0940042	9/29/2009 4:49:00PM
Aroclor 1232	BDL	0.0221		mg/kg dry	1	0940042	9/29/2009 4:49:00PM
Aroclor 1242	BDL	0.0221		mg/kg dry	1	0940042	9/29/2009 4:49:00PM
Aroclor 1248	BDL	0.0221		mg/kg dry	1	0940042	9/29/2009 4:49:00PM
Aroclor 1254	**0.655**	0.0221		mg/kg dry	1	0940042	9/29/2009 4:49:00PM
Aroclor 1260	BDL	0.0221		mg/kg dry	1	0940042	9/29/2009 4:49:00PM
Surrogate: Decachlorobiphenyl		*95.0 %*		*40-159*		*0940042*	9/29/2009 4:49:00PM
Surrogate: Tetrachloro-m-xylene		*82.0 %*		*47-125*		*0940042*	9/29/2009 4:49:00PM
PMOIST		**D 2216**				**Analyst: AD**	
Percent Moisture	**10.4**			% by Weight	1	0940161	9/29/2009 12:00:00AM
SVOC 8270		**SW 8270C**				**Analyst: dag**	
1,2,4,5-Tetrachlorobenzene	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 7:54:00PM
1,2,4-Trichlorobenzene	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 7:54:00PM
1,2-Dichlorobenzene	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 7:54:00PM
1,2-Diphenylhydrazine	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 7:54:00PM
1,3-Dichlorobenzene	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 7:54:00PM
1,4-Dichlorobenzene	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 7:54:00PM
2,3,4,6-Tetrachlorophenol	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 7:54:00PM
2,4,5-Trichlorophenol	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 7:54:00PM
2,4,6-Trichlorophenol	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 7:54:00PM
2,4-Dichlorophenol	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 7:54:00PM
2,4-Dimethylphenol	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 7:54:00PM
2,4-Dinitrophenol	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 7:54:00PM
2,4-Dinitrotoluene	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 7:54:00PM
2,6-Dichlorophenol	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 7:54:00PM
2,6-Dinitrotoluene	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 7:54:00PM

Lab ID: 09I1357-01 **Collection Date:** 9/24/2009 11:10:00AM
Client Sample ID: P3-C-092409 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Analyzed
2-Chloronaphthalene	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 7:54:00PM
2-Chlorophenol	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 7:54:00PM
2-Methylnaphthalene	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 7:54:00PM
2-Methylphenol	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 7:54:00PM
2-Nitrophenol	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 7:54:00PM
3 & 4-Methylphenol	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 7:54:00PM
4,6-Dinitro-2-methylphenol	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 7:54:00PM
4-Bromophenyl phenyl ether	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 7:54:00PM
4-Chloro-3-methylphenol	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 7:54:00PM
4-Chlorophenyl phenyl ether	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 7:54:00PM
4-Nitrophenol	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 7:54:00PM
Acenaphthene	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 7:54:00PM
Acenaphthylene	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 7:54:00PM
Acetophenone	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 7:54:00PM
Aniline	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 7:54:00PM
Anthracene	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 7:54:00PM
Benz(a)anthracene	**1.99**	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 7:54:00PM
Benzidine	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 7:54:00PM
Benzo(a)pyrene	**1.85**	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 7:54:00PM
Benzo(b)fluoranthene	**2.10**	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 7:54:00PM
Benzo(g,h,i)perylene	**1.82**	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 7:54:00PM
Benzo(k)fluoranthene	**1.35**	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 7:54:00PM
Benzyl Alcohol	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 7:54:00PM
Bis(2-chloroethoxy)methane	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 7:54:00PM
bis-(2-Chloroethyl)ether	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 7:54:00PM
Bis(2-ethylhexyl)phthalate	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 7:54:00PM
Butyl benzyl phthalate	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 7:54:00PM
Chrysene	**1.96**	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 7:54:00PM
Dibenz(a,h)anthracene	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 7:54:00PM
Dibenzofuran	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 7:54:00PM
Diethyl phthalate	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 7:54:00PM
Dimethyl phthalate	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 7:54:00PM
Di-n-butyl phthalate	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 7:54:00PM
Di-n-octyl phthalate	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 7:54:00PM
Fluoranthene	**4.24**	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 7:54:00PM
Fluorene	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 7:54:00PM
Hexachlorobenzene	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 7:54:00PM
Hexachlorobutadiene	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 7:54:00PM
Hexachlorocyclopentadiene	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 7:54:00PM
Hexachloroethane	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 7:54:00PM
Hexachloropropene	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 7:54:00PM
Indeno(1,2,3-cd)pyrene	**1.94**	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 7:54:00PM
Isophorone	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 7:54:00PM
Naphthalene	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 7:54:00PM
Nitrobenzene	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 7:54:00PM
N-Nitrosodimethylamine	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 7:54:00PM

Lab ID: 09I1357-01 **Collection Date:** 9/24/2009 11:10:00AM
Client Sample ID: P3-C-092409 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Analyzed
N-Nitroso-di-n-butylamine	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 7:54:00PM
N-Nitrosodi-n-propylamine	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 7:54:00PM
N-Nitrosodiphenylamine	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 7:54:00PM
Pentachlorobenzene	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 7:54:00PM
Pentachloronitrobenzene	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 7:54:00PM
Pentachlorophenol	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 7:54:00PM
Phenanthrene	**2.80**	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 7:54:00PM
Phenol	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 7:54:00PM
Pyrene	**3.55**	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 7:54:00PM
Pyridine	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 7:54:00PM
Bis(2-chloroisopropyl)ether	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 7:54:00PM
Surrogate: 2-Fluorophenol		*80.3 %*	*R-05*	*36-118*		*0940060*	9/30/2009 7:54:00PM
Surrogate: Phenol-d6		*78.8 %*	*R-05*	*28-127*		*0940060*	9/30/2009 7:54:00PM
Surrogate: Nitrobenzene-d5		*89.7 %*	*R-05*	*57-116*		*0940060*	9/30/2009 7:54:00PM
Surrogate: 2-Fluorobiphenyl		*83.2 %*	*R-05*	*64-110*		*0940060*	9/30/2009 7:54:00PM
Surrogate: 2,4,6-Tribromophenol		*106 %*	*R-05*	*44-145*		*0940060*	9/30/2009 7:54:00PM
Surrogate: Terphenyl-d14		*125 %*	*R-05, S-04*	*46-124*		*0940060*	9/30/2009 7:54:00PM
HG		**SW 7471**				**Analyst: KC**	
Mercury	**0.298**	0.108		mg/kg dry	1	0940190	10/1/2009 12:28:50PM

Lab ID: 09I1357-02 **Collection Date:** 9/24/2009 11:12:00AM
Client Sample ID: P3-G-092409 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Analyzed
VOC 8260		**SW 8260A**				**Analyst: MBG**	
1,1,1,2-Tetrachloroethane	BDL	0.00486		mg/kg dry	0.87	0940056	9/27/2009 9:34:00PM
1,1,1-Trichloroethane	BDL	0.00486		mg/kg dry	0.87	0940056	9/27/2009 9:34:00PM
1,1,2,2-Tetrachloroethane	BDL	0.00486		mg/kg dry	0.87	0940056	9/27/2009 9:34:00PM
1,1,2-Trichloroethane	BDL	0.00486		mg/kg dry	0.87	0940056	9/27/2009 9:34:00PM
1,1-Dichloroethane	BDL	0.00486		mg/kg dry	0.87	0940056	9/27/2009 9:34:00PM
1,1-Dichloroethene	BDL	0.00486		mg/kg dry	0.87	0940056	9/27/2009 9:34:00PM
1,1-Dichloropropene	BDL	0.00486		mg/kg dry	0.87	0940056	9/27/2009 9:34:00PM
1,2-Dibromoethane	BDL	0.00486		mg/kg dry	0.87	0940056	9/27/2009 9:34:00PM
1,2-Dichloroethane	BDL	0.00486		mg/kg dry	0.87	0940056	9/27/2009 9:34:00PM
1,2-Dichloropropane	BDL	0.00486		mg/kg dry	0.87	0940056	9/27/2009 9:34:00PM
1,3-Dichloropropane	BDL	0.00486		mg/kg dry	0.87	0940056	9/27/2009 9:34:00PM
2,2-Dichloropropane	BDL	0.00486		mg/kg dry	0.87	0940056	9/27/2009 9:34:00PM
2-Butanone	BDL	0.0195		mg/kg dry	0.87	0940056	9/27/2009 9:34:00PM
2-Chloroethyl vinyl ether	BDL	0.00973		mg/kg dry	0.87	0940056	9/27/2009 9:34:00PM
2-Chlorotoluene	BDL	0.00486		mg/kg dry	0.87	0940056	9/27/2009 9:34:00PM
2-Hexanone	BDL	0.0195		mg/kg dry	0.87	0940056	9/27/2009 9:34:00PM

CLIENT: Weston Solutions, Inc. - Dayton **Lab Order:** 09I1357
Project: Phase II Dayton Tech Town Redevelopment

Lab ID: 09I1357-02 **Collection Date:** 9/24/2009 11:12:00AM
Client Sample ID: P3-G-092409 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Analyzed
4-Chlorotoluene	BDL	0.00486		mg/kg dry	0.87	0940056	9/27/2009 9:34:00PM
4-Methyl-2-pentanone	BDL	0.0195		mg/kg dry	0.87	0940056	9/27/2009 9:34:00PM
Acetone	BDL	0.0486		mg/kg dry	0.87	0940056	9/27/2009 9:34:00PM
Acetonitrile	BDL	0.0389		mg/kg dry	0.87	0940056	9/27/2009 9:34:00PM
Acrolein	BDL	0.0195		mg/kg dry	0.87	0940056	9/27/2009 9:34:00PM
Acrylonitrile	BDL	0.0195		mg/kg dry	0.87	0940056	9/27/2009 9:34:00PM
Allyl chloride	BDL	0.00973		mg/kg dry	0.87	0940056	9/27/2009 9:34:00PM
Benzene	BDL	0.00486		mg/kg dry	0.87	0940056	9/27/2009 9:34:00PM
Bromobenzene	BDL	0.00486		mg/kg dry	0.87	0940056	9/27/2009 9:34:00PM
Bromochloromethane	BDL	0.00486		mg/kg dry	0.87	0940056	9/27/2009 9:34:00PM
Bromodichloromethane	BDL	0.00486		mg/kg dry	0.87	0940056	9/27/2009 9:34:00PM
Bromoform	BDL	0.00486		mg/kg dry	0.87	0940056	9/27/2009 9:34:00PM
Bromomethane	BDL	0.00486		mg/kg dry	0.87	0940056	9/27/2009 9:34:00PM
Carbon Disulfide	BDL	0.0195		mg/kg dry	0.87	0940056	9/27/2009 9:34:00PM
Carbon Tetrachloride	BDL	0.00486		mg/kg dry	0.87	0940056	9/27/2009 9:34:00PM
Chlorobenzene	BDL	0.00486		mg/kg dry	0.87	0940056	9/27/2009 9:34:00PM
Chloroethane	BDL	0.00486		mg/kg dry	0.87	0940056	9/27/2009 9:34:00PM
Chloroform	BDL	0.00486		mg/kg dry	0.87	0940056	9/27/2009 9:34:00PM
Chloromethane	BDL	0.00486		mg/kg dry	0.87	0940056	9/27/2009 9:34:00PM
cis-1,2-Dichloroethene	BDL	0.00486		mg/kg dry	0.87	0940056	9/27/2009 9:34:00PM
cis-1,3-Dichloropropene	BDL	0.00486		mg/kg dry	0.87	0940056	9/27/2009 9:34:00PM
Dibromochloromethane	BDL	0.00486		mg/kg dry	0.87	0940056	9/27/2009 9:34:00PM
Dibromomethane	BDL	0.00486		mg/kg dry	0.87	0940056	9/27/2009 9:34:00PM
Dichlorodifluoromethane	BDL	0.00486		mg/kg dry	0.87	0940056	9/27/2009 9:34:00PM
Ethylbenzene	BDL	0.00486		mg/kg dry	0.87	0940056	9/27/2009 9:34:00PM
Iodomethane	BDL	0.00973		mg/kg dry	0.87	0940056	9/27/2009 9:34:00PM
Methylene Chloride	BDL	0.00486		mg/kg dry	0.87	0940056	9/27/2009 9:34:00PM
Methyl tert-Butyl Ether	BDL	0.00973		mg/kg dry	0.87	0940056	9/27/2009 9:34:00PM
m,p-Xylene	BDL	0.00973		mg/kg dry	0.87	0940056	9/27/2009 9:34:00PM
n-Hexane	BDL	0.00542		mg/kg dry	0.97	0940056	9/28/2009 6:15:00PM
o-Xylene	BDL	0.00486		mg/kg dry	0.87	0940056	9/27/2009 9:34:00PM
Styrene	BDL	0.00486		mg/kg dry	0.87	0940056	9/27/2009 9:34:00PM
Tetrachloroethene	**0.0114**	0.00486	D	mg/kg dry	0.87	0940056	9/27/2009 9:34:00PM
Toluene	BDL	0.00486		mg/kg dry	0.87	0940056	9/27/2009 9:34:00PM
trans-1,2-Dichloroethene	BDL	0.00486		mg/kg dry	0.87	0940056	9/27/2009 9:34:00PM
trans-1,3-Dichloropropene	BDL	0.00486		mg/kg dry	0.87	0940056	9/27/2009 9:34:00PM
Trichloroethene	**0.0147**	0.00486	D	mg/kg dry	0.87	0940056	9/27/2009 9:34:00PM
Trichlorofluoromethane	BDL	0.00486		mg/kg dry	0.87	0940056	9/27/2009 9:34:00PM
Vinyl Chloride	BDL	0.00486		mg/kg dry	0.87	0940056	9/27/2009 9:34:00PM
Vinyl acetate	BDL	0.00973		mg/kg dry	0.87	0940056	9/27/2009 9:34:00PM
Surrogate: 4-Bromofluorobenzene		*101 %*		*34-118*		*0940056*	9/27/2009 9:34:00PM
Surrogate: Dibromofluoromethane		*73.7 %*		*61-152*		*0940056*	9/27/2009 9:34:00PM
Surrogate: Toluene-d8		*82.7 %*		*44-119*		*0940056*	9/27/2009 9:34:00PM
Surrogate: 1,2-Dichloroethane-d4		*67.6 %*		*39-123*		*0940056*	9/27/2009 9:34:00PM

CLIENT: Weston Solutions, Inc. - Dayton **Lab Order:** 09I1357
Project: Phase II Dayton Tech Town Redevelopment

Lab ID: 09I1357-02 **Collection Date:** 9/24/2009 11:12:00AM
Client Sample ID: P3-G-092409 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Analyzed
PMOIST		**D 2216**				**Analyst: AD**	
Percent Moisture	**10.6**			% by Weight	1	0940161	9/29/2009 12:00:00AM

Lab ID: 09I1357-03 **Collection Date:** 9/24/2009 11:25:00AM
Client Sample ID: P2-C-092409 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Analyzed
PP Metals List		**SW 6010B**				**Analyst: RJE**	
Antimony	BDL	5.56		mg/kg dry	1	0940167	9/30/2009 9:03:22PM
Arsenic	**5.20**	1.11		mg/kg dry	1	0940167	9/30/2009 9:03:22PM
Beryllium	BDL	0.556		mg/kg dry	1	0940167	9/30/2009 9:03:22PM
Cadmium	BDL	1.11		mg/kg dry	1	0940167	9/30/2009 9:03:22PM
Chromium	**6.64**	1.11		mg/kg dry	1	0940167	9/30/2009 9:03:22PM
Copper	**30.4**	1.11		mg/kg dry	1	0940167	9/30/2009 9:03:22PM
Lead	**41.3**	5.56		mg/kg dry	1	0940167	9/30/2009 9:03:22PM
Nickel	**7.86**	1.11		mg/kg dry	1	0940167	9/30/2009 9:03:22PM
Selenium	BDL	5.56		mg/kg dry	1	0940167	9/30/2009 9:03:22PM
Silver	BDL	1.11		mg/kg dry	1	0940167	9/30/2009 9:03:22PM
Thallium	BDL	5.56		mg/kg dry	1	0940167	9/30/2009 9:03:22PM
Zinc	**76.7**	5.56		mg/kg dry	1	0940167	9/30/2009 9:03:22PM
PCB_8082		**SW 8082**				**Analyst: DAG**	
Aroclor 1016	BDL	0.0227		mg/kg dry	1	0940042	9/29/2009 5:14:00PM
Aroclor 1221	BDL	0.0227		mg/kg dry	1	0940042	9/29/2009 5:14:00PM
Aroclor 1232	BDL	0.0227		mg/kg dry	1	0940042	9/29/2009 5:14:00PM
Aroclor 1242	BDL	0.0227		mg/kg dry	1	0940042	9/29/2009 5:14:00PM
Aroclor 1248	BDL	0.0227		mg/kg dry	1	0940042	9/29/2009 5:14:00PM
Aroclor 1254	**0.254**	0.0227		mg/kg dry	1	0940042	9/29/2009 5:14:00PM
Aroclor 1260	BDL	0.0227		mg/kg dry	1	0940042	9/29/2009 5:14:00PM
Surrogate: Decachlorobiphenyl		*118 %*		*40-159*		*0940042*	9/29/2009 5:14:00PM
Surrogate: Tetrachloro-m-xylene		*78.0 %*		*47-125*		*0940042*	9/29/2009 5:14:00PM
PMOIST		**D 2216**				**Analyst: AD**	
Percent Moisture	**11.9**			% by Weight	1	0940161	9/29/2009 12:00:00AM
SVOC 8270		**SW 8270C**				**Analyst: dag**	
1,2,4,5-Tetrachlorobenzene	BDL	0.567	R-05	mg/kg dry	5	0940060	9/30/2009 8:39:00PM
1,2,4-Trichlorobenzene	BDL	0.567	R-05	mg/kg dry	5	0940060	9/30/2009 8:39:00PM
1,2-Dichlorobenzene	BDL	0.567	R-05	mg/kg dry	5	0940060	9/30/2009 8:39:00PM
1,2-Diphenylhydrazine	BDL	0.567	R-05	mg/kg dry	5	0940060	9/30/2009 8:39:00PM
1,3-Dichlorobenzene	BDL	0.567	R-05	mg/kg dry	5	0940060	9/30/2009 8:39:00PM

CLIENT: Weston Solutions, Inc. - Dayton **Lab Order:** 09I1357
Project: Phase II Dayton Tech Town Redevelopment

Lab ID: 09I1357-03 **Collection Date:** 9/24/2009 11:25:00AM
Client Sample ID: P2-C-092409 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Analyzed
1,4-Dichlorobenzene	BDL	0.567	R-05	mg/kg dry	5	0940060	9/30/2009 8:39:00PM
2,3,4,6-Tetrachlorophenol	BDL	0.567	R-05	mg/kg dry	5	0940060	9/30/2009 8:39:00PM
2,4,5-Trichlorophenol	BDL	0.567	R-05	mg/kg dry	5	0940060	9/30/2009 8:39:00PM
2,4,6-Trichlorophenol	BDL	0.567	R-05	mg/kg dry	5	0940060	9/30/2009 8:39:00PM
2,4-Dichlorophenol	BDL	0.567	R-05	mg/kg dry	5	0940060	9/30/2009 8:39:00PM
2,4-Dimethylphenol	BDL	0.567	R-05	mg/kg dry	5	0940060	9/30/2009 8:39:00PM
2,4-Dinitrophenol	BDL	0.567	R-05	mg/kg dry	5	0940060	9/30/2009 8:39:00PM
2,4-Dinitrotoluene	BDL	0.567	R-05	mg/kg dry	5	0940060	9/30/2009 8:39:00PM
2,6-Dichlorophenol	BDL	0.567	R-05	mg/kg dry	5	0940060	9/30/2009 8:39:00PM
2,6-Dinitrotoluene	BDL	0.567	R-05	mg/kg dry	5	0940060	9/30/2009 8:39:00PM
2-Chloronaphthalene	BDL	0.567	R-05	mg/kg dry	5	0940060	9/30/2009 8:39:00PM
2-Chlorophenol	BDL	0.567	R-05	mg/kg dry	5	0940060	9/30/2009 8:39:00PM
2-Methylnaphthalene	BDL	0.567	R-05	mg/kg dry	5	0940060	9/30/2009 8:39:00PM
2-Methylphenol	BDL	0.567	R-05	mg/kg dry	5	0940060	9/30/2009 8:39:00PM
2-Nitrophenol	BDL	0.567	R-05	mg/kg dry	5	0940060	9/30/2009 8:39:00PM
3 & 4-Methylphenol	BDL	0.567	R-05	mg/kg dry	5	0940060	9/30/2009 8:39:00PM
4,6-Dinitro-2-methylphenol	BDL	0.567	R-05	mg/kg dry	5	0940060	9/30/2009 8:39:00PM
4-Bromophenyl phenyl ether	BDL	0.567	R-05	mg/kg dry	5	0940060	9/30/2009 8:39:00PM
4-Chloro-3-methylphenol	BDL	0.567	R-05	mg/kg dry	5	0940060	9/30/2009 8:39:00PM
4-Chlorophenyl phenyl ether	BDL	0.567	R-05	mg/kg dry	5	0940060	9/30/2009 8:39:00PM
4-Nitrophenol	BDL	0.567	R-05	mg/kg dry	5	0940060	9/30/2009 8:39:00PM
Acenaphthene	BDL	0.567	R-05	mg/kg dry	5	0940060	9/30/2009 8:39:00PM
Acenaphthylene	BDL	0.567	R-05	mg/kg dry	5	0940060	9/30/2009 8:39:00PM
Acetophenone	BDL	0.567	R-05	mg/kg dry	5	0940060	9/30/2009 8:39:00PM
Aniline	BDL	0.567	R-05	mg/kg dry	5	0940060	9/30/2009 8:39:00PM
Anthracene	BDL	0.567	R-05	mg/kg dry	5	0940060	9/30/2009 8:39:00PM
Benz(a)anthracene	**1.30**	0.567	R-05	mg/kg dry	5	0940060	9/30/2009 8:39:00PM
Benzidine	BDL	0.567	R-05	mg/kg dry	5	0940060	9/30/2009 8:39:00PM
Benzo(a)pyrene	**1.29**	0.567	R-05	mg/kg dry	5	0940060	9/30/2009 8:39:00PM
Benzo(b)fluoranthene	**1.33**	0.567	R-05	mg/kg dry	5	0940060	9/30/2009 8:39:00PM
Benzo(g,h,i)perylene	**1.22**	0.567	R-05	mg/kg dry	5	0940060	9/30/2009 8:39:00PM
Benzo(k)fluoranthene	**1.03**	0.567	R-05	mg/kg dry	5	0940060	9/30/2009 8:39:00PM
Benzyl Alcohol	BDL	0.567	R-05	mg/kg dry	5	0940060	9/30/2009 8:39:00PM
Bis(2-chloroethoxy)methane	BDL	0.567	R-05	mg/kg dry	5	0940060	9/30/2009 8:39:00PM
bis-(2-Chloroethyl)ether	BDL	0.567	R-05	mg/kg dry	5	0940060	9/30/2009 8:39:00PM
Bis(2-ethylhexyl)phthalate	BDL	0.567	R-05	mg/kg dry	5	0940060	9/30/2009 8:39:00PM
Butyl benzyl phthalate	BDL	0.567	R-05	mg/kg dry	5	0940060	9/30/2009 8:39:00PM
Chrysene	**1.33**	0.567	R-05	mg/kg dry	5	0940060	9/30/2009 8:39:00PM
Dibenz(a,h)anthracene	BDL	0.567	R-05	mg/kg dry	5	0940060	9/30/2009 8:39:00PM
Dibenzofuran	BDL	0.567	R-05	mg/kg dry	5	0940060	9/30/2009 8:39:00PM
Diethyl phthalate	BDL	0.567	R-05	mg/kg dry	5	0940060	9/30/2009 8:39:00PM
Dimethyl phthalate	BDL	0.567	R-05	mg/kg dry	5	0940060	9/30/2009 8:39:00PM
Di-n-butyl phthalate	BDL	0.567	R-05	mg/kg dry	5	0940060	9/30/2009 8:39:00PM
Di-n-octyl phthalate	BDL	0.567	R-05	mg/kg dry	5	0940060	9/30/2009 8:39:00PM
Fluoranthene	**2.63**	0.567	R-05	mg/kg dry	5	0940060	9/30/2009 8:39:00PM
Fluorene	BDL	0.567	R-05	mg/kg dry	5	0940060	9/30/2009 8:39:00PM

Lab ID: 09I1357-03 **Collection Date:** 9/24/2009 11:25:00AM
Client Sample ID: P2-C-092409 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Analyzed
Hexachlorobenzene	BDL	0.567	R-05	mg/kg dry	5	0940060	9/30/2009 8:39:00PM
Hexachlorobutadiene	BDL	0.567	R-05	mg/kg dry	5	0940060	9/30/2009 8:39:00PM
Hexachlorocyclopentadiene	BDL	0.567	R-05	mg/kg dry	5	0940060	9/30/2009 8:39:00PM
Hexachloroethane	BDL	0.567	R-05	mg/kg dry	5	0940060	9/30/2009 8:39:00PM
Hexachloropropene	BDL	0.567	R-05	mg/kg dry	5	0940060	9/30/2009 8:39:00PM
Indeno(1,2,3-cd)pyrene	**1.48**	0.567	R-05	mg/kg dry	5	0940060	9/30/2009 8:39:00PM
Isophorone	BDL	0.567	R-05	mg/kg dry	5	0940060	9/30/2009 8:39:00PM
Naphthalene	BDL	0.567	R-05	mg/kg dry	5	0940060	9/30/2009 8:39:00PM
Nitrobenzene	BDL	0.567	R-05	mg/kg dry	5	0940060	9/30/2009 8:39:00PM
N-Nitrosodimethylamine	BDL	0.567	R-05	mg/kg dry	5	0940060	9/30/2009 8:39:00PM
N-Nitroso-di-n-butylamine	BDL	0.567	R-05	mg/kg dry	5	0940060	9/30/2009 8:39:00PM
N-Nitrosodi-n-propylamine	BDL	0.567	R-05	mg/kg dry	5	0940060	9/30/2009 8:39:00PM
N-Nitrosodiphenylamine	BDL	0.567	R-05	mg/kg dry	5	0940060	9/30/2009 8:39:00PM
Pentachlorobenzene	BDL	0.567	R-05	mg/kg dry	5	0940060	9/30/2009 8:39:00PM
Pentachloronitrobenzene	BDL	0.567	R-05	mg/kg dry	5	0940060	9/30/2009 8:39:00PM
Pentachlorophenol	BDL	0.567	R-05	mg/kg dry	5	0940060	9/30/2009 8:39:00PM
Phenanthrene	**1.42**	0.567	R-05	mg/kg dry	5	0940060	9/30/2009 8:39:00PM
Phenol	BDL	0.567	R-05	mg/kg dry	5	0940060	9/30/2009 8:39:00PM
Pyrene	**2.26**	0.567	R-05	mg/kg dry	5	0940060	9/30/2009 8:39:00PM
Pyridine	BDL	0.567	R-05	mg/kg dry	5	0940060	9/30/2009 8:39:00PM
Bis(2-chloroisopropyl)ether	BDL	0.567	R-05	mg/kg dry	5	0940060	9/30/2009 8:39:00PM
Surrogate: 2-Fluorophenol		*75.9 %*	*R-05*	*36-118*		*0940060*	9/30/2009 8:39:00PM
Surrogate: Phenol-d6		*78.9 %*	*R-05*	*28-127*		*0940060*	9/30/2009 8:39:00PM
Surrogate: Nitrobenzene-d5		*88.7 %*	*R-05*	*57-116*		*0940060*	9/30/2009 8:39:00PM
Surrogate: 2-Fluorobiphenyl		*91.2 %*	*R-05*	*64-110*		*0940060*	9/30/2009 8:39:00PM
Surrogate: 2,4,6-Tribromophenol		*84.7 %*	*R-05*	*44-145*		*0940060*	9/30/2009 8:39:00PM
Surrogate: Terphenyl-d14		*103 %*	*R-05*	*46-124*		*0940060*	9/30/2009 8:39:00PM
HG		**SW 7471**				**Analyst: KC**	
Mercury	**0.242**	0.106		mg/kg dry	1	0940190	10/1/2009 12:28:50PM

Lab ID: 09I1357-04 **Collection Date:** 9/24/2009 11:28:00AM
Client Sample ID: P2-G-092409 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Analyzed
VOC 8260		**SW 8260A**				**Analyst: MBG**	
1,1,1,2-Tetrachloroethane	BDL	0.00501		mg/kg dry	0.87	0940056	9/27/2009 10:07:00PM
1,1,1-Trichloroethane	BDL	0.00501		mg/kg dry	0.87	0940056	9/27/2009 10:07:00PM
1,1,2,2-Tetrachloroethane	BDL	0.00501		mg/kg dry	0.87	0940056	9/27/2009 10:07:00PM
1,1,2-Trichloroethane	BDL	0.00501		mg/kg dry	0.87	0940056	9/27/2009 10:07:00PM
1,1-Dichloroethane	BDL	0.00501		mg/kg dry	0.87	0940056	9/27/2009 10:07:00PM
1,1-Dichloroethene	BDL	0.00501		mg/kg dry	0.87	0940056	9/27/2009 10:07:00PM

CLIENT: Weston Solutions, Inc. - Dayton **Lab Order:** 09I1357
Project: Phase II Dayton Tech Town Redevelopment

Lab ID: 09I1357-04 **Collection Date:** 9/24/2009 11:28:00AM
Client Sample ID: P2-G-092409 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Analyzed
1,1-Dichloropropene	BDL	0.00501		mg/kg dry	0.87	0940056	9/27/2009 10:07:00PM
1,2-Dibromoethane	BDL	0.00501		mg/kg dry	0.87	0940056	9/27/2009 10:07:00PM
1,2-Dichloroethane	BDL	0.00501		mg/kg dry	0.87	0940056	9/27/2009 10:07:00PM
1,2-Dichloropropane	BDL	0.00501		mg/kg dry	0.87	0940056	9/27/2009 10:07:00PM
1,3-Dichloropropane	BDL	0.00501		mg/kg dry	0.87	0940056	9/27/2009 10:07:00PM
2,2-Dichloropropane	BDL	0.00501		mg/kg dry	0.87	0940056	9/27/2009 10:07:00PM
2-Butanone	BDL	0.0200		mg/kg dry	0.87	0940056	9/27/2009 10:07:00PM
2-Chloroethyl vinyl ether	BDL	0.0100		mg/kg dry	0.87	0940056	9/27/2009 10:07:00PM
2-Chlorotoluene	BDL	0.00501		mg/kg dry	0.87	0940056	9/27/2009 10:07:00PM
2-Hexanone	BDL	0.0200		mg/kg dry	0.87	0940056	9/27/2009 10:07:00PM
4-Chlorotoluene	BDL	0.00501		mg/kg dry	0.87	0940056	9/27/2009 10:07:00PM
4-Methyl-2-pentanone	BDL	0.0200		mg/kg dry	0.87	0940056	9/27/2009 10:07:00PM
Acetone	BDL	0.0501		mg/kg dry	0.87	0940056	9/27/2009 10:07:00PM
Acetonitrile	BDL	0.0401		mg/kg dry	0.87	0940056	9/27/2009 10:07:00PM
Acrolein	BDL	0.0200		mg/kg dry	0.87	0940056	9/27/2009 10:07:00PM
Acrylonitrile	BDL	0.0200		mg/kg dry	0.87	0940056	9/27/2009 10:07:00PM
Allyl chloride	BDL	0.0100		mg/kg dry	0.87	0940056	9/27/2009 10:07:00PM
Benzene	BDL	0.00501		mg/kg dry	0.87	0940056	9/27/2009 10:07:00PM
Bromobenzene	BDL	0.00501		mg/kg dry	0.87	0940056	9/27/2009 10:07:00PM
Bromochloromethane	BDL	0.00501		mg/kg dry	0.87	0940056	9/27/2009 10:07:00PM
Bromodichloromethane	BDL	0.00501		mg/kg dry	0.87	0940056	9/27/2009 10:07:00PM
Bromoform	BDL	0.00501		mg/kg dry	0.87	0940056	9/27/2009 10:07:00PM
Bromomethane	BDL	0.00501		mg/kg dry	0.87	0940056	9/27/2009 10:07:00PM
Carbon Disulfide	BDL	0.0200		mg/kg dry	0.87	0940056	9/27/2009 10:07:00PM
Carbon Tetrachloride	BDL	0.00501		mg/kg dry	0.87	0940056	9/27/2009 10:07:00PM
Chlorobenzene	BDL	0.00501		mg/kg dry	0.87	0940056	9/27/2009 10:07:00PM
Chloroethane	BDL	0.00501		mg/kg dry	0.87	0940056	9/27/2009 10:07:00PM
Chloroform	BDL	0.00501		mg/kg dry	0.87	0940056	9/27/2009 10:07:00PM
Chloromethane	BDL	0.00501		mg/kg dry	0.87	0940056	9/27/2009 10:07:00PM
cis-1,2-Dichloroethene	BDL	0.00501		mg/kg dry	0.87	0940056	9/27/2009 10:07:00PM
cis-1,3-Dichloropropene	BDL	0.00501		mg/kg dry	0.87	0940056	9/27/2009 10:07:00PM
Dibromochloromethane	BDL	0.00501		mg/kg dry	0.87	0940056	9/27/2009 10:07:00PM
Dibromomethane	BDL	0.00501		mg/kg dry	0.87	0940056	9/27/2009 10:07:00PM
Dichlorodifluoromethane	BDL	0.00501		mg/kg dry	0.87	0940056	9/27/2009 10:07:00PM
Ethylbenzene	BDL	0.00501		mg/kg dry	0.87	0940056	9/27/2009 10:07:00PM
Iodomethane	BDL	0.0100		mg/kg dry	0.87	0940056	9/27/2009 10:07:00PM
Methylene Chloride	BDL	0.00501		mg/kg dry	0.87	0940056	9/27/2009 10:07:00PM
Methyl tert-Butyl Ether	BDL	0.0100		mg/kg dry	0.87	0940056	9/27/2009 10:07:00PM
m,p-Xylene	BDL	0.0100		mg/kg dry	0.87	0940056	9/27/2009 10:07:00PM
n-Hexane	BDL	0.00536		mg/kg dry	0.93	0940056	9/28/2009 6:48:00PM
o-Xylene	BDL	0.00501		mg/kg dry	0.87	0940056	9/27/2009 10:07:00PM
Styrene	BDL	0.00501		mg/kg dry	0.87	0940056	9/27/2009 10:07:00PM
Tetrachloroethene	BDL	0.00501		mg/kg dry	0.87	0940056	9/27/2009 10:07:00PM
Toluene	BDL	0.00501		mg/kg dry	0.87	0940056	9/27/2009 10:07:00PM
trans-1,2-Dichloroethene	BDL	0.00501		mg/kg dry	0.87	0940056	9/27/2009 10:07:00PM
trans-1,3-Dichloropropene	BDL	0.00501		mg/kg dry	0.87	0940056	9/27/2009 10:07:00PM

Lab ID: 09I1357-04 **Collection Date:** 9/24/2009 11:28:00AM
Client Sample ID: P2-G-092409 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Analyzed
Trichloroethene	BDL	0.00501		mg/kg dry	0.87	0940056	9/27/2009 10:07:00PM
Trichlorofluoromethane	BDL	0.00501		mg/kg dry	0.87	0940056	9/27/2009 10:07:00PM
Vinyl Chloride	BDL	0.00501		mg/kg dry	0.87	0940056	9/27/2009 10:07:00PM
Vinyl acetate	BDL	0.0100		mg/kg dry	0.87	0940056	9/27/2009 10:07:00PM
Surrogate: 4-Bromofluorobenzene		*99.1 %*		*34-118*		*0940056*	9/27/2009 10:07:00PM
Surrogate: Dibromofluoromethane		*78.3 %*		*61-152*		*0940056*	9/27/2009 10:07:00PM
Surrogate: Toluene-d8		*82.9 %*		*44-119*		*0940056*	9/27/2009 10:07:00PM
Surrogate: 1,2-Dichloroethane-d4		*69.6 %*		*39-123*		*0940056*	9/27/2009 10:07:00PM
PMOIST		**D 2216**				**Analyst: AD**	
Percent Moisture	**13.2**			% by Weight	1	0940161	9/29/2009 12:00:00AM

Lab ID: 09I1357-05 **Collection Date:** 9/24/2009 1:40:00PM
Client Sample ID: P1-S5-C-092409 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Analyzed
PP Metals List		**SW 6010B**				**Analyst: RJE**	
Antimony	BDL	5.72		mg/kg dry	1	0940167	9/30/2009 9:08:29PM
Arsenic	**5.02**	1.14		mg/kg dry	1	0940167	9/30/2009 9:08:29PM
Beryllium	BDL	0.572		mg/kg dry	1	0940167	9/30/2009 9:08:29PM
Cadmium	BDL	1.14		mg/kg dry	1	0940167	9/30/2009 9:08:29PM
Chromium	**13.7**	1.14		mg/kg dry	1	0940167	9/30/2009 9:08:29PM
Copper	**29.5**	1.14		mg/kg dry	1	0940167	9/30/2009 9:08:29PM
Lead	**45.9**	5.72		mg/kg dry	1	0940167	9/30/2009 9:08:29PM
Nickel	**7.97**	1.14		mg/kg dry	1	0940167	9/30/2009 9:08:29PM
Selenium	BDL	5.72		mg/kg dry	1	0940167	9/30/2009 9:08:29PM
Silver	BDL	1.14		mg/kg dry	1	0940167	9/30/2009 9:08:29PM
Thallium	BDL	5.72		mg/kg dry	1	0940167	9/30/2009 9:08:29PM
Zinc	**84.3**	5.72		mg/kg dry	1	0940167	9/30/2009 9:08:29PM
PCB_8082		**SW 8082**				**Analyst: DAG**	
Aroclor 1016	BDL	0.0227		mg/kg dry	1	0940042	9/29/2009 5:39:00PM
Aroclor 1221	BDL	0.0227		mg/kg dry	1	0940042	9/29/2009 5:39:00PM
Aroclor 1232	BDL	0.0227		mg/kg dry	1	0940042	9/29/2009 5:39:00PM
Aroclor 1242	BDL	0.0227		mg/kg dry	1	0940042	9/29/2009 5:39:00PM
Aroclor 1248	BDL	0.0227		mg/kg dry	1	0940042	9/29/2009 5:39:00PM
Aroclor 1254	**0.373**	0.0227		mg/kg dry	1	0940042	9/29/2009 5:39:00PM
Aroclor 1260	BDL	0.0227		mg/kg dry	1	0940042	9/29/2009 5:39:00PM
Surrogate: Decachlorobiphenyl		*96.0 %*		*40-159*		*0940042*	9/29/2009 5:39:00PM
Surrogate: Tetrachloro-m-xylene		*78.0 %*		*47-125*		*0940042*	9/29/2009 5:39:00PM

CLIENT: Weston Solutions, Inc. - Dayton **Lab Order:** 09I1357
Project: Phase II Dayton Tech Town Redevelopment

Lab ID: 09I1357-05 **Collection Date:** 9/24/2009 1:40:00PM
Client Sample ID: P1-S5-C-092409 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Analyzed
PMOIST		**D 2216**				**Analyst: AD**	
Percent Moisture	**12.6**			% by Weight	1	0940161	9/29/2009 12:00:00AM
SVOC 8270		**SW 8270C**				**Analyst: dag**	
1,2,4,5-Tetrachlorobenzene	BDL	0.570	R-05	mg/kg dry	5	0940060	9/30/2009 9:23:00PM
1,2,4-Trichlorobenzene	BDL	0.570	R-05	mg/kg dry	5	0940060	9/30/2009 9:23:00PM
1,2-Dichlorobenzene	BDL	0.570	R-05	mg/kg dry	5	0940060	9/30/2009 9:23:00PM
1,2-Diphenylhydrazine	BDL	0.570	R-05	mg/kg dry	5	0940060	9/30/2009 9:23:00PM
1,3-Dichlorobenzene	BDL	0.570	R-05	mg/kg dry	5	0940060	9/30/2009 9:23:00PM
1,4-Dichlorobenzene	BDL	0.570	R-05	mg/kg dry	5	0940060	9/30/2009 9:23:00PM
2,3,4,6-Tetrachlorophenol	BDL	0.570	R-05	mg/kg dry	5	0940060	9/30/2009 9:23:00PM
2,4,5-Trichlorophenol	BDL	0.570	R-05	mg/kg dry	5	0940060	9/30/2009 9:23:00PM
2,4,6-Trichlorophenol	BDL	0.570	R-05	mg/kg dry	5	0940060	9/30/2009 9:23:00PM
2,4-Dichlorophenol	BDL	0.570	R-05	mg/kg dry	5	0940060	9/30/2009 9:23:00PM
2,4-Dimethylphenol	BDL	0.570	R-05	mg/kg dry	5	0940060	9/30/2009 9:23:00PM
2,4-Dinitrophenol	BDL	0.570	R-05	mg/kg dry	5	0940060	9/30/2009 9:23:00PM
2,4-Dinitrotoluene	BDL	0.570	R-05	mg/kg dry	5	0940060	9/30/2009 9:23:00PM
2,6-Dichlorophenol	BDL	0.570	R-05	mg/kg dry	5	0940060	9/30/2009 9:23:00PM
2,6-Dinitrotoluene	BDL	0.570	R-05	mg/kg dry	5	0940060	9/30/2009 9:23:00PM
2-Chloronaphthalene	BDL	0.570	R-05	mg/kg dry	5	0940060	9/30/2009 9:23:00PM
2-Chlorophenol	BDL	0.570	R-05	mg/kg dry	5	0940060	9/30/2009 9:23:00PM
2-Methylnaphthalene	BDL	0.570	R-05	mg/kg dry	5	0940060	9/30/2009 9:23:00PM
2-Methylphenol	BDL	0.570	R-05	mg/kg dry	5	0940060	9/30/2009 9:23:00PM
2-Nitrophenol	BDL	0.570	R-05	mg/kg dry	5	0940060	9/30/2009 9:23:00PM
3 & 4-Methylphenol	BDL	0.570	R-05	mg/kg dry	5	0940060	9/30/2009 9:23:00PM
4,6-Dinitro-2-methylphenol	BDL	0.570	R-05	mg/kg dry	5	0940060	9/30/2009 9:23:00PM
4-Bromophenyl phenyl ether	BDL	0.570	R-05	mg/kg dry	5	0940060	9/30/2009 9:23:00PM
4-Chloro-3-methylphenol	BDL	0.570	R-05	mg/kg dry	5	0940060	9/30/2009 9:23:00PM
4-Chlorophenyl phenyl ether	BDL	0.570	R-05	mg/kg dry	5	0940060	9/30/2009 9:23:00PM
4-Nitrophenol	BDL	0.570	R-05	mg/kg dry	5	0940060	9/30/2009 9:23:00PM
Acenaphthene	BDL	0.570	R-05	mg/kg dry	5	0940060	9/30/2009 9:23:00PM
Acenaphthylene	BDL	0.570	R-05	mg/kg dry	5	0940060	9/30/2009 9:23:00PM
Acetophenone	BDL	0.570	R-05	mg/kg dry	5	0940060	9/30/2009 9:23:00PM
Aniline	BDL	0.570	R-05	mg/kg dry	5	0940060	9/30/2009 9:23:00PM
Anthracene	BDL	0.570	R-05	mg/kg dry	5	0940060	9/30/2009 9:23:00PM
Benz(a)anthracene	**2.13**	0.570	R-05	mg/kg dry	5	0940060	9/30/2009 9:23:00PM
Benzidine	BDL	0.570	R-05	mg/kg dry	5	0940060	9/30/2009 9:23:00PM
Benzo(a)pyrene	**1.92**	0.570	R-05	mg/kg dry	5	0940060	9/30/2009 9:23:00PM
Benzo(b)fluoranthene	**1.94**	0.570	R-05	mg/kg dry	5	0940060	9/30/2009 9:23:00PM
Benzo(g,h,i)perylene	**1.76**	0.570	R-05	mg/kg dry	5	0940060	9/30/2009 9:23:00PM
Benzo(k)fluoranthene	**1.59**	0.570	R-05	mg/kg dry	5	0940060	9/30/2009 9:23:00PM
Benzyl Alcohol	BDL	0.570	R-05	mg/kg dry	5	0940060	9/30/2009 9:23:00PM
Bis(2-chloroethoxy)methane	BDL	0.570	R-05	mg/kg dry	5	0940060	9/30/2009 9:23:00PM
bis-(2-Chloroethyl)ether	BDL	0.570	R-05	mg/kg dry	5	0940060	9/30/2009 9:23:00PM
Bis(2-ethylhexyl)phthalate	BDL	0.570	R-05	mg/kg dry	5	0940060	9/30/2009 9:23:00PM

CLIENT: Weston Solutions, Inc. - Dayton **Lab Order:** 09I1357
Project: Phase II Dayton Tech Town Redevelopment

Lab ID: 09I1357-05 **Collection Date:** 9/24/2009 1:40:00PM
Client Sample ID: P1-S5-C-092409 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Analyzed
Butyl benzyl phthalate	BDL	0.570	R-05	mg/kg dry	5	0940060	9/30/2009 9:23:00PM
Chrysene	**2.03**	0.570	R-05	mg/kg dry	5	0940060	9/30/2009 9:23:00PM
Dibenz(a,h)anthracene	BDL	0.570	R-05	mg/kg dry	5	0940060	9/30/2009 9:23:00PM
Dibenzofuran	BDL	0.570	R-05	mg/kg dry	5	0940060	9/30/2009 9:23:00PM
Diethyl phthalate	BDL	0.570	R-05	mg/kg dry	5	0940060	9/30/2009 9:23:00PM
Dimethyl phthalate	BDL	0.570	R-05	mg/kg dry	5	0940060	9/30/2009 9:23:00PM
Di-n-butyl phthalate	BDL	0.570	R-05	mg/kg dry	5	0940060	9/30/2009 9:23:00PM
Di-n-octyl phthalate	BDL	0.570	R-05	mg/kg dry	5	0940060	9/30/2009 9:23:00PM
Fluoranthene	**4.27**	0.570	R-05	mg/kg dry	5	0940060	9/30/2009 9:23:00PM
Fluorene	BDL	0.570	R-05	mg/kg dry	5	0940060	9/30/2009 9:23:00PM
Hexachlorobenzene	BDL	0.570	R-05	mg/kg dry	5	0940060	9/30/2009 9:23:00PM
Hexachlorobutadiene	BDL	0.570	R-05	mg/kg dry	5	0940060	9/30/2009 9:23:00PM
Hexachlorocyclopentadiene	BDL	0.570	R-05	mg/kg dry	5	0940060	9/30/2009 9:23:00PM
Hexachloroethane	BDL	0.570	R-05	mg/kg dry	5	0940060	9/30/2009 9:23:00PM
Hexachloropropene	BDL	0.570	R-05	mg/kg dry	5	0940060	9/30/2009 9:23:00PM
Indeno(1,2,3-cd)pyrene	**1.98**	0.570	R-05	mg/kg dry	5	0940060	9/30/2009 9:23:00PM
Isophorone	BDL	0.570	R-05	mg/kg dry	5	0940060	9/30/2009 9:23:00PM
Naphthalene	BDL	0.570	R-05	mg/kg dry	5	0940060	9/30/2009 9:23:00PM
Nitrobenzene	BDL	0.570	R-05	mg/kg dry	5	0940060	9/30/2009 9:23:00PM
N-Nitrosodimethylamine	BDL	0.570	R-05	mg/kg dry	5	0940060	9/30/2009 9:23:00PM
N-Nitroso-di-n-butylamine	BDL	0.570	R-05	mg/kg dry	5	0940060	9/30/2009 9:23:00PM
N-Nitrosodi-n-propylamine	BDL	0.570	R-05	mg/kg dry	5	0940060	9/30/2009 9:23:00PM
N-Nitrosodiphenylamine	BDL	0.570	R-05	mg/kg dry	5	0940060	9/30/2009 9:23:00PM
Pentachlorobenzene	BDL	0.570	R-05	mg/kg dry	5	0940060	9/30/2009 9:23:00PM
Pentachloronitrobenzene	BDL	0.570	R-05	mg/kg dry	5	0940060	9/30/2009 9:23:00PM
Pentachlorophenol	BDL	0.570	R-05	mg/kg dry	5	0940060	9/30/2009 9:23:00PM
Phenanthrene	**2.33**	0.570	R-05	mg/kg dry	5	0940060	9/30/2009 9:23:00PM
Phenol	BDL	0.570	R-05	mg/kg dry	5	0940060	9/30/2009 9:23:00PM
Pyrene	**3.59**	0.570	R-05	mg/kg dry	5	0940060	9/30/2009 9:23:00PM
Pyridine	BDL	0.570	R-05	mg/kg dry	5	0940060	9/30/2009 9:23:00PM
Bis(2-chloroisopropyl)ether	BDL	0.570	R-05	mg/kg dry	5	0940060	9/30/2009 9:23:00PM
Surrogate: 2-Fluorophenol		*69.7 %*	*R-05*	*36-118*		*0940060*	9/30/2009 9:23:00PM
Surrogate: Phenol-d6		*71.4 %*	*R-05*	*28-127*		*0940060*	9/30/2009 9:23:00PM
Surrogate: Nitrobenzene-d5		*79.1 %*	*R-05*	*57-116*		*0940060*	9/30/2009 9:23:00PM
Surrogate: 2-Fluorobiphenyl		*86.1 %*	*R-05*	*64-110*		*0940060*	9/30/2009 9:23:00PM
Surrogate: 2,4,6-Tribromophenol		*77.6 %*	*R-05*	*44-145*		*0940060*	9/30/2009 9:23:00PM
Surrogate: Terphenyl-d14		*91.3 %*	*R-05*	*46-124*		*0940060*	9/30/2009 9:23:00PM
HG		**SW 7471**				**Analyst: KC**	
Mercury	**0.365**	0.113		mg/kg dry	1	0940190	10/1/2009 12:28:50PM

Belmont Labs **Date:** 10/2/2009

CLIENT: Weston Solutions, Inc. - Dayton **Lab Order:** 09I1357
Project: Phase II Dayton Tech Town Redevelopment

Lab ID: 09I1357-06 **Collection Date:** 9/24/2009 1:42:00PM
Client Sample ID: P1-S5-G-092409 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Analyzed
VOC 8260		**SW 8260A**				**Analyst: MBG**	
1,1,1,2-Tetrachloroethane	BDL	0.00526		mg/kg dry	0.93	0940056	9/27/2009 10:40:00PM
1,1,1-Trichloroethane	BDL	0.00526		mg/kg dry	0.93	0940056	9/27/2009 10:40:00PM
1,1,2,2-Tetrachloroethane	BDL	0.00526		mg/kg dry	0.93	0940056	9/27/2009 10:40:00PM
1,1,2-Trichloroethane	BDL	0.00526		mg/kg dry	0.93	0940056	9/27/2009 10:40:00PM
1,1-Dichloroethane	BDL	0.00526		mg/kg dry	0.93	0940056	9/27/2009 10:40:00PM
1,1-Dichloroethene	BDL	0.00526		mg/kg dry	0.93	0940056	9/27/2009 10:40:00PM
1,1-Dichloropropene	BDL	0.00526		mg/kg dry	0.93	0940056	9/27/2009 10:40:00PM
1,2-Dibromoethane	BDL	0.00526		mg/kg dry	0.93	0940056	9/27/2009 10:40:00PM
1,2-Dichloroethane	BDL	0.00526		mg/kg dry	0.93	0940056	9/27/2009 10:40:00PM
1,2-Dichloropropane	BDL	0.00526		mg/kg dry	0.93	0940056	9/27/2009 10:40:00PM
1,3-Dichloropropane	BDL	0.00526		mg/kg dry	0.93	0940056	9/27/2009 10:40:00PM
2,2-Dichloropropane	BDL	0.00526		mg/kg dry	0.93	0940056	9/27/2009 10:40:00PM
2-Butanone	BDL	0.0210		mg/kg dry	0.93	0940056	9/27/2009 10:40:00PM
2-Chloroethyl vinyl ether	BDL	0.0105		mg/kg dry	0.93	0940056	9/27/2009 10:40:00PM
2-Chlorotoluene	BDL	0.00526		mg/kg dry	0.93	0940056	9/27/2009 10:40:00PM
2-Hexanone	BDL	0.0210		mg/kg dry	0.93	0940056	9/27/2009 10:40:00PM
4-Chlorotoluene	BDL	0.00526		mg/kg dry	0.93	0940056	9/27/2009 10:40:00PM
4-Methyl-2-pentanone	BDL	0.0210		mg/kg dry	0.93	0940056	9/27/2009 10:40:00PM
Acetone	BDL	0.0526		mg/kg dry	0.93	0940056	9/27/2009 10:40:00PM
Acetonitrile	BDL	0.0421		mg/kg dry	0.93	0940056	9/27/2009 10:40:00PM
Acrolein	BDL	0.0210		mg/kg dry	0.93	0940056	9/27/2009 10:40:00PM
Acrylonitrile	BDL	0.0210		mg/kg dry	0.93	0940056	9/27/2009 10:40:00PM
Allyl chloride	BDL	0.0105		mg/kg dry	0.93	0940056	9/27/2009 10:40:00PM
Benzene	BDL	0.00526		mg/kg dry	0.93	0940056	9/27/2009 10:40:00PM
Bromobenzene	BDL	0.00526		mg/kg dry	0.93	0940056	9/27/2009 10:40:00PM
Bromochloromethane	BDL	0.00526		mg/kg dry	0.93	0940056	9/27/2009 10:40:00PM
Bromodichloromethane	BDL	0.00526		mg/kg dry	0.93	0940056	9/27/2009 10:40:00PM
Bromoform	BDL	0.00526		mg/kg dry	0.93	0940056	9/27/2009 10:40:00PM
Bromomethane	BDL	0.00526		mg/kg dry	0.93	0940056	9/27/2009 10:40:00PM
Carbon Disulfide	BDL	0.0210		mg/kg dry	0.93	0940056	9/27/2009 10:40:00PM
Carbon Tetrachloride	BDL	0.00526		mg/kg dry	0.93	0940056	9/27/2009 10:40:00PM
Chlorobenzene	BDL	0.00526		mg/kg dry	0.93	0940056	9/27/2009 10:40:00PM
Chloroethane	BDL	0.00526		mg/kg dry	0.93	0940056	9/27/2009 10:40:00PM
Chloroform	BDL	0.00526		mg/kg dry	0.93	0940056	9/27/2009 10:40:00PM
Chloromethane	BDL	0.00526		mg/kg dry	0.93	0940056	9/27/2009 10:40:00PM
cis-1,2-Dichloroethene	BDL	0.00526		mg/kg dry	0.93	0940056	9/27/2009 10:40:00PM
cis-1,3-Dichloropropene	BDL	0.00526		mg/kg dry	0.93	0940056	9/27/2009 10:40:00PM
Dibromochloromethane	BDL	0.00526		mg/kg dry	0.93	0940056	9/27/2009 10:40:00PM
Dibromomethane	BDL	0.00526		mg/kg dry	0.93	0940056	9/27/2009 10:40:00PM
Dichlorodifluoromethane	BDL	0.00526		mg/kg dry	0.93	0940056	9/27/2009 10:40:00PM
Ethylbenzene	BDL	0.00526		mg/kg dry	0.93	0940056	9/27/2009 10:40:00PM
Iodomethane	BDL	0.0105		mg/kg dry	0.93	0940056	9/27/2009 10:40:00PM
Methylene Chloride	BDL	0.00526		mg/kg dry	0.93	0940056	9/27/2009 10:40:00PM
Methyl tert-Butyl Ether	BDL	0.0105		mg/kg dry	0.93	0940056	9/27/2009 10:40:00PM
m,p-Xylene	BDL	0.0105		mg/kg dry	0.93	0940056	9/27/2009 10:40:00PM

Lab ID: 09I1357-06 **Collection Date:** 9/24/2009 1:42:00PM
Client Sample ID: P1-S5-G-092409 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Analyzed
n-Hexane	BDL	0.00560		mg/kg dry	0.99	0940056	9/28/2009 7:22:00PM
o-Xylene	BDL	0.00526		mg/kg dry	0.93	0940056	9/27/2009 10:40:00PM
Styrene	BDL	0.00526		mg/kg dry	0.93	0940056	9/27/2009 10:40:00PM
Tetrachloroethene	BDL	0.00526		mg/kg dry	0.93	0940056	9/27/2009 10:40:00PM
Toluene	BDL	0.00526		mg/kg dry	0.93	0940056	9/27/2009 10:40:00PM
trans-1,2-Dichloroethene	BDL	0.00526		mg/kg dry	0.93	0940056	9/27/2009 10:40:00PM
trans-1,3-Dichloropropene	BDL	0.00526		mg/kg dry	0.93	0940056	9/27/2009 10:40:00PM
Trichloroethene	BDL	0.00526		mg/kg dry	0.93	0940056	9/27/2009 10:40:00PM
Trichlorofluoromethane	BDL	0.00526		mg/kg dry	0.93	0940056	9/27/2009 10:40:00PM
Vinyl Chloride	BDL	0.00526		mg/kg dry	0.93	0940056	9/27/2009 10:40:00PM
Vinyl acetate	BDL	0.0105		mg/kg dry	0.93	0940056	9/27/2009 10:40:00PM
Surrogate: 4-Bromofluorobenzene		*100 %*		*34-118*		*0940056*	9/27/2009 10:40:00PM
Surrogate: Dibromofluoromethane		*77.7 %*		*61-152*		*0940056*	9/27/2009 10:40:00PM
Surrogate: Toluene-d8		*81.9 %*		*44-119*		*0940056*	9/27/2009 10:40:00PM
Surrogate: 1,2-Dichloroethane-d4		*69.3 %*		*39-123*		*0940056*	9/27/2009 10:40:00PM
PMOIST		**D 2216**				**Analyst: AD**	
Percent Moisture	**11.6**			% by Weight	1	0940161	9/29/2009 12:00:00AM

Lab ID: 09I1357-07 **Collection Date:** 9/24/2009 1:55:00PM
Client Sample ID: P1-S4-C-092409 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Analyzed
PP Metals List		**SW 6010B**				**Analyst: RJE**	
Antimony	BDL	4.73		mg/kg dry	1	0940167	9/30/2009 9:13:17PM
Arsenic	**5.13**	0.946		mg/kg dry	1	0940167	9/30/2009 9:13:17PM
Beryllium	BDL	0.473		mg/kg dry	1	0940167	9/30/2009 9:13:17PM
Cadmium	BDL	0.946		mg/kg dry	1	0940167	9/30/2009 9:13:17PM
Chromium	**6.51**	0.946		mg/kg dry	1	0940167	9/30/2009 9:13:17PM
Copper	**83.1**	0.946		mg/kg dry	1	0940167	9/30/2009 9:13:17PM
Lead	**45.7**	4.73		mg/kg dry	1	0940167	9/30/2009 9:13:17PM
Nickel	**6.58**	0.946		mg/kg dry	1	0940167	9/30/2009 9:13:17PM
Selenium	BDL	4.73		mg/kg dry	1	0940167	9/30/2009 9:13:17PM
Silver	BDL	0.946		mg/kg dry	1	0940167	9/30/2009 9:13:17PM
Thallium	BDL	4.73		mg/kg dry	1	0940167	9/30/2009 9:13:17PM
Zinc	**208**	4.73		mg/kg dry	1	0940167	9/30/2009 9:13:17PM
PCB_8082		**SW 8082**				**Analyst: DAG**	
Aroclor 1016	BDL	0.0222		mg/kg dry	1	0940042	9/29/2009 7:18:00PM
Aroclor 1221	BDL	0.0222		mg/kg dry	1	0940042	9/29/2009 7:18:00PM
Aroclor 1232	BDL	0.0222		mg/kg dry	1	0940042	9/29/2009 7:18:00PM
Aroclor 1242	BDL	0.0222		mg/kg dry	1	0940042	9/29/2009 7:18:00PM

Lab ID: 09I1357-07 **Collection Date:** 9/24/2009 1:55:00PM
Client Sample ID: P1-S4-C-092409 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Analyzed
Aroclor 1248	BDL	0.0222		mg/kg dry	1	0940042	9/29/2009 7:18:00PM
Aroclor 1254	**0.167**	0.0222		mg/kg dry	1	0940042	9/29/2009 7:18:00PM
Aroclor 1260	BDL	0.0222		mg/kg dry	1	0940042	9/29/2009 7:18:00PM
Surrogate: Decachlorobiphenyl		*92.0 %*		*40-159*		*0940042*	9/29/2009 7:18:00PM
Surrogate: Tetrachloro-m-xylene		*62.0 %*		*47-125*		*0940042*	9/29/2009 7:18:00PM
PMOIST		**D 2216**				**Analyst: AD**	
Percent Moisture	**10.4**			% by Weight	1	0940161	9/29/2009 12:00:00AM
SVOC 8270		**SW 8270C**				**Analyst: dag**	
1,2,4,5-Tetrachlorobenzene	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 10:07:00PM
1,2,4-Trichlorobenzene	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 10:07:00PM
1,2-Dichlorobenzene	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 10:07:00PM
1,2-Diphenylhydrazine	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 10:07:00PM
1,3-Dichlorobenzene	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 10:07:00PM
1,4-Dichlorobenzene	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 10:07:00PM
2,3,4,6-Tetrachlorophenol	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 10:07:00PM
2,4,5-Trichlorophenol	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 10:07:00PM
2,4,6-Trichlorophenol	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 10:07:00PM
2,4-Dichlorophenol	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 10:07:00PM
2,4-Dimethylphenol	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 10:07:00PM
2,4-Dinitrophenol	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 10:07:00PM
2,4-Dinitrotoluene	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 10:07:00PM
2,6-Dichlorophenol	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 10:07:00PM
2,6-Dinitrotoluene	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 10:07:00PM
2-Chloronaphthalene	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 10:07:00PM
2-Chlorophenol	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 10:07:00PM
2-Methylnaphthalene	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 10:07:00PM
2-Methylphenol	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 10:07:00PM
2-Nitrophenol	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 10:07:00PM
3 & 4-Methylphenol	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 10:07:00PM
4,6-Dinitro-2-methylphenol	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 10:07:00PM
4-Bromophenyl phenyl ether	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 10:07:00PM
4-Chloro-3-methylphenol	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 10:07:00PM
4-Chlorophenyl phenyl ether	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 10:07:00PM
4-Nitrophenol	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 10:07:00PM
Acenaphthene	**1.94**	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 10:07:00PM
Acenaphthylene	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 10:07:00PM
Acetophenone	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 10:07:00PM
Aniline	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 10:07:00PM
Anthracene	**5.72**	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 10:07:00PM
Benz(a)anthracene	**6.18**	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 10:07:00PM
Benzidine	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 10:07:00PM
Benzo(a)pyrene	**1.64**	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 10:07:00PM

CLIENT: Weston Solutions, Inc. - Dayton **Lab Order:** 09I1357
Project: Phase II Dayton Tech Town Redevelopment

Lab ID: 09I1357-07 **Collection Date:** 9/24/2009 1:55:00PM
Client Sample ID: P1-S4-C-092409 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Analyzed
Benzo(b)fluoranthene	**5.11**	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 10:07:00PM
Benzo(g,h,i)perylene	**4.15**	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 10:07:00PM
Benzo(k)fluoranthene	**3.29**	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 10:07:00PM
Benzyl Alcohol	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 10:07:00PM
Bis(2-chloroethoxy)methane	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 10:07:00PM
bis-(2-Chloroethyl)ether	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 10:07:00PM
Bis(2-ethylhexyl)phthalate	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 10:07:00PM
Butyl benzyl phthalate	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 10:07:00PM
Chrysene	**6.17**	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 10:07:00PM
Dibenz(a,h)anthracene	**1.40**	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 10:07:00PM
Dibenzofuran	**1.87**	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 10:07:00PM
Diethyl phthalate	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 10:07:00PM
Dimethyl phthalate	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 10:07:00PM
Di-n-butyl phthalate	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 10:07:00PM
Di-n-octyl phthalate	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 10:07:00PM
Fluoranthene	**14.9**	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 10:07:00PM
Fluorene	**3.10**	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 10:07:00PM
Hexachlorobenzene	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 10:07:00PM
Hexachlorobutadiene	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 10:07:00PM
Hexachlorocyclopentadiene	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 10:07:00PM
Hexachloroethane	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 10:07:00PM
Hexachloropropene	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 10:07:00PM
Indeno(1,2,3-cd)pyrene	**4.76**	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 10:07:00PM
Isophorone	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 10:07:00PM
Naphthalene	**1.35**	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 10:07:00PM
Nitrobenzene	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 10:07:00PM
N-Nitrosodimethylamine	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 10:07:00PM
N-Nitroso-di-n-butylamine	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 10:07:00PM
N-Nitrosodi-n-propylamine	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 10:07:00PM
N-Nitrosodiphenylamine	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 10:07:00PM
Pentachlorobenzene	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 10:07:00PM
Pentachloronitrobenzene	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 10:07:00PM
Pentachlorophenol	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 10:07:00PM
Phenanthrene	**16.7**	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 10:07:00PM
Phenol	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 10:07:00PM
Pyrene	**12.3**	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 10:07:00PM
Pyridine	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 10:07:00PM
Bis(2-chloroisopropyl)ether	BDL	1.11	R-05	mg/kg dry	10	0940060	9/30/2009 10:07:00PM
Surrogate: 2-Fluorophenol		*72.8 %*	*R-05*	*36-118*		*0940060*	9/30/2009 10:07:00PM
Surrogate: Phenol-d6		*72.8 %*	*R-05*	*28-127*		*0940060*	9/30/2009 10:07:00PM
Surrogate: Nitrobenzene-d5		*79.5 %*	*R-05*	*57-116*		*0940060*	9/30/2009 10:07:00PM
Surrogate: 2-Fluorobiphenyl		*85.8 %*	*R-05*	*64-110*		*0940060*	9/30/2009 10:07:00PM
Surrogate: 2,4,6-Tribromophenol		*69.0 %*	*R-05*	*44-145*		*0940060*	9/30/2009 10:07:00PM
Surrogate: Terphenyl-d14		*101 %*	*R-05*	*46-124*		*0940060*	9/30/2009 10:07:00PM

CLIENT: Weston Solutions, Inc. - Dayton **Lab Order:** 09I1357
Project: Phase II Dayton Tech Town Redevelopment

Lab ID: 09I1357-07 **Collection Date:** 9/24/2009 1:55:00PM
Client Sample ID: P1-S4-C-092409 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Analyzed
HG		**SW 7471**				**Analyst: KC**	
Mercury	**0.452**	0.118		mg/kg dry	1	0940190	10/1/2009 12:28:50PM

Lab ID: 09I1357-08 **Collection Date:** 9/24/2009 1:58:00PM
Client Sample ID: P1-S4-G-092409 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Analyzed
VOC 8260		**SW 8260A**				**Analyst: MBG**	
1,1,1,2-Tetrachloroethane	BDL	0.00535		mg/kg dry	0.98	0940056	9/27/2009 11:13:00PM
1,1,1-Trichloroethane	BDL	0.00535		mg/kg dry	0.98	0940056	9/27/2009 11:13:00PM
1,1,2,2-Tetrachloroethane	BDL	0.00535		mg/kg dry	0.98	0940056	9/27/2009 11:13:00PM
1,1,2-Trichloroethane	BDL	0.00535		mg/kg dry	0.98	0940056	9/27/2009 11:13:00PM
1,1-Dichloroethane	BDL	0.00535		mg/kg dry	0.98	0940056	9/27/2009 11:13:00PM
1,1-Dichloroethene	BDL	0.00535		mg/kg dry	0.98	0940056	9/27/2009 11:13:00PM
1,1-Dichloropropene	BDL	0.00535		mg/kg dry	0.98	0940056	9/27/2009 11:13:00PM
1,2-Dibromoethane	BDL	0.00535		mg/kg dry	0.98	0940056	9/27/2009 11:13:00PM
1,2-Dichloroethane	BDL	0.00535		mg/kg dry	0.98	0940056	9/27/2009 11:13:00PM
1,2-Dichloropropane	BDL	0.00535		mg/kg dry	0.98	0940056	9/27/2009 11:13:00PM
1,3-Dichloropropane	BDL	0.00535		mg/kg dry	0.98	0940056	9/27/2009 11:13:00PM
2,2-Dichloropropane	BDL	0.00535		mg/kg dry	0.98	0940056	9/27/2009 11:13:00PM
2-Butanone	BDL	0.0214		mg/kg dry	0.98	0940056	9/27/2009 11:13:00PM
2-Chloroethyl vinyl ether	BDL	0.0107		mg/kg dry	0.98	0940056	9/27/2009 11:13:00PM
2-Chlorotoluene	BDL	0.00535		mg/kg dry	0.98	0940056	9/27/2009 11:13:00PM
2-Hexanone	BDL	0.0214		mg/kg dry	0.98	0940056	9/27/2009 11:13:00PM
4-Chlorotoluene	BDL	0.00535		mg/kg dry	0.98	0940056	9/27/2009 11:13:00PM
4-Methyl-2-pentanone	BDL	0.0214		mg/kg dry	0.98	0940056	9/27/2009 11:13:00PM
Acetone	BDL	0.0535		mg/kg dry	0.98	0940056	9/27/2009 11:13:00PM
Acetonitrile	BDL	0.0428		mg/kg dry	0.98	0940056	9/27/2009 11:13:00PM
Acrolein	BDL	0.0214		mg/kg dry	0.98	0940056	9/27/2009 11:13:00PM
Acrylonitrile	BDL	0.0214		mg/kg dry	0.98	0940056	9/27/2009 11:13:00PM
Allyl chloride	BDL	0.0107		mg/kg dry	0.98	0940056	9/27/2009 11:13:00PM
Benzene	BDL	0.00535		mg/kg dry	0.98	0940056	9/27/2009 11:13:00PM
Bromobenzene	BDL	0.00535		mg/kg dry	0.98	0940056	9/27/2009 11:13:00PM
Bromochloromethane	BDL	0.00535		mg/kg dry	0.98	0940056	9/27/2009 11:13:00PM
Bromodichloromethane	BDL	0.00535		mg/kg dry	0.98	0940056	9/27/2009 11:13:00PM
Bromoform	BDL	0.00535		mg/kg dry	0.98	0940056	9/27/2009 11:13:00PM
Bromomethane	BDL	0.00535		mg/kg dry	0.98	0940056	9/27/2009 11:13:00PM
Carbon Disulfide	BDL	0.0214		mg/kg dry	0.98	0940056	9/27/2009 11:13:00PM
Carbon Tetrachloride	BDL	0.00535		mg/kg dry	0.98	0940056	9/27/2009 11:13:00PM
Chlorobenzene	BDL	0.00535		mg/kg dry	0.98	0940056	9/27/2009 11:13:00PM
Chloroethane	BDL	0.00535		mg/kg dry	0.98	0940056	9/27/2009 11:13:00PM
Chloroform	BDL	0.00535		mg/kg dry	0.98	0940056	9/27/2009 11:13:00PM
Chloromethane	BDL	0.00535		mg/kg dry	0.98	0940056	9/27/2009 11:13:00PM

Lab ID: 09I1357-08 **Collection Date:** 9/24/2009 1:58:00PM
Client Sample ID: P1-S4-G-092409 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Analyzed
cis-1,2-Dichloroethene	BDL	0.00535		mg/kg dry	0.98	0940056	9/27/2009 11:13:00PM
cis-1,3-Dichloropropene	BDL	0.00535		mg/kg dry	0.98	0940056	9/27/2009 11:13:00PM
Dibromochloromethane	BDL	0.00535		mg/kg dry	0.98	0940056	9/27/2009 11:13:00PM
Dibromomethane	BDL	0.00535		mg/kg dry	0.98	0940056	9/27/2009 11:13:00PM
Dichlorodifluoromethane	BDL	0.00535		mg/kg dry	0.98	0940056	9/27/2009 11:13:00PM
Ethylbenzene	BDL	0.00535		mg/kg dry	0.98	0940056	9/27/2009 11:13:00PM
Iodomethane	BDL	0.0107		mg/kg dry	0.98	0940056	9/27/2009 11:13:00PM
Methylene Chloride	BDL	0.00535		mg/kg dry	0.98	0940056	9/27/2009 11:13:00PM
Methyl tert-Butyl Ether	BDL	0.0107		mg/kg dry	0.98	0940056	9/27/2009 11:13:00PM
m,p-Xylene	BDL	0.0107		mg/kg dry	0.98	0940056	9/27/2009 11:13:00PM
n-Hexane	BDL	0.00519		mg/kg dry	0.95	0940056	9/28/2009 7:55:00PM
o-Xylene	BDL	0.00535		mg/kg dry	0.98	0940056	9/27/2009 11:13:00PM
Styrene	BDL	0.00535		mg/kg dry	0.98	0940056	9/27/2009 11:13:00PM
Tetrachloroethene	BDL	0.00535		mg/kg dry	0.98	0940056	9/27/2009 11:13:00PM
Toluene	BDL	0.00535		mg/kg dry	0.98	0940056	9/27/2009 11:13:00PM
trans-1,2-Dichloroethene	BDL	0.00535		mg/kg dry	0.98	0940056	9/27/2009 11:13:00PM
trans-1,3-Dichloropropene	BDL	0.00535		mg/kg dry	0.98	0940056	9/27/2009 11:13:00PM
Trichloroethene	BDL	0.00535		mg/kg dry	0.98	0940056	9/27/2009 11:13:00PM
Trichlorofluoromethane	BDL	0.00535		mg/kg dry	0.98	0940056	9/27/2009 11:13:00PM
Vinyl Chloride	BDL	0.00535		mg/kg dry	0.98	0940056	9/27/2009 11:13:00PM
Vinyl acetate	BDL	0.0107		mg/kg dry	0.98	0940056	9/27/2009 11:13:00PM
Surrogate: 4-Bromofluorobenzene		*102 %*		*34-118*		*0940056*	9/27/2009 11:13:00PM
Surrogate: Dibromofluoromethane		*80.0 %*		*61-152*		*0940056*	9/27/2009 11:13:00PM
Surrogate: Toluene-d8		*84.5 %*		*44-119*		*0940056*	9/27/2009 11:13:00PM
Surrogate: 1,2-Dichloroethane-d4		*74.1 %*		*39-123*		*0940056*	9/27/2009 11:13:00PM
PMOIST		**D 2216**				**Analyst: AD**	
Percent Moisture	**8.44**			% by Weight	1	0940161	9/29/2009 12:00:00AM

Lab ID: 09I1357-09 **Collection Date:** 9/24/2009 2:15:00PM
Client Sample ID: P1-S3-C-092409 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Analyzed
PP Metals List		**SW 6010B**				**Analyst: RJE**	
Antimony	BDL	5.38		mg/kg dry	1	0940167	9/30/2009 9:18:13PM
Arsenic	**5.06**	1.08		mg/kg dry	1	0940167	9/30/2009 9:18:13PM
Beryllium	**0.572**	0.538		mg/kg dry	1	0940167	9/30/2009 9:18:13PM
Cadmium	**1.70**	1.08		mg/kg dry	1	0940167	9/30/2009 9:18:13PM
Chromium	**9.22**	1.08		mg/kg dry	1	0940167	9/30/2009 9:18:13PM
Copper	**30.4**	1.08		mg/kg dry	1	0940167	9/30/2009 9:18:13PM
Lead	**33.7**	5.38		mg/kg dry	1	0940167	9/30/2009 9:18:13PM
Nickel	**7.83**	1.08		mg/kg dry	1	0940167	9/30/2009 9:18:13PM

CLIENT: Weston Solutions, Inc. - Dayton **Lab Order:** 09I1357
Project: Phase II Dayton Tech Town Redevelopment

Lab ID: 09I1357-09 **Collection Date:** 9/24/2009 2:15:00PM
Client Sample ID: P1-S3-C-092409 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Analyzed
Selenium	BDL	5.38		mg/kg dry	1	0940167	9/30/2009 9:18:13PM
Silver	BDL	1.08		mg/kg dry	1	0940167	9/30/2009 9:18:13PM
Thallium	BDL	5.38		mg/kg dry	1	0940167	9/30/2009 9:18:13PM
Zinc	**85.7**	5.38		mg/kg dry	1	0940167	9/30/2009 9:18:13PM
PCB_8082		**SW 8082**					**Analyst: DAG**
Aroclor 1016	BDL	0.0217		mg/kg dry	1	0940042	9/29/2009 6:03:00PM
Aroclor 1221	BDL	0.0217		mg/kg dry	1	0940042	9/29/2009 6:03:00PM
Aroclor 1232	BDL	0.0217		mg/kg dry	1	0940042	9/29/2009 6:03:00PM
Aroclor 1242	BDL	0.0217		mg/kg dry	1	0940042	9/29/2009 6:03:00PM
Aroclor 1248	BDL	0.0217		mg/kg dry	1	0940042	9/29/2009 6:03:00PM
Aroclor 1254	**0.649**	0.0217		mg/kg dry	1	0940042	9/29/2009 6:03:00PM
Aroclor 1260	BDL	0.0217		mg/kg dry	1	0940042	9/29/2009 6:03:00PM
Surrogate: Decachlorobiphenyl		*104 %*		*40-159*		*0940042*	9/29/2009 6:03:00PM
Surrogate: Tetrachloro-m-xylene		*63.0 %*		*47-125*		*0940042*	9/29/2009 6:03:00PM
PMOIST		**D 2216**					**Analyst: AD**
Percent Moisture	**8.92**			% by Weight	1	0940161	9/29/2009 12:00:00AM
SVOC 8270		**SW 8270C**					**Analyst: dag**
1,2,4,5-Tetrachlorobenzene	BDL	0.543	R-05	mg/kg dry	5	0940060	9/30/2009 10:52:00PM
1,2,4-Trichlorobenzene	BDL	0.543	R-05	mg/kg dry	5	0940060	9/30/2009 10:52:00PM
1,2-Dichlorobenzene	BDL	0.543	R-05	mg/kg dry	5	0940060	9/30/2009 10:52:00PM
1,2-Diphenylhydrazine	BDL	0.543	R-05	mg/kg dry	5	0940060	9/30/2009 10:52:00PM
1,3-Dichlorobenzene	BDL	0.543	R-05	mg/kg dry	5	0940060	9/30/2009 10:52:00PM
1,4-Dichlorobenzene	BDL	0.543	R-05	mg/kg dry	5	0940060	9/30/2009 10:52:00PM
2,3,4,6-Tetrachlorophenol	BDL	0.543	R-05	mg/kg dry	5	0940060	9/30/2009 10:52:00PM
2,4,5-Trichlorophenol	BDL	0.543	R-05	mg/kg dry	5	0940060	9/30/2009 10:52:00PM
2,4,6-Trichlorophenol	BDL	0.543	R-05	mg/kg dry	5	0940060	9/30/2009 10:52:00PM
2,4-Dichlorophenol	BDL	0.543	R-05	mg/kg dry	5	0940060	9/30/2009 10:52:00PM
2,4-Dimethylphenol	BDL	0.543	R-05	mg/kg dry	5	0940060	9/30/2009 10:52:00PM
2,4-Dinitrophenol	BDL	0.543	R-05	mg/kg dry	5	0940060	9/30/2009 10:52:00PM
2,4-Dinitrotoluene	BDL	0.543	R-05	mg/kg dry	5	0940060	9/30/2009 10:52:00PM
2,6-Dichlorophenol	BDL	0.543	R-05	mg/kg dry	5	0940060	9/30/2009 10:52:00PM
2,6-Dinitrotoluene	BDL	0.543	R-05	mg/kg dry	5	0940060	9/30/2009 10:52:00PM
2-Chloronaphthalene	BDL	0.543	R-05	mg/kg dry	5	0940060	9/30/2009 10:52:00PM
2-Chlorophenol	BDL	0.543	R-05	mg/kg dry	5	0940060	9/30/2009 10:52:00PM
2-Methylnaphthalene	BDL	0.543	R-05	mg/kg dry	5	0940060	9/30/2009 10:52:00PM
2-Methylphenol	BDL	0.543	R-05	mg/kg dry	5	0940060	9/30/2009 10:52:00PM
2-Nitrophenol	BDL	0.543	R-05	mg/kg dry	5	0940060	9/30/2009 10:52:00PM
3 & 4-Methylphenol	BDL	0.543	R-05	mg/kg dry	5	0940060	9/30/2009 10:52:00PM
4,6-Dinitro-2-methylphenol	BDL	0.543	R-05	mg/kg dry	5	0940060	9/30/2009 10:52:00PM
4-Bromophenyl phenyl ether	BDL	0.543	R-05	mg/kg dry	5	0940060	9/30/2009 10:52:00PM
4-Chloro-3-methylphenol	BDL	0.543	R-05	mg/kg dry	5	0940060	9/30/2009 10:52:00PM

CLIENT: Weston Solutions, Inc. - Dayton **Lab Order:** 09I1357
Project: Phase II Dayton Tech Town Redevelopment

Lab ID: 09I1357-09 **Collection Date:** 9/24/2009 2:15:00PM
Client Sample ID: P1-S3-C-092409 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Analyzed
4-Chlorophenyl phenyl ether	BDL	0.543	R-05	mg/kg dry	5	0940060	9/30/2009 10:52:00PM
4-Nitrophenol	BDL	0.543	R-05	mg/kg dry	5	0940060	9/30/2009 10:52:00PM
Acenaphthene	BDL	0.543	R-05	mg/kg dry	5	0940060	9/30/2009 10:52:00PM
Acenaphthylene	BDL	0.543	R-05	mg/kg dry	5	0940060	9/30/2009 10:52:00PM
Acetophenone	BDL	0.543	R-05	mg/kg dry	5	0940060	9/30/2009 10:52:00PM
Aniline	BDL	0.543	R-05	mg/kg dry	5	0940060	9/30/2009 10:52:00PM
Anthracene	BDL	0.543	R-05	mg/kg dry	5	0940060	9/30/2009 10:52:00PM
Benz(a)anthracene	**1.38**	0.543	R-05	mg/kg dry	5	0940060	9/30/2009 10:52:00PM
Benzidine	BDL	0.543	R-05	mg/kg dry	5	0940060	9/30/2009 10:52:00PM
Benzo(a)pyrene	**1.25**	0.543	R-05	mg/kg dry	5	0940060	9/30/2009 10:52:00PM
Benzo(b)fluoranthene	**1.28**	0.543	R-05	mg/kg dry	5	0940060	9/30/2009 10:52:00PM
Benzo(g,h,i)perylene	**1.14**	0.543	R-05	mg/kg dry	5	0940060	9/30/2009 10:52:00PM
Benzo(k)fluoranthene	**1.03**	0.543	R-05	mg/kg dry	5	0940060	9/30/2009 10:52:00PM
Benzyl Alcohol	BDL	0.543	R-05	mg/kg dry	5	0940060	9/30/2009 10:52:00PM
Bis(2-chloroethoxy)methane	BDL	0.543	R-05	mg/kg dry	5	0940060	9/30/2009 10:52:00PM
bis-(2-Chloroethyl)ether	BDL	0.543	R-05	mg/kg dry	5	0940060	9/30/2009 10:52:00PM
Bis(2-ethylhexyl)phthalate	BDL	0.543	R-05	mg/kg dry	5	0940060	9/30/2009 10:52:00PM
Butyl benzyl phthalate	BDL	0.543	R-05	mg/kg dry	5	0940060	9/30/2009 10:52:00PM
Chrysene	**1.37**	0.543	R-05	mg/kg dry	5	0940060	9/30/2009 10:52:00PM
Dibenz(a,h)anthracene	BDL	0.543	R-05	mg/kg dry	5	0940060	9/30/2009 10:52:00PM
Dibenzofuran	BDL	0.543	R-05	mg/kg dry	5	0940060	9/30/2009 10:52:00PM
Diethyl phthalate	BDL	0.543	R-05	mg/kg dry	5	0940060	9/30/2009 10:52:00PM
Dimethyl phthalate	BDL	0.543	R-05	mg/kg dry	5	0940060	9/30/2009 10:52:00PM
Di-n-butyl phthalate	BDL	0.543	R-05	mg/kg dry	5	0940060	9/30/2009 10:52:00PM
Di-n-octyl phthalate	BDL	0.543	R-05	mg/kg dry	5	0940060	9/30/2009 10:52:00PM
Fluoranthene	**3.06**	0.543	R-05	mg/kg dry	5	0940060	9/30/2009 10:52:00PM
Fluorene	BDL	0.543	R-05	mg/kg dry	5	0940060	9/30/2009 10:52:00PM
Hexachlorobenzene	BDL	0.543	R-05	mg/kg dry	5	0940060	9/30/2009 10:52:00PM
Hexachlorobutadiene	BDL	0.543	R-05	mg/kg dry	5	0940060	9/30/2009 10:52:00PM
Hexachlorocyclopentadiene	BDL	0.543	R-05	mg/kg dry	5	0940060	9/30/2009 10:52:00PM
Hexachloroethane	BDL	0.543	R-05	mg/kg dry	5	0940060	9/30/2009 10:52:00PM
Hexachloropropene	BDL	0.543	R-05	mg/kg dry	5	0940060	9/30/2009 10:52:00PM
Indeno(1,2,3-cd)pyrene	**1.33**	0.543	R-05	mg/kg dry	5	0940060	9/30/2009 10:52:00PM
Isophorone	BDL	0.543	R-05	mg/kg dry	5	0940060	9/30/2009 10:52:00PM
Naphthalene	BDL	0.543	R-05	mg/kg dry	5	0940060	9/30/2009 10:52:00PM
Nitrobenzene	BDL	0.543	R-05	mg/kg dry	5	0940060	9/30/2009 10:52:00PM
N-Nitrosodimethylamine	BDL	0.543	R-05	mg/kg dry	5	0940060	9/30/2009 10:52:00PM
N-Nitroso-di-n-butylamine	BDL	0.543	R-05	mg/kg dry	5	0940060	9/30/2009 10:52:00PM
N-Nitrosodi-n-propylamine	BDL	0.543	R-05	mg/kg dry	5	0940060	9/30/2009 10:52:00PM
N-Nitrosodiphenylamine	BDL	0.543	R-05	mg/kg dry	5	0940060	9/30/2009 10:52:00PM
Pentachlorobenzene	BDL	0.543	R-05	mg/kg dry	5	0940060	9/30/2009 10:52:00PM
Pentachloronitrobenzene	BDL	0.543	R-05	mg/kg dry	5	0940060	9/30/2009 10:52:00PM
Pentachlorophenol	BDL	0.543	R-05	mg/kg dry	5	0940060	9/30/2009 10:52:00PM
Phenanthrene	**1.92**	0.543	R-05	mg/kg dry	5	0940060	9/30/2009 10:52:00PM
Phenol	BDL	0.543	R-05	mg/kg dry	5	0940060	9/30/2009 10:52:00PM
Pyrene	**2.78**	0.543	R-05	mg/kg dry	5	0940060	9/30/2009 10:52:00PM

Lab ID: 09I1357-09 **Collection Date:** 9/24/2009 2:15:00PM
Client Sample ID: P1-S3-C-092409 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Analyzed
Pyridine	BDL	0.543	R-05	mg/kg dry	5	0940060	9/30/2009 10:52:00PM
Bis(2-chloroisopropyl)ether	BDL	0.543	R-05	mg/kg dry	5	0940060	9/30/2009 10:52:00PM
Surrogate: 2-Fluorophenol		*64.6 %*	*R-05*	*36-118*		*0940060*	9/30/2009 10:52:00PM
Surrogate: Phenol-d6		*66.7 %*	*R-05*	*28-127*		*0940060*	9/30/2009 10:52:00PM
Surrogate: Nitrobenzene-d5		*77.1 %*	*R-05*	*57-116*		*0940060*	9/30/2009 10:52:00PM
Surrogate: 2-Fluorobiphenyl		*77.9 %*	*R-05*	*64-110*		*0940060*	9/30/2009 10:52:00PM
Surrogate: 2,4,6-Tribromophenol		*70.0 %*	*R-05*	*44-145*		*0940060*	9/30/2009 10:52:00PM
Surrogate: Terphenyl-d14		*92.4 %*	*R-05*	*46-124*		*0940060*	9/30/2009 10:52:00PM
HG		**SW 7471**				**Analyst: KC**	
Mercury	**0.253**	0.120		mg/kg dry	1	0940190	10/1/2009 12:28:50PM

Lab ID: 09I1357-10 **Collection Date:** 9/24/2009 2:17:00PM
Client Sample ID: P1-S3-G-092409 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Analyzed
VOC 8260		**SW 8260A**				**Analyst: kds**	
1,1,1,2-Tetrachloroethane	BDL	0.00520		mg/kg dry	0.93	0940067	9/28/2009 8:28:00PM
1,1,1-Trichloroethane	BDL	0.00520		mg/kg dry	0.93	0940067	9/28/2009 8:28:00PM
1,1,2,2-Tetrachloroethane	BDL	0.00520		mg/kg dry	0.93	0940067	9/28/2009 8:28:00PM
1,1,2-Trichloroethane	BDL	0.00520		mg/kg dry	0.93	0940067	9/28/2009 8:28:00PM
1,1-Dichloroethane	BDL	0.00520		mg/kg dry	0.93	0940067	9/28/2009 8:28:00PM
1,1-Dichloroethene	BDL	0.00520		mg/kg dry	0.93	0940067	9/28/2009 8:28:00PM
1,1-Dichloropropene	BDL	0.00520		mg/kg dry	0.93	0940067	9/28/2009 8:28:00PM
1,2-Dibromoethane	BDL	0.00520		mg/kg dry	0.93	0940067	9/28/2009 8:28:00PM
1,2-Dichloroethane	BDL	0.00520		mg/kg dry	0.93	0940067	9/28/2009 8:28:00PM
1,2-Dichloropropane	BDL	0.00520		mg/kg dry	0.93	0940067	9/28/2009 8:28:00PM
1,3-Dichloropropane	BDL	0.00520		mg/kg dry	0.93	0940067	9/28/2009 8:28:00PM
2,2-Dichloropropane	BDL	0.00520		mg/kg dry	0.93	0940067	9/28/2009 8:28:00PM
2-Butanone	BDL	0.0208		mg/kg dry	0.93	0940067	9/28/2009 8:28:00PM
2-Chloroethyl vinyl ether	BDL	0.0104		mg/kg dry	0.93	0940067	9/28/2009 8:28:00PM
2-Chlorotoluene	BDL	0.00520		mg/kg dry	0.93	0940067	9/28/2009 8:28:00PM
2-Hexanone	BDL	0.0208		mg/kg dry	0.93	0940067	9/28/2009 8:28:00PM
4-Chlorotoluene	BDL	0.00520		mg/kg dry	0.93	0940067	9/28/2009 8:28:00PM
4-Methyl-2-pentanone	BDL	0.0208		mg/kg dry	0.93	0940067	9/28/2009 8:28:00PM
Acetone	BDL	0.0520		mg/kg dry	0.93	0940067	9/28/2009 8:28:00PM
Acetonitrile	BDL	0.0416		mg/kg dry	0.93	0940067	9/28/2009 8:28:00PM
Acrolein	BDL	0.0208		mg/kg dry	0.93	0940067	9/28/2009 8:28:00PM
Acrylonitrile	BDL	0.0208		mg/kg dry	0.93	0940067	9/28/2009 8:28:00PM
Allyl chloride	BDL	0.0104		mg/kg dry	0.93	0940067	9/28/2009 8:28:00PM
Benzene	BDL	0.00520		mg/kg dry	0.93	0940067	9/28/2009 8:28:00PM
Bromobenzene	BDL	0.00520		mg/kg dry	0.93	0940067	9/28/2009 8:28:00PM

Belmont Labs **Date:** 10/2/2009

CLIENT: Weston Solutions, Inc. - Dayton **Lab Order:** 09I1357
Project: Phase II Dayton Tech Town Redevelopment

Lab ID: 09I1357-10 **Collection Date:** 9/24/2009 2:17:00PM
Client Sample ID: P1-S3-G-092409 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Analyzed
Bromochloromethane	BDL	0.00520		mg/kg dry	0.93	0940067	9/28/2009 8:28:00PM
Bromodichloromethane	BDL	0.00520		mg/kg dry	0.93	0940067	9/28/2009 8:28:00PM
Bromoform	BDL	0.00520		mg/kg dry	0.93	0940067	9/28/2009 8:28:00PM
Bromomethane	BDL	0.00520		mg/kg dry	0.93	0940067	9/28/2009 8:28:00PM
Carbon Disulfide	BDL	0.0208		mg/kg dry	0.93	0940067	9/28/2009 8:28:00PM
Carbon Tetrachloride	BDL	0.00520		mg/kg dry	0.93	0940067	9/28/2009 8:28:00PM
Chlorobenzene	BDL	0.00520		mg/kg dry	0.93	0940067	9/28/2009 8:28:00PM
Chloroethane	BDL	0.00520		mg/kg dry	0.93	0940067	9/28/2009 8:28:00PM
Chloroform	BDL	0.00520		mg/kg dry	0.93	0940067	9/28/2009 8:28:00PM
Chloromethane	BDL	0.00520		mg/kg dry	0.93	0940067	9/28/2009 8:28:00PM
cis-1,2-Dichloroethene	BDL	0.00520		mg/kg dry	0.93	0940067	9/28/2009 8:28:00PM
cis-1,3-Dichloropropene	BDL	0.00520		mg/kg dry	0.93	0940067	9/28/2009 8:28:00PM
Dibromochloromethane	BDL	0.00520		mg/kg dry	0.93	0940067	9/28/2009 8:28:00PM
Dibromomethane	BDL	0.00520		mg/kg dry	0.93	0940067	9/28/2009 8:28:00PM
Dichlorodifluoromethane	BDL	0.00520		mg/kg dry	0.93	0940067	9/28/2009 8:28:00PM
Ethylbenzene	BDL	0.00520		mg/kg dry	0.93	0940067	9/28/2009 8:28:00PM
Iodomethane	BDL	0.0104		mg/kg dry	0.93	0940067	9/28/2009 8:28:00PM
Methylene Chloride	BDL	0.00520		mg/kg dry	0.93	0940067	9/28/2009 8:28:00PM
Methyl tert-Butyl Ether	BDL	0.0104		mg/kg dry	0.93	0940067	9/28/2009 8:28:00PM
m,p-Xylene	BDL	0.0104		mg/kg dry	0.93	0940067	9/28/2009 8:28:00PM
n-Hexane	BDL	0.00520		mg/kg dry	0.93	0940067	9/28/2009 8:28:00PM
o-Xylene	BDL	0.00520		mg/kg dry	0.93	0940067	9/28/2009 8:28:00PM
Styrene	BDL	0.00520		mg/kg dry	0.93	0940067	9/28/2009 8:28:00PM
Tetrachloroethene	BDL	0.00520		mg/kg dry	0.93	0940067	9/28/2009 8:28:00PM
Toluene	BDL	0.00520		mg/kg dry	0.93	0940067	9/28/2009 8:28:00PM
trans-1,2-Dichloroethene	BDL	0.00520		mg/kg dry	0.93	0940067	9/28/2009 8:28:00PM
trans-1,3-Dichloropropene	BDL	0.00520		mg/kg dry	0.93	0940067	9/28/2009 8:28:00PM
Trichloroethene	BDL	0.00520		mg/kg dry	0.93	0940067	9/28/2009 8:28:00PM
Trichlorofluoromethane	BDL	0.00520		mg/kg dry	0.93	0940067	9/28/2009 8:28:00PM
Vinyl Chloride	BDL	0.00520		mg/kg dry	0.93	0940067	9/28/2009 8:28:00PM
Vinyl acetate	BDL	0.0104		mg/kg dry	0.93	0940067	9/28/2009 8:28:00PM
Surrogate: 4-Bromofluorobenzene		*109 %*		*34-118*		*0940067*	9/28/2009 8:28:00PM
Surrogate: Dibromofluoromethane		*83.8 %*		*61-152*		*0940067*	9/28/2009 8:28:00PM
Surrogate: Toluene-d8		*82.4 %*		*44-119*		*0940067*	9/28/2009 8:28:00PM
Surrogate: 1,2-Dichloroethane-d4		*74.4 %*		*39-123*		*0940067*	9/28/2009 8:28:00PM
PMOIST		**D 2216**				**Analyst: AD**	
Percent Moisture	**10.6**			% by Weight	1	0940161	9/29/2009 12:00:00AM

CLIENT: Weston Solutions, Inc. - Dayton **Lab Order:** 09I1357
Project: Phase II Dayton Tech Town Redevelopment

Lab ID: 09I1357-11 **Collection Date:** 9/24/2009 2:25:00PM
Client Sample ID: P1-S2-C-092409 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Analyzed
PP Metals List		**SW 6010B**				**Analyst: RJE**	
Antimony	BDL	4.85		mg/kg dry	1	0940167	9/30/2009 9:22:51PM
Arsenic	**4.80**	0.969		mg/kg dry	1	0940167	9/30/2009 9:22:51PM
Beryllium	BDL	0.485		mg/kg dry	1	0940167	9/30/2009 9:22:51PM
Cadmium	**1.53**	0.969		mg/kg dry	1	0940167	9/30/2009 9:22:51PM
Chromium	**14.7**	0.969		mg/kg dry	1	0940167	9/30/2009 9:22:51PM
Copper	**25.3**	0.969		mg/kg dry	1	0940167	9/30/2009 9:22:51PM
Lead	**37.5**	4.85		mg/kg dry	1	0940167	9/30/2009 9:22:51PM
Nickel	**6.55**	0.969		mg/kg dry	1	0940167	9/30/2009 9:22:51PM
Selenium	BDL	4.85		mg/kg dry	1	0940167	9/30/2009 9:22:51PM
Silver	BDL	0.969		mg/kg dry	1	0940167	9/30/2009 9:22:51PM
Thallium	BDL	4.85		mg/kg dry	1	0940167	9/30/2009 9:22:51PM
Zinc	**109**	4.85		mg/kg dry	1	0940167	9/30/2009 9:22:51PM
PCB_8082		**SW 8082**				**Analyst: DAG**	
Aroclor 1016	BDL	0.0219		mg/kg dry	1	0940042	9/29/2009 7:43:00PM
Aroclor 1221	BDL	0.0219		mg/kg dry	1	0940042	9/29/2009 7:43:00PM
Aroclor 1232	BDL	0.0219		mg/kg dry	1	0940042	9/29/2009 7:43:00PM
Aroclor 1242	BDL	0.0219		mg/kg dry	1	0940042	9/29/2009 7:43:00PM
Aroclor 1248	BDL	0.0219		mg/kg dry	1	0940042	9/29/2009 7:43:00PM
Aroclor 1254	**0.570**	0.0219		mg/kg dry	1	0940042	9/29/2009 7:43:00PM
Aroclor 1260	BDL	0.0219		mg/kg dry	1	0940042	9/29/2009 7:43:00PM
Surrogate: Decachlorobiphenyl		*76.0 %*		*40-159*		*0940042*	9/29/2009 7:43:00PM
Surrogate: Tetrachloro-m-xylene		*94.0 %*		*47-125*		*0940042*	9/29/2009 7:43:00PM
PMOIST		**D 2216**				**Analyst: AD**	
Percent Moisture	**9.51**			% by Weight	1	0940161	9/29/2009 12:00:00AM
SVOC 8270		**SW 8270C**				**Analyst: dag**	
1,2,4,5-Tetrachlorobenzene	BDL	0.552	R-05	mg/kg dry	5	0940060	9/30/2009 11:36:00PM
1,2,4-Trichlorobenzene	BDL	0.552	R-05	mg/kg dry	5	0940060	9/30/2009 11:36:00PM
1,2-Dichlorobenzene	BDL	0.552	R-05	mg/kg dry	5	0940060	9/30/2009 11:36:00PM
1,2-Diphenylhydrazine	BDL	0.552	R-05	mg/kg dry	5	0940060	9/30/2009 11:36:00PM
1,3-Dichlorobenzene	BDL	0.552	R-05	mg/kg dry	5	0940060	9/30/2009 11:36:00PM
1,4-Dichlorobenzene	BDL	0.552	R-05	mg/kg dry	5	0940060	9/30/2009 11:36:00PM
2,3,4,6-Tetrachlorophenol	BDL	0.552	R-05	mg/kg dry	5	0940060	9/30/2009 11:36:00PM
2,4,5-Trichlorophenol	BDL	0.552	R-05	mg/kg dry	5	0940060	9/30/2009 11:36:00PM
2,4,6-Trichlorophenol	BDL	0.552	R-05	mg/kg dry	5	0940060	9/30/2009 11:36:00PM
2,4-Dichlorophenol	BDL	0.552	R-05	mg/kg dry	5	0940060	9/30/2009 11:36:00PM
2,4-Dimethylphenol	BDL	0.552	R-05	mg/kg dry	5	0940060	9/30/2009 11:36:00PM
2,4-Dinitrophenol	BDL	0.552	R-05	mg/kg dry	5	0940060	9/30/2009 11:36:00PM
2,4-Dinitrotoluene	BDL	0.552	R-05	mg/kg dry	5	0940060	9/30/2009 11:36:00PM
2,6-Dichlorophenol	BDL	0.552	R-05	mg/kg dry	5	0940060	9/30/2009 11:36:00PM
2,6-Dinitrotoluene	BDL	0.552	R-05	mg/kg dry	5	0940060	9/30/2009 11:36:00PM

Lab ID: 09I1357-11 **Collection Date:** 9/24/2009 2:25:00PM
Client Sample ID: P1-S2-C-092409 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Analyzed
2-Chloronaphthalene	BDL	0.552	R-05	mg/kg dry	5	0940060	9/30/2009 11:36:00PM
2-Chlorophenol	BDL	0.552	R-05	mg/kg dry	5	0940060	9/30/2009 11:36:00PM
2-Methylnaphthalene	BDL	0.552	R-05	mg/kg dry	5	0940060	9/30/2009 11:36:00PM
2-Methylphenol	BDL	0.552	R-05	mg/kg dry	5	0940060	9/30/2009 11:36:00PM
2-Nitrophenol	BDL	0.552	R-05	mg/kg dry	5	0940060	9/30/2009 11:36:00PM
3 & 4-Methylphenol	BDL	0.552	R-05	mg/kg dry	5	0940060	9/30/2009 11:36:00PM
4,6-Dinitro-2-methylphenol	BDL	0.552	R-05	mg/kg dry	5	0940060	9/30/2009 11:36:00PM
4-Bromophenyl phenyl ether	BDL	0.552	R-05	mg/kg dry	5	0940060	9/30/2009 11:36:00PM
4-Chloro-3-methylphenol	BDL	0.552	R-05	mg/kg dry	5	0940060	9/30/2009 11:36:00PM
4-Chlorophenyl phenyl ether	BDL	0.552	R-05	mg/kg dry	5	0940060	9/30/2009 11:36:00PM
4-Nitrophenol	BDL	0.552	R-05	mg/kg dry	5	0940060	9/30/2009 11:36:00PM
Acenaphthene	BDL	0.552	R-05	mg/kg dry	5	0940060	9/30/2009 11:36:00PM
Acenaphthylene	BDL	0.552	R-05	mg/kg dry	5	0940060	9/30/2009 11:36:00PM
Acetophenone	BDL	0.552	R-05	mg/kg dry	5	0940060	9/30/2009 11:36:00PM
Aniline	BDL	0.552	R-05	mg/kg dry	5	0940060	9/30/2009 11:36:00PM
Anthracene	BDL	0.552	R-05	mg/kg dry	5	0940060	9/30/2009 11:36:00PM
Benz(a)anthracene	**0.895**	0.552	R-05	mg/kg dry	5	0940060	9/30/2009 11:36:00PM
Benzidine	BDL	0.552	R-05	mg/kg dry	5	0940060	9/30/2009 11:36:00PM
Benzo(a)pyrene	**0.838**	0.552	R-05	mg/kg dry	5	0940060	9/30/2009 11:36:00PM
Benzo(b)fluoranthene	**0.998**	0.552	R-05	mg/kg dry	5	0940060	9/30/2009 11:36:00PM
Benzo(g,h,i)perylene	**0.769**	0.552	R-05	mg/kg dry	5	0940060	9/30/2009 11:36:00PM
Benzo(k)fluoranthene	**0.655**	0.552	R-05	mg/kg dry	5	0940060	9/30/2009 11:36:00PM
Benzyl Alcohol	BDL	0.552	R-05	mg/kg dry	5	0940060	9/30/2009 11:36:00PM
Bis(2-chloroethoxy)methane	BDL	0.552	R-05	mg/kg dry	5	0940060	9/30/2009 11:36:00PM
bis-(2-Chloroethyl)ether	BDL	0.552	R-05	mg/kg dry	5	0940060	9/30/2009 11:36:00PM
Bis(2-ethylhexyl)phthalate	BDL	0.552	R-05	mg/kg dry	5	0940060	9/30/2009 11:36:00PM
Butyl benzyl phthalate	BDL	0.552	R-05	mg/kg dry	5	0940060	9/30/2009 11:36:00PM
Chrysene	**0.921**	0.552	R-05	mg/kg dry	5	0940060	9/30/2009 11:36:00PM
Dibenz(a,h)anthracene	BDL	0.552	R-05	mg/kg dry	5	0940060	9/30/2009 11:36:00PM
Dibenzofuran	BDL	0.552	R-05	mg/kg dry	5	0940060	9/30/2009 11:36:00PM
Diethyl phthalate	BDL	0.552	R-05	mg/kg dry	5	0940060	9/30/2009 11:36:00PM
Dimethyl phthalate	BDL	0.552	R-05	mg/kg dry	5	0940060	9/30/2009 11:36:00PM
Di-n-butyl phthalate	BDL	0.552	R-05	mg/kg dry	5	0940060	9/30/2009 11:36:00PM
Di-n-octyl phthalate	BDL	0.552	R-05	mg/kg dry	5	0940060	9/30/2009 11:36:00PM
Fluoranthene	**1.79**	0.552	R-05	mg/kg dry	5	0940060	9/30/2009 11:36:00PM
Fluorene	BDL	0.552	R-05	mg/kg dry	5	0940060	9/30/2009 11:36:00PM
Hexachlorobenzene	BDL	0.552	R-05	mg/kg dry	5	0940060	9/30/2009 11:36:00PM
Hexachlorobutadiene	BDL	0.552	R-05	mg/kg dry	5	0940060	9/30/2009 11:36:00PM
Hexachlorocyclopentadiene	BDL	0.552	R-05	mg/kg dry	5	0940060	9/30/2009 11:36:00PM
Hexachloroethane	BDL	0.552	R-05	mg/kg dry	5	0940060	9/30/2009 11:36:00PM
Hexachloropropene	BDL	0.552	R-05	mg/kg dry	5	0940060	9/30/2009 11:36:00PM
Indeno(1,2,3-cd)pyrene	**0.973**	0.552	R-05	mg/kg dry	5	0940060	9/30/2009 11:36:00PM
Isophorone	BDL	0.552	R-05	mg/kg dry	5	0940060	9/30/2009 11:36:00PM
Naphthalene	BDL	0.552	R-05	mg/kg dry	5	0940060	9/30/2009 11:36:00PM
Nitrobenzene	BDL	0.552	R-05	mg/kg dry	5	0940060	9/30/2009 11:36:00PM
N-Nitrosodimethylamine	BDL	0.552	R-05	mg/kg dry	5	0940060	9/30/2009 11:36:00PM

Lab ID: 09I1357-11 **Collection Date:** 9/24/2009 2:25:00PM
Client Sample ID: P1-S2-C-092409 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Analyzed
N-Nitroso-di-n-butylamine	BDL	0.552	R-05	mg/kg dry	5	0940060	9/30/2009 11:36:00PM
N-Nitrosodi-n-propylamine	BDL	0.552	R-05	mg/kg dry	5	0940060	9/30/2009 11:36:00PM
N-Nitrosodiphenylamine	BDL	0.552	R-05	mg/kg dry	5	0940060	9/30/2009 11:36:00PM
Pentachlorobenzene	BDL	0.552	R-05	mg/kg dry	5	0940060	9/30/2009 11:36:00PM
Pentachloronitrobenzene	BDL	0.552	R-05	mg/kg dry	5	0940060	9/30/2009 11:36:00PM
Pentachlorophenol	BDL	0.552	R-05	mg/kg dry	5	0940060	9/30/2009 11:36:00PM
Phenanthrene	**1.07**	0.552	R-05	mg/kg dry	5	0940060	9/30/2009 11:36:00PM
Phenol	BDL	0.552	R-05	mg/kg dry	5	0940060	9/30/2009 11:36:00PM
Pyrene	**1.40**	0.552	R-05	mg/kg dry	5	0940060	9/30/2009 11:36:00PM
Pyridine	BDL	0.552	R-05	mg/kg dry	5	0940060	9/30/2009 11:36:00PM
Bis(2-chloroisopropyl)ether	BDL	0.552	R-05	mg/kg dry	5	0940060	9/30/2009 11:36:00PM
Surrogate: 2-Fluorophenol		*74.0 %*	*R-05*	*36-118*		*0940060*	9/30/2009 11:36:00PM
Surrogate: Phenol-d6		*77.6 %*	*R-05*	*28-127*		*0940060*	9/30/2009 11:36:00PM
Surrogate: Nitrobenzene-d5		*87.6 %*	*R-05*	*57-116*		*0940060*	9/30/2009 11:36:00PM
Surrogate: 2-Fluorobiphenyl		*90.4 %*	*R-05*	*64-110*		*0940060*	9/30/2009 11:36:00PM
Surrogate: 2,4,6-Tribromophenol		*91.1 %*	*R-05*	*44-145*		*0940060*	9/30/2009 11:36:00PM
Surrogate: Terphenyl-d14		*101 %*	*R-05*	*46-124*		*0940060*	9/30/2009 11:36:00PM
HG		**SW 7471**				**Analyst: KC**	
Mercury	**0.489**	0.116		mg/kg dry	1	0940190	10/1/2009 12:28:50PM

Lab ID: 09I1357-12 **Collection Date:** 9/24/2009 2:27:00PM
Client Sample ID: P1-S2-G-092409 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Analyzed
VOC 8260		**SW 8260A**				**Analyst: kds**	
1,1,1,2-Tetrachloroethane	BDL	0.00520		mg/kg dry	0.92	0940067	9/28/2009 9:02:00PM
1,1,1-Trichloroethane	BDL	0.00520		mg/kg dry	0.92	0940067	9/28/2009 9:02:00PM
1,1,2,2-Tetrachloroethane	BDL	0.00520		mg/kg dry	0.92	0940067	9/28/2009 9:02:00PM
1,1,2-Trichloroethane	BDL	0.00520		mg/kg dry	0.92	0940067	9/28/2009 9:02:00PM
1,1-Dichloroethane	BDL	0.00520		mg/kg dry	0.92	0940067	9/28/2009 9:02:00PM
1,1-Dichloroethene	BDL	0.00520		mg/kg dry	0.92	0940067	9/28/2009 9:02:00PM
1,1-Dichloropropene	BDL	0.00520		mg/kg dry	0.92	0940067	9/28/2009 9:02:00PM
1,2-Dibromoethane	BDL	0.00520		mg/kg dry	0.92	0940067	9/28/2009 9:02:00PM
1,2-Dichloroethane	BDL	0.00520		mg/kg dry	0.92	0940067	9/28/2009 9:02:00PM
1,2-Dichloropropane	BDL	0.00520		mg/kg dry	0.92	0940067	9/28/2009 9:02:00PM
1,3-Dichloropropane	BDL	0.00520		mg/kg dry	0.92	0940067	9/28/2009 9:02:00PM
2,2-Dichloropropane	BDL	0.00520		mg/kg dry	0.92	0940067	9/28/2009 9:02:00PM
2-Butanone	BDL	0.0208		mg/kg dry	0.92	0940067	9/28/2009 9:02:00PM
2-Chloroethyl vinyl ether	BDL	0.0104		mg/kg dry	0.92	0940067	9/28/2009 9:02:00PM
2-Chlorotoluene	BDL	0.00520		mg/kg dry	0.92	0940067	9/28/2009 9:02:00PM
2-Hexanone	BDL	0.0208		mg/kg dry	0.92	0940067	9/28/2009 9:02:00PM

Belmont Labs **Date:** 10/2/2009

CLIENT: Weston Solutions, Inc. - Dayton **Lab Order:** 09I1357
Project: Phase II Dayton Tech Town Redevelopment

Lab ID: 09I1357-12 **Collection Date:** 9/24/2009 2:27:00PM
Client Sample ID: P1-S2-G-092409 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Analyzed
4-Chlorotoluene	BDL	0.00520		mg/kg dry	0.92	0940067	9/28/2009 9:02:00PM
4-Methyl-2-pentanone	BDL	0.0208		mg/kg dry	0.92	0940067	9/28/2009 9:02:00PM
Acetone	BDL	0.0520		mg/kg dry	0.92	0940067	9/28/2009 9:02:00PM
Acetonitrile	BDL	0.0416		mg/kg dry	0.92	0940067	9/28/2009 9:02:00PM
Acrolein	BDL	0.0208		mg/kg dry	0.92	0940067	9/28/2009 9:02:00PM
Acrylonitrile	BDL	0.0208		mg/kg dry	0.92	0940067	9/28/2009 9:02:00PM
Allyl chloride	BDL	0.0104		mg/kg dry	0.92	0940067	9/28/2009 9:02:00PM
Benzene	BDL	0.00520		mg/kg dry	0.92	0940067	9/28/2009 9:02:00PM
Bromobenzene	BDL	0.00520		mg/kg dry	0.92	0940067	9/28/2009 9:02:00PM
Bromochloromethane	BDL	0.00520		mg/kg dry	0.92	0940067	9/28/2009 9:02:00PM
Bromodichloromethane	BDL	0.00520		mg/kg dry	0.92	0940067	9/28/2009 9:02:00PM
Bromoform	BDL	0.00520		mg/kg dry	0.92	0940067	9/28/2009 9:02:00PM
Bromomethane	BDL	0.00520		mg/kg dry	0.92	0940067	9/28/2009 9:02:00PM
Carbon Disulfide	BDL	0.0208		mg/kg dry	0.92	0940067	9/28/2009 9:02:00PM
Carbon Tetrachloride	BDL	0.00520		mg/kg dry	0.92	0940067	9/28/2009 9:02:00PM
Chlorobenzene	BDL	0.00520		mg/kg dry	0.92	0940067	9/28/2009 9:02:00PM
Chloroethane	BDL	0.00520		mg/kg dry	0.92	0940067	9/28/2009 9:02:00PM
Chloroform	BDL	0.00520		mg/kg dry	0.92	0940067	9/28/2009 9:02:00PM
Chloromethane	BDL	0.00520		mg/kg dry	0.92	0940067	9/28/2009 9:02:00PM
cis-1,2-Dichloroethene	BDL	0.00520		mg/kg dry	0.92	0940067	9/28/2009 9:02:00PM
cis-1,3-Dichloropropene	BDL	0.00520		mg/kg dry	0.92	0940067	9/28/2009 9:02:00PM
Dibromochloromethane	BDL	0.00520		mg/kg dry	0.92	0940067	9/28/2009 9:02:00PM
Dibromomethane	BDL	0.00520		mg/kg dry	0.92	0940067	9/28/2009 9:02:00PM
Dichlorodifluoromethane	BDL	0.00520		mg/kg dry	0.92	0940067	9/28/2009 9:02:00PM
Ethylbenzene	BDL	0.00520		mg/kg dry	0.92	0940067	9/28/2009 9:02:00PM
Iodomethane	BDL	0.0104		mg/kg dry	0.92	0940067	9/28/2009 9:02:00PM
Methylene Chloride	BDL	0.00520		mg/kg dry	0.92	0940067	9/28/2009 9:02:00PM
Methyl tert-Butyl Ether	BDL	0.0104		mg/kg dry	0.92	0940067	9/28/2009 9:02:00PM
m,p-Xylene	BDL	0.0104		mg/kg dry	0.92	0940067	9/28/2009 9:02:00PM
n-Hexane	BDL	0.00520		mg/kg dry	0.92	0940067	9/28/2009 9:02:00PM
o-Xylene	BDL	0.00520		mg/kg dry	0.92	0940067	9/28/2009 9:02:00PM
Styrene	BDL	0.00520		mg/kg dry	0.92	0940067	9/28/2009 9:02:00PM
Tetrachloroethene	BDL	0.00520		mg/kg dry	0.92	0940067	9/28/2009 9:02:00PM
Toluene	BDL	0.00520		mg/kg dry	0.92	0940067	9/28/2009 9:02:00PM
trans-1,2-Dichloroethene	BDL	0.00520		mg/kg dry	0.92	0940067	9/28/2009 9:02:00PM
trans-1,3-Dichloropropene	BDL	0.00520		mg/kg dry	0.92	0940067	9/28/2009 9:02:00PM
Trichloroethene	**0.0120**	0.00520	D	mg/kg dry	0.92	0940067	9/28/2009 9:02:00PM
Trichlorofluoromethane	BDL	0.00520		mg/kg dry	0.92	0940067	9/28/2009 9:02:00PM
Vinyl Chloride	BDL	0.00520		mg/kg dry	0.92	0940067	9/28/2009 9:02:00PM
Vinyl acetate	BDL	0.0104		mg/kg dry	0.92	0940067	9/28/2009 9:02:00PM
Surrogate: 4-Bromofluorobenzene		*109 %*		*34-118*		*0940067*	9/28/2009 9:02:00PM
Surrogate: Dibromofluoromethane		*84.7 %*		*61-152*		*0940067*	9/28/2009 9:02:00PM
Surrogate: Toluene-d8		*83.4 %*		*44-119*		*0940067*	9/28/2009 9:02:00PM
Surrogate: 1,2-Dichloroethane-d4		*72.9 %*		*39-123*		*0940067*	9/28/2009 9:02:00PM

CLIENT: Weston Solutions, Inc. - Dayton **Lab Order:** 09I1357
Project: Phase II Dayton Tech Town Redevelopment

Lab ID: 09I1357-12 **Collection Date:** 9/24/2009 2:27:00PM
Client Sample ID: P1-S2-G-092409 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Analyzed
PMOIST		**D 2216**				**Analyst: AD**	
Percent Moisture	**11.6**			% by Weight	1	0940161	9/29/2009 12:00:00AM

Lab ID: 09I1357-13 **Collection Date:** 9/24/2009 2:45:00PM
Client Sample ID: P1-S1-C-092409 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Analyzed
PP Metals List		**SW 6010B**				**Analyst: RJE**	
Antimony	BDL	5.44		mg/kg dry	1	0940167	9/30/2009 9:34:55PM
Arsenic	**4.67**	1.09		mg/kg dry	1	0940167	9/30/2009 9:34:55PM
Beryllium	BDL	0.544		mg/kg dry	1	0940167	9/30/2009 9:34:55PM
Cadmium	BDL	1.09		mg/kg dry	1	0940167	9/30/2009 9:34:55PM
Chromium	**5.39**	1.09		mg/kg dry	1	0940167	9/30/2009 9:34:55PM
Copper	**17.9**	1.09		mg/kg dry	1	0940167	9/30/2009 9:34:55PM
Lead	**19.0**	5.44		mg/kg dry	1	0940167	9/30/2009 9:34:55PM
Nickel	**5.62**	1.09		mg/kg dry	1	0940167	9/30/2009 9:34:55PM
Selenium	BDL	5.44		mg/kg dry	1	0940167	9/30/2009 9:34:55PM
Silver	BDL	1.09		mg/kg dry	1	0940167	9/30/2009 9:34:55PM
Thallium	BDL	5.44		mg/kg dry	1	0940167	9/30/2009 9:34:55PM
Zinc	**47.0**	5.44		mg/kg dry	1	0940167	9/30/2009 9:34:55PM
PCB_8082		**SW 8082**				**Analyst: DAG**	
Aroclor 1016	BDL	0.0220		mg/kg dry	1	0940042	9/28/2009 8:01:00PM
Aroclor 1221	BDL	0.0220		mg/kg dry	1	0940042	9/28/2009 8:01:00PM
Aroclor 1232	BDL	0.0220		mg/kg dry	1	0940042	9/28/2009 8:01:00PM
Aroclor 1242	BDL	0.0220		mg/kg dry	1	0940042	9/28/2009 8:01:00PM
Aroclor 1248	BDL	0.0220		mg/kg dry	1	0940042	9/28/2009 8:01:00PM
Aroclor 1254	BDL	0.0220		mg/kg dry	1	0940042	9/28/2009 8:01:00PM
Aroclor 1260	BDL	0.0220		mg/kg dry	1	0940042	9/28/2009 8:01:00PM
Surrogate: Decachlorobiphenyl		*78.0 %*		*40-159*		*0940042*	9/28/2009 8:01:00PM
Surrogate: Tetrachloro-m-xylene		*112 %*		*47-125*		*0940042*	9/28/2009 8:01:00PM
PMOIST		**D 2216**				**Analyst: AD**	
Percent Moisture	**9.81**			% by Weight	1	0940161	9/29/2009 12:00:00AM
SVOC 8270		**SW 8270C**				**Analyst: dag**	
1,2,4,5-Tetrachlorobenzene	BDL	0.539	R-05	mg/kg dry	5	0940060	10/1/2009 12:20:00AM
1,2,4-Trichlorobenzene	BDL	0.539	R-05	mg/kg dry	5	0940060	10/1/2009 12:20:00AM
1,2-Dichlorobenzene	BDL	0.539	R-05	mg/kg dry	5	0940060	10/1/2009 12:20:00AM
1,2-Diphenylhydrazine	BDL	0.539	R-05	mg/kg dry	5	0940060	10/1/2009 12:20:00AM
1,3-Dichlorobenzene	BDL	0.539	R-05	mg/kg dry	5	0940060	10/1/2009 12:20:00AM

CLIENT: Weston Solutions, Inc. - Dayton **Lab Order:** 09I1357
Project: Phase II Dayton Tech Town Redevelopment

Lab ID: 09I1357-13 **Collection Date:** 9/24/2009 2:45:00PM
Client Sample ID: P1-S1-C-092409 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Analyzed
1,4-Dichlorobenzene	BDL	0.539	R-05	mg/kg dry	5	0940060	10/1/2009 12:20:00AM
2,3,4,6-Tetrachlorophenol	BDL	0.539	R-05	mg/kg dry	5	0940060	10/1/2009 12:20:00AM
2,4,5-Trichlorophenol	BDL	0.539	R-05	mg/kg dry	5	0940060	10/1/2009 12:20:00AM
2,4,6-Trichlorophenol	BDL	0.539	R-05	mg/kg dry	5	0940060	10/1/2009 12:20:00AM
2,4-Dichlorophenol	BDL	0.539	R-05	mg/kg dry	5	0940060	10/1/2009 12:20:00AM
2,4-Dimethylphenol	BDL	0.539	R-05	mg/kg dry	5	0940060	10/1/2009 12:20:00AM
2,4-Dinitrophenol	BDL	0.539	R-05	mg/kg dry	5	0940060	10/1/2009 12:20:00AM
2,4-Dinitrotoluene	BDL	0.539	R-05	mg/kg dry	5	0940060	10/1/2009 12:20:00AM
2,6-Dichlorophenol	BDL	0.539	R-05	mg/kg dry	5	0940060	10/1/2009 12:20:00AM
2,6-Dinitrotoluene	BDL	0.539	R-05	mg/kg dry	5	0940060	10/1/2009 12:20:00AM
2-Chloronaphthalene	BDL	0.539	R-05	mg/kg dry	5	0940060	10/1/2009 12:20:00AM
2-Chlorophenol	BDL	0.539	R-05	mg/kg dry	5	0940060	10/1/2009 12:20:00AM
2-Methylnaphthalene	BDL	0.539	R-05	mg/kg dry	5	0940060	10/1/2009 12:20:00AM
2-Methylphenol	BDL	0.539	R-05	mg/kg dry	5	0940060	10/1/2009 12:20:00AM
2-Nitrophenol	BDL	0.539	R-05	mg/kg dry	5	0940060	10/1/2009 12:20:00AM
3 & 4-Methylphenol	BDL	0.539	R-05	mg/kg dry	5	0940060	10/1/2009 12:20:00AM
4,6-Dinitro-2-methylphenol	BDL	0.539	R-05	mg/kg dry	5	0940060	10/1/2009 12:20:00AM
4-Bromophenyl phenyl ether	BDL	0.539	R-05	mg/kg dry	5	0940060	10/1/2009 12:20:00AM
4-Chloro-3-methylphenol	BDL	0.539	R-05	mg/kg dry	5	0940060	10/1/2009 12:20:00AM
4-Chlorophenyl phenyl ether	BDL	0.539	R-05	mg/kg dry	5	0940060	10/1/2009 12:20:00AM
4-Nitrophenol	BDL	0.539	R-05	mg/kg dry	5	0940060	10/1/2009 12:20:00AM
Acenaphthene	BDL	0.539	R-05	mg/kg dry	5	0940060	10/1/2009 12:20:00AM
Acenaphthylene	BDL	0.539	R-05	mg/kg dry	5	0940060	10/1/2009 12:20:00AM
Acetophenone	BDL	0.539	R-05	mg/kg dry	5	0940060	10/1/2009 12:20:00AM
Aniline	BDL	0.539	R-05	mg/kg dry	5	0940060	10/1/2009 12:20:00AM
Anthracene	**0.985**	0.539	R-05	mg/kg dry	5	0940060	10/1/2009 12:20:00AM
Benz(a)anthracene	**3.28**	0.539	R-05	mg/kg dry	5	0940060	10/1/2009 12:20:00AM
Benzidine	BDL	0.539	R-05	mg/kg dry	5	0940060	10/1/2009 12:20:00AM
Benzo(a)pyrene	**2.81**	0.539	R-05	mg/kg dry	5	0940060	10/1/2009 12:20:00AM
Benzo(b)fluoranthene	**2.92**	0.539	R-05	mg/kg dry	5	0940060	10/1/2009 12:20:00AM
Benzo(g,h,i)perylene	**2.39**	0.539	R-05	mg/kg dry	5	0940060	10/1/2009 12:20:00AM
Benzo(k)fluoranthene	**2.24**	0.539	R-05	mg/kg dry	5	0940060	10/1/2009 12:20:00AM
Benzyl Alcohol	BDL	0.539	R-05	mg/kg dry	5	0940060	10/1/2009 12:20:00AM
Bis(2-chloroethoxy)methane	BDL	0.539	R-05	mg/kg dry	5	0940060	10/1/2009 12:20:00AM
bis-(2-Chloroethyl)ether	BDL	0.539	R-05	mg/kg dry	5	0940060	10/1/2009 12:20:00AM
Bis(2-ethylhexyl)phthalate	BDL	0.539	R-05	mg/kg dry	5	0940060	10/1/2009 12:20:00AM
Butyl benzyl phthalate	BDL	0.539	R-05	mg/kg dry	5	0940060	10/1/2009 12:20:00AM
Chrysene	**3.07**	0.539	R-05	mg/kg dry	5	0940060	10/1/2009 12:20:00AM
Dibenz(a,h)anthracene	BDL	0.539	R-05	mg/kg dry	5	0940060	10/1/2009 12:20:00AM
Dibenzofuran	BDL	0.539	R-05	mg/kg dry	5	0940060	10/1/2009 12:20:00AM
Diethyl phthalate	BDL	0.539	R-05	mg/kg dry	5	0940060	10/1/2009 12:20:00AM
Dimethyl phthalate	BDL	0.539	R-05	mg/kg dry	5	0940060	10/1/2009 12:20:00AM
Di-n-butyl phthalate	BDL	0.539	R-05	mg/kg dry	5	0940060	10/1/2009 12:20:00AM
Di-n-octyl phthalate	BDL	0.539	R-05	mg/kg dry	5	0940060	10/1/2009 12:20:00AM
Fluoranthene	**5.99**	0.539	R-05	mg/kg dry	5	0940060	10/1/2009 12:20:00AM
Fluorene	BDL	0.539	R-05	mg/kg dry	5	0940060	10/1/2009 12:20:00AM

Lab ID: 09I1357-13 **Collection Date:** 9/24/2009 2:45:00PM
Client Sample ID: P1-S1-C-092409 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Analyzed
Hexachlorobenzene	BDL	0.539	R-05	mg/kg dry	5	0940060	10/1/2009 12:20:00AM
Hexachlorobutadiene	BDL	0.539	R-05	mg/kg dry	5	0940060	10/1/2009 12:20:00AM
Hexachlorocyclopentadiene	BDL	0.539	R-05	mg/kg dry	5	0940060	10/1/2009 12:20:00AM
Hexachloroethane	BDL	0.539	R-05	mg/kg dry	5	0940060	10/1/2009 12:20:00AM
Hexachloropropene	BDL	0.539	R-05	mg/kg dry	5	0940060	10/1/2009 12:20:00AM
Indeno(1,2,3-cd)pyrene	**2.93**	0.539	R-05	mg/kg dry	5	0940060	10/1/2009 12:20:00AM
Isophorone	BDL	0.539	R-05	mg/kg dry	5	0940060	10/1/2009 12:20:00AM
Naphthalene	BDL	0.539	R-05	mg/kg dry	5	0940060	10/1/2009 12:20:00AM
Nitrobenzene	BDL	0.539	R-05	mg/kg dry	5	0940060	10/1/2009 12:20:00AM
N-Nitrosodimethylamine	BDL	0.539	R-05	mg/kg dry	5	0940060	10/1/2009 12:20:00AM
N-Nitroso-di-n-butylamine	BDL	0.539	R-05	mg/kg dry	5	0940060	10/1/2009 12:20:00AM
N-Nitrosodi-n-propylamine	BDL	0.539	R-05	mg/kg dry	5	0940060	10/1/2009 12:20:00AM
N-Nitrosodiphenylamine	BDL	0.539	R-05	mg/kg dry	5	0940060	10/1/2009 12:20:00AM
Pentachlorobenzene	BDL	0.539	R-05	mg/kg dry	5	0940060	10/1/2009 12:20:00AM
Pentachloronitrobenzene	BDL	0.539	R-05	mg/kg dry	5	0940060	10/1/2009 12:20:00AM
Pentachlorophenol	BDL	0.539	R-05	mg/kg dry	5	0940060	10/1/2009 12:20:00AM
Phenanthrene	**3.59**	0.539	R-05	mg/kg dry	5	0940060	10/1/2009 12:20:00AM
Phenol	BDL	0.539	R-05	mg/kg dry	5	0940060	10/1/2009 12:20:00AM
Pyrene	**4.89**	0.539	R-05	mg/kg dry	5	0940060	10/1/2009 12:20:00AM
Pyridine	BDL	0.539	R-05	mg/kg dry	5	0940060	10/1/2009 12:20:00AM
Bis(2-chloroisopropyl)ether	BDL	0.539	R-05	mg/kg dry	5	0940060	10/1/2009 12:20:00AM
Surrogate: 2-Fluorophenol		*64.6 %*	*R-05*	*36-118*		*0940060*	10/1/2009 12:20:00AM
Surrogate: Phenol-d6		*68.4 %*	*R-05*	*28-127*		*0940060*	10/1/2009 12:20:00AM
Surrogate: Nitrobenzene-d5		*73.9 %*	*R-05*	*57-116*		*0940060*	10/1/2009 12:20:00AM
Surrogate: 2-Fluorobiphenyl		*81.8 %*	*R-05*	*64-110*		*0940060*	10/1/2009 12:20:00AM
Surrogate: 2,4,6-Tribromophenol		*79.8 %*	*R-05*	*44-145*		*0940060*	10/1/2009 12:20:00AM
Surrogate: Terphenyl-d14		*86.4 %*	*R-05*	*46-124*		*0940060*	10/1/2009 12:20:00AM
HG		**SW 7471**				**Analyst: KC**	
Mercury	**0.132**	0.104		mg/kg dry	1	0940190	10/1/2009 12:28:50PM

Lab ID: 09I1357-14 **Collection Date:** 9/24/2009 2:47:00PM
Client Sample ID: P1-S1-G-092409 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Analyzed
VOC 8260		**SW 8260A**				**Analyst: kds**	
1,1,1,2-Tetrachloroethane	BDL	0.00866		mg/kg dry	1.49	0940150	9/29/2009 2:15:00PM
1,1,1-Trichloroethane	BDL	0.00866		mg/kg dry	1.49	0940150	9/29/2009 2:15:00PM
1,1,2,2-Tetrachloroethane	BDL	0.00866		mg/kg dry	1.49	0940150	9/29/2009 2:15:00PM
1,1,2-Trichloroethane	BDL	0.00866		mg/kg dry	1.49	0940150	9/29/2009 2:15:00PM
1,1-Dichloroethane	BDL	0.00866		mg/kg dry	1.49	0940150	9/29/2009 2:15:00PM
1,1-Dichloroethene	BDL	0.00866		mg/kg dry	1.49	0940150	9/29/2009 2:15:00PM

CLIENT: Weston Solutions, Inc. - Dayton **Lab Order:** 09I1357
Project: Phase II Dayton Tech Town Redevelopment

Lab ID: 09I1357-14 **Collection Date:** 9/24/2009 2:47:00PM
Client Sample ID: P1-S1-G-092409 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Analyzed
1,1-Dichloropropene	BDL	0.00866		mg/kg dry	1.49	0940150	9/29/2009 2:15:00PM
1,2-Dibromoethane	BDL	0.00866		mg/kg dry	1.49	0940150	9/29/2009 2:15:00PM
1,2-Dichloroethane	BDL	0.00866		mg/kg dry	1.49	0940150	9/29/2009 2:15:00PM
1,2-Dichloropropane	BDL	0.00866		mg/kg dry	1.49	0940150	9/29/2009 2:15:00PM
1,3-Dichloropropane	BDL	0.00866		mg/kg dry	1.49	0940150	9/29/2009 2:15:00PM
2,2-Dichloropropane	BDL	0.00866		mg/kg dry	1.49	0940150	9/29/2009 2:15:00PM
2-Butanone	BDL	0.0346		mg/kg dry	1.49	0940150	9/29/2009 2:15:00PM
2-Chloroethyl vinyl ether	BDL	0.0173		mg/kg dry	1.49	0940150	9/29/2009 2:15:00PM
2-Chlorotoluene	BDL	0.00866		mg/kg dry	1.49	0940150	9/29/2009 2:15:00PM
2-Hexanone	BDL	0.0346		mg/kg dry	1.49	0940150	9/29/2009 2:15:00PM
4-Chlorotoluene	BDL	0.00866		mg/kg dry	1.49	0940150	9/29/2009 2:15:00PM
4-Methyl-2-pentanone	BDL	0.0346		mg/kg dry	1.49	0940150	9/29/2009 2:15:00PM
Acetone	BDL	0.0866		mg/kg dry	1.49	0940150	9/29/2009 2:15:00PM
Acetonitrile	BDL	0.0693		mg/kg dry	1.49	0940150	9/29/2009 2:15:00PM
Acrolein	BDL	0.0346		mg/kg dry	1.49	0940150	9/29/2009 2:15:00PM
Acrylonitrile	BDL	0.0346		mg/kg dry	1.49	0940150	9/29/2009 2:15:00PM
Allyl chloride	BDL	0.0173		mg/kg dry	1.49	0940150	9/29/2009 2:15:00PM
Benzene	BDL	0.00866		mg/kg dry	1.49	0940150	9/29/2009 2:15:00PM
Bromobenzene	BDL	0.00866		mg/kg dry	1.49	0940150	9/29/2009 2:15:00PM
Bromochloromethane	BDL	0.00866		mg/kg dry	1.49	0940150	9/29/2009 2:15:00PM
Bromodichloromethane	BDL	0.00866		mg/kg dry	1.49	0940150	9/29/2009 2:15:00PM
Bromoform	BDL	0.00866		mg/kg dry	1.49	0940150	9/29/2009 2:15:00PM
Bromomethane	BDL	0.00866		mg/kg dry	1.49	0940150	9/29/2009 2:15:00PM
Carbon Disulfide	BDL	0.0346		mg/kg dry	1.49	0940150	9/29/2009 2:15:00PM
Carbon Tetrachloride	BDL	0.00866		mg/kg dry	1.49	0940150	9/29/2009 2:15:00PM
Chlorobenzene	BDL	0.00866		mg/kg dry	1.49	0940150	9/29/2009 2:15:00PM
Chloroethane	BDL	0.00866		mg/kg dry	1.49	0940150	9/29/2009 2:15:00PM
Chloroform	BDL	0.00866		mg/kg dry	1.49	0940150	9/29/2009 2:15:00PM
Chloromethane	BDL	0.00866		mg/kg dry	1.49	0940150	9/29/2009 2:15:00PM
cis-1,2-Dichloroethene	BDL	0.00866		mg/kg dry	1.49	0940150	9/29/2009 2:15:00PM
cis-1,3-Dichloropropene	BDL	0.00866		mg/kg dry	1.49	0940150	9/29/2009 2:15:00PM
Dibromochloromethane	BDL	0.00866		mg/kg dry	1.49	0940150	9/29/2009 2:15:00PM
Dibromomethane	BDL	0.00866		mg/kg dry	1.49	0940150	9/29/2009 2:15:00PM
Dichlorodifluoromethane	BDL	0.00866		mg/kg dry	1.49	0940150	9/29/2009 2:15:00PM
Ethylbenzene	BDL	0.00866		mg/kg dry	1.49	0940150	9/29/2009 2:15:00PM
Iodomethane	BDL	0.0173		mg/kg dry	1.49	0940150	9/29/2009 2:15:00PM
Methylene Chloride	**0.0106**	0.00866	O-01, D, B	mg/kg dry	1.49	0940150	9/29/2009 2:15:00PM
Methyl tert-Butyl Ether	BDL	0.0173		mg/kg dry	1.49	0940150	9/29/2009 2:15:00PM
m,p-Xylene	BDL	0.0173		mg/kg dry	1.49	0940150	9/29/2009 2:15:00PM
n-Hexane	BDL	0.00866		mg/kg dry	1.49	0940150	9/29/2009 2:15:00PM
o-Xylene	BDL	0.00866		mg/kg dry	1.49	0940150	9/29/2009 2:15:00PM
Styrene	BDL	0.00866		mg/kg dry	1.49	0940150	9/29/2009 2:15:00PM
Tetrachloroethene	BDL	0.00866		mg/kg dry	1.49	0940150	9/29/2009 2:15:00PM
Toluene	BDL	0.00866		mg/kg dry	1.49	0940150	9/29/2009 2:15:00PM
trans-1,2-Dichloroethene	BDL	0.00866		mg/kg dry	1.49	0940150	9/29/2009 2:15:00PM

Lab ID: 09I1357-14 **Collection Date:** 9/24/2009 2:47:00PM
Client Sample ID: P1-S1-G-092409 **Matrix:** Soil

Analysis	Result	PQL	Qual	Units	Dilution	Batch	Date Analyzed
trans-1,3-Dichloropropene	BDL	0.00866		mg/kg dry	1.49	0940150	9/29/2009 2:15:00PM
Trichloroethene	BDL	0.00866		mg/kg dry	1.49	0940150	9/29/2009 2:15:00PM
Trichlorofluoromethane	BDL	0.00866		mg/kg dry	1.49	0940150	9/29/2009 2:15:00PM
Vinyl Chloride	BDL	0.00866		mg/kg dry	1.49	0940150	9/29/2009 2:15:00PM
Vinyl acetate	BDL	0.0173		mg/kg dry	1.49	0940150	9/29/2009 2:15:00PM
Surrogate: 4-Bromofluorobenzene		*105 %*		*34-118*		*0940150*	9/29/2009 2:15:00PM
Surrogate: Dibromofluoromethane		*75.7 %*		*61-152*		*0940150*	9/29/2009 2:15:00PM
Surrogate: Toluene-d8		*82.3 %*		*44-119*		*0940150*	9/29/2009 2:15:00PM
Surrogate: 1,2-Dichloroethane-d4		*66.0 %*		*39-123*		*0940150*	9/29/2009 2:15:00PM
PMOIST		**D 2216**				**Analyst: AD**	
Percent Moisture	**14.0**			% by Weight	1	0940161	9/29/2009 12:00:00AM

Belmont Labs
The Environmental Service Company.

ANALYTICAL REQUEST CHAIN OF CUSTODY

PAGE 1 OF 2

Internal Lab Order Number 09I1357

Purchase Order No.	Quote No.	Client Project
		TECH TOWN

INVOICE TO
Name: LAURA FUNK
Company: WESTON SOLUTIONS, INC.
Address: 711 E MONUMENT AVE SUITE 201
City, State, Zip: DAYTON, OH 45402

REPORT TO
Name: SAME
Company: ←
Mailing Address:
City, State, Zip:
Phone No.: 937 531 4402 Fax No.: 937 531 4401

Date Results Req: Rush Charges Authorized? ☒ Yes ☐ No | Fax Results ☐

Special Instructions:
5-DAY TURN
EMAIL RESULTS TO ABOVE
Additional QC Requirements: Level 2, Level 3, Level 4 (Charges Apply)

Regulatory Type
☐ NPDES
☐ RCRA
☐ SDWA
☒ VAP OVAP
☐ Other
Collected in State of _____

Matrix Key
DW - Drinking Water
GW - Ground Water
S - Soil/Solid
SL - Sludge
WW - Waste Water
Specify Other

ANALYSIS REQUESTED
(Enter an "X" in the box below to indicate request and circle preservative)

CLIENT SAMPLE IDENTIFICATION	Date Sampled	Time	Comp	Grab	Matrix	Number of Containers	SVOC'S HNO3, HCl, H2SO4, Ice, None, Other	PCB'S HNO3, HCl, H2SO4, Ice, None, Other	PP TOTAL METALS HNO3, HCl, H2SO4, Ice, None, Other	VOC'S HNO3, HCl, H2SO4, Ice, None, Other	HNO3, HCl, H2SO4, Ice, None, Other	HNO3, HCl, H2SO4, Ice, None, Other	HNO3, HCl, H2SO4, Ice, None, Other	HNO3, HCl, H2SO4, Ice, None, Other	Lab Only
P3-C-092409	9/24/09	1110	X		S	1	X	X	X						
P3-G-092409		1112		X						X					
P2-C-092409		1125	X				X	X	X						
P2-G-092409		1128		X						X					
P1-S5-C-092409		1340	X				X	X	X						
P1-S5-G-092409		1342		X						X					
P1-S4-C-092409		1355	X				X	X	X						
P1-S4-G-092409		1358		X						X					
P1-S3-C-092409		1415	X				X	X	X						
P1-S3-G-092409		1417		X						X					

CHAIN OF CUSTODY (if required)
Relinquished by: T. SMITH (SAMPLER) Date/Time 9/24/09 1635 Received by:
Relinquished by: Date/Time Received at lab by: Date/Time 9/24/09 16:35
Method of Shipment: Cooler Temp. 8.4°C Custody Seals ☐ Yes ☐ No

Sampled by: TIMOTHY J. SMITH Date 9/24/09

Client Comments

DISTRIBUTION:
WHITE - Laboratory
YELLOW - Accounting

Please return completed form and samples to Belmont Labs • 25 Holiday Drive • Englewood, OH 45322 • 937.832.8242 • Fax 937.832.2868

A & B Litho-Form #9786-5/02

Belmont Labs
The Environmental Service Company.

ANALYTICAL REQUEST CHAIN OF CUSTODY

PAGE 2 OF 2

Internal Lab Order Number _____

Purchase Order No.	Quote No.	Client Project
		TECH TOWN

INVOICE TO
Name: LAURA FUNK
Company: WESTON SOLUTIONS, INC.
Address: 711 E MONUMENT AVE, SUITE 201
City, State, Zip: DAYTON, OH 45402

REPORT TO
Name: SAME
Company: —
Mailing Address:
City, State, Zip:
Phone No. 937 531 4402 Fax No. 937 531 4401

Date Results Req: Rush Charges Authorized? ☒ Yes ☐ No
Fax Results ☐

Special Instructions:
5-DAY TURN
EMAIL RESULTS TO ABOVE
Additional QC Requirements: Level 2, Level 3, Level 4 (Charges Apply)

Regulatory Type
☐ NPDES
☐ RCRA
☐ SDWA
☒ VAP OVAP
☐ Other
Collected in State of _____

Matrix Key
DW - Drinking Water
GW - Ground Water
S - Soil/Solid
SL - Sludge
WW - Waste Water
Specify Other

ANALYSIS REQUESTED
(Enter an "X" in the box below to indicate request and circle preservative)

CLIENT SAMPLE IDENTIFICATION	Date Sampled	Time	Comp	Grab	Matrix	Number of Containers	SVOC'S HNO3, HCl, H2SO4, Ice, None, Other	PCB'S HNO3, HCl, H2SO4, Ice, None, Other	PP TOTAL METALS HNO3, HCl, H2SO4, Ice, None, Other	VOC'S HNO3, HCl, H2SO4, Ice, None, Other	HNO3, HCl, H2SO4, Ice, None, Other	HNO3, HCl, H2SO4, Ice, None, Other	HNO3, HCl, H2SO4, Ice, None, Other	HNO3, HCl, H2SO4, Ice, None, Other	Lab Only
P1-S2-C-092409	9/24/09	1425	X		S		X	X	X						
P1-S2-G-092409	↓	1427		X	↓					X					
P1-S1-C-092409		1445	X				X	X	X						
P1-S1-G-092409	↓	1447		X	↓					X					
LAST ITEM															

CHAIN OF CUSTODY (if required)
Relinquished by: T. SMITH Date/Time 9/24/09 1635 Received by: Date/Time
Relinquished by: Date/Time Received at lab by: J. Dixon Date/Time 9/24/09 16:35
Method of Shipment: Cooler Temp. Custody Seals ☐ Yes ☐ No

Sampled by: TIMOTHY J. SMITH Date 9/24/09

Client Comments

DISTRIBUTION:
WHITE - Laboratory
YELLOW - Accounting

Please return completed form and samples to Belmont Labs • 25 Holiday Drive • Englewood, OH 45322 • 937.832.8242 • Fax 937.832.2868

A & B Litho-Form #9786-5/02

Notes and Definitions

S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
R-05	The sample was diluted due to the presence of high levels of non-target analytes resulting in elevated reporting limits.
R	RPD outside of accepted recovery limits.
QM-05	The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The LCS and/or LCSD were within acceptance limits showing that the laboratory is in control and the data is acceptable.
O-01	This compound is a common laboratory contaminant.
M	Matrix spike and/or matrix spike duplicate recovery outside of acceptance limits.
L	Laboratory control sample recovery outside of acceptance limits.
D	Data reported from a dilution
B	Analyte is found in the associated blank as well as in the sample.
A-01	Surrogate recovery for Terphenyl-d14 is high in QC samples, but all spike recoveries are acceptable and the method blank is BDL.

ATTACHMENT II

PROPERTY-SPECIFIC RISK ASSESSMENT REPORT

PROPERTY-SPECIFIC RISK ASSESSMENT REPORT
TECH TOWN
711 AND 719 EAST MONUMENT AVENUE
DAYTON, MONTGOMERY COUNTY, OHIO

Prepared for:

CITY OF DAYTON
101 West Third Street
Dayton, Ohio 45402

Prepared by:

WESTON SOLUTIONS, INC.
714 East Monument Avenue, Suite 215
Dayton, Ohio 45402

Final
April 2020

W.O. No.12473.005.010

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Table 4 Summary of Soil (0 to 12 ft bgs) Data Compared to Construction Worker GDCSS – C Area Exposure Unit

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LIST OF ABBREVIATIONS AND ACRONYMS

1-D	one dimensional
3-D	three dimensional
°C	degrees Celsius
µg/kg	microgram per kilogram
µg/L	microgram per liter
95UCL	95 Percent Upper Confidence Limit
ABS_{GI}	Gastrointestinal Absorption Factor
ASTs	Aboveground Storage Tanks
ATSDR	Agency for Toxic Substances and Disease Registry
bgs	below ground surface
BUSTR	Bureau of Underground Storage Tank Regulations
CIDARS	Chemical Information Database and Applicable Regulatory Standards
cm^2	square centimeter
cm/sec	centimeter per second
COCs	Chemicals of Concern
COPC	Chemical of Potential Concern
CORF	Clean Ohio Revitalization Fund
CRA	Conestoga-Rovers & Associates, Inc.
CSF	Cancer Slope Factor
CTA	Creative Technology Accelerator
CVOC	Chlorinated Volatile Organic Compound
DAF	Dilution Attenuation Factor
DCE	Dichloroethylene
DNAPL	Dense Non-aqueous Phase Liquid
DRO	Diesel Range Organic
Environ	Environ, Inc.
EPC	Exposure Point Concentration
EU	Exposure Unit
foc	fraction organic carbon
ft	feet
>	greater than
≥	greater than or equal to
GDCSC	Generic Direct-Contact Soil Standards for Carcinogens
GDCSN	Generic Direct-Contact Soil Standards for Non-carcinogens
GDCSS	Generic Direct-Contact Soil Standards
GM	General Motors Corporation
GRO	Gasoline Range Organics

GUPUS	Generic Unrestricted Potable Use Standards
HEAST	Health Effects Assessment Summary
HI	Hazard Index
HQ	Hazard Quotient
HVAC	heating, ventilation, and cooling
IA	Identified Area
IMZM	Inside Mixing Zone Maximum
IRIS	Integrated Risk Information System
K	Hydraulic Conductivity
<	less than
≤	less than or equal to
LBSV	Leach-Based Soil Value
MCL	Maximum Contaminant Levels
mg/kg	milligram per kilogram
mg/L	milligrams per liter
NFA	No Further Action
OAC	Ohio Administrative Code
OEPA	Ohio Environmental Protection Agency
OMZA	Outside Mixing Zone Average
OMZM	Outside Mixing Zone Maximum
%	Percent
PCBs	Polychlorinated Biphenyls
PCE	Tetrachloroethene
ppm	part per million
PPRTV	Provisional Peer Reviewed Toxicity Value
Property	central portion of the former GM Delphi Harrison Thermal Systems facility, bound by Taylor Street to the west, the Mad River levee to the north, the western edge of the former Building 10 and Meigs Street to the east, and Monument Avenue and Pitt Street to the south
PSRA	Property-Specific Risk Assessment
RAGS	Risk Assessment Guidance for Superfund
RCRA	Resource Conservation and Recovery Act
REL	Reference Exposure Levels
RfD	Reference Dose
RFI	RCRA Facility Investigation
RSL	Regional Screening Levels

SMCL	Secondary Maximum Contaminant Level
SSLs	Soil Screening Levels
STSC	Superfund Health Risk Technical Support Center
SVOC	Semi-volatile organic compound
TCE	Trichloroethene
TPH	Total Petroleum Hydrocarbons
TSCA	Toxic Substances Control Act
U.S. EPA	United States Environmental Protection Agency
USTs	Underground Storage Tanks
VADEQ	Virginia Department of Environmental Quality
VAP	Voluntary Action Program
VI	Vapor Intrusion
VOCs	Volatile Organic Compounds
VISL	VI Screening Level
VURAM	Virginia Unified Risk Assessment Model
WESTON®	Weston Solutions, Inc.
yr	year

1. INTRODUCTION

1.1 BACKGROUND AND PURPOSE

The City of Dayton is participating in the redevelopment of the former General Motors Corporation (GM) Delphi Harrison Thermal Systems Facility located in Dayton, Montgomery County, Ohio. The redevelopment is referred to as Tech Town, and the master plan for redevelopment includes construction of commercial/light industrial buildings, associated pavement and parking structures, and greenspace (**Figure 1**).

Weston Solutions, Inc. (WESTON®) has prepared this Risk Assessment Report under authorization of the City of Dayton. The purpose of this document is to provide a property-specific risk assessment (PSRA) prepared in accordance with the Ohio Voluntary Action Program (VAP) for the central portion of the former GM Delphi Harrison Thermal Systems facility, bound by Taylor Street to the west, the Mad River levee to the north, the western edge of the former Building 10 and Meigs Street to the east, and Monument Avenue and Pitt Street to the south (Property). The Property is shown on **Figure 2.** Current property ownership is shown on **Figure 3** and includes the following:

- Lots 84335 and 84336 owned by Dayton Tech Town, Inc.
- Lot 84334 owned by Tech Town Holdings, LLC
- A portion of Lot 84414 owned by Tech Town Holdings, LLC.
- A portion of Lot 84415 owned by Tech Town Holdings, LLC.

The Property includes the existing Creative Technology Accelerator (CTA) Building, which has the address 711 East Monument Avenue, Dayton, Ohio. The address assigned to the Property for the purposes of the Clean Ohio Revitalization Fund (CORF) application was 719 East Monument Avenue, Dayton, Ohio.

This PSRA evaluates chemicals that exceed Ohio Environmental Protection Agency (OEPA) VAP default generic direct-contact soil standards (GDCSS) and generic unrestricted potable use standards (GUPUS), chemicals that are not listed in the generic default numerical standards tables, and exposure pathways, exposure routes, and receptor populations that are not considered in the generic standards. Vapor intrusion (VI) to indoor air, groundwater discharge to surface water, construction/excavation workers inhalation of vapors from groundwater, and worker exposure in

association with a geothermal heating and cooling system are described in more detail because these are non-default exposure pathways. The groundwater to construction worker direct contact exposure pathway is not considered to be complete because the depth to water is greater than (>) 12 feet (ft), which is deeper than the point of compliance of 10 ft. Thus, direct contact with groundwater (i.e., incidental ingestion and dermal absorption) is not a reasonably anticipated exposure pathway.

1.2 PROPERTY DESCRIPTION AND SURROUNDING LAND USE

The Property is undergoing redevelopment and will primarily include commercial or light industrial land use and associated infrastructure. An urban setting designation has been established for the property and surrounding area. Groundwater in the area is not used for potable purposes. Institutional controls will be put in place to restrict the Property to commercial/industrial use, with an allowance for recreational use along a proposed bike path, and restrict groundwater use on the property. The northwest portion of the Property is proposed for greenspace as an amenity to the occupants of the Tech Town campus, to provide egress to the adjacent levee, and to allow recreational use along the levee. All former GM buildings on the Property were demolished by the City of Dayton in 2009. The CTA was constructed from 2008 to 2009. The Tech Town redevelopment extends beyond the Property to the east and to the west. The property to the west (i.e., the Taylor Street to Webster Street area) is addressed in a separate PSRA (WESTON, 2013b). Across Monument Avenue to the south are various commercial enterprises and municipal buildings. The levee and Mad River border the north side of the property. A bike path is present at the base of the levee along the Mad River.

The Miami Conservancy District has proposed modifications to improve the integrity of the levee adjacent to the Property. The modifications include moving the top of the levee onto the Property to reduce the overall slope of the levee. The flatter slope will help with maintenance and reduce the risk of erosion. Additional details regarding the proposed levee modifications will be included in a subsequent report. For the purpose of this assessment, it was assumed that a bike path will be constructed at the crest of the levee to connect to the lower path along the river, and that the crest of the levee will be on the Property.

2. HAZARD IDENTIFICATION

2.1 PROPERTY INVESTIGATIONS

A Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI), in conjunction with a performance-based RCRA corrective action, was conducted by GM at the former Delphi Harrison Thermal Systems Facility from 2001 through 2010. This PSRA primarily relies on investigative data collected as part of this RFI. Reports evaluated include:

- Resource Conservation and Recovery Act Facility Investigation Report (Conestoga-Rovers & Associates [CRA], 2006a).
- Resource Conservation and Recovery Act Facility Investigation Report, Addendum 1 (CRA, 2006b).
- Resource Conservation and Recovery Act Facility Investigation Report, Addendum 2 (Environ, Inc. [Environ], 2007).
- Resource Conservation and Recovery Act Facility Investigation Report, Addendum 3 (CRA, 2008).

RFI data collected by contractors to GM in 2009 after Addendum 3 was issued are included in the evaluation. Groundwater data collected by WESTON through 19 May 2015 are also included in the evaluation. This date was selected arbitrarily to provide a defined endpoint. Although limited sampling has been completed on the Property since May 2015, for simplicity the PSRA tables have not been updated to include the additional data. A subsequent update will be provided at a later date which will include an evaluation of all additional data collected.

Only site investigation results pertinent to the Property are evaluated in this PSRA. Data representative of soil that was removed from the Property is not included. Data collected prior to the RFI (i.e., 2001 and earlier) was not VAP-certified and has not been used in this evaluation. Soil sampling depths are as reported during sample collection. A majority of the former GM Plant building slabs remain at the Property, and the majority of the Property grade has not changed since the dates of sample collection, with the following exceptions:

- The portion of the Property south of Pitt Street (i.e., Lot 84335) has undergone development since many of the samples were collected, including rework of soil within the top 5 ft of ground surface. Therefore, analytical results from all depths were evaluated for compliance with applicable surface soil standards.

- A soil berm was constructed along the northern Property boundary to form a gradual slope between the elevation of the levee and the Property elevation. The berm was primarily constructed with excess soil removed during construction of the Tech Town infrastructure projects. Analytical results from samples collected from the soil were included in the Phase II Property Assessment Report (WESTON, 2013a) prepared for the adjacent VAP property (300 Taylor Street). The results indicated that the soil was acceptable for reuse on the Property.

- The basement of Building 5 was cracked and backfilled with crushed concrete. Crushed concrete was also placed on top of the slabs of Buildings 3 and 4. This grade change likely results in an overestimation of risk (i.e. cover material placed during development not factored into evaluation).

Thus, the grade changes are deemed either to have no significant impact on the assessment of risk for the point of compliance or to result in an overestimation of risk (i.e., cover material placed during development not factored into the evaluation).

2.2 EVALUATION OF DATA

Data evaluated in this PSRA includes soil and groundwater sample analytical results. Soil results were compared to commercial/industrial GDCSS and GDCSS for construction workers (i.e., Ohio Administrative Code [OAC] 3745-300, effective on August 1, 2014 and supplemental criteria current as of June 15, 2015) (**Appendix A1**) to determine the direct contact chemicals of concern (COCs). Use of the supplemental criteria is discussed in **Section 5**. The point of compliance for commercial/industrial workers is a minimum of 0 to 2 ft below ground surface (bgs), and the point of compliance for protection of construction workers is a minimum of 0 to 10 ft bgs. To accommodate minor grade changes (less than [<] 1 ft) that have occurred or may occur, buffer zones have been included in the data evaluation (e.g., 0 to 3 ft bgs for commercial/industrial workers and 0 to 12 ft for construction workers). Soil results at depths greater than 12 ft are tabulated, but have not been assessed for risk associated with direct contact exposure. Soil results at depth are assessed separately for the potential leaching to groundwater exposure pathway in **Section 5** to determine the leaching to groundwater COCs. Results for all soil samples are compared to generic Leach-Based Soil Values (LBSVs) in tables included in **Appendix A2**.

Groundwater results were compared to GUPUS to determine the groundwater COCs that need to be further evaluated through the PSRA (i.e., OAC 3745-300, effective on August 1, 2014 and supplemental criteria current as of June 15, 2015). Use of the supplemental criteria is also discussed in **Section 5**. Groundwater analytical results collected from Property monitoring wells screening the upper aquifer, till-rich unit, and lower aquifer were evaluated.

Excluding general chemistry (e.g., pH, sulfide, alkalinity, and total organic carbon), all chemicals positively detected in soil and groundwater were selected as COCs for further evaluation in this PSRA.

2.3 BACKGROUND DETERMINATION

OAC Rule 3745-300-07(H)(1)(a) indicates in part: *"Background level samples may be taken in areas not identified in paragraph (H)(1)(b) of this rule. When determining background levels in soils, the samples must be taken in soil media native to the property. Native fill may be used for determining background levels when the native fill was not moved from or is not currently in an area described in paragraph (H)(1)(b) of this rule."* Paragraph (H)(1)(b) indicates in part: *"The following areas are inappropriate to sample when determining background levels: (i)(a) Engineered fill, (b) Structural fill, or (c) Industrial fill*."

OAC Rule 3745-300-07 (H)(2) specifies how the volunteer may determine background levels using off-property investigations when it is not possible to identify sampling locations that are unaffected by site activities. Off-property investigations must also be conducted using the same sample collection and statistical evaluation methods as those conducted according to OAC Rule 3745-300-07(H)(1). These investigations may use data that are demonstrated to be reliable and representative of background levels for the property and may include peer-reviewed information, research reports generated or sponsored by local, state, or federal agencies, or college or university research reports including theses and dissertations.

Due to a long history of industrial activities in urban areas, the background levels of various COCs are often higher than those encountered in pristine locations having little anthropogenic influence. Soils in urban settings often contain elevated levels of metals related to fallout associated with the burning of fossil fuels and refuse for the generation of heat and power, or from other industrial

sources (Cox-Colvin & Associates, Inc., 1996). Industrial sites are often wide-spread in one area, also leading to difficulties in identifying suitable background soil sampling locations.

As documented in the RFI, CRA collected seven off-property background samples to characterize naturally occurring levels of metals in soils in the region of Dayton, Ohio. An additional background sample was collected per request of the United States Environmental Protection Agency (U.S. EPA) as part of Stage 4 RFI sampling (Environ, 2005). A memorandum prepared by Environ describes the statistical calculation of background concentrations of metals. The non-parametric 95 percent upper confidence limit (95UCL) on the mean of the background dataset was used to characterize background concentrations for all detected metals, except antimony, cadmium, selenium, and silver. The 95UCL represents average site-specific concentrations that a receptor could be exposed to under naturally occurring conditions. Non-parametric methods were used because they do not rely on assumptions about the underlying distribution of sample concentrations. The maximum detected concentration was adopted as background concentration for antimony, cadmium, selenium, and silver, each of which was detected in only one background sample. The background concentrations were:

- Antimony – 0.31 milligrams per kilogram (mg/kg)
- Arsenic – 11.58 mg/kg
- Barium – 109.38 mg/kg
- Cadmium – 1.5 mg/kg
- Chromium – 15.76 mg/kg
- Cobalt – 7.49 mg/kg
- Copper – 24.78 mg/kg
- Lead – 63 mg/kg
- Manganese – 816 mg/kg
- Mercury – 0.10 mg/kg
- Nickel – 16.5 mg/kg
- Selenium – 1 mg/kg
- Silver – 0.27 mg/kg
- Thallium – 2.2 mg/kg
- Vanadium – 29.9 mg/kg
- Zinc – 122 mg/kg

These background concentrations were calculated using methods consistent with VAP rules [3745-300-07(H)(1)(d)] for determining a representative numerical value for background levels in soils at a property. A minimum of eight samples were collected and a statistically valid methodology,

which follows U.S. EPA's *Guidance for Comparing Background and Chemical Concentrations in Soil for CERCLA Sites (*U.S. EPA, 2002), was used to develop a statistical background value.

Background levels of aluminum, iron, and potassium were obtained from Cox-Colvin & Associates, Inc. (1996), who evaluated background levels of metals in Ohio soils. The background level of aluminum is 8,180 mg/kg, which is the arithmetic mean. The background level of iron is 18,400 mg/kg, which is the geometric mean. Iron is ubiquitous in soils and background concentrations up to 100,000 mg/kg have been measured in Ohio soil (Cox-Colvin & Associates, Inc., 1996). The background level of potassium is 12,000 mg/kg, which is the arithmetic mean.

3. EXPOSURE ASSESSMENT

3.1 CURRENT AND FUTURE LAND USE

Figure 1 shows the master plan for redevelopment of the former GM site into Tech Town. Within the Property, planned redevelopment consists of commercial/light industrial buildings, associated pavement and parking structures, and greenspace with a bike path along the levee and ramp connecting to the existing bike path along the river. There is currently one building on the property, the CTA building. The CTA building relies on a geothermal heating and cooling system that uses groundwater from the lower aquifer. Therefore, the reasonably anticipated current and future human receptors include:

- Construction workers responsible for development of the Property and ongoing maintenance;
- Adult commercial workers employed at the current and future businesses;
- Visitors and patrons to the current and future establishments on the Property or accessing the Property via the levee and the bike path. Exposure of these receptors would be considerably less than on-site workers and measures to protect on-site workers would be protective of visitors/patrons/recreational receptors;
- Workers and occupants of adjacent properties having the potential to be exposed to COCs from the Property that may be released through the non-potable use of groundwater (e.g., geothermal heating/cooling) or through migration of vapors from groundwater into indoor air; and
- Recreational users of the adjacent river that have the potential to come into contact with COCs that may be emanating from the Property via a groundwater to surface water pathway (via fish consumption or incidental contact with surface water).

The allowable land use as commercial land use will not allow use with a high degree of exposure to children, such as a day care, pre-school, or K-12 school. Potential exposures along the bike trail by an adult or child recreational receptor is reasonably anticipated to be transient, at a low frequency, and non-intrusive, which is consistent with the definition of commercial land use.

While the adjacent Mad River supports sport fish and transient recreational use (i.e. kayaking), long-term, frequent direct contact with surface water and sediments is not reasonably anticipated.

OAC Rule 3745-300-01 defines an important ecological resource as specific ecological communities, populations, or individual organisms protected by federal, state, or local laws and

regulations, or ecological resources that provide important natural or economic resource functions and values. The Mad River borders the levee located along the north side of the Property. The Mad River meets the VAP definition of an important ecological receptor because it is a surface water of the state and contains important ecological resources (sensitive species).

3.2 EXPOSURE PATHWAY COMPLETENESS DETERMINATION

Figure 4 presents a Conceptual Site Model which shows the primary sources, release mechanisms, and routes of exposure for the Property. Potential exposure routes include ingestion, inhalation, and dermal contact of COCs in soil, groundwater, and surface water (associated with groundwater discharge). To further evaluate the potential for exposure on the Property, an exposure pathway and receptor population evaluation was prepared for the Property in accordance with OAC Rule 3745-300-07(F)(1). Receptors may include on and off-site human and ecological populations. For a receptor to be potentially affected by a COC, there must be an exposure point and route of exposure. **Table 1** presents a comprehensive list of potential exposure pathways to humans for the Property and a determination of whether the pathway is potentially complete. The following subsections provide a comprehensive analysis of the pathways which were determined to be potentially complete for the Property. No further evaluation with respect to applicable standards is given to pathways that have been determined to be incomplete.

3.3 GROUNDWATER CLASSIFICATION AND GROUNDWATER RESPONSE REQUIREMENTS

The Property is located within the Mad River Buried Valley Aquifer system. There are two primary groundwater units on the property, the upper aquifer and the lower aquifer. Both the upper and lower aquifers are characterized by permeable sand and gravel deposits. A semi-confining till-rich unit separates the upper and lower aquifers and contains interbedded clays, silts, and sands. Groundwater beneath the Property is classified as critical resource groundwater.

An urban setting designation has been established for the purpose of eliminating the potable use pathway for areas surrounding the Property. An urban setting designation does not impact groundwater response requirements on the property or groundwater response requirements addressing off-property pathways not related to the potable use of groundwater. The Property meets the following threshold criteria for an urban setting designation:

- The Property is entirely within the corporation boundaries of the City of Dayton;
- The City of Dayton has a community water system. The water supply source is two well fields: the Miami well field and the Mad River well field. Ninety percent (%) of the parcels within the City of Dayton are connected or capable of being connected to the community water system.

The groundwater response requirements must ensure protection of humans on and off the property from exposures to COCs in groundwater not related to potable use of the groundwater. Exposures to COCs in groundwater not related to potable use of the groundwater include exposures resulting from non-consumptive uses, exposures resulting from inadvertent contact with contaminated groundwater, exposures from inhaling vapors in a trench, and exposure from VI into indoor air. Non-consumptive exposures on and off Property include shallow groundwater contaminated with volatile organic compounds (VOCs) that have the potential to volatilize into the breathing space of an inhabited structure and within a construction trench, and groundwater used for geothermal heating and cooling that is incidentally contacted during maintenance or at the point of discharge. Protection of important ecological resources off the property that may be impacted by COCs in groundwater discharging to the Mad River must also be considered in the groundwater response. These non-consumptive exposure pathways are evaluated further in **Section 5**.

3.4 EXPOSURE UNITS

Relevant exposure pathway information needed for a PSRA include the physical characteristics of the property and the spatial distribution of the COCs in identified areas or exposure units (EUs) on the property. OAC 3745-300-01 defines an Identified Area (IA) as a location on a property where a release of hazardous substances or petroleum has or may have occurred. The Phase II Property Assessment Report (WESTON, 2020) presents additional detail regarding the following list of IAs:

- IA 3W/6N/16: Building 4 Tank Area - Location of underground storage tanks (USTs), aboveground storage tanks (ASTs), a spill interceptor, and waste tank sump located north, east, and west of Building 4
- IA 3E/5W/21/33: Hydromation pit, tanks, electroplating, and product storage area
- IA5C: Electroplating area
- IA5E: Electroplating area
- IA 7 – UST and Polychlorinated Biphenyls (PCBs) area

- IA 11: Chip handling area
- IA 15/25/6S: Hydraulic oil UST, ASTs, and spill interceptor
- IA 18/19: Underground sewers
- IA 27: Battery charging station
- IA 28: Former Miami Canal extension
- IA 32: Transformer location south of Building 3.
- IA 34: Parts grinding
- IA 35: Storage tanks
- IA GW: Potential for impact to Property from off-Property sources
- IA COD-5: Historic uses of parking lot

Based on the physical characteristics and Master Plan for redevelopment, the Property was subdivided into six EUs. An EU is a geographic area within which an exposed receptor may reasonably be assumed to move at random and where contact with environmental media is equally likely at all sub-areas (*OAC 3745-300-01(I)).* The EUs are listed below and are shown on **Figure 5** along with the associated IAs:

- C Area EU
- N Area EU
- P Area EU
- CTA Area EU
- Greenspace Area EU

The physical distribution information must include the relative concentrations of the COC in IAs on the property. Exposure point concentrations (EPC) must be determined for each complete exposure pathway and must represent the concentration of COC from each of the IAs or EUs on the property (*OAC 3745-300-09(D*)). The derivation of the EPC for each EU is described in the following subsections.

3.4.1 C Area EU

The Master Plan depicts two buildings, labeled C1 and C2, in the west-central portion of the Property. These are conceptual in nature, and there are no current plans underway to construct one or both of these buildings. The area of proposed Buildings C1 and C2 is presently characterized by concrete slabs of former Buildings 2 and 7 and crushed concrete that was used to backfill the

basement of former Building 5. The parking lot, identified on the Master Plan to the south of Buildings C1 and C2, is present on the Property and was constructed in 2009. The cross street shown on the Master Plan as connecting Meigs Street and Taylor Street has not been constructed. Presently Taylor Street ends in a cul-de-sac and Meigs Street ends just east of the parking lot described above.

3.4.2 N Area EU

The Master Plan depicts a Building, labeled N, and parking lot in the southeast corner of the Property. The building is conceptual in nature, and there are no plans underway to construct Building N. The parking lot has not yet been constructed, but its construction in the future is under consideration. The N Area EU presently contains the slab of the former Building 9, the relict fire suppression system appurtenances, and a grass-covered area that was formerly occupied by a rail spur, which was removed during demolition.

3.4.3 P Area EU

The Master Plan depicts a Building, labeled P, and parking lot in the northeast corner of the Property. The building and parking lot are conceptual in nature, and there are no plans underway to construct either one. The P Area EU presently contains the slab of the former Building 9. The Mad River and levee border the northern property boundary of the P Area EU. As described in **Subsection 1.2**, modifications are planned for the levee that will include extending the top of the levee into the P Area EU. The levee will provide an amenity to the occupants of the campus and to recreational users, providing access to a vantage point to the river and access to the bike path located along the river's edge.

3.4.4 CTA Area EU

The Master Plan depicts two buildings, labeled A and B, separated by a courtyard in the CTA Area EU. The building labeled A has been constructed and is identified as the CTA. The courtyard has also been constructed and is present on the Property. The building labeled B is conceived to be a mirror image of the CTA, but has not been constructed and no plans are underway to do so. The footprint of the proposed Building B is a paved parking lot, which has been present since the 1950s.

3.4.5 Greenspace Area EU

The Property abuts the levee for the Mad River. The top of the existing levee is eight or more ft higher in elevation than the site grade. During GM's operational history, the border between the levee and Property was fenced with a drastic drop in grade retained by a concrete or brick wall. During redevelopment, fill was placed at this border forming a gradual slope from the top of the levee down to the elevation of the Property. This slope was covered with grass and is included in the Greenspace Area EU and P Area EU. Along with the proposed levee modifications discussed in **Subsection 1.2**, conceptual plans include construction of greenspace that will provide terraced relief from the top of the levee down to the elevation of the Property and will be an amenity to the occupants of the campus and to recreational users, providing access to a vantage point to the river and access to the bike path located along the river's edge.

3.5 REPRESENTATIVE MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATIONS

Maximum chemical concentrations in each groundwater unit and in each soil EU have been compared to applicable standards to provide a conservative evaluation of potential risks. If the maximum soil concentration exceeded a standard, a representative medium-specific EPC was determined for the chemical. Area-wide EPCs were determined for soil in each EU by calculating the 95UCL on the mean utilizing the U.S. EPA ProUCL® program (Version 5.0, U.S. EPA, 2013) in accordance with OAC Rule 3745-300-07(F)(6)(c)(i). The chemicals for which a representative EPC was calculated using the U.S. EPA ProUCL® program are discussed in **Section 5**. Datasets and ProUCL output are provided in **Appendix B**. For duplicate samples, the maximum detected concentration was used in the EPC calculations; the lower detection limit was used in EPC calculations if both samples were non-detect.

4. TOXICITY ASSESSMENT

The OEPA has reviewed and incorporated appropriate toxicity values in their generic VAP standards. The toxicity values used to develop the standards are tabulated in the OEPA VAP Chemical Information Database and Applicable Regulatory Standards (CIDARS). This database is periodically updated. Seven updates to the CIDARS tables were released following the August 2014 rule change. Although the PSRA tables were prepared using the 15 June 2015 CIDARS (OEPA, 2015), the text has been updated to address any relevant changes based on the 2 May 2017 CIDARS (OEPA, 2017) which accompanies the rules that became effective on 26 May 2016. One relevant change discussed in the text is the use of updated commercial/industrial worker direct contact standards for carcinogenic PAHs, generated using the most up-to-date exposure parameters and toxicity values in accordance with OAC3745-300-09. In addition, chemical-specific properties in the U.S. EPA VI Screening Level (VISL) spreadsheet have been modified to match those presented in CIDARS. These values and spreadsheet are used to evaluate the VI pathway and are described in **Subsections 5.2.4** and **5.2.5** of this document.

In developing property-specific risk estimates, both carcinogenic and non-carcinogenic health effects were considered. The potential for producing carcinogenic effects is limited to substances that have been shown to be carcinogenic in animals and/or humans. Excessive exposure to all substances, carcinogens and non-carcinogens, can produce adverse non-carcinogenic effects; therefore, cancer slope factors (CSFs) were identified for those chemicals that were classified as carcinogenic and reference doses (RfDs) were identified for every chemical selected regardless of its classification.

U.S. EPA last updated their hierarchy for assigning human health toxicity values in a memo dated December 5, 2003 (U.S. EPA, 2003). OEPA follows a similar hierarchy (*Ohio EPA Support Document for the Development of Generic Numerical Standards and Risk Assessment Procedures* [August 2014] and *Assessing Compounds without Formal Toxicity Values Available for Use in Human Health Risk Assessment,* updated April 2010). The revised recommended toxicity value hierarchy (OEPA, 2014a) was used and is detailed as follows:

1. U.S. EPA's Integrated Risk Information System (IRIS). IRIS is considered to be the most reliable source of toxicity information.

2. Provisional Peer Reviewed Toxicity Values (PPRTVs) derived by U.S. EPA's Superfund Health Risk Technical Support Center (STSC) for the U.S. EPA Superfund Program.

3. Minimal Risk Levels from the Agency for Toxic Substances and Disease Registry (ATSDR).

4. California Environmental Protection Agency's Office of Environmental Health Hazard Assessment's Chronic Reference Exposure Levels (RELs) from February 2012 and Cancer Potency Values from July 21, 2009 with updates in 2011 for dioxin/furans and dioxin-like PCBs.

5. U.S. EPA Superfund Program's Health Effects Assessment Summary (HEAST).

Dermal toxicity criteria are not available from the U.S. EPA, but it was assumed that chemicals which are carcinogenic or non-carcinogenic orally could potentially produce cancer or non-cancer effects by dermal exposure. In the development of carcinogenic dermal CSFs and non-carcinogenic RfDs, the oral CSF was divided by an appropriate gastrointestinal absorption factor (ABS_{GI}), and the oral RfD was multiplied by the ABS_{GI} . The ABS_{GI} is also known as the oral to dermal adjustment factor. Chemical-specific ABS_{GI} factors were obtained from the OEPA table, and are primarily from U.S. EPA's *Risk Assessment Guidance for Superfund (RAGS) Part E* (U.S. EPA, 2004).

Cancer and non-cancer toxicity criteria and ABS_{GI} factors used in the calculation of direct contact property-specific standards are provided in tables referenced in **Subsection 5.2.1**.

5. APPLICATION OF GENERIC VAP STANDARDS AND DERIVATION OF PROPERTY-SPECIFIC RISK-BASED STANDARDS

The analysis of receptor populations and exposure pathways indicate that there are potentially complete exposure pathways for the following:

- Direct contact with soil for commercial/industrial land use receptors, recreational users of the levee bike path, and construction workers;
- Inhalation of soil vapor by subsurface construction workers in areas of elevated groundwater concentrations.
- Direct contact with surface water of the Mad River by recreational users via fish consumption or incidental contact with surface water;
- Non-potable use of groundwater;
- VI from soil and groundwater to indoor air;
- Leaching of COCs from soil to groundwater;
- Protection of surface water quality from groundwater discharges; and
- Protection of important ecological resources.

This section establishes the applicable standards for each medium contributing to or affected by a potentially complete exposure pathway for the Property. In addition, a PSRA was performed for those exposure pathways lacking generic standards. The following subsections present the generic VAP standards or the property-specific risk-derived standards that are used to assess each of the above listed exposure pathways.

Additional documentation on the derived standards is provided in **Appendix C** (site-specific groundwater modeling), **Appendix D** (site-specific groundwater concentrations and LBSVs protective of GUPUS at ½ mile), **Appendix E** (site-specific VISLs), **Appendix F** (site-specific evaluation of construction worker inhalation of groundwater vapors in a trench), and **Appendix G** (site-specific evaluation of groundwater concentrations protective of surface water).

5.1 GENERIC VAP STANDARDS

5.1.1 Direct Contact – Soil

Direct contact standards have been developed by OEPA for exposure scenarios consistent with the future land use of the Property. GDCSS are available in OAC Rule 3745-300-08 for commercial/industrial land use and protection of construction workers. Commercial land use standards are considered protective of low frequency exposures of children, as cited in the Technical Guidance Compendium document "Applicability of Commercial/Industrial Generic Numerical Standards to Child Receptors" (VA30008.19.005). Schools or child day care facilities would not be permitted on the Property, so high frequency exposure to children would not occur on the Property. For these receptor groups, GDCSS were applied for all COCs detected in soil from 0 to 12 ft bgs, as a screening tool. Samples collected from the three to 12 ft zone are outside of the commercial/industrial point of compliance. As discussed in Section 2.2, buffer zones have been included in the data evaluation to accommodate minor grade changes (less than [<] 1 ft) that have occurred or may occur. A brief discussion on the need for multi-chemical adjustment of standards is provided for surface and subsurface soil.

The OEPA VAP applies the generic petroleum standards developed by the State Fire Marshal, Bureau of Underground Storage Tank Regulations (BUSTR), as presented in the Technical Decision Compendium document "Applying Generic Petroleum Standards under the Voluntary Action Program" (VA30008.09.001) (BUSTR, 2014). BUSTR, has applicable standards for petroleum products (i.e., total petroleum hydrocarbon [TPH] for light [C_6 to C_{12}], middle [C_{10} to C_{20}], and heavy [C_{20} to C_{34}] distillate petroleum fractions). The soil Class 1 BUSTR generic standards are 1,000 mg/kg for light distillate fraction (gasoline range organics [GRO]), 2,000 mg/kg for the middle distillate fraction (diesel range organics [DRO]), and 5,000 mg/kg for the heavy distillate fraction (oil range organics). The generic TPH standards are based on residual soil saturation with additional consideration for the toxicity of the uncharacterized portion of the TPH. The BUSTR standards are used to evaluate TPH, though the BUSTR generic standards for TPHs are not adjusted for multiple chemicals.

Soil data are tabulated by depth and EU and compared to GDCSS and BUSTR standards in **Appendix A1**. Sampling locations are shown on **Figure 6**. For each EU, maximum concentrations in soil at three depth intervals (0 to 3 ft bgs; > 3 ft to 12 ft bgs; and from 0 to 12 ft bgs) are compared to the single chemical carcinogenic and non-carcinogenic GDCSS for commercial/industrial workers and construction workers in **Table 2** through **Table 16**. The commercial/industrial worker exposure is assessed for the 3 to 12 ft bgs interval to determine if controls are needed to prevent subsurface soil from being placed within the commercial/industrial worker point of compliance during future excavation activities below three ft. The following summarizes the comparison for each EU.

- C Area EU (**Tables 2, 3, 4, Appendix A1**):
  - The following constituents were detected in surface soil (0 to 3 ft) at concentrations exceeding the GDCSS for commercial/industrial workers: chromium (SB-33-02, 1 to 3 ft); trichloroethene (TCE) (SB-74-03, 2 to 4 ft).
  - TCE was detected in subsurface soil (3 to 12 ft) at a concentration exceeding the GDCSS for commercial/industrial workers in SB-74-03 (8 to 10 ft).
  - For the construction worker, the following constituents were detected in surface and subsurface soil (0 to 12 ft) at concentrations exceeding the GDCSS for construction workers: chromium (SB-33-02, 1 to 3 ft); lead (BH-183, 0 to 2 ft); TCE (SB-131-04 [0 to 2 ft]; SB-154-04 [0 to 2 ft]; SB-156-04 [0 to 2 ft]; SB-74-03 [2 to 4 ft, 8 to 10 ft]).
  - Mercury was detected above the soil saturation concentration in sample SB-156-04 (0 to 2 ft bgs).
  - TPH- GRO (C_6 to C_{12}) and TPH- DRO (C_{20} to C_{34}) were detected in excess of the Class 1 residual saturation concentration in sample 091216-5 (8 ft bgs).
- N Area EU (**Tables 5, 6, 7, Appendix A1**):
  - TCE was detected in surface soil at concentrations exceeding the GDCSS for commercial/industrial workers in SB-145-04 (0 to 2 ft). PCBs were detected in surface soil at concentrations exceeding the GDCSS for commercial/industrial workers in SB-43-02 (1 to 3 ft).
  - PCBs (Arcolor 1254) were detected in subsurface soil (>3 to 12 ft bgs) at concentrations exceeding the GDCSS for commercial/industrial workers in MW-3-02 (8 to 10 ft), SB-56-02 (6 to 8 ft, 9.5 to 11.5 ft), and TT-SB-264 (2 to 4 ft), SB-43-02 (9 to 11 ft).
  - TCE was detected in surface soil at concentrations exceeding the GDCSS for construction workers in SB-144-04 (0 to 2 ft), SB-145-04 (0 to 2 ft), and SB-150-04 (0 to 2 ft).
- P Area EU (**Tables 8, 9, 10, Appendix A1**):

- TCE was detected in surface soil at concentrations exceeding the GDCSS for commercial/industrial workers in MW-26-04 (0 to 2 ft).
- TCE was detected in subsurface soil at concentrations exceeding the GDCSS for commercial/industrial workers in SB-73-03 (2 to 4 ft, 8 to 10 ft).
- Lead was detected in surface soil at a concentration exceeding the GDCSS for construction workers at one sampling location (SB-148-04, 0 to 2 ft). TCE was detected in surface and subsurface soil at concentrations exceeding the GDCSS for construction workers in MW-26-04 (0 to 2 ft), SB-18-02 (1 to 3 ft), SB-73-03 (2 to 4 ft, 8 to 10 ft).

- CTA Area EU (**Tables 11, 12, 13, Appendix A1**):
  - Excluding soil at sampling location SS16, which was removed as an interim measure, no constituents were identified in surface soil (0 to 3 ft bgs) in excess of the GDCSS for commercial/industrial workers.
  - No constituents in subsurface soil (3 to 12 ft bgs) exceeded the GDCSS for commercial/industrial workers.
  - No constituents in soil exceeded the construction worker GDCSS values.
- Greenspace Area EU (**Tables 14, 15, 16, Appendix A1**):
  - Lead was detected in surface soil at a concentration exceeding the GDCSS for commercial/industrial workers at one sampling location (MW-23-04, 0 to 2 ft).
  - PCB (Aroclor 1254) was detected in subsurface soil (>3 to 12 ft bgs) at a concentration exceeding the GDCSS for commercial/industrial workers in one sampling location MW-37-05 (3.5 to 4.5 ft). Cadmium was detected in subsurface soil at a concentration exceeding the GDCSS for commercial/industrial workers in one sampling location (SB14-02; 10 to 12 ft).
  - Lead was detected in surface soil at a concentration exceeding the GDCSS for construction workers at one sampling location (MW-23-04, 0 to 2 ft). TCE was detected in surface and subsurface soil at concentrations exceeding the GDCSS for construction workers at the following sampling locations BH-181 (0 to 2 ft), MW-14B-04 (0 to 2 ft), MW-23-04 (0 to 2 ft, 8 to 10 ft), MW-24-04 (0 to 2 ft), SB-14-02 (4 to 6 ft). Cadmium was detected in subsurface soil at a concentration exceeding the GDCSS for construction workers at two depth intervals at one sampling location (SB14-02; 4 to 6 ft, 10 to 12 ft). PCB (Aroclor 1254) was detected in subsurface soil at a concentration exceeding the GDCSS for construction workers in one sampling location MW-37-05 (3.5 to 4.5 ft).

The VAP has not developed generic standards for the following eight chemicals present in site soils:

- 2-Chlorotoluene
- 2-Hexanone
- 4-Chlorotoluene
- Benzaldehyde

- Manganese
- Methyl acetate
- Methyl cyclohexane
- Potassium

Supplemental criteria are available in the CIDARS database (June 15, 2015; May 2, 2017) for the following 11 chemicals present in site soils:

- Acenaphthylene
- Barium
- Benzo(g,h,i)perylene
- Carbazole
- Cobalt
- Dibenzofuran
- Dichloroethylene (DCE), 1,2-cis-
- Phenanthrene
- Thallium
- Trimethylbenzene, 1,3,5-
- Vanadium

Supplemental criteria were developed by OEPA to be consistent with Ohio VAP and are consistent with current/future site use by commercial/industrial workers and construction workers.

Per OAC Rule 3745-300-09(F)(5)(f)(vi), the risk of a chemical need not be evaluated if the chemical is determined to contribute to less than 1% of the estimated risk and/or hazard attributed to a pathway-receptor combination. **Table 17** through **Table 21** presents the non-cancer and cancer risk contributions of the above constituents lacking generic standards for each EU, with the exception of potassium discussed below. TPH constituents (if present) are evaluated separately from the other chemical constituents. When compared to residential regional screening levels (RSLs) developed by the U.S. EPA (U.S. EPA, 2015b), six of the above eight chemicals (2-chlorotoluene, 2-hexanone, 4-chlorotoluene, benzaldehyde, methyl acetate, and methyl cyclohexane) did not contribute more than 1% of the estimated hazard. Therefore, further evaluation of these seven chemicals to determine a risk-derived standard is not required. The two remaining chemicals (potassium and manganese) are discussed below.

Potassium was evaluated in one sample in the Greenspace Area EU with a concentration of 576 mg/kg, which is < the background level of potassium (12,000 mg/kg; Cox-Colvin & Associates, Inc., 1996). Potassium is an essential human nutrient identified in OAC 3745-300-09 and is not

evaluated further in the PSRA. Manganese was detected in four of the EUs. The maximum detected manganese concentration exceeded the site-specific background (816 mg/kg) in C Area EU (1,230 mg/kg), in N Area EU (5,760 mg/kg), in P Area EU (3,360 mg/kg), and in the Greenspace Area EU (1,070 mg/kg).

Thus, of the chemicals without generic direct contact standards and supplemental criteria, only manganese is evaluated for these specific EUs in the PSRA (**Subsection 5.2**).

5.1.1.1 Cumulative Risk Levels for Direct Contact with Soil

The Ohio VAP (OAC 3745-300-08(A)(2)(b)) requires that an evaluation of cumulative risk levels be conducted if more than one non-carcinogenic or carcinogenic chemical is present within each area of concern and/or EU. For the site to meet the applicable VAP standard, the sum of the ratios of each chemical against its respective site standard must be equal to or less than (≤) one, calculated at one significant figure. If the cumulative non-cancer or cumulative cancer risk ratio exceeds a value of one, then one or more of the COCs must be remediated to a concentration such that the sum would be ≤ one.

For direct contact with soils, the carcinogenic hazard index (HI) estimate was determined using the following equation:

$$\textit{Cumulative cancer risk ratio for direct contact} = \left[\frac{\text{chem}_a}{\text{GDCSC}_a} + \frac{\text{chem}_b}{\text{GDCSC}_b} + \ldots \right]$$

Where: $GDCSC_x$ = Generic direct contact soil standard for a single carcinogen
$chem_x$ = Chemical-specific exposure point concentration for direct contact soils (representative concentration for the EU)

The non-carcinogenic HI estimate was determined using the following equation presented below:

$$\textit{Cumulative noncancer risk ratio for direct contact} = \left[\frac{\text{chem}_a}{\text{GDCSN}_a} + \frac{\text{chem}_b}{\text{GDCSN}_b} + \ldots \right]$$

Where: $GDCSN_x$ = Generic direct contact soil standard for a single non-carcinogen
$chem_x$ = Chemical-specific exposure point concentration for direct contact soils (representative concentration for the EU)

A cumulative risk ratio has been calculated for carcinogenic and non-carcinogenic chemicals in each EU using GDCSS and CIDARS supplemental criteria. Chemicals with a non-cancer and/or cancer risk ratio of 0.1 or above are described in this subsection. Note that lead and TPH are not included in cumulative risk ratios.

C Area EU Cumulative Risk Levels

For the C Area EU, the cumulative cancer and non-cancer risk ratios for a commercial/industrial worker exceeded one for maximum surface soil concentrations (**Table 2**). TCE and chromium in surface soil (0 to 3 ft bgs) had individual non-cancer risk ratios equal to or greater than ($\geq$) 0.1. At the 95UCL concentrations of TCE and chromium, the cumulative non-cancer risk ratio (1) does not exceed one (**Table 22**). Benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenzo(a,h)anthracene, TCE, arsenic, and chromium had individual cancer risk ratios > 0.1. At the 95UCL concentrations of these chemicals, benzo(a)pyrene, TCE, arsenic, and chromium have individual cancer risk ratios > 0.1 and the cumulative cancer risk ratio (7) is > one. In January 2017, the toxicity values for benzo(a)pyrene were updated in IRIS. The CIDARs table (May 2, 2017) presents an updated commercial/industrial worker direct contact standard of 62 mg/kg. The updated standards may be used in a PSRA because they were generated using the most up-to-date exposure parameters and toxicity values in accordance with OAC 3745-300-09. The 95UCL concentration of benzo(a)pyrene (2.498 mg/kg) does not exceed the updated standard. While the maximum arsenic concentration (15.6 mg/kg) exceeds the site-specific background (11.58 mg/kg), the 95UCL concentration of arsenic (9.489 mg/kg) does not exceed the site-specific background. Multi-chemical adjustment of standards for chromium and TCE is required and remedial measures are warranted to ensure protection of commercial/industrial workers to surface soil.

The cumulative cancer and non-cancer risk ratios for a commercial/industrial worker exceeded one for maximum subsurface soil concentrations (**Table 3**). TCE and tetrachloroethene (PCE) in subsurface soil (3 to 12 ft bgs) had individual non-cancer risk ratios $\geq$ 0.1. Benzo(a)anthracene, benzo(a)pyrene, benzo(b)flouoranthene, dibenzo(a,h)anthracene, TCE, arsenic, and chromium had individual cancer risk ratios > 0.1. At the 95UCL concentrations of these chemicals, the cumulative non-cancer risk ratio (0.09) and the cumulative cancer risk ratio (0.4) do not exceed

one (**Table 23**). Multi-chemical adjustment of standards is not required for the commercial/industrial worker exposure to subsurface soil in the event that subsurface soil is excavated and placed within the commercial/industrial point of compliance.

The cumulative cancer and non-cancer risk ratios exceeded one for construction worker exposed to maximum concentrations in the 0 to 12 ft soil zone (**Table 4**). Copper, mercury, PCE, and TCE in 0 to 12 ft bgs soil had individual non-cancer risk ratios $\geq$ 0.1 and chromium had an individual cancer risk ratio > 0.1. At the 95UCL concentrations of these chemicals, the cumulative non-cancer risk ratio (1) and the cumulative cancer risk ratio (0.4) do not exceed one based on one significant figure (**Table 24**). Multi-chemical adjustment of standards is not required for the construction worker.

N Area EU Cumulative Risk Levels

For the N Area EU, the cumulative cancer and non-cancer risk ratios for a commercial/industrial worker exceeded one for surface soil maximum concentrations (**Table 5**). PCB-Aroclor 1254 and TCE in surface soil (0 to 3 ft bgs) had individual non-cancer risk ratios $\geq$ 0.1. At the 95UCL concentrations of TCE and PCB–Aroclor 1254, the cumulative non-cancer risk ratio (0.8) does not exceed one (**Table 25**). PCB-Arcolor 1254, arsenic, benzo(a)pyrene, chromium, and TCE had individual cancer risk ratios $\geq$ 0.1. At the 95UCL concentrations of these chemicals, arsenic, benzo(a)pyrene, chromium, and TCE also have individual cancer risk ratios $\geq$ 0.1 but the cumulative cancer risk ratio (0.8) is less than one (**Table 25**). The 95UCL concentration of benzo(a)pyrene (0.558 mg/kg) does not exceed the updated standard of 62 mg/kg. While the maximum arsenic concentration (15.2 mg/kg) exceeds the site-specific background (11.58 mg/kg), the 95UCL concentration of arsenic (9.472 mg/kg) does not exceed the site-specific background. Multi-chemical adjustment of standards is not required to ensure protection of commercial/industrial workers to surface soil.

The cumulative cancer and non-cancer risk ratios for a commercial/industrial worker exceeded one for subsurface soil maximum concentrations (**Table 6)**. PCB-Aroclor 1254 in subsurface soil (3 to 12 ft bgs) had an individual non-cancer risk ratio > 0.1, though at the 95UCL concentrations, the cumulative non-cancer risk ratio (0.6) did not exceed one (**Table 26**). PCB- Arocolor 1254,

arsenic, benzo(a)pyrene, and chromium had individual cancer risk ratios $\geq$ 0.1. At the 95UCL concentrations of these chemicals, PCB-Aroclor 1254 and arsenic also have individual cancer risk ratios > 0.1 but the cumulative cancer risk ratio (1) did not exceed one. Multi-chemical adjustment of standards is not required to ensure protection of commercial/industrial workers to subsurface soil.

The cumulative non-cancer risk ratio and cancer risk ratio exceeded one for construction worker exposed to maximum concentrations in the 0 to 12 ft soil zone (**Table 7**). PCB-Aroclor 1254, PCE, and TCE in the 0 to 12 ft soil zone had an individual non-cancer risk ratio > 0.1. At their 95UCL concentrations, the cumulative non-cancer risk ratio (2) exceeded one. PCB-Aroclor 1254 in the 0 to 12 ft soil zone (**Table 27**) had individual cancer risk ratios > 0.1. At the 95UCL concentrations of these chemicals, the cumulative cancer risk ratio (0.2) did not exceed one. Multi-chemical adjustment of standards is required and remedial measures are warranted to ensure protection of construction workers.

P Area EU Cumulative Risk Levels

For the P Area EU, the cumulative cancer and non-cancer risk ratios for a commercial/industrial worker exceeded one for surface soil maximum concentrations (**Table 8**). PCB-Aroclor 1254 and TCE had an individual non-cancer risk ratio $\geq$ 0.1. PCB-Aroclor 1254, arsenic, benzo(a)pyrene, and TCE had an individual cancer risk ratio $\geq$ 0.1. At the 95UCL concentrations of these chemicals, the cumulative non-cancer risk ratio (1) and the cumulative cancer risk ratio (1) equaled one, based on one significant figure (**Table 28**). Multi-chemical adjustment of standards is not required for the commercial/industrial worker exposure to surface soil.

The cumulative cancer risk ratio for a commercial/industrial worker did not exceed one (based on one significant figure) for subsurface soil maximum concentrations (**Table 9**). The cumulative non-cancer risk ratio for a commercial/industrial worker exceeded one for subsurface soil maximum concentrations (**Table 9**). TCE had an individual non-cancer risk ratio $\geq$ 0.1. At the 95UCL concentration, the cumulative non-cancer risk ratio (1) equaled the threshold of one (**Table 29**). Multi-chemical adjustment of standards is not required for the commercial/industrial worker exposure to subsurface soil

The cumulative cancer risk ratio did not exceed one for construction worker exposures to maximum concentrations in the 0 to 12 ft soil zone (**Table 10**). The cumulative non-cancer risk ratio exceeded one for construction worker exposed to maximum concentrations in the 0 to 12 ft soil zone (**Table 10**). Copper, PCE, and TCE had an individual non-cancer risk ratios $\geq$ 0.1. At the 95UCL concentrations of these chemicals, the cumulative non-cancer risk ratio (3) also exceeded one, with risk ratio of > one for TCE (**Table 30**). Multi-chemical adjustment of standards is required and remedial measures are warranted to ensure protection of construction workers.

CTA Area EU Cumulative Risk Levels

For the CTA Area EU, the cumulative cancer and non-cancer risk ratios for a commercial/ industrial worker do not exceed one (based on one significant figure) for surface soil maximum concentrations (**Table 11**). Benzo(a)pyrene and benzo(b)flouranthene had individual risk ratios >0.1. The CIDARs table (May 2, 2017) presents an updated commercial/industrial worker direct contact standard of 62 mg/kg for benzo(a)pyrene and 620 mg/kg for benzo(b)fluoranthene. The updated standards may be used in a PSRA because they were generated using the most up-to-date exposure parameters and toxicity values in accordance with OAC3745-300-09. The maximum concentrations of benzo(a)pyrene (4.93 mg/kg) and benzo(b)fluoranthene (8.85 mg/kg) does not exceed the updated standards. The cumulative cancer and non-cancer risk ratios for a commercial/industrial worker did not exceed one for subsurface soil maximum concentrations (**Table 12**). Multi-chemical adjustment of standards is not required for the commercial/industrial worker.

The cumulative cancer and non-cancer risk ratios do not exceed one for construction worker exposed to maximum concentrations in the 0 to 12 ft soil zone (**Table 13**). Multi-chemical adjustment of standards is not required for the construction worker.

Greenspace Area EU Cumulative Risk Levels

For the Greenspace Area EU, the cumulative cancer risk ratio did not exceed one (based on one significant figure) for a commercial/industrial worker for surface soil maximum concentrations (**Table 14**). The cumulative non-cancer risk ratio for a commercial/industrial worker exceeded one for surface soil maximum concentrations (**Table 14**). PCB-Aroclor 1254 and TCE had individual

non-cancer risk ratios $\geq$ 0.1. PCB-Aroclor 1254, arsenic, benzo(a)pyrene, chromium, dibenz(a,h)anthracene, and TCE have individual cancer risk ratios $\geq$ 0.1. At the 95UCL concentration of these chemicals, the cumulative cancer and non-cancer risk ratios (0.6 and 0.8, respectively) did not exceed one (**Table 31**). Multi-chemical adjustment of standards is not required for commercial/industrial worker exposure to surface soil.

The cumulative cancer and non-cancer risk ratios for a commercial/industrial worker exceeded one for subsurface soil maximum concentrations (**Table 15)**. PCB-Aroclor 1254, cadmium, cyanide, and TCE have individual non-cancer risk ratios $\geq$ 0.1. PCB-Aroclor 1254, arsenic, chromium, and TCE have individual cancer risk ratios $\geq$ 0.1. At the 95UCL concentrations of these chemicals, the cumulative cancer (1) and non-cancer risk (1) ratios did not exceed one based on one significant figure (**Table 32**). Multi-chemical adjustment of standards is not required for commercial/industrial workers exposure to subsurface soil.

The cumulative non-cancer risk ratio (8) exceeded one for construction worker exposed to maximum concentrations in the 0 to 12 ft soil zone (**Table 16**). The cumulative cancer risk ratio (0.5) did not exceed one (**Table 16**). PCB-Aroclor 1254, cadmium, cyanide, and TCE have individual non-cancer risk ratios $\geq$ 0.1. At the 95UCL concentrations of these chemicals, the cumulative non-cancer risk (2) ratio also exceeds one (**Table 33**). Multi-chemical adjustment of standards is required and remedial measures are warranted to ensure protection of construction workers.

5.1.1.2 Lead

The GDCSS for lead are 800 mg/kg for commercial/industrial use and 400 mg/kg for construction activities. The lead standards take into account other factors and assumptions in addition to the carcinogenic or non-carcinogenic risk of lead. Therefore, using the cumulative risk considerations is not appropriate and need not be performed [OAC 3745-300-08(C)(3)(a)(v)]. In the C Area EU, the maximum lead concentration is 451 mg/kg in the 0 to 12 ft soil, which does not exceed the commercial/industrial GDCSS but exceeds the construction worker GDCSS. Only one of 34 samples (BH-183, 0-2 ft) in the C Area EU exceeds the construction worker GDCSS. The 95UCL on the mean lead concentration in surface soil was 167 mg/kg and does not exceed the construction

worker GDCSS. In the N Area EU, the maximum lead concentration was 276 mg/kg in 0 to 12 ft soil, which does not exceed either the commercial/industrial GDCSS or the construction worker GDCSS. In the P Area EU, the maximum lead concentration was 528 mg/kg, which does not exceed the commercial/industrial GDCSS but exceeds the construction worker GDCSS. Only one sample (SB-148-04, 0-2 ft) in the P Area EU exceeds the construction worker GDCSS. The 95UCL on the mean lead concentration in surface soil was 282 mg/kg and does not exceed the construction worker GDCSS. In the CTA Area EU, the maximum lead concentration was 168 mg/kg, which does not exceed the commercial /industrial GDCSS or the construction worker GDCSS.

In the Greenspace Area EU, the maximum lead concentration was 6,470 mg/kg and exceeds the GDCSS for commercial/industrial use and the GDCSS for construction activities. Concentrations above the GDCSS were measured in one surface soil sample (MW-23-04); the duplicate sample at this location (60.4 mg/kg) did not exceed the GDCSS. The 95UCL on the mean lead concentration in surface soil (2,146 mg/kg) exceeds the GDCSS for the commercial/industrial worker. Excluding this sample, surface soil lead concentrations ranged from 0.86 mg/kg to 327 mg/kg and do not exceed the GDCSS. The arithmetic average lead concentration in surface soil is 403 mg/kg, which does not exceed the GDCSS. The arithmetic mean concentration in lead is used to evaluate lead because the U.S. EPA models used to develop the GDCSS are based on central tendency values. Following U.S. EPA guidance, the arithmetic mean concentration should be estimated from sampling data within the exposure area that a worker would be expected to have access to on a regular basis (https://www.epa.gov/superfund/lead-superfund-sites-frequent-questions-risk-assessors-adult-lead-methodology#soil lead; last updated June 22, 2017). The maximum lead concentration in subsurface soil (191 mg/kg) does not exceed the GDCSS for the construction worker. The 95UCL on the mean lead concentration in 0 to 12 ft soil is 411 mg/kg which is approximately equal to the GDCSS for the construction worker. Thus, though there is a lead surface soil hotspot, remedial measures are not warranted to ensure protection of commercial/industrial workers in Greeenspace Area EU because a worker would not be exposed to this concentration on a regular basis.

5.1.1.3 TPH

The criteria for TPH as GRO (light, C6 to C12), DRO (middle, C10 to C20), and oil range organics (heavy, C20 to C34) are 1,000 mg/kg, 2000 mg/kg, and 5000 mg/kg, respectively. These values are soil saturation concentrations, and are not considered in cumulative risk. TPHs above soil saturation concentrations are discussed in **Subsection 5.1.6**.

5.1.2 Non-potable Groundwater Uses

An Urban Setting Designation has been issued by OEPA, which from a response requirement eliminates the potable use pathway for areas surrounding the Property. Thus, comparison to GUPUS is performed to determine the COCs that need to be addressed for evaluating non-potable uses. This section evaluates geothermal heating and cooling use, vapors in a trench, and COCs that need to be evaluated for off-property direct contact pathways not related to the potable use of groundwater. Non-potable direct contact use (e.g., geothermal heating and cooling) and inhalation of vapors in a construction trench) are evaluated in the PSRA.

GUPUS for groundwater are available in OAC Rule 3745-300-08 and CIDARS supplemental criteria for most COCs. These standards were determined assuming that the groundwater on, underlying, and emanating from the Property will be used as a source of water for drinking, cooking, showering, and bathing. These standards either correspond with regulatory drinking water criteria (i.e., maximum contaminant levels [MCLs] or equivalent) or are risk-derived based on a $1x10^{-5}$ carcinogenic risk or HI of one for non-carcinogenic effects. Note that groundwater on the Property is not used and will not be used as a potable water supply. An institutional control restricting potable groundwater use will be recorded with the deed for the property rendering the potable use pathway incomplete. Additionally, use of groundwater for geothermal heating and cooling on the Property will be limited to the existing well at the CTA building.

5.1.2.1 Geothermal Well Use

The lower aquifer groundwater is currently used for geothermal heating and cooling. A typical geothermal system extracts groundwater, pumps the groundwater through heat exchangers, and

either discharges the groundwater (e.g., to a storm sewer) or circulates the groundwater back into the aquifer. The systems can be either open loop (discharges groundwater after use) or closed loop (recirculates water through below ground piping after use). They are non-contact systems, but there is potential for incidental contact during maintenance or at the point of discharge (in an open loop system).

5.1.2.2 Construction Worker in a Trench

The groundwater to construction worker direct contact exposure pathway is not considered to be complete because the depth to water is > 12 ft, which is deeper than the point of compliance of 10 ft. Thus, direct contact with groundwater (i.e., incidental ingestion and dermal absorption) is not a reasonably anticipated exposure pathway. However, inhalation of vapors from groundwater released in a trench is evaluated as a potentially complete exposure pathway construction/excavation workers given the potential depth of groundwater in the upper aquifer and the COCs in groundwater.

5.1.2.3 Direct Contact - Groundwater

As shown in **Table 34** (upper unit), **Table 35** (till-rich unit) and **Table 36** (lower aquifer unit), the COCs for groundwater direct contact exposures (i.e., COCs with detections greater than GUPUS and CIDARS supplemental criteria) based on samples collected from on-Property wells include:

- Upper Unit: 1,1-DCE, cis-1,2-DCE, chloroform, ethylbenzene, methylene chloride, PCE, trans-1,2-DCE, TCE, vinyl chloride, PCBs (Aroclor 1254), and arsenic.
- Till-Rich Unit: PCE, TCE, and cis-1,2- DCE (vinyl chloride was detected > GUPUS off-Property)
- Lower Unit: vinyl chloride.

Detection limits in the upper unit exceeded criteria for several VOCs; however, elevated detection limits are attributed to dilution of sample because of the elevated TCE, PCE, cis-1,2-DCE, and vinyl chloride in sample MW-23-04. GUPUS are not available for all analytes detected in groundwater. GUPUS and CIDARS supplemental criteria were not available for aluminum,

caprolactam, chloride, cyclohexane, iron, manganese, nitrate, nitrite, sulfate, and sulfide in the upper unit and methane, iron, manganese, chloride, nitrate, sulfate, and sulfide in the till-rich unit, and strontium in the lower unit. Chemicals lacking GUPUS and CIDARS supplemental criteria are addressed in the PSRA.

Based on the above evaluation, PCE, TCE, and chlorinated volatile organic compound (CVOC) degradation products have been detected in groundwater above GUPUS. Vinyl chloride in the lower unit monitoring well MW39-05 exceeds GUPUS. In the till-rich unit, cis-1,2-DCE, TCE, and PCE in monitoring wells MW36-05 and MW-54-06 exceed GUPUS; PCE and TCE in monitoring well MW-40-05 exceeds GUPUS; and vinyl chloride in monitoring well MW-54-06 exceeds GUPUS. Note the MW-54-06 and MW-40-05 monitoring wells are located on the West Phase but were included in the till-rich zone wells to provide further data for this zone, since there is only one till-rich zone well on the Property. In upper unit monitoring wells, CVOCs exceed GUPUS in numerous wells, with the highest concentrations measured in MW-23-04 and MW-37-05. PCB-Aroclor 1254, 1,1-DCE, methylene chloride, and arsenic were detected in one on-Property upper aquifer monitoring well at concentrations exceeding GUPUS. These COCs have been evaluated in the PSRA to assess risk from non-potable direct contact use (i.e., geothermal heating and cooling and vapor inhalation in a trench).

5.1.2.4 Cumulative Risk Levels for Groundwater

The Ohio VAP requires an evaluation of cumulative risk levels if more than one non-carcinogenic or carcinogenic chemical is present within each IA or EU. A multiple chemical evaluation is not required for analytes compared to federal drinking water standards (MCLs). **Table 37** presents the risk ratio determination for groundwater COCs that do not rely upon MCLs as the applicable standard. If the cumulative risk ratio exceeds the threshold of one, multiple chemical adjustment or remedial measures may be required. The cumulative risk ratio for the till-rich unit is 0.9 and the cumulative risk ratio for the lower unit is 0.4. These risk ratios do not exceed the threshold of one; multiple chemical adjustment or remedial measures for chemicals lacking MCLs is not required. The individual risk ratio as shown in **Table 37** exceeds one for iron and manganese in the upper unit. These metals are discussed in the PSRA (**Subsection 5.2.2**).

5.1.3 Leaching of Chemicals of Concern from Soil to Groundwater

Groundwater in the upper and lower aquifers do not meet GUPUS and thus Protection of Groundwater Meeting Unrestricted Potable Use Standards does not apply. The groundwater is classified as Critical Resource within an Urban Setting Designation. CVOCs are present above GUPUS in groundwater monitoring wells upgradient of the Property (see Section 3.5.2 of the Phase II Report) and thus contamination to the aquifer is deemed to be partially attributed to the Property; therefore, response requirements include addressing sources or source areas on Property that could cause GUPUS to be exceeded at ½-mile from the Property boundary, or at the Urban Setting Designation Boundary, whichever is further (OAC 3745-300-10 [E][2][f][ii] and OAC 3745-300-10 [E][5][b]).

To identify source areas that could contribute to an exceedance of GUPUS at the point of compliance, the following steps were performed:

1. Identify areas with COCs at concentrations exceeding generic LBSVs (**Tables 38** through **42; Appendix A2).**
2. Determine which of these COCs have been detected in Site groundwater and have potential for off-Site migration.
3. Derive migration-adjusted LBSVs for those COCs that exceed generic LBSVs, have been detected in Site groundwater, and have potential to migrate off-Site (**Subsection 5.1.4**).
4. Identify sample locations with COCs exceeding the migration-adjusted LBSVs.
5. Consider impact of surface water on groundwater migration from the potential source areas. Per OAC 3745-300-10(E)(5)(a)(i): *If ground water discharges to an off-property surface water body that is in close proximity to the property and there is no complete exposure pathway for potable use off-property… the point of compliance is the surface water body. The applicable standards in paragraph (F) of rule 3745-300-08 of the Administrative Code or paragraph (G) of rule 3745-300-09 of the Administrative Code for the receiving surface water body shall be met instead of unrestricted potable use standards*.

The LBSVs represent the concentrations of hazardous substances or petroleum that may be present in the soils that ensure protection of potable groundwater use. Derived LBSVs were developed from generic OEPA LBSVs (OEPA, 2008) and U.S. EPA (2015b) soil screening levels (SSLs) for migration to groundwater. BUSTR generic petroleum standards for soil to drinking water leaching values were also used. The derived LBSVs for organics correspond to a Dilution Attenuation

Factor (DAF) of 15. This DAF is the OEPA default value of soil category 1 (clean sand and gravel), hydraulic conductivity of > $1x10^{-1}$ centimeters per second (cm/sec) and a source area size of ≤ 0.5 acres. A DAF of 20 was used for inorganics, based on the OEPA default attenuation factor for source areas < 2 acres. **Tables 38** through **42** present a comparison of the range of COC detections in soil (all depths) in each EU to LBSVs. A default organic carbon content of 0.003 was applied. Several VOCs, semi-volatile organic compounds (SVOCs), and inorganics were detected in the soil borings in excess of the derived LBSVs in at least one EU, as follows:

VOCs – benzene, bromomethane, 2-hexanone, 1,1,-dichloroethane, cis-1,2-DCE, methylene chloride, PCE, TCE, vinyl chloride

SVOCs – PCBs (Aroclor 1248, Aroclor 1254, Aroclor 1260), biphenyl, bis(2-ethylhexyl)phthalate, GRO, and TPH(C_{20} to C_{34})

Inorganics – antimony, arsenic, cadmium, cobalt, chromium, copper, cyanide, lead, manganese, and nickel

While maximum concentrations of benzene, biphenyl, bromomethane, 2-hexanone, antimony, cadmium, cobalt, total chromium, copper, cyanide, lead, manganese, and nickel exceeded LBSVs, these constituents were either not detected or detected below the GUPUS in all groundwater samples, demonstrating that migration to groundwater at concentrations of concern is not occurring for these constituents. Bis(2-ethylhexyl)phthalate is a common laboratory contaminant that was detected above GUPUS in one of 17 samples. Therefore, COCs for the soil migration to groundwater pathway that require further evaluation are: arsenic, PCBs, GRO, TPH (C20 to C34), 1,1-dichloroethane, cis-1,2- DCE, methylene chloride, TCE, PCE, and vinyl chloride.

These COCs were measured above LBSVs in each EU as summarized:

Greenspace EU – arsenic, PCBs, 1,1-dichloroethane, cis-1,2-DCE, methylene chloride, TCE, PCE, and vinyl chloride.

C Area EU – arsenic, GRO, TPH (C20 to -C34), cis-1,2-DCE, methylene chloride, TCE, and PCE (PCBs were excluded because concentrations were below the Toxic Substances Control Act [TSCA] standard of 1 part per million [ppm] for unrestricted land use).

N Area EU - arsenic, PCBs, 1,1-dichloroethane, cis-1,2-DCE, methylene chloride, TCE, PCE, and vinyl chloride.

CTA Area EU – arsenic.

P Area EU - arsenic, PCBs, cis-1,2-DCE , methylene chloride, TCE, and PCE.

COCs in soil that exceed generic LBSVs and have also been detected in Site groundwater are addressed in **Subsection 5.1.4**. In the C Area EU, TPH-GRO (C_6 to C_{12}) and TPH-DRO (C_{20} to C_{34}) were detected in excess of the Class 1 residual saturation concentration in sample 091216-5 and will be addressed separately. Soil data are tabulated by depth and EU and compared to generic LBSVs in **Appendix A2**.

5.1.4 Migration of Chemicals of Concern in Groundwater

The BIOCHLOR model, developed by Groundwater Services, Inc. for the Air Force Center for Environmental Excellence (Groundwater Services, Inc., 2002), was used to predict contaminant concentrations along the centerline of a groundwater plume. BIOCHLOR is available for download at http://www.epa.gov/water-research/biochlor-natural-attenuation-decision-support-system. BIOCHLOR, programmed in the Microsoft Excel spreadsheet environment, is based on the Domenico analytical solute transport model and has the ability to simulate one-dimensional (1-D) advection, three-dimensional (3-D) dispersion, linear adsorption, and biotransformation via reductive dechlorination (the dominant biotransformation process at most chlorinated solvent sites). Dissolved solvent degradation is assumed to follow a sequential first order decay process (Aziz et al., 2000; 2002). The input values/assumptions used in the BIOCHLOR model are listed in **Appendix C.** The BIOCHLOR model was used in three ways: 1) to predict whether the maximum detected concentration of each COC in groundwater will exceed GUPUS at a travel distance of ½ mile from the property boundary, not taking into account the hydrogeologic-impact of the Mad River (**Appendix C**); 2) to predict whether the maximum detected concentration of each COC in groundwater will discharge to surface water at a concentration above surface water criteria (discussed in **Subsection 5.1.6**); and 3) to predict a leach-based soil concentration that can migrate to groundwater but will not cause GUPUS to be exceeded at ½ mile downgradient from the property boundary (**Appendix D**).

Off-site Migration of COCs in Groundwater

In **Appendix C**, contaminant transport modeling was completed for CVOCs (i.e., PCE, TCE, cis-1,2-DCE, and vinyl chloride in the upper unit, PCE and TCE in the till-rich unit and vinyl chloride

in the lower unit) to determine if these groundwater CVOCs could cause GUPUS to be exceeded at a distance of ½-mile from the Property boundary.

As shown in **Appendix C**, using the maximum chlorinated COC concentrations in groundwater (of all groundwater data), BIOCHLOR modeling (assuming a continuous source as a conservative initial scenario) predicts that GUPUS would not be exceeded at ½ mile (2,640 ft) from the Property boundary in the lower unit and till-rich unit. In the upper unit, maximum detected concentrations of cis-1,2-DCE, PCE, TCE, and vinyl chloride (considering all groundwater data; with maximum concentrations measured in monitoring well MW-23-04) were predicted to exceed GUPUS at ½ mile from the Property boundary. Using the May 2015 sampling data for monitoring well MW-23-04, TCE, cis-1,2-DCE, and vinyl chloride were predicted to exceed GUPUS at ½ mile from the Property boundary in the upper unit. Other upper unit wells in proximity to MW-23-04 that contain CVOCs above GUPUS (but at lower concentrations than MW-23-04) include MW37-05 and MW9-03. Well locations are included on **Figure 6**.

Additional BIOCHLOR modeling was performed assuming a decaying source (**Appendix C**). This scenario is less conservative and more representative of site conditions. For the maximum detected COC concentrations in the upper zone, concentrations of vinyl chloride are predicted to exceed GUPUS at ½ mile from site when a decaying source and biodegradation is assumed. For the more recent May 2015 COC concentrations in the upper zone, COC concentrations did not exceed GUPUS at ½ mile from site when a decaying source and biodegradation is assumed (though vinyl chloride exceeded GUPUS at the lower end of the range of conductivities used in the sensitivity analysis). Assuming limited decay at the source areas, off-site groundwater migration at concentrations exceeding GUPUS at ½ mile from the site is not expected to be of concern. Additional evaluation of the BIOCHLOR input parameters is provided in **Subsection 5.3**.

The BIOCHLOR model cannot account for the hydraulic boundary created by the Mad River. It is possible that the majority of the plume is intercepted by the Mad River less than ½ mile from the Property. An additional monitoring well was installed downgradient of MW-23-04 and upgradient of the Mad River in 2018 to evaluate the direction of groundwater flow and contaminant concentrations in this area. Surface water sampling was completed for the Mad River in 2019 to further evaluate groundwater discharge to surface water. Decisions on remedial measures for this

area will be made following evaluation of surface water results and additional potentiometric and water quality data obtained from the new monitoring well.

Leach-Based Soil Concentration to Meet GUPUS at ½ Mile from Property Boundary

In **Appendix D**, the BIOCHLOR model was also used to predict the contaminant concentration in groundwater at the source area that will result in GUPUS being met at ½ mile downgradient from the Property boundary, using the input factors shown in **Appendix C** for the upper unit and neglecting the potential for groundwater discharge to the Mad River. The BIOCHLOR modeling was completed using two source scenarios; continuous source and decaying source. Continuous source provides a worst-case assumption, but is not representative of site conditions since groundwater analytical data indicates a decaying source. The model results displayed in **Table D-1** assume a continuous source (i.e., groundwater concentrations at the source remain constant over time). The model results displayed in **Table D-2** assume a decaying source (i.e., groundwater concentrations at the source decrease over time). These alternate assumptions are discussed in further detail in **Subsection 5.3** which concludes that the decaying source is the more appropriate scenario.

Modeling was completed for TCE, PCE, vinyl chloride, cis-1,2-DCE, 1,1-dichloroethane, methylene chloride, and arsenic to identify potential source areas on the Property that could cause GUPUS to be exceeded ½-mile downgradient from the Property boundary. While degradation and biotransformation are considered in the BIOCHLOR model for most organic constituents, they are not considered for inorganic COCs. For PCE, TCE, and cis-1,2-DCE, the predicted concentrations using BIOCHLOR indicate that GUPUS is met for both the contaminants and degradation product (i.e., vinyl chloride). This predicted concentration was then incorporated as the allowable groundwater concentration in the LBSV calculation to determine the concentration in soil that would leach to groundwater at this concentration (**Appendix D**). Neglecting the potential for groundwater discharge to surface water, this soil value would represent a site-specific migration adjusted LBSV for the purpose of remedial action planning.

The migration-adjusted LBSVs are included in **Appendix D.** The maximum detected arsenic concentration (32.4 mg/kg in N Area EU) does not exceed the migration-adjusted LBSV of 38

mg/kg. The maximum concentration of methylene chloride (2,600 micrograms per kilogram [µg/kg] in C Area EU) does not exceed the migration-adjusted LBSV (3.95E+08 µg/kg). The maximum concentration of 1,1-dichloroethane (3,600 µg/kg in N Area EU) does not exceed the migration-adjusted LBSV (4.52E+05 µg/kg). TCE, PCE, cis-1,2-DCE, and vinyl chloride concentrations exceed the migration-adjusted LBSVs calculated based on the continuous source assumption (i.e., groundwater concentrations near the source remain constant over time). Locations exceeding the TCE migration-adjusted LBSV of 1,030 µg/kg (assuming a continuous source, i.e., groundwater concentrations near the source remain constant over time) were as follows:

- Greenspace EU (BH-181; MW14B-04; MW23-04; SB132-04; SB136-04; SB140-04; SB14-02; SB34-02; SB36-02)
- P Area EU (BH-180; MW12-03; MW26-04; SB137-04; SB138-04; SB139-04; SB148-04; SB163-04; SB18-02; SB53-02; SB54-02; SB72-03; SB73-03)
- C Area EU (BH-183, SB130-04; SB131-04; SB133-04; SB142-04; SB153-04; SB154-04; SB156-04; SB33-02; SB74-03)
- N Area EU (MW13-03; SB144-04; SB145-04; SB146-04; SB150-04; SB164-04; SB19-02; SB40-02; SB41-02; SB43-02; SB56-02)

Several cis-1,2-DCE concentrations exceeded the LBSV of 1,800 µg/kg (assuming a continuous source, i.e., groundwater concentrations near the source remain constant over time):

- Greenspace Area EU (BH-181; MW23-04; MW24-04; SB132-04; SB14-02; SB15-02);
- P Area EU (MW26-04; SB73-03);
- N Area EU (SB144-04; SB146-04; SB150-04; SB19-02; SB40-02; SB41-02; SB56-02);
- C Area EU (SB156-04; SB74-03)

Several PCE concentrations exceeded the LBSV of 2,250 µg/kg (assuming a continuous source i.e., groundwater concentrations near the source remain constant over time):

- Greenspace Area EU (BH181, MW14B-04; MW23-04; MW24-04; SB14-02; SB15-02; SB34-02; SB92-03; TT-SB249)
- P Area EU (MW12-03; MW26-04; SB137-04; SB138-04; SB139-04; SB163-04; SB18-02; SB53-02; SB54-02; SB73-03)

- N Area EU (SB144-04; SB146-04; SB164-04; SB22-02; SB39-02; SB40-02; SB41-02; SB43-02; SB56-02; SB75-03; SB88-03)

- C Area EU (BH183; SB131-04; SB133-04; SB142-04; SB153-04; SB154-04; SB156-04; SB74-03)

Only one detected vinyl chloride concentration exceeded the migration-adjusted LBSV of 207 µg/kg (SB150-04 at 1900 µg/kg in N Area EU). Assuming continuous source (i.e., groundwater concentrations near the source remain constant over time), and neglecting groundwater discharge to surface water, remedial measures would be needed to prevent TCE, PCE, cis-1,2-DCE, and vinyl chloride in soil from leaching to groundwater.

Assuming a decaying source, (i.e., groundwater concentrations near the source decrease over time) the TCE LBSV increases to 60,000 µg/kg. The following locations exceed this Site-specific LBSV:

- P Area EU (MW26-04; SB73-03)
- C Area EU (SB74-03)
- N Area EU (SB145-04)

One PCE concentration exceeded the Site-specific LBSV of 80,000 µg/kg (assuming a decaying source i.e., groundwater concentrations near the source decrease over time):

- C Area EU (SB154-04)

No cis-1,2-DCE concentrations exceeded the site-specific LBSV of 24,000 µg/kg and no vinyl chloride concentrations exceeded the site-specific LBSV of 15,000 µg/kg (assuming a decaying source, i.e., groundwater concentrations near the source decrease over time).

Based on the Site-specific migration adjusted LBSVs calculated using the decaying source modeling results, and neglecting groundwater discharge to surface water, remedial measures would be needed to prevent TCE and/or PCE in soil from leaching to groundwater in isolated areas of the P Area, C Area, and N Area EUs.

Although PCBs are present in the Greenspace EU, P Area EU, N Area EU, and C Area EU at concentrations exceeding the generic LBSV of 30 µg/kg for Aroclor 1254, 18 µg/kg for Aroclor

1248 or 83 µg/kg for Aroclor 1260, a migration-adjusted LBSV was not calculated. Instead, available groundwater monitoring data was evaluated to determine whether leaching to groundwater was occurring. PCBs (as Aroclor 1254) were only measured above GUPUS in four upper aquifer monitoring wells (MW-23-04 in Greenspace EU, MW-12A-03 in P Area EU, and MW-3-02 and MW-72 in N Area EU). At each of these locations, downgradient wells confirm concentrations below GUPUS, as detailed below:

- Greenspace EU – PCBs have never been detected at downgradient well DAY-01 (approximately 150 ft downgradient of MW-23-04).
- P Area EU – PCBs have never been detected at downgradient well MW-26-04 (less than 100 ft downgradient of MW-12A-03).
- N Area EU – PCBs have never been detected at downgradient well MW-13A-03 (< 200 ft downgradient of MW-3-02 and MW-72).

Due to the lack of PCB-Aroclor 1254 in downgradient wells and the hydrophobic nature of PCBs, leaching and off-site migration of PCB-Aroclor 1254 is not expected. Despite exceedance of the generic LBSVs, PCBs are not expected to exceed GUPUS at ½-mile from the property boundary. Additional discussion on site-specific PCB LBSV calculation is included in **Subsection 5.3**.

5.1.5 Chemical Saturation Concentrations

In accordance with OAC 3745-300-09 (H), the soil saturation concentration is the applicable standard when it is lower than the standards for the other exposure pathways. No constituents are present above soil saturation, with the exception of mercury and TPH.

Mercury is present above the CIDARS soil saturation concentration (3.1 mg/kg) in one location in Area C EU:

- B-156-04 (7.5 mg/kg), 0 to 2 ft bgs).
- B-156-04 (4.1 mg/kg), 13 to 15 ft bgs).

TPH is present above BUSTR Class 1 generic petroleum standards (1,000 mg/kg for C_6 to C_{12} and 5,000 mg/kg for C_{20} to C_{34}; based on saturation concentrations) in one location in C Area EU:

- TPH (C_6 to C_{12}) - 091216-5 (1,850 mg/kg), 8 ft and
- TPH (C_{20} to C_{34}) - 091216-5 (9,000 mg/kg), 8 ft

Per Technical Guidance Document VA30008.13.001, BUSTR's TPH generic petroleum standards based on soil saturation only need to be applied within the VAP's direct contact point of compliance (i.e. 0 to 10 ft bgs or as applicable for protection of construction workers). The BUSTR TPH-GRO and TPH-DRO soil saturation standard exceedances are within the point of compliance.

No other chemicals were detected above soil saturation concentrations. Remedial measures are needed to address elevated TPH and mercury concentrations (**Figure 7**).

5.1.6 Direct Contact – Surface Water

Ohio River drainage basin water quality criteria for the protection of human health [OAC Rule 3745-1-34 - (fish consumption)] were used to evaluate the human health effects from exposure to surface water from non-drinking water (e.g., via fish consumption and incidental contact with surface water). As the Mad River is not used as a potable water supply either adjacent to or downstream of the Property, non-drinking water standards are applicable.

Statewide water quality criteria for the protection of aquatic life are also available in OAC Rule 3745-1-07. The Mad River is designated as a warm water habitat. The Mad River is also part of the Ohio River drainage basin. Ohio River Aquatic Life Tier I and Tier II Values have been developed by the OEPA Division of Surface Water (August 21, 2008) pursuant to OAC Rules 3745-1 and 3745-2. Water quality criteria provided include inside mixing zone maximum (IMZM), outside mixing zone maximum (OMZM), and outside mixing zone average (OMZA).

Per Technical Guidance Compendium VA30008.09.003, ***"****compliance with generic surface water standards can be demonstrated when ground water or surface water on or emanating from the property meet the chemical-specific OMZA value listed in OAC 3745-1." "The OMZA criteria for human health, aquatic life, and wildlife should be compared against ambient samples averaged over a 30-day period. Single ambient samples are <u>not</u> to exceed the OMZM. If all chemical constituents are below their corresponding chemical criteria, then the surface water may be*

eliminated as an exposure medium. If chemical constituents exceed their corresponding chemical criteria, then the surface water shall be further assessed within a PSRA".

Table 43 (upper aquifer), **Table 44** (till-rich zone), and **Table 45** (lower aquifer) present a comparison of the maximum detected groundwater sample results (all wells) to the applicable human health criteria and aquatic life criteria for the protection of ecological resources. This evaluation included wells outside the Property. No documentation of surface water discharge from the till-rich zone or lower aquifer to the Mad River has been identified. Although the upper aquifer is known to discharge to the Mad River, not all of the upper aquifer wells are representative of groundwater concentrations that would be discharging to the river. Applicable upper aquifer well locations are discussed further below.

TCE exceeded the OMZA in one off Property till-rich zone monitoring well (MW54-06, which is located just west of the Property); the concentration does not exceed the OMZM. Migration of groundwater in the till-rich zone is primarily downward. No till-rich zone wells on Property exceed surface water criteria.

Selenium exceeded the OMZA in one lower aquifer monitoring well (DAY-22; December 2004). This well is located just upgradient of the Property. The selenium concentration was non-detect in this monitoring well during a subsequent sampling event (May 2006). Migration of groundwater in the lower aquifer is regionally to the southwest. No lower aquifer wells on Property exceeded surface water criteria.

Criteria that were exceeded in on Property wells in the upper aquifer included:

- PCE – human health and aquatic life (IMZM, OMZM, OMZA)
- TCE– human health and aquatic life (OMZA)
- Cis-1,2-DCE – aquatic life (IMZM, OMZM, OMZA)
- 1,1-DCE – human health
- o-Xylene and Vinyl chloride – aquatic life (OMZA)
- PCBs (Aroclors 1254 and 1248) – human health
- Barium, copper, and cyanide – aquatic life (OMZA)

PCE was measured above OMZA criteria in MW-14B-04, MW23-04, and MW-37-05 and above IMZM criteria in MW-23-04 and MW-37-05. PCE was not measured above the IMZM in the most

recent samples (May 2015) from these monitoring wells. PCE in MW23-04 (516 micrograms per liter [µg/L]) slightly exceeded the OMZM (430 µg/L) in May 2015. PCE was also measured above human health criteria in MW-23-04 and MW-37-05.

TCE was measured in two monitoring wells (MW-23-04 and MW-37-05) at a concentration that exceeded OMZA aquatic life criteria but did not exceed OMZM and IMZM. TCE in MW23-04 only slightly exceeded OMZA in May 2015.

Cis-1,2-DCE was detected in two monitoring wells (MW-23-04 and MW-37-05) at a concentration that exceeded aquatic life criteria. The concentration in MW-23-04 only exceeded the OMZA during the most recent sampling event in May 2015. The concentration in MW-37-05 exceeded the OMZA criteria in June 2005 but did not exceed the OMZA criteria in November 2006 and September 2012. Based on current potentiometric data, MW-23-04 is located approximately 300 ft upgradient of the Mad River.

The 1,1-DCE concentration in MW-23-04 (39.4 µg/L) slightly exceeded the human health criteria (32 µg/L) in September 2012 but did not exceed in the most recent sample (9.41 µg/L) collected in May 2015. The o-xylene concentration in one monitoring well (MW-23-04 [50.4 µg/L]) exceeded the OMZA criteria for total xylenes (27 µg/L) in September 2012 but did not exceed in the most recent sample (7.41 µg/L) collected in May 2015. The vinyl chloride concentration in one monitoring well (MW-23-04 [3,480 µg/l]) exceeded the OMZA criteria (930 µg/L) in September 2012 and December 2014 (2,980 µg/L) but did not exceed in the most recent sample collected in May 2015 (456 µg/L).

The total PCB concentrations were elevated above the Ohio River basin non-drinking water quality criteria and the GUPUS in monitoring wells MW-12A-03 and MW-3-02. Only PCB-Aroclor 1254 was detected in samples collected from these wells. Due to the distance to the river, the lack of PCB-Aroclor 1254 in monitoring wells downgradient of MW-12A-03 and MW-3-02 and the tendency for PCBs to sorb to sediments, discharge of PCB-Aroclor 1254 to the river is not expected.

Maximum total concentrations of barium, copper and cyanide exceed OMZA aquatic life criteria but do not exceed OMZM aquatic life criteria. While, elevated total concentrations of barium were

observed in MW12A-03, MW14-03, MW14A-03, MW24-04, MW25-04, and MW26-04, dissolved concentrations of barium do not exceed OMZA aquatic life criteria. Dissolved concentrations of copper do not exceed OMZA aquatic life criteria. Elevated cyanide was observed in MW14-03; this well is not directly adjacent to the river and cyanide was not detected in downgradient wells. Therefore, discharge of these metals to the river at elevated concentrations is not expected.

The upper aquifer monitoring wells MW-23-04 and MW-37-05 are on the northwest side of the property, approximately 100 ft south of the river. Based on current potentiometric data indicating a northwesterly groundwater flow direction, these wells are located approximately 300 ft upgradient of the Mad River. Biodegradation of VOCs through anaerobic reductive dechlorination is expected based on the detection of breakdown products at both wells, which would reduce chemical concentrations prior to discharge. Using the BIOCHLOR model (**Appendix G**) and a worst case distance of 100 ft to surface water (which assumes a more northerly direction of groundwater flow than anticipated), the most recent (May 2015) concentrations of TCE, PCE, vinyl chloride, and cis-1,2-DCE in MW-23-04 were not predicted to discharge to surface water at concentrations exceeding the OMZA surface water criteria (under the decaying source scenario). Upper unit monitoring well MW37-05 is in close proximity to MW-23-04, and contained PCE above the OMZA surface water criteria on multiple events. The most recent PCE detection (2012) was lower than the MW-23-04 concentration used in the model. No other upper unit wells along the north property line (i.e., closest to the river) contained these CVOCs above the OMZA.

This PSRA evaluates data through May 2015. However an additional monitoring well was installed downgradient of MW-23-04 and MW-37-05, and upgradient of the Mad River in 2018. A complete RAP will be submitted at a later date with the objective of achieving No Further Action (NFA) under the Ohio VAP for the entire Property. This data will be evaluated in the RAP. Decisions on remedial measures for this area will be made following evaluation of additional potentiometric and water quality data obtained from this new monitoring well, as well as surface water sampling results from the Mad River.

5.2 PROPERTY-SPECIFIC RISK ASSESSMENT

This subsection evaluates those exposure pathways, exposure routes, and receptor populations that are not considered in the generic standards. Chemicals lacking generic standards are evaluated in this PSRA. In addition, direct contact by workers with groundwater used for geothermal heating and cooling and VI from soil and groundwater to indoor air are described herein in more detail because these are non-default exposure pathways. Off-property non-potable use of groundwater is not addressed in this PSRA. The Tech Town redevelopment extends beyond the Property to the west, so groundwater concentrations on the property to the west (Dayton Technology Campus, also known as West Phase) could impact off-property groundwater concentrations. A complete RAP for the entire Property will be submitted at a later date that will evaluate the off-Property non-potable direct contact uses for both the East Phase and the West Phase.

5.2.1 Soil Risk Estimates for Commercial/Industrial Exposure to Chemicals Lacking GDCSS

The VAP has not developed a generic standard for manganese, which was detected in soil with a potential risk contribution greater than 1%. The OEPA Residential Risk Calculator was used and adjusted accordingly to evaluate commercial/industrial worker direct contact with this COC in soil. All chemical-specific values and toxicity values provided in the calculator were adjusted to ensure they agreed with values for this COC provided in the U.S. EPA June 2015 RSL tables (U.S.EPA. 2015b). The risk calculator is provided in **Tables 46a** through **46c**. The non-cancer risk from direct contact with maximum manganese concentrations in the C Area EU (0.04), the N Area EU (0.2), the P Area EU (0.1), the CTA EU (0), and the Greenspace EU (0.04) do not exceed the hazard quotient (HQ) threshold of one (**Table 46c**). Manganese is not considered to be carcinogenic, so cancer risk estimates are not presented. Adding the non-cancer risk from manganese to the cumulative non-cancer risk ratios discussed in **Subsection 5.1.1.1** would not result in increasing cumulative non-cancer risk ratio above the threshold of one in any of the EUs. Thus, manganese does not pose an unacceptable risk to commercial/industrial workers

5.2.2 Groundwater Risk Estimates for Chemicals Lacking GUPUS

GUPUS are not available for all COCs and analytes detected in groundwater. GUPUS were not available for aluminum, caprolactam, chloride, iron, manganese, nitrate, nitrite, sulfate, and sulfide in the upper unit and methane, iron, manganese, chloride, nitrate, sulfate, and sulfide in the till-rich unit and strontium in the lower unit. Other sources of screening levels were consulted including the OEPA secondary standards (OAC Chapter 3745-82) and U.S. EPA RSLs for tap water (U.S. EPA. 2015b). The OEPA secondary standards provide the advisable maximum level of a contaminant in water which may cause aesthetic issues such as taste, color, and odor. Contaminants are not considered to present a risk to human health at the secondary standard. The U.S. EPA RSLs are also risk-based numbers for an extensive list of chemicals, though the RSLs are based on a target cancer risk of 10^{-6} and ingestion and inhalation exposure routes.

Table 37 presents the non-cancer risk contributions of the groundwater constituents lacking MCLs; none of these groundwater constituents are classified as carcinogens. When compared to GUPUS, residential tap water EPA RSLs, and secondary MCLs (SMCLs), the cumulative non-cancer risk ratio did not exceed one for the lower unit (0.4) or the till-rich unit (0.8). Further evaluation of these chemicals is not needed. For the upper unit, the cumulative non-cancer risk ratio (7) exceeds one; further evaluation of iron and manganese is needed. Iron and manganese naturally occur in groundwater. Iron concentrations up to 17,200 µg/L and manganese concentrations up to 1,810 µg/L have been measured in ambient wells in sandstone aquifers in Ohio (OEPA, 2000). Further evaluation of iron and manganese is not needed as these metals are considered to be at ambient levels. While chloride and sulfate also contribute, SMCL for these constituents was not exceeded and further evaluation is not needed for chloride and sulfate. Excluding iron, manganese, chloride, and sulfate, the resulting non-cancer risk ratio (1) does not exceed the threshold of one.

5.2.3 Groundwater Risk Estimates for Geothermal Heating/Cooling

The lower unit groundwater is currently used for geothermal heating and cooling. A geothermal well is located on the Property at the CTA Area EU. The well is part of the heating, ventilating, and air conditioning (HVAC) system. The well is triple-cased and was drilled using cable tool

drilling technology. A pilot hole was drilled using rotosonic technology to accommodate continuous soil logging. The purpose of the pilot hole was to identify the depth to competent till segregating the upper aquifer from the lower to ensure the isolation casing was placed at an appropriate depth.

The groundwater is extracted, pumped through heat exchangers and discharged to the storm sewer. It is a non-contact system, though there could be incidental contact during maintenance or at the point of discharge. Maintenance workers may be exposed to contaminants in groundwater for a short period of time. Because there are no applicable generic standards for direct contact with groundwater for geothermal heating/cooling activities, standards are derived in this subsection for this Property. For reasonably anticipated geothermal heating/cooling activities on the Property, dermal contact and inhalation are the primary exposure routes of interest. Incidental ingestion of groundwater is considered to be sporadic and difficult to quantify. The method for evaluating the inhalation pathway for groundwater exposures is dependent on the reasonably anticipated maintenance activity and property specific characteristics.

Annual monitoring of the discharge for VOCs was conducted pursuant to the requirements of the NPDES permit from March 2010 through 2014. The NPDES permit is no longer required since the discharge is covered under the General Permit. VOCs were not detected in the discharge. The Geothermal well was tested for metals in May 2009 and in October 2014. Several metals were measured above the detection limit but below MCLs and GUPUS/RSLs (**see Tables 36 and 37**). Thus, analytical data for the geothermal wells demonstrates that there is no potential for exposure to COPCs from this non-potable use.

To assess future exposure to the lower aquifer, dermal exposures were modeled using the algorithm for dermal intakes in the development of the generic unrestricted potable use standards. See *"Support Document for the Development of Generic Numerical Standards and Risk Assessment Procedures, August 2014"* for more information. Default exposure assumptions for a construction/excavation worker, as listed in the *Support Document for the Development of the Generic Numerical Standards and Risk Assessment Procedures* (OEPA, 2014a), were applied for the geothermal heating/cooling maintenance worker, including the following:

- Exposure Time – 1 hour/day
- Exposure Duration – 1 year (yr)
- Exposure Frequency – 120 days/yr
- Skin surface area exposed – 3,300 square centimeters (cm^2)

In addition, the OEPA Residential Risk Calculator was used and adjusted accordingly to evaluate worker dermal contact with groundwater. The dermal exposure time in the risk calculator is based on a shower time of 35 minutes; however, an exposure time of 1 hour per day was applied for this maintenance worker scenario. All chemical-specific values and toxicity values provided in the calculator were adjusted to ensure they agreed with values provided in the OEPA CIDARS table (June 2015; May 2017). The risk calculator is provided in **Table 47a** for chemicals exceeding MCLs/GUPUS in the lower aquifer, which was only vinyl chloride. For maximum concentrations in the lower aquifer, the cumulative cancer risk from dermal contact was $5x10^{-9}$ and the total non-cancer HI is 0.0002. These risk estimates do not exceed the OEPA's target excess cancer risk of $1x10^{-5}$ and the target HQ of one. Thus, chemicals of potential concern (COPCs) in the lower aquifer do not pose a potential unacceptable risk though dermal exposure while maintaining a geothermal heating/cooling system.

To estimate risk from the inhalation of vapors released while maintaining a geothermal heating/cooling system, the USEPA's online RSL calculator was used to develop inhalation screening levels for the maintenance worker (**Appendix E**). The USEPA's default volatilization factor of 0.5 liters per cubic meter (USEPA, 2015b) based on all residential uses of water was conservatively used to estimate air concentrations. The sum of ratios approach was used to estimate non-cancer and cancer risk from the maximum detected groundwater concentrations (**Table 47b**). For maximum concentrations in the lower aquifer, the cumulative cancer risk from inhalation was $9\ x10^{-6}$ and the total non-cancer HI is 0.0003. These risk estimates do not exceed the OEPA's target excess cancer risk of $1x\ 10^{-5}$ and the target HQ of one.

Discharge from the system is subject to permitting requirements, and evaluation of such discharge permitting is not included in this PSRA. Off-property non-potable use of groundwater is not addressed in this PSRA. A complete RAP for the entire Property will be submitted at a later date that will evaluate the off-Property non-potable direct contact uses for both East Phase and West Phase.

5.2.4 Groundwater Risk Estimates for Vapor Inhalation in a Trench

Inhalation of vapors from groundwater released in a trench is evaluated as a potentially complete exposure pathway for construction/excavation workers given the potential depth of groundwater in the upper aquifer and the COCs in groundwater. This pathway is not addressed by the U.S. EPA VISL calculator spreadsheet (**Appendix E**). Therefore, the Virginia Department of Environmental Quality (VADEQ) Virginia Unified Risk Assessment Model VURAM VERSION: 1.12 (VADEQ, 2016) was used to model vapor emissions from groundwater in a trench and to calculate risk estimates for construction worker inhalation of vapors released from upper zone groundwater. The VURAM volatilization factor model for indirect contact with groundwater greater than 15 ft was used, which considers inhalation exposure by a worker for:

- Construction Worker Total Time which construction occurs (365 days)
- Trench Construction Worker Exposure Time Inhalation (0.17 hour/day)
- Construction Worker Air Exposure Frequency (250 days/yr)
- Trench Construction Worker Events Frequency (1 event/day)

The VURAM detailed reports are provided in **Appendix F** and the risk estimates are summarized in Table F-1 and Table F-2. Risk estimates were initially calculated for the maximum detected groundwater concentrations of VOCs (all wells and all sample dates). The cumulative cancer risk is $1.1x10^{-5}$ and the non-cancer HI was 11, which exceed OEPA thresholds. Maximum concentrations of TCE, PCE, and vinyl chloride were the risk drivers; all other COPCs had risk estimates < $1x10^{-7}$ or HQ < 0.1. Risk estimates were also calculated for individual concentrations of these VOCs from the most recent sampling data for MW23-04, MW37-05, and MW-9-03 (Table F-1). The concentrations of these VOCs in all other wells on the Property were below concentrations measured in these three wells. Only MW23-04 had a non-cancer HQ exceeding OEPA threshold of 1 (non-cancer HQ = 2). All cancer risk estimates for the individual wells did not exceed the OEPA cancer threshold of 1E-05. Based upon this evaluation, volatile COCs in the Greenspace EU may present an unacceptable risk to a construction worker in a trench under a long-term construction scenario. Most utility repairs would be short-term (about 10 days), which would reduce the non-cancer risk to below the threshold of one.

5.2.5 Soil and Groundwater-to-Indoor Air Risk Estimates

VI is the movement of VOCs from subsurface contamination into buildings. VOCs in affected soil or groundwater can emit vapors that may migrate through subsurface soils and into indoor air spaces of overlying buildings. Transfer of vapors into buildings can occur by simple diffusion through cracks or seams in subsurface walls or floors, or by convection that may be driven by pressure differentials between air inside and outside the buildings. The potential for VI may exist for buildings that overlay soil and/or groundwater that are impacted with VOCs, regardless of the presence or absence of a basement (OEPA, 2005). For future buildings not to be considered a candidate for VI, the buildings must be greater than 100 ft away laterally or vertically from subsurface contamination (U.S. EPA, 2015a). If the buildings meet the criterion specified above, then VI may not be considered to be a pathway of concern. To determine if a building is far enough laterally from a VOC plume, the horizontal distance from the edge of the building to the edge of the contaminant plume should be greater than 100 ft. Therefore, the potential for VI must be considered for all future buildings on the Property.

5.2.5.1 Vapor Intrusion Pathway Data Evaluation

Soil and groundwater samples collected from the site have been documented to contain VOCs. Site redevelopment plans include commercial buildings and a parking facility. The OEPA considers modeling the VI pathway from bulk soil to be out of date and no longer considered appropriate guidance for projects seeking cleanup under any of their programs (OEPA, 2016). The USEPA (2015a) does not currently recommend bulk soil sampling for estimating the potential for VI to pose unacceptable human health risk in indoor air. Soil gas samples are recommended to evaluate the soil to indoor air pathway. Soil gas samples were not collected from the Property prior to 2017. Results from soil gas samples collected in 2017 will be included in a subsequent PSRA addendum. Therefore, only the groundwater VI pathway is evaluated in this subsection. Further evaluation of the soil to indoor pathway or a presumptive remedy may be implemented to address this pathway.

While all groundwater samples were not collected within the proposed building areas, all samples are considered in the initial evaluation of this exposure pathway. All chemicals detected in

groundwater samples within the Property that have an indoor air standard listed in CIDARS are considered as COPCs for the subsurface VI pathway.

Groundwater to indoor air screening levels were developed using the U.S. EPA (June 2015a) VISL spreadsheet. The VISLs were adjusted to an average groundwater temperature of 11 degrees Celsius (ºC) (OEPA, 2010) and assumed a commercial/industrial worker exposure scenario. In addition, the VISL spreadsheet was adjusted to use OEPA indoor air standards instead of toxicity values provided in the U.S. EPA VISL spreadsheet. Since the OEPA indoor air standards are based on a cancer risk level of $1x10^{-5}$ and a target HQ of 1, the revised VISL are also based on these thresholds. The revised VISL spreadsheet is provided in **Appendix E.**

VI Pathway Results for On-Site Groundwater

The maximum site-wide groundwater concentrations in the upper aquifer were compared to VI screening levels for groundwater based on a cancer risk level of $1x10^{-6}$ and a target HQ of 0.1 for the initial screening (**Table 48**) and determination of volatile compounds to be evaluated further for the VI pathway. For this initial screening, the revised VISL values were divided by a factor of 10 to present values based on these thresholds**.** Maximum detected concentrations of chloroform, TCE, PCE, and vinyl chloride exceeded these conservative screening levels. Thus, CVOCs in groundwater pose a potential risk through subsurface VI into an on-site building under the future commercial/industrial land use scenario. Concentrations of these CVOCs measured in individual monitoring wells were compared to the revised VISLs and are discussed below.

Based on all data for each monitoring well (**Table 49**), PCE exceeds the VISL of 551 µg/L in MW-23-04 and MW37-05. TCE exceeds the VISL of 44.5 µg/L in MW23-04, MW25-04, MW26-04, and MW37-05. Vinyl chloride exceeds the VISL of 37.3 µg/L in MW14-03, MW23-04, and MW9-03.

Based on the most recent data for each monitoring well (**Table 50**), the total risk ratio exceeds one for MW23-04, MW37-05, and MW9-03. These wells are located in the northwest corner of the Property, within Greenspace Area EU. Thus, TCE, PCE, and vinyl chloride in groundwater would pose a potential risk through subsurface VI into a future on-site workplace built within the Greenspace Area EU. Currently there are no plans for future buildings in the Greenspace Area EU.

Cumulative risk ratio calculations for groundwater volatilization to indoor air are included in **Appendix H**. Risk calculations were completed for the CTA Area EU which is the only EU with an existing structure on the Property. DAY-20 is the only upper aquifer monitoring well in the CTA Area. The most recent concentrations from this well (2006) were used for this area. The cumulative risk ratios do not exceed the threshold of 1, indicating CVOCs in DAY-20 groundwater do not pose a potential risk through subsurface vapor intrusion.

Off-Site VI Pathway Evaluation

The potential for vapor producing chemicals in on-site groundwater to impact off-site indoor air is evaluated in this subsection. There are no occupied buildings on the property immediately to the east of the site; groundwater flow is northwesterly, toward the river. For future buildings not to be considered a candidate for VI, the buildings must be greater than 100 ft away laterally or vertically from subsurface contamination (U.S. EPA, 2015a). Based on the most recent data for each monitoring well (**Table 50**), the total risk ratio for groundwater VI to indoor air exceeds one for wells MW23-04, MW37-05, and MW9-03. These monitoring wells contain TCE, PCE, and vinyl chloride at concentrations that exceed risk-based concentrations for protection of indoor air. These monitoring wells are located in the northwest corner of the Property, within Greenspace Area EU. Future off-site buildings within 100 ft of these wells have potential for indoor air impacts. Although the Master Plan currently indicates two potential buildings in this area, there are no current plans to proceed with these buildings. Additionally, the adjacent property (known as West Phase) is undergoing a voluntary action that will include an institutional control to ensure VI risk is addressed, as warranted, prior to occupancy of the buildings. The potential for CVOC concentrations emanating from the areas of MW23-04, MW37-05, and MW9-03 and impacting future off-property buildings beyond the West Phase is not addressed in this PSRA. The RAP for the Property will be submitted at a later date that will evaluate the off-Property VI exposure for both the East Phase and the West Phase.

5.3 UNCERTAINTY ANALYSIS

The goal of an uncertainty analysis in a risk assessment is to provide the appropriate decision makers (i.e., risk managers) a wide range of information about the key assumptions, their inherent

uncertainty and variability, and the impact of this uncertainty and variability on the estimates of risk. The uncertainty analysis should show that risks are relative in nature and do not represent an absolute quantification. This is an important point that is vital to the proper interpretation and understanding of the risks presented in this evaluation. Primary uncertainties related to the PSRA for the Property are described below.

- The PSRA is based on available data which, based on current practice, are assumed to be adequate. For site-specific risk assessments, as the number of sampling points increase, the uncertainty about the true distributions of values decreases. Even with a large number of sampling locations, it is impossible to conclude definitively that concentrations above those measured do not exist at the site.

- There are a number of exposure-related assumptions used in PSRA that are likely to result in significant uncertainty. In most cases, this uncertainty overestimates the realistic exposures, and therefore, overestimates the risk. This is appropriate when performing risk assessments of this type so that the risk managers can be reasonably assured that the risks to the public are not underestimated, and so that risk assessments for different locations and different scenarios can be compared. Much of the uncertainty involves the use of standard exposure factors relating to a soil ingestion rate, frequency of exposure, etc. These factors are designed to cover reasonably maximum exposed individuals who are at the site for many years. It is very likely that an actual individual would be exposed to a lesser degree than the reasonable maximum, and possibly a significant lesser degree.

- Only chronic RfDs, which are developed to evaluate potential toxicity at greater than 7 years of exposure, were used in estimating non-carcinogenic HIs for short-term construction workers. Subchronic RfDs are sometimes used to evaluate subchronic exposures of a duration ranging from 2 weeks to 7 yrs, which may be more appropriate to address construction worker (less than 1 yr) exposure. However, chronic RfDs were conservatively used to evaluate all exposure pathways as recommended by U.S. EPA (U.S. EPA, 2005). The use of chronic RfDs to evaluate short-term exposures may have resulted in an overestimation of risk to future construction workers. Chronic RfDs are developed assuming a lifetime daily exposure.

- The Ohio VAP (OAC 3745-300-08) specifies the ground surface to a minimum depth of 2 ft as the point of compliance for applicable standards for Commercial/Industrial Land Use. When measuring soil contamination levels at the surface for the ingestion and inhalation pathways, the 0 to 2 ft depth interval is usually considered surface soil. Soil samples were collected at depths ranging from 0 to 31 ft bgs. Should major soil disturbances occur as a result of landscaping, gardening, or construction activities, there is a potential for contaminants that were at depth to be moved to the surface, and thus change the estimation of risk. Therefore, measures should be taken to avoid causing subsurface soil to be exposed or introduced to the 0 to 2 ft bgs interval unless further evaluation is performed that determines the soil meets applicable GDCSS. To accommodate minor grade changes (i.e.

< 1 ft), the surface soil evaluation herein included a one-ft buffer below the point of compliance (i.e. 0 to 3 ft bgs). With a few isolated exceptions identified in the Phase II Property Assessment Report (WESTON, 2020), grade changes on the Property conducted in the recent past have increased or resulted in no net change to the surface elevations. Thus, the grade changes are deemed either to have no significant impact on the assessment of risk for the point of compliance or to result in an overestimation of risk (i.e., clean cover material not factored into the evaluation).

- Default estimates of plume length were used in the BIOCHLOR model to estimate longitudinal dispersivity and to predict groundwater concentrations downgradient of the site. The actual plume length may be longer than estimated, resulting in greater dispersion.

- Biodegradation is occurring at the property, as demonstrated by the decreasing TCE and PCE concentrations measured in 2002 through 2015 and the presence of daughter products (cis-1,2-DCE, vinyl chloride, and ethene). A sensitivity analysis was included in the BIOCHLOR modeling as solute transport was considered without decay and with biotransformation modeled as a sequential first-order decay process. Biodegradation rate constants (λ) are used in solute transport models to characterize the effect of biodegradation on contaminant migration (Newell et al., 2002). When BIOCHLOR was used to predict the contaminant concentration in groundwater at the source area that will result in GUPUS being met at ½ mile downgradient from the Property boundary, the source area concentrations for PCE, TCE, and cis-1,2-DCE took into consideration that GUPUS needed to be met for both the contaminant and its degradation products (e.g., vinyl chloride). The first-order degradation rate coefficient (yr-1) used for the property (0.35/yr for PCE; 0.15/yr for TCE; 0.088/yr for cis-1,2-DCE; and 0.087/yr for vinyl chloride) are below the minimum rate constants provided in the BIOCHLOR manual, which are 0.8/yr for PCE, 0.3/yr for TCE, 0.1.yr for cis-1,2-DCE, and 0.4/yr for vinyl chloride (Aziz et al., 2002). Using the maximum detected CVOC concentrations, a sensitivity analysis using these alternative degradation rates shows a decrease in predicted concentrations at ½ mile from the property line (**Appendix C)**. For example, the estimated TCE concentration decreased from 0.118 milligrams per liter (mg/L) to 0.031 mg/L. Therefore, the first order degradation rate coefficients used in the BIOCHLOR modeling represent conservative values that may underestimate biodegradation.
- The hydraulic conductivity (K) ranges in each unit (e.g., in the upper ground water unit, K ranged from 3.5E-02 cm/sec to 1.4E-01 cm/sec). The geometric mean of K values for the upper unit (7.0E-02 cm/sec) was used in the BIOCHLOR modeling to predict the CVOC concentration at ½ mile from the property line. Using the maximum detected CVOC concentrations, a sensitivity analysis (**Appendix C**) using these alternative K rates (i.e., upper and lower end of K values) shows a decrease in predicted CVOC values at the lower K value (3.5E-02 cm/sec) and an increase in predicted CVOC concentrations at the higher K value (1.4E-1 cm/sec). For example, the estimated TCE concentration ranged from 0.031 mg/L at the lower K value (3.5E-02 cm/sec) to 0.118 mg/L at the geometric mean K value (7E-02 cm/s) to 0.193 mg/L for the higher K value (1.4E-01 cm/sec). Thus, use of geometric mean K value in BIOCHLOR modeling accounts for the variability in the upper aquifer hydraulic conductivity and represents the average contaminant migration rate.

- The BIOCHLOR modeling was completed using two source scenarios; continuous source and decaying source. Continuous source provides a worst-case assumption, but is not representative of site conditions since groundwater analytical data indicates a decaying source. The source decay constant, ks is different from the biotransformation constant (λ). The source decay constant describes how the concentration in a source area well decreases as the dense non-aqueous phase liquid (DNAPL) or other residual source material is depleted of the constituent of concern (i.e. it is the reduction in contaminant concentration over time at a single point). Rather than use default values for the source decay constant, Site-specific values were calculated. The source decay constant, ks (1/yr) is derived as the slope of the natural log concentration vs. time curve measured at a selected monitoring location (Newell et al. 2002). The TCE concentrations in well MW-43, MW-56, and MW-57 were used to estimate the decaying source constant and the plots are provided in **Appendix C**. These locations were selected due to their location outside of the areas of active treatment. The lowest of these values (Kpoint = 0.0493) was used in the BIOCHLOR model. This value is less than the 0.15 value noted by Newell et al. (2002) for 37 TCE plumes around the U.S. and the 0.2 default value in BIOCHLOR. For the lower zone and till-rich zone, concentrations of COC did not exceed GUPUS at ½ mile from site when a decaying source is assumed (**Appendix C**). For the maximum detected COC concentrations in the upper zone, concentrations of vinyl chloride are predicted to exceed GUPUS at ½ mile from site when a decaying source and biodegradation is assumed (**Appendix C**). For the more recent May 2015 COC concentrations in the upper zone, COC concentrations did not exceed GUPUS at ½ mile from site when a decaying source and biodegradation is assumed (though vinyl chloride exceeded GUPUS at the lower end of the range of conductivities used in the sensitivity analysis) (**Appendix C**). As no DNAPL has been documented and facility operations have ceased, applying the BIOCHLOR model using a decaying source is appropriate for the site. The calculated source decay constant is more conservative than literature values or default values, but provides a better representation than assuming no decay. Excluding groundwater discharge to surface water, and assuming limited decay at the source areas, off-site groundwater migration at concentrations exceeding GUPUS at ½ mile from the site is not expected to be of concern.

- For the groundwater discharge to surface water exposure pathway, BIOCHLOR modeling was conducted using two scenarios (continuous and decaying source). Additional sensitivity evaluation was done under each scenario assuming a range of conductivities and two different first order degradation rate coefficients. For the COC concentrations in the upper zone (**Appendix G, Table G-1**), the continuous source scenario predicted that the most recent (May 2015) concentrations of TCE, PCE, vinyl chloride, and cis-1,2-DCE in MW-23-04 (well closest to the river) would discharge to surface water at concentrations exceeding the OMZA surface water criteria. COC concentrations did not exceed OMZA criteria when a decaying source is assumed. Based on the observed decreasing concentration trends for PCE and TCE at MW-23-04 (see **Table 34**), applying the BIOCHLOR model using a decaying source is appropriate. Groundwater from the site discharging to surface water at concentrations exceeding OMZA is not expected to be of concern.

- Migration-adjusted LBSVs were determined using the BIOCHLOR model assuming a continuous source (worst-case) and decaying source (likely-case) to predict the contaminant concentration in groundwater at the source area that will result in GUPUS being met at ½ mile from the Property boundary. Potential soil source areas on the Property were then identified that could cause GUPUS to be exceeded at ½-mile from the Property boundary (excluding groundwater discharge to surface water). For PCE, TCE, and cis-1,2-DCE, the predicted concentrations consider that GUPUS is met for both the contaminant and its degradation product (i.e., vinyl chloride). This predicted concentration was then incorporated as the allowable groundwater concentration in the LBSV calculation to determine the concentration in soil that would leach to groundwater at this concentration (**Appendix D, Table D-1** and **Table D-2**). The migration-adjusted LBSV increased from 360 µg/kg (assuming a continuous source) to 24,000 µg/kg (assuming a decaying source) for cis-1,2-DCE; from 1,200 to 80,000 µg/kg for PCE; from 1,030 to 60,000 µg/kg for TCE; and from 200 to 15,000 µg/kg for vinyl chloride. Detected cis-1,2-DCE and vinyl chloride concentrations did not exceed the decaying source, migration-adjusted LBSV. PCE exceeded the decaying source, migration-adjusted LBSV in one sample in C Area EU (SB154-04). TCE exceeded the decaying source, migration-adjusted LBSV in one sample in C Area EU (SB74-03), one sample in N Area EU (SB145-04), and two samples in P Area EU (MW26-04 and SB73-03). These scenarios do not account for the likely groundwater discharge to surface water that would prevent migration of COCs beyond the Mad River.

- A site-specific organic carbon content was not used to develop site-specific LBSVs. *TGC VA30007.14.001 - Sampling and Analysis of Fraction Organic Carbon (foc) in Soils* (OEPA, 2014b) provides detailed methods for collecting, analyzing, and calculating a property specific foc. While foc sample results are available for soil collected on or in close proximity to the Site, these samples were collected prior to issuance of this guidance. The lower 95% confidence interval of foc in site samples is 0.009. Use of this foc would increase the site-specific LBSV (**Appendix D, Table D-3**).

6. SUMMARY AND CONCLUSIONS

The purpose of this document is to provide a PSRA for the Property. The Property is undergoing development for commercial or light industrial land use. Reasonably anticipated current and future receptors that were evaluated included:

- Adult commercial workers employed at current and future businesses;
- Construction workers responsible for development of the Property and ongoing maintenance;
- Visitors and patrons to the current and future establishments on the Property or accessing the Property via the Greenspace Area (levee and bikeway). Exposure of these receptors would be considerably less than on-site workers and measures to protect on-site workers would be protective of visitors/patrons/recreational users;
- Workers and occupants of adjacent properties having the potential to be exposed to COCs from the Property through the non-potable use of groundwater or through migration of vapors from groundwater into indoor air;
- Recreational users of the adjacent river that have the potential to come into contact with COCs that may be emanating from the Property via the groundwater discharge to surface water (through fish consumption or incidental contact); and
- Important ecological resources of the adjacent Mad River.

The Property was divided into five EUs (C Area EU, P Area EU, N Area EU, CTA Area EU, and Greenspace Area EU) for risk evaluation purposes. This PSRA evaluates those chemicals not listed in the generic default standards tables, as well as exposure pathways, exposure routes, and receptor populations that are not considered in the generic standards. The PSRA conclusions for receptors that have potential unacceptable risk are summarized below and presented in **Table 51**.

Mercury is present above the soil saturation concentration in one location in Area C EU (SB-156-04). TPH was detected above BUSTR Class 1 generic petroleum standards that are based on saturation concentrations in one location (091216-5) in C Area EU (**Figure 7**). The soil at 091216-5 meets criteria for classification as BUSTR Class 1. Remedial measures are warranted to address TPH and mercury.

Adult Commercial Workers Conclusions

The adult commercial worker receptor has risk of exposure via the following pathways:

- Soils – Direct Contact: C Area - Remedial or risk mitigation measures are warranted to ensure protection of commercial/industrial workers to surface soil within the point of compliance in portions of the C Area. Additionally, maintenance of the point of compliance (i.e., 0 to 3 ft bgs inclusive of buffer) is required based on cumulative surface plus subsurface soil results in the Greenspace Area, N Area and P Area.
- Soils – VI to Indoor Air - The PSRA did not evaluate the soil to indoor air exposure pathway. This exposure pathway should be assessed through soil gas sampling of the Property or alternatively a presumptive remedy could be implemented for the Property to address this pathway.
- Groundwater – Upper Unit – VI to Indoor Air – Remedial or risk mitigation measures are required to mitigate potential risk to indoor air for future on-site buildings within 100 ft of VOC-impacted groundwater in the northwest corner of the site (within Greenspace Area).

Construction Worker Conclusions

The construction worker receptor has risk of exposure via the following pathway:

- Soils – Direct Contact: N Area, P Area, and the Greenspace Area – Remedial or risk mitigation measures are warranted to ensure protection of construction workers to surface/subsurface soil.
- Soils – C Area - Remediation is required for TPH and mercury that exceed soil saturation standards
- Groundwater – Inhalation: Greenspace Area - Remedial or risk mitigation measures are warranted to ensure protection of construction workers to vapor migrating from upper aquifer groundwater in the northwest corner of the site (within Greenspace Area in the vicinity of MW-23-04).

Workers and Occupants of Adjacent Properties Conclusions

The workers and occupants of adjacent properties receptor have risk of exposure via the following pathways:

- Soils – Leaching to Groundwater: C Area, N Area, and P Area – Although five discrete locations exceeded the site-specific migration-adjusted LBSVs for protection of groundwater at the ½ mile point of compliance (based on the USD), this derivation did not account for shallow groundwater discharge to surface water. Leaching of residual soil impact at these five locations would impact shallow groundwater. Further evaluation is

required to evaluate groundwater discharge to surface water and ensure soil leaching to groundwater is not impacting surface water above applicable standards.

- Groundwater – Non-potable use – Particularly for those locations in close proximity to the river, shallow groundwater is expected to discharge to surface water prior to reaching the ½ mile point of compliance. For deeper groundwater, the BIOCHLOR modeling predicts off-site groundwater migration will not exceed GUPUS at ½ mile from the Property. Additional data collection downgradient of monitoring well MW-23-04 is planned to validate the model. The adjoining property to the west is undergoing a voluntary action; groundwater use restrictions are expected to be implemented as part of the Remedial Action Plan (RAP) for that property. Risk associated with other non-potable uses of upper aquifer groundwater off-Property have not been evaluated as part of this PSRA and should be evaluated using data from the adjoining property. A complete RAP for the entire Property will be submitted at a later date that will evaluate the off-Property non-potable direct contact uses for both the East Phase and the West Phase.
- Groundwater – Upper Unit –VI to Indoor Air – Remedial or risk mitigation measures are required to mitigate potential risk to indoor air for future off-site buildings within 100 ft of VOC-impacted groundwater in the northwest corner of the site (within Greenspace Area), unless further investigation and evaluation demonstrates otherwise. The adjoining property to the west is undergoing a voluntary action, which will address VI potential and require incorporation of VI mitigation systems into future building construction, where necessary. The RAP for the Property will be submitted at a later date that will evaluate the off-Property VI exposure for both the East Phase and the West Phase and assess the potential impact to future off-property buildings beyond the West Phase.

Recreational Users of the Adjacent River Conclusions

The recreational users of the adjacent river receptor have risk of exposure via the following pathways:

- Groundwater – Surface Water – The BIOCHLOR modeling predicts that groundwater COC discharge to surface water is not expected to be of concern. Additional data collection downgradient of monitoring well MW-23-04 is planned to validate the BIOCHLOR model assumptions.

Ecological Resources of the Adjacent River Conclusions

Ecological resources of the adjacent river have risk of exposure via the following pathways:

Groundwater – Surface Water – The BIOCHLOR modeling predicts that groundwater COC discharge to surface water is not expected to be of concern. Additional data collection downgradient of monitoring well MW-23-04 is planned to validate the BIOCHLOR model assumptions.

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TABLES

Table 1
Exposure Pathway Completeness Determination
Former GM Delphi Harrison Thermal Systems Plant Site – East Side
Dayton, Montgomery County, Ohio

Potentially Affected Medium: Transport Mechanism	Location of COCs	Requires Further Evaluation?	Receptors for Pathways or Explanation for Eliminating Pathway From Further Evaluation
Soils: Direct Contact	On Property	☑Yes ❑No	Possible receptors include site workers and visitors under commercial circumstances, and construction workers.
	Off Property	❑Yes ☑No	COCs subject to the Property voluntary action are not anticipated in soils off the Property.
Soils: Vapor Intrusion to Indoor Air	On Property	☑Yes ❑No	Possible receptors include site workers under commercial circumstances.
	Off Property	☑Yes ❑No	The potential for vapor intrusion may exist where subsurface VOC contamination is within 100 ft of current/future occupied building. VOC-impacted soil is present adjacent to east property line. Property is separated from properties to the north by levee and Mad River, to the south by roads, and to the east by vacant land and railroad. Property to the west has additional VOC sources and will have an environmental covenant (EC) addressing vapor intrusion.
Soils: Leaching to Groundwater	On Property	☑Yes ❑No	Upper aquifer is impacted by COCs leached from soil.
	Off Property	❑Yes ☑No	COCs subject to the Property voluntary action are not anticipated in soils off the Property.
Soils: Ecological	On Property	❑Yes ☑No	No important ecological resources exist on the Property.
	Off Property	❑Yes ☑No	There are no important ecological resources associated with off-property soil
Groundwater: Potable	On Property	❑Yes ☑No	Drinking water in this area is supplied by the City. Property is in an Urban Setting Designation. An activity and use limitation (AUL) will be established to prohibit extraction of groundwater from site for potable use.
	Off Property	☑Yes ❑No	Drinking water in this area is supplied by the City. Property is in an Urban Setting Designation. The groundwater is classified as Critical Resource within an Urban Setting Designation. CVOCs are present above GUPUS in groundwater monitoring wells upgradient of the Property and thus contamination to the aquifer is deemed to be partially attributed to the Property; therefore response requirements include addressing sources or source areas on Property that could cause GUPUS to be exceeded at ½-mile from the Property boundary (OAC 3745-300-10 [E][3][c]).

Table 1
Exposure Pathway Completeness Determination
Former GM Delphi Harrison Thermal Systems Plant Site – East Side
Dayton, Montgomery County, Ohio

Groundwater: Vapor Intrusion Indoor Air	On Property	☑Yes ❑No	The potential for vapor intrusion may exist if subsurface VOC contamination within 100 ft of current/future occupied building. Possible receptors include site workers under commercial circumstances.
	Off Property	☑Yes ❑No	The potential for vapor intrusion may exist if subsurface VOC contamination within 100 ft of current/future occupied building. Downgradient building on west parcel has vapor mitigation system. Downgradient (west) parcel also undergoing remediation. Adjacent, undeveloped property to the east may potentially be impacted by vapor producing chemicals in groundwater.
Groundwater: Non-potable	On Property	☑Yes ❑No	Groundwater is not extracted on the Property for non-potable use other than for testing, dewatering, and heating/cooling. Groundwater is extracted for geothermal heating/cooling purposes using a non-contact closed system, but there is potential for incidental contact during maintenance.
	Off Property	☑Yes ❑No	Groundwater extraction does occur downgradient of the Property for the dewatering and heating/cooling purposes.
Groundwater: to Surface Water	On Property	❑Yes ☑No	A surface water body is not present on the subject property. Groundwater discharges to the Mad River adjacent to the Property (separated by levee).
	Off Property	☑Yes ❑No	Groundwater discharges to the Mad River adjacent to the Property (separated by levee).
Storm Water: to Surface Water	On Property	❑Yes ☑No	A surface water body is not present on the subject property.
	Off Property	❑Yes ☑No	The levee prevents storm water runoff from the property from directly entering the river. GM conducted storm sewer cleaning and abandonment activities as an interim remedial measure in 2006.
Surface Water: Potable	On Property	❑Yes ☑No	A surface water body is not present on the subject property. Drinking water in this area is supplied by the City.
	Off Property	❑Yes ☑No	Drinking water in this area is supplied by the City.
Surface Water: Non-Potable Use	On Property	❑Yes ☑No	A surface water body is not present on the subject property.
	Off Property	☑Yes ❑No	The Mad River is adjacent to the Property and is used for recreational purposes.

Table 1
Exposure Pathway Completeness Determination
Former GM Delphi Harrison Thermal Systems Plant Site – East Side
Dayton, Montgomery County, Ohio

Surface Water: Ecological	On Property	❑Yes ☑No	A surface water body is not present on the subject property.
	Off Property	☑Yes ❑No	The Mad River is adjacent to the Property and contains important ecological resources (sensitive species).
Sediments: Direct Contact	On Property	❑Yes ☑No	No sediment is present on the subject property.
	Off Property	❑Yes ☑No	While the Mad River is adjacent to the Property and is used for recreational purposes, access to river is limited by a levee. The levee is eight or more ft higher in elevation than the site grade.
Sediments: Ecological	On Property	❑Yes ☑No	No sediment is present on the subject property.
	Off Property	❑Yes ☑No	The Mad River is adjacent to the Property and contains important ecological resources (sensitive species). Runoff to the river is limited by a levee. The levee is eight or more ft higher in elevation than the site grade.

Table 2
Summary of Surface (0 to 3 ft bgs) Soil Data Compared to Commercial/Industrial GDCSS - C Area Exposure Unit
Former GM Dephi Harrison Thermal Systems Facility
Dayton, Ohio

CAS	Parameter	Frequency of Detection		Range of Detections		Maximum Location	Range of Detection Limits		Units	Commercial/Industrial Standard for Single Chemical (noncarcinogen)	Commercial/ Industrial Noncarcinogenic Risk Ratio	Commercial/Industrial Standard for Single Chemical (carcinogens)	Commercial/ Industrial Carcinogenic Risk Ratio
		# Detected	# Samples	Minimum	Maximum		Minimum	Maximum					
71-55-6	1,1,1-Trichloroethane	0	20				4.3	2700	ug/kg				
79-34-5	1,1,2,2-Tetrachloroethane	0	20				4.3	2700	ug/kg				
79-00-5	1,1,2-Trichloroethane	0	20				4.3	2700	ug/kg				
75-34-3	1,1-Dichloroethane	0	20				4.3	2700	ug/kg				
75-35-4	1,1-Dichloroethene	0	20				4.3	2700	ug/kg				
120-82-1	1,2,4-Trichlorobenzene, VOC	0	20				4.3	2700	ug/kg				
96-12-8	1,2-Dibromo-3-chloropropane	0	20				8.7	5400	ug/kg				
106-93-4	1,2-Dibromoethane	0	20				4.3	2700	ug/kg				
95-50-1	1,2-Dichlorobenzene, VOC	1	20	100	100	SB-142-04	4.3	2700	ug/kg	2.60E+07	3.85E-06	NA	--
107-06-2	1,2-Dichloroethane	0	20				4.3	2700	ug/kg				
78-87-5	1,2-Dichloropropane	0	20				4.3	2700	ug/kg				
541-73-1	1,3-Dichlorobenzene, VOC	0	20				4.3	2700	ug/kg				
106-46-7	1,4-Dichlorobenzene, VOC	0	20				4.3	2700	ug/kg				
39638-32-9	2,2-oxybis(2-Chloropropane), SVOC	0	14				370	4300	ug/kg				
95-95-4	2,4,5-Trichlorophenol	0	14				370	4300	ug/kg				
88-06-2	2,4,6-Trichlorophenol	0	14				370	4300	ug/kg				
120-83-2	2,4-Dichlorophenol	0	14				370	4300	ug/kg				
105-67-9	2,4-Dimethylphenol	0	14				370	4300	ug/kg				
51-28-5	2,4-Dinitrophenol	0	14				1800	21000	ug/kg				
121-14-2	2,4-Dinitrotoluene	0	14				370	4300	ug/kg				
606-20-2	2,6-Dinitrotoluene	0	14				370	4300	ug/kg				
78-93-3	2-Butanone	2	20	5	10	BH-177	19	11000	ug/kg	5.60E+08	1.79E-08	NA	--
91-58-7	2-Chloronaphthalene	0	14				370	4300	ug/kg				
95-57-8	2-Chlorophenol	0	14				370	4300	ug/kg				
591-78-6	2-Hexanone	0	20				17	11000	ug/kg				
91-57-6	2-Methylnaphthalene	8	14	39	2100	SB-74-03	370	4300	ug/kg	6.00E+06	3.50E-04	NA	--
95-48-7	2-Methylphenol	0	14				370	4300	ug/kg				
88-74-4	2-Nitroaniline	0	14				1800	21000	ug/kg				
88-75-5	2-Nitrophenol	0	14				370	4300	ug/kg				
91-94-1	3,3-Dichlorobenzidine	0	14				1800	21000	ug/kg				
99-09-2	3-Nitroaniline	0	14				1800	21000	ug/kg				
534-52-1	4,6-Dinitro-2-methylphenol	0	14				1800	21000	ug/kg				
101-55-3	4-Bromophenyl phenyl ether	0	14				370	4300	ug/kg				
59-50-7	4-Chloro-3-methylphenol	0	14				370	4300	ug/kg				
106-47-8	4-Chloroaniline	0	14				370	4300	ug/kg				
7005-72-3	4-Chlorophenyl phenyl ether	0	14				370	4300	ug/kg				
108-10-1	4-Methyl-2-Pentanone	1	20	2.6	2.6	SB-44-02	17	11000	ug/kg	1.70E+08	1.53E-08	NA	--
106-44-5	4-Methylphenol	0	14				370	4300	ug/kg				
100-01-6	4-Nitroaniline	0	14				1800	21000	ug/kg				
100-02-7	4-Nitrophenol	0	14				1800	21000	ug/kg				
83-32-9	Acenaphthene	4	14	30	930	SB-44-02	370	4300	ug/kg	9.00E+07	1.03E-05	NA	--
208-96-8	Acenaphthylene	1	14	280	280	BH-177	370	4300	ug/kg	9.00E+07	3.11E-06	NA	--
67-64-1	Acetone	3	20	19	240	SB-165-04	19	11000	ug/kg	1.00E+09	2.40E-07	NA	--
98-86-2	Acetophenone	1	14	110	110	SB-74-03	370	4300	ug/kg	4.10E+08	2.68E-07	NA	--
120-12-7	Anthracene	6	14	92	1400	SB-44-02	370	3600	ug/kg	4.50E+08	3.11E-06	NA	--
7440-36-0	Antimony	5	15	0.83	28.8	BH-183	6	7.60	mg/kg	1.60E+03	1.80E-02	NA	--
12674-11-2	Aroclor-1016	0	3				33	76	ug/kg				
11104-28-2	Aroclor-1221	0	3				33	76	ug/kg				
11141-16-5	Aroclor-1232	0	3				33	76	ug/kg				
53469-21-9	Aroclor-1242	0	3				33	76	ug/kg				
12672-29-6	Aroclor-1248	0	3				33	76	ug/kg				
11097-69-1	Aroclor-1254	0	3				33	76	ug/kg				

See notes on page 3 of 3

Table 2
Summary of Surface (0 to 3 ft bgs) Soil Data Compared to Commercial/Industrial GDCSS - C Area Exposure Unit
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CAS	Parameter	Frequency of Detection		Range of Detections		Maximum Location	Range of Detection Limits		Units	Commercial/Industrial Standard for Single Chemical (noncarcinogen)	Commercial/ Industrial Noncarcinogenic Risk Ratio	Commercial/Industrial Standard for Single Chemical (carcinogens)	Commercial/ Industrial Carcinogenic Risk Ratio
		# Detected	# Samples	Minimum	Maximum		Minimum	Maximum					
11096-82-5	Aroclor-1260	0	3				33	76	ug/kg				
7440-38-2	Arsenic	15	15	1.1	15.6	BH-182			mg/kg	1.20E+03	1.30E-02	7.70E+01	2.03E-01
1912-24-9	Atrazine	0	14				370	4300	ug/kg				
7440-39-3	Barium	15	15	2.8	275	BH-183			mg/kg	6.80E+05	4.04E-04	NA	--
100-52-7	Benzaldehyde	1	14	180	180	SB-74-03	370	4300	ug/kg	NL	--	NL	--
71-43-2	Benzene	4	20	5.70	93	SB-131-04	4.70	2700	ug/kg	1.20E+06	7.75E-05	1.40E+05	6.64E-04
56-55-3	Benzo(a)anthracene	12	14	34	6800	SB-44-02	370	420	ug/kg	NA	--	5.80E+04	1.17E-01
50-32-8	Benzo(a)pyrene	12	14	21	5700	SB-44-02	370	380	ug/kg	NA	--	5.80E+03	9.83E-01
205-99-2	Benzo(b)fluoranthene	12	14	27	9500	SB-44-02	370	380	ug/kg	NA	--	5.80E+04	1.64E-01
191-24-2	Benzo(g,h,i)perylene	10	14	18	2600	SB-44-02	370	3600	ug/kg	4.50E+07	5.78E-05	NA	--
207-08-9	Benzo(k)fluoranthene	9	14	43	4000	SB-44-02	370	3600	ug/kg	NA	--	5.80E+05	6.90E-03
7440-41-7	Beryllium	13	15	0.034	3.5	BH-182	0.55	0.79	mg/kg	7.80E+03	4.49E-04	9.70E+04	3.61E-05
92-52-4	Biphenyl	2	14	61	130	SB-74-03	370	4300	ug/kg	1.00E+09	1.30E-07	1.40E+07	9.29E-06
111-91-1	bis(2-Chloroethoxy)methane	0	14				370	4300	ug/kg				
111-44-4	bis(2-Chloroethyl)ether	0	14				370	4300	ug/kg				
117-81-7	bis(2-Ethylhexyl)phthalate	1	14	29	29	SB-142-04	370	4300	ug/kg	3.50E+07	8.29E-07	3.50E+06	8.29E-06
75-27-4	Bromodichloromethane	0	20				4.30	2700	ug/kg				
75-25-2	Bromoform	0	20				4.30	2700	ug/kg				
74-83-9	Bromomethane	0	20				4.30	2700	ug/kg				
85-68-7	Butyl benzylphthalate	0	14				370	4300	ug/kg				
7440-43-9	Cadmium	13	15	0.035	81.8	SB-33-02	0.52	0.56	mg/kg	2.60E+03	3.15E-02	1.30E+05	6.29E-04
105-60-2	Caprolactam	0	14				370	4300	ug/kg				
86-74-8	Carbazole	5	14	33	1700	SB-44-02	370	4300	ug/kg	NA	--	2.50E+06	6.80E-04
75-15-0	Carbon disulfide	0	20				4.30	2700	ug/kg				
56-23-5	Carbon tetrachloride	0	20				4.30	2700	ug/kg				
108-90-7	Chlorobenzene	0	20				4.30	2700	ug/kg				
75-00-3	Chloroethane	0	20				4.30	2700	ug/kg				
67-66-3	Chloroform	1	20	100	100	SB-131-04	4.30	2700	ug/kg	2.80E+06	3.57E-05	3.80E+04	2.63E-03
74-87-3	Chloromethane	0	20				4.30	2700	ug/kg				
7440-47-3	Chromium Total	15	15	2	1790	SB-33-02			mg/kg	1.20E+04	1.49E-01	2.10E+02	**8.52E+00**
218-01-9	Chrysene	12	14	30	8000	SB-44-02	370	420	ug/kg	NA	--	5.80E+06	1.38E-03
156-59-2	cis-1,2-Dichloroethene	8	20	58	6400	SB-74-03	2.40	170	ug/kg	8.20E+06	7.80E-04	NA	--
10061-01-5	cis-1,3-Dichloropropene	0	20				4.30	2700	ug/kg				
7440-48-4	Cobalt	14	15	0.95	84.80	SB-155-04	5.20	5.20	mg/kg	1.20E+03	7.07E-02	2.60E+04	3.26E-03
7440-50-8	Copper	15	15	1.20	9420	SB-155-04			mg/kg	1.60E+05	5.89E-02	NA	--
57-12-5	Cyanide (total)	8	15	0.11	11.7	SB-33-02	0.5	0.66	mg/kg	3.70E+02	3.16E-02	NA	--
110-82-7	Cyclohexane	8	20	6	1500	SB-74-03	9.40	3000	ug/kg	7.40E+07	2.03E-05	NA	--
53-70-3	Dibenz(a,h)anthracene	6	14	38	710	SB-44-02	370	4300	ug/kg	NA	--	5.80E+03	1.22E-01
132-64-9	Dibenzofuran	5	14	40	1600	SB-44-02	370	4300	ug/kg	4.10E+06	3.90E-04	NA	--
124-48-1	Dibromochloromethane	0	20				4.30	2700	ug/kg				
75-71-8	Dichlorodifluoromethane	1	20	300	300	SB-74-03	4.30	1500	ug/kg	8.20E+08	3.66E-07	NA	--
84-66-2	Diethyl phthalate	0	14				370	4300	ug/kg				
131-11-3	Dimethyl phthalate	0	14				370	4300	ug/kg				
84-74-2	Di-n-butylphthalate	0	14				370	4300	ug/kg				
117-84-0	Di-N-Octyl phthalate	1	14	56	56	BH-176	370	4300	ug/kg	1.80E+07	3.11E-06	NA	--
100-41-4	Ethylbenzene	5	20	0.65	47	BH-183	4.90	2700	ug/kg	5.80E+07	8.10E-07	7.00E+05	6.71E-05
206-44-0	Fluoranthene	13	14	44	18000	SB-44-02	370	370	ug/kg	6.00E+07	3.00E-04	NA	--
86-73-7	Fluorene	5	14	82	370	SB-44-02	370	4300	ug/kg	6.00E+07	6.17E-06	NA	--
118-74-1	Hexachlorobenzene	0	14				370	4300	ug/kg				
87-68-3	Hexachlorobutadiene, SVOC	0	14				370	4300	ug/kg				
77-47-4	Hexachlorocyclopentadiene	0	14				1800	21000	ug/kg				
67-72-1	Hexachloroethane	0	14				370	4300	ug/kg				

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Table 2
Summary of Surface (0 to 3 ft bgs) Soil Data Compared to Commercial/Industrial GDCSS - C Area Exposure Unit
Former GM Dephi Harrison Thermal Systems Facility
Dayton, Ohio

CAS	Parameter	Frequency of Detection		Range of Detections		Maximum Location	Range of Detection Limits		Units	Commercial/Industrial Standard for Single Chemical (noncarcinogen)	Commercial/ Industrial Noncarcinogenic Risk Ratio	Commercial/Industrial Standard for Single Chemical (carcinogens)	Commercial/ Industrial Carcinogenic Risk Ratio
		# Detected	# Samples	Minimum	Maximum		Minimum	Maximum					
193-39-5	Indeno(1,2,3-cd)pyrene	9	14	50	2700	SB-44-02	370	3600	ug/kg	NA	--	5.80E+04	4.66E-02
78-59-1	Isophorone	0	14				370	4300	ug/kg				
98-82-8	Isopropylbenzene, VOC	1	20	20	20	BH-183	4.30	2700	ug/kg	2.70E+07	7.41E-07	NA	--
7439-96-5	Manganese	15	15	44.4	1230	BH-182			mg/kg	NL	--	NL	--
7439-97-6	Mercury*	14	15	0.0077	7.5	SB-156-04	0.1	0.10	mg/kg	8.50E+01	8.82E-02	NA	--
79-20-9	Methyl acetate	2	20	81	410	SB-156-04	8.70	5400	ug/kg	NL	--	NL	--
108-87-2	Methyl cyclohexane	12	20	1.10	3800	SB-74-03	9.40	650	ug/kg	NL	--	NL	--
1634-04-4	Methyl tert butyl ether	0	20				17	11000	ug/kg				
75-09-2	Methylene chloride	6	20	5.5	660	SB-156-04	5.60	2700	ug/kg	9.50E+06	6.95E-05	3.20E+07	2.06E-05
91-20-3	Naphthalene, SVOC	7	14	22	1100	SB-74-03	370	4300	ug/kg	1.60E+06	6.88E-04	4.50E+05	2.44E-03
7440-02-0	Nickel	15	15	1	427	SB-142-04			mg/kg	7.40E+04	5.77E-03	9.00E+05	4.74E-04
98-95-3	Nitrobenzene	0	14				370	4300	ug/kg				
621-64-7	N-Nitrosodi-n-propylamine	0	14				370	4300	ug/kg				
86-30-6	N-Nitrosodiphenylamine	0	14				370	4300	ug/kg				
87-86-5	Pentachlorophenol	0	14				370	4300	ug/kg				
85-01-8	Phenanthrene	13	14	17	11000	SB-44-02	370	370	ug/kg	4.50E+08	2.44E-05		
108-95-2	Phenol	0	14				370	4300	ug/kg				
129-00-0	Pyrene, SVOC	13	14	28	19000	SB-44-02	370	370	ug/kg	4.50E+07	4.22E-04	NA	--
7782-49-2	Selenium	4	15	0.39	2.3	SB-74-03	0.5	0.66	mg/kg	2.00E+04	1.15E-04	NA	--
7440-22-4	Silver	4	15	0.11	2.5	SB-155-04	1	1.30	mg/kg	2.00E+04	1.25E-04	NA	--
100-42-5	Styrene	0	20				4.30	2700	ug/kg				
127-18-4	Tetrachloroethene*	15	20	1.60	30000	SB-154-04	4.30	6.20	ug/kg	1.10E+06	2.73E-02	2.80E+06	1.07E-02
7440-28-0	Thallium	6	15	0.71	1.4	SB-155-04	1	1.30	mg/kg	4.10E+01	3.41E-02	NA	--
108-88-3	Toluene	10	20	0.68	710	SB-131-04	4.90	1500	ug/kg	1.40E+08	5.07E-06	NA	--
156-60-5	trans-1,2-Dichloroethene	0	20				2.40	1300	ug/kg				
10061-02-6	trans-1,3-Dichloropropene	0	20				4.30	2700	ug/kg				
79-01-6	Trichloroethene	14	20	3.5	81000	SB-74-03	4.30	6.20	ug/kg	5.10E+04	**1.59E+00**	1.70E+05	4.76E-01
75-69-4	Trichlorofluoromethane	0	20				4.30	2700	ug/kg				
76-13-1	Trifluorotrichloroethane	0	20				4.30	2700	ug/kg				
7440-62-2	Vanadium	15	15	1.70	39.1	BH-182			mg/kg	2.00E+04	1.95E-03	NA	--
75-01-4	Vinyl chloride	0	20				4.30	2700	ug/kg				
1330-20-7	Xylene (Total)	7	20	2.10	1600	SB-74-03	9.40	3000	ug/kg	6.80E+06	2.35E-04	--	--
7440-66-6	Zinc	15	15	3.20	43300	SB-33-02			mg/kg	1.00E+06	4.33E-02	--	--
										Cumulative Risk Ratio	**2.17E+00**	Cumulative Risk Ratio	**1.07E+01**

CAS	Parameter	Frequency of Detection		Range of Detections		Maximum Location	Range of Detection Limits		Units	Commercial/Industrial Standard for Single Chemical (noncarcinogen)	Commercial/ Industrial Noncarcinogenic Risk Ratio	Commercial/Industrial Standard for Single Chemical (carcinogens)	Commercial/ Industrial Carcinogenic Risk Ratio
		# Detected	# Samples	Minimum	Maximum		Minimum	Maximum					
7439-92-1	Lead	15	15	1.5	451	BH-183	--	--	mg/kg	8.00E+02	--	--	--

Notes:
bgs - below ground surface
ft - feet
mg/kg - milligram per kilogram
NA - Not Applicable
NL - Not Listed
SVOC - Semi-Volatile Organic Compounds
ug/kg - microgram per kilogram
VOC - Volatile Organic Compounds
* The C/I Single Chem GDCSS is 3.1 mg/kg for mercury and 170 mg/kg for PCE and is based on the soil saturation standard

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Table 3
Summary of Subsurface (3 to 12 ft bgs) Soil Data Compared to Commercial/Industrial GDCSS - C Area Exposure Unit
Former GM Dephi Harrison Thermal Systems Facility
Dayton, Ohio

CAS	Parameter	Frequency of Detection		Range of Detections		Maximum Location	Range of Detection Limits		Units	Commercial/Industrial Standard for Single Chemical (noncarcinogen)	Commercial/ Industrial Noncarcinogenic Risk Ratio	Commercial/Industrial Standard for Single Chemical (carcinogens)	Commercial/ Industrial Carcinogenic Risk Ratio
		# Detected	# Samples	Minimum	Maximum		Minimum	Maximum					
630-20-6	1,1,1,2-Tetrachloroethane	0	2				22.10	264	ug/kg				
71-55-6	1,1,1-Trichloroethane	1	29	1.40	1.40	SB-156-04	4.6	4600	ug/kg	9.60E+07	1.46E-08	NA	--
79-34-5	1,1,2,2-Tetrachloroethane	0	29				4.6	4600	ug/kg				
79-00-5	1,1,2-Trichloroethane	0	29				4.6	4600	ug/kg				
75-34-3	1,1-Dichloroethane	1	29	0.61	0.61	SB-156-04	4.6	4600	ug/kg	8.20E+08	7.44E-10	4.20E+05	1.45E-06
75-35-4	1,1-Dichloroethene	0	29				4.6	4600	ug/kg				
563-58-6	1,1-Dichloropropene	0	2				13	22.10	ug/kg				
120-82-1	1,2,4-Trichlorobenzene, VOC	0	27				4.60	4600	ug/kg				
96-12-8	1,2-Dibromo-3-chloropropane	0	27				9.30	9100	ug/kg				
106-93-4	1,2-Dibromoethane	0	29				4.60	4600	ug/kg				
95-50-1	1,2-Dichlorobenzene, VOC	0	27				4.60	4600	ug/kg				
107-06-2	1,2-Dichloroethane	0	29				4.60	4600	ug/kg				
78-87-5	1,2-Dichloropropane	0	29				4.60	4600	ug/kg				
541-73-1	1,3-Dichlorobenzene, VOC	0	27				4.60	4600	ug/kg				
142-28-9	1,3-Dichloropropane	0	2				13	22.10	ug/kg				
106-46-7	1,4-Dichlorobenzene, VOC	0	27				4.6	4600	ug/kg				
594-20-7	2,2-Dichloropropane	0	2				13	22.10	ug/kg				
39638-32-9	2,2-oxybis(2-Chloropropane), SVOC	0	16				340	17000	ug/kg				
95-95-4	2,4,5-Trichlorophenol	0	16				340	17000	ug/kg				
88-06-2	2,4,6-Trichlorophenol	0	16				340	17000	ug/kg				
120-83-2	2,4-Dichlorophenol	0	16				340	17000	ug/kg				
105-67-9	2,4-Dimethylphenol	0	16				340	17000	ug/kg				
51-28-5	2,4-Dinitrophenol	0	16				1700	85000	ug/kg				
121-14-2	2,4-Dinitrotoluene	0	16				340	17000	ug/kg				
606-20-2	2,6-Dinitrotoluene	0	16				340	17000	ug/kg				
78-93-3	2-Butanone	5	29	2.70	11	BH-177	19	18000	ug/kg	5.60E+08	1.96E-08	NA	--
110-75-8	2-Chloroethyl vinyl ether	0	2				65.10	110	ug/kg				
91-58-7	2-Chloronaphthalene	0	16				340	17000	ug/kg				
95-57-8	2-Chlorophenol	0	16				340	17000	ug/kg				
95-49-8	2-Chlorotoluene	1	2	927	927	091216-5	22.10	22.10	ug/kg	NL	--	NL	--
591-78-6	2-Hexanone	1	29	552	552	091216-5	19	18000	ug/kg	NL	--	NL	--
91-57-6	2-Methylnaphthalene	1	18	1600	1600	SB-142-04	125	10000	ug/kg	6.00E+06	2.67E-04	NA	--
95-48-7	2-Methylphenol	0	16				340	17000	ug/kg				
88-74-4	2-Nitroaniline	0	16				1700	85000	ug/kg				
88-75-5	2-Nitrophenol	0	16				340	17000	ug/kg				
91-94-1	3,3-Dichlorobenzidine	0	16				1700	85000	ug/kg				
99-09-2	3-Nitroaniline	0	16				1700	85000	ug/kg				
534-52-1	4,6-Dinitro-2-methylphenol	0	16				1700	85000	ug/kg				
101-55-3	4-Bromophenyl phenyl ether	0	16				340	17000	ug/kg				
59-50-7	4-Chloro-3-methylphenol	0	16				340	17000	ug/kg				
106-47-8	4-Chloroaniline	0	16				340	17000	ug/kg				
7005-72-3	4-Chlorophenyl phenyl ether	0	16				340	17000	ug/kg				
106-43-4	4-Chlorotoluene	1	2	598	598	091216-5	22.10	22.10	ug/kg	NL	--	NL	--
108-10-1	4-Methyl-2-Pentanone	1	29	1.8	1.8	SB-159-04	19	18000	ug/kg	1.70E+08	1.06E-08	NA	--
106-44-5	4-Methylphenol	0	16				340	17000	ug/kg				
100-01-6	4-Nitroaniline	0	16				1700	85000	ug/kg				
100-02-7	4-Nitrophenol	0	16				1700	85000	ug/kg				
83-32-9	Acenaphthene	0	18				125	17000	ug/kg				
208-96-8	Acenaphthylene	1	18	610	610	SB-74-03	125	17000	ug/kg	9.00E+07	6.78E-06	NA	--
67-64-1	Acetone	6	29	7.2	56	BH-183	19	18000	ug/kg	1.00E+09	5.60E-08	NA	--

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Table 3
Summary of Subsurface (3 to 12 ft bgs) Soil Data Compared to Commercial/Industrial GDCSS - C Area Exposure Unit
Former GM Dephi Harrison Thermal Systems Facility
Dayton, Ohio

CAS	Parameter	Frequency of Detection		Range of Detections		Maximum Location	Range of Detection Limits		Units	Commercial/Industrial Standard for Single Chemical (noncarcinogen)	Commercial/ Industrial Noncarcinogenic Risk Ratio	Commercial/Industrial Standard for Single Chemical (carcinogens)	Commercial/ Industrial Carcinogenic Risk Ratio
		# Detected	# Samples	Minimum	Maximum		Minimum	Maximum					
75-05-8	Acetonitrile	0	2				104	176	ug/kg				
98-86-2	Acetophenone	0	16				340	17000	ug/kg				
107-02-8	Acrolein	0	2				52.10	88.20	ug/kg				
107-13-1	Acrylonitrile	0	2				52.10	88.20	ug/kg				
107-05-1	Allyl chloride	0	2				26.10	44.10	ug/kg				
120-12-7	Anthracene	2	19	45	1500	SB-74-03	125	17000	ug/kg	4.50E+08	3.33E-06	NA	--
7440-36-0	Antimony	2	19	0.51	0.57	SB-74-03	6.30	8.90	mg/kg	1.60E+03	3.56E-04	NA	--
12674-11-2	Aroclor-1016	0	4				45	70	ug/kg				
11104-28-2	Aroclor-1221	0	4				45	70	ug/kg				
11141-16-5	Aroclor-1232	0	4				45	70	ug/kg				
53469-21-9	Aroclor-1242	0	4				45	70	ug/kg				
12672-29-6	Aroclor-1248	0	4				45	70	ug/kg				
11097-69-1	Aroclor-1254	1	4	890	890	SB-142-04	45	49	ug/kg	2.90E+04	3.07E-02	2.00E+04	4.45E-02
11096-82-5	Aroclor-1260	0	4				45	70	ug/kg				
7440-38-2	Arsenic	19	19	1.40	12	SB-153-04			mg/kg	1.20E+03	1.00E-02	7.70E+01	1.56E-01
1912-24-9	Atrazine	0	16				340	17000	ug/kg				
7440-39-3	Barium	19	19	26.2	748	SB-153-04			mg/kg	6.80E+05	1.10E-03	NA	--
100-52-7	Benzaldehyde	0	16				340	17000	ug/kg				
71-43-2	Benzene	5	29	4	73	SB-131-04	4.60	4600	ug/kg	1.20E+06	6.08E-05	1.40E+05	5.21E-04
56-55-3	Benzo(a)anthracene	3	19	120	10000	SB-74-03	125	7300	ug/kg	NA	--	5.80E+04	1.72E-01
50-32-8	Benzo(a)pyrene	2	19	110	8400	SB-74-03	125	17000	ug/kg	NA	--	5.80E+03	**1.45E+00**
205-99-2	Benzo(b)fluoranthene	6	19	25	10000	SB-74-03	125	7300	ug/kg	NA	--	5.80E+04	1.72E-01
191-24-2	Benzo(g,h,i)perylene	2	19	85	4700	SB-74-03	125	17000	ug/kg	4.50E+07	1.04E-04	NA	--
207-08-9	Benzo(k)fluoranthene	2	19	80	6700	SB-74-03	125	17000	ug/kg	NA	--	5.80E+05	1.16E-02
7440-41-7	Beryllium	13	19	0.05	1.10	SB-44-02	0.53	0.67	mg/kg	7.80E+03	1.41E-04	9.70E+04	1.13E-05
92-52-4	Biphenyl	0	16				340	17000	ug/kg				
111-91-1	bis(2-Chloroethoxy)methane	0	16				340	17000	ug/kg				
111-44-4	bis(2-Chloroethyl)ether	0	16				340	17000	ug/kg				
117-81-7	bis(2-Ethylhexyl)phthalate	6	17	32	3000	SB-74-03	340	17000	ug/kg	3.50E+07	8.57E-05	3.50E+06	8.57E-04
108-86-1	Bromobenzene	0	2				22.10	264	ug/kg				
74-97-5	Bromochloromethane	0	2				13	22.10	ug/kg				
75-27-4	Bromodichloromethane	0	29				4.60	4600	ug/kg				
75-25-2	Bromoform	0	29				4.60	4600	ug/kg				
74-83-9	Bromomethane	0	29				4.60	4600	ug/kg				
85-68-7	Butyl benzylphthalate	0	16				340	17000	ug/kg				
7440-43-9	Cadmium	16	18	0.06	6.20	SB-153-04	0.52	0.53	mg/kg	2.60E+03	2.38E-03	1.30E+05	4.77E-05
105-60-2	Caprolactam	0	16				340	17000	ug/kg				
86-74-8	Carbazole	2	17	34	5300	SB-74-03	340	17000	ug/kg	NA	--	2.50E+06	2.12E-03
75-15-0	Carbon disulfide	0	29				4.60	4600	ug/kg				
56-23-5	Carbon tetrachloride	0	29				4.60	4600	ug/kg				
108-90-7	Chlorobenzene	0	29				4.60	4600	ug/kg				
75-00-3	Chloroethane	0	29				4.60	4600	ug/kg				
67-66-3	Chloroform	2	29	44	56	SB-131-04	4.60	4600	ug/kg	2.80E+06	2.00E-05	3.80E+04	1.47E-03
74-87-3	Chloromethane	0	29				4.60	4600	ug/kg				
7440-47-3	Chromium Total	19	19	3	78.10	SB-33-02			mg/kg	1.20E+04	6.51E-03	2.10E+02	3.72E-01
218-01-9	Chrysene	4	19	130	11000	SB-74-03	125	7300	ug/kg	NA	--	5.80E+06	1.90E-03
156-59-2	cis-1,2-Dichloroethene	9	29	0.72	3900	SB-74-03	2.30	2300	ug/kg	8.20E+06	4.76E-04	NA	--
10061-01-5	cis-1,3-Dichloropropene	0	29				4.60	4600	ug/kg				
7440-48-4	Cobalt	19	19	0.49	7.70	SB-44-02			mg/kg	1.20E+03	6.42E-03	2.60E+04	2.96E-04
7440-50-8	Copper	19	19	2.5	321	SB-153-04			mg/kg	1.60E+05	2.01E-03	NA	--

See notes on page 4 of 4

Table 3
Summary of Subsurface (3 to 12 ft bgs) Soil Data Compared to Commercial/Industrial GDCSS - C Area Exposure Unit
Former GM Dephi Harrison Thermal Systems Facility
Dayton, Ohio

CAS	Parameter	Frequency of Detection		Range of Detections		Maximum Location	Range of Detection Limits		Units	Commercial/Industrial Standard for Single Chemical (noncarcinogen)	Commercial/ Industrial Noncarcinogenic Risk Ratio	Commercial/Industrial Standard for Single Chemical (carcinogens)	Commercial/ Industrial Carcinogenic Risk Ratio
		# Detected	# Samples	Minimum	Maximum		Minimum	Maximum					
57-12-5	Cyanide (total)	5	19	0.31	2.10	SB-74-03	0.52	0.74	mg/kg	3.70E+02	5.68E-03	NA	--
110-82-7	Cyclohexane	8	27	1.80	790	SB-74-03	9.30	9100	ug/kg	7.40E+07	1.07E-05	NA	--
53-70-3	Dibenz(a,h)anthracene	2	19	49	1000	SB-74-03	125	17000	ug/kg	NA	--	5.80E+03	1.72E-01
132-64-9	Dibenzofuran	0	16				340	17000	ug/kg				
124-48-1	Dibromochloromethane	0	29				4.60	4600	ug/kg				
74-95-3	Dibromomethane	0	2				13	22.10	ug/kg				
75-71-8	Dichlorodifluoromethane	3	29	88	180	SB-74-03	4.60	4600	ug/kg	8.20E+08	2.20E-07	NA	--
84-66-2	Diethyl phthalate	0	16				340	17000	ug/kg				
131-11-3	Dimethyl phthalate	0	16				340	17000	ug/kg				
84-74-2	Di-n-butylphthalate	0	16				340	17000	ug/kg				
117-84-0	Di-N-Octyl phthalate	0	16				340	17000	ug/kg				
100-41-4	Ethylbenzene	6	29	2.90	120	091216-3	4.60	4600	ug/kg	5.80E+07	2.07E-06	7.00E+05	1.71E-04
206-44-0	Fluoranthene	5	19	340	27000	SB-74-03	125	7300	ug/kg	6.00E+07	4.50E-04	NA	--
86-73-7	Fluorene	0	18				125	17000	ug/kg				
118-74-1	Hexachlorobenzene	0	16				340	17000	ug/kg				
87-68-3	Hexachlorobutadiene, SVOC	0	16				340	17000	ug/kg				
77-47-4	Hexachlorocyclopentadiene	0	16				1700	85000	ug/kg				
67-72-1	Hexachloroethane	0	16				340	17000	ug/kg				
193-39-5	Indeno(1,2,3-cd)pyrene	2	19	73	4100	SB-74-03	125	17000	ug/kg	NA	--	5.80E+04	7.07E-02
74-88-4	Iodomethane	0	2				26.10	44.10	ug/kg				
78-59-1	Isophorone	0	16				340	17000	ug/kg				
98-82-8	Isopropylbenzene, VOC	1	27	2.30	2.30	BH-176	4.60	4600	ug/kg	2.70E+07	8.52E-08	NA	--
	m&p-Xylene	1	2	44.10	44.10	091216-3	527	527	ug/kg	NL	--	NL	--
7439-96-5	Manganese	19	19	151	1130	SB-153-04			mg/kg	NL	--	NL	--
7439-97-6	Mercury*	13	19	0.012	0.60	SB-153-04	0.11	0.12	mg/kg	8.50E+01	7.06E-03	NA	--
79-20-9	Methyl acetate	4	27	430	1200	SB-131-04	9.30	9100	ug/kg	NL	--	NL	--
108-87-2	Methyl cyclohexane	8	27	2.10	2000	SB-74-03	9.30	9100	ug/kg	NL	--	NL	--
1634-04-4	Methyl tert butyl ether	0	29				19	18000	ug/kg				
75-09-2	Methylene chloride	7	29	5	2600	SB-154-04	4.60	1800	ug/kg	9.50E+06	2.74E-04	3.20E+07	8.13E-05
91-20-3	Naphthalene, SVOC	1	18	2800	2800	SB-142-04	125	10000	ug/kg	1.60E+06	1.75E-03	4.50E+05	6.22E-03
110-54-3	n-Hexane	0	2				13	22.10	ug/kg				
7440-02-0	Nickel	19	19	3.8	23.4	SB-74-03			mg/kg	7.40E+04	3.16E-04	9.00E+05	2.60E-05
98-95-3	Nitrobenzene	0	16				340	17000	ug/kg				
621-64-7	N-Nitrosodi-n-propylamine	0	16				340	17000	ug/kg				
86-30-6	N-Nitrosodiphenylamine	0	16				340	17000	ug/kg				
95-47-6	o-Xylene	1	2	22.1	22.1	091216-3	264	264	ug/kg	NL	--	NL	--
87-86-5	Pentachlorophenol	0	16				340	17000	ug/kg				
85-01-8	Phenanthrene	6	19	280	8300	SB-142-04	125	1050	ug/kg	4.50E+08	1.84E-05	NA	--
108-95-2	Phenol	0	16				340	17000	ug/kg				
129-00-0	Pyrene, SVOC	6	19	260	25000	SB-74-03	125	1050	ug/kg	4.50E+07	5.56E-04	NA	--
7782-49-2	Selenium	0	19				0.52	0.74	mg/kg				
7440-22-4	Silver	3	19	0.16	2.9	SB-142-04	1	1.5	mg/kg	2.00E+04	1.45E-04	NA	--
100-42-5	Styrene	1	29	3.20	3.2	BH-183	4.60	4600	ug/kg	9.70E+07	3.30E-08	NA	--
127-18-4	Tetrachloroethene*	24	29	1	130000	SB-154-04	5.30	264	ug/kg	1.10E+06	1.18E-01	2.80E+06	4.64E-02
7440-28-0	Thallium	11	19	0.55	1.90	SB-44-02	1	1.40	mg/kg	4.10E+01	4.63E-02	NA	--
108-88-3	Toluene	13	29	0.61	520	SB-131-04	4.60	4600	ug/kg	1.40E+08	3.71E-06	NA	--
156-60-5	trans-1,2-Dichloroethene	0	29				2.30	2300	ug/kg				
10061-02-6	trans-1,3-Dichloropropene	0	29				4.60	4600	ug/kg				
79-01-6	Trichloroethene	18	29	1.5	53000	SB-74-03	5.10	320	ug/kg	5.10E+04	**1.04E+00**	1.70E+05	3.12E-01
75-69-4	Trichlorofluoromethane	0	29				4.60	4600	ug/kg				
76-13-1	Trifluorotrichloroethane	0	27				4.60	4600	ug/kg				
7440-62-2	Vanadium	19	19	2.1	26.80	SB-44-02			mg/kg	2.00E+04	1.34E-03	NA	--
108-05-4	Vinyl acetate	0	2				26.10	44.10	ug/kg				
75-01-4	Vinyl chloride	0	29				4.60	4600	ug/kg				
1330-20-7	Xylene (Total)	8	27	5.2	950	SB-74-03	9.30	9100	ug/kg	6.80E+06	1.40E-04	NA	--
7440-66-6	Zinc	19	19	12.8	739	SB-153-04			mg/kg	1.00E+06	7.39E-04	NA	--
										Cumulative Risk Ratio	**1.28E+00**	Cumulative Risk Ratio	**2.99E+00**

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Table 3
Summary of Subsurface (3 to 12 ft bgs) Soil Data Compared to Commercial/Industrial GDCSS - C Area Exposure Unit
Former GM Dephi Harrison Thermal Systems Facility
Dayton, Ohio

CAS	Parameter	Frequency of Detection		Range of Detections		Maximum Location	Range of Detection Limits		Units	Commercial/Industrial Standard for Single Chemical (noncarcinogen)	Commercial/ Industrial Noncarcinogenic Risk Ratio	Commercial/Industrial Standard for Single Chemical (carcinogens)	Commercial/ Industrial Carcinogenic Risk Ratio
		# Detected	# Samples	Minimum	Maximum		Minimum	Maximum					
CAS	Parameter	Frequency of Detection		Range of Detections		Maximum Location	Range of Detection Limits		Units	Commercial/Industrial Standard for Single Chemical (noncarcinogen)	Commercial/ Industrial Noncarcinogenic Risk Ratio	Commercial/Industrial Standard for Single Chemical (carcinogens)	Commercial/ Industrial Carcinogenic Risk Ratio
		# Detected	# Samples	Minimum	Maximum		Minimum	Maximum					
7439-92-1	Lead	19	19	2.30	147	SB-44-02	--	--	mg/kg	8.00E+02	--	--	--
	GRO (C6-C12)	2	2	213	1850	091216-5	--	--	mg/kg	**1.00E+03**	--	NL	--
	TPH C10-C20	2	2	429	1530	091216-5	--	--	mg/kg	2.00E+03	--	NL	--
	TPH C20-C34	2	2	3330	9000	091216-5	--	--	mg/kg	**5.00E+03**	--	NL	--

Notes:
bgs - below ground surface
ft - feet
mg/kg - milligram per kilogram
NA - Not Applicable
NL - Not Listed
SVOC - Semi-Volatile Organic Compounds
ug/kg - microgram per kilogram
VOC - Volatile Organic Compounds
* The C/I Single Chem GDCSS is 3.1 mg/kg for mercury and 170 mg/kg for PCE and is based on the soil saturation standard

See notes on page 4 of 4

Table 4
Summary of Soil (0 to 12 ft bgs) Data Compared to Construction GDCSS - C Area Exposure Unit
Former GM Dephi Harrison Thermal Systems Facility
Dayton, Ohio

CAS	Parameter	Frequency of Detection		Range of Detections		Maximum Location	Range of Detection Limits		Units	Construction/Excavation Standard for Single Chemical (noncarcinogen)	Construction/ Excavation Noncarcinogenic Risk Ratio	Construction/ Excavation Standard for Single Chemical (carcinogens)	Construction/ Excavation Carcinogenic Risk Ratio
		# Detected	# Samples	Minimum	Maximum		Minimum	Maximum					
630-20-6	1,1,1,2-Tetrachloroethane	0	2				22.10	264	ug/kg				
71-55-6	1,1,1-Trichloroethane	1	48	1.4	1.40	SB-156-04	4.30	4600	ug/kg	3.30E+07	4.24E-08	NA	--
79-34-5	1,1,2,2-Tetrachloroethane	0	48				4.30	4600	ug/kg				
79-00-5	1,1,2-Trichloroethane	0	48				4.30	4600	ug/kg				
75-34-3	1,1-Dichloroethane	1	48	0.61	0.61	SB-156-04	4.30	4600	ug/kg	1.00E+09	6.10E-10	3.60E+06	1.69E-07
75-35-4	1,1-Dichloroethene	0	48				4.30	4600	ug/kg				
563-58-6	1,1-Dichloropropene	0	2				13	22.10	ug/kg				
120-82-1	1,2,4-Trichlorobenzene, VOC	0	46				4.30	4600	ug/kg				
96-12-8	1,2-Dibromo-3-chloropropane	0	47				8.70	9100	ug/kg				
106-93-4	1,2-Dibromoethane	0	48				4.30	4600	ug/kg				
95-50-1	1,2-Dichlorobenzene, VOC	1	46	100	100	SB-142-04	4.30	4600	ug/kg	8.70E+07	1.15E-06	NA	--
107-06-2	1,2-Dichloroethane	0	48				4.30	4600	ug/kg				
78-87-5	1,2-Dichloropropane	0	48				4.30	4600	ug/kg				
541-73-1	1,3-Dichlorobenzene, VOC	0	46				4.30	4600	ug/kg				
142-28-9	1,3-Dichloropropane	0	2				13	22.10	ug/kg				
106-46-7	1,4-Dichlorobenzene, VOC	0	46				4.30	4600	ug/kg				
594-20-7	2,2-Dichloropropane	0	2				13	22.10	ug/kg				
39638-32-9	2,2-oxybis(2-Chloropropane), SVOC	0	30				340	17000	ug/kg				
95-95-4	2,4,5-Trichlorophenol	0	30				340	17000	ug/kg				
88-06-2	2,4,6-Trichlorophenol	0	30				340	17000	ug/kg				
120-83-2	2,4-Dichlorophenol	0	30				340	17000	ug/kg				
105-67-9	2,4-Dimethylphenol	0	30				340	17000	ug/kg				
51-28-5	2,4-Dinitrophenol	0	30				1700	85000	ug/kg				
121-14-2	2,4-Dinitrotoluene	0	30				340	17000	ug/kg				
606-20-2	2,6-Dinitrotoluene	0	30				340	17000	ug/kg				
78-93-3	2-Butanone	7	49	2.7	11	BH-177	19	18000	ug/kg	4.80E+07	2.29E-07	NA	--
110-75-8	2-Chloroethyl vinyl ether	0	2				65.10	110	ug/kg				
91-58-7	2-Chloronaphthalene	0	30				340	17000	ug/kg				
95-57-8	2-Chlorophenol	0	30				340	17000	ug/kg				
95-49-8	2-Chlorotoluene	1	2	927	927	091216-5	22.10	22.10	ug/kg	NL	--	NL	--
591-78-6	2-Hexanone	1	49	552	552	091216-5	17	18000	ug/kg	NL	--	NL	--
91-57-6	2-Methylnaphthalene	9	32	39	2100	SB-74-03	125	10000	ug/kg	5.20E+06	4.04E-04	NA	--
95-48-7	2-Methylphenol	0	30				340	17000	ug/kg				
88-74-4	2-Nitroaniline	0	30				1700	85000	ug/kg				
88-75-5	2-Nitrophenol	0	30				340	17000	ug/kg				
91-94-1	3,3-Dichlorobenzidine	0	30				1700	85000	ug/kg				
99-09-2	3-Nitroaniline	0	30				1700	85000	ug/kg				
534-52-1	4,6-Dinitro-2-methylphenol	0	30				1700	85000	ug/kg				
101-55-3	4-Bromophenyl phenyl ether	0	30				340	17000	ug/kg				
59-50-7	4-Chloro-3-methylphenol	0	30				340	17000	ug/kg				
106-47-8	4-Chloroaniline	0	30				340	17000	ug/kg				
7005-72-3	4-Chlorophenyl phenyl ether	0	30				340	17000	ug/kg				
106-43-4	4-Chlorotoluene	1	2	598	598	091216-5	22.10	22.10	ug/kg	NL	--	NL	--
108-10-1	4-Methyl-2-Pentanone	2	49	1.8	2.60	SB-44-02	17	18000	ug/kg	3.30E+07	7.88E-08	NA	--
106-44-5	4-Methylphenol	0	30				340	17000	ug/kg				
100-01-6	4-Nitroaniline	0	30				1700	85000	ug/kg				
100-02-7	4-Nitrophenol	0	30				1700	85000	ug/kg				
83-32-9	Acenaphthene	4	32	30	930	SB-44-02	125	17000	ug/kg	7.80E+08	1.19E-06	NA	--
208-96-8	Acenaphthylene	2	32	280	610	SB-74-03	125	17000	ug/kg	7.80E+08	7.82E-07	NA	--
67-64-1	Acetone	9	49	7.20	240	SB-165-04	19	18000	ug/kg	1.00E+09	2.40E-07	NA	--

See notes on page 4 or 4

Table 4
Summary of Soil (0 to 12 ft bgs) Data Compared to Construction GDCSS - C Area Exposure Unit
Former GM Dephi Harrison Thermal Systems Facility
Dayton, Ohio

CAS	Parameter	Frequency of Detection		Range of Detections		Maximum Location	Range of Detection Limits		Units	Construction/Excavation Standard for Single Chemical (noncarcinogen)	Construction/ Excavation Noncarcinogenic Risk Ratio	Construction/ Excavation Standard for Single Chemical (carcinogens)	Construction/ Excavation Carcinogenic Risk Ratio
		# Detected	# Samples	Minimum	Maximum		Minimum	Maximum					
75-05-8	Acetonitrile	0	2				104	176	ug/kg				
98-86-2	Acetophenone	1	30	110	110	SB-74-03	340	17000	ug/kg	1.00E+09	1.10E-07	NA	--
107-02-8	Acrolein	0	2				52.10	88.20	ug/kg				
107-13-1	Acrylonitrile	0	2				52.10	88.20	ug/kg				
107-05-1	Allyl chloride	0	2				26.10	44.10	ug/kg				
120-12-7	Anthracene	8	33	45	1500	SB-74-03	125	17000	ug/kg	1.00E+09	1.50E-06	NA	--
7440-36-0	Antimony	7	34	0.51	28.80	BH-183	6	8.90	mg/kg	8.50E+02	3.39E-02	NA	--
12674-11-2	Aroclor-1016	0	7				33	76	ug/kg				
11104-28-2	Aroclor-1221	0	7				33	76	ug/kg				
11141-16-5	Aroclor-1232	0	7				33	76	ug/kg				
53469-21-9	Aroclor-1242	0	7				33	76	ug/kg				
12672-29-6	Aroclor-1248	0	7				33	76	ug/kg				
11097-69-1	Aroclor-1254	1	7	890	890	SB-142-04	33	76	ug/kg	7.50E+04	1.19E-02	4.40E+05	2.02E-03
11096-82-5	Aroclor-1260	0	7				33	76	ug/kg				
7440-38-2	Arsenic	34	34	1.1	15.60	BH-182			mg/kg	6.90E+02	2.26E-02	1.30E+03	1.20E-02
1912-24-9	Atrazine	0	30				340	17000	ug/kg				
7440-39-3	Barium	34	34	2.8	748	SB-153-04			mg/kg	3.20E+05	2.34E-03	NA	--
100-52-7	Benzaldehyde	1	30	180	180	SB-74-03	340	17000	ug/kg	NL	--	NL	--
71-43-2	Benzene	9	48	4	93	SB-131-04	4.60	4600	ug/kg	1.20E+06	7.75E-05	1.20E+06	7.75E-05
56-55-3	Benzo(a)anthracene	15	33	34	10000	SB-74-03	125	7300	ug/kg	NA	--	1.20E+06	8.33E-03
50-32-8	Benzo(a)pyrene	13	32	21	8400	SB-74-03	125	17000	ug/kg	NA	--	1.20E+05	7.00E-02
205-99-2	Benzo(b)fluoranthene	17	32	25	10000	SB-74-03	125	7300	ug/kg	NA	--	1.20E+06	8.33E-03
191-24-2	Benzo(g,h,i)perylene	12	33	18	4700	SB-74-03	125	17000	ug/kg	3.90E+08	1.21E-05	NA	--
207-08-9	Benzo(k)fluoranthene	11	33	43	6700	SB-74-03	125	17000	ug/kg	NA	--	1.20E+07	5.58E-04
7440-41-7	Beryllium	26	34	0.034	3.5	BH-182	0.53	0.79	mg/kg	3.40E+03	1.03E-03	7.10E+04	4.93E-05
92-52-4	Biphenyl	2	30	61	130	SB-74-03	340	17000	ug/kg	2.10E+08	6.19E-07	1.90E+08	6.84E-07
111-91-1	bis(2-Chloroethoxy)methane	0	30				340	17000	ug/kg				
111-44-4	bis(2-Chloroethyl)ether	0	30				340	17000	ug/kg				
117-81-7	bis(2-Ethylhexyl)phthalate	7	31	29	3000	SB-74-03	340	17000	ug/kg	2.80E+08	1.07E-05	7.10E+07	4.23E-05
108-86-1	Bromobenzene	0	2				22.10	264	ug/kg				
74-97-5	Bromochloromethane	0	2				13	22.10	ug/kg				
75-27-4	Bromodichloromethane	0	48				4.30	4600	ug/kg				
75-25-2	Bromoform	0	48				4.30	4600	ug/kg				
74-83-9	Bromomethane	0	48				4.30	4600	ug/kg				
85-68-7	Butyl benzylphthalate	0	30				340	17000	ug/kg				
7440-43-9	Cadmium	29	33	0.035	81.80	SB-33-02	0.52	0.560000002	mg/kg	1.00E+03	8.18E-02	9.50E+04	8.61E-04
105-60-2	Caprolactam	0	30				340	17000	ug/kg				
86-74-8	Carbazole	7	31	33	5300	SB-74-03	340	17000	ug/kg	NA	--	5.00E+07	1.06E-04
75-15-0	Carbon disulfide	0	48				4.30	4600	ug/kg				
56-23-5	Carbon tetrachloride	0	48				4.30	4600	ug/kg				
108-90-7	Chlorobenzene	0	48				4.30	4600	ug/kg				
75-00-3	Chloroethane	0	48				4.30	4600	ug/kg				
67-66-3	Chloroform	3	48	44	100	SB-131-04	4.30	4600	ug/kg	2.50E+06	4.00E-05	3.20E+05	3.13E-04
74-87-3	Chloromethane	0	48				4.30	4600	ug/kg				
7440-47-3	Chromium Total	34	34	2	1790	SB-33-02			mg/kg	1.90E+04	9.42E-02	1.20E+03	**1.49E+00**
218-01-9	Chrysene	16	33	30	11000	SB-74-03	125	7300	ug/kg	NA	--	1.20E+08	9.17E-05
156-59-2	cis-1,2-Dichloroethene	16	48	0.72	6400	SB-74-03	2.30	2300	ug/kg	4.30E+07	1.49E-04	NA	--
10061-01-5	cis-1,3-Dichloropropene	0	48				4.30	4600	ug/kg				
7440-48-4	Cobalt	33	34	0.49	84.80	SB-155-04	5.20	5.20	mg/kg	2.80E+03	3.03E-02	1.90E+04	4.46E-03
7440-50-8	Copper	34	34	1.20	9420	SB-155-04			mg/kg	2.10E+04	4.49E-01	NA	--

See notes on page 4 or 4

Table 4
Summary of Soil (0 to 12 ft bgs) Data Compared to Construction GDCSS - C Area Exposure Unit
Former GM Dephi Harrison Thermal Systems Facility
Dayton, Ohio

CAS	Parameter	Frequency of Detection		Range of Detections		Maximum Location	Range of Detection Limits		Units	Construction/Excavation Standard for Single Chemical (noncarcinogen)	Construction/ Excavation Noncarcinogenic Risk Ratio	Construction/ Excavation Standard for Single Chemical (carcinogens)	Construction/ Excavation Carcinogenic Risk Ratio
		# Detected	# Samples	Minimum	Maximum		Minimum	Maximum					
57-12-5	Cyanide (total)	13	34	0.11	11.70	SB-33-02	0.5	0.74	mg/kg	1.50E+02	7.80E-02	NA	--
110-82-7	Cyclohexane	16	47	1.80	1500	SB-74-03	9.30	9100	ug/kg	7.50E+04	2.00E-02	NA	--
53-70-3	Dibenz(a,h)anthracene	8	33	38	1000	SB-74-03	125	17000	ug/kg	NA	--	1.20E+05	8.33E-03
132-64-9	Dibenzofuran	5	30	40	1600	SB-44-02	340	17000	ug/kg	2.10E+06	7.62E-04	NA	--
124-48-1	Dibromochloromethane	0	48				4.30	4600	ug/kg				
74-95-3	Dibromomethane	0	2				13	22.10	ug/kg				
75-71-8	Dichlorodifluoromethane	4	48	88	300	SB-74-03	4.30	4600	ug/kg	4.30E+08	6.98E-07	NA	--
84-66-2	Diethyl phthalate	0	30				340	17000	ug/kg				
131-11-3	Dimethyl phthalate	0	30				340	17000	ug/kg				
84-74-2	Di-n-butylphthalate	0	30				340	17000	ug/kg				
117-84-0	Di-N-Octyl phthalate	1	30	56	56	BH-176	340	17000	ug/kg	1.40E+08	4.00E-07	NA	--
100-41-4	Ethylbenzene	11	48	0.65	120	091216-3	4.60	4600	ug/kg	1.90E+08	6.32E-07	6.10E+06	1.97E-05
206-44-0	Fluoranthene	18	33	44	27000	SB-74-03	125	7300	ug/kg	1.60E+08	1.69E-04	NA	--
86-73-7	Fluorene	5	32	82	370	SB-44-02	125	17000	ug/kg	5.20E+08	7.12E-07	NA	--
118-74-1	Hexachlorobenzene	0	30				340	17000	ug/kg				
87-68-3	Hexachlorobutadiene, SVOC	0	30				340	17000	ug/kg				
77-47-4	Hexachlorocyclopentadiene	0	30				1700	85000	ug/kg				
67-72-1	Hexachloroethane	0	30				340	17000	ug/kg				
193-39-5	Indeno(1,2,3-cd)pyrene	11	33	50	4100	SB-74-03	125	17000	ug/kg	NA	--	1.20E+06	3.42E-03
74-88-4	Iodomethane	0	2				26.10	44.10	ug/kg				
78-59-1	Isophorone	0	30				340	17000	ug/kg				
98-82-8	Isopropylbenzene, VOC	2	46	2.30	20	BH-183	4.30	4600	ug/kg	8.60E+07	2.33E-07	NA	--
	m&p-Xylene	1	2	44.10	44.10	091216-3	527	527	ug/kg	NL	--	NL	--
7439-96-5	Manganese	34	34	44.40	1230	BH-182			mg/kg	NL	--	NL	--
7439-97-6	Mercury*	27	34	0.0077	7.5	SB-156-04	0.10	0.119999997	mg/kg	3.10E+01	2.42E-01	NA	--
79-20-9	Methyl acetate	6	47	81	1200	SB-131-04	8.70	9100	ug/kg	NL	--	NL	--
108-87-2	Methyl cyclohexane	20	47	1.1	3800	SB-74-03	9.30	9100	ug/kg	NL	--	NL	--
1634-04-4	Methyl tert butyl ether	0	49				17	18000	ug/kg				
75-09-2	Methylene chloride	13	48	5	2600	SB-154-04	4.60	2700	ug/kg	8.50E+06	3.06E-04	3.40E+08	7.65E-06
91-20-3	Naphthalene, SVOC	8	32	22	2800	SB-142-04	125	10000	ug/kg	5.60E+05	5.00E-03	3.80E+06	7.37E-04
110-54-3	n-Hexane	0	2				13	22.10	ug/kg				
7440-02-0	Nickel	34	34	1	427	SB-142-04			mg/kg	2.30E+04	1.86E-02	6.60E+05	6.47E-04
98-95-3	Nitrobenzene	0	30				340	17000	ug/kg				
621-64-7	N-Nitrosodi-n-propylamine	0	30				340	17000	ug/kg				
86-30-6	N-Nitrosodiphenylamine	0	30				340	17000	ug/kg				
95-47-6	o-Xylene	1	2	22.1	22.10	091216-3	264	264	ug/kg	NL	--	NL	--
87-86-5	Pentachlorophenol	0	30				340	17000	ug/kg				
85-01-8	Phenanthrene	19	33	17	11000	SB-44-02	125	1050	ug/kg	1.00E+09	1.10E-05	NA	--
108-95-2	Phenol	0	30				340	17000	ug/kg				
129-00-0	Pyrene, SVOC	19	33	28	25000	SB-74-03	125	1050	ug/kg	3.90E+08	6.41E-05	NA	--
7782-49-2	Selenium	4	34	0.39	2.30	SB-74-03	0.5	0.74	mg/kg	1.10E+04	2.09E-04	NA	--
7440-22-4	Silver	7	32	0.11	2.90	SB-142-04	1	1.5	mg/kg	1.10E+04	2.64E-04	NA	--
100-42-5	Styrene	1	48	3.2	3.20	BH-183	4.30	4600	ug/kg	1.10E+05	2.91E-05	NA	--
127-18-4	Tetrachloroethene*	39	49	1	130000	SB-154-04	4.30	264	ug/kg	3.80E+05	3.42E-01	2.50E+07	5.20E-03
7440-28-0	Thallium	17	34	0.55	1.90	SB-44-02	1	1.40	mg/kg	2.10E+01	9.05E-02	NA	--
108-88-3	Toluene	23	49	0.61	710	SB-131-04	4.60	4600	ug/kg	8.20E+07	8.66E-06	NA	--
156-60-5	trans-1,2-Dichloroethene	0	49				2.30	2300	ug/kg				
10061-02-6	trans-1,3-Dichloropropene	0	48				4.30	4600	ug/kg				
79-01-6	Trichloroethene	32	49	1.5	81000	SB-74-03	4.30	320	ug/kg	1.70E+04	**4.76E+00**	1.40E+06	5.79E-02
75-69-4	Trichlorofluoromethane	0	48				4.30	4600	ug/kg				
76-13-1	Trifluorotrichloroethane	0	46				4.30	4600	ug/kg				
7440-62-2	Vanadium	32	32	1.7	39.10	BH-182			mg/kg	1.10E+04	3.55E-03	NA	--
108-05-4	Vinyl acetate	0	2				26.10	44.10	ug/kg				
75-01-4	Vinyl chloride	0	48				4.30	4600	ug/kg				
1330-20-7	Xylene (Total)	15	47	2.1	1600	SB-74-03	9.30	9100	ug/kg	7.00E+06	2.29E-04	NA	--
7440-66-6	Zinc	34	34	3.2	43300	SB-33-02			mg/kg	6.40E+05	6.77E-02	NA	--
										Cumulative Risk Ratio	**6.36E+00**	Cumulative Risk Ratio	**1.68E+00**

See notes on page 4 or 4

Table 4
Summary of Soil (0 to 12 ft bgs) Data Compared to Construction GDCSS - C Area Exposure Unit
Former GM Dephi Harrison Thermal Systems Facility
Dayton, Ohio

CAS	Parameter	Frequency of Detection		Range of Detections		Maximum Location	Range of Detection Limits		Units	Construction/Excavation Standard for Single Chemical (noncarcinogen)	Construction/ Excavation Noncarcinogenic Risk Ratio	Construction/ Excavation Standard for Single Chemical (carcinogens)	Construction/ Excavation Carcinogenic Risk Ratio
		# Detected	# Samples	Minimum	Maximum		Minimum	Maximum					
CAS	Parameter	Frequency of Detection		Range of Detections		Maximum Location	Range of Detection Limits		Units	Construction/Excavation Standard for Single Chemical (noncarcinogen)	Construction/ Excavation Noncarcinogenic Risk Ratio	Construction/ Excavation Standard for Single Chemical (carcinogens)	Construction/ Excavation Carcinogenic Risk Ratio
		# Detected	# Samples	Minimum	Maximum		Minimum	Maximum					
7439-92-1	Lead	34	34	1.5	451	BH-183	--	--	mg/kg	**4.00E+02**	--	--	--
	GRO (C6-C12)	2	2	213	1850	091216-5	--	--	mg/kg	**1.00E+03**	--	NL	--
	TPH C10-C20	2	2	429	1530	091216-5	--	--	mg/kg	2.00E+03	--	NL	--
	TPH C20-C34	2	2	3330	9000	091216-5	--	--	mg/kg	**5.00E+03**	--	NL	--

Notes:
bgs - below ground surface
ft - feet
mg/kg - milligram per kilogram
NA - Not Applicable
NL - Not Listed
SVOC - Semi-Volatile Organic Compounds
ug/kg - microgram per kilogram
VOC - Volatile Organic Compounds
* The Construction Single Chem GDCSS is 3.1 mg/kg for mercury and 170 mg/kg for PCE and is based on the soil saturation standard

See notes on page 4 or 4

Table 5
Summary of Surface (0 to 3 ft bgs) Soil Data Compared to Commercial/Industrial GDCSS - N Area Exposure Unit
Former GM Dephi Harrison Thermal Systems Facility
Dayton, Ohio

CAS	Parameter	Frequency of Detection		Range of Detections		Maximum Location	Range of Detection Limits		Units	Commercial/Industrial Standard for Single Chemical (noncarcinogen)	Commercial/Industrial Noncarcinogenic Risk Ratio	Commercial/Industrial Standard for Single Chemical (carcinogens)	Commercial/ Industrial Carcinogenic Risk Ratio
		# Detected	# Samples	Minimum	Maximum		Minimum	Maximum					
71-55-6	1,1,1-Trichloroethane	6	19	140	8700	SB-164-04	5.60	2900	ug/kg	9.60E+07	9.06E-05	NA	
79-34-5	1,1,2,2-Tetrachloroethane	0	19				5.60	2900	ug/kg				
79-00-5	1,1,2-Trichloroethane	0	19				5.60	2900	ug/kg				
75-34-3	1,1-Dichloroethane	6	19	150	3600	SB-150-04	5.60	2900	ug/kg	8.20E+08	4.39E-06	4.20E+05	8.57E-03
75-35-4	1,1-Dichloroethene	4	19	110	340	SB-150-04	5.60	2900	ug/kg	2.70E+06	1.26E-04	NA	--
120-82-1	1,2,4-Trichlorobenzene, VOC	0	19				5.60	2900	ug/kg				
96-12-8	1,2-Dibromo-3-chloropropane	0	19				11	5700	ug/kg				
106-93-4	1,2-Dibromoethane	0	19				5.60	2900	ug/kg				
95-50-1	1,2-Dichlorobenzene, VOC	0	19				5.60	2900	ug/kg				
107-06-2	1,2-Dichloroethane	0	19				5.60	2900	ug/kg				
78-87-5	1,2-Dichloropropane	0	19				5.60	2900	ug/kg				
541-73-1	1,3-Dichlorobenzene, VOC	0	19				5.60	2900	ug/kg				
106-46-7	1,4-Dichlorobenzene, VOC	3	19	17	22	SB-39-02	5.60	2900	ug/kg	7.40E+07	2.97E-07	3.10E+05	7.10E-05
39638-32-9	2,2-oxybis(2-Chloropropane), SVOC	0	19				340	4800	ug/kg				
95-95-4	2,4,5-Trichlorophenol	0	19				340	4800	ug/kg				
88-06-2	2,4,6-Trichlorophenol	0	19				340	4800	ug/kg				
120-83-2	2,4-Dichlorophenol	0	19				340	4800	ug/kg				
105-67-9	2,4-Dimethylphenol	0	19				340	4800	ug/kg				
51-28-5	2,4-Dinitrophenol	0	19				1700	23000	ug/kg				
121-14-2	2,4-Dinitrotoluene	0	19				340	4800	ug/kg				
606-20-2	2,6-Dinitrotoluene	0	19				340	4800	ug/kg				
78-93-3	2-Butanone	5	19	96	210	SB-43-02	22	11000	ug/kg	5.60E+08	3.75E-07	NA	--
91-58-7	2-Chloronaphthalene	0	19				340	4800	ug/kg				
95-57-8	2-Chlorophenol	0	19				340	4800	ug/kg				
591-78-6	2-Hexanone	0	19				22	11000	ug/kg				
91-57-6	2-Methylnaphthalene	5	19	33	270	SB-75-03	340	4800	ug/kg	6.00E+06	4.50E-05	NA	--
95-48-7	2-Methylphenol	0	19				340	4800	ug/kg				
88-74-4	2-Nitroaniline	0	19				1700	23000	ug/kg				
88-75-5	2-Nitrophenol	0	19				340	4800	ug/kg				
91-94-1	3,3-Dichlorobenzidine	0	19				1700	23000	ug/kg				
99-09-2	3-Nitroaniline	0	19				1700	23000	ug/kg				
534-52-1	4,6-Dinitro-2-methylphenol	0	19				1700	23000	ug/kg				
101-55-3	4-Bromophenyl phenyl ether	0	19				340	4800	ug/kg				
59-50-7	4-Chloro-3-methylphenol	0	19				340	4800	ug/kg				
106-47-8	4-Chloroaniline	0	19				340	4800	ug/kg				
7005-72-3	4-Chlorophenyl phenyl ether	0	19				340	4800	ug/kg				
108-10-1	4-Methyl-2-Pentanone	0	19				22	11000	ug/kg				
106-44-5	4-Methylphenol	0	19				340	4800	ug/kg				
100-01-6	4-Nitroaniline	0	19				1700	23000	ug/kg				
100-02-7	4-Nitrophenol	0	19				1700	23000	ug/kg				
83-32-9	Acenaphthene	1	19	24	24	SB-88-03	340	4800	ug/kg	9.00E+07	2.67E-07	NA	--
208-96-8	Acenaphthylene	2	19	41	93	SB-56-02	340	4800	ug/kg	9.00E+07	1.03E-06	NA	--
67-64-1	Acetone	3	19	77	320	SB-22-02	22	11000	ug/kg	1.00E+09	3.20E-07	NA	--
98-86-2	Acetophenone	0	19				340	4800	ug/kg				
120-12-7	Anthracene	2	19	73	140	SB-56-02	340	4800	ug/kg	4.50E+08	3.11E-07	NA	--
7440-36-0	Antimony	8	19	0.5	1.7	SB-39-02	6.60	8	mg/kg	1.60E+03	1.06E-03	NA	--
12674-11-2	Aroclor-1016	0	25				20.80	2400	ug/kg				
11104-28-2	Aroclor-1221	0	25				20.80	2400	ug/kg				
11141-16-5	Aroclor-1232	0	25				20.80	2400	ug/kg				
53469-21-9	Aroclor-1242	0	25				20.80	2400	ug/kg				
12672-29-6	Aroclor-1248	0	25				20.80	2400	ug/kg				

See notes on page 3 of 3

Table 5
Summary of Surface (0 to 3 ft bgs) Soil Data Compared to Commercial/Industrial GDCSS - N Area Exposure Unit
Former GM Dephi Harrison Thermal Systems Facility
Dayton, Ohio

CAS	Parameter	Frequency of Detection		Range of Detections		Maximum Location	Range of Detection Limits		Units	Commercial/Industrial Standard for Single Chemical (noncarcinogen)	Commercial/Industrial Noncarcinogenic Risk Ratio	Commercial/Industrial Standard for Single Chemical (carcinogens)	Commercial/ Industrial Carcinogenic Risk Ratio
		# Detected	# Samples	Minimum	Maximum		Minimum	Maximum					
11097-69-1	Aroclor-1254	18	25	8.10	29300	TT-SB264	34	45	ug/kg	2.90E+04	**1.01E+00**	2.00E+04	**1.47E+00**
11096-82-5	Aroclor-1260	1	25	210	210	SB-88-03	20.80	2400	ug/kg	NA	--	2.00E+04	1.05E-02
7440-38-2	Arsenic	19	19	2.80	15.20	SB-75-03			mg/kg	1.20E+03	1.27E-02	7.70E+01	1.97E-01
1912-24-9	Atrazine	0	19				340	4800	ug/kg				
7440-39-3	Barium	19	19	42.10	299	SB-40-02			mg/kg	6.80E+05	4.40E-04	NA	--
100-52-7	Benzaldehyde	0	19				340	4800	ug/kg				
71-43-2	Benzene	1	19	30	30	SB-164-04	5.60	2900	ug/kg	1.20E+06	2.50E-05	1.40E+05	2.14E-04
56-55-3	Benzo(a)anthracene	9	19	29	1300	SB-56-02	340	4800	ug/kg	NA	--	5.80E+04	2.24E-02
50-32-8	Benzo(a)pyrene	8	19	22	2100	SB-56-02	360	4800	ug/kg	NA	--	5.80E+03	3.62E-01
205-99-2	Benzo(b)fluoranthene	8	19	48	3000	SB-56-02	360	4800	ug/kg	NA	--	5.80E+04	5.17E-02
191-24-2	Benzo(g,h,i)perylene	5	19	29	1300	SB-56-02	340	4800	ug/kg	4.50E+07	2.89E-05	NA	--
207-08-9	Benzo(k)fluoranthene	5	19	27	1400	SB-56-02	340	4800	ug/kg	NA	--	5.80E+05	2.41E-03
7440-41-7	Beryllium	14	19	0.10	4.30	SB-40-02	0.55	0.65	mg/kg	7.80E+03	5.51E-04	9.70E+04	4.43E-05
92-52-4	Biphenyl	1	19	29	29	SB-151-04	340	4800	ug/kg	1.00E+09	2.90E-08	1.40E+07	2.07E-06
111-91-1	bis(2-Chloroethoxy)methane	0	19				340	4800	ug/kg				
111-44-4	bis(2-Chloroethyl)ether	0	19				340	4800	ug/kg				
117-81-7	bis(2-Ethylhexyl)phthalate	3	19	55	110	SB-38-02	340	4800	ug/kg	3.50E+07	3.14E-06	3.50E+06	3.14E-05
75-27-4	Bromodichloromethane	0	19				5.60	2900	ug/kg				
75-25-2	Bromoform	0	19				5.60	2900	ug/kg				
74-83-9	Bromomethane	1	19	770	770	SB-145-04	5.60	1500	ug/kg	8.20E+04	9.39E-03	NA	--
85-68-7	Butyl benzylphthalate	0	19				340	4800	ug/kg				
7440-43-9	Cadmium	9	19	0.06	3	SB-146-04	0.52	0.689999998	mg/kg	2.60E+03	1.15E-03	1.30E+05	2.31E-05
105-60-2	Caprolactam	0	19				340	4800	ug/kg				
86-74-8	Carbazole	2	19	25	68	SB-56-02	340	4800	ug/kg	NA	--	2.50E+06	2.72E-05
75-15-0	Carbon disulfide	0	19				5.60	2900	ug/kg				
56-23-5	Carbon tetrachloride	2	19	43	69	SB-56-02	5.60	2900	ug/kg	1.60E+06	4.31E-05	7.90E+04	8.73E-04
108-90-7	Chlorobenzene	0	19				5.60	2900	ug/kg				
75-00-3	Chloroethane	0	19				5.60	2900	ug/kg				
67-66-3	Chloroform	3	19	90	180	SB-146-04	5.60	2900	ug/kg	2.80E+06	6.43E-05	3.80E+04	4.74E-03
74-87-3	Chloromethane	0	19				5.60	2900	ug/kg				
7440-47-3	Chromium Total	19	19	4.30	43.5	SB-146-04			mg/kg	1.20E+04	3.63E-03	2.10E+02	2.07E-01
218-01-9	Chrysene	10	19	54	1500	SB-56-02	360	4800	ug/kg	NA	--	5.80E+06	2.59E-04
156-59-2	cis-1,2-Dichloroethene	15	19	0.77	19000	SB-40-02	120	1400	ug/kg	8.20E+06	2.32E-03	NA	--
10061-01-5	cis-1,3-Dichloropropene	0	19				5.60	2900	ug/kg				
7440-48-4	Cobalt	19	19	1.80	39.5	SB-151-04			mg/kg	1.20E+03	3.29E-02	2.60E+04	1.52E-03
7440-50-8	Copper	19	19	9.80	454	SB-144-04			mg/kg	1.60E+05	2.84E-03	NA	--
57-12-5	Cyanide (total)	6	19	0.15	1.70	SB-40-02	0.52	0.73	mg/kg	3.70E+02	4.59E-03	NA	--
110-82-7	Cyclohexane	8	19	16	330	SB-164-04	11	5700	ug/kg	7.40E+07	4.46E-06	NA	--
53-70-3	Dibenz(a,h)anthracene	2	19	180	340	SB-56-02	340	4800	ug/kg	NA	--	5.80E+03	5.86E-02
132-64-9	Dibenzofuran	1	19	31	31	SB-164-04	340	4800	ug/kg	4.10E+06	7.56E-06	NA	--
124-48-1	Dibromochloromethane	0	19				5.60	2900	ug/kg				
75-71-8	Dichlorodifluoromethane	0	19				5.60	2900	ug/kg				
84-66-2	Diethyl phthalate	0	19				340	4800	ug/kg				
131-11-3	Dimethyl phthalate	0	19				340	4800	ug/kg				
84-74-2	Di-n-butylphthalate	0	19				340	4800	ug/kg				
117-84-0	Di-N-Octyl phthalate	1	19	110	110	SB-38-02	340	4800	ug/kg	1.80E+07	6.11E-06	NA	--
100-41-4	Ethylbenzene	3	19	0.49	37	SB-40-02	230	2900	ug/kg	5.80E+07	6.38E-07	7.00E+05	5.29E-05
206-44-0	Fluoranthene	11	19	24	1600	SB-56-02	360	4800	ug/kg	6.00E+07	2.67E-05	NA	--
86-73-7	Fluorene	1	19	76	76	SB-88-03	340	4800	ug/kg	6.00E+07	1.27E-06	NA	--
118-74-1	Hexachlorobenzene	0	19				340	4800	ug/kg				
87-68-3	Hexachlorobutadiene, SVOC	0	19				340	4800	ug/kg				

See notes on page 3 of 3

Table 5
Summary of Surface (0 to 3 ft bgs) Soil Data Compared to Commercial/Industrial GDCSS - N Area Exposure Unit
Former GM Dephi Harrison Thermal Systems Facility
Dayton, Ohio

CAS	Parameter	Frequency of Detection		Range of Detections		Maximum Location	Range of Detection Limits		Units	Commercial/Industrial Standard for Single Chemical (noncarcinogen)	Commercial/Industrial Noncarcinogenic Risk Ratio	Commercial/Industrial Standard for Single Chemical (carcinogens)	Commercial/ Industrial Carcinogenic Risk Ratio
		# Detected	# Samples	Minimum	Maximum		Minimum	Maximum					
77-47-4	Hexachlorocyclopentadiene	0	19				1700	23000	ug/kg				
67-72-1	Hexachloroethane	0	19				340	4800	ug/kg				
193-39-5	Indeno(1,2,3-cd)pyrene	4	19	34	1100	SB-56-02	340	4800	ug/kg	NA	--	5.80E+04	1.90E-02
78-59-1	Isophorone	0	19				340	4800	ug/kg				
98-82-8	Isopropylbenzene, VOC	1	19	150	150	SB-19-02	5.60	2900	ug/kg	2.70E+07	5.56E-06	NA	--
7439-96-5	Manganese	20	20	139	5760	SB-40-02			mg/kg	NL	--	NL	--
7439-97-6	Mercury*	12	19	0.05	0.23	SB-56-02	0.11	0.140000001	mg/kg	8.50E+01	2.71E-03	NA	--
79-20-9	Methyl acetate	5	19	130	470	SB-56-02	11	5700	ug/kg	NL	--	NL	--
108-87-2	Methyl cyclohexane	11	19	23	1000	SB-164-04	11	5700	ug/kg	NL	--	NL	--
1634-04-4	Methyl tert butyl ether	0	19				22	11000	ug/kg				
75-09-2	Methylene chloride	1	19	4.60	4.60	SB-151-04	230	2900	ug/kg	9.50E+06	4.84E-07	3.20E+07	1.44E-07
91-20-3	Naphthalene, SVOC	2	19	30	47	SB-164-04	340	4800	ug/kg	1.60E+06	2.94E-05	4.50E+05	1.04E-04
7440-02-0	Nickel	19	19	3.90	66.5	SB-144-04			mg/kg	7.40E+07	8.99E-07	9.00E+05	7.39E-05
98-95-3	Nitrobenzene	0	19				340	4800	ug/kg				
621-64-7	N-Nitrosodi-n-propylamine	0	19				340	4800	ug/kg				
86-30-6	N-Nitrosodiphenylamine	0	19				340	4800	ug/kg				
87-86-5	Pentachlorophenol	0	19				340	4800	ug/kg				
85-01-8	Phenanthrene	10	19	43	930	SB-75-03	340	4800	ug/kg	4.50E+08	2.07E-06	NA	--
108-95-2	Phenol	0	19				340	4800	ug/kg				
129-00-0	Pyrene, SVOC	11	19	26	1800	SB-56-02	360	4800	ug/kg	4.50E+07	4.00E-05	NA	--
7782-49-2	Selenium	3	19	0.71	1.20	SB-40-02	0.52	1.20	mg/kg	2.00E+07	6.00E-08	NA	--
7440-22-4	Silver	3	19	0.29	0.35	SB-151-04	1	2.70	mg/kg	2.00E+04	1.75E-05	NA	--
100-42-5	Styrene	0	19				5.60	2900	ug/kg				
127-18-4	Tetrachloroethene*	19	19	150	53000	SB-144-04			ug/kg	1.10E+06	4.82E-02	2.80E+06	1.89E-02
7440-28-0	Thallium	13	19	0.54	2.5	SB-40-02	1.10	1.30	mg/kg	4.10E+01	--	NA	--
108-88-3	Toluene	8	19	0.94	120	SB-150-04	230	2900	ug/kg	1.40E+08	8.57E-07	NA	--
156-60-5	trans-1,2-Dichloroethene	7	19	22	930	SB-150-04	2.80	1400	ug/kg	1.70E+06	5.47E-04	NA	--
10061-02-6	trans-1,3-Dichloropropene	0	19				5.60	2900	ug/kg				
79-01-6	Trichloroethene	19	19	34	91000	SB-145-04			ug/kg	5.10E+04	**1.78E+00**	1.70E+05	5.35E-01
75-69-4	Trichlorofluoromethane	0	19				5.60	2900	ug/kg				
76-13-1	Trifluorotrichloroethane	0	19				5.60	2900	ug/kg				
7440-62-2	Vanadium	19	19	5.30	63.10	SB-164-04			mg/kg	2.00E+04	3.15E-03	NA	--
75-01-4	Vinyl chloride	2	19	1700	1900	SB-150-04	5.60	2900	ug/kg	1.00E+06	1.90E-03	5.00E+04	3.80E-02
1330-20-7	Xylene (Total)	9	19	1.70	440	SB-43-02	460	5700	ug/kg	6.80E+06	6.47E-05	NA	--
7440-66-6	Zinc	19	19	11.70	495	SB-164-04			mg/kg	1.00E+06	4.95E-04	NA	--
										Cumulative Risk Ratio	**2.92E+00**	Cumulative Risk Ratio	**3.01E+00**

CAS	Parameter	Frequency of Detection		Range of Detections		Maximum Location	Range of Detection Limits		Units	Commercial/Industrial Standard for Single Chemical (noncarcinogen)	Commercial/Industrial Noncarcinogenic Risk Ratio	Commercial/Industrial Standard for Single Chemical (carcinogens)	Commercial/ Industrial Carcinogenic Risk Ratio
		# Detected	# Samples	Minimum	Maximum		Minimum	Maximum					
7439-92-1	Lead	19	19	4.80	276	SB-19-02	--	--	mg/kg	8.00E+02	--	--	--

Notes:
bgs - below ground surface
ft - feet
mg/kg - milligram per kilogram
NA - Not Applicable
NL - Not Listed
SVOC - Semi-Volatile Organic Compounds
ug/kg - microgram per kilogram
VOC - Volatile Organic Compounds
* The C/I Single Chem GDCSS is 3.1 mg/kg for mercury and 170 mg/kg for PCE and is based on the soil saturation standard

See notes on page 3 of 3

Table 6
Summary of Subsurface (3 to 12 ft bgs) Soil Data Compared to Commercial/Industrial GDCSS - N Area Exposure Unit
Former GM Dephi Harrison Thermal Systems Facility
Dayton, Ohio

CAS	Parameter	Frequency of Detection		Range of Detections		Maximum Location	Range of Detection Limits		Units	Commercial/Industrial Standard for Single Chemical (noncarcinogen)	Commercial/Industrial Noncarcinogenic Risk Ratio	Commercial/Industrial Standard for Single Chemical (carcinogens)	Commercial/Industrial Carcinogenic Risk Ratio
		# Detected	# Samples	Minimum	Maximum		Minimum	Maximum					
71-55-6	1,1,1-Trichloroethane	1	26	1.5	1.5	SB-150-04	4.5	880	ug/kg	9.60E+07	1.56E-08	NA	--
79-34-5	1,1,2,2-Tetrachloroethane	0	26				4.40	880	ug/kg				
79-00-5	1,1,2-Trichloroethane	0	26				4.40	880	ug/kg				
75-34-3	1,1-Dichloroethane	2	26	5.10	26	SB-56-02	4.5	880	ug/kg	8.20E+08	3.17E-08	4.20E+05	--
75-35-4	1,1-Dichloroethene	0	26				4.40	880	ug/kg				
	1,1-Dichloroethene, TCLP	0	3				0.20	0.2	mg/l				
120-82-1	1,2,4-Trichlorobenzene, VOC	0	26				4.40	880	ug/kg				
96-12-8	1,2-Dibromo-3-chloropropane	0	25				8.80	1800	ug/kg				
106-93-4	1,2-Dibromoethane	0	26				4.40	880	ug/kg				
95-50-1	1,2-Dichlorobenzene, VOC	1	26	72	72	SB-144-04	4.40	880	ug/kg	2.60E+07	2.77E-06	NA	--
107-06-2	1,2-Dichloroethane	0	26				4.40	880	ug/kg				
	1,2-Dichloroethane, TCLP	0	3				0.20	0.2	mg/l				
78-87-5	1,2-Dichloropropane	0	26				4.40	880	ug/kg				
541-73-1	1,3-Dichlorobenzene, VOC	0	26				4.40	880	ug/kg				
	1,4-Dichlorobenzene, TCLP	0	3				0.05	0.05	mg/l				
106-46-7	1,4-Dichlorobenzene, VOC	4	26	0.85	27	SB-40-02	4.40	880	ug/kg	7.40E+07	3.65E-07	3.10E+05	8.71E-05
39638-32-9	2,2-oxybis(2-Chloropropane), SVOC	0	26				340	19000	ug/kg				
95-95-4	2,4,5-Trichlorophenol	0	26				340	19000	ug/kg				
	2,4,5-Trichlorophenol, TCLP	0	3				0.05	0.05	mg/l				
88-06-2	2,4,6-Trichlorophenol	0	26				340	19000	ug/kg				
120-83-2	2,4-Dichlorophenol	0	26				340	19000	ug/kg				
105-67-9	2,4-Dimethylphenol	0	26				340	19000	ug/kg				
51-28-5	2,4-Dinitrophenol	0	24				1700	90000	ug/kg				
121-14-2	2,4-Dinitrotoluene	0	26				340	19000	ug/kg				
	2,4-Dinitrotoluene, TCLP	0	3				0.05	0.05	mg/l				
606-20-2	2,6-Dinitrotoluene	0	26				340	19000	ug/kg				
78-93-3	2-Butanone	6	26	4.10	310	SB-41-02	18	2700	ug/kg	5.60E+08	5.54E-07	NA	--
	2-Butanone, TCLP	0	3				0.80	0.80000001	mg/l				
91-58-7	2-Chloronaphthalene	0	26				340	19000	ug/kg				
95-57-8	2-Chlorophenol	0	26				340	19000	ug/kg				
591-78-6	2-Hexanone	0	26				18	3500	ug/kg				
91-57-6	2-Methylnaphthalene	2	26	1000	1300	SB-41-02	340	19000	ug/kg	6.00E+06	2.17E-04	NA	--
95-48-7	2-Methylphenol	0	26				340	19000	ug/kg				
	2-Methylphenol, TCLP	0	3				0.05	0.05	mg/l				
88-74-4	2-Nitroaniline	0	24				1700	90000	ug/kg				
88-75-5	2-Nitrophenol	0	26				340	19000	ug/kg				
108-39-4T	3 & 4-Methylphenol, TCLP	0	3				0.05	0.05	mg/l				
91-94-1	3,3-Dichlorobenzidine	0	24				1700	90000	ug/kg				
99-09-2	3-Nitroaniline	0	24				1700	90000	ug/kg				
534-52-1	4,6-Dinitro-2-methylphenol	0	24				1700	90000	ug/kg				
101-55-3	4-Bromophenyl phenyl ether	0	26				340	19000	ug/kg				
59-50-7	4-Chloro-3-methylphenol	0	26				340	19000	ug/kg				
106-47-8	4-Chloroaniline	0	26				340	19000	ug/kg				
7005-72-3	4-Chlorophenyl phenyl ether	0	26				340	19000	ug/kg				
108-10-1	4-Methyl-2-Pentanone	0	26				18	3500	ug/kg				
106-44-5	4-Methylphenol	0	26				340	19000	ug/kg				
100-01-6	4-Nitroaniline	0	24				1700	90000	ug/kg				
100-02-7	4-Nitrophenol	0	24				1700	90000	ug/kg				

See notes on page 4 of 4

Table 6
Summary of Subsurface (3 to 12 ft bgs) Soil Data Compared to Commercial/Industrial GDCSS - N Area Exposure Unit
Former GM Dephi Harrison Thermal Systems Facility
Dayton, Ohio

CAS	Parameter	Frequency of Detection		Range of Detections		Maximum Location	Range of Detection Limits		Units	Commercial/Industrial Standard for Single Chemical (noncarcinogen)	Commercial/Industrial Noncarcinogenic Risk Ratio	Commercial/Industrial Standard for Single Chemical (carcinogens)	Commercial/Industrial Carcinogenic Risk Ratio
		# Detected	# Samples	Minimum	Maximum		Minimum	Maximum					
83-32-9	Acenaphthene	1	26	600	600	SB-43-02	340	19000	ug/kg	9.00E+07	6.67E-06	NA	--
208-96-8	Acenaphthylene	1	26	210	210	SB-43-02	340	19000	ug/kg	9.00E+07	2.33E-06	NA	--
67-64-1	Acetone	3	26	18	320	SB-22-02	18	3500	ug/kg	1.00E+09	3.20E-07	NA	--
98-86-2	Acetophenone	0	26				340	19000	ug/kg				
120-12-7	Anthracene	3	26	19	2700	SB-43-02	340	19000	ug/kg	4.50E+08	6.00E-06	NA	--
7440-36-0	Antimony	4	25	0.24	3.20	SB-43-02	6.20	8.60	mg/kg	1.60E+03	2.00E-03	NA	--
12674-11-2	Aroclor-1016	0	32				21.30	4700	ug/kg				
11104-28-2	Aroclor-1221	0	32				21.30	4700	ug/kg				
11141-16-5	Aroclor-1232	0	32				21.30	4700	ug/kg				
53469-21-9	Aroclor-1242	0	32				21.30	4700	ug/kg				
12672-29-6	Aroclor-1248	0	32				21.30	4700	ug/kg				
11097-69-1	Aroclor-1254	21	32	13	48000	SB-56-02	34	44	ug/kg	2.90E+04	**1.66E+00**	2.00E+04	**2.40E+00**
11096-82-5	Aroclor-1260	4	32	30	100	SB-151-04	21.30	4700	ug/kg	NA	--	2.00E+04	5.00E-03
7440-38-2	Arsenic	24	25	2	32.40	SB-43-02	1.10	1.10000002	mg/kg	1.20E+03	2.70E-02	7.70E+01	4.21E-01
	Arsenic, TCLP	0	3				0.10	0.1	mg/l				
1912-24-9	Atrazine	0	26				340	19000	ug/kg				
7440-39-3	Barium	25	25	21.5	249	SB-144-04			mg/kg	6.80E+05	3.66E-04	NA	--
	Barium, TCLP	3	3	0.51	2.13	TT-SB264			mg/l	NL	--	NL	--
100-52-7	Benzaldehyde	0	26				340	19000	ug/kg				
71-43-2	Benzene	2	26	0.33	52	SB-39-02	4.40	880	ug/kg	1.20E+06	4.33E-05	1.40E+05	3.71E-04
	Benzene, TCLP	0	3				0.20	0.2	mg/l				
56-55-3	Benzo(a)anthracene	4	26	130	4200	SB-43-02	340	19000	ug/kg	NA	--	5.80E+04	7.24E-02
50-32-8	Benzo(a)pyrene	5	26	79	3200	SB-43-02	340	19000	ug/kg	NA	--	5.80E+03	5.52E-01
205-99-2	Benzo(b)fluoranthene	6	26	70	3800	SB-43-02	340	19000	ug/kg	NA	--	5.80E+04	6.55E-02
191-24-2	Benzo(g,h,i)perylene	5	26	63	880	SB-43-02	340	19000	ug/kg	4.50E+07	1.96E-05	NA	--
207-08-9	Benzo(k)fluoranthene	4	26	72	1500	SB-43-02	340	19000	ug/kg	NA	--	5.80E+05	2.59E-03
7440-41-7	Beryllium	11	25	0.07	0.68	SB-40-02	0.52	0.70999998	mg/kg	7.80E+03	8.72E-05	9.70E+04	7.01E-06
92-52-4	Biphenyl	0	26				340	19000	ug/kg				
111-91-1	bis(2-Chloroethoxy)methane	0	26				340	19000	ug/kg				
111-44-4	bis(2-Chloroethyl)ether	0	26				340	19000	ug/kg				
117-81-7	bis(2-Ethylhexyl)phthalate	6	26	16	84	SB-41-02	340	19000	ug/kg	3.50E+07	2.40E-06	3.50E+06	2.40E-05
75-27-4	Bromodichloromethane	0	26				4.40	880	ug/kg				
75-25-2	Bromoform	0	26				4.40	880	ug/kg				
74-83-9	Bromomethane	1	26	120	120	SB-146-04	4.40	880	ug/kg	8.20E+04	1.46E-03	NA	--
85-68-7	Butyl benzylphthalate	0	26				340	19000	ug/kg				
7440-43-9	Cadmium	18	25	0.02	1.60	SB-146-04	0.52	2.70000005	mg/kg	2.60E+03	6.15E-04	1.30E+05	1.23E-05
	Cadmium, TCLP	0	3				0.01	0.01	mg/l				
105-60-2	Caprolactam	0	26				340	19000	ug/kg				
86-74-8	Carbazole	1	26	680	680	SB-43-02	340	19000	ug/kg	NA	--	2.50E+06	2.72E-04
75-15-0	Carbon disulfide	0	26				4.40	880	ug/kg				
56-23-5	Carbon tetrachloride	0	26				4.40	880	ug/kg				
	Carbon tetrachloride, TCLP	0	3				0.20	0.2	mg/l				
108-90-7	Chlorobenzene	1	26	23	23	SB-144-04	4.40	880	ug/kg	3.60E+06	6.39E-06	NA	--
	Chlorobenzene, TCLP	0	3				0.20	0.2	mg/l				
75-00-3	Chloroethane	0	26				4.40	880	ug/kg				
67-66-3	Chloroform	2	26	0.55	52	SB-88-03	4.40	880	ug/kg	2.80E+06	1.86E-05	3.80E+04	1.37E-03
	Chloroform, TCLP	0	3				0.20	0.2	mg/l				
74-87-3	Chloromethane	0	26				4.40	880	ug/kg				

See notes on page 4 of 4

Table 6
Summary of Subsurface (3 to 12 ft bgs) Soil Data Compared to Commercial/Industrial GDCSS - N Area Exposure Unit
Former GM Dephi Harrison Thermal Systems Facility
Dayton, Ohio

CAS	Parameter	Frequency of Detection		Range of Detections		Maximum Location	Range of Detection Limits		Units	Commercial/Industrial Standard for Single Chemical (noncarcinogen)	Commercial/Industrial Noncarcinogenic Risk Ratio	Commercial/Industrial Standard for Single Chemical (carcinogens)	Commercial/Industrial Carcinogenic Risk Ratio
		# Detected	# Samples	Minimum	Maximum		Minimum	Maximum					
7440-47-3	Chromium Total	25	25	2.5	25.60	SB-146-04			mg/kg	1.20E+04	2.13E-03	2.10E+02	1.22E-01
	Chromium, TCLP	0	3				0.01	0.01	mg/l				
218-01-9	Chrysene	6	26	58	3300	SB-43-02	340	19000	ug/kg	NA	--	5.80E+06	5.69E-04
156-59-2	cis-1,2-Dichloroethene	6	26	1.10	740	SB-43-02	2.20	340	ug/kg	8.20E+06	9.02E-05	NA	--
10061-01-5	cis-1,3-Dichloropropene	0	26				4.40	880	ug/kg				
7440-48-4	Cobalt	25	25	0.84	28.60	SB-43-02			mg/kg	1.20E+06	2.38E-05	2.60E+04	1.10E-03
7440-50-8	Copper	25	25	1.5	112	SB-43-02			mg/kg	1.60E+08	7.00E-07	NA	--
57-12-5	Cyanide (total)	4	24	0.13	0.77	SB-40-02	0.52	0.70999998	mg/kg	3.70E+05	2.08E-06	NA	--
110-82-7	Cyclohexane	2	25	24	95	SB-39-02	8.80	1800	ug/kg	7.40E+07	1.28E-06	NA	--
53-70-3	Dibenz(a,h)anthracene	2	26	23	380	SB-43-02	340	19000	ug/kg	NA	--	5.80E+03	6.55E-02
132-64-9	Dibenzofuran	1	26	1200	1200	SB-43-02	340	19000	ug/kg	4.10E+06	2.93E-04	NA	--
124-48-1	Dibromochloromethane	0	26				4.40	880	ug/kg				
75-71-8	Dichlorodifluoromethane	0	26				4.40	880	ug/kg				
84-66-2	Diethyl phthalate	0	26				340	19000	ug/kg				
131-11-3	Dimethyl phthalate	0	26				340	19000	ug/kg				
84-74-2	Di-n-butylphthalate	0	26				340	19000	ug/kg				
117-84-0	Di-N-Octyl phthalate	0	26				340	19000	ug/kg				
100-41-4	Ethylbenzene	2	26	0.46	34	SB-39-02	4.40	880	ug/kg	5.80E+07	5.86E-07	7.00E+05	4.86E-05
206-44-0	Fluoranthene	5	26	63	6300	SB-43-02	340	19000	ug/kg	6.00E+07	1.05E-04	NA	--
86-73-7	Fluorene	3	26	61	1600	SB-43-02	340	19000	ug/kg	6.00E+07	2.67E-05	NA	--
118-74-1	Hexachlorobenzene	0	26				340	19000	ug/kg				
	Hexachlorobenzene, TCLP	0	3				0.05	0.05	mg/l				
87-68-3	Hexachlorobutadiene, SVOC	0	26				340	19000	ug/kg				
	Hexachlorobutadiene, TCLP	0	3				0.05	0.05	mg/l				
77-47-4	Hexachlorocyclopentadiene	0	24				1700	90000	ug/kg				
67-72-1	Hexachloroethane	0	26				340	19000	ug/kg				
	Hexachloroethane, TCLP	0	3				0.05	0.05	mg/l				
193-39-5	Indeno(1,2,3-cd)pyrene	4	26	59	1000	SB-43-02	340	19000	ug/kg	NA	--	5.80E+04	1.72E-02
78-59-1	Isophorone	0	26				340	19000	ug/kg				
98-82-8	Isopropylbenzene, VOC	1	26	25	25	SB-144-04	4.40	880	ug/kg	2.70E+07	9.26E-07	NA	--
7439-96-5	Manganese	26	26	90.10	2700	SB-39-02			mg/kg	NL	--	NL	--
7439-97-6	Mercury*	9	24	0.02	2.80	SB-43-02	0.10	0.14	mg/kg	8.50E+01	3.29E-02	NA	--
	Mercury, TCLP	0	3				0.0002	0.0002	mg/l				
79-20-9	Methyl acetate	4	25	62	470	SB-39-02	8.80	1800	ug/kg	NL	--	NL	--
108-87-2	Methyl cyclohexane	4	25	3.20	63	SB-43-02	8.80	1800	ug/kg	NL	--	NL	--
1634-04-4	Methyl tert butyl ether	0	26				18	3500	ug/kg				
75-09-2	Methylene chloride	5	26	1.80	400	SB-88-03	4.40	880	ug/kg	9.50E+06	4.21E-05	3.20E+07	1.25E-05
91-20-3	Naphthalene, SVOC	1	26	720	720	SB-43-02	340	19000	ug/kg	1.60E+06	4.50E-04	4.50E+05	1.60E-03
7440-02-0	Nickel	25	25	1.90	101	SB-146-04			mg/kg	7.40E+04	1.36E-03	9.00E+05	1.12E-04
98-95-3	Nitrobenzene	0	26				340	19000	ug/kg				
	Nitrobenzene, TCLP	0	3				0.05	0.05	mg/l				
621-64-7	N-Nitrosodi-n-propylamine	0	26				340	19000	ug/kg				
86-30-6	N-Nitrosodiphenylamine	0	26				340	19000	ug/kg				
87-86-5	Pentachlorophenol	0	26				340	19000	ug/kg				
	Pentachlorophenol, TCLP	0	3				0.05	0.05	mg/l				
85-01-8	Phenanthrene	7	26	46	9100	SB-43-02	340	19000	ug/kg	4.50E+08	2.02E-05	NA	--
108-95-2	Phenol	0	26				340	19000	ug/kg				
129-00-0	Pyrene, SVOC	5	26	78	6500	SB-43-02	340	19000	ug/kg	4.50E+07	1.44E-04	NA	--

See notes on page 4 of 4

Table 6
Summary of Subsurface (3 to 12 ft bgs) Soil Data Compared to Commercial/Industrial GDCSS - N Area Exposure Unit
Former GM Dephi Harrison Thermal Systems Facility
Dayton, Ohio

CAS	Parameter	Frequency of Detection		Range of Detections		Maximum Location	Range of Detection Limits		Units	Commercial/Industrial Standard for Single Chemical (noncarcinogen)	Commercial/Industrial Noncarcinogenic Risk Ratio	Commercial/Industrial Standard for Single Chemical (carcinogens)	Commercial/Industrial Carcinogenic Risk Ratio
		# Detected	# Samples	Minimum	Maximum		Minimum	Maximum					
	Pyridine, TCLP	0	3				0.05	0.05	mg/l				
7782-49-2	Selenium	3	24	0.5	1.70	SB-43-02	0.52	0.70999998	mg/kg	2.00E+04	8.50E-05	NA	--
	Selenium, TCLP	0	3				0.10	0.1	mg/l				
7440-22-4	Silver	0	23				1	1.39999998	mg/kg				
	Silver, TCLP	0	3				0.01	0.01	mg/l				
100-42-5	Styrene	0	26				4.40	880	ug/kg				
127-18-4	Tetrachloroethene*	23	26	0.96	17000	SB-88-03	270	880	ug/kg	1.10E+06	1.55E-02	2.80E+06	6.07E-03
	Tetrachloroethene, TCLP	0	3				0.20	0.2	mg/l				
7440-28-0	Thallium	10	23	0.45	2.5	SB-40-02	1	5.40	mg/kg	4.10E+01	--	NA	--
108-88-3	Toluene	15	26	0.45	81	SB-39-02	4.90	680	ug/kg	1.40E+08	5.79E-07	NA	--
1336-36-3	Total PCBs	0	0						ug/kg				
156-60-5	trans-1,2-Dichloroethene	2	26	2.60	36	SB-43-02	2.20	440	ug/kg	1.70E+06	2.12E-05	NA	--
10061-02-6	trans-1,3-Dichloropropene	0	26				4.40	880	ug/kg				
79-01-6	Trichloroethene	20	26	0.46	840	SB-39-02	4.90	880	ug/kg	5.10E+04	1.65E-02	1.70E+05	4.94E-03
	Trichloroethene, TCLP	0	3				0.20	0.2	mg/l				
75-69-4	Trichlorofluoromethane	0	26				4.40	880	ug/kg				
76-13-1	Trifluorotrichloroethane	0	26				4.40	880	ug/kg				
7440-62-2	Vanadium	25	25	3.40	42.10	SB-39-02			mg/kg	2.00E+04	2.10E-03	NA	--
75-01-4	Vinyl chloride	2	26	16	220	SB-43-02	4.40	880	ug/kg	1.00E+06	2.20E-04	5.00E+04	4.40E-03
	Vinyl chloride, TCLP	0	3				0.20	0.2	mg/l				
1330-20-7	Xylene (Total)	5	25	2.10	80	SB-43-02	8.80	1800	ug/kg	6.80E+06	1.18E-05	NA	--
7440-66-6	Zinc	24	25	6.40	135	SB-43-02	15.20	15.1999998	mg/kg	1.00E+06	1.35E-04	NA	--
										Cumulative Risk Ratio	**1.76E+00**	Cumulative Risk Ratio	**3.74E+00**

CAS	Parameter	Frequency of Detection		Range of Detections		Maximum Location	Range of Detection Limits		Units	Commercial/Industrial Standard for Single Chemical (noncarcinogen)	Commercial/Industrial Noncarcinogenic Risk Ratio	Commercial/Industrial Standard for Single Chemical (carcinogens)	Commercial/Industrial Carcinogenic Risk Ratio
		# Detected	# Samples	Minimum	Maximum		Minimum	Maximum					
7439-92-1	Lead	25	25	1.10	71.20	SB-43-02			mg/kg	8.00E+02		--	--
	Lead, TCLP	0	3	--	--		0.05	0.05	mg/l				
C21-C34	C21-C34 Aliphatics	0	2	--	--		533	605	mg/kg				
	Gasoline Range Organics (GRO)	0	2	--	--		5.31	6.19	mg/kg				
	Diesel Range Organics (DRO)	2	2	27	51.70	TT-SB262	--	--	mg/kg	2.00E+03	--	NL	--

Notes:
bgs - below ground surface
ft - feet
mg/kg - milligram per kilogram
mg/l - milligram per liter
NA - Not Applicable
NL - Not Listed
SVOC - Semi-Volatile Organic Compounds
TCLP - toxicity characteristic leaching procedure
ug/kg - microgram per kilogram
VOC - Volatile Organic Compounds
* The C/I Single Chem GDCSS is 3.1 mg/kg for mercury and 170 mg/kg for PCE and is based on the soil saturation standard

See notes on page 4 of 4

Table 7
Summary of Soil (0 to 12 ft bgs) Data Compared to Construction Worker GDCSS - N Area Exposure Unit
Former GM Dephi Harrison Thermal Systems Facility
Dayton, Ohio

CAS	Parameter	Frequency of Detection		Range of Detections		Maximum Location	Range of Detection Limits		Units	Construction/Excavation Standard for Single Chemical (noncarcinogen)	Construction/ Excavation Noncarcinogenic Risk Ratio	Construction/Excavation Standard for Single Chemical (carcinogens)	Construction/ Excavation Carcinogenic Risk Ratio
		# Detected	# Samples	Minimum	Maximum		Minimum	Maximum					
71-55-6	1,1,1-Trichloroethane	7	45	1.5	8700	SB-164-04	4.5	2900	ug/kg	3.30E+07	2.64E-04	NA	--
79-34-5	1,1,2,2-Tetrachloroethane	0	45				4.40	2900	ug/kg				
79-00-5	1,1,2-Trichloroethane	0	45				4.40	2900	ug/kg				
75-34-3	1,1-Dichloroethane	8	45	5.10	3600	SB-150-04	4.5	2900	ug/kg	1.00E+09	3.60E-06	3.60E+06	1.00E-03
75-35-4	1,1-Dichloroethene	4	45	110	340	SB-150-04	4.40	2900	ug/kg	3.60E+05	9.44E-04	NA	--
	1,1-Dichloroethene, TCLP	0	3				0.20	0.20	mg/l				
120-82-1	1,2,4-Trichlorobenzene, VOC	0	45				4.40	2900	ug/kg				
96-12-8	1,2-Dibromo-3-chloropropane	0	44				8.80	5700	ug/kg				
106-93-4	1,2-Dibromoethane	0	45				4.40	2900	ug/kg				
95-50-1	1,2-Dichlorobenzene, VOC	1	45	72	72	SB-144-04	4.40	2900	ug/kg	8.70E+07	8.28E-07	NA	--
107-06-2	1,2-Dichloroethane	0	45				4.40	2900	ug/kg				
	1,2-Dichloroethane, TCLP	0	3				0.20	0.20	mg/l				
78-87-5	1,2-Dichloropropane	0	45				4.40	2900	ug/kg				
541-73-1	1,3-Dichlorobenzene, VOC	0	45				4.40	2900	ug/kg				
	1,4-Dichlorobenzene, TCLP	0	3				0.05	0.05	mg/l				
106-46-7	1,4-Dichlorobenzene, VOC	6	44	0.85	27	SB-40-02	4.40	2900	ug/kg	6.00E+07	4.50E-07	2.60E+06	1.04E-05
39638-32-9	2,2-oxybis(2-Chloropropane), SVOC	0	45				340	19000	ug/kg				
95-95-4	2,4,5-Trichlorophenol	0	45				340	19000	ug/kg				
	2,4,5-Trichlorophenol, TCLP	0	3				0.05	0.05	mg/l				
88-06-2	2,4,6-Trichlorophenol	0	45				340	19000	ug/kg				
120-83-2	2,4-Dichlorophenol	0	45				340	19000	ug/kg				
105-67-9	2,4-Dimethylphenol	0	45				340	19000	ug/kg				
51-28-5	2,4-Dinitrophenol	0	42				1700	90000	ug/kg				
121-14-2	2,4-Dinitrotoluene	0	45				340	19000	ug/kg				
	2,4-Dinitrotoluene, TCLP	0	3				0.05	0.05	mg/l				
606-20-2	2,6-Dinitrotoluene	0	45				340	19000	ug/kg				
78-93-3	2-Butanone	11	45	4.10	310	SB-41-02	18	11000	ug/kg	4.80E+07	6.46E-06	NA	--
	2-Butanone, TCLP	0	3				0.80	0.80	mg/l				
91-58-7	2-Chloronaphthalene	0	45				340	19000	ug/kg				
95-57-8	2-Chlorophenol	0	45				340	19000	ug/kg				
591-78-6	2-Hexanone	0	45				18	11000	ug/kg				
91-57-6	2-Methylnaphthalene	7	45	33	1300	SB-41-02	340	19000	ug/kg	5.20E+06	2.50E-04	NA	--
95-48-7	2-Methylphenol	0	45				340	19000	ug/kg				
	2-Methylphenol, TCLP	0	3				0.05	0.05	mg/l				
88-74-4	2-Nitroaniline	0	42				1700	90000	ug/kg				
88-75-5	2-Nitrophenol	0	45				340	19000	ug/kg				
108-39-4T	3 & 4-Methylphenol, TCLP	0	3				0.05	0.05	mg/l				
91-94-1	3,3-Dichlorobenzidine	0	42				1700	90000	ug/kg				
99-09-2	3-Nitroaniline	0	42				1700	90000	ug/kg				
534-52-1	4,6-Dinitro-2-methylphenol	0	42				1700	90000	ug/kg				
101-55-3	4-Bromophenyl phenyl ether	0	45				340	19000	ug/kg				
59-50-7	4-Chloro-3-methylphenol	0	45				340	19000	ug/kg				
106-47-8	4-Chloroaniline	0	45				340	19000	ug/kg				
7005-72-3	4-Chlorophenyl phenyl ether	0	45				340	19000	ug/kg				
108-10-1	4-Methyl-2-Pentanone	0	45				18	11000	ug/kg				
106-44-5	4-Methylphenol	0	45				340	19000	ug/kg				
100-01-6	4-Nitroaniline	0	42				1700	90000	ug/kg				
100-02-7	4-Nitrophenol	0	42				1700	90000	ug/kg				
83-32-9	Acenaphthene	2	45	24	600	SB-43-02	340	19000	ug/kg	7.80E+08	7.69E-07	NA	--
208-96-8	Acenaphthylene	3	45	41	210	SB-43-02	340	19000	ug/kg	7.80E+08	2.69E-07	NA	--
67-64-1	Acetone	5	44	18	320	SB-22-02	18	11000	ug/kg	1.00E+09	3.20E-07	NA	--
98-86-2	Acetophenone	0	45				340	19000	ug/kg				
120-12-7	Anthracene	5	45	19	2700	SB-43-02	340	19000	ug/kg	1.00E+09	2.70E-06	NA	--
7440-36-0	Antimony	12	44	0.24	3.20	SB-43-02	6.20	8.60	mg/kg	8.50E+02	3.76E-03	NA	--
12674-11-2	Aroclor-1016	0	57				20.80	4700	ug/kg				
11104-28-2	Aroclor-1221	0	57				20.80	4700	ug/kg				
11141-16-5	Aroclor-1232	0	57				20.80	4700	ug/kg				
53469-21-9	Aroclor-1242	0	57				20.80	4700	ug/kg				
12672-29-6	Aroclor-1248	0	57				20.80	4700	ug/kg				
11097-69-1	Aroclor-1254	39	57	8.10	48000	SB-56-02	34	45	ug/kg	7.50E+04	6.40E-01	4.40E+05	1.09E-01

See notes on page 4 of 4

Table 7
Summary of Soil (0 to 12 ft bgs) Data Compared to Construction Worker GDCSS - N Area Exposure Unit
Former GM Dephi Harrison Thermal Systems Facility
Dayton, Ohio

CAS	Parameter	Frequency of Detection		Range of Detections		Maximum Location	Range of Detection Limits		Units	Construction/Excavation Standard for Single Chemical (noncarcinogen)	Construction/ Excavation Noncarcinogenic Risk Ratio	Construction/Excavation Standard for Single Chemical (carcinogens)	Construction/ Excavation Carcinogenic Risk Ratio
		# Detected	# Samples	Minimum	Maximum		Minimum	Maximum					
11096-82-5	Aroclor-1260	5	57	30	210	SB-88-03	20.80	4700	ug/kg	NA	--	4.40E+05	4.77E-04
7440-38-2	Arsenic	43	44	2	32.40	SB-43-02	1.10	1.10	mg/kg	6.90E+02	4.70E-02	1.30E+03	2.49E-02
	Arsenic, TCLP	0	3				0.10	0.10	mg/l				
1912-24-9	Atrazine	0	45				340	19000	ug/kg				
7440-39-3	Barium	44	44	21.5	299	SB-40-02			mg/kg	3.20E+08	9.34E-07	NA	--
	Barium, TCLP	3	3	0.51	2.13	TT-SB264			mg/l	NL	--	NL	--
100-52-7	Benzaldehyde	0	45				340	19000	ug/kg				
71-43-2	Benzene	3	45	0.33	52	SB-39-02	4.40	2900	ug/kg	1.20E+06	4.33E-05	1.20E+06	4.33E-05
	Benzene, TCLP	0	3				0.20	0.20	mg/l				
56-55-3	Benzo(a)anthracene	13	45	29	4200	SB-43-02	340	19000	ug/kg	NA	--	1.20E+06	3.50E-03
50-32-8	Benzo(a)pyrene	13	45	22	3200	SB-43-02	340	19000	ug/kg	NA	--	1.20E+05	2.67E-02
205-99-2	Benzo(b)fluoranthene	14	45	48	3800	SB-43-02	340	19000	ug/kg	NA	--	1.20E+06	3.17E-03
191-24-2	Benzo(g,h,i)perylene	10	45	29	1300	SB-56-02	340	19000	ug/kg	3.90E+08	3.33E-06	NA	--
207-08-9	Benzo(k)fluoranthene	9	45	27	1500	SB-43-02	340	19000	ug/kg	NA	--	1.20E+07	1.25E-04
7440-41-7	Beryllium	25	44	0.07	4.30	SB-40-02	0.52	0.71	mg/kg	3.40E+03	1.26E-03	7.10E+04	6.06E-05
92-52-4	Biphenyl	1	45	29	29	SB-151-04	340	19000	ug/kg	2.10E+08	1.38E-07	1.90E+08	1.53E-07
111-91-1	bis(2-Chloroethoxy)methane	0	45				340	19000	ug/kg				
111-44-4	bis(2-Chloroethyl)ether	0	45				340	19000	ug/kg				
117-81-7	bis(2-Ethylhexyl)phthalate	9	45	16	110	SB-38-02	340	19000	ug/kg	2.80E+08	3.93E-07	7.10E+07	1.55E-06
75-27-4	Bromodichloromethane	0	45				4.40	2900	ug/kg				
75-25-2	Bromoform	0	45				4.40	2900	ug/kg				
74-83-9	Bromomethane	2	45	120	770	SB-145-04	4.40	1500	ug/kg	5.50E+05	1.40E-03	NA	--
85-68-7	Butyl benzylphthalate	0	45				340	19000	ug/kg				
7440-43-9	Cadmium	26	43	0.02	3	SB-146-04	0.52	2.70	mg/kg	1.00E+03	3.00E-03	9.50E+04	3.16E-05
	Cadmium, TCLP	0	3				0.01	0.01	mg/l				
105-60-2	Caprolactam	0	45				340	19000	ug/kg				
86-74-8	Carbazole	3	45	25	680	SB-43-02	340	19000	ug/kg	NA	--	5.00E+07	1.36E-05
75-15-0	Carbon disulfide	0	45				4.40	2900	ug/kg				
56-23-5	Carbon tetrachloride	2	45	43	69	SB-56-02	4.40	2900	ug/kg	1.10E+06	6.27E-05	6.80E+05	1.01E-04
	Carbon tetrachloride, TCLP	0	3				0.20	0.20	mg/l				
108-90-7	Chlorobenzene	1	45	23	23	SB-144-04	4.40	2900	ug/kg	1.30E+07	1.77E-06	NA	--
	Chlorobenzene, TCLP	0	3				0.20	0.20	mg/l				
75-00-3	Chloroethane	0	45				4.40	2900	ug/kg				
67-66-3	Chloroform	5	45	0.55	180	SB-146-04	4.40	2900	ug/kg	2.50E+06	7.20E-05	3.20E+05	5.63E-04
	Chloroform, TCLP	0	3				0.20	0.20	mg/l				
74-87-3	Chloromethane	0	45				4.40	2900	ug/kg				
7440-47-3	Chromium Total	44	44	2.5	43.5	SB-146-04			mg/kg	1.90E+04	2.29E-03	1.20E+03	3.63E-02
	Chromium, TCLP	0	3				0.01	0.01	mg/l				
218-01-9	Chrysene	16	45	54	3300	SB-43-02	340	19000	ug/kg	NA	--	1.20E+08	2.75E-05
156-59-2	cis-1,2-Dichloroethene	21	45	0.77	19000	SB-40-02	2.20	1400	ug/kg	4.30E+07	4.42E-04	NA	--
10061-01-5	cis-1,3-Dichloropropene	0	45				4.40	2900	ug/kg				
7440-48-4	Cobalt	44	44	0.84	39.5	SB-151-04			mg/kg	2.80E+03	1.41E-02	1.90E+04	2.08E-03
7440-50-8	Copper	44	44	1.5	454	SB-144-04			mg/kg	2.10E+04	2.16E-02	NA	--
57-12-5	Cyanide (total)	10	43	0.13	1.70	SB-40-02	0.52	0.73	mg/kg	1.50E+02	1.13E-02	NA	--
110-82-7	Cyclohexane	10	44	16	330	SB-164-04	8.80	5700	ug/kg	7.50E+07	4.40E-06	NA	--
53-70-3	Dibenz(a,h)anthracene	4	45	23	380	SB-43-02	340	19000	ug/kg	NA	--	1.20E+05	3.17E-03
132-64-9	Dibenzofuran	2	45	31	1200	SB-43-02	340	19000	ug/kg	2.10E+06	5.71E-04	NA	--
124-48-1	Dibromochloromethane	0	45				4.40	2900	ug/kg				
75-71-8	Dichlorodifluoromethane	0	45				4.40	2900	ug/kg				
84-66-2	Diethyl phthalate	0	45				340	19000	ug/kg				
131-11-3	Dimethyl phthalate	0	45				340	19000	ug/kg				
84-74-2	Di-n-butylphthalate	0	45				340	19000	ug/kg				
117-84-0	Di-N-Octyl phthalate	1	45	110	110	SB-38-02	340	19000	ug/kg	1.40E+08	7.86E-07	NA	--
100-41-4	Ethylbenzene	5	45	0.46	37	SB-40-02	4.40	2900	ug/kg	1.90E+08	1.95E-07	6.10E+06	6.07E-06
206-44-0	Fluoranthene	16	45	24	6300	SB-43-02	340	19000	ug/kg	1.60E+08	3.94E-05	NA	--
86-73-7	Fluorene	4	45	61	1600	SB-43-02	340	19000	ug/kg	5.20E+08	3.08E-06	NA	--
118-74-1	Hexachlorobenzene	0	45				340	19000	ug/kg				
	Hexachlorobenzene, TCLP	0	3				0.05	0.05	mg/l				
87-68-3	Hexachlorobutadiene, SVOC	0	45				340	19000	ug/kg				
	Hexachlorobutadiene, TCLP	0	3				0.05	0.05	mg/l				

See notes on page 4 of 4

Table 7
Summary of Soil (0 to 12 ft bgs) Data Compared to Construction Worker GDCSS - N Area Exposure Unit
Former GM Dephi Harrison Thermal Systems Facility
Dayton, Ohio

CAS	Parameter	Frequency of Detection		Range of Detections		Maximum Location	Range of Detection Limits		Units	Construction/Excavation Standard for Single Chemical (noncarcinogen)	Construction/ Excavation Noncarcinogenic Risk Ratio	Construction/Excavation Standard for Single Chemical (carcinogens)	Construction/ Excavation Carcinogenic Risk Ratio
		# Detected	# Samples	Minimum	Maximum		Minimum	Maximum					
77-47-4	Hexachlorocyclopentadiene	0	42				1700	90000	ug/kg				
67-72-1	Hexachloroethane	0	45				340	19000	ug/kg				
	Hexachloroethane, TCLP	0	3				0.05	0.05	mg/l				
193-39-5	Indeno(1,2,3-cd)pyrene	8	45	34	1100	SB-56-02	340	19000	ug/kg	NA	--	1.20E+06	9.17E-04
78-59-1	Isophorone	0	45				340	19000	ug/kg				
98-82-8	Isopropylbenzene, VOC	2	45	25	150	SB-19-02	4.40	2900	ug/kg	8.60E+07	1.74E-06	NA	--
7439-96-5	Manganese	46	46	90.10	5760	SB-40-02			mg/kg	NL	--	NL	--
7439-97-6	Mercury*	21	42	0.02	2.80	SB-43-02	0.10	0.14	mg/kg	3.10E+01	9.03E-02	NA	--
	Mercury, TCLP	0	3				0.0002	0.0002	mg/l				
79-20-9	Methyl acetate	9	44	62	470	SB-56-02	8.80	5700	ug/kg	NL	--	NL	--
108-87-2	Methyl cyclohexane	15	44	3.20	1000	SB-164-04	8.80	5700	ug/kg	NL	--	NL	--
1634-04-4	Methyl tert butyl ether	0	45				18	11000	ug/kg				
75-09-2	Methylene chloride	6	45	1.80	400	SB-88-03	4.40	2900	ug/kg	8.50E+06	4.71E-05	3.40E+08	1.18E-06
91-20-3	Naphthalene, SVOC	3	45	30	720	SB-43-02	340	19000	ug/kg	5.60E+05	1.29E-03	3.80E+06	1.89E-04
7440-02-0	Nickel	44	44	1.90	101	SB-146-04			mg/kg	2.30E+04	4.39E-03	6.60E+05	1.53E-04
98-95-3	Nitrobenzene	0	45				340	19000	ug/kg				
	Nitrobenzene, TCLP	0	3				0.05	0.05	mg/l				
621-64-7	N-Nitrosodi-n-propylamine	0	45				340	19000	ug/kg				
86-30-6	N-Nitrosodiphenylamine	0	45				340	19000	ug/kg				
87-86-5	Pentachlorophenol	0	45				340	19000	ug/kg				
	Pentachlorophenol, TCLP	0	3				0.05	0.05	mg/l				
85-01-8	Phenanthrene	17	45	43	9100	SB-43-02	340	19000	ug/kg	1.00E+09	9.10E-06	NA	--
108-95-2	Phenol	0	45				340	19000	ug/kg				
129-00-0	Pyrene, SVOC	16	45	26	6500	SB-43-02	340	19000	ug/kg	3.90E+08	1.67E-05	NA	--
	Pyridine, TCLP	0	3				0.05	0.05	mg/l				
7782-49-2	Selenium	6	43	0.5	1.70	SB-43-02	0.52	1.20	mg/kg	1.10E+07	1.55E-07	NA	--
	Selenium, TCLP	0	3				0.10	0.10	mg/l				
7440-22-4	Silver	3	39	0.29	0.35	SB-151-04	1	2.70	mg/kg	1.10E+04	3.18E-05	NA	--
	Silver, TCLP	0	3				0.01	0.01	mg/l				
100-42-5	Styrene	0	45				4.40	2900	ug/kg				
127-18-4	Tetrachloroethene*	42	45	0.96	53000	SB-144-04	270	880	ug/kg	3.80E+05	1.39E-01	2.50E+07	2.12E-03
	Tetrachloroethene, TCLP	0	3				0.20	0.20	mg/l				
7440-28-0	Thallium	22	40	0.45	2.5	SB-40-02	1	5.40	mg/kg	2.10E+01	--	NA	--
108-88-3	Toluene	23	45	0.45	120	SB-43-02	4.90	2900	ug/kg	8.20E+07	1.46E-06	NA	--
1336-36-3	Total PCBs	0	0						ug/kg				
156-60-5	trans-1,2-Dichloroethene	9	45	2.60	930	SB-150-04	2.20	1400	ug/kg	7.90E+06	1.18E-04	NA	--
10061-02-6	trans-1,3-Dichloropropene	0	45				4.40	2900	ug/kg				
79-01-6	Trichloroethene	39	45	0.46	91000	SB-145-04	4.90	880	ug/kg	1.70E+04	**5.35E+00**	1.40E+06	6.50E-02
	Trichloroethene, TCLP	0	3				0.20	0.20	mg/l				
75-69-4	Trichlorofluoromethane	0	45				4.40	2900	ug/kg				
76-13-1	Trifluorotrichloroethane	0	45				4.40	2900	ug/kg				
7440-62-2	Vanadium	44	44	3.40	63.10	SB-164-04			mg/kg	1.10E+04	5.74E-03	NA	--
75-01-4	Vinyl chloride	4	45	16	1900	SB-150-04	4.40	2900	ug/kg	2.80E+05	6.79E-03	4.70E+05	4.04E-03
	Vinyl chloride, TCLP	0	3				0.20	0.20	mg/l				
1330-20-7	Xylene (Total)	14	44	1.70	440	SB-43-02	8.80	5700	ug/kg	7.00E+06	6.29E-05	NA	--
7440-66-6	Zinc	43	44	6.40	495	SB-164-04	15.20	15.20	mg/kg	6.40E+05	7.73E-04	NA	--
										Cumulative Risk Ratio	**6.35E+00**	Cumulative Risk Ratio	2.84E-01

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Table 7
Summary of Soil (0 to 12 ft bgs) Data Compared to Construction Worker GDCSS - N Area Exposure Unit
Former GM Dephi Harrison Thermal Systems Facility
Dayton, Ohio

CAS	Parameter	Frequency of Detection		Range of Detections		Maximum Location	Range of Detection Limits		Units	Construction/Excavation Standard for Single Chemical (noncarcinogen)	Construction/ Excavation Noncarcinogenic Risk Ratio	Construction/Excavation Standard for Single Chemical (carcinogens)	Construction/ Excavation Carcinogenic Risk Ratio
		# Detected	# Samples	Minimum	Maximum		Minimum	Maximum					
7439-92-1	Lead	44	44	1.10	276	SB-19-02	--	--	mg/kg	4.00E+02	--	--	--
	Lead, TCLP	0	3	--	--	--	0.05	0.05	mg/l				
C21-C34	C21-C34 Aliphatics	0	2	--	--	--	533	605	mg/kg				
	Diesel Range Organics (DRO)	2	2	27	51.70	TT-SB262	--	--	mg/kg	2.00E+03	2.59E-02	NL	--
	Gasoline Range Organics (GRO)	0	2	--	--		5.31	6.19	mg/kg				

Notes:
bgs - below ground surface
ft - feet
mg/kg - milligram per kilogram
mg/l - milligram per liter
NA - Not Applicable
NL - Not Listed
SVOC - Semi-Volatile Organic Compounds
TCLP - toxicity characteristic leaching procedure
ug/kg - microgram per kilogram
VOC - Volatile Organic Compounds
* The Construction Single Chem GDCSS is 3.1 mg/kg for mercury and 170 mg/kg for PCE and is based on the soil saturation standard

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Table 8
Summary of Surface (0 to 3 ft bgs) Soil Data compared to Commercial/Industrial GDCSS - P Area Exposure Unit
Former GM Dephi Harrison Thermal Systems Facility
Dayton, Ohio

CAS	Parameter	Frequency of Detection		Range of Detections		Maximum Location	Range of Detection Limits		Units	Commercial/Industrial Standard for Single Chemical (noncarcinogen)	Commercial/Industrial Noncarcinogenic Risk Ratio	Commercial/Industrial Standard for Single Chemical (carcinogens)	Commercial/Industrial Carcinogenic Risk Ratio
		# Detected	# Samples	Minimum	Maximum		Minimum	Maximum					
71-55-6	1,1,1-Trichloroethane	4	16	29	300	SB-18-02	5.10	2100	ug/kg	9.60E+07	3.13E-06	NA	--
79-34-5	1,1,2,2-Tetrachloroethane	0	16				5.10	2100	ug/kg				
79-00-5	1,1,2-Trichloroethane	0	16				5.10	2100	ug/kg				
75-34-3	1,1-Dichloroethane	0	16				5.10	2100	ug/kg				
75-35-4	1,1-Dichloroethene	0	16				5.10	2100	ug/kg				
120-82-1	1,2,4-Trichlorobenzene, VOC	0	16				5.10	2100	ug/kg				
96-12-8	1,2-Dibromo-3-chloropropane	0	16				10	4100	ug/kg				
106-93-4	1,2-Dibromoethane	0	16				5.10	2100	ug/kg				
95-50-1	1,2-Dichlorobenzene, VOC	0	16				5.10	2100	ug/kg				
107-06-2	1,2-Dichloroethane	0	16				5.10	2100	ug/kg				
78-87-5	1,2-Dichloropropane	0	16				5.10	2100	ug/kg				
541-73-1	1,3-Dichlorobenzene, VOC	0	16				5.10	2100	ug/kg				
106-46-7	1,4-Dichlorobenzene, VOC	0	16				5.10	2100	ug/kg				
39638-32-9	2,2-oxybis(2-Chloropropane), SVOC	0	11				350	7800	ug/kg				
95-95-4	2,4,5-Trichlorophenol	0	11				350	7800	ug/kg				
88-06-2	2,4,6-Trichlorophenol	0	11				350	7800	ug/kg				
120-83-2	2,4-Dichlorophenol	0	11				350	7800	ug/kg				
105-67-9	2,4-Dimethylphenol	0	11				350	7800	ug/kg				
51-28-5	2,4-Dinitrophenol	0	11				1700	38000	ug/kg				
121-14-2	2,4-Dinitrotoluene	0	11				350	7800	ug/kg				
606-20-2	2,6-Dinitrotoluene	0	11				350	7800	ug/kg				
78-93-3	2-Butanone	2	16	1.60	87	MW-12-03	900	8200	ug/kg	5.60E+08	1.55E-07	NA	--
91-58-7	2-Chloronaphthalene	0	11				350	7800	ug/kg				
95-57-8	2-Chlorophenol	0	11				350	7800	ug/kg				
591-78-6	2-Hexanone	0	16				20	8200	ug/kg				
91-57-6	2-Methylnaphthalene	6	11	83	370	SB-148-04	350	7800	ug/kg	6.00E+06	6.17E-05	NA	--
95-48-7	2-Methylphenol	0	11				350	7800	ug/kg				
88-74-4	2-Nitroaniline	0	11				1700	38000	ug/kg				
88-75-5	2-Nitrophenol	0	11				350	7800	ug/kg				
91-94-1	3,3-Dichlorobenzidine	0	11				1700	38000	ug/kg				
99-09-2	3-Nitroaniline	0	11				1700	38000	ug/kg				
534-52-1	4,6-Dinitro-2-methylphenol	0	11				1700	38000	ug/kg				
101-55-3	4-Bromophenyl phenyl ether	0	11				350	7800	ug/kg				
59-50-7	4-Chloro-3-methylphenol	0	11				350	7800	ug/kg				
106-47-8	4-Chloroaniline	0	11				350	7800	ug/kg				
7005-72-3	4-Chlorophenyl phenyl ether	0	11				350	7800	ug/kg				
108-10-1	4-Methyl-2-Pentanone	0	16				20	8200	ug/kg				
106-44-5	4-Methylphenol	0	11				350	7800	ug/kg				
100-01-6	4-Nitroaniline	0	11				1700	38000	ug/kg				
100-02-7	4-Nitrophenol	0	11				1700	38000	ug/kg				
83-32-9	Acenaphthene	3	11	71	420	MW-12-03	350	7800	ug/kg	9.00E+07	4.67E-06	NA	--
208-96-8	Acenaphthylene	1	11	25	25	SB-72-03	350	7800	ug/kg	9.00E+07	2.78E-07	NA	--
67-64-1	Acetone	1	16	8.10	8.10	SB-149-04	900	8200	ug/kg	1.00E+09	8.10E-09	NA	--
98-86-2	Acetophenone	0	11				350	7800	ug/kg				
120-12-7	Anthracene	6	11	29	2700	MW-12-03	350	7800	ug/kg	4.50E+08	6.00E-06	NA	--
7440-36-0	Antimony	7	11	1	11	MW-26-04	6.40	7.20	mg/kg	1.60E+03	6.88E-03	NA	--
12674-11-2	Aroclor-1016	0	12				21.10	360	ug/kg				
11104-28-2	Aroclor-1221	0	12				21.10	360	ug/kg				
11141-16-5	Aroclor-1232	0	12				21.10	360	ug/kg				
53469-21-9	Aroclor-1242	0	12				21.10	360	ug/kg				
12672-29-6	Aroclor-1248	0	12				21.10	360	ug/kg				
11097-69-1	Aroclor-1254	5	12	246	3700	SB-149-04	35	44	ug/kg	2.90E+04	1.28E-01	2.00E+04	1.85E-01
11096-82-5	Aroclor-1260	0	12				21.10	360	ug/kg				
7440-38-2	Arsenic	11	11	3.20	16.5	SB-148-04			mg/kg	1.20E+03	1.38E-02	7.70E+01	2.14E-01
1912-24-9	Atrazine	0	11				350	7800	ug/kg				

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Table 8
Summary of Surface (0 to 3 ft bgs) Soil Data compared to Commercial/Industrial GDCSS - P Area Exposure Unit
Former GM Dephi Harrison Thermal Systems Facility
Dayton, Ohio

CAS	Parameter	Frequency of Detection		Range of Detections		Maximum Location	Range of Detection Limits		Units	Commercial/Industrial Standard for Single Chemical (noncarcinogen)	Commercial/Industrial Noncarcinogenic Risk Ratio	Commercial/Industrial Standard for Single Chemical (carcinogens)	Commercial/Industrial Carcinogenic Risk Ratio
		# Detected	# Samples	Minimum	Maximum		Minimum	Maximum					
7440-39-3	Barium	11	11	24.40	150	SB-53-02			mg/kg	6.80E+05	2.21E-04	NA	--
100-52-7	Benzaldehyde	1	11	21	21	SB-72-03	350	7800	ug/kg	NL	--	NL	--
71-43-2	Benzene	2	16	110	180	SB-138-04	5.10	2100	ug/kg	1.20E+06	1.50E-04	1.40E+05	1.29E-03
56-55-3	Benzo(a)anthracene	8	11	50	3800	MW-12-03	350	7800	ug/kg	NA	--	5.80E+04	6.55E-02
50-32-8	Benzo(a)pyrene	7	11	51	3500	MW-12-03	350	7800	ug/kg	NA	--	5.80E+03	6.03E-01
205-99-2	Benzo(b)fluoranthene	8	11	65	4000	MW-12-03	350	7800	ug/kg	NA	--	5.80E+04	6.90E-02
191-24-2	Benzo(g,h,i)perylene	8	11	27	1800	MW-12-03	350	7800	ug/kg	4.50E+07	4.00E-05	NA	--
207-08-9	Benzo(k)fluoranthene	7	11	27	2600	MW-12-03	350	7800	ug/kg	NA	--	5.80E+05	4.48E-03
7440-41-7	Beryllium	9	11	0.13	1.10	SB-148-04	0.54	0.54	mg/kg	7.80E+03	1.41E-04	9.70E+04	1.13E-05
92-52-4	Biphenyl	1	11	29	29	SB-73-03	350	7800	ug/kg	1.00E+09	2.90E-08	1.40E+07	2.07E-06
111-91-1	bis(2-Chloroethoxy)methane	0	11				350	7800	ug/kg				
111-44-4	bis(2-Chloroethyl)ether	0	11				350	7800	ug/kg				
117-81-7	bis(2-Ethylhexyl)phthalate	2	11	24	51	SB-149-04	350	7800	ug/kg	3.50E+07	1.46E-06	3.50E+06	1.46E-05
75-27-4	Bromodichloromethane	0	16				5.10	2100	ug/kg				
75-25-2	Bromoform	0	16				5.10	2100	ug/kg				
74-83-9	Bromomethane	0	16				5.10	2100	ug/kg				
85-68-7	Butyl benzylphthalate	0	11				350	7800	ug/kg				
7440-43-9	Cadmium	7	11	0.06	4	SB-54-02	0.54	0.65	mg/kg	2.60E+03	1.54E-03	1.30E+05	3.08E-05
105-60-2	Caprolactam	0	11				350	7800	ug/kg				
86-74-8	Carbazole	5	11	81	620	MW-12-03	350	7800	ug/kg	NA	--	2.50E+06	2.48E-04
75-15-0	Carbon disulfide	0	16				5.10	2100	ug/kg				
56-23-5	Carbon tetrachloride	0	16				5.10	2100	ug/kg				
108-90-7	Chlorobenzene	0	16				5.10	2100	ug/kg				
75-00-3	Chloroethane	0	16				5.10	2100	ug/kg				
67-66-3	Chloroform	0	16				5.10	2100	ug/kg				
74-87-3	Chloromethane	0	16				5.10	2100	ug/kg				
7440-47-3	Chromium Total	11	11	4	14.5	SB-73-03			mg/kg	1.20E+04	1.21E-03	2.10E+02	6.90E-02
218-01-9	Chrysene	9	11	57	5500	MW-12-03	350	7800	ug/kg	NA	--	5.80E+06	9.48E-04
156-59-2	cis-1,2-Dichloroethene	13	16	20	11000	SB-73-03	2.5	360	ug/kg	8.20E+06	1.34E-03	NA	--
10061-01-5	cis-1,3-Dichloropropene	0	16				5.10	2100	ug/kg				
7440-48-4	Cobalt	11	11	1.5	18	SB-18-02			mg/kg	1.20E+03	1.50E-02	2.60E+04	6.92E-04
7440-50-8	Copper	11	11	7.60	404	SB-53-02			mg/kg	1.60E+05	2.53E-03	NA	--
57-12-5	Cyanide (total)	7	11	0.12	3.60	SB-53-02	0.54	0.60	mg/kg	3.70E+02	9.73E-03	NA	--
110-82-7	Cyclohexane	7	16	29	1000	SB-138-04	10	3800	ug/kg	7.40E+07	1.35E-05	NA	--
53-70-3	Dibenz(a,h)anthracene	5	11	21	210	SB-149-04	350	7800	ug/kg	NA	--	5.80E+03	3.62E-02
132-64-9	Dibenzofuran	5	11	36	230	MW-12-03	350	7800	ug/kg	4.10E+06	5.61E-05	NA	--
124-48-1	Dibromochloromethane	0	16				5.10	2100	ug/kg				
75-71-8	Dichlorodifluoromethane	0	16				5.10	2100	ug/kg				
84-66-2	Diethyl phthalate	0	11				350	7800	ug/kg				
131-11-3	Dimethyl phthalate	0	11				350	7800	ug/kg				
84-74-2	Di-n-butylphthalate	0	11				350	7800	ug/kg				
117-84-0	Di-N-Octyl phthalate	0	11				350	7800	ug/kg				
100-41-4	Ethylbenzene	2	16	81	700	SB-138-04	5.10	2100	ug/kg	5.80E+07	1.21E-05	7.00E+05	1.00E-03
206-44-0	Fluoranthene	9	11	93	10000	MW-12-03	350	7800	ug/kg	6.00E+07	1.67E-04	NA	--
86-73-7	Fluorene	3	11	61	290	MW-12-03	350	7800	ug/kg	6.00E+07	4.83E-06	NA	--
118-74-1	Hexachlorobenzene	0	11				350	7800	ug/kg				
87-68-3	Hexachlorobutadiene, SVOC	0	11				350	7800	ug/kg				
77-47-4	Hexachlorocyclopentadiene	0	11				1700	38000	ug/kg				
67-72-1	Hexachloroethane	0	11				350	7800	ug/kg				
193-39-5	Indeno(1,2,3-cd)pyrene	8	11	26	1600	MW-12-03	350	7800	ug/kg	NA	--	5.80E+04	2.76E-02
78-59-1	Isophorone	0	11				350	7800	ug/kg				
98-82-8	Isopropylbenzene, VOC	1	16	580	580	SB-138-04	5.10	2100	ug/kg	2.70E+07	2.15E-05	NA	--
7439-96-5	Manganese	13	13	227	1190	SB-72-03			mg/kg	NL	--	NL	--
7439-97-6	Mercury*	11	11	0.025	0.51	SB-53-02			mg/kg	8.50E+01	6.00E-03	NA	--
79-20-9	Methyl acetate	5	16	32	410	SB-73-03	10	3800	ug/kg	NL	--	NL	--

See notes on page 3 of 3

Table 8
Summary of Surface (0 to 3 ft bgs) Soil Data compared to Commercial/Industrial GDCSS - P Area Exposure Unit
Former GM Dephi Harrison Thermal Systems Facility
Dayton, Ohio

CAS	Parameter	Frequency of Detection		Range of Detections		Maximum Location	Range of Detection Limits		Units	Commercial/Industrial Standard for Single Chemical (noncarcinogen)	Commercial/Industrial Noncarcinogenic Risk Ratio	Commercial/Industrial Standard for Single Chemical (carcinogens)	Commercial/Industrial Carcinogenic Risk Ratio
		# Detected	# Samples	Minimum	Maximum		Minimum	Maximum					
108-87-2	Methyl cyclohexane	10	16	34	3000	SB-138-04	10	3800	ug/kg	NL	--	NL	--
1634-04-4	Methyl tert butyl ether	0	16				20	8200	ug/kg				
75-09-2	Methylene chloride	2	16	210	560	SB-163-04	5.10	2100	ug/kg	9.50E+06	5.89E-05	3.20E+07	1.75E-05
91-20-3	Naphthalene, SVOC	6	11	67	640	SB-148-04	350	7800	ug/kg	1.60E+06	4.00E-04	4.50E+05	1.42E-03
7440-02-0	Nickel	11	11	3.70	27.20	SB-53-02			mg/kg	7.40E+04	3.68E-04	9.00E+05	3.02E-05
98-95-3	Nitrobenzene	0	11				350	7800	ug/kg				
621-64-7	N-Nitrosodi-n-propylamine	0	11				350	7800	ug/kg				
86-30-6	N-Nitrosodiphenylamine	0	11				350	7800	ug/kg				
87-86-5	Pentachlorophenol	0	11				350	7800	ug/kg				
85-01-8	Phenanthrene	9	11	31	7000	MW-12-03	350	7800	ug/kg	4.50E+08	1.56E-05	NA	--
108-95-2	Phenol	0	11				350	7800	ug/kg				
129-00-0	Pyrene, SVOC	9	11	82	7700	MW-12-03	350	7800	ug/kg	4.50E+07	1.71E-04	NA	--
7782-49-2	Selenium	2	11	0.52	1.5	SB-18-02	0.54	1.20	mg/kg	2.00E+04	7.50E-05	NA	--
7440-22-4	Silver	1	11	0.48	0.48	SB-54-02	1.10	1.30	mg/kg	2.00E+04	2.40E-05	NA	--
100-42-5	Styrene	0	16				5.10	2100	ug/kg				
127-18-4	Tetrachloroethene*	16	16	2.80	49000	MW-26-04			ug/kg	1.10E+06	4.45E-02	2.80E+06	1.75E-02
7440-28-0	Thallium	5	11	0.52	1.60	MW-12-03	1.10	1.30	mg/kg	4.10E+01	3.90E-02	NA	--
108-88-3	Toluene	3	16	27	2100	SB-138-04	5.10	2100	ug/kg	1.40E+08	1.50E-05	NA	--
156-60-5	trans-1,2-Dichloroethene	3	16	45	290	MW-26-04	2.5	770	ug/kg	1.70E+06	1.71E-04	NA	--
10061-02-6	trans-1,3-Dichloropropene	0	16				5.10	2100	ug/kg				
79-01-6	Trichloroethene	16	16	2	66000	MW-26-04			ug/kg	5.10E+04	**1.29E+00**	1.70E+05	3.88E-01
75-69-4	Trichlorofluoromethane	0	16				5.10	2100	ug/kg				
76-13-1	Trifluorotrichloroethane	0	16				5.10	2100	ug/kg				
7440-62-2	Vanadium	11	11	4.70	26.10	SB-148-04			mg/kg	2.00E+04	1.31E-03	NA	--
75-01-4	Vinyl chloride	0	16				5.10	2100	ug/kg				
1330-20-7	Xylene (Total)	5	16	100	5400	SB-138-04	10	4100	ug/kg	6.80E+06	7.94E-04	NA	--
7440-66-6	Zinc	11	11	13	1750	SB-54-02			mg/kg	1.00E+06	1.75E-03	NA	--
										Cumulative Risk Ratio	**1.57E+00**	Cumulative Risk Ratio	**1.69E+00**

CAS	Parameter	Frequency of Detection		Range of Detections		Maximum Location	Range of Detection Limits		Units	Commercial/Industrial Standard for Single Chemical (noncarcinogen)	Commercial/Industrial Noncarcinogenic Risk Ratio	Commercial/Industrial Standard for Single Chemical (carcinogens)	Commercial/Industrial Carcinogenic Risk Ratio
		# Detected	# Samples	Minimum	Maximum		Minimum	Maximum					
7439-92-1	Lead	11	11	3.5	528	SB-148-04	--	--	mg/kg	8.00E+02	--	--	--

Notes:
bgs - below ground surface
ft - feet
mg/kg - milligram per kilogram
NA - Not Applicable
NL - Not Listed
SVOC - Semi-Volatile Organic Compounds
ug/kg - microgram per kilogram
VOC - Volatile Organic Compounds
* The C/I Single Chem GDCSS is 3.1 mg/kg for mercury and 170 mg/kg for PCE and is based on the soil saturation standard

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Table 9
Summary of Subsurface (3 to 12 ft bgs) Soil Data Compared to Commercial/Industrial GDCSS - P Area Exposure Unit
Former GM Dephi Harrison Thermal Systems Facility
Dayton, Ohio

CAS	Parameter	Frequency of Detection		Range of Detections		Maximum Location	Range of Detection Limits		Units	Commercial/Industrial Standard for Single Chemical (noncarcinogen)	Commercial/Industrial Noncarcinogenic Risk Ratio	Commercial/Industrial Standard for Single Chemical (carcinogens)	Commercial/Industrial Carcinogenic Risk Ratio
		# Detected	# Samples	Minimum	Maximum		Minimum	Maximum					
71-55-6	1,1,1-Trichloroethane	0	26				4.20	5700	ug/kg				
79-34-5	1,1,2,2-Tetrachloroethane	0	26				4.20	5700	ug/kg				
79-00-5	1,1,2-Trichloroethane	0	26				4.20	5700	ug/kg				
75-34-3	1,1-Dichloroethane	0	26				4.20	5700	ug/kg				
75-35-4	1,1-Dichloroethene	0	26				4.20	5700	ug/kg				
	1,1-Dichloroethene, TCLP	0	3				0.005	0.20	mg/l				
120-82-1	1,2,4-Trichlorobenzene, VOC	1	26	1.10	1.10	MW-25-04	4.20	5700	ug/kg	7.00E+05	1.57E-06	3.90E+03	2.82E-04
96-12-8	1,2-Dibromo-3-chloropropane	0	26				8.40	11000	ug/kg				
106-93-4	1,2-Dibromoethane	0	26				4.20	5700	ug/kg				
95-50-1	1,2-Dichlorobenzene, VOC	0	26				4.20	5700	ug/kg				
107-06-2	1,2-Dichloroethane	0	26				4.20	5700	ug/kg				
	1,2-Dichloroethane, TCLP	0	3				0.005	0.20	mg/l				
78-87-5	1,2-Dichloropropane	0	26				4.20	5700	ug/kg				
541-73-1	1,3-Dichlorobenzene, VOC	0	26				4.20	5700	ug/kg				
	1,4-Dichlorobenzene, TCLP	0	3				0.05	0.05	mg/l				
106-46-7	1,4-Dichlorobenzene, VOC	0	26				4.20	5700	ug/kg				
39638-32-9	2,2-oxybis(2-Chloropropane), SVOC	0	15				340	22000	ug/kg				
95-95-4	2,4,5-Trichlorophenol	0	15				340	22000	ug/kg				
	2,4,5-Trichlorophenol, TCLP	0	3				0.05	0.05	mg/l				
88-06-2	2,4,6-Trichlorophenol	0	15				340	22000	ug/kg				
120-83-2	2,4-Dichlorophenol	0	15				340	22000	ug/kg				
105-67-9	2,4-Dimethylphenol	0	15				340	22000	ug/kg				
51-28-5	2,4-Dinitrophenol	0	14				1700	110000	ug/kg				
121-14-2	2,4-Dinitrotoluene	0	15				340	22000	ug/kg				
	2,4-Dinitrotoluene, TCLP	0	3				0.05	0.05	mg/l				
606-20-2	2,6-Dinitrotoluene	0	15				340	22000	ug/kg				
78-93-3	2-Butanone	1	26	7.90	7.90	BH-180	17	23000	ug/kg	5.60E+08	1.41E-08	NA	--
	2-Butanone, TCLP	0	3				0.02	0.80	mg/l				
91-58-7	2-Chloronaphthalene	0	15				340	22000	ug/kg				
95-57-8	2-Chlorophenol	0	15				340	22000	ug/kg				
591-78-6	2-Hexanone	0	26				17	23000	ug/kg				
91-57-6	2-Methylnaphthalene	2	15	96	140	SB-73-03	340	22000	ug/kg	6.00E+06	2.33E-05	NA	--
95-48-7	2-Methylphenol	0	15				340	22000	ug/kg				
	2-Methylphenol, TCLP	0	3				0.05	0.05	mg/l				
88-74-4	2-Nitroaniline	0	14				1700	110000	ug/kg				
88-75-5	2-Nitrophenol	0	15				340	22000	ug/kg				
108-39-4T	3 & 4-Methylphenol, TCLP	0	3				0.05	0.05	mg/l				
91-94-1	3,3-Dichlorobenzidine	0	14				1700	110000	ug/kg				
99-09-2	3-Nitroaniline	0	14				1700	110000	ug/kg				
534-52-1	4,6-Dinitro-2-methylphenol	0	14				1700	110000	ug/kg				
101-55-3	4-Bromophenyl phenyl ether	0	15				340	22000	ug/kg				
59-50-7	4-Chloro-3-methylphenol	0	15				340	22000	ug/kg				
106-47-8	4-Chloroaniline	0	15				340	22000	ug/kg				
7005-72-3	4-Chlorophenyl phenyl ether	0	15				340	22000	ug/kg				
108-10-1	4-Methyl-2-Pentanone	0	26				17	23000	ug/kg				
106-44-5	4-Methylphenol	0	15				340	22000	ug/kg				
100-01-6	4-Nitroaniline	0	14				1700	110000	ug/kg				

See notes on page 4 of 4

Table 9
Summary of Subsurface (3 to 12 ft bgs) Soil Data Compared to Commercial/Industrial GDCSS - P Area Exposure Unit
Former GM Dephi Harrison Thermal Systems Facility
Dayton, Ohio

CAS	Parameter	Frequency of Detection		Range of Detections		Maximum Location	Range of Detection Limits		Units	Commercial/Industrial Standard for Single Chemical (noncarcinogen)	Commercial/Industrial Noncarcinogenic Risk Ratio	Commercial/Industrial Standard for Single Chemical (carcinogens)	Commercial/Industrial Carcinogenic Risk Ratio
		# Detected	# Samples	Minimum	Maximum		Minimum	Maximum					
100-02-7	4-Nitrophenol	0	14				1700	110000	ug/kg				
83-32-9	Acenaphthene	1	15	36	36	SB-73-03	340	22000	ug/kg	9.00E+07	4.00E-07	NA	--
208-96-8	Acenaphthylene	1	15	29	29	MW-12-03	340	22000	ug/kg	9.00E+07	3.22E-07	NA	
67-64-1	Acetone	2	26	31	330	SB-163-04	17	23000	ug/kg	1.00E+09	3.30E-07	NA	--
98-86-2	Acetophenone	0	15				340	22000	ug/kg				
120-12-7	Anthracene	2	15	79	110	SB-73-03	340	22000	ug/kg	4.50E+08	2.44E-07	NA	--
7440-36-0	Antimony	5	15	0.41	6.5	SB-73-03	6.20	13.40	mg/kg	1.60E+06	4.06E-06	NA	--
12674-11-2	Aroclor-1016	0	16				20.80	360	ug/kg				
11104-28-2	Aroclor-1221	0	16				20.80	360	ug/kg				
11141-16-5	Aroclor-1232	0	16				20.80	360	ug/kg				
53469-21-9	Aroclor-1242	0	16				20.80	360	ug/kg				
12672-29-6	Aroclor-1248	2	16	3.90	65	SB-149-04	20.80	360	ug/kg	NA	--	2.00E+04	3.25E-03
11097-69-1	Aroclor-1254	7	16	17	2100	MW-12-03	24.10	220	ug/kg	2.90E+04	7.24E-02	2.00E+04	1.05E-01
11096-82-5	Aroclor-1260	1	16	30	30	SB-163-04	20.80	360	ug/kg	NA	--	2.00E+04	1.50E-03
7440-38-2	Arsenic	16	16	2.80	14	SB-73-03			mg/kg	1.20E+03	1.17E-02	7.70E+01	1.82E-01
	Arsenic, TCLP	0	3				0.10	0.10	mg/l				
1912-24-9	Atrazine	0	15				340	22000	ug/kg				
7440-39-3	Barium	16	16	28.60	259	SB-17-02			mg/kg	6.80E+05	3.81E-04	NA	--
	Barium, TCLP	3	3	0.73	1.14	TT-SB252			mg/l	NL	--	NL	--
100-52-7	Benzaldehyde	1	15	29	29	SB-73-03	340	22000	ug/kg	NL	--	NL	--
71-43-2	Benzene	6	26	0.30	84	SB-138-04	4.20	5700	ug/kg	1.20E+06	7.00E-05	1.40E+05	6.00E-04
	Benzene, TCLP	0	3				0.005	0.20	mg/l				
56-55-3	Benzo(a)anthracene	2	15	340	340	SB-73-03	340	22000	ug/kg	NA	--	5.80E+04	5.86E-03
50-32-8	Benzo(a)pyrene	2	15	300	380	MW-12-03	340	22000	ug/kg	NA	--	5.80E+03	6.55E-02
205-99-2	Benzo(b)fluoranthene	2	15	330	400	MW-12-03	340	22000	ug/kg	NA	--	5.80E+04	6.90E-03
191-24-2	Benzo(g,h,i)perylene	2	15	120	180	MW-12-03	340	22000	ug/kg	4.50E+07	4.00E-06	NA	--
207-08-9	Benzo(k)fluoranthene	2	15	260	340	MW-12-03	340	22000	ug/kg	NA	--	5.80E+05	5.86E-04
7440-41-7	Beryllium	5	15	0.068	0.55	SB-149-04	0.52	0.67	mg/kg	7.80E+03	7.05E-05	9.70E+04	5.67E-06
92-52-4	Biphenyl	0	15				340	22000	ug/kg				
111-91-1	bis(2-Chloroethoxy)methane	0	15				340	22000	ug/kg				
111-44-4	bis(2-Chloroethyl)ether	0	15				340	22000	ug/kg				
117-81-7	bis(2-Ethylhexyl)phthalate	1	15	130	130	SB-73-03	340	22000	ug/kg	3.50E+07	3.71E-06	3.50E+06	3.71E-05
75-27-4	Bromodichloromethane	0	26				4.20	5700	ug/kg				
75-25-2	Bromoform	0	26				4.20	5700	ug/kg				
74-83-9	Bromomethane	2	26	80	160	SB-149-04	4.20	5700	ug/kg	8.20E+04	1.95E-03	NA	--
85-68-7	Butyl benzylphthalate	0	15				340	22000	ug/kg				
7440-43-9	Cadmium	8	15	0.043	2.30	SB-54-02	0.52	0.67	mg/kg	2.60E+03	8.85E-04	1.30E+05	1.77E-05
	Cadmium, TCLP	0	3				0.01	0.01	mg/l				
105-60-2	Caprolactam	0	15				340	22000	ug/kg				
86-74-8	Carbazole	2	15	32	120	SB-73-03	340	22000	ug/kg	NA	--	2.50E+06	4.80E-05
75-15-0	Carbon disulfide	0	26				4.20	5700	ug/kg				
56-23-5	Carbon tetrachloride	0	26				4.20	5700	ug/kg				
	Carbon tetrachloride, TCLP	0	3				0.005	0.20	mg/l				
108-90-7	Chlorobenzene	0	26				4.20	5700	ug/kg				
	Chlorobenzene, TCLP	0	3				0.005	0.20	mg/l				
75-00-3	Chloroethane	0	26				4.20	5700	ug/kg				
67-66-3	Chloroform	0	26				4.20	5700	ug/kg				

See notes on page 4 of 4

Table 9
Summary of Subsurface (3 to 12 ft bgs) Soil Data Compared to Commercial/Industrial GDCSS - P Area Exposure Unit
Former GM Dephi Harrison Thermal Systems Facility
Dayton, Ohio

CAS	Parameter	Frequency of Detection		Range of Detections		Maximum Location	Range of Detection Limits		Units	Commercial/Industrial Standard for Single Chemical (noncarcinogen)	Commercial/Industrial Noncarcinogenic Risk Ratio	Commercial/Industrial Standard for Single Chemical (carcinogens)	Commercial/Industrial Carcinogenic Risk Ratio
		# Detected	# Samples	Minimum	Maximum		Minimum	Maximum					
	Chloroform, TCLP	0	3				0.005	0.20	mg/l				
74-87-3	Chloromethane	0	26				4.20	5700	ug/kg				
7440-47-3	Chromium Total	16	16	2.40	21.70	SB-54-02			mg/kg	1.20E+04	1.81E-03	2.10E+02	1.03E-01
	Chromium, TCLP	0	3				0.01	0.01	mg/l				
218-01-9	Chrysene	3	15	64	420	MW-12-03	340	22000	ug/kg	NA	--	5.80E+06	7.24E-05
156-59-2	cis-1,2-Dichloroethene	8	26	0.71	22000	SB-73-03	2.10	190	ug/kg	8.20E+06	2.68E-03	NA	--
10061-01-5	cis-1,3-Dichloropropene	0	26				4.20	5700	ug/kg				
7440-48-4	Cobalt	16	16	1.40	8.90	SB-54-02			mg/kg	1.20E+03		2.60E+04	3.42E-04
7440-50-8	Copper	15	15	1.5	5610	SB-73-03			mg/kg	1.60E+05	3.51E-02	NA	--
57-12-5	Cyanide (total)	3	14	0.21	0.28	SB-54-02	0.52	0.68	mg/kg	3.70E+02	7.57E-04	NA	--
110-82-7	Cyclohexane	5	26	0.68	180	SB-138-04	8.40	11000	ug/kg	7.40E+07	2.43E-06	NA	--
53-70-3	Dibenz(a,h)anthracene	2	15	43	55	MW-12-03	340	22000	ug/kg	NA	--	5.80E+03	9.48E-03
132-64-9	Dibenzofuran	2	15	32	69	SB-73-03	340	22000	ug/kg	4.10E+06	1.68E-05	NA	--
124-48-1	Dibromochloromethane	0	26				4.20	5700	ug/kg				
75-71-8	Dichlorodifluoromethane	0	26				4.20	5700	ug/kg				
84-66-2	Diethyl phthalate	0	15				340	22000	ug/kg				
131-11-3	Dimethyl phthalate	0	15				340	22000	ug/kg				
84-74-2	Di-n-butylphthalate	0	15				340	22000	ug/kg				
117-84-0	Di-N-Octyl phthalate	1	15	100	100	SB-73-03	340	22000	ug/kg	1.80E+07	5.56E-06	NA	--
100-41-4	Ethylbenzene	7	26	0.38	50	SB-138-04	4.20	5700	ug/kg	5.80E+07	8.62E-07	7.00E+05	7.14E-05
206-44-0	Fluoranthene	3	15	160	760	MW-12-03	340	22000	ug/kg	6.00E+07	1.27E-05	NA	--
86-73-7	Fluorene	1	15	39	39	SB-73-03	340	22000	ug/kg	6.00E+07	6.50E-07	NA	--
118-74-1	Hexachlorobenzene	0	15				340	22000	ug/kg				
	Hexachlorobenzene, TCLP	0	3				0.05	0.05	mg/l				
87-68-3	Hexachlorobutadiene, SVOC	0	15				340	22000	ug/kg				
	Hexachlorobutadiene, TCLP	0	3				0.05	0.05	mg/l				
77-47-4	Hexachlorocyclopentadiene	0	14				1700	110000	ug/kg				
67-72-1	Hexachloroethane	0	15				340	22000	ug/kg				
	Hexachloroethane, TCLP	0	3				0.05	0.05	mg/l				
193-39-5	Indeno(1,2,3-cd)pyrene	2	15	120	170	MW-12-03	340	22000	ug/kg	NA	--	5.80E+04	2.93E-03
78-59-1	Isophorone	0	15				340	22000	ug/kg				
98-82-8	Isopropylbenzene, VOC	1	26	2.80	2.80	BH-180	4.20	5700	ug/kg	2.70E+07	1.04E-07	NA	--
7439-96-5	Manganese	21	21	194	3360	SB-54-02			mg/kg	NL	--	NL	--
7439-97-6	Mercury*	8	15	0.0057	0.22	SB-73-03	0.10	0.11	mg/kg	8.50E+04	2.59E-06	NA	--
	Mercury, TCLP	0	3				0.0002	0.0002	mg/l				
79-20-9	Methyl acetate	5	26	52	360	SB-138-04	8.40	11000	ug/kg	NL	--	NL	--
108-87-2	Methyl cyclohexane	8	26	0.42	510	SB-138-04	8.40	11000	ug/kg	NL	--	NL	--
1634-04-4	Methyl tert butyl ether	0	26				17	23000	ug/kg				
75-09-2	Methylene chloride	3	26	2.20	130	SB-163-04	4.20	5700	ug/kg	9.50E+06	1.37E-05	3.20E+07	4.06E-06
91-20-3	Naphthalene, SVOC	2	15	80	92	MW-12-03	340	22000	ug/kg	1.60E+06	5.75E-05	4.50E+05	2.04E-04
7440-02-0	Nickel	16	16	3.10	16.90	SB-73-03			mg/kg	7.40E+04	2.28E-04	9.00E+05	1.88E-05
98-95-3	Nitrobenzene	0	15				340	22000	ug/kg				
	Nitrobenzene, TCLP	0	3				0.05	0.05	mg/l				
621-64-7	N-Nitrosodi-n-propylamine	0	15				340	22000	ug/kg				
86-30-6	N-Nitrosodiphenylamine	0	15				340	22000	ug/kg				
87-86-5	Pentachlorophenol	0	15				340	22000	ug/kg				
	Pentachlorophenol, TCLP	0	3				0.05	0.05	mg/l				

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Table 9
Summary of Subsurface (3 to 12 ft bgs) Soil Data Compared to Commercial/Industrial GDCSS - P Area Exposure Unit
Former GM Dephi Harrison Thermal Systems Facility
Dayton, Ohio

CAS	Parameter	Frequency of Detection		Range of Detections		Maximum Location	Range of Detection Limits		Units	Commercial/Industrial Standard for Single Chemical (noncarcinogen)	Commercial/Industrial Noncarcinogenic Risk Ratio	Commercial/Industrial Standard for Single Chemical (carcinogens)	Commercial/Industrial Carcinogenic Risk Ratio
		# Detected	# Samples	Minimum	Maximum		Minimum	Maximum					
85-01-8	Phenanthrene	3	15	160	690	SB-73-03	340	22000	ug/kg	4.50E+08	1.53E-06	NA	--
108-95-2	Phenol	0	15				340	22000	ug/kg				
129-00-0	Pyrene, SVOC	3	15	140	650	SB-73-03	340	22000	ug/kg	4.50E+07	1.44E-05	NA	--
	Pyridine, TCLP	0	3				0.05	0.05	mg/l				
7782-49-2	Selenium	2	14	0.55	0.65	SB-73-03	0.52	1.10	mg/kg	2.00E+04	3.25E-05	NA	--
	Selenium, TCLP	0	3				0.10	0.10	mg/l				
7440-22-4	Silver	2	14	0.35	0.79	SB-54-02	1	1.40	mg/kg	2.00E+04	3.95E-05	NA	--
	Silver, TCLP	0	3				0.01	0.01	mg/l				
100-42-5	Styrene	0	26				4.20	5700	ug/kg				
127-18-4	Tetrachloroethene*	22	26	1.70	26000	SB-73-03	4.30	390	ug/kg	1.10E+06	2.36E-02	2.80E+06	9.29E-03
	Tetrachloroethene, TCLP	1	3	2.64	2.64	TT-SB254B	0.005	0.005	mg/l	NL	--	NL	--
7440-28-0	Thallium	7	15	0.61	1.5	MW-12-03	1	2.20	mg/kg	4.10E+01	3.66E-02	NA	--
108-88-3	Toluene	18	26	0.45	370	SB-138-04	5.70	5700	ug/kg	1.40E+08	2.64E-06	NA	--
156-60-5	trans-1,2-Dichloroethene	0	26				2.10	2900	ug/kg				
10061-02-6	trans-1,3-Dichloropropene	0	26				4.20	5700	ug/kg				
79-01-6	Trichloroethene	25	26	0.91	100000	SB-73-03	390	390	ug/kg	5.10E+04	**1.96E+00**	1.70E+05	5.88E-01
	Trichloroethene, TCLP	0	3				0.005	0.20	mg/l				
75-69-4	Trichlorofluoromethane	0	26				4.20	5700	ug/kg				
76-13-1	Trifluorotrichloroethane	0	26				4.20	5700	ug/kg				
7440-62-2	Vanadium	16	16	4.80	40.80	SB-54-02			mg/kg	2.00E+04	2.04E-03	NA	--
75-01-4	Vinyl chloride	0	26				4.20	5700	ug/kg				
	Vinyl chloride, TCLP	0	3				0.005	0.20	mg/l				
1330-20-7	Xylene (Total)	6	26	1.10	560	SB-138-04	8.40	11000	ug/kg	6.80E+06	8.24E-05	NA	--
7440-66-6	Zinc	16	16	9.70	929	SB-54-02			mg/kg	1.00E+06	9.29E-04	NA	--
										Cumulative Risk Ratio	**2.15E+00**	Cumulative Risk Ratio	**1.09E+00**

CAS	Parameter	Frequency of Detection		Range of Detections		Maximum Location	Range of Detection Limits		Units	Commercial/Industrial Standard for Single Chemical (noncarcinogen)	Commercial/Industrial Noncarcinogenic Risk Ratio	Commercial/Industrial Standard for Single Chemical (carcinogens)	Commercial/Industrial Carcinogenic Risk Ratio
		# Detected	# Samples	Minimum	Maximum		Minimum	Maximum					
C21-C34	C21-C34 Aliphatics	0	2	--	--	--	551	588	mg/kg				
	Diesel Range Organics (DRO)	2	2	26.10	28.5	TT-SB253	--	--	mg/kg	2.00E+03	--	NL	--
	Gasoline Range Organics (GRO)	0	2	--	--	--	5.64	5.82	mg/kg				
7439-92-1	Lead	16	16	1.40	339	MW-12-03	--	--	mg/kg	8.00E+02	--	--	--
	Lead, TCLP	1	3	1.27	1.27	TT-SB252	0.05	0.05	mg/l	NL	--	NL	--

Notes:
bgs - below ground surface
ft - feet
mg/kg - milligram per kilogram
mg/l - milligram per liter
NA - Not Applicable
NL - Not Listed
SVOC - Semi-Volatile Organic Compounds
TCLP - toxicity characteristic leaching procedure
ug/kg - microgram per kilogram
VOC - Volatile Organic Compounds
* The C/I Single Chem GDCSS is 3.1 mg/kg for mercury and 170 mg/kg for PCE and is based on the soil saturation standard

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Table 10
Summary of Soil (0 to 12 ft bgs) Data Compared to Construction Worker GDCSS - P Area Exposure Unit
Former GM Dephi Harrison Thermal Systems Facility
Dayton, Ohio

CAS	Parameter	Frequency of Detection		Range of Detections		Maximum Location	Range of Detection Limits		Units	Construction/Excavation Standard for Single Chemical (noncarcinogen)	Construction/Excavation Noncarcinogenic Risk Ratio	Construction/Excavation Standard for Single Chemical (carcinogens)	Construction/Excavation Carcinogenic Risk Ratio
		# Detected	# Samples	Minimum	Maximum		Minimum	Maximum					
71-55-6	1,1,1-Trichloroethane	4	42	29	300	SB-18-02	4.20	5700	ug/kg	3.30E+07	9.09E-06	NA	--
79-34-5	1,1,2,2-Tetrachloroethane	0	42				4.20	5700	ug/kg				
79-00-5	1,1,2-Trichloroethane	0	42				4.20	5700	ug/kg				
75-34-3	1,1-Dichloroethane	0	42				4.20	5700	ug/kg				
75-35-4	1,1-Dichloroethene	0	42				4.20	5700	ug/kg				
	1,1-Dichloroethene, TCLP	0	3				0.005	0.20	mg/l				
120-82-1	1,2,4-Trichlorobenzene, VOC	1	42	1.10	1.10	MW-25-04	4.20	5700	ug/kg	2.40E+06	4.58E-07	5.10E+07	2.16E-08
96-12-8	1,2-Dibromo-3-chloropropane	0	42				8.40	11000	ug/kg				
106-93-4	1,2-Dibromoethane	0	42				4.20	5700	ug/kg				
95-50-1	1,2-Dichlorobenzene, VOC	0	42				4.20	5700	ug/kg				
107-06-2	1,2-Dichloroethane	0	42				4.20	5700	ug/kg				
	1,2-Dichloroethane, TCLP	0	3				0.005	0.200	mg/l				
78-87-5	1,2-Dichloropropane	0	42				4.20	5700	ug/kg				
541-73-1	1,3-Dichlorobenzene, VOC	0	42				4.20	5700	ug/kg				
	1,4-Dichlorobenzene, TCLP	0	3				0.050	0.050	mg/l				
106-46-7	1,4-Dichlorobenzene, VOC	0	42				4.20	5700	ug/kg				
39638-32-9	2,2-oxybis(2-Chloropropane), SVOC	0	26				340	22000	ug/kg				
95-95-4	2,4,5-Trichlorophenol	0	26				340	22000	ug/kg				
	2,4,5-Trichlorophenol, TCLP	0	3				0.050	0.050	mg/l				
88-06-2	2,4,6-Trichlorophenol	0	26				340	22000	ug/kg				
120-83-2	2,4-Dichlorophenol	0	26				340	22000	ug/kg				
105-67-9	2,4-Dimethylphenol	0	26				340	22000	ug/kg				
51-28-5	2,4-Dinitrophenol	0	24				1700	110000	ug/kg				
121-14-2	2,4-Dinitrotoluene	0	26				340	22000	ug/kg				
	2,4-Dinitrotoluene, TCLP	0	3				0.0500	0.0500	mg/l				
606-20-2	2,6-Dinitrotoluene	0	26				340	22000	ug/kg				
78-93-3	2-Butanone	3	42	1.60	87	MW-12-03	17	23000	ug/kg	4.80E+07	1.81E-06	NA	--
	2-Butanone, TCLP	0	3				0.02	0.80	mg/l				
91-58-7	2-Chloronaphthalene	0	26				340	22000	ug/kg				
95-57-8	2-Chlorophenol	0	26				340	22000	ug/kg				
591-78-6	2-Hexanone	0	42				17	23000	ug/kg				
91-57-6	2-Methylnaphthalene	8	26	83	370	SB-148-04	340	22000	ug/kg	5.20E+06	7.12E-05	NA	--
95-48-7	2-Methylphenol	0	26				340	22000	ug/kg				
	2-Methylphenol, TCLP	0	3				0.050	0.050	mg/l				
88-74-4	2-Nitroaniline	0	24				1700	110000	ug/kg				
88-75-5	2-Nitrophenol	0	26				340	22000	ug/kg				
108-39-4T	3 & 4-Methylphenol, TCLP	0	3				0.050	0.050	mg/l				
91-94-1	3,3-Dichlorobenzidine	0	24				1700	110000	ug/kg				
99-09-2	3-Nitroaniline	0	24				1700	110000	ug/kg				
534-52-1	4,6-Dinitro-2-methylphenol	0	24				1700	110000	ug/kg				
101-55-3	4-Bromophenyl phenyl ether	0	26				340	22000	ug/kg				
59-50-7	4-Chloro-3-methylphenol	0	26				340	22000	ug/kg				
106-47-8	4-Chloroaniline	0	26				340	22000	ug/kg				
7005-72-3	4-Chlorophenyl phenyl ether	0	26				340	22000	ug/kg				
108-10-1	4-Methyl-2-Pentanone	0	42				17	23000	ug/kg				
106-44-5	4-Methylphenol	0	26				340	22000	ug/kg				
100-01-6	4-Nitroaniline	0	24				1700	110000	ug/kg				
100-02-7	4-Nitrophenol	0	24				1700	110000	ug/kg				

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Table 10
Summary of Soil (0 to 12 ft bgs) Data Compared to Construction Worker GDCSS - P Area Exposure Unit
Former GM Dephi Harrison Thermal Systems Facility
Dayton, Ohio

CAS	Parameter	Frequency of Detection		Range of Detections		Maximum Location	Range of Detection Limits		Units	Construction/Excavation Standard for Single Chemical (noncarcinogen)	Construction/Excavation Noncarcinogenic Risk Ratio	Construction/Excavation Standard for Single Chemical (carcinogens)	Construction/Excavation Carcinogenic Risk Ratio
		# Detected	# Samples	Minimum	Maximum		Minimum	Maximum					
83-32-9	Acenaphthene	4	26	36	420	MW-12-03	340	22000	ug/kg	7.80E+08	5.38E-07	NA	--
208-96-8	Acenaphthylene	2	26	25	29	MW-12-03	340	22000	ug/kg	7.80E+08	3.72E-08	NA	--
67-64-1	Acetone	3	42	8.10	330	SB-163-04	17	23000	ug/kg	1.00E+09	3.30E-07	NA	--
98-86-2	Acetophenone	0	26				340	22000	ug/kg				
120-12-7	Anthracene	8	26	29	2700	MW-12-03	340	22000	ug/kg	1.00E+09	2.70E-06	NA	--
7440-36-0	Antimony	12	25	0.410	11	MW-26-04	6.20	13.40	mg/kg	8.50E+02	1.29E-02	NA	--
12674-11-2	Aroclor-1016	0	28				20.80	360	ug/kg				
11104-28-2	Aroclor-1221	0	28				20.80	360	ug/kg				
11141-16-5	Aroclor-1232	0	28				20.80	360	ug/kg				
53469-21-9	Aroclor-1242	0	28				20.80	360	ug/kg				
12672-29-6	Aroclor-1248	2	28	3.90	65	SB-149-04	20.80	360	ug/kg	NA	--	4.40E+05	1.48E-04
11097-69-1	Aroclor-1254	12	28	17	3700	SB-149-04	24.10	220	ug/kg	7.50E+04	4.93E-02	4.40E+05	8.41E-03
11096-82-5	Aroclor-1260	1	28	30	30	SB-163-04	20.80	360	ug/kg	NA	--	4.40E+05	6.82E-05
7440-38-2	Arsenic	27	27	2.80	16.5	SB-148-04			mg/kg	6.90E+02	2.39E-02	1.30E+03	1.27E-02
	Arsenic, TCLP	0	3				0.100	0.100	mg/l				
1912-24-9	Atrazine	0	26				340	22000	ug/kg				
7440-39-3	Barium	27	27	24.40	259	SB-17-02			mg/kg	3.20E+05	8.09E-04	NA	--
	Barium, TCLP	3	3	0.73	1.14	TT-SB252			mg/l	NL	--	NL	--
100-52-7	Benzaldehyde	2	26	21	29	SB-73-03	340	22000	ug/kg	NL	--	NL	--
71-43-2	Benzene	8	42	0.30	180	SB-138-04	4.20	5700	ug/kg	1.20E+06	1.50E-04	1.20E+06	1.50E-04
	Benzene, TCLP	0	3				0.005	0.20	mg/l				
56-55-3	Benzo(a)anthracene	10	26	50	3800	MW-12-03	340	22000	ug/kg	NA	--	1.20E+06	3.17E-03
50-32-8	Benzo(a)pyrene	9	26	51	3500	MW-12-03	340	22000	ug/kg	NA	--	1.20E+05	2.92E-02
205-99-2	Benzo(b)fluoranthene	10	26	65	4000	MW-12-03	340	22000	ug/kg	NA	--	1.20E+06	3.33E-03
191-24-2	Benzo(g,h,i)perylene	10	26	27	1800	MW-12-03	340	22000	ug/kg	3.90E+08	4.62E-06	NA	--
207-08-9	Benzo(k)fluoranthene	9	26	27	2600	MW-12-03	340	22000	ug/kg	NA	--	1.20E+07	2.17E-04
7440-41-7	Beryllium	14	26	0.068	1.10	SB-148-04	0.52	0.67	mg/kg	3.40E+03	3.24E-04	7.10E+04	1.55E-05
92-52-4	Biphenyl	1	26	29	29	SB-73-03	340	22000	ug/kg	2.10E+08	1.38E-07	1.90E+08	1.53E-07
111-91-1	bis(2-Chloroethoxy)methane	0	26				340	22000	ug/kg				
111-44-4	bis(2-Chloroethyl)ether	0	26				340	22000	ug/kg				
117-81-7	bis(2-Ethylhexyl)phthalate	3	26	24	130	SB-73-03	340	22000	ug/kg	2.80E+08	4.64E-07	7.10E+07	1.83E-06
75-27-4	Bromodichloromethane	0	42				4.20	5700	ug/kg				
75-25-2	Bromoform	0	42				4.20	5700	ug/kg				
74-83-9	Bromomethane	2	42	80	160	SB-149-04	4.20	5700	ug/kg	5.50E+05	2.91E-04	NA	--
85-68-7	Butyl benzylphthalate	0	26				340	22000	ug/kg				
7440-43-9	Cadmium	15	26	0.043	4	SB-54-02	0.52	0.67	mg/kg	1.00E+03	4.00E-03	9.50E+04	4.21E-05
	Cadmium, TCLP	0	3				0.01	0.01	mg/l				
105-60-2	Caprolactam	0	26				340	22000	ug/kg				
86-74-8	Carbazole	7	26	32	620	MW-12-03	340	22000	ug/kg	NA	--	5.00E+07	1.24E-05
75-15-0	Carbon disulfide	0	42				4.20	5700	ug/kg				
56-23-5	Carbon tetrachloride	0	42				4.20	5700	ug/kg				
	Carbon tetrachloride, TCLP	0	3				0.005	0.20	mg/l				
108-90-7	Chlorobenzene	0	42				4.20	5700	ug/kg				
	Chlorobenzene, TCLP	0	3				0.005	0.200	mg/l				
75-00-3	Chloroethane	0	42				4.20	5700	ug/kg				
67-66-3	Chloroform	0	42				4.20	5700	ug/kg				
	Chloroform, TCLP	0	3				0.005	0.20	mg/l				
74-87-3	Chloromethane	0	42				4.20	5700	ug/kg				

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Table 10
Summary of Soil (0 to 12 ft bgs) Data Compared to Construction Worker GDCSS - P Area Exposure Unit
Former GM Dephi Harrison Thermal Systems Facility
Dayton, Ohio

CAS	Parameter	Frequency of Detection		Range of Detections		Maximum Location	Range of Detection Limits		Units	Construction/Excavation Standard for Single Chemical (noncarcinogen)	Construction/Excavation Noncarcinogenic Risk Ratio	Construction/Excavation Standard for Single Chemical (carcinogens)	Construction/Excavation Carcinogenic Risk Ratio
		# Detected	# Samples	Minimum	Maximum		Minimum	Maximum					
7440-47-3	Chromium Total	27	27	2.40	21.70	SB-54-02			mg/kg	1.90E+04	1.14E-03	1.20E+03	1.81E-02
	Chromium, TCLP	0	3				0.01	0.01	mg/l				
218-01-9	Chrysene	12	26	57	5500	MW-12-03	340	22000	ug/kg	NA	--	1.20E+08	4.58E-05
156-59-2	cis-1,2-Dichloroethene	21	42	0.71	22000	SB-73-03	2.10	360	ug/kg	4.30E+07	5.12E-04	NA	--
10061-01-5	cis-1,3-Dichloropropene	0	42				4.20	5700	ug/kg				
7440-48-4	Cobalt	26	26	1.40	18	SB-18-02			mg/kg	2.80E+03	6.43E-03	1.90E+04	9.47E-04
7440-50-8	Copper	26	26	1.5	5610	SB-73-03			mg/kg	2.10E+04	2.67E-01	NA	--
57-12-5	Cyanide (total)	10	25	0.12	3.60	SB-53-02	0.52	0.68	mg/kg	1.50E+02	2.40E-02	NA	--
110-82-7	Cyclohexane	12	42	0.68	1000	SB-138-04	8.40	11000	ug/kg	7.50E+07	1.33E-05	NA	--
53-70-3	Dibenz(a,h)anthracene	7	26	21	210	SB-149-04	340	22000	ug/kg	NA	--	1.20E+05	1.75E-03
132-64-9	Dibenzofuran	7	26	32	230	MW-12-03	340	22000	ug/kg	2.10E+06	1.10E-04	NA	--
124-48-1	Dibromochloromethane	0	42				4.20	5700	ug/kg				
75-71-8	Dichlorodifluoromethane	0	42				4.20	5700	ug/kg				
84-66-2	Diethyl phthalate	0	26				340	22000	ug/kg				
131-11-3	Dimethyl phthalate	0	26				340	22000	ug/kg				
84-74-2	Di-n-butylphthalate	0	26				340	22000	ug/kg				
117-84-0	Di-N-Octyl phthalate	1	26	100	100	SB-73-03	340	22000	ug/kg	1.40E+08	7.14E-07	NA	--
100-41-4	Ethylbenzene	9	42	0.38	700	SB-138-04	4.20	5700	ug/kg	1.90E+08	3.68E-06	6.10E+06	1.15E-04
206-44-0	Fluoranthene	12	26	93	10000	MW-12-03	340	22000	ug/kg	1.60E+08	6.25E-05	NA	--
86-73-7	Fluorene	4	26	39	290	MW-12-03	340	22000	ug/kg	5.20E+08	5.58E-07	NA	--
118-74-1	Hexachlorobenzene	0	26				340	22000	ug/kg				
	Hexachlorobenzene, TCLP	0	3				0.050	0.050	mg/l				
87-68-3	Hexachlorobutadiene, SVOC	0	26				340	22000	ug/kg				
	Hexachlorobutadiene, TCLP	0	3				0.050	0.050	mg/l				
77-47-4	Hexachlorocyclopentadiene	0	24				1700	110000	ug/kg				
67-72-1	Hexachloroethane	0	26				340	22000	ug/kg				
	Hexachloroethane, TCLP	0	3				0.050	0.050	mg/l				
193-39-5	Indeno(1,2,3-cd)pyrene	10	26	26	1600	MW-12-03	340	22000	ug/kg	NA	--	1.20E+06	1.33E-03
78-59-1	Isophorone	0	26				340	22000	ug/kg				
98-82-8	Isopropylbenzene, VOC	2	42	2.80	580	SB-138-04	4.20	5700	ug/kg	8.60E+07	6.74E-06	NA	--
7439-96-5	Manganese	34	34	194	3360	SB-54-02			mg/kg	NL	--	NL	--
7439-97-6	Mercury*	19	26	0.0057	0.51	SB-53-02	0.10	0.11	mg/kg	3.10E+01	1.65E-02	NA	--
	Mercury, TCLP	0	3				0.0002	0.0002	mg/l				
79-20-9	Methyl acetate	10	42	32	410	SB-73-03	8.40	11000	ug/kg	NL	--	NL	--
108-87-2	Methyl cyclohexane	18	42	0.42	3000	SB-138-04	8.40	11000	ug/kg	NL	--	NL	--
1634-04-4	Methyl tert butyl ether	0	42				17	23000	ug/kg				
75-09-2	Methylene chloride	5	42	2.20	560	SB-163-04	4.20	5700	ug/kg	8.50E+06	6.59E-05	3.40E+08	1.65E-06
91-20-3	Naphthalene, SVOC	8	26	67	640	SB-148-04	340	22000	ug/kg	5.60E+05	1.14E-03	3.80E+06	1.68E-04
7440-02-0	Nickel	27	27	3.10	27.20	SB-53-02			mg/kg	2.30E+04	1.18E-03	6.60E+05	4.12E-05
98-95-3	Nitrobenzene	0	26				340	22000	ug/kg				
	Nitrobenzene, TCLP	0	3				0.050	0.050	mg/l				
621-64-7	N-Nitrosodi-n-propylamine	0	26				340	22000	ug/kg				
86-30-6	N-Nitrosodiphenylamine	0	26				340	22000	ug/kg				
87-86-5	Pentachlorophenol	0	26				340	22000	ug/kg				
	Pentachlorophenol, TCLP	0	3				0.050	0.050	mg/l				
85-01-8	Phenanthrene	12	26	31	7000	MW-12-03	340	22000	ug/kg	1.00E+09	7.00E-06	NA	--
108-95-2	Phenol	0	26				340	22000	ug/kg				
129-00-0	Pyrene, SVOC	12	26	82	7700	MW-12-03	340	22000	ug/kg	3.90E+08	1.97E-05	NA	--

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Table 10
Summary of Soil (0 to 12 ft bgs) Data Compared to Construction Worker GDCSS - P Area Exposure Unit
Former GM Dephi Harrison Thermal Systems Facility
Dayton, Ohio

CAS	Parameter	Frequency of Detection		Range of Detections		Maximum Location	Range of Detection Limits		Units	Construction/Excavation Standard for Single Chemical (noncarcinogen)	Construction/Excavation Noncarcinogenic Risk Ratio	Construction/Excavation Standard for Single Chemical (carcinogens)	Construction/Excavation Carcinogenic Risk Ratio
		# Detected	# Samples	Minimum	Maximum		Minimum	Maximum					
	Pyridine, TCLP	0	3				0.050	0.050	mg/l				
7782-49-2	Selenium	4	25	0.52	1.5	SB-18-02	0.52	1.20	mg/kg	1.10E+04	1.36E-04	NA	--
	Selenium, TCLP	0	3				0.10	0.10	mg/l				
7440-22-4	Silver	3	22	0.35	0.79	SB-54-02	1	1.40	mg/kg	1.10E+04	7.18E-05	NA	--
	Silver, TCLP	0	3				0.01	0.01	mg/l				
100-42-5	Styrene	0	42				4.20	5700	ug/kg				
127-18-4	Tetrachloroethene*	37	41	1.70	49000	MW-26-04	4.30	390	ug/kg	3.80E+05	1.29E-01	2.50E+07	1.96E-03
	Tetrachloroethene, TCLP	1	3	2.64	2.64	TT-SB254B	0.005	0.005	mg/l	NL	--	NL	--
7440-28-0	Thallium	12	25	0.52	1.60	MW-12-03	1	2.20	mg/kg	2.10E+01	7.62E-02	NA	--
108-88-3	Toluene	21	42	0.45	2100	SB-138-04	5.10	5700	ug/kg	8.20E+07	2.56E-05	NA	--
156-60-5	trans-1,2-Dichloroethene	3	42	45	290	MW-26-04	2.10	2900	ug/kg	7.90E+06	3.67E-05	NA	--
10061-02-6	trans-1,3-Dichloropropene	0	42				4.20	5700	ug/kg				
79-01-6	Trichloroethene	41	42	0.91	100000	SB-73-03	390	390	ug/kg	1.70E+04	**5.88E+00**	1.40E+06	7.14E-02
	Trichloroethene, TCLP	0	3				0.005	0.20	mg/l				
75-69-4	Trichlorofluoromethane	0	42				4.20	5700	ug/kg				
76-13-1	Trifluorotrichloroethane	0	42				4.20	5700	ug/kg				
7440-62-2	Vanadium	27	27	4.70	40.80	SB-54-02			mg/kg	1.10E+04	3.71E-03	NA	--
75-01-4	Vinyl chloride	0	42				4.20	5700	ug/kg				
	Vinyl chloride, TCLP	0	3				0.005	0.20	mg/l				
1330-20-7	Xylene (Total)	11	42	1.10	5400	SB-138-04	8.40	11000	ug/kg	7.00E+06	7.71E-04	NA	--
7440-66-6	Zinc	27	27	9.70	1750	SB-54-02			mg/kg	6.40E+05	2.73E-03	NA	--
										Cumulative Risk Ratio	**6.51E+00**	Cumulative Risk Ratio	1.53E-01

CAS	Parameter	Frequency of Detection		Range of Detections		Maximum Location	Range of Detection Limits		Units	Construction/Excavation Standard for Single Chemical (noncarcinogen)	Construction/Excavation Noncarcinogenic Risk Ratio	Construction/Excavation Standard for Single Chemical (carcinogens)	Construction/Excavation Carcinogenic Risk Ratio
		# Detected	# Samples	Minimum	Maximum		Minimum	Maximum					
7439-92-1	Lead	26	26	1.40	528	SB-148-04	--	--	mg/kg	**4.00E+02**	--	--	--
	Lead, TCLP	1	3	1.27	1.27	TT-SB252	0.050	0.050	mg/l	NL	--	NL	--
C21-C34	C21-C34 Aliphatics	0	2	--	--	--	551	588	mg/kg				
	Gasoline Range Organics (GRO)	0	2	--	--	--	5.64	5.82	mg/kg				
	Diesel Range Organics (DRO)	2	2	26.10	28.5	TT-SB253	--	--	mg/kg	2.00E+03	--	NL	--

Notes:
bgs - below ground surface
ft - feet
mg/kg - milligram per kilogram
mg/l - milligram per liter
NA - Not Applicable
NL - Not Listed
SVOC - Semi-Volatile Organic Compounds
TCLP - toxicity characteristic leaching procedure
ug/kg - microgram per kilogram
VOC - Volatile Organic Compounds
* The Constrction Single Chem GDCSS is 3.1 mg/kg for mercury and 170 mg/kg for PCE and is based on the soil saturation standard

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Table 11
Summary of Surface (0 to 3 ft bgs) Soil Data Compared to Commercial/Industrial GDCSS - CTA Area Exposure Unit
Former GM Dephi Harrison Thermal Systems Facility
Dayton, Ohio

CAS	Parameter	Frequency of Detection		Range of Detections		Maximum Location	Range of Detection Limits		Units	Commercial/Industrial Standard for Single Chemical (noncarcinogen)	Commercial/Industrial Noncarcinogenic Risk Ratio	Commercial/Industrial Standard for Single Chemical (carcinogens)	Commercial/Industrial Carcinogenic Risk Ratio
		# Detected	# Samples	Minimum	Maximum		Minimum	Maximum					
630-20-6	1,1,1,2-Tetrachloroethane	0	7				5	42	ug/kg				
71-55-6	1,1,1-Trichloroethane	0	7				5	42	ug/kg				
79-34-5	1,1,2,2-Tetrachloroethane	0	7				5	42	ug/kg				
79-00-5	1,1,2-Trichloroethane	0	7				5	42	ug/kg				
75-34-3	1,1-Dichloroethane	0	7				5	42	ug/kg				
75-35-4	1,1-Dichloroethene	0	7				5	42	ug/kg				
563-58-6	1,1-Dichloropropene	0	7				5	42	ug/kg				
87-61-6	1,2,3-Trichlorobenzene	0	1				5	5	ug/kg				
96-18-4	1,2,3-Trichloropropane	0	1				5	5	ug/kg				
95-94-3	1,2,4,5-Tetrachlorobenzene	0	1				330	330	ug/kg				
120-82-1	1,2,4-Trichlorobenzene, SVOC	0	9				330	6600	ug/kg				
120-82-1	1,2,4-Trichlorobenzene, VOC	0	7				5	42	ug/kg				
95-63-6	1,2,4-Trimethylbenzene	1	7	106	106	B03	5	5	ug/kg	6.60E+05	1.61E-04	NA	--
96-12-8	1,2-Dibromo-3-chloropropane	0	1				10	10	ug/kg				
106-93-4	1,2-Dibromoethane	0	1				5	5	ug/kg				
95-50-1	1,2-Dichlorobenzene, SVOC	0	9				330	6600	ug/kg				
95-50-1	1,2-Dichlorobenzene, VOC	0	7				5	42	ug/kg				
107-06-2	1,2-Dichloroethane	0	7				5	42	ug/kg				
78-87-5	1,2-Dichloropropane	0	7				5	42	ug/kg				
122-66-7	1,2-Diphenylhydrazine	0	1				330	330	ug/kg				
108-67-8	1,3,5-Trimethylbenzene	1	7	46.9	46.9	B03	5	5	ug/kg	4.10E+07	1.14E-06	NA	--
541-73-1	1,3-Dichlorobenzene, SVOC	0	9				330	6600	ug/kg				
541-73-1	1,3-Dichlorobenzene, VOC	0	7				5	42	ug/kg				
142-28-9	1,3-Dichloropropane	0	7				5	42	ug/kg				
106-46-7	1,4-Dichlorobenzene, SVOC	0	9				330	6600	ug/kg				
106-46-7	1,4-Dichlorobenzene, VOC	0	7				5	42	ug/kg				
123-91-1	1,4-Dioxane	0	6				20	20	ug/kg				
134-32-7	1-Naphthylamine	0	1				330	330	ug/kg				
594-20-7	2,2-Dichloropropane	0	7				5	42	ug/kg				
39638-32-9	2,2-oxybis(2-Chloropropane), SVOC	0	1				330	330	ug/kg				
58-90-2	2,3,4,6-Tetrachlorophenol	0	1				330	330	ug/kg				
95-95-4	2,4,5-Trichlorophenol	0	9				330	6600	ug/kg				
88-06-2	2,4,6-Trichlorophenol	0	9				330	6600	ug/kg				
120-83-2	2,4-Dichlorophenol	0	9				330	6600	ug/kg				
105-67-9	2,4-Dimethylphenol	0	9				330	6600	ug/kg				
51-28-5	2,4-Dinitrophenol	0	1				1650	1650	ug/kg				
121-14-2	2,4-Dinitrotoluene	0	9				330	6600	ug/kg				
87-65-0	2,6-Dichlorophenol	0	1				330	330	ug/kg				
606-20-2	2,6-Dinitrotoluene	0	9				330	6600	ug/kg				
78-93-3	2-Butanone	0	7				50	420	ug/kg				
91-58-7	2-Chloronaphthalene	0	9				330	6600	ug/kg				
95-57-8	2-Chlorophenol	0	9				330	6600	ug/kg				
95-49-8	2-Chlorotoluene	0	7				5	42	ug/kg				
591-78-6	2-Hexanone	0	7				50	420	ug/kg				
534-52-1	2-Methyl-4,6-dinitrophenol	0	8				330	6600	ug/kg				
91-57-6	2-Methylnaphthalene	0	4				80.20	330	ug/kg				
95-48-7	2-Methylphenol	0	9				330	6600	ug/kg				
91-59-8	2-Naphthylamine	0	1				330	330	ug/kg				
88-74-4	2-Nitroaniline	0	1				1650	1650	ug/kg				
88-75-5	2-Nitrophenol	0	9				330	6600	ug/kg				
135-98-8	2-Phenylbutane	0	1				5	5	ug/kg				
109-06-8	2-Picoline	0	1				330	330	ug/kg				

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Table 11
Summary of Surface (0 to 3 ft bgs) Soil Data Compared to Commercial/Industrial GDCSS - CTA Area Exposure Unit
Former GM Dephi Harrison Thermal Systems Facility
Dayton, Ohio

CAS	Parameter	Frequency of Detection		Range of Detections		Maximum Location	Range of Detection Limits		Units	Commercial/Industrial Standard for Single Chemical (noncarcinogen)	Commercial/Industrial Noncarcinogenic Risk Ratio	Commercial/Industrial Standard for Single Chemical (carcinogens)	Commercial/Industrial Carcinogenic Risk Ratio
		# Detected	# Samples	Minimum	Maximum		Minimum	Maximum					
95-53-4	2-Toluidine	0	1				330	330	ug/kg				
108-39-4	3&4-Methylphenol	0	9				330	6600	ug/kg				
91-94-1	3,3-Dichlorobenzidine	0	1				660	660	ug/kg				
56-49-5	3-Methylcholanthrene	0	1				330	330	ug/kg				
99-09-2	3-Nitroaniline	0	1				1650	1650	ug/kg				
534-52-1	4,6-Dinitro-2-methylphenol	0	1				1650	1650	ug/kg				
92-67-1	4-Aminobiphenyl	0	1				660	660	ug/kg				
101-55-3	4-Bromophenyl phenyl ether	0	9				330	6600	ug/kg				
59-50-7	4-Chloro-3-methylphenol	0	9				330	6600	ug/kg				
106-47-8	4-Chloroaniline	0	9				330	6600	ug/kg				
7005-72-3	4-Chlorophenyl phenyl ether	0	1				330	330	ug/kg				
106-43-4	4-Chlorotoluene	0	7				5	42	ug/kg				
60-11-7	4-Dimethylaminoazobenzene	0	1				330	330	ug/kg				
108-10-1	4-Methyl-2-Pentanone	0	7				50	420	ug/kg				
100-01-6	4-Nitroaniline	0	1				660	660	ug/kg				
100-02-7	4-Nitrophenol	0	1				1650	1650	ug/kg				
99-55-8	5-Nitro-2-Toluidine	0	1				330	330	ug/kg				
57-97-6	7,12-Dimethylbenz(a)anthracene	0	1				330	330	ug/kg				
83-32-9	Acenaphthene	0	12				80.20	6600	ug/kg				
208-96-8	Acenaphthylene	1	12	173	173	COD05-S005	83.90	6600	ug/kg	9.00E+07	1.92E-06	NA	--
67-64-1	Acetone	0	7				50	840	ug/kg				
98-86-2	Acetophenone	0	1				330	330	ug/kg				
62-53-3	Aniline	0	1				330	330	ug/kg				
120-12-7	Anthracene	2	12	125	420	DAY-20	83.90	6600	ug/kg	4.50E+08	9.33E-07	NA	--
7440-36-0	Antimony	0	8				0.93	1	mg/kg				
12674-11-2	Aroclor-1016	0	9				0.02	0.25	ug/kg				
11104-28-2	Aroclor-1221	0	9				0.04	0.25	ug/kg				
11141-16-5	Aroclor-1232	0	9				0.02	0.25	ug/kg				
53469-21-9	Aroclor-1242	0	9				0.02	0.25	ug/kg				
12672-29-6	Aroclor-1248	0	9				0.02	0.25	ug/kg				
11097-69-1	Aroclor-1254	0	9				20	250	ug/kg				
11096-82-5	Aroclor-1260	0	9				0.25	20	ug/kg				
7440-38-2	Arsenic	8	9	4.80	9.10	DAY-20	5	5	mg/kg	1.20E+03	7.58E-03	7.70E+01	1.18E-01
7440-39-3	Barium	9	9	57.20	172	B02			mg/kg	6.80E+05	2.53E-04	NA	--
71-43-2	Benzene	3	7	5.70	18.20	B04	5	42	ug/kg	1.20E+06	1.52E-05	1.40E+05	1.30E-04
92-87-5	Benzidine	0	1				330	330	ug/kg				
56-55-3	Benzo(a)anthracene	4	12	283	1800	DAY-20	83.90	6600	ug/kg	NA	--	5.80E+04	3.10E-02
50-32-8	Benzo(a)pyrene	7	12	234	4930	B03	83.90	1600	ug/kg	NA	--	5.80E+03	8.50E-01
205-99-2	Benzo(b)fluoranthene	7	12	273	8850	B03	83.90	3300	ug/kg	NA	--	5.80E+04	1.53E-01
191-24-2	Benzo(g,h,i)perylene	2	12	262	1100	DAY-20	83.90	6600	ug/kg	4.50E+07	2.44E-05	NA	--
207-08-9	Benzo(k)fluoranthene	3	12	218	1900	DAY-20	83.90	6600	ug/kg	NA	--	5.80E+05	3.28E-03
65-85-0	Benzoic acid	0	8				1650	33000	ug/kg				
100-51-6	Benzyl alcohol	0	9				330	6600	ug/kg				
85-68-7	Benzyl butyl phthalate	0	8				330	6600	ug/kg				
7440-41-7	Beryllium	0	8				1.60	3.30	mg/kg				
111-91-1	bis(2-Chloroethoxy)methane	0	9				330	6600	ug/kg				
111-44-4	bis(2-Chloroethyl)ether	0	9				330	6600	ug/kg				
108-60-1	bis(2-chloroisopropyl)ether	0	8				330	6600	ug/kg				
117-81-7	bis(2-Ethylhexyl)phthalate	0	9				330	6600	ug/kg				
108-86-1	Bromobenzene	0	7				5	42	ug/kg				
74-97-5	Bromochloromethane	0	6				5	42	ug/kg				
75-27-4	Bromodichloromethane	0	7				5	42	ug/kg				

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Table 11
Summary of Surface (0 to 3 ft bgs) Soil Data Compared to Commercial/Industrial GDCSS - CTA Area Exposure Unit
Former GM Dephi Harrison Thermal Systems Facility
Dayton, Ohio

CAS	Parameter	Frequency of Detection		Range of Detections		Maximum Location	Range of Detection Limits		Units	Commercial/Industrial Standard for Single Chemical (noncarcinogen)	Commercial/Industrial Noncarcinogenic Risk Ratio	Commercial/Industrial Standard for Single Chemical (carcinogens)	Commercial/Industrial Carcinogenic Risk Ratio
		# Detected	# Samples	Minimum	Maximum		Minimum	Maximum					
75-25-2	Bromoform	0	6				5	42	ug/kg				
74-83-9	Bromomethane	0	7				5	84	ug/kg				
85-68-7	Butyl benzylphthalate	0	1				330	330	ug/kg				
7440-43-9	Cadmium	0	9				0.5	6.60	mg/kg				
75-15-0	Carbon disulfide	0	7				5	50	ug/kg				
56-23-5	Carbon tetrachloride	0	7				5	42	ug/kg				
108-90-7	Chlorobenzene	0	7				5	42	ug/kg				
74-97-5	Chlorobromomethane	0	1				5	5	ug/kg				
75-00-3	Chloroethane	0	7				5	84	ug/kg				
67-66-3	Chloroform	0	7				5	42	ug/kg				
74-87-3	Chloromethane	0	7				5	84	ug/kg				
7440-47-3	Chromium Total	8	9	6.74	14.40	SS17	6.5	6.5	mg/kg	1.20E+04	1.20E-03	2.10E+02	6.86E-02
218-01-9	Chrysene	4	12	259	1600	DAY-20	83.90	6600	ug/kg	NA	--	5.80E+06	2.76E-04
156-59-2	cis-1,2-Dichloroethene	0	7				5	42	ug/kg				
10061-01-5	cis-1,3-Dichloropropene	0	7				5	42	ug/kg				
7440-50-8	Copper	8	8	17.40	60.30	SS15			mg/kg	1.60E+08	3.77E-07	NA	--
99-87-6	Cymene	0	1				5	5	ug/kg				
53-70-3	Dibenz(a,h)anthracene	1	12	540	540	DAY-20	80.20	3300	ug/kg	NA	--	5.80E+03	9.31E-02
132-64-9	Dibenzofuran	0	9				330	6600	ug/kg				
124-48-1	Dibromochloromethane	0	7				5	42	ug/kg				
74-95-3	Dibromomethane	0	7				5	42	ug/kg				
75-71-8	Dichlorodifluoromethane	0	7				5	42	ug/kg				
84-66-2	Diethyl phthalate	0	9				330	6600	ug/kg				
131-11-3	Dimethyl phthalate	0	9				330	6600	ug/kg				
84-74-2	Di-n-butylphthalate	0	1				330	330	ug/kg				
117-84-0	Di-N-Octyl phthalate	0	9				330	6600	ug/kg				
62-50-0	Ethyl methanesulfonate	0	1				330	330	ug/kg				
100-41-4	Ethylbenzene	0	7				5	42	ug/kg				
206-44-0	Fluoranthene	10	12	169	11800	B03	86.70	3300	ug/kg	6.00E+07	1.97E-04	NA	--
86-73-7	Fluorene	0	12				80.20	6600	ug/kg				
118-74-1	Hexachlorobenzene	0	9				330	6600	ug/kg				
87-68-3	Hexachlorobutadiene	0	6				5	42	ug/kg				
87-68-3	Hexachlorobutadiene, SVOC	0	1				330	330	ug/kg				
87-68-3	Hexachlorobutadiene, VOC	0	1				5	5	ug/kg				
77-47-4	Hexachlorocyclopentadiene	0	9				330	13000	ug/kg				
67-72-1	Hexachloroethane	0	9				330	6600	ug/kg				
193-39-5	Indeno(1,2,3-cd)pyrene	2	12	192	960	DAY-20	83.90	6600	ug/kg	NA	--	5.80E+04	1.66E-02
78-59-1	Isophorone	0	9				330	6600	ug/kg				
98-82-8	Isopropylbenzene, VOC	0	7				5	42	ug/kg				
	m&p-Xylene	0	1				5	5	ug/kg				
7439-97-6	Mercury*	8	9	0.07	0.64	B02	0.30	0.30	mg/kg	8.50E+01	7.52E-03	NA	--
66-27-3	Methyl methanesulfonate	0	1				330	330	ug/kg				
1634-04-4	Methyl tert butyl ether	0	7				5	42	ug/kg				
75-09-2	Methylene chloride	0	7				5	84	ug/kg				
91-20-3	Naphthalene, SVOC	0	12				80.20	6600	ug/kg				
91-20-3	Naphthalene, VOC	0	1				5	5	ug/kg				
104-51-8	n-Butylbenzene	0	7				5	42	ug/kg				
110-54-3	n-Hexane	0	6				20	170	ug/kg				
7440-02-0	Nickel	7	8	7	20.80	B02	6.60	6.60	mg/kg	7.40E+04	2.81E-04	9.00E+05	2.31E-05
98-95-3	Nitrobenzene	0	9				330	6600	ug/kg				
62-75-9	N-Nitrosodimethylamine	0	1				330	330	ug/kg				
924-16-3	N-Nitrosodi-N-butylamine	0	1				330	330	ug/kg				

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Table 11
Summary of Surface (0 to 3 ft bgs) Soil Data Compared to Commercial/Industrial GDCSS - CTA Area Exposure Unit
Former GM Dephi Harrison Thermal Systems Facility
Dayton, Ohio

CAS	Parameter	Frequency of Detection		Range of Detections		Maximum Location	Range of Detection Limits		Units	Commercial/Industrial Standard for Single Chemical (noncarcinogen)	Commercial/Industrial Noncarcinogenic Risk Ratio	Commercial/Industrial Standard for Single Chemical (carcinogens)	Commercial/Industrial Carcinogenic Risk Ratio
		# Detected	# Samples	Minimum	Maximum		Minimum	Maximum					
621-64-7	N-Nitrosodi-n-propylamine	0	9				38.10	760	ug/kg				
86-30-6	N-Nitrosodiphenylamine	0	1				330	330	ug/kg				
100-75-4	N-Nitrosopiperidine	0	1				330	330	ug/kg				
103-65-1	n-Propylbenzene	0	7				5	42	ug/kg				
95-47-6	o-Xylene	0	1				5	5	ug/kg				
608-93-5	Pentachlorobenzene	0	1				330	330	ug/kg				
76-01-7	Pentachloroethane	0	1				330	330	ug/kg				
82-68-8	Pentachloronitrobenzene	0	1				660	660	ug/kg				
87-86-5	Pentachlorophenol	0	9				330	6600	ug/kg				
62-44-2	Phenacetin	0	1				660	660	ug/kg				
85-01-8	Phenanthrene	8	12	150	9120	SS17	83.90	3300	ug/kg	4.50E+08	2.03E-05	NA	--
108-95-2	Phenol	0	9				330	6600	ug/kg				
99-87-6	p-Isopropyltoluene	0	6				5	42	ug/kg				
23950-59-5	Pronamide	0	1				330	330	ug/kg				
129-00-0	Pyrene, SVOC	10	12	134	17100	SS17	86.70	3300	ug/kg	4.50E+07	3.80E-04	NA	--
110-86-1	Pyridine	0	1				330	330	ug/kg				
135-9-88	sec-Butylbenzene	0	6				5	42	ug/kg				
7782-49-2	Selenium	0	9				3	13	mg/kg				
7440-22-4	Silver	0	9				0.5	1	mg/kg				
100-42-5	Styrene	0	7				5	42	ug/kg				
98-06-6	tert-Butylbenzene	0	7				5	42	ug/kg				
127-18-4	Tetrachloroethene*	1	6	6.20	6.20	B04	5	5	ug/kg	1.10E+06	5.64E-06	2.80E+03	2.21E-03
7440-28-0	Thallium	0	8				0.93	1	mg/kg				
108-88-3	Toluene	4	7	5.20	188	B03	5	5	ug/kg	1.40E+08	1.34E-06	NA	--
156-60-5	trans-1,2-Dichloroethene	0	7				5	42	ug/kg				
10061-02-6	trans-1,3-Dichloropropene	0	7				5	42	ug/kg				
79-01-6	Trichloroethene	0	7				5	42	ug/kg				
75-69-4	Trichlorofluoromethane	0	7				5	42	ug/kg				
108-05-4	Vinyl acetate	0	6				5	42	ug/kg				
75-01-4	Vinyl chloride	0	7				2	17	ug/kg				
1330-20-7	Xylene (Total)	1	6	371	371	B03	5	5	ug/kg	6.80E+06	5.46E-05	NA	--
7440-66-6	Zinc	8	8	42.5	218	B02			mg/kg	1.00E+06	2.18E-04	NA	--
										Cumulative Risk Ratio	1.79E-02	Cumulative Risk Ratio	1.34E+00

CAS	Parameter	Frequency of Detection		Range of Detections		Maximum Location	Range of Detection Limits		Units	Commercial/Industrial Standard for Single Chemical (noncarcinogen)	Commercial/Industrial Noncarcinogenic Risk Ratio	Commercial/Industrial Standard for Single Chemical (carcinogens)	Commercial/Industrial Carcinogenic Risk Ratio
		# Detected	# Samples	Minimum	Maximum		Minimum	Maximum					
7439-92-1	Lead	9	9	41.10	168	SS18	--	--	mg/kg	8.00E+02	--	--	--
	Total Petroleum Hydrocarbons	1	1	340	340	DAY-20	--	--	mg/kg	1.00E+03	--	NL	--
	TPH C10-C20	7	8	10	180	SS17	10	10	mg/kg	2.00E+03	--	NL	--
	TPH C20-C34	8	8	25.70	865	SS17	--	--	mg/kg	5.00E+03	--	NL	--

Notes:
bgs - below ground surface
ft - feet
mg/kg - milligram per kilogram
NA - Not Applicable
NL - Not Listed
SVOC - Semi-Volatile Organic Compounds
ug/kg - microgram per kilogram
VOC - Volatile Organic Compounds
* The C/I Single Chem GDCSS is 3.1 mg/kg for mercury and 170 mg/kg for PCE and is based on the soil saturation standard

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Table 12
Summary of Subsurface (3 to 12 ft bgs) Soil Data Compared to Commercial/Industrial GDCSS - CTA Area Exposure Unit
Former GM Dephi Harrison Thermal Systems Facility
Dayton, Ohio

CAS	Parameter	Frequency of Detection		Range of Detections		Maximum Location	Range of Detection Limits		Units	Commercial/Industrial Standard for Single Chemical (noncarcinogen)	Commercial/Industrial Noncarcinogenic Risk Ratio	Commercial/Industrial Standard for Single Chemical (carcinogens)	Commercial/Industrial Carcinogenic Risk Ratio
		# Detected	# Samples	Minimum	Maximum		Minimum	Maximum					
630-20-6	1,1,1,2-Tetrachloroethane	0	7				5	42	ug/kg				
71-55-6	1,1,1-Trichloroethane	0	7				5	42	ug/kg				
79-34-5	1,1,2,2-Tetrachloroethane	0	7				5	42	ug/kg				
79-00-5	1,1,2-Trichloroethane	0	7				5	42	ug/kg				
75-34-3	1,1-Dichloroethane	0	7				5	42	ug/kg				
75-35-4	1,1-Dichloroethene	0	7				5	42	ug/kg				
563-58-6	1,1-Dichloropropene	0	7				5	42	ug/kg				
87-61-6	1,2,3-Trichlorobenzene	0	1				5	5	ug/kg				
96-18-4	1,2,3-Trichloropropane	0	1				5	5	ug/kg				
95-94-3	1,2,4,5-Tetrachlorobenzene	0	1				330	330	ug/kg				
120-82-1	1,2,4-Trichlorobenzene, SVOC	0	5				330	330	ug/kg				
120-82-1	1,2,4-Trichlorobenzene, VOC	0	7				5	42	ug/kg				
95-63-6	1,2,4-Trimethylbenzene	1	7	6	6	B02	5	42	ug/kg	6.60E+05	9.09E-06	NA	--
96-12-8	1,2-Dibromo-3-chloropropane	0	1				10	10	ug/kg				
106-93-4	1,2-Dibromoethane	0	1				5	5	ug/kg				
95-50-1	1,2-Dichlorobenzene, SVOC	0	5				330	330	ug/kg				
95-50-1	1,2-Dichlorobenzene, VOC	0	7				5	42	ug/kg				
107-06-2	1,2-Dichloroethane	0	7				5	42	ug/kg				
78-87-5	1,2-Dichloropropane	0	7				5	42	ug/kg				
122-66-7	1,2-Diphenylhydrazine	0	1				330	330	ug/kg				
108-67-8	1,3,5-Trimethylbenzene	0	7				5	42	ug/kg				
541-73-1	1,3-Dichlorobenzene, SVOC	0	5				330	330	ug/kg				
541-73-1	1,3-Dichlorobenzene, VOC	0	7				5	42	ug/kg				
142-28-9	1,3-Dichloropropane	0	7				5	42	ug/kg				
106-46-7	1,4-Dichlorobenzene, SVOC	0	5				330	330	ug/kg				
106-46-7	1,4-Dichlorobenzene, VOC	0	7				5	42	ug/kg				
123-91-1	1,4-Dioxane	0	6				20	20	ug/kg				
134-32-7	1-Naphthylamine	0	1				330	330	ug/kg				
594-20-7	2,2-Dichloropropane	0	7				5	42	ug/kg				
39638-32-9	2,2-oxybis(2-Chloropropane), SVOC	0	1				330	330	ug/kg				
58-90-2	2,3,4,6-Tetrachlorophenol	0	1				330	330	ug/kg				
95-95-4	2,4,5-Trichlorophenol	0	5				330	330	ug/kg				
88-06-2	2,4,6-Trichlorophenol	0	5				330	330	ug/kg				
120-83-2	2,4-Dichlorophenol	0	5				330	330	ug/kg				
105-67-9	2,4-Dimethylphenol	0	5				330	330	ug/kg				
51-28-5	2,4-Dinitrophenol	0	1				1650	1650	ug/kg				
121-14-2	2,4-Dinitrotoluene	0	5				330	330	ug/kg				
87-65-0	2,6-Dichlorophenol	0	1				330	330	ug/kg				
606-20-2	2,6-Dinitrotoluene	0	5				330	330	ug/kg				
78-93-3	2-Butanone	0	7				50	420	ug/kg				
91-58-7	2-Chloronaphthalene	0	5				330	330	ug/kg				
95-57-8	2-Chlorophenol	0	5				330	330	ug/kg				
95-49-8	2-Chlorotoluene	0	7				5	42	ug/kg				
591-78-6	2-Hexanone	0	7				50	420	ug/kg				
534-52-1	2-Methyl-4,6-dinitrophenol	0	4				330	330	ug/kg				
91-57-6	2-Methylnaphthalene	0	1				330	330	ug/kg				
95-48-7	2-Methylphenol	0	5				330	330	ug/kg				
91-59-8	2-Naphthylamine	0	1				330	330	ug/kg				
88-74-4	2-Nitroaniline	0	1				1650	1650	ug/kg				
88-75-5	2-Nitrophenol	0	5				330	330	ug/kg				
135-98-8	2-Phenylbutane	0	1				5	5	ug/kg				
109-06-8	2-Picoline	0	1				330	330	ug/kg				

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Table 12
Summary of Subsurface (3 to 12 ft bgs) Soil Data Compared to Commercial/Industrial GDCSS - CTA Area Exposure Unit
Former GM Dephi Harrison Thermal Systems Facility
Dayton, Ohio

CAS	Parameter	Frequency of Detection		Range of Detections		Maximum Location	Range of Detection Limits		Units	Commercial/Industrial Standard for Single Chemical (noncarcinogen)	Commercial/Industrial Noncarcinogenic Risk Ratio	Commercial/Industrial Standard for Single Chemical (carcinogens)	Commercial/Industrial Carcinogenic Risk Ratio
		# Detected	# Samples	Minimum	Maximum		Minimum	Maximum					
95-53-4	2-Toluidine	0	1				330	330	ug/kg				
108-39-4	3&4-Methylphenol	0	5				330	330	ug/kg				
91-94-1	3,3-Dichlorobenzidine	0	1				660	660	ug/kg				
56-49-5	3-Methylcholanthrene	0	1				330	330	ug/kg				
99-09-2	3-Nitroaniline	0	1				1650	1650	ug/kg				
534-52-1	4,6-Dinitro-2-methylphenol	0	1				1650	1650	ug/kg				
92-67-1	4-Aminobiphenyl	0	1				660	660	ug/kg				
101-55-3	4-Bromophenyl phenyl ether	0	5				330	330	ug/kg				
59-50-7	4-Chloro-3-methylphenol	0	5				330	660	ug/kg				
106-47-8	4-Chloroaniline	0	5				330	660	ug/kg				
7005-72-3	4-Chlorophenyl phenyl ether	0	1				330	330	ug/kg				
106-43-4	4-Chlorotoluene	0	7				5	42	ug/kg				
60-11-7	4-Dimethylaminoazobenzene	0	1				330	330	ug/kg				
108-10-1	4-Methyl-2-Pentanone	0	7				50	420	ug/kg				
100-01-6	4-Nitroaniline	0	1				660	660	ug/kg				
100-02-7	4-Nitrophenol	0	1				1650	1650	ug/kg				
99-55-8	5-Nitro-2-Toluidine	0	1				330	330	ug/kg				
57-97-6	7,12-Dimethylbenz(a)anthracene	0	1				330	330	ug/kg				
83-32-9	Acenaphthene	0	5				330	330	ug/kg				
208-96-8	Acenaphthylene	0	5				330	330	ug/kg				
67-64-1	Acetone	0	7				50	840	ug/kg				
98-86-2	Acetophenone	0	1				330	330	ug/kg				
62-53-3	Aniline	0	1				330	330	ug/kg				
120-12-7	Anthracene	0	5				330	330	ug/kg				
7440-36-0	Antimony	0	4				0.95	1	mg/kg				
12674-11-2	Aroclor-1016	0	5				0.02	0.25	ug/kg				
11104-28-2	Aroclor-1221	0	5				0.04	0.25	ug/kg				
11141-16-5	Aroclor-1232	0	5				0.02	0.25	ug/kg				
53469-21-9	Aroclor-1242	0	5				0.02	0.25	ug/kg				
12672-29-6	Aroclor-1248	0	5				0.02	0.25	ug/kg				
11097-69-1	Aroclor-1254	0	5				20	250	ug/kg				
11096-82-5	Aroclor-1260	0	5				0.25	20	ug/kg				
7440-38-2	Arsenic	3	5	3.40	6.20	B04	4.5	5	mg/kg	1.20E+03	5.17E-03	7.70E+01	8.05E-02
7440-39-3	Barium	5	5	48.80	150	DAY-20			mg/kg	6.80E+05	2.21E-04	NA	--
71-43-2	Benzene	5	7	7.10	10.40	B02	5	42	ug/kg	1.20E+06	8.67E-06	1.40E+05	7.43E-05
92-87-5	Benzidine	0	1				330	330	ug/kg				
56-55-3	Benzo(a)anthracene	2	5	481	570	B03	330	330	ug/kg	NA	--	5.80E+04	9.83E-03
50-32-8	Benzo(a)pyrene	4	5	191	941	B03	330	330	ug/kg	NA	--	5.80E+03	1.62E-01
205-99-2	Benzo(b)fluoranthene	4	5	344	1240	B03	330	330	ug/kg	NA	--	5.80E+04	2.14E-02
191-24-2	Benzo(g,h,i)perylene	0	5				330	330	ug/kg				
207-08-9	Benzo(k)fluoranthene	1	5	539	539	B03	330	330	ug/kg	NA	--	5.80E+05	9.29E-04
65-85-0	Benzoic acid	0	4				1650	1650	ug/kg				
100-51-6	Benzyl alcohol	0	5				330	660	ug/kg				
85-68-7	Benzyl butyl phthalate	0	4				330	330	ug/kg				
7440-41-7	Beryllium	0	4				1.60	1.60	mg/kg				
111-91-1	bis(2-Chloroethoxy)methane	0	5				330	330	ug/kg				
111-44-4	bis(2-Chloroethyl)ether	0	5				330	330	ug/kg				
108-60-1	bis(2-chloroisopropyl)ether	0	4				330	330	ug/kg				
117-81-7	bis(2-Ethylhexyl)phthalate	0	5				330	1650	ug/kg				
108-86-1	Bromobenzene	0	7				5	42	ug/kg				
74-97-5	Bromochloromethane	0	6				5	42	ug/kg				
75-27-4	Bromodichloromethane	0	7				5	42	ug/kg				

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Table 12
Summary of Subsurface (3 to 12 ft bgs) Soil Data Compared to Commercial/Industrial GDCSS - CTA Area Exposure Unit
Former GM Dephi Harrison Thermal Systems Facility
Dayton, Ohio

CAS	Parameter	Frequency of Detection		Range of Detections		Maximum Location	Range of Detection Limits		Units	Commercial/Industrial Standard for Single Chemical (noncarcinogen)	Commercial/Industrial Noncarcinogenic Risk Ratio	Commercial/Industrial Standard for Single Chemical (carcinogens)	Commercial/Industrial Carcinogenic Risk Ratio
		# Detected	# Samples	Minimum	Maximum		Minimum	Maximum					
75-25-2	Bromoform	0	6				5	42	ug/kg				
74-83-9	Bromomethane	0	7				5	84	ug/kg				
85-68-7	Butyl benzylphthalate	0	1				330	330	ug/kg				
7440-43-9	Cadmium	0	5				0.5	3.20	mg/kg				
75-15-0	Carbon disulfide	0	7				5	50	ug/kg				
56-23-5	Carbon tetrachloride	0	7				5	42	ug/kg				
108-90-7	Chlorobenzene	0	7				5	42	ug/kg				
74-97-5	Chlorobromomethane	0	1				5	5	ug/kg				
75-00-3	Chloroethane	0	7				5	84	ug/kg				
67-66-3	Chloroform	0	7				5	42	ug/kg				
74-87-3	Chloromethane	0	7				5	84	ug/kg				
7440-47-3	Chromium Total	3	5	5.40	9.38	B04	6.30	6.40	mg/kg	1.20E+04	7.82E-04	2.10E+02	4.47E-02
218-01-9	Chrysene	2	5	481	503	B03	330	330	ug/kg	NA	--	5.80E+06	8.67E-05
156-59-2	cis-1,2-Dichloroethene	0	7				5	42	ug/kg				
10061-01-5	cis-1,3-Dichloropropene	0	7				5	42	ug/kg				
7440-50-8	Copper	4	4	7.51	16.30	B03			mg/kg	1.60E+05	1.02E-04	NA	--
99-87-6	Cymene	0	1				5	5	ug/kg				
53-70-3	Dibenz(a,h)anthracene	0	5				165	330	ug/kg				
132-64-9	Dibenzofuran	0	5				330	330	ug/kg				
124-48-1	Dibromochloromethane	0	7				5	42	ug/kg				
74-95-3	Dibromomethane	0	7				5	42	ug/kg				
75-71-8	Dichlorodifluoromethane	0	7				5	42	ug/kg				
84-66-2	Diethyl phthalate	0	5				330	330	ug/kg				
131-11-3	Dimethyl phthalate	0	5				330	330	ug/kg				
84-74-2	Di-n-butylphthalate	0	1				330	330	ug/kg				
117-84-0	Di-N-Octyl phthalate	0	5				330	330	ug/kg				
62-50-0	Ethyl methanesulfonate	0	1				330	330	ug/kg				
100-41-4	Ethylbenzene	1	7	8	8	B02	5	42	ug/kg	5.80E+07	1.38E-07	7.00E+05	1.14E-05
206-44-0	Fluoranthene	4	5	485	1310	B04	330	330	ug/kg	6.00E+07	2.18E-05	NA	--
86-73-7	Fluorene	0	5				330	330	ug/kg				
118-74-1	Hexachlorobenzene	0	5				330	330	ug/kg				
87-68-3	Hexachlorobutadiene	0	6				5	42	ug/kg				
87-68-3	Hexachlorobutadiene, SVOC	0	1				330	330	ug/kg				
87-68-3	Hexachlorobutadiene, VOC	0	1				5	5	ug/kg				
77-47-4	Hexachlorocyclopentadiene	0	5				330	660	ug/kg				
67-72-1	Hexachloroethane	0	5				330	330	ug/kg				
193-39-5	Indeno(1,2,3-cd)pyrene	0	5				150	330	ug/kg				
78-59-1	Isophorone	0	5				330	330	ug/kg				
98-82-8	Isopropylbenzene, VOC	0	7				5	42	ug/kg				
	m&p-Xylene	0	1				5	5	ug/kg				
7439-97-6	Mercury*	4	5	0.024	0.25	B04	0.30	0.30	mg/kg	8.50E+04	2.89E-06	NA	--
66-27-3	Methyl methanesulfonate	0	1				330	330	ug/kg				
1634-04-4	Methyl tert butyl ether	0	7				5	42	ug/kg				
75-09-2	Methylene chloride	0	7				5	84	ug/kg				
91-20-3	Naphthalene, SVOC	0	5				330	330	ug/kg				
91-20-3	Naphthalene, VOC	0	1				5	5	ug/kg				
104-51-8	n-Butylbenzene	0	7				5	42	ug/kg				
110-54-3	n-Hexane	1	6	39	39	B02	20	170	ug/kg	6.70E+06	5.82E-06	NA	--
7440-02-0	Nickel	4	4	5.18	7.66	B04			mg/kg	7.40E+07	1.04E-07	9.00E+05	8.51E-06
98-95-3	Nitrobenzene	0	5				330	330	ug/kg				
62-75-9	N-Nitrosodimethylamine	0	1				330	330	ug/kg				
924-16-3	N-Nitrosodi-N-butylamine	0	1				330	330	ug/kg				

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Table 12
Summary of Subsurface (3 to 12 ft bgs) Soil Data Compared to Commercial/Industrial GDCSS - CTA Area Exposure Unit
Former GM Dephi Harrison Thermal Systems Facility
Dayton, Ohio

CAS	Parameter	Frequency of Detection		Range of Detections		Maximum Location	Range of Detection Limits		Units	Commercial/Industrial Standard for Single Chemical (noncarcinogen)	Commercial/Industrial Noncarcinogenic Risk Ratio	Commercial/Industrial Standard for Single Chemical (carcinogens)	Commercial/Industrial Carcinogenic Risk Ratio
		# Detected	# Samples	Minimum	Maximum		Minimum	Maximum					
621-64-7	N-Nitrosodi-n-propylamine	0	5				38.10	330	ug/kg				
86-30-6	N-Nitrosodiphenylamine	0	1				330	330	ug/kg				
100-75-4	N-Nitrosopiperidine	0	1				330	330	ug/kg				
103-65-1	n-Propylbenzene	0	7				5	42	ug/kg				
95-47-6	o-Xylene	0	1				5	5	ug/kg				
608-93-5	Pentachlorobenzene	0	1				330	330	ug/kg				
76-01-7	Pentachloroethane	0	1				330	330	ug/kg				
82-68-8	Pentachloronitrobenzene	0	1				660	660	ug/kg				
87-86-5	Pentachlorophenol	0	5				330	1650	ug/kg				
62-44-2	Phenacetin	0	1				660	660	ug/kg				
85-01-8	Phenanthrene	4	5	385	1200	B04	330	330	ug/kg	4.50E+08	2.67E-06	NA	--
108-95-2	Phenol	0	5				330	330	ug/kg				
99-87-6	p-Isopropyltoluene	0	6				5	42	ug/kg				
23950-59-5	Pronamide	0	1				330	330	ug/kg				
129-00-0	Pyrene, SVOC	4	5	426	1360	B04	330	330	ug/kg	4.50E+07	3.02E-05	NA	--
110-86-1	Pyridine	0	1				330	330	ug/kg				
135-9-88	sec-Butylbenzene	0	6				5	42	ug/kg				
7782-49-2	Selenium	0	5				3	6.40	mg/kg				
7440-22-4	Silver	1	5	1.20	1.20	B03	0.5	1	mg/kg	2.00E+07	6.00E-08	NA	--
100-42-5	Styrene	0	7				5	42	ug/kg				
98-06-6	tert-Butylbenzene	0	7				5	42	ug/kg				
127-18-4	Tetrachloroethene*	1	7	6.80	6.80	B01	5	42	ug/kg	1.10E+06	6.18E-06	2.80E+06	2.43E-06
7440-28-0	Thallium	0	4				0.95	1	mg/kg				
108-88-3	Toluene	5	7	7.5	19.20	B02	5	42	ug/kg	1.40E+08	1.37E-07	NA	--
156-60-5	trans-1,2-Dichloroethene	0	7				5	42	ug/kg				
10061-02-6	trans-1,3-Dichloropropene	0	7				5	42	ug/kg				
79-01-6	Trichloroethene	0	7				5	42	ug/kg				
75-69-4	Trichlorofluoromethane	0	7				5	42	ug/kg				
108-05-4	Vinyl acetate	0	6				5	42	ug/kg				
75-01-4	Vinyl chloride	0	7				2	17	ug/kg				
1330-20-7	Xylene (Total)	1	6	10.10	10.10	B02	5	42	ug/kg	6.80E+06	1.49E-06	NA	--
7440-66-6	Zinc	4	4	26.20	1400	B03			mg/kg	1.00E+09	1.40E-06	NA	--
										Cumulative Risk Ratio	6.36E-03	Cumulative Risk Ratio	3.20E-01

CAS	Parameter	Frequency of Detection		Range of Detections		Maximum Location	Range of Detection Limits		Units	Commercial/Industrial Standard for Single Chemical (noncarcinogen)	Commercial/Industrial Noncarcinogenic Risk Ratio	Commercial/Industrial Standard for Single Chemical (carcinogens)	Commercial/Industrial Carcinogenic Risk Ratio
		# Detected	# Samples	Minimum	Maximum		Minimum	Maximum					
7439-92-1	Lead	5	5	4.30	67.40	B03	--	--	mg/kg	8.00E+02	--	--	--
	Total Petroleum Hydrocarbons	0	1	--	--	--	50	50	mg/kg				
	TPH C10-C20	0	4	--	--	--	10	50	mg/kg				
	TPH C20-C34	3	4	25.10	48.10	B03	100	100	mg/kg	5.00E+03	--	NL	

Notes:
bgs - below ground surface
ft - feet
mg/kg - milligram per kilogram
NA - Not Applicable
NL - Not Listed
SVOC - Semi-Volatile Organic Compounds
ug/kg - microgram per kilogram
VOC - Volatile Organic Compounds
* The C/I Single Chem GDCSS is 3.1 mg/kg for mercury and 170 mg/kg for PCE and is based on the soil saturation standard

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Table 13
Summary of Soil (0 to 12 ft bgs) Data Compared to Construction Worker GDCSS - CTA Area Exposure Unit
Former GM Dephi Harrison Thermal Systems Facility
Dayton, Ohio

CAS	Parameter	Frequency of Detection		Range of Detections		Maximum Location	Range of Detection Limits		Units	Construction/ Excavation Standard for Single Chemical (noncarcinogen)	Construction/ Excavation Noncarcinogenic Risk Ratio	Construction/ Excavation Standard for Single Chemical (carcinogens)	Construction/ Excavation Carcinogenic Risk Ratio
		# Detected	# Samples	Minimum	Maximum		Minimum	Maximum					
630-20-6	1,1,1,2-Tetrachloroethane	0	13				5	42	ug/kg				
71-55-6	1,1,1-Trichloroethane	0	13				5	42	ug/kg				
79-34-5	1,1,2,2-Tetrachloroethane	0	13				5	42	ug/kg				
79-00-5	1,1,2-Trichloroethane	0	13				5	42	ug/kg				
75-34-3	1,1-Dichloroethane	0	13				5	42	ug/kg				
75-35-4	1,1-Dichloroethene	0	13				5	42	ug/kg				
563-58-6	1,1-Dichloropropene	0	13				5	42	ug/kg				
87-61-6	1,2,3-Trichlorobenzene	0	1				5	5	ug/kg				
96-18-4	1,2,3-Trichloropropane	0	1				5	5	ug/kg				
95-94-3	1,2,4,5-Tetrachlorobenzene	0	1				330	330	ug/kg				
120-82-1	1,2,4-Trichlorobenzene, SVOC	0	13				330	6600	ug/kg				
120-82-1	1,2,4-Trichlorobenzene, VOC	0	13				5	42	ug/kg				
95-63-6	1,2,4-Trimethylbenzene	2	13	6	106	B03	5	42	ug/kg	2.20E+06	4.82E-05	NA	--
96-12-8	1,2-Dibromo-3-chloropropane	0	1				10	10	ug/kg				
106-93-4	1,2-Dibromoethane	0	1				5	5	ug/kg				
95-50-1	1,2-Dichlorobenzene, SVOC	0	13				330	6600	ug/kg				
95-50-1	1,2-Dichlorobenzene, VOC	0	13				5	42	ug/kg				
107-06-2	1,2-Dichloroethane	0	13				5	42	ug/kg				
78-87-5	1,2-Dichloropropane	0	13				5	42	ug/kg				
122-66-7	1,2-Diphenylhydrazine	0	1				330	330	ug/kg				
108-67-8	1,3,5-Trimethylbenzene	1	13	46.90	46.90	B03	5	42	ug/kg	2.10E+07	2.23E-06	NA	--
541-73-1	1,3-Dichlorobenzene, SVOC	0	13				330	6600	ug/kg				
541-73-1	1,3-Dichlorobenzene, VOC	0	13				5	42	ug/kg				
142-28-9	1,3-Dichloropropane	0	13				5	42	ug/kg				
106-46-7	1,4-Dichlorobenzene, SVOC	0	13				330	6600	ug/kg				
106-46-7	1,4-Dichlorobenzene, VOC	0	13				5	42	ug/kg				
123-91-1	1,4-Dioxane	0	12				20	20	ug/kg				
134-32-7	1-Naphthylamine	0	1				330	330	ug/kg				
594-20-7	2,2-Dichloropropane	0	13				5	42	ug/kg				
39638-32-9	2,2-oxybis(2-Chloropropane), SVOC	0	1				330	330	ug/kg				
58-90-2	2,3,4,6-Tetrachlorophenol	0	1				330	330	ug/kg				
95-95-4	2,4,5-Trichlorophenol	0	13				330	6600	ug/kg				
88-06-2	2,4,6-Trichlorophenol	0	13				330	6600	ug/kg				
120-83-2	2,4-Dichlorophenol	0	13				330	6600	ug/kg				
105-67-9	2,4-Dimethylphenol	0	13				330	6600	ug/kg				
51-28-5	2,4-Dinitrophenol	0	1				1650	1650	ug/kg				
121-14-2	2,4-Dinitrotoluene	0	13				330	6600	ug/kg				
87-65-0	2,6-Dichlorophenol	0	1				330	330	ug/kg				
606-20-2	2,6-Dinitrotoluene	0	13				330	6600	ug/kg				
78-93-3	2-Butanone	0	13				50	420	ug/kg				
91-58-7	2-Chloronaphthalene	0	13				330	6600	ug/kg				
95-57-8	2-Chlorophenol	0	13				330	6600	ug/kg				
95-49-8	2-Chlorotoluene	0	13				5	42	ug/kg				
591-78-6	2-Hexanone	0	13				50	420	ug/kg				
534-52-1	2-Methyl-4,6-dinitrophenol	0	12				330	6600	ug/kg				
91-57-6	2-Methylnaphthalene	0	4				80.20	330	ug/kg				
95-48-7	2-Methylphenol	0	13				330	6600	ug/kg				
91-59-8	2-Naphthylamine	0	1				330	330	ug/kg				
88-74-4	2-Nitroaniline	0	1				1650	1650	ug/kg				
88-75-5	2-Nitrophenol	0	13				330	6600	ug/kg				
135-98-8	2-Phenylbutane	0	1				5	5	ug/kg				
109-06-8	2-Picoline	0	1				330	330	ug/kg				
95-53-4	2-Toluidine	0	1				330	330	ug/kg				

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Table 13
Summary of Soil (0 to 12 ft bgs) Data Compared to Construction Worker GDCSS - CTA Area Exposure Unit
Former GM Dephi Harrison Thermal Systems Facility
Dayton, Ohio

CAS	Parameter	Frequency of Detection		Range of Detections		Maximum Location	Range of Detection Limits		Units	Construction/ Excavation Standard for Single Chemical (noncarcinogen)	Construction/ Excavation Noncarcinogenic Risk Ratio	Construction/ Excavation Standard for Single Chemical (carcinogens)	Construction/ Excavation Carcinogenic Risk Ratio
		# Detected	# Samples	Minimum	Maximum		Minimum	Maximum					
108-39-4	3&4-Methylphenol	0	13				330	6600	ug/kg				
91-94-1	3,3-Dichlorobenzidine	0	1				660	660	ug/kg				
56-49-5	3-Methylcholanthrene	0	1				330	330	ug/kg				
99-09-2	3-Nitroaniline	0	1				1650	1650	ug/kg				
534-52-1	4,6-Dinitro-2-methylphenol	0	1				1650	1650	ug/kg				
92-67-1	4-Aminobiphenyl	0	1				660	660	ug/kg				
101-55-3	4-Bromophenyl phenyl ether	0	13				330	6600	ug/kg				
59-50-7	4-Chloro-3-methylphenol	0	13				330	6600	ug/kg				
106-47-8	4-Chloroaniline	0	13				330	6600	ug/kg				
7005-72-3	4-Chlorophenyl phenyl ether	0	1				330	330	ug/kg				
106-43-4	4-Chlorotoluene	0	13				5	42	ug/kg				
60-11-7	4-Dimethylaminoazobenzene	0	1				330	330	ug/kg				
108-10-1	4-Methyl-2-Pentanone	0	13				50	420	ug/kg				
100-01-6	4-Nitroaniline	0	1				660	660	ug/kg				
100-02-7	4-Nitrophenol	0	1				1650	1650	ug/kg				
99-55-8	5-Nitro-2-Toluidine	0	1				330	330	ug/kg				
57-97-6	7,12-Dimethylbenz(a)anthracene	0	1				330	330	ug/kg				
83-32-9	Acenaphthene	0	16				80.20	6600	ug/kg				
208-96-8	Acenaphthylene	1	16	173	173	COD05-S005	83.90	6600	ug/kg	7.80E+08	2.22E-07	NA	--
67-64-1	Acetone	0	13				50	840	ug/kg				
98-86-2	Acetophenone	0	1				330	330	ug/kg				
62-53-3	Aniline	0	1				330	330	ug/kg				
120-12-7	Anthracene	2	17	125	420	DAY-20	83.90	6600	ug/kg	1.00E+09	4.20E-07	NA	--
7440-36-0	Antimony	0	12				0.93	1	mg/kg				
12674-11-2	Aroclor-1016	0	13				0.02	0.25	ug/kg				
11104-28-2	Aroclor-1221	0	13				0.04	0.25	ug/kg				
11141-16-5	Aroclor-1232	0	13				0.02	0.25	ug/kg				
53469-21-9	Aroclor-1242	0	13				0.02	0.25	ug/kg				
12672-29-6	Aroclor-1248	0	13				0.02	0.25	ug/kg				
11097-69-1	Aroclor-1254	0	13				20	250	ug/kg				
11096-82-5	Aroclor-1260	0	13				0.25	20	ug/kg				
7440-38-2	Arsenic	11	14	3.40	9.10	DAY-20	4.5	5	mg/kg	6.90E+02	1.32E-02	1.30E+03	7.00E-03
7440-39-3	Barium	14	14	48.80	172	B02			mg/kg	3.20E+05	5.38E-04	NA	--
71-43-2	Benzene	8	13	5.70	18.20	B04	5	42	ug/kg	1.20E+06	1.52E-05	1.20E+06	1.52E-05
92-87-5	Benzidine	0	1				330	330	ug/kg				
56-55-3	Benzo(a)anthracene	6	17	283	1800	DAY-20	83.90	6600	ug/kg	NA	--	1.20E+06	1.50E-03
50-32-8	Benzo(a)pyrene	11	17	191	4930	B03	83.90	1600	ug/kg	NA	--	1.20E+05	4.11E-02
205-99-2	Benzo(b)fluoranthene	11	17	273	8850	B03	83.90	3300	ug/kg	NA	--	1.20E+06	7.38E-03
191-24-2	Benzo(g,h,i)perylene	2	17	262	1100	DAY-20	83.90	6600	ug/kg	3.90E+08	2.82E-06	NA	--
207-08-9	Benzo(k)fluoranthene	4	17	218	1900	DAY-20	83.90	6600	ug/kg	NA	--	1.20E+07	1.58E-04
65-85-0	Benzoic acid	0	12				1650	33000	ug/kg				
100-51-6	Benzyl alcohol	0	13				330	6600	ug/kg				
85-68-7	Benzyl butyl phthalate	0	12				330	6600	ug/kg				
7440-41-7	Beryllium	0	12				1.60	3.30	mg/kg				
111-91-1	bis(2-Chloroethoxy)methane	0	13				330	6600	ug/kg				
111-44-4	bis(2-Chloroethyl)ether	0	13				330	6600	ug/kg				
108-60-1	bis(2-chloroisopropyl)ether	0	12				330	6600	ug/kg				
117-81-7	bis(2-Ethylhexyl)phthalate	0	13				330	6600	ug/kg				
108-86-1	Bromobenzene	0	13				5	42	ug/kg				
74-97-5	Bromochloromethane	0	12				5	42	ug/kg				
75-27-4	Bromodichloromethane	0	13				5	42	ug/kg				

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Table 13
Summary of Soil (0 to 12 ft bgs) Data Compared to Construction Worker GDCSS - CTA Area Exposure Unit
Former GM Dephi Harrison Thermal Systems Facility
Dayton, Ohio

CAS	Parameter	Frequency of Detection		Range of Detections		Maximum Location	Range of Detection Limits		Units	Construction/ Excavation Standard for Single Chemical (noncarcinogen)	Construction/ Excavation Noncarcinogenic Risk Ratio	Construction/ Excavation Standard for Single Chemical (carcinogens)	Construction/ Excavation Carcinogenic Risk Ratio
		# Detected	# Samples	Minimum	Maximum		Minimum	Maximum					
75-25-2	Bromoform	0	12				5	42	ug/kg				
74-83-9	Bromomethane	0	13				5	84	ug/kg				
85-68-7	Butyl benzylphthalate	0	1				330	330	ug/kg				
7440-43-9	Cadmium	0	13				0.5	6.60	mg/kg				
75-15-0	Carbon disulfide	0	13				5	50	ug/kg				
56-23-5	Carbon tetrachloride	0	13				5	42	ug/kg				
108-90-7	Chlorobenzene	0	13				5	42	ug/kg				
74-97-5	Chlorobromomethane	0	1				5	5	ug/kg				
75-00-3	Chloroethane	0	13				5	84	ug/kg				
67-66-3	Chloroform	0	13				5	42	ug/kg				
74-87-3	Chloromethane	0	13				5	84	ug/kg				
7440-47-3	Chromium Total	11	14	5.40	14.40	SS17	6.30	6.5	mg/kg	1.90E+04	7.58E-04	1.20E+03	1.20E-02
218-01-9	Chrysene	6	17	259	1600	DAY-20	83.90	6600	ug/kg	NA	--	1.20E+08	1.33E-05
156-59-2	cis-1,2-Dichloroethene	0	13				5	42	ug/kg				
10061-01-5	cis-1,3-Dichloropropene	0	13				5	42	ug/kg				
7440-50-8	Copper	12	12	7.51	60.30	SS15			mg/kg	2.10E+04	2.87E-03	NA	--
99-87-6	Cymene	0	1				5	5	ug/kg				
53-70-3	Dibenz(a,h)anthracene	1	17	540	540	DAY-20	80.20	3300	ug/kg	NA	--	1.20E+05	4.50E-03
132-64-9	Dibenzofuran	0	13				330	6600	ug/kg				
124-48-1	Dibromochloromethane	0	13				5	42	ug/kg				
74-95-3	Dibromomethane	0	13				5	42	ug/kg				
75-71-8	Dichlorodifluoromethane	0	13				5	42	ug/kg				
84-66-2	Diethyl phthalate	0	13				330	6600	ug/kg				
131-11-3	Dimethyl phthalate	0	13				330	6600	ug/kg				
84-74-2	Di-n-butylphthalate	0	1				330	330	ug/kg				
117-84-0	Di-N-Octyl phthalate	0	13				330	6600	ug/kg				
62-50-0	Ethyl methanesulfonate	0	1				330	330	ug/kg				
100-41-4	Ethylbenzene	1	13	8	8	B02	5	42	ug/kg	1.90E+08	4.21E-08	6.10E+06	1.31E-06
206-44-0	Fluoranthene	14	17	169	11800	B03	86.70	3300	ug/kg	1.60E+08	7.38E-05	NA	--
86-73-7	Fluorene	0	16				80.20	6600	ug/kg				
118-74-1	Hexachlorobenzene	0	13				330	6600	ug/kg				
87-68-3	Hexachlorobutadiene	0	12				5	42	ug/kg				
87-68-3	Hexachlorobutadiene, SVOC	0	1				330	330	ug/kg				
87-68-3	Hexachlorobutadiene, VOC	0	1				5	5	ug/kg				
77-47-4	Hexachlorocyclopentadiene	0	13				330	13000	ug/kg				
67-72-1	Hexachloroethane	0	13				330	6600	ug/kg				
193-39-5	Indeno(1,2,3-cd)pyrene	2	17	192	960	DAY-20	83.90	6600	ug/kg	NA	--	1.20E+06	8.00E-04
78-59-1	Isophorone	0	13				330	6600	ug/kg				
98-82-8	Isopropylbenzene, VOC	0	13				5	42	ug/kg				
	m&p-Xylene	0	1				5	5	ug/kg				
7439-97-6	Mercury*	12	13	0.024	0.64	B02	0.30	0.30	mg/kg	3.10E+04	2.06E-05	NA	--
66-27-3	Methyl methanesulfonate	0	1				330	330	ug/kg				
1634-04-4	Methyl tert butyl ether	0	13				5	42	ug/kg				
75-09-2	Methylene chloride	0	13				5	84	ug/kg				
91-20-3	Naphthalene, SVOC	0	16				80.20	6600	ug/kg				
91-20-3	Naphthalene, VOC	0	1				5	5	ug/kg				
104-51-8	n-Butylbenzene	0	13				5	42	ug/kg				
110-54-3	n-Hexane	1	12	39	39	B02	20	170	ug/kg	6.90E+06	5.65E-06	NA	--
7440-02-0	Nickel	11	12	5.18	20.80	B02	6.60	6.60	mg/kg	2.30E+04	9.04E-04	6.60E+05	3.15E-05
98-95-3	Nitrobenzene	0	13				330	6600	ug/kg				
62-75-9	N-Nitrosodimethylamine	0	1				330	330	ug/kg				
924-16-3	N-Nitrosodi-N-butylamine	0	1				330	330	ug/kg				

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Table 13
Summary of Soil (0 to 12 ft bgs) Data Compared to Construction Worker GDCSS - CTA Area Exposure Unit
Former GM Dephi Harrison Thermal Systems Facility
Dayton, Ohio

CAS	Parameter	Frequency of Detection		Range of Detections		Maximum Location	Range of Detection Limits		Units	Construction/ Excavation Standard for Single Chemical (noncarcinogen)	Construction/ Excavation Noncarcinogenic Risk Ratio	Construction/ Excavation Standard for Single Chemical (carcinogens)	Construction/ Excavation Carcinogenic Risk Ratio
		# Detected	# Samples	Minimum	Maximum		Minimum	Maximum					
621-64-7	N-Nitrosodi-n-propylamine	0	13				38.10	760	ug/kg				
86-30-6	N-Nitrosodiphenylamine	0	1				330	330	ug/kg				
100-75-4	N-Nitrosopiperidine	0	1				330	330	ug/kg				
103-65-1	n-Propylbenzene	0	13				5	42	ug/kg				
95-47-6	o-Xylene	0	1				5	5	ug/kg				
608-93-5	Pentachlorobenzene	0	1				330	330	ug/kg				
76-01-7	Pentachloroethane	0	1				330	330	ug/kg				
82-68-8	Pentachloronitrobenzene	0	1				660	660	ug/kg				
87-86-5	Pentachlorophenol	0	13				330	6600	ug/kg				
62-44-2	Phenacetin	0	1				660	660	ug/kg				
85-01-8	Phenanthrene	12	17	150	9120	SS17	83.90	3300	ug/kg	1.00E+09	9.12E-06	NA	--
108-95-2	Phenol	0	13				330	6600	ug/kg				
99-87-6	p-Isopropyltoluene	0	12				5	42	ug/kg				
23950-59-5	Pronamide	0	1				330	330	ug/kg				
129-00-0	Pyrene, SVOC	14	17	134	17100	SS17	86.70	3300	ug/kg	3.90E+08	4.38E-05	NA	--
110-86-1	Pyridine	0	1				330	330	ug/kg				
135-9-88	sec-Butylbenzene	0	12				5	42	ug/kg				
7782-49-2	Selenium	0	13				3	13	mg/kg				
7440-22-4	Silver	1	13	1.20	1.20	B03	0.5	1	mg/kg	1.10E+04	1.09E-04	NA	--
100-42-5	Styrene	0	13				5	42	ug/kg				
98-06-6	tert-Butylbenzene	0	13				5	42	ug/kg				
127-18-4	Tetrachloroethene*	2	12	6.20	6.80	B01	5	42	ug/kg	3.80E+05	1.79E-05	2.50E+07	2.72E-07
7440-28-0	Thallium	0	12				0.93	1	mg/kg				
108-88-3	Toluene	9	13	5.20	188	B03	5	42	ug/kg	8.20E+07	2.29E-06	NA	--
156-60-5	trans-1,2-Dichloroethene	0	13				5	42	ug/kg				
10061-02-6	trans-1,3-Dichloropropene	0	13				5	42	ug/kg				
79-01-6	Trichloroethene	0	13				5	42	ug/kg				
75-69-4	Trichlorofluoromethane	0	13				5	42	ug/kg				
108-05-4	Vinyl acetate	0	12				5	42	ug/kg				
75-01-4	Vinyl chloride	0	13				2	17	ug/kg				
1330-20-7	Xylene (Total)	2	12	10.10	371	B03	5	42	ug/kg	7.00E+06	5.30E-05	NA	--
7440-66-6	Zinc	12	12	26.20	1400	B03			mg/kg	6.40E+05	2.19E-03	NA	--
										Cumulative Risk Ratio	2.09E-02	Cumulative Risk Ratio	7.45E-02

CAS	Parameter	Frequency of Detection		Range of Detections		Maximum Location	Range of Detection Limits		Units	Construction/ Excavation Standard for Single Chemical (noncarcinogen)	Construction/ Excavation Noncarcinogenic Risk Ratio	Construction/ Excavation Standard for Single Chemical (carcinogens)	Construction/ Excavation Carcinogenic Risk Ratio
		# Detected	# Samples	Minimum	Maximum		Minimum	Maximum					
7439-92-1	Lead	14	14	4.30	168	SS18	--	--	mg/kg	4.00E+02	--	--	--
	Total Petroleum Hydrocarbons	1	2	340	340	DAY-20	50	50	mg/kg	1.00E+03	--	NL	--
	TPH C10-C20	7	12	10	180	SS17	10	50	mg/kg	2.00E+03	--	NL	--
	TPH C20-C34	11	12	25.10	865	SS17	100	100	mg/kg	5.00E+03	--	NL	--

Notes:
bgs - below ground surface
ft - feet
mg/kg - milligram per kilogram
NA - Not Applicable
NL - Not Listed
SVOC - Semi-Volatile Organic Compounds
ug/kg - microgram per kilogram
VOC - Volatile Organic Compounds
* The Construction Single Chem GDCSS is 3.1 mg/kg for mercury and 170 mg/kg for PCE and is based on the soil saturation standard

See notes on page 4 of 4

Table 14
Summary of Surface (0 to 3 ft bgs) Soil Data Compared to Commercial/Industrial GDCSS - Greenspace Area Exposure Unit
Former GM Dephi Harrison Thermal Systems Facility
Dayton, Ohio

CAS	Parameter	Frequency of Detection		Range of Detections		Maximum Location	Range of Detection Limits		Units	Commercial/Industrial Standard for Single Chemical (noncarcinogen)	Commercial/Industrial Noncarcinogenic Risk Ratio	Commercial/Industrial Standard for Single Chemical (carcinogens)	Commercial/Industrial Carcinogenic Risk Ratio
		# Detected	# Samples	Minimum	Maximum		Minimum	Maximum					
71-55-6	1,1,1-Trichloroethane	0	25				4.20	1200	ug/kg				
79-34-5	1,1,2,2-Tetrachloroethane	0	25				4.20	1200	ug/kg				
79-00-5	1,1,2-Trichloroethane	0	25				4.20	1200	ug/kg				
75-34-3	1,1-Dichloroethane	1	25	89	89	SB-93-03	4.20	1200	ug/kg	8.20E+08	1.09E-07	4.20E+05	2.12E-04
75-35-4	1,1-Dichloroethene	0	25				4.20	1200	ug/kg				
120-82-1	1,2,4-Trichlorobenzene, VOC	0	25				4.20	1200	ug/kg				
96-12-8	1,2-Dibromo-3-chloropropane	0	25				8.30	2400	ug/kg				
106-93-4	1,2-Dibromoethane	0	25				4.20	1200	ug/kg				
95-50-1	1,2-Dichlorobenzene, VOC	0	25				4.20	1200	ug/kg				
107-06-2	1,2-Dichloroethane	0	25				4.20	1200	ug/kg				
78-87-5	1,2-Dichloropropane	0	25				4.20	1200	ug/kg				
541-73-1	1,3-Dichlorobenzene, VOC	0	25				4.20	1200	ug/kg				
106-46-7	1,4-Dichlorobenzene, VOC	1	25	31	31	SB-36-02	4.20	1200	ug/kg	7.40E+07	4.19E-07	3.10E+05	1.00E-04
39638-32-9	2,2-oxybis(2-Chloropropane), SVOC	0	20				340	7900	ug/kg				
95-95-4	2,4,5-Trichlorophenol	0	20				340	7900	ug/kg				
88-06-2	2,4,6-Trichlorophenol	0	20				340	7900	ug/kg				
120-83-2	2,4-Dichlorophenol	0	20				340	7900	ug/kg				
105-67-9	2,4-Dimethylphenol	0	20				340	7900	ug/kg				
51-28-5	2,4-Dinitrophenol	0	20				1700	38000	ug/kg				
121-14-2	2,4-Dinitrotoluene	0	20				340	7900	ug/kg				
606-20-2	2,6-Dinitrotoluene	0	20				340	7900	ug/kg				
78-93-3	2-Butanone	2	25	36	170	SB-36-02	17	4700	ug/kg	5.60E+08	3.04E-07	NA	--
91-58-7	2-Chloronaphthalene	0	20				340	7900	ug/kg				
95-57-8	2-Chlorophenol	0	20				340	7900	ug/kg				
591-78-6	2-Hexanone	1	25	6.10	6.10	SB-15-02	17	4700	ug/kg	NL	--	NL	--
91-57-6	2-Methylnaphthalene	6	20	23	860	MW-14B-04	340	7900	ug/kg	6.00E+06	1.43E-04	NA	--
95-48-7	2-Methylphenol	0	20				340	7900	ug/kg				
88-74-4	2-Nitroaniline	0	20				1700	38000	ug/kg				
88-75-5	2-Nitrophenol	0	20				340	7900	ug/kg				
91-94-1	3,3-Dichlorobenzidine	0	20				1700	38000	ug/kg				
99-09-2	3-Nitroaniline	0	20				1700	38000	ug/kg				
534-52-1	4,6-Dinitro-2-methylphenol	0	20				1700	38000	ug/kg				
101-55-3	4-Bromophenyl phenyl ether	0	20				340	7900	ug/kg				
59-50-7	4-Chloro-3-methylphenol	0	20				340	7900	ug/kg				
106-47-8	4-Chloroaniline	0	20				340	7900	ug/kg				
7005-72-3	4-Chlorophenyl phenyl ether	0	20				340	7900	ug/kg				
108-10-1	4-Methyl-2-Pentanone	1	25	5.40	5.40	SB-15-02	17	4700	ug/kg	1.70E+08	3.18E-08	NA	--
106-44-5	4-Methylphenol	0	20				340	7900	ug/kg				
100-01-6	4-Nitroaniline	0	20				1700	38000	ug/kg				
100-02-7	4-Nitrophenol	0	20				1700	38000	ug/kg				
83-32-9	Acenaphthene	2	20	16	85	SB-96-03	340	7900	ug/kg	9.00E+07	9.44E-07	NA	--
208-96-8	Acenaphthylene	2	20	59	380	SB-34-02	340	7900	ug/kg	9.00E+07	4.22E-06	NA	--
67-64-1	Acetone	2	25	300	430	SB-136-04	17	4700	ug/kg	1.00E+09	4.30E-07	NA	--
98-86-2	Acetophenone	0	20				340	7900	ug/kg				
120-12-7	Anthracene	6	20	23	1900	SB-34-02	340	7900	ug/kg	4.50E+08	4.22E-06	NA	--
7440-36-0	Antimony	4	20	0.38	4	SB-140-04	6.20	8	mg/kg	1.60E+03	2.50E-03	NA	--
12674-11-2	Aroclor-1016	0	27				20.70	11100	ug/kg				
11104-28-2	Aroclor-1221	0	27				20.70	11100	ug/kg				
11141-16-5	Aroclor-1232	0	27				20.70	11100	ug/kg				
53469-21-9	Aroclor-1242	0	27				20.70	11100	ug/kg				
12672-29-6	Aroclor-1248	1	27	463	463	TT-SB265	20.70	11100	ug/kg	NA	--	2.00E+04	2.32E-02
11097-69-1	Aroclor-1254	11	27	4.5	14000	MW-23-04*	21.40	44	ug/kg	2.90E+04	4.83E-01	2.00E+04	7.00E-01
11096-82-5	Aroclor-1260	0	27				20.70	11100	ug/kg				

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Table 14
Summary of Surface (0 to 3 ft bgs) Soil Data Compared to Commercial/Industrial GDCSS - Greenspace Area Exposure Unit
Former GM Dephi Harrison Thermal Systems Facility
Dayton, Ohio

CAS	Parameter	Frequency of Detection		Range of Detections		Maximum Location	Range of Detection Limits		Units	Commercial/Industrial Standard for Single Chemical (noncarcinogen)	Commercial/Industrial Noncarcinogenic Risk Ratio	Commercial/Industrial Standard for Single Chemical (carcinogens)	Commercial/Industrial Carcinogenic Risk Ratio
		# Detected	# Samples	Minimum	Maximum		Minimum	Maximum					
7440-38-2	Arsenic	20	20	1.20	11.20	SB-34-02			mg/kg	1.20E+03	9.33E-03	7.70E+01	1.45E-01
1912-24-9	Atrazine	0	20				340	7900	ug/kg				
7440-39-3	Barium	20	20	4.20	184	SB-34-02			mg/kg	6.80E+05	2.71E-04	NA	--
100-52-7	Benzaldehyde	0	20				340	7900	ug/kg				
71-43-2	Benzene	0	25				4.20	1200	ug/kg				
56-55-3	Benzo(a)anthracene	7	20	100	4400	SB-34-02	340	7900	ug/kg	NA	--	5.80E+04	7.59E-02
50-32-8	Benzo(a)pyrene	7	20	41	5400	SB-34-02	340	7900	ug/kg	NA	--	5.80E+03	9.31E-01
205-99-2	Benzo(b)fluoranthene	7	20	44	5400	SB-34-02	340	7900	ug/kg	NA	--	5.80E+04	9.31E-02
191-24-2	Benzo(g,h,i)perylene	6	20	27	2900	SB-34-02	340	7900	ug/kg	4.50E+07	6.44E-05	NA	--
207-08-9	Benzo(k)fluoranthene	7	20	28	3600	SB-34-02	340	7900	ug/kg	NA	--	5.80E+05	6.21E-03
7440-41-7	Beryllium	9	20	0.06	0.98	MW-14B-04	0.52	0.86	mg/kg	7.80E+03	1.26E-04	9.70E+04	1.01E-05
92-52-4	Biphenyl	1	20	80	80	SB-96-03	340	7900	ug/kg	1.00E+09	8.00E-08	1.40E+07	5.71E-06
111-91-1	bis(2-Chloroethoxy)methane	0	20				340	7900	ug/kg				
111-44-4	bis(2-Chloroethyl)ether	0	20				340	7900	ug/kg				
117-81-7	bis(2-Ethylhexyl)phthalate	6	20	15	2300	SB-94-03	340	7900	ug/kg	3.50E+07	6.57E-05	3.50E+06	6.57E-04
75-27-4	Bromodichloromethane	0	25				4.20	1200	ug/kg				
75-25-2	Bromoform	0	25				4.20	1200	ug/kg				
74-83-9	Bromomethane	1	25	210	210	SB-136-04	4.20	1200	ug/kg	8.20E+04	2.56E-03	NA	--
85-68-7	Butyl benzylphthalate	0	20				340	7900	ug/kg				
7440-43-9	Cadmium	17	20	0.05	9.40	SB-37-02	0.52	0.60	mg/kg	2.60E+03	3.62E-03	1.30E+05	7.23E-05
105-60-2	Caprolactam	0	20				340	7900	ug/kg				
86-74-8	Carbazole	1	20	110	110	SB-96-03	340	7900	ug/kg	NA	--	2.50E+06	4.40E-05
75-15-0	Carbon disulfide	0	25				4.20	1200	ug/kg				
56-23-5	Carbon tetrachloride	0	25				4.20	1200	ug/kg				
108-90-7	Chlorobenzene	0	25				4.20	1200	ug/kg				
75-00-3	Chloroethane	0	25				4.20	1200	ug/kg				
67-66-3	Chloroform	0	25				4.20	1200	ug/kg				
74-87-3	Chloromethane	0	25				4.20	1200	ug/kg				
7440-47-3	Chromium Total	20	20	1.70	26.90	SB-15-02			mg/kg	1.20E+04	2.24E-03	2.10E+02	1.28E-01
218-01-9	Chrysene	7	20	47	4600	SB-34-02	340	7900	ug/kg	NA	--	5.80E+06	7.93E-04
156-59-2	cis-1,2-Dichloroethene	11	25	1.40	19000	MW-23-04	2.10	150	ug/kg	8.20E+06	2.32E-03	NA	--
10061-01-5	cis-1,3-Dichloropropene	0	25				4.20	1200	ug/kg				
7440-48-4	Cobalt	20	20	0.68	9.5	SB-136-04			mg/kg	1.20E+03	7.92E-03	2.60E+04	3.65E-04
7440-50-8	Copper	20	20	2.10	488	SB-140-04			mg/kg	1.60E+05	3.05E-03	NA	--
57-12-5	Cyanide (total)	5	20	0.18	2.10	SB-140-04	0.52	0.67	mg/kg	3.70E+02	5.68E-03	NA	--
110-82-7	Cyclohexane	4	25	0.69	570	MW-14B-04	8.30	1800	ug/kg	7.40E+07	7.70E-06	NA	--
53-70-3	Dibenz(a,h)anthracene	5	20	26	780	SB-34-02	340	7900	ug/kg	NA	--	5.80E+03	1.34E-01
132-64-9	Dibenzofuran	5	20	21	310	MW-14B-04	340	7900	ug/kg	4.10E+06	7.56E-05	NA	--
124-48-1	Dibromochloromethane	0	25				4.20	1200	ug/kg				
75-71-8	Dichlorodifluoromethane	0	25				4.20	1200	ug/kg				
84-66-2	Diethyl phthalate	0	20				340	7900	ug/kg				
131-11-3	Dimethyl phthalate	0	20				340	7900	ug/kg				
84-74-2	Di-n-butylphthalate	1	20	2900	2900	SB-14-02	340	7900	ug/kg	1.80E+08	1.61E-05	NA	
117-84-0	Di-N-Octyl phthalate	0	20				340	7900	ug/kg				
100-41-4	Ethylbenzene	2	25	0.96	140	SB-36-02	4.20	1200	ug/kg	5.80E+07	2.41E-06	7.00E+05	2.00E-04
206-44-0	Fluoranthene	8	20	75	11000	SB-34-02	340	7900	ug/kg	6.00E+07	1.83E-04	NA	--
86-73-7	Fluorene	4	20	36	210	SB-96-03	340	7900	ug/kg	6.00E+07	3.50E-06	NA	--
118-74-1	Hexachlorobenzene	0	20				340	7900	ug/kg				
87-68-3	Hexachlorobutadiene, SVOC	0	20				340	7900	ug/kg				
77-47-4	Hexachlorocyclopentadiene	0	20				1700	38000	ug/kg				
67-72-1	Hexachloroethane	0	20				340	7900	ug/kg				
193-39-5	Indeno(1,2,3-cd)pyrene	6	20	25	2900	SB-34-02	340	7900	ug/kg	NA		5.80E+04	5.00E-02
78-59-1	Isophorone	0	20				340	7900	ug/kg				

See notes on page 3 of 3

Table 14
Summary of Surface (0 to 3 ft bgs) Soil Data Compared to Commercial/Industrial GDCSS - Greenspace Area Exposure Unit
Former GM Dephi Harrison Thermal Systems Facility
Dayton, Ohio

CAS	Parameter	Frequency of Detection		Range of Detections		Maximum Location	Range of Detection Limits		Units	Commercial/Industrial Standard for Single Chemical (noncarcinogen)	Commercial/Industrial Noncarcinogenic Risk Ratio	Commercial/Industrial Standard for Single Chemical (carcinogens)	Commercial/Industrial Carcinogenic Risk Ratio
		# Detected	# Samples	Minimum	Maximum		Minimum	Maximum					
98-82-8	Isopropylbenzene, VOC	1	25	95	95	SB-36-02	4.20	1200	ug/kg	2.70E+07	3.52E-06	NA	--
7439-96-5	Manganese	20	20	97.5	625	MW-23-04			mg/kg	NL	--	NL	--
7439-97-6	Mercury*	14	20	0.023	2.20	SB-140-04	0.10	0.11	mg/kg	8.50E+04	2.59E-05	NA	--
79-20-9	Methyl acetate	5	25	150	1300	MW-23-04	8.30	2000	ug/kg	NL	--	NL	--
108-87-2	Methyl cyclohexane	10	25	0.89	590	MW-14B-04	8.30	1800	ug/kg	NL	--	NL	--
1634-04-4	Methyl tert butyl ether	0	25				17	4700	ug/kg				
75-09-2	Methylene chloride	1	25	180	180	SB-136-04	4.20	1200	ug/kg	9.50E+06	1.89E-05	3.20E+07	5.63E-06
91-20-3	Naphthalene, SVOC	7	20	26	500	MW-14B-04	340	7900	ug/kg	1.60E+06	3.13E-04	4.50E+05	1.11E-03
7440-02-0	Nickel	20	20	1.80	21.70	SB-37-02			mg/kg	7.40E+07	2.93E-07	9.00E+08	2.41E-08
98-95-3	Nitrobenzene	0	20				340	7900	ug/kg				
621-64-7	N-Nitrosodi-n-propylamine	0	20				340	7900	ug/kg				
86-30-6	N-Nitrosodiphenylamine	0	20				340	7900	ug/kg				
87-86-5	Pentachlorophenol	0	20				340	7900	ug/kg				
85-01-8	Phenanthrene	8	20	74	3900	SB-34-02	340	7900	ug/kg	4.50E+08	8.67E-06	NA	--
108-95-2	Phenol	0	20				340	7900	ug/kg				
129-00-0	Pyrene, SVOC	7	20	110	8200	SB-34-02	340	7900	ug/kg	4.50E+07	1.82E-04	NA	--
7782-49-2	Selenium	1	20	0.48	0.48	SB-36-02	0.52	0.67	mg/kg	2.00E+07	2.40E-08	NA	--
7440-22-4	Silver	4	20	0.28	0.65	MW-23-04	1	1.30	mg/kg	2.00E+07	3.25E-08	NA	--
100-42-5	Styrene	1	25	93	93	SB-14-02	4.20	1200	ug/kg	9.70E+07	9.59E-07	NA	--
127-18-4	Tetrachloroethene*	22	25	2.60	13000	MW-14B-04	4.70	10	ug/kg	1.10E+06	1.18E-02	2.80E+06	4.64E-03
7440-28-0	Thallium	13	20	0.65	2.10	MW-23-04	1.10	2	mg/kg	4.10E+04	5.12E-05	NA	--
108-88-3	Toluene	9	25	0.35	86	MW-24-04	4.40	1000	ug/kg	1.40E+08	6.14E-07	NA	--
156-60-5	trans-1,2-Dichloroethene	2	25	68	180	MW-23-04	2.10	720	ug/kg	1.70E+06	1.06E-04	NA	--
10061-02-6	trans-1,3-Dichloropropene	0	25				4.20	1200	ug/kg				
79-01-6	Trichloroethene	18	25	1.20	44000	MW-24-04	4.20	240	ug/kg	5.10E+04	8.63E-01	1.70E+05	2.59E-01
75-69-4	Trichlorofluoromethane	0	25				4.20	1200	ug/kg				
76-13-1	Trifluorotrichloroethane	0	25				4.20	1200	ug/kg				
7440-62-2	Vanadium	20	20	2.70	23.5	SB-13-02			mg/kg	2.00E+07	1.18E-06	NA	--
75-01-4	Vinyl chloride	2	25	54	140	MW-23-04	4.20	1200	ug/kg	1.00E+06	1.40E-04	5.00E+04	2.80E-03
1330-20-7	Xylene (Total)	6	25	4.90	930	SB-36-02	8.30	1800	ug/kg	6.80E+06	1.37E-04	NA	--
7440-66-6	Zinc	20	20	6.20	204	SB-37-02			mg/kg	1.00E+09	2.04E-07	NA	--
										Cumulative Risk Ratio	**1.40E+00**	Cumulative Risk Ratio	**2.56E+00**

CAS	Parameter	Frequency of Detection		Range of Detections		Maximum Location	Range of Detection Limits		Units	Commercial/Industrial Standard for Single Chemical (noncarcinogen)	Commercial/Industrial Noncarcinogenic Risk Ratio	Commercial/Industrial Standard for Single Chemical (carcinogens)	Commercial/Industrial Carcinogenic Risk Ratio
		# Detected	# Samples	Minimum	Maximum		Minimum	Maximum					
7439-92-1	Lead	20	20	0.86	6470	MW-23-04	--	--	mg/kg	**8.00E+02**	--	--	--

Notes:
bgs - below ground surface
ft - feet
mg/kg - milligram per kilogram
NA - Not Applicable
NL - Not Listed
SVOC - Semi-Volatile Organic Compounds
ug/kg - microgram per kilogram
VOC - Volatile Organic Compounds
* The C/I Single Chem GDCSS is 3.1 mg/kg for mercury and 170 mg/kg for PCE and is based on the soil saturation standard

See notes on page 3 of 3

Table 15
Summary of Subsurface (3 to 12 ft bgs) Soil Data Compared to Commercial/Industrial GDCSS - Greenspace Area Exposure Unit
Former GM Dephi Harrison Thermal Systems Facility
Dayton, Ohio

CAS	Parameter	Frequency of Detection		Range of Detections		Maximum Location	Range of Detection Limits		Units	Commercial/Industrial Standard for Single Chemical (noncarcinogen)	Commercial/Industrial Noncarcinogenic Risk Ratio	Commercial/Industrial Standard for Single Chemical (carcinogens)	Commercial/Industrial Carcinogenic Risk Ratio
		# Detected	# Samples	Minimum	Maximum		Minimum	Maximum					
630-20-6	1,1,1,2-Tetrachloroethane	0	2				252	472	ug/kg				
71-55-6	1,1,1-Trichloroethane	1	39	20.40	20.40	TT-SB249	4	850	ug/kg	9.60E+07	2.13E-07	NA	--
79-34-5	1,1,2,2-Tetrachloroethane	0	39				4	850	ug/kg				
79-00-5	1,1,2-Trichloroethane	0	39				4	850	ug/kg				
75-34-3	1,1-Dichloroethane	0	39				4	850	ug/kg				
75-35-4	1,1-Dichloroethene	0	39				4	850	ug/kg				
	1,1-Dichloroethene, TCLP	0	4				0.005	0.20	mg/l				
563-58-6	1,1-Dichloropropene	0	2				9.34	252	ug/kg				
120-82-1	1,2,4-Trichlorobenzene, VOC	0	37				4	850	ug/kg				
96-12-8	1,2-Dibromo-3-chloropropane	0	37				7.90	1700	ug/kg				
106-93-4	1,2-Dibromoethane	0	39				4	850	ug/kg				
95-50-1	1,2-Dichlorobenzene, VOC	0	37				4	850	ug/kg				
107-06-2	1,2-Dichloroethane	0	39				4	850	ug/kg				
	1,2-Dichloroethane, TCLP	0	4				0.005	0.20	mg/l				
78-87-5	1,2-Dichloropropane	0	39				4	850	ug/kg				
541-73-1	1,3-Dichlorobenzene, VOC	0	37				4	850	ug/kg				
142-28-9	1,3-Dichloropropane	0	2				9.34	252	ug/kg				
	1,4-Dichlorobenzene, TCLP	0	4				0.05	0.05	mg/l				
106-46-7	1,4-Dichlorobenzene, VOC	2	37	2.10	22	SB-36-02	4.30	850	ug/kg	7.40E+07	2.97E-07	3.10E+05	7.10E-05
594-20-7	2,2-Dichloropropane	0	2				9.34	252	ug/kg				
108-60-1	2,2-oxybis(1-Chloropropane)	0	1				7900	7900	ug/kg				
39638-32-9	2,2-oxybis(2-Chloropropane), SVOC	0	30				340	18000	ug/kg				
95-95-4	2,4,5-Trichlorophenol	0	31				340	18000	ug/kg				
	2,4,5-Trichlorophenol, TCLP	0	4				0.05	0.05	mg/l				
88-06-2	2,4,6-Trichlorophenol	0	31				340	18000	ug/kg				
120-83-2	2,4-Dichlorophenol	0	31				340	18000	ug/kg				
105-67-9	2,4-Dimethylphenol	0	31				340	18000	ug/kg				
51-28-5	2,4-Dinitrophenol	0	30				1700	86000	ug/kg				
121-14-2	2,4-Dinitrotoluene	0	31				340	18000	ug/kg				
	2,4-Dinitrotoluene, TCLP	0	4				0.05	0.05	mg/l				
606-20-2	2,6-Dinitrotoluene	0	31				340	18000	ug/kg				
78-93-3	2-Butanone	6	39	4.10	130	SB-15-02	17	3400	ug/kg	5.60E+08	2.32E-07	NA	--
	2-Butanone, TCLP	0	4				0.02	0.80	mg/l				
91-58-7	2-Chloronaphthalene	0	31				340	18000	ug/kg				
95-57-8	2-Chlorophenol	0	31				340	18000	ug/kg				
95-49-8	2-Chlorotoluene	0	2				252	472	ug/kg				
591-78-6	2-Hexanone	2	39	2.60	27	SB-15-02	17	3400	ug/kg	NL	--	NL	--
91-57-6	2-Methylnaphthalene	1	31	170	170	SB-36-02	340	18000	ug/kg	6.00E+06	2.83E-05	NA	--
95-48-7	2-Methylphenol	0	31				340	18000	ug/kg				
	2-Methylphenol, TCLP	0	4				0.05	0.05	mg/l				
88-74-4	2-Nitroaniline	0	30				1700	86000	ug/kg				
88-75-5	2-Nitrophenol	0	31				340	18000	ug/kg				
108-39-4T	3 & 4-Methylphenol, TCLP	0	4				0.05	0.05	mg/l				
91-94-1	3,3-Dichlorobenzidine	0	30				1700	86000	ug/kg				
99-09-2	3-Nitroaniline	0	30				1700	86000	ug/kg				
534-52-1	4,6-Dinitro-2-methylphenol	0	30				1700	86000	ug/kg				
101-55-3	4-Bromophenyl phenyl ether	0	31				340	18000	ug/kg				
59-50-7	4-Chloro-3-methylphenol	0	31				340	18000	ug/kg				
106-47-8	4-Chloroaniline	0	31				340	18000	ug/kg				
7005-72-3	4-Chlorophenyl phenyl ether	0	31				340	18000	ug/kg				
106-43-4	4-Chlorotoluene	0	2				252	472	ug/kg				
108-10-1	4-Methyl-2-Pentanone	4	39	1.40	21	SB-15-02	17	3400	ug/kg	1.70E+08	1.24E-07	NA	--

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Table 15
Summary of Subsurface (3 to 12 ft bgs) Soil Data Compared to Commercial/Industrial GDCSS - Greenspace Area Exposure Unit
Former GM Dephi Harrison Thermal Systems Facility
Dayton, Ohio

CAS	Parameter	Frequency of Detection		Range of Detections		Maximum Location	Range of Detection Limits		Units	Commercial/Industrial Standard for Single Chemical (noncarcinogen)	Commercial/Industrial Noncarcinogenic Risk Ratio	Commercial/Industrial Standard for Single Chemical (carcinogens)	Commercial/Industrial Carcinogenic Risk Ratio
		# Detected	# Samples	Minimum	Maximum		Minimum	Maximum					
106-44-5	4-Methylphenol	0	31				340	18000	ug/kg				
100-01-6	4-Nitroaniline	0	30				1700	86000	ug/kg				
100-02-7	4-Nitrophenol	0	30				1700	86000	ug/kg				
83-32-9	Acenaphthene	0	31				340	18000	ug/kg				
208-96-8	Acenaphthylene	0	31				340	18000	ug/kg				
67-64-1	Acetone	7	39	5.10	780	SB-15-02	17	3400	ug/kg	1.00E+09	7.80E-07	NA	--
	Acetonitrile	0	2				74.70	2020	ug/kg				
98-86-2	Acetophenone	0	31				340	18000	ug/kg				
107-02-8	Acrolein	0	2				93.40	2520	ug/kg				
107-13-1	Acrylonitrile	0	2				37.40	1010	ug/kg				
107-05-1	Allyl chloride	0	2				18.70	504	ug/kg				
120-12-7	Anthracene	2	31	38	62	SB-15-02	340	18000	ug/kg	4.50E+08	1.38E-07	NA	--
7440-36-0	Antimony	3	31	0.30	0.79	SB-14-02	6.30	8.40	mg/kg	1.60E+03	4.94E-04	NA	--
12674-11-2	Aroclor-1016	0	50				19.90	7900	ug/kg				
11104-28-2	Aroclor-1221	0	50				19.90	7900	ug/kg				
11141-16-5	Aroclor-1232	0	50				19.90	7900	ug/kg				
53469-21-9	Aroclor-1242	0	50				19.90	7900	ug/kg				
12672-29-6	Aroclor-1248	3	50	17	321	TT-SB265	19.90	7900	ug/kg	NA	--	2.00E+04	1.61E-02
11097-69-1	Aroclor-1254	27	50	14	110000	MW-37-05	20	180	ug/kg	2.90E+04	**3.79E+00**	2.00E+04	**5.50E+00**
11096-82-5	Aroclor-1260	3	50	8.90	1100	SB-13-02	19.90	7900	ug/kg	NA	--	2.00E+04	5.50E-02
7440-38-2	Arsenic	31	31	1.90	13	SB-14-02			mg/kg	1.20E+03	1.08E-02	7.70E+01	1.69E-01
	Arsenic, TCLP	0	4				0.10	0.10	mg/l				
1912-24-9	Atrazine	0	31				340	18000	ug/kg				
7440-39-3	Barium	31	31	14.80	241	SB-141-04			mg/kg	6.80E+08	3.54E-07	NA	--
	Barium, TCLP	4	4	0.82	1.52	TT-SB265			mg/l	NL	--	NL	--
100-52-7	Benzaldehyde	0	31				340	18000	ug/kg				
71-43-2	Benzene	4	39	1.90	13.30	TT-SB249	4.3	850	ug/kg	1.20E+06	1.11E-05	1.40E+05	9.50E-05
	Benzene, TCLP	0	4				0.005	0.20	mg/l				
56-55-3	Benzo(a)anthracene	5	31	41	220	MW-23-04	340	18000	ug/kg	NA	--	5.80E+04	3.79E-03
50-32-8	Benzo(a)pyrene	5	31	34	230	MW-23-04	340	18000	ug/kg	NA	--	5.80E+03	3.97E-02
205-99-2	Benzo(b)fluoranthene	6	31	43	250	MW-23-04	340	18000	ug/kg	NA	--	5.80E+04	4.31E-03
191-24-2	Benzo(g,h,i)perylene	4	31	30	130	MW-23-04	340	18000	ug/kg	4.50E+07	2.89E-06	NA	--
207-08-9	Benzo(k)fluoranthene	4	31	38	120	MW-23-04	340	18000	ug/kg	NA	--	5.80E+05	2.07E-04
7440-41-7	Beryllium	8	30	0.08	0.76	SB-14-02	0.53	0.67	mg/kg	7.80E+06	9.74E-08	9.70E+07	7.84E-09
92-52-4	Biphenyl	0	31				340	18000	ug/kg				
111-91-1	bis(2-Chloroethoxy)methane	0	31				340	18000	ug/kg				
111-44-4	bis(2-Chloroethyl)ether	0	31				340	18000	ug/kg				
117-81-7	bis(2-Ethylhexyl)phthalate	6	31	14	43	SB-92-03	350	18000	ug/kg	3.50E+07	1.23E-06	3.50E+06	1.23E-05
108-86-1	Bromobenzene	0	2				252	472	ug/kg				
74-97-5	Bromochloromethane	0	2				9.34	252	ug/kg				
75-27-4	Bromodichloromethane	0	39				4	850	ug/kg				
75-25-2	Bromoform	0	39				4	850	ug/kg				
74-83-9	Bromomethane	1	39	190	190	SB-136-04	4	850	ug/kg	8.20E+04	2.32E-03	NA	--
85-68-7	Butyl benzylphthalate	0	31				340	18000	ug/kg				
7440-43-9	Cadmium	29	31	0.057	3340	SB-14-02	0.58	0.59	mg/kg	2.60E+03	**1.28E+00**	1.30E+05	2.57E-02
	Cadmium, TCLP	0	4				0.01	0.01	mg/l				
105-60-2	Caprolactam	0	31				340	18000	ug/kg				
86-74-8	Carbazole	0	31				340	18000	ug/kg				
75-15-0	Carbon disulfide	1	39	2.10	2.10	SB-15-02	4.30	1010	ug/kg	9.40E+06	2.23E-07	NA	--
56-23-5	Carbon tetrachloride	0	39				4	850	ug/kg				
	Carbon tetrachloride, TCLP	0	4				0.005	0.20	mg/l				
108-90-7	Chlorobenzene	0	39				4	850	ug/kg				

See notes on page 4 of 4

Table 15
Summary of Subsurface (3 to 12 ft bgs) Soil Data Compared to Commercial/Industrial GDCSS - Greenspace Area Exposure Unit
Former GM Dephi Harrison Thermal Systems Facility
Dayton, Ohio

CAS	Parameter	Frequency of Detection		Range of Detections		Maximum Location	Range of Detection Limits		Units	Commercial/Industrial Standard for Single Chemical (noncarcinogen)	Commercial/Industrial Noncarcinogenic Risk Ratio	Commercial/Industrial Standard for Single Chemical (carcinogens)	Commercial/Industrial Carcinogenic Risk Ratio
		# Detected	# Samples	Minimum	Maximum		Minimum	Maximum					
	Chlorobenzene, TCLP	0	4				0.005	0.20	mg/l				
75-00-3	Chloroethane	0	39				4	850	ug/kg				
67-66-3	Chloroform	0	39				4	850	ug/kg				
	Chloroform, TCLP	0	4				0.005	0.20	mg/l				
74-87-3	Chloromethane	0	39				4	850	ug/kg				
7440-47-3	Chromium Total	31	31	3.40	123	SB-136-04			mg/kg	1.20E+04	1.03E-02	2.10E+02	5.86E-01
	Chromium, TCLP	0	4				0.01	0.01	mg/l				
218-01-9	Chrysene	5	31	42	210	MW-23-04	340	18000	ug/kg	NA	--	5.80E+06	3.62E-05
156-59-2	cis-1,2-Dichloroethene	16	38	0.35	4300	SB-15-02	2.20	252	ug/kg	8.20E+06	5.24E-04	NA	--
10061-01-5	cis-1,3-Dichloropropene	0	39				4	850	ug/kg				
7440-48-4	Cobalt	31	31	1.10	10.60	SB-14-02			mg/kg	1.20E+03	8.83E-03	2.60E+04	4.08E-04
7440-50-8	Copper	31	31	2.70	1730	SB-14-02			mg/kg	1.60E+05	1.08E-02	NA	--
57-12-5	Cyanide (total)	8	29	0.10	50.5	SB-15-02	0.53	0.70	mg/kg	3.70E+02	1.36E-01	NA	--
110-82-7	Cyclohexane	5	37	0.72	170	SB-15-02	8.60	1700	ug/kg	7.40E+07	2.30E-06	NA	--
53-70-3	Dibenz(a,h)anthracene	1	31	48	48	MW-23-04	340	18000	ug/kg	NA	--	5.80E+03	8.28E-03
132-64-9	Dibenzofuran	0	31				340	18000	ug/kg				
124-48-1	Dibromochloromethane	0	39				4	850	ug/kg				
74-95-3	Dibromomethane	0	2				9.34	252	ug/kg				
75-71-8	Dichlorodifluoromethane	0	39				4	850	ug/kg				
84-66-2	Diethyl phthalate	0	31				340	18000	ug/kg				
131-11-3	Dimethyl phthalate	0	31				340	18000	ug/kg				
84-74-2	Di-n-butylphthalate	0	31				340	18000	ug/kg				
117-84-0	Di-N-Octyl phthalate	1	31	23	23	MW-14B-04	340	18000	ug/kg	1.80E+07	1.28E-06	NA	--
100-41-4	Ethylbenzene	5	39	0.37	510	MW-23-04	4.40	610	ug/kg	5.80E+07	8.79E-06	7.00E+05	7.29E-04
206-44-0	Fluoranthene	8	31	30	330	MW-23-04	340	18000	ug/kg	6.00E+07	5.50E-06	NA	--
86-73-7	Fluorene	1	31	69	69	SB-92-03	340	18000	ug/kg	6.00E+07	1.15E-06	NA	--
118-74-1	Hexachlorobenzene	0	31				340	18000	ug/kg				
	Hexachlorobenzene, TCLP	0	4				0.05	0.05	mg/l				
87-68-3	Hexachlorobutadiene	0	1				7900	7900	ug/kg				
87-68-3	Hexachlorobutadiene, SVOC	0	30				340	18000	ug/kg				
	Hexachlorobutadiene, TCLP	0	4				0.05	0.05	mg/l				
77-47-4	Hexachlorocyclopentadiene	0	30				1700	86000	ug/kg				
67-72-1	Hexachloroethane	0	31				340	18000	ug/kg				
	Hexachloroethane, TCLP	0	4				0.05	0.05	mg/l				
193-39-5	Indeno(1,2,3-cd)pyrene	1	31	140	140	MW-23-04	340	18000	ug/kg	NA	--	5.80E+04	2.41E-03
74-88-4	Iodomethane	0	2				18.70	504	ug/kg				
78-59-1	Isophorone	0	31				340	18000	ug/kg				
98-82-8	Isopropylbenzene, VOC	2	37	190	290	MW-23-04	4	610	ug/kg	2.70E+07	1.07E-05	NA	--
7439-96-5	Manganese	31	31	139	1070	SB-14-02			mg/kg	NL	--	NL	--
7439-97-6	Mercury*	21	31	0.005	0.56	MW-37-05	0.11	0.12	mg/kg	8.50E+01	6.59E-03	NA	--
	Mercury, TCLP	0	4				0.0002	0.0002	mg/l				
79-20-9	Methyl acetate	2	37	1100	4000	SB-136-04	7.90	1200	ug/kg	NL	--	NL	--
108-87-2	Methyl cyclohexane	8	37	1.70	490	SB-14-02	8.60	900	ug/kg	NL	--	NL	--
1634-04-4	Methyl tert butyl ether	0	39				16	3400	ug/kg				
75-09-2	Methylene chloride	4	38	2.40	160	SB-136-04	4	850	ug/kg	9.50E+06	1.68E-05	3.20E+07	5.00E-06
91-20-3	Naphthalene, SVOC	1	31	110	110	SB-15-02	340	18000	ug/kg	1.60E+06	6.88E-05	4.50E+05	2.44E-04
110-54-3	n-Hexane	1	2	20.30	20.30	TT-SB249	252	252	ug/kg	6.70E+06	3.03E-06	NA	--
7440-02-0	Nickel	31	31	3.20	38.40	SB-15-02			mg/kg	7.40E+04	5.19E-04	9.00E+05	4.27E-05
98-95-3	Nitrobenzene	0	31				340	18000	ug/kg				
	Nitrobenzene, TCLP	0	4				0.05	0.05	mg/l				
621-64-7	N-Nitrosodi-n-propylamine	0	31				340	18000	ug/kg				
86-30-6	N-Nitrosodiphenylamine	0	31				340	18000	ug/kg				

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Table 15
Summary of Subsurface (3 to 12 ft bgs) Soil Data Compared to Commercial/Industrial GDCSS - Greenspace Area Exposure Unit
Former GM Dephi Harrison Thermal Systems Facility
Dayton, Ohio

CAS	Parameter	Frequency of Detection		Range of Detections		Maximum Location	Range of Detection Limits		Units	Commercial/Industrial Standard for Single Chemical (noncarcinogen)	Commercial/Industrial Noncarcinogenic Risk Ratio	Commercial/Industrial Standard for Single Chemical (carcinogens)	Commercial/Industrial Carcinogenic Risk Ratio
		# Detected	# Samples	Minimum	Maximum		Minimum	Maximum					
95-47-6	o-Xylene	0	2				252	472	ug/kg				
87-86-5	Pentachlorophenol	0	31				340	18000	ug/kg				
	Pentachlorophenol, TCLP	0	4				0.05	0.05	mg/l				
85-01-8	Phenanthrene	6	31	43	300	SB-15-02	340	18000	ug/kg	4.50E+08	6.67E-07	NA	--
108-95-2	Phenol	0	31				340	18000	ug/kg				
7440-09-7	Potassium	1	1	576	576	MW-37-05			mg/kg	NL	--	NL	--
129-00-0	Pyrene, SVOC	7	31	63	280	MW-23-04	340	18000	ug/kg	4.50E+07	6.22E-06	NA	--
	Pyridine, TCLP	0	4				0.05	0.05	mg/l				
7782-49-2	Selenium	1	30	0.48	0.48	MW-23-04	0.53	30	mg/kg	2.00E+04	2.40E-05	NA	--
	Selenium, TCLP	0	4				0.10	0.1	mg/l				
7440-22-4	Silver	5	28	0.12	1.20	SB-14-02	1.10	1.4	mg/kg	2.00E+04	6.00E-05	NA	--
	Silver, TCLP	0	4				0.01	0.01	mg/l				
100-42-5	Styrene	0	39				4	850	ug/kg				
127-18-4	Tetrachloroethene*	36	39	0.72	21000	SB-14-02	5.70	450	ug/kg	1.10E+06	1.91E-02	2.80E+06	7.50E-03
	Tetrachloroethene, TCLP	0	4				0.005	0.2	mg/l				
7440-28-0	Thallium	12	29	0.61	1.70	SB-24-02	1.10	240	mg/kg	4.10E+01	4.15E-02	NA	--
108-88-3	Toluene	14	39	0.57	270	MW-23-04	4.40	610	ug/kg	1.40E+08	1.93E-06	NA	--
156-60-5	trans-1,2-Dichloroethene	0	38				2	450	ug/kg				
10061-02-6	trans-1,3-Dichloropropene	0	39				4	850	ug/kg				
79-01-6	Trichloroethene	32	39	0.54	26000	MW-23-04	4.60	240	ug/kg	5.10E+04	5.10E-01	1.70E+05	1.53E-01
	Trichloroethene, TCLP	0	4				0.005	0.2	mg/l				
75-69-4	Trichlorofluoromethane	1	39	160	160	SB-23-02	4	850	ug/kg	8.50E+06	1.88E-05	NA	--
76-13-1	Trifluorotrichloroethane	0	37				4	850	ug/kg				
7440-62-2	Vanadium	31	31	3.80	21.70	SB-14-02			mg/kg	2.00E+04	1.09E-03	NA	--
108-05-4	Vinyl acetate	0	2				18.70	504	ug/kg				
75-01-4	Vinyl chloride	0	39				4	850	ug/kg				
	Vinyl chloride, TCLP	0	4				0.005	0.2	mg/l				
1330-20-7	Xylene (Total)	5	39	11	2900	MW-23-04	8.60	1200	ug/kg	6.80E+06	4.26E-04	NA	--
7440-66-6	Zinc	31	31	9.90	858	SB-136-04			mg/kg	1.00E+06	8.58E-04	NA	--
										Cumulative Risk Ratio	**5.84E+00**	Cumulative Risk Ratio	**6.57E+00**

CAS	Parameter	Frequency of Detection		Range of Detections		Maximum Location	Range of Detection Limits		Units	Commercial/Industrial Standard for Single Chemical (noncarcinogen)	Commercial/Industrial Noncarcinogenic Risk Ratio	Commercial/Industrial Standard for Single Chemical (carcinogens)	Commercial/Industrial Carcinogenic Risk Ratio
		# Detected	# Samples	Minimum	Maximum		Minimum	Maximum					
7439-92-1	Lead	31	31	1.20	191	SB-14-02	--	--	mg/kg	8.00E+02	--	--	--
	Lead, TCLP	0	4	--	--	--	0.05	0.05	mg/l				
	Diesel Range Organics (DRO)	1	1	31.2	31.2	TT-SB249	--	--	mg/kg	2.00E+03	--	NL	--
	Gasoline Range Organics (GRO)	0	1	--	--	--	7.26	7.26	mg/kg				
C21-C34	C21-C34 Aliphatics	0	1	--	--	--	632	632	mg/kg				

Notes:
bgs - below ground surface
ft - feet
mg/kg - milligram per kilogram
mg/l - milligram per liter
NA - Not Applicable
NL - Not Listed
SVOC - Semi-Volatile Organic Compounds
TCLP - toxicity characteristic leaching procedure
ug/kg - microgram per kilogram
VOC - Volatile Organic Compounds
* The C/I Single Chem GDCSS is 3.1 mg/kg for mercury and 170 mg/kg for PCE and is based on the soil saturation standard

See notes on page 4 of 4

Table 16
Summary of Soil (0 to 12 ft bgs) Data Compared to Construction Worker GDCSS - Greenspace Area Exposure Unit
Former GM Dephi Harrison Thermal Systems Facility
Dayton, Ohio

CAS	Parameter	Frequency of Detection		Range of Detections		Maximum Location	Range of Detection Limits		Units	Construction/Excavation Standard for Single Chemical (noncarcinogen)	Construction/Excavation Noncarcinogenic Risk Ratio	Construction/Excavation Standard for Single Chemical (carcinogens)	Construction/Excavation Carcinogenic Risk Ratio
		# Detected	# Samples	Minimum	Maximum		Minimum	Maximum					
630-20-6	1,1,1,2-Tetrachloroethane	0	2				252	472	ug/kg				
71-55-6	1,1,1-Trichloroethane	1	64	20.40	20.40	TT-SB249	4	1200	ug/kg	3.30E+07	6.18E-07	NA	--
79-34-5	1,1,2,2-Tetrachloroethane	0	64				4	1200	ug/kg				
79-00-5	1,1,2-Trichloroethane	0	64				4	1200	ug/kg				
75-34-3	1,1-Dichloroethane	1	64	89	89	SB-93-03	4	1200	ug/kg	1.00E+09	8.90E-08	3.60E+06	2.47E-05
75-35-4	1,1-Dichloroethene	0	64				4	1200	ug/kg				
	1,1-Dichloroethene, TCLP	0	4				0.005	0.2	mg/l				
563-58-6	1,1-Dichloropropene	0	2				9.34	252	ug/kg				
120-82-1	1,2,4-Trichlorobenzene, VOC	0	62				4	1200	ug/kg				
96-12-8	1,2-Dibromo-3-chloropropane	0	61				7.90	2400	ug/kg				
106-93-4	1,2-Dibromoethane	0	64				4	1200	ug/kg				
95-50-1	1,2-Dichlorobenzene, VOC	0	62				4	1200	ug/kg				
107-06-2	1,2-Dichloroethane	0	64				4	1200	ug/kg				
	1,2-Dichloroethane, TCLP	0	4				0.005	0.2	mg/l				
78-87-5	1,2-Dichloropropane	0	64				4	1200	ug/kg				
541-73-1	1,3-Dichlorobenzene, VOC	0	62				4	1200	ug/kg				
142-28-9	1,3-Dichloropropane	0	2				9.34	252	ug/kg				
	1,4-Dichlorobenzene, TCLP	0	4				0.05	0.05	mg/l				
106-46-7	1,4-Dichlorobenzene, VOC	3	62	2.10	31	SB-36-02	4.20	1200	ug/kg	6.00E+07	5.17E-07	2.60E+06	1.19E-05
594-20-7	2,2-Dichloropropane	0	2				9.34	252	ug/kg				
108-60-1	2,2-oxybis(1-Chloropropane)	0	1				7900	7900	ug/kg				
39638-32-9	2,2-oxybis(2-Chloropropane), SVOC	0	48				340	18000	ug/kg				
95-95-4	2,4,5-Trichlorophenol	0	49				340	18000	ug/kg				
	2,4,5-Trichlorophenol, TCLP	0	4				0.05	0.05	mg/l				
88-06-2	2,4,6-Trichlorophenol	0	49				340	18000	ug/kg				
120-83-2	2,4-Dichlorophenol	0	49				340	18000	ug/kg				
105-67-9	2,4-Dimethylphenol	0	49				340	18000	ug/kg				
51-28-5	2,4-Dinitrophenol	0	45				1700	86000	ug/kg				
121-14-2	2,4-Dinitrotoluene	0	49				340	18000	ug/kg				
	2,4-Dinitrotoluene, TCLP	0	4				0.05	0.05	mg/l				
606-20-2	2,6-Dinitrotoluene	0	49				340	18000	ug/kg				
78-93-3	2-Butanone	8	63	4.10	170	SB-36-02	17	4700	ug/kg	4.80E+07	3.54E-06	NA	--
	2-Butanone, TCLP	0	4				0.02	0.80	mg/l				
91-58-7	2-Chloronaphthalene	0	49				340	18000	ug/kg				
95-57-8	2-Chlorophenol	0	49				340	18000	ug/kg				
95-49-8	2-Chlorotoluene	0	2				252	472	ug/kg				
591-78-6	2-Hexanone	3	63	2.60	27	SB-15-02	17	4700	ug/kg	NL	--	NL	--
91-57-6	2-Methylnaphthalene	7	50	23	860	MW-14B-04	340	18000	ug/kg	5.20E+06	1.65E-04	NA	--
95-48-7	2-Methylphenol	0	49				340	18000	ug/kg				
	2-Methylphenol, TCLP	0	4				0.05	0.05	mg/l				
88-74-4	2-Nitroaniline	0	45				1700	86000	ug/kg				
88-75-5	2-Nitrophenol	0	49				340	18000	ug/kg				
108-39-4T	3 & 4-Methylphenol, TCLP	0	4				0.05	0.05	mg/l				
91-94-1	3,3-Dichlorobenzidine	0	45				1700	86000	ug/kg				
99-09-2	3-Nitroaniline	0	45				1700	86000	ug/kg				
534-52-1	4,6-Dinitro-2-methylphenol	0	45				1700	86000	ug/kg				
101-55-3	4-Bromophenyl phenyl ether	0	49				340	18000	ug/kg				
59-50-7	4-Chloro-3-methylphenol	0	49				340	18000	ug/kg				
106-47-8	4-Chloroaniline	0	49				340	18000	ug/kg				
7005-72-3	4-Chlorophenyl phenyl ether	0	49				340	18000	ug/kg				
106-43-4	4-Chlorotoluene	0	2				252	472	ug/kg				
108-10-1	4-Methyl-2-Pentanone	5	63	1.40	21	SB-15-02	17	4700	ug/kg	3.30E+07	6.36E-07	NA	--

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Table 16
Summary of Soil (0 to 12 ft bgs) Data Compared to Construction Worker GDCSS - Greenspace Area Exposure Unit
Former GM Dephi Harrison Thermal Systems Facility
Dayton, Ohio

CAS	Parameter	Frequency of Detection		Range of Detections		Maximum Location	Range of Detection Limits		Units	Construction/Excavation Standard for Single Chemical (noncarcinogen)	Construction/Excavation Noncarcinogenic Risk Ratio	Construction/Excavation Standard for Single Chemical (carcinogens)	Construction/Excavation Carcinogenic Risk Ratio
		# Detected	# Samples	Minimum	Maximum		Minimum	Maximum					
106-44-5	4-Methylphenol	0	49				340	18000	ug/kg				
100-01-6	4-Nitroaniline	0	45				1700	86000	ug/kg				
100-02-7	4-Nitrophenol	0	45				1700	86000	ug/kg				
83-32-9	Acenaphthene	2	49	16	85	SB-96-03	340	18000	ug/kg	7.80E+08	1.09E-07	NA	--
208-96-8	Acenaphthylene	2	49	59	380	SB-34-02	340	18000	ug/kg	7.80E+08	4.87E-07	NA	--
67-64-1	Acetone	8	62	5.10	780	SB-15-02	17	4700	ug/kg	1.00E+09	7.80E-07	NA	--
	Acetonitrile	0	2				74.70	2020	ug/kg				
98-86-2	Acetophenone	0	49				340	18000	ug/kg				
107-02-8	Acrolein	0	2				93.40	2520	ug/kg				
107-13-1	Acrylonitrile	0	2				37.40	1010	ug/kg				
107-05-1	Allyl chloride	0	2				18.70	504	ug/kg				
120-12-7	Anthracene	8	49	23	1900	SB-34-02	340	18000	ug/kg	1.00E+09	1.90E-06	NA	--
7440-36-0	Antimony	7	49	0.30	4	SB-140-04	6.20	8.40	mg/kg	8.50E+02	4.71E-03	NA	--
12674-11-2	Aroclor-1016	0	77				19.90	11100	ug/kg				
11104-28-2	Aroclor-1221	0	77				19.90	11100	ug/kg				
11141-16-5	Aroclor-1232	0	77				19.90	11100	ug/kg				
53469-21-9	Aroclor-1242	0	77				19.90	11100	ug/kg				
12672-29-6	Aroclor-1248	4	77	17	463	TT-SB265	19.90	11100	ug/kg	NA	--	4.40E+05	1.05E-03
11097-69-1	Aroclor-1254	39	77	4.5	110000	MW-37-05	20	180	ug/kg	7.50E+04	**1.47E+00**	4.40E+05	2.50E-01
11096-82-5	Aroclor-1260	3	77	8.90	1100	SB-13-02	19.90	11100	ug/kg	NA	--	4.40E+05	2.50E-03
7440-38-2	Arsenic	51	51	1.20	13	SB-14-02			mg/kg	6.90E+02	1.88E-02	1.30E+03	1.00E-02
	Arsenic, TCLP	0	4				0.10	0.1	mg/l				
1912-24-9	Atrazine	0	49				340	18000	ug/kg				
7440-39-3	Barium	51	51	4.20	241	SB-141-04			mg/kg	3.20E+05	7.53E-04	NA	--
	Barium, TCLP	4	4	0.82	1.52	TT-SB265			mg/l	NL	--	NL	--
100-52-7	Benzaldehyde	0	49				340	18000	ug/kg				
71-43-2	Benzene	4	64	1.90	13.3	TT-SB249	4.20	1200	ug/kg	1.20E+06	1.11E-05	1.20E+06	1.11E-05
	Benzene, TCLP	0	4				0.005	0.2	mg/l				
56-55-3	Benzo(a)anthracene	12	49	41	4400	SB-34-02	340	18000	ug/kg	NA	--	1.20E+06	3.67E-03
50-32-8	Benzo(a)pyrene	12	49	34	5400	SB-34-02	340	18000	ug/kg	NA	--	1.20E+05	4.50E-02
205-99-2	Benzo(b)fluoranthene	13	49	43	5400	SB-34-02	340	18000	ug/kg	NA	--	1.20E+06	4.50E-03
191-24-2	Benzo(g,h,i)perylene	10	49	27	2900	SB-34-02	340	18000	ug/kg	3.90E+08	7.44E-06	NA	--
207-08-9	Benzo(k)fluoranthene	11	49	28	3600	SB-34-02	340	18000	ug/kg	NA	--	1.20E+07	3.00E-04
7440-41-7	Beryllium	17	48	0.06	0.98	MW-14B-04	0.52	0.86	mg/kg	3.40E+03	2.88E-04	7.10E+04	1.38E-05
92-52-4	Biphenyl	1	49	80	80	SB-96-03	340	18000	ug/kg	2.10E+08	3.81E-07	1.90E+08	4.21E-07
111-91-1	bis(2-Chloroethoxy)methane	0	49				340	18000	ug/kg				
111-44-4	bis(2-Chloroethyl)ether	0	49				340	18000	ug/kg				
117-81-7	bis(2-Ethylhexyl)phthalate	12	49	14	2300	SB-94-03	340	18000	ug/kg	2.80E+08	8.21E-06	7.10E+07	3.24E-05
108-86-1	Bromobenzene	0	2				252	472	ug/kg				
74-97-5	Bromochloromethane	0	2				9.34	252	ug/kg				
75-27-4	Bromodichloromethane	0	64				4	1200	ug/kg				
75-25-2	Bromoform	0	64				4	1200	ug/kg				
74-83-9	Bromomethane	2	64	190	210	SB-136-04	4	1200	ug/kg	5.50E+05	3.82E-04	NA	--
85-68-7	Butyl benzylphthalate	0	49				340	18000	ug/kg				
7440-43-9	Cadmium	45	50	0.05	3340	SB-14-02	0.52	0.60	mg/kg	1.00E+03	**3.34E+00**	9.50E+04	3.52E-02
	Cadmium, TCLP	0	4				0.01	0.01	mg/l				
105-60-2	Caprolactam	0	49				340	18000	ug/kg				
86-74-8	Carbazole	1	49	110	110	SB-96-03	340	18000	ug/kg	NA	--	5.00E+07	2.20E-06
75-15-0	Carbon disulfide	1	64	2.10	2.10	SB-15-02	4.20	1200	ug/kg	9.40E+06	2.23E-07	NA	--
56-23-5	Carbon tetrachloride	0	64				4	1200	ug/kg				
	Carbon tetrachloride, TCLP	0	4				0.005	0.2	mg/l				
108-90-7	Chlorobenzene	0	64				4	1200	ug/kg				

See notes on page 4 of 4

Table 16
Summary of Soil (0 to 12 ft bgs) Data Compared to Construction Worker GDCSS - Greenspace Area Exposure Unit
Former GM Dephi Harrison Thermal Systems Facility
Dayton, Ohio

CAS	Parameter	Frequency of Detection		Range of Detections		Maximum Location	Range of Detection Limits		Units	Construction/Excavation Standard for Single Chemical (noncarcinogen)	Construction/Excavation Noncarcinogenic Risk Ratio	Construction/Excavation Standard for Single Chemical (carcinogens)	Construction/Excavation Carcinogenic Risk Ratio
		# Detected	# Samples	Minimum	Maximum		Minimum	Maximum					
	Chlorobenzene, TCLP	0	4				0.005	0.2	mg/l				
75-00-3	Chloroethane	0	64				4	1200	ug/kg				
67-66-3	Chloroform	0	64				4	1200	ug/kg				
	Chloroform, TCLP	0	4				0.005	0.2	mg/l				
74-87-3	Chloromethane	0	64				4	1200	ug/kg				
7440-47-3	Chromium Total	51	51	1.70	123	SB-136-04			mg/kg	1.90E+04	6.47E-03	1.20E+03	1.03E-01
	Chromium, TCLP	0	4				0.01	0.01	mg/l				
218-01-9	Chrysene	12	49	42	4600	SB-34-02	340	18000	ug/kg	NA	--	1.20E+08	3.83E-05
156-59-2	cis-1,2-Dichloroethene	27	62	0.35	19000	MW-23-04	2.10	252	ug/kg	4.30E+07	4.42E-04	NA	--
10061-01-5	cis-1,3-Dichloropropene	0	64				4	1200	ug/kg				
7440-48-4	Cobalt	51	51	0.68	10.6	SB-14-02			mg/kg	2.80E+03	3.79E-03	1.90E+04	5.58E-04
7440-50-8	Copper	51	51	2.10	1730	SB-14-02			mg/kg	2.10E+04	8.24E-02	NA	--
57-12-5	Cyanide (total)	13	49	0.10	50.5	SB-15-02	0.52	0.70	mg/kg	1.50E+02	3.37E-01	NA	--
110-82-7	Cyclohexane	9	61	0.69	570	MW-14B-04	8.30	1800	ug/kg	7.50E+07	7.60E-06	NA	--
53-70-3	Dibenz(a,h)anthracene	6	49	26	780	SB-34-02	340	18000	ug/kg	NA	--	1.20E+05	6.50E-03
132-64-9	Dibenzofuran	5	50	21	310	MW-14B-04	340	18000	ug/kg	2.10E+06	1.48E-04	NA	--
124-48-1	Dibromochloromethane	0	64				4	1200	ug/kg				
74-95-3	Dibromomethane	0	2				9.34	252	ug/kg				
75-71-8	Dichlorodifluoromethane	0	64				4	1200	ug/kg				
84-66-2	Diethyl phthalate	0	49				340	18000	ug/kg				
131-11-3	Dimethyl phthalate	0	49				340	18000	ug/kg				
84-74-2	Di-n-butylphthalate	1	49	2900	2900	SB-14-02	340	18000	ug/kg	4.30E+08	6.74E-06	NA	--
117-84-0	Di-N-Octyl phthalate	1	49	23	23	MW-14B-04	340	18000	ug/kg	1.40E+08	1.64E-07	NA	--
100-41-4	Ethylbenzene	7	64	0.37	510	MW-23-04	4.20	1200	ug/kg	1.90E+08	2.68E-06	6.10E+06	8.36E-05
206-44-0	Fluoranthene	16	49	30	11000	SB-34-02	340	18000	ug/kg	1.60E+08	6.88E-05	NA	--
86-73-7	Fluorene	5	50	36	210	SB-96-03	340	18000	ug/kg	5.20E+08	4.04E-07	NA	--
118-74-1	Hexachlorobenzene	0	49				340	18000	ug/kg				
	Hexachlorobenzene, TCLP	0	4				0.05	0.05	mg/l				
87-68-3	Hexachlorobutadiene	0	1				7900	7900	ug/kg				
87-68-3	Hexachlorobutadiene, SVOC	0	48				340	18000	ug/kg				
	Hexachlorobutadiene, TCLP	0	4				0.05	0.05	mg/l				
77-47-4	Hexachlorocyclopentadiene	0	45				1700	86000	ug/kg				
67-72-1	Hexachloroethane	0	49				340	18000	ug/kg				
	Hexachloroethane, TCLP	0	4				0.05	0.05	mg/l				
193-39-5	Indeno(1,2,3-cd)pyrene	7	49	25	2900	SB-34-02	340	18000	ug/kg	NA	--	1.20E+06	2.42E-03
74-88-4	Iodomethane	0	2				18.70	504	ug/kg				
78-59-1	Isophorone	0	49				340	18000	ug/kg				
98-82-8	Isopropylbenzene, VOC	3	62	95	290	MW-23-04	4	1200	ug/kg	8.60E+07	3.37E-06	NA	--
7439-96-5	Manganese	51	51	97.5	1070	SB-14-02			mg/kg	NL	--	NL	--
7439-97-6	Mercury*	35	50	0.005	2.2	SB-140-04	0.10	0.12	mg/kg	3.10E+01	7.10E-02	NA	--
	Mercury, TCLP	0	4				0.0002	0.0002	mg/l				
79-20-9	Methyl acetate	7	61	150	4000	SB-136-04	7.90	2000	ug/kg	NL	--	NL	--
108-87-2	Methyl cyclohexane	18	61	0.89	590	MW-14B-04	8.30	1800	ug/kg	NL	--	NL	--
1634-04-4	Methyl tert butyl ether	0	63				16	4700	ug/kg				
75-09-2	Methylene chloride	5	63	2.40	180	SB-136-04	4	1200	ug/kg	8.50E+06	2.12E-05	3.40E+08	5.29E-07
91-20-3	Naphthalene, SVOC	8	50	26	500	MW-14B-04	340	18000	ug/kg	5.60E+05	8.93E-04	3.80E+06	1.32E-04
110-54-3	n-Hexane	1	2	20.30	20.30	TT-SB249	252	252	ug/kg	6.90E+03	2.94E-03	NA	--
7440-02-0	Nickel	51	51	1.80	38.40	SB-15-02			mg/kg	2.30E+04	1.67E-03	6.60E+05	5.82E-05
98-95-3	Nitrobenzene	0	49				340	18000	ug/kg				
	Nitrobenzene, TCLP	0	4				0.05	0.05	mg/l				
621-64-7	N-Nitrosodi-n-propylamine	0	49				340	18000	ug/kg				
86-30-6	N-Nitrosodiphenylamine	0	49				340	18000	ug/kg				

See notes on page 4 of 4

Table 16
Summary of Soil (0 to 12 ft bgs) Data Compared to Construction Worker GDCSS - Greenspace Area Exposure Unit
Former GM Dephi Harrison Thermal Systems Facility
Dayton, Ohio

CAS	Parameter	Frequency of Detection		Range of Detections		Maximum Location	Range of Detection Limits		Units	Construction/Excavation Standard for Single Chemical (noncarcinogen)	Construction/Excavation Noncarcinogenic Risk Ratio	Construction/Excavation Standard for Single Chemical (carcinogens)	Construction/Excavation Carcinogenic Risk Ratio
		# Detected	# Samples	Minimum	Maximum		Minimum	Maximum					
95-47-6	o-Xylene	0	2				252	472	ug/kg				
87-86-5	Pentachlorophenol	0	49				340	18000	ug/kg				
	Pentachlorophenol, TCLP	0	4				0.05	0.05	mg/l				
85-01-8	Phenanthrene	14	50	43	3900	SB-34-02	340	18000	ug/kg	1.00E+09	3.90E-06	NA	--
108-95-2	Phenol	0	49				340	18000	ug/kg				
7440-09-7	Potassium	1	1	576	576	MW-37-05			mg/kg	NL	--	NL	--
129-00-0	Pyrene, SVOC	14	49	63	8200	SB-34-02	340	18000	ug/kg	3.90E+08	2.10E-05	NA	--
	Pyridine, TCLP	0	4				0.05	0.05	mg/l				
7782-49-2	Selenium	2	48	0.48	0.48	SB-36-02	0.52	30	mg/kg	1.10E+04	4.36E-05	NA	--
	Selenium, TCLP	0	4				0.10	0.1	mg/l				
7440-22-4	Silver	9	44	0.12	1.2	SB-14-02	1	1.40	mg/kg	1.10E+04	1.09E-04	NA	--
	Silver, TCLP	0	4				0.01	0.01	mg/l				
100-42-5	Styrene	1	64	93	93	SB-14-02	4	1200	ug/kg	1.10E+08	8.45E-07	NA	--
127-18-4	Tetrachloroethene*	58	64	0.72	21000	MW-23-04	4.70	450	ug/kg	3.80E+05	5.53E-02	2.50E+07	8.40E-04
	Tetrachloroethene, TCLP	0	4				0.005	0.2	mg/l				
7440-28-0	Thallium	24	44	0.61	2.10	MW-23-04	1.10	240	mg/kg	2.10E+01	--	NA	--
108-88-3	Toluene	23	64	0.35	270	MW-23-04	4.40	1000	ug/kg	8.20E+07	3.29E-06	NA	--
156-60-5	trans-1,2-Dichloroethene	2	61	68	180	MW-23-04	2	720	ug/kg	7.90E+06	2.28E-05	NA	--
10061-02-6	trans-1,3-Dichloropropene	0	64				4	1200	ug/kg				
79-01-6	Trichloroethene	50	64	0.54	44000	MW-24-04	4.20	240	ug/kg	1.70E+04	**2.59E+00**	1.40E+06	3.14E-02
	Trichloroethene, TCLP	0	4				0.005	0.2	mg/l				
75-69-4	Trichlorofluoromethane	1	64	160	160	SB-23-02	4	1200	ug/kg	4.10E+06	3.90E-05	NA	--
76-13-1	Trifluorotrichloroethane	0	62				4	1200	ug/kg				
7440-62-2	Vanadium	50	50	2.70	23.5	SB-13-02			mg/kg	1.10E+04	2.14E-03	NA	--
108-05-4	Vinyl acetate	0	2				18.70	504	ug/kg				
75-01-4	Vinyl chloride	2	64	54	140	MW-23-04	4	1200	ug/kg	2.80E+05	5.00E-04	4.70E+05	2.98E-04
	Vinyl chloride, TCLP	0	4				0.005	0.2	mg/l				
1330-20-7	Xylene (Total)	11	63	4.90	2900	MW-23-04	8.30	1800	ug/kg	7.00E+06	4.14E-04	NA	--
7440-66-6	Zinc	51	51	6.20	858	SB-136-04			mg/kg	6.40E+05	1.34E-03	NA	--
										Cumulative Risk Ratio	**7.99E+00**	Cumulative Risk Ratio	4.97E-01

CAS	Parameter	Frequency of Detection		Range of Detections		Maximum Location	Range of Detection Limits		Units	Construction/Excavation Standard for Single Chemical (noncarcinogen)	Construction/Excavation Noncarcinogenic Risk Ratio	Construction/Excavation Standard for Single Chemical (carcinogens)	Construction/Excavation Carcinogenic Risk Ratio
		# Detected	# Samples	Minimum	Maximum		Minimum	Maximum					
7439-92-1	Lead	51	51	0.86	6470	MW-23-04	--	--	mg/kg	**4.00E+02**	--	--	--
	Lead, TCLP	0	4	--	--	--	0.05	0.05	mg/l				
C21-C34	C21-C34 Aliphatics	0	1	--	--	--	632	632	mg/kg				
	Gasoline Range Organics (GRO)	0	1	--	--	--	7.26	7.26	mg/kg				
	Diesel Range Organics (DRO)	1	1	31.2	31.2	TT-SB49	--	--	mg/kg	2.00E+03	--	NL	--

Notes:
bgs - below ground surface
ft - feet
mg/kg - milligram per kilogram
mg/l - milligram per liter
NA - Not Applicable
NL - Not Listed
SVOC - Semi-Volatile Organic Compounds
TCLP - toxicity characteristic leaching procedure
ug/kg - microgram per kilogram
VOC - Volatile Organic Compounds
* The Construction Single Chem GDCSS is 3.1 mg/kg for mercury and 170 mg/kg for PCE and is based on the soil saturation standard

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Table 17
Risk Contributions of the Constituents Lacking Generic Standards
C Area Exposure Unit
Former GM Delphi Harrison Thermal System Facility
Dayton, Ohio

Parameter	Frequency of Detection[a]		Range of Detections		Residential Non-Cancer[a] Generic Cleanup Number	Basis	% of Noncancer Risk	Residential Cancer[b] Generic Cleanup Number	Basis	% of Cancer Risk
	# Detected	# Samples	Minimum	Maxinum						
Inorganics (mg/kg)										
Manganese	34	34	44.4	1230	1.8E+03	RSL (non-diet)	68	--	--	--
Organics (ug/kg)										
2-Chlorotoluene	1	2	927	927	1.6E+06	RSL	0.0579	--	--	--
2-Hexanone	1	49	552	552	2.0E+05	RSL	0.2760	--	--	--
4-Chlorotoluene	1	2	598	598	1.6E+06	RSL	0.0374	--	--	--
Benzaldehyde	1	30	180	180	7.8E+06	RSL	0.0023	--	--	--
Methyl acetate	6	47	81	1200	7.8E+07	RSL	0.0015	--	--	--
Methyl cyclohexane	20	47	1.1	3800	6.5E+06	cyclohexane RSL	0.058	--	--	--
Petroleum Hydrocarbons (mg/kg)										
GRO (C6-C12)	2	2	213	**1850**	1.0E+03	c; TPH C6-C12	--	--	--	--

Notes:
µg/kg = micrograms per kilogram
[a] = GDCSS were not available for these chemicals; alternative screening levels were used.
[b] = Includes duplicate samples.
[c] = Petroleum products are not included in the cumulative risk ratio calculations. Concentrations are compared to the BUSTR (1301:7-9-16 Ohio Administrative Code) re-use action levels. Bold text indicates action level exceedance.
mg/kg = milligrams per kilogram
RSL = U.S. EPA Regional Screening Levels, June 2015

Table 18
Risk Contributions of the Constituents Lacking Generic Standards
N Area Exposure Unit
Former GM Delphi Harrison Thermal System Facility
Dayton, Ohio

Parameter	Frequency of Detection[a] # Detected	# Samples	Range of Detections Minimum	Maximum	Residential Non-Cancer[a] Generic Cleanup Number	Basis	% of Noncancer Risk	Residential Cancer[b] Generic Cleanup Number	Basis	% of Cancer Risk
Inorganics (mg/kg)										
Manganese	46	46	90.1	5760	1.8E+03	RSL (non-diet)	320	--	--	--
Organics (ug/kg)										
Methyl acetate	9	44	62	470	7.8E+07	RSL	0.0006	--	--	--
Methyl cyclohexane	15	44	3.2	1000	6.5E+06	cyclohexane RSL	0.015	--	--	--
Diesel Range Organics (DRO)	2	2	27	51.7	2000	c; TPH C10-C20	--	--	--	--

Notes:

µg/kg = micrograms per kilogram

[a] = GDCSS were not available for these chemicals; alternative screening levels were used.

[b] = Includes duplicate samples.

c = Petroleum products are not included in the cumulative risk ratio calculations. Concentrations are compared to the BUSTR (1301:7-9-16 Ohio Administrative Code) re-use action levels. Bold text indicates action level exceedance.

mg/kg = milligrams per kilogram

RSL = U.S. EPA Regional Screening Levels, June 2015

Table 19
Risk Contributions of the Constituents Lacking Generic Standards
P Area Exposure Unit
Former GM Delphi Harrison Thermal System Facility
Dayton, Ohio

Parameter	Frequency of Detection[a]		Range of Detections		Residential Non-Cancer[a] Generic Cleanup Number	Basis	% of Noncancer Risk	Residential Cancer[b] Generic Cleanup Number	Basis	% of Cancer Risk
	# Detected	# Samples	Minimum	Maxinum						
Inorganics (mg/kg)										
Manganese	34	34	194.0	3360	1.8E+03	RSL	187	--	--	--
Organics (ug/kg)										
Benzaldehyde	2	26	21	29	7.8E+06	RSL	0.0004	--	--	--
Methyl acetate	10	42	32	410	7.8E+07	RSL	0.0005	--	--	--
Methyl cyclohexane	18	42	0.42	3000	6.5E+06	cyclohexane RSL	0.046	--	--	--
Petroleum Hydrocarbons (mg/kg)										
Diesel Range Organics (DRO)	2	2	26.1	28.5	2000	c; TPH C10-C20	--	--	--	--

Notes:
µg/kg = micrograms per kilogram

[a] = GDCSS were not available for these chemicals; alternative screening levels were used.

[b] = Includes duplicate samples.

[c] = Petroleum products are not included in the cumulative risk ratio calculations. Concentrations are compared to the BUSTR (1301:7-9-16 Ohio Administrative Code) re-use action levels. Bold texts indicates action level exceedance.
mg/kg = milligrams per kilogram
RSL = U.S. EPA Regional Screening Levels, June 2015

Table 20
Risk Contributions of the Constituents Lacking Generic Standards
CTA Area Exposure Unit
Former GM Delphi Harrison Thermal System Facility
Dayton, Ohio

Parameter	Frequency of Detection[a]		Range of Detections		Residential Non-Cancer[a] Generic Cleanup Number	Basis	% of Noncancer Risk
	# Detected	# Samples	Minimum	Maxinum			
Petroleum Hydrocarbons (mg/kg)							
Total Petroleum Hydrocarbons	1	2	340	340	1.0E+03	c; TPH C6-C12	--

Notes:

[a] = GDCSS were not available for these chemicals; alternative screening levels were used.

[b] = Includes duplicate samples.

[c] = Petroleum products are not included in the cumulative risk ratio calculations. Concentrations are compared to the BUSTR (1301:7-9-16 Ohio Administrative Code) re-use action levels. Bold text indicates action level exceedance.

mg/kg = milligrams per kilogram

RSL = U.S. EPA Regional Screening Levels, June 2015

Table 21
Risk Contributions of the Constituents Lacking Generic Standards
Greenspace Area Exposure Unit
Former GM Delphi Harrison Thermal System Facility
Dayton, Ohio

Parameter	Frequency of Detection[a]		Range of Detections		Residential Non-Cancer[a]		% of Noncancer Risk	Residential Cancer[b]		% of Cancer Risk
	# Detected	# Samples	Minimum	Maxinum	Generic Cleanup Number	Basis		Generic Cleanup Number	Basis	
Inorganics (mg/kg)										
Manganese	51	51	97.5	1070	1.8E+03	RSL	59	--	--	--
Potassium	1	1	576.0	576	NA	--	--	--	--	--
Organics (ug/kg)										
2-Hexanone	3	63	3	27	2.0E+05	RSL	0.0135	--	--	--
Methyl acetate	7	61	150	4000	7.8E+07	RSL	0.0051	--	--	--
Methyl cyclohexane	18	61	0.89	590	6.5E+06	cyclohexane RSL	0.009	--	--	--
Petroleum Hydrocarbons (mg/kg)										
Diesel Range Organics (DRO)	2	2	31.2	201	2000	c; TPH C10-C20	--	--	--	--
Gasoline Range Organics (GRO)	1	2	70	70	1000	c; TPH C6-C12	--	--	--	--

Notes:
µg/kg = micrograms per kilogram
[a] = GDCSS were not available for these chemicals; alternative screening levels were used.
[b] = Includes duplicate samples.
[c] = Petroleum products are not included in the cumulative risk ratio calculations. Concentrations are compared to the BUSTR (1301:7-9-16 Ohio Administrative Code) re-use action levels. Bold text indicates action level exceedance.
mg/kg = milligrams per kilogram
RSL = U.S. EPA Regional Screening Levels, June 2015

Table 22
Cumulative Risk Evaluation - Commercial/Industrial Worker (95 UCL Surface Soil): C Area Exposure Unit
Former GM Delphi Harrison Thermal System Facility
Dayton, Ohio

CAS	Parameter	Frequency of Detection		Range of Detections		Maximum Location	95UCL	Units	Commercial/Industrial Standard for Single Chemical (noncarcinogen)	Commercial/Industrial Noncarcinogenic Risk Ratio	Commercial/Industrial Standard for Single Chemical (carcinogens)	Commercial/Industrial Carcinogenic Risk Ratio
		# Detected	# Samples	Minimum	Maximum							
7440-38-2	Arsenic	15	15	1.10	15.6000004	BH-182	9.489	mg/kg	1.20E+03	7.91E-03	7.70E+01	1.23E-01
56-55-3	Benzo(a)anthracene	12	14	34	6800	SB-44-02	3040	ug/kg	NA	--	5.80E+04	5.24E-02
50-32-8	Benzo(a)pyrene	12	14	21	5700	SB-44-02	2498	ug/kg	NA	--	5.80E+03	4.31E-01
205-99-2	Benzo(b)fluoranthene	12	14	27	9500	SB-44-02	4461	ug/kg	NA	--	5.80E+04	7.69E-02
7440-47-3	Chromium Total	15	15	2	1790	SB-33-02	1317	mg/kg	1.20E+04	1.10E-01	2.10E+02	**6.27E+00**
53-70-3	Dibenz(a,h)anthracene	6	14	38	710	SB-44-02	399	ug/kg	NA	--	5.80E+03	6.88E-02
79-01-6	Trichloroethene	14	20	3.5	81000	SB-74-03	28850	ug/kg	5.10E+04	5.66E-01	1.70E+05	1.70E-01
									95 UCL Cumulative Risk Ratio	6.83E-01	95UCL Cumulative Risk Ratio	**7.19E+00**
									Other chemical Cumulative Risk Ratio (see Table 2)	4.16E-01	Other chemical Cumulative Risk Ratio (see Table 2)	7.6E-02
									TOTAL	1.1E+00	TOTAL	7E+00

Notes:
mg/kg - milligram per kilogram
NA - Not Applicable
ug/kg - microgram per kilogram

Table 23
Cumulative Risk Evaluation - Commercial/Industrial Worker (95 UCL Subsurface Soil): C Area Exposure Unit
Former GM Delphi Harrison Thermal System Facility
Dayton, Ohio

CAS	Parameter	Frequency of Detection		Range of Detections		Maximum Location	95UCL	Units	Commercial/Industrial Standard for Single Chemical (noncarcinogen)	Commercial/Industrial Noncarcinogenic Risk Ratio	Commercial/Industrial Standard for Single Chemical (carcinogens)	Commercial/Industrial Carcinogenic Risk Ratio
		# Detected	# Samples	Minimum	Maximum							
11097-69-1	Aroclor-1254	1	4	890	890	SB-142-04	45	ug/kg	2.90E+04	1.55E-03	2.00E+04	2.25E-03
7440-38-2	Arsenic	19	19	1.40	12	SB-153-04	6.396	mg/kg	1.20E+03	5.33E-03	7.70E+01	8.31E-02
56-55-3	Benzo(a)anthracene	3	19	120	10000	SB-74-03	125	ug/kg	NA	--	5.80E+04	2.16E-03
50-32-8	Benzo(a)pyrene	2	19	110	8400	SB-74-03	125	ug/kg	NA	--	5.80E+03	2.16E-02
205-99-2	Benzo(b)fluoranthene	6	19	25	10000	SB-74-03	125	ug/kg	NA	--	5.80E+04	2.16E-03
7440-47-3	Chromium Total	19	19	3	78.10	SB-33-02	34.25	mg/kg	1.20E+04	2.85E-03	2.10E+02	1.63E-01
53-70-3	Dibenz(a,h)anthracene	2	19	49	1000	SB-74-03	125	ug/kg	NA	--	5.80E+03	2.16E-02
127-18-4	Tetrachloroethene	24	29	1	130000	SB-154-04	5.30	ug/kg	1.10E+06	4.82E-06	2.80E+06	1.89E-06
79-01-6	Trichloroethene	18	29	1.5	53000	SB-74-03	5.10	ug/kg	5.10E+04	1.00E-04	1.70E+05	3.00E-05
									95UCL Cumulative Risk Ratio	9.84E-03	**95UCL Cumulative Risk Ratio**	2.96E-01
									Other chemical Cumulative Risk Ratio (see Table 3)	7.8E-02	Other chemical Cumulative Risk Ratio (see Table 3)	9.6E-02
									TOTAL	9E-02	TOTAL	4E-01

CAS	Parameter	Frequency of Detection		Range of Detections		Maximum Location	95UCL	Units	Commercial/Industrial Standard for Single Chemical (noncarcinogen)	Commercial/Industrial Noncarcinogenic Risk Ratio	Commercial/Industrial Standard for Single Chemical (carcinogens)	Commercial/Industrial Carcinogenic Risk Ratio
		# Detected	# Samples	Minimum	Maximum							
	GRO (C6-C12)*	2	2	213	1850	091216-5	1850	mg/kg	**1.00E+03**	--	NL	--
	TPH C10-C20*	2	2	429	1530	091216-5	1530	mg/kg	2.00E+03	--	NL	--
	TPH C20-C34*	2	2	3330	9000	091216-5	9000	mg/kg	**5.00E+03**	--	NL	--

Notes:
* Maximum concentration presented because only two samples
mg/kg - milligram per kilogram
NA - Not Applicable
NL - Not Listed
ug/kg - microgram per kilogram

Table 24
Cumulative Risk Evaluation - Construction Worker (95 UCL 0 to 12 ft bgs Soil Zone): C Area Exposure Unit
Former GM Delphi Harrison Thermal System Facility
Dayton, Ohio

CAS	Parameter	Frequency of Detection # Detected	Frequency of Detection # Samples	Range of Detections Minimum	Range of Detections Maximum	Maximum Location	95UCL	Units	Construction/Excavation Standard for Single Chemical (noncarcinogen)	Construction/Excavation Noncarcinogenic Risk Ratio	Construction/Excavation Standard for Single Chemical (carcinogens)	Construction/Excavation Carcinogenic Risk Ratio
7440-47-3	Chromium Total	34	34	2	1790	SB-33-02	307.4	mg/kg	1.90E+04	1.62E-02	1.20E+03	2.56E-01
7440-50-8	Copper	34	34	1.20000005	9420	SB-155-04	1605	mg/kg	2.10E+04	7.64E-02	NA	--
7439-97-6	Mercury	27	34	0.0077	7.5	SB-156-04	1.42	mg/kg	3.10E+01	4.58E-02	NA	--
127-18-4	Tetrachloroethene	39	49	1	130000	SB-154-04	19429	ug/kg	3.80E+05	5.11E-02	2.50E+07	7.77E-04
79-01-6	Trichloroethene	32	49	1.5	81000	SB-74-03	14258	ug/kg	1.70E+04	8.39E-01	1.40E+06	1.02E-02
									95UCL Cumulative Risk Ratio	**1.03E+00**	95UCL Cumulative Risk Ratio	2.67E-01
									Other chemical Cumulative Risk Ratio (see Table 4)	4.7E-01	Other chemical Cumulative Risk Ratio (see Table 4)	1.2E-01
									TOTAL	1E+00	TOTAL	4E-01

CAS	Parameter	Frequency of Detection # Detected	Frequency of Detection # Samples	Range of Detections Minimum	Range of Detections Maximum	Maximum Location	95UCL	Units	Construction/Excavation Standard for Single Chemical (noncarcinogen)	Construction/Excavation Noncarcinogenic Risk Ratio	Construction/Excavation Standard for Single Chemical (carcinogens)	Construction/Excavation Carcinogenic Risk Ratio
	GRO (C6-C12)*	2	2	213	1850	091216-5	1850	mg/kg	**1.00E+03**	--	NL	--
	TPH C10-C20*	2	2	429	1530	091216-5	1530	mg/kg	2.00E+03	--	NL	--
	TPH C20-C34*	2	2	3330	9000	091216-5	9000	mg/kg	**5.00E+03**	--	NL	--

Notes:
* Maximum concentration presented because only two samples
bgs - below ground surface
ft - feet
mg/kg - milligram per kilogram
NA - Not Applicable
NL - Not Listed
ug/kg - microgram per kilogram

Table 25
Cumulative Risk Evaluation - Commercial/Industrial Worker (95 UCL Surface Soil): N Area Exposure Unit
Former GM Delphi Harrison Thermal System Facility
Dayton, Ohio

CAS	Parameter	Frequency of Detection		Range of Detections		Maximum Location	95UCL	Units	Commercial/Industrial Standard for Single Chemical (noncarcinogen)	Commercial/Industrial Noncarcinogenic Risk Ratio	Commercial/Industrial Standard for Single Chemical (carcinogens)	Commercial/Industrial Carcinogenic Risk Ratio
		# Detected	# Samples	Minimum	Maximum							
11097-69-1	Aroclor-1254	18	25	8.10	29300	TT-SB264	9.715	ug/kg	2.90E+04	3.35E-04	2.00E+04	4.86E-04
7440-38-2	Arsenic	19	19	2.80	15.20	SB-75-03	9.472	mg/kg	1.20E+03	7.89E-03	7.70E+01	1.23E-01
50-32-8	Benzo(a)pyrene	8	19	22	2100	SB-56-02	828.9	ug/kg	NA	--	5.80E+03	1.43E-01
7440-47-3	Chromium Total	19	19	4.30	43.5	SB-146-04	28	mg/kg	1.20E+04	2.33E-03	2.10E+02	1.33E-01
127-18-4	Tetrachloroethene	19	19	150	53000	SB-144-04	20655	ug/kg	1.10E+06	1.88E-02	2.80E+06	7.38E-03
79-01-6	Trichloroethene	19	19	34	91000	SB-145-04	34226	ug/kg	5.10E+04	6.71E-01	1.70E+05	2.01E-01
									Cumulative Risk Ratio	7.00E-01	Cumulative Risk Ratio	6.19E-01
									Other chemical Cumulative Risk Ratio (see Table 5)	6.5E-02	Other chemical Cumulative Risk Ratio (see Table 5)	2.2E-01
									TOTAL	8E-01	TOTAL	8E-01

Notes:
mg/kg - milligram per kilogram
NA - Not Applicable
ug/kg - microgram per kilogram

Table 26
Cumulative Risk Evaluation - Commercial/Industrial Worker (95 UCL Subsurface Soil): N Area Exposure Unit
Former GM Delphi Harrison Thermal System Facility
Dayton, Ohio

CAS	Parameter	Range of Detections		Maximum Location	95UCL	Units	Commercial/Industrial Standard for Single Chemical (noncarcinogen)	Commercial/Industrial Noncarcinogenic Risk Ratio	Commercial/Industrial Standard for Single Chemical (carcinogens)	Commercial/Industrial Carcinogenic Risk Ratio
		Minimum	Maximum							
11097-69-1	Aroclor-1254	13	48000	SB-56-02	13980	ug/kg	2.90E+04	4.82E-01	2.00E+04	6.99E-01
7440-38-2	Arsenic	2	32.40	SB-43-02	7.71	mg/kg	1.20E+03	6.43E-03	7.70E+01	1.00E-01
50-32-8	Benzo(a)pyrene	79	3200	SB-43-02	557.7	ug/kg	NA	--	5.80E+03	9.62E-02
7440-47-3	Chromium Total	2.5	25.60	SB-146-04	11.09	mg/kg	1.20E+04	9.24E-04	2.10E+02	5.28E-02
							Cumulative Risk Ratio	4.89E-01	Cumulative Risk Ratio	9.50E-01
							Other chemical Cumulative Risk Ratio (see Table 6)	7.5E-02	Other chemical Cumulative Risk Ratio (see Table 6)	2.5E-01
							TOTAL	6E-01	TOTAL	1E+00

Notes:
mg/kg - milligram per kilogram
NA - Not Applicable
ug/kg - microgram per kilogram

Table 27
Cumulative Risk Evaluation - Construction Worker (95 UCL 0 to 12 ft bgs Soil Zone): N Area Exposure Unit
Former GM Delphi Harrison Thermal System Facility
Dayton, Ohio

CAS	Parameter	Frequency of Detection		Range of Detections		Maximum Location	95UCL	Units	Construction/Excavation Standard for Single Chemical (noncarcinogen)	Construction/Excavation Noncarcinogenic Risk Ratio	Construction/Excavation Standard for Single Chemical (carcinogens)	Construction/Excavation Carcinogenic Risk Ratio
		# Detected	# Samples	Minimum	Maximum							
11097-69-1	Aroclor-1254	39	57	8.10	48000	SB-56-02	20750	ug/kg	7.50E+04	2.77E-01	4.40E+05	4.72E-02
127-18-4	Tetrachloroethene	42	45	0.96	53000	SB-144-04	10046	ug/kg	3.80E+05	2.64E-02	2.50E+07	4.02E-04
79-01-6	Trichloroethene	39	45	0.46	91000	SB-145-04	32179	ug/kg	1.70E+04	**1.89E+00**	1.40E+06	2.30E-02
									95UCL Cumulative Risk Ratio	**2.20E+00**	95UCL Cumulative Risk Ratio	7.05E-02
									Other chemical Cumulative Risk Ratio (see Table 7)	2.2E-01	Other chemical Cumulative Risk Ratio (see Table 7)	1.1E-01
									TOTAL	2E+00	TOTAL	2E-01

Notes:
bgs - below ground surface
ft - feet
NA - Not Applicable
ug/kg - microgram per kilogram

Table 28
Cumulative Risk Evaluation - Commercial/Industrial Worker (95 UCL Surface Soil): P Area Exposure Unit
Former GM Delphi Harrison Thermal System Facility
Dayton, Ohio

CAS	Parameter	Frequency of Detection		Range of Detections		Maximum Location	95UCL	Units	Commercial/Industrial Standard for Single Chemical (noncarcinogen)	Commercial/Industrial Noncarcinogenic Risk Ratio	Commercial/Industrial Standard for Single Chemical (carcinogens)	Commercial/Industrial Carcinogenic Risk Ratio
		# Detected	# Samples	Minimum	Maximum							
11097-69-1	Aroclor-1254	5	12	246	3700	SB-149-04	1584	ug/kg	2.90E+04	5.46E-02	2.00E+04	7.92E-02
7440-38-2	Arsenic	11	11	3.20	16.5	SB-148-04	11.13	mg/kg	1.20E+03	9.28E-03	7.70E+01	1.45E-01
50-32-8	Benzo(a)pyrene	7	11	51	3500	MW-12-03	1438	ug/kg	NA	--	5.80E+03	2.48E-01
79-01-6	Trichloroethene	16	16	2	66000	MW-26-04	63947	ug/kg	5.10E+04	**1.25E+00**	1.70E+05	3.76E-01
									95UCL Cumulative Risk Ratio	**1.32E+00**	95UCL Cumulative Risk Ratio	8.48E-01
									Other chemical Cumulative Risk Ratio (see Table 8)	1.3E-01	Other chemical Cumulative Risk Ratio (see Table 8)	3.0E-01
									TOTAL	1E+00	TOTAL	1E+00

Notes:
mg/kg - milligram per kilogram
NA - Not Applicable
ug/kg - microgram per kilogram

Table 29
Cumulative Risk Evaluation - Commercial/Industrial Worker (95 UCL Subsurface Soil): P Area Exposure Unit
Former GM Delphi Harrison Thermal System Facility
Dayton, Ohio

CAS	Parameter	Frequency of Detection		Range of Detections		Maximum Location	95UCL	Units	Commercial/Industrial Standard for Single Chemical (noncarcinogen)	Commercial/Industrial Noncarcinogenic Risk Ratio	Commercial/Industrial Standard for Single Chemical (carcinogens)	Commercial/Industrial Carcinogenic Risk Ratio
		# Detected	# Samples	Minimum	Maximum							
79-01-6	Trichloroethene	25	26	0.91	100000	SB-73-03	46751	ug/kg	5.10E+04	9.17E-01	1.70E+05	2.75E-01
									95UCL Cumulative Risk Ratio	9.17E-01	95UCL Cumulative Risk Ratio	**2.75E-01**
									Other chemical Cumulative Risk Ratio (see Table 9)	1.9E-01	Other chemical Cumulative Risk Ratio (see Table 9)	5.0E-01
									TOTAL	1E+00	TOTAL	8E-01

Notes:
ug/kg - microgram per kilogram

Table 30
Cumulative Risk Evaluation - Construction Worker (95 UCL 0 to 12 ft bgs Soil Zone): P Area Exposure Unit
Former GM Delphi Harrison Thermal System Facility
Dayton, Ohio

CAS	Parameter	Frequency of Detection		Range of Detections		Maximum Location	95UCL	Units	Construction/Excavation Standard for Single Chemical (noncarcinogen)	Construction/Excavation Noncarcinogenic Risk Ratio	Construction/Excavation Standard for Single Chemical (carcinogens)	Construction/Excavation Carcinogenic Risk Ratio
		Detected	# Samples	Minimum	Maximum							
7440-50-8	Copper	26	26	1.5	5610	SB-73-03	1203	mg/kg	2.10E+04	5.73E-02	NA	--
127-18-4	Tetrachloroethene	37	41	1.70	49000	MW-26-04	12086	ug/kg	3.80E+05	3.18E-02	2.50E+07	4.83E-04
79-01-6	Trichloroethene	41	42	0.91	100000	SB-73-03	41728	ug/kg	1.70E+04	**2.45E+00**	1.40E+06	2.98E-02
									95UCL Cumulative Risk Ratio	**2.54E+00**	95UCL Cumulative Risk Ratio	3.03E-02
									Other chemical Cumulative Risk Ratio (see Table 10)	2.3E-01	Other chemical Cumulative Risk Ratio (see Table 10)	8.0E-02
									TOTAL	3E+00	TOTAL	1E-01

Notes:
mg/kg - milligram per kilogram
NA - Not Applicable
ug/kg - microgram per kilogram

Table 31
Cumulative Risk Evaluation - Commercial/Industrial Worker (95 UCL Surface Soil): Greenspace Area Exposure Unit
Former GM Delphi Harrison Thermal System Facility
Dayton, OH

CAS	Parameter	Frequency of Detection		Range of Detections		Maximum Location	95UCL	Units	Commercial/Industrial Standard for Single Chemical (noncarcinogen)	Commercial/Industrial Noncarcinogenic Risk Ratio	Commercial/Industrial Standard for Single Chemical (carcinogens)	Commercial/Industrial Carcinogenic Risk Ratio
		# Detected	# Samples	Minimum	Maximum							
11097-69-1	Aroclor-1254	11	27	4.5	6500	MW-23-04*	1485	ug/kg	2.90E+04	5.12E-02	2.00E+04	7.43E-02
7440-38-2	Arsenic	20	20	1.20	11.20	SB-34-02	6.504	mg/kg	1.20E+03	5.42E-03	7.70E+01	8.45E-02
7440-47-3	Chromium Total	20	20	1.70	26.90	SB-15-02	12.15	mg/kg	1.20E+04	1.01E-03	2.10E+02	5.79E-02
50-32-8	Benz(a)pryene	7	20	41	5400	SB-34-02	1125	ug/kg	NA	--	5.80E+03	1.94E-01
53-70-3	Dibenz(a,h)anthracene	5	20	26	780	SB-34-02	223.5	ug/kg	NA	--	5.80E+03	3.85E-02
79-01-6	Trichloroethene	18	25	1.20	44000	MW-24-04	23721	ug/kg	5.10E+04	4.65E-01	1.70E+05	1.40E-01
									Cumulative Risk Ratio	5.23E-01	Cumulative Risk Ratio	5.89E-01
									Other chemical Cumulative Risk Ratio (see Table 14)	4.1E-02	Other chemical Cumulative Risk Ratio (see Table 14)	2.6E-01
									TOTAL	6E-01	TOTAL	8E-01

Notes:
mg/kg - milligram per kilogram
NA - Not Applicable
ug/kg - microgram per kilogram
* average of duplicates

Table 32
Cumulative Risk Evaluation - Commercial/Industrial Worker (95 UCL Subsurface Soil): Greenspace Area Exposure Unit
Former GM Delphi Harrison Thermal System Facility
Dayton, OH

CAS	Parameter	Frequency of Detection		Range of Detections		Maximum Location	95UCL	Units	Commercial/Industrial Standard for Single Chemical (noncarcinogen)	Commercial/Industrial Noncarcinogenic Risk Ratio	Commercial/Industrial Standard for Single Chemical (carcinogens)	Commercial/Industrial Carcinogenic Risk Ratio
		# Detected	# Samples	Minimum	Maximum							
11097-69-1	Aroclor-1254	27	50	14	110000	MW-37-05	12360	ug/kg	2.90E+04	4.26E-01	2.00E+04	6.18E-01
7440-38-2	Arsenic	31	31	1.90	13	SB-14-02	5.537	mg/kg	1.20E+03	4.61E-03	7.70E+01	7.19E-02
7440-43-9	Cadmium	29	31	0.057	3340	SB-14-02	1528	mg/kg	2.60E+03	5.88E-01	1.30E+05	1.18E-02
7440-47-3	Chromium Total	31	31	3.40	123	SB-136-04	43.36	mg/kg	1.20E+04	3.61E-03	2.10E+02	2.06E-01
57-12-5	Cyanide (total)	8	29	0.10	50.5	SB-15-02	13.97	mg/kg	3.70E+02	3.78E-02	NA	--
79-01-6	Trichloroethene	32	39	0.54	26000	MW-23-04	10211	ug/kg	5.10E+04	2.00E-01	1.70E+05	6.01E-02
									Cumulative Risk Ratio	**1.26E+00**	Cumulative Risk Ratio	9.68E-01
									Other chemical Cumulative Risk Ratio (see Table 15)	9.3E-02	Other chemical Cumulative Risk Ratio (see Table 15)	1.4E-01
									TOTAL	1E+00	TOTAL	1E+00

CAS	Parameter	Frequency of Detection		Range of Detections		Maximum Location	95UCL	Units	Commercial/Industrial Standard for Single Chemical (noncarcinogen)	Commercial/Industrial Noncarcinogenic Risk Ratio	Commercial/Industrial Standard for Single Chemical (carcinogens)	Commercial/Industrial Carcinogenic Risk Ratio
		# Detected	# Samples	Minimum	Maximum							
	Diesel Range Organics (DRO)	2	2	31.20	31.2	TT-SB249	31.2	mg/kg	2.00E+03	--	NL	--

Notes:
mg/kg - milligram per kilogram
NA - Not Applicable
NL - Not Listed
ug/kg - microgram per kilogram

Table 33
Cumulative Risk Evaluation - Construction Worker (95 UCL 0 to 12 ft bgs Soil Zone): Greenspace Area Exposure Unit
Former GM Delphi Harrison Thermal System Facility
Dayton, OH

CAS	Parameter	Frequency of Detection		Range of Detections		Maximum Location	95UCL	Units	Construction/Excavation Standard for Single Chemical (noncarcinogen)	Construction/Excavation Noncarcinogenic Risk Ratio	Construction/Excavation Standard for Single Chemical (carcinogens)	Construction/Excavation Carcinogenic Risk Ratio
		# Detected	# Samples	Minimum	Maximum							
11097-69-1	Aroclor-1254	39	77	4.5	110000	MW-37-05	6077	ug/kg	7.50E+04	8.10E-02	4.40E+05	1.38E-02
7440-43-9	Cadmium	45	50	0.05	3340	SB-14-02	949.1	mg/kg	1.00E+03	9.49E-01	9.50E+04	9.99E-03
7440-47-3	Chromium Total	51	51	1.70	123	SB-136-04	30.46	mg/kg	1.90E+04	1.60E-03	1.20E+03	2.54E-02
57-12-5	Cyanide (total)	13	49	0.10	50.5	SB-15-02	6.4	mg/kg	1.50E+02	4.26E-02	NA	--
79-01-6	Trichloroethene	50	64	0.54	44000	MW-24-04	14903	ug/kg	1.70E+04	8.77E-01	1.40E+06	1.06E-02
									95UCL Cumulative Risk Ratio	**1.95E+00**	95UCL Cumulative Risk Ratio	5.98E-02
									Other chemical Cumulative Risk Ratio (see Table 16)	2.5E-01	Other chemical Cumulative Risk Ratio (see Table 16)	7.8E-02
									TOTAL	2E+00	TOTAL	1E-01

CAS	Parameter	Frequency of Detection		Range of Detections		Maximum Location	95UCL	Units	Construction/Excavation Standard for Single Chemical (noncarcinogen)	Construction/Excavation Noncarcinogenic Risk Ratio	Construction/Excavation Standard for Single Chemical (carcinogens)	Construction/Excavation Carcinogenic Risk Ratio
		# Detected	# Samples	Minimum	Maximum							
	Diesel Range Organics (DRO)	2	2	31.20	31.2	TT-SB249	31.2	mg/kg	2.00E+03	--	NL	--

Notes:
bgs - below ground surface
ft - feet
mg/kg - milligram per kilogram
NA - Not Applicable
NL - Not Listed
ug/kg - microgram per kilogram

Table 34
Summary of Groundwater Data, Upper Unit - Compared to Generic Unrestricted Potable Use Standard
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Parameter Name	Voluntary Action Program Generic Numerical Standards (Effective June 15, 2015)				Station Name	DAY-20	DAY-20	DAY-20	DAY-20	DAY-20	HD-16	HD-16	HD-18	HD-18	HD-18	HD-18	HD-18	HD-18	MW-12A-03
	Unrestricted Potable Use - Risk Based GW Cancer	Unrestricted Potable Use - Risk Based GW Non-Cancer	Unrestricted Potable Use - MCL	Unrestricted Potable Use - VAP UPUS	Sample Date	7/9/2002	4/7/2003	11/8/2004	11/10/2004	6/1/2006	7/9/2002	3/28/2003	7/16/2002	3/19/2003	11/16/2004	9/15/2006	8/27/2007	8/27/2007	4/15/2003
					Aquifer Code	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:TT	UA:TT	UA:TT	UA:TT	UA:TT	UA:TT	UA:TT	UA:TT	UA:WT
					Units														
VOCs																			
1,1,1,2-Tetrachloroethane	5	370	NA	5	ug/l	--	--	--	--	<1 U	--	--	--	--	--	--	--	--	--
1,1,1-Trichloroethane	NA	7500	200	200	ug/l	<1 U	<1 U	<1.4 U	<1 U	<1 U	<1 U	<1 U	**0.65 J**	**0.55 J**	<2 U	**0.21 J**	<1.4 U	<2 U	<1 U
1,1,2,2-Tetrachloroethane	0.66	280	NA	0.66	ug/l	<1 U	<1 U	<1.4 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1.3 U	<2 U	<1 U	<1.4 U	<2 U	<1 U
1,1,2-Trichloroethane	2.4	58.45	5	5	ug/l	<1 U	<1 U	<1.4 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1.3 U	<2 U	<1 U	<1.4 U	<2 U	<1 U
1,1-Dichloroethane	24	2900	NA	24	ug/l	<1 U	<1 U	<1.4 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1.3 U	<2 U	<1 UJ	<1.4 U	<2 U	**0.42 J**
1,1-Dichloroethene	NA	260	7	7	ug/l	<1 U	<1 U	<1.4 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1.3 U	<2 U	<1 U	<1.4 U	<2 U	<1 U
1,1-Dichloropropene	--	--	--	--	ug/l	--	--	--	--	<1 U	--	--	--	--	--	--	--	--	--
1,2,3-Trichlorobenzene	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichloropropane	0.0201	0.62	NA	0.0201	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene, VOC	9.9	3.9	70	70	ug/l	<1 U	<1 UJ	<1.4 U	<1 UJ	<5 U	<1 U	<1 U	<1 U	<1.3 U	<2 UJ	<1 U	<1.4 U	<2 U	<1 UJ
1,2,4-Trimethylbenzene	NA	15	NA	15	ug/l	--	--	--	--	<1 U	--	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane	0.008	0.36	0.2	0.2	ug/l	<2 U	<2 UJ	<2.9 U	<2 U	--	<2 U	<2 UJ	<2 U	<2.7 U	<4 U	<1 U	<1.4 U	<2 U	<2 U
1,2-Dibromoethane	0.065	16	0.05	0.05	ug/l	<1 U	<1 U	<1.4 U	<1 U	--	<1 U	<1 U	<1 U	<1.3 U	<2 U	<1 U	<1.4 U	<2 U	<1 U
1,2-Dichlorobenzene, VOC	NA	280	600	600	ug/l	<1 U	<1 U	<1.4 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1.3 U	<2 U	<1 U	<1.4 U	<2 U	<1 U
1,2-Dichloroethane	1.5	15	5	5	ug/l	<1 U	<1 U	<1.4 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1.3 U	<2 U	<1 U	<1.4 U	<2 U	<1 U
1,2-Dichloropropane	3.8	8.3	5	5	ug/l	<1 U	<1 U	<1.4 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1.3 U	<2 U	<1 U	<1.4 U	<2 U	<1 U
1,3,5-Trimethylbenzene	NA	87	NA	87	ug/l	--	--	--	--	<1 U	--	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene, VOC	--	--	--	--	ug/l	<1 U	<1 U	<1.4 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1.3 U	<2 U	<1 U	<1.4 U	<2 U	<1 U
1,3-Dichloropropane	NA	290	NA	290	ug/l	--	--	--	--	<1 U	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene, VOC	4.2	470	75	75	ug/l	<1 U	<1 U	<1.4 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1.3 U	<2 U	<1 U	<1.4 U	<2 U	<1 U
1,4-Dioxane	6.7	470	NA	6.7	ug/l	--	--	--	--	<20 U	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	--	--	--	--	ug/l	--	--	--	--	<1 U	--	--	--	--	--	--	--	--	--
2-Butanone	NA	4900	NA	4900	ug/l	<10 U	<10 U	<14 U	<10 U	<12.5 U	<10 U	<10 UJ	<10 U	<13 U	<20 UJ	<10 U	<14 U	<20 U	<10 UJ
2-Chloroethyl vinyl ether	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorotoluene	--	--	--	--	ug/l	--	--	--	--	<1 U	--	--	--	--	--	--	--	--	--
2-Hexanone	--	--	--	--	ug/l	<10 U	<10 UJ	<14 UJ	<10 UJ	<12.5 U	<10 U	<10 UJ	<10 U	<13 UJ	<20 UJ	<10 U	<14 U	<20 U	<10 UJ
2-Phenylbutane	NA	1600	NA	1600	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chlorotoluene	--	--	--	--	ug/l	--	--	--	--	<1 U	--	--	--	--	--	--	--	--	--
4-Methyl-2-Pentanone	NA	1000	NA	1000	ug/l	<10 U	<10 U	<14 U	<10 U	<12.5 U	<10 U	<10 UJ	<10 U	<13 U	<20 U	<10 U	<14 U	<20 U	<10 U
Acetone	NA	12000	NA	12000	ug/l	<10 U	<10 UJ	<14 U	<10 UJ	<20 U	<10 U	<10 UJ	<10 U	<13 UJ	<20 UJ	<10 U	<14 U	<20 U	<10 UJ
Acetonitrile	NA	130	NA	130	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acrolein	NA	0.041	NA	0.041	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acrylonitrile	0.45	4.1	NA	0.45	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Allyl chloride	6.3	2.1	NA	2.1	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzene	3.9	29	5	5	ug/l	<1 U	<1 U	<1.4 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1.3 U	<2 U	<1 U	<1.4 U	<2 U	<1 U
Bromobenzene	--	--	--	--	ug/l	--	--	--	--	<1 U	--	--	--	--	--	--	--	--	--
Bromochloromethane	--	--	--	--	ug/l	--	--	--	--	<1 U	--	--	--	--	--	--	--	--	--
Bromodichloromethane	1.2	290	80	80	ug/l	<1 U	<1 U	<1.4 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1.3 U	<2 U	<1 UJ	<1.4 UJ	<2 U	<1 U
Bromoform	79	290	80	80	ug/l	<1 U	<1 UJ	<1.4 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1.3 U	<2 U	<1 U	<1.4 U	<2 U	<1 U
Bromomethane	NA	7	NA	7	ug/l	<1 U	<1 U	<1.4 U	<1 U	<5 U	<1 U	<1 U	<1 U	<1.3 U	<2 U	<1 U	<1.4 U	<2 U	<1 U
Carbon disulfide	NA	720	NA	720	ug/l	<1 U	<1 U	<1.4 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1.3 U	<2 U	<1 U	<1.4 U	<2 U	<1 U
Carbon tetrachloride	3.9	40	5	5	ug/l	<1 U	<1 U	<1.4 U	<1 U	--	<1 U	<1 U	<1 U	<1.3 U	<2 U	<1 U	<1.4 U	<2 U	<1 U
Chlorobenzene	NA	72	100	100	ug/l	<1 U	<1 U	<1.4 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1.3 U	<2 U	<1 U	<1.4 U	<2 U	<1 U
Chlorobromomethane	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroethane	NA	21000	NA	21000	ug/l	<1 U	<1 U	<1.4 U	<1 U	<5 U	<1 U	<1 U	<1 U	<1.3 U	<2 U	<1 U	<1.4 U	<2 UJ	<1 U
Chloroform	1.9	84	80	80	ug/l	**1.3**	**1.3**	<1.4 U	**5.2**	**3.5**	**0.82 J**	**1.3**	<1 U	<1.7 U	**9.3**	**12**	**13**	**14**	<1 U
Chloromethane	NA	190	NA	190	ug/l	<1 U	<1 UJ	<1.4 U	<1 U	<5 U	<1 U	<1 U	<1 U	<1.3 U	<2 U	<1 U	<1.4 UJ	<2 UJ	<1 U

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Table 34
Summary of Groundwater Data, Upper Unit - Compared to Generic Unrestricted Potable Use Standard
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Parameter Name	Voluntary Action Program Generic Numerical Standards (Effective June 15, 2015)				Station Name	DAY-20	DAY-20	DAY-20	DAY-20	DAY-20	HD-16	HD-16	HD-18	HD-18	HD-18	HD-18	HD-18	HD-18	MW-12A-03
	Unrestricted Potable Use - Risk Based GW Cancer	Unrestricted Potable Use - Risk Based GW Non-Cancer	Unrestricted Potable Use - MCL	Unrestricted Potable Use - VAP UPUS	Sample Date	7/9/2002	4/7/2003	11/8/2004	11/10/2004	6/1/2006	7/9/2002	3/28/2003	7/16/2002	3/19/2003	11/16/2004	9/15/2006	8/27/2007	8/27/2007	4/15/2003
					Aquifer Code	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:TT	UA:TT	UA:TT	UA:TT	UA:TT	UA:TT	UA:TT	UA:TT	UA:WT
					Units														
cis-1,2-Dichloroethene	NA	28	70	70	ug/l	**1.1**	**0.69**	**3.1**	<1 U	<1 U	**1.2**	**0.69**	**5.8**	**3**	**0.97 J**	**0.99 J**	<1.4 U	<2 U	**1.7**
cis-1,3-Dichloropropene	--	--	--	--	ug/l	<1 U	<1 U	<1.4 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1.3 U	<2 U	<1 U	<1.4 UJ	<2 U	<1 U
Cyclohexane	NA	13000	NA	13000	ug/l	<1 U	<1 U	<1.4 U	<1 U	--	<1 U	<1 U	<1 U	<1.3 U	<2 U	<1 U	<1.4 U	<2 U	<1 U
Cymene	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	1.5	290	80	80	ug/l	<1 U	<1 UJ	<1.4 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1.3 U	<2 U	<1 U	<1.4 U	<2 U	<1 U
Dibromomethane	NA	150	NA	150	ug/l	--	--	--	--	<1 U	--	--	--	--	--	--	--	--	--
Dichlorodifluoromethane	NA	2800	NA	2800	ug/l	<1 U	<1 UJ	<1.4 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1.3 U	<2 U	<1 U	<1.4 U	<2 U	<1 U
Ethylbenzene	13	670	700	700	ug/l	<1 U	<1 U	<1.4 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1.3 U	<2 U	<1 UJ	<1.4 U	<2 U	<1 U
Hexachlorobutadiene, VOC	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexane	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Iodomethane	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isopropylbenzene, VOC	NA	390	NA	390	ug/l	<1 U	<1 U	<1.4 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1.3 U	<2 U	<1 U	<1.4 U	<2 U	**1.8**
m&p-Xylene	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl acetate	--	--	--	--	ug/l	<10 U	<10 U	<14 U	<10 U	--	<10 U	<10 U	<10 U	<13 U	<20 U	<10 U	<14 U	<20 U	<10 U
Methyl cyclohexane	--	--	--	--	ug/l	<1 U	<1 U	<1.4 U	<1 U	--	<1 U	<1 U	<1 U	<1.3 U	<2 U	<1 U	<1.4 U	<2 U	<1 U
Methyl tert butyl ether	120	6300	NA	120	ug/l	<5 U	<5 UJ	<7.2 U	<5 U	<5 U	<5 U	<5 U	<5 U	<6.6 U	<10 U	<5 U	<7.2 UJ	<10 U	<5 U
Methylene chloride	99	84	5	5	ug/l	<1 U	<1 U	<1.4 U	<1 U	<5 U	<1 U	<1 U	<1 U	<1.3 U	<2.3 U	<5 U	<7.2 U	<10 U	<1 U
Naphthalene, VOC	1.4	6.1	NA	1.4	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--	--
n-Butylbenzene	NA	780	NA	780	ug/l	--	--	--	--	<1 U	--	--	--	--	--	--	--	--	--
n-Hexane	NA	250	NA	250	ug/l	--	--	--	--	<5 U	--	--	--	--	--	--	--	--	--
n-Propylbenzene	NA	530	NA	530	ug/l	--	--	--	--	<1 U	--	--	--	--	--	--	--	--	--
o-Xylene	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pentachloroethane	5.6	NA	NA	5.6	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--	--
p-Isopropyltoluene	NA	170	NA	170	ug/l	--	--	--	--	<1 U	--	--	--	--	--	--	--	--	--
sec-Butylbenzene	--	--	--	--	ug/l	--	--	--	--	<1 U	--	--	--	--	--	--	--	--	--
Styrene	NA	1100	100	100	ug/l	<1 U	<1 U	<1.4 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1.3 U	<2 U	<1 U	<1.4 U	<2 U	<1 U
tert-Butylbenzene	NA	510	NA	510	ug/l	--	--	--	--	<1 U	--	--	--	--	--	--	--	--	--
Tetrachloroethene	97	35	5	5	ug/l	**1**	**1.1 J**	**48**	**0.87 J**	<1 U	**0.78 J**	**0.69 J**	**39**	**36**	**44**	**37 J**	**40**	**38**	<1 U
Toluene	NA	860	1000	1000	ug/l	<1 U	<1 U	<1.4 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1.3 U	<2 U	<1 U	<1.4 U	<2 U	<1 U
trans-1,2-Dichloroethene	NA	86	100	100	ug/l	<0.5 U	<0.5 U	<1.4 U	<1 U	<1 U	<0.5 U	<0.5 U	<0.5 U	<0.66 U	<2 U	<1 U	<1.4 U	<2 U	<0.5 U
trans-1,3-Dichloropropene	--	--	--	--	ug/l	<1 U	<1 U	<1.4 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1.3 U	<2 U	<1 U	<1.4 UJ	<2 UJ	<1 U
Trichloroethene	NA	NA	5	5	ug/l	**17**	**17**	**20**	**8.2**	**9.3**	**21**	**15**	**15**	**17**	**10**	**12**	**6.1**	**6.2**	**0.54 J**
Trichlorofluoromethane	NA	1100	NA	1100	ug/l	<1 U	<1 U	<1.4 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1.3 U	<2 U	<1 U	<1.4 U	<2 U	<1 U
Trifluorotrichloroethane	--	--	--	--	ug/l	<1 U	<1 U	<1.4 U	<1 U	--	<1 U	<1 U	<1 U	<1.3 U	<2 U	<1 U	<1.4 U	<2 U	<1 U
Vinyl acetate	NA	410	NA	410	ug/l	--	--	--	--	<5 U	--	--	--	--	--	--	--	--	--
Vinyl chloride	NA	NA	2	2	ug/l	<1 U	<1 U	<1.4 U	<1 U	<1 U	<1 U	<1 U	<1 U	<1.3 U	<2 U	<1 U	<1.4 U	<2 U	**0.78 J**
Xylene (Total)	NA	190	10000	10000	ug/l	<1 U	<1 U	<2.9 U	<2 U	<2 U	<1 U	<1 U	<1 U	<1.3 U	<4 U	<2 UJ	<2.9 U	<4 U	<1 U
SVOCs																			
1,2,4,5-Tetrachlorobenzene	NA	1.2	NA	1.2	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene, SVOC	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene, SVOC	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Diphenylhydrazine	0.67	NA	NA	0.67	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene, SVOC	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene, SVOC	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1-Naphthylamine	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,2'-oxybis(1-Chloropropane)	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,2'-oxybis(2-Chloropropane), SVOC	--	--	--	--	ug/l	<10 U	<10 U	--	--	--	<10 U	<10 U	<10 U	<10 U	--	--	--	--	<10 U
2,3,4,6-Tetrachlorophenol	NA	170	NA	170	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--	--

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Table 34
Summary of Groundwater Data, Upper Unit - Compared to Generic Unrestricted Potable Use Standard
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

	Voluntary Action Program Generic Numerical Standards (Effective June 15, 2015)				Station Name	DAY-20	DAY-20	DAY-20	DAY-20	DAY-20	HD-16	HD-16	HD-18	HD-18	HD-18	HD-18	HD-18	HD-18	MW-12A-03
	Unrestricted Potable Use - Risk Based GW Cancer	Unrestricted Potable Use - Risk Based GW Non-Cancer	Unrestricted Potable Use - MCL	Unrestricted Potable Use - VAP UPUS	Sample Date	7/9/2002	4/7/2003	11/8/2004	11/10/2004	6/1/2006	7/9/2002	3/28/2003	7/16/2002	3/19/2003	11/16/2004	9/15/2006	8/27/2007	8/27/2007	4/15/2003
					Aquifer Code	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:TT	UA:TT	UA:TT	UA:TT	UA:TT	UA:TT	UA:TT	UA:TT	UA:WT
Parameter Name					Units														
2,4,5-Trichlorophenol	NA	890	NA	890	ug/l	<10 U	<10 U	--	--	--	<10 U	<10 U	<10 U	<10 U	--	--	--	--	<10 U
2,4,6-Trichlorophenol	35	9	NA	9	ug/l	<10 U	<10 U	--	--	--	<10 U	<10 U	<10 U	<10 U	--	--	--	--	<10 U
2,4-Dichlorophenol	NA	35	NA	35	ug/l	<10 U	<10 U	--	--	--	<10 U	<10 U	<10 U	<10 U	--	--	--	--	<10 U
2,4-Dimethylphenol	NA	270	NA	270	ug/l	<10 U	<10 U	--	--	--	<10 U	<10 U	<10 U	<10 U	--	--	--	--	<10 U
2,4-Dinitrophenol	NA	30	NA	30	ug/l	<50 U	<50 UJ	--	--	--	<50 U	<50 U	<50 U	<50 U	--	--	--	--	<50 U
2,4-Dinitrotoluene	2	30	NA	2	ug/l	<10 U	<10 U	--	--	--	<10 U	<10 U	<10 U	<10 U	--	--	--	--	<10 U
2,6-Dichlorophenol	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	0.42	NA	NA	0.42	ug/l	<10 U	<10 U	--	--	--	<10 U	<10 U	<10 U	<10 U	--	--	--	--	<10 U
2-Chloronaphthalene	NA	550	NA	550	ug/l	<10 U	<10 U	--	--	--	<10 U	<10 U	<10 U	<10 U	--	--	--	--	<10 U
2-Chlorophenol	NA	71	NA	71	ug/l	<10 U	<10 U	--	--	--	<10 U	<10 U	<10 U	<10 U	--	--	--	--	<10 U
2-Methylnaphthalene	NA	27	NA	27	ug/l	<10 U	<10 U	--	--	--	<10 U	<10 U	<10 U	<10 U	--	--	--	--	<10 U
2-Methylphenol	NA	720	NA	720	ug/l	<10 U	<10 U	--	--	--	<10 U	<10 U	<10 U	<10 U	--	--	--	--	<10 U
2-Naphthylamine	0.33	NA	NA	0.33	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitroaniline	--	--	--	--	ug/l	<50 U	<50 U	--	--	--	<50 U	<50 UJ	<50 U	<50 U	--	--	--	--	<50 U
2-Nitrophenol	--	--	--	--	ug/l	<10 U	<10 U	--	--	--	<10 U	<10 U	<10 U	<10 U	--	--	--	--	<10 U
2-Picoline	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Toluidine	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3&4-Methylphenol	NA	720	NA	720	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	1.1	NA	NA	1.1	ug/l	<50 U	<50 U	--	--	--	<50 U	<50 U	<50 U	<50 U	--	--	--	--	<50 U
3-Methylcholanthrene	0.031	NA	NA	0.031	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3-Nitroaniline	--	--	--	--	ug/l	<50 U	<50 U	--	--	--	<50 U	<50 U	<50 U	<50 U	--	--	--	--	<50 U
4,6-Dinitro-2-methylphenol	--	--	--	--	ug/l	<50 U	<50 UJ	--	--	--	<50 U	<50 U	<50 U	<50 UJ	--	--	--	--	<50 U
4-Aminobiphenyl	0.026	NA	NA	0.026	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	--	--	--	--	ug/l	<10 U	<10 U	--	--	--	<10 U	<10 U	<10 U	<10 U	--	--	--	--	<10 U
4-Chloro-3-methylphenol	NA	1100	NA	1100	ug/l	<10 U	<10 U	--	--	--	<10 U	<10 U	<10 U	<10 U	--	--	--	--	<10 U
4-Chloroaniline	3.2	59	NA	3.2	ug/l	<10 U	<10 U	--	--	--	<10 U	<10 U	<10 U	<10 U	--	--	--	--	<10 U
4-Chlorophenyl phenyl ether	--	--	--	--	ug/l	<10 U	<10 U	--	--	--	<10 U	<10 U	<10 U	<10 U	--	--	--	--	<10 U
4-Dimethylaminoazobenzene	0.043	NA	NA	0.043	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Methylphenol	NA	1400	NA	1400	ug/l	<10 U	<10 U	--	--	--	<10 U	<10 U	<10 U	<10 U	--	--	--	--	<10 U
4-Nitroaniline	33	61	NA	33	ug/l	<50 U	<50 U	--	--	--	<50 U	<50 UJ	<50 U	<50 U	--	--	--	--	<50 U
4-Nitrophenol	--	--	--	--	ug/l	<50 U	<50 U	--	--	--	<50 U	<50 UJ	<50 U	<50 U	--	--	--	--	<50 U
5-Nitro-2-Toluidine	70	NA	NA	70	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--	--
7,12-Dimethylbenz(a)anthracene	0.0027	NA	NA	0.0027	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthene	NA	400	NA	400	ug/l	<10 U	<10 U	--	--	--	<10 U	<10 U	<10 U	<10 U	--	--	--	--	<10 U
Acenaphthylene	NA	390	NA	390	ug/l	<10 U	<10 U	--	--	--	<10 U	<10 U	<10 U	<10 U	--	--	--	--	<10 U
Acetophenone	NA	1500	NA	1500	ug/l	<10 U	<10 U	--	--	--	<10 U	<10 U	<10 U	<10 U	--	--	--	--	<10 U
Aniline	120	110	NA	110	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Anthracene	NA	1300	NA	1300	ug/l	<10 U	<10 U	--	--	--	<10 U	<10 U	<10 U	<10 U	--	--	--	--	<10 U
Atrazine	--	--	--	--	ug/l	<10 U	<10 U	--	--	--	<10 U	<10 U	<10 U	<10 U	--	--	--	--	<10 U
Benzaldehyde	--	--	--	--	ug/l	<10 U	<10 U	--	--	--	<10 U	<10 U	<10 U	<10 U	--	--	--	--	<10 U
Benzidine	0.0029	46	NA	0.0029	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo(a)anthracene	0.92	NA	NA	0.92	ug/l	<10 U	<10 U	--	--	--	<10 U	<10 U	<10 U	<10 U	--	--	--	--	<10 U
Benzo(a)pyrene	0.092	NA	0.2	0.2	ug/l	<10 U	<10 U	--	--	--	<10 U	<10 U	<10 U	<10 U	--	--	--	--	<10 U
Benzo(b)fluoranthene	0.92	NA	NA	0.92	ug/l	<10 U	<10 U	--	--	--	<10 U	<10 U	<10 U	<10 U	--	--	--	--	<10 U
Benzo(g,h,i)perylene	NA	470	NA	470	ug/l	<10 U	<10 U	--	--	--	<10 U	<10 U	<10 U	<10 UJ	--	--	--	--	<10 U
Benzo(k)fluoranthene	9.2	NA	NA	9.2	ug/l	<10 U	<10 U	--	--	--	<10 U	<10 U	<10 U	<10 U	--	--	--	--	<10 U
Benzoic acid	NA	58000	NA	58000	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzyl alcohol	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--	--

*See notes on Page 37 of 37

Table 34
Summary of Groundwater Data, Upper Unit - Compared to Generic Unrestricted Potable Use Standard
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

	Voluntary Action Program Generic Numerical Standards (Effective June 15, 2015)				Station Name	DAY-20	DAY-20	DAY-20	DAY-20	DAY-20	HD-16	HD-16	HD-18	HD-18	HD-18	HD-18	HD-18	HD-18	MW-12A-03
	Unrestricted Potable Use - Risk Based GW Cancer	Unrestricted Potable Use - Risk Based GW Non-Cancer	Unrestricted Potable Use - MCL	Unrestricted Potable Use - VAP UPUS	Sample Date	7/9/2002	4/7/2003	11/8/2004	11/10/2004	6/1/2006	7/9/2002	3/28/2003	7/16/2002	3/19/2003	11/16/2004	9/15/2006	8/27/2007	8/27/2007	4/15/2003
					Aquifer Code	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:TT	UA:TT	UA:TT	UA:TT	UA:TT	UA:TT	UA:TT	UA:TT	UA:WT
Parameter Name					Units														
Biphenyl	33	3100	NA	33	ug/l	<10 U	<10 U	--	--	--	<10 U	<10 U	<10 U	<10 U	--	--	--	--	<10 U
bis(2-Chloroethoxy)methane	NA	46	NA	46	ug/l	<10 U	<10 U	--	--	--	<10 U	<10 U	<10 U	<10 U	--	--	--	--	<10 U
bis(2-Chloroethyl)ether	0.12	NA	NA	0.12	ug/l	<10 U	<10 U	--	--	--	<10 U	<10 U	<10 U	<10 U	--	--	--	--	<10 U
bis(2-Ethylhexyl)phthalate	48	310	6	6	ug/l	<10 U	<10 U	--	--	--	<10 U	<10 U	**4.7 J**	<10 U	--	--	--	--	<10 U
Butyl benzylphthalate	--	--	--	--	ug/l	<10 U	<10 U	--	--	--	<10 U	<10 U	<10 UJ	<10 U	--	--	--	--	<10 U
Caprolactam	--	--	--	--	ug/l	<10 U	**58**	--	--	--	<10 U	<10 U	<10 U	<10 U	--	--	--	--	**34**
Carbazole	17	NA	NA	17	ug/l	<10 U	<10 U	--	--	--	<10 U	<10 U	<10 U	<10 U	--	--	--	--	<10 U
Chrysene	92	NA	NA	92	ug/l	<10 U	<10 U	--	--	--	<10 U	<10 U	<10 U	<10 U	--	--	--	--	<10 U
Dibenz(a,h)anthracene	0.092	NA	NA	0.092	ug/l	<10 U	<10 U	--	--	--	<10 U	<10 U	<10 U	<10 UJ	--	--	--	--	<10 U
Dibenzofuran	NA	5.8	NA	5.8	ug/l	<10 U	<10 U	--	--	--	<10 U	<10 U	<10 U	<10 U	--	--	--	--	<10 U
Diethyl phthalate	NA	11000	NA	11000	ug/l	<10 U	<10 U	--	--	--	<10 U	<10 U	<10 U	<10 U	--	--	--	--	**0.78 J**
Dimethyl phthalate	NA	12000	NA	12000	ug/l	<10 U	<10 U	--	--	--	<10 U	<10 U	<10 U	<10 U	--	--	--	--	<10 U
Di-n-butylphthalate	NA	670	NA	670	ug/l	<10 U	<10 U	--	--	--	<10 U	<10 U	<10 U	<10 U	--	--	--	--	<10 U
Di-N-Octyl phthalate	NA	160	NA	160	ug/l	<10 U	<10 U	--	--	--	<10 U	<10 U	<10 U	<10 U	--	--	--	--	<10 U
Ethyl methanesulfonate	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Fluoranthene	NA	630	NA	630	ug/l	<10 U	<10 U	--	--	--	<10 U	<10 U	<10 U	<10 U	--	--	--	--	<10 U
Fluorene	NA	220	NA	220	ug/l	<10 U	<10 U	--	--	--	<10 U	<10 U	<10 U	<10 U	--	--	--	--	<10 U
Hexachlorobenzene	0.42	13	1	1	ug/l	<10 U	<10 U	--	--	--	<10 U	<10 U	<10 U	<10 U	--	--	--	--	<10 U
Hexachlorobutadiene	--	--	--	--	ug/l	--	--	--	--	<5 U	--	--	--	--	--	--	--	--	--
Hexachlorobutadiene, SVOC	--	--	--	--	ug/l	<10 U	<10 U	--	--	--	<10 U	<10 U	<10 U	<10 U	--	--	--	--	<10 U
Hexachlorocyclopentadiene	NA	22	50	50	ug/l	<50 U	<50 U	--	--	--	<50 U	<50 U	<50 U	<50 U	--	--	--	--	<50 U
Hexachloroethane	7.9	5.1	NA	5.1	ug/l	<10 U	<10 U	--	--	--	<10 U	<10 U	<10 U	<10 U	--	--	--	--	<10 U
Indeno(1,2,3-cd)pyrene	0.92	NA	NA	0.92	ug/l	<10 U	<10 U	--	--	--	<10 U	<10 U	<10 U	<10 UJ	--	--	--	--	<10 U
Isophorone	670	3000	NA	670	ug/l	<10 U	<10 U	--	--	--	<10 U	<10 U	<10 U	<10 U	--	--	--	--	<10 U
Methyl methanesulfonate	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Naphthalene, SVOC	--	--	--	--	ug/l	<10 U	<10 U	--	--	--	<10 U	<10 U	<10 U	<10 U	--	--	--	--	<10 U
Nitrobenzene	1.2	11	NA	1.2	ug/l	<10 U	<10 U	--	--	--	<10 U	<10 U	<10 U	<10 U	--	--	--	--	<10 U
N-Nitrosodimethylamine	0.013	0.12	NA	0.013	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-Nitrosodi-N-butylamine	0.024	NA	NA	0.024	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	0.093	NA	NA	0.093	ug/l	<10 U	<10 U	--	--	--	<10 U	<10 U	<10 U	<10 U	--	--	--	--	<10 U
N-Nitrosodiphenylamine	100	NA	NA	100	ug/l	<10 U	<10 U	--	--	--	<10 U	<10 U	<10 U	<10 U	--	--	--	--	<10 U
N-Nitrosopiperidine	0.07	NA	NA	0.07	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pentachlorobenzene	NA	2.3	NA	2.3	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pentachloronitrobenzene	1	19	NA	1	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pentachlorophenol	0.35	16	1	1	ug/l	<10 U	<10 U	--	--	--	<10 U	<10 U	<10 U	<10 U	--	--	--	--	<10 U
Phenacetin	300	NA	NA	300	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Phenanthrene	NA	3400	NA	3400	ug/l	<10 U	<10 U	--	--	--	<10 U	<10 U	<10 U	<10 U	--	--	--	--	<10 U
Phenol	NA	4500	NA	4500	ug/l	<10 U	<10 U	--	--	--	<10 U	<10 U	<10 U	<10 U	--	--	--	--	<10 U
Pronamide	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pyrene, SVOC	--	--	--	--	ug/l	<10 U	<10 U	--	--	--	<10 U	<10 U	<10 UJ	<10 UJ	--	--	--	--	<10 U
Pyridine	NA	15	NA	15	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PCBs																			
Aroclor-1016	9.6	1.1	NA	1.1	ug/l	<0.2 U	<0.2 U	<0.2 U	<0.2 U	<0.2 U	<0.2 U	<0.2 U	<0.2 U	<0.2 U	<0.2 UJ	--	--	--	<0.2 U
Aroclor-1016, Dissolved	--	--	--	--	ug/l	--	--	--	--	--	<0.2 U	<0.2 U	<0.2 U	<0.2 U	--	--	--	--	--
Aroclor-1221	0.041	NA	NA	0.041	ug/l	<0.2 U	<0.2 U	<0.2 U	<0.2 U	<0.2 U	<0.2 U	<0.2 U	<0.2 U	<0.2 U	<0.2 U	--	--	--	<0.2 U
Aroclor-1221, Dissolved	--	--	--	--	ug/l	--	--	--	--	--	<0.2 U	<0.2 U	<0.2 U	<0.2 U	--	--	--	--	--
Aroclor-1232	0.041	NA	NA	0.041	ug/l	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.2 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	--	--	--	<0.4 U
Aroclor-1232, Dissolved	--	--	--	--	ug/l	--	--	--	--	--	<0.4 U	<0.4 U	<0.4 U	<0.4 U	--	--	--	--	--

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Table 34
Summary of Groundwater Data, Upper Unit - Compared to Generic Unrestricted Potable Use Standard
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Parameter Name	Voluntary Action Program Generic Numerical Standards (Effective June 15, 2015)				Station Name	DAY-20	DAY-20	DAY-20	DAY-20	DAY-20	HD-16	HD-16	HD-18	HD-18	HD-18	HD-18	HD-18	HD-18	MW-12A-03
	Unrestricted Potable Use - Risk Based GW Cancer	Unrestricted Potable Use - Risk Based GW Non-Cancer	Unrestricted Potable Use - MCL	Unrestricted Potable Use - VAP UPUS	Sample Date	7/9/2002	4/7/2003	11/8/2004	11/10/2004	6/1/2006	7/9/2002	3/28/2003	7/16/2002	3/19/2003	11/16/2004	9/15/2006	8/27/2007	8/27/2007	4/15/2003
					Aquifer Code	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:TT	UA:TT	UA:TT	UA:TT	UA:TT	UA:TT	UA:TT	UA:TT	UA:WT
					Units														
Aroclor-1242	0.34	NA	NA	0.34	ug/l	<0.2 U	<0.2 U	<0.2 U	<0.2 U	<0.2 U	<0.2 U	<0.2 U	<0.2 U	<0.2 U	<0.2 U	--	--	--	<0.2 U
Aroclor-1242, Dissolved	--	--	--	--	ug/l	--	--	--	--	--	<0.2 U	<0.2 U	<0.2 U	<0.2 U	--	--	--	--	--
Aroclor-1248	0.34	NA	NA	0.34	ug/l	<0.2 U	**0.13 J**	<0.2 U	<0.2 U	<0.2 U	<0.2 U	<0.2 U	<0.2 U	<0.2 U	<0.2 U	--	--	--	<0.2 U
Aroclor-1248, Dissolved	--	--	--	--	ug/l	--	--	--	--	--	<0.2 U	<0.2 U	<0.2 U	<0.2 U	--	--	--	--	--
Aroclor-1254	0.34	0.31	NA	0.31	ug/l	<0.2 U	<0.2 U	<0.2 U	<0.2 U	<0.2 U	<0.2 U	<0.2 U	<0.2 U	<0.2 U	<0.2 U	--	--	--	**1.2**
Aroclor-1254, Dissolved	--	--	--	--	ug/l	--	--	--	--	--	<0.2 U	<0.2 U	<0.2 U	<0.2 U	--	--	--	--	--
Aroclor-1260	0.34	NA	NA	0.34	ug/l	<0.2 U	<0.2 U	<0.2 U	<0.2 U	<0.2 U	<0.2 U	<0.2 U	<0.2 U	<0.2 U	<0.2 U	--	--	--	<0.2 U
Aroclor-1260, Dissolved	--	--	--	--	ug/l	--	--	--	--	--	<0.2 U	<0.2 U	<0.2 U	<0.2 U	--	--	--	--	--
Total PCBs	NA	NA	0.5	0.5	ug/l	<0.4 U	**0.13 J**	<0.4 U	<0.4 U	<0.2 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U				**1.2**
Total PCBs, Dissolved	NA	NA	0.5	0.5	ug/l	--	--	--	--	--	<0.4 U	<0.4 U	<0.4 U	<0.4 U	--	--	--	--	--
Metals																			
Aluminum	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Antimony	1E+07	0.006	0.006	0.006	mg/l	<0.002 U	<0.002 U	--	--	<0.001 U	<0.002 U	<0.002 U	<0.002 U	<0.002 U	--	--	--	--	<0.002 U
Antimony, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	<0.002 U	<0.002 U	<0.002 U	<0.002 U	--	--	--	--	--
Arsenic	0.00045	0.0047	0.01	0.01	mg/l	<0.01 U	<0.01 U	--	--	<0.005 U	**0.0038 J**	<0.01 U	<0.01 U	**0.0027 J**	--	--	--	--	**0.0031 J**
Arsenic, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	<0.01 U	<0.01 U	<0.01 U	**0.0027 J**	--	--	--	--	--
Barium	--	2.9	2	2	mg/l	**0.12 J**	**0.12 J**	--	--	--	**0.15 J**	**0.12 J**	**0.11 J**	**0.11 J**	--	--	--	--	**0.61**
Barium, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	**0.14 J**	**0.12 J**	**0.1 J**	**0.11 J**	--	--	--	--	--
Beryllium	--	0.016	0.004	0.004	mg/l	<0.001 U	<0.001 U	--	--	<0.001 U	<0.001 U	<0.001 U	<0.001 U	<0.001 U	--	--	--	--	<0.001 U
Beryllium, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	<0.001 U	<0.001 U	<0.001 U	<0.001 U	--	--	--	--	--
Cadmium	--	--	0.005	0.005	mg/l	<0.005 U	<0.005 U	--	--	<0.001 U	<0.005 U	<0.005 U	**0.0004 J**	<0.005 U	--	--	--	--	<0.005 U
Cadmium, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	<0.005 U	<0.005 U	**0.00031 J**	<0.005 U	--	--	--	--	--
Calcium	--	--	--	--	mg/l	--	--	--	--	--	**90.1**	--	**41.9**	--	--	--	--	--	--
Calcium, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	**88.6**	--	**37.7**	--	--	--	--	--	--
Chromium Total	--	--	0.1	0.1	mg/l	**0.0027 J**	<0.01 U	--	--	<0.002 U	**0.0025 J**	<0.01 U	<0.01 U	<0.01 U	--	--	--	--	<0.01 U
Chromium Total, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	**0.002 J**	<0.01 U	<0.01 U	<0.01 U	--	--	--	--	--
Cobalt	--	0.0047	--	0.0047	mg/l	<0.05 U	<0.05 U	--	--	--	<0.05 U	<0.05 U	<0.05 U	<0.05 U	--	--	--	--	<0.05 U
Cobalt, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	<0.05 U	<0.05 U	<0.05 U	<0.05 U	--	--	--	--	--
Copper	--	0.62	1.3	1.3	mg/l	<0.025 U	<0.025 U	--	--	<0.005 U	**0.031**	<0.025 U	<0.025 U	**0.0023 J**	--	--	--	--	<0.025 U
Copper, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	<0.025 U	<0.025 U	<0.025 U	<0.025 U	--	--	--	--	--
Cyanide (total)	--	--	0.2	0.2	mg/l	<0.01 U	<0.01 U	--	--	--	<0.01 U	<0.01 U	<0.01 U	<0.01 U	--	--	--	--	<0.01 U
Iron	--	--	--	--	mg/l	--	--	--	--	--	**0.17**	--	**0.12**	--	--	--	--	--	--
Iron, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	**0.071 J**	--	<0.1 U	--	--	--	--	--	--
Lead	--	--	0.015	0.015	mg/l	<0.003 U	<0.003 U	--	--	<0.001 U	<0.003 U	<0.003 U	<0.003 U	<0.003 U	--	--	--	--	<0.003 U
Lead, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	<0.003 U	<0.003 U	<0.003 U	<0.003 U	--	--	--	--	--
Magnesium	--	--	--	--	mg/l	--	--	--	--	--	**37.4**	--	**27.3**	--	--	--	--	--	--
Magnesium, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	**36.7**	--	**24.7**	--	--	--	--	--	--
Manganese	--	--	--	--	mg/l	**0.0079 J**	**0.027**	**0.3**	--	--	<0.015 U	<0.015 U	**0.036**	**0.022**	**0.0059 B**	--	--	--	**0.46**
Manganese, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	<0.015 U	<0.015 U	**0.034**	**0.018**	--	--	--	--	--
Mercury	--	0.00045	0.002	0.002	mg/l	<0.0002 U	<0.0002 U	--	--	<0.0002 U	<0.0002 U	<0.0002 U	<0.0002 U	<0.0002 U	--	--	--	--	<0.0002 U
Mercury, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	<0.0002 U	<0.0002 U	<0.0002 U	<0.0002 U	--	--	--	--	--
Nickel	--	0.3	--	0.3	mg/l	<0.04 U	<0.04 U	--	--	<0.005 U	<0.04 U	<0.04 U	<0.04 U	<0.04 U	--	--	--	--	<0.04 U
Nickel, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	<0.04 U	<0.04 U	<0.04 U	<0.04 U	--	--	--	--	--
Potassium	--	--	--	--	mg/l	--	--	--	--	--	**5.2**	--	**2.7 J**	--	--	--	--	--	--
Potassium, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	**5.1**	--	**2.5 J**	--	--	--	--	--	--
Selenium	--	0.078	0.05	0.05	mg/l	<0.005 U	<0.005 U	--	--	<0.005 U	<0.005 U	<0.005 U	<0.005 U	<0.005 U	--	--	--	--	<0.005 U
Selenium, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	<0.005 U	<0.005 U	<0.005 U	<0.005 U	--	--	--	--	--
Silver	--	0.071	--	0.071	mg/l	<0.01 U	<0.01 U	--	--	<0.0005 U	<0.01 U	<0.01 U	<0.01 U	<0.01 U	--	--	--	--	<0.01 U

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Table 34
Summary of Groundwater Data, Upper Unit - Compared to Generic Unrestricted Potable Use Standard
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Parameter Name	Voluntary Action Program Generic Numerical Standards (Effective June 15, 2015)				Station Name	DAY-20	DAY-20	DAY-20	DAY-20	DAY-20	HD-16	HD-16	HD-18	HD-18	HD-18	HD-18	HD-18	HD-18	MW-12A-03
	Unrestricted Potable Use - Risk Based GW Cancer	Unrestricted Potable Use - Risk Based GW Non-Cancer	Unrestricted Potable Use - MCL	Unrestricted Potable Use - VAP UPUS	Sample Date	7/9/2002	4/7/2003	11/8/2004	11/10/2004	6/1/2006	7/9/2002	3/28/2003	7/16/2002	3/19/2003	11/16/2004	9/15/2006	8/27/2007	8/27/2007	4/15/2003
					Aquifer Code	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:TT	UA:TT	UA:TT	UA:TT	UA:TT	UA:TT	UA:TT	UA:TT	UA:WT
					Units														
Silver, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	<0.01 U	<0.01 U	<0.01 U	<0.01 U	--	--	--	--	--
Sodium	--	--	--	--	mg/l	--	--	--	--	--	**89.4**	--	**37**	--	--	--	--	--	--
Sodium, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	**87.6**	--	**34.8**	--	--	--	--	--	--
Thallium	--	--	0.002	0.002	mg/l	<0.001 U	<0.001 U	--	--	<0.001 U	<0.001 U	<0.001 U	<0.001 U	<0.001 U	--	--	--	--	<0.001 U
Thallium, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	<0.001 U	<0.001 U	<0.001 U	<0.001 U	--	--	--	--	--
Vanadium	--	0.063	--	0.063	mg/l	<0.05 U	<0.05 U	--	--	--	<0.05 U	<0.05 U	<0.05 U	<0.05 U	--	--	--	--	<0.05 U
Vanadium, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	<0.05 U	<0.05 U	<0.05 U	<0.05 U	--	--	--	--	--
Zinc	--	4.7	--	4.7	mg/l	<0.02 U	<0.02 U	--	--	<0.05 U	<0.02 U	<0.02 U	<0.02 U	<0.02 U	--	--	--	--	**0.017 J**
Zinc, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	<0.02 U	<0.02 U	<0.02 U	<0.02 U	--	--	--	--	--
MISCELLANEOUS																			
Conductivity Field	--	--	--	--	ms/cm	--	--	--	--	--	--	--	--	--	--	**0.593**	--	--	--
Conductivity Field	--	--	--	--	umhos/cm	--	--	--	--	--	--	--	--	--	--	--	**0.32**	--	--
Dissolved Oxygen, Field	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	**3.15**	**2.37**	--	--
ORP, Field	--	--	--	--	millivolts	--	--	--	--	--	--	--	--	--	--	--	**234**	--	--
Outside Temperature	--	--	--	--	Deg F	--	--	--	--	--	--	--	--	--	--	--	--	--	--
pH Field	--	--	--	--	s.u.	--	--	--	--	--	--	--	--	--	--	**8.14**	**7.38**	--	--
Temp Air	--	--	--	--	Deg F	--	--	--	--	--	--	--	--	--	--	**70**	--	--	--
Temperature	--	--	--	--	Deg C	--	--	--	--	--	--	--	--	--	--	**16.42**	**17.19**	--	--
Turbidity (Field)	--	--	--	--	NTUs	--	--	--	--	--	--	--	--	--	--	**69.7**	**18.4**	--	--
Ethane	--	--	--	--	ug/l	--	--	--	--	--	<0.5 U	<0.5 U	<0.5 U	<0.5 U	--	--	--	--	--
Ethene	--	--	--	--	ug/l	--	--	--	--	--	<0.5 U	<0.5 U	<0.5 U	<0.5 U	--	--	--	--	--
Methane	--	--	--	--	ug/l	--	--	--	--	--	<0.5 U	<0.5 U	<0.5 U	<0.5 U	--	--	--	--	--
Alkalinity, Bicarbonate	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Alkalinity, Carbonate	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Alkalinity, Total (As CaCO3)	--	--	--	--	ug/l	--	--	--	--	--	**310000**	**220000**	**140000**	**120000**	--	--	--	--	--
Chloride	--	--	--	--	ug/l	--	--	--	--	--	**150000**	**151000**	**59800**	**59200**	--	--	--	--	--
Dissolved Organic Carbon	--	--	--	--	ug/l	--	--	--	--	--	**900 J**	**700 J**	**800 J**	**1000**	--	--	--	--	--
Hardness	--	--	--	--	ug/l	--	--	--	--	--	**379000**	--	**217000**	--	--	--	--	--	--
Nitrate (as N)	--	--	--	--	ug/l	--	--	--	--	--	**2000**	**1600**	**930**	**1300**	--	--	--	--	--
Nitrite (as N)	--	--	--	--	ug/l	--	--	--	--	--	<100 U	<100 U	**80 J**	<100 U	--	--	--	--	--
Sulfate	--	--	--	--	ug/l	--	--	--	--	--	**77300**	**80300**	**70000**	**72300**	--	--	--	--	--
Sulfide	--	--	--	--	ug/l	--	--	--	--	--	**380 J**	**1500**	<1000 U	**1600**	--	--	--	--	--
Sulfide (Acid Soluble)	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--	--

*See notes on Page 37 of 37

Table 34
Summary of Groundwater Data, Upper Unit - Compared to Generic Unrestricted Potable Use Standard
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Parameter Name	Voluntary Action Program Generic Numerical Standards (Effective June 15, 2015)				Station Name	MW-12A-03	MW-12B-03	MW-12B-03	MW-13A-03	MW-13A-03	MW-13A-03	MW-13A-03	MW-13A-03	MW-13B-03	MW-13B-03	MW-14-03	MW-14A-03
	Unrestricted Potable Use - Risk Based GW Cancer	Unrestricted Potable Use - Risk Based GW Non-Cancer	Unrestricted Potable Use - MCL	Unrestricted Potable Use - VAP UPUS	Sample Date	5/19/2015	4/16/2003	11/17/2004	4/16/2003	11/17/2004	9/20/2012	4/9/2013	12/18/2014	4/17/2003	11/17/2004	4/18/2003	4/18/2003
					Aquifer Code	UA:WT	UA:TT	UA:TT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:TT	UA:TT	UA:WT	UA:WT
					Units												
VOCs																	
1,1,1,2-Tetrachloroethane	5	370	NA	5	ug/l	--	--	--	--	--	<5 U	--	<5.000 U	--	--	--	--
1,1,1-Trichloroethane	NA	7500	200	200	ug/l	--	<1 U	**0.5 J**	<1 U	<1 U	<5 U	--	<5.000 U	<1 U	<1 U	<10 U	<10 U
1,1,2,2-Tetrachloroethane	0.66	280	NA	0.66	ug/l	--	<1 U	<1 U	<1 U	<1 U	<5 U	--	<5.000 U	<1 UJ	<1 U	<10 U	<10 U
1,1,2-Trichloroethane	2.4	58.45	5	5	ug/l	--	<1 U	<1 U	<1 U	<1 U	<5 U	--	<5.000 U	<1 U	<1 U	<10 U	<10 U
1,1-Dichloroethane	24	2900	NA	24	ug/l	--	<1 U	<1 U	<1 U	<1 U	<5 U	--	<5.000 U	<1 U	<1 U	**5.1 J**	**5.1 J**
1,1-Dichloroethene	NA	260	7	7	ug/l	--	<1 U	<1 U	<1 U	<1 U	<5 U	--	<5.000 U	<1 U	<1 U	<10 U	<10 U
1,1-Dichloropropene	--	--	--	--	ug/l	--	--	--	--	--	<5 U	--	<5.000 U	--	--	--	--
1,2,3-Trichlorobenzene	--	--	--	--	ug/l	--	--	--	--	--	--	--	<5.000 U	--	--	--	--
1,2,3-Trichloropropane	0.0201	0.62	NA	0.0201	ug/l	--	--	--	--	--	--	--	<5.000 U	--	--	--	--
1,2,4-Trichlorobenzene, VOC	9.9	3.9	70	70	ug/l	--	<1 U	<1 UJ	<1 UJ	<1 UJ	--	--	<5.000 U	<1 U	<1 UJ	<10 U	<10 U
1,2,4-Trimethylbenzene	NA	15	NA	15	ug/l	--	--	--	--	--	--	--	<5.000 U	--	--	--	--
1,2-Dibromo-3-chloropropane	0.008	0.36	0.2	0.2	ug/l	--	<2 U	<2 U	<2 U	<2 U	--	--	<10.000 U	<2 U	<2 U	<20 U	<20 U
1,2-Dibromoethane	0.065	16	0.05	0.05	ug/l	--	<1 U	<1 U	<1 U	<1 U	<5 U	--	<5.000 U	<1 U	<1 U	<10 U	<10 U
1,2-Dichlorobenzene, VOC	NA	280	600	600	ug/l	--	<1 U	<1 U	<1 U	<1 U	--	--	<5.000 U	<1 U	<1 U	<10 U	<10 U
1,2-Dichloroethane	1.5	15	5	5	ug/l	--	<1 U	<1 U	<1 U	<1 U	<5 U	--	<5.000 U	<1 U	<1 U	<10 U	<10 U
1,2-Dichloropropane	3.8	8.3	5	5	ug/l	--	<1 U	<1 U	<1 U	<1 U	<5 U	--	<5.000 U	<1 U	<1 U	<10 U	<10 U
1,3,5-Trimethylbenzene	NA	87	NA	87	ug/l	--	--	--	--	--	--	--	<5.000 U	--	--	--	--
1,3-Dichlorobenzene, VOC	--	--	--	--	ug/l	--	<1 U	<1 U	<1 U	<1 U	--	--	<5.000 U	<1 U	<1 U	<10 U	<10 U
1,3-Dichloropropane	NA	290	NA	290	ug/l	--	--	--	--	--	<5 U	--	<5.000 U	--	--	--	--
1,4-Dichlorobenzene, VOC	4.2	470	75	75	ug/l	--	<1 U	<1 U	<1 U	<1 U	--	--	<5.000 U	<1 U	<1 U	<10 U	<10 U
1,4-Dioxane	6.7	470	NA	6.7	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	--	--	--	--	ug/l	--	--	--	--	--	<5 U	--	<5.000 U	--	--	--	--
2-Butanone	NA	4900	NA	4900	ug/l	--	<10 U	<10 U	<10 U	<10 U	<20 U	--	<20.000 U	<10 UJ	<10 U	<100 U	<100 U
2-Chloroethyl vinyl ether	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorotoluene	--	--	--	--	ug/l	--	--	--	--	--	<5 U	--	<5.000 U	--	--	--	--
2-Hexanone	--	--	--	--	ug/l	--	<10 U	<10 U	<10 U	<10 U	<20 U	--	<20.000 U	<10 UJ	<10 U	<100 UJ	<100 UJ
2-Phenylbutane	NA	1600	NA	1600	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
4-Chlorotoluene	--	--	--	--	ug/l	--	--	--	--	--	<5 U	--	<5.000 U	--	--	--	--
4-Methyl-2-Pentanone	NA	1000	NA	1000	ug/l	--	<10 U	<10 U	<10 U	<10 U	<20 U	--	<20.000 U	<10 U	<10 U	<100 U	<100 U
Acetone	NA	12000	NA	12000	ug/l	--	<10 U	<10 UJ	<10 U	<10 UJ	<20 U	--	<20.000 U	<10 UJ	<10 UJ	<100 UJ	<100 UJ
Acetonitrile	NA	130	NA	130	ug/l	--	--	--	--	--	<40 U	--	<40.000 U	--	--	--	--
Acrolein	NA	0.041	NA	0.041	ug/l	--	--	--	--	--	<20 U	--	<20.000 U	--	--	--	--
Acrylonitrile	0.45	4.1	NA	0.45	ug/l	--	--	--	--	--	<20 U	--	<20.000 U	--	--	--	--
Allyl chloride	6.3	2.1	NA	2.1	ug/l	--	--	--	--	--	<5 U	--	<5.000 U	--	--	--	--
Benzene	3.9	29	5	5	ug/l	--	<1 U	<1 U	<1 U	<1 U	<5 U	--	<5.000 U	<1 U	<1 U	<10 U	<10 U
Bromobenzene	--	--	--	--	ug/l	--	--	--	--	--	<5 U	--	<5.000 U	--	--	--	--
Bromochloromethane	--	--	--	--	ug/l	--	--	--	--	--	<5 U	--	<5.000 U	--	--	--	--
Bromodichloromethane	1.2	290	80	80	ug/l	--	<1 U	<1 U	<1 U	<1 U	<5 U	--	<5.000 U	<1 U	<1 U	<10 U	<10 U
Bromoform	79	290	80	80	ug/l	--	<1 U	<1 U	<1 U	<1 U	<5 U	--	<5.000 U	<1 U	<1 U	<10 U	<10 U
Bromomethane	NA	7	NA	7	ug/l	--	<1 U	<1 U	<1 U	<1 U	<5 U	--	<5.000 U	<1 U	<1 U	<10 U	<10 U
Carbon disulfide	NA	720	NA	720	ug/l	--	<1 U	<1 U	<1 U	<1 U	<20 U	--	<20.000 U	<1 U	<1 U	<10 U	<10 U
Carbon tetrachloride	3.9	40	5	5	ug/l	--	<1 U	<1 U	<1 U	<1 U	<5 U	--	<5.000 U	<1 U	<1 U	<10 U	<10 U
Chlorobenzene	NA	72	100	100	ug/l	--	<1 U	<1 U	<1 U	<1 U	<5 U	--	<5.000 U	<1 U	<1 U	<10 U	<10 U
Chlorobromomethane	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
Chloroethane	NA	21000	NA	21000	ug/l	--	<1 U	<1 U	<1 U	<1 U	<5 U	--	<5.000 U	<1 U	<1 U	<10 U	<10 U
Chloroform	1.9	84	80	80	ug/l	--	**3**	**1.2**	**2.6**	**2.6**	<5 U	--	<5.000 U	**10**	**18**	<10 U	<10 U
Chloromethane	NA	190	NA	190	ug/l	--	<1 U	<1 U	<1 U	<1 U	<5 U	--	<5.000 U	<1 U	<1 U	<10 U	<10 U

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Table 34
Summary of Groundwater Data, Upper Unit - Compared to Generic Unrestricted Potable Use Standard
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

	Voluntary Action Program Generic Numerical Standards (Effective June 15, 2015)				Station Name	MW-12A-03	MW-12B-03	MW-12B-03	MW-13A-03	MW-13A-03	MW-13A-03	MW-13A-03	MW-13A-03	MW-13B-03	MW-13B-03	MW-14-03	MW-14A-03
	Unrestricted Potable Use - Risk Based GW Cancer	Unrestricted Potable Use - Risk Based GW Non-Cancer	Unrestricted Potable Use - MCL	Unrestricted Potable Use - VAP UPUS	Sample Date	5/19/2015	4/16/2003	11/17/2004	4/16/2003	11/17/2004	9/20/2012	4/9/2013	12/18/2014	4/17/2003	11/17/2004	4/18/2003	4/18/2003
					Aquifer Code	UA:WT	UA:TT	UA:TT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:TT	UA:TT	UA:WT	UA:WT
Parameter Name					Units												
cis-1,2-Dichloroethene	NA	28	70	70	ug/l	--	**0.74**	**0.9 J**	**1.7**	**0.23 J**	**13.4**	--	<5.000 U	**0.63**	**0.27 J**	**280**	**280**
cis-1,3-Dichloropropene	--	--	--	--	ug/l	--	<1 U	<1 U	<1 U	<1 U	<5 U	--	<5.000 U	<1 U	<1 U	<10 U	<10 U
Cyclohexane	NA	13000	NA	13000	ug/l	--	<1 U	<1 U	<1 U	<1 U	--	--	--	<1 U	<1 U	<10 U	<10 U
Cymene	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	1.5	290	80	80	ug/l	--	<1 U	<1 U	<1 U	<1 U	<5 U	--	<5.000 U	<1 U	<1 U	<10 U	<10 U
Dibromomethane	NA	150	NA	150	ug/l	--	--	--	--	--	<5 U	--	<5.000 U	--	--	--	--
Dichlorodifluoromethane	NA	2800	NA	2800	ug/l	--	<1 U	<1 U	<1 U	<1 U	<5 U	--	<5.000 U	<1 UJ	<1 U	<10 UJ	<10 UJ
Ethylbenzene	13	670	700	700	ug/l	--	<1 U	<1 U	<1 U	<1 U	<5 U	--	<5.000 U	<1 U	<1 U	<10 U	<10 U
Hexachlorobutadiene, VOC	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
Hexane	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
Iodomethane	--	--	--	--	ug/l	--	--	--	--	--	<10 U	--	<10.000 U	--	--	--	--
Isopropylbenzene, VOC	NA	390	NA	390	ug/l	--	<1 U	<1 U	<1 U	<1 U	--	--	<5.000 U	<1 U	<1 U	<10 U	<10 U
m&p-Xylene	--	--	--	--	ug/l	--	--	--	--	--	--	--	<10.000 U	--	--	--	--
Methyl acetate	--	--	--	--	ug/l	--	<10 U	<10 U	<10 U	<10 U	--	--	--	<10 U	<10 U	<100 U	<100 U
Methyl cyclohexane	--	--	--	--	ug/l	--	<1 U	<1 U	<1 U	<1 U	--	--	--	<1 U	<1 U	<10 U	<10 U
Methyl tert butyl ether	120	6300	NA	120	ug/l	--	<5 U	<5 U	<5 U	<5 U	<10 U	--	<10.000 U	<5 U	<5 U	<50 U	<50 U
Methylene chloride	99	84	5	5	ug/l	--	<1 U	<1 U	<1 U	<1 U	<5 U	--	<5.000 U	<1 U	<1 U	<3.5 U	<3.5 U
Naphthalene, VOC	1.4	6.1	NA	1.4	ug/l	--	--	--	--	--	--	--	<5.000 U	--	--	--	--
n-Butylbenzene	NA	780	NA	780	ug/l	--	--	--	--	--	--	--	<5.000 U	--	--	--	--
n-Hexane	NA	250	NA	250	ug/l	--	--	--	--	--	<5 U	--	<5.000 U	--	--	--	--
n-Propylbenzene	NA	530	NA	530	ug/l	--	--	--	--	--	--	--	<5.000 U	--	--	--	--
o-Xylene	--	--	--	--	ug/l	--	--	--	--	--	<5 U	--	<5.000 U	--	--	--	--
Pentachloroethane	5.6	NA	NA	5.6	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
p-Isopropyltoluene	NA	170	NA	170	ug/l	--	--	--	--	--	--	--	<5.000 U	--	--	--	--
sec-Butylbenzene	--	--	--	--	ug/l	--	--	--	--	--	--	--	<5.000 U	--	--	--	--
Styrene	NA	1100	100	100	ug/l	--	<1 U	<1 U	<1 U	<1 U	<5 U	--	<5.000 U	<1 U	<1 U	<10 U	<10 U
tert-Butylbenzene	NA	510	NA	510	ug/l	--	--	--	--	--	--	--	<5.000 U	--	--	--	--
Tetrachloroethene	97	35	5	5	ug/l	--	**2.1**	**1.1**	**12**	**4.8**	**13**	--	**12.9**	**17**	**12**	**4.6 J**	**4.6 J**
Toluene	NA	860	1000	1000	ug/l	--	<1 U	<1 U	<1 U	<1 U	<5 U	--	<5.000 U	<1 U	<1 U	<10 U	<10 U
trans-1,2-Dichloroethene	NA	86	100	100	ug/l	--	<0.5 U	<1 U	<0.5 U	<1 U	<5 U	--	<5.000 U	<0.5 U	<1 U	<5 U	<5 U
trans-1,3-Dichloropropene	--	--	--	--	ug/l	--	<1 U	<1 U	<1 U	<1 U	<5 U	--	<5.000 U	<1 U	<1 U	<10 U	<10 U
Trichloroethene	NA	NA	5	5	ug/l	--	**13**	**10**	**2.8**	**1.3**	**7.41**	--	<5.000 U	**2**	**1.7**	**7.9 J**	**7.9 J**
Trichlorofluoromethane	NA	1100	NA	1100	ug/l	--	<1 U	<1 U	<1 U	<1 U	<5 U	--	<5.000 U	<1 U	<1 U	<10 U	<10 U
Trifluorotrichloroethane	--	--	--	--	ug/l	--	<1 U	<1 U	<1 U	<1 U	--	--	--	<1 U	<1 U	<10 U	<10 U
Vinyl acetate	NA	410	NA	410	ug/l	--	--	--	--	--	<10 U	--	<10.000 U	--	--	--	--
Vinyl chloride	NA	NA	2	2	ug/l	--	<1 U	<1 U	<1 U	<1 U	<1 U	--	<1.000 U	<1 U	<1 U	**26**	**26**
Xylene (Total)	NA	190	10000	10000	ug/l	--	<1 U	<2 U	<1 U	<2 U	<10 U	--	--	<1 U	<2 U	<10 U	<10 U
SVOCs																	
1,2,4,5-Tetrachlorobenzene	NA	1.2	NA	1.2	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene, SVOC	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene, SVOC	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Diphenylhydrazine	0.67	NA	NA	0.67	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene, SVOC	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene, SVOC	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
1-Naphthylamine	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
2,2'-oxybis(1-Chloropropane)	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
2,2'-oxybis(2-Chloropropane), SVOC	--	--	--	--	ug/l	--	<20 U	--	<10 U	--	--	--	--	<10 U	--	<10 U	<10 U
2,3,4,6-Tetrachlorophenol	NA	170	NA	170	ug/l	--	--	--	--	--	--	--	--	--	--	--	--

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Table 34
Summary of Groundwater Data, Upper Unit - Compared to Generic Unrestricted Potable Use Standard
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Parameter Name	Voluntary Action Program Generic Numerical Standards (Effective June 15, 2015)				Station Name	MW-12A-03	MW-12B-03	MW-12B-03	MW-13A-03	MW-13A-03	MW-13A-03	MW-13A-03	MW-13A-03	MW-13B-03	MW-13B-03	MW-14-03	MW-14A-03
	Unrestricted Potable Use - Risk Based GW Cancer	Unrestricted Potable Use - Risk Based GW Non-Cancer	Unrestricted Potable Use - MCL	Unrestricted Potable Use - VAP UPUS	Sample Date	5/19/2015	4/16/2003	11/17/2004	4/16/2003	11/17/2004	9/20/2012	4/9/2013	12/18/2014	4/17/2003	11/17/2004	4/18/2003	4/18/2003
					Aquifer Code	UA:WT	UA:TT	UA:TT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:TT	UA:TT	UA:WT	UA:WT
					Units												
2,4,5-Trichlorophenol	NA	890	NA	890	ug/l	--	<20 U	--	<10 U	--	--	--	--	<10 U	--	<10 U	<10 U
2,4,6-Trichlorophenol	35	9	NA	9	ug/l	--	<20 U	--	<10 U	--	--	--	--	<10 U	--	<10 U	<10 U
2,4-Dichlorophenol	NA	35	NA	35	ug/l	--	<20 U	--	<10 U	--	--	--	--	<10 U	--	<10 U	<10 U
2,4-Dimethylphenol	NA	270	NA	270	ug/l	--	<20 U	--	<10 U	--	--	--	--	<10 U	--	<10 U	<10 U
2,4-Dinitrophenol	NA	30	NA	30	ug/l	--	<100 U	--	<50 U	--	--	--	--	<50 U	--	<50 U	<50 U
2,4-Dinitrotoluene	2	30	NA	2	ug/l	--	<20 U	--	<10 U	--	--	--	--	<10 U	--	<10 U	<10 U
2,6-Dichlorophenol	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	0.42	NA	NA	0.42	ug/l	--	<20 U	--	<10 U	--	--	--	--	<10 U	--	<10 U	<10 U
2-Chloronaphthalene	NA	550	NA	550	ug/l	--	<20 U	--	<10 U	--	--	--	--	<10 U	--	<10 U	<10 U
2-Chlorophenol	NA	71	NA	71	ug/l	--	<20 U	--	<10 U	--	--	--	--	<10 U	--	<10 U	<10 U
2-Methylnaphthalene	NA	27	NA	27	ug/l	--	<20 U	--	<10 U	--	--	--	--	<10 U	--	<10 U	<10 U
2-Methylphenol	NA	720	NA	720	ug/l	--	<20 U	--	<10 U	--	--	--	--	<10 U	--	<10 U	<10 U
2-Naphthylamine	0.33	NA	NA	0.33	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitroaniline	--	--	--	--	ug/l	--	<100 U	--	<50 U	--	--	--	--	<50 U	--	<50 U	<50 U
2-Nitrophenol	--	--	--	--	ug/l	--	<20 U	--	<10 U	--	--	--	--	<10 U	--	<10 U	<10 U
2-Picoline	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
2-Toluidine	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
3&4-Methylphenol	NA	720	NA	720	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	1.1	NA	NA	1.1	ug/l	--	<100 U	--	<50 U	--	--	--	--	<50 U	--	<50 U	<50 U
3-Methylcholanthrene	0.031	NA	NA	0.031	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
3-Nitroaniline	--	--	--	--	ug/l	--	<100 U	--	<50 U	--	--	--	--	<50 U	--	<50 U	<50 U
4,6-Dinitro-2-methylphenol	--	--	--	--	ug/l	--	<100 U	--	<50 U	--	--	--	--	<50 U	--	<50 U	<50 U
4-Aminobiphenyl	0.026	NA	NA	0.026	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	--	--	--	--	ug/l	--	<20 U	--	<10 U	--	--	--	--	<10 U	--	<10 U	<10 U
4-Chloro-3-methylphenol	NA	1100	NA	1100	ug/l	--	<20 U	--	<10 U	--	--	--	--	<10 U	--	<10 U	<10 U
4-Chloroaniline	3.2	59	NA	3.2	ug/l	--	<20 U	--	<10 U	--	--	--	--	<10 U	--	<10 U	<10 U
4-Chlorophenyl phenyl ether	--	--	--	--	ug/l	--	<20 U	--	<10 U	--	--	--	--	<10 U	--	<10 U	<10 U
4-Dimethylaminoazobenzene	0.043	NA	NA	0.043	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
4-Methylphenol	NA	1400	NA	1400	ug/l	--	<20 U	--	<10 U	--	--	--	--	<10 U	--	<10 U	<10 U
4-Nitroaniline	33	61	NA	33	ug/l	--	<100 U	--	<50 U	--	--	--	--	<50 U	--	<50 U	<50 U
4-Nitrophenol	--	--	--	--	ug/l	--	<100 U	--	<50 U	--	--	--	--	<50 U	--	<50 U	<50 U
5-Nitro-2-Toluidine	70	NA	NA	70	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
7,12-Dimethylbenz(a)anthracene	0.0027	NA	NA	0.0027	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthene	NA	400	NA	400	ug/l	--	<20 U	--	<10 U	--	--	--	--	<10 U	--	<10 U	<10 U
Acenaphthylene	NA	390	NA	390	ug/l	--	<20 U	--	<10 U	--	--	--	--	<10 U	--	<10 U	<10 U
Acetophenone	NA	1500	NA	1500	ug/l	--	<20 U	--	<10 U	--	--	--	--	<10 U	--	<10 U	<10 U
Aniline	120	110	NA	110	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
Anthracene	NA	1300	NA	1300	ug/l	--	<20 U	--	<10 U	--	--	--	--	<10 U	--	<10 U	<10 U
Atrazine	--	--	--	--	ug/l	--	<20 U	--	<10 U	--	--	--	--	<10 U	--	<10 U	<10 U
Benzaldehyde	--	--	--	--	ug/l	--	<20 U	--	<10 U	--	--	--	--	<10 U	--	<10 U	<10 U
Benzidine	0.0029	46	NA	0.0029	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
Benzo(a)anthracene	0.92	NA	NA	0.92	ug/l	--	<20 U	--	<10 U	--	--	--	--	<10 U	--	<10 U	<10 U
Benzo(a)pyrene	0.092	NA	0.2	0.2	ug/l	--	<20 U	--	<10 U	--	--	--	--	<10 U	--	<10 U	<10 U
Benzo(b)fluoranthene	0.92	NA	NA	0.92	ug/l	--	<20 U	--	<10 U	--	--	--	--	<10 U	--	<10 U	<10 U
Benzo(g,h,i)perylene	NA	470	NA	470	ug/l	--	<20 U	--	<10 U	--	--	--	--	<10 U	--	<10 U	<10 U
Benzo(k)fluoranthene	9.2	NA	NA	9.2	ug/l	--	<20 U	--	<10 U	--	--	--	--	<10 U	--	<10 U	<10 U
Benzoic acid	NA	58000	NA	58000	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
Benzyl alcohol	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--

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Table 34
Summary of Groundwater Data, Upper Unit - Compared to Generic Unrestricted Potable Use Standard
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Parameter Name	Voluntary Action Program Generic Numerical Standards (Effective June 15, 2015)				Station Name	MW-12A-03	MW-12B-03	MW-12B-03	MW-13A-03	MW-13A-03	MW-13A-03	MW-13A-03	MW-13A-03	MW-13B-03	MW-13B-03	MW-14-03	MW-14A-03
	Unrestricted Potable Use - Risk Based GW Cancer	Unrestricted Potable Use - Risk Based GW Non-Cancer	Unrestricted Potable Use - MCL	Unrestricted Potable Use - VAP UPUS	Sample Date	5/19/2015	4/16/2003	11/17/2004	4/16/2003	11/17/2004	9/20/2012	4/9/2013	12/18/2014	4/17/2003	11/17/2004	4/18/2003	4/18/2003
					Aquifer Code	UA:WT	UA:TT	UA:TT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:TT	UA:TT	UA:WT	UA:WT
					Units												
Biphenyl	33	3100	NA	33	ug/l	--	<20 U	--	<10 U	--	--	--	--	<10 U	--	<10 U	<10 U
bis(2-Chloroethoxy)methane	NA	46	NA	46	ug/l	--	<20 U	--	<10 U	--	--	--	--	<10 U	--	<10 U	<10 U
bis(2-Chloroethyl)ether	0.12	NA	NA	0.12	ug/l	--	<20 U	--	<10 U	--	--	--	--	<10 U	--	<10 U	<10 U
bis(2-Ethylhexyl)phthalate	48	310	6	6	ug/l	--	<20 U	--	<10 U	--	--	--	--	<10 U	--	<10 U	<10 U
Butyl benzylphthalate	--	--	--	--	ug/l	--	<20 U	--	<10 U	--	--	--	--	<10 U	--	<10 U	<10 U
Caprolactam	--	--	--	--	ug/l	--	**53**	--	**38**	--	--	--	--	**470**	--	**43**	**43**
Carbazole	17	NA	NA	17	ug/l	--	<20 U	--	<10 U	--	--	--	--	<10 U	--	<10 U	<10 U
Chrysene	92	NA	NA	92	ug/l	--	<20 U	--	<10 U	--	--	--	--	<10 U	--	<10 U	<10 U
Dibenz(a,h)anthracene	0.092	NA	NA	0.092	ug/l	--	<20 U	--	<10 U	--	--	--	--	<10 U	--	<10 U	<10 U
Dibenzofuran	NA	5.8	NA	5.8	ug/l	--	<20 U	--	<10 U	--	--	--	--	<10 U	--	<10 U	<10 U
Diethyl phthalate	NA	11000	NA	11000	ug/l	--	<20 U	--	<10 U	--	--	--	--	<10 U	--	**0.86 J**	**0.86 J**
Dimethyl phthalate	NA	12000	NA	12000	ug/l	--	<20 U	--	<10 U	--	--	--	--	<10 U	--	<10 U	<10 U
Di-n-butylphthalate	NA	670	NA	670	ug/l	--	<20 U	--	<10 U	--	--	--	--	<10 U	--	<10 U	<10 U
Di-N-Octyl phthalate	NA	160	NA	160	ug/l	--	<20 U	--	<10 U	--	--	--	--	<10 U	--	<10 U	<10 U
Ethyl methanesulfonate	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
Fluoranthene	NA	630	NA	630	ug/l	--	<20 U	--	<10 U	--	--	--	--	<10 U	--	<10 U	<10 U
Fluorene	NA	220	NA	220	ug/l	--	<20 U	--	<10 U	--	--	--	--	<10 U	--	<10 U	<10 U
Hexachlorobenzene	0.42	13	1	1	ug/l	--	<20 U	--	<10 U	--	--	--	--	<10 U	--	<10 U	<10 U
Hexachlorobutadiene	--	--	--	--	ug/l	--	--	--	--	--	--	--	<5.000 U	--	--	--	--
Hexachlorobutadiene, SVOC	--	--	--	--	ug/l	--	<20 U	--	<10 U	--	--	--	--	<10 U	--	<10 U	<10 U
Hexachlorocyclopentadiene	NA	22	50	50	ug/l	--	<100 U	--	<50 U	--	--	--	--	<50 U	--	<50 U	<50 U
Hexachloroethane	7.9	5.1	NA	5.1	ug/l	--	<20 U	--	<10 U	--	--	--	--	<10 U	--	<10 U	<10 U
Indeno(1,2,3-cd)pyrene	0.92	NA	NA	0.92	ug/l	--	<20 U	--	<10 U	--	--	--	--	<10 U	--	<10 U	<10 U
Isophorone	670	3000	NA	670	ug/l	--	<20 U	--	<10 U	--	--	--	--	<10 U	--	<10 U	<10 U
Methyl methanesulfonate	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
Naphthalene, SVOC	--	--	--	--	ug/l	--	<20 U	--	<10 U	--	--	--	--	<10 U	--	<10 U	<10 U
Nitrobenzene	1.2	11	NA	1.2	ug/l	--	<20 U	--	<10 U	--	--	--	--	<10 U	--	<10 U	<10 U
N-Nitrosodimethylamine	0.013	0.12	NA	0.013	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
N-Nitrosodi-N-butylamine	0.024	NA	NA	0.024	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	0.093	NA	NA	0.093	ug/l	--	<20 U	--	<10 U	--	--	--	--	<10 U	--	<10 U	<10 U
N-Nitrosodiphenylamine	100	NA	NA	100	ug/l	--	<20 U	--	<10 U	--	--	--	--	<10 U	--	<10 U	<10 U
N-Nitrosopiperidine	0.07	NA	NA	0.07	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
Pentachlorobenzene	NA	2.3	NA	2.3	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
Pentachloronitrobenzene	1	19	NA	1	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
Pentachlorophenol	0.35	16	1	1	ug/l	--	<20 U	--	<10 U	--	--	--	--	<10 U	--	<10 U	<10 U
Phenacetin	300	NA	NA	300	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
Phenanthrene	NA	3400	NA	3400	ug/l	--	<20 U	--	<10 U	--	--	--	--	<10 U	--	<10 U	<10 U
Phenol	NA	4500	NA	4500	ug/l	--	<20 U	--	<10 U	--	--	--	--	<10 U	--	<10 U	<10 U
Pronamide	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
Pyrene, SVOC	--	--	--	--	ug/l	--	<20 U	--	<10 U	--	--	--	--	<10 U	--	<10 U	<10 U
Pyridine	NA	15	NA	15	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
PCBs																	
Aroclor-1016	9.6	1.1	NA	1.1	ug/l	<0.500 U	<0.2 U	<0.2 UJ	<0.2 U	<0.2 UJ	--	<0.5 U	<0.500 U	<0.2 U	<0.2 UJ	<0.2 UJ	<0.2 UJ
Aroclor-1016, Dissolved	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1221	0.041	NA	NA	0.041	ug/l	<0.500 U	<0.2 U	<0.2 U	<0.2 U	<0.2 U	--	<0.5 U	<0.500 U	<0.2 U	<0.2 U	<0.2 UJ	<0.2 UJ
Aroclor-1221, Dissolved	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1232	0.041	NA	NA	0.041	ug/l	<0.500 U	<0.4 U	<0.4 U	<0.4 U	<0.4 U	--	<0.5 U	<0.500 U	<0.4 U	<0.4 U	<0.4 UJ	<0.4 UJ
Aroclor-1232, Dissolved	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--

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Table 34
Summary of Groundwater Data, Upper Unit - Compared to Generic Unrestricted Potable Use Standard
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Parameter Name	Voluntary Action Program Generic Numerical Standards (Effective June 15, 2015)				Station Name	MW-12A-03	MW-12B-03	MW-12B-03	MW-13A-03	MW-13A-03	MW-13A-03	MW-13A-03	MW-13A-03	MW-13B-03	MW-13B-03	MW-14-03	MW-14A-03
	Unrestricted Potable Use - Risk Based GW Cancer	Unrestricted Potable Use - Risk Based GW Non-Cancer	Unrestricted Potable Use - MCL	Unrestricted Potable Use - VAP UPUS	Sample Date	5/19/2015	4/16/2003	11/17/2004	4/16/2003	11/17/2004	9/20/2012	4/9/2013	12/18/2014	4/17/2003	11/17/2004	4/18/2003	4/18/2003
					Aquifer Code	UA:WT	UA:TT	UA:TT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:TT	UA:TT	UA:WT	UA:WT
					Units												
Aroclor-1242	0.34	NA	NA	0.34	ug/l	<0.500 U	<0.2 U	<0.2 U	<0.2 U	<0.2 U	--	<0.5 U	<0.500 U	<0.2 U	<0.2 U	<0.2 UJ	<0.2 UJ
Aroclor-1242, Dissolved	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1248	0.34	NA	NA	0.34	ug/l	<0.500 U	<0.2 U	<0.2 U	<0.2 U	<0.2 U	--	<0.5 U	<0.500 U	<0.2 U	<0.2 U	<0.2 UJ	<0.2 UJ
Aroclor-1248, Dissolved	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1254	0.34	0.31	NA	0.31	ug/l	**6.51**	<0.2 U	<0.2 U	<0.2 U	<0.2 U	--	<0.5 U	<0.500 U	<0.2 U	<0.2 U	**0.11 J**	**0.11 J**
Aroclor-1254, Dissolved	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1260	0.34	NA	NA	0.34	ug/l	<0.500 U	<0.2 U	<0.2 U	<0.2 U	<0.2 U	--	<0.5 U	<0.500 U	<0.2 U	<0.2 U	<0.2 UJ	<0.2 UJ
Aroclor-1260, Dissolved	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
Total PCBs	NA	NA	0.5	0.5	ug/l	**6.51**	<0.4 U	<0.4 U	<0.4 U	<0.4 U	--	<0.5 U	<0.500 U	<0.4 U	<0.4 U	**0.11 J**	**0.11 J**
Total PCBs, Dissolved	NA	NA	0.5	0.5	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
Metals																	
Aluminum	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--
Antimony	1E+07	0.006	0.006	0.006	mg/l	--	<0.002 U	--	<0.002 U	--	--	--	--	<0.002 U	--	<0.002 U	<0.002 U
Antimony, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic	0.00045	0.0047	0.01	0.01	mg/l	--	<0.01 U	--	<0.01 U	--	--	--	--	**0.0029 J**	--	**0.0035 J**	**0.0035 B**
Arsenic, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--
Barium	--	2.9	2	2	mg/l	--	**0.17 J**	--	**0.078 J**	--	--	--	--	**0.064 J**	--	**0.41**	**0.41**
Barium, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--
Beryllium	--	0.016	0.004	0.004	mg/l	--	<0.001 U	--	<0.001 U	--	--	--	--	<0.001 U	--	<0.001 U	<0.001 U
Beryllium, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	--	--	0.005	0.005	mg/l	--	<0.005 U	--	<0.005 U	--	--	--	--	<0.005 U	--	**0.0028 J**	**0.0028 B**
Cadmium, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--
Calcium	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--
Calcium, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--
Chromium Total	--	--	0.1	0.1	mg/l	--	<0.01 U	--	<0.01 U	--	--	--	--	<0.0019 U	--	<0.01 U	<0.01 U
Chromium Total, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--
Cobalt	--	0.0047	--	0.0047	mg/l	--	**0.00077 J**	--	<0.05 U	--	--	--	--	**0.001 J**	--	<0.05 U	<0.05 U
Cobalt, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--
Copper	--	0.62	1.3	1.3	mg/l	--	**0.0036 J**	--	<0.025 U	--	--	--	--	<0.025 U	--	<0.025 U	<0.025 U
Copper, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide (total)	--	--	0.2	0.2	mg/l	--	<0.01 U	--	<0.01 U	--	--	--	--	<0.01 U	--	**0.024**	**0.024**
Iron	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--
Iron, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--
Lead	--	--	0.015	0.015	mg/l	--	**0.002 J**	--	<0.003 U	--	--	--	--	<0.003 U	--	<0.003 U	<0.003 U
Lead, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--
Magnesium	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--
Magnesium, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	--	--	--	--	mg/l	--	**0.21**	--	**0.031**	--	--	--	--	**0.06**	--	**1.5**	**1.5 J**
Manganese, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--
Mercury	--	0.00045	0.002	0.002	mg/l	--	<0.0002 U	--	<0.0002 U	--	--	--	--	<0.0002 U	--	<0.0002 U	<0.0002 U
Mercury, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--
Nickel	--	0.3	--	0.3	mg/l	--	<0.04 U	--	<0.04 U	--	--	--	--	<0.04 U	--	**0.0033 J**	**0.0033 B**
Nickel, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--
Potassium	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--
Potassium, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--
Selenium	--	0.078	0.05	0.05	mg/l	--	<0.005 U	--	<0.005 U	--	--	--	--	<0.005 U	--	<0.005 U	<0.005 U
Selenium, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--
Silver	--	0.071	--	0.071	mg/l	--	<0.01 U	--	<0.01 U	--	--	--	--	<0.01 U	--	<0.01 U	<0.01 U

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Table 34
Summary of Groundwater Data, Upper Unit - Compared to Generic Unrestricted Potable Use Standard
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Parameter Name	Voluntary Action Program Generic Numerical Standards (Effective June 15, 2015)				Station Name	MW-12A-03	MW-12B-03	MW-12B-03	MW-13A-03	MW-13A-03	MW-13A-03	MW-13A-03	MW-13A-03	MW-13B-03	MW-13B-03	MW-14-03	MW-14A-03
	Unrestricted Potable Use - Risk Based GW Cancer	Unrestricted Potable Use - Risk Based GW Non-Cancer	Unrestricted Potable Use - MCL	Unrestricted Potable Use - VAP UPUS	Sample Date	5/19/2015	4/16/2003	11/17/2004	4/16/2003	11/17/2004	9/20/2012	4/9/2013	12/18/2014	4/17/2003	11/17/2004	4/18/2003	4/18/2003
					Aquifer Code	UA:WT	UA:TT	UA:TT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:TT	UA:TT	UA:WT	UA:WT
					Units												
Silver, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--
Sodium	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--
Sodium, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--
Thallium	--	--	0.002	0.002	mg/l	--	<0.001 U	--	<0.001 U	--	--	--	--	<0.001 U	--	<0.001 U	<0.001 U
Thallium, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--
Vanadium	--	0.063	--	0.063	mg/l	--	**0.0013 J**	--	<0.05 U	--	--	--	--	<0.05 U	--	<0.05 U	<0.05 U
Vanadium, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--
Zinc	--	4.7	--	4.7	mg/l	--	<0.02 U	--	<0.02 U	--	--	--	--	**0.017 J**	--	<0.02 U	<0.02 U
Zinc, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--
MISCELLANEOUS																	
Conductivity Field	--	--	--	--	ms/cm	--	--	--	--	--	--	--	--	--	--	--	--
Conductivity Field	--	--	--	--	umhos/cm	--	--	--	--	--	--	--	--	--	--	--	--
Dissolved Oxygen, Field	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--
ORP, Field	--	--	--	--	millivolts	--	--	--	--	--	--	--	--	--	--	--	--
Outside Temperature	--	--	--	--	Deg F	--	--	--	--	--	--	--	--	--	--	--	--
pH Field	--	--	--	--	s.u.	--	--	--	--	--	--	--	--	--	--	--	--
Temp Air	--	--	--	--	Deg F	--	--	--	--	--	--	--	--	--	--	--	--
Temperature	--	--	--	--	Deg C	--	--	--	--	--	--	--	--	--	--	--	--
Turbidity (Field)	--	--	--	--	NTUs	--	--	--	--	--	--	--	--	--	--	--	--
Ethane	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
Ethene	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
Methane	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
Alkalinity, Bicarbonate	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--
Alkalinity, Carbonate	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--
Alkalinity, Total (As CaCO3)	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
Chloride	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
Dissolved Organic Carbon	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
Hardness	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
Nitrate (as N)	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
Nitrite (as N)	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
Sulfide	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
Sulfide (Acid Soluble)	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--

*See notes on Page 37 of 37

Table 34
Summary of Groundwater Data, Upper Unit - Compared to Generic Unrestricted Potable Use Standard
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Parameter Name	Voluntary Action Program Generic Numerical Standards (Effective June 15, 2015)				Station Name	MW-14A-03	MW-14A-03	MW-14A-03	MW-14B-04	MW-14B-04	MW-14B-04	MW-23-04	MW-23-04	MW-23-04	MW-23-04	MW-23-04	MW-23-04
	Unrestricted Potable Use - Risk Based GW Cancer	Unrestricted Potable Use - Risk Based GW Non-Cancer	Unrestricted Potable Use - MCL	Unrestricted Potable Use - VAP UPUS	Sample Date	11/18/2004	9/21/2012	9/25/2012	3/30/2004	11/18/2004	1/23/2006	3/30/2004	11/17/2004	4/1/2005	4/1/2005	11/2/2006	9/21/2012
					Aquifer Code	UA:WT	UA:WT	UA:WT	UA:TT	UA:TT	UA:TT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT
					Units												
VOCs																	
1,1,1,2-Tetrachloroethane	5	370	NA	5	ug/l	--	<5 U	--	--	--	--	--	--	--	--	--	<5 U
1,1,1-Trichloroethane	NA	7500	200	200	ug/l	<20 U	<5 U	--	<1.7 U	<2 U	<2.9 U	<33 U	<1000 U	<1200 U	<1200 U	<330 U	<5 U
1,1,2,2-Tetrachloroethane	0.66	280	NA	0.66	ug/l	<20 U	<5 U	--	<1.7 U	<2 U	<2.9 U	<33 U	<1000 U	<1200 U	<1200 U	<330 U	<5 U
1,1,2-Trichloroethane	2.4	58.45	5	5	ug/l	<20 U	<5 U	--	<1.7 U	<2 U	<2.9 U	<33 U	<1000 U	<1200 U	<1200 U	<330 U	<5 U
1,1-Dichloroethane	24	2900	NA	24	ug/l	**12 J**	<5 U	--	<1.7 U	<2 U	<2.9 U	<33 U	<1000 U	<1200 U	<1200 U	<330 U	<5 U
1,1-Dichloroethene	NA	260	7	7	ug/l	<20 U	<5 U	--	<1.7 U	<2 U	<2.9 U	<33 U	<1000 U	<1200 U	<1200 U	<330 U	**39.4**
1,1-Dichloropropene	--	--	--	--	ug/l	--	<5 U	--	--	--	--	--	--	--	--	--	<5 U
1,2,3-Trichlorobenzene	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichloropropane	0.0201	0.62	NA	0.0201	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene, VOC	9.9	3.9	70	70	ug/l	<20 U	--	--	<1.7 U	<2 UJ	<2.9 U	<33 U	<1000 UJ	<6200 UJ	<6200 UJ	<330 U	--
1,2,4-Trimethylbenzene	NA	15	NA	15	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane	0.008	0.36	0.2	0.2	ug/l	<40 U	--	--	<3.3 U	<4 U	<2.9 U	<67 U	<2000 U	<1200 U	<1200 U	<330 U	--
1,2-Dibromoethane	0.065	16	0.05	0.05	ug/l	<20 U	<5 U	--	<1.7 U	<2 U	<2.9 U	<33 U	<1000 U	<1200 U	<1200 U	<330 U	<5 U
1,2-Dichlorobenzene, VOC	NA	280	600	600	ug/l	<20 U	--	--	<1.7 U	<2 U	<2.9 U	<33 U	<1000 U	<1200 U	<1200 U	<330 U	--
1,2-Dichloroethane	1.5	15	5	5	ug/l	<20 U	<5 U	--	<1.7 U	<2 U	<2.9 U	<33 U	<1000 U	<1200 U	<1200 U	<330 U	<5 U
1,2-Dichloropropane	3.8	8.3	5	5	ug/l	<20 U	<5 U	--	<1.7 U	<2 U	<2.9 U	<33 U	<1000 U	<1200 U	<1200 U	<330 U	<5 U
1,3,5-Trimethylbenzene	NA	87	NA	87	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene, VOC	--	--	--	--	ug/l	<20 U	--	--	<1.7 U	<2 U	<2.9 U	<33 U	<1000 U	<1200 U	<1200 U	<330 U	--
1,3-Dichloropropane	NA	290	NA	290	ug/l	--	<5 U	--	--	--	--	--	--	--	--	--	<5 U
1,4-Dichlorobenzene, VOC	4.2	470	75	75	ug/l	<20 U	--	--	<1.7 U	<2 U	<2.9 U	<33 U	<1000 U	<1200 U	<1200 U	<330 U	--
1,4-Dioxane	6.7	470	NA	6.7	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	--	--	--	--	ug/l	--	<5 U	--	--	--	--	--	--	--	--	--	<5 U
2-Butanone	NA	4900	NA	4900	ug/l	<200 U	<20 U	--	<17 U	<20 UJ	<29 U	<330 U	<10000 U	<31000 U	<31000 U	<3300 U	<20 U
2-Chloroethyl vinyl ether	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorotoluene	--	--	--	--	ug/l	--	<5 U	--	--	--	--	--	--	--	--	--	<5 U
2-Hexanone	--	--	--	--	ug/l	<200 U	<20 U	--	<17 U	<20 UJ	<29 U	<330 U	<10000 U	<62000 U	<62000 U	<3300 U	<20 U
2-Phenylbutane	NA	1600	NA	1600	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
4-Chlorotoluene	--	--	--	--	ug/l	--	<5 U	--	--	--	--	--	--	--	--	--	<5 U
4-Methyl-2-Pentanone	NA	1000	NA	1000	ug/l	<200 U	<20 U	--	<17 U	<20 U	<29 UJ	<330 U	<10000 U	<62000 U	<62000 U	<3300 U	<20 U
Acetone	NA	12000	NA	12000	ug/l	<200 U	<20 U	--	<17 U	<20 UJ	<29 U	<330 U	<10000 U	<31000 U	<31000 U	<3300 U	<20 U
Acetonitrile	NA	130	NA	130	ug/l	--	<40 U	--	--	--	--	--	--	--	--	--	<40 U
Acrolein	NA	0.041	NA	0.041	ug/l	--	<20 U	--	--	--	--	--	--	--	--	--	<20 U
Acrylonitrile	0.45	4.1	NA	0.45	ug/l	--	<20 U	--	--	--	--	--	--	--	--	--	<20 U
Allyl chloride	6.3	2.1	NA	2.1	ug/l	--	<5 U	--	--	--	--	--	--	--	--	--	<5 U
Benzene	3.9	29	5	5	ug/l	<20 U	<5 U	--	<1.7 U	<2 U	<2.9 U	<33 U	<1000 U	<1200 U	<1200 U	<330 U	<5 U
Bromobenzene	--	--	--	--	ug/l	--	<5 U	--	--	--	--	--	--	--	--	--	<5 U
Bromochloromethane	--	--	--	--	ug/l	--	<5 U	--	--	--	--	--	--	--	--	--	<5 U
Bromodichloromethane	1.2	290	80	80	ug/l	<20 U	<5 U	--	<1.7 U	<2 U	<2.9 U	<33 U	<1000 U	<1200 U	<1200 U	<330 U	<5 U
Bromoform	79	290	80	80	ug/l	<20 U	<5 U	--	<1.7 U	<2 U	<2.9 U	<33 U	<1000 U	<1200 U	<1200 U	<330 U	<5 U
Bromomethane	NA	7	NA	7	ug/l	<20 U	<5 U	--	<1.7 UJ	<2 U	<2.9 U	<33 UJ	<1000 U	<1200 UJ	<1200 UJ	<330 U	<5 U
Carbon disulfide	NA	720	NA	720	ug/l	<20 U	<20 U	--	<1.7 U	<2 U	<2.9 U	<33 U	<1000 U	<6200 U	<6200 U	<330 U	<20 U
Carbon tetrachloride	3.9	40	5	5	ug/l	<20 U	<5 U	--	<1.7 U	<2 U	<2.9 U	<33 U	<1000 U	<1200 U	<1200 U	<330 U	<5 U
Chlorobenzene	NA	72	100	100	ug/l	<20 U	<5 U	--	<1.7 U	<2 U	<2.9 U	<33 U	<1000 U	<1200 U	<1200 U	<330 U	**9.11**
Chlorobromomethane	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
Chloroethane	NA	21000	NA	21000	ug/l	<20 U	<5 U	--	<1.7 U	<2 U	<2.9 U	<33 U	<1000 U	<1200 UJ	<1200 UJ	<330 U	<5 U
Chloroform	1.9	84	80	80	ug/l	<20 U	<5 U	--	**10**	**13**	**11**	<33 U	<1000 U	<1200 U	<1200 U	<330 U	<5 U
Chloromethane	NA	190	NA	190	ug/l	<20 U	<5 U	--	<1.7 UJ	<2 U	<2.9 U	<33 UJ	<1000 U	<1200 U	<1200 U	<330 U	<5 U

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Table 34
Summary of Groundwater Data, Upper Unit - Compared to Generic Unrestricted Potable Use Standard
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Parameter Name	Voluntary Action Program Generic Numerical Standards (Effective June 15, 2015)				Station Name	MW-14A-03	MW-14A-03	MW-14A-03	MW-14B-04	MW-14B-04	MW-14B-04	MW-23-04	MW-23-04	MW-23-04	MW-23-04	MW-23-04	MW-23-04
	Unrestricted Potable Use - Risk Based GW Cancer	Unrestricted Potable Use - Risk Based GW Non-Cancer	Unrestricted Potable Use - MCL	Unrestricted Potable Use - VAP UPUS	Sample Date	11/18/2004	9/21/2012	9/25/2012	3/30/2004	11/18/2004	1/23/2006	3/30/2004	11/17/2004	4/1/2005	4/1/2005	11/2/2006	9/21/2012
					Aquifer Code	UA:WT	UA:WT	UA:WT	UA:TT	UA:TT	UA:TT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT
					Units												
cis-1,2-Dichloroethene	NA	28	70	70	ug/l	**560**	**176**	--	**1.1**	**1.2 J**	**0.98 J**	**1100**	**28000**	**34000**	**35000**	**21000**	**28700**
cis-1,3-Dichloropropene	--	--	--	--	ug/l	<20 U	<5 U	--	<1.7 U	<2 U	<2.9 U	<33 U	<1000 U	<1200 U	<1200 U	<330 U	<5 U
Cyclohexane	NA	13000	NA	13000	ug/l	<20 U	--	--	<1.7 U	<2 U	<2.9 U	<33 U	<1000 U	<1200 U	<1200 U	<330 UJ	--
Cymene	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	1.5	290	80	80	ug/l	<20 U	<5 U	--	<1.7 U	<2 U	<2.9 U	<33 U	<1000 U	<1200 U	<1200 U	<330 U	<5 U
Dibromomethane	NA	150	NA	150	ug/l	--	<5 U	--	--	--	--	--	--	--	--	--	<5 U
Dichlorodifluoromethane	NA	2800	NA	2800	ug/l	<20 U	<5 U	--	<1.7 U	<2 U	<2.9 UJ	<33 U	<1000 U	<1200 UJ	<1200 UJ	<330 UJ	<5 U
Ethylbenzene	13	670	700	700	ug/l	<20 U	<5 U	--	<1.7 U	<2 U	<2.9 U	<33 U	<1000 U	<1200 U	<1200 U	<330 U	**18.9**
Hexachlorobutadiene, VOC	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
Hexane	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
Iodomethane	--	--	--	--	ug/l	--	<10 U	--	--	--	--	--	--	--	--	--	<10 U
Isopropylbenzene, VOC	NA	390	NA	390	ug/l	<20 U	--	--	<1.7 U	<2 U	<2.9 U	<33 U	<1000 U	<6200 U	<6200 U	<330 U	--
m&p-Xylene	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
Methyl acetate	--	--	--	--	ug/l	<200 U	--	--	<17 UJ	<20 U	<29 U	<330 UJ	<10000 U	<12000 U	<12000 U	<3300 U	--
Methyl cyclohexane	--	--	--	--	ug/l	<20 U	--	--	<1.7 U	<2 U	<2.9 U	<33 U	<1000 U	<1200 U	<1200 U	<330 UJ	--
Methyl tert butyl ether	120	6300	NA	120	ug/l	<100 U	<10 U	--	<8.4 U	<10 U	<14 U	<170 U	<5000 U	<6200 U	<6200 U	<1700 U	<10 U
Methylene chloride	99	84	5	5	ug/l	<20 U	<5 U	--	<1.7 U	<2.6 U	<14 U	<33 U	<1000 U	<6200 U	<6200 U	**70 J**	<5 U
Naphthalene, VOC	1.4	6.1	NA	1.4	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
n-Butylbenzene	NA	780	NA	780	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
n-Hexane	NA	250	NA	250	ug/l	--	<5 U	--	--	--	--	--	--	--	--	--	<5 U
n-Propylbenzene	NA	530	NA	530	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
o-Xylene	--	--	--	--	ug/l	--	<5 U	--	--	--	--	--	--	--	--	--	**50.4**
Pentachloroethane	5.6	NA	NA	5.6	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
p-Isopropyltoluene	NA	170	NA	170	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
sec-Butylbenzene	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
Styrene	NA	1100	100	100	ug/l	<20 U	<5 U	--	<1.7 U	<2 U	<2.9 U	<33 U	<1000 U	<1200 U	<1200 U	<330 UJ	<5 U
tert-Butylbenzene	NA	510	NA	510	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
Tetrachloroethene	97	35	5	5	ug/l	<20 U	<5 U	--	**49**	**65**	**83**	**1200**	**4600**	**1300**	**1300**	**170 J**	**2200**
Toluene	NA	860	1000	1000	ug/l	<20 U	<5 U	--	<1.7 U	<2 U	<2.9 U	<33 U	<1000 U	<1200 U	<1200 U	<330 U	**19.2**
trans-1,2-Dichloroethene	NA	86	100	100	ug/l	<20 U	<5 U	--	<0.84 U	<2 U	<2.9 U	**8.7 J**	<1000 U	<1200 U	<1200 U	<330 U	**141**
trans-1,3-Dichloropropene	--	--	--	--	ug/l	<20 U	<5 U	--	<1.7 U	<2 U	<2.9 U	<33 U	<1000 U	<1200 U	<1200 U	<330 U	<5 U
Trichloroethene	NA	NA	5	5	ug/l	<20 U	<5 U	--	**6.7**	**8.2**	**8.3**	**390**	**1300**	**580 J**	**620 J**	<330 U	**1390**
Trichlorofluoromethane	NA	1100	NA	1100	ug/l	<20 U	<5 U	--	<1.7 UJ	<2 U	<2.9 U	<33 UJ	<1000 UJ	<1200 UJ	<1200 UJ	<330 U	<5 U
Trifluorotrichloroethane	--	--	--	--	ug/l	<20 U	--	--	<1.7 U	<2 U	<2.9 U	<33 U	<1000 U	<1200 U	<1200 U	<330 U	--
Vinyl acetate	NA	410	NA	410	ug/l	--	<10 U	--	--	--	--	--	--	--	--	--	<10 U
Vinyl chloride	NA	NA	2	2	ug/l	**43**	**12.4**	--	<1.7 U	<2 U	<2.9 U	**120**	**2900**	**830 J**	**790 J**	**2800**	**3480**
Xylene (Total)	NA	190	10000	10000	ug/l	<40 U	<10 U	--	<1.7 U	<4 U	<5.7 U	<33 U	<2000 U	<2500 U	<2500 U	<670 UJ	**24.2**
SVOCs																	
1,2,4,5-Tetrachlorobenzene	NA	1.2	NA	1.2	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene, SVOC	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene, SVOC	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Diphenylhydrazine	0.67	NA	NA	0.67	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene, SVOC	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene, SVOC	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
1-Naphthylamine	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
2,2'-oxybis(1-Chloropropane)	--	--	--	--	ug/l	--	--	--	--	--	<10 U	--	--	--	--	--	--
2,2'-oxybis(2-Chloropropane), SVOC	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,6-Tetrachlorophenol	NA	170	NA	170	ug/l	--	--	--	--	--	--	--	--	--	--	--	--

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Table 34
Summary of Groundwater Data, Upper Unit - Compared to Generic Unrestricted Potable Use Standard
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

	Voluntary Action Program Generic Numerical Standards (Effective June 15, 2015)				Station Name	MW-14A-03	MW-14A-03	MW-14A-03	MW-14B-04	MW-14B-04	MW-14B-04	MW-23-04	MW-23-04	MW-23-04	MW-23-04	MW-23-04	MW-23-04
	Unrestricted Potable Use - Risk Based GW Cancer	Unrestricted Potable Use - Risk Based GW Non-Cancer	Unrestricted Potable Use - MCL	Unrestricted Potable Use - VAP UPUS	Sample Date	11/18/2004	9/21/2012	9/25/2012	3/30/2004	11/18/2004	1/23/2006	3/30/2004	11/17/2004	4/1/2005	4/1/2005	11/2/2006	9/21/2012
					Aquifer Code	UA:WT	UA:WT	UA:WT	UA:TT	UA:TT	UA:TT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT
Parameter Name					Units												
2,4,5-Trichlorophenol	NA	890	NA	890	ug/l	--	--	--	--	--	<10 U	--	--	--	--	--	--
2,4,6-Trichlorophenol	35	9	NA	9	ug/l	--	--	--	--	--	<10 U	--	--	--	--	--	--
2,4-Dichlorophenol	NA	35	NA	35	ug/l	--	--	--	--	--	<10 U	--	--	--	--	--	--
2,4-Dimethylphenol	NA	270	NA	270	ug/l	--	--	--	--	--	<10 U	--	--	--	--	--	--
2,4-Dinitrophenol	NA	30	NA	30	ug/l	--	--	--	--	--	<50 U	--	--	--	--	--	--
2,4-Dinitrotoluene	2	30	NA	2	ug/l	--	--	--	--	--	<10 U	--	--	--	--	--	--
2,6-Dichlorophenol	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	0.42	NA	NA	0.42	ug/l	--	--	--	--	--	<10 U	--	--	--	--	--	--
2-Chloronaphthalene	NA	550	NA	550	ug/l	--	--	--	--	--	<10 U	--	--	--	--	--	--
2-Chlorophenol	NA	71	NA	71	ug/l	--	--	--	--	--	<10 U	--	--	--	--	--	--
2-Methylnaphthalene	NA	27	NA	27	ug/l	--	--	--	--	--	<10 U	--	--	--	--	--	--
2-Methylphenol	NA	720	NA	720	ug/l	--	--	--	--	--	<10 U	--	--	--	--	--	--
2-Naphthylamine	0.33	NA	NA	0.33	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitroaniline	--	--	--	--	ug/l	--	--	--	--	--	<50 U	--	--	--	--	--	--
2-Nitrophenol	--	--	--	--	ug/l	--	--	--	--	--	<10 U	--	--	--	--	--	--
2-Picoline	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
2-Toluidine	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
3&4-Methylphenol	NA	720	NA	720	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	1.1	NA	NA	1.1	ug/l	--	--	--	--	--	<50 U	--	--	--	--	--	--
3-Methylcholanthrene	0.031	NA	NA	0.031	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
3-Nitroaniline	--	--	--	--	ug/l	--	--	--	--	--	<50 U	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	--	--	--	--	ug/l	--	--	--	--	--	<50 U	--	--	--	--	--	--
4-Aminobiphenyl	0.026	NA	NA	0.026	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	--	--	--	--	ug/l	--	--	--	--	--	<10 U	--	--	--	--	--	--
4-Chloro-3-methylphenol	NA	1100	NA	1100	ug/l	--	--	--	--	--	<10 U	--	--	--	--	--	--
4-Chloroaniline	3.2	59	NA	3.2	ug/l	--	--	--	--	--	<10 U	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	--	--	--	--	ug/l	--	--	--	--	--	<10 U	--	--	--	--	--	--
4-Dimethylaminoazobenzene	0.043	NA	NA	0.043	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
4-Methylphenol	NA	1400	NA	1400	ug/l	--	--	--	--	--	<10 U	--	--	--	--	--	--
4-Nitroaniline	33	61	NA	33	ug/l	--	--	--	--	--	<50 U	--	--	--	--	--	--
4-Nitrophenol	--	--	--	--	ug/l	--	--	--	--	--	<50 U	--	--	--	--	--	--
5-Nitro-2-Toluidine	70	NA	NA	70	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
7,12-Dimethylbenz(a)anthracene	0.0027	NA	NA	0.0027	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthene	NA	400	NA	400	ug/l	--	--	--	--	--	<10 U	--	--	--	--	--	--
Acenaphthylene	NA	390	NA	390	ug/l	--	--	--	--	--	<10 U	--	--	--	--	--	--
Acetophenone	NA	1500	NA	1500	ug/l	--	--	--	--	--	<10 U	--	--	--	--	--	--
Aniline	120	110	NA	110	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
Anthracene	NA	1300	NA	1300	ug/l	--	--	--	--	--	<10 U	--	--	--	--	--	--
Atrazine	--	--	--	--	ug/l	--	--	--	--	--	<10 U	--	--	--	--	--	--
Benzaldehyde	--	--	--	--	ug/l	--	--	--	--	--	<10 U	--	--	--	--	--	--
Benzidine	0.0029	46	NA	0.0029	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
Benzo(a)anthracene	0.92	NA	NA	0.92	ug/l	--	--	--	--	--	<10 U	--	--	--	--	--	--
Benzo(a)pyrene	0.092	NA	0.2	0.2	ug/l	--	--	--	--	--	<10 U	--	--	--	--	--	--
Benzo(b)fluoranthene	0.92	NA	NA	0.92	ug/l	--	--	--	--	--	<10 U	--	--	--	--	--	--
Benzo(g,h,i)perylene	NA	470	NA	470	ug/l	--	--	--	--	--	<10 U	--	--	--	--	--	--
Benzo(k)fluoranthene	9.2	NA	NA	9.2	ug/l	--	--	--	--	--	<10 U	--	--	--	--	--	--
Benzoic acid	NA	58000	NA	58000	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
Benzyl alcohol	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--

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Table 34
Summary of Groundwater Data, Upper Unit - Compared to Generic Unrestricted Potable Use Standard
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

	Voluntary Action Program Generic Numerical Standards (Effective June 15, 2015)				Station Name	MW-14A-03	MW-14A-03	MW-14A-03	MW-14B-04	MW-14B-04	MW-14B-04	MW-23-04	MW-23-04	MW-23-04	MW-23-04	MW-23-04	MW-23-04
	Unrestricted Potable Use - Risk Based GW Cancer	Unrestricted Potable Use - Risk Based GW Non-Cancer	Unrestricted Potable Use - MCL	Unrestricted Potable Use - VAP UPUS	Sample Date	11/18/2004	9/21/2012	9/25/2012	3/30/2004	11/18/2004	1/23/2006	3/30/2004	11/17/2004	4/1/2005	4/1/2005	11/2/2006	9/21/2012
					Aquifer Code	UA:WT	UA:WT	UA:WT	UA:TT	UA:TT	UA:TT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT
Parameter Name					Units												
Biphenyl	33	3100	NA	33	ug/l	--	--	--	--	--	<10 U	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	NA	46	NA	46	ug/l	--	--	--	--	--	<10 U	--	--	--	--	--	--
bis(2-Chloroethyl)ether	0.12	NA	NA	0.12	ug/l	--	--	--	--	--	<10 U	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate	48	310	6	6	ug/l	--	--	--	--	--	**0.99 J**	--	--	--	--	--	--
Butyl benzylphthalate	--	--	--	--	ug/l	--	--	--	--	--	<10 U	--	--	--	--	--	--
Caprolactam	--	--	--	--	ug/l	--	--	--	--	--	<10 U	--	--	--	--	--	--
Carbazole	17	NA	NA	17	ug/l	--	--	--	--	--	<10 U	--	--	--	--	--	--
Chrysene	92	NA	NA	92	ug/l	--	--	--	--	--	<10 U	--	--	--	--	--	--
Dibenz(a,h)anthracene	0.092	NA	NA	0.092	ug/l	--	--	--	--	--	<10 U	--	--	--	--	--	--
Dibenzofuran	NA	5.8	NA	5.8	ug/l	--	--	--	--	--	<10 U	--	--	--	--	--	--
Diethyl phthalate	NA	11000	NA	11000	ug/l	--	--	--	--	--	<10 U	--	--	--	--	--	--
Dimethyl phthalate	NA	12000	NA	12000	ug/l	--	--	--	--	--	<10 U	--	--	--	--	--	--
Di-n-butylphthalate	NA	670	NA	670	ug/l	--	--	--	--	--	<10 U	--	--	--	--	--	--
Di-N-Octyl phthalate	NA	160	NA	160	ug/l	--	--	--	--	--	<10 U	--	--	--	--	--	--
Ethyl methanesulfonate	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
Fluoranthene	NA	630	NA	630	ug/l	--	--	--	--	--	<10 U	--	--	--	--	--	--
Fluorene	NA	220	NA	220	ug/l	--	--	--	--	--	<10 U	--	--	--	--	--	--
Hexachlorobenzene	0.42	13	1	1	ug/l	--	--	--	--	--	<10 U	--	--	--	--	--	--
Hexachlorobutadiene	--	--	--	--	ug/l	--	--	--	--	--	<10 U	--	--	--	--	--	--
Hexachlorobutadiene, SVOC	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	NA	22	50	50	ug/l	--	--	--	--	--	<50 U	--	--	--	--	--	--
Hexachloroethane	7.9	5.1	NA	5.1	ug/l	--	--	--	--	--	<10 U	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	0.92	NA	NA	0.92	ug/l	--	--	--	--	--	<10 U	--	--	--	--	--	--
Isophorone	670	3000	NA	670	ug/l	--	--	--	--	--	<10 U	--	--	--	--	--	--
Methyl methanesulfonate	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
Naphthalene, SVOC	--	--	--	--	ug/l	--	--	--	--	--	<10 U	--	--	--	--	--	--
Nitrobenzene	1.2	11	NA	1.2	ug/l	--	--	--	--	--	<10 U	--	--	--	--	--	--
N-Nitrosodimethylamine	0.013	0.12	NA	0.013	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
N-Nitrosodi-N-butylamine	0.024	NA	NA	0.024	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	0.093	NA	NA	0.093	ug/l	--	--	--	--	--	<10 U	--	--	--	--	--	--
N-Nitrosodiphenylamine	100	NA	NA	100	ug/l	--	--	--	--	--	<10 U	--	--	--	--	--	--
N-Nitrosopiperidine	0.07	NA	NA	0.07	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
Pentachlorobenzene	NA	2.3	NA	2.3	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
Pentachloronitrobenzene	1	19	NA	1	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
Pentachlorophenol	0.35	16	1	1	ug/l	--	--	--	--	--	<10 U	--	--	--	--	--	--
Phenacetin	300	NA	NA	300	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
Phenanthrene	NA	3400	NA	3400	ug/l	--	--	--	--	--	<10 U	--	--	--	--	--	--
Phenol	NA	4500	NA	4500	ug/l	--	--	--	--	--	<10 U	--	--	--	--	--	--
Pronamide	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
Pyrene, SVOC	--	--	--	--	ug/l	--	--	--	--	--	<10 U	--	--	--	--	--	--
Pyridine	NA	15	NA	15	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
PCBs																	
Aroclor-1016	9.6	1.1	NA	1.1	ug/l	--	--	<0.5 U	<0.2 U	--	<0.2 U	<0.2 U	<0.2 UJ	--	--	--	--
Aroclor-1016, Dissolved	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1221	0.041	NA	NA	0.041	ug/l	--	--	<0.5 U	<0.2 U	--	<0.2 U	<0.2 U	<0.2 U	--	--	--	--
Aroclor-1221, Dissolved	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1232	0.041	NA	NA	0.041	ug/l	--	--	<0.5 U	<0.4 U	--	<0.4 U	<0.4 U	<0.4 U	--	--	--	--
Aroclor-1232, Dissolved	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--

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Table 34
Summary of Groundwater Data, Upper Unit - Compared to Generic Unrestricted Potable Use Standard
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Parameter Name	Voluntary Action Program Generic Numerical Standards (Effective June 15, 2015)				Station Name	MW-14A-03	MW-14A-03	MW-14A-03	MW-14B-04	MW-14B-04	MW-14B-04	MW-23-04	MW-23-04	MW-23-04	MW-23-04	MW-23-04	MW-23-04
	Unrestricted Potable Use - Risk Based GW Cancer	Unrestricted Potable Use - Risk Based GW Non-Cancer	Unrestricted Potable Use - MCL	Unrestricted Potable Use - VAP UPUS	Sample Date	11/18/2004	9/21/2012	9/25/2012	3/30/2004	11/18/2004	1/23/2006	3/30/2004	11/17/2004	4/1/2005	4/1/2005	11/2/2006	9/21/2012
					Aquifer Code	UA:WT	UA:WT	UA:WT	UA:TT	UA:TT	UA:TT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT
					Units												
Aroclor-1242	0.34	NA	NA	0.34	ug/l	--	--	<0.5 U	<0.2 U	--	<0.2 U	<0.2 U	<0.2 U	--	--	--	--
Aroclor-1242, Dissolved	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1248	0.34	NA	NA	0.34	ug/l	--	--	<0.5 U	<0.2 U	--	<0.2 U	<0.2 U	<0.2 U	--	--	--	--
Aroclor-1248, Dissolved	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1254	0.34	0.31	NA	0.31	ug/l	--	--	<0.5 U	<0.2 U	--	**0.048 J**	<0.2 U	<0.2 U	--	--	--	--
Aroclor-1254, Dissolved	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1260	0.34	NA	NA	0.34	ug/l	--	--	<0.5 U	<0.2 U	--	<0.2 U	<0.2 U	<0.2 U	--	--	--	--
Aroclor-1260, Dissolved	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
Total PCBs	NA	NA	0.5	0.5	ug/l	--	--	<0.5 U	<0.4 U	--	**0.048 J**	<0.4 U	<0.4 U	--	--	--	--
Total PCBs, Dissolved	NA	NA	0.5	0.5	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
Metals																	
Aluminum	--	--	--	--	mg/l	--	**0.136**	--	--	--	--	--	--	--	--	--	<0.1 U
Antimony	1E+07	0.006	0.006	0.006	mg/l	--	<0.005 U	--	<0.002 U	--	<0.06 U	<0.002 U	--	--	--	--	<0.005 U
Antimony, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic	0.00045	0.0047	0.01	0.01	mg/l	--	**0.0106**	--	**0.0034 J**	--	**0.0021 J**	**0.0044 J**	--	--	--	--	**0.00772**
Arsenic, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--
Barium	--	2.9	2	2	mg/l	--	**0.603**	--	**0.062 J**	--	**0.0685 J**	**0.18 J**	--	--	--	--	**0.216**
Barium, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--
Beryllium	--	0.016	0.004	0.004	mg/l	--	<0.0005 U	--	<0.001 U	--	<0.005 U	<0.001 U	--	--	--	--	<0.0005 U
Beryllium, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	--	--	0.005	0.005	mg/l	--	<0.002 U	--	<0.005 U	--	<0.005 U	<0.005 U	--	--	--	--	<0.002 U
Cadmium, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--
Calcium	--	--	--	--	mg/l	--	**143**	--	--	--	--	--	--	--	--	**151**	**176**
Calcium, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--
Chromium Total	--	--	0.1	0.1	mg/l	--	<0.005 U	--	<0.01 U	--	<0.01 U	<0.01 U	--	--	--	--	**0.00772**
Chromium Total, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--
Cobalt	--	0.0047	--	0.0047	mg/l	--	<0.005 U	--	<0.05 U	--	<0.05 U	<0.05 U	--	--	--	--	<0.005 U
Cobalt, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--
Copper	--	0.62	1.3	1.3	mg/l	--	**0.00643**	--	<0.025 U	--	<0.025 U	<0.025 U	--	--	--	--	<0.005 U
Copper, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide (total)	--	--	0.2	0.2	mg/l	--	--	--	<0.01 U	--	--	<0.01 U	--	--	--	--	--
Iron	--	--	--	--	mg/l	--	**7.01**	--	--	--	--	--	--	--	--	**17.1**	**12.6**
Iron, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--
Lead	--	--	0.015	0.015	mg/l	--	<0.005 U	--	<0.003 U	--	**0.0009 J**	<0.003 U	--	--	--	--	<0.005 U
Lead, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--
Magnesium	--	--	--	--	mg/l	--	**34.7**	--	--	--	--	--	--	--	--	**22.3**	**25.3**
Magnesium, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	--	--	--	--	mg/l	--	**0.951**	--	**0.009 J**	--	<0.015 U	**0.3**	--	--	--	**1.1**	**1.09**
Manganese, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--
Mercury	--	0.00045	0.002	0.002	mg/l	--	<0.0002 U	--	<0.0002 U	--	<0.0002 U	<0.0002 U	--	--	--	--	<0.0002 U
Mercury, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--
Nickel	--	0.3	--	0.3	mg/l	--	**0.00547**	--	<0.04 U	--	<0.04 U	<0.04 U	--	--	--	--	**0.0094**
Nickel, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--
Potassium	--	--	--	--	mg/l	--	**11.1**	--	--	--	--	--	--	--	--	**10.1**	**18.4**
Potassium, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--
Selenium	--	0.078	0.05	0.05	mg/l	--	<0.01 U	--	<0.005 U	--	**0.00091 J**	<0.005 U	--	--	--	--	<0.01 U
Selenium, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--
Silver	--	0.071	--	0.071	mg/l	--	<0.002 U	--	<0.01 U	--	<0.01 U	<0.01 U	--	--	--	--	<0.002 U

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Table 34
Summary of Groundwater Data, Upper Unit - Compared to Generic Unrestricted Potable Use Standard
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Parameter Name	Voluntary Action Program Generic Numerical Standards (Effective June 15, 2015)				Station Name	MW-14A-03	MW-14A-03	MW-14A-03	MW-14B-04	MW-14B-04	MW-14B-04	MW-23-04	MW-23-04	MW-23-04	MW-23-04	MW-23-04	MW-23-04
	Unrestricted Potable Use - Risk Based GW Cancer	Unrestricted Potable Use - Risk Based GW Non-Cancer	Unrestricted Potable Use - MCL	Unrestricted Potable Use - VAP UPUS	Sample Date	11/18/2004	9/21/2012	9/25/2012	3/30/2004	11/18/2004	1/23/2006	3/30/2004	11/17/2004	4/1/2005	4/1/2005	11/2/2006	9/21/2012
					Aquifer Code	UA:WT	UA:WT	UA:WT	UA:TT	UA:TT	UA:TT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT
					Units												
Silver, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--
Sodium	--	--	--	--	mg/l	--	**29.7**	--	--	--	--	--	--	--	--	**45.8**	**75.8**
Sodium, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--
Thallium	--	--	0.002	0.002	mg/l	--	<0.001 U	--	<0.001 U	--	<0.01 U	<0.001 U	--	--	--	--	<0.001 U
Thallium, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--
Vanadium	--	0.063	--	0.063	mg/l	--	<0.005 U	--	<0.05 U	--	<0.05 U	<0.05 U	--	--	--	--	<0.005 U
Vanadium, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--
Zinc	--	4.7	--	4.7	mg/l	--	**0.0565**	--	<0.02 U	--	<0.02 U	<0.02 U	--	--	--	--	<0.01 U
Zinc, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--
MISCELLANEOUS																	
Conductivity Field	--	--	--	--	ms/cm	--	--	--	--	--	--	--	--	--	--	**1.13**	--
Conductivity Field	--	--	--	--	umhos/cm	--	--	--	--	--	**0.427**	--	--	--	--	--	--
Dissolved Oxygen, Field	--	--	--	--	mg/l	--	--	--	--	--	**2.5**	--	--	--	--	**0.88**	--
ORP, Field	--	--	--	--	millivolts	--	--	--	--	--	**226**	--	--	--	--	**-182**	--
Outside Temperature	--	--	--	--	Deg F	--	--	--	--	--	**45**	--	--	--	--	--	--
pH Field	--	--	--	--	s.u.	--	--	--	--	--	**7.66**	--	--	--	--	**6.78**	--
Temp Air	--	--	--	--	Deg F	--	--	--	--	--	--	--	--	--	--	**41**	--
Temperature	--	--	--	--	Deg C	--	--	--	--	--	**12.52**	--	--	--	--	**15.24**	--
Turbidity (Field)	--	--	--	--	NTUs	--	--	--	--	--	**10.1**	--	--	--	--	**13.1**	--
Ethane	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	**50**	--
Ethene	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	**170**	--
Methane	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	**1200**	--
Alkalinity, Bicarbonate	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	**416**	--
Alkalinity, Carbonate	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	**10.7**	--
Alkalinity, Total (As CaCO3)	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	**414000 J**	--
Chloride	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	**101000**	--
Dissolved Organic Carbon	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	**6000**	--
Hardness	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	**480000**	--
Nitrate (as N)	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	**31 J**	--
Nitrite (as N)	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	<100 U	--
Sulfate	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	**12900**	--
Sulfide	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--
Sulfide (Acid Soluble)	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	<1000 U	--
Total Dissolved Solids	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--

*See notes on Page 37 of 37

Table 34
Summary of Groundwater Data, Upper Unit - Compared to Generic Unrestricted Potable Use Standard
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Parameter Name	Voluntary Action Program Generic Numerical Standards (Effective June 15, 2015)				Station Name	MW-23-04	MW-23-04	MW-24-04	MW-24-04	MW-24-04	MW-25-04	MW-25-04	MW-26-04	MW-26-04	MW-26-04	MW-26-04	MW-26-04	MW-26-04
	Unrestricted Potable Use - Risk Based GW Cancer	Unrestricted Potable Use - Risk Based GW Non-Cancer	Unrestricted Potable Use - MCL	Unrestricted Potable Use - VAP UPUS	Sample Date	12/18/2014	5/18/2015	3/25/2004	9/21/2012	9/21/2012	3/26/2004	11/19/2004	3/26/2004	11/17/2004	9/21/2006	9/20/2012	12/17/2014	5/18/2015
					Aquifer Code	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT
					Units													
VOCs																		
1,1,1,2-Tetrachloroethane	5	370	NA	5	ug/l	<500	<5.00 U	--	<5 U	<5 U	--	--	--	--	--	<5 U	--	--
1,1,1-Trichloroethane	NA	7500	200	200	ug/l	<500	<5.00 U	<12 U	<5 U	<5 U	**2.9**	**2.5**	<4 U	<3.3 U	<5 U	<5 U	--	--
1,1,2,2-Tetrachloroethane	0.66	280	NA	0.66	ug/l	<500	<5.00 U	<12 U	<5 U	<5 U	<1.7 U	<1 U	<4 U	<3.3 U	<5 UJ	<5 U	--	--
1,1,2-Trichloroethane	2.4	58.45	5	5	ug/l	<500	<5.00 U	<12 U	<5 U	<5 U	<1.7 U	<1 U	<4 U	<3.3 U	<5 U	<5 U	--	--
1,1-Dichloroethane	24	2900	NA	24	ug/l	<500	<5.00 U	<12 U	<5 U	<5 U	**7.3**	**3.1**	**10**	**9.2**	**6.4**	<5 U	--	--
1,1-Dichloroethene	NA	260	7	7	ug/l	<500	**9.41**	<12 U	<5 U	<5 U	<1.7 U	<1 U	<4 U	<3.3 U	<5 U	<5 U	--	--
1,1-Dichloropropene	--	--	--	--	ug/l	<500	<5.00 U	--	<5 U	<5 U	--	--	--	--	--	<5 U	--	--
1,2,3-Trichlorobenzene	--	--	--	--	ug/l	<500	<5.00 U	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trichloropropane	0.0201	0.62	NA	0.0201	ug/l	<500	<5.00 U	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene, VOC	9.9	3.9	70	70	ug/l	<500	<5.00 U	<12 U	--	--	<1.7 U	<1 U	<4 U	<3.3 UJ	<5 U	--	--	--
1,2,4-Trimethylbenzene	NA	15	NA	15	ug/l	<500	<5.00 U	--	--	--	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane	0.008	0.36	0.2	0.2	ug/l	<1000	<10.0 U	<25 U	--	--	<3.3 U	<2 U	<8 U	<6.7 U	<5 U	--	--	--
1,2-Dibromoethane	0.065	16	0.05	0.05	ug/l	<500	<5.00 U	<12 U	<5 U	<5 U	<1.7 U	<1 U	<4 U	<3.3 U	<5 U	<5 U	--	--
1,2-Dichlorobenzene, VOC	NA	280	600	600	ug/l	<500	<5.00 U	<12 U	--	--	<1.7 U	<1 U	<4 U	<3.3 U	<5 U	--	--	--
1,2-Dichloroethane	1.5	15	5	5	ug/l	<500	<5.00 U	<12 U	<5 U	<5 U	<1.7 U	<1 U	<4 U	<3.3 U	<5 U	<5 U	--	--
1,2-Dichloropropane	3.8	8.3	5	5	ug/l	<500	<5.00 U	<12 U	<5 U	<5 U	<1.7 U	<1 U	<4 U	<3.3 U	<5 U	<5 U	--	--
1,3,5-Trimethylbenzene	NA	87	NA	87	ug/l	<500	<5.00 U	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene, VOC	--	--	--	--	ug/l	<500	<5.00 U	<12 U	--	--	<1.7 U	<1 U	<4 U	<3.3 U	<5 U	--	--	--
1,3-Dichloropropane	NA	290	NA	290	ug/l	<500	<5.00 U	--	<5 U	<5 U	--	--	--	--	--	<5 U	--	--
1,4-Dichlorobenzene, VOC	4.2	470	75	75	ug/l	<500	<5.00 U	<12 U	--	--	<1.7 U	<1 U	<4 U	<3.3 U	<5 U	--	--	--
1,4-Dioxane	6.7	470	NA	6.7	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	--	--	--	--	ug/l	<500	<5.00 U	--	<5 U	<5 U	--	--	--	--	--	<5 U	--	--
2-Butanone	NA	4900	NA	4900	ug/l	<2000	<20.0 U	<120 U	<20 U	<20 U	<17 U	<10 UJ	<40 U	<33 U	<50 U	<20 U	--	--
2-Chloroethyl vinyl ether	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorotoluene	--	--	--	--	ug/l	<500	<5.00 U	--	<5 U	<5 U	--	--	--	--	--	<5 U	--	--
2-Hexanone	--	--	--	--	ug/l	<2000	<20.0 U	<120 U	<20 U	<20 U	<17 U	<10 U	<40 U	<33 U	<50 U	<20 U	--	--
2-Phenylbutane	NA	1600	NA	1600	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chlorotoluene	--	--	--	--	ug/l	<500	<5.00 U	--	<5 U	<5 U	--	--	--	--	--	<5 U	--	--
4-Methyl-2-Pentanone	NA	1000	NA	1000	ug/l	<2000	<20.0 U	<120 U	<20 U	<20 U	<17 U	<10 U	<40 U	<33 U	<50 U	<20 U	--	--
Acetone	NA	12000	NA	12000	ug/l	<2000	<20.0 U	<120 U	<20 U	<20 U	<17 UJ	<10 UJ	<40 UJ	<33 U	<50 UJ	<20 U	--	--
Acetonitrile	NA	130	NA	130	ug/l	<4000	<40.0 U	--	<40 U	<40 U	--	--	--	--	--	<40 U	--	--
Acrolein	NA	0.041	NA	0.041	ug/l	<2000	<20.0 U	--	<20 U	<20 U	--	--	--	--	--	<20 U	--	--
Acrylonitrile	0.45	4.1	NA	0.45	ug/l	<2000	<20.0 U	--	<20 U	<20 U	--	--	--	--	--	<20 U	--	--
Allyl chloride	6.3	2.1	NA	2.1	ug/l	<500	<5.00 U	--	<5 U	<5 U	--	--	--	--	--	<5 U	--	--
Benzene	3.9	29	5	5	ug/l	<500	<5.00 U	<12 U	<5 U	<5 U	<1.7 U	<1 U	<4 U	<3.3 U	<5 U	<5 U	--	--
Bromobenzene	--	--	--	--	ug/l	<500	<5.00 U	--	<5 U	<5 U	--	--	--	--	--	<5 U	--	--
Bromochloromethane	--	--	--	--	ug/l	<500	<5.00 U	--	<5 U	<5 U	--	--	--	--	--	<5 U	--	--
Bromodichloromethane	1.2	290	80	80	ug/l	<500	<5.00 U	<12 U	<5 U	<5 U	<1.7 U	<1 U	<4 U	<3.3 U	<5 U	<5 U	--	--
Bromoform	79	290	80	80	ug/l	<500	<5.00 U	<12 U	<5 U	<5 U	<1.7 U	<1 U	<4 U	<3.3 U	<5 U	<5 U	--	--
Bromomethane	NA	7	NA	7	ug/l	<500	<5.00 U	<12 U	<5 U	<5 U	<1.7 U	<1 U	<4 U	<3.3 U	<5 U	<5 U	--	--
Carbon disulfide	NA	720	NA	720	ug/l	<2000	<20.0 U	<12 U	<20 U	<20 U	<1.7 U	<1 U	<4 U	<3.3 U	<5 U	<20 U	--	--
Carbon tetrachloride	3.9	40	5	5	ug/l	<500	<5.00 U	<12 U	<5 U	<5 U	<1.7 U	<1 U	<4 U	<3.3 U	<5 U	<5 U	--	--
Chlorobenzene	NA	72	100	100	ug/l	<500	<5.00 U	<12 U	<5 U	<5 U	<1.7 U	<1 U	<4 U	<3.3 U	<5 U	<5 U	--	--
Chlorobromomethane	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroethane	NA	21000	NA	21000	ug/l	<500	<5.00 U	<12 U	<5 U	<5 U	<1.7 U	<1 U	<4 U	<3.3 U	<5 U	<5 U	--	--
Chloroform	1.9	84	80	80	ug/l	<500	<5.00 U	<12 U	<5 U	<5 U	<1.7 U	<1 U	<4 U	<3.3 U	<5 U	<5 U	--	--
Chloromethane	NA	190	NA	190	ug/l	<500	<5.00 U	<12 U	<5 U	<5 U	<1.7 U	<1 U	<4 U	<3.3 U	<5 U	<5 U	--	--

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Table 34
Summary of Groundwater Data, Upper Unit - Compared to Generic Unrestricted Potable Use Standard
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Parameter Name	Voluntary Action Program Generic Numerical Standards (Effective June 15, 2015)				Station Name	MW-23-04	MW-23-04	MW-24-04	MW-24-04	MW-24-04	MW-25-04	MW-25-04	MW-26-04	MW-26-04	MW-26-04	MW-26-04	MW-26-04	MW-26-04
	Unrestricted Potable Use - Risk Based GW Cancer	Unrestricted Potable Use - Risk Based GW Non-Cancer	Unrestricted Potable Use - MCL	Unrestricted Potable Use - VAP UPUS	Sample Date	12/18/2014	5/18/2015	3/25/2004	9/21/2012	9/21/2012	3/26/2004	11/19/2004	3/26/2004	11/17/2004	9/21/2006	9/20/2012	12/17/2014	5/18/2015
					Aquifer Code	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT
					Units													
cis-1,2-Dichloroethene	NA	28	70	70	ug/l	**40300**	**7430**	**310**	**156**	**159**	**22**	**18**	**140**	**72**	**110**	**11.1**	--	--
cis-1,3-Dichloropropene	--	--	--	--	ug/l	--	<5.00 U	<12 U	<5 U	<5 U	<1.7 U	<1 U	<4 U	<3.3 U	<5 U	<5 U	--	--
Cyclohexane	NA	13000	NA	13000	ug/l	--	--	<12 U	--	--	<1.7 U	<1 U	<4 U	<3.3 U	<5 U	--	--	--
Cymene	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	1.5	290	80	80	ug/l	<500	<5.00 U	<12 U	<5 U	<5 U	<1.7 U	<1 U	<4 U	<3.3 U	<5 U	<5 U	--	--
Dibromomethane	NA	150	NA	150	ug/l	<500	<5.00 U	--	<5 U	<5 U	--	--	--	--	--	<5 U	--	--
Dichlorodifluoromethane	NA	2800	NA	2800	ug/l	<500	<5.00 U	<12 U	<5 U	<5 U	<1.7 U	<1 U	<4 U	<3.3 U	<5 U	<5 U	--	--
Ethylbenzene	13	670	700	700	ug/l	<500	<5.00 U	<12 U	<5 U	<5 U	<1.7 U	<1 U	<4 U	<3.3 U	<5 U	<5 U	--	--
Hexachlorobutadiene, VOC	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexane	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Iodomethane	--	--	--	--	ug/l	<1000	<10.0 U	--	<10 U	<10 U	--	--	--	--	--	<10 U	--	--
Isopropylbenzene, VOC	NA	390	NA	390	ug/l	<500	**5.61**	<12 U	--	--	<1.7 U	<1 U	<4 U	<3.3 U	<5 U	--	--	--
m&p-Xylene	--	--	--	--	ug/l	<1000	<10.0 U	--	--	--	--	--	--	--	--	--	--	--
Methyl acetate	--	--	--	--	ug/l	--	--	<120 U	--	--	<17 U	<10 U	<40 U	<33 U	<50 U	--	--	--
Methyl cyclohexane	--	--	--	--	ug/l	--	--	<12 U	--	--	<1.7 U	<1 U	<4 U	<3.3 U	<5 U	--	--	--
Methyl tert butyl ether	120	6300	NA	120	ug/l	<1000	<10.0 U	<62 U	<10 U	<10 U	<8.4 U	<5 U	<20 U	<17 U	<25 U	<10 U	--	--
Methylene chloride	99	84	5	5	ug/l	<500	<5.00 U	<12 U	<5 U	<5 U	<1.7 U	<1 U	<4 U	<3.3 U	**2.6 J**	<5 U	--	--
Naphthalene, VOC	1.4	6.1	NA	1.4	ug/l	<500	<5.00 U	--	--	--	--	--	--	--	--	--	--	--
n-Butylbenzene	NA	780	NA	780	ug/l	<500	<5.00 U	--	--	--	--	--	--	--	--	--	--	--
n-Hexane	NA	250	NA	250	ug/l	<500	<5.00 U	--	<5 U	<5 U	--	--	--	--	--	<5 U	--	--
n-Propylbenzene	NA	530	NA	530	ug/l	<500	<5.00 U	--	--	--	--	--	--	--	--	--	--	--
o-Xylene	--	--	--	--	ug/l	<500	**7.41**	--	<5 U	<5 U	--	--	--	--	--	<5 U	--	--
Pentachloroethane	5.6	NA	NA	5.6	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
p-Isopropyltoluene	NA	170	NA	170	ug/l	<500	<5.00 U	--	--	--	--	--	--	--	--	--	--	--
sec-Butylbenzene	--	--	--	--	ug/l	<500	<5.00 U	--	--	--	--	--	--	--	--	--	--	--
Styrene	NA	1100	100	100	ug/l	<500	<5.00 U	<12 U	<5 U	<5 U	<1.7 U	<1 U	<4 U	<3.3 U	<5 U	<5 U	--	--
tert-Butylbenzene	NA	510	NA	510	ug/l	<500	<5.00 U	--	--	--	--	--	--	--	--	--	--	--
Tetrachloroethene	97	35	5	5	ug/l	**525**	**516**	<12 U	<5 U	<5 U	**18**	**14**	**1.8 J**	**0.74 J**	**3.8 J**	<5 U	--	--
Toluene	NA	860	1000	1000	ug/l	<500	<5.00 U	<12 U	<5 U	<5 U	<1.7 U	<1 U	<4 U	<3.3 U	<5 U	<5 U	--	--
trans-1,2-Dichloroethene	NA	86	100	100	ug/l	<500	**18.7**	<6.2 U	<5 U	<5 U	<0.84 U	<1 U	**3**	<3.3 U	<5 U	<5 U	--	--
trans-1,3-Dichloropropene	--	--	--	--	ug/l	<500	<5.00 U	<12 U	<5 U	<5 U	<1.7 U	<1 U	<4 U	<3.3 U	<5 UJ	<5 U	--	--
Trichloroethene	NA	NA	5	5	ug/l	<500	**302**	<12 U	<5 U	<5 U	**47**	**25**	**8.7**	**11**	**93**	**22.4**	--	--
Trichlorofluoromethane	NA	1100	NA	1100	ug/l	<500	<5.00 U	<12 U	<5 U	<5 U	<1.7 UJ	<1 U	<4 UJ	<3.3 UJ	<5 U	<5 U	--	--
Trifluorotrichloroethane	--	--	--	--	ug/l	--	--	<12 U	--	--	<1.7 U	<1 U	<4 U	<3.3 U	<5 UJ	--	--	--
Vinyl acetate	NA	410	NA	410	ug/l	<1000	<10.0 U	--	<10 U	<10 U	--	--	--	--	--	<10 U	--	--
Vinyl chloride	NA	NA	2	2	ug/l	**2980**	**456**	**18**	**14.2**	**14.4**	<1.7 U	**1.2**	**6.2**	**5.2**	**2.2 J**	<1 U	--	--
Xylene (Total)	NA	190	10000	10000	ug/l	--	--	<12 U	<10 U	<10 U	<1.7 U	<2 U	<4 U	<6.7 U	<10 U	<10 U	--	--
SVOCs																		
1,2,4,5-Tetrachlorobenzene	NA	1.2	NA	1.2	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene, SVOC	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene, SVOC	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Diphenylhydrazine	0.67	NA	NA	0.67	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene, SVOC	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene, SVOC	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
1-Naphthylamine	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
2,2'-oxybis(1-Chloropropane)	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
2,2'-oxybis(2-Chloropropane), SVOC	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,6-Tetrachlorophenol	NA	170	NA	170	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--

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Table 34
Summary of Groundwater Data, Upper Unit - Compared to Generic Unrestricted Potable Use Standard
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Parameter Name	Voluntary Action Program Generic Numerical Standards (Effective June 15, 2015)				Station Name	MW-23-04	MW-23-04	MW-24-04	MW-24-04	MW-24-04	MW-25-04	MW-25-04	MW-26-04	MW-26-04	MW-26-04	MW-26-04	MW-26-04	MW-26-04
	Unrestricted Potable Use - Risk Based GW Cancer	Unrestricted Potable Use - Risk Based GW Non-Cancer	Unrestricted Potable Use - MCL	Unrestricted Potable Use - VAP UPUS	Sample Date	12/18/2014	5/18/2015	3/25/2004	9/21/2012	9/21/2012	3/26/2004	11/19/2004	3/26/2004	11/17/2004	9/21/2006	9/20/2012	12/17/2014	5/18/2015
					Aquifer Code	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT
					Units													
2,4,5-Trichlorophenol	NA	890	NA	890	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	35	9	NA	9	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	NA	35	NA	35	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	NA	270	NA	270	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	NA	30	NA	30	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	2	30	NA	2	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
2,6-Dichlorophenol	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	0.42	NA	NA	0.42	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chloronaphthalene	NA	550	NA	550	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorophenol	NA	71	NA	71	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylnaphthalene	NA	27	NA	27	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	NA	720	NA	720	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Naphthylamine	0.33	NA	NA	0.33	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitroaniline	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitrophenol	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Picoline	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Toluidine	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
3&4-Methylphenol	NA	720	NA	720	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	1.1	NA	NA	1.1	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
3-Methylcholanthrene	0.031	NA	NA	0.031	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
3-Nitroaniline	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Aminobiphenyl	0.026	NA	NA	0.026	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	NA	1100	NA	1100	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloroaniline	3.2	59	NA	3.2	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Dimethylaminoazobenzene	0.043	NA	NA	0.043	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Methylphenol	NA	1400	NA	1400	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitroaniline	33	61	NA	33	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
5-Nitro-2-Toluidine	70	NA	NA	70	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
7,12-Dimethylbenz(a)anthracene	0.0027	NA	NA	0.0027	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthene	NA	400	NA	400	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthylene	NA	390	NA	390	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Acetophenone	NA	1500	NA	1500	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Aniline	120	110	NA	110	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Anthracene	NA	1300	NA	1300	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Atrazine	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzaldehyde	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzidine	0.0029	46	NA	0.0029	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo(a)anthracene	0.92	NA	NA	0.92	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo(a)pyrene	0.092	NA	0.2	0.2	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo(b)fluoranthene	0.92	NA	NA	0.92	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	NA	470	NA	470	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo(k)fluoranthene	9.2	NA	NA	9.2	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzoic acid	NA	58000	NA	58000	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzyl alcohol	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--

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Table 34
Summary of Groundwater Data, Upper Unit - Compared to Generic Unrestricted Potable Use Standard
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Parameter Name	Voluntary Action Program Generic Numerical Standards (Effective June 15, 2015)				Station Name	MW-23-04	MW-23-04	MW-24-04	MW-24-04	MW-24-04	MW-25-04	MW-25-04	MW-26-04	MW-26-04	MW-26-04	MW-26-04	MW-26-04	MW-26-04
	Unrestricted Potable Use - Risk Based GW Cancer	Unrestricted Potable Use - Risk Based GW Non-Cancer	Unrestricted Potable Use - MCL	Unrestricted Potable Use - VAP UPUS	Sample Date	12/18/2014	5/18/2015	3/25/2004	9/21/2012	9/21/2012	3/26/2004	11/19/2004	3/26/2004	11/17/2004	9/21/2006	9/20/2012	12/17/2014	5/18/2015
					Aquifer Code	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT
					Units													
Biphenyl	33	3100	NA	33	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	NA	46	NA	46	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
bis(2-Chloroethyl)ether	0.12	NA	NA	0.12	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate	48	310	6	6	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Butyl benzylphthalate	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Caprolactam	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbazole	17	NA	NA	17	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	92	NA	NA	92	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	0.092	NA	NA	0.092	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	NA	5.8	NA	5.8	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Diethyl phthalate	NA	11000	NA	11000	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Dimethyl phthalate	NA	12000	NA	12000	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-butylphthalate	NA	670	NA	670	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-N-Octyl phthalate	NA	160	NA	160	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethyl methanesulfonate	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Fluoranthene	NA	630	NA	630	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Fluorene	NA	220	NA	220	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobenzene	0.42	13	1	1	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobutadiene	--	--	--	--	ug/l	<500	<5.00 U	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobutadiene, SVOC	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	NA	22	50	50	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexachloroethane	7.9	5.1	NA	5.1	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	0.92	NA	NA	0.92	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Isophorone	670	3000	NA	670	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl methanesulfonate	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Naphthalene, SVOC	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrobenzene	1.2	11	NA	1.2	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
N-Nitrosodimethylamine	0.013	0.12	NA	0.013	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
N-Nitrosodi-N-butylamine	0.024	NA	NA	0.024	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	0.093	NA	NA	0.093	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	100	NA	NA	100	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
N-Nitrosopiperidine	0.07	NA	NA	0.07	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Pentachlorobenzene	NA	2.3	NA	2.3	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Pentachloronitrobenzene	1	19	NA	1	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Pentachlorophenol	0.35	16	1	1	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Phenacetin	300	NA	NA	300	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Phenanthrene	NA	3400	NA	3400	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Phenol	NA	4500	NA	4500	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Pronamide	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Pyrene, SVOC	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Pyridine	NA	15	NA	15	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
PCBs																		
Aroclor-1016	9.6	1.1	NA	1.1	ug/l	<0.50 U	<0.500 U	<0.2 U	<0.5 U	<0.5 U	<0.2 U	<0.2 U	<0.2 UJ	<0.2 UJ	--	<0.5 U	<0.500 U	<0.500 U
Aroclor-1016, Dissolved	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1221	0.041	NA	NA	0.041	ug/l	<0.50 U	<0.500 U	<0.2 U	<0.5 U	<0.5 U	<0.2 U	<0.2 U	<0.2 UJ	<0.2 U	--	<0.5 U	<0.500 U	<0.500 U
Aroclor-1221, Dissolved	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1232	0.041	NA	NA	0.041	ug/l	<0.50 U	<0.500 U	<0.4 U	<0.5 U	<0.5 U	<0.4 U	<0.4 U	<0.4 UJ	<0.4 U	--	<0.5 U	<0.500 U	<0.500 U
Aroclor-1232, Dissolved	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--

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Table 34
Summary of Groundwater Data, Upper Unit - Compared to Generic Unrestricted Potable Use Standard
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Parameter Name	Voluntary Action Program Generic Numerical Standards (Effective June 15, 2015)				Station Name	MW-23-04	MW-23-04	MW-24-04	MW-24-04	MW-24-04	MW-25-04	MW-25-04	MW-26-04	MW-26-04	MW-26-04	MW-26-04	MW-26-04	MW-26-04
	Unrestricted Potable Use - Risk Based GW Cancer	Unrestricted Potable Use - Risk Based GW Non-Cancer	Unrestricted Potable Use - MCL	Unrestricted Potable Use - VAP UPUS	Sample Date	12/18/2014	5/18/2015	3/25/2004	9/21/2012	9/21/2012	3/26/2004	11/19/2004	3/26/2004	11/17/2004	9/21/2006	9/20/2012	12/17/2014	5/18/2015
					Aquifer Code	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT
					Units													
Aroclor-1242	0.34	NA	NA	0.34	ug/l	<0.50 U	<0.500 U	<0.2 U	<0.5 U	<0.5 U	<0.2 U	<0.2 U	<0.2 UJ	<0.2 U	--	<0.5 U	<0.500 U	<0.500 U
Aroclor-1242, Dissolved	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1248	0.34	NA	NA	0.34	ug/l	<0.50 U	<0.500 U	<0.2 U	<0.5 U	<0.5 U	<0.2 U	<0.2 U	<0.2 UJ	<0.2 U	--	<0.5 U	<0.500 U	<0.500 U
Aroclor-1248, Dissolved	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1254	0.34	0.31	NA	0.31	ug/l	<0.50 U	**0.75**	<0.2 U	<0.5 U	<0.5 U	<0.2 U	<0.2 U	<0.2 UJ	<0.2 U	--	<0.5 U	<0.500 U	<0.500 U
Aroclor-1254, Dissolved	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1260	0.34	NA	NA	0.34	ug/l	<0.50 U	<0.500 U	<0.2 U	<0.5 U	<0.5 U	<0.2 U	<0.2 U	<0.2 UJ	<0.2 U	--	<0.5 U	<0.500 U	<0.500 U
Aroclor-1260, Dissolved	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Total PCBs	NA	NA	0.5	0.5	ug/l	<0.50 U	**0.75**	<0.4 U	<0.5 U	<0.5 U	<0.4 U	<0.4 U	<0.4 UJ	<0.4 U	--	<0.5 U	<0.500 U	<0.500 U
Total PCBs, Dissolved	NA	NA	0.5	0.5	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																		
Aluminum	--	--	--	--	mg/l	--	--	--	<0.1 U	<0.1 U	--	--	--	--	--	**0.128**	--	--
Antimony	1E+07	0.006	0.006	0.006	mg/l	--	--	<0.002 U	<0.005 U	<0.005 U	<0.002 U	--	<0.002 U	--	--	<0.005 U	--	--
Antimony, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic	0.00045	0.0047	0.01	0.01	mg/l	--	--	**0.02**	**0.0233**	**0.0234**	**0.0029 J**	--	**0.011**	--	--	**0.00726**	--	--
Arsenic, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Barium	--	2.9	2	2	mg/l	--	--	**0.62**	**0.833**	**0.79**	**0.32**	--	**1.1**	--	--	**0.523**	--	--
Barium, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Beryllium	--	0.016	0.004	0.004	mg/l	--	--	<0.001 U	<0.0005 U	<0.0005 U	<0.001 U	--	<0.001 U	--	--	<0.0005 U	--	--
Beryllium, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	--	--	0.005	0.005	mg/l	--	--	**0.00056 J**	<0.002 U	<0.002 U	<0.005 U	--	<0.005 U	--	--	<0.002 U	--	--
Cadmium, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Calcium	--	--	--	--	mg/l	--	--	--	**167**	**158**	--	--	--	--	--	**70.9**	--	--
Calcium, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium Total	--	--	0.1	0.1	mg/l	--	--	<0.01 U	**0.00534**	**0.00516**	<0.01 U	--	<0.01 U	--	--	<0.005 U	--	--
Chromium Total, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Cobalt	--	0.0047	--	0.0047	mg/l	--	--	<0.05 U	<0.005 U	<0.005 U	<0.05 U	--	<0.05 U	--	--	<0.005 U	--	--
Cobalt, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Copper	--	0.62	1.3	1.3	mg/l	--	--	<0.025 U	<0.005 U	<0.005 U	**0.0028 J**	--	<0.025 U	--	--	<0.005 U	--	--
Copper, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide (total)	--	--	0.2	0.2	mg/l	--	--	<0.01 U	--	--	<0.01 U	--	<0.01 U	--	--	--	--	--
Iron	--	--	--	--	mg/l	--	--	--	**1.48**	**1.41**	--	--	--	--	--	**1.21**	--	--
Iron, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Lead	--	--	0.015	0.015	mg/l	--	--	<0.003 U	<0.005 U	<0.005 U	<0.003 U	--	<0.003 U	--	--	<0.005 U	--	--
Lead, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Magnesium	--	--	--	--	mg/l	--	--	--	**25.1**	**23.8**	--	--	--	--	--	**27.4**	--	--
Magnesium, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	--	--	--	--	mg/l	--	--	**0.59**	**0.566**	**0.538**	**1.4 J**	--	**1.3 J**	**1**	--	**0.605**	--	--
Manganese, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Mercury	--	0.00045	0.002	0.002	mg/l	--	--	<0.0002 U	<0.0002 U	<0.0002 U	<0.0002 U	--	<0.0002 U	--	--	<0.0002 U	--	--
Mercury, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Nickel	--	0.3	--	0.3	mg/l	--	--	**0.0051 J**	**0.00875**	**0.00748**	**0.0093 J**	--	**0.0063 J**	--	--	<0.005 U	--	--
Nickel, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Potassium	--	--	--	--	mg/l	--	--	--	**58**	**55.4**	--	--	--	--	--	**2.73**	--	--
Potassium, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Selenium	--	0.078	0.05	0.05	mg/l	--	--	<0.005 U	<0.01 U	<0.01 U	<0.005 U	--	<0.005 U	--	--	<0.01 U	--	--
Selenium, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Silver	--	0.071	--	0.071	mg/l	--	--	<0.01 U	<0.002 U	<0.002 U	**0.00089 J**	--	<0.01 UJ	--	--	<0.002 U	--	--

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Table 34
Summary of Groundwater Data, Upper Unit - Compared to Generic Unrestricted Potable Use Standard
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Parameter Name	Voluntary Action Program Generic Numerical Standards (Effective June 15, 2015)				Station Name	MW-23-04	MW-23-04	MW-24-04	MW-24-04	MW-24-04	MW-25-04	MW-25-04	MW-26-04	MW-26-04	MW-26-04	MW-26-04	MW-26-04	MW-26-04
	Unrestricted Potable Use - Risk Based GW Cancer	Unrestricted Potable Use - Risk Based GW Non-Cancer	Unrestricted Potable Use - MCL	Unrestricted Potable Use - VAP UPUS	Sample Date	12/18/2014	5/18/2015	3/25/2004	9/21/2012	9/21/2012	3/26/2004	11/19/2004	3/26/2004	11/17/2004	9/21/2006	9/20/2012	12/17/2014	5/18/2015
					Aquifer Code	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT
					Units													
Silver, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium	--	--	--	--	mg/l	--	--	--	**38.4**	**36.1**	--	--	--	--	--	**16.7**	--	--
Sodium, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Thallium	--	--	0.002	0.002	mg/l	--	--	<0.001 U	<0.001 U	<0.001 U	<0.001 U	--	<0.001 U	--	--	<0.001 U	--	--
Thallium, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Vanadium	--	0.063	--	0.063	mg/l	--	--	<0.05 U	<0.005 U	<0.005 U	<0.05 U	--	<0.05 U	--	--	<0.005 U	--	--
Vanadium, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Zinc	--	4.7	--	4.7	mg/l	--	--	<0.02 U	<0.01 U	<0.01 U	<0.02 U	--	<0.02 U	--	--	<0.01 U	--	--
Zinc, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--	--
MISCELLANEOUS																		
Conductivity Field	--	--	--	--	ms/cm	--	--	--	--	--	--	--	--	--	**1.02**	--	--	--
Conductivity Field	--	--	--	--	umhos/cm	--	--	--	--	--	--	--	--	--	--	--	--	--
Dissolved Oxygen, Field	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	**1.98**	--	--	--
ORP, Field	--	--	--	--	millivolts	--	--	--	--	--	--	--	--	--	--	--	--	--
Outside Temperature	--	--	--	--	Deg F	--	--	--	--	--	--	--	--	--	--	--	--	--
pH Field	--	--	--	--	s.u.	--	--	--	--	--	--	--	--	--	**6.87**	--	--	--
Temp Air	--	--	--	--	Deg F	--	--	--	--	--	--	--	--	--	**62**	--	--	--
Temperature	--	--	--	--	Deg C	--	--	--	--	--	--	--	--	--	**14.92**	--	--	--
Turbidity (Field)	--	--	--	--	NTUs	--	--	--	--	--	--	--	--	--	**0**	--	--	--
Ethane	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethene	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Methane	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Alkalinity, Bicarbonate	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Alkalinity, Carbonate	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Alkalinity, Total (As CaCO3)	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloride	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Dissolved Organic Carbon	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Hardness	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrate (as N)	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Nitrite (as N)	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfide	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfide (Acid Soluble)	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--

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Table 34
Summary of Groundwater Data, Upper Unit - Compared to Generic Unrestricted Potable Use Standard
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Parameter Name	Voluntary Action Program Generic Numerical Standards (Effective June 15, 2015)				Station Name	MW-3-02	MW-3-02	MW-3-02	MW-3-02	MW-3-02	MW-3-02	MW-37-05	MW-37-05	MW-37-05	MW-37-05	MW-37-05	MW-72	MW-72
	Unrestricted Potable Use - Risk Based GW Cancer	Unrestricted Potable Use - Risk Based GW Non-Cancer	Unrestricted Potable Use - MCL	Unrestricted Potable Use - VAP UPUS	Sample Date	4/18/2003	11/12/2004	4/10/2013	4/10/2013	12/18/2014	5/19/2015	6/3/2005	11/2/2006	9/21/2012	9/21/2012	9/21/2012	2/25/2015	5/19/2015
					Aquifer Code	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:TT	UA:TT	UA:TT	UA:TT	UA:TT	UA:WT	UA:WT
					Units													
VOCs																		
1,1,1,2-Tetrachloroethane	5	370	NA	5	ug/l	--	--	<5 U	<5 U	--	--	--	--	<5 U	--	--	<5.00 U	--
1,1,1-Trichloroethane	NA	7500	200	200	ug/l	<1.4 U	<1 U	<5 U	<5 U	--	--	<170 U	<17 U	<5 U	--	--	<5.00 U	--
1,1,2,2-Tetrachloroethane	0.66	280	NA	0.66	ug/l	<1.4 U	<1 U	<5 U	<5 U	--	--	<170 U	<17 U	<5 U	--	--	<5.00 U	--
1,1,2-Trichloroethane	2.4	58.45	5	5	ug/l	<1.4 U	<1 U	<5 U	<5 U	--	--	<170 U	<17 U	<5 U	--	--	<5.00 U	--
1,1-Dichloroethane	24	2900	NA	24	ug/l	**0.48 J**	<1 U	<5 U	<5 U	--	--	<170 U	<17 U	<5 U	--	--	<5.00 U	--
1,1-Dichloroethene	NA	260	7	7	ug/l	<1.4 U	<1 U	<5 U	<5 U	--	--	<170 U	<17 U	<5 U	--	--	<5.00 U	--
1,1-Dichloropropene	--	--	--	--	ug/l	--	--	<5 U	<5 U	--	--	--	--	<5 U	--	--	<5.00 U	--
1,2,3-Trichlorobenzene	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	<5.00 U	--
1,2,3-Trichloropropane	0.0201	0.62	NA	0.0201	ug/l	--	--	--	--	--	--	--	--	--	--	--	<5.00 U	--
1,2,4-Trichlorobenzene, VOC	9.9	3.9	70	70	ug/l	<1.4 U	<1 UJ	--	--	--	--	<830 U	<17 U	--	--	--	<5.00 U	--
1,2,4-Trimethylbenzene	NA	15	NA	15	ug/l	--	--	--	--	--	--	--	--	--	--	--	<5.00 U	--
1,2-Dibromo-3-chloropropane	0.008	0.36	0.2	0.2	ug/l	<2.9 U	<2 U	--	--	--	--	<170 U	<17 U	--	--	--	<10.0 U	--
1,2-Dibromoethane	0.065	16	0.05	0.05	ug/l	<1.4 U	<1 U	<5 U	<5 U	--	--	<170 U	<17 U	<5 U	--	--	<5.00 U	--
1,2-Dichlorobenzene, VOC	NA	280	600	600	ug/l	<1.4 U	<1 U	--	--	--	--	<170 U	<17 U	--	--	--	<5.00 U	--
1,2-Dichloroethane	1.5	15	5	5	ug/l	<1.4 U	<1 U	<5 U	<5 U	--	--	<170 U	<17 U	<5 U	--	--	<5.00 U	--
1,2-Dichloropropane	3.8	8.3	5	5	ug/l	<1.4 U	<1 U	<5 U	<5 U	--	--	<170 U	<17 U	<5 U	--	--	<5.00 U	--
1,3,5-Trimethylbenzene	NA	87	NA	87	ug/l	--	--	--	--	--	--	--	--	--	--	--	<5.00 U	--
1,3-Dichlorobenzene, VOC	--	--	--	--	ug/l	<1.4 U	<1 U	--	--	--	--	<170 U	<17 U	--	--	--	<5.00 U	--
1,3-Dichloropropane	NA	290	NA	290	ug/l	--	--	<5 U	<5 U	--	--	--	--	<5 U	--	--	<5.00 U	--
1,4-Dichlorobenzene, VOC	4.2	470	75	75	ug/l	<1.4 U	<1 U	--	--	--	--	<170 U	<17 U	--	--	--	<5.00 U	--
1,4-Dioxane	6.7	470	NA	6.7	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
2,2-Dichloropropane	--	--	--	--	ug/l	--	--	<5 U	<5 U	--	--	--	--	<5 U	--	--	<5.00 U	--
2-Butanone	NA	4900	NA	4900	ug/l	<14 U	<10 UJ	<20 U	<20 U	--	--	<4200 U	<170 U	<20 U	--	--	<20.0 U	--
2-Chloroethyl vinyl ether	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorotoluene	--	--	--	--	ug/l	--	--	<5 U	<5 U	--	--	--	--	<5 U	--	--	<5.00 U	--
2-Hexanone	--	--	--	--	ug/l	<14 UJ	<10 UJ	<20 U	<20 U	--	--	<8300 U	<170 U	<20 U	--	--	<20.0 U	--
2-Phenylbutane	NA	1600	NA	1600	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chlorotoluene	--	--	--	--	ug/l	--	--	<5 U	<5 U	--	--	--	--	<5 U	--	--	<5.00 U	--
4-Methyl-2-Pentanone	NA	1000	NA	1000	ug/l	<14 U	<10 U	<20 U	<20 U	--	--	<8300 U	<170 U	<20 U	--	--	<20.0 U	--
Acetone	NA	12000	NA	12000	ug/l	<14 UJ	<10 UJ	<20 U	<20 U	--	--	**140 J**	<170 U	<20 U	--	--	<20.0 U	--
Acetonitrile	NA	130	NA	130	ug/l	--	--	<40 U	<40 U	--	--	--	--	<40 U	--	--	<40.0 U	--
Acrolein	NA	0.041	NA	0.041	ug/l	--	--	<20 U	<20 U	--	--	--	--	<20 U	--	--	<20.0 U	--
Acrylonitrile	0.45	4.1	NA	0.45	ug/l	--	--	<20 U	<20 U	--	--	--	--	<20 U	--	--	<20.0 U	--
Allyl chloride	6.3	2.1	NA	2.1	ug/l	--	--	<5 U	<5 U	--	--	--	--	<5 U	--	--	<5.00 U	--
Benzene	3.9	29	5	5	ug/l	<1.4 U	<1 U	<5 U	<5 U	--	--	<170 U	<17 U	<5 U	--	--	<5.00 U	--
Bromobenzene	--	--	--	--	ug/l	--	--	<5 U	<5 U	--	--	--	--	<5 U	--	--	<5.00 U	--
Bromochloromethane	--	--	--	--	ug/l	--	--	<5 U	<5 U	--	--	--	--	<5 U	--	--	<5.00 U	--
Bromodichloromethane	1.2	290	80	80	ug/l	<1.4 U	<1 U	<5 U	<5 U	--	--	<170 U	<17 U	<5 U	--	--	<5.00 U	--
Bromoform	79	290	80	80	ug/l	<1.4 U	<1 U	<5 U	<5 U	--	--	<170 U	<17 U	<5 U	--	--	<5.00 U	--
Bromomethane	NA	7	NA	7	ug/l	<1.4 U	<1 U	<5 U	<5 U	--	--	<170 UJ	<17 U	<5 U	--	--	<5.00 U	--
Carbon disulfide	NA	720	NA	720	ug/l	<1.4 U	<1 U	<20 U	<20 U	--	--	<830 U	<17 U	<20 U	--	--	<20.0 U	--
Carbon tetrachloride	3.9	40	5	5	ug/l	<1.4 U	<1 U	<5 U	<5 U	--	--	<170 U	<17 U	<5 U	--	--	<5.00 U	--
Chlorobenzene	NA	72	100	100	ug/l	<1.4 U	<1 U	<5 U	<5 U	--	--	<170 U	<17 U	<5 U	--	--	<5.00 U	--
Chlorobromomethane	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloroethane	NA	21000	NA	21000	ug/l	<1.4 U	<1 U	<5 U	<5 U	--	--	<170 UJ	<17 U	<5 U	--	--	<5.00 U	--
Chloroform	1.9	84	80	80	ug/l	**3.2**	**10**	**7.35**	**7.41**	--	--	<170 U	**4.2 J**	<5 U	--	--	**14.7**	--
Chloromethane	NA	190	NA	190	ug/l	<1.4 U	<1 U	<5 U	<5 U	--	--	<170 U	<17 U	<5 U	--	--	<5.00 U	--

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Table 34
Summary of Groundwater Data, Upper Unit - Compared to Generic Unrestricted Potable Use Standard
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Parameter Name	Voluntary Action Program Generic Numerical Standards (Effective June 15, 2015)				Station Name	MW-3-02	MW-3-02	MW-3-02	MW-3-02	MW-3-02	MW-3-02	MW-37-05	MW-37-05	MW-37-05	MW-37-05	MW-37-05	MW-72	MW-72
	Unrestricted Potable Use - Risk Based GW Cancer	Unrestricted Potable Use - Risk Based GW Non-Cancer	Unrestricted Potable Use - MCL	Unrestricted Potable Use - VAP UPUS	Sample Date	4/18/2003	11/12/2004	4/10/2013	4/10/2013	12/18/2014	5/19/2015	6/3/2005	11/2/2006	9/21/2012	9/21/2012	9/21/2012	2/25/2015	5/19/2015
					Aquifer Code	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:TT	UA:TT	UA:TT	UA:TT	UA:TT	UA:WT	UA:WT
					Units													
cis-1,2-Dichloroethene	NA	28	70	70	ug/l	**35**	**1.9**	**7.91**	**7.79**	--	--	**4000**	**250**	--	**44.6**	--	<5.00 U	--
cis-1,3-Dichloropropene	--	--	--	--	ug/l	<1.4 U	<1 U	<5 U	<5 U	--	--	<170 U	<17 U	<5 U	--	--	<5.00 U	--
Cyclohexane	NA	13000	NA	13000	ug/l	<1.4 U	<1 U	--	--	--	--	<170 U	<17 UJ	--	--	--	--	--
Cymene	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibromochloromethane	1.5	290	80	80	ug/l	<1.4 U	<1 U	<5 U	<5 U	--	--	<170 U	<17 U	<5 U	--	--	<5.00 U	--
Dibromomethane	NA	150	NA	150	ug/l	--	--	<5 U	<5 U	--	--	--	--	<5 U	--	--	<5.00 U	--
Dichlorodifluoromethane	NA	2800	NA	2800	ug/l	<1.4 UJ	<1 U	<5 U	<5 U	--	--	<170 U	<17 U	<5 U	--	--	<5.00 U	--
Ethylbenzene	13	670	700	700	ug/l	<1.4 U	<1 U	<5 U	<5 U	--	--	<170 U	<17 U	<5 U	--	--	<5.00 U	--
Hexachlorobutadiene, VOC	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexane	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Iodomethane	--	--	--	--	ug/l	--	--	<10 U	<10 U	--	--	--	--	<10 U	--	--	<10.0 U	--
Isopropylbenzene, VOC	NA	390	NA	390	ug/l	<1.4 U	<1 U	--	--	--	--	<830 U	<17 U	--	--	--	<5.00 U	--
m&p-Xylene	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	<10.0 U	--
Methyl acetate	--	--	--	--	ug/l	<14 U	<10 U	--	--	--	--	<1700 U	<170 U	--	--	--	--	--
Methyl cyclohexane	--	--	--	--	ug/l	<1.4 U	<1 U	--	--	--	--	<170 U	<17 UJ	--	--	--	--	--
Methyl tert butyl ether	120	6300	NA	120	ug/l	<7.2 U	<5 U	<10 U	<10 U	--	--	<830 U	<83 U	<10 U	--	--	<10.0 U	--
Methylene chloride	99	84	5	5	ug/l	<1 U	<1 U	<5 U	<5 U	--	--	<830 U	<83 U	<5 U	--	--	<5.00 U	--
Naphthalene, VOC	1.4	6.1	NA	1.4	ug/l	--	--	--	--	--	--	--	--	--	--	--	<5.00 U	--
n-Butylbenzene	NA	780	NA	780	ug/l	--	--	--	--	--	--	--	--	--	--	--	<5.00 U	--
n-Hexane	NA	250	NA	250	ug/l	--	--	<5 U	<5 U	--	--	--	--	<5 U	--	--	<5.00 U	--
n-Propylbenzene	NA	530	NA	530	ug/l	--	--	--	--	--	--	--	--	--	--	--	<5.00 U	--
o-Xylene	--	--	--	--	ug/l	--	--	<5 U	<5 U	--	--	--	--	<5 U	--	--	<5.00 U	--
Pentachloroethane	5.6	NA	NA	5.6	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
p-Isopropyltoluene	NA	170	NA	170	ug/l	--	--	--	--	--	--	--	--	--	--	--	<5.00 U	--
sec-Butylbenzene	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	<5.00 U	--
Styrene	NA	1100	100	100	ug/l	<1.4 U	<1 U	<5 U	<5 U	--	--	<170 U	<17 UJ	<5 U	--	--	<5.00 U	--
tert-Butylbenzene	NA	510	NA	510	ug/l	--	--	--	--	--	--	--	--	--	--	--	<5.00 U	--
Tetrachloroethene	97	35	5	5	ug/l	**40**	**9.1**	<5 U	<5 U	--	--	**790**	**860**	--	--	**292**	<5.00 U	--
Toluene	NA	860	1000	1000	ug/l	<1.4 U	<1 U	<5 U	<5 U	--	--	<170 U	<17 U	<5 U	--	--	<5.00 U	--
trans-1,2-Dichloroethene	NA	86	100	100	ug/l	<0.72 U	<1 U	<5 U	<5 U	--	--	**29 J**	**4.1 J**	<5 U	--	--	<5.00 U	--
trans-1,3-Dichloropropene	--	--	--	--	ug/l	<1.4 U	<1 U	<5 U	<5 U	--	--	<170 U	<17 U	<5 U	--	--	<5.00 U	--
Trichloroethene	NA	NA	5	5	ug/l	**6.2**	**3**	<5 U	<5 U	--	--	**180**	**260**	--	**94.3**	--	<5.00 U	--
Trichlorofluoromethane	NA	1100	NA	1100	ug/l	<1.4 U	<1 U	<5 U	<5 U	--	--	<170 U	<17 U	<5 U	--	--	<5.00 U	--
Trifluorotrichloroethane	--	--	--	--	ug/l	<1.4 U	<1 U	--	--	--	--	<170 U	<17 U	--	--	--	--	--
Vinyl acetate	NA	410	NA	410	ug/l	--	--	<10 U	<10 U	--	--	--	--	<10 U	--	--	<10.0 U	--
Vinyl chloride	NA	NA	2	2	ug/l	**0.59 J**	<1 U	<1 U	<1 U	--	--	<170 U	<17 U	--	<1 U	--	<1.00 U	--
Xylene (Total)	NA	190	10000	10000	ug/l	<1.4 U	<2 U	<10 U	<10 U	--	--	<330 U	<33 UJ	<10 U	--	--	--	--
SVOCs																		
1,2,4,5-Tetrachlorobenzene	NA	1.2	NA	1.2	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene, SVOC	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene, SVOC	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Diphenylhydrazine	0.67	NA	NA	0.67	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene, SVOC	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene, SVOC	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
1-Naphthylamine	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
2,2'-oxybis(1-Chloropropane)	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
2,2'-oxybis(2-Chloropropane), SVOC	--	--	--	--	ug/l	<10 U	--	--	--	--	--	--	--	--	--	--	--	--
2,3,4,6-Tetrachlorophenol	NA	170	NA	170	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--

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Table 34
Summary of Groundwater Data, Upper Unit - Compared to Generic Unrestricted Potable Use Standard
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Parameter Name	Voluntary Action Program Generic Numerical Standards (Effective June 15, 2015)				Station Name	MW-3-02	MW-3-02	MW-3-02	MW-3-02	MW-3-02	MW-3-02	MW-37-05	MW-37-05	MW-37-05	MW-37-05	MW-37-05	MW-72	MW-72
	Unrestricted Potable Use - Risk Based GW Cancer	Unrestricted Potable Use - Risk Based GW Non-Cancer	Unrestricted Potable Use - MCL	Unrestricted Potable Use - VAP UPUS	Sample Date	4/18/2003	11/12/2004	4/10/2013	4/10/2013	12/18/2014	5/19/2015	6/3/2005	11/2/2006	9/21/2012	9/21/2012	9/21/2012	2/25/2015	5/19/2015
					Aquifer Code	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:TT	UA:TT	UA:TT	UA:TT	UA:TT	UA:WT	UA:WT
					Units													
2,4,5-Trichlorophenol	NA	890	NA	890	ug/l	<10 U	--	--	--	--	--	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	35	9	NA	9	ug/l	<10 U	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dichlorophenol	NA	35	NA	35	ug/l	<10 U	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dimethylphenol	NA	270	NA	270	ug/l	<10 U	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrophenol	NA	30	NA	30	ug/l	<50 U	--	--	--	--	--	--	--	--	--	--	--	--
2,4-Dinitrotoluene	2	30	NA	2	ug/l	<10 U	--	--	--	--	--	--	--	--	--	--	--	--
2,6-Dichlorophenol	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
2,6-Dinitrotoluene	0.42	NA	NA	0.42	ug/l	<10 U	--	--	--	--	--	--	--	--	--	--	--	--
2-Chloronaphthalene	NA	550	NA	550	ug/l	<10 U	--	--	--	--	--	--	--	--	--	--	--	--
2-Chlorophenol	NA	71	NA	71	ug/l	<10 U	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylnaphthalene	NA	27	NA	27	ug/l	<10 U	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylphenol	NA	720	NA	720	ug/l	<10 U	--	--	--	--	--	--	--	--	--	--	--	--
2-Naphthylamine	0.33	NA	NA	0.33	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitroaniline	--	--	--	--	ug/l	<50 U	--	--	--	--	--	--	--	--	--	--	--	--
2-Nitrophenol	--	--	--	--	ug/l	<10 U	--	--	--	--	--	--	--	--	--	--	--	--
2-Picoline	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Toluidine	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
3&4-Methylphenol	NA	720	NA	720	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	1.1	NA	NA	1.1	ug/l	<50 U	--	--	--	--	--	--	--	--	--	--	--	--
3-Methylcholanthrene	0.031	NA	NA	0.031	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
3-Nitroaniline	--	--	--	--	ug/l	<50 U	--	--	--	--	--	--	--	--	--	--	--	--
4,6-Dinitro-2-methylphenol	--	--	--	--	ug/l	<50 U	--	--	--	--	--	--	--	--	--	--	--	--
4-Aminobiphenyl	0.026	NA	NA	0.026	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Bromophenyl phenyl ether	--	--	--	--	ug/l	<10 U	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	NA	1100	NA	1100	ug/l	<10 U	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloroaniline	3.2	59	NA	3.2	ug/l	<10 U	--	--	--	--	--	--	--	--	--	--	--	--
4-Chlorophenyl phenyl ether	--	--	--	--	ug/l	<10 U	--	--	--	--	--	--	--	--	--	--	--	--
4-Dimethylaminoazobenzene	0.043	NA	NA	0.043	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Methylphenol	NA	1400	NA	1400	ug/l	<10 U	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitroaniline	33	61	NA	33	ug/l	<50 U	--	--	--	--	--	--	--	--	--	--	--	--
4-Nitrophenol	--	--	--	--	ug/l	<50 U	--	--	--	--	--	--	--	--	--	--	--	--
5-Nitro-2-Toluidine	70	NA	NA	70	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
7,12-Dimethylbenz(a)anthracene	0.0027	NA	NA	0.0027	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthene	NA	400	NA	400	ug/l	<10 U	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthylene	NA	390	NA	390	ug/l	<10 U	--	--	--	--	--	--	--	--	--	--	--	--
Acetophenone	NA	1500	NA	1500	ug/l	<10 U	--	--	--	--	--	--	--	--	--	--	--	--
Aniline	120	110	NA	110	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Anthracene	NA	1300	NA	1300	ug/l	<10 U	--	--	--	--	--	--	--	--	--	--	--	--
Atrazine	--	--	--	--	ug/l	<10 U	--	--	--	--	--	--	--	--	--	--	--	--
Benzaldehyde	--	--	--	--	ug/l	<10 U	--	--	--	--	--	--	--	--	--	--	--	--
Benzidine	0.0029	46	NA	0.0029	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo(a)anthracene	0.92	NA	NA	0.92	ug/l	<10 U	--	--	--	--	--	--	--	--	--	--	--	--
Benzo(a)pyrene	0.092	NA	0.2	0.2	ug/l	<10 U	--	--	--	--	--	--	--	--	--	--	--	--
Benzo(b)fluoranthene	0.92	NA	NA	0.92	ug/l	<10 U	--	--	--	--	--	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	NA	470	NA	470	ug/l	<10 U	--	--	--	--	--	--	--	--	--	--	--	--
Benzo(k)fluoranthene	9.2	NA	NA	9.2	ug/l	<10 U	--	--	--	--	--	--	--	--	--	--	--	--
Benzoic acid	NA	58000	NA	58000	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzyl alcohol	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--

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Table 34
Summary of Groundwater Data, Upper Unit - Compared to Generic Unrestricted Potable Use Standard
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Parameter Name	Voluntary Action Program Generic Numerical Standards (Effective June 15, 2015)				Station Name	MW-3-02	MW-3-02	MW-3-02	MW-3-02	MW-3-02	MW-3-02	MW-37-05	MW-37-05	MW-37-05	MW-37-05	MW-37-05	MW-72	MW-72
	Unrestricted Potable Use - Risk Based GW Cancer	Unrestricted Potable Use - Risk Based GW Non-Cancer	Unrestricted Potable Use - MCL	Unrestricted Potable Use - VAP UPUS	Sample Date	4/18/2003	11/12/2004	4/10/2013	4/10/2013	12/18/2014	5/19/2015	6/3/2005	11/2/2006	9/21/2012	9/21/2012	9/21/2012	2/25/2015	5/19/2015
					Aquifer Code	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:TT	UA:TT	UA:TT	UA:TT	UA:TT	UA:WT	UA:WT
					Units													
Biphenyl	33	3100	NA	33	ug/l	<10 U	--	--	--	--	--	--	--	--	--	--	--	--
bis(2-Chloroethoxy)methane	NA	46	NA	46	ug/l	<10 U	--	--	--	--	--	--	--	--	--	--	--	--
bis(2-Chloroethyl)ether	0.12	NA	NA	0.12	ug/l	<10 U	--	--	--	--	--	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate	48	310	6	6	ug/l	<10 U	--	--	--	--	--	--	--	--	--	--	--	--
Butyl benzylphthalate	--	--	--	--	ug/l	<10 U	--	--	--	--	--	--	--	--	--	--	--	--
Caprolactam	--	--	--	--	ug/l	**84.6**	--	--	--	--	--	--	--	--	--	--	--	--
Carbazole	17	NA	NA	17	ug/l	<10 U	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	92	NA	NA	92	ug/l	<10 U	--	--	--	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	0.092	NA	NA	0.092	ug/l	<10 U	--	--	--	--	--	--	--	--	--	--	--	--
Dibenzofuran	NA	5.8	NA	5.8	ug/l	<10 U	--	--	--	--	--	--	--	--	--	--	--	--
Diethyl phthalate	NA	11000	NA	11000	ug/l	<10 U	--	--	--	--	--	--	--	--	--	--	--	--
Dimethyl phthalate	NA	12000	NA	12000	ug/l	<10 U	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-butylphthalate	NA	670	NA	670	ug/l	<10 U	--	--	--	--	--	--	--	--	--	--	--	--
Di-N-Octyl phthalate	NA	160	NA	160	ug/l	<10 U	--	--	--	--	--	--	--	--	--	--	--	--
Ethyl methanesulfonate	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Fluoranthene	NA	630	NA	630	ug/l	<10 U	--	--	--	--	--	--	--	--	--	--	--	--
Fluorene	NA	220	NA	220	ug/l	<10 U	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobenzene	0.42	13	1	1	ug/l	<10 U	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobutadiene	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	<5.00 U	--
Hexachlorobutadiene, SVOC	--	--	--	--	ug/l	<10 U	--	--	--	--	--	--	--	--	--	--	--	--
Hexachlorocyclopentadiene	NA	22	50	50	ug/l	<50 U	--	--	--	--	--	--	--	--	--	--	--	--
Hexachloroethane	7.9	5.1	NA	5.1	ug/l	<10 U	--	--	--	--	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	0.92	NA	NA	0.92	ug/l	<10 U	--	--	--	--	--	--	--	--	--	--	--	--
Isophorone	670	3000	NA	670	ug/l	<10 U	--	--	--	--	--	--	--	--	--	--	--	--
Methyl methanesulfonate	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Naphthalene, SVOC	--	--	--	--	ug/l	<10 U	--	--	--	--	--	--	--	--	--	--	--	--
Nitrobenzene	1.2	11	NA	1.2	ug/l	<10 U	--	--	--	--	--	--	--	--	--	--	--	--
N-Nitrosodimethylamine	0.013	0.12	NA	0.013	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
N-Nitrosodi-N-butylamine	0.024	NA	NA	0.024	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
N-Nitrosodi-n-propylamine	0.093	NA	NA	0.093	ug/l	<10 U	--	--	--	--	--	--	--	--	--	--	--	--
N-Nitrosodiphenylamine	100	NA	NA	100	ug/l	<10 U	--	--	--	--	--	--	--	--	--	--	--	--
N-Nitrosopiperidine	0.07	NA	NA	0.07	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Pentachlorobenzene	NA	2.3	NA	2.3	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Pentachloronitrobenzene	1	19	NA	1	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Pentachlorophenol	0.35	16	1	1	ug/l	<10 U	--	--	--	--	--	--	--	--	--	--	--	--
Phenacetin	300	NA	NA	300	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Phenanthrene	NA	3400	NA	3400	ug/l	<10 U	--	--	--	--	--	--	--	--	--	--	--	--
Phenol	NA	4500	NA	4500	ug/l	<10 U	--	--	--	--	--	--	--	--	--	--	--	--
Pronamide	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Pyrene, SVOC	--	--	--	--	ug/l	<10 U	--	--	--	--	--	--	--	--	--	--	--	--
Pyridine	NA	15	NA	15	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
PCBs																		
Aroclor-1016	9.6	1.1	NA	1.1	ug/l	<0.4 U	<0.2 U	<0.5 U	<0.5 U	<0.500 U	<0.500 U	--	--	--	--	--	<0.500 U	<0.500 U
Aroclor-1016, Dissolved	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1221	0.041	NA	NA	0.041	ug/l	<0.4 U	<0.2 U	<0.5 U	<0.5 U	<0.500 U	<0.500 U	--	--	--	--	--	<0.500 U	<0.500 U
Aroclor-1221, Dissolved	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1232	0.041	NA	NA	0.041	ug/l	<0.8 U	<0.4 U	<0.5 U	<0.5 U	<0.500 U	<0.500 U	--	--	--	--	--	<0.500 U	<0.500 U
Aroclor-1232, Dissolved	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--

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Table 34
Summary of Groundwater Data, Upper Unit - Compared to Generic Unrestricted Potable Use Standard
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Parameter Name	Voluntary Action Program Generic Numerical Standards (Effective June 15, 2015)				Station Name	MW-3-02	MW-3-02	MW-3-02	MW-3-02	MW-3-02	MW-3-02	MW-37-05	MW-37-05	MW-37-05	MW-37-05	MW-37-05	MW-72	MW-72
	Unrestricted Potable Use - Risk Based GW Cancer	Unrestricted Potable Use - Risk Based GW Non-Cancer	Unrestricted Potable Use - MCL	Unrestricted Potable Use - VAP UPUS	Sample Date	4/18/2003	11/12/2004	4/10/2013	4/10/2013	12/18/2014	5/19/2015	6/3/2005	11/2/2006	9/21/2012	9/21/2012	9/21/2012	2/25/2015	5/19/2015
					Aquifer Code	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:TT	UA:TT	UA:TT	UA:TT	UA:TT	UA:WT	UA:WT
					Units													
Aroclor-1242	0.34	NA	NA	0.34	ug/l	<0.4 U	<0.2 U	<0.5 U	<0.5 U	<0.500 U	<0.500 U	--	--	--	--	--	<0.500 U	<0.500 U
Aroclor-1242, Dissolved	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1248	0.34	NA	NA	0.34	ug/l	<0.4 U	<0.2 U	<0.5 U	<0.5 U	<0.500 U	<0.500 U	--	--	--	--	--	<0.500 U	<0.500 U
Aroclor-1248, Dissolved	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1254	0.34	0.31	NA	0.31	ug/l	**5.7**	**1.2**	**2.17**	**1.73**	**2.3**	**1.77**	--	--	--	--	--	**1.03**	**1.07**
Aroclor-1254, Dissolved	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1260	0.34	NA	NA	0.34	ug/l	<0.4 U	<0.2 U	<0.5 U	<0.5 U	<0.500 U	<0.500 U	--	--	--	--	--	<0.500 U	<0.500 U
Aroclor-1260, Dissolved	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Total PCBs	NA	NA	0.5	0.5	ug/l	**5.7**	**1.2**	**2.17**	**1.73**	**2.3**	**1.77**	--	--	--	--	--	**1.03**	**1.07**
Total PCBs, Dissolved	NA	NA	0.5	0.5	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals																		
Aluminum	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Antimony	1E+07	0.006	0.006	0.006	mg/l	<0.002 U	--	--	--	--	--	--	--	--	--	--	--	--
Antimony, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic	0.00045	0.0047	0.01	0.01	mg/l	<0.01 U	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Barium	--	2.9	2	2	mg/l	**0.091 J**	--	--	--	--	--	--	--	--	--	--	--	--
Barium, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Beryllium	--	0.016	0.004	0.004	mg/l	<0.001 U	--	--	--	--	--	--	--	--	--	--	--	--
Beryllium, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	--	--	0.005	0.005	mg/l	**0.00028 J**	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Calcium	--	--	--	--	mg/l	--	--	--	--	--	--	--	**196**	--	--	--	--	--
Calcium, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium Total	--	--	0.1	0.1	mg/l	<0.01 U	--	--	--	--	--	--	--	--	--	--	--	--
Chromium Total, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Cobalt	--	0.0047	--	0.0047	mg/l	<0.05 U	--	--	--	--	--	--	--	--	--	--	--	--
Cobalt, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Copper	--	0.62	1.3	1.3	mg/l	<0.025 U	--	--	--	--	--	--	--	--	--	--	--	--
Copper, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide (total)	--	--	0.2	0.2	mg/l	<0.01 U	--	--	--	--	--	--	--	--	--	--	--	--
Iron	--	--	--	--	mg/l	--	--	--	--	--	--	--	**0.12**	--	--	--	--	--
Iron, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Lead	--	--	0.015	0.015	mg/l	<0.003 U	--	--	--	--	--	--	--	--	--	--	--	--
Lead, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Magnesium	--	--	--	--	mg/l	--	--	--	--	--	--	--	**0.27 J**	--	--	--	--	--
Magnesium, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	--	--	--	--	mg/l	**0.13**	--	--	--	--	--	--	<0.015 U	--	--	--	--	--
Manganese, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Mercury	--	0.00045	0.002	0.002	mg/l	<0.0002 U	--	--	--	--	--	--	--	--	--	--	--	--
Mercury, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Nickel	--	0.3	--	0.3	mg/l	<0.04 U	--	--	--	--	--	--	--	--	--	--	--	--
Nickel, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Potassium	--	--	--	--	mg/l	--	--	--	--	--	--	--	**37**	--	--	--	--	--
Potassium, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Selenium	--	0.078	0.05	0.05	mg/l	<0.005 U	--	--	--	--	--	--	--	--	--	--	--	--
Selenium, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Silver	--	0.071	--	0.071	mg/l	<0.01 U	--	--	--	--	--	--	--	--	--	--	--	--

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Table 34
Summary of Groundwater Data, Upper Unit - Compared to Generic Unrestricted Potable Use Standard
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Parameter Name	Voluntary Action Program Generic Numerical Standards (Effective June 15, 2015)				Station Name	MW-3-02	MW-3-02	MW-3-02	MW-3-02	MW-3-02	MW-3-02	MW-37-05	MW-37-05	MW-37-05	MW-37-05	MW-37-05	MW-72	MW-72
	Unrestricted Potable Use - Risk Based GW Cancer	Unrestricted Potable Use - Risk Based GW Non-Cancer	Unrestricted Potable Use - MCL	Unrestricted Potable Use - VAP UPUS	Sample Date	4/18/2003	11/12/2004	4/10/2013	4/10/2013	12/18/2014	5/19/2015	6/3/2005	11/2/2006	9/21/2012	9/21/2012	9/21/2012	2/25/2015	5/19/2015
					Aquifer Code	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:TT	UA:TT	UA:TT	UA:TT	UA:TT	UA:WT	UA:WT
					Units													
Silver, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium	--	--	--	--	mg/l	--	--	--	--	--	--	--	**42**	--	--	--	--	--
Sodium, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Thallium	--	--	0.002	0.002	mg/l	<0.001 U	--	--	--	--	--	--	--	--	--	--	--	--
Thallium, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Vanadium	--	0.063	--	0.063	mg/l	<0.05 U	--	--	--	--	--	--	--	--	--	--	--	--
Vanadium, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Zinc	--	4.7	--	4.7	mg/l	<0.02 U	--	--	--	--	--	--	--	--	--	--	--	--
Zinc, Dissolved	--	--	--	--	mg/l	--	--	--	--	--	--	--	--	--	--	--	--	--
MISCELLANEOUS																		
Conductivity Field	--	--	--	--	ms/cm	--	--	--	--	--	--	--	**2.79**	--	--	--	--	--
Conductivity Field	--	--	--	--	umhos/cm	--	--	--	--	--	--	--	--	--	--	--	--	--
Dissolved Oxygen, Field	--	--	--	--	mg/l	--	--	--	--	--	--	--	**2.74**	--	--	--	--	--
ORP, Field	--	--	--	--	millivolts	--	--	--	--	--	--	--	**-122**	--	--	--	--	--
Outside Temperature	--	--	--	--	Deg F	--	--	--	--	--	--	--	--	--	--	--	--	--
pH Field	--	--	--	--	s.u.	--	--	--	--	--	--	--	**12.45**	--	--	--	--	--
Temp Air	--	--	--	--	Deg F	--	--	--	--	--	--	--	**41**	--	--	--	--	--
Temperature	--	--	--	--	Deg C	--	--	--	--	--	--	--	**13.21**	--	--	--	--	--
Turbidity (Field)	--	--	--	--	NTUs	--	--	--	--	--	--	--	**0**	--	--	--	--	--
Ethane	--	--	--	--	ug/l	--	--	--	--	--	--	--	**2.4**	--	--	--	--	--
Ethene	--	--	--	--	ug/l	--	--	--	--	--	--	--	**7.5**	--	--	--	--	--
Methane	--	--	--	--	ug/l	--	--	--	--	--	--	--	**4.9**	--	--	--	--	--
Alkalinity, Bicarbonate	--	--	--	--	mg/l	--	--	--	--	--	--	--	<5 U	--	--	--	--	--
Alkalinity, Carbonate	--	--	--	--	mg/l	--	--	--	--	--	--	--	**96.7**	--	--	--	--	--
Alkalinity, Total (As CaCO3)	--	--	--	--	ug/l	--	--	--	--	--	--	--	**466000 J**	--	--	--	--	--
Chloride	--	--	--	--	ug/l	--	--	--	--	--	--	--	**45800**	--	--	--	--	--
Dissolved Organic Carbon	--	--	--	--	ug/l	--	--	--	--	--	--	--	**4000**	--	--	--	--	--
Hardness	--	--	--	--	ug/l	--	--	--	--	--	--	--	**530000**	--	--	--	--	--
Nitrate (as N)	--	--	--	--	ug/l	--	--	--	--	--	--	--	**730**	--	--	--	--	--
Nitrite (as N)	--	--	--	--	ug/l	--	--	--	--	--	--	--	**410**	--	--	--	--	--
Sulfate	--	--	--	--	ug/l	--	--	--	--	--	--	--	**27800**	--	--	--	--	--
Sulfide	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--
Sulfide (Acid Soluble)	--	--	--	--	ug/l	--	--	--	--	--	--	--	<1000 U	--	--	--	--	--
Total Dissolved Solids	--	--	--	--	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--

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Table 34
Summary of Groundwater Data, Upper Unit - Compared to Generic Unrestricted Potable Use Standard
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Parameter Name	Voluntary Action Program Generic Numerical Standards (Effective June 15, 2015)				Station Name	MW-9-03	MW-9-03	MW-9-03	Maximum Detected Concentration
	Unrestricted Potable Use - Risk Based GW Cancer	Unrestricted Potable Use - Risk Based GW Non-Cancer	Unrestricted Potable Use - MCL	Unrestricted Potable Use - VAP UPUS	Sample Date	4/10/2003	11/15/2004	9/24/2012	
					Aquifer Code	UA:WT	UA:WT	UA:WT	
					Units				
VOCs									
1,1,1,2-Tetrachloroethane	5	370	NA	5	ug/l	--	--	<5 U	--
1,1,1-Trichloroethane	NA	7500	200	200	ug/l	<1 U	<1 U	<5 U	**2.9**
1,1,2,2-Tetrachloroethane	0.66	280	NA	0.66	ug/l	<1 U	<1 U	<5 U	--
1,1,2-Trichloroethane	2.4	58.45	5	5	ug/l	<1 U	<1 U	<5 U	--
1,1-Dichloroethane	24	2900	NA	24	ug/l	**0.66 J**	**1.5**	<5 U	**12 J**
1,1-Dichloroethene	NA	260	7	7	ug/l	<1 U	<1 U	<5 U	**39.4**
1,1-Dichloropropene	--	--	--	--	ug/l	--	--	<5 U	--
1,2,3-Trichlorobenzene	--	--	--	--	ug/l	--	--	--	--
1,2,3-Trichloropropane	0.0201	0.62	NA	0.0201	ug/l	--	--	--	--
1,2,4-Trichlorobenzene, VOC	9.9	3.9	70	70	ug/l	<1 U	<1 UJ	--	--
1,2,4-Trimethylbenzene	NA	15	NA	15	ug/l	--	--	--	--
1,2-Dibromo-3-chloropropane	0.008	0.36	0.2	0.2	ug/l	<2 U	<2 U	--	--
1,2-Dibromoethane	0.065	16	0.05	0.05	ug/l	<1 U	<1 U	<5 U	--
1,2-Dichlorobenzene, VOC	NA	280	600	600	ug/l	<1 U	<1 U	--	--
1,2-Dichloroethane	1.5	15	5	5	ug/l	<1 U	<1 U	<5 U	--
1,2-Dichloropropane	3.8	8.3	5	5	ug/l	<1 U	<1 U	<5 U	--
1,3,5-Trimethylbenzene	NA	87	NA	87	ug/l	--	--	--	--
1,3-Dichlorobenzene, VOC	--	--	--	--	ug/l	<1 U	<1 U	--	--
1,3-Dichloropropane	NA	290	NA	290	ug/l	--	--	<5 U	--
1,4-Dichlorobenzene, VOC	4.2	470	75	75	ug/l	<1 U	<1 U	--	--
1,4-Dioxane	6.7	470	NA	6.7	ug/l	--	--	--	--
2,2-Dichloropropane	--	--	--	--	ug/l	--	--	<5 U	--
2-Butanone	NA	4900	NA	4900	ug/l	<10 U	<10 U	<20 U	--
2-Chloroethyl vinyl ether	--	--	--	--	ug/l	--	--	--	--
2-Chlorotoluene	--	--	--	--	ug/l	--	--	<5 U	--
2-Hexanone	--	--	--	--	ug/l	<10 UJ	<10 U	<20 U	--
2-Phenylbutane	NA	1600	NA	1600	ug/l	--	--	--	--
4-Chlorotoluene	--	--	--	--	ug/l	--	--	<5 U	--
4-Methyl-2-Pentanone	NA	1000	NA	1000	ug/l	<10 U	<10 U	<20 U	--
Acetone	NA	12000	NA	12000	ug/l	<10 UJ	<10 UJ	<20 U	**140 J**
Acetonitrile	NA	130	NA	130	ug/l	--	--	<40 U	--
Acrolein	NA	0.041	NA	0.041	ug/l	--	--	<20 U	--
Acrylonitrile	0.45	4.1	NA	0.45	ug/l	--	--	<20 U	--
Allyl chloride	6.3	2.1	NA	2.1	ug/l	--	--	<5 U	--
Benzene	3.9	29	5	5	ug/l	<1 U	**0.42 J**	<5 U	**0.42 J**
Bromobenzene	--	--	--	--	ug/l	--	--	<5 U	--
Bromochloromethane	--	--	--	--	ug/l	--	--	<5 U	--
Bromodichloromethane	1.2	290	80	80	ug/l	<1 U	<1 U	<5 U	--
Bromoform	79	290	80	80	ug/l	<1 U	<1 U	<5 U	--
Bromomethane	NA	7	NA	7	ug/l	<1 U	<1 U	<5 U	--
Carbon disulfide	NA	720	NA	720	ug/l	<1 U	<1 U	<20 U	--
Carbon tetrachloride	3.9	40	5	5	ug/l	<1 U	<1 U	<5 U	--
Chlorobenzene	NA	72	100	100	ug/l	<1 U	<1 U	<5 U	**9.11**
Chlorobromomethane	--	--	--	--	ug/l	--	--	--	--
Chloroethane	NA	21000	NA	21000	ug/l	<1 U	<1 U	<5 U	--
Chloroform	1.9	84	80	80	ug/l	<1 U	<1 U	<5 U	**18**
Chloromethane	NA	190	NA	190	ug/l	<1 U	<1 U	<5 U	--

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Table 34
Summary of Groundwater Data, Upper Unit - Compared to Generic Unrestricted Potable Use Standard
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Parameter Name	Voluntary Action Program Generic Numerical Standards (Effective June 15, 2015)				Station Name	MW-9-03	MW-9-03	MW-9-03	Maximum Detected Concentration
	Unrestricted Potable Use - Risk Based GW Cancer	Unrestricted Potable Use - Risk Based GW Non-Cancer	Unrestricted Potable Use - MCL	Unrestricted Potable Use - VAP UPUS	Sample Date	4/10/2003	11/15/2004	9/24/2012	
					Aquifer Code	UA:WT	UA:WT	UA:WT	
					Units				
cis-1,2-Dichloroethene	NA	28	70	70	ug/l	**0.61**	**2.5**	**56.1**	**40300**
cis-1,3-Dichloropropene	--	--	--	--	ug/l	<1 U	<1 U	<5 U	--
Cyclohexane	NA	13000	NA	13000	ug/l	<1 U	**0.46 J**	--	**0.46 J**
Cymene	--	--	--	--	ug/l	--	--	--	--
Dibromochloromethane	1.5	290	80	80	ug/l	<1 U	<1 U	<5 U	--
Dibromomethane	NA	150	NA	150	ug/l	--	--	<5 U	--
Dichlorodifluoromethane	NA	2800	NA	2800	ug/l	<1 UJ	<1 U	<5 U	--
Ethylbenzene	13	670	700	700	ug/l	<1 U	<1 U	<5 U	**18.9**
Hexachlorobutadiene, VOC	--	--	--	--	ug/l	--	--	--	--
Hexane	--	--	--	--	ug/l	--	--	--	--
Iodomethane	--	--	--	--	ug/l	--	--	<10 U	--
Isopropylbenzene, VOC	NA	390	NA	390	ug/l	<1 U	**0.7 J**	--	**5.61**
m&p-Xylene	--	--	--	--	ug/l	--	--	--	--
Methyl acetate	--	--	--	--	ug/l	<10 U	<10 U	--	--
Methyl cyclohexane	--	--	--	--	ug/l	<1 U	<1 U	--	--
Methyl tert butyl ether	120	6300	NA	120	ug/l	<5 U	<5 U	<10 U	--
Methylene chloride	99	84	5	5	ug/l	<1 U	<1 U	<5 U	**70 J**
Naphthalene, VOC	1.4	6.1	NA	1.4	ug/l	--	--	--	--
n-Butylbenzene	NA	780	NA	780	ug/l	--	--	--	--
n-Hexane	NA	250	NA	250	ug/l	--	--	<5 U	--
n-Propylbenzene	NA	530	NA	530	ug/l	--	--	--	--
o-Xylene	--	--	--	--	ug/l	--	--	<5 U	**50.4**
Pentachloroethane	5.6	NA	NA	5.6	ug/l	--	--	--	--
p-Isopropyltoluene	NA	170	NA	170	ug/l	--	--	--	--
sec-Butylbenzene	--	--	--	--	ug/l	--	--	--	--
Styrene	NA	1100	100	100	ug/l	<1 U	<1 U	<5 U	--
tert-Butylbenzene	NA	510	NA	510	ug/l	--	--	--	--
Tetrachloroethene	97	35	5	5	ug/l	**8.4**	**0.53 J**	<5 U	**4600**
Toluene	NA	860	1000	1000	ug/l	<1 U	<1 U	<5 U	**19.2**
trans-1,2-Dichloroethene	NA	86	100	100	ug/l	<0.5 U	<1 U	<5 U	**141**
trans-1,3-Dichloropropene	--	--	--	--	ug/l	<1 U	<1 U	<5 U	--
Trichloroethene	NA	NA	5	5	ug/l	**0.58 J**	**1.3**	<5 U	**1390**
Trichlorofluoromethane	NA	1100	NA	1100	ug/l	<1 U	<1 U	<5 U	--
Trifluorotrichloroethane	--	--	--	--	ug/l	<1 U	<1 U	--	--
Vinyl acetate	NA	410	NA	410	ug/l	--	--	<10 U	--
Vinyl chloride	NA	NA	2	2	ug/l	<1 U	**1.2**	**68.3**	**3480**
Xylene (Total)	NA	190	10000	10000	ug/l	<1 U	<2 U	<10 U	**24.2**
SVOCs									
1,2,4,5-Tetrachlorobenzene	NA	1.2	NA	1.2	ug/l	--	--	--	--
1,2,4-Trichlorobenzene, SVOC	--	--	--	--	ug/l	--	--	--	--
1,2-Dichlorobenzene, SVOC	--	--	--	--	ug/l	--	--	--	--
1,2-Diphenylhydrazine	0.67	NA	NA	0.67	ug/l	--	--	--	--
1,3-Dichlorobenzene, SVOC	--	--	--	--	ug/l	--	--	--	--
1,4-Dichlorobenzene, SVOC	--	--	--	--	ug/l	--	--	--	--
1-Naphthylamine	--	--	--	--	ug/l	--	--	--	--
2,2'-oxybis(1-Chloropropane)	--	--	--	--	ug/l	--	--	--	--
2,2'-oxybis(2-Chloropropane), SVOC	--	--	--	--	ug/l	<10 U	--	--	--
2,3,4,6-Tetrachlorophenol	NA	170	NA	170	ug/l	--	--	--	--

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Table 34
Summary of Groundwater Data, Upper Unit - Compared to Generic Unrestricted Potable Use Standard
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Parameter Name	Voluntary Action Program Generic Numerical Standards (Effective June 15, 2015)				Station Name	MW-9-03	MW-9-03	MW-9-03	Maximum Detected Concentration
	Unrestricted Potable Use - Risk Based GW Cancer	Unrestricted Potable Use - Risk Based GW Non-Cancer	Unrestricted Potable Use - MCL	Unrestricted Potable Use - VAP UPUS	Sample Date	4/10/2003	11/15/2004	9/24/2012	
					Aquifer Code	UA:WT	UA:WT	UA:WT	
					Units				
2,4,5-Trichlorophenol	NA	890	NA	890	ug/l	<10 U	--	--	--
2,4,6-Trichlorophenol	35	9	NA	9	ug/l	<10 U	--	--	--
2,4-Dichlorophenol	NA	35	NA	35	ug/l	<10 U	--	--	--
2,4-Dimethylphenol	NA	270	NA	270	ug/l	<10 U	--	--	--
2,4-Dinitrophenol	NA	30	NA	30	ug/l	<50 UJ	--	--	--
2,4-Dinitrotoluene	2	30	NA	2	ug/l	<10 U	--	--	--
2,6-Dichlorophenol	--	--	--	--	ug/l	--	--	--	--
2,6-Dinitrotoluene	0.42	NA	NA	0.42	ug/l	<10 U	--	--	--
2-Chloronaphthalene	NA	550	NA	550	ug/l	<10 U	--	--	--
2-Chlorophenol	NA	71	NA	71	ug/l	<10 U	--	--	--
2-Methylnaphthalene	NA	27	NA	27	ug/l	<10 U	--	--	--
2-Methylphenol	NA	720	NA	720	ug/l	<10 U	--	--	--
2-Naphthylamine	0.33	NA	NA	0.33	ug/l	--	--	--	--
2-Nitroaniline	--	--	--	--	ug/l	<50 U	--	--	--
2-Nitrophenol	--	--	--	--	ug/l	<10 U	--	--	--
2-Picoline	--	--	--	--	ug/l	--	--	--	--
2-Toluidine	--	--	--	--	ug/l	--	--	--	--
3&4-Methylphenol	NA	720	NA	720	ug/l	--	--	--	--
3,3'-Dichlorobenzidine	1.1	NA	NA	1.1	ug/l	<50 U	--	--	--
3-Methylcholanthrene	0.031	NA	NA	0.031	ug/l	--	--	--	--
3-Nitroaniline	--	--	--	--	ug/l	<50 U	--	--	--
4,6-Dinitro-2-methylphenol	--	--	--	--	ug/l	<50 UJ	--	--	--
4-Aminobiphenyl	0.026	NA	NA	0.026	ug/l	--	--	--	--
4-Bromophenyl phenyl ether	--	--	--	--	ug/l	<10 U	--	--	--
4-Chloro-3-methylphenol	NA	1100	NA	1100	ug/l	<10 U	--	--	--
4-Chloroaniline	3.2	59	NA	3.2	ug/l	<10 U	--	--	--
4-Chlorophenyl phenyl ether	--	--	--	--	ug/l	<10 U	--	--	--
4-Dimethylaminoazobenzene	0.043	NA	NA	0.043	ug/l	--	--	--	--
4-Methylphenol	NA	1400	NA	1400	ug/l	<10 U	--	--	--
4-Nitroaniline	33	61	NA	33	ug/l	<50 U	--	--	--
4-Nitrophenol	--	--	--	--	ug/l	<50 U	--	--	--
5-Nitro-2-Toluidine	70	NA	NA	70	ug/l	--	--	--	--
7,12-Dimethylbenz(a)anthracene	0.0027	NA	NA	0.0027	ug/l	--	--	--	--
Acenaphthene	NA	400	NA	400	ug/l	<10 U	--	--	--
Acenaphthylene	NA	390	NA	390	ug/l	<10 U	--	--	--
Acetophenone	NA	1500	NA	1500	ug/l	<10 U	--	--	--
Aniline	120	110	NA	110	ug/l	--	--	--	--
Anthracene	NA	1300	NA	1300	ug/l	<10 U	--	--	--
Atrazine	--	--	--	--	ug/l	<10 U	--	--	--
Benzaldehyde	--	--	--	--	ug/l	<10 U	--	--	--
Benzidine	0.0029	46	NA	0.0029	ug/l	--	--	--	--
Benzo(a)anthracene	0.92	NA	NA	0.92	ug/l	<10 U	--	--	--
Benzo(a)pyrene	0.092	NA	0.2	0.2	ug/l	<10 U	--	--	--
Benzo(b)fluoranthene	0.92	NA	NA	0.92	ug/l	<10 U	--	--	--
Benzo(g,h,i)perylene	NA	470	NA	470	ug/l	<10 U	--	--	--
Benzo(k)fluoranthene	9.2	NA	NA	9.2	ug/l	<10 U	--	--	--
Benzoic acid	NA	58000	NA	58000	ug/l	--	--	--	--
Benzyl alcohol	--	--	--	--	ug/l	--	--	--	--

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Table 34
Summary of Groundwater Data, Upper Unit - Compared to Generic Unrestricted Potable Use Standard
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Parameter Name	Voluntary Action Program Generic Numerical Standards (Effective June 15, 2015)				Station Name	MW-9-03	MW-9-03	MW-9-03	Maximum Detected Concentration
	Unrestricted Potable Use - Risk Based GW Cancer	Unrestricted Potable Use - Risk Based GW Non-Cancer	Unrestricted Potable Use - MCL	Unrestricted Potable Use - VAP UPUS	Sample Date	4/10/2003	11/15/2004	9/24/2012	
					Aquifer Code	UA:WT	UA:WT	UA:WT	
					Units				
Biphenyl	33	3100	NA	33	ug/l	<10 U	--	--	--
bis(2-Chloroethoxy)methane	NA	46	NA	46	ug/l	<10 U	--	--	--
bis(2-Chloroethyl)ether	0.12	NA	NA	0.12	ug/l	<10 U	--	--	--
bis(2-Ethylhexyl)phthalate	48	310	6	6	ug/l	<10 U	--	--	**4.7 J**
Butyl benzylphthalate	--	--	--	--	ug/l	<10 U	--	--	--
Caprolactam	--	--	--	--	ug/l	**250**	--	--	**470**
Carbazole	17	NA	NA	17	ug/l	<10 U	--	--	--
Chrysene	92	NA	NA	92	ug/l	<10 U	--	--	--
Dibenz(a,h)anthracene	0.092	NA	NA	0.092	ug/l	<10 U	--	--	--
Dibenzofuran	NA	5.8	NA	5.8	ug/l	<10 U	--	--	--
Diethyl phthalate	NA	11000	NA	11000	ug/l	<10 U	--	--	**0.86 J**
Dimethyl phthalate	NA	12000	NA	12000	ug/l	<10 U	--	--	--
Di-n-butylphthalate	NA	670	NA	670	ug/l	<10 U	--	--	--
Di-N-Octyl phthalate	NA	160	NA	160	ug/l	<10 U	--	--	--
Ethyl methanesulfonate	--	--	--	--	ug/l	--	--	--	--
Fluoranthene	NA	630	NA	630	ug/l	<10 U	--	--	--
Fluorene	NA	220	NA	220	ug/l	<10 U	--	--	--
Hexachlorobenzene	0.42	13	1	1	ug/l	<10 U	--	--	--
Hexachlorobutadiene	--	--	--	--	ug/l	--	--	--	--
Hexachlorobutadiene, SVOC	--	--	--	--	ug/l	<10 U	--	--	--
Hexachlorocyclopentadiene	NA	22	50	50	ug/l	<50 U	--	--	--
Hexachloroethane	7.9	5.1	NA	5.1	ug/l	<10 U	--	--	--
Indeno(1,2,3-cd)pyrene	0.92	NA	NA	0.92	ug/l	<10 U	--	--	--
Isophorone	670	3000	NA	670	ug/l	<10 U	--	--	--
Methyl methanesulfonate	--	--	--	--	ug/l	--	--	--	--
Naphthalene, SVOC	--	--	--	--	ug/l	<10 U	--	--	--
Nitrobenzene	1.2	11	NA	1.2	ug/l	<10 U	--	--	--
N-Nitrosodimethylamine	0.013	0.12	NA	0.013	ug/l	--	--	--	--
N-Nitrosodi-N-butylamine	0.024	NA	NA	0.024	ug/l	--	--	--	--
N-Nitrosodi-n-propylamine	0.093	NA	NA	0.093	ug/l	<10 U	--	--	--
N-Nitrosodiphenylamine	100	NA	NA	100	ug/l	<10 U	--	--	--
N-Nitrosopiperidine	0.07	NA	NA	0.07	ug/l	--	--	--	--
Pentachlorobenzene	NA	2.3	NA	2.3	ug/l	--	--	--	--
Pentachloronitrobenzene	1	19	NA	1	ug/l	--	--	--	--
Pentachlorophenol	0.35	16	1	1	ug/l	<10 U	--	--	--
Phenacetin	300	NA	NA	300	ug/l	--	--	--	--
Phenanthrene	NA	3400	NA	3400	ug/l	<10 U	--	--	--
Phenol	NA	4500	NA	4500	ug/l	<10 U	--	--	--
Pronamide	--	--	--	--	ug/l	--	--	--	--
Pyrene, SVOC	--	--	--	--	ug/l	<10 U	--	--	--
Pyridine	NA	15	NA	15	ug/l	--	--	--	--
PCBs									
Aroclor-1016	9.6	1.1	NA	1.1	ug/l	<0.2 UJ	<0.2 U	--	--
Aroclor-1016, Dissolved	--	--	--	--	ug/l	--	--	--	--
Aroclor-1221	0.041	NA	NA	0.041	ug/l	<0.2 UJ	<0.2 U	--	--
Aroclor-1221, Dissolved	--	--	--	--	ug/l	--	--	--	--
Aroclor-1232	0.041	NA	NA	0.041	ug/l	<0.4 UJ	<0.4 U	--	--
Aroclor-1232, Dissolved	--	--	--	--	ug/l	--	--	--	--

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Table 34
Summary of Groundwater Data, Upper Unit - Compared to Generic Unrestricted Potable Use Standard
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Parameter Name	Voluntary Action Program Generic Numerical Standards (Effective June 15, 2015)				Station Name	MW-9-03	MW-9-03	MW-9-03	Maximum Detected Concentration
	Unrestricted Potable Use - Risk Based GW Cancer	Unrestricted Potable Use - Risk Based GW Non-Cancer	Unrestricted Potable Use - MCL	Unrestricted Potable Use - VAP UPUS	Sample Date	4/10/2003	11/15/2004	9/24/2012	
					Aquifer Code	UA:WT	UA:WT	UA:WT	
					Units				
Aroclor-1242	0.34	NA	NA	0.34	ug/l	<0.2 UJ	<0.2 U	--	--
Aroclor-1242, Dissolved	--	--	--	--	ug/l	--	--	--	--
Aroclor-1248	0.34	NA	NA	0.34	ug/l	<0.2 UJ	<0.2 U	--	**0.13 J**
Aroclor-1248, Dissolved	--	--	--	--	ug/l	--	--	--	--
Aroclor-1254	0.34	0.31	NA	0.31	ug/l	<0.2 UJ	<0.2 U	--	**6.51**
Aroclor-1254, Dissolved	--	--	--	--	ug/l	--	--	--	--
Aroclor-1260	0.34	NA	NA	0.34	ug/l	<0.2 UJ	<0.2 U	--	--
Aroclor-1260, Dissolved	--	--	--	--	ug/l	--	--	--	--
Total PCBs	NA	NA	0.5	0.5	ug/l	<0.4 UJ	<0.4 U	--	**6.51**
Total PCBs, Dissolved	NA	NA	0.5	0.5	ug/l	--	--	--	--
Metals									
Aluminum	--	--	--	--	mg/l	--	--	--	**0.136**
Antimony	1E+07	0.006	0.006	0.006	mg/l	<0.002 U	--	--	--
Antimony, Dissolved	--	--	--	--	mg/l	--	--	--	--
Arsenic	0.00045	0.0047	0.01	0.01	mg/l	<0.01 U	--	--	**0.0234**
Arsenic, Dissolved	--	--	--	--	mg/l	--	--	--	**0.0027 J**
Barium	--	2.9	2	2	mg/l	**0.19 J**	--	--	**1.1**
Barium, Dissolved	--	--	--	--	mg/l	--	--	--	**0.14 J**
Beryllium	--	0.016	0.004	0.004	mg/l	<0.001 U	--	--	--
Beryllium, Dissolved	--	--	--	--	mg/l	--	--	--	--
Cadmium	--	--	0.005	0.005	mg/l	<0.005 U	--	--	**0.0028 J**
Cadmium, Dissolved	--	--	--	--	mg/l	--	--	--	**0.00031 J**
Calcium	--	--	--	--	mg/l	--	--	--	**196**
Calcium, Dissolved	--	--	--	--	mg/l	--	--	--	**88.6**
Chromium Total	--	--	0.1	0.1	mg/l	<0.01 U	--	--	**0.009**
Chromium Total, Dissolved	--	--	--	--	mg/l	--	--	--	**0.002 J**
Cobalt	--	0.0047	--	0.0047	mg/l	<0.05 U	--	--	**0.001 J**
Cobalt, Dissolved	--	--	--	--	mg/l	--	--	--	--
Copper	--	0.62	1.3	1.3	mg/l	<0.025 U	--	--	**0.031**
Copper, Dissolved	--	--	--	--	mg/l	--	--	--	--
Cyanide (total)	--	--	0.2	0.2	mg/l	<0.01 U	--	--	**0.024**
Iron	--	--	--	--	mg/l	--	--	--	**17.1**
Iron, Dissolved	--	--	--	--	mg/l	--	--	--	**0.071 J**
Lead	--	--	0.015	0.015	mg/l	<0.003 U	--	--	**0.002 J**
Lead, Dissolved	--	--	--	--	mg/l	--	--	--	--
Magnesium	--	--	--	--	mg/l	--	--	--	**37.4**
Magnesium, Dissolved	--	--	--	--	mg/l	--	--	--	**36.7**
Manganese	--	--	--	--	mg/l	**0.41**	--	--	**1.5**
Manganese, Dissolved	--	--	--	--	mg/l	--	--	--	**0.034**
Mercury	--	0.00045	0.002	0.002	mg/l	<0.0002 U	--	--	--
Mercury, Dissolved	--	--	--	--	mg/l	--	--	--	--
Nickel	--	0.3	--	0.3	mg/l	<0.04 U	--	--	**0.0094**
Nickel, Dissolved	--	--	--	--	mg/l	--	--	--	--
Potassium	--	--	--	--	mg/l	--	--	--	**58**
Potassium, Dissolved	--	--	--	--	mg/l	--	--	--	**5.1**
Selenium	--	0.078	0.05	0.05	mg/l	<0.005 U	--	--	**0.00091 J**
Selenium, Dissolved	--	--	--	--	mg/l	--	--	--	--
Silver	--	0.071	--	0.071	mg/l	<0.01 U	--	--	**0.00089 J**

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Table 34
Summary of Groundwater Data, Upper Unit - Compared to Generic Unrestricted Potable Use Standard
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Parameter Name	Voluntary Action Program Generic Numerical Standards (Effective June 15, 2015)				Station Name	MW-9-03	MW-9-03	MW-9-03	Maximum Detected Concentration
	Unrestricted Potable Use - Risk Based GW Cancer	Unrestricted Potable Use - Risk Based GW Non-Cancer	Unrestricted Potable Use - MCL	Unrestricted Potable Use - VAP UPUS	Sample Date	4/10/2003	11/15/2004	9/24/2012	
					Aquifer Code	UA:WT	UA:WT	UA:WT	
					Units				
Silver, Dissolved	--	--	--	--	mg/l	--	--	--	--
Sodium	--	--	--	--	mg/l	--	--	--	**89.4**
Sodium, Dissolved	--	--	--	--	mg/l	--	--	--	**87.6**
Thallium	--	--	0.002	0.002	mg/l	<0.001 U	--	--	--
Thallium, Dissolved	--	--	--	--	mg/l	--	--	--	--
Vanadium	--	0.063	--	0.063	mg/l	<0.05 U	--	--	**0.0013 J**
Vanadium, Dissolved	--	--	--	--	mg/l	--	--	--	--
Zinc	--	4.7	--	4.7	mg/l	<0.02 U	--	--	**0.0565**
Zinc, Dissolved	--	--	--	--	mg/l	--	--	--	--
MISCELLANEOUS									
Conductivity Field	--	--	--	--	ms/cm	--	--	--	**2.79**
Conductivity Field	--	--	--	--	umhos/cm	--	--	--	**0.427**
Dissolved Oxygen, Field	--	--	--	--	mg/l	--	--	--	**3.15**
ORP, Field	--	--	--	--	millivolts	--	--	--	**234**
Outside Temperature	--	--	--	--	Deg F	--	--	--	**45**
pH Field	--	--	--	--	s.u.	--	--	--	**12.45**
Temp Air	--	--	--	--	Deg F	--	--	--	**70**
Temperature	--	--	--	--	Deg C	--	--	--	**17.19**
Turbidity (Field)	--	--	--	--	NTUs	--	--	--	**69.7**
Ethane	--	--	--	--	ug/l	--	--	--	**50**
Ethene	--	--	--	--	ug/l	--	--	--	**170**
Methane	--	--	--	--	ug/l	--	--	--	**1200**
Alkalinity, Bicarbonate	--	--	--	--	mg/l	--	--	--	**416**
Alkalinity, Carbonate	--	--	--	--	mg/l	--	--	--	**96.7**
Alkalinity, Total (As CaCO3)	--	--	--	--	ug/l	--	--	--	**466000 J**
Chloride	--	--	--	--	ug/l	--	--	--	**151000**
Dissolved Organic Carbon	--	--	--	--	ug/l	--	--	--	**6000**
Hardness	--	--	--	--	ug/l	--	--	--	**530000**
Nitrate (as N)	--	--	--	--	ug/l	--	--	--	**2000**
Nitrite (as N)	--	--	--	--	ug/l	--	--	--	**410**
Sulfate	--	--	--	--	ug/l	--	--	--	**80300**
Sulfide	--	--	--	--	ug/l	--	--	--	**1600**
Sulfide (Acid Soluble)	--	--	--	--	ug/l	--	--	--	--
Total Dissolved Solids	--	--	--	--	ug/l	--	--	--	**798000**

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Table 34
Summary of Groundwater Data, Upper Unit - Compared to Generic Unrestricted Potable Use Standard
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Notes:
- = Not analyzed or not available
Bold = parameters were detected in one of more samples
Deg C = Degree Celcius
Def F = Degree Fahrenheit
GW = groundwater
J = result is estimated
MCL = Maximum containment limit
mg/l = milligram per liter
ms/cm = milliSiemens per centimeter
NA = Not Applicable
NTUs = nephelomteric turbidity units
PCB = polychlorinated biphenyl
s.u. = standard unit
SVOC = Semi-Volatile Organic Compounds
U = Parameter not detected, reporting limit is presented
UA:TT = Upper aquifer, top of till
UA:WT = Upper aquifer, water table
ug/l = micrograms per liter
umhos/cm = micromhos per centimeter
VAP UPUS =
VOC = Volatile Organic Compounds
Total PCBs value is the sum of all positively detected PCB aroclors

Exceeds Unrestricted Potable Use - VAP UPUS
Exceeds Unrestricted Potable Use - MCL
Exceeds Unrestricted Potable Use - Risk Based GW Non-Cancer
Exceeds Unrestricted Potable Use - Risk Based GWCancer
Concentration exceeds screening level

Table 35
Summary of Groundwater Data, Till Unit - Compared to Generic Unrestricted Potable Use Standard
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Parameter Name	Voluntary Action Program Generic Numerical Standards (Effective June 15, 2015)				Station Name	MW-36-05	MW-36-05	MW-36-05	MW-40-05	MW-40-05	MW-54-06	MW-54-06	MW-54-06	Maximum Detected Concentration
	Unrestricted Potable Use - Risk Based GW Cancer	Unrestricted Potable Use - Risk Based GW Non-Cancer	Unrestricted Potable Use - MCL	Unrestricted Potable Use - VAP UPUS	Sample Date	6/2/2005	6/2/2005	11/7/2006	7/18/2005	11/16/2006	11/29/2006	9/19/2012	9/11/2014	
					Aquifer Code	TR	TR	TR	TR	TR	TR	TR	TR	
					Units									
VOCs														
1,1,1,2-Tetrachloroethane	5	370	NA	5	ug/l							5 U	5 U	-
1,1,1-Trichloroethane	NA	7500	200	200	ug/l	<5 U	<5 U	<5 U	2.9 U	**0.38 J**	13 U	5 U	5 U	**0.38**
1,1,2,2-Tetrachloroethane	0.66	280	NA	0.66	ug/l	<5 U	<5 U	<5 U	2.9 U	1 UJ	13 U	5 U	5 U	-
1,1,2-Trichloroethane	2.4	58.45	5	5	ug/l	<5 U	<5 U	<5 U	2.9 U	1 U	13 U	5 U	5 U	-
1,1-Dichloroethane	24	2900	NA	24	ug/l	<5 U	<5 U	<5 U	2.9 U	1 U	13 U	5 U	5 U	-
1,1-Dichloroethene	NA	260	7	7	ug/l	<5 U	<5 U	<5 U	2.9 U	1 U	13 U	5 U	5 U	-
1,1-Dichloropropene	NL	NL	NL	NL	ug/l							5 U	5 U	-
1,2,3-Trichlorobenzene	NL	NL	NL	NL	ug/l								5 U	-
1,2,3-Trichloropropane	0.0201	0.62	NA	0.0201	ug/l								5 U	-
1,2,4-Trichlorobenzene, VOC	9.9	3.9	70	70	ug/l	<25 U	<25 U	<5 U	2.9 U	1 U	13 U		5 U	-
1,2,4-Trimethylbenzene	NA	15	NA	15	ug/l								5 U	-
1,2-Dibromo-3-chloropropane	0.008	0.36	0.2	0.2	ug/l	<5 U	<5 U	<5 U	2.9 U	1 U	13 U		10 U	-
1,2-Dibromoethane	0.065	16	0.05	0.05	ug/l	<5 U	<5 U	<5 U	2.9 U	1 U	13 U	5 U	5 U	-
1,2-Dichlorobenzene, VOC	NA	280	600	600	ug/l	<5 U	<5 U	<5 U	2.9 U	1 U	13 U		5 U	-
1,2-Dichloroethane	1.5	15	5	5	ug/l	<5 U	<5 U	<5 U	2.9 U	1 U	13 U	5 U	5 U	-
1,2-Dichloropropane	3.8	8.3	5	5	ug/l	<5 U	<5 U	<5 U	2.9 U	1 U	13 U	5 U	5 U	-
1,3,5-Trimethylbenzene	NA	87	NA	87	ug/l								5 U	-
1,3-Dichlorobenzene, VOC	--	--	--	--	ug/l	<5 U	<5 U	<5 U	2.9 U	1 U	13 U		5 U	-
1,3-Dichloropropane	NA	290	NA	290	ug/l							5 U	5 U	-
1,4-Dichlorobenzene, VOC	4.2	470	75	75	ug/l	<5 U	<5 U	<5 U	2.9 U	1 U	13 U		5 U	-
2,2-Dichloropropane	NL	NL	NL	NL	ug/l							5 U	5 U	-
2-Butanone	NA	4900	NA	4900	ug/l	<120 U	<120 U	<50 U	29 U	10 U	130 U	20 U	20 U	-
2-Chlorotoluene	NL	NL	NL	NL	ug/l							5 U	5 U	-
2-Hexanone	--	--	--	--	ug/l	<250 U	<250 U	<50 U	29 U	10 U	130 U	20 U	20 U	-
4-Chlorotoluene	NL	NL	NL	NL	ug/l							5 U	5 U	-
4-Methyl-2-Pentanone	NA	1000	NA	1000	ug/l	<250 U	<250 U	<50 U	29 U	10 U	130 U	20 U	20 U	-
Acetone	NA	12000	NA	12000	ug/l	<120 U	<120 U	<50 UJ	29 U	10 U	130 U	20 U	20 U	-
Acetonitrile	NA	130	NA	130	ug/l							40 U	40 U	-
Acrolein	NA	0.041	NA	0.041	ug/l							20 U	20 U	-
Acrylonitrile	0.45	4.1	NA	0.45	ug/l							20 U	20 U	-
Allyl chloride	6.3	2.1	NA	2.1	ug/l							5 U	5 U	-
Benzene	3.9	29	5	5	ug/l	<5 U	<5 U	<5 U	2.9 U	1 U	13 U	5 U	5 U	-
Bromobenzene	NL	NL	NL	NL	ug/l							5 U	5 U	-
Bromochloromethane	NL	NL	NL	NL	ug/l							5 U	5 U	-
Bromodichloromethane	1.2	290	80	80	ug/l	<5 U	<5 U	<5 U	2.9 U	1 U	13 U	5 U	5 U	-
Bromoform	79	290	80	80	ug/l	<5 U	<5 U	<5 U	2.9 U	1 U	13 U	5 U	5 U	-
Bromomethane	NA	7	NA	7	ug/l	<5 U	<5 U	<5 U	2.9 U	1 U	13 U	5 U	5 U	-
Carbon disulfide	NA	720	NA	720	ug/l	<25 U	<25 U	<5 U	2.9 U	1 U	13 U	20 U	20 U	-
Carbon tetrachloride	3.9	40	5	5	ug/l	<5 U	<5 U	<5 U	2.9 U	1 U	13 U	5 U	5 U	-
Chlorobenzene	NA	72	100	100	ug/l	<5 U	<5 U	<5 U	2.9 U	1 U	13 U	5 U	5 U	-
Chloroethane	NA	21000	NA	21000	ug/l	<5 U	<5 U	<5 U	2.9 U	1 U	13 U	5 U	5 U	-
Chloroform	1.9	84	80	80	ug/l	<5 U	**0.95 J**	<5 U	2.9 U	1 U	13 U	5 U	5 U	**0.95**
Chloromethane	NA	190	NA	190	ug/l	<5 U	<5 U	<5 U	2.9 U	1 U	13 U	5 U	5 U	-
cis-1,2-Dichloroethene	NA	28	70	70	ug/l	**12**	**11**	**72**	**6**	**5**	**170**	**215**	**190 D**	**215**
cis-1,3-Dichloropropene	4.1	38	NA	4.1	ug/l	<5 U	<5 U	<5 U	2.9 U	1 U	13 U	5 U	5 U	-
Cyclohexane	NA	13000	NA	13000	ug/l	<5 U	<5 U	<5 U	2.9 U	1 U	13 U			-
Dibromochloromethane	1.5	290	80	80	ug/l	<5 U	<5 U	<5 U	2.9 U	1 U	13 U	5 U	5 U	-
Dibromomethane	NA	150	NA	150	ug/l							5 U	5 U	-
Dichlorodifluoromethane	NA	2800	NA	2800	ug/l	<5 U	<5 U	<5 U	2.9 U	1 UJ	**380**	**117**	**66.8**	**380**
Ethylbenzene	13	670	700	700	ug/l	<5 U	<5 U	<5 U	2.9 U	1 U	13 U	5 U	5 U	-
Hexachlorobutadiene, VOC	2.6	4.7	NA	2.6	ug/l								5 U	-
Iodomethane	NL	NL	NL	NL	ug/l							10 U	10 U	-
Isopropylbenzene, VOC	NA	390	NA	390	ug/l	<25 U	<25 U	<5 U	2.9 U	1 U	13 U		5 U	-
m&p-Xylene	NA	190	10000	10000	ug/l								10 U	-
Methyl acetate	--	--	--	--	ug/l	<50 U	<50 U	<50 U	29 U	10 U	130 U			-
Methyl cyclohexane	--	--	--	--	ug/l	<5 U	<5 U	<5 U	2.9 U	1 U	13 U			-
Methyl tert butyl ether	120	6300	NA	120	ug/l	<25 U	<25 U	<25 U	14 U	5 U	67 U	10 U	10 U	-
Methylene chloride	99	84	5	5	ug/l	<25 U	<25 U	<25 U	14 U	5 U	67 U	5 U	5 U	-

Table 35
Summary of Groundwater Data, Till Unit - Compared to Generic Unrestricted Potable Use Standard
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Parameter Name	Voluntary Action Program Generic Numerical Standards (Effective June 15, 2015)				Station Name	MW-36-05	MW-36-05	MW-36-05	MW-40-05	MW-40-05	MW-54-06	MW-54-06	MW-54-06	Maximum Detected Concentration
	Unrestricted Potable Use - Risk Based GW Cancer	Unrestricted Potable Use - Risk Based GW Non-Cancer	Unrestricted Potable Use - MCL	Unrestricted Potable Use - VAP UPUS	Sample Date	6/2/2005	6/2/2005	11/7/2006	7/18/2005	11/16/2006	11/29/2006	9/19/2012	9/11/2014	
					Aquifer Code	TR	TR	TR	TR	TR	TR	TR	TR	
					Units									
Naphthalene, VOC	1.4	6.1	NA	1.4	ug/l								5 U	-
n-Butylbenzene	NA	780	NA	780	ug/l								5 U	-
n-Hexane	NA	250	NA	250	ug/l							5 U	5 U	-
n-Propylbenzene	NA	530	NA	530	ug/l								5 U	-
o-Xylene	NA	190	10000	10000	ug/l							5 U	5 U	-
p-Isopropyltoluene	NA	170	NA	170	ug/l								5 U	-
sec-Butylbenzene	NA	1600	NA	1600	ug/l								5 U	-
Styrene	NA	1100	100	100	ug/l	<5 U	<5 U	<5 U	2.9 U	1 U	13 U	5 U	5 U	-
tert-Butylbenzene	NA	510	NA	510	ug/l								5 U	-
Tetrachloroethene	97	35	5	5	ug/l	**11**	**12**	**13**	**27**	**11 J**	13 U	**5.66**	5 U	**27**
Toluene	NA	860	1000	1000	ug/l	<5 U	<5 U	<5 U	2.9 U	1 U	13 U	5 U	5 U	-
trans-1,2-Dichloroethene	NA	86	100	100	ug/l	<5 U	<5 U	**3.2 J**	2.9 U	**0.41 J**	**3.2 J**	5 U	5 U	**3.2**
trans-1,3-Dichloropropene	4.1	38	NA	4.1	ug/l	<5 U	<5 U	<5 U	2.9 U	1 UJ	13 U	5 U	5 U	-
Trichloroethene	NA	NA	5	5	ug/l	**190**	**190**	**110**	**72**	**64**	**360**	**370 D**	**271 D**	**370**
Trichlorofluoromethane	NA	1100	NA	1100	ug/l	<5 U	<5 U	<5 U	2.9 U	1 U	13 U	5 U	5 U	-
Trifluorotrichloroethane	--	--	--	--	ug/l	<5 U	<5 U	<5 U	2.9 U	1 U	13 U			-
Vinyl acetate	NA	410	NA	410	ug/l							10 U	10 U	-
Vinyl chloride	NA	NA	2	2	ug/l	<5 U	<5 U	<5 U	2.9 U	1 U	**4.1 J**	**3.77**	**7.65**	**7.65**
Xylene (Total)	NA	190	10000	10000	ug/l	<10 U	<10 U	<10 U	5.7 U	2 U	27 U	10 U		-
SVOCs (not analyzed)														-
PCBs (not analyzed)														
Metals (select metals analyzed)														
Calcium	--	--	--	--	mg/l	--	--	**62.4**			**72**			
Iron	--	--	--	--	mg/l	--	--	**1.2**			**0.59**			
Magnesium	--	--	--	--	mg/l	--	--	**24.1**			**25.8**			
Manganese	--	--	--	--	mg/l	--	--	**0.051**			**0.029**			
Potassium	--	--	--	--	mg/l	--	--	**2.9 J**			**3.4 J**			
Sodium	--	--	--	--	mg/l	--	--	**37.6**			**53.7**			
MISCELLANEOUS														
Ethane	--	--	--	--	ug/l	--	--	**0.16 J**			0.5 UJ			
Methane	--	--	--	--	ug/l	--	--	**0.65**			**0.34 J**			
Chloride	--	--	--	--	ug/l	--	--	**69200**			**95.3**			
Nitrate (as N)	--	--	--	--	ug/l	--	--	**180**			0.1 U			
Nitrite (as N)	--	--	--	--	ug/l	--	--	<100 U			0.1 U			
Sulfate	--	--	--	--	ug/l	--	--	**68500**			**67.2**			
Sulfide (Acid Soluble)	--	--	--	--	ug/l	--	--	**2000**			1 U			

Notes:
Bolded parameters were detected in one or more samples
- = Not analyzed or not available
µg/L = micrograms per kilogram
J = Result is estimated
MCL = Maximum containment limit
mg/L = Milligrams per liter
NA / -- = Not available
PCB = Polychlorinated biphenyl
SVOC = Semi-volatile organic compounds

U = Parameter not detected, reporting limit is presented
TR = Till-rich zone
VOC = Volatile organic compound
Exceeds Unrestricted Potable Use - VAP UPUS
Exceeds Unrestricted Potable Use - MCL
Exceeds Unrestricted Potable Use - Risk Based GW Non-Cancer
Exceeds Unrestricted Potable Use - Risk Based GWCancer

Table 36
Summary of Groundwater Data, Lower Aquifer Unit - Compared to Generic Unrestricted Potable Use Standard
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

	Voluntary Action Program Generic Numerical Standards (Effective June 15, 2015)				Station Name	MW-39-05	MW-39-05	DAY-22	DAY-22	DAY-22	CTA-Geotherm	CTA-Geotherm	CTA-Geotherm	CTA-Geotherm	CTA-Geotherm	MW-35-05	MW-35-05	Maximum Detected Concentration
	Unrestricted Potable Use - Risk Based GW Cancer	Unrestricted Potable Use - Risk Based GW Non-Cancer	Unrestricted Potable Use - MCL	Unrestricted Potable Use - VAP UPUS	Sample Date	6/2/2005	9/25/2006	12/28/2004	5/30/2006	9/19/2006	5/8/2009	9/8/2011	8/17/2012	9/12/2014	10/3/2014	6/6/2005	9/25/2006	
					Aquifer Code	LA	LA	LA	LA	LA	LA	LA	LA	LA	LA	LA	LA	
Parameter Name					Units													
VOCs																		
1,1,1,2-Tetrachloroethane	5	370	NA	5	ug/l			1 U	1 U		5 U	5 U	5 U	5 U	5 U			--
1,1,1-Trichloroethane	NA	7500	200	200	ug/l	<1 U	<1 U	1 U	1 U	1 U	5 U					1 U	1 U	--
1,1,2,2-Tetrachloroethane	0.66	280	NA	0.66	ug/l	<1 U	<1 U	1 U	1 U	1 U	5 U					1 U	1 U	--
1,1,2-Trichloroethane	2.4	58.45	5	5	ug/l	<1 U	<1 U	1 U	1 U	1 U	5 U					1 U	1 U	--
1,1-Dichloroethane	24	2900	NA	24	ug/l	<1 U	<1 U	1 U	1 U	1 U	5 U					1 U	1 U	--
1,1-Dichloroethene	NA	260	7	7	ug/l	<1 U	<1 U	1 U	1 U	1 U	5 U					1 U	1 U	--
1,1-Dichloropropene	NL	NL	NL	NL	ug/l			1 U	1 U		5 U							--
1,2,3-Trichloropropane	0.0201	0.62	NA	0.0201	ug/l			5 U			5 U							--
1,2,4-Trichlorobenzene, VOC	9.9	3.9	70	70	ug/l	<5 U	<1 U	5 U	5 U	1 U	5 U					5 U	1 U	--
1,2,4-Trimethylbenzene	NA	15	NA	15	ug/l			1 U	1 U		5 U							--
1,2-Dibromo-3-chloropropane	0.008	0.36	0.2	0.2	ug/l	<1 U	<1 U			1 U	5 U					1 U	1 U	--
1,2-Dibromoethane	0.065	16	0.05	0.05	ug/l	<1 U	<1 U			1 U	5 U					1 U	1 U	--
1,2-Dichlorobenzene, VOC	NA	280	600	600	ug/l	<1 U	<1 U	1 U	1 U	1 U	5 U					1 U	1 U	--
1,2-Dichloroethane	1.5	15	5	5	ug/l	<1 U	<1 U	1 U	1 U	1 U	5 U					1 U	1 U	--
1,2-Dichloropropane	3.8	8.3	5	5	ug/l	<1 U	<1 U	1 U	1 U	1 U	5 U					1 U	1 U	--
1,3,5-Trimethylbenzene	NA	87	NA	87	ug/l			1 U	1 U		5 U							--
1,3-Dichlorobenzene, VOC	--	--	--	--	ug/l	<1 U	<1 U	1 U	1 U	1 U	5 U					1 U	1 U	--
1,3-Dichloropropane	NA	290	NA	290	ug/l			1 U	1 U		5 U							--
1,4-Dichlorobenzene, VOC	4.2	470	75	75	ug/l	<1 U	<1 U	1 U	1 U	1 U	5 U					1 U	1 U	--
1,4-Dioxane	6.7	470	NA	6.7	ug/l				20 U		5 U							--
2,2-Dichloropropane	NL	NL	NL	NL	ug/l			1 U	1 U		5 U							--
2-Butanone	NA	4900	NA	4900	ug/l	<25 U	<10 UJ	12.5 U	12.5 U	10 U	20 U					25 U	10 UJ	--
2-Chlorotoluene	NL	NL	NL	NL	ug/l			1 U	1 U		5 U							--
2-Hexanone	--	--	--	--	ug/l	<50 UJ	<10 UJ	12.5 U	12.5 U	10 U	20 U					50 U	10 U	--
4-Chlorotoluene	NL	NL	NL	NL	ug/l			1 U	1 U		5 U							--
4-Methyl-2-Pentanone	NA	1000	NA	1000	ug/l	<50 U	<10 UJ	12.5 U	12.5 U	10 U	20 U					50 U	10 UJ	--
Acetone	NA	12000	NA	12000	ug/l	<25 UJ	<10 UJ	20 U	20 U	10 U	20 U					25 UJ	10 UJ	--
Acetonitrile	NA	130	NA	130	ug/l						40 U							--
Acrolein	NA	0.041	NA	0.041	ug/l						20 U							--
Acrylonitrile	0.45	4.1	NA	0.45	ug/l						20 U							--
Allyl chloride	6.3	2.1	NA	2.1	ug/l						5 U							--
Benzene	3.9	29	5	5	ug/l	<1 U	<1 U	1 U	1 U	1 U	5 U					1 U	1 U	--
Bromobenzene	NL	NL	NL	NL	ug/l			1 U	1 U		5 U							--
Bromochloromethane	NL	NL	NL	NL	ug/l			1 U	1 U		5 U							--
Bromodichloromethane	1.2	290	80	80	ug/l	<1 U	<1 U	1 U	1 U	1 U	5 U					1 U	1 U	--
Bromoform	79	290	80	80	ug/l	<1 U	<1 U	1 U	1 U	1 U	5 U					1 U	1 U	--
Bromomethane	NA	7	NA	7	ug/l	<1 U	<1 UJ	5 U	5 U	1 U	5 U					1 U	1 UJ	--
Carbon disulfide	NA	720	NA	720	ug/l	<5 U	<1 U	1 U	1 U	1 U	20 U					5 U	**0.34 J**	**0.34**
Carbon tetrachloride	3.9	40	5	5	ug/l	<1 U	<1 U	1 U	1 U	1 U	5 U					1 U	1 U	--
Chlorobenzene	NA	72	100	100	ug/l	<1 U	<1 U	1 U	1 U	1 U	5 U					1 U	1 U	--
Chloroethane	NA	21000	NA	21000	ug/l	<1 U	<1 UJ	5 U	5 U	1 U	5 U					1 U	1 UJ	--
Chloroform	1.9	84	80	80	ug/l	<1 U	<1 U	1 U	1 U	1 U	5 U					1 U	1 U	--
Chloromethane	NA	190	NA	190	ug/l	<1 U	<1 UJ	5 U	5 U	1 U	5 U					1 U	1 UJ	--
cis-1,2-Dichloroethene	NA	28	70	70	ug/l	<1 U	**1.2**	1 U	1 U	1 U	5 U	1 U	1 U	1 U		1 U	1 U	**1.2**
cis-1,3-Dichloropropene	4.1	38	NA	4.1	ug/l	<1 UJ	<1 U	1 U	1 U	1 U	5 U					1 UJ	1 U	--
Cyclohexane	NA	13000	NA	13000	ug/l	<1 U	<1 U			1 UJ	5 U					1 U	1 U	--
Dibromochloromethane	1.5	290	80	80	ug/l	<1 U	<1 U	1 U	1 U	1 U	5 U					1 U	1 U	--
Dibromomethane	NA	150	NA	150	ug/l			1 U	1 U		5 U							--
Dichlorodifluoromethane	NA	2800	NA	2800	ug/l	<1 U	**3.3 J**	1 U	1 U	1 U	5 U					1 U	1 UJ	**3.3 J**
Ethylbenzene	13	670	700	700	ug/l	<1 U	<1 U	1 U	1 U	1 U	5 U					1 U	1 U	--
Hexachlorobutadiene, VOC	2.6	4.7	NA	2.6	ug/l			5 U			5 U							--
Iodomethane	NL	NL	NL	NL	ug/l						10 U							--
Isopropylbenzene, VOC	NA	390	NA	390	ug/l	<5 U	<1 U	1 U	1 U	1 U	5 U					5 U	1 U	--
Methyl acetate	--	--	--	--	ug/l	<10 U	<10 UJ			10 U	5 U					10 U	10 UJ	--
Methyl cyclohexane	--	--	--	--	ug/l	<1 U	<1 U			1 UJ	5 U					1 U	1 U	--
Methyl tert butyl ether	120	6300	NA	120	ug/l	<5 U	<5 U	5 U	5 U	5 U	10 U					5 U	5 U	--
Methylene chloride	99	84	5	5	ug/l	<5 UJ	<5 U	5 U	5 U	5 U	5 U					5 UJ	5 U	--
n-Butylbenzene	NA	780	NA	780	ug/l			1 U	1 U		5 U							--
n-Hexane	NA	250	NA	250	ug/l			5 U	5 U		5 U							--
n-Propylbenzene	NA	530	NA	530	ug/l			1 U	1 U		5 U							--
o-Xylene	NA	190	10000	10000	ug/l						5 U							--
p-Isopropyltoluene	NA	170	NA	170	ug/l			1 U	1 U		5 U							--
sec-Butylbenzene	NA	1600	NA	1600	ug/l			1 U	1 U		5 U							--
Styrene	NA	1100	100	100	ug/l	<1 U	<1 U	1 U	1 U	1 U	5 U					1 U	1 U	--
tert-Butylbenzene	NA	510	NA	510	ug/l			1 U	1 U		5 U							--
Tetrachloroethene	97	35	5	5	ug/l	<1 U	<1 U	1 U	1 U	1 U	5 U					1 U	1 U	--
Toluene	NA	860	1000	1000	ug/l	**0.17 J**	**0.3 J**	1 U	1 U	1 U	5 U					**0.23 J**	1 U	**0.3 J**
trans-1,2-Dichloroethene	NA	86	100	100	ug/l	<1 U	<1 U	1 U	1 U	1 U	5 U	1 U	1 U	1 U		1 U	1 U	
trans-1,3-Dichloropropene	4.1	38	NA	4.1	ug/l	<1 U	<1 U	1 U	1 U	1 U	5 U					1 UJ	1 U	--
Trichloroethene	NA	NA	5	5	ug/l	<1 U	<1 U	1 U	1 U	1 U	5 U	1 U	1 U	1 U		1 U	1 U	
Trichlorofluoromethane	NA	1100	NA	1100	ug/l	<1 U	<1 UJ	1 U	1 U	1 U	5 U					1 U	1 UJ	--
Trifluorotrichloroethane	--	--	--	--	ug/l	<1 U	<1 UJ			1 U	5 U					1 U	1 UJ	--

Table 36
Summary of Groundwater Data, Lower Aquifer Unit - Compared to Generic Unrestricted Potable Use Standard
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

	Voluntary Action Program Generic Numerical Standards (Effective June 15, 2015)				Station Name	MW-39-05	MW-39-05	DAY-22	DAY-22	DAY-22	CTA-Geotherm	CTA-Geotherm	CTA-Geotherm	CTA-Geotherm	CTA-Geotherm	MW-35-05	MW-35-05	Maximum Detected Concentration
	Unrestricted Potable Use - Risk Based GW Cancer	Unrestricted Potable Use - Risk Based GW Non-Cancer	Unrestricted Potable Use - MCL	Unrestricted Potable Use - VAP UPUS	Sample Date	6/2/2005	9/25/2006	12/28/2004	5/30/2006	9/19/2006	5/8/2009	9/8/2011	8/17/2012	9/12/2014	10/3/2014	6/6/2005	9/25/2006	
					Aquifer Code	LA	LA	LA	LA	LA	LA	LA	LA	LA	LA	LA	LA	
Parameter Name					Units													
Vinyl acetate	NA	410	NA	410	ug/l			5 U	5 U		10 U							--
Vinyl chloride	NA	NA	2	2	ug/l	**3**	**4.1**	1 U	1 U	1 U	1 U	1 U	1 U	1 U		1 U	1 U	**4.1**
Xylene (Total)	NA	190	10000	10000	ug/l	<2 U	<2 U	1 U	2 U	2 U	10 U					2 U	2 U	--
SVOCs																		
2,2-oxybis(2-Chloropropane), SVOC	NL	NL	NL	NL	ug/l													--
2,4,5-Trichlorophenol	NA	890	NA	890	ug/l													--
2,4,6-Trichlorophenol	35	9	NA	9	ug/l													--
2,4-Dichlorophenol	NA	35	NA	35	ug/l													--
2,4-Dimethylphenol	NA	270	NA	270	ug/l													--
2,4-Dinitrophenol	NA	30	NA	30	ug/l													--
2,4-Dinitrotoluene	2	30	NA	2	ug/l													--
2,6-Dinitrotoluene	0.42	NA	NA	0.42	ug/l													--
2-Chloronaphthalene	NA	550	NA	550	ug/l													--
2-Chlorophenol	NA	71	NA	71	ug/l													--
2-Methylnaphthalene	NA	27	NA	27	ug/l													--
2-Methylphenol	NA	720	NA	720	ug/l													--
2-Nitroaniline	NL	NL	NL	NL	ug/l													--
2-Nitrophenol	NL	NL	NL	NL	ug/l													--
3,3-Dichlorobenzidine	1.1	NA	NA	1.1	ug/l													--
3-Nitroaniline	NL	NL	NL	NL	ug/l													--
4,6-Dinitro-2-methylphenol	NA	1.2	NA	1.2	ug/l													--
4-Bromophenyl phenyl ether	NL	NL	NL	NL	ug/l													--
4-Chloro-3-methylphenol	NA	1100	NA	1100	ug/l													--
4-Chloroaniline	3.2	59	NA	3.2	ug/l													--
4-Chlorophenyl phenyl ether	NL	NL	NL	NL	ug/l													--
4-Methylphenol	NA	1400	NA	1400	ug/l													--
4-Nitroaniline	33	61	NA	33	ug/l													--
4-Nitrophenol	NL	NL	NL	NL	ug/l													--
Acenaphthene	NA	400	NA	400	ug/l													--
Acenaphthylene	NA	390	NA	390	ug/l													--
Acetophenone	NA	1500	NA	1500	ug/l													--
Anthracene	NA	1300	NA	1300	ug/l													--
Atrazine	NL	NL	NL	NL	ug/l													--
Benzaldehyde	NL	NL	NL	NL	ug/l													--
Benzo(a)anthracene	0.92	NA	NA	0.92	ug/l													--
Benzo(a)pyrene	0.092	NA	0.2	0.2	ug/l													--
Benzo(b)fluoranthene	0.92	NA	NA	0.92	ug/l													--
Benzo(g,h,i)perylene	NA	470	NA	470	ug/l													--
Benzo(k)fluoranthene	9.2	NA	NA	9.2	ug/l													--
Biphenyl	33	3100	NA	33	ug/l													--
bis(2-Chloroethoxy)methane	NA	46	NA	46	ug/l													--
bis(2-Chloroethyl)ether	0.12	NA	NA	0.12	ug/l													--
bis(2-Ethylhexyl)phthalate	48	310	6	6	ug/l													--
Butyl benzylphthalate	140	1200	NA	140	ug/l													--
Caprolactam	NL	NL	NL	NL	ug/l													--
Carbazole	17	NA	NA	17	ug/l													--
Chrysene	92	NA	NA	92	ug/l													--
Dibenz(a,h)anthracene	0.092	NA	NA	0.092	ug/l													--
Dibenzofuran	NA	5.8	NA	5.8	ug/l													--
Diethyl phthalate	NA	11000	NA	11000	ug/l													--
Dimethyl phthalate	NA	12000	NA	12000	ug/l													--
Di-n-butylphthalate	NA	670	NA	670	ug/l													--
Di-N-Octyl phthalate	NA	160	NA	160	ug/l													--
Fluoranthene	NA	630	NA	630	ug/l													--
Fluorene	NA	220	NA	220	ug/l													--
Hexachlorobenzene	0.42	13	1	1	ug/l													--
Hexachlorobutadiene	2.6	4.7	NA	2.6	ug/l				5 U									--
Hexachlorobutadiene, SVOC	2.6	4.7	NA	2.6	ug/l													--
Hexachlorocyclopentadiene	NA	22	50	50	ug/l													--
Hexachloroethane	7.9	5.1	NA	5.1	ug/l													--
Indeno(1,2,3-cd)pyrene	0.92	NA	NA	0.92	ug/l													--
Isophorone	670	3000	NA	670	ug/l													--
Naphthalene, SVOC	1.4	6.1	NA	1.4	ug/l													--
Nitrobenzene	1.2	11	NA	1.2	ug/l													--
N-Nitrosodi-n-propylamine	0.093	NA	NA	0.093	ug/l													--
N-Nitrosodiphenylamine	100	NA	NA	100	ug/l													--
Pentachlorophenol	0.35	16	1	1	ug/l													--
Phenanthrene	NA	3400	NA	3400	ug/l													--
Phenol	NA	4500	NA	4500	ug/l													--
Pyrene, SVOC	NA	87	NA	87	ug/l													--
PCBs					ug/l													--
Aroclor-1016	9.6	1.1	NA	1.1	ug/l				0.2 U									--

Table 36
Summary of Groundwater Data, Lower Aquifer Unit - Compared to Generic Unrestricted Potable Use Standard
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

	Voluntary Action Program Generic Numerical Standards (Effective June 15, 2015)				Station Name	MW-39-05	MW-39-05	DAY-22	DAY-22	DAY-22	CTA-Geotherm	CTA-Geotherm	CTA-Geotherm	CTA-Geotherm	CTA-Geotherm	MW-35-05	MW-35-05	Maximum Detected Concentration
	Unrestricted Potable Use - Risk Based GW Cancer	Unrestricted Potable Use - Risk Based GW Non-Cancer	Unrestricted Potable Use - MCL	Unrestricted Potable Use - VAP UPUS	Sample Date	6/2/2005	9/25/2006	12/28/2004	5/30/2006	9/19/2006	5/8/2009	9/8/2011	8/17/2012	9/12/2014	10/3/2014	6/6/2005	9/25/2006	
					Aquifer Code	LA	LA	LA	LA	LA	LA	LA	LA	LA	LA	LA	LA	
Parameter Name					Units													
Aroclor-1221	0.041	NA	NA	0.041	ug/l				0.2 U									--
Aroclor-1232	0.041	NA	NA	0.041	ug/l				0.2 U									--
Aroclor-1242	0.34	NA	NA	0.34	ug/l				0.2 U									--
Aroclor-1248	0.34	NA	NA	0.34	ug/l				0.2 U									--
Aroclor-1254	0.34	0.31	NA	0.31	ug/l				0.2 U									--
Aroclor-1260	0.34	NA	NA	0.34	ug/l				0.2 U									--
Metals																		--
Antimony	NA	6	6	6	mg/l				0.001 U		0.005 U							--
Arsenic	0.45	4.7	10	10	mg/l			0.005 U	0.005 U		**0.00583**				0.01 U			**0.0088**
Barium	NA	2900	2000	2000	mg/l			**0.0754**	**0.075**						**0.0831**			**0.092**
Beryllium	NA	16	4	4	mg/l				0.001 U		0.005 U							--
Cadmium	NA	NA	5	5	mg/l			0.001 U	0.001 U		0.0002 U				0.001 U			--
Chromium Total	NA	NA	100	100	mg/l			0.002 U	0.002 U		0.005 U				0.005 U			--
Cobalt	NA	4.7	NA	4.7	mg/l													--
Copper	NA	620	1300	1300	mg/l				0.005 U		0.005 U				0.01 U			--
Cyanide (total)	NA	NA	200	200	mg/l													--
Lead	NA	NA	15	15	mg/l			0.001 U	0.001 U		0.002 U				0.005 U			--
Mercury	NA	0.45	2	2	mg/l			0.0002 U	0.0002 U		0.0002 U				0.0002 U			--
Nickel	NA	300	NA	300	mg/l				0.005 U		0.005 U				0.01 U			--
Selenium	NA	78	50	50	mg/l			**0.00698**	0.005 U		0.005 U				0.01 U			**0.00698**
Silver	NA	71	NA	71	mg/l			0.0005 U	0.0005 U		0.005 U							--
Strontium	NL	NL	NL	NL	mg/l										**1.02**			**1.02**
Thallium	NA	NA	NA	NA	mg/l				0.001 U		0.001 U							--
Vanadium	NA	63	NA	63	mg/l													--
Zinc	NA	4700	NA	4700	mg/l				0.05 U		**0.0531**				**0.0528**			**0.0531**
Metals (select metals analyzed)																		
Calcium	--	--	--	--	mg/l						**108**							**108**
Iron	--	--	--	--	mg/l						**2.21**				**2.18**			**2.21**
Magnesium	--	--	--	--	mg/l						**42**							**42**
Manganese	--	--	--	--	mg/l						**0.239**							**0.239**
Phosphate	--	--	--	--	mg/l						0.918 U							--
MISCELLANEOUS																		
Chlorine	1.6	NA	NA	1.6	mg/l						**0.075**							**0.075**
Fluoride	0.93	NA	4000	4	mg/l						**0.29**							**0.29**
Nitrate (as N)	--	--	--	--	mg/l						0.1 U							--

Notes:
Bolded parameters were detected in one or more samples
- = Not analyzed or not available
µg/L = micrograms per kilogram
GW = groundwater
J = Result is estimated
LA = Lower aquifer
MCL = Maximum containment limit
NA / -- = Not available
PCB = Polychlorinated biphenyl
SVOC = Semi-volatile organic compounds
U = Parameter not detected, reporting limit is presented
VOC = Volatile organic compound

Exceeds Unrestricted Potable Use - VAP UPUS
Exceeds Unrestricted Potable Use - MCL
Exceeds Unrestricted Potable Use - Risk Based GW Non-Cancer
Exceeds Unrestricted Potable Use - Risk Based GWCancer

Table 37
Cumulative Risk Contributions of the Constituents Lacking Generic Groundwater Standards
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analyte	Maximum Detected Concentration (ug/L)	Residential GUPUS/Supplemental Criteria		Risk Ratio
Lower Unit				
Carbon disulfide	0.340	720	GUPUS	0.00047
Dichlorodifluoromethane	3	2800	GUPUS	0.00118
Iron	2210	14000	RSL	0.15786
Chlorine	75	1600	GUPUS	0.04688
Manganese	49	430	RSL	0.11395
Strontium	1020	12000	RSL	0.08500
Zinc	53.1	4700	GUPUS	0.011298
		Cumulative Risk Ratio		0.4
Till Unit				
Methane	0.65	20,000	RSL; methanol	0.00003
Chloride	69200	250000	SMCL	0.27680
Dichlorodifluoromethane	380	2800	GUPUS	0.13571
Iron	1200	14000	RSL	0.08571
Manganese	51	430	RSL	0.11860
Nitrate	180	32000	RSL	0.00563
Sulfate	68500	250000	SMCL	0.274
Sulfide (Acid Soluble)	2000	--	--	--
		Cumulative Risk Ratio		0.9
Upper Unit				
1,1-Dichloroethane	12	24	GUPUS	0.5000
Acetone	140	12,000	GUPUS	0.0117
Cyclohexane	0.46	13,000	GUPUS	0.00004
Diethyl phthalate	0.86	11,000	GUPUS	0.0001
Isopropylbenzene, VOC	5.6	390	GUPUS	0.0144
Cobalt	1	4.7	GUPUS	0.2128
Nickel	9.40	300	GUPUS	0.0313
Silver	8.9	71	GUPUS	0.1254
Vanadium	1.3	63	GUPUS	0.0206
Zinc	56.5	4,700	GUPUS	0.0120
Aluminum	136	20000	RSL	0.007
Caprolactam	470	7700	RSL	0.061
Methane	1200	20,000	RSL; methanol	0.0600
Chloride	151000	250000	SMCL	0.6040
Iron	17100	14000	RSL	**1.221**
Manganese	1500	430	RSL	**3.488**
Nitrate	2000	32000	RSL	0.063
Nitrite	410	2000	RSL	0.205
Sulfate	80300	250000	SMCL	0.321
Sulfide	1600	--	--	--
		Cumulative Risk Ratio		7.0

Notes:
-- = Not Available/Not Applicable
GUPUS = General Unrestricted Potable Use Standards
RSL = USEPA Regional screening level for tap water; June 2015. THQ =1;
http://www.epa.gov/region9/superfund/prg/
SMCL = secondary MCL
ug/L = micrograms per liter
VOC = Volatile Organic Compounds
http://www.epa.state.oh.us/dhwm/guidancedocuments.html

Table 38
Summary of Soil Data Compared to Leach Based Soil Values: C Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, OH

CAS	Parameter	Range of Detections		Maximum Location	Units	Soil Saturation Standard from CIDARS June 2015	Background[a]	Leach Based Screening Value (LBSV)	
		Minimum	Maximum						
71-55-6	1,1,1-Trichloroethane	1.40	1.40	SB-156-04	ug/kg	640000		18000	c
75-34-3	1,1-Dichloroethane	0.61	0.61	SB-156-04	ug/kg	1700000		11.7	b
95-50-1	1,2-Dichlorobenzene, VOC	100.00	100	SB-142-04	ug/kg	380000		8700	b
78-93-3	2-Butanone	2.70	11	BH-177	ug/kg	28000000		27000	c
95-49-8	2-Chlorotoluene	927.00	927	091216-5	ug/kg	NL		3450	b
591-78-6	2-Hexanone	552.00	**552**	091216-5	ug/kg	NL		**132**	b
91-57-6	2-Methylnaphthalene	39.00	2100	SB-74-03	ug/kg	NA		2850	b
106-43-4	4-Chlorotoluene	598.00	598	091216-5	ug/kg	NL		3600	b
108-10-1	4-Methyl-2-Pentanone	1.80	2.60	SB-44-02	ug/kg	3400000		4200	b
83-32-9	Acenaphthene	30.00	930	SB-44-02	ug/kg	NA		82500	b
208-96-8	Acenaphthylene	280.00	610	SB-74-03	ug/kg	NA		88224	d
67-64-1	Acetone	7.20	240	SB-165-04	ug/kg	110000000		43500	b
98-86-2	Acetophenone	110.00	110	SB-74-03	ug/kg	2500000		8700	b
120-12-7	Anthracene	45.00	1500	SB-74-03	ug/kg	NA		870000	b
7440-36-0	Antimony	0.51	**28.8**	BH-183	mg/kg	NA	0.31	**7.2**	c
11097-69-1	Aroclor-1254	890.00	**890**	SB-142-04	ug/kg	NA		**30**	b
7440-38-2	Arsenic	1.10	**15.6**	BH-182	mg/kg	NA	11.58	**5.80**	c
7440-39-3	Barium	2.80	748	SB-153-04	mg/kg	NA	109.38	110000	c
100-52-7	Benzaldehyde	180.00	180	SB-74-03	ug/kg	NL		6450	b
71-43-2	Benzene	4.00	93	SB-131-04	ug/kg	1800000		255	c
56-55-3	Benzo(a)anthracene	34.00	10000	SB-74-03	ug/kg	NA		22200	e
50-32-8	Benzo(a)pyrene	21.00	8400	SB-74-03	ug/kg	NA		50600	e
205-99-2	Benzo(b)fluoranthene	25.00	10000	SB-74-03	ug/kg	NA		55300	e
191-24-2	Benzo(g,h,i)perylene	18.00	4700	SB-74-03	ug/kg	NA		41242500	d
207-08-9	Benzo(k)fluoranthene	43.00	6700	SB-74-03	ug/kg	NA		501000	e
7440-41-7	Beryllium	0.03	3.5	BH-182	mg/kg	NA	0.575	114.4	c
92-52-4	Biphenyl	61.00	130	SB-74-03	ug/kg	NA		130.5	b
117-81-7	bis(2-Ethylhexyl)phthalate	29.00	3000	SB-74-03	ug/kg	NA		21000	b
7440-43-9	Cadmium	0.04	**81.8**	SB-33-02	mg/kg	NA	1.5	**42**	c
86-74-8	Carbazole	33.00	5300	SB-74-03	ug/kg	NA		7007	d
67-66-3	Chloroform	44.00	100	SB-131-04	ug/kg	2500000		330	b
7440-47-3	Chromium Total	2.00	**1790**	SB-33-02	mg/kg	NA	15.76	**113**	c
218-01-9	Chrysene	30.00	11000	SB-74-03	ug/kg	NA		4410000	e
156-59-2	cis-1,2-Dichloroethene	0.72	**6400**	SB-74-03	ug/kg	2400000		**1800**	c
7440-48-4	Cobalt	0.49	**84.80**	SB-155-04	mg/kg	NA	7.49	**5.4**	b
7440-50-8	Copper	1.20	**9420**	SB-155-04	mg/kg	NA	24.78	**920**	b
57-12-5	Cyanide (total)	0.11	11.7	SB-33-02	mg/kg	1000000000		40	b
110-82-7	Cyclohexane	1.80	1500	SB-74-03	ug/kg	120000		195000	b
53-70-3	Dibenz(a,h)anthracene	38.00	1000	SB-74-03	ug/kg	NA		94000	e
132-64-9	Dibenzofuran	40.00	1600	SB-44-02	ug/kg	NA		2250	b
75-71-8	Dichlorodifluoromethane	88.00	300	SB-74-03	ug/kg	850000		4500	b
117-84-0	Di-N-Octyl phthalate	56.00	56	BH-176	ug/kg	NA		855000	b
100-41-4	Ethylbenzene	0.65	120	091216-3	ug/kg	480000		180000	c
206-44-0	Fluoranthene	44.00	27000	SB-74-03	ug/kg	NA		1335000	b
86-73-7	Fluorene	82.00	370	SB-44-02	ug/kg	NA		81000	f
	GRO (C6-C12)	213.00	**1850**	091216-5	mg/kg	NL		**1000**	f
193-39-5	Indeno(1,2,3-cd)pyrene	50.00	4100	SB-74-03	ug/kg	NA		244000	e
98-82-8	Isopropylbenzene, VOC	2.30	20	BH-183	ug/kg	270000		11100	b
7439-92-1	Lead	1.50	**451**	BH-183	mg/kg	NA	63	**177.6**	c
	m&p-Xylene	44.10	44.10	091216-3	ug/kg	NL		NL	
7439-96-5	Manganese	44.40	**1230**	BH-182	mg/kg	NL	816	**560**	b
7439-97-6	Mercury	0.01	**7.5**	SB-156-04	mg/kg	**3.1**	0.1	23	c
79-20-9	Methyl acetate	81.00	1200	SB-131-04	ug/kg	NL		61500	b
108-87-2	Methyl cyclohexane	1.10	3800	SB-74-03	ug/kg	NL		NL	
75-09-2	Methylene chloride	5.00	**2600**	SB-154-04	ug/kg	3300000		**19.5**	b
91-20-3	Naphthalene, SVOC	22.00	2800	SB-142-04	ug/kg	NA		4050	c
7440-02-0	Nickel	1.00	**427**	SB-142-04	mg/kg	NA	16.5	**363**	c
95-47-6	o-Xylene	22.10	22.10	091216-3	ug/kg	NL		2850	b
85-01-8	Phenanthrene	17.00	11000	SB-44-02	ug/kg	NA		2555100	d
129-00-0	Pyrene, SVOC	28.00	25000	SB-74-03	ug/kg	NA		195000	b
7782-49-2	Selenium	0.39	2.30	SB-74-03	mg/kg	NA	1	4.3	c
7440-22-4	Silver	0.11	2.90	SB-142-04	mg/kg	NA	0.27	6240	c
100-42-5	Styrene	3.20	3.20	BH-183	ug/kg	870000		6900	c
127-18-4	Tetrachloroethene	1.00	**130000**	SB-154-04	ug/kg	170000		**2250**	c
7440-28-0	Thallium	0.55	1.90	SB-44-02	mg/kg	NA	2.2	2.98	c
108-88-3	Toluene	0.61	710	SB-131-04	ug/kg	820000		102000	c
	TPH C10-C20	429.00	1530	091216-5	mg/kg	NL		2000	f
	TPH C20-C34	3330.00	**9000**	091216-5	mg/kg	NL		**5000**	f
79-01-6	Trichloroethene	1.50	**81000**	SB-74-03	ug/kg	690000		**540**	c
7440-62-2	Vanadium	1.70	39.10	BH-182	mg/kg	NA	299	65	c
1330-20-7	Xylene (Total)	2.10	1600	SB-74-03	ug/kg	260000		2340000	c
7440-66-6	Zinc	3.20	43300	SB-33-02	mg/kg	NA	122	88000	c

Notes:
Bold and shaded value exceeds LBSV or background, whichever is higher

[a] Site-specific background values (as 95% UCL concentrations except maximum for antimony, cadmium, and selenium) from Environ, 2005.

[b] LBSV = Leach Based Soil Value (EPA SSL x DAF (15 - organics; 20-inorganics); SSL from June 2015 RSL table.

[c] Ohio EPA Derived Leach-Based Soil Values (2008); based on DAF = 20 for inorganics and 15 for organics; soil type 1

[d] Derived by fraction of organic carbon (0.003 default) x Octanol-Carbon Partitioning Coefficient x UPUS x DAF (15); UPUS and Koc from June 2015 CIDARS table

[e] Bureau of Underground Storage Tank Regulations Soil Leaching to Groundwater (Drinking Water) Action Levels, Table 3.9 in BUSTR TGM, February 2014, based on Class 1 Soil Type.

[f] Soil saturation concentration (TPH Action level from BUSTR TGM, Table 3.8, February 2014) based on Class 1 Soil Type (sand and gravel)

-- = Not Available/Not Applicable
µg/kg = micrograms per kilogram
LBSV = Leach Based Screening Value
mg/kg = milligrams per kilogram
SVOCs = Semi-volatile organic compounds
VOCs = Volatile organic compounds
NA = Not applicable
NL = Not listed in June 2015 CIDARS table
TPH = Total petroleum hydrocarbons

Table 39
Summary of Soil Data Compared to Leach Based Soil Values: N Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, OH

CAS	Parameter	Range of Detections		Maximum Location	Units	Soil Saturation Standard from CIDARS June 2015	Background[a]	Leach Based Screening Value (LBSV)	
		Minimum	Maximum						
71-55-6	1,1,1-Trichloroethane	1.5	8700	SB-164-04	ug/kg	640000		18000	c
75-34-3	1,1-Dichloroethane	5.10	**3600**	SB-150-04	ug/kg	1700000		**11.7**	b
75-35-4	1,1-Dichloroethene	110	340	SB-150-04	ug/kg	1200000		4200	c
95-50-1	1,2-Dichlorobenzene, VOC	72	72	SB-144-04	ug/kg	380000		8700	b
106-46-7	1,4-Dichlorobenzene, VOC	0.85	27	SB-40-02	ug/kg	NA		1080	b
78-93-3	2-Butanone	4.10	310	SB-41-02	ug/kg	28000000		27000	c
91-57-6	2-Methylnaphthalene	33	1300	SB-41-02	ug/kg	NA		2850	b
83-32-9	Acenaphthene	24	600	SB-43-02	ug/kg	NA		82500	b
208-96-8	Acenaphthylene	41	210	SB-43-02	ug/kg	NA		88224	d
67-64-1	Acetone	18	320	SB-22-02	ug/kg	110000000		43500	b
120-12-7	Anthracene	19	2700	SB-43-02	ug/kg	NA		870000	b
7440-36-0	Antimony	0.24	3.20	SB-43-02	mg/kg	NA	0.31	7.2	c
11097-69-1	Aroclor-1254	8.10	**48000**	SB-56-02	ug/kg	NA		**30**	b
11096-82-5	Aroclor-1260	30	**210**	SB-88-03	ug/kg	NA		**82.5**	b
7440-38-2	Arsenic	2	**32.40**	SB-43-02	mg/kg	NA	11.58	**5.8**	c
7440-39-3	Barium	21.5	299	SB-40-02	mg/kg	NA	109.38	110000	c
	Barium, TCLP	0.51	2.13	TT-SB264	mg/l	NL		NL	
71-43-2	Benzene	0.33	52	SB-39-02	ug/kg	1800000		255	c
56-55-3	Benzo(a)anthracene	29	4200	SB-43-02	ug/kg	NA		22200	e
50-32-8	Benzo(a)pyrene	22	3200	SB-43-02	ug/kg	NA		50600	e
205-99-2	Benzo(b)fluoranthene	48	3800	SB-43-02	ug/kg	NA		55300	e
191-24-2	Benzo(g,h,i)perylene	29	1300	SB-56-02	ug/kg	NA		41242500	d
207-08-9	Benzo(k)fluoranthene	27	1500	SB-43-02	ug/kg	NA		501000	e
7440-41-7	Beryllium	0.07	4.30	SB-40-02	mg/kg	NA	0.575	114.4	c
92-52-4	Biphenyl	29	29	SB-151-04	ug/kg	NA		130.5	b
117-81-7	bis(2-Ethylhexyl)phthalate	16	110	SB-38-02	ug/kg	NA		21000	b
74-83-9	Bromomethane	120	**770**	SB-145-04	ug/kg	3600000		**28.5**	b
7440-43-9	Cadmium	0.02	3	SB-146-04	mg/kg	NA	1.5	42	c
86-74-8	Carbazole	25	680	SB-43-02	ug/kg	NA		7007	d
56-23-5	Carbon tetrachloride	43	69	SB-56-02	ug/kg	460000		3750	c
108-90-7	Chlorobenzene	23	23	SB-144-04	ug/kg	760000		1020	b
67-66-3	Chloroform	0.55	180	SB-146-04	ug/kg	2500000		330	b
7440-47-3	Chromium Total	2.5	43.5	SB-146-04	mg/kg	NA	15.76	113	c
218-01-9	Chrysene	54	3300	SB-43-02	ug/kg	NA		4410000	e
156-59-2	cis-1,2-Dichloroethene	0.77	**19000**	SB-40-02	ug/kg	2400000		**1800**	c
7440-48-4	Cobalt	0.84	**39.5**	SB-151-04	mg/kg	NA	7.49	**5.4**	b
7440-50-8	Copper	1.5	454	SB-144-04	mg/kg	NA	24.78	920	b
57-12-5	Cyanide (total)	0.13	1.70	SB-40-02	mg/kg	1000000000		40	b
110-82-7	Cyclohexane	16	330	SB-164-04	ug/kg	120000		195000	b
53-70-3	Dibenz(a,h)anthracene	23	380	SB-43-02	ug/kg	NA		94000	e
132-64-9	Dibenzofuran	31	1200	SB-43-02	ug/kg	NA		2250	b
	Diesel Range Organics (DRO)	27	51.70	TT-SB262	mg/kg	NL		2000	f
117-84-0	Di-N-Octyl phthalate	110	110	SB-38-02	ug/kg	NA		855000	b
100-41-4	Ethylbenzene	0.46	37	SB-40-02	ug/kg	480000		180000	c
206-44-0	Fluoranthene	24	6300	SB-43-02	ug/kg	NA		1335000	b
86-73-7	Fluorene	61	1600	SB-43-02	ug/kg	NA		81000	f
193-39-5	Indeno(1,2,3-cd)pyrene	34	1100	SB-56-02	ug/kg	NA		244000	e
98-82-8	Isopropylbenzene, VOC	25	150	SB-19-02	ug/kg	270000		11100	b
7439-92-1	Lead	1.10	**276**	SB-19-02	mg/kg	NA	63	**177.6**	c
7439-96-5	Manganese	90.10	**5760**	SB-40-02	mg/kg	NL	816	**560**	b
7439-97-6	Mercury	0.02	2.80	SB-43-02	mg/kg	3.1	0.1	23	c
79-20-9	Methyl acetate	62	470	SB-56-02	ug/kg	NL		61500	b
108-87-2	Methyl cyclohexane	3.20	1000	SB-164-04	ug/kg	NL		NL	
75-09-2	Methylene chloride	1.80	**400**	SB-88-03	ug/kg	3300000		**19.5**	b
91-20-3	Naphthalene, SVOC	30	720	SB-43-02	ug/kg	NA		4050	c
7440-02-0	Nickel	1.90	101	SB-146-04	mg/kg	NA	16.5	363	c
85-01-8	Phenanthrene	43	9100	SB-43-02	ug/kg	NA		2555100	d
129-00-0	Pyrene, SVOC	26	6500	SB-43-02	ug/kg	NA		195000	b
7782-49-2	Selenium	0.5	1.70	SB-43-02	mg/kg	NA	1	4.3	c
7440-22-4	Silver	0.29	0.35	SB-151-04	mg/kg	NA	0.27	6240	c
127-18-4	Tetrachloroethene	0.96	**53000**	SB-144-04	ug/kg	170000		**2250**	c
7440-28-0	Thallium	0.45	2.5	SB-40-02	mg/kg	NA	2.2	2.98	c
108-88-3	Toluene	0.45	120	SB-43-02	ug/kg	820000		102000	c
156-60-5	trans-1,2-Dichloroethene	2.60	930	SB-150-04	ug/kg	1700000		6150	c
79-01-6	Trichloroethene	0.46	**91000**	SB-145-04	ug/kg	690000		**540**	c
7440-62-2	Vanadium	3.40	63.10	SB-164-04	mg/kg	NA	299	65	c
75-01-4	Vinyl chloride	16	**1900**	SB-150-04	ug/kg	3900000		**135**	c
1330-20-7	Xylene (Total)	1.70	440	SB-43-02	ug/kg	260000		2340000	c
7440-66-6	Zinc	6.40	495	SB-164-04	mg/kg	NA	122	88000	c

Notes:
Bold and shaded value exceeds LBSV or background, whichever is higher

[a] Site-specific background values (as 95% UCL concentrations except maximum for antimony, cadmium, and selenium) from Environ, 2005.

[b] LBSV = Leach Based Soil Value (EPA SSL x DAF (15 - organics; 20-inorganics); SSL from June 2015 RSL table.

[c] Ohio EPA Derived Leach-Based Soil Values (2008); based on DAF = 20 for inorganics and 15 for organics; soil type 1

[d] Derived by fraction of organic carbon (0.003 default) x Octanol-Carbon Partitioning Coefficient x UPUS x DAF (15); UPUS and Koc from June 2015 CIDARS table

[e] Bureau of Underground Storage Tank Regulations Soil Leaching to Groundwater (Drinking Water) Action Levels, Table 3.9 in BUSTR TGM, February 2014, based on Class 1 Soil Type.

[f] Soil saturation concentration (TPH Action level from BUSTR TGM, Table 3.8, February 2014) based on Class 1 Soil Type (sand and gravel)

-- = Not Available/Not Applicable
µg/kg = micrograms per kilogram
mg/kg = milligrams per kilogram
mg/l = milligram per liter
LBSV = Leach Based Screening Value
SVOCs = Semi-volatile organic compounds
VOCs = Volatile organic compounds
DRO = Diesel range organics
NA = Not applicable
NL = Not listed in June 2015 CIDARS table
TCLP = toxicity characteristic leaching procedure

Table 40
Summary of Soil Data Compared to Leach Based Soil Values: P Area Exposure Unit
Former GM Delphi Harrison Thermal System Facility
Dayton, Ohio

CAS	Parameter	Range of Detections		Maximum Location	Units	Soil Saturation Standard from CIDARS June 2015	Background[a]	Leach Based Screening Value (LBSV)	
		Minimum	Maximum						
71-55-6	1,1,1-Trichloroethane	29	300	SB-18-02	ug/kg	640000		18000	c
120-82-1	1,2,4-Trichlorobenzene, VOC	1.10	1.10	MW-25-04	ug/kg	400000		3000	b
78-93-3	2-Butanone	1.60	87	MW-12-03	ug/kg	28,000,000		27000	c
91-57-6	2-Methylnaphthalene	83	370	SB-148-04	ug/kg	NA		2850	b
83-32-9	Acenaphthene	36	420	MW-12-03	ug/kg	NA		82500	b
208-96-8	Acenaphthylene	25	29	MW-12-03	ug/kg	NA		88224	d
67-64-1	Acetone	8.10	330	SB-163-04	ug/kg	110,000,000		43500	b
120-12-7	Anthracene	29	2700	MW-12-03	ug/kg	NA		870000	b
7440-36-0	Antimony	0.41	**11**	MW-26-04	mg/kg	NA	0.31	**7.2**	c
12672-29-6	Aroclor-1248	3.90	**65**	SB-149-04	ug/kg	NA		**18**	b
11097-69-1	Aroclor-1254	17	**3700**	SB-149-04	ug/kg	NA		**30**	b
11096-82-5	Aroclor-1260	30	30	SB-163-04	ug/kg	NA		83	b
7440-38-2	Arsenic	2.80	**16.5**	SB-148-04	mg/kg	NA	11.58	**5.8**	c
7440-39-3	Barium	24.40	259	SB-17-02	mg/kg	NA	109.38	110000	c
100-52-7	Benzaldehyde	21	29	SB-73-03	ug/kg	NL		6450	b
71-43-2	Benzene	0.30	180	SB-138-04	ug/kg	1,800,000		255	c
56-55-3	Benzo(a)anthracene	50	3800	MW-12-03	ug/kg	NA		22200	e
50-32-8	Benzo(a)pyrene	51	3500	MW-12-03	ug/kg	NA		50600	e
205-99-2	Benzo(b)fluoranthene	65	4000	MW-12-03	ug/kg	NA		55300	e
191-24-2	Benzo(g,h,i)perylene	27	1800	MW-12-03	ug/kg	NA		41242500	d
207-08-9	Benzo(k)fluoranthene	27	2600	MW-12-03	ug/kg	NA		501000	e
7440-41-7	Beryllium	0.068	1.10	SB-148-04	mg/kg	NA	0.575	114.4	c
92-52-4	Biphenyl	29	29	SB-73-03	ug/kg	NA		130.5	b
117-81-7	bis(2-Ethylhexyl)phthalate	24	130	SB-73-03	ug/kg	NA		21000	b
74-83-9	Bromomethane	80	**160**	SB-149-04	ug/kg	3600000		**28.5**	b
7440-43-9	Cadmium	0.043	4	SB-54-02	mg/kg	NA	1.5	42	c
86-74-8	Carbazole	32	620	MW-12-03	ug/kg	NA		7007	d
7440-47-3	Chromium Total	2.40	21.70	SB-54-02	mg/kg	NA	15.76	113	c
218-01-9	Chrysene	57	5500	MW-12-03	ug/kg	NA		4410000	e
156-59-2	cis-1,2-Dichloroethene	0.71	**22000**	SB-73-03	ug/kg	2400000		**1800**	c
7440-48-4	Cobalt	1.40	**18**	SB-18-02	mg/kg	NA	7.49	**5.4**	b
7440-50-8	Copper	1.5	**5610**	SB-73-03	mg/kg	NA	24.78	**920**	b
57-12-5	Cyanide (total)	0.12	3.60	SB-53-02	mg/kg	1000000		40	b
110-82-7	Cyclohexane	0.68	1000	SB-138-04	ug/kg	120,000		195000	b
53-70-3	Dibenz(a,h)anthracene	21	210	SB-149-04	ug/kg	NA		94000	e
132-64-9	Dibenzofuran	32	230	MW-12-03	ug/kg	NA		2250	b
	Diesel Range Organics (DRO)	26.10	28.5	TT-SB253	mg/kg	2000		2000	f
117-84-0	Di-N-Octyl phthalate	100	100	SB-73-03	ug/kg	NA		855000	b
100-41-4	Ethylbenzene	0.38	700	SB-138-04	ug/kg	480000		180000	c
206-44-0	Fluoranthene	93	10000	MW-12-03	ug/kg	NA		1335000	b
86-73-7	Fluorene	39	290	MW-12-03	ug/kg	NA		81000	b
193-39-5	Indeno(1,2,3-cd)pyrene	26	1600	MW-12-03	ug/kg	NA		244000	e
98-82-8	Isopropylbenzene, VOC	2.80	580	SB-138-04	ug/kg	270,000		11100	b
7439-92-1	Lead	1.40	**528**	SB-148-04	mg/kg	NA	63	**177.6**	c
7439-96-5	Manganese	194	**3360**	SB-54-02	mg/kg	NA	816	**560**	b
7439-97-6	Mercury	0.0057	0.51	SB-53-02	mg/kg	3.1	0.1	23	c
79-20-9	Methyl acetate	32	410	SB-73-03	ug/kg	NL		61500	b
108-87-2	Methyl cyclohexane	0.42	3000	SB-138-04	ug/kg	NL		NA	
75-09-2	Methylene chloride	2.20	**560**	SB-163-04	ug/kg	3,300,000		**19.5**	b
91-20-3	Naphthalene, SVOC	67	640	SB-148-04	ug/kg	NA		4050	c
7440-02-0	Nickel	3.10	27.20	SB-53-02	mg/kg	NA	16.5	363	c
85-01-8	Phenanthrene	31	7000	MW-12-03	ug/kg	NA		2555100	d
129-00-0	Pyrene, SVOC	82	7700	MW-12-03	ug/kg	NA		195000	b
7782-49-2	Selenium	0.52	1.5	SB-18-02	mg/kg	NA	1	4.3	c
7440-22-4	Silver	0.35	0.79	SB-54-02	mg/kg	NA	0.27	6240	c
127-18-4	Tetrachloroethene	1.70	**49000**	MW-26-04	ug/kg	170,000		**2250**	c
7440-28-0	Thallium	0.52	1.60	MW-12-03	mg/kg	NA	2.2	2.98	c
108-88-3	Toluene	0.45	2100	SB-138-04	ug/kg	820,000		102000	c
156-60-5	trans-1,2-Dichloroethene	45	290	MW-26-04	ug/kg	1700000		6150	c
79-01-6	Trichloroethene	0.91	**100000**	SB-73-03	ug/kg	690,000		**540**	c
7440-62-2	Vanadium	4.70	40.80	SB-54-02	mg/kg	NA	299	65	c
1330-20-7	Xylene (Total)	1.10	5400	SB-138-04	ug/kg	260,000		2340000	c
7440-66-6	Zinc	9.70	1750	SB-54-02	mg/kg	NA	122	88000	c

Notes:
Bold and shaded value exceeds LBSV or background, whichever is higher

[a] Site-specific background values (as 95% UCL concentrations except maximum for antimony, cadmium, and selenium) from Environ, 2005.

[b] LBSV = Leach Based Soil Value (EPA SSL x DAF (15 - organics; 20-inorganics); SSL from June 2015 RSL table.

[c] Ohio EPA Derived Leach-Based Soil Values (2008); based on DAF = 20 for inorganics and 15 for organics; soil type 1

[d] Derived by fraction of organic carbon (0.003 default) x Octanol-Carbon Partitioning Coefficient x UPUS x DAF (15); UPUS and Koc from June 2015 CIDARS table

[e] Bureau of Underground Storage Tank Regulations Soil Leaching to Groundwater (Drinking Water) Action Levels, Table 3.9 in BUSTR TGM, February 2014, based on Class 1 Soil Type.

[f] Soil saturation concentration (TPH Action level from BUSTR TGM, Table 3.8, February 2014) based on Class 1 Soil Type (sand and gravel)

µg/kg = micrograms per kilogram
mg/kg = milligrams per kilogram
SVOCs = Semi-volatile organic compounds
VOCs = Volatile organic compounds
DRO = Diesel range organics
NA = Not applicable
NL = Not listed in June 2015 CIDARS table

Table 41
Summary of Soil Data Compared to Leach Based Soil Values: CTA Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, OH

CAS	Parameter	Range of Detections		Maximum Location	Units	Soil Saturation Standard from CIDARS June 2015	Background[a]	Leach Based Screening Value (LBSV)	
		Minimum	Maximum						
95-63-6	1,2,4-Trimethylbenzene	6	106	B03	ug/kg	220000		315	b
108-67-8	1,3,5-Trimethylbenzene	46.90	46.90	B03	ug/kg	180000		2550	b
208-96-8	Acenaphthylene	173	173	COD05-S005	ug/kg	NA		88224	d
120-12-7	Anthracene	125	420	DAY-20	ug/kg	NA		870000	b
7440-38-2	Arsenic	3.40	**9.10**	DAY-20	mg/kg	NA	11.58	**5.8**	c
7440-39-3	Barium	48.80	172	B02	mg/kg	NA	109.38	110000	c
71-43-2	Benzene	5.70	18.20	B04	ug/kg	1800000		255	c
56-55-3	Benzo(a)anthracene	283	1800	DAY-20	ug/kg	NA		22200	e
50-32-8	Benzo(a)pyrene	191	4930	B03	ug/kg	NA		50600	e
205-99-2	Benzo(b)fluoranthene	273	8850	B03	ug/kg	NA		55300	e
191-24-2	Benzo(g,h,i)perylene	262	1100	DAY-20	ug/kg	NA		41242500	d
207-08-9	Benzo(k)fluoranthene	218	1900	DAY-20	ug/kg	NA		501000	e
7440-47-3	Chromium Total	5.40	14.40	SS17	mg/kg	NA	15.76	113	c
218-01-9	Chrysene	259	1600	DAY-20	ug/kg	NA		4410000	e
7440-50-8	Copper	7.51	60.3	SS15	mg/kg	NA	24.78	920	b
53-70-3	Dibenz(a,h)anthracene	540	540	DAY-20	ug/kg	NA		94000	e
100-41-4	Ethylbenzene	8	8	B02	ug/kg	480000		180000	c
206-44-0	Fluoranthene	169	11800	B03	ug/kg	NA		1335000	b
193-39-5	Indeno(1,2,3-cd)pyrene	192	960	DAY-20	ug/kg	NA		244000	e
7439-92-1	Lead	4.30	168	SS18	mg/kg	NA	63	177.6	c
7439-97-6	Mercury	0.024	0.64	B02	mg/kg	3.1	0.1	23	c
110-54-3	n-Hexane	39	39	B02	ug/kg	140000		1815000	c
7440-02-0	Nickel	5.18	20.80	B02	mg/kg	NA	16.5	363	c
85-01-8	Phenanthrene	150	9120	SS17	ug/kg	NA		2555100	d
129-00-0	Pyrene, SVOC	134	17100	SS17	ug/kg	NA		195000	b
7440-22-4	Silver	1.20	1.20	B03	mg/kg	NA	0.27	6240	c
127-18-4	Tetrachloroethene	6.20	6.80	B01	ug/kg	170000		2250	c
108-88-3	Toluene	5.20	188	B03	ug/kg	820000		102000	c
1330-20-7	Xylene (Total)	10.10	371	B03	ug/kg	260000		2340000	c
7440-66-6	Zinc	26.20	1400	B03	mg/kg	NA	122	88000	c

Notes:
Bold and shaded value exceeds LBSV or background, whichever is higher

[a] Site-specific background values (as 95% UCL concentrations except maximum for antimony, cadmium, and selenium) from Environ, 2005.

[b] LBSV = Leach Based Soil Value (EPA SSL x DAF (15 - organics; 20-inorganics); SSL from June 2015 RSL table.

[c] Ohio EPA Derived Leach-Based Soil Values (2008); based on DAF = 20 for inorganics and 15 for organics; soil type 1

[d] Derived by fraction of organic carbon (0.003 default) x Octanol-Carbon Partitioning Coefficient x UPUS x DAF (15); UPUS and Koc from June 2015 CIDARS table

[e] Bureau of Underground Storage Tank Regulations Soil Leaching to Groundwater (Drinking Water) Action Levels, Table 3.9 in BUSTR TGM, February 2014, based on Class 1 Soil Type.

[f] Soil saturation concentration (TPH Action level from BUSTR TGM, Table 3.8, February 2014) based on Class 1 Soil Type (sand and gravel)

-- = Not Available/Not Applicable
µg/kg = micrograms per kilogram
mg/kg = milligrams per kilogram
SVOCs = Semi-volatile organic compounds
NA = Not applicable
NL = Not listed in June 2015 CIDARS table

Table 42
Summary of Soil Data Compared to Leach Based Soil Values: Greenspace Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, OH

CAS	Parameter	Range of Detections		Maximum Location	Units	Soil Saturation Standard from CIDARS June 2015	Background[a]	Leach Based Screening Value (LBSV)	
		Minimum	Maximum						
71-55-6	1,1,1-Trichloroethane	20.40	20.40	TT-SB249	ug/kg	640000		18000	c
75-34-3	1,1-Dichloroethane	89	**89**	SB-93-03	ug/kg	1700000		**11.7**	b
106-46-7	1,4-Dichlorobenzene, VOC	2.10	31	SB-36-02	ug/kg	NA		1080	b
78-93-3	2-Butanone	4.10	170	SB-36-02	ug/kg	28000000		27000	c
591-78-6	2-Hexanone	2.60	27	SB-15-02	ug/kg	NL		132	b
91-57-6	2-Methylnaphthalene	23	860	MW-14B-04	ug/kg	NA		2850	b
108-10-1	4-Methyl-2-Pentanone	1.40	21	SB-15-02	ug/kg	3400000		4200	b
83-32-9	Acenaphthene	16	85	SB-96-03	ug/kg	NA		82500	b
208-96-8	Acenaphthylene	59	380	SB-34-02	ug/kg	NA		88224	d
67-64-1	Acetone	5.10	780	SB-15-02	ug/kg	110000000		43500	b
120-12-7	Anthracene	23	1900	SB-34-02	ug/kg	NA		870000	b
7440-36-0	Antimony	0.30	4	SB-140-04	mg/kg	NA	0.31	7.2	c
12672-29-6	Aroclor-1248	17	**463**	TT-SB265	ug/kg	NA		**18**	b
11097-69-1	Aroclor-1254	4.5	**110000**	MW-37-05	ug/kg	NA		**30**	b
11096-82-5	Aroclor-1260	8.90	**1100**	SB-13-02	ug/kg	NA		**83**	b
7440-38-2	Arsenic	1.20	**13**	SB-14-02	mg/kg	NA	11.58	**5.8**	c
7440-39-3	Barium	4.20	241	SB-141-04	mg/kg	NA	109.38	110000	c
	Barium, TCLP	0.82	1.52	TT-SB265	mg/l	NL		NL	
71-43-2	Benzene	1.90	13.3	TT-SB249	ug/kg	1800000		255	c
56-55-3	Benzo(a)anthracene	41	4400	SB-34-02	ug/kg	NA		22200	e
50-32-8	Benzo(a)pyrene	34	5400	SB-34-02	ug/kg	NA		50600	e
205-99-2	Benzo(b)fluoranthene	43	5400	SB-34-02	ug/kg	NA		55300	e
191-24-2	Benzo(g,h,i)perylene	27	2900	SB-34-02	ug/kg	NA		41242500	d
207-08-9	Benzo(k)fluoranthene	28	3600	SB-34-02	ug/kg	NA		501000	e
7440-41-7	Beryllium	0.06	0.98	MW-14B-04	mg/kg	NA		114.4	c
92-52-4	Biphenyl	80	80	SB-96-03	ug/kg	NA		130.5	b
117-81-7	bis(2-Ethylhexyl)phthalate	14	2300	SB-94-03	ug/kg	NA		21000	b
74-83-9	Bromomethane	190	**210**	SB-136-04	ug/kg	3600000		**28.5**	b
7440-43-9	Cadmium	0.05	**3340**	SB-14-02	mg/kg	NA	1.5	**42**	c
86-74-8	Carbazole	110	110	SB-96-03	ug/kg	NA		7007	d
75-15-0	Carbon disulfide	2.10	2.10	SB-15-02	ug/kg	740000		3600	b
7440-47-3	Chromium Total	1.70	**123**	SB-136-04	mg/kg	NA	15.76	**113**	c
218-01-9	Chrysene	42	4600	SB-34-02	ug/kg	NA		4410000	d
156-59-2	cis-1,2-Dichloroethene	0.35	**19000**	MW-23-04	ug/kg	2400000		**1800**	c
7440-48-4	Cobalt	0.68	**10.6**	SB-14-02	mg/kg	NA	7.49	**5.4**	b
7440-50-8	Copper	2.10	**1730**	SB-14-02	mg/kg	NA	24.78	**920**	b
57-12-5	Cyanide (total)	0.10	**50.5**	SB-15-02	mg/kg	1000000		**40**	b
110-82-7	Cyclohexane	0.69	570	MW-14B-04	ug/kg	120000		195000	b
53-70-3	Dibenz(a,h)anthracene	26	780	SB-34-02	ug/kg	NA		94000	e
132-64-9	Dibenzofuran	21	310	MW-14B-04	ug/kg	NA		2250	b
	Diesel Range Organics (DRO)	31.2	31.2	TT-SB249	mg/kg	NL		2000	f
84-74-2	Di-n-butylphthalate	2900	2900	SB-14-02	ug/kg	NA		34500	b
117-84-0	Di-N-Octyl phthalate	23	23	MW-14B-04	ug/kg	NA		855000	b
100-41-4	Ethylbenzene	0.37	510	MW-23-04	ug/kg	480000		180000	c
206-44-0	Fluoranthene	30	11000	SB-34-02	ug/kg	NA		1335000	b
86-73-7	Fluorene	36	210	SB-96-03	ug/kg	NA		81000	f
193-39-5	Indeno(1,2,3-cd)pyrene	25	2900	SB-34-02	ug/kg	NA		244000	e
98-82-8	Isopropylbenzene, VOC	95	290	MW-23-04	ug/kg	270000		11100	b
7439-92-1	Lead	0.86	**6470**	MW-23-04	mg/kg	NA	63	**177.6**	c
7439-96-5	Manganese	97.5	**1070**	SB-14-02	mg/kg	NL	816	**560**	b
7439-97-6	Mercury	0.005	2.2	SB-140-04	mg/kg	3.1	0.1	23	c
79-20-9	Methyl acetate	150	4000	SB-136-04	ug/kg	NL		61500	b
108-87-2	Methyl cyclohexane	0.89	590	MW-14B-04	ug/kg	NL		NA	
75-09-2	Methylene chloride	2.40	**180**	SB-136-04	ug/kg	3300000		**19.5**	b
91-20-3	Naphthalene, SVOC	26	500	MW-14B-04	ug/kg	NA		4050	c
110-54-3	n-Hexane	20.30	20.30	TT-SB249	ug/kg	140000		1815000	c
7440-02-0	Nickel	1.80	38.40	SB-15-02	mg/kg	NA	16.5	363	c
85-01-8	Phenanthrene	43	3900	SB-34-02	ug/kg	NA		2555100	d
7440-09-7	Potassium	576	576	MW-37-05	mg/kg	NL		NA	
129-00-0	Pyrene, SVOC	63	8200	SB-34-02	ug/kg	NA		195000	b
7782-49-2	Selenium	0.48	0.48	SB-36-02	mg/kg	NA	1	4.3	c
7440-22-4	Silver	0.12	1.2	SB-14-02	mg/kg	NA	0.27	6240	c
100-42-5	Styrene	93	93	SB-14-02	ug/kg	870000		6900	c
127-18-4	Tetrachloroethene	0.72	**21000**	MW-23-04	ug/kg	170000		**2250**	c
7440-28-0	Thallium	0.61	2.10	MW-23-04	mg/kg	NA	2.2	2.98	c
108-88-3	Toluene	0.35	270	MW-23-04	ug/kg	820000		102000	c
156-60-5	trans-1,2-Dichloroethene	68	180	MW-23-04	ug/kg	1700000		6150	c
79-01-6	Trichloroethene	0.54	**44000**	MW-24-04	ug/kg	690000		**540**	c
75-69-4	Trichlorofluoromethane	160	160	SB-23-02	ug/kg	1200000		10950	b
7440-62-2	Vanadium	2.70	23.5	SB-13-02	mg/kg	NA	299	65	c
75-01-4	Vinyl chloride	54	**140**	MW-23-04	ug/kg	3900000		**135**	c
1330-20-7	Xylene (Total)	4.90	2900	MW-23-04	ug/kg	260000		2340000	c
7440-66-6	Zinc	6.20	858	SB-136-04	mg/kg	NA	122	88000	c

See notes on page 2 of 2

Table 42
Summary of Soil Data Compared to Leach Based Soil Values: Greenspace Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, OH

Notes:

Bold and shaded value exceeds LBSV or background, whichever is higher

[a] Site-specific background values (as 95% UCL concentrations except maximum for antimony, cadmium, and selenium) from Environ, 2005.

[b] LBSV = Leach Based Soil Value (EPA SSL x DAF (15 - organics; 20-inorganics); SSL from June 2015 RSL table.

[c] Ohio EPA Derived Leach-Based Soil Values (2008); based on DAF = 20 for inorganics and 15 for organics; soil type 1

[d] Derived by fraction of organic carbon (0.003 default) x Octanol-Carbon Partitioning Coefficient x UPUS x DAF (15); UPUS and Koc from June 2015 CIDARS table

[e] Bureau of Underground Storage Tank Regulations Soil Leaching to Groundwater (Drinking Water) Action Levels, Table 3.9 in BUSTR TGM, February 2014, based on Class 1 Soil Type.

[f] Soil saturation concentration (TPH Action level from BUSTR TGM, Table 3.8, February 2014) based on Class 1 Soil Type (sand and gravel)

-- = Not Available/Not Applicable

µg/kg = micrograms per kilogram

mg/kg = milligrams per kilogram

mg/l = milligram per liter

DRO = Diesel range organics

GRO = Gasoline Range Organics

NA = Not applicable

NL = Not listed in June 2015 CIDARS table

SVOCs = Semi-volatile organic compounds

VOCs = Volatile organic compounds

TCLP = toxicity characteristic leaching procedure

See notes on page 2 of 2

Table 43
Groundwater Data Comparison to Surface Water Criteria
Upper Unit (all wells)
Former GM Delphi Harrison Thermal Systems Plant Site
Dayton, Ohio

	Maximum Groundwater Concentration	Ohio river drainage basin water quality criteria for the protection of human health. 3745-1-34 (Non-Drinking)	Ohio River Basin Aquatic Life Tier I and Tier II Values		
	Upper Aquifer		IMZM	OMZM	OMZA
Organics (µg/L)					
1,1,1-Trichloroethane	2.9	--	1400	690	76
1,1-Dichloroethane	12 J	--	ID	ID	ID
1,1-Dichloroethene	**39.4**	**32**	3800	1900	210
Acetone	140 J	--	--	--	--
Aroclor-1254	**6.51**	**0.0017**	--	--	--
Aroclor-1248	**0.13 J**	**0.0017**	--	--	--
Benzene	0.42 J	710	1,400	700	160
bis(2-Ethylhexyl)phthalate	**54**	--	2,100	1,100	**8.4**
Caprolactam	470	--	--	--	--
Chlorobenzene	9.11	21000	850	420	74
Chloroform	18	4,700	2,600	1,300	140
cis-1,2-Dichloroethene	**40300**	--	**18,000**	**8,800**	**970**
Cyclohexane	0.46 J	--	--	--	--
Diethyl phthalate	0.86 J	120,000	--	--	--
Ethylbenzene	18.9	29000	1,100	550	61
Isopropylbenzene, VOC	5.61	--	86	43	4.8
Methylene chloride	70 J	16,000	22,000	11,000	1,900
o-Xylene	**50.4**	--	480	240	**27**
Tetrachloroethene	**4600**	**89**	**850**	**430**	**53**
Toluene	19.2	200,000	1,100	560	62
trans-1,2-Dichloroethene	141	140,000	18,000	8,800	970
Toluene	19.2	200,000	1,100	560	62
Trichloroethene	**1390 D**	**810**	4,000	2,000	**220**
Vinyl chloride	**3480 D**	5,300	17,000	8,400	**930**
Xylene (Total)	24.2	--	480	240	27
Inorganics (mg/L)					
Aluminum	**0.136**	---	--	--	--
Arsenic	0.0234	--	0.68	0.34	0.15
Arsenic, Dissolved	0.0027 J	--	0.68	0.34	0.15
Barium	**1.1**	--	4	2	**0.22**
Barium, Dissolved	0.14 J	--	4	2	0.22
Cadmium*	0.0028 J	--	0.031	0.016	0.0058
Cadmium, Dissolved*	0.00031 J	--	0.029	0.015	0.0053
Calcium	196	--	--	--	--
Calcium, Dissolved	88.6	--	--	--	--
Chromium Total*	0.00772	--	8.9	4.4	0.21
Chromium Total, Dissolved*	0.002 J	--	2.8	1.4	0.18
Cobalt	0.001 J	0.44	0.22		0.024
Copper*	**0.031**	1.3	0.079	0.039	**0.024**
Copper, Dissolved	ND	1.3	0.079	0.039	**0.024**
Cyanide (total)	**0.024**	220	0.092	0.046	**0.012**
Iron	17.1	--	--	--	--
Iron, Dissolved	0.071 J	--	--	--	--
Lead*	0.002 J	--	0.99	0.5	0.026
Magnesium	37.4	--	--	--	--
Magnesium, Dissolved	36.7	--	--	--	--
Manganese	1.5	--	--	--	--
Manganese, Dissolved	0.034	--	--	--	--
Nickel*	0.0094	4.6	2.4	1.2	0.13
Potassium	58	--	--	--	--
Potassium, Dissolved	5.1	--	--	--	--
Selenium	0.00091 J	11	--	--	0.005
Silver	0.00089 J	--	0.021	0.011	0.0013
Sodium	89.4	--	--	--	--
Sodium, Dissolved	87.6	--	--	--	--
Vanadium	0.0013 J	--	0.3	0.15	0.044
Zinc*	0.0565	69	0.69	0.3	0.3
Miscellaneous (ug/L)					
Chloride	151000	--	--	--	--
Ethane	50	--	--	--	--
Ethene	170	--	--	--	--
Methane	1200	--	--	--	--
Nitrate (as N)	2000	--	--	--	--
Nitrite (as N)	410	--	--	--	--
Sulfate	80300	--	--	--	--
Sulfide	1600	--	--	--	--

Notes:
-- = Not Available/Not Applicable
Bold = concentration exceeds water quality criteria and/or aquatic life value.
ID = insufficient data
mg/L = milligrams per Liters
OMZA = outside mixing zone average
OMZM = outside mixing zone maximum
µg/L = micrograms per Liters
* = used hardness value of 300 for water hardness dependent criteria; hardness for Mad River from USGS.

Table 44
Groundwater Data Comparison to Surface Water Criteria
Till Unit (all wells)
Former GM Delphi Harrison Thermal Systems Plant Site
Dayton, Ohio

	Maximum Groundwater Concentration	Ohio river drainage basin water quality criteria for the protection of human health. 3745-1-34 (Non-Drinking)	Ohio River Basin Aquatic Life Tier I and Tier II Values		
	Till Zone		IMZM	OMZM	OMZA
Organics (µg/L)					
1,1,1,2-Tetrachloroethane					
Chloroform		4,700	2,600	1,300	140
cis-1,2-Dichloroethene	72	--	**18,000**	**8,800**	**970**
Cyclohexane		--	--	--	--
Dichlorodifluoromethane		---	--	--	--
Diethyl phthalate		120,000	--	--	--
Ethylbenzene		29000	1,100	550	61
Isopropylbenzene, VOC		--	86	43	4.8
Methane		--	--	--	--
Methylene chloride		16,000	22,000	11,000	1,900
o-Xylene		--	480	240	**27**
Tetrachloroethene	13	**89**	**850**	**430**	**53**
Toluene		200,000	1,100	560	62
trans-1,2-Dichloroethene	3.2 J	140,000	18,000	8,800	970
Toluene		200,000	1,100	560	62
Trichloroethene	190	**810**	4,000	2,000	**220**
Vinyl chloride		5,300	17,000	8,400	**930**
Xylene (Total)		--	480	240	27
Inorganics (mg/L)					
Aluminum		---	--	--	--
Arsenic		--	0.68	0.34	0.15
Arsenic, Dissolved		--	0.68	0.34	0.15
Barium		--	4	2	**0.22**
Barium, Dissolved		--	4	2	0.22
Cadmium*		--	0.031	0.016	0.0058
Cadmium, Dissolved*		--	0.029	0.015	0.0053
Calcium	62.4	--	--	--	--
Calcium, Dissolved		--	--	--	--
Chloride		--	--	--	--
Chromium Total*		--	8.9	4.4	0.21
Chromium Total, Dissolved*		--	2.8	1.4	0.18
Cobalt		0.44	0.22		0.024
Copper*		1.3	0.079	0.039	**0.024**
Copper, Dissolved		1.3	0.079	0.039	**0.024**
Cyanide (total)		220	0.092	0.046	**0.012**
Iron	1.2	--	--	--	--
Iron, Dissolved		--	--	--	--
Lead*		--	0.99	0.5	0.026
Magnesium	24.1	--	--	--	--
Magnesium, Dissolved		--	--	--	--
Manganese	0.051	--	--	--	--
Manganese, Dissolved		--	--	--	--
Nickel*		4.6	2.4	1.2	0.13
Nitrate (as N)		--	--	--	--
Nitrite (as N)		--	--	--	--
Potassium	2.9 J	--	--	--	--
Potassium, Dissolved		--	--	--	--
Selenium		11	--	--	0.005
Silver		--	0.021	0.011	0.0013
Sodium	37.6	--	--	--	--
Sodium, Dissolved		--	--	--	--
Sulfate		--	--	--	--
Vanadium		--	0.3	0.15	0.044
Zinc*		69	0.69	0.3	0.3

Notes:
-- = Not Available/Not Applicable
Bold = concentration exceeds water quality criteria and/or aquatic life value.
ID = insufficient data
mg/L = milligrams per Liters
OMZA = outside mixing zone average
OMZM = outside mixing zone maximum
µg/L = micrograms per Liters
* = used hardness value of 300 for water hardness dependent criteria; hardness for Mad River from USGS.

Table 45
Groundwater Data Comparison to Surface Water Criteria
Lower Unit (all wells)
Former GM Delphi Harrison Thermal Systems Plant Site
Dayton, Ohio

	Maximum Groundwater Concentration	Ohio river drainage basin water quality criteria for the protection of human health. 3745-1-34 (Non-Drinking)	Ohio River Basin Aquatic Life Tier I and Tier II Values		
	Lower Aquifer		IMZM	OMZM	OMZA
Organics (µg/L)					
Carbon disulfide	0.34	--	260	130	15
cis-1,2-Dichloroethene	1.2	--	18,000	8,800	970
Dichlorodifluoromethane	3.3 J	---	--	--	--
Toluene	0.3 J	200,000	1,100	560	62
Vinyl chloride	4.1	5,300	17,000	8,400	930
Inorganics (mg/L)					
Arsenic	0.0088	--	0.68	0.34	0.15
Barium	0.09	--	4	2	0.22
Chloride	0.075	---	--	--	--
Fluoride	0.29	---	--	--	--
Iron	2.21	---	--	--	--
Manganese	0.049	--	--	--	--
Selenium	0.00698	11	--	--	**0.005**
Zinc*	0.0531	69	0.69	0.3	0.3

Notes:
-- = Not Available/Not Applicable
Bold = concentration exceeds water quality criteria and/or aquatic life value.
ID = insufficient data
mg/L = milligrams per Liters
OMZA = outside mixing zone average
OMZM = outside mixing zone maximum
µg/L = micrograms per Liters
* = used hardness value of 300 for water hardness dependent criteria; hardness for Mad River from USGS.

Table 46-a
Commercial/Industrial Soil Ingestion Risk - Chemicals Lacking Generic Direct Contact Soil Standards
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Exposure Parameters	**Default Values**
Concentration in Soil (CS) (mg/kg)	Chemical Specific
Ingestion Rate (IRS) (mg/day)	50
Conversion Factor (CFs) (kg/mg)	0.000001
Fraction Ingested (FI) (unitless)	1
Exposure Frequency (EF) (days/yr)	250
Exposure Duration (ED) (years)	25
Body Weight (BW) (kg)	70
Averaging Time (AT) (days)	
Adult Noncarcinogens	6,625
Carcinogens	25,550

Noncancer Equation

$$\text{Intake (mg/kg-day)} = \frac{CS \times ED \times IRS \times CFs \times FI \times EF}{BW \times AT}$$

Cancer Equation

$$\text{Intake (mg/kg-day)} = \frac{CS \times [ED_c \times IRS_c/BW_c + (ED_a - ED_c) \times IRS_a/BW_a] \times CFs \times FI \times EF}{AT}$$

Hazard Quotient

$$HQ = \frac{\text{Noncancer Intake}}{RfD_{oral}}$$

Cancer Risk

$$\text{Risk} = \text{Cancer Intake} \times \text{Slope Factor}_{oral}$$

CONTAMINANT	**Maximum Soil Conc. (mg/kg)**	**Intake Concentrations**		**RfDo**	**SFo**	**Risk and Hazard Quotients**	
		Noncancer	**Cancer**			**Noncancer**	**Cancer**
		Adult	**Adult**	**(mg/kg-day)**	**(mg/kg-day)**	**Adult**	**Adult**
CArea EU							
Manganese (non-diet)	1230	8.29E-04	--	2.4E-02	NC	3.45E-02	--
N Area EU							
Manganese (non-diet)	5760	3.88E-03	--	2.4E-02	NC	1.62E-01	--
P Area EU							
Manganese (non-diet)	3360	2.26E-03	--	2.4E-02	NC	9.43E-02	--
CTA Area EU							
Manganese (non-diet)	ND	0.00E+00	--	2.4E-02	NC	0.00E+00	--
Greenspace Area EU							
Manganese (non-diet)	1070	7.21E-04	--	2.4E-02	NC	3.00E-02	--

Notes:
EPC = Exposure point concentration
Conc. = concentration
-- = Not Available/Not Applicable
days/yr = days per year
kg/mg = milligrams per kilogram
NC = Not calculated
ND = Not detected
mg/day = milligrams per day
mg/kg = milligrams per kilogram
RfDo = oral Reference Dose
SFo = oral Slope Factor

Table 46-b
Commercial/Industrial Soil Particulate/Volatile Inhalation Risk - Chemicals Lacking Generic Direct Contact Soil Standards
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Exposure Parameters	**Default Values**
Concentration in Air from soil (CAs) (mg/m^3)	Cs x (1/PEF + 1/VF)
Exposure Time (ET) (hrs/day)	8
Exposure Frequency (EF) (days/yr)	250
Exposure Duration (ED) (years)	25
Averaging Time (AT) (days)	
Child Noncarcinogens	0
Adult Noncarcinogens	6,625
Carcinogens	25,550
Volatilization Factor (kg/m3)	
	NA
Particulate Emission Factor (kg/m3)	9.50.E+08

Noncancer Equation

Exposure Concentration (mg/m3) = $\frac{\text{CA x ET x 1 day/24 hrs x ET x EF x ED}}{\text{AT}}$

Cancer Equation

Exposure Concentration (mg/m3) = $\frac{\text{CA x ET x 1 day/24 hrs x ET x EF x ED}}{\text{AT}}$

Hazard Quotient

HQ = $\frac{\text{Noncancer Exposure Concentration}}{\text{Reference Concentration (RfC)}}$

Cancer Risk

Risk = CancerExposure Concentration x Inhalation Unit Risk (IUR)

CONTAMINANT	**Maximum Soil Conc. (mg/kg)**	**Calculated Air Conc. mg/m^3**	**Intake Concentrations**		**RfC**	**SFi**	**Risk and Hazard Quotients**	
			Noncancer	**Cancer**			**Noncancer**	**Cancer**
			Adult	**Adult**	**(mg/m^3)**	**$(ug/m^3)^{-1}$**	**Adult**	**Adult**
C Area EU								
Manganese (non-diet)	1230	1.29E-06	4.07E-07	--	5.0E-05	NC	8.14E-03	--
N Area EU								
Manganese (non-diet)	5760	6.06E-06	1.91E-06	--	5.0E-05	NC	3.81E-02	--
P Area EU								
Manganese (non-diet)	3360	3.54E-06	1.11E-06	--	5.0E-05	NC	2.22E-02	--
CTA Area EU								
Manganese (non-diet)	0	0.00E+00	0.00E+00	--	5.0E-05	NC	0.00E+00	--
Greenspace EU								
Manganese (non-diet)	1070	1.13E-06	3.54E-07	--	5.0E-05	NC	7.08E-03	--

EPC = Exposure point concentration
Conc. = concentration
NC = Not calculated
ND = Not detected
RfC = Reference Concentration
SFi = Slope factor inhalation
-- = Not Available/Not Applicable
mg/kg = milligram per kilogram
m^3/day = cubic meter per day
m^3/kg = cubic meter per kilogram
mg/m^3 = milligrams per cubic meter
$(ug/m^3)^{-1}$ = 1/micrograms per cubic meter

Table 46-c
Summary of Risk to Commercial/Industrial Worker - Chemicals Lacking Generic Direct Contact Soil Standards
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

CONTAMINANT	Maximum Soil Conc. (mg/kg)	Noncancer			Total
		Ingestion	Dermal	Inhalation	Noncancer
		Adult	Adult	Adult	Adult
C Area EU					
Manganese (non-diet)	1230	3.5E-02	--	8.1E-03	4.3E-02
TOTAL		3.5E-02	--	8.1E-03	4.3E-02
N Area EU					
Manganese (non-diet)	5760	1.6E-01	--	3.8E-02	2.0E-01
TOTAL		1.6E-01	--	3.8E-02	2.0E-01
P Area EU					
Manganese (non-diet)	3360	9.4E-02	--	2.2E-02	1.2E-01
TOTAL		9.4E-02	--	2.2E-02	1.2E-01
CTA Area EU					
Manganese (non-diet)	ND	0.0E+00	--	0.0E+00	0.0E+00
Greenspace EU					
Manganese (non-diet)	1070	3.0E-02	--	7.1E-03	3.7E-02
TOTAL		3.0E-02	--	7.1E-03	3.7E-02

Notes:
Conc. = concentration
ND = Not detected
-- = Not Available/Not Applicable
mg/kg = milligrams per kilogram

Table 47a
Risk Estimate for Groundwater Dermal Contact by Maintenance Worker - Lower Aquifer
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Exposure Parameters	**Default Values**
Concentration in Groundwater (CW) (mg/L)	Chemical Specific
Skin Surface Area (SAW) (cm^2)	
Adult	3,300
Permeability Constant (PC) (cm/hr)	Chemical Specific
Exposure Time (ET) (hrs/day)	
Adult	1
Exposure Frequency (EF) (days/yr)	120
Exposure Duration (ED) (yrs)	
Adult	1
Conversion Factor (CFw) (unitless; L/cm3)	0.001
Body Weight (BW) (kg)	
Adult	70
Averaging Time (AT) (days)	
Adult noncarcinogens	365
Carcinogens	25,550

Noncancer Equation
Absorbed Dose (mg/kg-day) = $\frac{CW \times SAW \times PC \times ET \times EFx\ ED \times CFw}{BW \times AT}$

Cancer Equation
Absorbed Dose (mg/kg-day) = $\frac{CW \times ED \times SAW \times PC \times ET \times EF \times CFw}{BW \times AT}$

Hazard Quotient
$HQ = \frac{\text{Noncancer Absorbed Dose}}{\text{Reference Dose(RfD)}_{\text{dermal}}}$

Cancer Risk
Risk = Cancer Absorbed Dose x Slope Factor $(SF)_{\text{dermal}}$

		Absorbed Dose		**Risk and Hazard Quotients**		**Chemical Specific Values**						
	Maximum Detected Lower Aquifer Groundwater Conc. (mg/L)	Noncancer	Cancer	Noncancer	Cancer	**Permeability Constant (PC)**	**Oral Absorption Factor (AF)**	**Source**	**Reference Dose RfD dermal[a]**		**Slope Factor SF dermal[a]**	
CONTAMINANT		Adult	Adult	Adult	Adult	(cm/hr)	unitless	**PC & Oral AF**	(mg/kg-day)		(mg/kg-day)-1	
Lower Aquifer												
Vinyl chloride	0.0041	5.33E-07	7.61E-09	1.8E-04	5.5E-09	8.38E-03	1	CIDARS, June 2015	3.0E-03	CIDARS, June 2015	7.20E-01	CIDARS, June 2015
			TOTAL	**2.E-04**	**5.E-09**							

Notes:
mg/L = milligram per liter
cm^2 = square centimeter
cm/hr = centimeter per hour
hrs/day = hours per day
days/yr = days per year
yrs = years
L/cm3 = liter per cubic centimeter
kg =kilogram
-- = Not Available/Not Applicable
The slope factor for vinyl chloride is based on continuous lifetime exposure during adulthood.

[a] Dermal RfD = Oral RfD x GI abs
Dermal slope factor = Oral slope factor / GI abs

Table 47b
Risk Estimate for Groundwater Dermal Contact by Maintenance Worker - Lower Aquifer
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

		CW Tap Water Use- 120 days/yr; 1 hr; 1 yr; Kp for house tap water (0.5)			
	Maximum Detected	Inhalation SL (mg/L ; HQ 1)		Risk Estimate	
CONTAMINANT*	Groundwater Conc. (mg/L)	NC	Cancer	HQ	Risk
Lower Aquifer					
Vinyl chloride	0.0041	14.6	0.000454	0.0002808	9.0E-06
			TOTAL	**3E-04**	**9E-06**

Notes:
mg/L = milligram per liter
cm^2 = square centimeter
cm/hr = centimeter per hour
hrs/day = hours per day
days/yr = days per year
yrs = years
L/cm3 = liter per cubic centimeter
kg =kilogram
-- = Not Available/Not Applicable
The slope factor for vinyl chloride is based on continuous lifetime exposure during adulthood.

Table 48
Comparison of Maximum Groundwater Concentrations to Vapor Intrusion Screening Levels
Former GM Delphi Harrison Thermal Systems Facility
Dayton, OH

Parameter Name	Maximum Detected Concentration [1]	Groundwater Vapor Intrusion Screening Levels (VISL)[2]	Vapor Intrusion Risk Ratio
VOCs			
1,1,1-Trichloroethane	2.9	6.03E+03	4.81E-04
1,1-Dichloroethane	12	6.23E+01	1.93E-01
1,1-Dichloroethene	39.4	1.40E+02	2.81E-01
Acetone	140	1.83E+07	7.64E-06
Benzene	0.42	1.39E+01	3.03E-02
Chlorobenzene	9.11	3.91E+02	2.33E-02
Chloroform	**18**	6.62E+00	**2.72E+00**
cis-1,2-Dichloroethene	40300	#N/A	
Cyclohexane	0.46	8.23E+02	5.59E-04
Ethylbenzene	18.9	3.54E+01	5.34E-01
Isopropylbenzene	5.61	1.10E+03	5.12E-03
Methylene chloride	70	3.51E+03	1.99E-02
o-Xylene	50.4	4.87E+02	1.03E-01
Tetrachloroethene	**4600**	5.51E+01	**8.35E+01**
Toluene	19.2	1.73E+04	1.11E-03
trans-1,2-Dichloroethene	141	#N/A	
Trichloroethene	**1390**	4.45E+00	**3.12E+02**
Vinyl chloride	**3480**	3.73E+00	**9.32E+02**
Xylene (Total)	24.2	4.87E+02	4.97E-02
SVOCs			
bis(2-Ethylhexyl)phthalate	**54**	#N/A	
Caprolactam	470	#N/A	
Diethyl phthalate	0.86 J	#N/A	
PCBs			
Aroclor-1248	0.13 J	0.00E+00	
Aroclor-1254	**6.51**	0.00E+00	
Total PCBs	6.51	#N/A	
		Cumulative Risk	**1332**

Notes:
[1] Upper Aquifer groundwater zone
[2] See text and Appendix E for discussion on VISL. To account for cumulative risk, VISL were divided by a factor of 10 to adust the thresholds to a target cancer risk level of 1x10-6 and a target hazard quotient of 0.1 for the initial screening.
#NA = Not Available/Not Applicable
µg/L = micrograms per Liter
PCB = polychlorinated biphenyl
SVOC = Semi-Volatile Organic Compounds
VOCs = Volatile organic compounds
Bold and shading indicates maximum groundwater concentration exceeds VISL.

Table 49
Comparison of Individual Groundwater Well Data to VISLs
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Parameter Name	Groundwater Vapor Intrusion Screening Levels (VISL)[2]	Station Name	DAY-20	DAY-20	DAY-20	DAY-20	DAY-20	DAY-20	HD-16	HD-16	HD-16	HD-16	HD-16	HD-16	HD-16	HD-18	HD-18	HD-18	HD-18	HD-18	HD-18	HD-18	MW-12A-03	MW-12A-03
		Sample Date	1/25/2002	7/9/2002	4/7/2003	11/8/2004	11/10/2004	6/1/2006	3/19/1999	3/19/1999	6/11/1999	5/11/2000	6/14/2000	7/9/2002	3/28/2003	6/11/1999	7/16/2002	3/19/2003	11/16/2004	9/15/2006	8/27/2007	8/27/2007	4/15/2003	5/19/2015
		Aquifer Code	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:TT	UA:TT	UA:TT	UA:TT	UA:TT	UA:TT	UA:TT	UA:TT	UA:TT	UA:TT	UA:TT	UA:TT	UA:TT	UA:TT	UA:WT	UA:WT
		Units																						
VOCs																								
1,1,1-Trichloroethane	6.03E+04	ug/l	<5 U	<1 U	<1 U	<1.4 U	<1 U	<1 U	--	<2 U	<2 U	<5 U	<5 U	<1 U	<1 U	<2 U	**0.65 J**	**0.55 J**	<2 U	**0.21 J**	<1.4 U	<2 U	<1 U	--
1,1-Dichloroethane	6.23E+02	ug/l	<5 U	<1 U	<1 U	<1.4 U	<1 U	<1 U	--	<2 U	<2 U	<5 U	<5 U	<1 U	<1 U	<2 U	<1 U	<1.3 U	<2 U	<1 UJ	<1.4 U	<2 U	**0.42 J**	--
1,1-Dichloroethene	1.40E+03	ug/l	<5 U	<1 U	<1 U	<1.4 U	<1 U	<1 U	--	<2 U	<2 U	<5 U	<5 U	<1 U	<1 U	<2 U	<1 U	<1.3 U	<2 U	<1 U	<1.4 U	<2 U	<1 U	--
Acetone	1.83E+08	ug/l	<50 U	<10 U	<10 UJ	<14 U	<10 UJ	<20 U	--	<10 U	<10 U	<50 U	<100 U	<10 U	<10 UJ	<10 U	<10 U	<13 UJ	<20 UJ	<10 U	<14 U	<20 U	<10 UJ	--
Benzene	1.39E+02	ug/l	<5 U	<1 U	<1 U	<1.4 U	<1 U	<1 U	--	<2 U	<2 U	<5 U	<5 U	<1 U	<1 U	<2 U	<1 U	<1.3 U	<2 U	<1 U	<1.4 U	<2 U	<1 U	--
Chlorobenzene	3.91E+03	ug/l	<5 U	<1 U	<1 U	<1.4 U	<1 U	<1 U	--	<2 U	<2 U	<5 U	<5 U	<1 U	<1 U	<2 U	<1 U	<1.3 U	<2 U	<1 U	<1.4 U	<2 U	<1 U	--
Chloroform	6.62E+01	ug/l	<5 U	**1.3**	**1.3**	<1.4 U	**5.2**	**3.5**	<2 U	<2 U	<2 U	<5 U	<5 U	**0.82 J**	**1.3**	**6.6**	<1 U	<1.7 U	**9.3**	**12**	**13**	**14**	<1 U	--
cis-1,2-Dichloroethene	#N/A	ug/l	<5 U	**1.1**	**0.69**	**3.1**	<1 U	<1 U	<2 U	<2 U	<2 U	**5**	<5 U	**1.2**	**0.69**	**14.1**	**5.8**	**3**	**0.97 J**	**0.99 J**	<1.4 U	<2 U	**1.7**	--
Cyclohexane	8.23E+03	ug/l	--	<1 U	<1 U	<1.4 U	<1 U	--	--	--	--	--	--	<1 U	<1 U	--	<1 U	<1.3 U	<2 U	<1 U	<1.4 U	<2 U	<1 U	--
Ethylbenzene	3.54E+02	ug/l	<5 U	<1 U	<1 U	<1.4 U	<1 U	<1 U	--	<2 U	<2 U	<5 U	<5 U	<1 U	<1 U	<2 U	<1 U	<1.3 U	<2 U	<1 UJ	<1.4 U	<2 U	<1 U	--
Isopropylbenzene, VOC	1.10E+04	ug/l	<5 U	<1 U	<1 U	<1.4 U	<1 U	<1 U	--	<2 U	<2 U	<5 U	<5 U	<1 U	<1 U	<2 U	<1 U	<1.3 U	<2 U	<1 U	<1.4 U	<2 U	**1.8**	--
Methylene chloride	3.51E+04	ug/l	<5 U	<1 U	<1 U	<1.4 U	<1 U	<5 U	--	<10 U	<10 U	<5 U	<5 U	<1 U	<1 U	<10 U	<1 U	<1.3 U	<2.3 U	<5 U	<7.2 U	<10 U	<1 U	--
o-Xylene	0.00E+00	ug/l	<5 U	--	--	--	--	--	--	--	--	<5 U	<5 U	--	--	--	--	--	--	--	--	--	--	--
Tetrachloroethene	5.51E+02	ug/l	<5 U	**1**	**1.1 J**	**48**	**0.87 J**	<1 U	<2 U	<2 U	<2 U	<5 U	<5 U	**0.78 J**	**0.69 J**	**24.7**	**39**	**36**	**44**	**37 J**	**40**	**38**	<1 U	--
Toluene	1.73E+05	ug/l	<5 U	<1 U	<1 U	<1.4 U	<1 U	<1 U	--	<2 U	<2 U	<5 U	<5 U	<1 U	<1 U	**4.1**	<1 U	<1.3 U	<2 U	<1 U	<1.4 U	<2 U	<1 U	--
trans-1,2-Dichloroethene	#N/A	ug/l	<5 U	<0.5 U	<0.5 U	<1.4 U	<1 U	<1 U	--	<2 U	<2 U	<5 U	<5 U	<0.5 U	<0.5 U	<2 U	<0.5 U	<0.66 U	<2 U	<1 U	<1.4 U	<2 U	<0.5 U	--
Trichloroethene	4.45E+01	ug/l	**14**	**17**	**17**	**20**	**8.2**	**9.3**	**4.9**	**4.7**	**8.1**	**15**	**18.7**	**21**	**15**	**9.2**	**15**	**17**	**10**	**12**	**6.1**	**6.2**	**0.54 J**	--
Vinyl chloride	3.73E+01	ug/l	<2 U	<1 U	<1 U	<1.4 U	<1 U	<1 U	--	<2 U	<2 U	<2 U	<2 U	<1 U	<1 U	<2 U	<1 U	<1.3 U	<2 U	<1 U	<1.4 U	<2 U	**0.78 J**	--
Xylene (Total)	4.87E+03	ug/l	--	<1 U	<1 U	<2.9 U	<2 U	<2 U	--	<2 U	<2 U	<5 U	<5 U	<1 U	<1 U	<2 U	<1 U	<1.3 U	<4 U	<2 UJ	<2.9 U	<4 U	<1 U	--
SVOCs																								
bis(2-Ethylhexyl)phthalate	#N/A	ug/l	**54**	<10 U	<10 U	--	--	--	--	--	--	<11 U	--	<10 U	<10 U	--	**4.7 J**	<10 U	--	--	--	--	<10 U	--
Caprolactam	#N/A	ug/l	--	<10 U	**58**	--	--	--	--	--	--	--	--	<10 U	<10 U	--	<10 U	<10 U	--	--	--	--	**34**	--
Diethyl phthalate	#N/A	ug/l	<10 U	<10 U	<10 U	--	--	--	--	--	--	<11 U	--	<10 U	<10 U	--	<10 U	<10 U	--	--	--	--	**0.78 J**	--
PCBs																								
Aroclor-1248	0.00E+00	ug/l	<1 U	<0.2 U	**0.13 J**	<0.2 U	<0.2 U	<0.2 U	--	--	--	--	<0.2 U	<0.2 U	<0.2 U	--	<0.2 U	<0.2 U	<0.2 U	--	--	--	<0.2 U	<0.500 U
Aroclor-1254	0.00E+00	ug/l	<1 U	<0.2 U	<0.2 U	<0.2 U	<0.2 U	<0.2 U	--	--	--	--	<1 U	<0.2 U	<0.2 U	--	<0.2 U	<0.2 U	<0.2 U	--	--	--	**1.2**	**6.51**
Total PCBs	#N/A	ug/l	<2 U	<0.4 U	**0.13 J**	<0.4 U	<0.4 U	<0.2 U	--	--	--	--	<1 U	<0.4 U	<0.4 U	--	<0.4 U	<0.4 U	<0.4 U				**1.2**	**6.51**

Notes:

Shaded/Bolded values indicate concentration exceeds the VISL

[2] = See Text Section 5.2.4

Bolded parameters were detected in one or more samples

Total PCBs value is the sum of all positively detected PCB aroclors

- = Not analyzed or not available

µg/L = micrograms per kilogram

GDCSS = Generic direct contact soil standard

J = Result is estimated

#NA = Not available

PCB = Polychlorinated biphenyl

SVOC = Semi-volatile organic compounds

U = Parameter not detected, reporting limit is presented

UA:TT = Upper aquifer, top of till

UA: WT = Upper aquifer, water table

VOC = Volatile organic compound

Table 49
Comparison of Individual Groundwater Well Data to VISLs
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Parameter Name	Groundwater Vapor Intrusion Screening Levels (VISL)[2]	Station Name	MW-12B-03	MW-12B-03	MW-13A-03	MW-13A-03	MW-13A-03	MW-13A-03	MW-13A-03	MW-13B-03	MW-13B-03	MW-14-03	MW-14A-03	MW-14A-03	MW-14A-03	MW-14A-03	MW-14B-04	MW-14B-04	MW-14B-04	MW-23-04	MW-23-04
		Sample Date	4/16/2003	11/17/2004	4/16/2003	11/17/2004	9/20/2012	4/9/2013	12/18/2014	4/17/2003	11/17/2004	4/18/2003	4/18/2003	11/18/2004	9/21/2012	9/25/2012	3/30/2004	11/18/2004	1/23/2006	3/30/2004	11/17/2004
		Aquifer Code	UA:TT	UA:TT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:TT	UA:TT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:TT	UA:TT	UA:TT	UA:WT	UA:WT
		Units																			
VOCs																					
1,1,1-Trichloroethane	6.03E+04	ug/l	<1 U	**0.5 J**	<1 U	<1 U	<5 U	--	<5.000 U	<1 U	<1 U	<10 U	<10 U	<20 U	<5 U	--	<1.7 U	<2 U	<2.9 U	<33 U	<1000 U
1,1-Dichloroethane	6.23E+02	ug/l	<1 U	<1 U	<1 U	<1 U	<5 U	--	<5.000 U	<1 U	<1 U	**5.1 J**	**5.1 J**	**12 J**	<5 U	--	<1.7 U	<2 U	<2.9 U	<33 U	<1000 U
1,1-Dichloroethene	1.40E+03	ug/l	<1 U	<1 U	<1 U	<1 U	<5 U	--	<5.000 U	<1 U	<1 U	<10 U	<10 U	<20 U	<5 U	--	<1.7 U	<2 U	<2.9 U	<33 U	<1000 U
Acetone	1.83E+08	ug/l	<10 U	<10 UJ	<10 U	<10 UJ	<20 U	--	<20.000 U	<10 UJ	<10 UJ	<100 UJ	<100 UJ	<200 U	<20 U	--	<17 U	<20 UJ	<29 U	<330 U	<10000 U
Benzene	1.39E+02	ug/l	<1 U	<1 U	<1 U	<1 U	<5 U	--	<5.000 U	<1 U	<1 U	<10 U	<10 U	<20 U	<5 U	--	<1.7 U	<2 U	<2.9 U	<33 U	<1000 U
Chlorobenzene	3.91E+03	ug/l	<1 U	<1 U	<1 U	<1 U	<5 U	--	<5.000 U	<1 U	<1 U	<10 U	<10 U	<20 U	<5 U	--	<1.7 U	<2 U	<2.9 U	<33 U	<1000 U
Chloroform	6.62E+01	ug/l	**3**	**1.2**	**2.6**	**2.6**	<5 U	--	<5.000 U	**10**	**18**	<10 U	<10 U	<20 U	<5 U	--	**10**	**13**	**11**	<33 U	<1000 U
cis-1,2-Dichloroethene	#N/A	ug/l	**0.74**	**0.9 J**	**1.7**	**0.23 J**	**13.4**	--	<5.000 U	**0.63**	**0.27 J**	**280**	**280**	**560**	**176**	--	**1.1**	**1.2 J**	**0.98 J**	**1100**	**28000**
Cyclohexane	8.23E+03	ug/l	<1 U	<1 U	<1 U	<1 U	--	--	--	<1 U	<1 U	<10 U	<10 U	<20 U	--	--	<1.7 U	<2 U	<2.9 U	<33 U	<1000 U
Ethylbenzene	3.54E+02	ug/l	<1 U	<1 U	<1 U	<1 U	<5 U	--	<5.000 U	<1 U	<1 U	<10 U	<10 U	<20 U	<5 U	--	<1.7 U	<2 U	<2.9 U	<33 U	<1000 U
Isopropylbenzene, VOC	1.10E+04	ug/l	<1 U	<1 U	<1 U	<1 U	--	--	<5.000 U	<1 U	<1 U	<10 U	<10 U	<20 U	--	--	<1.7 U	<2 U	<2.9 U	<33 U	<1000 U
Methylene chloride	3.51E+04	ug/l	<1 U	<1 U	<1 U	<1 U	<5 U	--	<5.000 U	<1 U	<1 U	<3.5 U	<3.5 U	<20 U	<5 U	--	<1.7 U	<2.6 U	<14 U	<33 U	<1000 U
o-Xylene	0.00E+00	ug/l	--	--	--	--	<5 U	--	<5.000 U	--	--	--	--	--	--	--	--	--	--	--	--
Tetrachloroethene	5.51E+02	ug/l	**2.1**	**1.1**	**12**	**4.8**	**13**	--	**12.9**	**17**	**12**	**4.6 J**	**4.6 J**	<20 U	<5 U	--	**49**	**65**	**83**	**1200**	**4600**
Toluene	1.73E+05	ug/l	<1 U	<1 U	<1 U	<1 U	<5 U	--	<5.000 U	<1 U	<1 U	<10 U	<10 U	<20 U	<5 U	--	<1.7 U	<2 U	<2.9 U	<33 U	<1000 U
trans-1,2-Dichloroethene	#N/A	ug/l	<0.5 U	<1 U	<0.5 U	<1 U	<5 U	--	<5.000 U	<0.5 U	<1 U	<5 U	<5 U	<20 U	<5 U	--	<0.84 U	<2 U	<2.9 U	**8.7 J**	<1000 U
Trichloroethene	4.45E+01	ug/l	**13**	**10**	**2.8**	**1.3**	**7.41**	--	<5.000 U	**2**	**1.7**	**7.9 J**	**7.9 J**	<20 U	<5 U	--	**6.7**	**8.2**	**8.3**	**390**	**1300**
Vinyl chloride	3.73E+01	ug/l	<1 U	<1 U	<1 U	<1 U	<1 U	--	<1.000 U	<1 U	<1 U	**26**	**26**	**43**	**12.4**	--	<1.7 U	<2 U	<2.9 U	**120**	**2900**
Xylene (Total)	4.87E+03	ug/l	<1 U	<2 U	<1 U	<2 U	<10 U	--	--	<1 U	<2 U	<10 U	<10 U	<40 U	<10 U	--	<1.7 U	<4 U	<5.7 U	<33 U	<2000 U
SVOCs																					
bis(2-Ethylhexyl)phthalate	#N/A	ug/l	<20 U	--	<10 U	--	--	--	--	<10 U	--	<10 U	<10 U	--	--	--	--	--	**0.99 J**	--	--
Caprolactam	#N/A	ug/l	**53**	--	**38**	--	--	--	--	**470**	--	**43**	**43**	--	--	--	--	--	<10 U	--	--
Diethyl phthalate	#N/A	ug/l	<20 U	--	<10 U	--	--	--	--	<10 U	--	**0.86 J**	**0.86 J**	--	--	--	--	--	<10 U	--	--
PCBs																					
Aroclor-1248	0.00E+00	ug/l	<0.2 U	<0.2 U	<0.2 U	<0.2 U	--	<0.5 U	<0.500 U	<0.2 U	<0.2 U	<0.2 UJ	<0.2 UJ	--	--	<0.5 U	<0.2 U	--	<0.2 U	<0.2 U	<0.2 U
Aroclor-1254	0.00E+00	ug/l	<0.2 U	<0.2 U	<0.2 U	<0.2 U	--	<0.5 U	<0.500 U	<0.2 U	<0.2 U	**0.11 J**	**0.11 J**	--	--	<0.5 U	<0.2 U	--	**0.048 J**	<0.2 U	<0.2 U
Total PCBs	#N/A	ug/l	<0.4 U	<0.4 U	<0.4 U	<0.4 U	--	<0.5 U	<0.500 U	<0.4 U	<0.4 U	**0.11 J**	**0.11 J**	--	--	<0.5 U	<0.4 U	--	**0.048 J**	<0.4 U	<0.4 U

Notes:

Shaded/Bolded values indicate concentration exceeds the VIS

[2] = See Text Section 5.2.4

Bolded parameters were detected in one or more samples

Total PCBs value is the sum of all positively detected PCB aroclors

- = Not analyzed or not available

µg/L = micrograms per kilogram

GDCSS = Generic direct contact soil standard

J = Result is estimated

#NA = Not available

PCB = Polychlorinated biphenyl

SVOC = Semi-volatile organic compounds

U = Parameter not detected, reporting limit is presented

UA:TT = Upper aquifer, top of till

UA: WT = Upper aquifer, water table

VOC = Volatile organic compound

Table 49
Comparison of Individual Groundwater Well Data to VISLs
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Parameter Name	Groundwater Vapor Intrusion Screening Levels (VISL)[2]	Station Name	MW-23-04	MW-23-04	MW-23-04	MW-23-04	MW-23-04	MW-23-04	MW-23-04	MW-23-04	MW-23-04	MW-24-04	MW-24-04	MW-24-04	MW-25-04	MW-25-04	MW-26-04	MW-26-04	MW-26-04	MW-26-04	MW-26-04	MW-26-04	MW-3-02
		Sample Date	4/1/2005	4/1/2005	11/2/2006	9/21/2012	9/21/2012	9/21/2012	12/18/2014	5/18/2015	5/18/2015	3/25/2004	9/21/2012	9/21/2012	3/26/2004	11/19/2004	3/26/2004	11/17/2004	9/21/2006	9/20/2012	12/17/2014	5/18/2015	4/18/2003
		Aquifer Code	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT
		Units																					
VOCs																							
1,1,1-Trichloroethane	6.03E+04	ug/l	<1200 U	<1200 U	<330 U	<5 U	--	--	<500	<5.00 U	--	<12 U	<5 U	<5 U	**2.9**	**2.5**	<4 U	<3.3 U	<5 U	<5 U	--	--	<1.4 U
1,1-Dichloroethane	6.23E+02	ug/l	<1200 U	<1200 U	<330 U	<5 U	--	--	<500	<5.00 U	--	<12 U	<5 U	<5 U	**7.3**	**3.1**	**10**	**9.2**	**6.4**	<5 U	--	--	**0.48 J**
1,1-Dichloroethene	1.40E+03	ug/l	<1200 U	<1200 U	<330 U	**39.4**	--	--	<500	**9.41**	--	<12 U	<5 U	<5 U	<1.7 U	<1 U	<4 U	<3.3 U	<5 U	<5 U	--	--	<1.4 U
Acetone	1.83E+08	ug/l	<31000 U	<31000 U	<3300 U	<20 U	--	--	<2000	<20.0 U	--	<120 U	<20 U	<20 U	<17 UJ	<10 UJ	<40 UJ	<33 U	<50 UJ	<20 U	--	--	<14 UJ
Benzene	1.39E+02	ug/l	<1200 U	<1200 U	<330 U	<5 U	--	--	<500	<5.00 U	--	<12 U	<5 U	<5 U	<1.7 U	<1 U	<4 U	<3.3 U	<5 U	<5 U	--	--	<1.4 U
Chlorobenzene	3.91E+03	ug/l	<1200 U	<1200 U	<330 U	**9.11**	--	--	<500	<5.00 U	--	<12 U	<5 U	<5 U	<1.7 U	<1 U	<4 U	<3.3 U	<5 U	<5 U	--	--	<1.4 U
Chloroform	6.62E+01	ug/l	<1200 U	<1200 U	<330 U	<5 U	--	--	<500	<5.00 U	--	<12 U	<5 U	<5 U	<1.7 U	<1 U	<4 U	<3.3 U	<5 U	<5 U	--	--	**3.2**
cis-1,2-Dichloroethene	#N/A	ug/l	**34000**	**35000**	**21000**	--	**28700**	--	**40300**	--	**7430**	**310**	**156**	**159**	**22**	**18**	**140**	**72**	**110**	**11.1**	--	--	**35**
Cyclohexane	8.23E+03	ug/l	<1200 U	<1200 U	<330 UJ	--	--	--	--	--	--	<12 U	--	--	<1.7 U	<1 U	<4 U	<3.3 U	<5 U	--	--	--	<1.4 U
Ethylbenzene	3.54E+02	ug/l	<1200 U	<1200 U	<330 U	**18.9**	--	--	<500	<5.00 U	--	<12 U	<5 U	<5 U	<1.7 U	<1 U	<4 U	<3.3 U	<5 U	<5 U	--	--	<1.4 U
Isopropylbenzene, VOC	1.10E+04	ug/l	<6200 U	<6200 U	<330 U	--	--	--	<500	**5.61**	--	<12 U	--	--	<1.7 U	<1 U	<4 U	<3.3 U	<5 U	--	--	--	<1.4 U
Methylene chloride	3.51E+04	ug/l	<6200 U	<6200 U	**70 J**	<5 U	--	--	<500	<5.00 U	--	<12 U	<5 U	<5 U	<1.7 U	<1 U	<4 U	<3.3 U	**2.6 J**	<5 U	--	--	<1 U
o-Xylene	0.00E+00	ug/l	--	--	--	**50.4**	--	--	<500	**7.41**	--	--	<5 U	<5 U	--	--	--	--	--	<5 U	--	--	--
Tetrachloroethene	5.51E+02	ug/l	**1300**	**1300**	**170 J**	--	--	**2200**	**525**	--	**516**	<12 U	<5 U	<5 U	**18**	**14**	**1.8 J**	**0.74 J**	**3.8 J**	<5 U	--	--	**40**
Toluene	1.73E+05	ug/l	<1200 U	<1200 U	<330 U	**19.2**	--	--	<500	<5.00 U	--	<12 U	<5 U	<5 U	<1.7 U	<1 U	<4 U	<3.3 U	<5 U	<5 U	--	--	<1.4 U
trans-1,2-Dichloroethene	#N/A	ug/l	<1200 U	<1200 U	<330 U	**141**	--	--	<500	**18.7**	--	<6.2 U	<5 U	<5 U	<0.84 U	<1 U	**3**	<3.3 U	<5 U	<5 U	--	--	<0.72 U
Trichloroethene	4.45E+01	ug/l	**580 J**	**620 J**	<330 U	--	--	**1390**	<500	--	**302**	<12 U	<5 U	<5 U	**47**	**25**	**8.7**	**11**	**93**	**22.4**	--	--	**6.2**
Vinyl chloride	3.73E+01	ug/l	**830 J**	**790 J**	**2800**	--	**3480**	--	**2980**	--	**456**	**18**	**14.2**	**14.4**	<1.7 U	**1.2**	**6.2**	**5.2**	**2.2 J**	<1 U	--	--	**0.59 J**
Xylene (Total)	4.87E+03	ug/l	<2500 U	<2500 U	<670 UJ	**24.2**	--	--	--	--	--	<12 U	<10 U	<10 U	<1.7 U	<2 U	<4 U	<6.7 U	<10 U	<10 U	--	--	<1.4 U
SVOCs																							
bis(2-Ethylhexyl)phthalate	#N/A	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<10 U
Caprolactam	#N/A	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**84.6**
Diethyl phthalate	#N/A	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<10 U
PCBs																							
Aroclor-1248	0.00E+00	ug/l	--	--	--	--	--	--	<0.50 U	<0.500 U	--	<0.2 U	<0.5 U	<0.5 U	<0.2 U	<0.2 U	<0.2 UJ	<0.2 U	--	<0.5 U	<0.500 U	<0.500 U	<0.4 U
Aroclor-1254	0.00E+00	ug/l	--	--	--	--	--	--	<0.50 U	**0.75**	--	<0.2 U	<0.5 U	<0.5 U	<0.2 U	<0.2 U	<0.2 UJ	<0.2 U	--	<0.5 U	<0.500 U	<0.500 U	**5.7**
Total PCBs	#N/A	ug/l	--	--	--	--	--	--	<0.50 U	**0.75**	--	<0.4 U	<0.5 U	<0.5 U	<0.4 U	<0.4 U	<0.4 UJ	<0.4 U	--	<0.5 U	<0.500 U	<0.500 U	**5.7**

Notes:

Shaded/Bolded values indicate concentration exceeds the VIS

[2] = See Text Section 5.2.4

Bolded parameters were detected in one or more samples

Total PCBs value is the sum of all positively detected PCB aroclors

- = Not analyzed or not available

µg/L = micrograms per kilogram

GDCSS = Generic direct contact soil standard

J = Result is estimated

#NA = Not available

PCB = Polychlorinated biphenyl

SVOC = Semi-volatile organic compounds

U = Parameter not detected, reporting limit is presented

UA:TT = Upper aquifer, top of till

UA: WT = Upper aquifer, water table

VOC = Volatile organic compound

Table 49
Comparison of Individual Groundwater Well Data to VISLs
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Parameter Name	Groundwater Vapor Intrusion Screening Levels (VISL)[2]	Station Name	MW-3-02	MW-3-02	MW-3-02	MW-3-02	MW-3-02	MW-37-05	MW-37-05	MW-37-05	MW-37-05	MW-37-05	MW-72	MW-72	MW-9-03	MW-9-03	MW-9-03	Maximum Detected Concentration
		Sample Date	11/12/2004	4/10/2013	4/10/2013	12/18/2014	5/19/2015	6/3/2005	11/2/2006	9/21/2012	9/21/2012	9/21/2012	2/25/2015	5/19/2015	4/10/2003	11/15/2004	9/24/2012	
		Aquifer Code	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	UA:TT	UA:TT	UA:TT	UA:TT	UA:TT	UA:WT	UA:WT	UA:WT	UA:WT	UA:WT	
		Units																
VOCs																		
1,1,1-Trichloroethane	6.03E+04	ug/l	<1 U	<5 U	<5 U	--	--	<170 U	<17 U	<5 U	--	--	<5.00 U	--	<1 U	<1 U	<5 U	2.9
1,1-Dichloroethane	6.23E+02	ug/l	<1 U	<5 U	<5 U	--	--	<170 U	<17 U	<5 U	--	--	<5.00 U	--	**0.66 J**	**1.5**	<5 U	12 J
1,1-Dichloroethene	1.40E+03	ug/l	<1 U	<5 U	<5 U	--	--	<170 U	<17 U	<5 U	--	--	<5.00 U	--	<1 U	<1 U	<5 U	**39.4**
Acetone	1.83E+08	ug/l	<10 UJ	<20 U	<20 U	--	--	**140 J**	<170 U	<20 U	--	--	<20.0 U	--	<10 UJ	<10 UJ	<20 U	140 J
Benzene	1.39E+02	ug/l	<1 U	<5 U	<5 U	--	--	<170 U	<17 U	<5 U	--	--	<5.00 U	--	<1 U	**0.42 J**	<5 U	0.42 J
Chlorobenzene	3.91E+03	ug/l	<1 U	<5 U	<5 U	--	--	<170 U	<17 U	<5 U	--	--	<5.00 U	--	<1 U	<1 U	<5 U	9.11
Chloroform	6.62E+01	ug/l	**10**	**7.35**	**7.41**	--	--	<170 U	**4.2 J**	<5 U	--	--	**14.7**	--	<1 U	<1 U	<5 U	**18**
cis-1,2-Dichloroethene	#N/A	ug/l	**1.9**	**7.91**	**7.79**	--	--	**4000**	**250**	**--**	**44.6**	**--**	<5.00 U	--	**0.61**	**2.5**	**56.1**	**40300**
Cyclohexane	8.23E+03	ug/l	<1 U	--	--	--	--	<170 U	<17 UJ	--	--	--	--	--	<1 U	**0.46 J**	--	0.46 J
Ethylbenzene	3.54E+02	ug/l	<1 U	<5 U	<5 U	--	--	<170 U	<17 U	<5 U	--	--	<5.00 U	--	<1 U	<1 U	<5 U	**18.9**
Isopropylbenzene, VOC	1.10E+04	ug/l	<1 U	--	--	--	--	<830 U	<17 U	--	--	--	<5.00 U	--	<1 U	**0.7 J**	--	5.61
Methylene chloride	3.51E+04	ug/l	<1 U	<5 U	<5 U	--	--	<830 U	<83 U	<5 U	--	--	<5.00 U	--	<1 U	<1 U	<5 U	**70 J**
o-Xylene	0.00E+00	ug/l	--	<5 U	<5 U	--	--	--	--	<5 U	--	--	<5.00 U	--	--	--	<5 U	50.4
Tetrachloroethene	5.51E+02	ug/l	**9.1**	<5 U	<5 U	--	--	**790**	**860**	--	--	**292**	<5.00 U	--	**8.4**	**0.53 J**	<5 U	**4600**
Toluene	1.73E+05	ug/l	<1 U	<5 U	<5 U	--	--	<170 U	<17 U	<5 U	--	--	<5.00 U	--	<1 U	<1 U	<5 U	19.2
trans-1,2-Dichloroethene	#N/A	ug/l	<1 U	<5 U	<5 U	--	--	**29 J**	**4.1 J**	<5 U	--	--	<5.00 U	--	<0.5 U	<1 U	<5 U	**141**
Trichloroethene	4.45E+01	ug/l	**3**	<5 U	<5 U	--	--	**180**	**260**	--	**94.3**	--	<5.00 U	--	**0.58 J**	**1.3**	<5 U	**1390**
Vinyl chloride	3.73E+01	ug/l	<1 U	<1 U	<1 U	--	--	<170 U	<17 U	--	<1 U	--	<1.00 U	--	<1 U	**1.2**	**68.3**	**3480**
Xylene (Total)	4.87E+03	ug/l	<2 U	<10 U	<10 U	--	--	<330 U	<33 UJ	<10 U	--	--	--	--	<1 U	<2 U	<10 U	24.2
SVOCs																		
bis(2-Ethylhexyl)phthalate	#N/A	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	<10 U	--	--	**54**
Caprolactam	#N/A	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	**250**	--	--	470
Diethyl phthalate	#N/A	ug/l	--	--	--	--	--	--	--	--	--	--	--	--	<10 U	--	--	0.86 J
PCBs																		
Aroclor-1248	0.00E+00	ug/l	<0.2 U	<0.5 U	<0.5 U	<0.500 U	<0.500 U	--	--	--	--	--	<0.500 U	<0.500 U	<0.2 UJ	<0.2 U	--	0.13 J
Aroclor-1254	0.00E+00	ug/l	**1.2**	**2.17**	**1.73**	**2.3**	**1.77**	--	--	--	--	--	**1.03**	**1.07**	<0.2 UJ	<0.2 U	--	**6.51**
Total PCBs	#N/A	ug/l	**1.2**	**2.17**	**1.73**	**2.3**	**1.77**	--	--	--	--	--	**1.03**	**1.07**	<0.4 UJ	<0.4 U	--	6.51

Notes:

Shaded/Bolded values indicate concentration exceeds the VIS

[2] = See Text Section 5.2.4

Bolded parameters were detected in one or more samples

Total PCBs value is the sum of all positively detected PCB aroclors

- = Not analyzed or not available

µg/L = micrograms per kilogram

GDCSS = Generic direct contact soil standard

J = Result is estimated

#NA = Not available

PCB = Polychlorinated biphenyl

SVOC = Semi-volatile organic compounds

U = Parameter not detected, reporting limit is presented

UA:TT = Upper aquifer, top of till

UA: WT = Upper aquifer, water table

VOC = Volatile organic compound

Table 50
Cumulative Risk Ratio for Most Recent Individual Groundwater Well Data
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Parameter Name	Groundwater Vapor Intrusion Screening Levels (VISL)[2]	Station Name	DAY-20	Risk Ratio	HD-16	Risk Ratio	HD-18	Risk Ratio	HD-18	Risk Ratio	MW-12A-03	Risk Ratio	MW-12B-03	Risk Ratio	MW-13A-03	Risk Ratio	MW-13B-03	Risk Ratio	MW-14A-03	Risk Ratio	MW-14B-04	Risk Ratio
		Sample Date	6/1/2006		3/28/2003		8/27/2007		8/27/2007		4/15/2003		11/17/2004		12/18/2014		11/17/2004		9/21/2012		1/23/2006	
		Aquifer Code	UA:WT		UA:TT		UA:TT		UA:TT		UA:WT		UA:TT		UA:WT		UA:TT		UA:WT		UA:TT	
		Units																				
VOCs																						
1,1,1-Trichloroethane	6.03E+04	ug/l	<1 U		<1 U		<1.4 U		<2 U		<1 U		**0.5**	**8.3E-06**	<5.000 U		<1 U		<5 U		<2.9 U	
1,1-Dichloroethane	6.23E+02	ug/l	<1 U		<1 U		<1.4 U		<2 U		**0.42**	**0.0007**	<1 U		<5.000 U		<1 U		<5 U		<2.9 U	
1,1-Dichloroethene	1.40E+03	ug/l	<1 U		<1 U		<1.4 U		<2 U		<1 U		<1 U		<5.000 U		<1 U		<5 U		<2.9 U	
Acetone	1.83E+08	ug/l	<20 U		<10 UJ		<14 U		<20 U		<10 UJ		<10 UJ		<20.000 U		<10 UJ		<20 U		<29 U	
Benzene	1.39E+02	ug/l	<1 U		<1 U		<1.4 U		<2 U		<1 U		<1 U		<5.000 U		<1 U		<5 U		<2.9 U	
Chlorobenzene	3.91E+03	ug/l	<1 U		<1 U		<1.4 U		<2 U		<1 U		<1 U		<5.000 U		<1 U		<5 U		<2.9 U	
Chloroform	6.62E+01	ug/l	**3.5**	**0.0529**	**1.3**	**0.0196**	**13**	**0.1964**	**14**	**0.2115**	<1 U		**1.2**	**1.8E-02**	<5.000 U		**18**	**0.2719**	<5 U		**11**	**0.1662**
cis-1,2-Dichloroethene	#N/A	ug/l	<1 U		**0.69**		<1.4 U		<2 U		**1.7**		**0.9**		<5.000 U		**0.27**		**176**		**0.98 J**	
Cyclohexane	8.23E+03	ug/l	--		<1 U		<1.4 U		<2 U		<1 U		<1 U		--		<1 U		--		<2.9 U	
Ethylbenzene	3.54E+02	ug/l	<1 U		<1 U		<1.4 U		<2 U		<1 U		<1 U		<5.000 U		<1 U		<5 U		<2.9 U	
Isopropylbenzene, VOC	1.10E+04	ug/l	<1 U		<1 U		<1.4 U		<2 U		**1.8**	**0.0002**	<1 U		<5.000 U		<1 U		--		<2.9 U	
Methylene chloride	3.51E+04	ug/l	<5 U		<1 U		<7.2 U		<10 U		<1 U		<1 U		<5.000 U		<1 U		<5 U		<14 U	
o-Xylene	4.87E+03	ug/l	--		--		--		--		--		--		<5.000 U		--		--		--	
Tetrachloroethene	5.51E+02	ug/l	<1 U		**0.69**	**0.0013**	**40**	**0.0726**	**38**	**0.0690**	<1 U		**1.1**	**2.0E-03**	**12.9**	**0.0234**	**12**	**0.0218**	<5 U		**83**	**0.1507**
Toluene	1.73E+05	ug/l	<1 U		<1 U		<1.4 U		<2 U		<1 U		<1 U		<5.000 U		<1 U		<5 U		<2.9 U	
trans-1,2-Dichloroethene	#N/A	ug/l	<1 U		<0.5 U		<1.4 U		<2 U		<0.5 U		<1 U		<5.000 U		<1 U		<5 U		<2.9 U	
Trichloroethene	4.45E+01	ug/l	**9.3**	**0.2089**	**15**	**0.3370**	**6.1**	**0.1371**	**6.2**	**0.1393**	**0.54**	**0.0121**	**10**	**2.2E-01**	<5.000 U		**1.7**	**0.0382**	<5 U		**8.3**	**0.1865**
Vinyl chloride	3.73E+01	ug/l	<1 U		<1 U		<1.4 U		<2 U		**0.78**	**0.0209**	<1 U		<1.000 U		<1 U		**12.4**	**0.3321**	<2.9 U	
Xylene (Total)	4.87E+03	ug/l	<2 U		<1 U		<2.9 U		<4 U		<1 U		<2 U		--		<2 U		<10 U		<5.7 U	
		TOTAL	**0.26**		**0.36**		**0.41**		**0.42**		**0.03**		**0.24**		**0.02**		**0.33**		**0.33**		**0.50**	

Notes:

Shaded/Bolded values indicate concentration exceeds the VISL

[2] = See Text Section 5.2.4

Bolded parameters were detected in one or more samples

Total PCBs value is the sum of all positively detected PCB aroclors

- = Not analyzed or not available

µg/L = micrograms per kilogram

GDCSS = Generic direct contact soil standard

J = Result is estimated

#NA = Not available

PCB = Polychlorinated biphenyl

SVOC = Semi-volatile organic compounds

U = Parameter not detected, reporting limit is presented

UA:TT = Upper aquifer, top of till

UA: WT = Upper aquifer, water table

VOC = Volatile organic compound

Table 50
Cumulative Risk Ratio for Most Recent Individual Groundwater Well Data
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Parameter Name	Groundwater Vapor Intrusion Screening Levels (VISL)[2]	Station Name	MW-23-04	Risk Ratio	MW-23-04	Risk Ratio	MW-24-04	Risk Ratio	MW-24-04	Risk Ratio	MW-25-04	Risk Ratio	MW-26-04	Risk Ratio	MW-3-02	Risk Ratio	MW-3-02	Risk Ratio	MW-37-05	Risk Ratio
		Sample Date	5/18/2015		5/18/2015		9/21/2012		9/21/2012		11/19/2004		9/20/2012		4/10/2013		4/10/2013		9/21/2012	
		Aquifer Code	UA:WT		UA:WT		UA:WT		UA:WT		UA:WT		UA:WT		UA:WT		UA:WT		UA:TT	
		Units																		
VOCs																				
1,1,1-Trichloroethane	6.03E+04	ug/l	<5.00 U		--		<5 U		<5 U		**2.5**	**4.1E-05**	<5 U		<5 U		<5 U		<5 U	
1,1-Dichloroethane	6.23E+02	ug/l	<5.00 U		--		<5 U		<5 U		**3.1**	**5.0E-03**	<5 U		<5 U		<5 U		<5 U	
1,1-Dichloroethene	1.40E+03	ug/l	**9.41**	**0.0067**	--		<5 U		<5 U		<1 U		<5 U		<5 U		<5 U		<5 U	
Acetone	1.83E+08	ug/l	<20.0 U		--		<20 U		<20 U		<10 UJ		<20 U		<20 U		<20 U		<20 U	
Benzene	1.39E+02	ug/l	<5.00 U		--		<5 U		<5 U		<1 U		<5 U		<5 U		<5 U		<5 U	
Chlorobenzene	3.91E+03	ug/l	<5.00 U		--		<5 U		<5 U		<1 U		<5 U		<5 U		<5 U		<5 U	
Chloroform	6.62E+01	ug/l	<5.00 U		--		<5 U		<5 U		<1 U		<5 U		**7.35**	**0.1110**	**7.41**	**0.1119**	<5 U	
cis-1,2-Dichloroethene	#N/A	ug/l	--		**7430**		**156**		**159**		**18**		**11.1**		**7.91**		**7.79**		--	
Cyclohexane	8.23E+03	ug/l	--		--		--		--		<1 U		--		--		--		--	
Ethylbenzene	3.54E+02	ug/l	<5.00 U		--		<5 U		<5 U		<1 U		<5 U		<5 U		<5 U		<5 U	
Isopropylbenzene, VOC	1.10E+04	ug/l	**5.61**	**0.0005**	--		--		--		<1 U		--		--		--		--	
Methylene chloride	3.51E+04	ug/l	<5.00 U		--		<5 U		<5 U		<1 U		<5 U		<5 U		<5 U		<5 U	
o-Xylene	4.87E+03	ug/l	**7.41**	**0.0015**	--		<5 U		<5 U		--		<5 U		<5 U		<5 U		<5 U	
Tetrachloroethene	5.51E+02	ug/l	--		**516**	**0.9372**	<5 U		<5 U		**14**	**2.5E-02**	<5 U		<5 U		<5 U		--	
Toluene	1.73E+05	ug/l	<5.00 U		--		<5 U		<5 U		<1 U		<5 U		<5 U		<5 U		<5 U	
trans-1,2-Dichloroethene	#N/A	ug/l	**18.7**		--		<5 U		<5 U		<1 U		<5 U		<5 U		<5 U		<5 U	
Trichloroethene	4.45E+01	ug/l	--		**302**	**6.7852**	<5 U		<5 U		**25**	**5.6E-01**	**22.4**	**0.5033**	<5 U		<5 U		--	
Vinyl chloride	3.73E+01	ug/l	--		**456**	**12.2112**	**14.2**	**0.3803**	**14.4**	**0.3856**	**1.2**	**0.0321**	<1 U		<1 U		<1 U		--	
Xylene (Total)	4.87E+03	ug/l	--		--		<10 U		<10 U		<2 U		<10 U		<10 U		<10 U		<10 U	
				0.01		**19.93**		**0.38**		**0.39**		**0.62**		**0.50**		**0.11**		**0.11**		**0.00**

Notes:

Shaded/Bolded values indicate concentration exceeds the VIS

[2] = See Text Section 5.2.4

Bolded parameters were detected in one or more samples

Total PCBs value is the sum of all positively detected PCB aroclors

- = Not analyzed or not available

µg/L = micrograms per kilogram

GDCSS = Generic direct contact soil standard

J = Result is estimated

#NA = Not available

PCB = Polychlorinated biphenyl

SVOC = Semi-volatile organic compounds

U = Parameter not detected, reporting limit is presented

UA:TT = Upper aquifer, top of till

UA: WT = Upper aquifer, water table

VOC = Volatile organic compound

Table 50
Cumulative Risk Ratio for Most Recent Individual Groundwater Well Data
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Parameter Name	Groundwater Vapor Intrusion Screening Levels (VISL)[2]	Station Name	MW-37-05	Risk Ratio	MW-37-05	Risk Ratio	MW-72	Risk Ratio	MW-9-03	Risk Ratio	MW-9-03	Risk Ratio
		Sample Date	9/21/2012		9/21/2012		2/25/2015		4/10/2003		9/24/2012	
		Aquifer Code	UA:TT		UA:TT		UA:WT		UA:WT		UA:WT	
		Units										
VOCs												
1,1,1-Trichloroethane	6.03E+04	ug/l	--		--		<5.00 U		<1 U		<5 U	
1,1-Dichloroethane	6.23E+02	ug/l	--		--		<5.00 U		**0.66**	**0.0011**	<5 U	
1,1-Dichloroethene	1.40E+03	ug/l	--		--		<5.00 U		<1 U		<5 U	
Acetone	1.83E+08	ug/l	--		--		<20.0 U		<10 UJ		<20 U	
Benzene	1.39E+02	ug/l	--		--		<5.00 U		<1 U		<5 U	
Chlorobenzene	3.91E+03	ug/l	--		--		<5.00 U		<1 U		<5 U	
Chloroform	6.62E+01	ug/l	--		--		**14.7**	**0.2221**	<1 U		<5 U	
cis-1,2-Dichloroethene	#N/A	ug/l	**44.6**		--		<5.00 U		**0.61**		**56.1**	
Cyclohexane	8.23E+03	ug/l	--		--		--		<1 U		--	
Ethylbenzene	3.54E+02	ug/l	--		--		<5.00 U		<1 U		<5 U	
Isopropylbenzene, VOC	1.10E+04	ug/l	--		--		<5.00 U		<1 U		--	
Methylene chloride	3.51E+04	ug/l	--		--		<5.00 U		<1 U		<5 U	
o-Xylene	4.87E+03	ug/l	--		--		<5.00 U		--		<5 U	
Tetrachloroethene	5.51E+02	ug/l	--		**292**	**0.5303**	<5.00 U		**8.4**	**0.0153**	<5 U	
Toluene	1.73E+05	ug/l	--		--		<5.00 U		<1 U		<5 U	
trans-1,2-Dichloroethene	#N/A	ug/l	--		--		<5.00 U		<0.5 U		<5 U	
Trichloroethene	4.45E+01	ug/l	**94.3**	**2.119**	--		<5.00 U		**0.58**	**0.0130**	<5 U	
Vinyl chloride	3.73E+01	ug/l	<1 U		--		<1.00 U		<1 U		**68.3**	**1.829**
Xylene (Total)	4.87E+03	ug/l	--		--		--		<1 U		<10 U	
				2.12		**0.53**		**0.22**		**0.03**		**1.83**

Notes:

Shaded/Bolded values indicate concentration exceeds the VIS

[2] = See Text Section 5.2.4

Bolded parameters were detected in one or more samples

Total PCBs value is the sum of all positively detected PCB aroclors

- = Not analyzed or not available

µg/L = micrograms per kilogram

GDCSS = Generic direct contact soil standard

J = Result is estimated

#NA = Not available

PCB = Polychlorinated biphenyl

SVOC = Semi-volatile organic compounds

U = Parameter not detected, reporting limit is presented

UA:TT = Upper aquifer, top of till

UA: WT = Upper aquifer, water table

VOC = Volatile organic compound

Table 51
Risk Evaluation Summary
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Exposure Unit & Exposure Pathway	Anticipated Current and Future Receptors Cumulative Risk Ratios			
	Adult Commercial/Industrial (C/I) Workers		Construction workers	
	Noncarcinogenic	Carcinogenic	Noncarcinogenic	Carcinogenic
C Area				
Soils: Direct Contact (ingestion, dermal absorption, inhalation)[a,d,e,f]				
Surface soil (0-3 ft bgs)	1.10E+00	7.27E+00	NA	NA
Subsurface soil (>3 - 12 ft bgs)	8.81E-02	3.92E-01	NA	NA
Total soil (0-12 ft bgs)	NA	NA	1.50E+00	3.88E-01
There are no buildings currently located within this EU. Risk to future C/I workers from Vapor Intrusion to Indoor Air and Groundwater exposure will be mitigated through engineering and institutional controls, as needed. Subsurface soil risk not included in cumulative risk to C/I worker because it is below the point of compliance.			NA	NA
CUMULATIVE RISK RATIO	1E+00	**7E+00**	1E+00	4E-01
N Area				
Soils: Direct Contact (ingestion, dermal absorption, inhalation)[d,e]				
Surface soil (0-3 ft bgs)	7.65E-01	8.38E-01	NA	NA
Subsurface soil (>3 - 12 ft bgs)	5.64E-01	1.20E+00	NA	NA
Total soil (0-12 ft bgs)	NA	NA	2.41E+00	1.78E-01
There are no buildings currently located within this EU. Risk to future C/I workers from Vapor Intrusion to Indoor Air and Groundwater exposure will be mitigated through engineering and institutional controls, as needed. Subsurface soil risk not included in cumulative risk to C/I worker because it is below the point of compliance.			NA	NA
CUMULATIVE RISK RATIO	8E-01	**8E-01**	**2E+00**	2E-01
P Area				
Soils: Direct Contact (ingestion, dermal absorption, inhalation)[d,e]				
Surface soil (0-3 ft bgs)	1.45E+00	1.14E+00	NA	NA
Subsurface soil (>3 - 12 ft bgs)	1.11E+00	7.72E-01	NA	NA
Total soil (0-12 ft bgs)	NA	NA	2.77E+00	1.11E-01
There are no buildings currently located within this EU. Risk to future C/I workers from Vapor Intrusion to Indoor Air and Groundwater exposure will be mitigated through engineering and institutional controls, as needed. Subsurface soil risk not included in cumulative risk to C/I worker because it is below the point of compliance.			NA	NA
CUMULATIVE RISK RATIO	1E+00	1E+00	**3E+00**	1E-01
CTA Area				
Soils: Direct Contact (ingestion, dermal absorption, inhalation)[d,e]				
Surface soil (0-3 ft bgs)	1.79E-02	1.34E+00	NA	NA
Subsurface soil (>3 - 12 ft bgs)	6.36E-03	3.20E-01	NA	NA
Total soil (0-12 ft bgs)	NA	NA	2.09E-02	7.45E-02
Geothermal Well	2.84E-04	5.48E-03	NA	NA
Vapor Intrusion to Indoor Air from Groundwater	2.00E-01	1.00E-01	NA	NA
Risk to C/I workers from Groundwater exposure will be mitigated through institutional controls. Subsurface soil risk not included in cumulative risk to C/I worker because it is below the point of compliance. Sub-slab soil gas sampling will be performed to further evaluate the groundwater and soil volatilization to indoor air pathway.			NA	NA
CUMULATIVE RISK RATIO	2E-01	1E+00	2E-02	7E-02
Greenspace Area				
Soils: Direct Contact (ingestion, dermal absorption, inhalation) [b,d,e]				
Surface soil (0-3 ft bgs)	5.64E-01	8.48E-01	NA	NA
Subsurface soil (>3 - 12 ft bgs)	1.35E+00	1.11E+00	NA	NA
Total soil (0-12 ft bgs)	NA	NA	2.20E+00	1.38E-01
Vapor Inhalation from groundwater in a trench	NA	NA	1.98E+00	1.49E+00
There are no buildings currently located within this EU. Risk to future C/I workers from Vapor Intrusion to Indoor Air and Groundwater exposure will be mitigated through engineering and institutional controls, as needed. Subsurface soil risk not included in cumulative risk to C/I worker because it is below the point of compliance. Vapor inhalation risk from trench based on May 2015 groundwater results (MW-23). No other locations exceeded risk threshold.			NA	NA
CUMULATIVE RISK RATIO	6E-01	8E-01	**4E+00**	**2E+00**
Other Areas/Exposure Pathways				
Soil migration to groundwater: Migration-adjusted Leach-Based Soil Values - Biochlor modeling predicts concentrations of tetrachloroethene (PCE) and trichloroethene (TCE) in soil in isolated areas (within C Area, N Area, and P Area) may leach to groundwater and result in exceedance of GUPUS at 1/2 mile from property. Model does not consider impact of Mad River on migration. This requires further evaluation.				
Potable Use: Upper Zone - Biochlor modeling predicts off-site groundwater migration of CVOCs (PCE, TCE, cis-1,2 dichloroethene, and vinyl chloride) will not cause GUPUS to be exceeded at ½ mile from the site. Additional data collection downgradient of MW-23-04 is planned to validate the model assumptions.				
Non-potable: Upper Zone - Inhalation of vapors of TCE, PCE and vinyl chloride from groundwater poses potential risk to construction workers in a trench in Greenspace Area (MW-23-04). Remedial or risk mitigation measures are warranted to ensure protection of construction workers to upper aquifer groundwater at MW-23-04.				
Groundwater discharge to Surface Water: Upper Zone - Biochlor modeling predicts that groundwater CVOC discharge to surface water is not expected to be of concern. Additional data collection downgradient of MW-23-04 is planned to validate the model assumptions.				
Non-potable: Lower Zone[c]	2.84E-04	5.48E-03	NA	NA

Notes:
Risk ratios are based on 95 percent upper confidence limit (95UCL) concentration unless otherwise noted.
Shaded areas indicate that remedial measures (or further evaluation/risk mitigation) are warranted to ensure protection of on-site commercial/industrial workers, construction workers, or other off-site receptors.
BOLD font indicates cumulative risk ratio exceeds allowable risk threshold of 1 (based on one significant figure).
[a] TPH result above saturation at sample location 091216-5 and mercury above saturation at sample SB-156-04.
[b] Surface soil lead hotspot (6470 mg/kg) at location (MW-23-04).
[c] On- and off-site non-potable use of lower zone groundwater is protective of commercial/industrial workers (i.e. geothermal well use). Off-site risk from non-potable use of upper zone groundwater has not been calculated but is not anticipated.
[d] Arsenic included in cumulative risk ratio, though maximum (CTA area soil; Greenspace Area surface soil) or 95UCL concentration (Area N soil, Area C soil, Area P soil and Greenspace subsurface soil) is less than background
[e] Benzo(a)pyrene included in cumulative risk ratio, though maximum is less than updated standard in CIDARs table (May 2, 2017)
[f] Based on hexavalent chromium GDCSS.
ft bgs = feet below ground surface
GUPUS = Generic Unrestricted Potable Use Standard
NA = not applicable

FIGURES

SOURCE:
VIVIAN LIAMBI AND ASSOCIATES, INC.

Figure 1

WESTON SOLUTIONS
711 E. Monument Ave.
Suite 201
Dayton, Ohio
45402

Master Plan
Former GM/Delphi Harrison Thermal Systems Facility
Dayton Tech Town
Dayton, Ohio

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MAD RIVER

RRIDOR DRIVE

WEBSTER STREET

BLDG. 24

BLDG. 8

BLDG. 20

BLDG. 22

BLDG. 16

BLDG. 15

BLDG. 12

BLDG. 1

BUILDING G

BLDG. 4

BLDG. 3

BLDG. 7

BLDG. 2

BLDG. 9

BLDG. 10

BLDG. 13

BLDG. 5

BLDG. 14A

BLDG. 27

AMELIA STREET

PITT STREET

TAYLOR STREET

MEIGS STREET

CTA BUILDING

E MONUMENT AVENUE

CSX TRANSPORTATION

BLDG. G-5

BLDG. G-3

BLDG. G-4

BLDG. G-2

BLDG. G-1

KEOWEE STREET

N

0 120'

SCALE

LEGEND

MAD RIVER SHORELINE

EAST PHASE PROPERTY BOUNDARY

FORMER BUILDING FOOTPRINT

BUILDING SLAB

FIGURE 2

WESTON SOLUTIONS

711 E. Monument Ave.
Suite 201
Dayton, Ohio
45402

PROPERTY MAP
FORMER GM DELPHI HARRISON
THERMAL SYSTEMS FACILITY
Dayton, Ohio

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LEGEND

- FORMER BUILDING FOOTPRINT
- MAD RIVER SHORELINE
- EAST PHASE PROPERTY BOUNDARY
- BUILDING SLAB

84414
TT HOLDINGS

84415
TT HOLDINGS

84334
TT HOLDINGS

84335 DAYTON
TECH TOWN, INC.

84336
DAYTON
TT, INC.

84418
CITY OF DAYTON

AMELIA STREET

PITT STREET

TAYLOR STREET

MEIGS STREET

E MONUMENT AVENUE

CSX TRANSPORTATION

BLDG. 4
BLDG. 3
BLDG. 20
BLDG. 7
BLDG. 2
BLDG. 9
BLDG. 10
BLDG. 13
BLDG. 5

N

0 100'
SCALE

FIGURE 3

WESTON SOLUTIONS
711 E. Monument Ave.
Suite 201
Dayton, Ohio
45402

PROPERTY OWNERSHIP
FORMER GM DELPHI HARRISON
THERMAL SYSTEMS FACILITY
Dayton, Ohio

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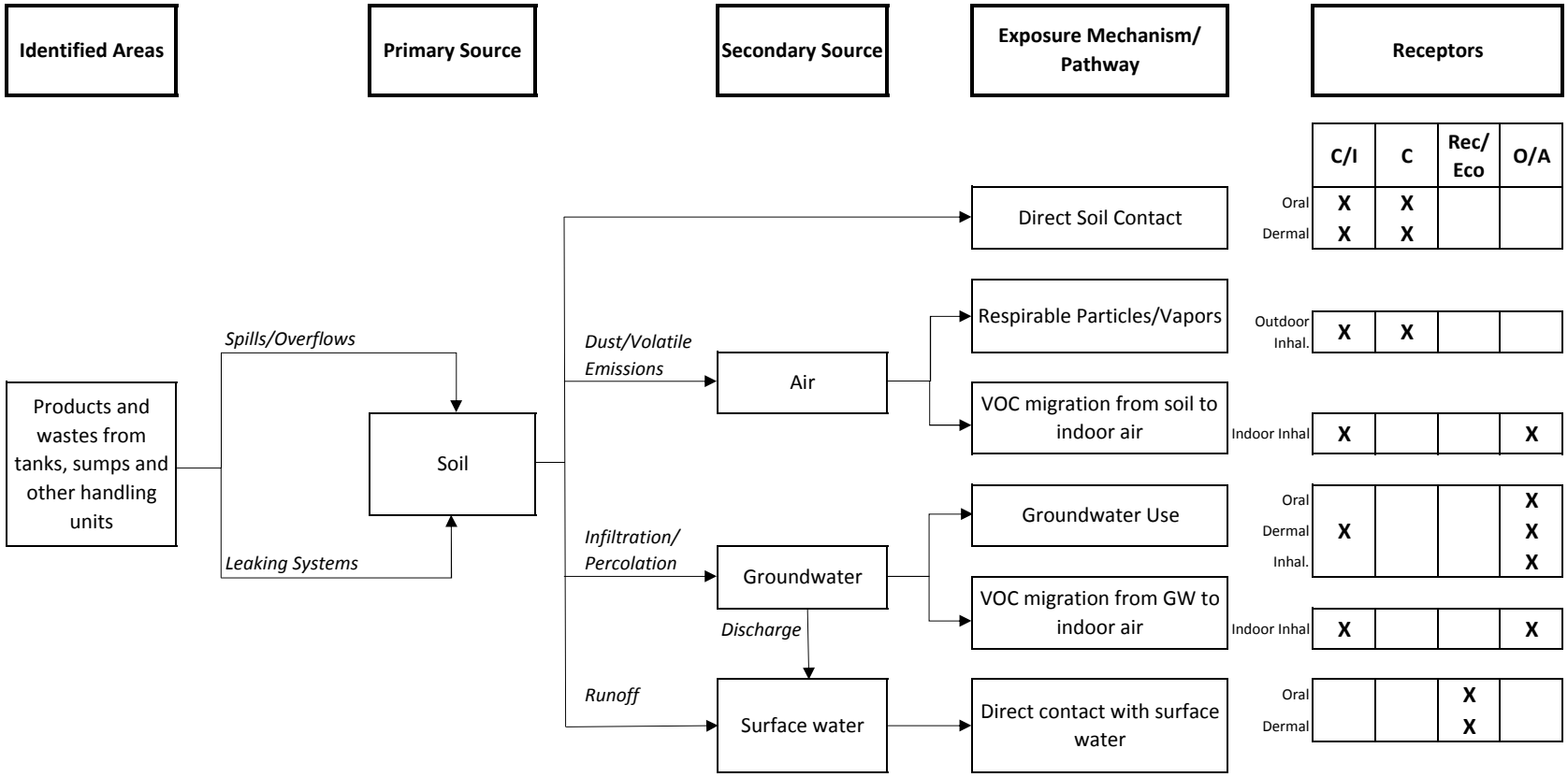
Figure 4
Conceptual Site Model
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio



C/I - Commercial/Industrial Worker and Visitor/Patron
C - Construction/Redevelopment Worker
Rec - Recreational/Ecological Use of Mad River
O/A - Occupants of Adjacent Properties

LEGEND

- FORMER BUILDING FOOTPRINT
- MAD RIVER SHORELINE
- BUILDING SLAB
- PR — FORMER PROCESS SEWER LINE
- STM — STORM SEWER LINE
- IDENTIFIED AREA (IA)
- EXPOSURE UNIT (EU)

PROPERTY-WIDE IA's:
IA 18/19 (SEWERS)
IA GW (UPGRADIENT SOURCES)

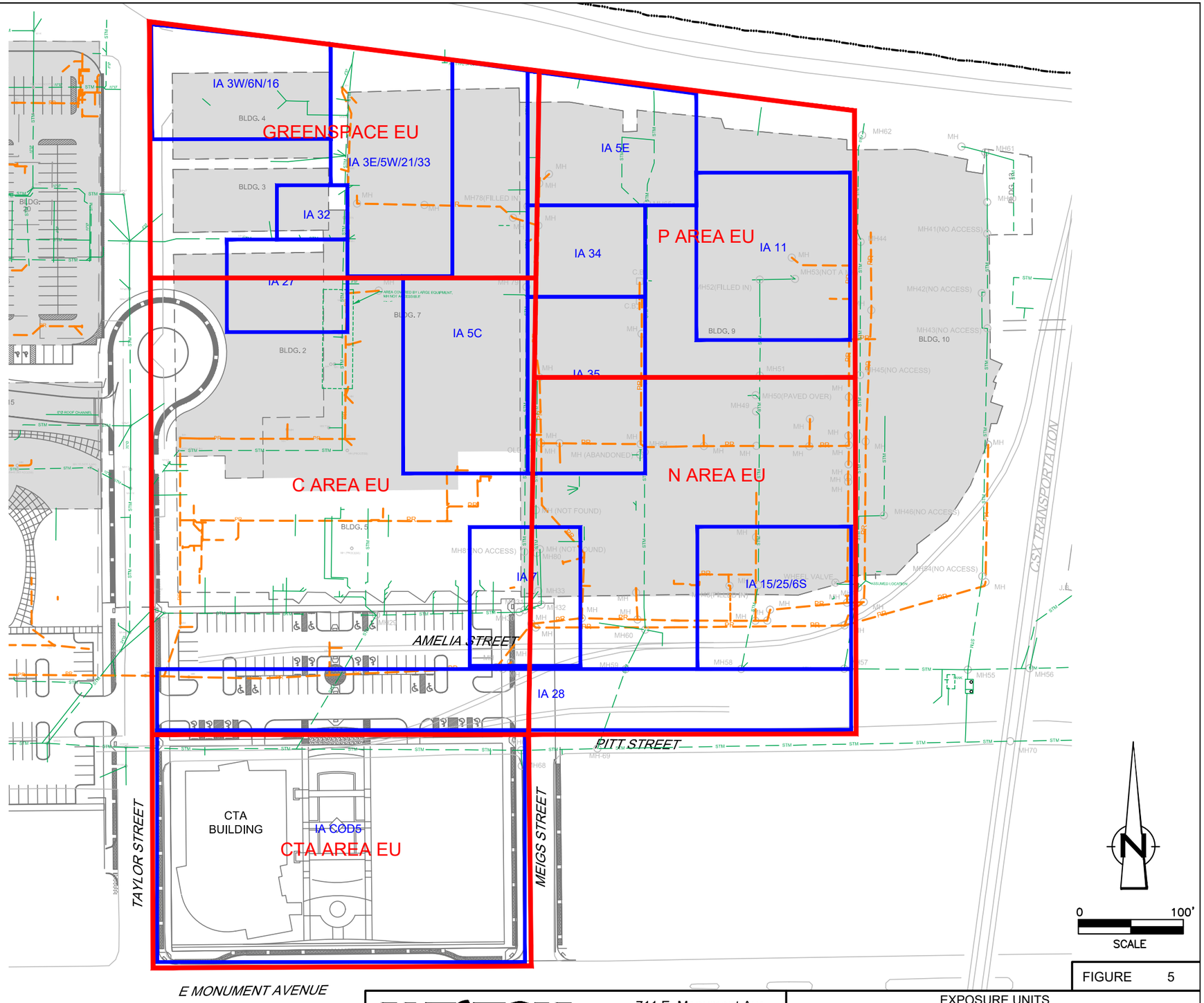


FIGURE 5

WESTON SOLUTIONS

711 E. Monument Ave.
Suite 201
Dayton, Ohio
45402

EXPOSURE UNITS
FORMER GM DELPHI HARRISON
THERMAL SYSTEMS FACILITY
Dayton, Ohio

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LEGEND

- FORMER BUILDING FOOTPRINT
- MAD RIVER SHORELINE
- EAST PHASE PROPERTY BOUNDARY
- BUILDING SLAB
- FORMER PROCESS SEWER LINE
- STORM SEWER LINE
- IDENTIFIED AREA
- SOIL BORING LOCATION
- MONITORING WELL LOCATION

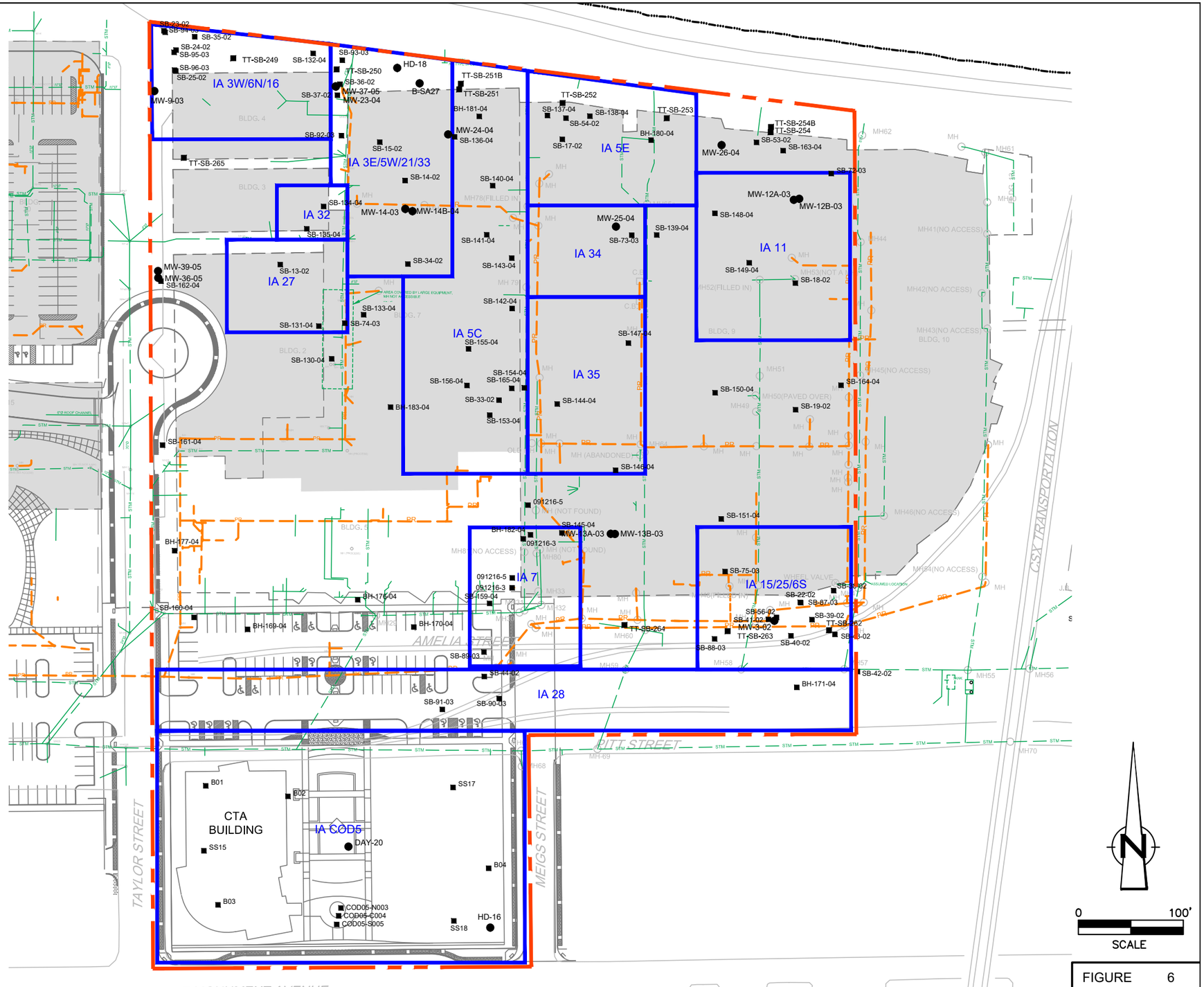

FIGURE 6

WESTON SOLUTIONS

711 E. Monument Ave.
Suite 201
Dayton, Ohio
45402

SOIL BORING AND MONITORING WELL LOCATION MAP
FORMER GM DELPHI HARRISON
THERMAL SYSTEMS FACILITY
Dayton, Ohio

LEGEND

- FORMER BUILDING FOOTPRINT
- MAD RIVER SHORELINE
- REMAINING BUILDING SLAB
- FORMER PROCESS SEWER LINE
- FORMER STORM SEWER LINE
- EXPOSURE UNIT (EU)
- SOIL BORING LOCATION
- MONITORING WELL LOCATION
- SOIL CONCENTRATION EXCEEDS SATURATION LIMIT FOR MERCURY.
- EXCEEDS TOTAL PETROLEUM HYDROCARBON SOIL SATURATION CONCENTRATION. REMEDIATION REQUIRED.
- GROUNDWATER CONCENTRATIONS EXCEED SURFACE WATER CRITERIA; FURTHER EVALUATION REQUIRED.
- MAY 2015 GROUNDWATER CONCENTRATIONS EXCEED VAPOR INTRUSION SCREENING LEVEL (VISL); FURTHER EVALUATION OR MITIGATION REQUIRED
- CUMULATIVE RISK RATIO FOR SOIL (0-12 FT BGS) EXCEEDS 1 FOR DIRECT CONTACT EXPOSURE PATHWAY FOR CONSTRUCTION WORKER RECEPTOR. RISK MITIGATION REQUIRED.
- CUMULATIVE RISK RATIO FOR SURFACE SOIL (0-3 FT BGS) EXCEEDS 1 FOR DIRECT CONTACT EXPOSURE PATHWAY FOR COMMERCIAL/INDUSTRIAL RECEPTOR. REMEDIATION OR MITIGATION REQUIRED.

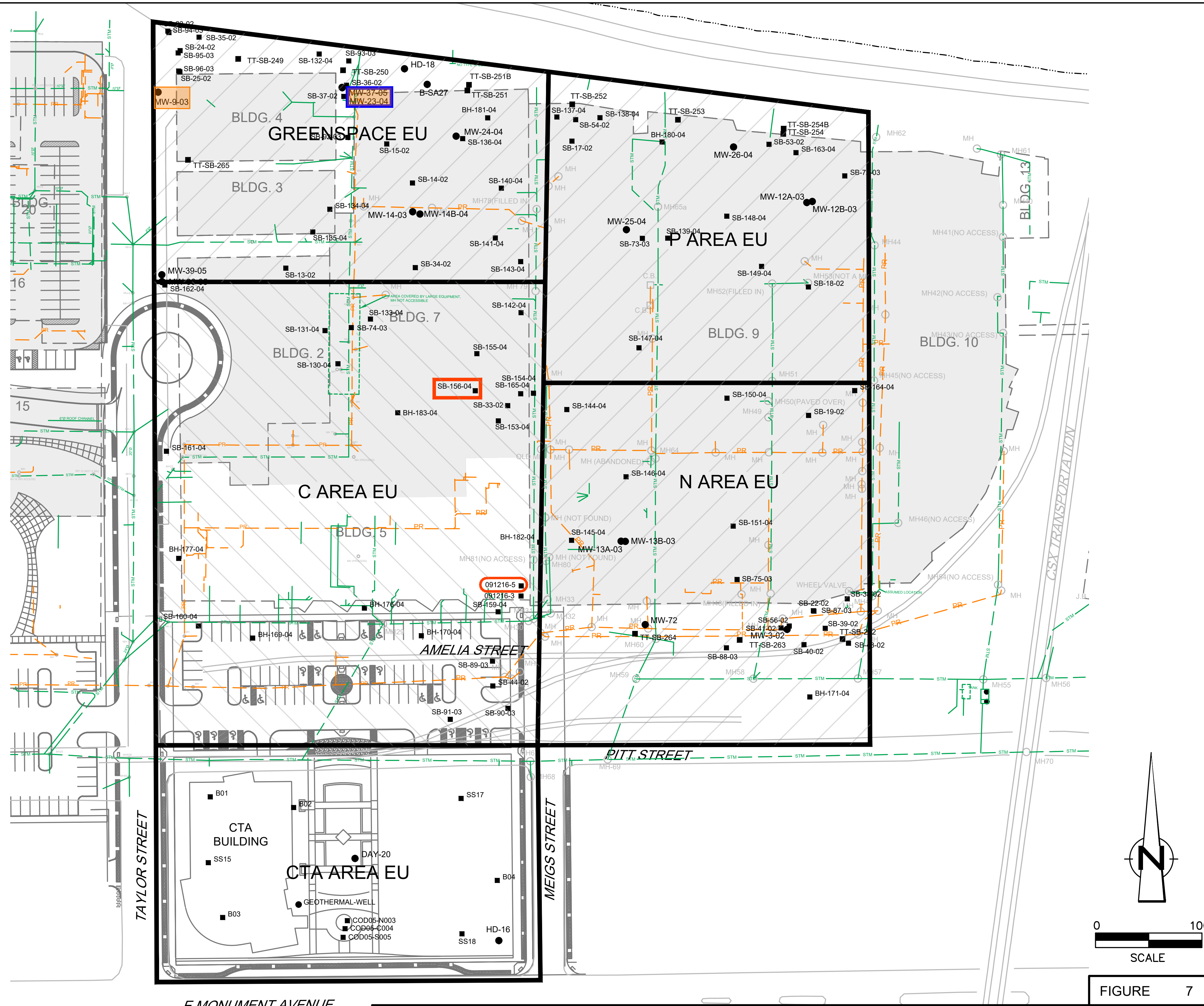

FIGURE 7

714 E. Monument Ave.
Suite 215
Dayton, Ohio
45402

LOCATIONS EXCEEDING RISK SCREENING LEVELS
FORMER GM DELPHI HARRISON
THERMAL SYSTEMS FACILITY
Dayton, Ohio

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APPENDIX A1
SOIL DATA COMPARISON TO GDCC

Appendix A
Soil Data Comparison to GDCC
C Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units	Ohio VAP C/I GDCSS	Ohio VAP CW GDCSS	Station Name	091216-3		091216-5		BH-169		BH-169		BH-170		BH-170		BH-176		BH-176		BH-177		BH-177		BH-177	
					FieldSampleID	091216-3		091216-5		S-110104-NZ-001		S-110104-NZ-002		S-110104-NZ-003		S-110104-NZ-004		S-110204-NZ-019		S-110204-NZ-020		S-110204-NZ-023		S-110204-NZ-021		S-110204-NZ-022	
					Sample Date	12/6/2009		12/6/2009		11/1/2004		11/1/2004		11/1/2004		11/1/2004		11/2/2004		11/2/2004		11/2/2004		11/2/2004		11/2/2004	
					Depth	12 ft		8 ft		0 - 2 ft		7.5 - 9.5 ft		0 - 2 ft		8 - 10 ft		0 - 2 ft		8 - 10 ft		7.5 - 9.5 ft		0 - 2 ft		7.5 - 9.5 ft	
Metals	Antimony	mg/kg	1.60E+03	8.50E+02						6.7	UJ	6.4	UJ	6.3	UJ	6.3	UJ	6.7	UJ	6.7	UJ	6.5	UJ	1.7	J	0.51	J
Metals	Arsenic	mg/kg	7.70E+01	6.90E+02						3.4		3		1.1		6.1		5.2		3.8		6.4		9.2		2.8	
Metals	Barium	mg/kg								78.7		43		2.8	J	26.2		96.4		133		80.8		173		44.2	
Metals	Beryllium	mg/kg	7.80E+03	3.40E+03						0.39	J	0.063	J	0.034	J	0.1	J	0.55	U	0.05	J	0.54	U	0.17	J	0.53	U
Metals	Cadmium	mg/kg	2.60E+03	1.00E+03						0.56	U	0.53	U	0.52	U	0.52	U	1.3		1.2		0.11	J	0.56	J	0.063	J
Metals	Chromium Total	mg/kg	2.10E+02	1.20E+03						3.4		3.4		2		7.7		9.6	J	4	J	5.7	J	22.7	J	4.1	J
Metals	Cobalt	mg/kg								1.7	J	1.6	J	5.2	U	2.2	J	3.7	J	1.7	J	1.6	J	10.6		1.9	J
Metals	Copper	mg/kg	1.60E+05	2.10E+04						7.6		6.9		1.2	J	9.4		48.4		15.7		2.5	J	428		3.7	
Metals	Cyanide (total)	mg/kg	3.70E+02	1.50E+02						0.56	U	0.53	U	0.52	U	0.52	U	0.55	U	0.55	U	0.54	U	0.66	U	0.53	U
Metals	Lead	mg/kg	8.00E+02	4.00E+02						20.4		6.3		1.5		3.2		48.8	J	5.2	J	3	J	160	J	2.3	J
Metals	Manganese	mg/kg								252		269		122		422		384		359		393		660		299	
Metals	Mercury	mg/kg	3.10E+00	3.10E+00						0.15		0.019	J	0.0077	J	0.04	J	0.076	J	0.022	J	0.012	J	0.67		0.11	U
Metals	Nickel	mg/kg	7.40E+04	2.30E+04						3.4	J	6.2		1	J	5.7		10.1		4.9		3.8	J	19.6		4	J
Metals	Selenium	mg/kg	2.00E+04	1.10E+04						0.56	U	0.53	U	0.52	U	0.52	U	0.55	U	0.55	U	0.54	U	0.66	U	0.53	U
Metals	Silver	mg/kg	2.00E+04	1.10E+04						1.1	U	1.1	U	1	U	1	U	0.13	J	1.1	U	1.1	U	1.3	U	1.1	U
Metals	Thallium	mg/kg								1.1	U	1.1	U	1	U	1	U	0.71	J	0.78	J	0.84	J	1	J	1.1	
Metals	Vanadium	mg/kg	2.30E+04	1.10E+04						5.8		5.2	J	1.7	J	7.2		9.9		6.1		7.6		20.9		6.4	
Metals	Zinc	mg/kg	1.00E+06	6.40E+05						24.6		50.6		3.2		18.1		122		65.9		15.1		307		12.8	
Miscellaneous	Percent moisture	%				20.2		5.19																			
Miscellaneous	Total Solids	%								90.1		94.4		95.9		95.8		90.1		90.2		91.8		75.9		93.7	
Other	Acetonitrile	mg/kg	9.20E+03	2.60E+04		0.176	U	0.104	U																		
PCBs/Pesticides	Aroclor-1016	mg/kg	1.00E+02	2.60E+02																							
PCBs/Pesticides	Aroclor-1221	mg/kg	1.40E+01	2.10E+02																							
PCBs/Pesticides	Aroclor-1232	mg/kg	1.40E+01	7.30E+01																							
PCBs/Pesticides	Aroclor-1242	mg/kg	2.00E+01	4.40E+02																							
PCBs/Pesticides	Aroclor-1248	mg/kg	2.00E+01	4.40E+02																							
PCBs/Pesticides	Aroclor-1254	mg/kg	2.00E+01	7.50E+01																							
PCBs/Pesticides	Aroclor-1260	mg/kg	2.00E+01	4.40E+02																							
SVOCs	2,2-oxybis(2-Chloropropane), SVOC	ug/kg																370	U	370	U	360	U	870	U	350	U
SVOCs	2,4,5-Trichlorophenol	ug/kg	1.80E+08	1.00E+09														370	U	370	U	360	U	870	U	350	U
SVOCs	2,4,6-Trichlorophenol	ug/kg	1.80E+06	1.40E+06														370	U	370	U	360	U	870	U	350	U
SVOCs	2,4-Dichlorophenol	ug/kg	5.30E+06	2.80E+07														370	U	370	U	360	U	870	U	350	U
SVOCs	2,4-Dimethylphenol	ug/kg	3.50E+07	8.50E+07														370	U	370	U	360	U	870	U	350	U
SVOCs	2,4-Dinitrophenol	ug/kg	3.50E+06	2.80E+07														1800	U	1800	U	1700	U	4200	U	1700	U
SVOCs	2,4-Dinitrotoluene	ug/kg	1.60E+05	2.80E+06														370	U	370	U	360	U	870	U	350	U
SVOCs	2,6-Dinitrotoluene	ug/kg	3.30E+04	6.70E+05														370	U	370	U	360	U	870	U	350	U
SVOCs	2-Chloronaphthalene	ug/kg	3.30E+08	1.00E+09														370	U	370	U	360	U	870	U	350	U
SVOCs	2-Chlorophenol	ug/kg	2.00E+07	2.20E+07														370	U	370	U	360	U	870	U	350	U
SVOCs	2-Methylnaphthalene	ug/kg	6.00E+06	5.20E+06		125	U	1050	U									370	U	370	U	360	U	170	J	350	U
SVOCs	2-Methylphenol	ug/kg	8.80E+07	7.10E+08														370	U	370	U	360	U	870	U	350	U
SVOCs	2-Nitroaniline	ug/kg																1800	U	1800	U	1700	U	4200	U	1700	U
SVOCs	2-Nitrophenol	ug/kg																370	U	370	U	360	U	870	U	350	U
SVOCs	3,3-Dichlorobenzidine	ug/kg	1.10E+05	2.20E+06														1800	U	1800	U	1700	U	4200	U	1700	U
SVOCs	3-Nitroaniline	ug/kg																1800	U	1800	U	1700	U	4200	U	1700	U
SVOCs	4,6-Dinitro-2-methylphenol	ug/kg																1800	U	1800	U	1700	U	4200	U	1700	U
SVOCs	4-Bromophenyl phenyl ether	ug/kg																370	U	370	U	360	U	870	U	350	U
SVOCs	4-Chloro-3-methylphenol	ug/kg																370	U	370	U	360	U	870	U	350	U
SVOCs	4-Chloroaniline	ug/kg	2.50E+05	7.10E+05														370	U	370	U	360	U	870	U	350	U
SVOCs	4-Chlorophenyl phenyl ether	ug/kg																370	U	370	U	360	U	870	U	350	U
SVOCs	4-Methylphenol	ug/kg	1.80E+08	2.80E+07														370	U	370	U	360	U	870	U	350	U
SVOCs	4-Nitroaniline	ug/kg	2.50E+06	1.40E+07														1800	U	1800	U	1700	U	4200	U	1700	U
SVOCs	4-Nitrophenol	ug/kg																1800	UJ	1800	UJ	1700	UJ	4200	UJ	1700	UJ
SVOCs	Acenaphthene	ug/kg	9.00E+07	7.80E+08		125	U	1050	U									370	U	370	U	360	U	42	J	350	U
SVOCs	Acenaphthylene	ug/kg				125	U	1050	U									370	U	370	U	360	U	280	J	350	U
SVOCs	Acetophenone	ug/kg	2.50E+06	2.50E+06														370	U	370	U	360	U	870	U	350	U
SVOCs	Anthracene	ug/kg	4.50E+08	1.00E+09		125	U	1050	U									370	U	370	U	360	U	240	J	350	U
SVOCs	Atrazine	ug/kg																370	U	370	U	360	U	870	U	350	U
SVOCs	Benzaldehyde	ug/kg																370	U	370	U	360	U	870	U	350	U
SVOCs	Benzo(a)anthracene	ug/kg	5.80E+04	1.20E+06		125	U	1050	U									63	J	370	U	360	U	830	J	350	U
SVOCs	Benzo(a)pyrene	ug/kg	5.80E+03	1.20E+05		125	U	1050	U									80	J	370	U	360	U	1000		350	U
SVOCs	Benzo(b)fluoranthene	ug/kg	5.80E+04	1.20E+06		125	U	1050	U									120	J	370	U	360	U	1300		350	U
SVOCs	Benzo(g,h,i)perylene	ug/kg				125	U	1050	U									160	J	370	U	360	U	1400		350	U
SVOCs	Benzo(k)fluoranthene	ug/kg	5.80E+05	1.20E+07		125	U	1050	U									43	J	370	U	360	U	460	J	350	U
SVOCs	Biphenyl	ug/kg	1.40E+07	1.90E+08														370	U	370	U	360	U	870	U	350	U

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Appendix A
Soil Data Comparison to GDCC
C Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units	Ohio VAP C/I GDCSS	Ohio VAP CW GDCSS	Station Name	091216-3		091216-5		BH-169		BH-169		BH-170		BH-170		BH-176		BH-176		BH-177		BH-177		BH-177	
					FieldSampleID	091216-3		091216-5		S-110104-NZ-001		S-110104-NZ-002		S-110104-NZ-003		S-110104-NZ-004		S-110204-NZ-019		S-110204-NZ-020		S-110204-NZ-023		S-110204-NZ-021		S-110204-NZ-022	
					Sample Date	12/6/2009		12/6/2009		11/1/2004		11/1/2004		11/1/2004		11/1/2004		11/2/2004		11/2/2004		11/2/2004		11/2/2004		11/2/2004	
					Depth	12 ft		8 ft		0 - 2 ft		7.5 - 9.5 ft		0 - 2 ft		8 - 10 ft		0 - 2 ft		8 - 10 ft		7.5 - 9.5 ft		0 - 2 ft		7.5 - 9.5 ft	
SVOCs	bis(2-Chloroethoxy)methane	ug/kg	5.30E+06	4.30E+07														370	U	370	U	360	U	870	U	350	U
SVOCs	bis(2-Chloroethyl)ether	ug/kg	3.00E+04	2.90E+05														370	U	370	U	360	U	870	U	350	U
SVOCs	bis(2-Ethylhexyl)phthalate	ug/kg	3.50E+06	7.10E+07														370	U	370	U	360	U	870	U	350	U
SVOCs	Butyl benzylphthalate	ug/kg	2.60E+07	5.20E+08														370	U	370	U	360	U	870	U	350	U
SVOCs	Caprolactam	ug/kg																370	U	370	U	360	U	870	U	350	U
SVOCs	Carbazole	ug/kg																370	U	370	U	360	U	130	J	350	U
SVOCs	Chrysene	ug/kg	5.80E+06	1.20E+08		125	U	1050	U									61	J	370	U	360	U	830	J	350	U
SVOCs	Dibenz(a,h)anthracene	ug/kg	5.80E+03	1.20E+08		125	U	1050	U									370	U	370	U	360	U	190	J	350	U
SVOCs	Dibenzofuran	ug/kg																370	U	370	U	360	U	110	J	350	U
SVOCs	Diethyl phthalate	ug/kg	1.00E+09	1.00E+09														370	U	370	U	360	U	870	U	350	U
SVOCs	Dimethyl phthalate	ug/kg																370	U	370	U	360	U	870	U	350	U
SVOCs	Di-n-butylphthalate	ug/kg	1.80E+08	4.30E+08														370	U	370	U	360	U	870	U	350	U
SVOCs	Di-N-Octyl phthalate	ug/kg																56	J	370	U	360	U	870	U	350	U
SVOCs	Fluoranthene	ug/kg	6.00E+07	1.60E+08		125	U	1050	U									67	J	370	U	360	U	2100		350	U
SVOCs	Fluorene	ug/kg	6.00E+07	5.20E+08		125	U	1050	U									370	U	370	U	360	U	100	J	350	U
SVOCs	Hexachlorobenzene	ug/kg	3.10E+04	1.40E+04														370	U	370	U	360	U	870	U	350	U
SVOCs	Hexachlorobutadiene, SVOC	ug/kg	6.30E+05	1.40E+06														370	U	370	U	360	U	870	U	350	U
SVOCs	Hexachlorocyclopentadiene	ug/kg	1.10E+07	2.60E+07														1800	U	1800	U	1700	U	4200	U	1700	U
SVOCs	Hexachloroethane	ug/kg	1.20E+06	3.00E+06														370	U	370	U	360	U	870	U	350	U
SVOCs	Indeno(1,2,3-cd)pyrene	ug/kg	5.80E+04	1.20E+06		125	U	1050	U									63	J	370	U	360	U	660	J	350	U
SVOCs	Isophorone	ug/kg	5.20E+07	1.00E+09														370	U	370	U	360	U	870	U	350	U
SVOCs	Naphthalene, SVOC	ug/kg	4.50E+05	5.60E+05		125	U	1050	U									370	U	370	U	360	U	110	J	350	U
SVOCs	Nitrobenzene	ug/kg	6.10E+05	3.00E+06														370	U	370	U	360	U	870	U	350	U
SVOCs	N-Nitrosodi-n-propylamine	ug/kg	7.00E+03	1.40E+05														370	U	370	U	360	U	870	U	350	U
SVOCs	N-Nitrosodiphenylamine	ug/kg	1.00E+07	2.00E+08														370	U	370	U	360	U	870	U	350	U
SVOCs	Pentachlorophenol	ug/kg	6.70E+04	9.50E+05														370	UJ	370	UJ	360	UJ	870	UJ	350	UJ
SVOCs	Phenanthrene	ug/kg				125	U	1050	U									17	J	370	U	360	U	1500		350	U
SVOCs	Phenol	ug/kg	5.30E+08	8.40E+08														370	U	370	U	360	U	870	U	350	U
SVOCs	Pyrene, SVOC	ug/kg	4.50E+07	3.90E+08		125	U	1050	U									74	J	370	U	360	U	1800	J	350	U
TPH	GRO (C6-C12)	ug/kg	1.00E+06	1.00E+06		213000		**1850000**																			
TPH	TPH C10-C20	ug/kg	2.00E+06	2.00E+06		429000		1530000																			
TPH	TPH C20-C34	ug/kg	5.00E+06	5.00E+06		3330000		**9000000**																			
VOCs	1,1,1,2-Tetrachloroethane	ug/kg	2.40E+05	6.80E+05		22.1	U	264	U																		
VOCs	1,1,1-Trichloroethane	ug/kg	6.40E+05	6.40E+05		22.1	U	13	U									4.3	U	8.4	U	5.9	U	6.2	U	8.9	U
VOCs	1,1,2,2-Tetrachloroethane	ug/kg	7.50E+04	6.70E+05		22.1	U	264	U									4.3	U	8.4	U	5.9	U	6.2	U	8.9	U
VOCs	1,1,2-Trichloroethane	ug/kg	1.40E+05	1.20E+06		22.1	U	13	U									4.3	U	8.4	U	5.9	U	6.2	U	8.9	U
VOCs	1,1-Dichloroethane	ug/kg	4.20E+05	1.70E+06		22.1	U	13	U									4.3	U	8.4	U	5.9	U	6.2	U	8.9	U
VOCs	1,1-Dichloroethene	ug/kg	1.20E+06	3.60E+05		22.1	U	13	U									4.3	U	8.4	U	5.9	U	6.2	U	8.9	U
VOCs	1,1-Dichloropropene	ug/kg				22.1	U	13	U																		
VOCs	1,2,4-Trichlorobenzene, VOC	ug/kg	4.00E+05	4.00E+05														4.3	U	8.4	U	5.9	U	6.2	U	8.9	U
VOCs	1,2-Dibromo-3-chloropropane	ug/kg	1.70E+03	1.50E+04														8.7	U	17	U	12	U	12	U	18	U
VOCs	1,2-Dibromoethane	ug/kg	4.40E+03	3.80E+04		22.1	U	264	U									4.3	U	8.4	U	5.9	U	6.2	U	8.9	U
VOCs	1,2-Dichlorobenzene, VOC	ug/kg	3.80E+05	3.80E+05														4.3	U	8.4	U	5.9	U	6.2	U	8.9	U
VOCs	1,2-Dichloroethane	ug/kg	5.60E+04	4.80E+05		22.1	U	13	U									4.3	U	8.4	U	5.9	U	6.2	U	8.9	U
VOCs	1,2-Dichloropropane	ug/kg	1.20E+05	1.80E+05		22.1	U	13	U									4.3	U	8.4	U	5.9	U	6.2	U	8.9	U
VOCs	1,3-Dichlorobenzene, VOC	ug/kg																4.3	U	8.4	U	5.9	U	6.2	U	8.9	U
VOCs	1,3-Dichloropropane	ug/kg	1.50E+06	1.50E+06		22.1	U	13	U																		
VOCs	1,4-Dichlorobenzene, VOC	ug/kg	3.10E+05	2.60E+06														4.3	U	8.4	U	5.9	U	6.2	U	8.9	U
VOCs	2,2-Dichloropropane	ug/kg				22.1	U	13	U																		
VOCs	2-Butanone	ug/kg	2.80E+07	2.80E+07		88.2	U	52.1	U									5	J	8.1	J	11	J	10	J	8.9	J
VOCs	2-Chloroethyl vinyl ether	ug/kg				110	U	65.1	U																		
VOCs	2-Chlorotoluene	ug/kg				22.1	U	927																			
VOCs	2-Hexanone	ug/kg				88.2	U	552										17	U	34	U	24	U	25	U	36	U
VOCs	4-Chlorotoluene	ug/kg				22.1	U	598																			
VOCs	4-Methyl-2-Pentanone	ug/kg	3.40E+06	3.40E+06		88.2	U	52.1	U									17	U	34	U	24	U	25	U	36	U
VOCs	Acetone	ug/kg	1.10E+08	1.10E+08		221	U	130	U									19		21	J	52		42		35	J
VOCs	Acrolein	ug/kg				88.2	U	52.1	U																		
VOCs	Acrylonitrile	ug/kg				88.2	U	52.1	U																		
VOCs	Allyl chloride	ug/kg	1.90E+04	6.40E+04		44.1	U	26.1	U																		
VOCs	Benzene	ug/kg	1.40E+05	1.20E+06		22.1	U	13	U									5.7		12		4.5	J	32	J	4	J
VOCs	Bromobenzene	ug/kg				22.1	U	264	U																		
VOCs	Bromochloromethane	ug/kg				22.1	U	13	U																		
VOCs	Bromodichloromethane	ug/kg	3.50E+04	3.00E+05		22.1	U	13	U									4.3	U	8.4	U	5.9	U	6.2	U	8.9	U
VOCs	Bromoform	ug/kg	6.20E+06	1.30E+08		22.1	U	264	U									4.3	U	8.4	U	5.9	U	6.2	U	8.9	U

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Appendix A
Soil Data Comparison to GDCC
C Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units	Ohio VAP C/I GDCSS	Ohio VAP CW GDCSS	Station Name	091216-3		091216-5		BH-169		BH-169		BH-170		BH-170		BH-176		BH-176		BH-177		BH-177		BH-177	
					FieldSampleID	091216-3		091216-5		S-110104-NZ-001		S-110104-NZ-002		S-110104-NZ-003		S-110104-NZ-004		S-110204-NZ-019		S-110204-NZ-020		S-110204-NZ-023		S-110204-NZ-021		S-110204-NZ-022	
					Sample Date	12/6/2009		12/6/2009		11/1/2004		11/1/2004		11/1/2004		11/1/2004		11/2/2004		11/2/2004		11/2/2004		11/2/2004		11/2/2004	
					Depth	12 ft		8 ft		0 - 2 ft		7.5 - 9.5 ft		0 - 2 ft		8 - 10 ft		0 - 2 ft		8 - 10 ft		7.5 - 9.5 ft		0 - 2 ft		7.5 - 9.5 ft	
VOCs	Bromomethane	ug/kg	8.20E+04	5.50E+05		22.1	U	13	U									4.3	U	8.4	U	5.9	U	6.2	U	8.9	U
VOCs	Carbon disulfide	ug/kg	7.40E+05	7.40E+05		88.2	U	52.1	U									4.3	U	8.4	U	5.9	U	6.2	U	8.9	U
VOCs	Carbon tetrachloride	ug/kg	7.90E+04	4.60E+05		22.1	U	13	U									4.3	U	8.4	U	5.9	U	6.2	U	8.9	U
VOCs	Chlorobenzene	ug/kg	7.60E+05	7.60E+05		22.1	U	264	U									4.3	U	8.4	U	5.9	U	6.2	U	8.9	U
VOCs	Chloroethane	ug/kg				22.1	U	13	U									4.3	U	8.4	U	5.9	U	6.2	U	8.9	U
VOCs	Chloroform	ug/kg	3.80E+04	3.20E+05		22.1	U	13	U									4.3	U	8.4	U	5.9	U	6.2	U	8.9	U
VOCs	Chloromethane	ug/kg	1.30E+06	1.30E+06		22.1	U	13	U									4.3	U	8.4	U	5.9	U	6.2	U	8.9	U
VOCs	cis-1,2-Dichloroethene	ug/kg				22.1	U	13	U									4.3	U	8.4	U	5.9	U	6.2	U	8.9	U
VOCs	cis-1,3-Dichloropropene	ug/kg	2.30E+05	5.20E+05		22.1	U	13	U									4.3	U	8.4	U	5.9	U	6.2	U	8.9	U
VOCs	Cyclohexane	ug/kg	1.20E+05	1.20E+05														10		34		5.7	J	6	J	9.3	J
VOCs	Dibromochloromethane	ug/kg	8.40E+04	7.70E+05		22.1	U	264	U									4.3	U	8.4	U	5.9	U	6.2	U	8.9	U
VOCs	Dibromomethane	ug/kg	2.80E+06	3.80E+04		22.1	U	13	U																		
VOCs	Dichlorodifluoromethane	ug/kg	8.50E+05	8.50E+05		22.1	U	13	U									4.3	U	8.4	U	5.9	U	6.2	U	8.9	U
VOCs	Ethylbenzene	ug/kg	4.80E+05	4.80E+05		120		264	U									6.7		17		2.9	J	5.2	J	3.7	J
VOCs	Iodomethane	ug/kg				44.1	U	26.1	U																		
VOCs	Isopropylbenzene, VOC	ug/kg	2.70E+05	2.70E+05														4.3	U	2.3	J	5.9	U	6.2	U	8.9	U
VOCs	m&p-Xylene	ug/kg	2.60E+05	2.60E+05		44.1		527	U																		
VOCs	Methyl acetate	ug/kg																8.7	U	17	U	12	U	12	U	18	U
VOCs	Methyl cyclohexane	ug/kg																15		49		6.5	J	7.6	J	12	J
VOCs	Methyl tert butyl ether	ug/kg	5.70E+06	8.90E+06		44.1	U	26.1	U									17	U	34	U	24	U	25	U	36	U
VOCs	Methylene chloride	ug/kg	3.30E+06	3.30E+06		22.1	U	13	U									12	U	24	U	20	U	20	U	32	U
VOCs	n-Hexane	ug/kg	1.40E+05	1.40E+05		22.1	U	13	U																		
VOCs	o-Xylene	ug/kg	2.60E+05	2.60E+05		22.1		264	U																		
VOCs	Styrene	ug/kg	8.70E+05	8.70E+05		22.1	U	264	U									4.3	U	8.4	U	5.9	U	6.2	U	8.9	U
VOCs	Tetrachloroethene	ug/kg	1.70E+05	1.70E+05		22.1	U	264	U									4.3	U	8.4	U	3.2	J	6.2	U	8.9	U
VOCs	Toluene	ug/kg	8.20E+05	8.20E+05		22.1	U	13	U									15		40		14		24		17	
VOCs	trans-1,2-Dichloroethene	ug/kg	1.70E+06	1.70E+06		22.1	U	13	U									4.3	U	8.4	U	5.9	U	6.2	U	8.9	U
VOCs	trans-1,3-Dichloropropene	ug/kg	2.30E+05	5.20E+05		22.1	U	13	U									4.3	U	8.4	U	5.9	U	6.2	U	8.9	U
VOCs	Trichloroethene	ug/kg	5.10E+04	1.70E+04		22.1	U	13	U									4.3	U	8.4	U	5.9	U	6.2	U	8.9	U
VOCs	Trichlorofluoromethane	ug/kg	1.20E+06	1.20E+06		22.1	U	13	U									4.3	U	8.4	U	5.9	U	6.2	U	8.9	U
VOCs	Trifluorotrichloroethane	ug/kg																4.3	U	8.4	U	5.9	U	6.2	U	8.9	U
VOCs	Vinyl acetate	ug/kg	2.70E+06	6.20E+05		44.1	U	26.1	U																		
VOCs	Vinyl chloride	ug/kg	5.00E+04	2.80E+05		22.1	U	13	U									4.3	U	8.4	U	5.9	U	6.2	U	8.9	U
VOCs	Xylene (Total)	ug/kg	2.60E+05	2.60E+05														12		38		5.2	J	11	J	7.3	J

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Appendix A
Soil Data Comparison to GDCC
C Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units	Ohio VAP C/I GDCSS	Ohio VAP CW GDCSS	Station Name	BH-182		BH-182		BH-182		BH-183		BH-183		BH-183		SB-130-04		SB-130-04		SB-130-04		SB-131-04		SB-131-04	
					FieldSampleID	S-111104-NZ-038		S-111104-NZ-039		S-111104-NZ-040		S-112904-NZ-041		S-112904-NZ-042		S-112904-NZ-043		SB-130-04		SB-130-04		SB-130-04		SB-131-04		SB-131-04 DUP	
					Sample Date	11/11/2004		11/11/2004		11/11/2004		11/29/2004		11/29/2004		11/29/2004		1/21/2004		1/21/2004		1/21/2004		1/21/2004		1/21/2004	
					Depth	0 - 2 ft		8 - 10 ft		12 - 14 ft		0 - 2 ft		8 - 10 ft		12 - 14 ft		0 - 2 ft		8 - 10 ft		10 - 12 ft		0 - 2 ft		8 - 10 ft	
Metals	Antimony	mg/kg	1.60E+03	8.50E+02		1.2	J	8.3	UJ	6.3	UJ	28.8	J	8.1	R	6.7	R										
Metals	Arsenic	mg/kg	7.70E+01	6.90E+02		15.6	J	1.4	J	2.5	J	12.4		6.4		1.8											
Metals	Barium	mg/kg				224	J	310	J	27.7	J	275		271		159											
Metals	Beryllium	mg/kg	7.80E+03	3.40E+03		3.5	J	0.092	J	0.099	J	1.1		0.31	J	0.047	J										
Metals	Cadmium	mg/kg	2.60E+03	1.00E+03		0.3	J	0.69	J	0.14	J	0.035	J	0.14	J	0.07	J										
Metals	Chromium Total	mg/kg	2.10E+02	1.20E+03		15.8	J	8.3	J	3.8	J	11.9	J	9.7	J	2.2	J										
Metals	Cobalt	mg/kg				9	J	0.49	J	1.8	J	7.6		4.2	J	0.71	J										
Metals	Copper	mg/kg	1.60E+05	2.10E+04		239	J	228	J	4.4	J	33.6		7.1		1.9	J										
Metals	Cyanide (total)	mg/kg	3.70E+02	1.50E+02		0.46	J	0.69	U	0.54		0.64	U	0.67	U	0.56	U										
Metals	Lead	mg/kg	8.00E+02	4.00E+02		242	J	8.5	J	2.4	J	451		6.9		2.8											
Metals	Manganese	mg/kg				1230		316		291		382	J	265	J	275	J										
Metals	Mercury	mg/kg	3.10E+00	3.10E+00		0.33		0.022	J	0.014	J	0.38		0.021	J	0.011	J										
Metals	Nickel	mg/kg	7.40E+04	2.30E+04		17.3	J	9.1	J	5.7	J	15.4		9.2		2	J										
Metals	Selenium	mg/kg	2.00E+04	1.10E+04		0.39	J	0.69	UJ	0.53	UJ	0.63	J	0.67	U	0.56	U										
Metals	Silver	mg/kg	2.00E+04	1.10E+04		1.3	UJ	1.4	UJ	1.1	UJ	1.3	U	1.3	U	1.1	U										
Metals	Thallium	mg/kg				1.3	UJ	1.4	UJ	1.1	UJ	1.3	U	1.3	U	1.1	U										
Metals	Vanadium	mg/kg	2.30E+04	1.10E+04		39.1	J	2.1	J	6.3	J	30.6		14.2		3.3	J										
Metals	Zinc	mg/kg	1.00E+06	6.40E+05		76.2	J	31.7	J	14.3	J	73.5		36		16.1											
Miscellaneous	Percent moisture	%																									
Miscellaneous	Total Solids	%				74.9		72.2		94.9		78.3		74.5		89.2		76.8		84.7		91		90.8		92.1	
Other	Acetonitrile	mg/kg	9.20E+03	2.60E+04																							
PCBs/Pesticides	Aroclor-1016	mg/kg	1.00E+02	2.60E+02																							
PCBs/Pesticides	Aroclor-1221	mg/kg	1.40E+01	2.10E+02																							
PCBs/Pesticides	Aroclor-1232	mg/kg	1.40E+01	7.30E+01																							
PCBs/Pesticides	Aroclor-1242	mg/kg	2.00E+01	4.40E+02																							
PCBs/Pesticides	Aroclor-1248	mg/kg	2.00E+01	4.40E+02																							
PCBs/Pesticides	Aroclor-1254	mg/kg	2.00E+01	7.50E+01																							
PCBs/Pesticides	Aroclor-1260	mg/kg	2.00E+01	4.40E+02																							
SVOCs	2,2-oxybis(2-Chloropropane), SVOC	ug/kg				440	U	460	U	350	U	420	U	440	U	370	U	4300	U	390	U	7300	U	3600	U	7200	U
SVOCs	2,4,5-Trichlorophenol	ug/kg	1.80E+08	1.00E+09		440	U	460	U	350	U	420	U	440	U	370	U	4300	U	390	U	7300	U	3600	U	7200	U
SVOCs	2,4,6-Trichlorophenol	ug/kg	1.80E+06	1.40E+06		440	U	460	U	350	U	420	U	440	U	370	U	4300	U	390	U	7300	U	3600	U	7200	U
SVOCs	2,4-Dichlorophenol	ug/kg	5.30E+06	2.80E+07		440	U	460	U	350	U	420	U	440	U	370	U	4300	U	390	U	7300	U	3600	U	7200	U
SVOCs	2,4-Dimethylphenol	ug/kg	3.50E+07	8.50E+07		440	U	460	U	350	U	420	U	440	U	370	U	4300	U	390	U	7300	U	3600	U	7200	U
SVOCs	2,4-Dinitrophenol	ug/kg	3.50E+06	2.80E+07		2100	U	2200	U	1700	U	2000	U	2100	U	1800	U	21000	U	1900	U	35000	U	18000	U	35000	U
SVOCs	2,4-Dinitrotoluene	ug/kg	1.60E+05	2.80E+06		440	U	460	U	350	U	420	U	440	U	370	U	4300	U	390	U	7300	U	3600	U	7200	U
SVOCs	2,6-Dinitrotoluene	ug/kg	3.30E+04	6.70E+05		440	U	460	U	350	U	420	U	440	U	370	U	4300	U	390	U	7300	U	3600	U	7200	U
SVOCs	2-Chloronaphthalene	ug/kg	3.30E+08	1.00E+09		440	U	460	U	350	U	420	U	440	U	370	U	4300	U	390	U	7300	U	3600	U	7200	U
SVOCs	2-Chlorophenol	ug/kg	2.00E+07	2.20E+07		440	U	460	U	350	U	420	U	440	U	370	U	4300	U	390	U	7300	U	3600	U	7200	U
SVOCs	2-Methylnaphthalene	ug/kg	6.00E+06	5.20E+06		39	J	460	U	350	U	53	J	440	U	370	U	4300	U	390	U	7300	U	3600	U	7200	U
SVOCs	2-Methylphenol	ug/kg	8.80E+07	7.10E+08		440	U	460	U	350	U	420	U	440	U	370	U	4300	U	390	U	7300	U	3600	U	7200	U
SVOCs	2-Nitroaniline	ug/kg				2100	U	2200	U	1700	U	2000	UJ	2100	UJ	1800	UJ	21000	U	1900	U	35000	U	18000	U	35000	U
SVOCs	2-Nitrophenol	ug/kg				440	U	460	U	350	U	420	U	440	U	370	U	4300	U	390	U	7300	U	3600	U	7200	U
SVOCs	3,3-Dichlorobenzidine	ug/kg	1.10E+05	2.20E+06		2100	U	2200	U	1700	U	2000	U	2100	U	1800	U	21000	U	1900	U	35000	U	18000	U	35000	U
SVOCs	3-Nitroaniline	ug/kg				2100	U	2200	U	1700	U	2000	U	2100	U	1800	U	21000	U	1900	U	35000	U	18000	U	35000	U
SVOCs	4,6-Dinitro-2-methylphenol	ug/kg				2100	U	2200	U	1700	U	2000	U	2100	U	1800	U	21000	U	1900	U	35000	U	18000	U	35000	U
SVOCs	4-Bromophenyl phenyl ether	ug/kg				440	U	460	U	350	U	420	U	440	U	370	U	4300	U	390	U	7300	U	3600	U	7200	U
SVOCs	4-Chloro-3-methylphenol	ug/kg				440	U	460	U	350	U	420	U	440	U	370	U	4300	U	390	U	7300	U	3600	U	7200	U
SVOCs	4-Chloroaniline	ug/kg	2.50E+05	7.10E+05		440	U	460	U	350	U	420	U	440	U	370	U	4300	U	390	U	7300	U	3600	U	7200	U
SVOCs	4-Chlorophenyl phenyl ether	ug/kg				440	U	460	U	350	U	420	U	440	U	370	U	4300	U	390	U	7300	U	3600	U	7200	U
SVOCs	4-Methylphenol	ug/kg	1.80E+08	2.80E+07		440	U	460	U	350	U	420	U	440	U	370	U	4300	U	390	U	7300	U	3600	U	7200	U
SVOCs	4-Nitroaniline	ug/kg	2.50E+06	1.40E+07		2100	U	2200	U	1700	U	2000	U	2100	U	1800	U	21000	U	1900	U	35000	U	18000	U	35000	U
SVOCs	4-Nitrophenol	ug/kg				2100	U	2200	U	1700	U	2000	U	2100	U	1800	U	21000	U	1900	U	35000	U	18000	U	35000	U
SVOCs	Acenaphthene	ug/kg	9.00E+07	7.80E+08		440	U	460	U	350	U	420	U	440	U	370	U	4300	U	390	U	7300	U	3600	U	7200	U
SVOCs	Acenaphthylene	ug/kg				440	U	460	U	350	U	420	U	440	U	370	U	4300	U	390	U	7300	U	3600	U	7200	U
SVOCs	Acetophenone	ug/kg	2.50E+06	2.50E+06		440	U	460	U	350	U	420	U	440	U	370	U	4300	U	390	U	7300	U	3600	U	7200	U
SVOCs	Anthracene	ug/kg	4.50E+08	1.00E+09		440	U	460	U	350	U	420	U	440	U	370	U	490	J	390	U	7300	U	3600	U	7200	U
SVOCs	Atrazine	ug/kg				440	U	460	U	350	U	420	U	440	U	370	U	4300	U	390	U	7300	U	3600	U	7200	U
SVOCs	Benzaldehyde	ug/kg				440	U	460	U	350	U	420	U	440	U	370	U	4300	U	390	U	7300	U	3600	U	7200	U
SVOCs	Benzo(a)anthracene	ug/kg	5.80E+04	1.20E+06		34	J	460	U	350	U	420	U	440	U	370	U	1300	J	390	U	7300	U	310	J	7200	U
SVOCs	Benzo(a)pyrene	ug/kg	5.80E+03	1.20E+05		30	J	460	U	350	U	21	J	440	U	370	U	1200	J	390	U	7300	U	250	J	7200	U
SVOCs	Benzo(b)fluoranthene	ug/kg	5.80E+04	1.20E+06		38	J	460	U	350	U	27	J	440	U	370	U	1300	J	25	J	7300	U	450	J	590	J
SVOCs	Benzo(g,h,i)perylene	ug/kg				440	U	460	U	350	U	18	J	440	U	370	U	770	J	390	U	7300	U	3600	U	7200	U
SVOCs	Benzo(k)fluoranthene	ug/kg	5.80E+05	1.20E+07		440	U	460	U	350	U	420	U	440	U	370	U	550	J	390	U	7300	U	3600	U	7200	U
SVOCs	Biphenyl	ug/kg	1.40E+07	1.90E+08		440	U	460	U	350	U	420	U	440	U	370	U	4300	U	390	U	7300	U	3600	U	7200	U

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Appendix A
Soil Data Comparison to GDCC
C Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units	Ohio VAP C/I GDCSS	Ohio VAP CW GDCSS	Station Name	BH-182		BH-182		BH-182		BH-183		BH-183		BH-183		SB-130-04		SB-130-04		SB-130-04		SB-131-04		SB-131-04	
					FieldSampleID	S-111104-NZ-038		S-111104-NZ-039		S-111104-NZ-040		S-112904-NZ-041		S-112904-NZ-042		S-112904-NZ-043		SB-130-04		SB-130-04		SB-130-04		SB-131-04		SB-131-04 DUP	
					Sample Date	11/11/2004		11/11/2004		11/11/2004		11/29/2004		11/29/2004		11/29/2004		1/21/2004		1/21/2004		1/21/2004		1/21/2004		1/21/2004	
					Depth	0 - 2 ft		8 - 10 ft		12 - 14 ft		0 - 2 ft		8 - 10 ft		12 - 14 ft		0 - 2 ft		8 - 10 ft		10 - 12 ft		0 - 2 ft		8 - 10 ft	
SVOCs	bis(2-Chloroethoxy)methane	ug/kg	5.30E+06	4.30E+07		440	U	460	U	350	U	420	U	440	U	370	U	4300	U	390	U	7300	U	3600	U	7200	U
SVOCs	bis(2-Chloroethyl)ether	ug/kg	3.00E+04	2.90E+05		440	U	460	U	350	U	420	U	440	U	370	U	4300	U	390	U	7300	U	3600	U	7200	U
SVOCs	bis(2-Ethylhexyl)phthalate	ug/kg	3.50E+06	7.10E+07		440	U	460	U	350	U	420	U	440	U	370	U	4300	U	390	U	540	J	3600	U	570	J
SVOCs	Butyl benzylphthalate	ug/kg	2.60E+07	5.20E+08		440	U	460	U	350	U	420	U	440	U	370	U	4300	U	390	U	7300	U	3600	U	7200	U
SVOCs	Caprolactam	ug/kg				440	U	460	U	350	U	420	U	440	U	370	U	4300	U	390	U	7300	U	3600	U	7200	U
SVOCs	Carbazole	ug/kg				440	U	460	U	350	U	420	U	440	U	370	U	4300	U	390	U	7300	U	3600	U	7200	U
SVOCs	Chrysene	ug/kg	5.80E+06	1.20E+08		30	J	460	U	350	U	420	U	440	U	370	U	1200	J	390	U	7300	U	360	J	460	J
SVOCs	Dibenz(a,h)anthracene	ug/kg	5.80E+03	1.20E+08		440	U	460	U	350	U	420	U	440	U	370	U	4300	U	390	U	7300	U	3600	U	7200	U
SVOCs	Dibenzofuran	ug/kg				440	U	460	U	350	U	420	U	440	U	370	U	4300	U	390	U	7300	U	3600	U	7200	U
SVOCs	Diethyl phthalate	ug/kg	1.00E+09	1.00E+09		440	U	460	U	350	U	420	U	440	U	370	U	4300	U	390	U	7300	U	3600	U	7200	U
SVOCs	Dimethyl phthalate	ug/kg				440	U	460	U	350	U	420	U	440	U	370	U	4300	U	390	U	7300	U	3600	U	7200	U
SVOCs	Di-n-butylphthalate	ug/kg	1.80E+08	4.30E+08		440	U	460	U	350	U	420	U	440	U	370	U	4300	U	390	U	7300	U	3600	U	7200	U
SVOCs	Di-N-Octyl phthalate	ug/kg				440	U	460	U	350	U	420	U	440	U	370	U	4300	U	390	U	7300	U	3600	U	7200	U
SVOCs	Fluoranthene	ug/kg	6.00E+07	1.60E+08		46	J	460	U	350	U	44	J	440	U	370	U	3000	J	390	U	7300	U	750	J	880	J
SVOCs	Fluorene	ug/kg	6.00E+07	5.20E+08		440	U	460	U	350	U	420	U	440	U	370	U	4300	U	390	U	7300	U	3600	U	7200	U
SVOCs	Hexachlorobenzene	ug/kg	3.10E+04	1.40E+04		440	U	460	U	350	U	420	U	440	U	370	U	4300	U	390	U	7300	U	3600	U	7200	U
SVOCs	Hexachlorobutadiene, SVOC	ug/kg	6.30E+05	1.40E+06		440	U	460	U	350	U	420	U	440	U	370	U	4300	U	390	U	7300	U	3600	U	7200	U
SVOCs	Hexachlorocyclopentadiene	ug/kg	1.10E+07	2.60E+07		2100	UJ	2200	UJ	1700	UJ	2000	UJ	2100	UJ	1800	UJ	21000	U	1900	U	35000	U	18000	U	35000	U
SVOCs	Hexachloroethane	ug/kg	1.20E+06	3.00E+06		440	U	460	U	350	U	420	U	440	U	370	U	4300	U	390	U	7300	U	3600	U	7200	U
SVOCs	Indeno(1,2,3-cd)pyrene	ug/kg	5.80E+04	1.20E+06		440	U	460	U	350	U	420	U	440	U	370	U	660	J	390	U	7300	U	3600	U	7200	U
SVOCs	Isophorone	ug/kg	5.20E+07	1.00E+09		440	U	460	U	350	U	420	U	440	U	370	U	4300	U	390	U	7300	U	3600	U	7200	U
SVOCs	Naphthalene, SVOC	ug/kg	4.50E+05	5.60E+05		37	J	460	U	350	U	38	J	440	U	370	U	4300	U	390	U	7300	U	3600	U	7200	U
SVOCs	Nitrobenzene	ug/kg	6.10E+05	3.00E+06		440	U	460	U	350	U	420	U	440	U	370	U	4300	U	390	U	7300	U	3600	U	7200	U
SVOCs	N-Nitrosodi-n-propylamine	ug/kg	7.00E+03	1.40E+05		440	U	460	U	350	U	420	U	440	U	370	U	4300	U	390	U	7300	U	3600	U	7200	U
SVOCs	N-Nitrosodiphenylamine	ug/kg	1.00E+07	2.00E+08		440	U	460	U	350	U	420	U	440	U	370	U	4300	U	390	U	7300	U	3600	U	7200	U
SVOCs	Pentachlorophenol	ug/kg	6.70E+04	9.50E+05		440	U	460	U	350	U	420	U	440	U	370	U	4300	U	390	U	7300	U	3600	U	7200	U
SVOCs	Phenanthrene	ug/kg				58	J	460	U	350	U	42	J	440	U	370	U	1800	J	390	U	530	J	570	J	600	J
SVOCs	Phenol	ug/kg	5.30E+08	8.40E+08		440	U	460	U	350	U	420	U	440	U	370	U	4300	U	390	U	7300	U	3600	U	7200	U
SVOCs	Pyrene, SVOC	ug/kg	4.50E+07	3.90E+08		42	J	460	U	350	U	28	J	440	U	370	U	2400	J	390	U	410	J	600	J	700	J
TPH	GRO (C6-C12)	ug/kg	1.00E+06	1.00E+06																							
TPH	TPH C10-C20	ug/kg	2.00E+06	2.00E+06																							
TPH	TPH C20-C34	ug/kg	5.00E+06	5.00E+06																							
VOCs	1,1,1,2-Tetrachloroethane	ug/kg	2.40E+05	6.80E+05																							
VOCs	1,1,1-Trichloroethane	ug/kg	6.40E+05	6.40E+05								330	U	7.5	U	5.3	U	290	U	5.4	U	290	U	1100	U	560	U
VOCs	1,1,2,2-Tetrachloroethane	ug/kg	7.50E+04	6.70E+05								330	U	7.5	U	5.3	U	290	U	5.4	U	290	U	1100	U	560	U
VOCs	1,1,2-Trichloroethane	ug/kg	1.40E+05	1.20E+06								330	U	7.5	U	5.3	U	290	U	5.4	U	290	U	1100	U	560	U
VOCs	1,1-Dichloroethane	ug/kg	4.20E+05	1.70E+06								330	U	7.5	U	5.3	U	290	U	5.4	U	290	U	1100	U	560	U
VOCs	1,1-Dichloroethene	ug/kg	1.20E+06	3.60E+05								330	U	7.5	U	5.3	U	290	U	5.4	U	290	U	1100	U	560	U
VOCs	1,1-Dichloropropene	ug/kg																									
VOCs	1,2,4-Trichlorobenzene, VOC	ug/kg	4.00E+05	4.00E+05								330	U	7.5	U	5.3	U	290	U	5.4	U	290	U	1100	U	560	U
VOCs	1,2-Dibromo-3-chloropropane	ug/kg	1.70E+03	1.50E+04								650	U	15	U	11	U	570	U	11	UJ	580	U	2200	U	1100	U
VOCs	1,2-Dibromoethane	ug/kg	4.40E+03	3.80E+04								330	U	7.5	U	5.3	U	290	U	5.4	U	290	U	1100	U	560	U
VOCs	1,2-Dichlorobenzene, VOC	ug/kg	3.80E+05	3.80E+05								330	U	7.5	U	5.3	U	290	U	5.4	U	290	U	1100	U	560	U
VOCs	1,2-Dichloroethane	ug/kg	5.60E+04	4.80E+05								330	U	7.5	U	5.3	U	290	U	5.4	U	290	U	1100	U	560	U
VOCs	1,2-Dichloropropane	ug/kg	1.20E+05	1.80E+05								330	U	7.5	U	5.3	U	290	U	5.4	U	290	U	1100	U	560	U
VOCs	1,3-Dichlorobenzene, VOC	ug/kg										330	U	7.5	U	5.3	U	290	U	5.4	U	290	U	1100	U	560	U
VOCs	1,3-Dichloropropane	ug/kg	1.50E+06	1.50E+06																							
VOCs	1,4-Dichlorobenzene, VOC	ug/kg	3.10E+05	2.60E+06								330	U	7.5	U	5.3	U	290	U	5.4	U	290	U	1100	U	560	U
VOCs	2,2-Dichloropropane	ug/kg																									
VOCs	2-Butanone	ug/kg	2.80E+07	2.80E+07								1300	UJ	8.6	J	21	U	1100	U	21	U	1200	U	4500	U	2300	U
VOCs	2-Chloroethyl vinyl ether	ug/kg																									
VOCs	2-Chlorotoluene	ug/kg																									
VOCs	2-Hexanone	ug/kg										1300	U	30	U	21	U	1100	U	21	U	1200	U	4500	U	2300	U
VOCs	4-Chlorotoluene	ug/kg																									
VOCs	4-Methyl-2-Pentanone	ug/kg	3.40E+06	3.40E+06								1300	U	30	U	21	U	1100	U	21	U	1200	U	4500	U	2300	U
VOCs	Acetone	ug/kg	1.10E+08	1.10E+08								1300	UJ	56	J	15	J	1100	UJ	21	UJ	1200	UJ	4500	UJ	2300	UJ
VOCs	Acrolein	ug/kg																									
VOCs	Acrylonitrile	ug/kg																									
VOCs	Allyl chloride	ug/kg	1.90E+04	6.40E+04																							
VOCs	Benzene	ug/kg	1.40E+05	1.20E+06								84	J	28		6.2		290	U	5.4	U	290	U	93	J	73	J
VOCs	Bromobenzene	ug/kg																									
VOCs	Bromochloromethane	ug/kg																									
VOCs	Bromodichloromethane	ug/kg	3.50E+04	3.00E+05								330	U	7.5	U	5.3	U	290	U	5.4	U	290	U	1100	U	560	U
VOCs	Bromoform	ug/kg	6.20E+06	1.30E+08								330	U	7.5	U	5.3	U	290	U	5.4	U	290	U	1100	U	560	U

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Appendix A
Soil Data Comparison to GDCC
C Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units	Ohio VAP C/I GDCSS	Ohio VAP CW GDCSS	Station Name	BH-182		BH-182		BH-182		BH-183		BH-183		BH-183		SB-130-04		SB-130-04		SB-130-04		SB-131-04		SB-131-04	
					FieldSampleID	S-111104-NZ-038		S-111104-NZ-039		S-111104-NZ-040		S-112904-NZ-041		S-112904-NZ-042		S-112904-NZ-043		SB-130-04		SB-130-04		SB-130-04		SB-131-04		SB-131-04 DUP	
					Sample Date	11/11/2004		11/11/2004		11/11/2004		11/29/2004		11/29/2004		11/29/2004		1/21/2004		1/21/2004		1/21/2004		1/21/2004		1/21/2004	
					Depth	0 - 2 ft		8 - 10 ft		12 - 14 ft		0 - 2 ft		8 - 10 ft		12 - 14 ft		0 - 2 ft		8 - 10 ft		10 - 12 ft		0 - 2 ft		8 - 10 ft	
VOCs	Bromomethane	ug/kg	8.20E+04	5.50E+05								330	U	7.5	U	5.3	U	290	U	5.4	U	290	U	1100	U	560	U
VOCs	Carbon disulfide	ug/kg	7.40E+05	7.40E+05								330	U	7.5	U	5.3	U	290	U	5.4	U	290	U	1100	U	560	U
VOCs	Carbon tetrachloride	ug/kg	7.90E+04	4.60E+05								330	U	7.5	U	5.3	U	290	U	5.4	U	290	U	1100	U	560	U
VOCs	Chlorobenzene	ug/kg	7.60E+05	7.60E+05								330	U	7.5	U	5.3	U	290	U	5.4	U	290	U	1100	U	560	U
VOCs	Chloroethane	ug/kg										330	U	7.5	U	5.3	U	290	R	5.4	R	290	R	1100	R	560	R
VOCs	Chloroform	ug/kg	3.80E+04	3.20E+05								330	U	7.5	U	5.3	U	290	U	5.4	U	290	U	100	J	56	J
VOCs	Chloromethane	ug/kg	1.30E+06	1.30E+06								330	U	7.5	U	5.3	U	290	U	5.4	U	290	U	1100	U	560	U
VOCs	cis-1,2-Dichloroethene	ug/kg										58	J	7.5	U	5.3	U	230		2.3	J	120	J	920		590	
VOCs	cis-1,3-Dichloropropene	ug/kg	2.30E+05	5.20E+05								330	U	7.5	U	5.3	U	290	U	5.4	U	290	U	1100	U	560	U
VOCs	Cyclohexane	ug/kg	1.20E+05	1.20E+05								230	J	1.8	J	14		120	J	11	U	76	J	1200	J	550	J
VOCs	Dibromochloromethane	ug/kg	8.40E+04	7.70E+05								330	U	7.5	U	5.3	U	290	U	5.4	U	290	U	1100	U	560	U
VOCs	Dibromomethane	ug/kg	2.80E+06	3.80E+04																							
VOCs	Dichlorodifluoromethane	ug/kg	8.50E+05	8.50E+05								330	U	7.5	UJ	5.3	UJ	290	U	5.4	U	290	U	1100	U	88	J
VOCs	Ethylbenzene	ug/kg	4.80E+05	4.80E+05								47	J	4.9	J	9.7		290	U	5.4	U	290	U	1100	U	47	J
VOCs	Iodomethane	ug/kg																									
VOCs	Isopropylbenzene, VOC	ug/kg	2.70E+05	2.70E+05								20	J	7.5	U	5.3	U	290	U	5.4	U	290	U	1100	U	560	U
VOCs	m&p-Xylene	ug/kg	2.60E+05	2.60E+05																							
VOCs	Methyl acetate	ug/kg										81	J	15	U	11	U	570	U	11	U	430	J	2200	U	1200	
VOCs	Methyl cyclohexane	ug/kg										680		2.1	J	20		330	J	11	U	240	J	3500		1600	
VOCs	Methyl tert butyl ether	ug/kg	5.70E+06	8.90E+06								1300	U	30	U	21	U	1100	U	21	U	1200	U	4500	U	2300	U
VOCs	Methylene chloride	ug/kg	3.30E+06	3.30E+06								330	U	31	J	17	J	290	U	5.4	U	290	U	1100	U	560	U
VOCs	n-Hexane	ug/kg	1.40E+05	1.40E+05																							
VOCs	o-Xylene	ug/kg	2.60E+05	2.60E+05																							
VOCs	Styrene	ug/kg	8.70E+05	8.70E+05								330	U	3.2	J	5.3	U	290	U	5.4	U	290	U	1100	U	560	U
VOCs	Tetrachloroethene	ug/kg	1.70E+05	1.70E+05								8200		130		85		1000		18		590		7800		3900	
VOCs	Toluene	ug/kg	8.20E+05	8.20E+05								590	J	29	B	26	B	140	J	0.9	J	310		710	J	520	J
VOCs	trans-1,2-Dichloroethene	ug/kg	1.70E+06	1.70E+06								330	U	7.5	U	5.3	U	140	U	2.7	U	150	U	560	U	280	U
VOCs	trans-1,3-Dichloropropene	ug/kg	2.30E+05	5.20E+05								330	U	7.5	U	5.3	U	290	U	5.4	U	290	U	1100	U	560	U
VOCs	Trichloroethene	ug/kg	5.10E+04	1.70E+04								4300	J	35		8.8		6900		210		3800		32000		17000	
VOCs	Trichlorofluoromethane	ug/kg	1.20E+06	1.20E+06								330	U	7.5	U	5.3	U	290	U	5.4	UJ	290	U	1100	U	560	U
VOCs	Trifluorotrichloroethane	ug/kg										330	U	7.5	U	5.3	U	290	U	5.4	U	290	U	1100	U	560	U
VOCs	Vinyl acetate	ug/kg	2.70E+06	6.20E+05																							
VOCs	Vinyl chloride	ug/kg	5.00E+04	2.80E+05								330	U	7.5	U	5.3	U	290	U	5.4	U	290	U	1100	U	560	U
VOCs	Xylene (Total)	ug/kg	2.60E+05	2.60E+05								790		10	J	22		200	J	11	U	140	J	1600	J	860	J

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Appendix A
Soil Data Comparison to GDCC
C Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units	Ohio VAP C/I GDCSS	Ohio VAP CW GDCSS	Station Name	SB-131-04		SB-133-04		SB-133-04		SB-133-04		SB-133-04		SB-142-04		SB-142-04		SB-142-04		SB-153-04		SB-153-04		SB-153-04	
					FieldSampleID	SB-131-04		SB-133-04		SB-133-04		SB-133-04 DUP		SB-133-04		SB-142-04		SB-142-04		SB-142-04		SB-153-04		SB-153-04		SB-153-04	
					Sample Date	1/21/2004		1/22/2004		1/22/2004		1/22/2004		1/22/2004		1/27/2004		1/27/2004		1/27/2004		2/3/2004		2/3/2004		2/3/2004	
					Depth	8 - 10 ft		0 - 2 ft		8 - 10 ft		11 - 13 ft		11 - 13 ft		0 - 2 ft		8 - 10 ft		11 - 13 ft		0 - 2 ft		8 - 10 ft		11 - 13 ft	
Metals	Antimony	mg/kg	1.60E+03	8.50E+02												6.9	UJ	8.5	UJ	6.3	UJ	7.6	U	7.3	U	6.7	U
Metals	Arsenic	mg/kg	7.70E+01	6.90E+02												9		6.3		3.1		6.6		12		7.7	
Metals	Barium	mg/kg														181		238		78.1		147		748		155	
Metals	Beryllium	mg/kg	7.80E+03	3.40E+03												0.64		0.44	J	0.23	J	0.39	J	0.11	J	0.16	J
Metals	Cadmium	mg/kg	2.60E+03	1.00E+03												0.98		0.39	J	0.17	J	9.9		6.2		6.2	
Metals	Chromium Total	mg/kg	2.10E+02	1.20E+03												6.4	J	9.5	J	12.5	J	54.1		46		27.1	
Metals	Cobalt	mg/kg														5.1	J	4.7	J	3	J	18.1		2.7	J	5.3	J
Metals	Copper	mg/kg	1.60E+05	2.10E+04												177	J	11.7	J	21.4	J	50.1		321		63.1	
Metals	Cyanide (total)	mg/kg	3.70E+02	1.50E+02												0.58	U	0.71	U	0.53	U	4.3		0.61	U	0.93	
Metals	Lead	mg/kg	8.00E+02	4.00E+02												39		7.5		10.3		57.8		26.3		15.9	
Metals	Manganese	mg/kg														799		648		323		436		1130		383	
Metals	Mercury	mg/kg	3.10E+00	3.10E+00												0.15		0.044	J	0.057	J	0.31		0.6		0.14	
Metals	Nickel	mg/kg	7.40E+04	2.30E+04												427		11.3		15.9		12.3		21.1		9.2	
Metals	Selenium	mg/kg	2.00E+04	1.10E+04												0.58	U	0.71	U	0.53	U	0.63	U	0.61	U	0.56	U
Metals	Silver	mg/kg	2.00E+04	1.10E+04												1.2	U	1.4	U	2.9		1.3	U	0.29	J	0.16	J
Metals	Thallium	mg/kg														1.2	U	1.4	U	1.1	U	1.2	J	1.3		0.61	J
Metals	Vanadium	mg/kg	2.30E+04	1.10E+04												13.8		13.8		14.2		14		10.7		8.4	
Metals	Zinc	mg/kg	1.00E+06	6.40E+05												576	J	46.7	J	47.9	J	3540		77.7		739	
Miscellaneous	Percent moisture	%																									
Miscellaneous	Total Solids	%				92.5		78.2		95.8		94.8		96.7		86.9		70.5		94.7		79.3		82.1		89.6	
Other	Acetonitrile	mg/kg	9.20E+03	2.60E+04																							
PCBs/Pesticides	Aroclor-1016	mg/kg	1.00E+02	2.60E+02												7.60E-02	U	0.047	U	0.07	U						
PCBs/Pesticides	Aroclor-1221	mg/kg	1.40E+01	2.10E+02												7.60E-02	U	0.047	U	0.07	U						
PCBs/Pesticides	Aroclor-1232	mg/kg	1.40E+01	7.30E+01												7.60E-02	U	0.047	U	0.07	U						
PCBs/Pesticides	Aroclor-1242	mg/kg	2.00E+01	4.40E+02												7.60E-02	U	0.047	U	0.07	U						
PCBs/Pesticides	Aroclor-1248	mg/kg	2.00E+01	4.40E+02												7.60E-02	U	0.047	U	0.07	U						
PCBs/Pesticides	Aroclor-1254	mg/kg	2.00E+01	7.50E+01												7.60E-02	U	0.047	U	0.89	J						
PCBs/Pesticides	Aroclor-1260	mg/kg	2.00E+01	4.40E+02												7.60E-02	U	0.047	U	0.07	U						
SVOCs	2,2-oxybis(2-Chloropropane), SVOC	ug/kg				7100	U	420	U	340	U	350	U	340	U	380	U	470	U	17000	U						
SVOCs	2,4,5-Trichlorophenol	ug/kg	1.80E+08	1.00E+09		7100	U	420	U	340	U	350	U	340	U	380	U	470	U	17000	U						
SVOCs	2,4,6-Trichlorophenol	ug/kg	1.80E+06	1.40E+06		7100	U	420	U	340	U	350	U	340	U	380	U	470	U	17000	U						
SVOCs	2,4-Dichlorophenol	ug/kg	5.30E+06	2.80E+07		7100	U	420	U	340	U	350	U	340	U	380	U	470	U	17000	U						
SVOCs	2,4-Dimethylphenol	ug/kg	3.50E+07	8.50E+07		7100	U	420	U	340	U	350	U	340	U	380	U	470	U	17000	U						
SVOCs	2,4-Dinitrophenol	ug/kg	3.50E+06	2.80E+07		35000	U	2000	U	1700	U	1700	U	1700	U	1800	U	2300	U	85000	U						
SVOCs	2,4-Dinitrotoluene	ug/kg	1.60E+05	2.80E+06		7100	U	420	U	340	U	350	U	340	U	380	U	470	U	17000	U						
SVOCs	2,6-Dinitrotoluene	ug/kg	3.30E+04	6.70E+05		7100	U	420	U	340	U	350	U	340	U	380	U	470	U	17000	U						
SVOCs	2-Chloronaphthalene	ug/kg	3.30E+08	1.00E+09		7100	U	420	U	340	U	350	U	340	U	380	U	470	U	17000	U						
SVOCs	2-Chlorophenol	ug/kg	2.00E+07	2.20E+07		7100	U	420	U	340	U	350	U	340	U	380	U	470	U	17000	U						
SVOCs	2-Methylnaphthalene	ug/kg	6.00E+06	5.20E+06		7100	U	83	J	340	U	350	U	340	U	57	J	470	U	1600	J						
SVOCs	2-Methylphenol	ug/kg	8.80E+07	7.10E+08		7100	U	420	U	340	U	350	U	340	U	380	U	470	U	17000	U						
SVOCs	2-Nitroaniline	ug/kg				35000	U	2000	U	1700	U	1700	U	1700	U	1800	U	2300	U	85000	U						
SVOCs	2-Nitrophenol	ug/kg				7100	U	420	U	340	U	350	U	340	U	380	U	470	U	17000	U						
SVOCs	3,3-Dichlorobenzidine	ug/kg	1.10E+05	2.20E+06		35000	U	2000	U	1700	U	1700	U	1700	U	1800	U	2300	U	85000	U						
SVOCs	3-Nitroaniline	ug/kg				35000	U	2000	U	1700	U	1700	U	1700	U	1800	U	2300	U	85000	U						
SVOCs	4,6-Dinitro-2-methylphenol	ug/kg				35000	U	2000	U	1700	U	1700	U	1700	U	1800	U	2300	U	85000	U						
SVOCs	4-Bromophenyl phenyl ether	ug/kg				7100	U	420	U	340	U	350	U	340	U	380	U	470	U	17000	U						
SVOCs	4-Chloro-3-methylphenol	ug/kg				7100	U	420	U	340	U	350	U	340	U	380	U	470	U	17000	U						
SVOCs	4-Chloroaniline	ug/kg	2.50E+05	7.10E+05		7100	U	420	U	340	U	350	U	340	U	380	U	470	U	17000	U						
SVOCs	4-Chlorophenyl phenyl ether	ug/kg				7100	U	420	U	340	U	350	U	340	U	380	U	470	U	17000	U						
SVOCs	4-Methylphenol	ug/kg	1.80E+08	2.80E+07		7100	U	420	U	340	U	350	U	340	U	380	U	470	U	17000	U						
SVOCs	4-Nitroaniline	ug/kg	2.50E+06	1.40E+07		35000	U	2000	U	1700	U	1700	U	1700	U	1800	U	2300	U	85000	U						
SVOCs	4-Nitrophenol	ug/kg				35000	U	2000	U	1700	U	1700	U	1700	U	1800	U	2300	U	85000	U						
SVOCs	Acenaphthene	ug/kg	9.00E+07	7.80E+08		7100	U	420	U	340	U	350	U	340	U	380	U	470	U	17000	U						
SVOCs	Acenaphthylene	ug/kg				7100	U	420	U	340	U	350	U	340	U	380	U	470	U	17000	U						
SVOCs	Acetophenone	ug/kg	2.50E+06	2.50E+06		7100	U	420	U	340	U	350	U	340	U	380	U	470	U	17000	U						
SVOCs	Anthracene	ug/kg	4.50E+08	1.00E+09		7100	U	420	U	340	U	350	U	45	J	380	U	470	U	17000	U						
SVOCs	Atrazine	ug/kg				7100	U	420	U	340	U	350	U	340	U	380	U	470	U	17000	U						
SVOCs	Benzaldehyde	ug/kg				7100	U	420	U	340	U	350	U	340	U	380	U	470	U	17000	U						
SVOCs	Benzo(a)anthracene	ug/kg	5.80E+04	1.20E+06		7100	U	100	J	340	U	350	U	120	J	84	J	470	U	1300	J						
SVOCs	Benzo(a)pyrene	ug/kg	5.80E+03	1.20E+05		7100	U	110	J	340	U	350	U	110	J	380	U	470	U	17000	U						
SVOCs	Benzo(b)fluoranthene	ug/kg	5.80E+04	1.20E+06		580	J	150	J	340	U	350	U	150	J	380	U	470	U	1800	J						
SVOCs	Benzo(g,h,i)perylene	ug/kg				7100	U	86	J	340	U	350	U	85	J	380	U	470	U	17000	U						
SVOCs	Benzo(k)fluoranthene	ug/kg	5.80E+05	1.20E+07		7100	U	84	J	340	U	350	U	80	J	380	U	470	U	17000	U						
SVOCs	Biphenyl	ug/kg	1.40E+07	1.90E+08		7100	U	420	U	340	U	350	U	340	U	380	U	470	U	17000	U						

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Appendix A
Soil Data Comparison to GDCC
C Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units	Ohio VAP C/I GDCSS	Ohio VAP CW GDCSS	Station Name	SB-131-04		SB-133-04		SB-133-04		SB-133-04		SB-133-04		SB-142-04		SB-142-04		SB-142-04		SB-153-04		SB-153-04		SB-153-04	
					FieldSampleID	SB-131-04		SB-133-04		SB-133-04		SB-133-04 DUP		SB-133-04		SB-142-04		SB-142-04		SB-142-04		SB-153-04		SB-153-04		SB-153-04	
					Sample Date	1/21/2004		1/22/2004		1/22/2004		1/22/2004		1/22/2004		1/27/2004		1/27/2004		1/27/2004		2/3/2004		2/3/2004		2/3/2004	
					Depth	8 - 10 ft		0 - 2 ft		8 - 10 ft		11 - 13 ft		11 - 13 ft		0 - 2 ft		8 - 10 ft		11 - 13 ft		0 - 2 ft		8 - 10 ft		11 - 13 ft	
SVOCs	bis(2-Chloroethoxy)methane	ug/kg	5.30E+06	4.30E+07		7100	U	420	U	340	U	350	U	340	U	380	U	470	U	17000	U						
SVOCs	bis(2-Chloroethyl)ether	ug/kg	3.00E+04	2.90E+05		7100	U	420	U	340	U	350	U	340	U	380	U	470	U	17000	U						
SVOCs	bis(2-Ethylhexyl)phthalate	ug/kg	3.50E+06	7.10E+07		730	J	420	U	32	J	350	U	340	U	29	J	90	J	17000	U						
SVOCs	Butyl benzylphthalate	ug/kg	2.60E+07	5.20E+08		7100	U	420	U	340	U	350	U	340	U	380	U	470	U	17000	U						
SVOCs	Caprolactam	ug/kg				7100	U	420	U	340	U	350	U	340	U	380	U	470	U	17000	U						
SVOCs	Carbazole	ug/kg				7100	U	420	U	340	U	350	U	34	J	380	U	470	U	17000	U						
SVOCs	Chrysene	ug/kg	5.80E+06	1.20E+08		7100	U	150	J	340	U	350	U	130	J	87	J	470	U	1900	J						
SVOCs	Dibenz(a,h)anthracene	ug/kg	5.80E+03	1.20E+08		7100	U	63	J	340	U	350	U	49	J	380	U	470	U	17000	U						
SVOCs	Dibenzofuran	ug/kg				7100	U	62	J	340	U	350	U	340	U	380	U	470	U	17000	U						
SVOCs	Diethyl phthalate	ug/kg	1.00E+09	1.00E+09		7100	U	420	U	340	U	350	U	340	U	380	U	470	U	17000	U						
SVOCs	Dimethyl phthalate	ug/kg				7100	U	420	U	340	U	350	U	340	U	380	U	470	U	17000	U						
SVOCs	Di-n-butylphthalate	ug/kg	1.80E+08	4.30E+08		7100	U	420	U	340	U	350	U	340	U	380	U	470	U	17000	U						
SVOCs	Di-N-Octyl phthalate	ug/kg				7100	U	420	U	340	U	350	U	340	U	380	U	470	U	17000	U						
SVOCs	Fluoranthene	ug/kg	6.00E+07	1.60E+08		700	J	200	J	340	U	350	U	340		120	J	470	U	6300	J						
SVOCs	Fluorene	ug/kg	6.00E+07	5.20E+08		7100	U	420	U	340	U	350	U	340	U	380	U	470	U	17000	U						
SVOCs	Hexachlorobenzene	ug/kg	3.10E+04	1.40E+04		7100	U	420	U	340	U	350	U	340	U	380	U	470	U	17000	U						
SVOCs	Hexachlorobutadiene, SVOC	ug/kg	6.30E+05	1.40E+06		7100	U	420	U	340	U	350	U	340	U	380	U	470	U	17000	U						
SVOCs	Hexachlorocyclopentadiene	ug/kg	1.10E+07	2.60E+07		35000	U	2000	U	1700	U	1700	U	1700	U	1800	U	2300	U	85000	U						
SVOCs	Hexachloroethane	ug/kg	1.20E+06	3.00E+06		7100	U	420	U	340	U	350	U	340	U	380	U	470	U	17000	U						
SVOCs	Indeno(1,2,3-cd)pyrene	ug/kg	5.80E+04	1.20E+06		7100	U	74	J	340	U	350	U	73	J	380	U	470	U	17000	U						
SVOCs	Isophorone	ug/kg	5.20E+07	1.00E+09		7100	U	420	U	340	U	350	U	340	U	380	U	470	U	17000	U						
SVOCs	Naphthalene, SVOC	ug/kg	4.50E+05	5.60E+05		7100	U	67	J	340	U	350	U	340	U	22	J	470	U	2800	J						
SVOCs	Nitrobenzene	ug/kg	6.10E+05	3.00E+06		7100	U	420	U	340	U	350	U	340	U	380	U	470	U	17000	U						
SVOCs	N-Nitrosodi-n-propylamine	ug/kg	7.00E+03	1.40E+05		7100	U	420	U	340	U	350	U	340	U	380	U	470	U	17000	U						
SVOCs	N-Nitrosodiphenylamine	ug/kg	1.00E+07	2.00E+08		7100	U	420	U	340	U	350	U	340	U	380	U	470	U	17000	U						
SVOCs	Pentachlorophenol	ug/kg	6.70E+04	9.50E+05		7100	U	420	U	340	U	350	U	340	U	380	U	470	U	17000	U						
SVOCs	Phenanthrene	ug/kg				440	J	290	J	340	U	350	U	280	J	160	J	470	U	8300	J						
SVOCs	Phenol	ug/kg	5.30E+08	8.40E+08		7100	U	420	U	340	U	350	U	340	U	380	U	470	U	17000	U						
SVOCs	Pyrene, SVOC	ug/kg	4.50E+07	3.90E+08		580	J	160	J	340	U	350	U	260	J	110	J	470	U	4700	J						
TPH	GRO (C6-C12)	ug/kg	1.00E+06	1.00E+06																							
TPH	TPH C10-C20	ug/kg	2.00E+06	2.00E+06																							
TPH	TPH C20-C34	ug/kg	5.00E+06	5.00E+06																							
VOCs	1,1,1,2-Tetrachloroethane	ug/kg	2.40E+05	6.80E+05																							
VOCs	1,1,1-Trichloroethane	ug/kg	6.40E+05	6.40E+05		420	U	320	UJ	5.2	UJ	320	UJ	7.2	UJ	320	UJ	7.1	U	4.6	U	750	U	6.2	U	250	U
VOCs	1,1,2,2-Tetrachloroethane	ug/kg	7.50E+04	6.70E+05		420	U	320	UJ	5.2	UJ	320	UJ	7.2	UJ	320	UJ	7.1	U	4.6	U	750	U	6.2	U	250	U
VOCs	1,1,2-Trichloroethane	ug/kg	1.40E+05	1.20E+06		420	U	320	UJ	5.2	UJ	320	UJ	7.2	UJ	320	UJ	7.1	U	4.6	U	750	U	6.2	U	250	U
VOCs	1,1-Dichloroethane	ug/kg	4.20E+05	1.70E+06		420	U	320	UJ	5.2	UJ	320	UJ	7.2	UJ	320	UJ	7.1	U	4.6	U	750	U	6.2	U	250	U
VOCs	1,1-Dichloroethene	ug/kg	1.20E+06	3.60E+05		420	U	320	UJ	5.2	UJ	320	UJ	7.2	UJ	320	UJ	7.1	U	4.6	U	750	U	6.2	U	250	U
VOCs	1,1-Dichloropropene	ug/kg																									
VOCs	1,2,4-Trichlorobenzene, VOC	ug/kg	4.00E+05	4.00E+05		420	U	320	UJ	5.2	UJ	320	UJ	7.2	UJ	320	UJ	7.1	U	4.6	U	750	U	6.2	U	250	U
VOCs	1,2-Dibromo-3-chloropropane	ug/kg	1.70E+03	1.50E+04		850	U	640	UJ	10	UJ	640	UJ	14	UJ	640	UJ	14	U	9.3	U	1500	U	12	U	510	U
VOCs	1,2-Dibromoethane	ug/kg	4.40E+03	3.80E+04		420	U	320	UJ	5.2	UJ	320	UJ	7.2	UJ	320	UJ	7.1	U	4.6	U	750	U	6.2	U	250	U
VOCs	1,2-Dichlorobenzene, VOC	ug/kg	3.80E+05	3.80E+05		420	U	320	UJ	5.2	UJ	320	UJ	7.2	UJ	100	J	7.1	U	4.6	U	750	U	6.2	U	250	U
VOCs	1,2-Dichloroethane	ug/kg	5.60E+04	4.80E+05		420	U	320	UJ	5.2	UJ	320	UJ	7.2	UJ	320	UJ	7.1	U	4.6	U	750	U	6.2	U	250	U
VOCs	1,2-Dichloropropane	ug/kg	1.20E+05	1.80E+05		420	U	320	UJ	5.2	UJ	320	UJ	7.2	UJ	320	UJ	7.1	U	4.6	U	750	U	6.2	U	250	U
VOCs	1,3-Dichlorobenzene, VOC	ug/kg				420	U	320	UJ	5.2	UJ	320	UJ	7.2	UJ	320	UJ	7.1	U	4.6	U	750	U	6.2	U	250	U
VOCs	1,3-Dichloropropane	ug/kg	1.50E+06	1.50E+06																							
VOCs	1,4-Dichlorobenzene, VOC	ug/kg	3.10E+05	2.60E+06		420	U	320	UJ	5.2	UJ	320	UJ	7.2	UJ	320	UJ	7.1	U	4.6	U	750	U	6.2	U	250	U
VOCs	2,2-Dichloropropane	ug/kg																									
VOCs	2-Butanone	ug/kg	2.80E+07	2.80E+07		1700	U	1300	UJ	21	UJ	1300	UJ	29	UJ	1300	UJ	28	U	19	U	3000	U	25	U	1000	UJ
VOCs	2-Chloroethyl vinyl ether	ug/kg																									
VOCs	2-Chlorotoluene	ug/kg																									
VOCs	2-Hexanone	ug/kg				1700	U	1300	UJ	21	UJ	1300	UJ	29	UJ	1300	UJ	28	U	19	U	3000	U	25	U	1000	U
VOCs	4-Chlorotoluene	ug/kg																									
VOCs	4-Methyl-2-Pentanone	ug/kg	3.40E+06	3.40E+06		1700	U	1300	UJ	21	UJ	1300	UJ	29	UJ	1300	UJ	28	U	19	U	3000	U	25	U	1000	U
VOCs	Acetone	ug/kg	1.10E+08	1.10E+08		1700	UJ	1300	UJ	21	UJ	1300	UJ	29	UJ	1300	UJ	28	U	19	U	3000	U	7.2	J	1000	UJ
VOCs	Acrolein	ug/kg																									
VOCs	Acrylonitrile	ug/kg																									
VOCs	Allyl chloride	ug/kg	1.90E+04	6.40E+04																							
VOCs	Benzene	ug/kg	1.40E+05	1.20E+06		420	U	320	UJ	5.2	UJ	320	UJ	7.2	UJ	320	UJ	7.1	U	4.6	U	750	U	6.2	U	250	U
VOCs	Bromobenzene	ug/kg																									
VOCs	Bromochloromethane	ug/kg																									
VOCs	Bromodichloromethane	ug/kg	3.50E+04	3.00E+05		420	U	320	UJ	5.2	UJ	320	UJ	7.2	UJ	320	UJ	7.1	U	4.6	U	750	U	6.2	U	250	U
VOCs	Bromoform	ug/kg	6.20E+06	1.30E+08		420	U	320	UJ	5.2	UJ	320	UJ	7.2	UJ	320	UJ	7.1	UJ	4.6	UJ	750	U	6.2	U	250	U

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Appendix A
Soil Data Comparison to GDCC
C Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units	Ohio VAP C/I GDCSS	Ohio VAP CW GDCSS	Station Name	SB-131-04		SB-133-04		SB-133-04		SB-133-04		SB-133-04		SB-142-04		SB-142-04		SB-142-04		SB-153-04		SB-153-04		SB-153-04	
					FieldSampleID	SB-131-04		SB-133-04		SB-133-04		SB-133-04 DUP		SB-133-04		SB-142-04		SB-142-04		SB-142-04		SB-153-04		SB-153-04		SB-153-04	
					Sample Date	1/21/2004		1/22/2004		1/22/2004		1/22/2004		1/22/2004		1/27/2004		1/27/2004		1/27/2004		2/3/2004		2/3/2004		2/3/2004	
					Depth	8 - 10 ft		0 - 2 ft		8 - 10 ft		11 - 13 ft		11 - 13 ft		0 - 2 ft		8 - 10 ft		11 - 13 ft		0 - 2 ft		8 - 10 ft		11 - 13 ft	
VOCs	Bromomethane	ug/kg	8.20E+04	5.50E+05		420	U	320	UJ	5.2	UJ	320	UJ	7.2	UJ	320	UJ	7.1	U	4.6	U	750	U	6.2	U	250	U
VOCs	Carbon disulfide	ug/kg	7.40E+05	7.40E+05		420	U	320	UJ	5.2	UJ	320	UJ	7.2	UJ	320	UJ	7.1	U	4.6	U	750	U	6.2	U	250	U
VOCs	Carbon tetrachloride	ug/kg	7.90E+04	4.60E+05		420	U	320	UJ	5.2	UJ	320	UJ	7.2	UJ	320	UJ	7.1	U	4.6	U	750	U	6.2	U	250	U
VOCs	Chlorobenzene	ug/kg	7.60E+05	7.60E+05		420	U	320	UJ	5.2	UJ	320	UJ	7.2	UJ	320	UJ	7.1	U	4.6	U	750	U	6.2	U	250	U
VOCs	Chloroethane	ug/kg				420	R	320	R	5.2	UJ	320	R	7.2	UJ	320	UJ	7.1	U	4.6	U	750	R	6.2	U	250	R
VOCs	Chloroform	ug/kg	3.80E+04	3.20E+05		44	J	320	UJ	5.2	UJ	320	UJ	7.2	UJ	320	UJ	7.1	U	4.6	U	750	U	6.2	U	250	U
VOCs	Chloromethane	ug/kg	1.30E+06	1.30E+06		420	U	320	UJ	5.2	UJ	320	UJ	7.2	UJ	320	UJ	7.1	U	4.6	U	750	U	6.2	U	250	U
VOCs	cis-1,2-Dichloroethene	ug/kg				920		200	J	0.72	J	160	UJ	8	J	160	UJ	3.5	U	2.3	U	520		3.1	U	130	U
VOCs	cis-1,3-Dichloropropene	ug/kg	2.30E+05	5.20E+05		420	U	320	UJ	5.2	UJ	320	UJ	7.2	UJ	320	UJ	7.1	U	4.6	U	750	U	6.2	U	250	U
VOCs	Cyclohexane	ug/kg	1.20E+05	1.20E+05		310	J	640	UJ	10	UJ	640	UJ	14	UJ	640	UJ	14	U	9.3	U	190	J	12	U	510	U
VOCs	Dibromochloromethane	ug/kg	8.40E+04	7.70E+05		420	U	320	UJ	5.2	UJ	320	UJ	7.2	UJ	320	UJ	7.1	U	4.6	U	750	U	6.2	U	250	U
VOCs	Dibromomethane	ug/kg	2.80E+06	3.80E+04																							
VOCs	Dichlorodifluoromethane	ug/kg	8.50E+05	8.50E+05		170	J	320	UJ	5.2	UJ	320	UJ	7.2	UJ	320	UJ	7.1	U	4.6	U	750	U	6.2	UJ	250	U
VOCs	Ethylbenzene	ug/kg	4.80E+05	4.80E+05		420	U	320	UJ	5.2	UJ	320	UJ	7.2	UJ	320	UJ	7.1	U	4.6	U	750	U	6.2	U	250	U
VOCs	Iodomethane	ug/kg																									
VOCs	Isopropylbenzene, VOC	ug/kg	2.70E+05	2.70E+05		420	U	320	UJ	5.2	UJ	320	UJ	7.2	UJ	320	UJ	7.1	U	4.6	U	750	U	6.2	U	250	U
VOCs	m&p-Xylene	ug/kg	2.60E+05	2.60E+05																							
VOCs	Methyl acetate	ug/kg				860		640	UJ	10	UJ	640	UJ	14	UJ	640	UJ	14	U	9.3	U	1500	U	12	U	510	U
VOCs	Methyl cyclohexane	ug/kg				890		640	UJ	10	UJ	640	UJ	14	UJ	130	J	14	U	9.3	U	390	J	12	U	510	U
VOCs	Methyl tert butyl ether	ug/kg	5.70E+06	8.90E+06		1700	U	1300	UJ	21	UJ	1300	UJ	29	UJ	1300	UJ	28	U	19	U	3000	UJ	25	U	1000	U
VOCs	Methylene chloride	ug/kg	3.30E+06	3.30E+06		420	U	320	UJ	5.2	UJ	320	UJ	7.2	UJ	320	UJ	7.1	U	4.6	U	300	J	6.2	U	250	U
VOCs	n-Hexane	ug/kg	1.40E+05	1.40E+05																							
VOCs	o-Xylene	ug/kg	2.60E+05	2.60E+05																							
VOCs	Styrene	ug/kg	8.70E+05	8.70E+05		420	U	320	UJ	5.2	UJ	320	UJ	7.2	UJ	320	UJ	7.1	U	4.6	U	750	U	6.2	U	250	U
VOCs	Tetrachloroethene	ug/kg	1.70E+05	1.70E+05		2100		2400	J	36	J	490	J	160	J	2600	J	77		1.3	J	25000		150		1200	
VOCs	Toluene	ug/kg	8.20E+05	8.20E+05		240	J	320	UJ	0.69	J	320	UJ	1.3	J	320	UJ	7.1	U	4.6	U	750	U	6.2	U	250	U
VOCs	trans-1,2-Dichloroethene	ug/kg	1.70E+06	1.70E+06		210	U	160	UJ	2.6	UJ	160	UJ	3.6	UJ	160	UJ	3.5	U	2.3	U	380	U	3.1	U	130	U
VOCs	trans-1,3-Dichloropropene	ug/kg	2.30E+05	5.20E+05		420	U	320	UJ	5.2	UJ	320	UJ	7.2	UJ	320	UJ	7.1	U	4.6	U	750	U	6.2	U	250	U
VOCs	Trichloroethene	ug/kg	5.10E+04	1.70E+04		13000		3000	J	29	J	320	UJ	59	J	9800	J	26		1.5	J	9500		12		77	J
VOCs	Trichlorofluoromethane	ug/kg	1.20E+06	1.20E+06		420	U	320	UJ	5.2	UJ	320	UJ	7.2	UJ	320	UJ	7.1	U	4.6	U	750	U	6.2	U	250	U
VOCs	Trifluorotrichloroethane	ug/kg				420	U	320	UJ	5.2	UJ	320	UJ	7.2	UJ	320	UJ	7.1	U	4.6	U	750	U	6.2	U	250	U
VOCs	Vinyl acetate	ug/kg	2.70E+06	6.20E+05																							
VOCs	Vinyl chloride	ug/kg	5.00E+04	2.80E+05		420	U	320	UJ	5.2	UJ	320	UJ	7.2	UJ	320	UJ	7.1	U	4.6	U	750	U	6.2	U	250	U
VOCs	Xylene (Total)	ug/kg	2.60E+05	2.60E+05		450	J	640	UJ	10	UJ	640	UJ	14	UJ	640	UJ	14	U	9.3	U	1500	U	12	U	510	U

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Appendix A
Soil Data Comparison to GDCC
C Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units	Ohio VAP C/I GDCSS	Ohio VAP CW GDCSS	Station Name	SB-154-04		SB-154-04		SB-154-04		SB-155-04		SB-155-04		SB-155-04		SB-155-04		SB-156-04		SB-156-04		SB-156-04		SB-159-04	
					FieldSampleID	SB-154-04		SB-154-04		SB-154-04		SB-155-04		SB-155-04 DUP		SB-155-04		SB-155-04		SB-156-04		SB-156-04		SB-156-04		SB-159-04	
					Sample Date	2/5/2004		2/5/2004		2/5/2004		2/3/2004		2/3/2004		2/3/2004		2/3/2004		2/3/2004		2/3/2004		2/3/2004		2/4/2004	
					Depth	0 - 2 ft		8 - 10 ft		11.5 - 13.5 ft		0 - 2 ft		8 - 10 ft		8 - 10 ft		12 - 14 ft		0 - 2 ft		8 - 10 ft		13 - 15 ft		0 - 2 ft	
Metals	Antimony	mg/kg	1.60E+03	8.50E+02		7.3	UJ	7.5	UJ	6.6	UJ	7.6	U	6.4	U	6.4	U	6.5	U	1.3	J	7.2	U	7.5	U		
Metals	Arsenic	mg/kg	7.70E+01	6.90E+02		4.6		1.9		3.9		11.2		5.7		4.7		5.6		12.1		2.4		5.2			
Metals	Barium	mg/kg				130		122		227		155		149		94.4		101		190		106		153			
Metals	Beryllium	mg/kg	7.80E+03	3.40E+03		0.52	J	0.091	J	0.084	J	0.38	J	0.53	U	0.53	U	0.54	U	1.2		0.6	U	0.24	J		
Metals	Cadmium	mg/kg	2.60E+03	1.00E+03		0.26	J	0.2	J	0.59		6.5		0.12	J	0.1	J	0.41	J	0.52	J	0.11	J	0.47	J		
Metals	Chromium Total	mg/kg	2.10E+02	1.20E+03		6.2	J	5	J	8.7	J	28.4		5.2		3		5.9		152		5.2		44.5			
Metals	Cobalt	mg/kg				3.2	J	1.5	J	1.7	J	84.8		2.5	J	1.5	J	3.3	J	9.1		1.8	J	5.8	J		
Metals	Copper	mg/kg	1.60E+05	2.10E+04		86.9	J	34.6	J	96.5	J	9420		4.2		3.2		196		129		6.4		67.8			
Metals	Cyanide (total)	mg/kg	3.70E+02	1.50E+02		0.59	J	0.31	J	0.36	J	0.97		0.53	U	0.53	U	0.54	U	0.11	J	0.6	U	0.62	U		
Metals	Lead	mg/kg	8.00E+02	4.00E+02		84.6	J	3.3	J	15.7	J	262		2.9		2.3		5.6		120		3		18.8			
Metals	Manganese	mg/kg				427		204		238		517		653		482		536		457		151		456			
Metals	Mercury	mg/kg	3.10E+00	3.10E+00		0.16		0.12	U	0.11	U	0.92		0.11	U	0.11	U	0.02	J	**7.5**		0.12	U	**4.1**			
Metals	Nickel	mg/kg	7.40E+04	2.30E+04		15.7	J	5.2	J	12.4	J	37.3		8.4		4.9		6		22.8		4.7	J	14.6			
Metals	Selenium	mg/kg	2.00E+04	1.10E+04		0.61	U	0.62	U	0.55	U	0.57	J	0.53	U	0.53	U	0.54	U	0.63	U	0.6	U	0.62	U		
Metals	Silver	mg/kg	2.00E+04	1.10E+04		1.2	U	1.2	U	1.1	U	2.5		1.1	U	1.1	U	1.1	U	1.3	U	1.2	U	1.2	U		
Metals	Thallium	mg/kg				1.2	U	0.55	J	1.1	U	1.4		1.5		0.95	J	1.2		1.2	J	0.9	J	0.79	J		
Metals	Vanadium	mg/kg	2.30E+04	1.10E+04		11		6.7		7.3		18.8		7.9		5.4		7.3		19.9		7		11.2			
Metals	Zinc	mg/kg	1.00E+06	6.40E+05		89.5	J	14.5	J	78.6	J	876		292		60.3		75.9		229		16.8		165			
Miscellaneous	Percent moisture	%																									
Miscellaneous	Total Solids	%				82.5		80.4		91.5		79.4		93.8		94.4		93		79.5		83		80.2		95.2	
Other	Acetonitrile	mg/kg	9.20E+03	2.60E+04																							
PCBs/Pesticides	Aroclor-1016	mg/kg	1.00E+02	2.60E+02																							
PCBs/Pesticides	Aroclor-1221	mg/kg	1.40E+01	2.10E+02																							
PCBs/Pesticides	Aroclor-1232	mg/kg	1.40E+01	7.30E+01																							
PCBs/Pesticides	Aroclor-1242	mg/kg	2.00E+01	4.40E+02																							
PCBs/Pesticides	Aroclor-1248	mg/kg	2.00E+01	4.40E+02																							
PCBs/Pesticides	Aroclor-1254	mg/kg	2.00E+01	7.50E+01																							
PCBs/Pesticides	Aroclor-1260	mg/kg	2.00E+01	4.40E+02																							
SVOCs	2,2-oxybis(2-Chloropropane), SVOC	ug/kg																									
SVOCs	2,4,5-Trichlorophenol	ug/kg	1.80E+08	1.00E+09																							
SVOCs	2,4,6-Trichlorophenol	ug/kg	1.80E+06	1.40E+06																							
SVOCs	2,4-Dichlorophenol	ug/kg	5.30E+06	2.80E+07																							
SVOCs	2,4-Dimethylphenol	ug/kg	3.50E+07	8.50E+07																							
SVOCs	2,4-Dinitrophenol	ug/kg	3.50E+06	2.80E+07																							
SVOCs	2,4-Dinitrotoluene	ug/kg	1.60E+05	2.80E+06																							
SVOCs	2,6-Dinitrotoluene	ug/kg	3.30E+04	6.70E+05																							
SVOCs	2-Chloronaphthalene	ug/kg	3.30E+08	1.00E+09																							
SVOCs	2-Chlorophenol	ug/kg	2.00E+07	2.20E+07																							
SVOCs	2-Methylnaphthalene	ug/kg	6.00E+06	5.20E+06																							
SVOCs	2-Methylphenol	ug/kg	8.80E+07	7.10E+08																							
SVOCs	2-Nitroaniline	ug/kg																									
SVOCs	2-Nitrophenol	ug/kg																									
SVOCs	3,3-Dichlorobenzidine	ug/kg	1.10E+05	2.20E+06																							
SVOCs	3-Nitroaniline	ug/kg																									
SVOCs	4,6-Dinitro-2-methylphenol	ug/kg																									
SVOCs	4-Bromophenyl phenyl ether	ug/kg																									
SVOCs	4-Chloro-3-methylphenol	ug/kg																									
SVOCs	4-Chloroaniline	ug/kg	2.50E+05	7.10E+05																							
SVOCs	4-Chlorophenyl phenyl ether	ug/kg																									
SVOCs	4-Methylphenol	ug/kg	1.80E+08	2.80E+07																							
SVOCs	4-Nitroaniline	ug/kg	2.50E+06	1.40E+07																							
SVOCs	4-Nitrophenol	ug/kg																									
SVOCs	Acenaphthene	ug/kg	9.00E+07	7.80E+08																							
SVOCs	Acenaphthylene	ug/kg																									
SVOCs	Acetophenone	ug/kg	2.50E+06	2.50E+06																							
SVOCs	Anthracene	ug/kg	4.50E+08	1.00E+09																							
SVOCs	Atrazine	ug/kg																									
SVOCs	Benzaldehyde	ug/kg																									
SVOCs	Benzo(a)anthracene	ug/kg	5.80E+04	1.20E+06																							
SVOCs	Benzo(a)pyrene	ug/kg	5.80E+03	1.20E+05																							
SVOCs	Benzo(b)fluoranthene	ug/kg	5.80E+04	1.20E+06																							
SVOCs	Benzo(g,h,i)perylene	ug/kg																									
SVOCs	Benzo(k)fluoranthene	ug/kg	5.80E+05	1.20E+07																							
SVOCs	Biphenyl	ug/kg	1.40E+07	1.90E+08																							

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Appendix A
Soil Data Comparison to GDCC
C Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units	Ohio VAP C/I GDCSS	Ohio VAP CW GDCSS	Station Name	SB-154-04		SB-154-04		SB-154-04		SB-155-04		SB-155-04		SB-155-04		SB-155-04		SB-156-04		SB-156-04		SB-156-04		SB-159-04	
					FieldSampleID	SB-154-04		SB-154-04		SB-154-04		SB-155-04		SB-155-04 DUP		SB-155-04		SB-155-04		SB-156-04		SB-156-04		SB-156-04		SB-159-04	
					Sample Date	2/5/2004		2/5/2004		2/5/2004		2/3/2004		2/3/2004		2/3/2004		2/3/2004		2/3/2004		2/3/2004		2/3/2004		2/4/2004	
					Depth	0 - 2 ft		8 - 10 ft		11.5 - 13.5 ft		0 - 2 ft		8 - 10 ft		8 - 10 ft		12 - 14 ft		0 - 2 ft		8 - 10 ft		13 - 15 ft		0 - 2 ft	
SVOCs	bis(2-Chloroethoxy)methane	ug/kg	5.30E+06	4.30E+07																							
SVOCs	bis(2-Chloroethyl)ether	ug/kg	3.00E+04	2.90E+05																							
SVOCs	bis(2-Ethylhexyl)phthalate	ug/kg	3.50E+06	7.10E+07																							
SVOCs	Butyl benzylphthalate	ug/kg	2.60E+07	5.20E+08																							
SVOCs	Caprolactam	ug/kg																									
SVOCs	Carbazole	ug/kg																									
SVOCs	Chrysene	ug/kg	5.80E+06	1.20E+08																							
SVOCs	Dibenz(a,h)anthracene	ug/kg	5.80E+03	1.20E+08																							
SVOCs	Dibenzofuran	ug/kg																									
SVOCs	Diethyl phthalate	ug/kg	1.00E+09	1.00E+09																							
SVOCs	Dimethyl phthalate	ug/kg																									
SVOCs	Di-n-butylphthalate	ug/kg	1.80E+08	4.30E+08																							
SVOCs	Di-N-Octyl phthalate	ug/kg																									
SVOCs	Fluoranthene	ug/kg	6.00E+07	1.60E+08																							
SVOCs	Fluorene	ug/kg	6.00E+07	5.20E+08																							
SVOCs	Hexachlorobenzene	ug/kg	3.10E+04	1.40E+04																							
SVOCs	Hexachlorobutadiene, SVOC	ug/kg	6.30E+05	1.40E+06																							
SVOCs	Hexachlorocyclopentadiene	ug/kg	1.10E+07	2.60E+07																							
SVOCs	Hexachloroethane	ug/kg	1.20E+06	3.00E+06																							
SVOCs	Indeno(1,2,3-cd)pyrene	ug/kg	5.80E+04	1.20E+06																							
SVOCs	Isophorone	ug/kg	5.20E+07	1.00E+09																							
SVOCs	Naphthalene, SVOC	ug/kg	4.50E+05	5.60E+05																							
SVOCs	Nitrobenzene	ug/kg	6.10E+05	3.00E+06																							
SVOCs	N-Nitrosodi-n-propylamine	ug/kg	7.00E+03	1.40E+05																							
SVOCs	N-Nitrosodiphenylamine	ug/kg	1.00E+07	2.00E+08																							
SVOCs	Pentachlorophenol	ug/kg	6.70E+04	9.50E+05																							
SVOCs	Phenanthrene	ug/kg																									
SVOCs	Phenol	ug/kg	5.30E+08	8.40E+08																							
SVOCs	Pyrene, SVOC	ug/kg	4.50E+07	3.90E+08																							
TPH	GRO (C6-C12)	ug/kg	1.00E+06	1.00E+06																							
TPH	TPH C10-C20	ug/kg	2.00E+06	2.00E+06																							
TPH	TPH C20-C34	ug/kg	5.00E+06	5.00E+06																							
VOCs	1,1,1,2-Tetrachloroethane	ug/kg	2.40E+05	6.80E+05																							
VOCs	1,1,1-Trichloroethane	ug/kg	6.40E+05	6.40E+05		1100	U	2800	U	4600	U	280	U	5.5	U	4.8	U	7.9	U	1500	U	1.4	J	1800	U	4.9	U
VOCs	1,1,2,2-Tetrachloroethane	ug/kg	7.50E+04	6.70E+05		1100	U	2800	U	4600	U	280	U	5.5	U	4.8	U	7.9	U	1500	U	5.1	U	1800	U	4.9	U
VOCs	1,1,2-Trichloroethane	ug/kg	1.40E+05	1.20E+06		1100	U	2800	U	4600	U	280	U	5.5	U	4.8	U	7.9	U	1500	U	5.1	U	1800	U	4.9	U
VOCs	1,1-Dichloroethane	ug/kg	4.20E+05	1.70E+06		1100	U	2800	U	4600	U	280	U	5.5	U	4.8	U	7.9	U	1500	U	0.61	J	1800	U	4.9	U
VOCs	1,1-Dichloroethene	ug/kg	1.20E+06	3.60E+05		1100	U	2800	U	4600	U	280	U	5.5	U	4.8	U	7.9	U	1500	U	5.1	U	1800	U	4.9	U
VOCs	1,1-Dichloropropene	ug/kg																									
VOCs	1,2,4-Trichlorobenzene, VOC	ug/kg	4.00E+05	4.00E+05		1100	U	2800	U	4600	U	280	U	5.5	U	4.8	U	7.9	U	1500	U	5.1	U	1800	U	4.9	U
VOCs	1,2-Dibromo-3-chloropropane	ug/kg	1.70E+03	1.50E+04		2200	U	5600	U	9100	U	560	U	11	U	9.6	U	16	U	3000	U	10	U	3500	U	9.9	U
VOCs	1,2-Dibromoethane	ug/kg	4.40E+03	3.80E+04		1100	U	2800	U	4600	U	280	U	5.5	U	4.8	U	7.9	U	1500	U	5.1	U	1800	U	4.9	U
VOCs	1,2-Dichlorobenzene, VOC	ug/kg	3.80E+05	3.80E+05		1100	U	2800	U	4600	U	280	U	5.5	U	4.8	U	7.9	U	1500	U	5.1	U	1800	U	4.9	U
VOCs	1,2-Dichloroethane	ug/kg	5.60E+04	4.80E+05		1100	U	2800	U	4600	U	280	U	5.5	U	4.8	U	7.9	U	1500	U	5.1	U	1800	U	4.9	U
VOCs	1,2-Dichloropropane	ug/kg	1.20E+05	1.80E+05		1100	U	2800	U	4600	U	280	U	5.5	U	4.8	U	7.9	U	1500	U	5.1	U	1800	U	4.9	U
VOCs	1,3-Dichlorobenzene, VOC	ug/kg				1100	U	2800	U	4600	U	280	U	5.5	U	4.8	U	7.9	U	1500	U	5.1	U	1800	U	4.9	U
VOCs	1,3-Dichloropropane	ug/kg	1.50E+06	1.50E+06																							
VOCs	1,4-Dichlorobenzene, VOC	ug/kg	3.10E+05	2.60E+06		1100	U	2800	U	4600	U	280	U	5.5	U	4.8	U	7.9	U	1500	U	5.1	U	1800	U	4.9	U
VOCs	2,2-Dichloropropane	ug/kg																									
VOCs	2-Butanone	ug/kg	2.80E+07	2.80E+07		4300	U	11000	U	18000	U	1100	UJ	22	U	19	U	32	U	6000	U	20	U	7100	U	20	U
VOCs	2-Chloroethyl vinyl ether	ug/kg																									
VOCs	2-Chlorotoluene	ug/kg																									
VOCs	2-Hexanone	ug/kg				4300	U	11000	U	18000	U	1100	U	22	U	19	U	32	U	6000	U	20	U	7100	U	20	U
VOCs	4-Chlorotoluene	ug/kg																									
VOCs	4-Methyl-2-Pentanone	ug/kg	3.40E+06	3.40E+06		4300	U	11000	U	18000	U	1100	U	22	U	19	U	32	U	6000	U	20	U	7100	U	20	U
VOCs	Acetone	ug/kg	1.10E+08	1.10E+08		4300	U	11000	U	18000	U	1100	UJ	22	U	19	U	32	U	6000	U	20	U	7100	U	20	U
VOCs	Acrolein	ug/kg																									
VOCs	Acrylonitrile	ug/kg																									
VOCs	Allyl chloride	ug/kg	1.90E+04	6.40E+04																							
VOCs	Benzene	ug/kg	1.40E+05	1.20E+06		1100	U	2800	U	4600	U	280	U	5.5	U	4.8	U	0.81	J	1500	U	5.1	U	1800	U	4.9	U
VOCs	Bromobenzene	ug/kg																									
VOCs	Bromochloromethane	ug/kg																									
VOCs	Bromodichloromethane	ug/kg	3.50E+04	3.00E+05		1100	U	2800	U	4600	U	280	U	5.5	U	4.8	U	7.9	U	1500	U	5.1	U	1800	U	4.9	U
VOCs	Bromoform	ug/kg	6.20E+06	1.30E+08		1100	U	2800	U	4600	U	280	U	5.5	U	4.8	U	7.9	U	1500	U	5.1	U	1800	U	4.9	U

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Appendix A
Soil Data Comparison to GDCC
C Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units	Ohio VAP C/I GDCSS	Ohio VAP CW GDCSS	Station Name	SB-154-04		SB-154-04		SB-154-04		SB-155-04		SB-155-04		SB-155-04		SB-155-04		SB-156-04		SB-156-04		SB-156-04		SB-159-04	
					FieldSampleID	SB-154-04		SB-154-04		SB-154-04		SB-155-04		SB-155-04 DUP		SB-155-04		SB-155-04		SB-156-04		SB-156-04		SB-156-04		SB-159-04	
					Sample Date	2/5/2004		2/5/2004		2/5/2004		2/3/2004		2/3/2004		2/3/2004		2/3/2004		2/3/2004		2/3/2004		2/3/2004		2/4/2004	
					Depth	0 - 2 ft		8 - 10 ft		11.5 - 13.5 ft		0 - 2 ft		8 - 10 ft		8 - 10 ft		12 - 14 ft		0 - 2 ft		8 - 10 ft		13 - 15 ft		0 - 2 ft	
VOCs	Bromomethane	ug/kg	8.20E+04	5.50E+05		1100	U	2800	U	4600	U	280	U	5.5	U	4.8	U	7.9	U	1500	U	5.1	U	1800	U	4.9	U
VOCs	Carbon disulfide	ug/kg	7.40E+05	7.40E+05		1100	U	2800	U	4600	U	280	U	5.5	U	4.8	U	7.9	U	1500	U	5.1	U	1800	U	4.9	U
VOCs	Carbon tetrachloride	ug/kg	7.90E+04	4.60E+05		1100	U	2800	U	4600	U	280	U	5.5	U	4.8	U	7.9	U	1500	U	5.1	U	1800	U	4.9	U
VOCs	Chlorobenzene	ug/kg	7.60E+05	7.60E+05		1100	U	2800	U	4600	U	280	U	5.5	U	4.8	U	7.9	U	1500	U	5.1	U	1800	U	4.9	U
VOCs	Chloroethane	ug/kg				1100	U	2800	U	4600	U	280	R	5.5	U	4.8	U	7.9	U	1500	R	5.1	U	1800	R	4.9	U
VOCs	Chloroform	ug/kg	3.80E+04	3.20E+05		1100	U	2800	U	4600	U	280	U	5.5	U	4.8	U	7.9	U	1500	U	5.1	U	1800	U	4.9	U
VOCs	Chloromethane	ug/kg	1.30E+06	1.30E+06		1100	U	2800	U	4600	U	280	U	5.5	U	4.8	U	7.9	U	1500	U	5.1	U	1800	U	4.9	U
VOCs	cis-1,2-Dichloroethene	ug/kg				240	J	370	J	2300	U	140	U	2.8	U	2.4	U	4	U	2500		2.7		3000		2.5	U
VOCs	cis-1,3-Dichloropropene	ug/kg	2.30E+05	5.20E+05		1100	U	2800	U	4600	U	280	U	5.5	U	4.8	U	7.9	U	1500	U	5.1	U	1800	U	4.9	U
VOCs	Cyclohexane	ug/kg	1.20E+05	1.20E+05		330	J	5600	U	9100	U	560	U	11	U	9.6	U	1.1	J	3000	U	10	U	3500	U	9.9	U
VOCs	Dibromochloromethane	ug/kg	8.40E+04	7.70E+05		1100	U	2800	U	4600	U	280	U	5.5	U	4.8	U	7.9	U	1500	U	5.1	U	1800	U	4.9	U
VOCs	Dibromomethane	ug/kg	2.80E+06	3.80E+04																							
VOCs	Dichlorodifluoromethane	ug/kg	8.50E+05	8.50E+05		1100	U	2800	U	4600	U	280	U	5.5	UJ	4.8	UJ	7.9	UJ	1500	U	5.1	UJ	1800	U	4.9	U
VOCs	Ethylbenzene	ug/kg	4.80E+05	4.80E+05		1100	U	2800	U	4600	U	280	U	5.5	U	4.8	U	1.7	J	1500	U	5.1	U	1800	U	4.9	U
VOCs	Iodomethane	ug/kg																									
VOCs	Isopropylbenzene, VOC	ug/kg	2.70E+05	2.70E+05		1100	U	2800	U	4600	U	280	U	5.5	U	4.8	U	7.9	U	1500	U	5.1	U	1800	U	4.9	U
VOCs	m&p-Xylene	ug/kg	2.60E+05	2.60E+05																							
VOCs	Methyl acetate	ug/kg				2200	U	5600	U	9100	U	560	U	11	U	9.6	U	16	U	410	J	10	U	430	J	9.9	U
VOCs	Methyl cyclohexane	ug/kg				690	J	5600	U	9100	U	560	U	11	U	9.6	U	1.9	J	300	J	10	U	220	J	9.9	U
VOCs	Methyl tert butyl ether	ug/kg	5.70E+06	8.90E+06		4300	U	11000	U	18000	U	1100	U	22	U	19	U	32	U	6000	UJ	20	U	7100	UJ	20	U
VOCs	Methylene chloride	ug/kg	3.30E+06	3.30E+06		560	J	1600	J	2600	J	280	U	5.5	U	4.8	U	7.9	U	660	J	5.1	U	1000	J	5.5	
VOCs	n-Hexane	ug/kg	1.40E+05	1.40E+05																							
VOCs	o-Xylene	ug/kg	2.60E+05	2.60E+05																							
VOCs	Styrene	ug/kg	8.70E+05	8.70E+05		1100	U	2800	U	4600	U	280	U	5.5	U	4.8	U	7.9	U	1500	U	5.1	U	1800	U	4.9	U
VOCs	Tetrachloroethene	ug/kg	1.70E+05	1.70E+05		30000		66000		130000		450		10		4.5	J	20		29000		98		35000		4.9	U
VOCs	Toluene	ug/kg	8.20E+05	8.20E+05		1100	U	2800	U	4600	U	280	U	0.61	J	4.8	U	3.2	J	1500	U	5.1	U	1800	U	4.9	U
VOCs	trans-1,2-Dichloroethene	ug/kg	1.70E+06	1.70E+06		540	U	1400	U	2300	U	140	U	2.8	U	2.4	U	4	U	750	U	2.6	U	880	U	2.5	U
VOCs	trans-1,3-Dichloropropene	ug/kg	2.30E+05	5.20E+05		1100	U	2800	U	4600	U	280	U	5.5	U	4.8	U	7.9	U	1500	U	5.1	U	1800	U	4.9	U
VOCs	Trichloroethene	ug/kg	5.10E+04	1.70E+04		17000		820	J	1900	J	400		7.1		1.5	J	14		49000		100		**60000**		4.9	U
VOCs	Trichlorofluoromethane	ug/kg	1.20E+06	1.20E+06		1100	U	2800	U	4600	U	280	U	5.5	U	4.8	U	7.9	U	1500	U	5.1	U	1800	U	4.9	U
VOCs	Trifluorotrichloroethane	ug/kg				1100	U	2800	U	4600	U	280	U	5.5	U	4.8	U	7.9	U	1500	U	5.1	U	1800	U	4.9	U
VOCs	Vinyl acetate	ug/kg	2.70E+06	6.20E+05																							
VOCs	Vinyl chloride	ug/kg	5.00E+04	2.80E+05		1100	U	2800	U	4600	U	280	U	5.5	U	4.8	U	7.9	U	1500	U	5.1	U	1800	U	4.9	U
VOCs	Xylene (Total)	ug/kg	2.60E+05	2.60E+05		2200	U	5600	U	9100	U	560	U	11	U	9.6	U	2.3	J	3000	U	10	U	3500	U	9.9	U

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Appendix A
Soil Data Comparison to GDCC
C Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units	Ohio VAP C/I GDCSS	Ohio VAP CW GDCSS	Station Name	SB-159-04		SB-160-04		SB-160-04		SB-161-04		SB-161-04		SB-162-04		SB-162-04		SB-162-04		SB-165-04		SB-33-02		SB-33-02	
					FieldSampleID	SB-159-04		SB-160-04		SB-160-04		SB-161-04 (0-2)		SB-161-04 (7.5-9.5)		SB-162-04 DUP (0-2)		SB-162-04 (0-2)		SB-162-04 (7.5-9.5)		SB-165-04		SB-33-02		SB-33-02	
					Sample Date	2/4/2004		2/4/2004		2/4/2004		2/4/2004		2/4/2004		2/4/2004		2/4/2004		2/4/2004		2/6/2004		4/12/2002		4/12/2002	
					Depth	7 - 9 ft		0 - 2 ft		6 - 8 ft		0 - 2 ft		7.5 - 9.5 ft		0 - 2 ft		0 - 2 ft		7.5 - 9.5 ft		0 - 2 ft		1 - 3 ft		9 - 11 ft	
Metals	Antimony	mg/kg	1.60E+03	8.50E+02																		7	UJ	6.8	U	8.1	U
Metals	Arsenic	mg/kg	7.70E+01	6.90E+02																		2.9		6.4		3.2	
Metals	Barium	mg/kg																				62.3	J	111		120	
Metals	Beryllium	mg/kg	7.80E+03	3.40E+03																		0.3	J	0.79	U	0.67	U
Metals	Cadmium	mg/kg	2.60E+03	1.00E+03																		0.15	J	81.8		1.2	
Metals	Chromium Total	mg/kg	2.10E+02	1.20E+03																		8.9	J	**1790**		78.1	
Metals	Cobalt	mg/kg																				13.3		3.7	J	2.4	J
Metals	Copper	mg/kg	1.60E+05	2.10E+04																		11.8		377		43.2	
Metals	Cyanide (total)	mg/kg	3.70E+02	1.50E+02																		0.18	J	11.7		0.43	J
Metals	Lead	mg/kg	8.00E+02	4.00E+02																		9.3	J	29.2		5.6	
Metals	Manganese	mg/kg																				44.4		436		325	
Metals	Mercury	mg/kg	3.10E+00	3.10E+00																		0.76		2.3		0.44	
Metals	Nickel	mg/kg	7.40E+04	2.30E+04																		6.4		21.9		8.9	
Metals	Selenium	mg/kg	2.00E+04	1.10E+04																		0.58	U	0.57	U	0.67	U
Metals	Silver	mg/kg	2.00E+04	1.10E+04																		0.11	J	0.65	J	1.3	U
Metals	Thallium	mg/kg																				1.2	U	1.1	U	1.3	U
Metals	Vanadium	mg/kg	2.30E+04	1.10E+04																		4.2	J	14.9		8.6	
Metals	Zinc	mg/kg	1.00E+06	6.40E+05																		16.4		43300		288	
Miscellaneous	Percent moisture	%																									
Miscellaneous	Total Solids	%				88.5		93.3		81.9		94.3		95.6		82.2		80.3		93.9		86.3		88.5		74.1	
Other	Acetonitrile	mg/kg	9.20E+03	2.60E+04																							
PCBs/Pesticides	Aroclor-1016	mg/kg	1.00E+02	2.60E+02																				0.037	U	0.045	U
PCBs/Pesticides	Aroclor-1221	mg/kg	1.40E+01	2.10E+02																				0.037	U	0.045	U
PCBs/Pesticides	Aroclor-1232	mg/kg	1.40E+01	7.30E+01																				0.037	U	0.045	U
PCBs/Pesticides	Aroclor-1242	mg/kg	2.00E+01	4.40E+02																				0.037	U	0.045	U
PCBs/Pesticides	Aroclor-1248	mg/kg	2.00E+01	4.40E+02																				0.037	U	0.045	U
PCBs/Pesticides	Aroclor-1254	mg/kg	2.00E+01	7.50E+01																				0.037	U	0.045	U
PCBs/Pesticides	Aroclor-1260	mg/kg	2.00E+01	4.40E+02																				0.037	U	0.045	U
SVOCs	2,2-oxybis(2-Chloropropane), SVOC	ug/kg																						370	U	450	U
SVOCs	2,4,5-Trichlorophenol	ug/kg	1.80E+08	1.00E+09																				370	U	450	U
SVOCs	2,4,6-Trichlorophenol	ug/kg	1.80E+06	1.40E+06																				370	U	450	U
SVOCs	2,4-Dichlorophenol	ug/kg	5.30E+06	2.80E+07																				370	U	450	U
SVOCs	2,4-Dimethylphenol	ug/kg	3.50E+07	8.50E+07																				370	U	450	U
SVOCs	2,4-Dinitrophenol	ug/kg	3.50E+06	2.80E+07																				1800	U	2200	U
SVOCs	2,4-Dinitrotoluene	ug/kg	1.60E+05	2.80E+06																				370	U	450	U
SVOCs	2,6-Dinitrotoluene	ug/kg	3.30E+04	6.70E+05																				370	U	450	U
SVOCs	2-Chloronaphthalene	ug/kg	3.30E+08	1.00E+09																				370	U	450	U
SVOCs	2-Chlorophenol	ug/kg	2.00E+07	2.20E+07																				370	U	450	U
SVOCs	2-Methylnaphthalene	ug/kg	6.00E+06	5.20E+06																				370	U	450	U
SVOCs	2-Methylphenol	ug/kg	8.80E+07	7.10E+08																				370	U	450	U
SVOCs	2-Nitroaniline	ug/kg																						1800	U	2200	U
SVOCs	2-Nitrophenol	ug/kg																						370	U	450	U
SVOCs	3,3-Dichlorobenzidine	ug/kg	1.10E+05	2.20E+06																				1800	U	2200	U
SVOCs	3-Nitroaniline	ug/kg																						1800	U	2200	U
SVOCs	4,6-Dinitro-2-methylphenol	ug/kg																						1800	U	2200	U
SVOCs	4-Bromophenyl phenyl ether	ug/kg																						370	U	450	U
SVOCs	4-Chloro-3-methylphenol	ug/kg																						370	U	450	U
SVOCs	4-Chloroaniline	ug/kg	2.50E+05	7.10E+05																				370	U	450	U
SVOCs	4-Chlorophenyl phenyl ether	ug/kg																						370	U	450	U
SVOCs	4-Methylphenol	ug/kg	1.80E+08	2.80E+07																				370	U	450	U
SVOCs	4-Nitroaniline	ug/kg	2.50E+06	1.40E+07																				1800	U	2200	U
SVOCs	4-Nitrophenol	ug/kg																						1800	U	2200	U
SVOCs	Acenaphthene	ug/kg	9.00E+07	7.80E+08																				370	U	450	U
SVOCs	Acenaphthylene	ug/kg																						370	U	450	U
SVOCs	Acetophenone	ug/kg	2.50E+06	2.50E+06																				370	U	450	U
SVOCs	Anthracene	ug/kg	4.50E+08	1.00E+09																				370	U	450	U
SVOCs	Atrazine	ug/kg																						370	U	450	U
SVOCs	Benzaldehyde	ug/kg																						370	U	450	U
SVOCs	Benzo(a)anthracene	ug/kg	5.80E+04	1.20E+06																				370	U	450	U
SVOCs	Benzo(a)pyrene	ug/kg	5.80E+03	1.20E+05																				370	U	450	U
SVOCs	Benzo(b)fluoranthene	ug/kg	5.80E+04	1.20E+06																				370	U	450	U
SVOCs	Benzo(g,h,i)perylene	ug/kg																						370	U	450	U
SVOCs	Benzo(k)fluoranthene	ug/kg	5.80E+05	1.20E+07																				370	U	450	U
SVOCs	Biphenyl	ug/kg	1.40E+07	1.90E+08																				370	U	450	U

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Appendix A
Soil Data Comparison to GDCC
C Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units	Ohio VAP C/I GDCSS	Ohio VAP CW GDCSS	Station Name	SB-159-04		SB-160-04		SB-160-04		SB-161-04		SB-161-04		SB-162-04		SB-162-04		SB-162-04		SB-165-04		SB-33-02		SB-33-02	
					FieldSampleID	SB-159-04		SB-160-04		SB-160-04		SB-161-04 (0-2)		SB-161-04 (7.5-9.5)		SB-162-04 DUP (0-2)		SB-162-04 (0-2)		SB-162-04 (7.5-9.5)		SB-165-04		SB-33-02		SB-33-02	
					Sample Date	2/4/2004		2/4/2004		2/4/2004		2/4/2004		2/4/2004		2/4/2004		2/4/2004		2/4/2004		2/6/2004		4/12/2002		4/12/2002	
					Depth	7 - 9 ft		0 - 2 ft		6 - 8 ft		0 - 2 ft		7.5 - 9.5 ft		0 - 2 ft		0 - 2 ft		7.5 - 9.5 ft		0 - 2 ft		1 - 3 ft		9 - 11 ft	
SVOCs	bis(2-Chloroethoxy)methane	ug/kg	5.30E+06	4.30E+07																				370	U	450	U
SVOCs	bis(2-Chloroethyl)ether	ug/kg	3.00E+04	2.90E+05																				370	U	450	U
SVOCs	bis(2-Ethylhexyl)phthalate	ug/kg	3.50E+06	7.10E+07																				370	U	450	U
SVOCs	Butyl benzylphthalate	ug/kg	2.60E+07	5.20E+08																				370	U	450	U
SVOCs	Caprolactam	ug/kg																						370	U	450	U
SVOCs	Carbazole	ug/kg																						370	U	450	U
SVOCs	Chrysene	ug/kg	5.80E+06	1.20E+08																				370	U	450	U
SVOCs	Dibenz(a,h)anthracene	ug/kg	5.80E+03	1.20E+08																				370	U	450	U
SVOCs	Dibenzofuran	ug/kg																						370	U	450	U
SVOCs	Diethyl phthalate	ug/kg	1.00E+09	1.00E+09																				370	U	450	U
SVOCs	Dimethyl phthalate	ug/kg																						370	U	450	U
SVOCs	Di-n-butylphthalate	ug/kg	1.80E+08	4.30E+08																				370	U	450	U
SVOCs	Di-N-Octyl phthalate	ug/kg																						370	U	450	U
SVOCs	Fluoranthene	ug/kg	6.00E+07	1.60E+08																				370	U	450	U
SVOCs	Fluorene	ug/kg	6.00E+07	5.20E+08																				370	U	450	U
SVOCs	Hexachlorobenzene	ug/kg	3.10E+04	1.40E+04																				370	U	450	U
SVOCs	Hexachlorobutadiene, SVOC	ug/kg	6.30E+05	1.40E+06																				370	U	450	U
SVOCs	Hexachlorocyclopentadiene	ug/kg	1.10E+07	2.60E+07																				1800	UJ	2200	UJ
SVOCs	Hexachloroethane	ug/kg	1.20E+06	3.00E+06																				370	U	450	U
SVOCs	Indeno(1,2,3-cd)pyrene	ug/kg	5.80E+04	1.20E+06																				370	U	450	U
SVOCs	Isophorone	ug/kg	5.20E+07	1.00E+09																				370	U	450	U
SVOCs	Naphthalene, SVOC	ug/kg	4.50E+05	5.60E+05																				370	U	450	U
SVOCs	Nitrobenzene	ug/kg	6.10E+05	3.00E+06																				370	U	450	U
SVOCs	N-Nitrosodi-n-propylamine	ug/kg	7.00E+03	1.40E+05																				370	U	450	U
SVOCs	N-Nitrosodiphenylamine	ug/kg	1.00E+07	2.00E+08																				370	U	450	U
SVOCs	Pentachlorophenol	ug/kg	6.70E+04	9.50E+05																				370	U	450	U
SVOCs	Phenanthrene	ug/kg																						370	U	450	U
SVOCs	Phenol	ug/kg	5.30E+08	8.40E+08																				370	U	450	U
SVOCs	Pyrene, SVOC	ug/kg	4.50E+07	3.90E+08																				370	U	450	U
TPH	GRO (C6-C12)	ug/kg	1.00E+06	1.00E+06																							
TPH	TPH C10-C20	ug/kg	2.00E+06	2.00E+06																							
TPH	TPH C20-C34	ug/kg	5.00E+06	5.00E+06																							
VOCs	1,1,1,2-Tetrachloroethane	ug/kg	2.40E+05	6.80E+05																							
VOCs	1,1,1-Trichloroethane	ug/kg	6.40E+05	6.40E+05		5.3	U	5.5	U	5.9	UJ	4.7	U	5.1	U	290	U	330	U	5.3	U	7.4	U	330	U	270	U
VOCs	1,1,2,2-Tetrachloroethane	ug/kg	7.50E+04	6.70E+05		5.3	U	5.5	U	5.9	UJ	4.7	U	5.1	U	290	U	330	U	5.3	U	7.4	U	330	U	270	U
VOCs	1,1,2-Trichloroethane	ug/kg	1.40E+05	1.20E+06		5.3	U	5.5	U	5.9	UJ	4.7	U	5.1	U	290	U	330	U	5.3	U	7.4	U	330	U	270	U
VOCs	1,1-Dichloroethane	ug/kg	4.20E+05	1.70E+06		5.3	U	5.5	U	5.9	UJ	4.7	U	5.1	U	290	U	330	U	5.3	U	7.4	U	330	U	270	U
VOCs	1,1-Dichloroethene	ug/kg	1.20E+06	3.60E+05		5.3	U	5.5	U	5.9	UJ	4.7	U	5.1	U	290	U	330	U	5.3	U	7.4	U	330	U	270	U
VOCs	1,1-Dichloropropene	ug/kg																									
VOCs	1,2,4-Trichlorobenzene, VOC	ug/kg	4.00E+05	4.00E+05		5.3	U	5.5	U	5.9	UJ	4.7	U	5.1	U	290	U	330	U	5.3	U	7.4	U	330	UJ	270	UJ
VOCs	1,2-Dibromo-3-chloropropane	ug/kg	1.70E+03	1.50E+04		11	U	11	U	12	UJ	9.4	U	10	U	580	U	660	U	11	U	15	U	650	U	530	U
VOCs	1,2-Dibromoethane	ug/kg	4.40E+03	3.80E+04		5.3	U	5.5	U	5.9	UJ	4.7	U	5.1	U	290	U	330	U	5.3	U	7.4	U	330	U	270	U
VOCs	1,2-Dichlorobenzene, VOC	ug/kg	3.80E+05	3.80E+05		5.3	U	5.5	U	5.9	UJ	4.7	U	5.1	U	290	U	330	U	5.3	U	7.4	U	330	U	270	U
VOCs	1,2-Dichloroethane	ug/kg	5.60E+04	4.80E+05		5.3	U	5.5	U	5.9	UJ	4.7	U	5.1	U	290	U	330	U	5.3	U	7.4	U	330	U	270	U
VOCs	1,2-Dichloropropane	ug/kg	1.20E+05	1.80E+05		5.3	U	5.5	U	5.9	UJ	4.7	U	5.1	U	290	U	330	U	5.3	U	7.4	U	330	U	270	U
VOCs	1,3-Dichlorobenzene, VOC	ug/kg				5.3	U	5.5	U	5.9	UJ	4.7	U	5.1	U	290	U	330	U	5.3	U	7.4	U	330	U	270	U
VOCs	1,3-Dichloropropane	ug/kg	1.50E+06	1.50E+06																							
VOCs	1,4-Dichlorobenzene, VOC	ug/kg	3.10E+05	2.60E+06		5.3	U	5.5	U	5.9	UJ	4.7	U	5.1	U	290	U	330	U	5.3	U	7.4	U	330	U	270	U
VOCs	2,2-Dichloropropane	ug/kg																									
VOCs	2-Butanone	ug/kg	2.80E+07	2.80E+07		21	U	22	U	2.7	J	19	U	20	U	1200	UJ	1300	UJ	21	U	30	U	1300	U	1100	U
VOCs	2-Chloroethyl vinyl ether	ug/kg																									
VOCs	2-Chlorotoluene	ug/kg																									
VOCs	2-Hexanone	ug/kg				21	U	22	U	23	UJ	19	U	20	U	1200	U	1300	U	21	U	30	U	1300	U	1100	U
VOCs	4-Chlorotoluene	ug/kg																									
VOCs	4-Methyl-2-Pentanone	ug/kg	3.40E+06	3.40E+06		1.8	J	22	U	23	UJ	19	U	20	U	1200	U	1300	U	21	U	30	U	1300	U	1100	U
VOCs	Acetone	ug/kg	1.10E+08	1.10E+08		21	U	22	U	16	J	19	U	20	U	1200	UJ	1300	UJ	21	U	240	J	1300	U	1100	U
VOCs	Acrolein	ug/kg																									
VOCs	Acrylonitrile	ug/kg																									
VOCs	Allyl chloride	ug/kg	1.90E+04	6.40E+04																							
VOCs	Benzene	ug/kg	1.40E+05	1.20E+06		5.3	U	5.5	U	5.9	UJ	4.7	U	5.1	U	290	U	330	U	5.3	U	7.4	U	330	U	270	U
VOCs	Bromobenzene	ug/kg																									
VOCs	Bromochloromethane	ug/kg																									
VOCs	Bromodichloromethane	ug/kg	3.50E+04	3.00E+05		5.3	U	5.5	U	5.9	UJ	4.7	U	5.1	U	290	U	330	U	5.3	U	7.4	U	330	U	270	U
VOCs	Bromoform	ug/kg	6.20E+06	1.30E+08		5.3	U	5.5	U	5.9	UJ	4.7	U	5.1	U	290	U	330	U	5.3	U	7.4	U	330	U	270	U

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Appendix A
Soil Data Comparison to GDCC
C Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units	Ohio VAP C/I GDCSS	Ohio VAP CW GDCSS	Station Name	SB-159-04		SB-160-04		SB-160-04		SB-161-04		SB-161-04		SB-162-04		SB-162-04		SB-162-04		SB-165-04		SB-33-02		SB-33-02	
					FieldSampleID	SB-159-04		SB-160-04		SB-160-04		SB-161-04 (0-2)		SB-161-04 (7.5-9.5)		SB-162-04 DUP (0-2)		SB-162-04 (0-2)		SB-162-04 (7.5-9.5)		SB-165-04		SB-33-02		SB-33-02	
					Sample Date	2/4/2004		2/4/2004		2/4/2004		2/4/2004		2/4/2004		2/4/2004		2/4/2004		2/4/2004		2/6/2004		4/12/2002		4/12/2002	
					Depth	7 - 9 ft		0 - 2 ft		6 - 8 ft		0 - 2 ft		7.5 - 9.5 ft		0 - 2 ft		0 - 2 ft		7.5 - 9.5 ft		0 - 2 ft		1 - 3 ft		9 - 11 ft	
VOCs	Bromomethane	ug/kg	8.20E+04	5.50E+05		5.3	U	5.5	U	5.9	UJ	4.7	U	5.1	U	290	U	330	U	5.3	U	7.4	U	330	U	270	U
VOCs	Carbon disulfide	ug/kg	7.40E+04	7.40E+05		5.3	U	5.5	U	5.9	UJ	4.7	U	5.1	U	290	U	330	U	5.3	U	7.4	U	330	U	270	U
VOCs	Carbon tetrachloride	ug/kg	7.90E+04	4.60E+05		5.3	U	5.5	U	5.9	UJ	4.7	U	5.1	U	290	U	330	U	5.3	U	7.4	U	330	U	270	U
VOCs	Chlorobenzene	ug/kg	7.60E+05	7.60E+05		5.3	U	5.5	U	5.9	UJ	4.7	U	5.1	U	290	U	330	U	5.3	U	7.4	U	330	U	270	U
VOCs	Chloroethane	ug/kg				5.3	U	5.5	U	5.9	UJ	4.7	U	5.1	U	290	R	330	R	5.3	U	7.4	U	330	U	270	U
VOCs	Chloroform	ug/kg	3.80E+04	3.20E+05		5.3	U	5.5	U	5.9	UJ	4.7	U	5.1	U	290	U	330	U	5.3	U	7.4	U	330	U	270	U
VOCs	Chloromethane	ug/kg	1.30E+06	1.30E+06		5.3	U	5.5	U	5.9	UJ	4.7	U	5.1	U	290	U	330	U	5.3	U	7.4	U	330	U	270	U
VOCs	cis-1,2-Dichloroethene	ug/kg				2.7	U	2.7	U	2.9	UJ	2.4	U	2.6	U	150	U	170	U	2.7	U	3.7	U	160	U	130	U
VOCs	cis-1,3-Dichloropropene	ug/kg	2.30E+05	5.20E+05		5.3	U	5.5	U	5.9	UJ	4.7	U	5.1	U	290	U	330	U	5.3	U	7.4	U	330	U	270	U
VOCs	Cyclohexane	ug/kg	1.20E+05	1.20E+05		11	U	11	U	12	UJ	9.4	U	10	U	580	U	660	U	11	U	15	U	650	U	530	U
VOCs	Dibromochloromethane	ug/kg	8.40E+04	7.70E+05		5.3	U	5.5	U	5.9	UJ	4.7	U	5.1	U	290	U	330	U	5.3	U	7.4	U	330	U	270	U
VOCs	Dibromomethane	ug/kg	2.80E+06	3.80E+04																							
VOCs	Dichlorodifluoromethane	ug/kg	8.50E+05	8.50E+05		5.3	U	5.5	U	5.9	UJ	4.7	U	5.1	U	290	U	330	U	5.3	U	7.4	U	330	U	270	U
VOCs	Ethylbenzene	ug/kg	4.80E+05	4.80E+05		5.3	U	5.5	U	5.9	UJ	0.65	J	5.1	U	290	U	330	U	5.3	U	0.82	J	330	U	270	U
VOCs	Iodomethane	ug/kg																									
VOCs	Isopropylbenzene, VOC	ug/kg	2.70E+05	2.70E+05		5.3	U	5.5	U	5.9	UJ	4.7	U	5.1	U	290	U	330	U	5.3	U	7.4	U	330	U	270	U
VOCs	m&p-Xylene	ug/kg	2.60E+05	2.60E+05																							
VOCs	Methyl acetate	ug/kg				11	U	11	U	12	UJ	9.4	U	10	U	580	U	660	U	11	U	15	U	650	U	530	U
VOCs	Methyl cyclohexane	ug/kg				11	U	11	U	12	UJ	9.4	U	10	U	580	U	40	J	11	U	15	U	650	U	530	U
VOCs	Methyl tert butyl ether	ug/kg	5.70E+06	8.90E+06		21	U	22	U	23	UJ	19	U	20	U	1200	U	1300	U	21	U	30	U	1300	U	1100	U
VOCs	Methylene chloride	ug/kg	3.30E+06	3.30E+06		5	J	8.2		8.9	J	7.7		8.7		290	U	330	U	8		7.4	U	330	U	270	U
VOCs	n-Hexane	ug/kg	1.40E+05	1.40E+05																							
VOCs	o-Xylene	ug/kg	2.60E+05	2.60E+05																							
VOCs	Styrene	ug/kg	8.70E+05	8.70E+05		5.3	U	5.5	U	5.9	UJ	4.7	U	5.1	U	290	U	330	U	5.3	U	7.4	U	330	U	270	U
VOCs	Tetrachloroethene	ug/kg	1.70E+05	1.70E+05		5.3	U	5.5	U	5.2	J	4.7	U	1	J	800		1200		2.6	J	4.6	J	2200		2000	
VOCs	Toluene	ug/kg	8.20E+05	8.20E+05		5.3	U	0.92	J	0.65	J	1.2	J	5.1	U	290	U	330	U	5.3	U	0.68	J	330	U	270	U
VOCs	trans-1,2-Dichloroethene	ug/kg	1.70E+06	1.70E+06		2.7	U	2.7	U	2.9	UJ	2.4	U	2.6	U	150	U	170	U	2.7	U	3.7	U	160	U	130	U
VOCs	trans-1,3-Dichloropropene	ug/kg	2.30E+05	5.20E+05		5.3	U	5.5	U	5.9	UJ	4.7	U	5.1	U	290	U	330	U	5.3	U	7.4	U	330	U	270	U
VOCs	Trichloroethene	ug/kg	5.10E+04	1.70E+04		5.3	U	5.5	U	5.9	UJ	4.7	U	5.1	U	36	J	56	J	5.3	U	3.5	J	2600		210	J
VOCs	Trichlorofluoromethane	ug/kg	1.20E+06	1.20E+06		5.3	U	5.5	U	5.9	UJ	4.7	U	5.1	U	290	U	330	U	5.3	U	7.4	U	330	U	270	U
VOCs	Trifluorotrichloroethane	ug/kg				5.3	U	5.5	U	5.9	UJ	4.7	U	5.1	U	290	U	330	U	5.3	U	7.4	U	330	U	270	U
VOCs	Vinyl acetate	ug/kg	2.70E+06	6.20E+05																							
VOCs	Vinyl chloride	ug/kg	5.00E+04	2.80E+05		5.3	U	5.5	U	5.9	UJ	4.7	U	5.1	U	290	U	330	U	5.3	U	7.4	U	330	U	270	U
VOCs	Xylene (Total)	ug/kg	2.60E+05	2.60E+05		11	U	11	U	12	UJ	9.4	U	10	U	580	U	660	U	11	U	2.1	J	650	U	530	U

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Appendix A
Soil Data Comparison to GDCC
C Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units	Ohio VAP C/I GDCSS	Ohio VAP CW GDCSS	Station Name	SB-44-02		SB-44-02		SB-74-03		SB-74-03		SB-74-03		SB-89-03		SB-90-03		SB-91-03	
					FieldSampleID	SB-44-02		SB-44-02		SB-74-03		SB-74-03		SB-74-03		SB-89-03		SB-90-03		SB-91-03	
					Sample Date	4/15/2002		4/15/2002		2/20/2003		2/20/2003		2/20/2003		4/1/2003		4/1/2003		4/1/2003	
					Depth	1 - 3 ft		9 - 11 ft		2 - 4 ft		8 - 10 ft		13 - 15 ft		1 - 3 ft		1 - 3 ft		1 - 3 ft	
Metals	Antimony	mg/kg	1.60E+03	8.50E+02		6	UJ	8.9	UJ	0.83	J	0.57	J	6.4	UJ						
Metals	Arsenic	mg/kg	7.70E+01	6.90E+02		1.6	J	10.7	J	11	J	6.7	J	3.8	J						
Metals	Barium	mg/kg				7.8	J	197	J	152	J	143	J	74.5	J						
Metals	Beryllium	mg/kg	7.80E+03	3.40E+03		0.048	J	1.1	J	0.72	J	0.34	J	0.54	UJ						
Metals	Cadmium	mg/kg	2.60E+03	1.00E+03		0.068	J	0.29	J	1.3	J	1.5	J	0.079	J						
Metals	Chromium Total	mg/kg	2.10E+02	1.20E+03		2.4	J	17.2	J	7.4	J	9.3	J	4.9	J						
Metals	Cobalt	mg/kg				0.95	J	7.7	J	7.4	J	7.1	J	1.4	J						
Metals	Copper	mg/kg	1.60E+05	2.10E+04		4.6	J	45.9	J	158	J	101	J	10.3	J						
Metals	Cyanide (total)	mg/kg	3.70E+02	1.50E+02		0.5	U	0.74	U	4.7	J	2.1	J	0.21	J						
Metals	Lead	mg/kg	8.00E+02	4.00E+02		4.1	J	147	J	121	J	53.1	J	5.6	J						
Metals	Manganese	mg/kg				132		422		47.1	J	261	J	273	J						
Metals	Mercury	mg/kg	3.10E+00	3.10E+00		0.1	R	0.54	J	0.2		0.16		0.11	U						
Metals	Nickel	mg/kg	7.40E+04	2.30E+04		4.6	J	20.1	J	47.5		23.4		4	J						
Metals	Selenium	mg/kg	2.00E+04	1.10E+04		0.5	UJ	0.74	UJ	2.3	J	0.62	U	0.54	U						
Metals	Silver	mg/kg	2.00E+04	1.10E+04		1	U	1.5	U	1.2	U	1.2	U	1.1	U						
Metals	Thallium	mg/kg				1.1	J	1.9	J	1.2	UJ	0.83	J	1.1	UJ						
Metals	Vanadium	mg/kg	2.30E+04	1.10E+04		13.3	J	26.8	J	12.5	J	12.5	J	6	J						
Metals	Zinc	mg/kg	1.00E+06	6.40E+05		11.3	J	121	J	252	J	372	J	17.1	J						
Miscellaneous	Percent moisture	%																			
Miscellaneous	Total Solids	%				99.5		67.7		81.8		80.9		93.2		80.3		87.5		81.6	
Other	Acetonitrile	mg/kg	9.20E+03	2.60E+04																	
PCBs/Pesticides	Aroclor-1016	mg/kg	1.00E+02	2.60E+02		0.033	U	0.049	U												
PCBs/Pesticides	Aroclor-1221	mg/kg	1.40E+01	2.10E+02		0.033	U	0.049	U												
PCBs/Pesticides	Aroclor-1232	mg/kg	1.40E+01	7.30E+01		0.033	U	0.049	U												
PCBs/Pesticides	Aroclor-1242	mg/kg	2.00E+01	4.40E+02		0.033	U	0.049	U												
PCBs/Pesticides	Aroclor-1248	mg/kg	2.00E+01	4.40E+02		0.033	U	0.049	U												
PCBs/Pesticides	Aroclor-1254	mg/kg	2.00E+01	7.50E+01		0.033	U	0.049	U												
PCBs/Pesticides	Aroclor-1260	mg/kg	2.00E+01	4.40E+02		0.033	U	0.049	U												
SVOCs	2,2-oxybis(2-Chloropropane), SVOC	ug/kg				2200	U	490	U	810	U	10000	U	350	U	1600	U	380	U	1300	U
SVOCs	2,4,5-Trichlorophenol	ug/kg	1.80E+08	1.00E+09		2200	U	490	U	810	U	10000	U	350	U	1600	U	380	U	1300	U
SVOCs	2,4,6-Trichlorophenol	ug/kg	1.80E+06	1.40E+06		2200	U	490	U	810	U	10000	U	350	U	1600	U	380	U	1300	U
SVOCs	2,4-Dichlorophenol	ug/kg	5.30E+06	2.80E+07		2200	U	490	U	810	U	10000	U	350	U	1600	U	380	U	1300	U
SVOCs	2,4-Dimethylphenol	ug/kg	3.50E+07	8.50E+07		2200	U	490	U	810	U	10000	U	350	U	1600	U	380	U	1300	U
SVOCs	2,4-Dinitrophenol	ug/kg	3.50E+06	2.80E+07		11000	U	2400	U	3900	U	49000	U	1700	U	8000	U	1800	U	6500	U
SVOCs	2,4-Dinitrotoluene	ug/kg	1.60E+05	2.80E+06		2200	U	490	U	810	U	10000	U	350	U	1600	U	380	U	1300	U
SVOCs	2,6-Dinitrotoluene	ug/kg	3.30E+04	6.70E+05		2200	U	490	U	810	U	10000	U	350	U	1600	U	380	U	1300	U
SVOCs	2-Chloronaphthalene	ug/kg	3.30E+08	1.00E+09		2200	U	490	U	810	U	10000	U	350	U	1600	U	380	U	1300	U
SVOCs	2-Chlorophenol	ug/kg	2.00E+07	2.20E+07		2200	U	490	U	810	U	10000	U	350	U	1600	U	380	U	1300	U
SVOCs	2-Methylnaphthalene	ug/kg	6.00E+06	5.20E+06		680	J	490	U	2100		10000	U	45	J	1600	U	100	J	1300	U
SVOCs	2-Methylphenol	ug/kg	8.80E+07	7.10E+08		2200	U	490	U	810	U	10000	U	350	U	1600	U	380	U	1300	U
SVOCs	2-Nitroaniline	ug/kg				11000	U	2400	U	3900	U	49000	U	1700	U	8000	U	1800	U	6500	U
SVOCs	2-Nitrophenol	ug/kg				2200	U	490	U	810	U	10000	U	350	U	1600	U	380	U	1300	U
SVOCs	3,3-Dichlorobenzidine	ug/kg	1.10E+05	2.20E+06		11000	U	2400	U	3900	U	49000	U	1700	U	8000	U	1800	U	6500	U
SVOCs	3-Nitroaniline	ug/kg				11000	U	2400	U	3900	U	49000	U	1700	U	8000	U	1800	U	6500	U
SVOCs	4,6-Dinitro-2-methylphenol	ug/kg				11000	U	2400	U	3900	U	49000	U	1700	U	8000	U	1800	U	6500	U
SVOCs	4-Bromophenyl phenyl ether	ug/kg				2200	U	490	U	810	U	10000	U	350	U	1600	U	380	U	1300	U
SVOCs	4-Chloro-3-methylphenol	ug/kg				2200	U	490	U	810	U	10000	U	350	U	1600	U	380	U	1300	U
SVOCs	4-Chloroaniline	ug/kg	2.50E+05	7.10E+05		2200	U	490	U	810	U	10000	U	350	U	1600	U	380	U	1300	U
SVOCs	4-Chlorophenyl phenyl ether	ug/kg				2200	U	490	U	810	U	10000	U	350	U	1600	U	380	U	1300	U
SVOCs	4-Methylphenol	ug/kg	1.80E+08	2.80E+07		2200	U	490	U	810	U	10000	U	350	U	1600	U	380	U	1300	U
SVOCs	4-Nitroaniline	ug/kg	2.50E+06	1.40E+07		11000	U	2400	U	3900	U	49000	U	1700	U	8000	U	1800	U	6500	U
SVOCs	4-Nitrophenol	ug/kg				11000	U	2400	U	3900	U	49000	U	1700	U	8000	U	1800	U	6500	U
SVOCs	Acenaphthene	ug/kg	9.00E+07	7.80E+08		930	J	490	U	810	U	10000	U	17	J	1600	U	30	J	85	J
SVOCs	Acenaphthylene	ug/kg				2200	U	490	U	810	U	610	J	350	U	1600	U	380	U	1300	U
SVOCs	Acetophenone	ug/kg	2.50E+06	2.50E+06		2200	U	490	U	110	J	10000	U	350	U	1600	U	380	U	1300	U
SVOCs	Anthracene	ug/kg	4.50E+08	1.00E+09		1400	J	490	U	810	U	1500	J	31	J	410	J	92	J	260	J
SVOCs	Atrazine	ug/kg				2200	U	490	U	810	U	10000	U	350	U	1600	U	380	U	1300	U
SVOCs	Benzaldehyde	ug/kg				2200	U	490	U	180	J	10000	U	350	U	1600	U	380	U	1300	U
SVOCs	Benzo(a)anthracene	ug/kg	5.80E+04	1.20E+06		6800		490	U	250	J	10000		150	J	1300	J	300	J	1500	
SVOCs	Benzo(a)pyrene	ug/kg	5.80E+03	1.20E+05		5700		490	U	190	J	8400	J	130	J	1400	J	280	J	1700	
SVOCs	Benzo(b)fluoranthene	ug/kg	5.80E+04	1.20E+06		9500		490	U	240	J	10000	J	170	J	1600		280	J	1700	
SVOCs	Benzo(g,h,i)perylene	ug/kg				2600		490	U	79	J	4700	J	65	J	970	J	160	J	1000	J
SVOCs	Benzo(k)fluoranthene	ug/kg	5.80E+05	1.20E+07		4000		490	U	110	J	6700	J	130	J	990	J	170	J	1400	
SVOCs	Biphenyl	ug/kg	1.40E+07	1.90E+08		2200	U	490	U	130	J	10000	U	350	U	1600	U	61	J	1300	U

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Appendix A
Soil Data Comparison to GDCC
C Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units	Ohio VAP C/I GDCSS	Ohio VAP CW GDCSS	Station Name	SB-44-02		SB-44-02		SB-74-03		SB-74-03		SB-74-03		SB-89-03		SB-90-03		SB-91-03	
					FieldSampleID	SB-44-02		SB-44-02		SB-74-03		SB-74-03		SB-74-03		SB-89-03		SB-90-03		SB-91-03	
					Sample Date	4/15/2002		4/15/2002		2/20/2003		2/20/2003		2/20/2003		4/1/2003		4/1/2003		4/1/2003	
					Depth	1 - 3 ft		9 - 11 ft		2 - 4 ft		8 - 10 ft		13 - 15 ft		1 - 3 ft		1 - 3 ft		1 - 3 ft	
SVOCs	bis(2-Chloroethoxy)methane	ug/kg	5.30E+06	4.30E+07		2200	U	490	U	810	U	10000	U	350	U	1600	U	380	U	1300	U
SVOCs	bis(2-Chloroethyl)ether	ug/kg	3.00E+04	2.90E+05		2200	U	490	U	810	U	10000	U	350	U	1600	U	380	U	1300	U
SVOCs	bis(2-Ethylhexyl)phthalate	ug/kg	3.50E+06	7.10E+07		2200	U	490	U	810	U	3000	J	32	J	1600	U	380	U	1300	U
SVOCs	Butyl benzylphthalate	ug/kg	2.60E+07	5.20E+08		2200	U	490	U	810	U	10000	U	350	U	1600	U	380	U	1300	U
SVOCs	Caprolactam	ug/kg				2200	U	490	U	810	U	10000	U	350	U	1600	U	380	U	1300	U
SVOCs	Carbazole	ug/kg				1700	J	490	U	220	J	5300	J	86	J	1600	U	33	J	110	J
SVOCs	Chrysene	ug/kg	5.80E+06	1.20E+08		8000		490	U	480	J	11000		170	J	1400	J	310	J	1700	
SVOCs	Dibenz(a,h)anthracene	ug/kg	5.80E+03	1.20E+08		710	J	490	U	810	U	1000	J	350	U	230	J	38	J	270	J
SVOCs	Dibenzofuran	ug/kg				1600	J	490	U	500	J	10000	U	22	J	1600	U	40	J	1300	U
SVOCs	Diethyl phthalate	ug/kg	1.00E+09	1.00E+09		2200	U	490	U	810	U	10000	U	350	U	1600	U	380	U	1300	U
SVOCs	Dimethyl phthalate	ug/kg				2200	U	490	U	810	U	10000	U	350	U	1600	U	380	U	1300	U
SVOCs	Di-n-butylphthalate	ug/kg	1.80E+08	4.30E+08		2200	U	490	U	810	U	10000	U	350	U	1600	U	380	U	1300	U
SVOCs	Di-N-Octyl phthalate	ug/kg				2200	U	490	U	810	U	10000	UJ	350	U	1600	U	380	U	1300	U
SVOCs	Fluoranthene	ug/kg	6.00E+07	1.60E+08		18000		490	U	270	J	27000		340	J	3700		670		3100	
SVOCs	Fluorene	ug/kg	6.00E+07	5.20E+08		370	J	490	U	810	U	10000	U	350	U	310	J	82	J	270	J
SVOCs	Hexachlorobenzene	ug/kg	3.10E+04	1.40E+04		2200	U	490	U	810	U	10000	U	350	U	1600	U	380	U	1300	U
SVOCs	Hexachlorobutadiene, SVOC	ug/kg	6.30E+05	1.40E+06		2200	U	490	U	810	U	10000	U	350	U	1600	U	380	U	1300	U
SVOCs	Hexachlorocyclopentadiene	ug/kg	1.10E+07	2.60E+07		11000	U	2400	U	3900	U	49000	U	1700	U	8000	U	1800	U	6500	U
SVOCs	Hexachloroethane	ug/kg	1.20E+06	3.00E+06		2200	U	490	U	810	U	10000	U	350	U	1600	U	380	U	1300	U
SVOCs	Indeno(1,2,3-cd)pyrene	ug/kg	5.80E+04	1.20E+06		2700		490	U	50	J	4100	J	54	J	760	J	140	J	840	J
SVOCs	Isophorone	ug/kg	5.20E+07	1.00E+09		2200	U	490	U	810	U	10000	U	350	U	1600	U	380	U	1300	U
SVOCs	Naphthalene, SVOC	ug/kg	4.50E+05	5.60E+05		2200	U	490	U	1100		10000	U	26	J	1600	U	59	J	1300	U
SVOCs	Nitrobenzene	ug/kg	6.10E+05	3.00E+06		2200	U	490	U	810	U	10000	U	350	U	1600	U	380	U	1300	U
SVOCs	N-Nitrosodi-n-propylamine	ug/kg	7.00E+03	1.40E+05		2200	U	490	U	810	U	10000	U	350	U	1600	U	380	U	1300	U
SVOCs	N-Nitrosodiphenylamine	ug/kg	1.00E+07	2.00E+08		2200	U	490	U	810	U	10000	U	350	U	1600	U	380	U	1300	U
SVOCs	Pentachlorophenol	ug/kg	6.70E+04	9.50E+05		2200	U	490	U	810	U	10000	U	350	U	1600	U	380	U	1300	U
SVOCs	Phenanthrene	ug/kg				11000		490	U	2000		4000	J	300	J	1600		460		1300	
SVOCs	Phenol	ug/kg	5.30E+08	8.40E+08		2200	U	490	U	810	U	10000	U	350	U	1600	U	380	U	1300	U
SVOCs	Pyrene, SVOC	ug/kg	4.50E+07	3.90E+08		19000		490	U	430	J	25000		360		3200		630		3200	
TPH	GRO (C6-C12)	ug/kg	1.00E+06	1.00E+06																	
TPH	TPH C10-C20	ug/kg	2.00E+06	2.00E+06																	
TPH	TPH C20-C34	ug/kg	5.00E+06	5.00E+06																	
VOCs	1,1,1,2-Tetrachloroethane	ug/kg	2.40E+05	6.80E+05																	
VOCs	1,1,1-Trichloroethane	ug/kg	6.40E+05	6.40E+05		5.6	U	7.2	U	2700	U	1800	U	4.3	U						
VOCs	1,1,2,2-Tetrachloroethane	ug/kg	7.50E+04	6.70E+05		5.6	U	7.2	U	2700	U	1800	U	4.3	U						
VOCs	1,1,2-Trichloroethane	ug/kg	1.40E+05	1.20E+06		5.6	U	7.2	U	2700	U	1800	U	4.3	U						
VOCs	1,1-Dichloroethane	ug/kg	4.20E+05	1.70E+06		5.6	U	7.2	U	2700	U	1800	U	4.3	U						
VOCs	1,1-Dichloroethene	ug/kg	1.20E+06	3.60E+05		5.6	U	7.2	U	2700	U	1800	U	4.3	U						
VOCs	1,1-Dichloropropene	ug/kg																			
VOCs	1,2,4-Trichlorobenzene, VOC	ug/kg	4.00E+05	4.00E+05		5.6	U	7.2	U	2700	U	1800	U	4.3	U						
VOCs	1,2-Dibromo-3-chloropropane	ug/kg	1.70E+03	1.50E+04		11	UJ	14	UJ	5400	U	3500	U	8.7	U						
VOCs	1,2-Dibromoethane	ug/kg	4.40E+03	3.80E+04		5.6	U	7.2	U	2700	U	1800	U	4.3	U						
VOCs	1,2-Dichlorobenzene, VOC	ug/kg	3.80E+05	3.80E+05		5.6	U	7.2	U	2700	U	1800	U	4.3	U						
VOCs	1,2-Dichloroethane	ug/kg	5.60E+04	4.80E+05		5.6	U	7.2	U	2700	U	1800	U	4.3	U						
VOCs	1,2-Dichloropropane	ug/kg	1.20E+05	1.80E+05		5.6	U	7.2	U	2700	U	1800	U	4.3	U						
VOCs	1,3-Dichlorobenzene, VOC	ug/kg				5.6	U	7.2	U	2700	U	1800	U	4.3	U						
VOCs	1,3-Dichloropropane	ug/kg	1.50E+06	1.50E+06																	
VOCs	1,4-Dichlorobenzene, VOC	ug/kg	3.10E+05	2.60E+06		5.6	U	7.2	U	2700	U	1800	U	4.3	U						
VOCs	2,2-Dichloropropane	ug/kg																			
VOCs	2-Butanone	ug/kg	2.80E+07	2.80E+07		23	U	29	U	11000	U	7000	U	17	U						
VOCs	2-Chloroethyl vinyl ether	ug/kg																			
VOCs	2-Chlorotoluene	ug/kg																			
VOCs	2-Hexanone	ug/kg				23	U	29	U	11000	U	7000	U	17	U						
VOCs	4-Chlorotoluene	ug/kg																			
VOCs	4-Methyl-2-Pentanone	ug/kg	3.40E+06	3.40E+06		2.6	J	29	U	11000	U	7000	U	17	U						
VOCs	Acetone	ug/kg	1.10E+08	1.10E+08		23	UJ	29	UJ	11000	U	7000	U	17	U						
VOCs	Acrolein	ug/kg																			
VOCs	Acrylonitrile	ug/kg																			
VOCs	Allyl chloride	ug/kg	1.90E+04	6.40E+04																	
VOCs	Benzene	ug/kg	1.40E+05	1.20E+06		5.6	U	7.2	U	2700	U	1800	U	4.3	U						
VOCs	Bromobenzene	ug/kg																			
VOCs	Bromochloromethane	ug/kg																			
VOCs	Bromodichloromethane	ug/kg	3.50E+04	3.00E+05		5.6	U	7.2	U	2700	U	1800	U	4.3	U						
VOCs	Bromoform	ug/kg	6.20E+06	1.30E+08		5.6	UJ	7.2	UJ	2700	U	1800	U	4.3	UJ						

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Appendix A
Soil Data Comparison to GDCC
C Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units	Ohio VAP C/I GDCSS	Ohio VAP CW GDCSS	Station Name	SB-44-02		SB-44-02		SB-74-03		SB-74-03		SB-74-03		SB-89-03		SB-90-03		SB-91-03	
					FieldSampleID	SB-44-02		SB-44-02		SB-74-03		SB-74-03		SB-74-03		SB-89-03		SB-90-03		SB-91-03	
					Sample Date	4/15/2002		4/15/2002		2/20/2003		2/20/2003		2/20/2003		4/1/2003		4/1/2003		4/1/2003	
					Depth	1 - 3 ft		9 - 11 ft		2 - 4 ft		8 - 10 ft		13 - 15 ft		1 - 3 ft		1 - 3 ft		1 - 3 ft	
VOCs	Bromomethane	ug/kg	8.20E+04	5.50E+05		5.6	UJ	7.2	UJ	2700	R	1800	R	4.3	UJ						
VOCs	Carbon disulfide	ug/kg	7.40E+05	7.40E+05		5.6	U	7.2	U	2700	U	1800	U	4.3	U						
VOCs	Carbon tetrachloride	ug/kg	7.90E+04	4.60E+05		5.6	UJ	7.2	UJ	2700	U	1800	U	4.3	UJ						
VOCs	Chlorobenzene	ug/kg	7.60E+05	7.60E+05		5.6	U	7.2	U	2700	U	1800	U	4.3	U						
VOCs	Chloroethane	ug/kg				5.6	U	7.2	U	2700	U	1800	U	4.3	U						
VOCs	Chloroform	ug/kg	3.80E+04	3.20E+05		5.6	U	7.2	U	2700	U	1800	U	4.3	U						
VOCs	Chloromethane	ug/kg	1.30E+06	1.30E+06		5.6	U	7.2	U	2700	U	1800	U	4.3	U						
VOCs	cis-1,2-Dichloroethene	ug/kg				2.8	U	3.6	U	6400		3900		2.2	U						
VOCs	cis-1,3-Dichloropropene	ug/kg	2.30E+05	5.20E+05		5.6	U	7.2	U	2700	U	1800	U	4.3	U						
VOCs	Cyclohexane	ug/kg	1.20E+05	1.20E+05		11	U	14	U	1500	J	790	J	8.7	U						
VOCs	Dibromochloromethane	ug/kg	8.40E+04	7.70E+05		5.6	U	7.2	U	2700	U	1800	U	4.3	U						
VOCs	Dibromomethane	ug/kg	2.80E+06	3.80E+04																	
VOCs	Dichlorodifluoromethane	ug/kg	8.50E+05	8.50E+05		5.6	U	7.2	U	300	J	180	J	4.3	UJ						
VOCs	Ethylbenzene	ug/kg	4.80E+05	4.80E+05		5.6	U	7.2	U	2700	U	1800	U	4.3	U						
VOCs	Iodomethane	ug/kg																			
VOCs	Isopropylbenzene, VOC	ug/kg	2.70E+05	2.70E+05		5.6	U	7.2	U	2700	U	1800	U	4.3	U						
VOCs	m&p-Xylene	ug/kg	2.60E+05	2.60E+05																	
VOCs	Methyl acetate	ug/kg				11	U	14	U	5400	U	810	J	8.7	U						
VOCs	Methyl cyclohexane	ug/kg				1.1	J	14	U	3800	J	2000	J	8.7	U						
VOCs	Methyl tert butyl ether	ug/kg	5.70E+06	8.90E+06		23	U	29	U	11000	U	7000	U	17	U						
VOCs	Methylene chloride	ug/kg	3.30E+06	3.30E+06		5.6	U	7.2	U	2700	U	1800	U	4.3	U						
VOCs	n-Hexane	ug/kg	1.40E+05	1.40E+05																	
VOCs	o-Xylene	ug/kg	2.60E+05	2.60E+05																	
VOCs	Styrene	ug/kg	8.70E+05	8.70E+05		5.6	U	7.2	U	2700	U	1800	U	4.3	U						
VOCs	Tetrachloroethene	ug/kg	1.70E+05	1.70E+05		1.6	J	2.5	J	21000		10000		26							
VOCs	Toluene	ug/kg	8.20E+05	8.20E+05		2.7	J	7.2	U	680	J	300	J	0.83	J						
VOCs	trans-1,2-Dichloroethene	ug/kg	1.70E+06	1.70E+06		2.8	U	3.6	U	1300	U	880	U	2.2	U						
VOCs	trans-1,3-Dichloropropene	ug/kg	2.30E+05	5.20E+05		5.6	U	7.2	U	2700	U	1800	U	4.3	U						
VOCs	Trichloroethene	ug/kg	5.10E+04	1.70E+04		5.6	U	7.2	U	**81000**		**53000**	J	9.2							
VOCs	Trichlorofluoromethane	ug/kg	1.20E+06	1.20E+06		5.6	U	7.2	U	2700	U	1800	U	4.3	UJ						
VOCs	Trifluorotrichloroethane	ug/kg				5.6	U	7.2	U	2700	U	1800	U	4.3	U						
VOCs	Vinyl acetate	ug/kg	2.70E+06	6.20E+05																	
VOCs	Vinyl chloride	ug/kg	5.00E+04	2.80E+05		5.6	U	7.2	U	2700	U	1800	U	4.3	U						
VOCs	Xylene (Total)	ug/kg	2.60E+05	2.60E+05		11	U	14	U	1600	J	950	J	8.7	U						

Notes:
Chromium GDCSS based upon the Chromium IV GDCSS
no criteria available
concentration exceeds criteria, and chemical with exceedances
% = percent
ft = feet
mg/kg = milligram per kilogram
ug/kg = microgram per kilogram
GRO = Gasoline Range Organics
J = estimated value
PCB = polychlorinated biphenyl
R = rejected data
TPH = Total petroleum hydrocarbons
U = not detected above detection limit
VOC = Volatile Organic Compounds
SVOC = Semi-Volatile Organic Compounds

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Appendix A
Soil Data Comparison to GDCC
CTA Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units	Ohio VAP C/I GDCSS	Ohio VAP CW GDCSS	Station Name	B01		B01		B01		B01		B02		B02		B02		B02	
					FieldSampleID	B01-0-05		B01-0-05		B01-0-10		B01-0-10		B02-1-05		B02-0-05		B02-1-05		B02-0-05	
					Sample Date	5/19/2006		5/19/2006		5/19/2006		5/19/2006		5/19/2006		5/19/2006		5/19/2006		5/19/2006	
					Depth	0.5 - 1.5 ft		0.5 - 5 ft		5 - 6 ft		5 - 10 ft		0.5 - 5 ft		0.5 - 5 ft		3 - 4 ft		3 - 4 ft	
Metals	Antimony	mg/kg	1.60E+03	8.50E+02				0.96	U			1	U	0.97	U	0.99	U				
Metals	Arsenic	mg/kg	7.70E+01	6.90E+02				4.8				4		8.9		8.5					
Metals	Barium	mg/kg						115				122		165		172					
Metals	Beryllium	mg/kg	7.80E+03	3.40E+03				1.6	U			1.6	U	1.6	U	1.6	U				
Metals	Cadmium	mg/kg	2.60E+03	1.00E+03				3.3	U			3.2	U	3.1	U	3.2	U				
Metals	Chromium Total	mg/kg	2.10E+02	1.20E+03				6.5	U			6.4	U	8.35		8.3					
Metals	Copper	mg/kg	1.60E+05	2.10E+04				22.2				9.4		34.2		27.2					
Metals	Lead	mg/kg	8.00E+02	4.00E+02				87.8				47.9		60.1		63.9					
Metals	Mercury	mg/kg	3.10E+00	3.10E+00				0.135				0.026		0.294		0.639					
Metals	Nickel	mg/kg	7.40E+04	2.30E+04				7.08				5.18		20.8		15.2					
Metals	Selenium	mg/kg	2.00E+04	1.10E+04				6.5	U			6.4	U	6.3	U	6.5	U				
Metals	Silver	mg/kg	2.00E+04	1.10E+04				0.5	U			0.5	U	0.5	U	0.5	U				
Metals	Thallium	mg/kg						0.96	U			1	U	0.97	U	0.99	U				
Metals	Zinc	mg/kg	1.00E+06	6.40E+05				51.1				26.2		218		208					
Miscellaneous	Dry weight	%				88.2				87								78.1		77.8	
PCBs/Pesticides	Aroclor-1016	mg/kg	1.00E+02	2.60E+02				0.00025	U			0.00025	U	0.00025	U	0.00025	U				
PCBs/Pesticides	Aroclor-1221	mg/kg	1.40E+01	2.10E+02				0.00025	U			0.00025	U	0.00025	U	0.00025	U				
PCBs/Pesticides	Aroclor-1232	mg/kg	1.40E+01	7.30E+01				0.00025	U			0.00025	U	0.00025	U	0.00025	U				
PCBs/Pesticides	Aroclor-1242	mg/kg	2.00E+01	4.40E+02				0.00025	U			0.00025	U	0.00025	U	0.00025	U				
PCBs/Pesticides	Aroclor-1248	mg/kg	2.00E+01	4.40E+02				0.00025	U			0.00025	U	0.00025	U	0.00025	U				
PCBs/Pesticides	Aroclor-1254	mg/kg	2.00E+01	7.50E+01				0.25	U			0.25	U	0.25	U	0.25	U				
PCBs/Pesticides	Aroclor-1260	mg/kg	2.00E+01	4.40E+02				0.00025	U			0.00025	U	0.00025	U	0.00025	U				
SVOCs	1,2,4,5-Tetrachlorobenzene	ug/kg	5.30E+05	4.30E+06																	
SVOCs	1,2,4-Trichlorobenzene, SVOC	ug/kg	4.00E+05	4.00E+05				330	U			330	U	330	U	330	U				
SVOCs	1,2-Dichlorobenzene, SVOC	ug/kg	3.80E+05	3.80E+05				330	U			330	U	330	U	330	U				
SVOCs	1,2-Diphenylhydrazine	ug/kg	6.20E+04	1.20E+06																	
SVOCs	1,3-Dichlorobenzene, SVOC	ug/kg						330	U			330	U	330	U	330	U				
SVOCs	1,4-Dichlorobenzene, SVOC	ug/kg	3.10E+05	2.60E+06				330	U			330	U	330	U	330	U				
SVOCs	1-Naphthylamine	ug/kg																			
SVOCs	2,2-oxybis(2-Chloropropane), SVOC	ug/kg																			
SVOCs	2,3,4,6-Tetrachlorophenol	ug/kg	5.30E+07	4.30E+08																	
SVOCs	2,4,5-Trichlorophenol	ug/kg	1.80E+08	1.00E+09				330	U			330	U	330	U	330	U				
SVOCs	2,4,6-Trichlorophenol	ug/kg	1.80E+06	1.40E+06				330	U			330	U	330	U	330	U				
SVOCs	2,4-Dichlorophenol	ug/kg	5.30E+06	2.80E+07				330	U			330	U	330	U	330	U				
SVOCs	2,4-Dimethylphenol	ug/kg	3.50E+07	8.50E+07				330	U			330	U	330	U	330	U				
SVOCs	2,4-Dinitrophenol	ug/kg	3.50E+06	2.80E+07																	
SVOCs	2,4-Dinitrotoluene	ug/kg	1.60E+05	2.80E+06				330	U			330	U	330	U	330	U				
SVOCs	2,6-Dichlorophenol	ug/kg																			
SVOCs	2,6-Dinitrotoluene	ug/kg	3.30E+04	6.70E+05				330	U			330	U	330	U	330	U				
SVOCs	2-Chloronaphthalene	ug/kg	3.30E+08	1.00E+09				330	U			330	U	330	U	330	U				
SVOCs	2-Chlorophenol	ug/kg	2.00E+07	2.20E+07				330	U			330	U	330	U	330	U				
SVOCs	2-Methyl-4,6-dinitrophenol	ug/kg						330	U			330	U	330	U	330	U				
SVOCs	2-Methylnaphthalene	ug/kg	6.00E+06	5.20E+06																	
SVOCs	2-Methylphenol	ug/kg	8.80E+07	7.10E+08				330	U			330	U	330	U	330	U				
SVOCs	2-Naphthylamine	ug/kg	2.70E+04	5.50E+05																	
SVOCs	2-Nitroaniline	ug/kg																			
SVOCs	2-Nitrophenol	ug/kg						330	U			330	U	330	U	330	U				
SVOCs	2-Picoline	ug/kg																			
SVOCs	2-Toluidine	ug/kg	1.60E+06	3.30E+07																	
SVOCs	3&4-Methylphenol	ug/kg						330	U			330	U	330	U	330	U				
SVOCs	3,3-Dichlorobenzidine	ug/kg	1.10E+05	2.20E+06																	
SVOCs	3-Methylcholanthrene	ug/kg	2200	45000																	
SVOCs	3-Nitroaniline	ug/kg																			

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Appendix A
Soil Data Comparison to GDCC
CTA Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units	Ohio VAP C/I GDCSS	Ohio VAP CW GDCSS	Station Name	B01		B01		B01		B01		B02		B02		B02		B02	
					FieldSampleID	B01-0-05		B01-0-05		B01-0-10		B01-0-10		B02-1-05		B02-0-05		B02-1-05		B02-0-05	
					Sample Date	5/19/2006		5/19/2006		5/19/2006		5/19/2006		5/19/2006		5/19/2006		5/19/2006		5/19/2006	
					Depth	0.5 - 1.5 ft		0.5 - 5 ft		5 - 6 ft		5 - 10 ft		0.5 - 5 ft		0.5 - 5 ft		3 - 4 ft		3 - 4 ft	
SVOCs	4,6-Dinitro-2-methylphenol	ug/kg																			
SVOCs	4-Aminobiphenyl	ug/kg	2300	47000																	
SVOCs	4-Bromophenyl phenyl ether	ug/kg						330	U			330	U	330	U	330	U				
SVOCs	4-Chloro-3-methylphenol	ug/kg						330	U			330	U	330	U	330	U				
SVOCs	4-Chloroaniline	ug/kg	2.50E+05	7.10E+05				330	U			330	U	330	U	330	U				
SVOCs	4-Chlorophenyl phenyl ether	ug/kg																			
SVOCs	4-Dimethylaminoazobenzene	ug/kg	11000	220000																	
SVOCs	4-Nitroaniline	ug/kg	2.50E+06	1.40E+07																	
SVOCs	4-Nitrophenol	ug/kg																			
SVOCs	5-Nitro-2-Toluidine	ug/kg																			
SVOCs	7,12-Dimethylbenz(a)anthracene	ug/kg	170	3600																	
SVOCs	Acenaphthene	ug/kg	9.00E+07	7.80E+08				330	U			330	U	330	U	330	U				
SVOCs	Acenaphthylene	ug/kg						330	U			330	U	330	U	330	U				
SVOCs	Acetophenone	ug/kg	2.50E+06	2.50E+06																	
SVOCs	Aniline	ug/kg	8.70E+06	9.90E+06																	
SVOCs	Anthracene	ug/kg	4.50E+08	1.00E+09				330	U			330	U	330	U	330	U				
SVOCs	Benzidine	ug/kg	210	4300																	
SVOCs	Benzo(a)anthracene	ug/kg	5.80E+04	1.20E+06				403				330	U	330	U	619					
SVOCs	Benzo(a)pyrene	ug/kg	5.80E+03	1.20E+05				391				191		234		665					
SVOCs	Benzo(b)fluoranthene	ug/kg	5.80E+04	1.20E+06				627				344		384		1190					
SVOCs	Benzo(g,h,i)perylene	ug/kg						330	U			330	U	330	U	330	U				
SVOCs	Benzo(k)fluoranthene	ug/kg	5.80E+05	1.20E+07				330	U			330	U	330	U	373					
SVOCs	Benzoic acid	ug/kg	1.00E+09	1.00E+09				1650	U			1650	U	1650	U	1650	U				
SVOCs	Benzyl alcohol	ug/kg						330	U			330	U	330	U	330	U				
SVOCs	Benzyl butyl phthalate	ug/kg	2.60E+07	5.20E+08				330	U			330	U	330	U	330	U				
SVOCs	bis(2-Chloroethoxy)methane	ug/kg	5.30E+06	4.30E+07				330	U			330	U	330	U	330	U				
SVOCs	bis(2-Chloroethyl)ether	ug/kg	3.00E+04	2.90E+05				330	U			330	U	330	U	330	U				
SVOCs	bis(2-chloroisopropyl)ether	ug/kg						330	U			330	U	330	U	330	U				
SVOCs	bis(2-Ethylhexyl)phthalate	ug/kg	3.50E+06	7.10E+07				330	U			330	U	330	U	330	U				
SVOCs	Butyl benzylphthalate	ug/kg	2.60E+07	5.20E+08																	
SVOCs	Chrysene	ug/kg	5.80E+06	1.20E+08				394				330	U	330	U	604					
SVOCs	Dibenz(a,h)anthracene	ug/kg	5.80E+03	1.20E+08				165	U			165	U	165	U	165	U				
SVOCs	Dibenzofuran	ug/kg						330	U			330	U	330	U	330	U				
SVOCs	Diethyl phthalate	ug/kg	1.00E+09	1.00E+09				330	U			330	U	330	U	330	U				
SVOCs	Dimethyl phthalate	ug/kg						330	U			330	U	330	U	330	U				
SVOCs	Di-n-butylphthalate	ug/kg	1.80E+08	4.30E+08																	
SVOCs	Di-N-Octyl phthalate	ug/kg						330	U			330	U	330	U	330	U				
SVOCs	Ethyl methanesulfonate	ug/kg																			
SVOCs	Fluoranthene	ug/kg	6.00E+07	1.60E+08				782				485		523		1330					
SVOCs	Fluorene	ug/kg	6.00E+07	5.20E+08				330	U			330	U	330	U	330	U				
SVOCs	Hexachlorobenzene	ug/kg	3.10E+04	1.40E+04				330	U			330	U	330	U	330	U				
SVOCs	Hexachlorobutadiene	ug/kg	6.30E+05	1.40E+06		5	U			5	U							5	U	5	U
SVOCs	Hexachlorobutadiene, SVOC	ug/kg	6.30E+05	1.40E+06																	
SVOCs	Hexachlorocyclopentadiene	ug/kg	1.10E+07	2.60E+07				660	U			660	U	660	U	660	U				
SVOCs	Hexachloroethane	ug/kg	1.20E+06	3.00E+06				330	U			330	U	330	U	330	U				
SVOCs	Indeno(1,2,3-cd)pyrene	ug/kg	5.80E+04	1.20E+06				330	U			330	U	330	U	330	U				
SVOCs	Isophorone	ug/kg	5.20E+07	1.00E+09				330	U			330	U	330	U	330	U				
SVOCs	Methyl methanesulfonate	ug/kg																			
SVOCs	Naphthalene, SVOC	ug/kg	4.50E+05	5.60E+05				330	U			330	U	330	U	330	U				
SVOCs	Nitrobenzene	ug/kg	6.10E+05	3.00E+06				330	U			330	U	330	U	330	U				
SVOCs	N-Nitrosodimethylamine	ug/kg	1.00E+03	1.10E+04																	
SVOCs	N-Nitrosodi-N-butylamine	ug/kg	1.40E+04	1.50E+05																	
SVOCs	N-Nitrosodi-n-propylamine	ug/kg	7.00E+03	1.40E+05				38.1	U			38.1	U	38.1	U	38.1	U				

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Appendix A
Soil Data Comparison to GDCC
CTA Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units	Ohio VAP C/I GDCSS	Ohio VAP CW GDCSS	Station Name	B01		B01		B01		B01		B02		B02		B02		B02	
					FieldSampleID	B01-0-05		B01-0-05		B01-0-10		B01-0-10		B02-1-05		B02-0-05		B02-1-05		B02-0-05	
					Sample Date	5/19/2006		5/19/2006		5/19/2006		5/19/2006		5/19/2006		5/19/2006		5/19/2006		5/19/2006	
					Depth	0.5 - 1.5 ft		0.5 - 5 ft		5 - 6 ft		5 - 10 ft		0.5 - 5 ft		0.5 - 5 ft		3 - 4 ft		3 - 4 ft	
SVOCs	N-Nitrosodiphenylamine	ug/kg	1.00E+07	2.00E+08																	
SVOCs	N-Nitrosopiperidine	ug/kg	5.20E+03	1.10E+05																	
SVOCs	Pentachlorobenzene	ug/kg	1.40E+06	1.10E+07																	
SVOCs	Pentachloronitrobenzene	ug/kg	1.90E+05	3.80E+06																	
SVOCs	Pentachlorophenol	ug/kg	6.70E+04	9.50E+05				330	U			330	U	330	U	330	U				
SVOCs	Phenacetin	ug/kg	2.20E+07	4.50E+08																	
SVOCs	Phenanthrene	ug/kg						429				385		330	U	1030					
SVOCs	Phenol	ug/kg	5.30E+08	8.40E+08				330	U			330	U	330	U	330	U				
SVOCs	Pronamide	ug/kg																			
SVOCs	Pyrene, SVOC	ug/kg	4.50E+07	3.90E+08				740				426		570		1690					
SVOCs	Pyridine	ug/kg	4.10E+06	2.10E+07																	
TPH	Total Petroleum Hydrocarbons	ug/kg																			
TPH	TPH C10-C20	ug/kg	2.00E+06	2.00E+06				12800				10000	U	10000	U	10000					
TPH	TPH C20-C34	ug/kg	5.00E+06	5.00E+06				72700				25100		25700		51200					
VOCs	1,1,1,2-Tetrachloroethane	ug/kg	2.40E+05	6.80E+05		5	U			5	U							5	U	5	U
VOCs	1,1,1-Trichloroethane	ug/kg	6.40E+05	6.40E+05		5	U			5	U							5	U	5	U
VOCs	1,1,2,2-Tetrachloroethane	ug/kg	7.50E+04	6.70E+05		5	U			5	U							5	U	5	U
VOCs	1,1,2-Trichloroethane	ug/kg	1.40E+05	1.20E+06		5	U			5	U							5	U	5	U
VOCs	1,1-Dichloroethane	ug/kg	4.20E+05	1.70E+06		5	U			5	U							5	U	5	U
VOCs	1,1-Dichloroethene	ug/kg	1.20E+06	3.60E+05		5	U			5	U							5	U	5	U
VOCs	1,1-Dichloropropene	ug/kg				5	U			5	U							5	U	5	U
VOCs	1,2,3-Trichlorobenzene	ug/kg																			
VOCs	1,2,3-Trichloropropane	ug/kg																			
VOCs	1,2,4-Trichlorobenzene, VOC	ug/kg	4.00E+05	4.00E+05		5	U			5	U							5	U	5	U
VOCs	1,2,4-Trimethylbenzene	ug/kg	2.20E+05	2.20E+05		5	U			5	U							5	U	5	U
VOCs	1,2-Dibromo-3-chloropropane	ug/kg	1.70E+03	1.50E+04																	
VOCs	1,2-Dibromoethane	ug/kg	4.40E+03	3.80E+04																	
VOCs	1,2-Dichlorobenzene, VOC	ug/kg				5	U			5	U							5	U	5	U
VOCs	1,2-Dichloroethane	ug/kg	5.60E+04	4.80E+05		5	U			5	U							5	U	5	U
VOCs	1,2-Dichloropropane	ug/kg	1.20E+05	1.80E+05		5	U			5	U							5	U	5	U
VOCs	1,3,5-Trimethylbenzene	ug/kg				5	U			5	U							5	U	5	U
VOCs	1,3-Dichlorobenzene, VOC	ug/kg				5	U			5	U							5	U	5	U
VOCs	1,3-Dichloropropane	ug/kg	1.50E+06	1.50E+06		5	U			5	U							5	U	5	U
VOCs	1,4-Dichlorobenzene, VOC	ug/kg	3.10E+05	2.60E+06		5	U			5	U							5	U	5	U
VOCs	1,4-Dioxane	ug/kg	4.90E+05	1.00E+07		20	U			20	U							20	U	20	U
VOCs	2,2-Dichloropropane	ug/kg				5	U			5	U							5	U	5	U
VOCs	2-Butanone	ug/kg	2.80E+07	2.80E+07		50	U			50	U							50	U	50	U
VOCs	2-Chlorotoluene	ug/kg				5	U			5	U							5	U	5	U
VOCs	2-Hexanone	ug/kg				50	U			50	U							50	U	50	U
VOCs	2-Phenylbutane	ug/kg																			
VOCs	4-Chlorotoluene	ug/kg				5	U			5	U							5	U	5	U
VOCs	4-Methyl-2-Pentanone	ug/kg	3.40E+06	3.40E+06		50	U			50	U							50	U	50	U
VOCs	Acetone	ug/kg	1.10E+08	1.10E+08		100	U			100	U							100	U	100	U
VOCs	Benzene	ug/kg	1.40E+05	1.20E+06		5	U			10.1								9.4		10.4	
VOCs	Bromobenzene	ug/kg				5	U			5	U							5	U	5	U
VOCs	Bromochloromethane	ug/kg				5	U			5	U							5	U	5	U
VOCs	Bromodichloromethane	ug/kg	3.50E+04	3.00E+05		5	U			5	U							5	U	5	U
VOCs	Bromoform	ug/kg	6.20E+06	1.30E+08		5	U			5	U							5	U	5	U
VOCs	Bromomethane	ug/kg	8.20E+04	5.50E+05		10	U			10	U							10	U	10	U
VOCs	Carbon disulfide	ug/kg	7.40E+05	7.40E+05		5	U			5	U							5	U	5	U
VOCs	Carbon tetrachloride	ug/kg	7.90E+04	4.60E+05		5	U			5	U							5	U	5	U
VOCs	Chlorobenzene	ug/kg	7.60E+05	7.60E+05		5	U			5	U							5	U	5	U
VOCs	Chlorobromomethane	ug/kg																			

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Appendix A
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Former GM Delphi Harrison Thermal Systems Facility
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Analysis	Parameter	Units	Ohio VAP C/I GDCSS	Ohio VAP CW GDCSS	Station Name	B01		B01		B01		B01		B02		B02		B02		B02	
					FieldSampleID	B01-0-05		B01-0-05		B01-0-10		B01-0-10		B02-1-05		B02-0-05		B02-1-05		B02-0-05	
					Sample Date	5/19/2006		5/19/2006		5/19/2006		5/19/2006		5/19/2006		5/19/2006		5/19/2006		5/19/2006	
					Depth	0.5 - 1.5 ft		0.5 - 5 ft		5 - 6 ft		5 - 10 ft		0.5 - 5 ft		0.5 - 5 ft		3 - 4 ft		3 - 4 ft	
VOCs	Chloroethane	ug/kg				10	U			10	U							10	U	10	U
VOCs	Chloroform	ug/kg	3.80E+04	3.20E+05		5	U			5	U							5	U	5	U
VOCs	Chloromethane	ug/kg	1.30E+06	1.30E+06		10	U			10	U							10	U	10	U
VOCs	cis-1,2-Dichloroethene	ug/kg				5	U			5	U							5	U	5	U
VOCs	cis-1,3-Dichloropropene	ug/kg	2.30E+05	5.20E+05		5	U			5	U							5	U	5	U
VOCs	Cymene	ug/kg																			
VOCs	Dibromochloromethane	ug/kg	8.40E+04	7.70E+05		5	U			5	U							5	U	5	U
VOCs	Dibromomethane	ug/kg	2.80E+06	3.80E+04		5	U			5	U							5	U	5	U
VOCs	Dichlorodifluoromethane	ug/kg	8.50E+05	8.50E+05		5	U			5	U							5	U	5	U
VOCs	Ethylbenzene	ug/kg	4.80E+05	4.80E+05		5	U			5	U							5	U	5	U
VOCs	Hexachlorobutadiene, VOC	ug/kg	6.30E+05	1.40E+06																	
VOCs	Isopropylbenzene, VOC	ug/kg	2.70E+05	2.70E+05		5	U			5	U							5	U	5	U
VOCs	m&p-Xylene	ug/kg	2.60E+05	2.60E+05																	
VOCs	Methyl tert butyl ether	ug/kg	5.70E+06	8.90E+06		5	U			5	U							5	U	5	U
VOCs	Methylene chloride	ug/kg	3.30E+06	3.30E+06		10	U			10	U							10	U	10	U
VOCs	Naphthalene, VOC	ug/kg	4.50E+05	5.60E+05																	
VOCs	n-Butylbenzene	ug/kg				5	U			5	U							5	U	5	U
VOCs	n-Hexane	ug/kg	1.40E+05	1.40E+05		20	U			20	U							20	U	20	U
VOCs	n-Propylbenzene	ug/kg				5	U			5	U							5	U	5	U
VOCs	o-Xylene	ug/kg	2.60E+05	2.60E+05																	
VOCs	Pentachloroethane	ug/kg	5.50E+05	1.10E+07																	
VOCs	p-Isopropyltoluene	ug/kg				5	U			5	U							5	U	5	U
VOCs	sec-Butylbenzene	ug/kg				5	U			5	U							5	U	5	U
VOCs	Styrene	ug/kg	8.70E+05	8.70E+05		5	U			5	U							5	U	5	U
VOCs	tert-Butylbenzene	ug/kg				5	U			5	U							5	U	5	U
VOCs	Tetrachloroethene	ug/kg	1.70E+05	1.70E+05		5	U			6.8								5	U	5	U
VOCs	Toluene	ug/kg	8.20E+05	8.20E+05		5	U			8.3								7.5		8.9	
VOCs	trans-1,2-Dichloroethene	ug/kg	1.70E+06	1.70E+06		5	U			5	U							5	U	5	U
VOCs	trans-1,3-Dichloropropene	ug/kg	2.30E+05	5.20E+05		5	U			5	U							5	U	5	U
VOCs	Trichloroethene	ug/kg	5.10E+04	1.70E+04		5	U			5	U							5	U	5	U
VOCs	Trichlorofluoromethane	ug/kg	1.20E+06	1.20E+06		5	U			5	U							5	U	5	U
VOCs	Vinyl acetate	ug/kg	2.70E+06	6.20E+05		5	U			5	U							5	U	5	U
VOCs	Vinyl chloride	ug/kg	5.00E+04	2.80E+05		2	U			2	U							2	U	2	U
VOCs	Xylene (Total)	ug/kg	2.60E+05	2.60E+05		5	U			5	U							5	U	5	U

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Analysis	Parameter	Units	Ohio VAP C/I GDCSS	Ohio VAP CW GDCSS	B02		B02		B03		B03		B03		B03		B04		B04	
					B02-0-10		B02-0-10		B03-0-05		B03-0-05		B03-0-10		B03-0-10		B04-0-05		B04-0-05	
					5/19/2006		5/19/2006		5/19/2006		5/19/2006		5/19/2006		5/19/2006		5/18/2006		5/18/2006	
					5 - 10 ft		8 - 9 ft		0.5 - 1 ft		0.5 - 5 ft		5 - 10 ft		7 - 8 ft		0.5 - 5 ft		2 - 2.5 ft	
Metals	Antimony	mg/kg	1.60E+03	8.50E+02	1	U					0.97	U	0.95	U			1	U		
Metals	Arsenic	mg/kg	7.70E+01	6.90E+02	3.4						6.1		4.5	U			5.4			
Metals	Barium	mg/kg			52.1						67.8		48.8				137			
Metals	Beryllium	mg/kg	7.80E+03	3.40E+03	1.6	U					1.6	U	1.6	U			1.6	U		
Metals	Cadmium	mg/kg	2.60E+03	1.00E+03	3.2	U					3.2	U	3.1	U			3.3	U		
Metals	Chromium Total	mg/kg	2.10E+02	1.20E+03	6.3	U					9.14		8.73				7.04			
Metals	Copper	mg/kg	1.60E+05	2.10E+04	9.3						37.9		16.3				17.4			
Metals	Lead	mg/kg	8.00E+02	4.00E+02	18.2						104		67.4				41.1			
Metals	Mercury	mg/kg	3.10E+00	3.10E+00	0.024						0.098		0.025				0.183			
Metals	Nickel	mg/kg	7.40E+04	2.30E+04	6.06						16.2		5.72				9.65			
Metals	Selenium	mg/kg	2.00E+04	1.10E+04	6.3	U					6.5	U	6.3	U			6.6	U		
Metals	Silver	mg/kg	2.00E+04	1.10E+04	0.5	U					0.5	U	1.2				0.5	U		
Metals	Thallium	mg/kg			1	U					0.97	U	0.95	U			1	U		
Metals	Zinc	mg/kg	1.00E+06	6.40E+05	94.2						80		1400				52.3			
Miscellaneous	Dry weight	%					93.9		93.5						93.7				75.5	
PCBs/Pesticides	Aroclor-1016	mg/kg	1.00E+02	2.60E+02	0.00025	U					0.00025	U	0.00025	U			0.00025	U		
PCBs/Pesticides	Aroclor-1221	mg/kg	1.40E+01	2.10E+02	0.00025	U					0.00025	U	0.00025	U			0.00025	U		
PCBs/Pesticides	Aroclor-1232	mg/kg	1.40E+01	7.30E+01	0.00025	U					0.00025	U	0.00025	U			0.00025	U		
PCBs/Pesticides	Aroclor-1242	mg/kg	2.00E+01	4.40E+02	0.00025	U					0.00025	U	0.00025	U			0.00025	U		
PCBs/Pesticides	Aroclor-1248	mg/kg	2.00E+01	4.40E+02	0.00025	U					0.00025	U	0.00025	U			0.00025	U		
PCBs/Pesticides	Aroclor-1254	mg/kg	2.00E+01	7.50E+01	0.25	U					0.25	U	0.25	U			0.25	U		
PCBs/Pesticides	Aroclor-1260	mg/kg	2.00E+01	4.40E+02	0.00025	U					0.00025	U	0.00025	U			0.00025	U		
SVOCs	1,2,4,5-Tetrachlorobenzene	ug/kg	5.30E+05	4.30E+06																
SVOCs	1,2,4-Trichlorobenzene, SVOC	ug/kg	4.00E+05	4.00E+05	330	U					6600	U	330	U			3300	U		
SVOCs	1,2-Dichlorobenzene, SVOC	ug/kg	3.80E+05	3.80E+05	330	U					6600	U	330	U			3300	U		
SVOCs	1,2-Diphenylhydrazine	ug/kg	6.20E+04	1.20E+06																
SVOCs	1,3-Dichlorobenzene, SVOC	ug/kg			330	U					6600	U	330	U			3300	U		
SVOCs	1,4-Dichlorobenzene, SVOC	ug/kg	3.10E+05	2.60E+06	330	U					6600	U	330	U			3300	U		
SVOCs	1-Naphthylamine	ug/kg																		
SVOCs	2,2-oxybis(2-Chloropropane), SVOC	ug/kg																		
SVOCs	2,3,4,6-Tetrachlorophenol	ug/kg	5.30E+07	4.30E+08																
SVOCs	2,4,5-Trichlorophenol	ug/kg	1.80E+08	1.00E+09	330	U					6600	U	330	U			3300	U		
SVOCs	2,4,6-Trichlorophenol	ug/kg	1.80E+06	1.40E+06	330	U					6600	U	330	U			3300	U		
SVOCs	2,4-Dichlorophenol	ug/kg	5.30E+06	2.80E+07	330	U					6600	U	330	U			3300	U		
SVOCs	2,4-Dimethylphenol	ug/kg	3.50E+07	8.50E+07	330	U					6600	U	330	U			3300	U		
SVOCs	2,4-Dinitrophenol	ug/kg	3.50E+06	2.80E+07																
SVOCs	2,4-Dinitrotoluene	ug/kg	1.60E+05	2.80E+06	330	U					6600	U	330	U			3300	U		
SVOCs	2,6-Dichlorophenol	ug/kg																		
SVOCs	2,6-Dinitrotoluene	ug/kg	3.30E+04	6.70E+05	330	U					6600	U	330	U			3300	U		
SVOCs	2-Chloronaphthalene	ug/kg	3.30E+08	1.00E+09	330	U					6600	U	330	U			3300	U		
SVOCs	2-Chlorophenol	ug/kg	2.00E+07	2.20E+07	330	U					6600	U	330	U			3300	U		
SVOCs	2-Methyl-4,6-dinitrophenol	ug/kg			330	U					6600	U	330	U			3300	U		
SVOCs	2-Methylnaphthalene	ug/kg	6.00E+06	5.20E+06																
SVOCs	2-Methylphenol	ug/kg	8.80E+07	7.10E+08	330	U					6600	U	330	U			3300	U		
SVOCs	2-Naphthylamine	ug/kg	2.70E+04	5.50E+05																
SVOCs	2-Nitroaniline	ug/kg																		
SVOCs	2-Nitrophenol	ug/kg			330	U					6600	U	330	U			3300	U		
SVOCs	2-Picoline	ug/kg																		
SVOCs	2-Toluidine	ug/kg	1.60E+06	3.30E+07																
SVOCs	3&4-Methylphenol	ug/kg			330	U					6600	U	330	U			3300	U		
SVOCs	3,3-Dichlorobenzidine	ug/kg	1.10E+05	2.20E+06																
SVOCs	3-Methylcholanthrene	ug/kg	2200	45000																
SVOCs	3-Nitroaniline	ug/kg																		

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Analysis	Parameter	Units	Ohio VAP C/I GDCSS	Ohio VAP CW GDCSS	B02		B02		B03		B03		B03		B03		B04		B04	
					B02-0-10		B02-0-10		B03-0-05		B03-0-05		B03-0-10		B03-0-10		B04-0-05		B04-0-05	
					5/19/2006		5/19/2006		5/19/2006		5/19/2006		5/19/2006		5/19/2006		5/18/2006		5/18/2006	
					5 - 10 ft		8 - 9 ft		0.5 - 1 ft		0.5 - 5 ft		5 - 10 ft		7 - 8 ft		0.5 - 5 ft		2 - 2.5 ft	
SVOCs	4,6-Dinitro-2-methylphenol	ug/kg																		
SVOCs	4-Aminobiphenyl	ug/kg	2300	47000																
SVOCs	4-Bromophenyl phenyl ether	ug/kg			330	U					6600	U	330	U			3300	U		
SVOCs	4-Chloro-3-methylphenol	ug/kg			330	U					6600	U	330	U			3300	U		
SVOCs	4-Chloroaniline	ug/kg	2.50E+05	7.10E+05	330	U					6600	U	330	U			3300	U		
SVOCs	4-Chlorophenyl phenyl ether	ug/kg																		
SVOCs	4-Dimethylaminoazobenzene	ug/kg	11000	220000																
SVOCs	4-Nitroaniline	ug/kg	2.50E+06	1.40E+07																
SVOCs	4-Nitrophenol	ug/kg																		
SVOCs	5-Nitro-2-Toluidine	ug/kg																		
SVOCs	7,12-Dimethylbenz(a)anthracene	ug/kg	170	3600																
SVOCs	Acenaphthene	ug/kg	9.00E+07	7.80E+08	330	U					6600	U	330	U			3300	U		
SVOCs	Acenaphthylene	ug/kg			330	U					6600	U	330	U			3300	U		
SVOCs	Acetophenone	ug/kg	2.50E+06	2.50E+06																
SVOCs	Aniline	ug/kg	8.70E+06	9.90E+06																
SVOCs	Anthracene	ug/kg	4.50E+08	1.00E+09	330	U					6600	U	330	U			3300	U		
SVOCs	Benzidine	ug/kg	210	4300																
SVOCs	Benzo(a)anthracene	ug/kg	5.80E+04	1.20E+06	330	U					6600	U	570				3300	U		
SVOCs	Benzo(a)pyrene	ug/kg	5.80E+03	1.20E+05	199						4930		941				1600	U		
SVOCs	Benzo(b)fluoranthene	ug/kg	5.80E+04	1.20E+06	389						8850		1240				3300	U		
SVOCs	Benzo(g,h,i)perylene	ug/kg			330	U					6600	U	330	U			3300	U		
SVOCs	Benzo(k)fluoranthene	ug/kg	5.80E+05	1.20E+07	330	U					6600	U	539				3300	U		
SVOCs	Benzoic acid	ug/kg	1.00E+09	1.00E+09	1650	U					33000	U	1650	U			16000	U		
SVOCs	Benzyl alcohol	ug/kg			330	U					6600	U	330	U			3300	U		
SVOCs	Benzyl butyl phthalate	ug/kg	2.60E+07	5.20E+08	330	U					6600	U	330	U			3300	U		
SVOCs	bis(2-Chloroethoxy)methane	ug/kg	5.30E+06	4.30E+07	330	U					6600	U	330	U			3300	U		
SVOCs	bis(2-Chloroethyl)ether	ug/kg	3.00E+04	2.90E+05	330	U					6600	U	330	U			3300	U		
SVOCs	bis(2-chloroisopropyl)ether	ug/kg			330	U					6600	U	330	U			3300	U		
SVOCs	bis(2-Ethylhexyl)phthalate	ug/kg	3.50E+06	7.10E+07	330	U					6600	U	330	U			3300	U		
SVOCs	Butyl benzylphthalate	ug/kg	2.60E+07	5.20E+08																
SVOCs	Chrysene	ug/kg	5.80E+06	1.20E+08	330	U					6600	U	503				3300	U		
SVOCs	Dibenz(a,h)anthracene	ug/kg	5.80E+03	1.20E+08	165	U					3300	U	165	U			1600	U		
SVOCs	Dibenzofuran	ug/kg			330	U					6600	U	330	U			3300	U		
SVOCs	Diethyl phthalate	ug/kg	1.00E+09	1.00E+09	330	U					6600	U	330	U			3300	U		
SVOCs	Dimethyl phthalate	ug/kg			330	U					6600	U	330	U			3300	U		
SVOCs	Di-n-butylphthalate	ug/kg	1.80E+08	4.30E+08																
SVOCs	Di-N-Octyl phthalate	ug/kg			330	U					6600	U	330	U			3300	U		
SVOCs	Ethyl methanesulfonate	ug/kg																		
SVOCs	Fluoranthene	ug/kg	6.00E+07	1.60E+08	673						11800		618				3710			
SVOCs	Fluorene	ug/kg	6.00E+07	5.20E+08	330	U					6600	U	330	U			3300	U		
SVOCs	Hexachlorobenzene	ug/kg	3.10E+04	1.40E+04	330	U					6600	U	330	U			3300	U		
SVOCs	Hexachlorobutadiene	ug/kg	6.30E+05	1.40E+06			5	U	42	U					42	U			5	U
SVOCs	Hexachlorobutadiene, SVOC	ug/kg	6.30E+05	1.40E+06																
SVOCs	Hexachlorocyclopentadiene	ug/kg	1.10E+07	2.60E+07	660	U					13000	U	660	U			6600	U		
SVOCs	Hexachloroethane	ug/kg	1.20E+06	3.00E+06	330	U					6600	U	330	U			3300	U		
SVOCs	Indeno(1,2,3-cd)pyrene	ug/kg	5.80E+04	1.20E+06	330	U					6600	U	330	U			3300	U		
SVOCs	Isophorone	ug/kg	5.20E+07	1.00E+09	330	U					6600	U	330	U			3300	U		
SVOCs	Methyl methanesulfonate	ug/kg																		
SVOCs	Naphthalene, SVOC	ug/kg	4.50E+05	5.60E+05	330	U					6600	U	330	U			3300	U		
SVOCs	Nitrobenzene	ug/kg	6.10E+05	3.00E+06	330	U					6600	U	330	U			3300	U		
SVOCs	N-Nitrosodimethylamine	ug/kg	1.00E+03	1.10E+04																
SVOCs	N-Nitrosodi-N-butylamine	ug/kg	1.40E+04	1.50E+05																
SVOCs	N-Nitrosodi-n-propylamine	ug/kg	7.00E+03	1.40E+05	38.1	U					760	U	38.1	U			380	U		

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Analysis	Parameter	Units	Ohio VAP C/I GDCSS	Ohio VAP CW GDCSS	B02		B02		B03		B03		B03		B03		B04		B04	
					B02-0-10		B02-0-10		B03-0-05		B03-0-05		B03-0-10		B03-0-10		B04-0-05		B04-0-05	
					5/19/2006		5/19/2006		5/19/2006		5/19/2006		5/19/2006		5/19/2006		5/18/2006		5/18/2006	
					5 - 10 ft		8 - 9 ft		0.5 - 1 ft		0.5 - 5 ft		5 - 10 ft		7 - 8 ft		0.5 - 5 ft		2 - 2.5 ft	
SVOCs	N-Nitrosodiphenylamine	ug/kg	1.00E+07	2.00E+08																
SVOCs	N-Nitrosopiperidine	ug/kg	5.20E+03	1.10E+05																
SVOCs	Pentachlorobenzene	ug/kg	1.40E+06	1.10E+07																
SVOCs	Pentachloronitrobenzene	ug/kg	1.90E+05	3.80E+06																
SVOCs	Pentachlorophenol	ug/kg	6.70E+04	9.50E+05	330	U					6600	U	330	U			3300	U		
SVOCs	Phenacetin	ug/kg	2.20E+07	4.50E+08																
SVOCs	Phenanthrene	ug/kg			739						8900		410				3570			
SVOCs	Phenol	ug/kg	5.30E+08	8.40E+08	330	U					6600	U	330	U			3300	U		
SVOCs	Pronamide	ug/kg																		
SVOCs	Pyrene, SVOC	ug/kg	4.50E+07	3.90E+08	749						15700		695				4430			
SVOCs	Pyridine	ug/kg	4.10E+06	2.10E+07																
TPH	Total Petroleum Hydrocarbons	ug/kg																		
TPH	TPH C10-C20	ug/kg	2.00E+06	2.00E+06	10000	U					104000		10000	U			27500			
TPH	TPH C20-C34	ug/kg	5.00E+06	5.00E+06	38100						407000		48100				103000			
VOCs	1,1,1,2-Tetrachloroethane	ug/kg	2.40E+05	6.80E+05			5	U	42	U					42	U			5	U
VOCs	1,1,1-Trichloroethane	ug/kg	6.40E+05	6.40E+05			5	U	42	U					42	U			5	U
VOCs	1,1,2,2-Tetrachloroethane	ug/kg	7.50E+04	6.70E+05			5	U	42	U					42	U			5	U
VOCs	1,1,2-Trichloroethane	ug/kg	1.40E+05	1.20E+06			5	U	42	U					42	U			5	U
VOCs	1,1-Dichloroethane	ug/kg	4.20E+05	1.70E+06			5	U	42	U					42	U			5	U
VOCs	1,1-Dichloroethene	ug/kg	1.20E+06	3.60E+05			5	U	42	U					42	U			5	U
VOCs	1,1-Dichloropropene	ug/kg					5	U	42	U					42	U			5	U
VOCs	1,2,3-Trichlorobenzene	ug/kg																		
VOCs	1,2,3-Trichloropropane	ug/kg																		
VOCs	1,2,4-Trichlorobenzene, VOC	ug/kg	4.00E+05	4.00E+05			5	U	42	U					42	U			5	U
VOCs	1,2,4-Trimethylbenzene	ug/kg	2.20E+05	2.20E+05			6		106						42	U			5	U
VOCs	1,2-Dibromo-3-chloropropane	ug/kg	1.70E+03	1.50E+04																
VOCs	1,2-Dibromoethane	ug/kg	4.40E+03	3.80E+04																
VOCs	1,2-Dichlorobenzene, VOC	ug/kg					5	U	42	U					42	U			5	U
VOCs	1,2-Dichloroethane	ug/kg	5.60E+04	4.80E+05			5	U	42	U					42	U			5	U
VOCs	1,2-Dichloropropane	ug/kg	1.20E+05	1.80E+05			5	U	42	U					42	U			5	U
VOCs	1,3,5-Trimethylbenzene	ug/kg					5	U	46.9						42	U			5	U
VOCs	1,3-Dichlorobenzene, VOC	ug/kg					5	U	42	U					42	U			5	U
VOCs	1,3-Dichloropropane	ug/kg	1.50E+06	1.50E+06			5	U	42	U					42	U			5	U
VOCs	1,4-Dichlorobenzene, VOC	ug/kg	3.10E+05	2.60E+06			5	U	42	U					42	U			5	U
VOCs	1,4-Dioxane	ug/kg	4.90E+05	1.00E+07			20	U	20	U					20	U			20	U
VOCs	2,2-Dichloropropane	ug/kg					5	U	42	U					42	U			5	U
VOCs	2-Butanone	ug/kg	2.80E+07	2.80E+07			50	U	420	U					420	U			50	U
VOCs	2-Chlorotoluene	ug/kg					5	U	42	U					42	U			5	U
VOCs	2-Hexanone	ug/kg					50	U	420	U					420	U			50	U
VOCs	2-Phenylbutane	ug/kg																		
VOCs	4-Chlorotoluene	ug/kg					5	U	42	U					42	U			5	U
VOCs	4-Methyl-2-Pentanone	ug/kg	3.40E+06	3.40E+06			50	U	420	U					420	U			50	U
VOCs	Acetone	ug/kg	1.10E+08	1.10E+08			100	U	840	U					840	U			100	U
VOCs	Benzene	ug/kg	1.40E+05	1.20E+06			7.1		42	U					42	U			18.2	
VOCs	Bromobenzene	ug/kg					5	U	42	U					42	U			5	U
VOCs	Bromochloromethane	ug/kg					5	U	42	U					42	U			5	U
VOCs	Bromodichloromethane	ug/kg	3.50E+04	3.00E+05			5	U	42	U					42	U			5	U
VOCs	Bromoform	ug/kg	6.20E+06	1.30E+08			5	U	42	U					42	U			5	U
VOCs	Bromomethane	ug/kg	8.20E+04	5.50E+05			10	U	84	U					84	U			10	U
VOCs	Carbon disulfide	ug/kg	7.40E+05	7.40E+05			5	U	42	U					42	U			5	U
VOCs	Carbon tetrachloride	ug/kg	7.90E+04	4.60E+05			5	U	42	U					42	U			5	U
VOCs	Chlorobenzene	ug/kg	7.60E+05	7.60E+05			5	U	42	U					42	U			5	U
VOCs	Chlorobromomethane	ug/kg																		

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Analysis	Parameter	Units	Ohio VAP C/I GDCSS	Ohio VAP CW GDCSS	B02		B02		B03		B03		B03		B03		B04		B04	
					B02-0-10		B02-0-10		B03-0-05		B03-0-05		B03-0-10		B03-0-10		B04-0-05		B04-0-05	
					5/19/2006		5/19/2006		5/19/2006		5/19/2006		5/19/2006		5/19/2006		5/18/2006		5/18/2006	
					5 - 10 ft		8 - 9 ft		0.5 - 1 ft		0.5 - 5 ft		5 - 10 ft		7 - 8 ft		0.5 - 5 ft		2 - 2.5 ft	
VOCs	Chloroethane	ug/kg					10	U	84	U					84	U			10	U
VOCs	Chloroform	ug/kg	3.80E+04	3.20E+05			5	U	42	U					42	U			5	U
VOCs	Chloromethane	ug/kg	1.30E+06	1.30E+06			10	U	84	U					84	U			10	U
VOCs	cis-1,2-Dichloroethene	ug/kg					5	U	42	U					42	U			5	U
VOCs	cis-1,3-Dichloropropene	ug/kg	2.30E+05	5.20E+05			5	U	42	U					42	U			5	U
VOCs	Cymene	ug/kg																		
VOCs	Dibromochloromethane	ug/kg	8.40E+04	7.70E+05			5	U	42	U					42	U			5	U
VOCs	Dibromomethane	ug/kg	2.80E+06	3.80E+04			5	U	42	U					42	U			5	U
VOCs	Dichlorodifluoromethane	ug/kg	8.50E+05	8.50E+05			5	U	42	U					42	U			5	U
VOCs	Ethylbenzene	ug/kg	4.80E+05	4.80E+05			8		42	U					42	U			5	U
VOCs	Hexachlorobutadiene, VOC	ug/kg	6.30E+05	1.40E+06																
VOCs	Isopropylbenzene, VOC	ug/kg	2.70E+05	2.70E+05			5	U	42	U					42	U			5	U
VOCs	m&p-Xylene	ug/kg	2.60E+05	2.60E+05																
VOCs	Methyl tert butyl ether	ug/kg	5.70E+06	8.90E+06			5	U	42	U					42	U			5	U
VOCs	Methylene chloride	ug/kg	3.30E+06	3.30E+06			10	U	84	U					84	U			10	U
VOCs	Naphthalene, VOC	ug/kg	4.50E+05	5.60E+05																
VOCs	n-Butylbenzene	ug/kg					5	U	42	U					42	U			5	U
VOCs	n-Hexane	ug/kg	1.40E+05	1.40E+05			39		170	U					170	U			20	U
VOCs	n-Propylbenzene	ug/kg					5	U	42	U					42	U			5	U
VOCs	o-Xylene	ug/kg	2.60E+05	2.60E+05																
VOCs	Pentachloroethane	ug/kg	5.50E+05	1.10E+07																
VOCs	p-Isopropyltoluene	ug/kg					5	U	42	U					42	U			5	U
VOCs	sec-Butylbenzene	ug/kg					5	U	42	U					42	U			5	U
VOCs	Styrene	ug/kg	8.70E+05	8.70E+05			5	U	42	U					42	U			5	U
VOCs	tert-Butylbenzene	ug/kg					5	U	42	U					42	U			5	U
VOCs	Tetrachloroethene	ug/kg	1.70E+05	1.70E+05			5	U							42	U			6.2	
VOCs	Toluene	ug/kg	8.20E+05	8.20E+05			19.2		188						42	U			15.1	
VOCs	trans-1,2-Dichloroethene	ug/kg	1.70E+06	1.70E+06			5	U	42	U					42	U			5	U
VOCs	trans-1,3-Dichloropropene	ug/kg	2.30E+05	5.20E+05			5	U	42	U					42	U			5	U
VOCs	Trichloroethene	ug/kg	5.10E+04	1.70E+04			5	U	42	U					42	U			5	U
VOCs	Trichlorofluoromethane	ug/kg	1.20E+06	1.20E+06			5	U	42	U					42	U			5	U
VOCs	Vinyl acetate	ug/kg	2.70E+06	6.20E+05			5	U	42	U					42	U			5	U
VOCs	Vinyl chloride	ug/kg	5.00E+04	2.80E+05			2	U	17	U					17	U			2	U
VOCs	Xylene (Total)	ug/kg	2.60E+05	2.60E+05			10.1		371						42	U			5	U

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Analysis	Parameter	Units	Ohio VAP C/I GDCSS	Ohio VAP CW GDCSS	B04		B04		DAY-20		DAY-20		SS15		SS15		SS17		SS17		SS18	
					B04-0-10		B04-0-10		DAY-20		DAY-20		SS15-0-01		SS15-0-01		SS17-0-01		SS17-0-01		SS18-0-01	
					5/18/2006		5/18/2006		1/10/2002		1/10/2002		5/19/2006		5/19/2006		5/18/2006		5/18/2006		5/18/2006	
					5 - 6 ft		5 - 10 ft		0 - 2 ft		5 - 7 ft		0.5 - 1 ft		0.5 - 1.5 ft		0.5 - 1 ft		0.5 - 1.5 ft		0.5 - 1 ft	
Metals	Antimony	mg/kg	1.60E+03	8.50E+02			0.99	U							0.93	U			0.93	U		
Metals	Arsenic	mg/kg	7.70E+01	6.90E+02			6.2		9.1		5	U			6.4				5	U		
Metals	Barium	mg/kg					76.2		170		150				57.2				91.2			
Metals	Beryllium	mg/kg	7.80E+03	3.40E+03			1.6	U							1.6	U			3.3	U		
Metals	Cadmium	mg/kg	2.60E+03	1.00E+03			3.1	U	0.5	U	0.5	U			3.2	U			6.6	U		
Metals	Chromium Total	mg/kg	2.10E+02	1.20E+03			9.38		9.3		5.4				7.44				14.4			
Metals	Copper	mg/kg	1.60E+05	2.10E+04			7.51								60.3				27.5			
Metals	Lead	mg/kg	8.00E+02	4.00E+02			20.1		120		4.3				74.3				86.7			
Metals	Mercury	mg/kg	3.10E+00	3.10E+00			0.246		0.3	U	0.3	U			0.184				0.067			
Metals	Nickel	mg/kg	7.40E+04	2.30E+04			7.66								7				6.6	U		
Metals	Selenium	mg/kg	2.00E+04	1.10E+04			6.3	U	3	U	3	U			6.5	U			13	U		
Metals	Silver	mg/kg	2.00E+04	1.10E+04			0.5	U	1	U	1	U			0.5	U			0.5	U		
Metals	Thallium	mg/kg					0.99	U							0.93	U			0.93	U		
Metals	Zinc	mg/kg	1.00E+06	6.40E+05			38								73.7				42.5			
Miscellaneous	Dry weight	%			79.1								86.1				90				88.9	
PCBs/Pesticides	Aroclor-1016	mg/kg	1.00E+02	2.60E+02			0.00025	U	0.00002	U	0.00002	U			0.00025	U			0.00025	U		
PCBs/Pesticides	Aroclor-1221	mg/kg	1.40E+01	2.10E+02			0.00025	U	0.00004	U	0.00004	U			0.00025	U			0.00025	U		
PCBs/Pesticides	Aroclor-1232	mg/kg	1.40E+01	7.30E+01			0.00025	U	0.00002	U	0.00002	U			0.00025	U			0.00025	U		
PCBs/Pesticides	Aroclor-1242	mg/kg	2.00E+01	4.40E+02			0.00025	U	0.00002	U	0.00002	U			0.00025	U			0.00025	U		
PCBs/Pesticides	Aroclor-1248	mg/kg	2.00E+01	4.40E+02			0.00025	U	0.00002	U	0.00002	U			0.00025	U			0.00025	U		
PCBs/Pesticides	Aroclor-1254	mg/kg	2.00E+01	7.50E+01			0.25	U	0.02	U	0.02	U			0.25	U			0.25	U		
PCBs/Pesticides	Aroclor-1260	mg/kg	2.00E+01	4.40E+02			0.00025	U	0.02	U	0.02	U			0.00025	U			0.00025	U		
SVOCs	1,2,4,5-Tetrachlorobenzene	ug/kg	5.30E+05	4.30E+06					330	U	330	U										
SVOCs	1,2,4-Trichlorobenzene, SVOC	ug/kg	4.00E+05	4.00E+05			330	U	330	U	330	U			3300	U			6600	U		
SVOCs	1,2-Dichlorobenzene, SVOC	ug/kg	3.80E+05	3.80E+05			330	U	330	U	330	U			3300	U			6600	U		
SVOCs	1,2-Diphenylhydrazine	ug/kg	6.20E+04	1.20E+06					330	U	330	U										
SVOCs	1,3-Dichlorobenzene, SVOC	ug/kg					330	U	330	U	330	U			3300	U			6600	U		
SVOCs	1,4-Dichlorobenzene, SVOC	ug/kg	3.10E+05	2.60E+06			330	U	330	U	330	U			3300	U			6600	U		
SVOCs	1-Naphthylamine	ug/kg							330	U	330	U										
SVOCs	2,2-oxybis(2-Chloropropane), SVOC	ug/kg							330	U	330	U										
SVOCs	2,3,4,6-Tetrachlorophenol	ug/kg	5.30E+07	4.30E+08					330	U	330	U										
SVOCs	2,4,5-Trichlorophenol	ug/kg	1.80E+08	1.00E+09			330	U	330	U	330	U			3300	U			6600	U		
SVOCs	2,4,6-Trichlorophenol	ug/kg	1.80E+06	1.40E+06			330	U	330	U	330	U			3300	U			6600	U		
SVOCs	2,4-Dichlorophenol	ug/kg	5.30E+06	2.80E+07			330	U	330	U	330	U			3300	U			6600	U		
SVOCs	2,4-Dimethylphenol	ug/kg	3.50E+07	8.50E+07			330	U	330	U	330	U			3300	U			6600	U		
SVOCs	2,4-Dinitrophenol	ug/kg	3.50E+06	2.80E+07					1650	U	1650	U										
SVOCs	2,4-Dinitrotoluene	ug/kg	1.60E+05	2.80E+06			330	U	330	U	330	U			3300	U			6600	U		
SVOCs	2,6-Dichlorophenol	ug/kg							330	U	330	U										
SVOCs	2,6-Dinitrotoluene	ug/kg	3.30E+04	6.70E+05			330	U	330	U	330	U			3300	U			6600	U		
SVOCs	2-Chloronaphthalene	ug/kg	3.30E+08	1.00E+09			330	U	330	U	330	U			3300	U			6600	U		
SVOCs	2-Chlorophenol	ug/kg	2.00E+07	2.20E+07			330	U	330	U	330	U			3300	U			6600	U		
SVOCs	2-Methyl-4,6-dinitrophenol	ug/kg					330	U							3300	U			6600	U		
SVOCs	2-Methylnaphthalene	ug/kg	6.00E+06	5.20E+06					330	U	330	U										
SVOCs	2-Methylphenol	ug/kg	8.80E+07	7.10E+08			330	U	330	U	330	U			3300	U			6600	U		
SVOCs	2-Naphthylamine	ug/kg	2.70E+04	5.50E+05					330	U	330	U										
SVOCs	2-Nitroaniline	ug/kg							1650	U	1650	U										
SVOCs	2-Nitrophenol	ug/kg					330	U	330	U	330	U			3300	U			6600	U		
SVOCs	2-Picoline	ug/kg							330	U	330	U										
SVOCs	2-Toluidine	ug/kg	1.60E+06	3.30E+07					330	U	330	U										
SVOCs	3&4-Methylphenol	ug/kg					330	U	330	U	330	U			3300	U			6600	U		
SVOCs	3,3-Dichlorobenzidine	ug/kg	1.10E+05	2.20E+06					660	U	660	U										
SVOCs	3-Methylcholanthrene	ug/kg	2200	45000					330	U	330	U										
SVOCs	3-Nitroaniline	ug/kg							1650	U	1650	U										

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Analysis	Parameter	Units	Ohio VAP C/I GDCSS	Ohio VAP CW GDCSS	B04		B04		DAY-20		DAY-20		SS15		SS15		SS17		SS17		SS18	
					B04-0-10		B04-0-10		DAY-20		DAY-20		SS15-0-01		SS15-0-01		SS17-0-01		SS17-0-01		SS18-0-01	
					5/18/2006		5/18/2006		1/10/2002		1/10/2002		5/19/2006		5/19/2006		5/18/2006		5/18/2006		5/18/2006	
					5 - 6 ft		5 - 10 ft		0 - 2 ft		5 - 7 ft		0.5 - 1 ft		0.5 - 1.5 ft		0.5 - 1 ft		0.5 - 1.5 ft		0.5 - 1 ft	
SVOCs	4,6-Dinitro-2-methylphenol	ug/kg							1650	U	1650	U										
SVOCs	4-Aminobiphenyl	ug/kg	2300	47000					660	U	660	U										
SVOCs	4-Bromophenyl phenyl ether	ug/kg					330	U	330	U	330	U			3300	U			6600	U		
SVOCs	4-Chloro-3-methylphenol	ug/kg					330	U	660	U	660	U			3300	U			6600	U		
SVOCs	4-Chloroaniline	ug/kg	2.50E+05	7.10E+05			330	U	660	U	660	U			3300	U			6600	U		
SVOCs	4-Chlorophenyl phenyl ether	ug/kg							330	U	330	U										
SVOCs	4-Dimethylaminoazobenzene	ug/kg	11000	220000					330	U	330	U										
SVOCs	4-Nitroaniline	ug/kg	2.50E+06	1.40E+07					660	U	660	U										
SVOCs	4-Nitrophenol	ug/kg							1650	U	1650	U										
SVOCs	5-Nitro-2-Toluidine	ug/kg							330	U	330	U										
SVOCs	7,12-Dimethylbenz(a)anthracene	ug/kg	170	3600					330	U	330	U										
SVOCs	Acenaphthene	ug/kg	9.00E+07	7.80E+08			330	U	330	U	330	U			3300	U			6600	U		
SVOCs	Acenaphthylene	ug/kg					330	U	330	U	330	U			3300	U			6600	U		
SVOCs	Acetophenone	ug/kg	2.50E+06	2.50E+06					330	U	330	U										
SVOCs	Aniline	ug/kg	8.70E+06	9.90E+06					330	U	330	U										
SVOCs	Anthracene	ug/kg	4.50E+08	1.00E+09			330	U	420		330	U			3300	U			6600	U		
SVOCs	Benzidine	ug/kg	210	4300					330	U	330	U										
SVOCs	Benzo(a)anthracene	ug/kg	5.80E+04	1.20E+06			481		1800		330	U			3300	U			6600	U		
SVOCs	Benzo(a)pyrene	ug/kg	5.80E+03	1.20E+05			415		1700		330	U			1600	U			4220			
SVOCs	Benzo(b)fluoranthene	ug/kg	5.80E+04	1.20E+06			821		1700		330	U			3300	U			8530			
SVOCs	Benzo(g,h,i)perylene	ug/kg					330	U	1100		330	U			3300	U			6600	U		
SVOCs	Benzo(k)fluoranthene	ug/kg	5.80E+05	1.20E+07			330	U	1900		330	U			3300	U			6600	U		
SVOCs	Benzoic acid	ug/kg	1.00E+09	1.00E+09			1650	U							16000	U			33000	U		
SVOCs	Benzyl alcohol	ug/kg					330	U	660	U	660	U			3300	U			6600	U		
SVOCs	Benzyl butyl phthalate	ug/kg	2.60E+07	5.20E+08			330	U							3300	U			6600	U		
SVOCs	bis(2-Chloroethoxy)methane	ug/kg	5.30E+06	4.30E+07			330	U	330	U	330	U			3300	U			6600	U		
SVOCs	bis(2-Chloroethyl)ether	ug/kg	3.00E+04	2.90E+05			330	U	330	U	330	U			3300	U			6600	U		
SVOCs	bis(2-chloroisopropyl)ether	ug/kg					330	U							3300	U			6600	U		
SVOCs	bis(2-Ethylhexyl)phthalate	ug/kg	3.50E+06	7.10E+07			330	U	1650	U	1650	U			3300	U			6600	U		
SVOCs	Butyl benzylphthalate	ug/kg	2.60E+07	5.20E+08					330	U	330	U										
SVOCs	Chrysene	ug/kg	5.80E+06	1.20E+08			481		1600		330	U			3300	U			6600	U		
SVOCs	Dibenz(a,h)anthracene	ug/kg	5.80E+03	1.20E+08			165	U	540		330	U			1600	U			3300	U		
SVOCs	Dibenzofuran	ug/kg					330	U	330	U	330	U			3300	U			6600	U		
SVOCs	Diethyl phthalate	ug/kg	1.00E+09	1.00E+09			330	U	330	U	330	U			3300	U			6600	U		
SVOCs	Dimethyl phthalate	ug/kg					330	U	330	U	330	U			3300	U			6600	U		
SVOCs	Di-n-butylphthalate	ug/kg	1.80E+08	4.30E+08					330	U	330	U										
SVOCs	Di-N-Octyl phthalate	ug/kg					330	U	330	U	330	U			3300	U			6600	U		
SVOCs	Ethyl methanesulfonate	ug/kg							330	U	330	U										
SVOCs	Fluoranthene	ug/kg	6.00E+07	1.60E+08			1310		3900		330	U			4600				10700			
SVOCs	Fluorene	ug/kg	6.00E+07	5.20E+08			330	U	330	U	330	U			3300	U			6600	U		
SVOCs	Hexachlorobenzene	ug/kg	3.10E+04	1.40E+04			330	U	330	U	330	U			3300	U			6600	U		
SVOCs	Hexachlorobutadiene	ug/kg	6.30E+05	1.40E+06	5	U							5	U			5	U			5	U
SVOCs	Hexachlorobutadiene, SVOC	ug/kg	6.30E+05	1.40E+06					330	U	330	U										
SVOCs	Hexachlorocyclopentadiene	ug/kg	1.10E+07	2.60E+07			660	U	330	U	330	U			6600	U			13000	U		
SVOCs	Hexachloroethane	ug/kg	1.20E+06	3.00E+06			330	U	330	U	330	U			3300	U			6600	U		
SVOCs	Indeno(1,2,3-cd)pyrene	ug/kg	5.80E+04	1.20E+06			330	U	960		150	U			3300	U			6600	U		
SVOCs	Isophorone	ug/kg	5.20E+07	1.00E+09			330	U	330	U	330	U			3300	U			6600	U		
SVOCs	Methyl methanesulfonate	ug/kg							330	U	330	U										
SVOCs	Naphthalene, SVOC	ug/kg	4.50E+05	5.60E+05			330	U	330	U	330	U			3300	U			6600	U		
SVOCs	Nitrobenzene	ug/kg	6.10E+05	3.00E+06			330	U	330	U	330	U			3300	U			6600	U		
SVOCs	N-Nitrosodimethylamine	ug/kg	1.00E+03	1.10E+04					330	U	330	U										
SVOCs	N-Nitrosodi-N-butylamine	ug/kg	1.40E+04	1.50E+05					330	U	330	U										
SVOCs	N-Nitrosodi-n-propylamine	ug/kg	7.00E+03	1.40E+05			38.1	U	330	U	330	U			380	U			760	U		

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Analysis	Parameter	Units	Ohio VAP C/I GDCSS	Ohio VAP CW GDCSS	B04		B04		DAY-20		DAY-20		SS15		SS15		SS17		SS17		SS18	
					B04-0-10		B04-0-10		DAY-20		DAY-20		SS15-0-01		SS15-0-01		SS17-0-01		SS17-0-01		SS18-0-01	
					5/18/2006		5/18/2006		1/10/2002		1/10/2002		5/19/2006		5/19/2006		5/18/2006		5/18/2006		5/18/2006	
					5 - 6 ft		5 - 10 ft		0 - 2 ft		5 - 7 ft		0.5 - 1 ft		0.5 - 1.5 ft		0.5 - 1 ft		0.5 - 1.5 ft		0.5 - 1 ft	
SVOCs	N-Nitrosodiphenylamine	ug/kg	1.00E+07	2.00E+08					330	U	330	U										
SVOCs	N-Nitrosopiperidine	ug/kg	5.20E+03	1.10E+05					330	U	330	U										
SVOCs	Pentachlorobenzene	ug/kg	1.40E+06	1.10E+07					330	U	330	U										
SVOCs	Pentachloronitrobenzene	ug/kg	1.90E+05	3.80E+06					660	U	660	U										
SVOCs	Pentachlorophenol	ug/kg	6.70E+04	9.50E+05			330	U	1650	U	1650	U			3300	U			6600	U		
SVOCs	Phenacetin	ug/kg	2.20E+07	4.50E+08					660	U	660	U										
SVOCs	Phenanthrene	ug/kg					1200		1900		330	U			4180				9120			
SVOCs	Phenol	ug/kg	5.30E+08	8.40E+08			330	U	330	U	330	U			3300	U			6600	U		
SVOCs	Pronamide	ug/kg							330	U	330	U										
SVOCs	Pyrene, SVOC	ug/kg	4.50E+07	3.90E+08			1360		3400		330	U			5100				17100			
SVOCs	Pyridine	ug/kg	4.10E+06	2.10E+07					330	U	330	U										
TPH	Total Petroleum Hydrocarbons	ug/kg							340000		50000	U										
TPH	TPH C10-C20	ug/kg	2.00E+06	2.00E+06			50000	U							52500				180000			
TPH	TPH C20-C34	ug/kg	5.00E+06	5.00E+06			100000	U							231000				865000			
VOCs	1,1,1,2-Tetrachloroethane	ug/kg	2.40E+05	6.80E+05	5	U			5	U	5	U	5	U			5	U			5	U
VOCs	1,1,1-Trichloroethane	ug/kg	6.40E+05	6.40E+05	5	U			5	U	5	U	5	U			5	U			5	U
VOCs	1,1,2,2-Tetrachloroethane	ug/kg	7.50E+04	6.70E+05	5	U			5	U	5	U	5	U			5	U			5	U
VOCs	1,1,2-Trichloroethane	ug/kg	1.40E+05	1.20E+06	5	U			5	U	5	U	5	U			5	U			5	U
VOCs	1,1-Dichloroethane	ug/kg	4.20E+05	1.70E+06	5	U			5	U	5	U	5	U			5	U			5	U
VOCs	1,1-Dichloroethene	ug/kg	1.20E+06	3.60E+05	5	U			5	U	5	U	5	U			5	U			5	U
VOCs	1,1-Dichloropropene	ug/kg			5	U			5	U	5	U	5	U			5	U			5	U
VOCs	1,2,3-Trichlorobenzene	ug/kg							5	U	5	U										
VOCs	1,2,3-Trichloropropane	ug/kg							5	U	5	U										
VOCs	1,2,4-Trichlorobenzene, VOC	ug/kg	4.00E+05	4.00E+05	5	U			5	U	5	U	5	U			5	U			5	U
VOCs	1,2,4-Trimethylbenzene	ug/kg	2.20E+05	2.20E+05	5	U			5	U	5	U	5	U			5	U			5	U
VOCs	1,2-Dibromo-3-chloropropane	ug/kg	1.70E+03	1.50E+04					10	U	10	U										
VOCs	1,2-Dibromoethane	ug/kg	4.40E+03	3.80E+04					5	U	5	U										
VOCs	1,2-Dichlorobenzene, VOC	ug/kg			5	U			5	U	5	U	5	U			5	U			5	U
VOCs	1,2-Dichloroethane	ug/kg	5.60E+04	4.80E+05	5	U			5	U	5	U	5	U			5	U			5	U
VOCs	1,2-Dichloropropane	ug/kg	1.20E+05	1.80E+05	5	U			5	U	5	U	5	U			5	U			5	U
VOCs	1,3,5-Trimethylbenzene	ug/kg			5	U			5	U	5	U	5	U			5	U			5	U
VOCs	1,3-Dichlorobenzene, VOC	ug/kg			5	U			5	U	5	U	5	U			5	U			5	U
VOCs	1,3-Dichloropropane	ug/kg	1.50E+06	1.50E+06	5	U			5	U	5	U	5	U			5	U			5	U
VOCs	1,4-Dichlorobenzene, VOC	ug/kg	3.10E+05	2.60E+06	5	U			5	U	5	U	5	U			5	U			5	U
VOCs	1,4-Dioxane	ug/kg	4.90E+05	1.00E+07	20	U							20	U			20	U			20	U
VOCs	2,2-Dichloropropane	ug/kg			5	U			5	U	5	U	5	U			5	U			5	U
VOCs	2-Butanone	ug/kg	2.80E+07	2.80E+07	50	U			50	U	50	U	50	U			50	U			50	U
VOCs	2-Chlorotoluene	ug/kg			5	U			5	U	5	U	5	U			5	U			5	U
VOCs	2-Hexanone	ug/kg			50	U			50	U	50	U	50	U			50	U			50	U
VOCs	2-Phenylbutane	ug/kg							5	U	5	U										
VOCs	4-Chlorotoluene	ug/kg			5	U			5	U	5	U	5	U			5	U			5	U
VOCs	4-Methyl-2-Pentanone	ug/kg	3.40E+06	3.40E+06	50	U			50	U	50	U	50	U			50	U			50	U
VOCs	Acetone	ug/kg	1.10E+08	1.10E+08	100	U			50	U	50	U	100	U			100	U			100	U
VOCs	Benzene	ug/kg	1.40E+05	1.20E+06	10				5	U	5	U	5	U			6.5				5.7	
VOCs	Bromobenzene	ug/kg			5	U			5	U	5	U	5	U			5	U			5	U
VOCs	Bromochloromethane	ug/kg			5	U							5	U			5	U			5	U
VOCs	Bromodichloromethane	ug/kg	3.50E+04	3.00E+05	5	U			5	U	5	U	5	U			5	U			5	U
VOCs	Bromoform	ug/kg	6.20E+06	1.30E+08	5	U							5	U			5	U			5	U
VOCs	Bromomethane	ug/kg	8.20E+04	5.50E+05	10	U			5	U	5	U	10	U			10	U			10	U
VOCs	Carbon disulfide	ug/kg	7.40E+05	7.40E+05	5	U			50	U	50	U	5	U			5	U			5	U
VOCs	Carbon tetrachloride	ug/kg	7.90E+04	4.60E+05	5	U			5	U	5	U	5	U			5	U			5	U
VOCs	Chlorobenzene	ug/kg	7.60E+05	7.60E+05	5	U			5	U	5	U	5	U			5	U			5	U
VOCs	Chlorobromomethane	ug/kg							5	U	5	U										

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Analysis	Parameter	Units	Ohio VAP C/I GDCSS	Ohio VAP CW GDCSS	B04		B04		DAY-20		DAY-20		SS15		SS15		SS17		SS17		SS18	
					B04-0-10		B04-0-10		DAY-20		DAY-20		SS15-0-01		SS15-0-01		SS17-0-01		SS17-0-01		SS18-0-01	
					5/18/2006		5/18/2006		1/10/2002		1/10/2002		5/19/2006		5/19/2006		5/18/2006		5/18/2006		5/18/2006	
					5 - 6 ft		5 - 10 ft		0 - 2 ft		5 - 7 ft		0.5 - 1 ft		0.5 - 1.5 ft		0.5 - 1 ft		0.5 - 1.5 ft		0.5 - 1 ft	
VOCs	Chloroethane	ug/kg			10	U			5	U	5	U	10	U			10	U			10	U
VOCs	Chloroform	ug/kg	3.80E+04	3.20E+05	5	U			5	U	5	U	5	U			5	U			5	U
VOCs	Chloromethane	ug/kg	1.30E+06	1.30E+06	10	U			5	U	5	U	10	U			10	U			10	U
VOCs	cis-1,2-Dichloroethene	ug/kg			5	U			5	U	5	U	5	U			5	U			5	U
VOCs	cis-1,3-Dichloropropene	ug/kg	2.30E+05	5.20E+05	5	U			5	U	5	U	5	U			5	U			5	U
VOCs	Cymene	ug/kg							5	U	5	U										
VOCs	Dibromochloromethane	ug/kg	8.40E+04	7.70E+05	5	U			5	U	5	U	5	U			5	U			5	U
VOCs	Dibromomethane	ug/kg	2.80E+06	3.80E+04	5	U			5	U	5	U	5	U			5	U			5	U
VOCs	Dichlorodifluoromethane	ug/kg	8.50E+05	8.50E+05	5	U			5	U	5	U	5	U			5	U			5	U
VOCs	Ethylbenzene	ug/kg	4.80E+05	4.80E+05	5	U			5	U	5	U	5	U			5	U			5	U
VOCs	Hexachlorobutadiene, VOC	ug/kg	6.30E+05	1.40E+06					5	U	5	U										
VOCs	Isopropylbenzene, VOC	ug/kg	2.70E+05	2.70E+05	5	U			5	U	5	U	5	U			5	U			5	U
VOCs	m&p-Xylene	ug/kg	2.60E+05	2.60E+05					5	U	5	U										
VOCs	Methyl tert butyl ether	ug/kg	5.70E+06	8.90E+06	5	U			10	U	10	U	5	U			5	U			5	U
VOCs	Methylene chloride	ug/kg	3.30E+06	3.30E+06	10	U			5	U	5	U	10	U			10	U			10	U
VOCs	Naphthalene, VOC	ug/kg	4.50E+05	5.60E+05					5	U	5	U										
VOCs	n-Butylbenzene	ug/kg			5	U			5	U	5	U	5	U			5	U			5	U
VOCs	n-Hexane	ug/kg	1.40E+05	1.40E+05	20	U							20	U			20	U			20	U
VOCs	n-Propylbenzene	ug/kg			5	U			5	U	5	U	5	U			5	U			5	U
VOCs	o-Xylene	ug/kg	2.60E+05	2.60E+05					5	U	5	U										
VOCs	Pentachloroethane	ug/kg	5.50E+05	1.10E+07					330	U	330	U										
VOCs	p-Isopropyltoluene	ug/kg			5	U							5	U			5	U			5	U
VOCs	sec-Butylbenzene	ug/kg			5	U							5	U			5	U			5	U
VOCs	Styrene	ug/kg	8.70E+05	8.70E+05	5	U			5	U	5	U	5	U			5	U			5	U
VOCs	tert-Butylbenzene	ug/kg			5	U			5	U	5	U	5	U			5	U			5	U
VOCs	Tetrachloroethene	ug/kg	1.70E+05	1.70E+05	5	U			5	U	5	U	5	U			5	U			5	U
VOCs	Toluene	ug/kg	8.20E+05	8.20E+05	8.2				5	U	5	U	5	U			6.3				5.2	
VOCs	trans-1,2-Dichloroethene	ug/kg	1.70E+06	1.70E+06	5	U			5	U	5	U	5	U			5	U			5	U
VOCs	trans-1,3-Dichloropropene	ug/kg	2.30E+05	5.20E+05	5	U			5	U	5	U	5	U			5	U			5	U
VOCs	Trichloroethene	ug/kg	5.10E+04	1.70E+04	5	U			5	U	5	U	5	U			5	U			5	U
VOCs	Trichlorofluoromethane	ug/kg	1.20E+06	1.20E+06	5	U			5	U	5	U	5	U			5	U			5	U
VOCs	Vinyl acetate	ug/kg	2.70E+06	6.20E+05	5	U							5	U			5	U			5	U
VOCs	Vinyl chloride	ug/kg	5.00E+04	2.80E+05	2	U			2	U	2	U	2	U			2	U			2	U
VOCs	Xylene (Total)	ug/kg	2.60E+05	2.60E+05	5	U							5	U			5	U			5	U

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Appendix A
Soil Data Comparison to GDCC
CTA Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
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Analysis	Parameter	Units	Ohio VAP C/I GDCSS	Ohio VAP CW GDCSS	SS18		COD05-C004		COD05-N003		COD05-S005	
					SS18-0-01		COD05-C004		COD05-N003		COD05-S005	
					5/18/2006		5/22/2007		5/22/2007		5/22/2007	
					0.5 - 1.5 ft		3 ft		1.5 ft		1.5 ft	
Metals	Antimony	mg/kg	1.60E+03	8.50E+02	0.99	U						
Metals	Arsenic	mg/kg	7.70E+01	6.90E+02	8.3							
Metals	Barium	mg/kg			139							
Metals	Beryllium	mg/kg	7.80E+03	3.40E+03	1.6	U						
Metals	Cadmium	mg/kg	2.60E+03	1.00E+03	3.2	U						
Metals	Chromium Total	mg/kg	2.10E+02	1.20E+03	6.74							
Metals	Copper	mg/kg	1.60E+05	2.10E+04	33.7							
Metals	Lead	mg/kg	8.00E+02	4.00E+02	168							
Metals	Mercury	mg/kg	3.10E+00	3.10E+00	0.275							
Metals	Nickel	mg/kg	7.40E+04	2.30E+04	7.24							
Metals	Selenium	mg/kg	2.00E+04	1.10E+04	6.3	U						
Metals	Silver	mg/kg	2.00E+04	1.10E+04	0.5	U						
Metals	Thallium	mg/kg			0.99	U						
Metals	Zinc	mg/kg	1.00E+06	6.40E+05	132							
Miscellaneous	Dry weight	%										
PCBs/Pesticides	Aroclor-1016	mg/kg	1.00E+02	2.60E+02	0.00025	U						
PCBs/Pesticides	Aroclor-1221	mg/kg	1.40E+01	2.10E+02	0.00025	U						
PCBs/Pesticides	Aroclor-1232	mg/kg	1.40E+01	7.30E+01	0.00025	U						
PCBs/Pesticides	Aroclor-1242	mg/kg	2.00E+01	4.40E+02	0.00025	U						
PCBs/Pesticides	Aroclor-1248	mg/kg	2.00E+01	4.40E+02	0.00025	U						
PCBs/Pesticides	Aroclor-1254	mg/kg	2.00E+01	7.50E+01	0.25	U						
PCBs/Pesticides	Aroclor-1260	mg/kg	2.00E+01	4.40E+02	0.00025	U						
SVOCs	1,2,4,5-Tetrachlorobenzene	ug/kg	5.30E+05	4.30E+06								
SVOCs	1,2,4-Trichlorobenzene, SVOC	ug/kg	4.00E+05	4.00E+05	3300	U						
SVOCs	1,2-Dichlorobenzene, SVOC	ug/kg	3.80E+05	3.80E+05	3300	U						
SVOCs	1,2-Diphenylhydrazine	ug/kg	6.20E+04	1.20E+06								
SVOCs	1,3-Dichlorobenzene, SVOC	ug/kg			3300	U						
SVOCs	1,4-Dichlorobenzene, SVOC	ug/kg	3.10E+05	2.60E+06	3300	U						
SVOCs	1-Naphthylamine	ug/kg										
SVOCs	2,2-oxybis(2-Chloropropane), SVOC	ug/kg										
SVOCs	2,3,4,6-Tetrachlorophenol	ug/kg	5.30E+07	4.30E+08								
SVOCs	2,4,5-Trichlorophenol	ug/kg	1.80E+08	1.00E+09	3300	U						
SVOCs	2,4,6-Trichlorophenol	ug/kg	1.80E+06	1.40E+06	3300	U						
SVOCs	2,4-Dichlorophenol	ug/kg	5.30E+06	2.80E+07	3300	U						
SVOCs	2,4-Dimethylphenol	ug/kg	3.50E+07	8.50E+07	3300	U						
SVOCs	2,4-Dinitrophenol	ug/kg	3.50E+06	2.80E+07								
SVOCs	2,4-Dinitrotoluene	ug/kg	1.60E+05	2.80E+06	3300	U						
SVOCs	2,6-Dichlorophenol	ug/kg										
SVOCs	2,6-Dinitrotoluene	ug/kg	3.30E+04	6.70E+05	3300	U						
SVOCs	2-Chloronaphthalene	ug/kg	3.30E+08	1.00E+09	3300	U						
SVOCs	2-Chlorophenol	ug/kg	2.00E+07	2.20E+07	3300	U						
SVOCs	2-Methyl-4,6-dinitrophenol	ug/kg			3300	U						
SVOCs	2-Methylnaphthalene	ug/kg	6.00E+06	5.20E+06			83.9	U	86.7	U	80.2	U
SVOCs	2-Methylphenol	ug/kg	8.80E+07	7.10E+08	3300	U						
SVOCs	2-Naphthylamine	ug/kg	2.70E+04	5.50E+05								
SVOCs	2-Nitroaniline	ug/kg										
SVOCs	2-Nitrophenol	ug/kg			3300	U						
SVOCs	2-Picoline	ug/kg										
SVOCs	2-Toluidine	ug/kg	1.60E+06	3.30E+07								
SVOCs	3&4-Methylphenol	ug/kg			3300	U						
SVOCs	3,3-Dichlorobenzidine	ug/kg	1.10E+05	2.20E+06								
SVOCs	3-Methylcholanthrene	ug/kg	2200	45000								
SVOCs	3-Nitroaniline	ug/kg										

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Analysis	Parameter	Units	Ohio VAP C/I GDCSS	Ohio VAP CW GDCSS	SS18		COD05-C004		COD05-N003		COD05-S005	
					SS18-0-01		COD05-C004		COD05-N003		COD05-S005	
					5/18/2006		5/22/2007		5/22/2007		5/22/2007	
					0.5 - 1.5 ft		3 ft		1.5 ft		1.5 ft	
SVOCs	4,6-Dinitro-2-methylphenol	ug/kg										
SVOCs	4-Aminobiphenyl	ug/kg	2300	47000								
SVOCs	4-Bromophenyl phenyl ether	ug/kg			3300	U						
SVOCs	4-Chloro-3-methylphenol	ug/kg			3300	U						
SVOCs	4-Chloroaniline	ug/kg	2.50E+05	7.10E+05	3300	U						
SVOCs	4-Chlorophenyl phenyl ether	ug/kg										
SVOCs	4-Dimethylaminoazobenzene	ug/kg	11000	220000								
SVOCs	4-Nitroaniline	ug/kg	2.50E+06	1.40E+07								
SVOCs	4-Nitrophenol	ug/kg										
SVOCs	5-Nitro-2-Toluidine	ug/kg										
SVOCs	7,12-Dimethylbenz(a)anthracene	ug/kg	170	3600								
SVOCs	Acenaphthene	ug/kg	9.00E+07	7.80E+08	3300	U	83.9	U	86.7	U	80.2	U
SVOCs	Acenaphthylene	ug/kg			3300	U	83.9	U	86.7	U	173	
SVOCs	Acetophenone	ug/kg	2.50E+06	2.50E+06								
SVOCs	Aniline	ug/kg	8.70E+06	9.90E+06								
SVOCs	Anthracene	ug/kg	4.50E+08	1.00E+09	3300	U	83.9	U	86.7	U	125	
SVOCs	Benzidine	ug/kg	210	4300								
SVOCs	Benzo(a)anthracene	ug/kg	5.80E+04	1.20E+06	3300	U	83.9	U	86.7	U	283	
SVOCs	Benzo(a)pyrene	ug/kg	5.80E+03	1.20E+05	1600	U	83.9	U	86.7	U	279	
SVOCs	Benzo(b)fluoranthene	ug/kg	5.80E+04	1.20E+06	3300	U	83.9	U	86.7	U	273	
SVOCs	Benzo(g,h,i)perylene	ug/kg			3300	U	83.9	U	86.7	U	262	
SVOCs	Benzo(k)fluoranthene	ug/kg	5.80E+05	1.20E+07	3300	U	83.9	U	86.7	U	218	
SVOCs	Benzoic acid	ug/kg	1.00E+09	1.00E+09	16000	U						
SVOCs	Benzyl alcohol	ug/kg			3300	U						
SVOCs	Benzyl butyl phthalate	ug/kg	2.60E+07	5.20E+08	3300	U						
SVOCs	bis(2-Chloroethoxy)methane	ug/kg	5.30E+06	4.30E+07	3300	U						
SVOCs	bis(2-Chloroethyl)ether	ug/kg	3.00E+04	2.90E+05	3300	U						
SVOCs	bis(2-chloroisopropyl)ether	ug/kg			3300	U						
SVOCs	bis(2-Ethylhexyl)phthalate	ug/kg	3.50E+06	7.10E+07	3300	U						
SVOCs	Butyl benzylphthalate	ug/kg	2.60E+07	5.20E+08								
SVOCs	Chrysene	ug/kg	5.80E+06	1.20E+08	3300	U	83.9	U	86.7	U	259	
SVOCs	Dibenz(a,h)anthracene	ug/kg	5.80E+03	1.20E+08	1600	U	83.9	U	86.7	U	80.2	U
SVOCs	Dibenzofuran	ug/kg			3300	U						
SVOCs	Diethyl phthalate	ug/kg	1.00E+09	1.00E+09	3300	U						
SVOCs	Dimethyl phthalate	ug/kg			3300	U						
SVOCs	Di-n-butylphthalate	ug/kg	1.80E+08	4.30E+08								
SVOCs	Di-N-Octyl phthalate	ug/kg			3300	U						
SVOCs	Ethyl methanesulfonate	ug/kg										
SVOCs	Fluoranthene	ug/kg	6.00E+07	1.60E+08	3300	U	169		86.7	U	437	
SVOCs	Fluorene	ug/kg	6.00E+07	5.20E+08	3300	U	83.9	U	86.7	U	80.2	U
SVOCs	Hexachlorobenzene	ug/kg	3.10E+04	1.40E+04	3300	U						
SVOCs	Hexachlorobutadiene	ug/kg	6.30E+05	1.40E+06								
SVOCs	Hexachlorobutadiene, SVOC	ug/kg	6.30E+05	1.40E+06								
SVOCs	Hexachlorocyclopentadiene	ug/kg	1.10E+07	2.60E+07	6600	U						
SVOCs	Hexachloroethane	ug/kg	1.20E+06	3.00E+06	3300	U						
SVOCs	Indeno(1,2,3-cd)pyrene	ug/kg	5.80E+04	1.20E+06	3300	U	83.9	U	86.7	U	192	
SVOCs	Isophorone	ug/kg	5.20E+07	1.00E+09	3300	U						
SVOCs	Methyl methanesulfonate	ug/kg										
SVOCs	Naphthalene, SVOC	ug/kg	4.50E+05	5.60E+05	3300	U	83.9	U	86.7	U	80.2	U
SVOCs	Nitrobenzene	ug/kg	6.10E+05	3.00E+06	3300	U						
SVOCs	N-Nitrosodimethylamine	ug/kg	1.00E+03	1.10E+04								
SVOCs	N-Nitrosodi-N-butylamine	ug/kg	1.40E+04	1.50E+05								
SVOCs	N-Nitrosodi-n-propylamine	ug/kg	7.00E+03	1.40E+05	380	U						

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Analysis	Parameter	Units	Ohio VAP C/I GDCSS	Ohio VAP CW GDCSS	SS18		COD05-C004		COD05-N003		COD05-S005
					SS18-0-01		COD05-C004		COD05-N003		COD05-S005
					5/18/2006		5/22/2007		5/22/2007		5/22/2007
					0.5 - 1.5 ft		3 ft		1.5 ft		1.5 ft
SVOCs	N-Nitrosodiphenylamine	ug/kg	1.00E+07	2.00E+08							
SVOCs	N-Nitrosopiperidine	ug/kg	5.20E+03	1.10E+05							
SVOCs	Pentachlorobenzene	ug/kg	1.40E+06	1.10E+07							
SVOCs	Pentachloronitrobenzene	ug/kg	1.90E+05	3.80E+06							
SVOCs	Pentachlorophenol	ug/kg	6.70E+04	9.50E+05	3300	U					
SVOCs	Phenacetin	ug/kg	2.20E+07	4.50E+08							
SVOCs	Phenanthrene	ug/kg			3300	U	83.9	U	86.7	U	150
SVOCs	Phenol	ug/kg	5.30E+08	8.40E+08	3300	U					
SVOCs	Pronamide	ug/kg									
SVOCs	Pyrene, SVOC	ug/kg	4.50E+07	3.90E+08	3300	U	134		86.7	U	384
SVOCs	Pyridine	ug/kg	4.10E+06	2.10E+07							
TPH	Total Petroleum Hydrocarbons	ug/kg									
TPH	TPH C10-C20	ug/kg	2.00E+06	2.00E+06	24400						
TPH	TPH C20-C34	ug/kg	5.00E+06	5.00E+06	111000						
VOCs	1,1,1,2-Tetrachloroethane	ug/kg	2.40E+05	6.80E+05							
VOCs	1,1,1-Trichloroethane	ug/kg	6.40E+05	6.40E+05							
VOCs	1,1,2,2-Tetrachloroethane	ug/kg	7.50E+04	6.70E+05							
VOCs	1,1,2-Trichloroethane	ug/kg	1.40E+05	1.20E+06							
VOCs	1,1-Dichloroethane	ug/kg	4.20E+05	1.70E+06							
VOCs	1,1-Dichloroethene	ug/kg	1.20E+06	3.60E+05							
VOCs	1,1-Dichloropropene	ug/kg									
VOCs	1,2,3-Trichlorobenzene	ug/kg									
VOCs	1,2,3-Trichloropropane	ug/kg									
VOCs	1,2,4-Trichlorobenzene, VOC	ug/kg	4.00E+05	4.00E+05							
VOCs	1,2,4-Trimethylbenzene	ug/kg	2.20E+05	2.20E+05							
VOCs	1,2-Dibromo-3-chloropropane	ug/kg	1.70E+03	1.50E+04							
VOCs	1,2-Dibromoethane	ug/kg	4.40E+03	3.80E+04							
VOCs	1,2-Dichlorobenzene, VOC	ug/kg									
VOCs	1,2-Dichloroethane	ug/kg	5.60E+04	4.80E+05							
VOCs	1,2-Dichloropropane	ug/kg	1.20E+05	1.80E+05							
VOCs	1,3,5-Trimethylbenzene	ug/kg									
VOCs	1,3-Dichlorobenzene, VOC	ug/kg									
VOCs	1,3-Dichloropropane	ug/kg	1.50E+06	1.50E+06							
VOCs	1,4-Dichlorobenzene, VOC	ug/kg	3.10E+05	2.60E+06							
VOCs	1,4-Dioxane	ug/kg	4.90E+05	1.00E+07							
VOCs	2,2-Dichloropropane	ug/kg									
VOCs	2-Butanone	ug/kg	2.80E+07	2.80E+07							
VOCs	2-Chlorotoluene	ug/kg									
VOCs	2-Hexanone	ug/kg									
VOCs	2-Phenylbutane	ug/kg									
VOCs	4-Chlorotoluene	ug/kg									
VOCs	4-Methyl-2-Pentanone	ug/kg	3.40E+06	3.40E+06							
VOCs	Acetone	ug/kg	1.10E+08	1.10E+08							
VOCs	Benzene	ug/kg	1.40E+05	1.20E+06							
VOCs	Bromobenzene	ug/kg									
VOCs	Bromochloromethane	ug/kg									
VOCs	Bromodichloromethane	ug/kg	3.50E+04	3.00E+05							
VOCs	Bromoform	ug/kg	6.20E+06	1.30E+08							
VOCs	Bromomethane	ug/kg	8.20E+04	5.50E+05							
VOCs	Carbon disulfide	ug/kg	7.40E+05	7.40E+05							
VOCs	Carbon tetrachloride	ug/kg	7.90E+04	4.60E+05							
VOCs	Chlorobenzene	ug/kg	7.60E+05	7.60E+05							
VOCs	Chlorobromomethane	ug/kg									

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Analysis	Parameter	Units	Ohio VAP C/I GDCSS	Ohio VAP CW GDCSS	SS18		COD05-C004	COD05-N003	COD05-S005
					SS18-0-01		COD05-C004	COD05-N003	COD05-S005
					5/18/2006		5/22/2007	5/22/2007	5/22/2007
					0.5 - 1.5 ft		3 ft	1.5 ft	1.5 ft
VOCs	Chloroethane	ug/kg							
VOCs	Chloroform	ug/kg	3.80E+04	3.20E+05					
VOCs	Chloromethane	ug/kg	1.30E+06	1.30E+06					
VOCs	cis-1,2-Dichloroethene	ug/kg							
VOCs	cis-1,3-Dichloropropene	ug/kg	2.30E+05	5.20E+05					
VOCs	Cymene	ug/kg							
VOCs	Dibromochloromethane	ug/kg	8.40E+04	7.70E+05					
VOCs	Dibromomethane	ug/kg	2.80E+06	3.80E+04					
VOCs	Dichlorodifluoromethane	ug/kg	8.50E+05	8.50E+05					
VOCs	Ethylbenzene	ug/kg	4.80E+05	4.80E+05					
VOCs	Hexachlorobutadiene, VOC	ug/kg	6.30E+05	1.40E+06					
VOCs	Isopropylbenzene, VOC	ug/kg	2.70E+05	2.70E+05					
VOCs	m&p-Xylene	ug/kg	2.60E+05	2.60E+05					
VOCs	Methyl tert butyl ether	ug/kg	5.70E+06	8.90E+06					
VOCs	Methylene chloride	ug/kg	3.30E+06	3.30E+06					
VOCs	Naphthalene, VOC	ug/kg	4.50E+05	5.60E+05					
VOCs	n-Butylbenzene	ug/kg							
VOCs	n-Hexane	ug/kg	1.40E+05	1.40E+05					
VOCs	n-Propylbenzene	ug/kg							
VOCs	o-Xylene	ug/kg	2.60E+05	2.60E+05					
VOCs	Pentachloroethane	ug/kg	5.50E+05	1.10E+07					
VOCs	p-Isopropyltoluene	ug/kg							
VOCs	sec-Butylbenzene	ug/kg							
VOCs	Styrene	ug/kg	8.70E+05	8.70E+05					
VOCs	tert-Butylbenzene	ug/kg							
VOCs	Tetrachloroethene	ug/kg	1.70E+05	1.70E+05					
VOCs	Toluene	ug/kg	8.20E+05	8.20E+05					
VOCs	trans-1,2-Dichloroethene	ug/kg	1.70E+06	1.70E+06					
VOCs	trans-1,3-Dichloropropene	ug/kg	2.30E+05	5.20E+05					
VOCs	Trichloroethene	ug/kg	5.10E+04	1.70E+04					
VOCs	Trichlorofluoromethane	ug/kg	1.20E+06	1.20E+06					
VOCs	Vinyl acetate	ug/kg	2.70E+06	6.20E+05					
VOCs	Vinyl chloride	ug/kg	5.00E+04	2.80E+05					
VOCs	Xylene (Total)	ug/kg	2.60E+05	2.60E+05					

Notes:
Chromium GDCSS based upon the Chromium IV GDCSS
no criteria available
concentration exceeds criteria, and chemical with exceedances

% = percent
ft = feet
mg/kg = milligram per kilogram
ug/kg = microgram per kilogram
GRO = Gasoline Range Organics
J = estimated value
PCB = polychlorinated biphenyl
TPH = Total petroleum hydrocarbons
U = not detected above detection limit
VOC = Volatile Organic Compounds
SVOC = Semi-Volatile Organic Compounds

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Soil Data Compared to GDCC
N Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
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Analysis	Parameter	Units	Ohio VAP C/I GDCSS	Ohio VAP CW GDCSS	Station Name	BH-171		BH-171		MW-13-03		MW-13-03		MW-3-02		MW-3-02		MW-3-02		SB-144-04		SB-144-04	
					FieldSampleID	S-110104-NZ-005		S-110104-NZ-006		MW-13-03		MW-13-03		MW-3-02		MW-3-02		MW-3-02		SB-144-04		SB-144-04	
					Sample Date	11/1/2004		11/1/2004		3/5/2003		3/5/2003		6/26/2002		6/26/2002		6/26/2002		1/27/2004		1/27/2004	
					Depth	0 - 2 ft		7.5 - 9.5 ft		2 - 4 ft		9 - 11 ft		0 - 2 ft		8 - 10 ft		12 - 14 ft		0 - 2 ft		8 - 10 ft	
Field Parameters	pH Field	s.u.																					
Metals	Antimony	mg/kg	1.60E+03	8.50E+02						0.68	J	0.24	J	7.2	U	8.6	U	6.4	U	7.3	UJ	8.5	UJ
Metals	Arsenic	mg/kg	7.70E+01	6.90E+02						7.8		2.4		11.7		3.6		3.1		3.3		4.4	
Metals	Barium	mg/kg								233	J	30.4	J	148		211		44		151		249	
Metals	Beryllium	mg/kg	7.80E+03	3.40E+03						0.4	J	0.52	U	0.6	U	0.71	U	0.54	U	0.8		0.47	J
Metals	Cadmium	mg/kg	2.60E+03	1.00E+03						0.065	J	0.52	U	0.6	U	0.56	J	0.58		0.51	J	0.4	J
Metals	Chromium Total	mg/kg	2.10E+02	1.20E+03						10.1		3.4		15		8		12.4		36.3	J	9.8	J
Metals	Cobalt	mg/kg								4.8	J	2	J	12		3.7	J	2.1	J	4.4	J	5.3	J
Metals	Copper	mg/kg	1.60E+05	2.10E+04						17.3		4.2		74.2		7.9		2.7	U	454	J	10.8	J
Metals	Cyanide (total)	mg/kg	3.70E+02	1.50E+02						0.15	J	0.13	J	0.15	J	0.71	U	0.54	U	0.61	U	0.71	U
Metals	Lead	mg/kg	8.00E+02	4.00E+02						23.9		2.2		228		7.1		2.4		172		9.6	
Metals	Manganese	mg/kg				182		401		627	J	164	J	1090		292		235		266		751	
Metals	Mercury	mg/kg	3.10E+00	3.10E+00						0.14	U	0.1	U	0.11	J	0.14	U	0.11	U	0.072	J	0.054	J
Metals	Nickel	mg/kg	7.40E+04	2.30E+04						12.7		4.9		22.4		10.4		5.5		66.5		12.3	
Metals	Selenium	mg/kg	2.00E+04	1.10E+04						0.76		0.52	U	0.6	U	0.71	U	0.54	U	0.61	U	0.71	U
Metals	Silver	mg/kg	2.00E+04	1.10E+04						1.4	U	1	U	1.2	U	1.4	U	1.1	U	0.29	J	1.4	U
Metals	Thallium	mg/kg								1.7		1	U	1.2	U	1.4	U	1.7		0.74	J	1.4	U
Metals	Vanadium	mg/kg	2.30E+04	1.10E+04						15.6		6.8		26.9		12.9		7.4		8.9		14	
Metals	Zinc	mg/kg	1.00E+06	6.40E+05						61.2	J	15.2	U	65.9		42.8		15.3		153	J	46.3	J
Miscellaneous	Percent moisture	%																					
Miscellaneous	pH (solid)	s.u.												8.2		7.6		8.5					
Miscellaneous	Total Solids	%				95.4		64.7		73.2		96.2		83.1		70		93.1		82.1		70.7	
Other	C21-C34 Aliphatics	mg/kg	5000	5000																			
PCBs/Pesticides	Aroclor-1016	mg/kg	1.00E+02	2.60E+02						0.045	U	6.90E-02	U	0.04	U	2.4	U	7.1	U	0.04	U	0.047	U
PCBs/Pesticides	Aroclor-1221	mg/kg	1.40E+01	2.10E+02						0.045	U	6.90E-02	U	0.04	U	2.4	U	7.1	U	0.04	U	0.047	U
PCBs/Pesticides	Aroclor-1232	mg/kg	1.40E+01	7.30E+01						0.045	U	6.90E-02	U	0.04	U	2.4	U	7.1	U	0.04	U	0.047	U
PCBs/Pesticides	Aroclor-1242	mg/kg	2.00E+01	4.40E+02						0.045	U	6.90E-02	U	0.04	U	2.4	U	7.1	U	0.04	U	0.047	U
PCBs/Pesticides	Aroclor-1248	mg/kg	2.00E+01	4.40E+02						0.045	U	6.90E-02	U	0.04	U	2.4	U	7.1	U	0.04	U	0.047	U
PCBs/Pesticides	Aroclor-1254	mg/kg	2.00E+01	7.50E+01						0.045	U	0.55		0.19		27		61		0.04	U	0.013	J
PCBs/Pesticides	Aroclor-1260	mg/kg	2.00E+01	4.40E+02						0.045	U	6.90E-02	U	0.04	U	2.4	U	7.1	U	0.04	U	0.047	U
PCBs/Pesticides	Total PCBs	ug/kg	1.40E+04	7.30E+04																			
SVOCs	2,2-oxybis(2-Chloropropane), SVOC	ug/kg								450	U	340	U							400	U	470	U
SVOCs	2,4,5-Trichlorophenol	ug/kg	1.80E+08	1.00E+09						450	U	340	U							400	U	470	U
SVOCs	2,4,6-Trichlorophenol	ug/kg	1.80E+06	1.40E+06						450	U	340	U							400	U	470	U
SVOCs	2,4-Dichlorophenol	ug/kg	5.30E+06	2.80E+07						450	U	340	U							400	U	470	U
SVOCs	2,4-Dimethylphenol	ug/kg	3.50E+07	8.50E+07						450	U	340	U							400	U	470	U
SVOCs	2,4-Dinitrophenol	ug/kg	3.50E+06	2.80E+07						2200	U	1700	U							2000	U	2300	U
SVOCs	2,4-Dinitrotoluene	ug/kg	1.60E+05	2.80E+06						450	U	340	U							400	U	470	U
SVOCs	2,6-Dinitrotoluene	ug/kg	3.30E+04	6.70E+05						450	U	340	U							400	U	470	U
SVOCs	2-Chloronaphthalene	ug/kg	3.30E+08	1.00E+09						450	U	340	U							400	U	470	U
SVOCs	2-Chlorophenol	ug/kg	2.00E+07	2.20E+07						450	U	340	U							400	U	470	U
SVOCs	2-Methylnaphthalene	ug/kg	6.00E+06	5.20E+06						33	J	340	U							51	J	470	U
SVOCs	2-Methylphenol	ug/kg	8.80E+07	7.10E+08						450	U	340	U							400	U	470	U
SVOCs	2-Nitroaniline	ug/kg								2200	U	1700	U							2000	U	2300	U
SVOCs	2-Nitrophenol	ug/kg								450	U	340	U							400	U	470	U
SVOCs	3,3-Dichlorobenzidine	ug/kg	1.10E+05	2.20E+06						2200	U	1700	U							2000	U	2300	U
SVOCs	3-Nitroaniline	ug/kg								2200	U	1700	U							2000	U	2300	U
SVOCs	4,6-Dinitro-2-methylphenol	ug/kg								2200	U	1700	U							2000	U	2300	U
SVOCs	4-Bromophenyl phenyl ether	ug/kg								450	U	340	U							400	U	470	U
SVOCs	4-Chloro-3-methylphenol	ug/kg								450	U	340	U							400	U	470	U
SVOCs	4-Chloroaniline	ug/kg	2.50E+05	7.10E+05						450	U	340	U							400	U	470	U
SVOCs	4-Chlorophenyl phenyl ether	ug/kg								450	U	340	U							400	U	470	U
SVOCs	4-Methylphenol	ug/kg	1.80E+08	2.80E+07						450	U	340	U							400	U	470	U
SVOCs	4-Nitroaniline	ug/kg	2.50E+06	1.40E+07						2200	U	1700	U							2000	U	2300	U
SVOCs	4-Nitrophenol	ug/kg								2200	U	1700	U							2000	U	2300	U
SVOCs	Acenaphthene	ug/kg	9.00E+07	7.80E+08						450	U	340	U							400	U	470	U
SVOCs	Acenaphthylene	ug/kg								450	U	340	U							400	U	470	U
SVOCs	Acetophenone	ug/kg	2.50E+06	2.50E+06						450	U	340	U							400	U	470	U
SVOCs	Anthracene	ug/kg	4.50E+08	1.00E+09						450	U	340	U							400	U	470	U
SVOCs	Atrazine	ug/kg								450	U	340	U							400	U	470	U
SVOCs	Benzaldehyde	ug/kg								450	U	340	U							400	U	470	U
SVOCs	Benzo(a)anthracene	ug/kg	5.80E+04	1.20E+06						450	U	340	U							31	J	470	U
SVOCs	Benzo(a)pyrene	ug/kg	5.80E+03	1.20E+05						450	U	340	U							400	U	470	U
SVOCs	Benzo(b)fluoranthene	ug/kg	5.80E+04	1.20E+06						450	U	340	U							400	U	470	U
SVOCs	Benzo(g,h,i)perylene	ug/kg								450	U	340	U							29	J	470	U
SVOCs	Benzo(k)fluoranthene	ug/kg	5.80E+05	1.20E+07						450	U	340	U							400	U	470	U
SVOCs	Biphenyl	ug/kg	1.40E+07	1.90E+08						450	U	340	U							400	U	470	U
SVOCs	bis(2-Chloroethoxy)methane	ug/kg	5.30E+06	4.30E+07						450	U	340	U							400	U	470	U
SVOCs	bis(2-Chloroethyl)ether	ug/kg	3.00E+04	2.90E+05						450	U	340	U							400	U	470	U
SVOCs	bis(2-Ethylhexyl)phthalate	ug/kg	3.50E+06	7.10E+07						450	U	340	U							400	U	69	J
SVOCs	Butyl benzylphthalate	ug/kg	2.60E+07	5.20E+08						450	U	340	U							400	U	470	U
SVOCs	Caprolactam	ug/kg								450	U	340	U							400	U	470	U
SVOCs	Carbazole	ug/kg								450	U	340	U							400	U	470	U
SVOCs	Chrysene	ug/kg	5.80E+06	1.20E+08						450	U	340	U							54	J	470	U
SVOCs	Dibenz(a,h)anthracene	ug/kg	5.80E+03	1.20E+08						450	U	340	U							400	U	470	U
SVOCs	Dibenzofuran	ug/kg								450	U	340	U							400	U	470	U
SVOCs	Diethyl phthalate	ug/kg	1.00E+09	1.00E+09						450	U	340	U							400	U	470	U
SVOCs	Dimethyl phthalate	ug/kg								450	U	340	U							400	U	470	U
SVOCs	Di-n-butylphthalate	ug/kg	1.80E+08	4.30E+08						450	U	340	U							400	U	470	U
SVOCs	Di-N-Octyl phthalate	ug/kg								450	U	340	U							400	U	470	U
SVOCs	Fluoranthene	ug/kg	6.00E+07	1.60E+08						24	J	340	U							63	J	470	U
SVOCs	Fluorene	ug/kg	6.00E+07	5.20E+08						450	U	340	U							400	U	470	U
SVOCs	Hexachlorobenzene	ug/kg	3.10E+04	1.40E+04						450	U	340	U							400	U	470	U
SVOCs	Hexachlorobutadiene, SVOC	ug/kg	6.30E+05	1.40E+06						450	U	340	U							400	U	470	U
SVOCs	Hexachlorocyclopentadiene	ug/kg	1.10E+07	2.60E+07						2200	U	1700	U							2000	U	2300	U
SVOCs	Hexachloroethane	ug/kg	1.20E+06	3.00E+06						450	U	340	U							400	U	470	U
SVOCs	Indeno(1,2,3-cd)pyrene	ug/kg	5.80E+04	1.20E+06						450	U	340	U							400	U	470	U
SVOCs	Isophorone	ug/kg	5.20E+07	1.00E+09						450	U	340	U							400	U	470	U

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Appendix A
Soil Data Compared to GDCC
N Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units	Ohio VAP C/I GDCSS	Ohio VAP CW GDCSS	Station Name	BH-171		BH-171		MW-13-03		MW-13-03		MW-3-02		MW-3-02		MW-3-02		SB-144-04		SB-144-04	
					FieldSampleID	S-110104-NZ-005		S-110104-NZ-006		MW-13-03		MW-13-03		MW-3-02		MW-3-02		MW-3-02		SB-144-04		SB-144-04	
					Sample Date	11/1/2004		11/1/2004		3/5/2003		3/5/2003		6/26/2002		6/26/2002		6/26/2002		1/27/2004		1/27/2004	
					Depth	0 - 2 ft		7.5 - 9.5 ft		2 - 4 ft		9 - 11 ft		0 - 2 ft		8 - 10 ft		12 - 14 ft		0 - 2 ft		8 - 10 ft	
SVOCs	Naphthalene, SVOC	ug/kg	4.50E+05	5.60E+05						450	U	340	U							30	J	470	U
SVOCs	Nitrobenzene	ug/kg	6.10E+05	3.00E+06						450	U	340	U							400	U	470	U
SVOCs	N-Nitrosodi-n-propylamine	ug/kg	7.00E+03	1.40E+05						450	U	340	U							400	U	470	U
SVOCs	N-Nitrosodiphenylamine	ug/kg	1.00E+07	2.00E+08						450	U	340	U							400	U	470	U
SVOCs	Pentachlorophenol	ug/kg	6.70E+04	9.50E+05						450	U	340	U							400	U	470	U
SVOCs	Phenanthrene	ug/kg								43	J	340	U							100	J	470	U
SVOCs	Phenol	ug/kg	5.30E+08	8.40E+08						450	U	340	U							400	U	470	U
SVOCs	Pyrene, SVOC	ug/kg	4.50E+07	3.90E+08						450	U	340	U							57	J	470	U
TPH	Diesel Range Organics (DRO)	mg/kg	2000	2000																			
TPH	Gasoline Range Organics (GRO)	mg/kg	1000	1000																			
VOCs	1,1,1-Trichloroethane	ug/kg	6.40E+05	6.40E+05						370	U	4.6	U							1500	U	9.3	U
VOCs	1,1,2,2-Tetrachloroethane	ug/kg	7.50E+04	6.70E+05						370	U	4.6	U							1500	U	9.3	U
VOCs	1,1,2-Trichloroethane	ug/kg	1.40E+05	1.20E+06						370	U	4.6	U							1500	U	9.3	U
VOCs	1,1-Dichloroethane	ug/kg	4.20E+05	1.70E+06						370	U	4.6	U							1500	U	9.3	U
VOCs	1,1-Dichloroethene	ug/kg	1.20E+06	3.60E+05						370	U	4.6	U							1500	U	9.3	U
VOCs	1,2,4-Trichlorobenzene, VOC	ug/kg	4.00E+05	4.00E+05						370	U	4.6	U							1500	U	9.3	U
VOCs	1,2-Dibromo-3-chloropropane	ug/kg	1.70E+03	1.50E+04						750	U	9.1	U							3100	U	19	U
VOCs	1,2-Dibromoethane	ug/kg	4.40E+03	3.80E+04						370	U	4.6	U							1500	U	9.3	U
VOCs	1,2-Dichlorobenzene, VOC	ug/kg	3.80E+05	3.80E+05						370	U	4.6	U							1500	U	72	
VOCs	1,2-Dichloroethane	ug/kg	5.60E+04	4.80E+05						370	U	4.6	U							1500	U	9.3	U
VOCs	1,2-Dichloropropane	ug/kg	1.20E+05	1.80E+05						370	U	4.6	U							1500	U	9.3	U
VOCs	1,3-Dichlorobenzene, VOC	ug/kg								370	U	4.6	U							1500	U	9.3	U
VOCs	1,4-Dichlorobenzene, VOC	ug/kg	3.10E+05	2.60E+06						370	U	4.6	U							1500	U	11	
VOCs	2-Butanone	ug/kg	2.80E+07	2.80E+07						130	J	18	U							6200	UJ	10	J
VOCs	2-Hexanone	ug/kg								1500	U	18	U							6200	UJ	37	U
VOCs	4-Methyl-2-Pentanone	ug/kg	3.40E+06	3.40E+06						1500	U	18	U							6200	U	37	U
VOCs	Acetone	ug/kg	1.10E+08	1.10E+08						1500	U	18	U							6200	UJ	36	J
VOCs	Benzene	ug/kg	1.40E+05	1.20E+06						370	U	0.33	J							1500	U	9.3	U
VOCs	Bromodichloromethane	ug/kg	3.50E+04	3.00E+05						370	U	4.6	U							1500	U	9.3	U
VOCs	Bromoform	ug/kg	6.20E+06	1.30E+08						370	U	4.6	U							1500	U	9.3	UJ
VOCs	Bromomethane	ug/kg	8.20E+04	5.50E+05						370	U	4.6	U							1500	U	9.3	U
VOCs	Carbon disulfide	ug/kg	7.40E+05	7.40E+05						370	U	4.6	U							1500	U	9.3	U
VOCs	Carbon tetrachloride	ug/kg	7.90E+04	4.60E+05						370	U	4.6	U							1500	U	9.3	U
VOCs	Chlorobenzene	ug/kg	7.60E+05	7.60E+05						370	U	4.6	U							1500	U	23	
VOCs	Chloroethane	ug/kg								370	U	4.6	U							1500	U	9.3	U
VOCs	Chloroform	ug/kg	3.80E+04	3.20E+05						370	U	4.6	U							1500	U	9.3	U
VOCs	Chloromethane	ug/kg	1.30E+06	1.30E+06						370	U	4.6	U							1500	U	9.3	U
VOCs	cis-1,2-Dichloroethene	ug/kg								160	J	2.3	U							4000		4.7	U
VOCs	cis-1,3-Dichloropropene	ug/kg	2.30E+05	5.20E+05						370	U	4.6	U							1500	U	9.3	U
VOCs	Cyclohexane	ug/kg	1.20E+05	1.20E+05						38	J	9.1	U							3100	U	19	U
VOCs	Dibromochloromethane	ug/kg	8.40E+04	7.70E+05						370	U	4.6	U							1500	U	9.3	U
VOCs	Dichlorodifluoromethane	ug/kg	8.50E+05	8.50E+05						370	U	4.6	U							1500	U	9.3	U
VOCs	Ethylbenzene	ug/kg	4.80E+05	4.80E+05						370	U	4.6	U							1500	U	9.3	U
VOCs	Isopropylbenzene, VOC	ug/kg	2.70E+05	2.70E+05						370	U	4.6	U							1500	U	25	
VOCs	Methyl acetate	ug/kg								750	U	9.1	U							3100	U	19	U
VOCs	Methyl cyclohexane	ug/kg								90	J	9.1	U							530	J	3.2	J
VOCs	Methyl tert butyl ether	ug/kg	5.70E+06	8.90E+06						1500	U	18	U							6200	U	37	U
VOCs	Methylene chloride	ug/kg	3.30E+06	3.30E+06						370	U	4.6	U							1500	U	9.3	U
VOCs	Styrene	ug/kg	8.70E+05	8.70E+05						370	U	4.6	U							1500	U	9.3	U
VOCs	Tetrachloroethene	ug/kg	1.70E+05	1.70E+05						1600		6.4								53000		7.1	J
VOCs	Toluene	ug/kg	8.20E+05	8.20E+05						370	U	1.1	J							1500	U	1.1	J
VOCs	trans-1,2-Dichloroethene	ug/kg	1.70E+06	1.70E+06						190	U	2.3	U							770	U	4.7	U
VOCs	trans-1,3-Dichloropropene	ug/kg	2.30E+05	5.20E+05						370	U	4.6	U							1500	U	9.3	U
VOCs	Trichloroethene	ug/kg	5.10E+04	1.70E+04						1600		1.2	J							48000		1.9	J
VOCs	Trichlorofluoromethane	ug/kg	1.20E+06	1.20E+06						370	U	4.6	U							1500	U	9.3	U
VOCs	Trifluorotrichloroethane	ug/kg								370	U	4.6	U							1500	U	9.3	U
VOCs	Vinyl chloride	ug/kg	5.00E+04	2.80E+05						370	U	4.6	U							1500	U	9.3	U
VOCs	Xylene (Total)	ug/kg	2.60E+05	2.60E+05						750	U	9.1	U							3100	U	2.1	J

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Appendix A
Soil Data Compared to GDCC
N Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units	Ohio VAP C/I GDCSS	Ohio VAP CW GDCSS	Station Name	SB-144-04		SB-145-04		SB-145-04		SB-145-04		SB-146-04		SB-146-04		SB-146-04		SB-150-04		SB-150-04		SB-150-04		SB-150-04		SB-151-04		SB-151-04		SB-151-04	
					FieldSampleID	SB-144-04		SB-145-04		SB-145-04		SB-145-04		SB-146-04		SB-146-04		SB-146-04		SB-150-04 DUP		SB-150-04		SB-150-04		SB-150-04		SB-151-04		SB-151-04 DUP		SB-151-04	
					Sample Date	1/27/2004		1/28/2004		1/28/2004		1/28/2004		1/28/2004		1/28/2004		1/28/2004		1/28/2004		1/28/2004		1/28/2004		1/28/2004		2/5/2004		2/5/2004		2/5/2004	
					Depth	12.5 - 14.5 ft		0 - 2 ft		8 - 10 ft		11 - 13 ft		0 - 2 ft		8 - 10 ft		12 - 14 ft		0 - 2 ft		0 - 2 ft		8 - 10 ft		12 - 14 ft		0 - 2 ft		8 - 10 ft		8 - 10 ft	
Field Parameters	pH Field	s.u.																															
Metals	Antimony	mg/kg	1.60E+03	8.50E+02		6.7	UJ	0.56	J	6.2	UJ	6.4	UJ	0.5	J	6.8	UJ	6.5	UJ	0.6	J	1.1	J	6.4	UJ	6.4	UJ	7.2	UJ	7.4	UJ	6.3	UJ
Metals	Arsenic	mg/kg	7.70E+01	6.90E+02		8.2		8.5		5.3		2.8		6.5		2		4.7		10.2		7		1.1	U	2.8		3.2		2.9		3	
Metals	Barium	mg/kg				364		167		157		148		255		178		62.9		178		211		21.5		53.1		56.1		52		51.5	
Metals	Beryllium	mg/kg	7.80E+03	3.40E+03		0.56	U	0.87		0.52	U	0.54	U	1.3		0.57	U	0.55	U	1.1		0.74		0.53	U	0.53	U	0.14	J	0.082	J	0.078	J
Metals	Cadmium	mg/kg	2.60E+03	1.00E+03		0.71		0.24	J	0.24	J	0.19	J	3		1.6		0.55	U	0.69	U	0.57	U	0.53	U	0.53	U	0.15	J	0.16	J	0.17	J
Metals	Chromium Total	mg/kg	2.10E+02	1.20E+03		13.8	J	10.4		3.3		2.5		43.5		25.6		5.6		9.1		7		2.5		3.3		10.4	J	3.8	J	3.5	J
Metals	Cobalt	mg/kg				4.3	J	5.4	J	1.4	J	0.84	J	4	J	1.8	J	1.4	J	6.8	J	5	J	0.88	J	1.3	J	39.5		2	J	1.6	J
Metals	Copper	mg/kg	1.60E+05	2.10E+04		397	J	92.8		3.2		14.9		310		73.1		6.7		67.5		73.2		1.5	J	3.2		9.8	J	3.5	J	2.4	J
Metals	Cyanide (total)	mg/kg	3.70E+02	1.50E+02		0.56	U	0.59	U	0.52	U	0.54	U	0.73	U	0.57	U	0.55	U	0.69	U	0.21	J	0.53	U	0.53	U	0.6	U	0.62	U	0.53	U
Metals	Lead	mg/kg	8.00E+02	4.00E+02		15.2		130		2.1		2.3		240		40.8		2.2		105		109		1.1		2.1		4.8	J	2.8	J	2.1	J
Metals	Manganese	mg/kg				1090		578		523		358		217		297		163		537		306		90.1		180		609		520		240	
Metals	Mercury	mg/kg	3.10E+00	3.10E+00		0.065	J	0.11	J	0.25		0.11	U	0.081	J	0.12		0.11	U	0.15		0.07	J	0.11	U	0.02	J	0.12	U	0.12	U	0.11	U
Metals	Nickel	mg/kg	7.40E+04	2.30E+04		20.4		11.9		4.6		3.8	J	49.4		101		11.8		14		10.8		1.9	J	3.2	J	7.4	J	3.9	J	3.7	J
Metals	Selenium	mg/kg	2.00E+04	1.10E+04		0.56	U	0.59	U	0.52	U	0.54	U	0.73	U	0.57	U	0.55	U	0.69	U	0.57	U	0.53	U	0.53	U	0.6	U	0.62	U	0.53	U
Metals	Silver	mg/kg	2.00E+04	1.10E+04		0.43	J	1.2	U	1	U	1.1	U	1.5	U	1.1	U	1.1	U	1.4	U	1.1	U	1.1	U	1.1	U	0.35	J	1.2	U	1.1	U
Metals	Thallium	mg/kg				1.1	U	0.54	J	1	U	0.45	J	0.72	J	1.1	U	1.1	U	1.1	J	0.74	J	0.71	J	1.1	U	1.2	U	1.2	U	1.1	U
Metals	Vanadium	mg/kg	2.30E+04	1.10E+04		9.5		21		5.4		3.7	J	23.5		4.5	J	5.6		13.9		10.4		3.4	J	9.5		13.2		5.5	J	5.3	
Metals	Zinc	mg/kg	1.00E+06	6.40E+05		35.5	J	84		13.4		11.5		141		79.4		11.3		74.4		68.5		6.4		11.3		23.5	J	10.3	J	13	J
Miscellaneous	Percent moisture	%																															
Miscellaneous	pH (solid)	s.u.																															
Miscellaneous	Total Solids	%				89.6		84.2		96.1		93.3		69		88.5		91.7		72		87		94.2		94.3		83.8		81		94.6	
Other	C21-C34 Aliphatics	mg/kg	5000	5000																													
PCBs/Pesticides	Aroclor-1016	mg/kg	1.00E+02	2.60E+02		1.8	U	0.039	U	0.034	U	0.035	U	2.4	U	0.037	U	0.036	U	0.046	U	0.038	U	0.035	U	0.035	U	0.039	U	0.041	U	0.035	U
PCBs/Pesticides	Aroclor-1221	mg/kg	1.40E+01	2.10E+02		1.8	U	0.039	U	0.034	U	0.035	U	2.4	U	0.037	U	0.036	U	0.046	U	0.038	U	0.035	U	0.035	U	0.039	U	0.041	U	0.035	U
PCBs/Pesticides	Aroclor-1232	mg/kg	1.40E+01	7.30E+01		1.8	U	0.039	U	0.034	U	0.035	U	2.4	U	0.037	U	0.036	U	0.046	U	0.038	U	0.035	U	0.035	U	0.039	U	0.041	U	0.035	U
PCBs/Pesticides	Aroclor-1242	mg/kg	2.00E+01	4.40E+02		1.8	U	0.039	U	0.034	U	0.035	U	2.4	U	0.037	U	0.036	U	0.046	U	0.038	U	0.035	U	0.035	U	0.039	U	0.041	U	0.035	U
PCBs/Pesticides	Aroclor-1248	mg/kg	2.00E+01	4.40E+02		1.8	U	0.039	U	0.034	U	0.035	U	2.4	U	0.037	U	0.036	U	0.046	U	0.038	U	0.035	U	0.035	U	0.039	U	0.041	U	0.035	U
PCBs/Pesticides	Aroclor-1254	mg/kg	2.00E+01	7.50E+01		12		0.014	J	0.034	U	0.035		13		0.25		0.19		0.014	J	8.10E-03	J	0.035	U	0.29		0.49	J	0.041	UJ	0.035	UJ
PCBs/Pesticides	Aroclor-1260	mg/kg	2.00E+01	4.40E+02		1.8	U	0.039	U	0.034	U	0.035	U	2.4	U	0.037	U	0.036	U	0.046	U	0.038	U	0.035	U	0.035	U	0.039	UJ	0.041	UJ	0.035	UJ
PCBs/Pesticides	Total PCBs	ug/kg	1.40E+04	7.30E+04																													
SVOCs	2,2-oxybis(2-Chloropropane), SVOC	ug/kg				7400	U	390	U	340	U	350	U	4800	U	19000	U	18000	U	4600	U	3800	U	3500	U	18000	U	390	U	410	U	350	U
SVOCs	2,4,5-Trichlorophenol	ug/kg	1.80E+08	1.00E+09		7400	U	390	U	340	U	350	U	4800	U	19000	U	18000	U	4600	U	3800	U	3500	U	18000	U	390	U	410	U	350	U
SVOCs	2,4,6-Trichlorophenol	ug/kg	1.80E+06	1.40E+06		7400	U	390	U	340	U	350	U	4800	U	19000	U	18000	U	4600	U	3800	U	3500	U	18000	U	390	U	410	U	350	U
SVOCs	2,4-Dichlorophenol	ug/kg	5.30E+06	2.80E+07		7400	U	390	U	340	U	350	U	4800	U	19000	U	18000	U	4600	U	3800	U	3500	U	18000	U	390	U	410	U	350	U
SVOCs	2,4-Dimethylphenol	ug/kg	3.50E+07	8.50E+07		7400	U	390	U	340	U	350	U	4800	U	19000	U	18000	U	4600	U	3800	U	3500	U	18000	U	390	U	410	U	350	U
SVOCs	2,4-Dinitrophenol	ug/kg	3.50E+06	2.80E+07		36000	U	1900	U	1700	U	1700	U	23000	UJ	90000	UJ	87000	UJ	22000	UJ	18000	UJ	17000	UJ	85000	U	1900	U	2000	U	1700	U
SVOCs	2,4-Dinitrotoluene	ug/kg	1.60E+05	2.80E+06		7400	U	390	U	340	U	350	U	4800	U	19000	U	18000	U	4600	U	3800	U	3500	U	18000	U	390	U	410	U	350	U
SVOCs	2,6-Dinitrotoluene	ug/kg	3.30E+04	6.70E+05		7400	U	390	U	340	U	350	U	4800	U	19000	U	18000	U	4600	U	3800	U	3500	U	18000	U	390	U	410	U	350	U
SVOCs	2-Chloronaphthalene	ug/kg	3.30E+08	1.00E+09		7400	U	390	U	340	U	350	U	4800	U	19000	U	18000	U	4600	U	3800	U	3500	U	18000	U	390	U	410	U	350	U
SVOCs	2-Chlorophenol	ug/kg	2.00E+07	2.20E+07		7400	U	390	U	340	U	350	U	4800	U	19000	U	18000	U	4600	U	3800	U	3500	U	18000	U	390	U	410	U	350	U
SVOCs	2-Methylnaphthalene	ug/kg	6.00E+06	5.20E+06		7400	U	390	U	340	U	350	U	4800	U	19000	U	18000	U	4600	U	3800	U	3500	U	18000	U	78	J	410	U	350	U
SVOCs	2-Methylphenol	ug/kg	8.80E+07	7.10E+08		7400	U	390	U	340	U	350	U	4800	U	19000	U	18000	U	4600	U	3800	U	3500	U	18000	U	390	U	410	U	350	U
SVOCs	2-Nitroaniline	ug/kg				36000	U	1900	U	1700	U	1700	U	23000	U	90000	U	87000	U	22000	U	18000	U	17000	U	85000	U	1900	U	2000	U	1700	U
SVOCs	2-Nitrophenol	ug/kg				7400	U	390	U	340	U	350	U	4800	U	19000	U	18000	U	4600	U	3800	U	3500	U	18000	U	390	U	410	U	350	U
SVOCs	3,3-Dichlorobenzidine	ug/kg	1.10E+05	2.20E+06		36000	U	1900	U	1700	U	1700	U	23000	U	90000	U	87000	U	22000	U	18000	U	17000	U	85000	U	1900	U	2000	U	1700	U
SVOCs	3-Nitroaniline	ug/kg				36000	U	1900	U	1700	U	1700	U	23000	U	90000	U	87000	U	22000	U	18000	U	17000	U	85000	U	1900	U	2000	U	1700	U
SVOCs	4,6-Dinitro-2-methylphenol	ug/kg				36000	U	1900	U	1700	U	1700	U	23000	U	90000	U	87000	U	22000	U	18000	U	17000	U	85000	U	1900	U	2000	U	1700	U
SVOCs	4-Bromophenyl phenyl ether	ug/kg				7400	U	390	U	340	U	350	U	4800	U	19000	U	18000	U	4600	U	3800	U	3500	U	18000	U	390	U	410	U	350	U
SVOCs	4-Chloro-3-methylphenol	ug/kg				7400	U	390	U	340	U	350	U	4800	U	19000	U	18000	U	4600	U	3800	U	3500	U	18000	U	390	U	410	U	350	U
SVOCs	4-Chloroaniline	ug/kg	2.50E+05	7.10E+05		7400	U	390	U	340	U	350	U	4800	U	19000	U	18000	U	4600	U	3800	U	3500	U	18000	U	390	U	410	U	350	U
SVOCs	4-Chlorophenyl phenyl ether	ug/kg				7400	U	390	U	340	U	350	U	4800	U	19000	U	18000	U	4600	U	3800	U	3500	U	18000	U	390	U	410	U	350	U
SVOCs	4-Methylphenol	ug/kg	1.80E+08	2.80E+07		7400	U	390	U	340	U	350	U	4800	U	19000	U	18000	U	4600	U	3800	U	3500	U	18000	U	390	U	410	U	350	U
SVOCs	4-Nitroaniline	ug/kg	2.50E+06	1.40E+07		36000	U	1900	U	1700	U	1700	U	23000	U	90000	U	87000	U	22000	U	18000	U	17000	U	85000	U	1900	U	2000	U	1700	U
SVOCs	4-Nitrophenol	ug/kg				36000	U	1900	U	1700	U	1700	U	23000	U	90000	U	87000	U	22000	U	18000	U	17000	U	85000	U	1900	U	2000	U	1700	U
SVOCs	Acenaphthene	ug/kg	9.00E+07	7.80E+08		7400	U	390	U	340	U	350	U	4800	U	19000	U	18000	U	4600	U	3800	U	3500	U	18000	U	390	U	410	U	350	U
SVOCs	Acenaphthylene	ug/kg				7400	U	390	U	340	U	350	U	4800	U	19000	U	18000	U	4600	U	3800	U	3500	U	18000	U	390	U	410	U	350	U
SVOCs	Acetophenone	ug/kg	2.50E+06	2.50E+06		7400	U	390	U	340	U	350	U	4800	U	19000	U	18000	U	4600	U	3800	U	3500	U	18000	U	390	U	410	U	350	U
SVOCs	Anthracene	ug/kg	4.50E+08	1.00E+09		7400	U	390	U	340	U	350	U	4800	U	19000	U	18000	U	4600	U	3800	U	3500	U	18000	U	390	U	410	U	350	U
SVOCs	Atrazine	ug/kg				7400	U	390	U	340	U	350	U	4800	U	19000	U	18000	U	4600	U	3800	U	3500	U	18000	U	390	U	410	U	350	U
SVOCs	Benzaldehyde	ug/kg				7400	U	390	U	340	U	350	U	4800	U	19000	U	18000	U	4600	U	3800	U	3500	U	18000	U	390	U	410	U	350	U
SVOCs	Benzo(a)anthracene	ug/kg	5.80E+04	1.20E+06		7400	U	38	J	340	U	350	U	4800	U	19000	U	18000	U	4600	U	3800	U	3500	U	18000	U	390	U	410	U	350	U
SVOCs	Benzo(a)pyrene	ug/kg	5.80E+03	1.20E+05		7400	U	55	J	340	U	350	U	4800	U	19000	U	18000	U	4600	U	3800	U	3500	U	18000	U	390	U	410	U	350	U
SVOCs	Benzo(b)fluoranthene	ug/kg	5.80E+04	1.20E+06		7400	U	85	J	340	U	350	U	4800	U	19000	U	18000	U	4600	U	3800	U	3500	U	18000	U	390	U	410	U	350	U
SVOCs	Benzo(g,h,i)perylene	ug/kg				7400	U	39	J	340	U	350	U	4800	U	19000	U	18000	U	4600	U	3800	U	3500	U	18000	U	390	U	410	U	350	U
SVOCs	Benzo(k)fluoranthene	ug/kg	5.80E+05	1.20E+07		7400	U	27	J	340	U	350	U	4800	U	19000	U	18000	U	4600	U	3800	U	3500	U	18000	U	390	U	410	U	350	U
SVOCs	Biphenyl	ug/kg	1.40E+07	1.90E+08		7400	U	390	U	340	U	350	U	4800	U	19000	U	18000	U	4600	U	3800	U	3500	U	18000	U	29	J	410	U	350	U
SVOCs	bis(2-Chloroethoxy)methane	ug/kg	5.30E+06	4.30E+07		7400	U	390	U	340	U	350	U	4800	U	19000	U	18000	U	4600	U	3800	U	3500	U	18000	U	390	U	410	U	350	U
SVOCs	bis(2-Chloroethyl)ether	ug/kg	3.00E+04	2.90E+05		7400	U	390	U	340	U	350	U	4800	U	19000	U	18000	U	4600	U	3800	U	3500	U	18000	U	390	U	410	U	350	U
SVOCs	bis(2-Ethylhexyl)phthalate	ug/kg	3.50E+06	7.10E+07		7400	U	390	U	340	U	350	U	4800	U	19000	U	18000	U	4600	U	3800	U	3500	U	18000	U	71	J	410	U	350	U
SVOCs	Butyl benzylphthalate	ug/kg	2.60E+07	5.20E+08		7400	U	390	U	340	U	350	U	4800	U	19000	U	18000	U	4600	U	3800	U	3500	U	18000	U	390	U	410	U	350	U
SVOCs	Caprolactam	ug/kg				7400	U	390	U	340	U	350	U	4800	U	19000	U	18000	U	4600	U	3800	U	3500	U	18000	U	390	U	410	U	350	U
SVOCs	Carbazole	ug/kg				7400	U	390	U	340	U	350	U	4800	U	19000	U	18000	U	4600	U	3800	U	3500	U	18000	U	390	U	410	U	350	U
SVOCs	Chrysene	ug/kg	5.80E+06	1.20E+08		7400	U	62	J	340	U	350	U	4800	U	19000	U	18000	U	4600	U	3800	U	3500	U	18000	U	390	U	410	U	350	U
SVOCs	Dibenz(a,h)anthracene	ug/kg	5.80E+03	1.20E+08		7400	U	390	U	340	U	350	U	4800	U	19000	U	18000	U	4600	U	3800	U	3500	U	18000	U	390	U	410	U	350	U
SVOCs	Dibenzofuran	ug/kg				7400	U	390	U	340	U	350	U	4800	U	19000	U	18000	U	4600	U	3800	U	3500	U	18000	U	390	U	410	U	350	U
SVOCs	Diethyl phthalate	ug/kg	1.00E+09	1.00E+09		7400	U	390	U	340	U	350	U	4800	U	19000	U	18000	U	4600	U	3800	U	3500	U	18000	U	390	U	410	U	350	U
SVOCs	Dimethyl phthalate	ug/kg				7400	U	390	U	340	U	350	U	4800	U	19000	U	18000	U	4600	U	3800	U	3500	U	18000	U	390	U	410	U	350	U
SVOCs	Di-n-butylphthalate	ug/kg	1.80E+08	4.30E+08		7400	U	390	U	340	U	350	U	4800	U	19000	U	18000	U	4600	U	3800	U	3500	U	18000	U	390	U	410	U	350	U
SVOCs	Di-N-Octyl phthalate	ug/kg				7400	U	390	U	340	U	350	U	4800	U	19000	U	18000	U	4600	U	3800	U	3500	U	18000	U	390	U	410	U	350	U
SVOCs	Fluoranthene	ug/kg	6.00E+07	1.60E+08		7400	U	140	J	340	U	350	U	4800	U	19000	U	18000	U	4600	U	3800	U	3500	U	18000	U	390	U	410	U	350	U
SVOCs	Fluorene	ug/kg	6.00E+07	5.20E+08		7400	U	390	U	340	U	350	U	4800	U	19000	U	18000	U	4600	U	3800	U	3500	U	18000	U	390	U	410	U	350	U
SVOCs	Hexachlorobenzene	ug/kg	3.10E+04	1.40E+04		7400	U	390	U	340	U	350	U	4800	U	19000	U	18000	U	4600	U	3800	U	3500	U	18000	U	390	U	410	U	350	U
SVOCs	Hexachlorobutadiene, SVOC	ug/kg	6.30E+05	1.40E+06		7400	U	390	U	340	U	350	U	4800	U	19000	U	18000	U	4600	U	3800	U	3500	U	18000	U	390	U	410	U	350	U
SVOCs	Hexachlorocyclopentadiene	ug/kg	1.10E+07	2.60E+07		36000	U	1900	U	1700	U	1700	U	23000	U	90000	U	87000	U	22000	U	18000	U	17000	U	85000	U	1900	U	2000	U	1700	U
SVOCs	Hexachloroethane	ug/kg	1.20E+06	3.00E+06		7400	U	390	U	340	U	350	U	4800	U	19000	U	18000	U	4600	U	3800	U	3500	U	18000	U	390	U	410	U	350	U
SVOCs	Indeno(1,2,3-cd)pyrene	ug/kg	5.80E+04	1.20E+06		7400	U	34	J	340	U	350	U	4800	U	19000	U	18000	U	4600	U	3800	U	3500	U	18000	U	390	U	410	U	350	U
SVOCs	Isophorone	ug/kg	5.20E+07	1.00E+09		7400	U	390	U	340	U	350	U	4800	U	19000	U	18000	U	4600	U	3800	U	3500	U	18000	U	390	U	410	U	350	U

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Appendix A
Soil Data Compared to GDCC
N Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units	Ohio VAP C/I GDCSS	Ohio VAP CW GDCSS	Station Name	SB-144-04		SB-145-04		SB-145-04		SB-145-04		SB-146-04		SB-146-04		SB-150-04		SB-150-04		SB-150-04		SB-150-04		SB-151-04		SB-151-04		SB-151-04	
					FieldSampleID	SB-144-04		SB-145-04		SB-145-04		SB-145-04		SB-146-04		SB-146-04		SB-150-04 DUP		SB-150-04		SB-150-04		SB-150-04		SB-151-04		SB-151-04 DUP		SB-151-04	
					Sample Date	1/27/2004		1/28/2004		1/28/2004		1/28/2004		1/28/2004		1/28/2004		1/28/2004		1/28/2004		1/28/2004		1/28/2004		2/5/2004		2/5/2004		2/5/2004	
					Depth	12.5 - 14.5 ft		0 - 2 ft		8 - 10 ft		11 - 13 ft		0 - 2 ft		8 - 10 ft		12 - 14 ft		0 - 2 ft		0 - 2 ft		8 - 10 ft		12 - 14 ft		0 - 2 ft		8 - 10 ft		8 - 10 ft	
SVOCs	Naphthalene, SVOC	ug/kg	4.50E+05	5.60E+05		7400	U	390	U	340	U	350	U	4800	U	19000	U	18000	U	4600	U	3800	U	3500	U	18000	U	390	U	410	U	350	U
SVOCs	Nitrobenzene	ug/kg	6.10E+05	3.00E+06		7400	U	390	U	340	U	350	U	4800	U	19000	U	18000	U	4600	U	3800	U	3500	U	18000	U	390	U	410	U	350	U
SVOCs	N-Nitrosodi-n-propylamine	ug/kg	7.00E+03	1.40E+05		7400	U	390	U	340	U	350	U	4800	U	19000	U	18000	U	4600	U	3800	U	3500	U	18000	U	390	U	410	U	350	U
SVOCs	N-Nitrosodiphenylamine	ug/kg	1.00E+07	2.00E+08		7400	U	390	U	340	U	350	U	4800	U	19000	U	18000	U	4600	U	3800	U	3500	U	18000	U	390	U	410	U	350	U
SVOCs	Pentachlorophenol	ug/kg	6.70E+04	9.50E+05		7400	U	390	U	340	U	350	U	4800	U	19000	U	18000	U	4600	U	3800	U	3500	U	18000	U	390	U	410	U	350	U
SVOCs	Phenanthrene	ug/kg				7400	U	110	J	340	U	350	U	4800	U	19000	U	18000	U	4600	U	3800	U	3500	U	18000	U	45	J	410	U	350	U
SVOCs	Phenol	ug/kg	5.30E+08	8.40E+08		7400	U	390	U	340	U	350	U	4800	U	19000	U	18000	U	4600	U	3800	U	3500	U	18000	U	390	U	410	U	350	U
SVOCs	Pyrene, SVOC	ug/kg	4.50E+07	3.90E+08		7400	U	110	J	340	U	350	U	4800	U	19000	U	18000	U	4600	U	3800	U	3500	U	18000	U	26	J	410	U	350	U
TPH	Diesel Range Organics (DRO)	mg/kg	2000	2000																												
TPH	Gasoline Range Organics (GRO)	mg/kg	1000	1000																												
VOCs	1,1,1-Trichloroethane	ug/kg	6.40E+05	6.40E+05		300	U	2900	U	4.5	U	5.4	U	460	U	270	U	300	U	240	J	210	J	1.5	J	6.2	U	5.6	U	7	U	4.9	U
VOCs	1,1,2,2-Tetrachloroethane	ug/kg	7.50E+04	6.70E+05		300	U	2900	U	4.5	U	5.4	U	460	U	270	U	300	U	1100	U	900	U	4.4	U	6.2	U	5.6	U	7	U	4.9	U
VOCs	1,1,2-Trichloroethane	ug/kg	1.40E+05	1.20E+06		300	U	2900	U	4.5	U	5.4	U	460	U	270	U	300	U	1100	U	900	U	4.4	U	6.2	U	5.6	U	7	U	4.9	U
VOCs	1,1-Dichloroethane	ug/kg	4.20E+05	1.70E+06		300	U	2900	U	4.5	U	5.4	U	460	U	270	U	300	U	3600		3100		5.1		6.2	U	5.6	U	7	U	4.9	U
VOCs	1,1-Dichloroethene	ug/kg	1.20E+06	3.60E+05		300	U	2900	U	4.5	U	5.4	U	460	U	270	U	300	U	340	J	290	J	4.4	U	6.2	U	5.6	U	7	U	4.9	U
VOCs	1,2,4-Trichlorobenzene, VOC	ug/kg	4.00E+05	4.00E+05		300	U	2900	U	4.5	U	5.4	U	460	U	270	U	300	U	1100	U	900	U	4.4	U	6.2	U	5.6	U	7	U	4.9	U
VOCs	1,2-Dibromo-3-chloropropane	ug/kg	1.70E+03	1.50E+04		590	U	5700	U	9	U	11	U	930	U	530	U	600	U	2300	U	1800	U	8.8	U	12	U	11	U	14	U	9.8	U
VOCs	1,2-Dibromoethane	ug/kg	4.40E+03	3.80E+04		300	U	2900	U	4.5	U	5.4	U	460	U	270	U	300	U	1100	U	900	U	4.4	U	6.2	U	5.6	U	7	U	4.9	U
VOCs	1,2-Dichlorobenzene, VOC	ug/kg	3.80E+05	3.80E+05		340		2900	U	4.5	U	5.4	U	460	U	270	U	300	U	1100	U	900	U	4.4	U	6.2	U	5.6	U	7	U	4.9	U
VOCs	1,2-Dichloroethane	ug/kg	5.60E+04	4.80E+05		300	U	2900	U	4.5	U	5.4	U	460	U	270	U	300	U	1100	U	900	U	4.4	U	6.2	U	5.6	U	7	U	4.9	U
VOCs	1,2-Dichloropropane	ug/kg	1.20E+05	1.80E+05		300	U	2900	U	4.5	U	5.4	U	460	U	270	U	300	U	1100	U	900	U	4.4	U	6.2	U	5.6	U	7	U	4.9	U
VOCs	1,3-Dichlorobenzene, VOC	ug/kg				300	U	2900	U	4.5	U	5.4	U	460	U	270	U	300	U	1100	U	900	U	4.4	U	6.2	U	5.6	U	7	U	4.9	U
VOCs	1,4-Dichlorobenzene, VOC	ug/kg	3.10E+05	2.60E+06		300	U	2900	U	4.5	U	5.4	U	460	U	270	U	300	U	1100	U	900	U	4.4	U	6.2	U	5.6	U	7	U	4.9	U
VOCs	2-Butanone	ug/kg	2.80E+07	2.80E+07		1200	UJ	11000	U	18	U	21	U	1900	U	1100	U	1200	U	4500	U	3600	U	4.1	J	2.4	J	22	U	28	U	20	U
VOCs	2-Hexanone	ug/kg				1200	UJ	11000	U	18	U	21	U	1900	U	1100	U	1200	U	4500	U	3600	U	18	U	25	U	22	U	28	U	20	U
VOCs	4-Methyl-2-Pentanone	ug/kg	3.40E+06	3.40E+06		1200	U	11000	U	18	U	21	U	1900	U	1100	U	1200	U	4500	U	3600	U	18	U	1.4	J	22	U	28	U	20	U
VOCs	Acetone	ug/kg	1.10E+08	1.10E+08		1200	UJ	11000	U	18	U	21	U	1900	U	1100	U	1200	U	4500	U	3600	U	18		13	J	22	U	28	U	20	U
VOCs	Benzene	ug/kg	1.40E+05	1.20E+06		300	U	2900	U	4.5	U	5.4	U	460	U	270	U	300	U	1100	U	900	U	4.4	U	6.2	U	5.6	U	7	U	4.9	U
VOCs	Bromodichloromethane	ug/kg	3.50E+04	3.00E+05		300	U	2900	U	4.5	U	5.4	U	460	U	270	U	300	U	1100	U	900	U	4.4	U	6.2	U	5.6	U	7	U	4.9	U
VOCs	Bromoform	ug/kg	6.20E+06	1.30E+08		300	U	2900	U	4.5	UJ	5.4	UJ	460	U	270	U	300	U	1100	UJ	900	U	4.4	U	6.2	U	5.6	U	7	U	4.9	U
VOCs	Bromomethane	ug/kg	8.20E+04	5.50E+05		300	U	770	J	4.5	U	5.4	U	460	U	120	J	300	U	1100	U	900	U	4.4	U	6.2	U	5.6	U	7	U	4.9	U
VOCs	Carbon disulfide	ug/kg	7.40E+05	7.40E+05		300	U	2900	U	4.5	U	5.4	U	460	U	270	U	300	U	1100	U	900	U	4.4	U	2	J	5.6	U	7	U	4.9	U
VOCs	Carbon tetrachloride	ug/kg	7.90E+04	4.60E+05		300	U	2900	U	4.5	U	5.4	U	460	U	270	U	300	U	1100	U	900	U	4.4	U	6.2	U	5.6	U	7	U	4.9	U
VOCs	Chlorobenzene	ug/kg	7.60E+05	7.60E+05		63	J	2900	U	4.5	U	5.4	U	460	U	270	U	300	U	1100	U	900	U	4.4	U	6.2	U	5.6	U	7	U	4.9	U
VOCs	Chloroethane	ug/kg				300	U	2900	U	4.5	U	5.4	U	460	U	270	U	300	U	1100	U	900	U	4.4	U	6.2	U	5.6	U	7	U	4.9	U
VOCs	Chloroform	ug/kg	3.80E+04	3.20E+05		300	U	2900	U	4.5	U	0.55	J	180	J	270	U	300	U	1100	U	900	U	4.4	U	6.2	U	5.6	U	7	U	4.9	U
VOCs	Chloromethane	ug/kg	1.30E+06	1.30E+06		300	U	2900	U	4.5	U	5.4	U	460	U	270	U	300	U	1100	U	900	U	4.4	U	6.2	U	5.6	U	7	U	4.9	U
VOCs	cis-1,2-Dichloroethene	ug/kg				77	J	1400	U	2.2	U	2.7	U	6200		130	U	150	U	13000		10000		1.1	J	3.1	U	0.77	J	3.5	U	2.5	U
VOCs	cis-1,3-Dichloropropene	ug/kg	2.30E+05	5.20E+05		300	U	2900	U	4.5	U	5.4	U	460	U	270	U	300	U	1100	U	900	U	4.4	U	6.2	U	5.6	U	7	U	4.9	U
VOCs	Cyclohexane	ug/kg	1.20E+05	1.20E+05		590	U	5700	U	9	U	11	U	930	U	530	U	600	U	330	J	280	J	8.8	U	12	U	11	U	14	U	9.8	U
VOCs	Dibromochloromethane	ug/kg	8.40E+04	7.70E+05		300	U	2900	U	4.5	U	5.4	U	460	U	270	U	300	U	1100	U	900	U	4.4	U	6.2	U	5.6	U	7	U	4.9	U
VOCs	Dichlorodifluoromethane	ug/kg	8.50E+05	8.50E+05		300	U	2900	UJ	4.5	U	5.4	U	460	UJ	270	UJ	300	UJ	1100	UJ	900	UJ	4.4	U	6.2	U	5.6	U	7	U	4.9	U
VOCs	Ethylbenzene	ug/kg	4.80E+05	4.80E+05		300	U	2900	U	0.46	J	5.4	U	460	U	270	U	300	U	1100	U	900	U	4.4	U	1	J	0.49	J	7	U	4.9	U
VOCs	Isopropylbenzene, VOC	ug/kg	2.70E+05	2.70E+05		270	J	2900	U	4.5	U	5.4	U	460	U	270	U	300	U	1100	U	900	U	4.4	U	6.2	U	5.6	U	7	U	4.9	U
VOCs	Methyl acetate	ug/kg				590	U	5700	U	9	U	11	U	930	U	530	U	600	U	2300	U	1800	U	8.8	U	12	U	11	U	14	U	9.8	U
VOCs	Methyl cyclohexane	ug/kg				590	U	5700	U	9	U	11	U	110	J	530	U	600	U	780	J	660	J	8.8	U	0.47	J	11	U	14	U	9.8	U
VOCs	Methyl tert butyl ether	ug/kg	5.70E+06	8.90E+06		1200	U	11000	U	18	U	21	U	1900	U	1100	U	1200	U	4500	U	3600	U	18	U	25	U	22	U	28	U	20	U
VOCs	Methylene chloride	ug/kg	3.30E+06	3.30E+06		300	U	2900	U	4.5	U	5.4	U	460	U	270	U	300	U	1100	U	900	U	4.4	U	6.2	U	4.6	J	6.1	J	4.4	J
VOCs	Styrene	ug/kg	8.70E+05	8.70E+05		300	U	2900	U	4.5	U	5.4	U	460	U	270	U	300	U	1100	U	900	U	4.4	U	6.2	U	5.6	U	7	U	4.9	U
VOCs	Tetrachloroethene	ug/kg	1.70E+05	1.70E+05		300	U	840	J	2	J	14		12000		270	U	300	U	630	J	500	J	1.5	J	1.2	J	150		11		1.9	J
VOCs	Toluene	ug/kg	8.20E+05	8.20E+05		300	U	2900	U	1.2	J	0.81	J	460	U	270	U	300	U	120	J	98	J	0.86	J	2.2	J	0.94	J	1.3	J	4.9	U
VOCs	trans-1,2-Dichloroethene	ug/kg	1.70E+06	1.70E+06		150	U	1400	U	2.2	U	2.7	U	270		130	U	150	U	930		700		2.2	U	3.1	U	2.8	U	3.5	U	2.5	U
VOCs	trans-1,3-Dichloropropene	ug/kg	2.30E+05	5.20E+05		300	U	2900	U	4.5	U	5.4	U	460	U	270	U	300	U	1100	U	900	U	4.4	U	6.2	U	5.6	U	7	U	4.9	U
VOCs	Trichloroethene	ug/kg	5.10E+04	1.70E+04		300	U	**91000**		2.1	J	170		10000		270	U	300	U	32000		27000		6		6.2	U	40		2.9	J	0.46	J
VOCs	Trichlorofluoromethane	ug/kg	1.20E+06	1.20E+06		300	U	2900	U	4.5	U	5.4	U	460	U	270	U	300	U	1100	U	900	U	4.4	U	6.2	U	5.6	U	7	U	4.9	U
VOCs	Trifluorotrichloroethane	ug/kg				300	U	2900	U	4.5	U	5.4	U	460	U	270	U	300	U	1100	U	900	U	4.4	U	6.2	U	5.6	U	7	U	4.9	U
VOCs	Vinyl chloride	ug/kg	5.00E+04	2.80E+05		300	U	2900	U	4.5	U	5.4	U	460	U	270	U	300	U	1700		1900		4.4	U	6.2	U	5.6	U	7	U	4.9	U
VOCs	Xylene (Total)	ug/kg	2.60E+05	2.60E+05		590	U	5700	U	9	U	11	U	110	J	530	U	600	U	220	J	290	J	8.8	U	2.1	J	1.7	J	14	U	9.8	U

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Appendix A
Soil Data Compared to GDCC
N Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units	Ohio VAP C/I GDCSS	Ohio VAP CW GDCSS	Station Name	SB-151-04		SB-164-04		SB-164-04		SB-164-04		SB-19-02		SB-19-02		SB-22-02		SB-22-02		SB-38-02		SB-38-02		SB-39-02		SB-39-02		SB-39-02		SB-40-02	
					FieldSampleID	SB-151-04		SB-164-04		SB-164-04		SB-164-04		SB-19-02		SB-19-02		SB-22-02		SB-22-02		SB-38-02		SB-38-02		SB-39-02 DUP		SB-39-02		SB-39-02		SB-40-02	
					Sample Date	2/5/2004		2/6/2004		2/6/2004		2/6/2004		4/9/2002		4/9/2002		4/10/2002		4/10/2002		4/15/2002		4/15/2002		4/15/2002		4/15/2002		4/15/2002		4/15/2002	
					Depth	11 - 13 ft		0 - 2 ft		8 - 10 ft		11 - 13 ft		1 - 3 ft		9.5 - 11.5 ft		1 - 3 ft		9 - 11 ft		1 - 3 ft		9 - 11 ft		1 - 3 ft		1 - 3 ft		8.5 - 10.5 ft		1 - 3 ft	
Field Parameters	pH Field	s.u.																															
Metals	Antimony	mg/kg	1.60E+03	8.50E+02		6.5	UJ	6.9	UJ	6.4	UJ	6.5	UJ	7.8	UJ	6.5	UJ	7.1	U	7	U	6.6	UJ	6.2	UJ	1.7	J	7	UJ	1.5	J	8	UJ
Metals	Arsenic	mg/kg	7.70E+01	6.90E+02		5.1		8.6		7		8.4		4.7		3.9		8.7		8.9		5.2	J	2.7	J	12	J	9.4	J	5.2	J	5.4	J
Metals	Barium	mg/kg				41.7		125	J	80.2	J	127	J	68.2		90.8		43.1		30.5		42.1	J	25.8	J	77.7	J	122	J	140	J	299	J
Metals	Beryllium	mg/kg	7.80E+03	3.40E+03		0.1	J	0.73		0.079	J	0.073	J	0.65	U	0.54	U	0.59	U	0.58	U	0.55	UJ	0.52	UJ	0.39	J	0.41	J	0.66	UJ	4.3	J
Metals	Cadmium	mg/kg	2.60E+03	1.00E+03		0.2	J	1.1		0.25	J	0.27	J	0.65	U	0.54	U	0.38	J	0.36	J	0.55	UJ	0.52	UJ	0.52	UJ	0.58	UJ	0.66	UJ	0.67	UJ
Metals	Chromium Total	mg/kg	2.10E+02	1.20E+03		3.7	J	26.2	J	4.6	J	3.4	J	11.6		5.5		9.3		8.8		11.9	J	3.8	J	12.4	J	9.5	J	23.3	J	30.3	J
Metals	Cobalt	mg/kg				2.5	J	8.6		1.9	J	2.9	J	4.5	J	1.7	J	6.1		5.7	J	5.4	J	1.4	J	7.7	J	5.1	J	4.3	J	2.6	J
Metals	Copper	mg/kg	1.60E+05	2.10E+04		2	J	128		2.8		3.6		21.7	J	9.9	J	16.8		17.9		21.4	J	6.7	J	142	J	52.9	J	24.4	J	18.6	J
Metals	Cyanide (total)	mg/kg	3.70E+02	1.50E+02		0.54	U	0.58	U	0.54	U	0.54	U	0.22	J	0.54	U	0.59	U	0.58	U	0.55	U	0.52	U	0.52	U	0.58	U	0.66	U	1.7	
Metals	Lead	mg/kg	8.00E+02	4.00E+02		2	J	98.2	J	2.4	J	2.7	J	276	J	28.3	J	8		8.3		15.7	J	5.7	J	137	J	140	J	47.5	J	11.9	J
Metals	Manganese	mg/kg				339		3940		308		773		710		391		299		273		362		262		802		616		2700		5760	
Metals	Mercury	mg/kg	3.10E+00	3.10E+00		0.11	U	0.077	J	0.11	U	0.045	J	0.045	J	0.018	J	0.12	U	0.12	U	0.11	UJ	0.1	UJ	0.16	J	0.097	J	0.13	UJ	0.13	UJ
Metals	Nickel	mg/kg	7.40E+04	2.30E+04		4.1	J	11.9		4.2	J	5.6		6.5		15.6		20		16.8		10.4	J	3.8	J	14.4	J	10.5	J	8.3	J	4.2	J
Metals	Selenium	mg/kg	2.00E+04	1.10E+04		0.54	U	1.2	U	0.54	U	0.54	U	0.65	U	0.54	U	0.59	U	0.58	U	0.55	UJ	0.52	UJ	0.52	UJ	0.58	UJ	0.66	UJ	1.2	J
Metals	Silver	mg/kg	2.00E+04	1.10E+04		1.1	U	2.3	U	1.1	U	1.1	U	1.3	U	1.1	U	1.2	U	1.2	U	1.1	U	1	U	1	U	1.2	U	1.3	U	2.7	U
Metals	Thallium	mg/kg				1.1	U	1.2	U	1.1	U	1.1	U	1.3	U	1.1	U	2.1		1.3		1	J	1.7	J	0.94	J	1	J	2	J	2.5	J
Metals	Vanadium	mg/kg	2.30E+04	1.10E+04		5.8		63.1	J	7.6	J	9.3	J	16.1		5	J	14.1		14.4		13.5	J	5.3	J	23.5	J	19.7	J	42.1	J	18.9	J
Metals	Zinc	mg/kg	1.00E+06	6.40E+05		10.3	J	495		16.2		47.2		39.4	J	43.4	J	55.7		60.8		24.2	J	12.1	J	104	J	80.3	J	46	J	11.7	J
Miscellaneous	Percent moisture	%																															
Miscellaneous	pH (solid)	s.u.																															
Miscellaneous	Total Solids	%				92.7		86.6		93.3		92.8		77		92.6		84.6		85.7		91.2		96.1		96		85.6		75.8		74.7	
Other	C21-C34 Aliphatics	mg/kg	5000	5000																													
PCBs/Pesticides	Aroclor-1016	mg/kg	1.00E+02	2.60E+02		0.036	U	0.038	U	0.035	U	0.036	U	0.043	U	0.036	U	0.039	U	0.038	U	0.18	U	0.034	U	0.034	U	0.039	U	0.044	U	0.044	U
PCBs/Pesticides	Aroclor-1221	mg/kg	1.40E+01	2.10E+02		0.036	U	0.038	U	0.035	U	0.036	U	0.043	U	0.036	U	0.039	U	0.038	U	0.18	U	0.034	U	0.034	U	0.039	U	0.044	U	0.044	U
PCBs/Pesticides	Aroclor-1232	mg/kg	1.40E+01	7.30E+01		0.036	U	0.038	U	0.035	U	0.036	U	0.043	U	0.036	U	0.039	U	0.038	U	0.18	U	0.034	U	0.034	U	0.039	U	0.044	U	0.044	U
PCBs/Pesticides	Aroclor-1242	mg/kg	2.00E+01	4.40E+02		0.036	U	0.038	U	0.035	U	0.036	U	0.043	U	0.036	U	0.039	U	0.038	U	0.18	U	0.034	U	0.034	U	0.039	U	0.044	U	0.044	U
PCBs/Pesticides	Aroclor-1248	mg/kg	2.00E+01	4.40E+02		0.036	U	0.038	U	0.035	U	0.036	U	0.043	U	0.036	U	0.039	U	0.038	U	0.18	U	0.034	U	0.034	U	0.039	U	0.044	U	0.044	U
PCBs/Pesticides	Aroclor-1254	mg/kg	2.00E+01	7.50E+01		0.036	UJ	0.038	U	0.035	U	0.036	U	0.027	J	0.25		0.039	U	0.038	U	1.1		0.046		0.034	U	0.039	U	0.044	U	0.041	J
PCBs/Pesticides	Aroclor-1260	mg/kg	2.00E+01	4.40E+02		0.1	J	0.038	U	0.035	U	0.068		0.043	U	0.036	U	0.039	U	0.038	U	0.18	U	0.034	U	0.034	U	0.039	U	0.044	U	0.044	U
PCBs/Pesticides	Total PCBs	ug/kg	1.40E+04	7.30E+04																													
SVOCs	2,2-oxybis(2-Chloropropane), SVOC	ug/kg				360	U	380	U	350	U	710	U	430	U	360	U					360	U	340	U	340	U	390	U	440	U	440	U
SVOCs	2,4,5-Trichlorophenol	ug/kg	1.80E+08	1.00E+09		360	U	380	U	350	U	710	U	430	U	360	U					360	U	340	U	340	U	390	U	440	U	440	U
SVOCs	2,4,6-Trichlorophenol	ug/kg	1.80E+06	1.40E+06		360	U	380	U	350	U	710	U	430	U	360	U					360	U	340	U	340	U	390	U	440	U	440	U
SVOCs	2,4-Dichlorophenol	ug/kg	5.30E+06	2.80E+07		360	U	380	U	350	U	710	U	430	U	360	U					360	U	340	U	340	U	390	U	440	U	440	U
SVOCs	2,4-Dimethylphenol	ug/kg	3.50E+07	8.50E+07		360	U	380	U	350	U	710	U	430	U	360	U					360	U	340	U	340	U	390	U	440	U	440	U
SVOCs	2,4-Dinitrophenol	ug/kg	3.50E+06	2.80E+07		1700	U	1800	U	1700	U	3400	U	2100	UJ	1700	UJ					1800	U	1700	U	1700	UJ	1900	U	2100	U	2100	U
SVOCs	2,4-Dinitrotoluene	ug/kg	1.60E+05	2.80E+06		360	U	380	U	350	U	710	U	430	U	360	U					360	U	340	U	340	U	390	U	440	U	440	U
SVOCs	2,6-Dinitrotoluene	ug/kg	3.30E+04	6.70E+05		360	U	380	U	350	U	710	U	430	U	360	U					360	U	340	U	340	U	390	U	440	U	440	U
SVOCs	2-Chloronaphthalene	ug/kg	3.30E+08	1.00E+09		360	U	380	U	350	U	710	U	430	U	360	U					360	U	340	U	340	U	390	U	440	U	440	U
SVOCs	2-Chlorophenol	ug/kg	2.00E+07	2.20E+07		360	U	380	U	350	U	710	U	430	U	360	U					360	U	340	U	340	U	390	U	440	U	440	U
SVOCs	2-Methylnaphthalene	ug/kg	6.00E+06	5.20E+06		360	U	95	J	350	U	710	U	430	U	360	U					360	U	340	U	340	U	390	U	440	U	440	U
SVOCs	2-Methylphenol	ug/kg	8.80E+07	7.10E+08		360	U	380	U	350	U	710	U	430	U	360	U					360	U	340	U	340	U	390	U	440	U	440	U
SVOCs	2-Nitroaniline	ug/kg				1700	U	1800	U	1700	U	3400	U	2100	U	1700	U					1800	U	1700	U	1700	U	1900	U	2100	U	2100	U
SVOCs	2-Nitrophenol	ug/kg				360	U	380	U	350	U	710	U	430	U	360	U					360	U	340	U	340	U	390	U	440	U	440	U
SVOCs	3,3-Dichlorobenzidine	ug/kg	1.10E+05	2.20E+06		1700	U	1800	U	1700	U	3400	U	2100	U	1700	U					1800	U	1700	U	1700	U	1900	U	2100	U	2100	U
SVOCs	3-Nitroaniline	ug/kg				1700	U	1800	U	1700	U	3400	U	2100	U	1700	U					1800	U	1700	U	1700	U	1900	U	2100	U	2100	U
SVOCs	4,6-Dinitro-2-methylphenol	ug/kg				1700	U	1800	U	1700	U	3400	U	2100	U	1700	U					1800	U	1700	U	1700	UJ	1900	U	2100	U	2100	U
SVOCs	4-Bromophenyl phenyl ether	ug/kg				360	U	380	U	350	U	710	U	430	U	360	U					360	U	340	U	340	U	390	U	440	U	440	U
SVOCs	4-Chloro-3-methylphenol	ug/kg				360	U	380	U	350	U	710	U	430	U	360	U					360	U	340	U	340	U	390	U	440	U	440	U
SVOCs	4-Chloroaniline	ug/kg	2.50E+05	7.10E+05		360	U	380	U	350	U	710	U	430	U	360	U					360	U	340	U	340	U	390	U	440	U	440	U
SVOCs	4-Chlorophenyl phenyl ether	ug/kg				360	U	380	U	350	U	710	U	430	U	360	U					360	U	340	U	340	U	390	U	440	U	440	U
SVOCs	4-Methylphenol	ug/kg	1.80E+08	2.80E+07		360	U	380	U	350	U	710	U	430	U	360	U					360	U	340	U	340	U	390	U	440	U	440	U
SVOCs	4-Nitroaniline	ug/kg	2.50E+06	1.40E+07		1700	U	1800	U	1700	U	3400	U	2100	U	1700	U					1800	U	1700	U	1700	U	1900	U	2100	U	2100	U
SVOCs	4-Nitrophenol	ug/kg				1700	U	1800	U	1700	U	3400	U	2100	U	1700	U					1800	U	1700	U	1700	U	1900	U	2100	U	2100	U
SVOCs	Acenaphthene	ug/kg	9.00E+07	7.80E+08		360	U	380	U	350	U	710	U	430	U	360	U					360	U	340	U	340	U	390	U	440	U	440	U
SVOCs	Acenaphthylene	ug/kg				360	U	380	U	350	U	710	U	430	U	360	U					360	U	340	U	340	U	390	U	440	U	440	U
SVOCs	Acetophenone	ug/kg	2.50E+06	2.50E+06		360	U	380	U	350	U	710	U	430	U	360	U					360	U	340	U	340	U	390	U	440	U	440	U
SVOCs	Anthracene	ug/kg	4.50E+08	1.00E+09		360	U	380	U	350	U	710	U	430	U	360	U					360	U	340	U	340	U	390	U	440	U	440	U
SVOCs	Atrazine	ug/kg				360	U	380	U	350	U	710	U	430	U	360	U					360	U	340	U	340	U	390	U	440	U	440	U
SVOCs	Benzaldehyde	ug/kg				360	U	380	U	350	U	710	U	430	U	360	U					360	U	340	U	340	U	390	U	440	U	440	U
SVOCs	Benzo(a)anthracene	ug/kg	5.80E+04	1.20E+06		360	U	29	J	350	U	710	U	99	J	360	U					360	U	340	U	340	U	72	J	440	U	440	U
SVOCs	Benzo(a)pyrene	ug/kg	5.80E+03	1.20E+05		360	U	22	J	350	U	710	U	86	J	360	U					360	U	340	U	70	J	80	J	440	U	440	U
SVOCs	Benzo(b)fluoranthene	ug/kg	5.80E+04	1.20E+06		360	U	48	J	350	U	710	U	130	J	360	U					360	U	340	U	110	J	91	J	440	U	440	U
SVOCs	Benzo(g,h,i)perylene	ug/kg				360	U	380	U	350	U	710	U	430	U	360	U					360	U	340	U	340	U	390	U	440	U	440	U
SVOCs	Benzo(k)fluoranthene	ug/kg	5.80E+05	1.20E+07		360	U	380	U	350	U	710	U	430	U	360	U					360	U	340	U	340	U	65	J	440	U	440	U
SVOCs	Biphenyl	ug/kg	1.40E+07	1.90E+08		360	U	380	U	350	U	710	U	430	U	360	U					360	U	340	U	340	U	390	U	440	U	440	U
SVOCs	bis(2-Chloroethoxy)methane	ug/kg	5.30E+06	4.30E+07		360	U	380	U	350	U	710	U	430	U	360	U					360	U	340	U	340	U	390	U	440	U	440	U
SVOCs	bis(2-Chloroethyl)ether	ug/kg	3.00E+04	2.90E+05		360	U	380	U	350	U	710	U	430	U	360	U					360	U	340	U	340	U	390	U	440	U	440	U
SVOCs	bis(2-Ethylhexyl)phthalate	ug/kg	3.50E+06	7.10E+07		360	U	380	U	350	U	710	U	430	U	360	U					110	J	340	U	340	U	390	U	440	U	440	U
SVOCs	Butyl benzylphthalate	ug/kg	2.60E+07	5.20E+08		360	U	380	U	350	U	710	U	430	U	360	U					360	U	340	U	340	U	390	U	440	U	440	U
SVOCs	Caprolactam	ug/kg				360	U	380	U	350	U	710	U	430	U	360	U					360	U	340	U	340	U	390	U	440	U	440	U
SVOCs	Carbazole	ug/kg				360	U	380	U	350	U	710	U	430	U	360	U					360	U	340	U	340	U	390	U	440	U	440	U
SVOCs	Chrysene	ug/kg	5.80E+06	1.20E+08		360	U	56	J	350	U	710	U	130	J	360	U					360	U	340	U	58	J	69	J	440	U	440	U
SVOCs	Dibenz(a,h)anthracene	ug/kg	5.80E+03	1.20E+08		360	U	380	U	350	U	710	U	430	U	360	U					360	U	340	U	340	U	390	U	440	U	440	U
SVOCs	Dibenzofuran	ug/kg				360	U	31	J	350	U	710	U	430	U	360	U					360	U	340	U	340	U	390	U	440	U	440	U
SVOCs	Diethyl phthalate	ug/kg	1.00E+09	1.00E+09		360	U	380	U	350	U	710	U	430	U	360	U					360	U	340	U	340	U	390	U	440	U	440	U
SVOCs	Dimethyl phthalate	ug/kg				360	U	380	U	350	U	710	U	430	U	360	U					360	U	340	U	340	U	390	U	440	U	440	U
SVOCs	Di-n-butylphthalate	ug/kg	1.80E+08	4.30E+08		360	U	380	U	350	U	710	U	430	U	360	U					360	U	340	U	340	U	390	U	440	U	440	U
SVOCs	Di-N-Octyl phthalate	ug/kg				360	U	380	U	350	U	710	U	430	U	360	U					110	J	340	U	340	U	390	U	440	U	440	U
SVOCs	Fluoranthene	ug/kg	6.00E+07	1.60E+08		360	U	48	J	350	U	710	U	280	J	360	U					360	U	340	U	110	J	100	J	440	U	440	U
SVOCs	Fluorene	ug/kg	6.00E+07	5.20E+08		360	U	380	U	350	U	710	U	430	U	360	U					360	U	340	U	340	U	390	U	440	U	440	U
SVOCs	Hexachlorobenzene	ug/kg	3.10E+04	1.40E+04		360	U	380	U	350	U	710	U	430	U	360	U					360	U	340	U	340	U	390	U	440	U	440	U
SVOCs	Hexachlorobutadiene, SVOC	ug/kg	6.30E+05	1.40E+06		360	U	380	U	350	U	710	U	430	U	360	U					360	U	340	U	340	U	390	U	440	U	440	U
SVOCs	Hexachlorocyclopentadiene	ug/kg	1.10E+07	2.60E+07		1700	U	1800	U	1700	U	3400	U	2100	U	1700	U					1800	U	1700	U	1700	U	1900	U	2100	U	2100	U
SVOCs	Hexachloroethane	ug/kg	1.20E+06	3.00E+06		360	U	380	U	350	U	710	U	430	U	360	U					360	U	340	U	340	U	390	U	440	U	440	U
SVOCs	Indeno(1,2,3-cd)pyrene	ug/kg	5.80E+04	1.20E+06		360	U	380	U	350	U	710	U	430	U	360	U					360	U	340	U	340	U	390	U	440	U	440	U
SVOCs	Isophorone	ug/kg	5.20E+07	1.00E+09		360	U	380	U	350	U	710	U	430	U	360	U					360	U	340	U	340	U	390	U	440	U	440	U

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Appendix A
Soil Data Compared to GDCC
N Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units	Ohio VAP C/I GDCSS	Ohio VAP CW GDCSS	Station Name	SB-151-04		SB-164-04		SB-164-04		SB-164-04		SB-19-02		SB-19-02		SB-22-02		SB-22-02		SB-38-02		SB-38-02		SB-39-02		SB-39-02 DUP		SB-39-02		SB-39-02		SB-40-02	
					FieldSampleID	SB-151-04		SB-164-04		SB-164-04		SB-164-04		SB-19-02		SB-19-02		SB-22-02		SB-22-02		SB-38-02		SB-38-02		SB-39-02		SB-39-02 DUP		SB-39-02		SB-39-02		SB-40-02	
					Sample Date	2/5/2004		2/6/2004		2/6/2004		2/6/2004		4/9/2002		4/9/2002		4/10/2002		4/10/2002		4/15/2002		4/15/2002		4/15/2002		4/15/2002		4/15/2002		4/15/2002		4/15/2002	
					Depth	11 - 13 ft		0 - 2 ft		8 - 10 ft		11 - 13 ft		1 - 3 ft		9.5 - 11.5 ft		1 - 3 ft		9 - 11 ft		1 - 3 ft		9 - 11 ft		1 - 3 ft		1 - 3 ft		8.5 - 10.5 ft		1 - 3 ft	
SVOCs	Naphthalene, SVOC	ug/kg	4.50E+05	5.60E+05		360	U	47	J	350	U	710	U	430	U	360	U					360	U	340	U	340	U	340	U	390	U	440	U	440	U
SVOCs	Nitrobenzene	ug/kg	6.10E+05	3.00E+06		360	U	380	U	350	U	710	U	430	U	360	U					360	U	340	U	340	U	340	U	390	U	440	U	440	U
SVOCs	N-Nitrosodi-n-propylamine	ug/kg	7.00E+03	1.40E+05		360	U	380	U	350	U	710	U	430	U	360	U					360	U	340	U	340	U	340	U	390	U	440	U	440	U
SVOCs	N-Nitrosodiphenylamine	ug/kg	1.00E+07	2.00E+08		360	U	380	U	350	U	710	U	430	U	360	U					360	U	340	U	340	U	340	U	390	U	440	U	440	U
SVOCs	Pentachlorophenol	ug/kg	6.70E+04	9.50E+05		360	U	380	U	350	U	710	U	430	U	360	U					360	U	340	U	340	U	340	U	390	U	440	U	440	U
SVOCs	Phenanthrene	ug/kg				360	U	140	J	350	U	710	U	210	J	360	U					360	U	340	U	340	U	340	U	390	U	440	U	440	U
SVOCs	Phenol	ug/kg	5.30E+08	8.40E+08		360	U	380	U	350	U	710	U	430	U	360	U					360	U	340	U	340	U	340	U	390	U	440	U	440	U
SVOCs	Pyrene, SVOC	ug/kg	4.50E+07	3.90E+08		360	U	42	J	350	U	710	U	180	J	360	U					360	U	340	U	92	J	85	J	440	U	440	U		
TPH	Diesel Range Organics (DRO)	mg/kg	2000	2000																													
TPH	Gasoline Range Organics (GRO)	mg/kg	1000	1000																													
VOCs	1,1,1-Trichloroethane	ug/kg	6.40E+05	6.40E+05		5.2	U	8700	J	6.7	U	6.4	U	140	J	5	U	240	U	270	U	260	U	5.6	U	240	U	270	U	300	UJ	620	U		
VOCs	1,1,2,2-Tetrachloroethane	ug/kg	7.50E+04	6.70E+05		5.2	U	370	UJ	6.7	U	6.4	U	320	U	5	U	240	U	270	U	260	U	5.6	U	240	U	270	U	300	UJ	620	U		
VOCs	1,1,2-Trichloroethane	ug/kg	1.40E+05	1.20E+06		5.2	U	370	UJ	6.7	U	6.4	U	320	U	5	U	240	U	270	U	260	U	5.6	U	240	U	270	U	300	UJ	620	U		
VOCs	1,1-Dichloroethane	ug/kg	4.20E+05	1.70E+06		5.2	U	1500	J	6.7	U	6.4	U	340		5	U	240	U	270	U	260	U	5.6	U	240	U	270	U	300	UJ	620	U		
VOCs	1,1-Dichloroethene	ug/kg	1.20E+06	3.60E+05		5.2	U	110	J	6.7	U	6.4	U	320	U	5	U	240	U	270	U	260	U	5.6	U	240	U	270	U	300	UJ	120	J		
VOCs	1,2,4-Trichlorobenzene, VOC	ug/kg	4.00E+05	4.00E+05		5.2	U	370	UJ	6.7	U	6.4	U	320	U	5	U	240	U	270	U	260	U	5.6	U	240	U	270	U	300	UJ	620	U		
VOCs	1,2-Dibromo-3-chloropropane	ug/kg	1.70E+03	1.50E+04		10	U	740	UJ	13	U	13	U	640	U	9.9	UJ	480	U	550	U	520	U	11	UJ	470	U	550	U	610	UJ	1200	U		
VOCs	1,2-Dibromoethane	ug/kg	4.40E+03	3.80E+04		5.2	U	370	UJ	6.7	U	6.4	U	320	U	5	U	240	U	270	U	260	U	5.6	U	240	U	270	U	300	UJ	620	U		
VOCs	1,2-Dichlorobenzene, VOC	ug/kg	3.80E+05	3.80E+05		5.2	U	370	UJ	6.7	U	6.4	U	320	U	5	U	240	U	270	U	260	U	5.6	U	240	U	270	U	300	UJ	620	U		
VOCs	1,2-Dichloroethane	ug/kg	5.60E+04	4.80E+05		5.2	U	370	UJ	6.7	U	6.4	U	320	U	5	U	240	U	270	U	260	U	5.6	U	240	U	270	U	300	UJ	620	U		
VOCs	1,2-Dichloropropane	ug/kg	1.20E+05	1.80E+05		5.2	U	370	UJ	6.7	U	6.4	U	320	U	5	U	240	U	270	U	260	U	5.6	U	240	U	270	U	300	UJ	620	U		
VOCs	1,3-Dichlorobenzene, VOC	ug/kg				5.2	U	370	UJ	6.7	U	6.4	U	320	U	5	U	240	U	270	U	260	U	5.6	U	240	U	270	U	300	UJ	620	U		
VOCs	1,4-Dichlorobenzene, VOC	ug/kg	3.10E+05	2.60E+06		5.2	U	370	UJ	6.7	U	6.4	U	320	U	5	U	240	U	270	U	17	J	0.85	J	17	J	22	J	22	J	620	U		
VOCs	2-Butanone	ug/kg	2.80E+07	2.80E+07		21	U	1500	UJ	27	U	26	U	1300	U	20	U	970	U	1100	U	110	J	22	U	96	J	120	J	140	J	2500	U		
VOCs	2-Hexanone	ug/kg				21	U	1500	UJ	27	U	26	U	1300	U	20	U	970	U	1100	U	1000	U	22	U	950	U	1100	U	1200	UJ	2500	U		
VOCs	4-Methyl-2-Pentanone	ug/kg	3.40E+06	3.40E+06		21	U	1500	UJ	27	U	26	U	1300	U	20	U	970	U	1100	U	1000	U	22	U	950	U	1100	U	1200	UJ	2500	U		
VOCs	Acetone	ug/kg	1.10E+08	1.10E+08		21	U	1500	UJ	27	U	26	U	320	J	20	UJ	320	J	320	J	1000	UJ	22	UJ	950	UJ	1100	UJ	1200	UJ	2500	U		
VOCs	Benzene	ug/kg	1.40E+05	1.20E+06		5.2	U	30	J	6.7	U	6.4	U	320	U	5	U	240	R	270	R	260	U	5.6	U	240	U	270	U	52	J	620	U		
VOCs	Bromodichloromethane	ug/kg	3.50E+04	3.00E+05		5.2	U	370	UJ	6.7	U	6.4	U	320	U	5	U	240	U	270	U	260	U	5.6	U	240	U	270	U	300	UJ	620	U		
VOCs	Bromoform	ug/kg	6.20E+06	1.30E+08		5.2	U	370	UJ	6.7	U	6.4	U	320	U	5	UJ	240	U	270	U	260	UJ	5.6	UJ	240	UJ	270	UJ	300	UJ	620	U		
VOCs	Bromomethane	ug/kg	8.20E+04	5.50E+05		5.2	U	370	UJ	6.7	U	6.4	U	320	U	5	UJ	240	U	270	U	260	U	5.6	UJ	240	U	270	U	300	UJ	620	U		
VOCs	Carbon disulfide	ug/kg	7.40E+05	7.40E+05		5.2	U	370	UJ	6.7	U	6.4	U	320	U	5	U	240	U	270	U	260	U	5.6	U	240	U	270	U	300	UJ	620	U		
VOCs	Carbon tetrachloride	ug/kg	7.90E+04	4.60E+05		5.2	U	43	J	6.7	U	6.4	U	320	U	5	UJ	240	U	270	U	260	UJ	5.6	UJ	240	UJ	270	UJ	300	UJ	620	U		
VOCs	Chlorobenzene	ug/kg	7.60E+05	7.60E+05		5.2	U	370	UJ	6.7	U	6.4	U	320	U	5	U	240	U	270	U	260	U	5.6	U	240	U	270	U	300	UJ	620	U		
VOCs	Chloroethane	ug/kg				5.2	U	370	R	6.7	U	6.4	U	320	U	5	U	240	U	270	U	260	U	5.6	U	240	U	270	U	300	UJ	620	U		
VOCs	Chloroform	ug/kg	3.80E+04	3.20E+05		5.2	U	90	J	6.7	U	6.4	U	320	U	5	U	240	U	270	U	260	U	5.6	U	240	U	270	U	300	UJ	620	U		
VOCs	Chloromethane	ug/kg	1.30E+06	1.30E+06		5.2	U	370	UJ	6.7	U	6.4	U	320	U	5	U	240	U	270	U	260	U	5.6	U	240	U	270	U	300	UJ	620	U		
VOCs	cis-1,2-Dichloroethene	ug/kg				2.6	U	630	J	3.4	U	3.2	U	2100		2.5	U	120	U	140	U	130	U	2.8	U	19	J	33	J	42	J	19000			
VOCs	cis-1,3-Dichloropropene	ug/kg	2.30E+05	5.20E+05		5.2	U	370	UJ	6.7	U	6.4	U	320	U	5	U	240	U	270	U	260	U	5.6	U	240	U	270	U	300	UJ	620	U		
VOCs	Cyclohexane	ug/kg	1.20E+05	1.20E+05		10	U	330	J	13	U	13	U	640	U	9.9	U	480	U	550	U	520	U	11	U	470	U	550	U	95	J	48	J		
VOCs	Dibromochloromethane	ug/kg	8.40E+04	7.70E+05		5.2	U	370	UJ	6.7	U	6.4	U	320	U	5	U	240	U	270	U	260	U	5.6	U	240	U	270	U	300	UJ	620	U		
VOCs	Dichlorodifluoromethane	ug/kg	8.50E+05	8.50E+05		5.2	U	370	UJ	6.7	UJ	6.4	U	320	U	5	U	240	UJ	270	UJ	260	U	5.6	U	240	U	270	U	300	UJ	620	U		
VOCs	Ethylbenzene	ug/kg	4.80E+05	4.80E+05		5.2	U	370	UJ	6.7	U	6.4	U	320	U	5	U	240	U	270	U	260	U	5.6	U	240	U	270	U	34	J	37	J		
VOCs	Isopropylbenzene, VOC	ug/kg	2.70E+05	2.70E+05		5.2	U	370	UJ	6.7	U	6.4	U	150	J	5	U	240	U	270	U	260	U	5.6	U	240	U	270	U	300	UJ	620	U		
VOCs	Methyl acetate	ug/kg				10	U	130	J	13	U	13	U	640	U	9.9	U	480	U	550	U	160	J	11	U	470	U	550	U	470	J	200	J		
VOCs	Methyl cyclohexane	ug/kg				10	U	1000	J	13	U	13	U	640	U	9.9	U	480	U	550	U	520	U	11	U	23	J	550	U	53	J	160	J		
VOCs	Methyl tert butyl ether	ug/kg	5.70E+06	8.90E+06		21	U	1500	UJ	27	UJ	26	U	1300	U	20	U	970	U	1100	U	1000	U	22	U	950	U	1100	U	1200	UJ	2500	U		
VOCs	Methylene chloride	ug/kg	3.30E+06	3.30E+06		4.5	J	370	UJ	6.7	U	6.4	U	320	U	5	U	240	U	270	U	260	U	5.6	U	240	U	270	U	300	UJ	620	U		
VOCs	Styrene	ug/kg	8.70E+05	8.70E+05		5.2	U	370	UJ	6.7	U	6.4	U	320	U	5	U	240	U	270	U	260	U	5.6	U	240	U	270	U	300	UJ	620	U		
VOCs	Tetrachloroethene	ug/kg	1.70E+05	1.70E+05		3.7	J	5000	J	17		0.96	J	1300		1.7	J	1900		4100		840		2	J	2800		1200		5100	J	7300			
VOCs	Toluene	ug/kg	8.20E+05	8.20E+05		5.2	U	110	J	6.7	U	6.4	U	320	U	5	U	240	U	270	U	13	J	5.6	U	240	U	270	U	81	J	70	J		
VOCs	trans-1,2-Dichloroethene	ug/kg	1.70E+06	1.70E+06		2.6	U	180	UJ	3.4	U	3.2	U	170		2.5	U	120	U	140	U	130	U	2.8	U	120	U	140	U	150	UJ	390			
VOCs	trans-1,3-Dichloropropene	ug/kg	2.30E+05	5.20E+05		5.2	U	370	UJ	6.7	U	6.4	U	320	U	5	U	240	U	270	U	260	U	5.6	U	240	U	270	U	300	UJ	620	U		
VOCs	Trichloroethene	ug/kg	5.10E+04	1.70E+04		0.9	J	7800	J	1.2	J	6.4	U	5100	J	1.6	J	140	J	270		410		5.6	U	780		420		840	J	7600	J		
VOCs	Trichlorofluoromethane	ug/kg	1.20E+06	1.20E+06		5.2	U	370	UJ	6.7	U	6.4	U	320	UJ	5	UJ	240	U	270	U	260	U	5.6	U	240	U	270	U	300	UJ	620	U		
VOCs	Trifluorotrichloroethane	ug/kg				5.2	U	370	UJ	6.7	U	6.4	U	320	U	5	U	240	U	270	U	260	U	5.6	U	240	U	270	U	300	UJ	620	U		
VOCs	Vinyl chloride	ug/kg	5.00E+04	2.80E+05		5.2	U	370	UJ	6.7	U	6.4	U	320	U	5	U	240	U	270	U	260	U	5.6	U	240	U	270	U	300	UJ	620	U		
VOCs	Xylene (Total)	ug/kg	2.60E+05	2.60E+05		10	U	280	J	13	U	13	U	640	U	9.9	U	480	U	550	U	520	U	11	U	470	U	550	U	78	J	180	J		

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Appendix A
Soil Data Compared to GDCC
N Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units	Ohio VAP C/I GDCSS	Ohio VAP CW GDCSS	Station Name	SB-40-02		SB-41-02		SB-41-02		SB-41-02		SB-43-02		SB-43-02		SB-43-02		SB-56-02		SB-56-02		SB-56-02		SB-75-03		SB-75-03		SB-75-03		SB-87-03	
					FieldSampleID	SB-40-02		SB-41-02		SB-41-02		SB-41-02		SB-43-02		SB-43-02		SB-43-02		SB-56-02		SB-56-02		SB-56-02		SB-75-03		SB-75-03 DUP		SB-75-03		SB-87-03	
					Sample Date	4/15/2002		4/15/2002		4/15/2002		4/15/2002		4/15/2002		4/15/2002		4/15/2002		4/17/2002		4/17/2002		4/17/2002		2/20/2003		2/20/2003		2/20/2003		4/1/2003	
					Depth	9.5 - 11.5 ft		1 - 3 ft		6 - 8 ft		9 - 11 ft		1 - 3 ft		4 - 6 ft		9 - 11 ft		1 - 3 ft		6 - 8 ft		9.5 - 11.5 ft		1 - 3 ft		9.5 - 11.5 ft		9.5 - 11.5 ft		1 - 3 ft	
Field Parameters	pH Field	s.u.																															
Metals	Antimony	mg/kg	1.60E+03	8.50E+02		6.3	UJ	1.5	J	8.4	UJ	6.4	UJ	7.1	UJ	3.2	J	1.6	J	6.7	U	8.5	U	6.4	U	1.1	J	6.3	UJ	6.4	UJ			
Metals	Arsenic	mg/kg	7.70E+01	6.90E+02		2.8	J	13	J	3.1	J	3.8	J	2.8	J	32.4	J	15.3	J	8		4.7		3.4		15.2	J	3.9	J	3.1	J			
Metals	Barium	mg/kg				79.7	J	101	J	207	J	47.5	J	44.5	J	40	J	226	J	152		237		43.4		81.3	J	33.4	J	39.9	J			
Metals	Beryllium	mg/kg	7.80E+03	3.40E+03		0.68	J	0.58	UJ	0.28	J	0.12	J	0.1	J	0.36	J	0.29	J	0.49	J	0.71	U	0.54	U	0.49	J	0.53	UJ	0.53	UJ			
Metals	Cadmium	mg/kg	2.60E+03	1.00E+03		0.52	UJ	0.064	J	0.29	J	0.62	J	0.59	UJ	2.7	UJ	0.26	J	0.83		0.37	J	0.31	J	0.57	UJ	0.02	J	0.032	J			
Metals	Chromium Total	mg/kg	2.10E+02	1.20E+03		8.9	J	16.8	J	7.2	J	18.4	J	4.3	J	8.5	J	17	J	12.5		8		7.2		10.4	J	5.3	J	4.1	J			
Metals	Cobalt	mg/kg				1.5	J	7.6	J	3.3	J	2.9	J	1.8	J	28.6	J	4.4	J	4.8	J	3.9	J	1.7	J	8.4	J	1.8	J	1.5	J			
Metals	Copper	mg/kg	1.60E+05	2.10E+04		5.5	J	278	J	8.2	J	8.6	J	23.3	J	112	J	87.2	J	178		9.3		25		53.5	J	4.6	J	3	J			
Metals	Cyanide (total)	mg/kg	3.70E+02	1.50E+02		0.77		0.58	U	0.7	U	0.53	U	0.59	U	0.39	J	0.49	J	0.56	U	0.71	U	0.54	U	0.26	J	0.53	UJ	0.53	UJ			
Metals	Lead	mg/kg	8.00E+02	4.00E+02		4.5	J	80.6	J	6.8	J	8.8	J	15	J	65.1	J	71.2	J	94.7		7.4		18.5		63.1	J	2.1	J	1.8	J			
Metals	Manganese	mg/kg				1230		1810		420		333		139		457		436		462		427		214		560	J	180	J	160	J			
Metals	Mercury	mg/kg	3.10E+00	3.10E+00		0.1	UJ	0.12	UJ	0.14	R	0.11	R	0.12	R	0.19	J	2.8	J	0.23		0.026	J	0.06	J	0.09	J	0.11	U	0.11	U			
Metals	Nickel	mg/kg	7.40E+04	2.30E+04		2.6	J	15.1	J	7.9	J	6.6	J	3.9	J	55.7	J	10.5	J	12.3		9.3		4.7		19.7		4	J	3.6	J			
Metals	Selenium	mg/kg	2.00E+04	1.10E+04		0.5	J	0.58	UJ	0.52	J	0.53	UJ	0.59	UJ	1.7	J	0.69	UJ	0.56	U	0.71	U	0.54	U	0.71	J	0.53	U	0.53	U			
Metals	Silver	mg/kg	2.00E+04	1.10E+04		1	U	1.2	U	1.4	U	1.1	U	1.2	U	1.1	U	1.4	U	0.31	J	1.4	U	1.1	U	1.1	U	1.1	U	1.1	U			
Metals	Thallium	mg/kg				2.5	J	0.74	J	0.88	J	0.94	J	1.2	UJ	5.4	UJ	1.6	J	1.1	U	1.4	U	1.1	U	1.1	J	0.67	J	1.1	UJ			
Metals	Vanadium	mg/kg	2.30E+04	1.10E+04		7.1	J	30.2	J	10.4	J	9.2	J	5.3	J	13.2	J	14	J	14.1		13.2		6.6		18.7	J	7	J	7.7	J			
Metals	Zinc	mg/kg	1.00E+06	6.40E+05		8.6	J	138	J	35.6	J	25	J	17.5	J	51	J	135	J	155		41.8		36.9		62.1	J	9.9	J	12.4	J			
Miscellaneous	Percent moisture	%																															
Miscellaneous	pH (solid)	s.u.				7.5		7.8		8.6										8.3		8		12										
Miscellaneous	Total Solids	%				95.4		86.6		71.2		93.6		84.1		93.4		73		88.9		70.3		93.1		87.7		94.7		93.8		87.1	
Other	C21-C34 Aliphatics	mg/kg	5000	5000																													
PCBs/Pesticides	Aroclor-1016	mg/kg	1.00E+02	2.60E+02		0.035	U	0.038	U	2.3	U	0.71	U	2	U	0.18	U	2.3	U	0.74	U	4.7	U	1.8	U									
PCBs/Pesticides	Aroclor-1221	mg/kg	1.40E+01	2.10E+02		0.035	U	0.038	U	2.3	U	0.71	U	2	U	0.18	U	2.3	U	0.74	U	4.7	U	1.8	U									
PCBs/Pesticides	Aroclor-1232	mg/kg	1.40E+01	7.30E+01		0.035	U	0.038	U	2.3	U	0.71	U	2	U	0.18	U	2.3	U	0.74	U	4.7	U	1.8	U									
PCBs/Pesticides	Aroclor-1242	mg/kg	2.00E+01	4.40E+02		0.035	U	0.038	U	2.3	U	0.71	U	2	U	0.18	U	2.3	U	0.74	U	4.7	U	1.8	U									
PCBs/Pesticides	Aroclor-1248	mg/kg	2.00E+01	4.40E+02		0.035	U	0.038	U	2.3	U	0.71	U	2	U	0.18	U	2.3	U	0.74	U	4.7	U	1.8	U									
PCBs/Pesticides	Aroclor-1254	mg/kg	2.00E+01	7.50E+01		0.44		0.067		20		13		23		1.4		30		9.3		48		33										
PCBs/Pesticides	Aroclor-1260	mg/kg	2.00E+01	4.40E+02		0.035	U	0.038	U	2.3	U	0.71	U	2	U	0.18	U	2.3	U	0.74	U	4.7	U	1.8	U									
PCBs/Pesticides	Total PCBs	ug/kg	1.40E+04	7.30E+04																													
SVOCs	2,2-oxybis(2-Chloropropane), SVOC	ug/kg				350	U	380	U	460	U	7100	U	980	U	350	U	900	U	370	U	3100	U	350	U	3800	U	350	U	350	U	380	U	
SVOCs	2,4,5-Trichlorophenol	ug/kg	1.80E+08	1.00E+09		350	U	380	U	460	U	7100	U	980	U	350	U	900	U	370	U	3100	U	350	U	3800	U	350	U	350	U	380	U	
SVOCs	2,4,6-Trichlorophenol	ug/kg	1.80E+06	1.40E+06		350	U	380	U	460	U	7100	U	980	U	350	U	900	U	370	U	3100	U	350	U	3800	U	350	U	350	U	380	U	
SVOCs	2,4-Dichlorophenol	ug/kg	5.30E+06	2.80E+07		350	U	380	U	460	U	7100	U	980	U	350	U	900	U	370	U	3100	U	350	U	3800	U	350	U	350	U	380	U	
SVOCs	2,4-Dimethylphenol	ug/kg	3.50E+07	8.50E+07		350	U	380	U	460	U	7100	U	980	U	350	U	900	U	370	U	3100	U	350	U	3800	U	350	U	350	U	380	U	
SVOCs	2,4-Dinitrophenol	ug/kg	3.50E+06	2.80E+07		1700	U	1800	UJ	2200	U	34000	UJ	4800	UJ	1700	UJ	4400	U	1800	U	15000	U	1700	U	18000	U	1700	U	1700	U	1800	U	
SVOCs	2,4-Dinitrotoluene	ug/kg	1.60E+05	2.80E+06		350	U	380	U	460	U	7100	U	980	U	350	U	900	U	370	U	3100	U	350	U	3800	U	350	U	350	U	380	U	
SVOCs	2,6-Dinitrotoluene	ug/kg	3.30E+04	6.70E+05		350	U	380	U	460	U	7100	U	980	U	350	U	900	U	370	U	3100	U	350	U	3800	U	350	U	350	U	380	U	
SVOCs	2-Chloronaphthalene	ug/kg	3.30E+08	1.00E+09		350	U	380	U	460	U	7100	U	980	U	350	U	900	U	370	U	3100	U	350	U	3800	U	350	U	350	U	380	U	
SVOCs	2-Chlorophenol	ug/kg	2.00E+07	2.20E+07		350	U	380	U	460	U	7100	U	980	U	350	U	900	U	370	U	3100	U	350	U	3800	U	350	U	350	U	380	U	
SVOCs	2-Methylnaphthalene	ug/kg	6.00E+06	5.20E+06		350	U	380	U	460	U	1300	J	980	U	350	U	1000		370	U	3100	U	350	U	270	J	350	U	350	U	380	U	
SVOCs	2-Methylphenol	ug/kg	8.80E+07	7.10E+08		350	U	380	U	460	U	7100	U	980	U	350	U	900	U	370	U	3100	U	350	U	3800	U	350	U	350	U	380	U	
SVOCs	2-Nitroaniline	ug/kg				1700	U	1800	U	2200	U	34000	U	4800	U	1700	U	4400	U	1800	U	15000	U	1700	U	18000	U	1700	U	1700	U	1800	U	
SVOCs	2-Nitrophenol	ug/kg				350	U	380	U	460	U	7100	U	980	U	350	U	900	U	370	U	3100	U	350	U	3800	U	350	U	350	U	380	U	
SVOCs	3,3-Dichlorobenzidine	ug/kg	1.10E+05	2.20E+06		1700	U	1800	U	2200	U	34000	U	4800	U	1700	U	4400	U	1800	U	15000	U	1700	U	18000	U	1700	U	1700	U	1800	U	
SVOCs	3-Nitroaniline	ug/kg				1700	U	1800	U	2200	U	34000	U	4800	U	1700	U	4400	U	1800	U	15000	U	1700	U	18000	U	1700	U	1700	U	1800	U	
SVOCs	4,6-Dinitro-2-methylphenol	ug/kg				1700	U	1800	UJ	2200	U	34000	UJ	4800	UJ	1700	UJ	4400	U	1800	U	15000	U	1700	U	18000	U	1700	U	1700	U	1800	U	
SVOCs	4-Bromophenyl phenyl ether	ug/kg				350	U	380	U	460	U	7100	U	980	U	350	U	900	U	370	U	3100	U	350	U	3800	U	350	U	350	U	380	U	
SVOCs	4-Chloro-3-methylphenol	ug/kg				350	U	380	U	460	U	7100	U	980	U	350	U	900	U	370	U	3100	U	350	U	3800	U	350	U	350	U	380	U	
SVOCs	4-Chloroaniline	ug/kg	2.50E+05	7.10E+05		350	U	380	U	460	U	7100	U	980	U	350	U	900	U	370	U	3100	U	350	U	3800	U	350	U	350	U	380	U	
SVOCs	4-Chlorophenyl phenyl ether	ug/kg				350	U	380	U	460	U	7100	U	980	U	350	U	900	U	370	U	3100	U	350	U	3800	U	350	U	350	U	380	U	
SVOCs	4-Methylphenol	ug/kg	1.80E+08	2.80E+07		350	U	380	U	460	U	7100	U	980	U	350	U	900	U	370	U	3100	U	350	U	3800	U	350	U	350	U	380	U	
SVOCs	4-Nitroaniline	ug/kg	2.50E+06	1.40E+07		1700	U	1800	U	2200	U	34000	U	4800	U	1700	U	4400	U	1800	U	15000	U	1700	U	18000	U	1700	U	1700	U	1800	U	
SVOCs	4-Nitrophenol	ug/kg				1700	U	1800	U	2200	U	34000	U	4800	U	1700	U	4400	U	1800	U	15000	U	1700	U	18000	U	1700	U	1700	U	1800	U	
SVOCs	Acenaphthene	ug/kg	9.00E+07	7.80E+08		350	U	380	U	460	U	7100	U	980	U	350	U	600	J	370	U	3100	U	350	U	3800	U	350	U	350	U	380	U	
SVOCs	Acenaphthylene	ug/kg				350	U	380	U	460	U	7100	U	980	U	350	U	210	J	93	J	3100	U	350	U	3800	U	350	U	350	U	380	U	
SVOCs	Acetophenone	ug/kg	2.50E+06	2.50E+06		350	U	380	U	460	U	7100	U	980	U	350	U	900	U	370	U	3100	U	350	U	3800	U	350	U	350	U	380	U	
SVOCs	Anthracene	ug/kg	4.50E+08	1.00E+09		350	U	380	U	460	U	7100	U	980	U	350	U	2700		140	J	3100	U	350	U	3800	U	350	U	350	U	380	U	
SVOCs	Atrazine	ug/kg				350	U	380	U	460	U	7100	U	980	U	350	U	900	U	370	U	3100	U	350	U	3800	U	350	U	350	U	380	U	
SVOCs	Benzaldehyde	ug/kg				350	U	380	U	460	U	7100	U	980	U	350	U	900	U	370	U	3100	U	350	U	3800	U	350	U	350	U	380	U	
SVOCs	Benzo(a)anthracene	ug/kg	5.80E+04	1.20E+06		350	U	160	J	460	U	7100	U	980	U	350	U	4200		1300		3100	U	350	U	290	J	350	U	350	U	380	U	
SVOCs	Benzo(a)pyrene	ug/kg	5.80E+03	1.20E+05		350	U	230	J	460	U	7100	U	980	U	350	U	3200		2100		3100	U	79	J	3800	U	350	U	350	U	380	U	
SVOCs	Benzo(b)fluoranthene	ug/kg	5.80E+04	1.20E+06		350	U	420		460	U	7100	U	980	U	70	J	3800		3000		3100	U	110	J	3800	U	350	U	350	U	380	U	
SVOCs	Benzo(g,h,i)perylene	ug/kg				350	U	150	J	460	U	7100	U	980	U	350	U	880	J	1300		3100	U	71	J	3800	U	350	U	350	U	380	U	
SVOCs	Benzo(k)fluoranthene	ug/kg	5.80E+05	1.20E+07		350	U	160	J	460	U	7100	U	980	U	350	U	1500		1400		3100	U	350	U	3800	U	350	U	350	U	380	U	
SVOCs	Biphenyl	ug/kg	1.40E+07	1.90E+08		350	U	380	U	460	U	7100	U	980	U	350	U	900	U	370	U	3100	U	350	U	3800	U	350	U	350	U	380	U	
SVOCs	bis(2-Chloroethoxy)methane	ug/kg	5.30E+06	4.30E+07		350	U	380	U	460	U	7100	U	980	U	350	U	900	U	370	U	3100	U	350	U	3800	U	350	U	350	U	380	U	
SVOCs	bis(2-Chloroethyl)ether	ug/kg	3.00E+04	2.90E+05		350	U	380	U	460	U	7100	U	980	U	350	U	900	U	370	U	3100	U	350	U	3800	U	350	U	350	U	380	U	
SVOCs	bis(2-Ethylhexyl)phthalate	ug/kg	3.50E+06	7.10E+07		350	U	380	U	84	J	7100	U	980	U	350	U	900	U	370	U	3100	U	350	U	3800	U	40	J	350	U	380	U	
SVOCs	Butyl benzylphthalate	ug/kg	2.60E+07	5.20E+08		350	U	380	U	460	U	7100	U	980	U	350	U	900	U	370	U	3100	U	350	U	3800	U	350	U	350	U	380	U	
SVOCs	Caprolactam	ug/kg				350	U	380	U	460	U	7100	U	980	U	350	U	900	U	370	U	3100	U	350	U	3800	U	350	U	350	U	380	U	
SVOCs	Carbazole	ug/kg				350	U	380	U	460	U	7100	U	980	U	350	U	680	J	68	J	3100	U	350	U	3800	U	350	U	350	U	380	U	
SVOCs	Chrysene	ug/kg	5.80E+06	1.20E+08		350	U	200	J	460	U	7100	U	980	U	58	J	3300		1500		3100	U	62	J	550	J	350	U	350	U	380	U	
SVOCs	Dibenz(a,h)anthracene	ug/kg	5.80E+03	1.20E+08		350	U	380	U	460	U	7100	U	980	U	350	U	380	J	340	J	3100	U	350	U	3800	U	350	U	350	U	380	U	
SVOCs	Dibenzofuran	ug/kg				350	U	380	U	460	U	7100	U	980	U	350	U	1200		370	U	3100	U	350	U	3800	U	350	U	350	U	380	U	
SVOCs	Diethyl phthalate	ug/kg	1.00E+09	1.00E+09		350	U	380	U	460	U	7100	U	980	U	350	U	900	U	370	U	3100	U	350	U	3800	U	350	U	350	U	380	U	
SVOCs	Dimethyl phthalate	ug/kg				350	U	380	U	460	U	7100	U	980	U	350	U	900	U	370	U	3100	U	350	U	3800	U	350	U	350	U	380	U	
SVOCs	Di-n-butylphthalate	ug/kg	1.80E+08	4.30E+08		350	U	380	U	460	U	7100	U	980	U	350	U	900	U	370	U	3100	U	350	U	3800	U	350	U	350	U	380	U	
SVOCs	Di-N-Octyl phthalate	ug/kg				350	U	380	U	460	U	7100	U	980	U	350	U	900	U	370	U	3100	U	350	U	3800	U	350	U	350	U	380	U	
SVOCs	Fluoranthene	ug/kg	6.00E+07	1.60E+08		350	U	220	J	460	U	7100	U	980	U	350	U	6300		1600		3100	U	63	J	950	J	350	U	350	U	380	U	
SVOCs	Fluorene	ug/kg	6.00E+07	5.20E+08		350	U	380	U	71	J	7100	U	980	U	350	U	1600		370	U	3100	U	350	U	3800	U	350	U	350	U	380	U	
SVOCs	Hexachlorobenzene	ug/kg	3.10E+04	1.40E+04		350	U	380	U	460	U	7100	U	980	U	350	U	900	U	370	U	3100	U	350	U	3800	U	350	U	350	U	380	U	
SVOCs	Hexachlorobutadiene, SVOC	ug/kg	6.30E+05	1.40E+06		350	U	380	U	460	U	7100	U	980	U	350	U	900	U	370	U	3100	U	350	U	3800	U	350	U	350	U	380	U	
SVOCs	Hexachlorocyclopentadiene	ug/kg	1.10E+07	2.60E+07		1700	U	1800	U	2200	U	34000	U	4800	U	1700	U	4400	U	1800	U	15000	U	1700	U	18000	U	1700	U	1700	U	1800	U	
SVOCs	Hexachloroethane	ug/kg	1.20E+06	3.00E+06		350	U	380	U	460	U	7100	U	980	U	350	U	900	U	370	U	3100	U	350	U	3800	U	350	U	350	U	380	U	
SVOCs	Indeno(1,2,3-cd)pyrene	ug/kg	5.80E+04	1.20E+06		350	U	130	J	460	U	7100	U	980	U	350	U	1000		1100		3100	U	350	U	3800	U	350	U	350	U	380	U	
SVOCs	Isophorone	ug/kg	5.20E+07	1.00E+09		350	U	380	U	460	U	7100	U	980	U	350	U	900	U	370	U	3100	U	350	U	3800	U	350	U	350	U	380	U	

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Appendix A
Soil Data Compared to GDCC
N Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units	Ohio VAP C/I GDCSS	Ohio VAP CW GDCSS	Station Name	SB-40-02		SB-41-02		SB-41-02		SB-41-02		SB-43-02		SB-43-02		SB-43-02		SB-56-02		SB-56-02		SB-56-02		SB-75-03		SB-75-03		SB-75-03		SB-87-03	
					FieldSampleID	SB-40-02		SB-41-02		SB-41-02		SB-41-02		SB-43-02		SB-43-02		SB-43-02		SB-56-02		SB-56-02		SB-56-02		SB-75-03		SB-75-03 DUP		SB-75-03		SB-87-03	
					Sample Date	4/15/2002		4/15/2002		4/15/2002		4/15/2002		4/15/2002		4/15/2002		4/15/2002		4/17/2002		4/17/2002		4/17/2002		2/20/2003		2/20/2003		2/20/2003		4/1/2003	
					Depth	9.5 - 11.5 ft		1 - 3 ft		6 - 8 ft		9 - 11 ft		1 - 3 ft		4 - 6 ft		9 - 11 ft		1 - 3 ft		6 - 8 ft		9.5 - 11.5 ft		1 - 3 ft		9.5 - 11.5 ft		9.5 - 11.5 ft		1 - 3 ft	
SVOCs	Naphthalene, SVOC	ug/kg	4.50E+05	5.60E+05		350	U	380	U	460	U	7100	U	980	U	350	U	720	J	370	U	3100	U	350	U	3800	U	350	U	350	U	380	U
SVOCs	Nitrobenzene	ug/kg	6.10E+05	3.00E+06		350	U	380	U	460	U	7100	U	980	U	350	U	900	U	370	U	3100	U	350	U	3800	U	350	U	350	U	380	U
SVOCs	N-Nitrosodi-n-propylamine	ug/kg	7.00E+03	1.40E+05		350	U	380	U	460	U	7100	U	980	U	350	U	900	U	370	U	3100	U	350	U	3800	U	350	U	350	U	380	U
SVOCs	N-Nitrosodiphenylamine	ug/kg	1.00E+07	2.00E+08		350	U	380	U	460	U	7100	U	980	U	350	U	900	U	370	U	3100	U	350	U	3800	U	350	U	350	U	380	U
SVOCs	Pentachlorophenol	ug/kg	6.70E+04	9.50E+05		350	U	380	U	460	U	7100	U	980	U	350	U	900	U	370	U	3100	U	350	U	3800	U	350	U	350	U	380	U
SVOCs	Phenanthrene	ug/kg				350	U	95	J	170	J	1100	J	980	U	62	J	9100		370		3100	U	350	U	930	J	350	U	350	U	380	U
SVOCs	Phenol	ug/kg	5.30E+08	8.40E+08		350	U	380	U	460	U	7100	U	980	U	350	U	900	U	370	U	3100	U	350	U	3800	U	350	U	350	U	380	U
SVOCs	Pyrene, SVOC	ug/kg	4.50E+07	3.90E+08		350	U	200	J	460	U	7100	U	980	U	350	U	6500		1800		3100	U	78	J	1400	J	350	U	350	U	380	U
TPH	Diesel Range Organics (DRO)	mg/kg	2000	2000																													
TPH	Gasoline Range Organics (GRO)	mg/kg	1000	1000																													
VOCs	1,1,1-Trichloroethane	ug/kg	6.40E+05	6.40E+05		300	U	510	J	880	UJ	660	U	420	U	230	U	330	U	3700	J	7	U	4.6	U	230	U	5.1	U	4.9	U		
VOCs	1,1,2,2-Tetrachloroethane	ug/kg	7.50E+04	6.70E+05		300	U	680	UJ	880	UJ	660	U	420	U	230	U	330	U	1300	UJ	7	U	4.6	U	230	U	5.1	U	4.9	U		
VOCs	1,1,2-Trichloroethane	ug/kg	1.40E+05	1.20E+06		300	U	680	UJ	880	UJ	660	U	420	U	230	U	330	U	1300	UJ	7	U	4.6	U	230	U	5.1	U	4.9	U		
VOCs	1,1-Dichloroethane	ug/kg	4.20E+05	1.70E+06		300	U	150	J	880	UJ	660	U	420	U	230	U	330	U	1100	J	26		4.6	U	230	U	5.1	U	4.9	U		
VOCs	1,1-Dichloroethene	ug/kg	1.20E+06	3.60E+05		300	U	680	UJ	880	UJ	660	U	420	U	230	U	330	U	1300	UJ	7	U	4.6	U	230	U	5.1	U	4.9	U		
VOCs	1,2,4-Trichlorobenzene, VOC	ug/kg	4.00E+05	4.00E+05		300	U	680	UJ	880	UJ	660	U	420	U	230	U	330	U	1300	UJ	7	UJ	4.6	U	230	U	5.1	U	4.9	U		
VOCs	1,2-Dibromo-3-chloropropane	ug/kg	1.70E+03	1.50E+04		590	U	1400	UJ	1800	UJ	1300	U	830	U	470	U	660	U	2700	UJ	14	UJ	9.1	UJ	460	U	10	U	9.8	U		
VOCs	1,2-Dibromoethane	ug/kg	4.40E+03	3.80E+04		300	U	680	UJ	880	UJ	660	U	420	U	230	U	330	U	1300	UJ	7	U	4.6	U	230	U	5.1	U	4.9	U		
VOCs	1,2-Dichlorobenzene, VOC	ug/kg	3.80E+05	3.80E+05		300	U	680	UJ	880	UJ	660	U	420	U	230	U	330	U	1300	UJ	7	UJ	4.6	U	230	U	5.1	U	4.9	U		
VOCs	1,2-Dichloroethane	ug/kg	5.60E+04	4.80E+05		300	U	680	UJ	880	UJ	660	U	420	U	230	U	330	U	1300	UJ	7	U	4.6	U	230	U	5.1	U	4.9	U		
VOCs	1,2-Dichloropropane	ug/kg	1.20E+05	1.80E+05		300	U	680	UJ	880	UJ	660	U	420	U	230	U	330	U	1300	UJ	7	U	4.6	U	230	U	5.1	U	4.9	U		
VOCs	1,3-Dichlorobenzene, VOC	ug/kg				300	U	680	UJ	880	UJ	660	U	420	U	230	U	330	U	1300	UJ	7	UJ	4.6	U	230	U	5.1	U	4.9	U		
VOCs	1,4-Dichlorobenzene, VOC	ug/kg	3.10E+05	2.60E+06		27	J	680	UJ	880	UJ	660	U	420	U	230	U	330	U	1300	UJ	7	UJ	4.6	U	230	U	5.1	U	4.9	U		
VOCs	2-Butanone	ug/kg	2.80E+07	2.80E+07		110	J	2700	UJ	310	J	2600	U	210	J	930	U	150	J	5400	UJ	28	U	18	U	920	U	20	U	20	U		
VOCs	2-Hexanone	ug/kg				1200	U	2700	UJ	3500	UJ	2600	U	1700	U	930	U	1300	U	5400	UJ	28	U	18	U	920	U	20	U	20	U		
VOCs	4-Methyl-2-Pentanone	ug/kg	3.40E+06	3.40E+06		1200	U	2700	UJ	3500	UJ	2600	U	1700	U	930	U	1300	U	5400	UJ	28	U	18	U	920	U	20	U	20	U		
VOCs	Acetone	ug/kg	1.10E+08	1.10E+08		1200	UJ	2700	UJ	3500	UJ	2600	UJ	1700	UJ	930	UJ	1300	UJ	5400	UJ	52	UJ	18	UJ	77	J	20	U	20	U		
VOCs	Benzene	ug/kg	1.40E+05	1.20E+06		300	U	680	UJ	880	UJ	660	U	420	U	230	U	330	U	1300	UJ	7	U	4.6	U	230	U	5.1	U	4.9	U		
VOCs	Bromodichloromethane	ug/kg	3.50E+04	3.00E+05		300	U	680	UJ	880	UJ	660	U	420	U	230	U	330	U	1300	UJ	7	U	4.6	U	230	U	5.1	U	4.9	U		
VOCs	Bromoform	ug/kg	6.20E+06	1.30E+08		300	UJ	680	UJ	880	UJ	660	UJ	420	UJ	230	UJ	330	UJ	1300	UJ	7	UJ	4.6	UJ	230	U	5.1	UJ	4.9	UJ		
VOCs	Bromomethane	ug/kg	8.20E+04	5.50E+05		300	U	680	UJ	880	UJ	660	U	420	U	230	U	330	U	1300	UJ	7	UJ	4.6	UJ	230	R	5.1	UJ	4.9	UJ		
VOCs	Carbon disulfide	ug/kg	7.40E+05	7.40E+05		300	U	680	UJ	880	UJ	660	U	420	U	230	U	330	U	1300	UJ	7	U	4.6	U	230	U	5.1	U	4.9	U		
VOCs	Carbon tetrachloride	ug/kg	7.90E+04	4.60E+05		300	UJ	680	UJ	880	UJ	660	UJ	420	UJ	230	UJ	330	UJ	69	J	7	UJ	4.6	UJ	230	U	5.1	UJ	4.9	UJ		
VOCs	Chlorobenzene	ug/kg	7.60E+05	7.60E+05		300	U	680	UJ	880	UJ	660	U	420	U	230	U	330	U	1300	UJ	7	U	4.6	U	230	U	5.1	U	4.9	U		
VOCs	Chloroethane	ug/kg				300	U	680	UJ	880	UJ	660	U	420	U	230	U	330	U	1300	UJ	7	U	4.6	U	230	U	5.1	U	4.9	U		
VOCs	Chloroform	ug/kg	3.80E+04	3.20E+05		300	U	680	UJ	880	UJ	660	U	420	U	230	U	330	U	94	J	7	U	4.6	U	230	U	5.1	U	4.9	U		
VOCs	Chloromethane	ug/kg	1.30E+06	1.30E+06		300	U	680	UJ	880	UJ	660	U	420	U	230	U	330	U	1300	UJ	7	U	4.6	U	230	U	5.1	U	4.9	U		
VOCs	cis-1,2-Dichloroethene	ug/kg				230		1900	J	180	J	330	U	100	J	740		160	U	2200	J	180		2.3	U	360		2.5	U	2.5	U		
VOCs	cis-1,3-Dichloropropene	ug/kg	2.30E+05	5.20E+05		300	U	680	UJ	880	UJ	660	U	420	U	230	U	330	U	1300	UJ	7	U	4.6	U	230	U	5.1	U	4.9	U		
VOCs	Cyclohexane	ug/kg	1.20E+05	1.20E+05		590	U	1400	UJ	1800	UJ	1300	U	290	J	24	J	660	U	140	J	14	U	9.1	U	16	J	10	U	9.8	U		
VOCs	Dibromochloromethane	ug/kg	8.40E+04	7.70E+05		300	U	680	UJ	880	UJ	660	U	420	U	230	U	330	U	1300	UJ	7	U	4.6	U	230	U	5.1	U	4.9	U		
VOCs	Dichlorodifluoromethane	ug/kg	8.50E+05	8.50E+05		300	U	680	UJ	880	UJ	660	U	420	U	230	U	330	U	1300	UJ	7	U	4.6	U	230	U	5.1	UJ	4.9	UJ		
VOCs	Ethylbenzene	ug/kg	4.80E+05	4.80E+05		300	U	680	UJ	880	UJ	660	U	31	J	230	U	330	U	1300	UJ	7	U	4.6	U	230	U	5.1	U	4.9	U		
VOCs	Isopropylbenzene, VOC	ug/kg	2.70E+05	2.70E+05		300	U	680	UJ	880	UJ	660	U	420	U	230	U	330	U	1300	UJ	7	U	4.6	U	230	U	5.1	U	4.9	U		
VOCs	Methyl acetate	ug/kg				130	J	1400	UJ	1800	UJ	1300	U	830	U	62	J	79	J	470	J	14	U	9.1	U	170	J	10	U	9.8	U		
VOCs	Methyl cyclohexane	ug/kg				22	J	54	J	1800	UJ	1300	U	770	J	63	J	660	U	380	J	14	U	9.1	U	460	U	10	U	9.8	U		
VOCs	Methyl tert butyl ether	ug/kg	5.70E+06	8.90E+06		1200	U	2700	UJ	3500	UJ	2600	U	1700	U	930	U	1300	U	5400	UJ	28	U	18	U	920	U	20	U	20	U		
VOCs	Methylene chloride	ug/kg	3.30E+06	3.30E+06		300	U	680	UJ	880	UJ	660	U	420	U	230	U	330	U	1300	UJ	7	U	4.6	U	230	U	5.1	U	1.8	J		
VOCs	Styrene	ug/kg	8.70E+05	8.70E+05		300	U	680	UJ	880	UJ	660	U	420	U	230	U	330	U	1300	UJ	7	U	4.6	U	230	U	5.1	U	4.9	U		
VOCs	Tetrachloroethene	ug/kg	1.70E+05	1.70E+05		4800		23000	J	880	UJ	660	U	15000		1300		180	J	39000	J	29		92		2400		25		9.9			
VOCs	Toluene	ug/kg	8.20E+05	8.20E+05		18	J	35	J	54	J	70	J	120	J	35	J	23	J	1300	UJ	7	U	0.56	J	230	U	0.64	J	0.45	J		
VOCs	trans-1,2-Dichloroethene	ug/kg	1.70E+06	1.70E+06		150	U	110	J	440	UJ	330	U	210	U	36	J	160	U	670	UJ	2.6	J	2.3	U	22	J	2.5	U	2.5	U		
VOCs	trans-1,3-Dichloropropene	ug/kg	2.30E+05	5.20E+05		300	U	680	UJ	880	UJ	660	U	420	U	230	U	330	U	1300	UJ	7	U	4.6	U	230	U	5.1	U	4.9	U		
VOCs	Trichloroethene	ug/kg	5.10E+04	1.70E+04		510		15000	J	880	UJ	660	U	1300		700		45	J	12000	J	13		3.8	J	630		1.4	J	4.9	U		
VOCs	Trichlorofluoromethane	ug/kg	1.20E+06	1.20E+06		300	U	680	UJ	880	UJ	660	U	420	U	230	U	330	U	1300	UJ	7	U	4.6	U	230	U	5.1	UJ	4.9	UJ		
VOCs	Trifluorotrichloroethane	ug/kg				300	U	680	UJ	880	UJ	660	U	420	U	230	U	330	U	1300	UJ	7	U	4.6	U	230	U	5.1	U	4.9	U		
VOCs	Vinyl chloride	ug/kg	5.00E+04	2.80E+05		300	U	680	UJ	880	UJ	660	U	420	U	220	J	330	U	1300	UJ	16		4.6	U	230	U	5.1	U	4.9	U		
VOCs	Xylene (Total)	ug/kg	2.60E+05	2.60E+05		35	J	70	J	1800	UJ	1300	U	440	J	56	J	80	J	380	J	14	U	9.1	U	460	U	10	U	9.8	U		

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Appendix A
Soil Data Compared to GDCC
N Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units	Ohio VAP C/I GDCSS	Ohio VAP CW GDCSS	Station Name	SB-87-03		SB-88-03		SB-88-03		SB-88-03		TT-SB262		TT-SB262		TT-SB262		TT-SB262		TT-SB262		TT-SB262		TT-SB263		TT-SB263		TT-SB263		TT-SB264	
					FieldSampleID	SB-87-03		SB-88-03		SB-88-03 DUP		SB-88-03		TT-SB262-G-02		TT-SB262-G-04		TT-SB262-G-06		TT-SB262-G-08		TT-SB262-G-08		TT-SB262-G-08		TT-SB263-G-02		TT-SB263-G-04		TT-SB263-G-06		TT-SB264-G-02	
					Sample Date	4/1/2003		4/1/2003		4/1/2003		4/1/2003		4/4/2013		4/4/2013		4/4/2013		4/4/2013		4/4/2013		4/4/2013		4/4/2013		4/4/2013		4/4/2013		4/4/2013	
					Depth	9 - 11 ft		1 - 3 ft		3 - 5 ft		3 - 5 ft		0 - 2 ft		2 - 4 ft		4 - 6 ft		6 - 8 ft		6 - 8 ft		6 - 8 ft		0 - 2 ft		2 - 4 ft		4 - 6 ft		0 - 2 ft	
Field Parameters	pH Field	s.u.																													
Metals	Antimony	mg/kg	1.60E+03	8.50E+02																											
Metals	Arsenic	mg/kg	7.70E+01	6.90E+02																											
Metals	Barium	mg/kg																													
Metals	Beryllium	mg/kg	7.80E+03	3.40E+03																											
Metals	Cadmium	mg/kg	2.60E+03	1.00E+03																											
Metals	Chromium Total	mg/kg	2.10E+02	1.20E+03																											
Metals	Cobalt	mg/kg																													
Metals	Copper	mg/kg	1.60E+05	2.10E+04																											
Metals	Cyanide (total)	mg/kg	3.70E+02	1.50E+02																											
Metals	Lead	mg/kg	8.00E+02	4.00E+02																											
Metals	Manganese	mg/kg																													
Metals	Mercury	mg/kg	3.10E+00	3.10E+00																											
Metals	Nickel	mg/kg	7.40E+04	2.30E+04																											
Metals	Selenium	mg/kg	2.00E+04	1.10E+04																											
Metals	Silver	mg/kg	2.00E+04	1.10E+04																											
Metals	Thallium	mg/kg																													
Metals	Vanadium	mg/kg	2.30E+04	1.10E+04																											
Metals	Zinc	mg/kg	1.00E+06	6.40E+05																											
Miscellaneous	Percent moisture	%												12.3		8.23		18.3		20.4		23.6		18.5		6.73		5.45		7.62		20.6	
Miscellaneous	pH (solid)	s.u.																													
Miscellaneous	Total Solids	%				91.3		91		93.3		93.2																				
Other	C21-C34 Aliphatics	mg/kg	5000	5000																605	U											
PCBs/Pesticides	Aroclor-1016	mg/kg	1.00E+02	2.60E+02				0.036	U	0.035	U	0.035	U	0.0215	U	0.0215	U	0.234	UD			0.0255	U			0.0211	U	0.0208	U	0.0216	U	0.0242	U
PCBs/Pesticides	Aroclor-1221	mg/kg	1.40E+01	2.10E+02				0.036	U	0.035	U	0.035	U	0.0215	U	0.0215	U	0.234	UD			0.0255	U			0.0211	U	0.0208	U	0.0216	U	0.0242	U
PCBs/Pesticides	Aroclor-1232	mg/kg	1.40E+01	7.30E+01				0.036	U	0.035	U	0.035	U	0.0215	U	0.0215	U	0.234	UD			0.0255	U			0.0211	U	0.0208	U	0.0216	U	0.0242	U
PCBs/Pesticides	Aroclor-1242	mg/kg	2.00E+01	4.40E+02				0.036	U	0.035	U	0.035	U	0.0215	U	0.0215	U	0.234	UD			0.0255	U			0.0211	U	0.0208	U	0.0216	U	0.0242	U
PCBs/Pesticides	Aroclor-1248	mg/kg	2.00E+01	4.40E+02				0.036	U	0.035	U	0.035	U	0.0215	U	0.0215	U	0.234	UD			0.0255	U			0.0211	U	0.0208	U	0.0216	U	0.0242	U
PCBs/Pesticides	Aroclor-1254	mg/kg	2.00E+01	7.50E+01				0.036	U	0.035	U	0.035	U	0.579		2.12	D	3.66	D			7.62	D			0.246		0.0548		0.0782		5.61	D
PCBs/Pesticides	Aroclor-1260	mg/kg	2.00E+01	4.40E+02				0.21		0.034	J	0.03	J	0.0215	U	0.0215	U	0.234	UD			0.0255	U			0.0211	U	0.0208	U	0.0216	U	0.0242	U
PCBs/Pesticides	Total PCBs	ug/kg	1.40E+04	7.30E+04															UD													
SVOCs	2,2-oxybis(2-Chloropropane), SVOC	ug/kg				360	U	360	U	350	U	350	U																			
SVOCs	2,4,5-Trichlorophenol	ug/kg	1.80E+08	1.00E+09		360	U	360	U	350	U	350	U																			
SVOCs	2,4,6-Trichlorophenol	ug/kg	1.80E+06	1.40E+06		360	U	360	U	350	U	350	U																			
SVOCs	2,4-Dichlorophenol	ug/kg	5.30E+06	2.80E+07		360	U	360	U	350	U	350	U																			
SVOCs	2,4-Dimethylphenol	ug/kg	3.50E+07	8.50E+07		360	U	360	U	350	U	350	U																			
SVOCs	2,4-Dinitrophenol	ug/kg	3.50E+06	2.80E+07		1800	U	1800	U	1700	U	1700	U																			
SVOCs	2,4-Dinitrotoluene	ug/kg	1.60E+05	2.80E+06		360	U	360	U	350	U	350	U																			
SVOCs	2,6-Dinitrotoluene	ug/kg	3.30E+04	6.70E+05		360	U	360	U	350	U	350	U																			
SVOCs	2-Chloronaphthalene	ug/kg	3.30E+08	1.00E+09		360	U	360	U	350	U	350	U																			
SVOCs	2-Chlorophenol	ug/kg	2.00E+07	2.20E+07		360	U	360	U	350	U	350	U																			
SVOCs	2-Methylnaphthalene	ug/kg	6.00E+06	5.20E+06		360	U	360	U	350	U	350	U																			
SVOCs	2-Methylphenol	ug/kg	8.80E+07	7.10E+08		360	U	360	U	350	U	350	U																			
SVOCs	2-Nitroaniline	ug/kg				1800	U	1800	U	1700	U	1700	U																			
SVOCs	2-Nitrophenol	ug/kg				360	U	360	U	350	U	350	U																			
SVOCs	3,3-Dichlorobenzidine	ug/kg	1.10E+05	2.20E+06		1800	U	1800	U	1700	U	1700	U																			
SVOCs	3-Nitroaniline	ug/kg				1800	U	1800	U	1700	U	1700	U																			
SVOCs	4,6-Dinitro-2-methylphenol	ug/kg				1800	U	1800	U	1700	U	1700	U																			
SVOCs	4-Bromophenyl phenyl ether	ug/kg				360	U	360	U	350	U	350	U																			
SVOCs	4-Chloro-3-methylphenol	ug/kg				360	U	360	U	350	U	350	U																			
SVOCs	4-Chloroaniline	ug/kg	2.50E+05	7.10E+05		360	U	360	U	350	U	350	U																			
SVOCs	4-Chlorophenyl phenyl ether	ug/kg				360	U	360	U	350	U	350	U																			
SVOCs	4-Methylphenol	ug/kg	1.80E+08	2.80E+07		360	U	360	U	350	U	350	U																			
SVOCs	4-Nitroaniline	ug/kg	2.50E+06	1.40E+07		1800	U	1800	U	1700	U	1700	U																			
SVOCs	4-Nitrophenol	ug/kg				1800	U	1800	U	1700	U	1700	U																			
SVOCs	Acenaphthene	ug/kg	9.00E+07	7.80E+08		360	U	24	J	350	U	350	U																			
SVOCs	Acenaphthylene	ug/kg				360	U	41	J	350	U	350	U																			
SVOCs	Acetophenone	ug/kg	2.50E+06	2.50E+06		360	U	360	U	350	U	350	U																			
SVOCs	Anthracene	ug/kg	4.50E+08	1.00E+09		19	J	73	J	350	U	22	J																			
SVOCs	Atrazine	ug/kg				360	U	360	U	350	U	350	U																			
SVOCs	Benzaldehyde	ug/kg				360	U	360	U	350	U	350	U																			
SVOCs	Benzo(a)anthracene	ug/kg	5.80E+04	1.20E+06		160	J	550		130	J	140	J																			
SVOCs	Benzo(a)pyrene	ug/kg	5.80E+03	1.20E+05		130	J	860		96	J	99	J																			
SVOCs	Benzo(b)fluoranthene	ug/kg	5.80E+04	1.20E+06		170	J	1600		150	J	180	J																			
SVOCs	Benzo(g,h,i)perylene	ug/kg				85	J	580		63	J	110	J																			
SVOCs	Benzo(k)fluoranthene	ug/kg	5.80E+05	1.20E+07		72	J	720		83	J	94	J																			
SVOCs	Biphenyl	ug/kg	1.40E+07	1.90E+08		360	U	360	U	350	U	350	U																			
SVOCs	bis(2-Chloroethoxy)methane	ug/kg	5.30E+06	4.30E+07		360	U	360	U	350	U	350	U																			
SVOCs	bis(2-Chloroethyl)ether	ug/kg	3.00E+04	2.90E+05		360	U	360	U	350	U	350	U																			
SVOCs	bis(2-Ethylhexyl)phthalate	ug/kg	3.50E+06	7.10E+07		16	J	55	J	21	J	22	J																			
SVOCs	Butyl benzylphthalate	ug/kg	2.60E+07	5.20E+08		360	U	360	U	350	U	350	U																			
SVOCs	Caprolactam	ug/kg				360	U	360	U	350	U	350	U																			
SVOCs	Carbazole	ug/kg				360	U	25	J	350	U	350	U																			
SVOCs	Chrysene	ug/kg	5.80E+06	1.20E+08		130	J	820		110	J	130	J																			
SVOCs	Dibenz(a,h)anthracene	ug/kg	5.80E+03	1.20E+08		23	J	180	J	350	U	350	U																			
SVOCs	Dibenzofuran	ug/kg				360	U	360	U	350	U	350	U																			
SVOCs	Diethyl phthalate	ug/kg	1.00E+09	1.00E+09		360	U	360	U	350	U	350	U																			
SVOCs	Dimethyl phthalate	ug/kg				360	U	360	U	350	U	350	U																			
SVOCs	Di-n-butylphthalate	ug/kg	1.80E+08	4.30E+08		360	U	360	U	350	U	350	U																			
SVOCs	Di-N-Octyl phthalate	ug/kg				360	U	360	U	350	U	350	U																			
SVOCs	Fluoranthene	ug/kg	6.00E+07	1.60E+08		200	J	1200		150	J	180	J																			
SVOCs	Fluorene	ug/kg	6.00E+07	5.20E+08		360	U	76	J	61	J	350	U																			
SVOCs	Hexachlorobenzene	ug/kg	3.10E+04	1.40E+04		360	U	360	U	350	U	350	U																			
SVOCs	Hexachlorobutadiene, SVOC	ug/kg	6.30E+05	1.40E+06		360	U	360	U	350	U	350	U																			
SVOCs	Hexachlorocyclopentadiene	ug/kg	1.10E+07	2.60E+07		1800	U	1800	U	1700	U	1700	U																			
SVOCs	Hexachloroethane	ug/kg	1.20E+06	3.00E+06		360	U	360	U	350	U	350	U																			
SVOCs	Indeno(1,2,3-cd)pyrene	ug/kg	5.80E+04	1.20E+06		71	J	540		59	J	89	J																			
SVOCs	Isophorone	ug/kg	5.20E+07	1.00E+09		360	U	360	U	350	U	350	U																			

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Appendix A
Soil Data Compared to GDCC
N Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units	Ohio VAP C/I GDCSS	Ohio VAP CW GDCSS	Station Name	SB-87-03		SB-88-03		SB-88-03		SB-88-03		TT-SB262		TT-SB262		TT-SB262		TT-SB262		TT-SB262		TT-SB262		TT-SB263		TT-SB263		TT-SB263		TT-SB264	
					FieldSampleID	SB-87-03		SB-88-03		SB-88-03 DUP		SB-88-03		TT-SB262-G-02		TT-SB262-G-04		TT-SB262-G-06		TT-SB262-G-08		TT-SB262-G-08		TT-SB262-G-08		TT-SB263-G-02		TT-SB263-G-04		TT-SB263-G-06		TT-SB264-G-02	
					Sample Date	4/1/2003		4/1/2003		4/1/2003		4/1/2003		4/4/2013		4/4/2013		4/4/2013		4/4/2013		4/4/2013		4/4/2013		4/4/2013		4/4/2013		4/4/2013		4/4/2013	
					Depth	9 - 11 ft		1 - 3 ft		3 - 5 ft		3 - 5 ft		0 - 2 ft		2 - 4 ft		4 - 6 ft		6 - 8 ft		6 - 8 ft		6 - 8 ft		0 - 2 ft		2 - 4 ft		4 - 6 ft		0 - 2 ft	
SVOCs	Naphthalene, SVOC	ug/kg	4.50E+05	5.60E+05		360	U	360	U	350	U	350	U																				
SVOCs	Nitrobenzene	ug/kg	6.10E+05	3.00E+06		360	U	360	U	350	U	350	U																				
SVOCs	N-Nitrosodi-n-propylamine	ug/kg	7.00E+03	1.40E+05		360	U	360	U	350	U	350	U																				
SVOCs	N-Nitrosodiphenylamine	ug/kg	1.00E+07	2.00E+08		360	U	360	U	350	U	350	U																				
SVOCs	Pentachlorophenol	ug/kg	6.70E+04	9.50E+05		360	U	360	U	350	U	350	U																				
SVOCs	Phenanthrene	ug/kg				46	J	180	J	58	J	75	J																				
SVOCs	Phenol	ug/kg	5.30E+08	8.40E+08		360	U	360	U	350	U	350	U																				
SVOCs	Pyrene, SVOC	ug/kg	4.50E+07	3.90E+08		220	J	1500		150	J	170	J																				
TPH	Diesel Range Organics (DRO)	mg/kg	2000	2000																51.7												
TPH	Gasoline Range Organics (GRO)	mg/kg	1000	1000																		6.19	UD									
VOCs	1,1,1-Trichloroethane	ug/kg	6.40E+05	6.40E+05				240	U	680	U	200	U																				
VOCs	1,1,2,2-Tetrachloroethane	ug/kg	7.50E+04	6.70E+05				240	U	680	U	200	U																				
VOCs	1,1,2-Trichloroethane	ug/kg	1.40E+05	1.20E+06				240	U	680	U	200	U																				
VOCs	1,1-Dichloroethane	ug/kg	4.20E+05	1.70E+06				240	U	680	U	200	U																				
VOCs	1,1-Dichloroethene	ug/kg	1.20E+06	3.60E+05				240	U	680	U	200	U																				
VOCs	1,2,4-Trichlorobenzene, VOC	ug/kg	4.00E+05	4.00E+05				240	U	680	U	200	U																				
VOCs	1,2-Dibromo-3-chloropropane	ug/kg	1.70E+03	1.50E+04				470	U	1400	U	410	U																				
VOCs	1,2-Dibromoethane	ug/kg	4.40E+03	3.80E+04				240	U	680	U	200	U																				
VOCs	1,2-Dichlorobenzene, VOC	ug/kg	3.80E+05	3.80E+05				240	U	680	U	200	U																				
VOCs	1,2-Dichloroethane	ug/kg	5.60E+04	4.80E+05				240	U	680	U	200	U																				
VOCs	1,2-Dichloropropane	ug/kg	1.20E+05	1.80E+05				240	U	680	U	200	U																				
VOCs	1,3-Dichlorobenzene, VOC	ug/kg						240	U	680	U	200	U																				
VOCs	1,4-Dichlorobenzene, VOC	ug/kg	3.10E+05	2.60E+06				240	U	680	U	200	U																				
VOCs	2-Butanone	ug/kg	2.80E+07	2.80E+07				940	U	2700	U	820	U																				
VOCs	2-Hexanone	ug/kg						940	U	2700	U	820	U																				
VOCs	4-Methyl-2-Pentanone	ug/kg	3.40E+06	3.40E+06				940	U	2700	U	820	U																				
VOCs	Acetone	ug/kg	1.10E+08	1.10E+08				940	UJ	2700	UJ	820	UJ																				
VOCs	Benzene	ug/kg	1.40E+05	1.20E+06				240	U	680	U	200	U																				
VOCs	Bromodichloromethane	ug/kg	3.50E+04	3.00E+05				240	U	680	U	200	U																				
VOCs	Bromoform	ug/kg	6.20E+06	1.30E+08				240	U	680	U	200	U																				
VOCs	Bromomethane	ug/kg	8.20E+04	5.50E+05				240	U	680	U	200	U																				
VOCs	Carbon disulfide	ug/kg	7.40E+05	7.40E+05				240	U	680	U	200	U																				
VOCs	Carbon tetrachloride	ug/kg	7.90E+04	4.60E+05				240	U	680	U	200	U																				
VOCs	Chlorobenzene	ug/kg	7.60E+05	7.60E+05				240	U	680	U	200	U																				
VOCs	Chloroethane	ug/kg						240	U	680	U	200	U																				
VOCs	Chloroform	ug/kg	3.80E+04	3.20E+05				240	U	680	U	52	J																				
VOCs	Chloromethane	ug/kg	1.30E+06	1.30E+06				240	U	680	U	200	U																				
VOCs	cis-1,2-Dichloroethene	ug/kg						120	U	340	U	100	U																				
VOCs	cis-1,3-Dichloropropene	ug/kg	2.30E+05	5.20E+05				240	U	680	U	200	U																				
VOCs	Cyclohexane	ug/kg	1.20E+05	1.20E+05				470	U	1400	U	410	U																				
VOCs	Dibromochloromethane	ug/kg	8.40E+04	7.70E+05				240	U	680	U	200	U																				
VOCs	Dichlorodifluoromethane	ug/kg	8.50E+05	8.50E+05				240	U	680	U	200	U																				
VOCs	Ethylbenzene	ug/kg	4.80E+05	4.80E+05				240	U	680	U	200	U																				
VOCs	Isopropylbenzene, VOC	ug/kg	2.70E+05	2.70E+05				240	U	680	U	200	U																				
VOCs	Methyl acetate	ug/kg						470	U	1400	UJ	410	U																				
VOCs	Methyl cyclohexane	ug/kg						470	U	1400	U	410	U																				
VOCs	Methyl tert butyl ether	ug/kg	5.70E+06	8.90E+06				940	U	2700	U	820	U																				
VOCs	Methylene chloride	ug/kg	3.30E+06	3.30E+06				240	U	400	J	200	U																				
VOCs	Styrene	ug/kg	8.70E+05	8.70E+05				240	U	680	U	200	U																				
VOCs	Tetrachloroethene	ug/kg	1.70E+05	1.70E+05				1800		17000		4400																					
VOCs	Toluene	ug/kg	8.20E+05	8.20E+05				240	U	680	U	200	U																				
VOCs	trans-1,2-Dichloroethene	ug/kg	1.70E+06	1.70E+06				120	U	340	U	100	U																				
VOCs	trans-1,3-Dichloropropene	ug/kg	2.30E+05	5.20E+05				240	U	680	U	200	U																				
VOCs	Trichloroethene	ug/kg	5.10E+04	1.70E+04				34	J	180	J	89	J																				
VOCs	Trichlorofluoromethane	ug/kg	1.20E+06	1.20E+06				240	U	680	U	200	U																				
VOCs	Trifluorotrichloroethane	ug/kg						240	U	680	U	200	U																				
VOCs	Vinyl chloride	ug/kg	5.00E+04	2.80E+05				240	U	680	U	200	U																				
VOCs	Xylene (Total)	ug/kg	2.60E+05	2.60E+05				470	U	1400	U	410	U																				

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Appendix A
Soil Data Compared to GDCC
N Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units	Ohio VAP C/I GDCSS	Ohio VAP CW GDCSS	Station Name	TT-SB264		TT-SB264		TT-SB264		TT-SB264		TT-SB264		TT-SB264		TT-SB264	
					FieldSampleID	TT-SB264-G-04		TT-SB264-G-06		TT-SB264-G-08 DP		TT-SB264-G-08		TT-SB264-G-10		TT-SB264-G-10		TT-SB264-G-10	
					Sample Date	4/4/2013		4/4/2013		4/4/2013		4/4/2013		4/4/2013		4/4/2013		4/4/2013	
					Depth	2 - 4 ft		4 - 6 ft		6 - 8 ft		6 - 8 ft		8 - 10 ft		8 - 10 ft		8 - 10 ft	
Field Parameters	pH Field	s.u.																	
Metals	Antimony	mg/kg	1.60E+03	8.50E+02															
Metals	Arsenic	mg/kg	7.70E+01	6.90E+02															
Metals	Barium	mg/kg																	
Metals	Beryllium	mg/kg	7.80E+03	3.40E+03															
Metals	Cadmium	mg/kg	2.60E+03	1.00E+03															
Metals	Chromium Total	mg/kg	2.10E+02	1.20E+03															
Metals	Cobalt	mg/kg																	
Metals	Copper	mg/kg	1.60E+05	2.10E+04															
Metals	Cyanide (total)	mg/kg	3.70E+02	1.50E+02															
Metals	Lead	mg/kg	8.00E+02	4.00E+02															
Metals	Manganese	mg/kg																	
Metals	Mercury	mg/kg	3.10E+00	3.10E+00															
Metals	Nickel	mg/kg	7.40E+04	2.30E+04															
Metals	Selenium	mg/kg	2.00E+04	1.10E+04															
Metals	Silver	mg/kg	2.00E+04	1.10E+04															
Metals	Thallium	mg/kg																	
Metals	Vanadium	mg/kg	2.30E+04	1.10E+04															
Metals	Zinc	mg/kg	1.00E+06	6.40E+05															
Miscellaneous	Percent moisture	%				13.9		13.5		19.4		21.6		6.32		7.92		7.77	
Miscellaneous	pH (solid)	s.u.																	
Miscellaneous	Total Solids	%																	
Other	C21-C34 Aliphatics	mg/kg	5000	5000										533	U				
PCBs/Pesticides	Aroclor-1016	mg/kg	1.00E+02	2.60E+02		0.022	U	0.0218	U	0.0241	U	0.0245	U			0.0213	U		
PCBs/Pesticides	Aroclor-1221	mg/kg	1.40E+01	2.10E+02		0.022	U	0.0218	U	0.0241	U	0.0245	U			0.0213	U		
PCBs/Pesticides	Aroclor-1232	mg/kg	1.40E+01	7.30E+01		0.022	U	0.0218	U	0.0241	U	0.0245	U			0.0213	U		
PCBs/Pesticides	Aroclor-1242	mg/kg	2.00E+01	4.40E+02		0.022	U	0.0218	U	0.0241	U	0.0245	U			0.0213	U		
PCBs/Pesticides	Aroclor-1248	mg/kg	2.00E+01	4.40E+02		0.022	U	0.0218	U	0.0241	U	0.0245	U			0.0213	U		
PCBs/Pesticides	Aroclor-1254	mg/kg	2.00E+01	7.50E+01		29.3	D	18.1	D	4.06	D	6.27	D			0.299			
PCBs/Pesticides	Aroclor-1260	mg/kg	2.00E+01	4.40E+02		0.022	U	0.0218	U	0.0241	U	0.0245	U			0.0213	U		
PCBs/Pesticides	Total PCBs	ug/kg	1.40E+04	7.30E+04															
SVOCs	2,2-oxybis(2-Chloropropane), SVOC	ug/kg																	
SVOCs	2,4,5-Trichlorophenol	ug/kg	1.80E+08	1.00E+09															
SVOCs	2,4,6-Trichlorophenol	ug/kg	1.80E+06	1.40E+06															
SVOCs	2,4-Dichlorophenol	ug/kg	5.30E+06	2.80E+07															
SVOCs	2,4-Dimethylphenol	ug/kg	3.50E+07	8.50E+07															
SVOCs	2,4-Dinitrophenol	ug/kg	3.50E+06	2.80E+07															
SVOCs	2,4-Dinitrotoluene	ug/kg	1.60E+05	2.80E+06															
SVOCs	2,6-Dinitrotoluene	ug/kg	3.30E+04	6.70E+05															
SVOCs	2-Chloronaphthalene	ug/kg	3.30E+08	1.00E+09															
SVOCs	2-Chlorophenol	ug/kg	2.00E+07	2.20E+07															
SVOCs	2-Methylnaphthalene	ug/kg	6.00E+06	5.20E+06															
SVOCs	2-Methylphenol	ug/kg	8.80E+07	7.10E+08															
SVOCs	2-Nitroaniline	ug/kg																	
SVOCs	2-Nitrophenol	ug/kg																	
SVOCs	3,3-Dichlorobenzidine	ug/kg	1.10E+05	2.20E+06															
SVOCs	3-Nitroaniline	ug/kg																	
SVOCs	4,6-Dinitro-2-methylphenol	ug/kg																	
SVOCs	4-Bromophenyl phenyl ether	ug/kg																	
SVOCs	4-Chloro-3-methylphenol	ug/kg																	
SVOCs	4-Chloroaniline	ug/kg	2.50E+05	7.10E+05															
SVOCs	4-Chlorophenyl phenyl ether	ug/kg																	
SVOCs	4-Methylphenol	ug/kg	1.80E+08	2.80E+07															
SVOCs	4-Nitroaniline	ug/kg	2.50E+06	1.40E+07															
SVOCs	4-Nitrophenol	ug/kg																	
SVOCs	Acenaphthene	ug/kg	9.00E+07	7.80E+08															
SVOCs	Acenaphthylene	ug/kg																	
SVOCs	Acetophenone	ug/kg	2.50E+06	2.50E+06															
SVOCs	Anthracene	ug/kg	4.50E+08	1.00E+09															
SVOCs	Atrazine	ug/kg																	
SVOCs	Benzaldehyde	ug/kg																	
SVOCs	Benzo(a)anthracene	ug/kg	5.80E+04	1.20E+06															
SVOCs	Benzo(a)pyrene	ug/kg	5.80E+03	1.20E+05															
SVOCs	Benzo(b)fluoranthene	ug/kg	5.80E+04	1.20E+06															
SVOCs	Benzo(g,h,i)perylene	ug/kg																	
SVOCs	Benzo(k)fluoranthene	ug/kg	5.80E+05	1.20E+07															
SVOCs	Biphenyl	ug/kg	1.40E+07	1.90E+08															
SVOCs	bis(2-Chloroethoxy)methane	ug/kg	5.30E+06	4.30E+07															
SVOCs	bis(2-Chloroethyl)ether	ug/kg	3.00E+04	2.90E+05															
SVOCs	bis(2-Ethylhexyl)phthalate	ug/kg	3.50E+06	7.10E+07															
SVOCs	Butyl benzylphthalate	ug/kg	2.60E+07	5.20E+08															
SVOCs	Caprolactam	ug/kg																	
SVOCs	Carbazole	ug/kg																	
SVOCs	Chrysene	ug/kg	5.80E+06	1.20E+08															
SVOCs	Dibenz(a,h)anthracene	ug/kg	5.80E+03	1.20E+08															
SVOCs	Dibenzofuran	ug/kg																	
SVOCs	Diethyl phthalate	ug/kg	1.00E+09	1.00E+09															
SVOCs	Dimethyl phthalate	ug/kg																	
SVOCs	Di-n-butylphthalate	ug/kg	1.80E+08	4.30E+08															
SVOCs	Di-N-Octyl phthalate	ug/kg																	
SVOCs	Fluoranthene	ug/kg	6.00E+07	1.60E+08															
SVOCs	Fluorene	ug/kg	6.00E+07	5.20E+08															
SVOCs	Hexachlorobenzene	ug/kg	3.10E+04	1.40E+04															
SVOCs	Hexachlorobutadiene, SVOC	ug/kg	6.30E+05	1.40E+06															
SVOCs	Hexachlorocyclopentadiene	ug/kg	1.10E+07	2.60E+07															
SVOCs	Hexachloroethane	ug/kg	1.20E+06	3.00E+06															
SVOCs	Indeno(1,2,3-cd)pyrene	ug/kg	5.80E+04	1.20E+06															
SVOCs	Isophorone	ug/kg	5.20E+07	1.00E+09															

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Appendix A
Soil Data Compared to GDCC
N Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units	Ohio VAP C/I GDCSS	Ohio VAP CW GDCSS	Station Name	TT-SB264		TT-SB264		TT-SB264		TT-SB264		TT-SB264		TT-SB264		TT-SB264	
					FieldSampleID	TT-SB264-G-04		TT-SB264-G-06		TT-SB264-G-08 DP		TT-SB264-G-08		TT-SB264-G-10		TT-SB264-G-10		TT-SB264-G-10	
					Sample Date	4/4/2013		4/4/2013		4/4/2013		4/4/2013		4/4/2013		4/4/2013		4/4/2013	
					Depth	2 - 4 ft		4 - 6 ft		6 - 8 ft		6 - 8 ft		8 - 10 ft		8 - 10 ft		8 - 10 ft	
SVOCs	Naphthalene, SVOC	ug/kg	4.50E+05	5.60E+05															
SVOCs	Nitrobenzene	ug/kg	6.10E+05	3.00E+06															
SVOCs	N-Nitrosodi-n-propylamine	ug/kg	7.00E+03	1.40E+05															
SVOCs	N-Nitrosodiphenylamine	ug/kg	1.00E+07	2.00E+08															
SVOCs	Pentachlorophenol	ug/kg	6.70E+04	9.50E+05															
SVOCs	Phenanthrene	ug/kg																	
SVOCs	Phenol	ug/kg	5.30E+08	8.40E+08															
SVOCs	Pyrene, SVOC	ug/kg	4.50E+07	3.90E+08															
TPH	Diesel Range Organics (DRO)	mg/kg	2000	2000										27					
TPH	Gasoline Range Organics (GRO)	mg/kg	1000	1000														5.31	U
VOCs	1,1,1-Trichloroethane	ug/kg	6.40E+05	6.40E+05															
VOCs	1,1,2,2-Tetrachloroethane	ug/kg	7.50E+04	6.70E+05															
VOCs	1,1,2-Trichloroethane	ug/kg	1.40E+05	1.20E+06															
VOCs	1,1-Dichloroethane	ug/kg	4.20E+05	1.70E+06															
VOCs	1,1-Dichloroethene	ug/kg	1.20E+06	3.60E+05															
VOCs	1,2,4-Trichlorobenzene, VOC	ug/kg	4.00E+05	4.00E+05															
VOCs	1,2-Dibromo-3-chloropropane	ug/kg	1.70E+03	1.50E+04															
VOCs	1,2-Dibromoethane	ug/kg	4.40E+03	3.80E+04															
VOCs	1,2-Dichlorobenzene, VOC	ug/kg	3.80E+05	3.80E+05															
VOCs	1,2-Dichloroethane	ug/kg	5.60E+04	4.80E+05															
VOCs	1,2-Dichloropropane	ug/kg	1.20E+05	1.80E+05															
VOCs	1,3-Dichlorobenzene, VOC	ug/kg																	
VOCs	1,4-Dichlorobenzene, VOC	ug/kg	3.10E+05	2.60E+06															
VOCs	2-Butanone	ug/kg	2.80E+07	2.80E+07															
VOCs	2-Hexanone	ug/kg																	
VOCs	4-Methyl-2-Pentanone	ug/kg	3.40E+06	3.40E+06															
VOCs	Acetone	ug/kg	1.10E+08	1.10E+08															
VOCs	Benzene	ug/kg	1.40E+05	1.20E+06															
VOCs	Bromodichloromethane	ug/kg	3.50E+04	3.00E+05															
VOCs	Bromoform	ug/kg	6.20E+06	1.30E+08															
VOCs	Bromomethane	ug/kg	8.20E+04	5.50E+05															
VOCs	Carbon disulfide	ug/kg	7.40E+05	7.40E+05															
VOCs	Carbon tetrachloride	ug/kg	7.90E+04	4.60E+05															
VOCs	Chlorobenzene	ug/kg	7.60E+05	7.60E+05															
VOCs	Chloroethane	ug/kg																	
VOCs	Chloroform	ug/kg	3.80E+04	3.20E+05															
VOCs	Chloromethane	ug/kg	1.30E+06	1.30E+06															
VOCs	cis-1,2-Dichloroethene	ug/kg																	
VOCs	cis-1,3-Dichloropropene	ug/kg	2.30E+05	5.20E+05															
VOCs	Cyclohexane	ug/kg	1.20E+05	1.20E+05															
VOCs	Dibromochloromethane	ug/kg	8.40E+04	7.70E+05															
VOCs	Dichlorodifluoromethane	ug/kg	8.50E+05	8.50E+05															
VOCs	Ethylbenzene	ug/kg	4.80E+05	4.80E+05															
VOCs	Isopropylbenzene, VOC	ug/kg	2.70E+05	2.70E+05															
VOCs	Methyl acetate	ug/kg																	
VOCs	Methyl cyclohexane	ug/kg																	
VOCs	Methyl tert butyl ether	ug/kg	5.70E+06	8.90E+06															
VOCs	Methylene chloride	ug/kg	3.30E+06	3.30E+06															
VOCs	Styrene	ug/kg	8.70E+05	8.70E+05															
VOCs	Tetrachloroethene	ug/kg	1.70E+05	1.70E+05															
VOCs	Toluene	ug/kg	8.20E+05	8.20E+05															
VOCs	trans-1,2-Dichloroethene	ug/kg	1.70E+06	1.70E+06															
VOCs	trans-1,3-Dichloropropene	ug/kg	2.30E+05	5.20E+05															
VOCs	Trichloroethene	ug/kg	5.10E+04	1.70E+04															
VOCs	Trichlorofluoromethane	ug/kg	1.20E+06	1.20E+06															
VOCs	Trifluorotrichloroethane	ug/kg																	
VOCs	Vinyl chloride	ug/kg	5.00E+04	2.80E+05															
VOCs	Xylene (Total)	ug/kg	2.60E+05	2.60E+05															

Notes:
Chromium GDCSS based upon the Chromium IV GDCSS
no criteria available
concentration exceeds criteria, and chemical with exceedances

% = percent
ft = feet
mg/kg = milligram per kilogram
mg/l = milligram per liter
ug/kg = microgram per kilogram
s.u. = standard unit

J = estimated value
PCB = polychlorinated biphenyl
SVOC = Semi-Volatile Organic Compounds
TCLP = toxicity characteristic leaching procedure
U = not detected above detection limit
VOC = Volatile Organic Compounds

See notes on page 12 of 12

Appendix A
Soil Data Compared to GDCC
P Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units	Ohio VAP C/I GDCSS	Ohio VAP CW GDCSS	Station Name	BH-180		BH-180		BH-180		BH-180		MW-12-03		MW-12-03	
					FieldSampleID	S-111104-NZ-032		S-111104-NZ-031		S-111104-NZ-033		S-111104-NZ-034		MW-12-03		MW-12-03	
					Sample Date	11/11/2004		11/11/2004		11/11/2004		11/11/2004		3/5/2003		3/5/2003	
					Depth	0 - 2 ft		0 - 2 ft		8 - 10 ft		12.5 - 14.5 ft		1 - 3 ft		9 - 11 ft	
Field Parameters	pH Field	s.u.															
Metals	Antimony	mg/kg	1.60E+03	8.50E+02								6.4	UJ	2.2	J	6.1	J
Metals	Arsenic	mg/kg	7.70E+01	6.90E+02								7.4	J	9.1		7.1	
Metals	Barium	mg/kg										123	J	98.4	J	79.6	J
Metals	Beryllium	mg/kg	7.80E+03	3.40E+03								0.13	J	0.6	J	0.42	J
Metals	Cadmium	mg/kg	2.60E+03	1.00E+03								0.19	J	0.65	U	0.14	J
Metals	Chromium Total	mg/kg	2.10E+02	1.20E+03								4.3	J	10.7		7.4	
Metals	Cobalt	mg/kg										2.6	J	6.3	J	4.8	J
Metals	Copper	mg/kg	1.60E+05	2.10E+04								3.1	J	78.4		54.6	
Metals	Cyanide (total)	mg/kg	3.70E+02	1.50E+02								0.53	U	0.13	J	0.54	U
Metals	Lead	mg/kg	8.00E+02	4.00E+02								3.5	J	392		339	
Metals	Manganese	mg/kg										637		880	J	429	J
Metals	Mercury	mg/kg	3.10E+00	3.10E+00								0.015	J	0.18	J	0.16	J
Metals	Nickel	mg/kg	7.40E+04	2.30E+04								5.7	J	13.1		10.3	
Metals	Selenium	mg/kg	2.00E+04	1.10E+04								0.53	UJ	0.65	U	0.54	U
Metals	Silver	mg/kg	2.00E+04	1.10E+04								1.1	UJ	1.3	U	1.1	U
Metals	Thallium	mg/kg										1.1	UJ	1.6		1.5	
Metals	Vanadium	mg/kg	2.30E+04	1.10E+04								8.8	J	24.7		14.8	
Metals	Zinc	mg/kg	1.00E+06	6.40E+05								14.5	J	122	J	69.2	J
Miscellaneous	Percent moisture	%															
Miscellaneous	Total Solids	%				88.1		90.5		94.2		94.4		76.4		92.7	
Other	C21-C34 Aliphatics	mg/kg															
PCBs/Pesticides	Aroclor-1016	mg/kg	1.00E+02	2.60E+02								0.035	U	0.043	U	0.36	U
PCBs/Pesticides	Aroclor-1221	mg/kg	1.40E+01	2.10E+02								0.035	U	0.043	U	0.36	U
PCBs/Pesticides	Aroclor-1232	mg/kg	1.40E+01	7.30E+01								0.035	U	0.043	U	0.36	U
PCBs/Pesticides	Aroclor-1242	mg/kg	2.00E+01	4.40E+02								0.035	U	0.043	U	0.36	U
PCBs/Pesticides	Aroclor-1248	mg/kg	2.00E+01	4.40E+02								0.035	U	0.043	U	0.36	U
PCBs/Pesticides	Aroclor-1254	mg/kg	2.00E+01	7.50E+01								0.035	U	0.043	U	2.1	
PCBs/Pesticides	Aroclor-1260	mg/kg	2.00E+01	4.40E+02								0.035	U	0.043	U	0.36	U
SVOCs	2,2-oxybis(2-Chloropropane), SVOC	ug/kg										350	UJ	4300	U	360	U
SVOCs	2,4,5-Trichlorophenol	ug/kg	1.80E+08	1.00E+09								350	U	4300	U	360	U
SVOCs	2,4,6-Trichlorophenol	ug/kg	1.80E+06	1.40E+06								350	U	4300	U	360	U
SVOCs	2,4-Dichlorophenol	ug/kg	5.30E+06	2.80E+07								350	U	4300	U	360	U
SVOCs	2,4-Dimethylphenol	ug/kg	3.50E+07	8.50E+07								350	U	4300	U	360	U
SVOCs	2,4-Dinitrophenol	ug/kg	3.50E+06	2.80E+07								1700	U	21000	U	1700	U
SVOCs	2,4-Dinitrotoluene	ug/kg	1.60E+05	2.80E+06								350	UJ	4300	U	360	U
SVOCs	2,6-Dinitrotoluene	ug/kg	3.30E+04	6.70E+05								350	UJ	4300	U	360	U
SVOCs	2-Chloronaphthalene	ug/kg	3.30E+08	1.00E+09								350	UJ	4300	U	360	U
SVOCs	2-Chlorophenol	ug/kg	2.00E+07	2.20E+07								350	U	4300	U	360	U
SVOCs	2-Methylnaphthalene	ug/kg	6.00E+06	5.20E+06								350	UJ	4300	U	96	J
SVOCs	2-Methylphenol	ug/kg	8.80E+07	7.10E+08								350	U	4300	U	360	U
SVOCs	2-Nitroaniline	ug/kg										1700	UJ	21000	U	1700	U
SVOCs	2-Nitrophenol	ug/kg										350	U	4300	U	360	U
SVOCs	3,3-Dichlorobenzidine	ug/kg	1.10E+05	2.20E+06								1700	UJ	21000	U	1700	U
SVOCs	3-Nitroaniline	ug/kg										1700	UJ	21000	U	1700	U
SVOCs	4,6-Dinitro-2-methylphenol	ug/kg										1700	U	21000	U	1700	U
SVOCs	4-Bromophenyl phenyl ether	ug/kg										350	UJ	4300	U	360	U
SVOCs	4-Chloro-3-methylphenol	ug/kg										350	U	4300	U	360	U
SVOCs	4-Chloroaniline	ug/kg	2.50E+05	7.10E+05								350	UJ	4300	U	360	U
SVOCs	4-Chlorophenyl phenyl ether	ug/kg										350	UJ	4300	U	360	U
SVOCs	4-Methylphenol	ug/kg	1.80E+08	2.80E+07								350	U	4300	U	360	U
SVOCs	4-Nitroaniline	ug/kg	2.50E+06	1.40E+07								1700	UJ	21000	U	1700	U
SVOCs	4-Nitrophenol	ug/kg										1700	U	21000	U	1700	U
SVOCs	Acenaphthene	ug/kg	9.00E+07	7.80E+08								350	UJ	420	J	360	U
SVOCs	Acenaphthylene	ug/kg										350	UJ	4300	U	29	J
SVOCs	Acetophenone	ug/kg	2.50E+06	2.50E+06								350	UJ	4300	U	360	U
SVOCs	Anthracene	ug/kg	4.50E+08	1.00E+09								350	UJ	2700	J	79	J
SVOCs	Atrazine	ug/kg										350	UJ	4300	U	360	U
SVOCs	Benzaldehyde	ug/kg										350	UJ	4300	U	360	U

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Appendix A
Soil Data Compared to GDCC
P Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units	Ohio VAP C/I GDCSS	Ohio VAP CW GDCSS	Station Name	BH-180		BH-180		BH-180		BH-180		MW-12-03		MW-12-03	
					FieldSampleID	S-111104-NZ-032		S-111104-NZ-031		S-111104-NZ-033		S-111104-NZ-034		MW-12-03		MW-12-03	
					Sample Date	11/11/2004		11/11/2004		11/11/2004		11/11/2004		3/5/2003		3/5/2003	
					Depth	0 - 2 ft		0 - 2 ft		8 - 10 ft		12.5 - 14.5 ft		1 - 3 ft		9 - 11 ft	
SVOCs	Benzo(a)anthracene	ug/kg	5.80E+04	1.20E+06								350	UJ	3800	J	340	J
SVOCs	Benzo(a)pyrene	ug/kg	5.80E+03	1.20E+05								350	UJ	3500	J	380	
SVOCs	Benzo(b)fluoranthene	ug/kg	5.80E+04	1.20E+06								350	UJ	4000	J	400	
SVOCs	Benzo(g,h,i)perylene	ug/kg										350	UJ	1800	J	180	J
SVOCs	Benzo(k)fluoranthene	ug/kg	5.80E+05	1.20E+07								350	UJ	2600	J	340	J
SVOCs	Biphenyl	ug/kg	1.40E+07	1.90E+08								350	UJ	4300	U	360	U
SVOCs	bis(2-Chloroethoxy)methane	ug/kg	5.30E+06	4.30E+07								350	UJ	4300	U	360	U
SVOCs	bis(2-Chloroethyl)ether	ug/kg	3.00E+04	2.90E+05								350	UJ	4300	U	360	U
SVOCs	bis(2-Ethylhexyl)phthalate	ug/kg	3.50E+06	7.10E+07								350	UJ	4300	U	360	U
SVOCs	Butyl benzylphthalate	ug/kg	2.60E+07	5.20E+08								350	UJ	4300	U	360	U
SVOCs	Caprolactam	ug/kg										18	J	4300	U	360	U
SVOCs	Carbazole	ug/kg										350	UJ	620	J	32	J
SVOCs	Chrysene	ug/kg	5.80E+06	1.20E+08								350	UJ	5500		420	
SVOCs	Dibenz(a,h)anthracene	ug/kg	5.80E+03	1.20E+08								350	UJ	4300	U	55	J
SVOCs	Dibenzofuran	ug/kg										350	UJ	230	J	32	J
SVOCs	Diethyl phthalate	ug/kg	1.00E+09	1.00E+09								350	UJ	4300	U	360	U
SVOCs	Dimethyl phthalate	ug/kg										350	UJ	4300	U	360	U
SVOCs	Di-n-butylphthalate	ug/kg	1.80E+08	4.30E+08								350	UJ	4300	U	360	U
SVOCs	Di-N-Octyl phthalate	ug/kg										350	UJ	4300	U	360	U
SVOCs	Fluoranthene	ug/kg	6.00E+07	1.60E+08								350	UJ	10000		760	
SVOCs	Fluorene	ug/kg	6.00E+07	5.20E+08								350	UJ	290	J	360	U
SVOCs	Hexachlorobenzene	ug/kg	3.10E+04	1.40E+04								350	UJ	4300	U	360	U
SVOCs	Hexachlorobutadiene, SVOC	ug/kg	6.30E+05	1.40E+06								350	UJ	4300	U	360	U
SVOCs	Hexachlorocyclopentadiene	ug/kg	1.10E+07	2.60E+07								1700	UJ	21000	U	1700	U
SVOCs	Hexachloroethane	ug/kg	1.20E+06	3.00E+06								350	UJ	4300	U	360	U
SVOCs	Indeno(1,2,3-cd)pyrene	ug/kg	5.80E+04	1.20E+06								350	UJ	1600	J	170	J
SVOCs	Isophorone	ug/kg	5.20E+07	1.00E+09								350	UJ	4300	U	360	U
SVOCs	Naphthalene, SVOC	ug/kg	4.50E+05	5.60E+05								350	UJ	4300	U	92	J
SVOCs	Nitrobenzene	ug/kg	6.10E+05	3.00E+06								350	UJ	4300	U	360	U
SVOCs	N-Nitrosodi-n-propylamine	ug/kg	7.00E+03	1.40E+05								350	UJ	4300	U	360	U
SVOCs	N-Nitrosodiphenylamine	ug/kg	1.00E+07	2.00E+08								350	UJ	4300	U	360	U
SVOCs	Pentachlorophenol	ug/kg	6.70E+04	9.50E+05								350	U	4300	U	360	U
SVOCs	Phenanthrene	ug/kg										350	UJ	7000		370	
SVOCs	Phenol	ug/kg	5.30E+08	8.40E+08								350	U	4300	U	360	U
SVOCs	Pyrene, SVOC	ug/kg	4.50E+07	3.90E+08								350	UJ	7700		540	
TPH	Diesel Range Organics (DRO)	mg/kg	2000	2000													
TPH	Gasoline Range Organics (GRO)	mg/kg	1000	1000													
VOCs	1,1,1-Trichloroethane	ug/kg	6.40E+05	6.40E+05		29	J	770	U	8.3	U	4.7	U	290	U	470	U
VOCs	1,1,2,2-Tetrachloroethane	ug/kg	7.50E+04	6.70E+05		270	U	770	U	8.3	U	4.7	U	290	U	470	U
VOCs	1,1,2-Trichloroethane	ug/kg	1.40E+05	1.20E+06		270	U	770	U	8.3	U	4.7	U	290	U	470	U
VOCs	1,1-Dichloroethane	ug/kg	4.20E+05	1.70E+06		270	U	770	U	8.3	U	4.7	U	290	U	470	U
VOCs	1,1-Dichloroethene	ug/kg	1.20E+06	3.60E+05		270	U	770	U	8.3	U	4.7	U	290	U	470	U
VOCs	1,2,4-Trichlorobenzene, VOC	ug/kg	4.00E+05	4.00E+05		270	U	770	U	8.3	U	4.7	U	290	U	470	U
VOCs	1,2-Dibromo-3-chloropropane	ug/kg	1.70E+03	1.50E+04		530	U	1500	U	17	U	9.3	U	580	U	940	UJ
VOCs	1,2-Dibromoethane	ug/kg	4.40E+03	3.80E+04		270	U	770	U	8.3	U	4.7	U	290	U	470	U
VOCs	1,2-Dichlorobenzene, VOC	ug/kg	3.80E+05	3.80E+05		270	U	770	U	8.3	U	4.7	U	290	U	470	U
VOCs	1,2-Dichloroethane	ug/kg	5.60E+04	4.80E+05		270	U	770	U	8.3	U	4.7	U	290	U	470	U
VOCs	1,2-Dichloropropane	ug/kg	1.20E+05	1.80E+05		270	U	770	U	8.3	U	4.7	U	290	U	470	U
VOCs	1,3-Dichlorobenzene, VOC	ug/kg				270	U	770	U	8.3	U	4.7	U	290	U	470	U
VOCs	1,4-Dichlorobenzene, VOC	ug/kg	3.10E+05	2.60E+06		270	U	770	U	8.3	U	4.7	U	290	U	470	U
VOCs	2-Butanone	ug/kg	2.80E+07	2.80E+07		1100	U	3100	U	7.9	J	3.5	J	87	J	1900	U
VOCs	2-Hexanone	ug/kg				1100	U	3100	U	33	U	19	U	1200	U	1900	U
VOCs	4-Methyl-2-Pentanone	ug/kg	3.40E+06	3.40E+06		1100	U	3100	U	33	U	19	U	1200	U	1900	U
VOCs	Acetone	ug/kg	1.10E+08	1.10E+08		1100	U	3100	U	31	J	13	J	1200	U	1900	U
VOCs	Benzene	ug/kg	1.40E+05	1.20E+06		270	U	110	J	15		4.2	J	290	U	470	U
VOCs	Bromodichloromethane	ug/kg	3.50E+04	3.00E+05		270	U	770	U	8.3	U	4.7	U	290	U	470	U
VOCs	Bromoform	ug/kg	6.20E+06	1.30E+08		270	U	770	U	8.3	U	4.7	U	290	U	470	U
VOCs	Bromomethane	ug/kg	8.20E+04	5.50E+05		270	U	770	U	8.3	U	4.7	U	290	U	470	R
VOCs	Carbon disulfide	ug/kg	7.40E+05	7.40E+05		270	U	770	U	8.3	U	4.7	U	290	U	470	U
VOCs	Carbon tetrachloride	ug/kg	7.90E+04	4.60E+05		270	U	770	U	8.3	U	4.7	U	290	U	470	U
VOCs	Chlorobenzene	ug/kg	7.60E+05	7.60E+05		270	U	770	U	8.3	U	4.7	U	290	U	470	U

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Appendix A
Soil Data Compared to GDCC
P Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units	Ohio VAP C/I GDCSS	Ohio VAP CW GDCSS	Station Name	BH-180		BH-180		BH-180		BH-180		MW-12-03		MW-12-03	
					FieldSampleID	S-111104-NZ-032		S-111104-NZ-031		S-111104-NZ-033		S-111104-NZ-034		MW-12-03		MW-12-03	
					Sample Date	11/11/2004		11/11/2004		11/11/2004		11/11/2004		3/5/2003		3/5/2003	
					Depth	0 - 2 ft		0 - 2 ft		8 - 10 ft		12.5 - 14.5 ft		1 - 3 ft		9 - 11 ft	
VOCs	Chloroethane	ug/kg				270	U	770	U	8.3	U	4.7	U	290	U	470	R
VOCs	Chloroform	ug/kg	3.80E+04	3.20E+05		270	U	770	U	8.3	U	4.7	U	290	U	470	U
VOCs	Chloromethane	ug/kg	1.30E+06	1.30E+06		270	U	770	U	8.3	U	4.7	U	290	U	470	U
VOCs	cis-1,2-Dichloroethene	ug/kg				26	J	110	J	8.3	U	4.7	U	340		860	
VOCs	cis-1,3-Dichloropropene	ug/kg	2.30E+05	5.20E+05		270	U	770	U	8.3	U	4.7	U	290	U	470	U
VOCs	Cyclohexane	ug/kg	1.20E+05	1.20E+05		81	J	750	J	21		6.2	J	580	U	70	J
VOCs	Dibromochloromethane	ug/kg	8.40E+04	7.70E+05		270	U	770	U	8.3	U	4.7	U	290	U	470	U
VOCs	Dichlorodifluoromethane	ug/kg	8.50E+05	8.50E+05		270	U	770	U	8.3	UJ	4.7	UJ	290	U	470	U
VOCs	Ethylbenzene	ug/kg	4.80E+05	4.80E+05		270	U	81	J	23		4.2	J	290	U	470	U
VOCs	Isopropylbenzene, VOC	ug/kg	2.70E+05	2.70E+05		270	U	770	U	2.8	J	4.7	U	290	U	470	U
VOCs	Methyl acetate	ug/kg				530	U	280	J	17	U	9.3	U	580	U	55	J
VOCs	Methyl cyclohexane	ug/kg				210	J	2200		33		9	J	34	J	210	J
VOCs	Methyl tert butyl ether	ug/kg	5.70E+06	8.90E+06		1100	U	3100	U	33	UJ	19	UJ	1200	U	1900	U
VOCs	Methylene chloride	ug/kg	3.30E+06	3.30E+06		270	U	770	U	8.5	U	4.7	U	290	U	470	U
VOCs	Styrene	ug/kg	8.70E+05	8.70E+05		270	U	770	U	8.3	U	4.7	U	290	U	470	U
VOCs	Tetrachloroethene	ug/kg	1.70E+05	1.70E+05		750		740	J	8.3	U	4.7	U	7300		8700	
VOCs	Toluene	ug/kg	8.20E+05	8.20E+05		270	U	800	B	48		12		290	U	64	J
VOCs	trans-1,2-Dichloroethene	ug/kg	1.70E+06	1.70E+06		270	U	770	U	8.3	U	4.7	U	140	U	240	U
VOCs	trans-1,3-Dichloropropene	ug/kg	2.30E+05	5.20E+05		270	U	770	U	8.3	U	4.7	U	290	U	470	U
VOCs	Trichloroethene	ug/kg	5.10E+04	1.70E+04		5300		12000		7.2	J	3.6	J	9400		14000	
VOCs	Trichlorofluoromethane	ug/kg	1.20E+06	1.20E+06		270	U	770	U	8.3	U	4.7	U	290	U	470	U
VOCs	Trifluorotrichloroethane	ug/kg				270	U	770	U	8.3	U	4.7	U	290	U	470	U
VOCs	Vinyl chloride	ug/kg	5.00E+04	2.80E+05		270	U	770	U	8.3	U	4.7	U	290	U	470	U
VOCs	Xylene (Total)	ug/kg	2.60E+05	2.60E+05		170	J	1600		38		8.7	J	580	U	160	J

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Appendix A
Soil Data Compared to GDCC
P Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units	Ohio VAP C/I GDCSS	Ohio VAP CW GDCSS	Station Name	MW-25-04		MW-25-04		MW-25-04		MW-26-04		MW-26-04		MW-26-04		SB-137-04		SB-137-04		SB-137-04	
					FieldSampleID	MW-25-04		MW-25-04 DUP		MW-25-04		MW-26-04		MW-26-04		MW-26-04		SB-137-04		SB-137-04		SB-137-04	
					Sample Date	3/4/2004		3/4/2004		3/4/2004		3/4/2004		3/4/2004		3/4/2004		1/26/2004		1/26/2004		1/26/2004	
					Depth	8 - 10 ft		13 - 15 ft		13 - 15 ft		0 - 2 ft		8 - 10 ft		10 - 12 ft		0 - 2 ft		8 - 10 ft		11 - 13 ft	
Field Parameters	pH Field	s.u.																					
Metals	Antimony	mg/kg	1.60E+03	8.50E+02								11	J	0.41	J	6.3	UJ						
Metals	Arsenic	mg/kg	7.70E+01	6.90E+02								10.7		5.5		7.2							
Metals	Barium	mg/kg										24.4		34.7		116							
Metals	Beryllium	mg/kg	7.80E+03	3.40E+03								0.26	J	0.53	U	0.53	U						
Metals	Cadmium	mg/kg	2.60E+03	1.00E+03								0.58	U	0.53	U	0.53	U						
Metals	Chromium Total	mg/kg	2.10E+02	1.20E+03								6.4		5.1		4.7							
Metals	Cobalt	mg/kg										8.5		2	J	2.5	J						
Metals	Copper	mg/kg	1.60E+05	2.10E+04								49.1	J	2.9	J	3.9	J						
Metals	Cyanide (total)	mg/kg	3.70E+02	1.50E+02								0.17	J	0.53	U	0.53	U						
Metals	Lead	mg/kg	8.00E+02	4.00E+02								153	J	2.5	J	2.8	J						
Metals	Manganese	mg/kg										299		247		623		727		230		194	
Metals	Mercury	mg/kg	3.10E+00	3.10E+00								0.1	J	0.0057	J	0.014	J						
Metals	Nickel	mg/kg	7.40E+04	2.30E+04								19		4.4		6							
Metals	Selenium	mg/kg	2.00E+04	1.10E+04								0.58	U	0.53	U	0.53	U						
Metals	Silver	mg/kg	2.00E+04	1.10E+04								1.2	U	1.1	U	1.1	U						
Metals	Thallium	mg/kg										0.52	J	0.79	J	1	J						
Metals	Vanadium	mg/kg	2.30E+04	1.10E+04								12.4		7.8		7.3							
Metals	Zinc	mg/kg	1.00E+06	6.40E+05								29.8		9.7		13							
Miscellaneous	Percent moisture	%																					
Miscellaneous	Total Solids	%				74		91.3		91.9		86.9		94.3		94.6		73.8		90.6		93.7	
Other	C21-C34 Aliphatics	mg/kg																					
PCBs/Pesticides	Aroclor-1016	mg/kg	1.00E+02	2.60E+02								0.038	U	0.035	U	0.035	U						
PCBs/Pesticides	Aroclor-1221	mg/kg	1.40E+01	2.10E+02								0.038	U	0.035	U	0.035	U						
PCBs/Pesticides	Aroclor-1232	mg/kg	1.40E+01	7.30E+01								0.038	U	0.035	U	0.035	U						
PCBs/Pesticides	Aroclor-1242	mg/kg	2.00E+01	4.40E+02								0.038	U	0.035	U	0.035	U						
PCBs/Pesticides	Aroclor-1248	mg/kg	2.00E+01	4.40E+02								0.038	U	0.0039	J	0.035	U						
PCBs/Pesticides	Aroclor-1254	mg/kg	2.00E+01	7.50E+01								0.038	U	0.035	U	0.042							
PCBs/Pesticides	Aroclor-1260	mg/kg	2.00E+01	4.40E+02								0.038	U	0.035	U	0.035	U						
SVOCs	2,2-oxybis(2-Chloropropane), SVOC	ug/kg										950	U	350	U	350	U						
SVOCs	2,4,5-Trichlorophenol	ug/kg	1.80E+08	1.00E+09								950	U	350	U	350	U						
SVOCs	2,4,6-Trichlorophenol	ug/kg	1.80E+06	1.40E+06								950	U	350	U	350	U						
SVOCs	2,4-Dichlorophenol	ug/kg	5.30E+06	2.80E+07								950	U	350	U	350	U						
SVOCs	2,4-Dimethylphenol	ug/kg	3.50E+07	8.50E+07								950	U	350	U	350	U						
SVOCs	2,4-Dinitrophenol	ug/kg	3.50E+06	2.80E+07								4600	R	1700	R	1700	R						
SVOCs	2,4-Dinitrotoluene	ug/kg	1.60E+05	2.80E+06								950	U	350	U	350	U						
SVOCs	2,6-Dinitrotoluene	ug/kg	3.30E+04	6.70E+05								950	U	350	U	350	U						
SVOCs	2-Chloronaphthalene	ug/kg	3.30E+08	1.00E+09								950	U	350	U	350	U						
SVOCs	2-Chlorophenol	ug/kg	2.00E+07	2.20E+07								950	U	350	U	350	U						
SVOCs	2-Methylnaphthalene	ug/kg	6.00E+06	5.20E+06								190	J	350	U	350	U						
SVOCs	2-Methylphenol	ug/kg	8.80E+07	7.10E+08								950	U	350	U	350	U						
SVOCs	2-Nitroaniline	ug/kg										4600	U	1700	U	1700	U						
SVOCs	2-Nitrophenol	ug/kg										950	U	350	U	350	U						
SVOCs	3,3-Dichlorobenzidine	ug/kg	1.10E+05	2.20E+06								4600	U	1700	U	1700	U						
SVOCs	3-Nitroaniline	ug/kg										4600	U	1700	U	1700	U						
SVOCs	4,6-Dinitro-2-methylphenol	ug/kg										4600	R	1700	R	1700	R						
SVOCs	4-Bromophenyl phenyl ether	ug/kg										950	U	350	U	350	U						
SVOCs	4-Chloro-3-methylphenol	ug/kg										950	U	350	U	350	U						
SVOCs	4-Chloroaniline	ug/kg	2.50E+05	7.10E+05								950	U	350	U	350	U						
SVOCs	4-Chlorophenyl phenyl ether	ug/kg										950	U	350	U	350	U						
SVOCs	4-Methylphenol	ug/kg	1.80E+08	2.80E+07								950	U	350	U	350	U						
SVOCs	4-Nitroaniline	ug/kg	2.50E+06	1.40E+07								4600	U	1700	U	1700	U						
SVOCs	4-Nitrophenol	ug/kg										4600	U	1700	U	1700	U						
SVOCs	Acenaphthene	ug/kg	9.00E+07	7.80E+08								950	U	350	U	350	U						
SVOCs	Acenaphthylene	ug/kg										950	U	350	U	350	U						
SVOCs	Acetophenone	ug/kg	2.50E+06	2.50E+06								950	U	350	U	350	U						
SVOCs	Anthracene	ug/kg	4.50E+08	1.00E+09								950	U	350	U	350	U						
SVOCs	Atrazine	ug/kg										950	U	350	U	350	U						
SVOCs	Benzaldehyde	ug/kg										950	U	350	U	350	U						

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Appendix A
Soil Data Compared to GDCC
P Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units	Ohio VAP C/I GDCSS	Ohio VAP CW GDCSS	Station Name	MW-25-04		MW-25-04		MW-25-04		MW-26-04		MW-26-04		MW-26-04		SB-137-04		SB-137-04		SB-137-04	
					FieldSampleID	MW-25-04		MW-25-04 DUP		MW-25-04		MW-26-04		MW-26-04		MW-26-04		SB-137-04		SB-137-04		SB-137-04	
					Sample Date	3/4/2004		3/4/2004		3/4/2004		3/4/2004		3/4/2004		3/4/2004		1/26/2004		1/26/2004		1/26/2004	
					Depth	8 - 10 ft		13 - 15 ft		13 - 15 ft		0 - 2 ft		8 - 10 ft		10 - 12 ft		0 - 2 ft		8 - 10 ft		11 - 13 ft	
SVOCs	Benzo(a)anthracene	ug/kg	5.80E+04	1.20E+06								140	J	350	U	350	U						
SVOCs	Benzo(a)pyrene	ug/kg	5.80E+03	1.20E+05								130	J	350	U	350	U						
SVOCs	Benzo(b)fluoranthene	ug/kg	5.80E+04	1.20E+06								200	J	350	U	350	U						
SVOCs	Benzo(g,h,i)perylene	ug/kg										91	J	350	U	350	U						
SVOCs	Benzo(k)fluoranthene	ug/kg	5.80E+05	1.20E+07								67	J	350	U	350	U						
SVOCs	Biphenyl	ug/kg	1.40E+07	1.90E+08								950	U	350	U	350	U						
SVOCs	bis(2-Chloroethoxy)methane	ug/kg	5.30E+06	4.30E+07								950	U	350	U	350	U						
SVOCs	bis(2-Chloroethyl)ether	ug/kg	3.00E+04	2.90E+05								950	U	350	U	350	U						
SVOCs	bis(2-Ethylhexyl)phthalate	ug/kg	3.50E+06	7.10E+07								950	U	350	U	350	U						
SVOCs	Butyl benzylphthalate	ug/kg	2.60E+07	5.20E+08								950	U	350	U	350	U						
SVOCs	Caprolactam	ug/kg										950	U	350	U	350	U						
SVOCs	Carbazole	ug/kg										950	U	350	U	350	U						
SVOCs	Chrysene	ug/kg	5.80E+06	1.20E+08								160	J	350	U	350	U						
SVOCs	Dibenz(a,h)anthracene	ug/kg	5.80E+03	1.20E+08								90	J	350	U	350	U						
SVOCs	Dibenzofuran	ug/kg										950	U	350	U	350	U						
SVOCs	Diethyl phthalate	ug/kg	1.00E+09	1.00E+09								950	U	350	U	350	U						
SVOCs	Dimethyl phthalate	ug/kg										950	U	350	U	350	U						
SVOCs	Di-n-butylphthalate	ug/kg	1.80E+08	4.30E+08								950	U	350	U	350	U						
SVOCs	Di-N-Octyl phthalate	ug/kg										950	U	350	U	350	U						
SVOCs	Fluoranthene	ug/kg	6.00E+07	1.60E+08								150	J	350	U	350	U						
SVOCs	Fluorene	ug/kg	6.00E+07	5.20E+08								950	U	350	U	350	U						
SVOCs	Hexachlorobenzene	ug/kg	3.10E+04	1.40E+04								950	U	350	U	350	U						
SVOCs	Hexachlorobutadiene, SVOC	ug/kg	6.30E+05	1.40E+06								950	U	350	U	350	U						
SVOCs	Hexachlorocyclopentadiene	ug/kg	1.10E+07	2.60E+07								4600	U	1700	U	1700	U						
SVOCs	Hexachloroethane	ug/kg	1.20E+06	3.00E+06								950	U	350	U	350	U						
SVOCs	Indeno(1,2,3-cd)pyrene	ug/kg	5.80E+04	1.20E+06								73	J	350	U	350	U						
SVOCs	Isophorone	ug/kg	5.20E+07	1.00E+09								950	U	350	U	350	U						
SVOCs	Naphthalene, SVOC	ug/kg	4.50E+05	5.60E+05								150	J	350	U	350	U						
SVOCs	Nitrobenzene	ug/kg	6.10E+05	3.00E+06								950	U	350	U	350	U						
SVOCs	N-Nitrosodi-n-propylamine	ug/kg	7.00E+03	1.40E+05								950	U	350	U	350	U						
SVOCs	N-Nitrosodiphenylamine	ug/kg	1.00E+07	2.00E+08								950	U	350	U	350	U						
SVOCs	Pentachlorophenol	ug/kg	6.70E+04	9.50E+05								950	U	350	U	350	U						
SVOCs	Phenanthrene	ug/kg										400	J	350	U	350	U						
SVOCs	Phenol	ug/kg	5.30E+08	8.40E+08								950	U	350	U	350	U						
SVOCs	Pyrene, SVOC	ug/kg	4.50E+07	3.90E+08								180	J	350	U	350	U						
TPH	Diesel Range Organics (DRO)	mg/kg	2000	2000																			
TPH	Gasoline Range Organics (GRO)	mg/kg	1000	1000																			
VOCs	1,1,1-Trichloroethane	ug/kg	6.40E+05	6.40E+05		6.3	U	4.2	U	4.1	U	1900	U	4.2	U	4.7	U	370	U	210	U	4.7	U
VOCs	1,1,2,2-Tetrachloroethane	ug/kg	7.50E+04	6.70E+05		6.3	U	4.2	U	4.1	U	1900	U	4.2	U	4.7	U	370	U	210	U	4.7	U
VOCs	1,1,2-Trichloroethane	ug/kg	1.40E+05	1.20E+06		6.3	U	4.2	U	4.1	U	1900	U	4.2	U	4.7	U	370	U	210	U	4.7	U
VOCs	1,1-Dichloroethane	ug/kg	4.20E+05	1.70E+06		6.3	U	4.2	U	4.1	U	1900	U	4.2	U	4.7	U	370	U	210	U	4.7	U
VOCs	1,1-Dichloroethene	ug/kg	1.20E+06	3.60E+05		6.3	U	4.2	U	4.1	U	1900	U	4.2	U	4.7	U	370	U	210	U	4.7	U
VOCs	1,2,4-Trichlorobenzene, VOC	ug/kg	4.00E+05	4.00E+05		1.1	J	4.2	U	4.1	U	1900	U	4.2	U	4.7	U	370	U	210	U	4.7	U
VOCs	1,2-Dibromo-3-chloropropane	ug/kg	1.70E+03	1.50E+04		13	U	8.3	U	8.3	U	3800	U	8.4	U	9.3	U	740	U	420	U	9.5	U
VOCs	1,2-Dibromoethane	ug/kg	4.40E+03	3.80E+04		6.3	U	4.2	U	4.1	U	1900	U	4.2	U	4.7	U	370	U	210	U	4.7	U
VOCs	1,2-Dichlorobenzene, VOC	ug/kg	3.80E+05	3.80E+05		6.3	U	4.2	U	4.1	U	1900	U	4.2	U	4.7	U	370	U	210	U	4.7	U
VOCs	1,2-Dichloroethane	ug/kg	5.60E+04	4.80E+05		6.3	U	4.2	U	4.1	U	1900	U	4.2	U	4.7	U	370	U	210	U	4.7	U
VOCs	1,2-Dichloropropane	ug/kg	1.20E+05	1.80E+05		6.3	U	4.2	U	4.1	U	1900	U	4.2	U	4.7	U	370	U	210	U	4.7	U
VOCs	1,3-Dichlorobenzene, VOC	ug/kg				6.3	U	4.2	U	4.1	U	1900	U	4.2	U	4.7	U	370	U	210	U	4.7	U
VOCs	1,4-Dichlorobenzene, VOC	ug/kg	3.10E+05	2.60E+06		6.3	U	4.2	U	4.1	U	1900	U	4.2	U	4.7	U	370	U	210	U	4.7	U
VOCs	2-Butanone	ug/kg	2.80E+07	2.80E+07		25	U	17	U	17	U	7500	U	17	U	19	U	1500	UJ	850	UJ	19	UJ
VOCs	2-Hexanone	ug/kg				25	U	17	U	17	U	7500	U	17	U	19	U	1500	UJ	850	UJ	19	UJ
VOCs	4-Methyl-2-Pentanone	ug/kg	3.40E+06	3.40E+06		25	U	17	U	17	U	7500	U	17	U	19	U	1500	U	850	U	19	U
VOCs	Acetone	ug/kg	1.10E+08	1.10E+08		25	UJ	5.1	J	5	J	7500	UJ	17	UJ	19	UJ	1500	UJ	850	UJ	19	UJ
VOCs	Benzene	ug/kg	1.40E+05	1.20E+06		6.3	U	4.2	U	0.7	J	1900	U	4.2	U	0.51	J	370	U	210	U	0.39	J
VOCs	Bromodichloromethane	ug/kg	3.50E+04	3.00E+05		6.3	U	4.2	U	4.1	U	1900	U	4.2	U	4.7	U	370	U	210	U	4.7	U
VOCs	Bromoform	ug/kg	6.20E+06	1.30E+08		6.3	U	4.2	U	4.1	U	1900	U	4.2	U	4.7	U	370	U	210	U	4.7	U
VOCs	Bromomethane	ug/kg	8.20E+04	5.50E+05		6.3	U	4.2	U	4.1	U	1900	U	4.2	U	4.7	U	370	U	210	U	4.7	U
VOCs	Carbon disulfide	ug/kg	7.40E+05	7.40E+05		6.3	U	4.2	U	4.1	U	1900	U	4.2	U	4.7	U	370	U	210	U	4.7	U
VOCs	Carbon tetrachloride	ug/kg	7.90E+04	4.60E+05		6.3	U	4.2	U	4.1	U	1900	U	4.2	U	4.7	U	370	U	210	U	4.7	U
VOCs	Chlorobenzene	ug/kg	7.60E+05	7.60E+05		6.3	U	4.2	U	4.1	U	1900	U	4.2	U	4.7	U	370	U	210	U	4.7	U

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Appendix A
Soil Data Compared to GDCC
P Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units	Ohio VAP C/I GDCSS	Ohio VAP CW GDCSS	Station Name	MW-25-04		MW-25-04		MW-25-04		MW-26-04		MW-26-04		MW-26-04		SB-137-04		SB-137-04		SB-137-04	
					FieldSampleID	MW-25-04		MW-25-04 DUP		MW-25-04		MW-26-04		MW-26-04		MW-26-04		SB-137-04		SB-137-04		SB-137-04	
					Sample Date	3/4/2004		3/4/2004		3/4/2004		3/4/2004		3/4/2004		3/4/2004		1/26/2004		1/26/2004		1/26/2004	
					Depth	8 - 10 ft		13 - 15 ft		13 - 15 ft		0 - 2 ft		8 - 10 ft		10 - 12 ft		0 - 2 ft		8 - 10 ft		11 - 13 ft	
VOCs	Chloroethane	ug/kg				6.3	U	4.2	U	4.1	U	1900	U	4.2	U	4.7	U	370	U	210	U	4.7	U
VOCs	Chloroform	ug/kg	3.80E+04	3.20E+05		6.3	U	4.2	U	4.1	U	1900	U	4.2	U	4.7	U	370	U	210	U	4.7	U
VOCs	Chloromethane	ug/kg	1.30E+06	1.30E+06		6.3	U	4.2	U	4.1	U	1900	U	4.2	U	4.7	U	370	U	210	U	4.7	U
VOCs	cis-1,2-Dichloroethene	ug/kg				1.7	J	2.1	U	2.1	U	3400		2.1	U	0.71	J	34	J	110	U	2.4	U
VOCs	cis-1,3-Dichloropropene	ug/kg	2.30E+05	5.20E+05		6.3	U	4.2	U	4.1	U	1900	U	4.2	U	4.7	U	370	U	210	U	4.7	U
VOCs	Cyclohexane	ug/kg	1.20E+05	1.20E+05		13	U	8.3	U	0.76	J	3800	U	8.4	U	0.68	J	740	U	420	U	9.5	U
VOCs	Dibromochloromethane	ug/kg	8.40E+04	7.70E+05		6.3	U	4.2	U	4.1	U	1900	U	4.2	U	4.7	U	370	U	210	U	4.7	U
VOCs	Dichlorodifluoromethane	ug/kg	8.50E+05	8.50E+05		6.3	UJ	4.2	UJ	4.1	UJ	1900	UJ	4.2	UJ	4.7	UJ	370	U	210	U	4.7	U
VOCs	Ethylbenzene	ug/kg	4.80E+05	4.80E+05		6.3	U	0.42	J	1.4	J	1900	U	4.2	U	1.3	J	370	U	210	U	0.55	J
VOCs	Isopropylbenzene, VOC	ug/kg	2.70E+05	2.70E+05		6.3	U	4.2	U	4.1	U	1900	U	4.2	U	4.7	U	370	U	210	U	4.7	U
VOCs	Methyl acetate	ug/kg				13	U	8.3	U	8.3	U	3800	U	8.4	U	9.3	U	140	J	52	J	9.5	U
VOCs	Methyl cyclohexane	ug/kg				13	U	0.46	J	1.6	J	3800	U	8.4	U	1.2	J	740	U	420	U	0.47	J
VOCs	Methyl tert butyl ether	ug/kg	5.70E+06	8.90E+06		25	U	17	U	17	U	7500	U	17	U	19	U	1500	U	850	U	19	U
VOCs	Methylene chloride	ug/kg	3.30E+06	3.30E+06		6.3	U	4.2	U	4.1	U	1900	U	4.2	U	4.7	U	370	U	210	U	4.7	U
VOCs	Styrene	ug/kg	8.70E+05	8.70E+05		6.3	U	4.2	U	4.1	U	1900	U	4.2	U	4.7	U	370	U	210	U	4.7	U
VOCs	Tetrachloroethene	ug/kg	1.70E+05	1.70E+05		96		2.6	J	8.7		49000		1.7	J	29		2700		230		24	
VOCs	Toluene	ug/kg	8.20E+05	8.20E+05		0.59	J	0.66	J	2.7	J	1900	U	0.45	J	2.3	J	370	U	210	U	1.3	J
VOCs	trans-1,2-Dichloroethene	ug/kg	1.70E+06	1.70E+06		3.1	U	2.1	U	2.1	U	290	J	2.1	U	2.3	U	180	U	110	U	2.4	U
VOCs	trans-1,3-Dichloropropene	ug/kg	2.30E+05	5.20E+05		6.3	U	4.2	U	4.1	U	1900	U	4.2	U	4.7	U	370	U	210	U	4.7	U
VOCs	Trichloroethene	ug/kg	5.10E+04	1.70E+04		100	J	1.9	J	5.1		**66000**		5.1		150		5200	J	240		56	
VOCs	Trichlorofluoromethane	ug/kg	1.20E+06	1.20E+06		6.3	U	4.2	U	4.1	U	1900	U	4.2	U	4.7	U	370	U	210	U	4.7	U
VOCs	Trifluorotrichloroethane	ug/kg				6.3	U	4.2	U	4.1	U	1900	U	4.2	U	4.7	U	370	U	210	U	4.7	U
VOCs	Vinyl chloride	ug/kg	5.00E+04	2.80E+05		6.3	U	4.2	U	4.1	U	1900	U	4.2	U	4.7	U	370	U	210	U	4.7	U
VOCs	Xylene (Total)	ug/kg	2.60E+05	2.60E+05		13	U	8.3	U	2.7	J	3800	U	8.4	U	2.5	J	740	U	420	U	1.1	J

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Appendix A
Soil Data Compared to GDCC
P Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units	Ohio VAP C/I GDCSS	Ohio VAP CW GDCSS	Station Name	SB-138-04		SB-138-04		SB-138-04		SB-138-04		SB-139-04		SB-139-04		SB-139-04		SB-147-04		SB-147-04	
					FieldSampleID	SB-138-04		SB-138-04 DUP		SB-138-04		SB-138-04		SB-139-04		SB-139-04		SB-139-04		SB-147-04		SB-147-04 DUP	
					Sample Date	1/26/2004		1/26/2004		1/26/2004		1/26/2004		1/27/2004		1/27/2004		1/27/2004		1/28/2004		1/28/2004	
					Depth	0 - 2 ft		8 - 10 ft		8 - 10 ft		11 - 13 ft		0 - 2 ft		8 - 10 ft		11.5 - 13.5 ft		8 - 10 ft		12.5 - 14.5 ft	
Field Parameters	pH Field	s.u.																					
Metals	Antimony	mg/kg	1.60E+03	8.50E+02																			
Metals	Arsenic	mg/kg	7.70E+01	6.90E+02																			
Metals	Barium	mg/kg																					
Metals	Beryllium	mg/kg	7.80E+03	3.40E+03																			
Metals	Cadmium	mg/kg	2.60E+03	1.00E+03																			
Metals	Chromium Total	mg/kg	2.10E+02	1.20E+03																			
Metals	Cobalt	mg/kg																					
Metals	Copper	mg/kg	1.60E+05	2.10E+04																			
Metals	Cyanide (total)	mg/kg	3.70E+02	1.50E+02																			
Metals	Lead	mg/kg	8.00E+02	4.00E+02																			
Metals	Manganese	mg/kg					290		261		275												
Metals	Mercury	mg/kg	3.10E+00	3.10E+00																			
Metals	Nickel	mg/kg	7.40E+04	2.30E+04																			
Metals	Selenium	mg/kg	2.00E+04	1.10E+04																			
Metals	Silver	mg/kg	2.00E+04	1.10E+04																			
Metals	Thallium	mg/kg																					
Metals	Vanadium	mg/kg	2.30E+04	1.10E+04																			
Metals	Zinc	mg/kg	1.00E+06	6.40E+05																			
Miscellaneous	Percent moisture	%																					
Miscellaneous	Total Solids	%					95.2		93.8		72.6		77.4		92.5		94.4		88.3		95.1		
Other	C21-C34 Aliphatics	mg/kg																					
PCBs/Pesticides	Aroclor-1016	mg/kg	1.00E+02	2.60E+02																			
PCBs/Pesticides	Aroclor-1221	mg/kg	1.40E+01	2.10E+02																			
PCBs/Pesticides	Aroclor-1232	mg/kg	1.40E+01	7.30E+01																			
PCBs/Pesticides	Aroclor-1242	mg/kg	2.00E+01	4.40E+02																			
PCBs/Pesticides	Aroclor-1248	mg/kg	2.00E+01	4.40E+02																			
PCBs/Pesticides	Aroclor-1254	mg/kg	2.00E+01	7.50E+01																			
PCBs/Pesticides	Aroclor-1260	mg/kg	2.00E+01	4.40E+02																			
SVOCs	2,2-oxybis(2-Chloropropane), SVOC	ug/kg																					
SVOCs	2,4,5-Trichlorophenol	ug/kg	1.80E+08	1.00E+09																			
SVOCs	2,4,6-Trichlorophenol	ug/kg	1.80E+06	1.40E+06																			
SVOCs	2,4-Dichlorophenol	ug/kg	5.30E+06	2.80E+07																			
SVOCs	2,4-Dimethylphenol	ug/kg	3.50E+07	8.50E+07																			
SVOCs	2,4-Dinitrophenol	ug/kg	3.50E+06	2.80E+07																			
SVOCs	2,4-Dinitrotoluene	ug/kg	1.60E+05	2.80E+06																			
SVOCs	2,6-Dinitrotoluene	ug/kg	3.30E+04	6.70E+05																			
SVOCs	2-Chloronaphthalene	ug/kg	3.30E+08	1.00E+09																			
SVOCs	2-Chlorophenol	ug/kg	2.00E+07	2.20E+07																			
SVOCs	2-Methylnaphthalene	ug/kg	6.00E+06	5.20E+06																			
SVOCs	2-Methylphenol	ug/kg	8.80E+07	7.10E+08																			
SVOCs	2-Nitroaniline	ug/kg																					
SVOCs	2-Nitrophenol	ug/kg																					
SVOCs	3,3-Dichlorobenzidine	ug/kg	1.10E+05	2.20E+06																			
SVOCs	3-Nitroaniline	ug/kg																					
SVOCs	4,6-Dinitro-2-methylphenol	ug/kg																					
SVOCs	4-Bromophenyl phenyl ether	ug/kg																					
SVOCs	4-Chloro-3-methylphenol	ug/kg																					
SVOCs	4-Chloroaniline	ug/kg	2.50E+05	7.10E+05																			
SVOCs	4-Chlorophenyl phenyl ether	ug/kg																					
SVOCs	4-Methylphenol	ug/kg	1.80E+08	2.80E+07																			
SVOCs	4-Nitroaniline	ug/kg	2.50E+06	1.40E+07																			
SVOCs	4-Nitrophenol	ug/kg																					
SVOCs	Acenaphthene	ug/kg	9.00E+07	7.80E+08																			
SVOCs	Acenaphthylene	ug/kg																					
SVOCs	Acetophenone	ug/kg	2.50E+06	2.50E+06																			
SVOCs	Anthracene	ug/kg	4.50E+08	1.00E+09																			
SVOCs	Atrazine	ug/kg																					
SVOCs	Benzaldehyde	ug/kg																					

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Appendix A
Soil Data Compared to GDCC
P Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units	Ohio VAP C/I GDCSS	Ohio VAP CW GDCSS	Station Name	SB-138-04		SB-138-04		SB-138-04		SB-138-04		SB-139-04		SB-139-04		SB-139-04		SB-147-04		SB-147-04	
					FieldSampleID	SB-138-04		SB-138-04 DUP		SB-138-04		SB-138-04		SB-139-04		SB-139-04		SB-139-04		SB-147-04		SB-147-04 DUP	
					Sample Date	1/26/2004		1/26/2004		1/26/2004		1/26/2004		1/27/2004		1/27/2004		1/27/2004		1/28/2004		1/28/2004	
					Depth	0 - 2 ft		8 - 10 ft		8 - 10 ft		11 - 13 ft		0 - 2 ft		8 - 10 ft		11.5 - 13.5 ft		8 - 10 ft		12.5 - 14.5 ft	
SVOCs	Benzo(a)anthracene	ug/kg	5.80E+04	1.20E+06																			
SVOCs	Benzo(a)pyrene	ug/kg	5.80E+03	1.20E+05																			
SVOCs	Benzo(b)fluoranthene	ug/kg	5.80E+04	1.20E+06																			
SVOCs	Benzo(g,h,i)perylene	ug/kg																					
SVOCs	Benzo(k)fluoranthene	ug/kg	5.80E+05	1.20E+07																			
SVOCs	Biphenyl	ug/kg	1.40E+07	1.90E+08																			
SVOCs	bis(2-Chloroethoxy)methane	ug/kg	5.30E+06	4.30E+07																			
SVOCs	bis(2-Chloroethyl)ether	ug/kg	3.00E+04	2.90E+05																			
SVOCs	bis(2-Ethylhexyl)phthalate	ug/kg	3.50E+06	7.10E+07																			
SVOCs	Butyl benzylphthalate	ug/kg	2.60E+07	5.20E+08																			
SVOCs	Caprolactam	ug/kg																					
SVOCs	Carbazole	ug/kg																					
SVOCs	Chrysene	ug/kg	5.80E+06	1.20E+08																			
SVOCs	Dibenz(a,h)anthracene	ug/kg	5.80E+03	1.20E+08																			
SVOCs	Dibenzofuran	ug/kg																					
SVOCs	Diethyl phthalate	ug/kg	1.00E+09	1.00E+09																			
SVOCs	Dimethyl phthalate	ug/kg																					
SVOCs	Di-n-butylphthalate	ug/kg	1.80E+08	4.30E+08																			
SVOCs	Di-N-Octyl phthalate	ug/kg																					
SVOCs	Fluoranthene	ug/kg	6.00E+07	1.60E+08																			
SVOCs	Fluorene	ug/kg	6.00E+07	5.20E+08																			
SVOCs	Hexachlorobenzene	ug/kg	3.10E+04	1.40E+04																			
SVOCs	Hexachlorobutadiene, SVOC	ug/kg	6.30E+05	1.40E+06																			
SVOCs	Hexachlorocyclopentadiene	ug/kg	1.10E+07	2.60E+07																			
SVOCs	Hexachloroethane	ug/kg	1.20E+06	3.00E+06																			
SVOCs	Indeno(1,2,3-cd)pyrene	ug/kg	5.80E+04	1.20E+06																			
SVOCs	Isophorone	ug/kg	5.20E+07	1.00E+09																			
SVOCs	Naphthalene, SVOC	ug/kg	4.50E+05	5.60E+05																			
SVOCs	Nitrobenzene	ug/kg	6.10E+05	3.00E+06																			
SVOCs	N-Nitrosodi-n-propylamine	ug/kg	7.00E+03	1.40E+05																			
SVOCs	N-Nitrosodiphenylamine	ug/kg	1.00E+07	2.00E+08																			
SVOCs	Pentachlorophenol	ug/kg	6.70E+04	9.50E+05																			
SVOCs	Phenanthrene	ug/kg																					
SVOCs	Phenol	ug/kg	5.30E+08	8.40E+08																			
SVOCs	Pyrene, SVOC	ug/kg	4.50E+07	3.90E+08																			
TPH	Diesel Range Organics (DRO)	mg/kg	2000	2000																			
TPH	Gasoline Range Organics (GRO)	mg/kg	1000	1000																			
VOCs	1,1,1-Trichloroethane	ug/kg	6.40E+05	6.40E+05		U	6.4	U	6.2	U	290	UJ	71	J	6	U	5.1	U	5.3	U	5.4	U	
VOCs	1,1,2,2-Tetrachloroethane	ug/kg	7.50E+04	6.70E+05		U	6.4	U	6.2	U	290	UJ	450	U	6	U	5.1	U	5.3	U	5.4	U	
VOCs	1,1,2-Trichloroethane	ug/kg	1.40E+05	1.20E+06		U	6.4	U	6.2	U	290	UJ	450	U	6	U	5.1	U	5.3	U	5.4	U	
VOCs	1,1-Dichloroethane	ug/kg	4.20E+05	1.70E+06		U	6.4	U	6.2	U	290	UJ	450	U	6	U	5.1	U	5.3	U	5.4	U	
VOCs	1,1-Dichloroethene	ug/kg	1.20E+06	3.60E+05		U	6.4	U	6.2	U	290	UJ	450	U	6	U	5.1	U	5.3	U	5.4	U	
VOCs	1,2,4-Trichlorobenzene, VOC	ug/kg	4.00E+05	4.00E+05		U	6.4	U	6.2	U	290	UJ	450	U	6	U	5.1	U	5.3	U	5.4	U	
VOCs	1,2-Dibromo-3-chloropropane	ug/kg	1.70E+03	1.50E+04		U	13	U	12	U	570	UJ	900	U	12	U	10	U	11	U	11	U	
VOCs	1,2-Dibromoethane	ug/kg	4.40E+03	3.80E+04		U	6.4	U	6.2	U	290	UJ	450	U	6	U	5.1	U	5.3	U	5.4	U	
VOCs	1,2-Dichlorobenzene, VOC	ug/kg	3.80E+05	3.80E+05		U	6.4	U	6.2	U	290	UJ	450	U	6	U	5.1	U	5.3	U	5.4	U	
VOCs	1,2-Dichloroethane	ug/kg	5.60E+04	4.80E+05		U	6.4	U	6.2	U	290	UJ	450	U	6	U	5.1	U	5.3	U	5.4	U	
VOCs	1,2-Dichloropropane	ug/kg	1.20E+05	1.80E+05		U	6.4	U	6.2	U	290	UJ	450	U	6	U	5.1	U	5.3	U	5.4	U	
VOCs	1,3-Dichlorobenzene, VOC	ug/kg				U	6.4	U	6.2	U	290	UJ	450	U	6	U	5.1	U	5.3	U	5.4	U	
VOCs	1,4-Dichlorobenzene, VOC	ug/kg	3.10E+05	2.60E+06		U	6.4	U	6.2	U	290	UJ	450	U	6	U	5.1	U	5.3	U	5.4	U	
VOCs	2-Butanone	ug/kg	2.80E+07	2.80E+07		UJ	26	UJ	25	UJ	1100	UJ	1800	UJ	24	UJ	20	UJ	21	U	21	U	
VOCs	2-Hexanone	ug/kg				UJ	26	UJ	25	UJ	1100	UJ	1800	UJ	24	UJ	20	UJ	21	U	21	U	
VOCs	4-Methyl-2-Pentanone	ug/kg	3.40E+06	3.40E+06		U	26	U	25	U	1100	UJ	1800	U	24	U	20	U	21	U	21	U	
VOCs	Acetone	ug/kg	1.10E+08	1.10E+08		UJ	26	UJ	25	UJ	1100	UJ	1800	UJ	24	UJ	20	UJ	21	U	21	U	
VOCs	Benzene	ug/kg	1.40E+05	1.20E+06		J	6.4	U	6.2	U	84	J	450	U	6	U	0.47	J	5.3	U	5.4	U	
VOCs	Bromodichloromethane	ug/kg	3.50E+04	3.00E+05		U	6.4	U	6.2	U	290	UJ	450	U	6	U	5.1	U	5.3	U	5.4	U	
VOCs	Bromoform	ug/kg	6.20E+06	1.30E+08		U	6.4	U	6.2	U	290	UJ	450	U	6	U	5.1	U	5.3	UJ	5.4	UJ	
VOCs	Bromomethane	ug/kg	8.20E+04	5.50E+05		U	6.4	U	6.2	U	290	UJ	450	U	6	U	5.1	U	5.3	U	5.4	U	
VOCs	Carbon disulfide	ug/kg	7.40E+05	7.40E+05		U	6.4	U	6.2	U	290	UJ	450	U	6	U	5.1	U	5.3	U	5.4	U	
VOCs	Carbon tetrachloride	ug/kg	7.90E+04	4.60E+05		U	6.4	U	6.2	U	290	UJ	450	U	6	U	5.1	U	5.3	U	5.4	U	
VOCs	Chlorobenzene	ug/kg	7.60E+05	7.60E+05		U	6.4	U	6.2	U	290	UJ	450	U	6	U	5.1	U	5.3	U	5.4	U	

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Appendix A
Soil Data Compared to GDCC
P Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units	Ohio VAP C/I GDCSS	Ohio VAP CW GDCSS	Station Name	SB-138-04		SB-138-04		SB-138-04		SB-138-04		SB-139-04		SB-139-04		SB-139-04		SB-147-04		SB-147-04	
					FieldSampleID	SB-138-04		SB-138-04 DUP		SB-138-04		SB-138-04		SB-139-04		SB-139-04		SB-139-04		SB-147-04		SB-147-04 DUP	
					Sample Date	1/26/2004		1/26/2004		1/26/2004		1/26/2004		1/27/2004		1/27/2004		1/27/2004		1/28/2004		1/28/2004	
					Depth	0 - 2 ft		8 - 10 ft		8 - 10 ft		11 - 13 ft		0 - 2 ft		8 - 10 ft		11.5 - 13.5 ft		8 - 10 ft		12.5 - 14.5 ft	
VOCs	Chloroethane	ug/kg				U	6.4	U	6.2	U	290	UJ	450	U	6	R	5.1	R	5.3	U	5.4	U
VOCs	Chloroform	ug/kg	3.80E+04	3.20E+05		U	6.4	U	6.2	U	290	UJ	450	U	6	U	5.1	U	5.3	U	5.4	U
VOCs	Chloromethane	ug/kg	1.30E+06	1.30E+06		U	6.4	U	6.2	U	290	UJ	450	U	6	U	5.1	U	5.3	U	5.4	U
VOCs	cis-1,2-Dichloroethene	ug/kg				U	3.2	U	3.1	U	140	UJ	120	J	3	U	2.5	U	1.1	J	2.7	U
VOCs	cis-1,3-Dichloropropene	ug/kg	2.30E+05	5.20E+05		U	6.4	U	6.2	U	290	UJ	450	U	6	U	5.1	U	5.3	U	5.4	U
VOCs	Cyclohexane	ug/kg	1.20E+05	1.20E+05		J	13	U	12	U	180	J	900	U	12	U	10	U	11	U	11	U
VOCs	Dibromochloromethane	ug/kg	8.40E+04	7.70E+05		U	6.4	U	6.2	U	290	UJ	450	U	6	U	5.1	U	5.3	U	5.4	U
VOCs	Dichlorodifluoromethane	ug/kg	8.50E+05	8.50E+05		U	6.4	U	6.2	U	290	UJ	450	U	6	U	5.1	U	5.3	U	5.4	U
VOCs	Ethylbenzene	ug/kg	4.80E+05	4.80E+05		J	6.4	U	6.2	U	50	J	450	U	6	U	0.43	J	0.39	J	0.51	J
VOCs	Isopropylbenzene, VOC	ug/kg	2.70E+05	2.70E+05		J	6.4	U	6.2	U	290	UJ	450	U	6	U	5.1	U	5.3	U	5.4	U
VOCs	Methyl acetate	ug/kg				J	13	U	12	U	360	J	900	U	12	U	10	U	11	U	11	U
VOCs	Methyl cyclohexane	ug/kg					13	U	12	U	510	J	900	U	12	U	0.44	J	11	U	11	U
VOCs	Methyl tert butyl ether	ug/kg	5.70E+06	8.90E+06		U	26	U	25	U	1100	UJ	1800	U	24	UJ	20	UJ	21	U	21	U
VOCs	Methylene chloride	ug/kg	3.30E+06	3.30E+06		U	4	J	2.2	J	290	UJ	450	U	6	U	5.1	U	5.3	U	5.4	U
VOCs	Styrene	ug/kg	8.70E+05	8.70E+05		U	6.4	U	6.2	U	290	UJ	450	U	6	U	5.1	U	5.3	U	5.4	U
VOCs	Tetrachloroethene	ug/kg	1.70E+05	1.70E+05			3.1	J	3.8	J	4000	J	3400		3.1	J	3.7	J	8.5		32	
VOCs	Toluene	ug/kg	8.20E+05	8.20E+05			6.4	U	0.64	J	370	J	450	U	0.6	J	1.7	J	0.81	J	1.2	J
VOCs	trans-1,2-Dichloroethene	ug/kg	1.70E+06	1.70E+06		U	3.2	U	3.1	U	140	UJ	220	U	3	U	2.5	U	2.7	U	2.7	U
VOCs	trans-1,3-Dichloropropene	ug/kg	2.30E+05	5.20E+05		U	6.4	U	6.2	U	290	UJ	450	U	6	U	5.1	U	5.3	U	5.4	U
VOCs	Trichloroethene	ug/kg	5.10E+04	1.70E+04			59		57		3400	J	10000		5.3	J	9.9		5.4		4.3	J
VOCs	Trichlorofluoromethane	ug/kg	1.20E+06	1.20E+06		U	6.4	U	6.2	U	290	UJ	450	U	6	UJ	5.1	UJ	5.3	U	5.4	U
VOCs	Trifluorotrichloroethane	ug/kg				U	6.4	U	6.2	U	290	UJ	450	U	6	U	5.1	U	5.3	U	5.4	U
VOCs	Vinyl chloride	ug/kg	5.00E+04	2.80E+05		U	6.4	U	6.2	U	290	UJ	450	U	6	U	5.1	U	5.3	U	5.4	U
VOCs	Xylene (Total)	ug/kg	2.60E+05	2.60E+05			13	U	12	U	560	J	900	U	12	U	10	U	11	U	11	U

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Appendix A
Soil Data Compared to GDCC
P Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units	Ohio VAP C/I GDCSS	Ohio VAP CW GDCSS	Station Name	SB-147-04		SB-148-04		SB-148-04		SB-148-04		SB-149-04		SB-149-04		SB-149-04		SB-163-04		SB-163-04		SB-163-04	
					FieldSampleID	SB-147-04		SB-148-04		SB-148-04		SB-148-04		SB-149-04		SB-149-04		SB-149-04		SB-163-04		SB-163-04		SB-163-04	
					Sample Date	1/28/2004		1/28/2004		1/28/2004		1/28/2004		1/28/2004		1/28/2004		1/28/2004		2/5/2004		2/5/2004		2/5/2004	
					Depth	12.5 - 14.5 ft		0 - 2 ft		8 - 10 ft		11 - 13 ft		0 - 2 ft		8 - 10 ft		11 - 13 ft		0 - 2 ft		8 - 10 ft		11.5 - 13.5 ft	
Field Parameters	pH Field	s.u.																							
Metals	Antimony	mg/kg	1.60E+03	8.50E+02				1	J	6.3	UJ	6.2	UJ	6.5	UJ	5.1	J	6.5	UJ	7.2	UJ	6.6	UJ	6.6	UJ
Metals	Arsenic	mg/kg	7.70E+01	6.90E+02				16.5		3.1		6		5.3		6.1		2.8		8.4		4.5		4.8	
Metals	Barium	mg/kg						133		91.9		45.6		34.1		193		28.6		66.2		67.8		73.8	
Metals	Beryllium	mg/kg	7.80E+03	3.40E+03				1.1		0.53	U	0.52	U	0.54	U	0.55	J	0.55	U	0.38	J	0.093	J	0.068	J
Metals	Cadmium	mg/kg	2.60E+03	1.00E+03				0.91		0.53	U	0.52	U	0.33	J	0.28	J	0.55	U	0.3	J	0.17	J	0.14	J
Metals	Chromium Total	mg/kg	2.10E+02	1.20E+03				12.9		4.1		4		4.7		10.5		3.7		7.8	J	3.3	J	2.4	J
Metals	Cobalt	mg/kg						7.4		1.8	J	2.3	J	2.6	J	4.5	J	1.4	J	7.1		1.8	J	1.4	J
Metals	Copper	mg/kg	1.60E+05	2.10E+04				107		2.9		4.6		13.9		12.8		24.2		23.9	J	2.5	J	2.5	J
Metals	Cyanide (total)	mg/kg	3.70E+02	1.50E+02				0.21	J	0.53	U	0.52	U	0.54	U	0.68	U	0.55	U	0.6	U	0.55	U	0.55	U
Metals	Lead	mg/kg	8.00E+02	4.00E+02				528		1.4		2.5		11		11		3.5		209	J	2	J	1.9	J
Metals	Manganese	mg/kg						642		330		248		227		464		215		322		279		477	
Metals	Mercury	mg/kg	3.10E+00	3.10E+00				0.17		0.11	U	0.1	U	0.025	J	0.09	J	0.11	U	0.087	J	0.11	U	0.11	U
Metals	Nickel	mg/kg	7.40E+04	2.30E+04				14.3		4.4		13.7		7.2		10.9		3.3	J	6.9	J	4	J	3.6	J
Metals	Selenium	mg/kg	2.00E+04	1.10E+04				0.57	U	0.53	U	0.52	U	0.54	U	0.68	U	0.55	U	0.6	U	0.55	U	0.55	U
Metals	Silver	mg/kg	2.00E+04	1.10E+04				1.1	U	1.1	U	1	U	1.1	U	1.4	U	1.1	U	1.2	U	1.1	U	1.1	U
Metals	Thallium	mg/kg						1.2		0.61	J	0.62	J	0.78	J	0.74	J	0.82	J	1.2	U	1.1	U	1.1	U
Metals	Vanadium	mg/kg	2.30E+04	1.10E+04				26.1		6.1		8.4		7.1		15.6		6.2		23.5		6.4		4.8	J
Metals	Zinc	mg/kg	1.00E+06	6.40E+05				285		10.1		27.8		52.4		44.1		15.9		40	J	12.3	J	10.6	J
Miscellaneous	Percent moisture	%																							
Miscellaneous	Total Solids	%				94.8		87.1		95.2		96.9		91.9		73.6		91.7		83.8		90.5		90.8	
Other	C21-C34 Aliphatics	mg/kg																							
PCBs/Pesticides	Aroclor-1016	mg/kg	1.00E+02	2.60E+02				0.038	U	0.035	U	0.034	U	0.36	U	0.22	U	0.036	U	0.039	U	0.036	U	0.036	U
PCBs/Pesticides	Aroclor-1221	mg/kg	1.40E+01	2.10E+02				0.038	U	0.035	U	0.034	U	0.36	U	0.22	U	0.036	U	0.039	U	0.036	U	0.036	U
PCBs/Pesticides	Aroclor-1232	mg/kg	1.40E+01	7.30E+01				0.038	U	0.035	U	0.034	U	0.36	U	0.22	U	0.036	U	0.039	U	0.036	U	0.036	U
PCBs/Pesticides	Aroclor-1242	mg/kg	2.00E+01	4.40E+02				0.038	U	0.035	U	0.034	U	0.36	U	0.22	U	0.036	U	0.039	U	0.036	U	0.036	U
PCBs/Pesticides	Aroclor-1248	mg/kg	2.00E+01	4.40E+02				0.038	U	0.035	U	0.034	U	0.36	U	6.50E-02	J	0.036	U	0.039	U	0.036	U	0.036	U
PCBs/Pesticides	Aroclor-1254	mg/kg	2.00E+01	7.50E+01				0.3		0.081		0.017	J	3.7		0.22	U	0.32		0.039	UJ	0.036	UJ	0.036	UJ
PCBs/Pesticides	Aroclor-1260	mg/kg	2.00E+01	4.40E+02				0.038	U	0.035	U	0.034	U	0.36	U	0.22	U	0.036	U	0.039	UJ	0.036	UJ	0.03	J
SVOCs	2,2-oxybis(2-Chloropropane), SVOC	ug/kg						3800	U	350	U	340	U	360	U	22000	U	18000	U	390	U	360	U	7300	U
SVOCs	2,4,5-Trichlorophenol	ug/kg	1.80E+08	1.00E+09				3800	U	350	U	340	U	360	U	22000	U	18000	U	390	U	360	U	7300	U
SVOCs	2,4,6-Trichlorophenol	ug/kg	1.80E+06	1.40E+06				3800	U	350	U	340	U	360	U	22000	U	18000	U	390	U	360	U	7300	U
SVOCs	2,4-Dichlorophenol	ug/kg	5.30E+06	2.80E+07				3800	U	350	U	340	U	360	U	22000	U	18000	U	390	U	360	U	7300	U
SVOCs	2,4-Dimethylphenol	ug/kg	3.50E+07	8.50E+07				3800	U	350	U	340	U	360	U	22000	U	18000	U	390	U	360	U	7300	U
SVOCs	2,4-Dinitrophenol	ug/kg	3.50E+06	2.80E+07				18000	UJ	1700	U	1700	U	1700	U	110000	UJ	87000	U	1900	U	1800	U	35000	U
SVOCs	2,4-Dinitrotoluene	ug/kg	1.60E+05	2.80E+06				3800	U	350	U	340	U	360	U	22000	U	18000	U	390	U	360	U	7300	U
SVOCs	2,6-Dinitrotoluene	ug/kg	3.30E+04	6.70E+05				3800	U	350	U	340	U	360	U	22000	U	18000	U	390	U	360	U	7300	U
SVOCs	2-Chloronaphthalene	ug/kg	3.30E+08	1.00E+09				3800	U	350	U	340	U	360	U	22000	U	18000	U	390	U	360	U	7300	U
SVOCs	2-Chlorophenol	ug/kg	2.00E+07	2.20E+07				3800	U	350	U	340	U	360	U	22000	U	18000	U	390	U	360	U	7300	U
SVOCs	2-Methylnaphthalene	ug/kg	6.00E+06	5.20E+06				370	J	350	U	340	U	83	J	22000	U	18000	U	390	U	360	U	7300	U
SVOCs	2-Methylphenol	ug/kg	8.80E+07	7.10E+08				3800	U	350	U	340	U	360	U	22000	U	18000	U	390	U	360	U	7300	U
SVOCs	2-Nitroaniline	ug/kg						18000	U	1700	U	1700	U	1700	U	110000	U	87000	U	1900	U	1800	U	35000	U
SVOCs	2-Nitrophenol	ug/kg						3800	U	350	U	340	U	360	U	22000	U	18000	U	390	U	360	U	7300	U
SVOCs	3,3-Dichlorobenzidine	ug/kg	1.10E+05	2.20E+06				18000	U	1700	U	1700	U	1700	U	110000	U	87000	U	1900	U	1800	U	35000	U
SVOCs	3-Nitroaniline	ug/kg						18000	U	1700	U	1700	U	1700	U	110000	U	87000	U	1900	U	1800	U	35000	U
SVOCs	4,6-Dinitro-2-methylphenol	ug/kg						18000	U	1700	U	1700	U	1700	U	110000	U	87000	U	1900	U	1800	U	35000	U
SVOCs	4-Bromophenyl phenyl ether	ug/kg						3800	U	350	U	340	U	360	U	22000	U	18000	U	390	U	360	U	7300	U
SVOCs	4-Chloro-3-methylphenol	ug/kg						3800	U	350	U	340	U	360	U	22000	U	18000	U	390	U	360	U	7300	U
SVOCs	4-Chloroaniline	ug/kg	2.50E+05	7.10E+05				3800	U	350	U	340	U	360	U	22000	U	18000	U	390	U	360	U	7300	U
SVOCs	4-Chlorophenyl phenyl ether	ug/kg						3800	U	350	U	340	U	360	U	22000	U	18000	U	390	U	360	U	7300	U
SVOCs	4-Methylphenol	ug/kg	1.80E+08	2.80E+07				3800	U	350	U	340	U	360	U	22000	U	18000	U	390	U	360	U	7300	U
SVOCs	4-Nitroaniline	ug/kg	2.50E+06	1.40E+07				18000	U	1700	U	1700	U	1700	U	110000	U	87000	U	1900	U	1800	U	35000	U
SVOCs	4-Nitrophenol	ug/kg						18000	U	1700	U	1700	U	1700	U	110000	U	87000	U	1900	U	1800	U	35000	U
SVOCs	Acenaphthene	ug/kg	9.00E+07	7.80E+08				3800	U	350	U	340	U	180	J	22000	U	18000	U	390	U	360	U	7300	U
SVOCs	Acenaphthylene	ug/kg						3800	U	350	U	340	U	360	U	22000	U	18000	U	390	U	360	U	7300	U
SVOCs	Acetophenone	ug/kg	2.50E+06	2.50E+06				3800	U	350	U	340	U	360	U	22000	U	18000	U	390	U	360	U	7300	U
SVOCs	Anthracene	ug/kg	4.50E+08	1.00E+09				3800	U	350	U	340	U	390		22000	U	18000	U	390	U	360	U	7300	U
SVOCs	Atrazine	ug/kg						3800	U	350	U	340	U	360	U	22000	U	18000	U	390	U	360	U	7300	U
SVOCs	Benzaldehyde	ug/kg						3800	U	350	U	340	U	360	U	22000	U	18000	U	390	U	360	U	7300	U

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Appendix A
Soil Data Compared to GDCC
P Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units	Ohio VAP C/I GDCSS	Ohio VAP CW GDCSS	Station Name	SB-147-04		SB-148-04		SB-148-04		SB-148-04		SB-149-04		SB-149-04		SB-149-04		SB-163-04		SB-163-04		SB-163-04	
					FieldSampleID	SB-147-04		SB-148-04		SB-148-04		SB-148-04		SB-149-04		SB-149-04		SB-149-04		SB-163-04		SB-163-04		SB-163-04	
					Sample Date	1/28/2004		1/28/2004		1/28/2004		1/28/2004		1/28/2004		1/28/2004		1/28/2004		2/5/2004		2/5/2004		2/5/2004	
					Depth	12.5 - 14.5 ft		0 - 2 ft		8 - 10 ft		11 - 13 ft		0 - 2 ft		8 - 10 ft		11 - 13 ft		0 - 2 ft		8 - 10 ft		11.5 - 13.5 ft	
SVOCs	Benzo(a)anthracene	ug/kg	5.80E+04	1.20E+06				3800	U	350	U	340	U	1100		22000	U	18000	U	50	J	360	U	7300	U
SVOCs	Benzo(a)pyrene	ug/kg	5.80E+03	1.20E+05				3800	U	350	U	340	U	1100		22000	U	18000	U	51	J	360	U	7300	U
SVOCs	Benzo(b)fluoranthene	ug/kg	5.80E+04	1.20E+06				320	J	350	U	340	U	1300		22000	U	18000	U	65	J	360	U	7300	U
SVOCs	Benzo(g,h,i)perylene	ug/kg						3800	U	350	U	340	U	570		22000	U	18000	U	27	J	360	U	7300	U
SVOCs	Benzo(k)fluoranthene	ug/kg	5.80E+05	1.20E+07				3800	U	350	U	340	U	600		22000	U	18000	U	27	J	360	U	7300	U
SVOCs	Biphenyl	ug/kg	1.40E+07	1.90E+08				3800	U	350	U	340	U	360	U	22000	U	18000	U	390	U	360	U	7300	U
SVOCs	bis(2-Chloroethoxy)methane	ug/kg	5.30E+06	4.30E+07				3800	U	350	U	340	U	360	U	22000	U	18000	U	390	U	360	U	7300	U
SVOCs	bis(2-Chloroethyl)ether	ug/kg	3.00E+04	2.90E+05				3800	U	350	U	340	U	360	U	22000	U	18000	U	390	U	360	U	7300	U
SVOCs	bis(2-Ethylhexyl)phthalate	ug/kg	3.50E+06	7.10E+07				3800	U	350	U	340	U	51	J	22000	U	18000	U	390	U	360	U	7300	U
SVOCs	Butyl benzylphthalate	ug/kg	2.60E+07	5.20E+08				3800	U	350	U	340	U	360	U	22000	U	18000	U	390	U	360	U	7300	U
SVOCs	Caprolactam	ug/kg						3800	U	350	U	340	U	360	U	22000	U	18000	U	390	U	360	U	7300	U
SVOCs	Carbazole	ug/kg						3800	U	350	U	340	U	250	J	22000	U	18000	U	390	U	360	U	7300	U
SVOCs	Chrysene	ug/kg	5.80E+06	1.20E+08				410	J	350	U	340	U	1000		22000	U	18000	U	57	J	360	U	7300	U
SVOCs	Dibenz(a,h)anthracene	ug/kg	5.80E+03	1.20E+08				3800	U	350	U	340	U	210	J	22000	U	18000	U	390	U	360	U	7300	U
SVOCs	Dibenzofuran	ug/kg						3800	U	350	U	340	U	140	J	22000	U	18000	U	390	U	360	U	7300	U
SVOCs	Diethyl phthalate	ug/kg	1.00E+09	1.00E+09				3800	U	350	U	340	U	360	U	22000	U	18000	U	390	U	360	U	7300	U
SVOCs	Dimethyl phthalate	ug/kg						3800	U	350	U	340	U	360	U	22000	U	18000	U	390	U	360	U	7300	U
SVOCs	Di-n-butylphthalate	ug/kg	1.80E+08	4.30E+08				3800	U	350	U	340	U	360	U	22000	U	18000	U	390	U	360	U	7300	U
SVOCs	Di-N-Octyl phthalate	ug/kg						3800	U	350	U	340	U	360	U	22000	U	18000	U	390	U	360	U	7300	U
SVOCs	Fluoranthene	ug/kg	6.00E+07	1.60E+08				340	J	350	U	340	U	2600		22000	U	18000	U	93	J	360	U	7300	U
SVOCs	Fluorene	ug/kg	6.00E+07	5.20E+08				3800	U	350	U	340	U	170	J	22000	U	18000	U	390	U	360	U	7300	U
SVOCs	Hexachlorobenzene	ug/kg	3.10E+04	1.40E+04				3800	U	350	U	340	U	360	U	22000	U	18000	U	390	U	360	U	7300	U
SVOCs	Hexachlorobutadiene, SVOC	ug/kg	6.30E+05	1.40E+06				3800	U	350	U	340	U	360	U	22000	U	18000	U	390	U	360	U	7300	U
SVOCs	Hexachlorocyclopentadiene	ug/kg	1.10E+07	2.60E+07				18000	U	1700	U	1700	U	1700	U	110000	U	87000	U	1900	U	1800	U	35000	U
SVOCs	Hexachloroethane	ug/kg	1.20E+06	3.00E+06				3800	U	350	U	340	U	360	U	22000	U	18000	U	390	U	360	U	7300	U
SVOCs	Indeno(1,2,3-cd)pyrene	ug/kg	5.80E+04	1.20E+06				3800	U	350	U	340	U	520		22000	U	18000	U	26	J	360	U	7300	U
SVOCs	Isophorone	ug/kg	5.20E+07	1.00E+09				3800	U	350	U	340	U	360	U	22000	U	18000	U	390	U	360	U	7300	U
SVOCs	Naphthalene, SVOC	ug/kg	4.50E+05	5.60E+05				640	J	350	U	340	U	360	U	22000	U	18000	U	390	U	360	U	7300	U
SVOCs	Nitrobenzene	ug/kg	6.10E+05	3.00E+06				3800	U	350	U	340	U	360	U	22000	U	18000	U	390	U	360	U	7300	U
SVOCs	N-Nitrosodi-n-propylamine	ug/kg	7.00E+03	1.40E+05				3800	U	350	U	340	U	360	U	22000	U	18000	U	390	U	360	U	7300	U
SVOCs	N-Nitrosodiphenylamine	ug/kg	1.00E+07	2.00E+08				3800	U	350	U	340	U	360	U	22000	U	18000	U	390	U	360	U	7300	U
SVOCs	Pentachlorophenol	ug/kg	6.70E+04	9.50E+05				3800	U	350	U	340	U	360	U	22000	U	18000	U	390	U	360	U	7300	U
SVOCs	Phenanthrene	ug/kg						360	J	350	U	340	U	1700		22000	U	18000	U	31	J	360	U	7300	U
SVOCs	Phenol	ug/kg	5.30E+08	8.40E+08				3800	U	350	U	340	U	360	U	22000	U	18000	U	390	U	360	U	7300	U
SVOCs	Pyrene, SVOC	ug/kg	4.50E+07	3.90E+08				310	J	350	U	340	U	2000		22000	U	18000	U	82	J	360	U	7300	U
TPH	Diesel Range Organics (DRO)	mg/kg	2000	2000																					
TPH	Gasoline Range Organics (GRO)	mg/kg	1000	1000																					
VOCs	1,1,1-Trichloroethane	ug/kg	6.40E+05	6.40E+05		1.8	J	540	U	4.7	U	5.3	U	5.1	U	390	U	250	U	980	U	5.7	U	280	U
VOCs	1,1,2,2-Tetrachloroethane	ug/kg	7.50E+04	6.70E+05		4.8	U	540	U	4.7	U	5.3	U	5.1	U	390	U	250	U	980	U	5.7	U	280	U
VOCs	1,1,2-Trichloroethane	ug/kg	1.40E+05	1.20E+06		4.8	U	540	U	4.7	U	5.3	U	5.1	U	390	U	250	U	980	U	5.7	U	280	U
VOCs	1,1-Dichloroethane	ug/kg	4.20E+05	1.70E+06		4.8	U	540	U	4.7	U	5.3	U	5.1	U	390	U	250	U	980	U	5.7	U	280	U
VOCs	1,1-Dichloroethene	ug/kg	1.20E+06	3.60E+05		4.8	U	540	U	4.7	U	5.3	U	5.1	U	390	U	250	U	980	U	5.7	U	280	U
VOCs	1,2,4-Trichlorobenzene, VOC	ug/kg	4.00E+05	4.00E+05		4.8	U	540	U	4.7	U	5.3	U	5.1	U	390	U	250	U	980	U	5.7	U	280	U
VOCs	1,2-Dibromo-3-chloropropane	ug/kg	1.70E+03	1.50E+04		9.6	U	1100	U	9.4	U	11	U	10	U	770	U	500	U	2000	U	11	U	550	U
VOCs	1,2-Dibromoethane	ug/kg	4.40E+03	3.80E+04		4.8	U	540	U	4.7	U	5.3	U	5.1	U	390	U	250	U	980	U	5.7	U	280	U
VOCs	1,2-Dichlorobenzene, VOC	ug/kg	3.80E+05	3.80E+05		4.8	U	540	U	4.7	U	5.3	U	5.1	U	390	U	250	U	980	U	5.7	U	280	U
VOCs	1,2-Dichloroethane	ug/kg	5.60E+04	4.80E+05		4.8	U	540	U	4.7	U	5.3	U	5.1	U	390	U	250	U	980	U	5.7	U	280	U
VOCs	1,2-Dichloropropane	ug/kg	1.20E+05	1.80E+05		4.8	U	540	U	4.7	U	5.3	U	5.1	U	390	U	250	U	980	U	5.7	U	280	U
VOCs	1,3-Dichlorobenzene, VOC	ug/kg				4.8	U	540	U	4.7	U	5.3	U	5.1	U	390	U	250	U	980	U	5.7	U	280	U
VOCs	1,4-Dichlorobenzene, VOC	ug/kg	3.10E+05	2.60E+06		4.8	U	540	U	4.7	U	5.3	U	5.1	U	390	U	250	U	980	U	5.7	U	280	U
VOCs	2-Butanone	ug/kg	2.80E+07	2.80E+07		19	U	2200	U	19	U	21	U	1.6	J	1500	U	990	U	3900	U	23	U	1100	U
VOCs	2-Hexanone	ug/kg				19	U	2200	U	19	U	21	U	20	U	1500	U	990	U	3900	U	23	U	1100	U
VOCs	4-Methyl-2-Pentanone	ug/kg	3.40E+06	3.40E+06		19	U	2200	U	19	U	21	U	20	U	1500	U	990	U	3900	U	23	U	1100	U
VOCs	Acetone	ug/kg	1.10E+08	1.10E+08		5.6	J	2200	U	19	U	21	U	8.1	J	1500	U	990	U	3900	U	23	U	330	J
VOCs	Benzene	ug/kg	1.40E+05	1.20E+06		0.45	J	540	U	4.7	U	5.3	U	5.1	U	390	U	250	U	980	U	5.7	U	280	U
VOCs	Bromodichloromethane	ug/kg	3.50E+04	3.00E+05		4.8	U	540	U	4.7	U	5.3	U	5.1	U	390	U	250	U	980	U	5.7	U	280	U
VOCs	Bromoform	ug/kg	6.20E+06	1.30E+08		4.8	UJ	540	U	4.7	UJ	5.3	UJ	5.1	UJ	390	U	250	U	980	U	5.7	U	280	U
VOCs	Bromomethane	ug/kg	8.20E+04	5.50E+05		4.8	U	540	U	4.7	U	5.3	U	5.1	U	160	J	80	J	980	U	5.7	U	280	U
VOCs	Carbon disulfide	ug/kg	7.40E+05	7.40E+05		4.8	U	540	U	4.7	U	5.3	U	5.1	U	390	U	250	U	980	U	5.7	U	280	U
VOCs	Carbon tetrachloride	ug/kg	7.90E+04	4.60E+05		4.8	U	540	U	4.7	U	5.3	U	5.1	U	390	U	250	U	980	U	5.7	U	280	U
VOCs	Chlorobenzene	ug/kg	7.60E+05	7.60E+05		4.8	U	540	U	4.7	U	5.3	U	5.1	U	390	U	250	U	980	U	5.7	U	280	U

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Appendix A
Soil Data Compared to GDCC
P Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units	Ohio VAP C/I GDCSS	Ohio VAP CW GDCSS	Station Name	SB-147-04		SB-148-04		SB-148-04		SB-148-04		SB-149-04		SB-149-04		SB-149-04		SB-163-04		SB-163-04		SB-163-04	
					FieldSampleID	SB-147-04		SB-148-04		SB-148-04		SB-148-04		SB-149-04		SB-149-04		SB-149-04		SB-163-04		SB-163-04		SB-163-04	
					Sample Date	1/28/2004		1/28/2004		1/28/2004		1/28/2004		1/28/2004		1/28/2004		1/28/2004		2/5/2004		2/5/2004		2/5/2004	
					Depth	12.5 - 14.5 ft		0 - 2 ft		8 - 10 ft		11 - 13 ft		0 - 2 ft		8 - 10 ft		11 - 13 ft		0 - 2 ft		8 - 10 ft		11.5 - 13.5 ft	
VOCs	Chloroethane	ug/kg				4.8	U	540	U	4.7	U	5.3	U	5.1	U	390	U	250	U	980	U	5.7	U	280	U
VOCs	Chloroform	ug/kg	3.80E+04	3.20E+05		4.8	U	540	U	4.7	U	5.3	U	5.1	U	390	U	250	U	980	U	5.7	U	280	U
VOCs	Chloromethane	ug/kg	1.30E+06	1.30E+06		4.8	U	540	U	4.7	U	5.3	U	5.1	U	390	U	250	U	980	U	5.7	U	280	U
VOCs	cis-1,2-Dichloroethene	ug/kg				2.4	U	140	J	2.3	U	2.6	U	2.5	U	190	U	120	U	380	J	1.4	J	140	U
VOCs	cis-1,3-Dichloropropene	ug/kg	2.30E+05	5.20E+05		4.8	U	540	U	4.7	U	5.3	U	5.1	U	390	U	250	U	980	U	5.7	U	280	U
VOCs	Cyclohexane	ug/kg	1.20E+05	1.20E+05		9.6	U	1100	U	9.4	U	11	U	10	U	770	U	500	U	2000	U	11	U	550	U
VOCs	Dibromochloromethane	ug/kg	8.40E+04	7.70E+05		4.8	U	540	U	4.7	U	5.3	U	5.1	U	390	U	250	U	980	U	5.7	U	280	U
VOCs	Dichlorodifluoromethane	ug/kg	8.50E+05	8.50E+05		4.8	U	540	UJ	4.7	U	5.3	U	5.1	U	390	UJ	250	UJ	980	UJ	5.7	U	280	U
VOCs	Ethylbenzene	ug/kg	4.80E+05	4.80E+05		0.64	J	540	U	0.38	J	5.3	U	5.1	U	390	U	250	U	980	U	5.7	U	280	U
VOCs	Isopropylbenzene, VOC	ug/kg	2.70E+05	2.70E+05		4.8	U	540	U	4.7	U	5.3	U	5.1	U	390	U	250	U	980	U	5.7	U	280	U
VOCs	Methyl acetate	ug/kg				9.6	U	1100	U	9.4	U	11	U	10	U	770	U	500	U	2000	U	11	U	90	J
VOCs	Methyl cyclohexane	ug/kg				9.6	U	73	J	9.4	U	11	U	10	U	770	U	500	U	2000	U	11	U	550	U
VOCs	Methyl tert butyl ether	ug/kg	5.70E+06	8.90E+06		19	U	2200	U	19	U	21	U	20	U	1500	U	990	U	3900	UJ	23	U	1100	U
VOCs	Methylene chloride	ug/kg	3.30E+06	3.30E+06		4.8	U	540	U	4.7	U	5.3	U	5.1	U	390	U	250	U	560	J	5.7	U	130	J
VOCs	Styrene	ug/kg	8.70E+05	8.70E+05		4.8	U	540	U	4.7	U	5.3	U	5.1	U	390	U	250	U	980	U	5.7	U	280	U
VOCs	Tetrachloroethene	ug/kg	1.70E+05	1.70E+05		30		1100		4.7		3.1	J	2.8	J	390	U	23	J	27000		93		940	
VOCs	Toluene	ug/kg	8.20E+05	8.20E+05		1.8	J	540	U	0.87	J	0.79	J	5.1	U	390	U	250	U	980	U	5.7	U	280	U
VOCs	trans-1,2-Dichloroethene	ug/kg	1.70E+06	1.70E+06		2.4	U	270	U	2.3	U	2.6	U	2.5	U	190	U	120	U	490	U	2.9	U	140	U
VOCs	trans-1,3-Dichloropropene	ug/kg	2.30E+05	5.20E+05		4.8	U	540	U	4.7	U	5.3	U	5.1	U	390	U	250	U	980	U	5.7	U	280	U
VOCs	Trichloroethene	ug/kg	5.10E+04	1.70E+04		6.2		17000		24		12		2	J	390	U	28	J	12000		8.8		40	J
VOCs	Trichlorofluoromethane	ug/kg	1.20E+06	1.20E+06		4.8	U	540	U	4.7	U	5.3	U	5.1	U	390	U	250	U	980	U	5.7	U	280	U
VOCs	Trifluorotrichloroethane	ug/kg				4.8	U	540	U	4.7	U	5.3	U	5.1	U	390	U	250	U	980	U	5.7	U	280	U
VOCs	Vinyl chloride	ug/kg	5.00E+04	2.80E+05		4.8	U	540	U	4.7	U	5.3	U	5.1	U	390	U	250	U	980	U	5.7	U	280	U
VOCs	Xylene (Total)	ug/kg	2.60E+05	2.60E+05		1.3	J	110	J	9.4	U	11	U	10	U	770	U	500	U	2000	U	11	U	550	U

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Appendix A
Soil Data Compared to GDCC
P Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units	Ohio VAP C/I GDCSS	Ohio VAP CW GDCSS	Station Name	SB-17-02		SB-17-02		SB-17-02		SB-18-02		SB-18-02		SB-53-02		SB-54-02		SB-54-02		SB-72-03		SB-72-03		SB-72-03	
					FieldSampleID	SB-17-02		SB-17-02		SB-17-02		SB-18-02		SB-18-02		SB-53-02		SB-54-02		SB-54-02		SB-72-03		SB-72-03 DUP		SB-72-03	
					Sample Date	4/8/2002		4/8/2002		4/8/2002		4/8/2002		4/8/2002		4/17/2002		4/17/2002		4/17/2002		2/20/2003		2/20/2003		2/20/2003	
					Depth	1 - 3 ft		8 - 10 ft		10 - 12 ft		1 - 3 ft		9 - 11 ft		1 - 3 ft		1 - 3 ft		9 - 11 ft		1 - 3 ft		9 - 11 ft		9 - 11 ft	
Field Parameters	pH Field	s.u.																									
Metals	Antimony	mg/kg	1.60E+03	8.50E+02		6.4	U	8	U	6.2	U	2.6	J	6.5	U	7.2	U	3.1	J	13.4	U	1.8	J	0.43	J	6.5	UJ
Metals	Arsenic	mg/kg	7.70E+01	6.90E+02		3.2		7.5		3.3		6.4		5.5		8.8		15.4		8.4		7.7	J	5.3	J	5.9	J
Metals	Barium	mg/kg				26.5		259		57.8		141		89.1		150		61.3		84.5		50	J	52.2	J	79	J
Metals	Beryllium	mg/kg	7.80E+03	3.40E+03		0.54	UJ	0.67	UJ	0.52	UJ	0.69	J	0.54	UJ	0.6		0.5	J	0.56	U	0.13	J	0.53	UJ	0.54	UJ
Metals	Cadmium	mg/kg	2.60E+03	1.00E+03		0.54	U	0.67	U	0.52	U	0.67		0.54	U	0.8		4		2.3		0.57	UJ	0.043	J	0.081	J
Metals	Chromium Total	mg/kg	2.10E+02	1.20E+03		4		11.5		3.1		8.7		3.3		12.6		13.2		21.7		11.7	J	6.2	J	3.6	J
Metals	Cobalt	mg/kg				1.5	J	5.7	J	1.4	J	18		2.2	J	4.5	J	11.5		8.9		7	J	2.5	J	1.4	J
Metals	Copper	mg/kg	1.60E+05	2.10E+04		7.6		11.2		1.5	J	172		4.9		404		153		77.8		71.2	J	2.9	J	2.7	J
Metals	Cyanide (total)	mg/kg	3.70E+02	1.50E+02		0.54	U	0.26	J	0.52	U	0.29	J	0.54	U	3.6		0.59	U	0.28	J	0.17	J	0.53	UJ	0.54	UJ
Metals	Lead	mg/kg	8.00E+02	4.00E+02		3.5		10.2		1.9		137		3.7		213		286		181		134	J	2.5	J	1.9	J
Metals	Manganese	mg/kg				283		844		271		373		353		479		578		3360		1190	J	366	J	317	J
Metals	Mercury	mg/kg	3.10E+00	3.10E+00		0.025	J	0.053	J	0.015	J	0.28		0.11	U	0.51		0.28		0.18		0.1	J	0.11	U	0.11	U
Metals	Nickel	mg/kg	7.40E+04	2.30E+04		3.7	J	13		3.1	J	10		4	J	27.2		17.1		12.5		11.5		7.7		4	J
Metals	Selenium	mg/kg	2.00E+04	1.10E+04		0.54	U	0.55	J	0.52	U	1.5		0.54	U	0.6	U	1.2	U	1.1	U	0.57	U	0.53	U	0.54	U
Metals	Silver	mg/kg	2.00E+04	1.10E+04		1.1	U	1.3	U	1	U	1.3	U	1.1	U	1.2	U	0.48	J	0.79	J	1.1	U	1.1	U	1.1	U
Metals	Thallium	mg/kg				1.1	U	1.3	U	1	U	1.3	U	1.1	U	1.2	U	1.2	J	2.2	U	1.1	UJ	1.1	UJ	1.1	UJ
Metals	Vanadium	mg/kg	2.30E+04	1.10E+04		4.7	J	16.8		5.2		16.6		6.2		15		16.4		40.8		24.3	J	9	J	6.8	J
Metals	Zinc	mg/kg	1.00E+06	6.40E+05		13		57.5		10.1		160		13.8		464		1750		929		89	J	18.2	J	11.1	J
Miscellaneous	Percent moisture	%																									
Miscellaneous	Total Solids	%				93.3		75		96.3		74.7		92.6		83.1		85		89.3		88.4		94.4		92	
Other	C21-C34 Aliphatics	mg/kg																									
PCBs/Pesticides	Aroclor-1016	mg/kg	1.00E+02	2.60E+02		0.035	U	0.044	U	0.034	U	0.044	U	0.036	U	0.04	U	0.039	U	0.037	U						
PCBs/Pesticides	Aroclor-1221	mg/kg	1.40E+01	2.10E+02		0.035	U	0.044	U	0.034	U	0.044	U	0.036	U	0.04	U	0.039	U	0.037	U						
PCBs/Pesticides	Aroclor-1232	mg/kg	1.40E+01	7.30E+01		0.035	U	0.044	U	0.034	U	0.044	U	0.036	U	0.04	U	0.039	U	0.037	U						
PCBs/Pesticides	Aroclor-1242	mg/kg	2.00E+01	4.40E+02		0.035	U	0.044	U	0.034	U	0.044	U	0.036	U	0.04	U	0.039	U	0.037	U						
PCBs/Pesticides	Aroclor-1248	mg/kg	2.00E+01	4.40E+02		0.035	U	0.044	U	0.034	U	0.044	U	0.036	U	0.04	U	0.039	U	0.037	U						
PCBs/Pesticides	Aroclor-1254	mg/kg	2.00E+01	7.50E+01		0.035	U	0.044	U	0.034	U	0.044	U	0.036	U	0.04	U	0.039	U	0.037	U						
PCBs/Pesticides	Aroclor-1260	mg/kg	2.00E+01	4.40E+02		0.035	U	0.044	U	0.034	U	0.044	U	0.036	U	0.04	U	0.039	U	0.037	U						
SVOCs	2,2-oxybis(2-Chloropropane), SVOC	ug/kg				350	U	440	U	340	U	440	U	360	U	400	U	7800	U	1800	U	370	U	350	U	360	U
SVOCs	2,4,5-Trichlorophenol	ug/kg	1.80E+08	1.00E+09		350	U	440	U	340	U	440	U	360	U	400	U	7800	U	1800	U	370	U	350	U	360	U
SVOCs	2,4,6-Trichlorophenol	ug/kg	1.80E+06	1.40E+06		350	U	440	U	340	U	440	U	360	U	400	U	7800	U	1800	U	370	U	350	U	360	U
SVOCs	2,4-Dichlorophenol	ug/kg	5.30E+06	2.80E+07		350	U	440	U	340	U	440	U	360	U	400	U	7800	U	1800	U	370	U	350	U	360	U
SVOCs	2,4-Dimethylphenol	ug/kg	3.50E+07	8.50E+07		350	U	440	U	340	U	440	U	360	U	400	U	7800	U	1800	U	370	U	350	U	360	U
SVOCs	2,4-Dinitrophenol	ug/kg	3.50E+06	2.80E+07		1700	U	2100	U	1700	U	2100	U	1700	U	1900	U	38000	U	9000	U	1800	U	1700	U	1700	U
SVOCs	2,4-Dinitrotoluene	ug/kg	1.60E+05	2.80E+06		350	U	440	U	340	U	440	U	360	U	400	U	7800	U	1800	U	370	U	350	U	360	U
SVOCs	2,6-Dinitrotoluene	ug/kg	3.30E+04	6.70E+05		350	U	440	U	340	U	440	U	360	U	400	U	7800	U	1800	U	370	U	350	U	360	U
SVOCs	2-Chloronaphthalene	ug/kg	3.30E+08	1.00E+09		350	U	440	U	340	U	440	U	360	U	400	U	7800	U	1800	U	370	U	350	U	360	U
SVOCs	2-Chlorophenol	ug/kg	2.00E+07	2.20E+07		350	U	440	U	340	U	440	U	360	U	400	U	7800	U	1800	U	370	U	350	U	360	U
SVOCs	2-Methylnaphthalene	ug/kg	6.00E+06	5.20E+06		350	U	440	U	340	U	170	J	360	U	400	U	7800	U	1800	U	110	J	350	U	360	U
SVOCs	2-Methylphenol	ug/kg	8.80E+07	7.10E+08		350	U	440	U	340	U	440	U	360	U	400	U	7800	U	1800	U	370	U	350	U	360	U
SVOCs	2-Nitroaniline	ug/kg				1700	U	2100	U	1700	U	2100	U	1700	U	1900	U	38000	U	9000	U	1800	U	1700	U	1700	U
SVOCs	2-Nitrophenol	ug/kg				350	U	440	U	340	U	440	U	360	U	400	U	7800	U	1800	U	370	U	350	U	360	U
SVOCs	3,3-Dichlorobenzidine	ug/kg	1.10E+05	2.20E+06		1700	U	2100	U	1700	U	2100	U	1700	U	1900	U	38000	U	9000	U	1800	U	1700	U	1700	U
SVOCs	3-Nitroaniline	ug/kg				1700	U	2100	U	1700	U	2100	U	1700	U	1900	U	38000	U	9000	U	1800	U	1700	U	1700	U
SVOCs	4,6-Dinitro-2-methylphenol	ug/kg				1700	U	2100	U	1700	U	2100	U	1700	U	1900	U	38000	U	9000	U	1800	U	1700	U	1700	U
SVOCs	4-Bromophenyl phenyl ether	ug/kg				350	U	440	U	340	U	440	U	360	U	400	U	7800	U	1800	U	370	U	350	U	360	U
SVOCs	4-Chloro-3-methylphenol	ug/kg				350	U	440	U	340	U	440	U	360	U	400	U	7800	U	1800	U	370	U	350	U	360	U
SVOCs	4-Chloroaniline	ug/kg	2.50E+05	7.10E+05		350	U	440	U	340	U	440	U	360	U	400	U	7800	U	1800	U	370	U	350	U	360	U
SVOCs	4-Chlorophenyl phenyl ether	ug/kg				350	U	440	U	340	U	440	U	360	U	400	U	7800	U	1800	U	370	U	350	U	360	U
SVOCs	4-Methylphenol	ug/kg	1.80E+08	2.80E+07		350	U	440	U	340	U	440	U	360	U	400	U	7800	U	1800	U	370	U	350	U	360	U
SVOCs	4-Nitroaniline	ug/kg	2.50E+06	1.40E+07		1700	U	2100	U	1700	U	2100	U	1700	U	1900	U	38000	U	9000	U	1800	U	1700	U	1700	U
SVOCs	4-Nitrophenol	ug/kg				1700	U	2100	U	1700	U	2100	U	1700	U	1900	U	38000	U	9000	U	1800	U	1700	U	1700	U
SVOCs	Acenaphthene	ug/kg	9.00E+07	7.80E+08		350	U	440	U	340	U	440	U	360	U	71	J	7800	U	1800	U	370	U	350	U	360	U
SVOCs	Acenaphthylene	ug/kg				350	U	440	U	340	U	440	U	360	U	400	U	7800	U	1800	U	25	J	350	U	360	U
SVOCs	Acetophenone	ug/kg	2.50E+06	2.50E+06		350	U	440	U	340	U	440	U	360	U	400	U	7800	U	1800	U	370	U	350	U	360	U
SVOCs	Anthracene	ug/kg	4.50E+08	1.00E+09		350	U	440	U	340	U	110	J	360	U	230	J	7800	U	1800	U	33	J	350	U	360	U
SVOCs	Atrazine	ug/kg				350	U	440	U	340	U	440	U	360	U	400	U	7800	U	1800	U	370	U	350	U	360	U
SVOCs	Benzaldehyde	ug/kg				350	U	440	U	340	U	440	U	360	U	400	U	7800	U	1800	U	21	J	350	U	360	U

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Appendix A
Soil Data Compared to GDCC
P Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units	Ohio VAP C/I GDCSS	Ohio VAP CW GDCSS	Station Name	SB-17-02		SB-17-02		SB-17-02		SB-18-02		SB-18-02		SB-53-02		SB-54-02		SB-54-02		SB-72-03		SB-72-03		SB-72-03	
					FieldSampleID	SB-17-02		SB-17-02		SB-17-02		SB-18-02		SB-18-02		SB-53-02		SB-54-02		SB-54-02		SB-72-03		SB-72-03 DUP		SB-72-03	
					Sample Date	4/8/2002		4/8/2002		4/8/2002		4/8/2002		4/8/2002		4/17/2002		4/17/2002		4/17/2002		2/20/2003		2/20/2003		2/20/2003	
					Depth	1 - 3 ft		8 - 10 ft		10 - 12 ft		1 - 3 ft		9 - 11 ft		1 - 3 ft		1 - 3 ft		9 - 11 ft		1 - 3 ft		9 - 11 ft		9 - 11 ft	
SVOCs	Benzo(a)anthracene	ug/kg	5.80E+04	1.20E+06		350	U	440	U	340	U	360	J	360	U	920		7800	U	1800	U	240	J	350	U	360	U
SVOCs	Benzo(a)pyrene	ug/kg	5.80E+03	1.20E+05		350	U	440	U	340	U	330	J	360	U	1100		7800	U	1800	U	230	J	350	U	360	U
SVOCs	Benzo(b)fluoranthene	ug/kg	5.80E+04	1.20E+06		350	U	440	U	340	U	430	J	360	U	1100		7800	U	1800	U	220	J	350	U	360	U
SVOCs	Benzo(g,h,i)perylene	ug/kg				350	U	440	U	340	U	250	J	360	U	860		7800	U	1800	U	98	J	350	U	360	U
SVOCs	Benzo(k)fluoranthene	ug/kg	5.80E+05	1.20E+07		350	U	440	U	340	U	220	J	360	U	610		7800	U	1800	U	180	J	350	U	360	U
SVOCs	Biphenyl	ug/kg	1.40E+07	1.90E+08		350	U	440	U	340	U	440	U	360	U	400	U	7800	U	1800	U	370	U	350	U	360	U
SVOCs	bis(2-Chloroethoxy)methane	ug/kg	5.30E+06	4.30E+07		350	U	440	U	340	U	440	U	360	U	400	U	7800	U	1800	U	370	U	350	U	360	U
SVOCs	bis(2-Chloroethyl)ether	ug/kg	3.00E+04	2.90E+05		350	U	440	U	340	U	440	U	360	U	400	U	7800	U	1800	U	370	U	350	U	360	U
SVOCs	bis(2-Ethylhexyl)phthalate	ug/kg	3.50E+06	7.10E+07		350	U	440	U	340	U	440	U	360	U	400	U	7800	U	1800	U	24	J	350	U	360	U
SVOCs	Butyl benzylphthalate	ug/kg	2.60E+07	5.20E+08		350	U	440	U	340	U	440	U	360	U	400	U	7800	U	1800	U	370	U	350	U	360	U
SVOCs	Caprolactam	ug/kg				350	U	440	U	340	U	440	U	360	U	400	U	7800	U	1800	U	370	U	350	U	360	U
SVOCs	Carbazole	ug/kg				350	U	440	U	340	U	440	U	360	U	110	J	7800	U	1800	U	81	J	350	U	360	U
SVOCs	Chrysene	ug/kg	5.80E+06	1.20E+08		350	U	64	J	340	U	410	J	360	U	990		7800	U	1800	U	240	J	350	U	360	U
SVOCs	Dibenz(a,h)anthracene	ug/kg	5.80E+03	1.20E+08		350	U	440	U	340	U	440	U	360	U	200	J	7800	U	1800	U	44	J	350	U	360	U
SVOCs	Dibenzofuran	ug/kg				350	U	440	U	340	U	86	J	360	U	400	U	7800	U	1800	U	36	J	350	U	360	U
SVOCs	Diethyl phthalate	ug/kg	1.00E+09	1.00E+09		350	U	440	U	340	U	440	U	360	U	400	U	7800	U	1800	U	370	U	350	U	360	U
SVOCs	Dimethyl phthalate	ug/kg				350	U	440	U	340	U	440	U	360	U	400	U	7800	U	1800	U	370	U	350	U	360	U
SVOCs	Di-n-butylphthalate	ug/kg	1.80E+08	4.30E+08		350	U	440	U	340	U	440	U	360	U	400	U	7800	U	1800	U	370	U	350	U	360	U
SVOCs	Di-N-Octyl phthalate	ug/kg				350	U	440	U	340	U	440	U	360	U	400	U	7800	U	1800	U	370	U	350	U	360	U
SVOCs	Fluoranthene	ug/kg	6.00E+07	1.60E+08		350	U	160	J	340	U	940		360	U	1900		7800	U	1800	U	360	J	350	U	360	U
SVOCs	Fluorene	ug/kg	6.00E+07	5.20E+08		350	U	440	U	340	U	440	U	360	U	61	J	7800	U	1800	U	370	U	350	U	360	U
SVOCs	Hexachlorobenzene	ug/kg	3.10E+04	1.40E+04		350	U	440	U	340	U	440	U	360	U	400	U	7800	U	1800	U	370	U	350	U	360	U
SVOCs	Hexachlorobutadiene, SVOC	ug/kg	6.30E+05	1.40E+06		350	U	440	U	340	U	440	U	360	U	400	U	7800	U	1800	U	370	U	350	U	360	U
SVOCs	Hexachlorocyclopentadiene	ug/kg	1.10E+07	2.60E+07		1700	U	2100	U	1700	U	2100	U	1700	U	1900	U	38000	U	9000	U	1800	U	1700	U	1700	U
SVOCs	Hexachloroethane	ug/kg	1.20E+06	3.00E+06		350	U	440	U	340	U	440	U	360	U	400	U	7800	U	1800	U	370	U	350	U	360	U
SVOCs	Indeno(1,2,3-cd)pyrene	ug/kg	5.80E+04	1.20E+06		350	U	440	U	340	U	220	J	360	U	720		7800	U	1800	U	100	J	350	U	360	U
SVOCs	Isophorone	ug/kg	5.20E+07	1.00E+09		350	U	440	U	340	U	440	U	360	U	400	U	7800	U	1800	U	370	U	350	U	360	U
SVOCs	Naphthalene, SVOC	ug/kg	4.50E+05	5.60E+05		350	U	440	U	340	U	350	J	360	U	67	J	7800	U	1800	U	77	J	350	U	360	U
SVOCs	Nitrobenzene	ug/kg	6.10E+05	3.00E+06		350	U	440	U	340	U	440	U	360	U	400	U	7800	U	1800	U	370	U	350	U	360	U
SVOCs	N-Nitrosodi-n-propylamine	ug/kg	7.00E+03	1.40E+05		350	U	440	U	340	U	440	U	360	U	400	U	7800	U	1800	U	370	U	350	U	360	U
SVOCs	N-Nitrosodiphenylamine	ug/kg	1.00E+07	2.00E+08		350	U	440	U	340	U	440	U	360	U	400	U	7800	U	1800	U	370	U	350	U	360	U
SVOCs	Pentachlorophenol	ug/kg	6.70E+04	9.50E+05		350	U	440	U	340	U	440	U	360	U	400	U	7800	U	1800	U	370	U	350	U	360	U
SVOCs	Phenanthrene	ug/kg				350	U	160	J	340	U	860		360	U	1100		7800	U	1800	U	230	J	350	U	360	U
SVOCs	Phenol	ug/kg	5.30E+08	8.40E+08		350	U	440	U	340	U	440	U	360	U	400	U	7800	U	1800	U	370	U	350	U	360	U
SVOCs	Pyrene, SVOC	ug/kg	4.50E+07	3.90E+08		350	U	140	J	340	U	790		360	U	1800		7800	U	1800	U	360	J	350	U	360	U
TPH	Diesel Range Organics (DRO)	mg/kg	2000	2000																							
TPH	Gasoline Range Organics (GRO)	mg/kg	1000	1000																							
VOCs	1,1,1-Trichloroethane	ug/kg	6.40E+05	6.40E+05		230	U	6.5	U	5.4	U	300	J	8	U	94	J	310	U	270	U	270	U	4.3	U	4.9	U
VOCs	1,1,2,2-Tetrachloroethane	ug/kg	7.50E+04	6.70E+05		230	U	6.5	U	5.4	U	560	U	8	U	460	U	310	U	270	U	270	U	4.3	U	4.9	U
VOCs	1,1,2-Trichloroethane	ug/kg	1.40E+05	1.20E+06		230	U	6.5	U	5.4	U	560	U	8	U	460	U	310	U	270	U	270	U	4.3	U	4.9	U
VOCs	1,1-Dichloroethane	ug/kg	4.20E+05	1.70E+06		230	U	6.5	U	5.4	U	560	U	8	U	460	U	310	U	270	U	270	U	4.3	U	4.9	U
VOCs	1,1-Dichloroethene	ug/kg	1.20E+06	3.60E+05		230	U	6.5	U	5.4	U	560	U	8	U	460	U	310	U	270	U	270	U	4.3	U	4.9	U
VOCs	1,2,4-Trichlorobenzene, VOC	ug/kg	4.00E+05	4.00E+05		230	U	6.5	U	5.4	U	560	U	8	U	460	U	310	U	270	U	270	U	4.3	U	4.9	U
VOCs	1,2-Dibromo-3-chloropropane	ug/kg	1.70E+03	1.50E+04		450	U	13	UJ	11	UJ	1100	U	16	UJ	910	U	610	U	550	U	530	U	8.7	U	9.9	U
VOCs	1,2-Dibromoethane	ug/kg	4.40E+03	3.80E+04		230	U	6.5	U	5.4	U	560	U	8	U	460	U	310	U	270	U	270	U	4.3	U	4.9	U
VOCs	1,2-Dichlorobenzene, VOC	ug/kg	3.80E+05	3.80E+05		230	U	6.5	U	5.4	U	560	U	8	U	460	U	310	U	270	U	270	U	4.3	U	4.9	U
VOCs	1,2-Dichloroethane	ug/kg	5.60E+04	4.80E+05		230	U	6.5	U	5.4	U	560	U	8	U	460	U	310	U	270	U	270	U	4.3	U	4.9	U
VOCs	1,2-Dichloropropane	ug/kg	1.20E+05	1.80E+05		230	U	6.5	U	5.4	U	560	U	8	U	460	U	310	U	270	U	270	U	4.3	U	4.9	U
VOCs	1,3-Dichlorobenzene, VOC	ug/kg				230	U	6.5	U	5.4	U	560	U	8	U	460	U	310	U	270	U	270	U	4.3	U	4.9	U
VOCs	1,4-Dichlorobenzene, VOC	ug/kg	3.10E+05	2.60E+06		230	U	6.5	U	5.4	U	560	U	8	U	460	U	310	U	270	U	270	U	4.3	U	4.9	U
VOCs	2-Butanone	ug/kg	2.80E+07	2.80E+07		900	U	26	U	22	U	2200	U	32	U	1800	U	1200	U	1100	U	1100	U	17	U	20	U
VOCs	2-Hexanone	ug/kg				900	U	26	U	22	U	2200	U	32	U	1800	U	1200	U	1100	U	1100	U	17	U	20	U
VOCs	4-Methyl-2-Pentanone	ug/kg	3.40E+06	3.40E+06		900	U	26	U	22	U	2200	U	32	U	1800	U	1200	U	1100	U	1100	U	17	U	20	U
VOCs	Acetone	ug/kg	1.10E+08	1.10E+08		900	U	26	UJ	22	UJ	2200	U	32	UJ	1800	U	1200	U	1100	U	1100	U	17	U	20	U
VOCs	Benzene	ug/kg	1.40E+05	1.20E+06		230	U	6.5	U	5.4	U	560	U	8	U	460	U	310	U	270	U	270	U	0.3	J	4.9	U
VOCs	Bromodichloromethane	ug/kg	3.50E+04	3.00E+05		230	U	6.5	U	5.4	U	560	U	8	U	460	U	310	U	270	U	270	U	4.3	U	4.9	U
VOCs	Bromoform	ug/kg	6.20E+06	1.30E+08		230	U	6.5	UJ	5.4	UJ	560	U	8	UJ	460	U	310	U	270	U	270	U	4.3	UJ	4.9	UJ
VOCs	Bromomethane	ug/kg	8.20E+04	5.50E+05		230	U	6.5	U	5.4	U	560	U	8	UJ	460	U	310	U	270	U	270	R	4.3	UJ	4.9	UJ
VOCs	Carbon disulfide	ug/kg	7.40E+05	7.40E+05		230	U	6.5	U	5.4	U	560	U	8	U	460	U	310	U	270	U	270	U	4.3	U	4.9	U
VOCs	Carbon tetrachloride	ug/kg	7.90E+04	4.60E+05		230	U	6.5	U	5.4	U	560	U	8	UJ	460	U	310	U	270	U	270	U	4.3	UJ	4.9	UJ
VOCs	Chlorobenzene	ug/kg	7.60E+05	7.60E+05		230	U	6.5	U	5.4	U	560	U	8	U	460	U	310	U	270	U	270	U	4.3	U	4.9	U

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Appendix A
Soil Data Compared to GDCC
P Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units	Ohio VAP C/I GDCSS	Ohio VAP CW GDCSS	Station Name	SB-17-02		SB-17-02		SB-17-02		SB-18-02		SB-18-02		SB-53-02		SB-54-02		SB-54-02		SB-72-03		SB-72-03		SB-72-03	
					FieldSampleID	SB-17-02		SB-17-02		SB-17-02		SB-18-02		SB-18-02		SB-53-02		SB-54-02		SB-54-02		SB-72-03		SB-72-03 DUP		SB-72-03	
					Sample Date	4/8/2002		4/8/2002		4/8/2002		4/8/2002		4/8/2002		4/17/2002		4/17/2002		4/17/2002		2/20/2003		2/20/2003		2/20/2003	
					Depth	1 - 3 ft		8 - 10 ft		10 - 12 ft		1 - 3 ft		9 - 11 ft		1 - 3 ft		1 - 3 ft		9 - 11 ft		1 - 3 ft		9 - 11 ft		9 - 11 ft	
VOCs	Chloroethane	ug/kg				230	U	6.5	U	5.4	U	560	U	8	U	460	U	310	U	270	U	270	U	4.3	U	4.9	U
VOCs	Chloroform	ug/kg	3.80E+04	3.20E+05		230	U	6.5	U	5.4	U	560	U	8	U	460	U	310	U	270	U	270	U	4.3	U	4.9	U
VOCs	Chloromethane	ug/kg	1.30E+06	1.30E+06		230	U	6.5	U	5.4	U	560	U	8	U	460	U	310	U	270	U	270	U	4.3	U	4.9	U
VOCs	cis-1,2-Dichloroethene	ug/kg				110	U	3.3	U	2.7	U	590		1.3	J	720		110	J	200		20	J	2.2	U	2.5	U
VOCs	cis-1,3-Dichloropropene	ug/kg	2.30E+05	5.20E+05		230	U	6.5	U	5.4	U	560	U	8	U	460	U	310	U	270	U	270	U	4.3	U	4.9	U
VOCs	Cyclohexane	ug/kg	1.20E+05	1.20E+05		450	U	13	U	11	U	430	J	16	U	910	U	46	J	47	J	29	J	8.7	U	9.9	U
VOCs	Dibromochloromethane	ug/kg	8.40E+04	7.70E+05		230	U	6.5	U	5.4	U	560	U	8	U	460	U	310	U	270	U	270	U	4.3	U	4.9	U
VOCs	Dichlorodifluoromethane	ug/kg	8.50E+05	8.50E+05		230	U	6.5	U	5.4	U	560	UJ	8	U	460	U	310	U	270	U	270	U	4.3	UJ	4.9	UJ
VOCs	Ethylbenzene	ug/kg	4.80E+05	4.80E+05		230	U	6.5	U	5.4	U	560	U	8	U	460	U	310	U	270	U	270	U	4.3	U	4.9	U
VOCs	Isopropylbenzene, VOC	ug/kg	2.70E+05	2.70E+05		230	U	6.5	U	5.4	U	560	U	8	U	460	U	310	U	270	U	270	U	4.3	U	4.9	U
VOCs	Methyl acetate	ug/kg				450	U	13	U	11	U	1100	U	16	U	910	U	610	U	130	J	32	J	8.7	U	9.9	U
VOCs	Methyl cyclohexane	ug/kg				450	U	13	U	11	U	430	J	16	U	34	J	190	J	96	J	67	J	0.42	J	9.9	U
VOCs	Methyl tert butyl ether	ug/kg	5.70E+06	8.90E+06		900	U	26	U	22	U	2200	U	32	U	1800	U	1200	U	1100	U	1100	U	17	U	20	U
VOCs	Methylene chloride	ug/kg	3.30E+06	3.30E+06		230	U	6.5	U	5.4	U	210	J	8	U	460	U	310	U	270	U	270	U	4.3	U	4.9	U
VOCs	Styrene	ug/kg	8.70E+05	8.70E+05		230	U	6.5	U	5.4	U	560	U	8	U	460	U	310	U	270	U	270	U	4.3	U	4.9	U
VOCs	Tetrachloroethene	ug/kg	1.70E+05	1.70E+05		950		260		4.2	J	6100		25		16000		6300		2900		810		4.3	U	4.9	U
VOCs	Toluene	ug/kg	8.20E+05	8.20E+05		230	U	0.96	J	0.75	J	560	U	1.1	J	460	U	310	U	270	U	27	J	0.87	J	0.51	J
VOCs	trans-1,2-Dichloroethene	ug/kg	1.70E+06	1.70E+06		110	U	3.3	U	2.7	U	280	U	4	U	45	J	150	U	140	U	130	U	2.2	U	2.5	U
VOCs	trans-1,3-Dichloropropene	ug/kg	2.30E+05	5.20E+05		230	U	6.5	U	5.4	U	560	U	8	U	460	U	310	U	270	U	270	U	4.3	U	4.9	U
VOCs	Trichloroethene	ug/kg	5.10E+04	1.70E+04		280		130		1.6	J	23000		28		5000		8400		6800		9900		1.2	J	0.91	J
VOCs	Trichlorofluoromethane	ug/kg	1.20E+06	1.20E+06		230	U	6.5	U	5.4	U	560	U	8	UJ	460	U	310	U	270	U	270	U	4.3	UJ	4.9	UJ
VOCs	Trifluorotrichloroethane	ug/kg				230	U	6.5	U	5.4	U	560	U	8	U	460	U	310	U	270	U	270	U	4.3	U	4.9	U
VOCs	Vinyl chloride	ug/kg	5.00E+04	2.80E+05		230	U	6.5	U	5.4	U	560	U	8	U	460	U	310	U	270	U	270	U	4.3	U	4.9	U
VOCs	Xylene (Total)	ug/kg	2.60E+05	2.60E+05		450	U	13	U	11	U	1100	U	16	U	910	U	100	J	78	J	530	U	8.7	U	9.9	U

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Appendix A
Soil Data Compared to GDCC
P Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units	Ohio VAP C/I GDCSS	Ohio VAP CW GDCSS	Station Name	SB-72-03		SB-73-03		SB-73-03		SB-73-03		TT-SB252		TT-SB252		TT-SB252		TT-SB252		TT-SB253		TT-SB253		TT-SB253	
					FieldSampleID	SB-72-03		SB-73-03		SB-73-03		SB-73-03		TT-SB252-G-02		TT-SB252-G-06		TT-SB252-G-08 DP		TT-SB252-G-08		TT-SB253-G-02		TT-SB253-G-04		TT-SB253-G-06	
					Sample Date	2/20/2003		2/20/2003		2/20/2003		2/20/2003		4/3/2013		4/3/2013		4/3/2013		4/3/2013		4/3/2013		4/3/2013		4/3/2013	
					Depth	12.5 - 14.5 ft		2 - 4 ft		8 - 10 ft		12 - 14 ft		0 - 2 ft		4 - 6 ft		6 - 8 ft		6 - 8 ft		0 - 2 ft		2 - 4 ft		4 - 6 ft	
Field Parameters	pH Field	s.u.																									
Metals	Antimony	mg/kg	1.60E+03	8.50E+02		0.84	J	1.1	J	6.5	J	0.38	J														
Metals	Arsenic	mg/kg	7.70E+01	6.90E+02		5.8	J	6.8	J	14	J	4.4	J														
Metals	Barium	mg/kg				75.3	J	75.7	J	128	J	60.5	J														
Metals	Beryllium	mg/kg	7.80E+03	3.40E+03		0.13	J	0.39	J	0.3	J	0.12	J														
Metals	Cadmium	mg/kg	2.60E+03	1.00E+03		0.14	J	0.062	J	0.12	J	0.23	J														
Metals	Chromium Total	mg/kg	2.10E+02	1.20E+03		8.2	J	14.5	J	12.2	J	6.5	J														
Metals	Cobalt	mg/kg				2.4	J	6.3	J	6.3	J	2.2	J														
Metals	Copper	mg/kg	1.60E+05	2.10E+04		20.2	J	81.1	J	5610	J	305	J														
Metals	Cyanide (total)	mg/kg	3.70E+02	1.50E+02		0.55	UJ	0.12	J	0.21	J	0.18	J														
Metals	Lead	mg/kg	8.00E+02	4.00E+02		86.6	J	84.6	J	302	J	65.8	J														
Metals	Manganese	mg/kg				435	J	592	J	525	J	273	J														
Metals	Mercury	mg/kg	3.10E+00	3.10E+00		0.54		0.087	J	0.22		0.53															
Metals	Nickel	mg/kg	7.40E+04	2.30E+04		5.6		15.2		16.9		5.9															
Metals	Selenium	mg/kg	2.00E+04	1.10E+04		0.55	U	0.52	J	0.65	J	0.53	U														
Metals	Silver	mg/kg	2.00E+04	1.10E+04		1.1	U	1.1	U	0.35	J	1.1	U														
Metals	Thallium	mg/kg				0.89	J	1.1	UJ	1.2	UJ	1.1	UJ														
Metals	Vanadium	mg/kg	2.30E+04	1.10E+04		12.5	J	17.3	J	17.1	J	8.2	J														
Metals	Zinc	mg/kg	1.00E+06	6.40E+05		58.3	J	142	J	467	J	68	J														
Miscellaneous	Percent moisture	%												10.4		9.15		21.1		24.8		11.9		9.65		9.02	
Miscellaneous	Total Solids	%				91.4		88.1		81		94.2															
Other	C21-C34 Aliphatics	mg/kg																									
PCBs/Pesticides	Aroclor-1016	mg/kg	1.00E+02	2.60E+02										0.0218	U	0.022	U	0.0241	U	0.0257	U	0.0222	U	0.0219	U	0.0208	U
PCBs/Pesticides	Aroclor-1221	mg/kg	1.40E+01	2.10E+02										0.0218	U	0.022	U	0.0241	U	0.0257	U	0.0222	U	0.0219	U	0.0208	U
PCBs/Pesticides	Aroclor-1232	mg/kg	1.40E+01	7.30E+01										0.0218	U	0.022	U	0.0241	U	0.0257	U	0.0222	U	0.0219	U	0.0208	U
PCBs/Pesticides	Aroclor-1242	mg/kg	2.00E+01	4.40E+02										0.0218	U	0.022	U	0.0241	U	0.0257	U	0.0222	U	0.0219	U	0.0208	U
PCBs/Pesticides	Aroclor-1248	mg/kg	2.00E+01	4.40E+02										0.0218	U	0.022	U	0.0241	U	0.0257	U	0.0222	U	0.0219	U	0.0208	U
PCBs/Pesticides	Aroclor-1254	mg/kg	2.00E+01	7.50E+01										0.269		0.108		0.0241	U	0.0257	U	0.3		0.246		0.0385	
PCBs/Pesticides	Aroclor-1260	mg/kg	2.00E+01	4.40E+02										0.0218	U	0.022	U	0.0241	U	0.0257	U	0.0222	U	0.0219	U	0.0208	U
SVOCs	2,2-oxybis(2-Chloropropane), SVOC	ug/kg				360	U	370	U	410	U	350	U														
SVOCs	2,4,5-Trichlorophenol	ug/kg	1.80E+08	1.00E+09		360	U	370	U	410	U	350	U														
SVOCs	2,4,6-Trichlorophenol	ug/kg	1.80E+06	1.40E+06		360	U	370	U	410	U	350	U														
SVOCs	2,4-Dichlorophenol	ug/kg	5.30E+06	2.80E+07		360	U	370	U	410	U	350	U														
SVOCs	2,4-Dimethylphenol	ug/kg	3.50E+07	8.50E+07		360	U	370	U	410	U	350	U														
SVOCs	2,4-Dinitrophenol	ug/kg	3.50E+06	2.80E+07		1800	U	1800	U	2000	U	1700	U														
SVOCs	2,4-Dinitrotoluene	ug/kg	1.60E+05	2.80E+06		360	U	370	U	410	U	350	U														
SVOCs	2,6-Dinitrotoluene	ug/kg	3.30E+04	6.70E+05		360	U	370	U	410	U	350	U														
SVOCs	2-Chloronaphthalene	ug/kg	3.30E+08	1.00E+09		360	U	370	U	410	U	350	U														
SVOCs	2-Chlorophenol	ug/kg	2.00E+07	2.20E+07		360	U	370	U	410	U	350	U														
SVOCs	2-Methylnaphthalene	ug/kg	6.00E+06	5.20E+06		52	J	210	J	140	J	350	U														
SVOCs	2-Methylphenol	ug/kg	8.80E+07	7.10E+08		360	U	370	U	410	U	350	U														
SVOCs	2-Nitroaniline	ug/kg				1800	U	1800	U	2000	U	1700	U														
SVOCs	2-Nitrophenol	ug/kg				360	U	370	U	410	U	350	U														
SVOCs	3,3-Dichlorobenzidine	ug/kg	1.10E+05	2.20E+06		1800	U	1800	U	2000	U	1700	U														
SVOCs	3-Nitroaniline	ug/kg				1800	U	1800	U	2000	U	1700	U														
SVOCs	4,6-Dinitro-2-methylphenol	ug/kg				1800	U	1800	U	2000	U	1700	U														
SVOCs	4-Bromophenyl phenyl ether	ug/kg				360	U	370	U	410	U	350	U														
SVOCs	4-Chloro-3-methylphenol	ug/kg				360	U	370	U	410	U	350	U														
SVOCs	4-Chloroaniline	ug/kg	2.50E+05	7.10E+05		360	U	370	U	410	U	350	U														
SVOCs	4-Chlorophenyl phenyl ether	ug/kg				360	U	370	U	410	U	350	U														
SVOCs	4-Methylphenol	ug/kg	1.80E+08	2.80E+07		360	U	370	U	410	U	350	U														
SVOCs	4-Nitroaniline	ug/kg	2.50E+06	1.40E+07		1800	U	1800	U	2000	U	1700	U														
SVOCs	4-Nitrophenol	ug/kg				1800	U	1800	U	2000	U	1700	U														
SVOCs	Acenaphthene	ug/kg	9.00E+07	7.80E+08		17	J	370	U	36	J	28	J														
SVOCs	Acenaphthylene	ug/kg				360	U	370	U	410	U	350	U														
SVOCs	Acetophenone	ug/kg	2.50E+06	2.50E+06		360	U	370	U	410	U	350	U														
SVOCs	Anthracene	ug/kg	4.50E+08	1.00E+09		43	J	29	J	110	J	47	J														
SVOCs	Atrazine	ug/kg				360	U	370	U	410	U	350	U														
SVOCs	Benzaldehyde	ug/kg				360	U	370	U	29	J	350	U														

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Appendix A
Soil Data Compared to GDCC
P Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units	Ohio VAP C/I GDCSS	Ohio VAP CW GDCSS	Station Name	SB-72-03		SB-73-03		SB-73-03		SB-73-03		TT-SB252		TT-SB252		TT-SB252		TT-SB252		TT-SB253		TT-SB253		TT-SB253	
					FieldSampleID	SB-72-03		SB-73-03		SB-73-03		SB-73-03		TT-SB252-G-02		TT-SB252-G-06		TT-SB252-G-08 DP		TT-SB252-G-08		TT-SB253-G-02		TT-SB253-G-04		TT-SB253-G-06	
					Sample Date	2/20/2003		2/20/2003		2/20/2003		2/20/2003		4/3/2013		4/3/2013		4/3/2013		4/3/2013		4/3/2013		4/3/2013		4/3/2013	
					Depth	12.5 - 14.5 ft		2 - 4 ft		8 - 10 ft		12 - 14 ft		0 - 2 ft		4 - 6 ft		6 - 8 ft		6 - 8 ft		0 - 2 ft		2 - 4 ft		4 - 6 ft	
SVOCs	Benzo(a)anthracene	ug/kg	5.80E+04	1.20E+06		250	J	130	J	340	J	180	J														
SVOCs	Benzo(a)pyrene	ug/kg	5.80E+03	1.20E+05		230	J	370	UJ	300	J	170	J														
SVOCs	Benzo(b)fluoranthene	ug/kg	5.80E+04	1.20E+06		250	J	370	UJ	330	J	220	J														
SVOCs	Benzo(g,h,i)perylene	ug/kg				97	J	58	J	120	J	140	J														
SVOCs	Benzo(k)fluoranthene	ug/kg	5.80E+05	1.20E+07		180	J	370	UJ	260	J	98	J														
SVOCs	Biphenyl	ug/kg	1.40E+07	1.90E+08		360	U	29	J	410	U	350	U														
SVOCs	bis(2-Chloroethoxy)methane	ug/kg	5.30E+06	4.30E+07		360	U	370	U	410	U	350	U														
SVOCs	bis(2-Chloroethyl)ether	ug/kg	3.00E+04	2.90E+05		360	U	370	U	410	U	350	U														
SVOCs	bis(2-Ethylhexyl)phthalate	ug/kg	3.50E+06	7.10E+07		93	J	370	U	130	J	150	J														
SVOCs	Butyl benzylphthalate	ug/kg	2.60E+07	5.20E+08		360	U	370	U	410	U	350	U														
SVOCs	Caprolactam	ug/kg				360	U	370	U	410	U	350	U														
SVOCs	Carbazole	ug/kg				90	J	85	J	120	J	30	J														
SVOCs	Chrysene	ug/kg	5.80E+06	1.20E+08		280	J	190	J	360	J	200	J														
SVOCs	Dibenz(a,h)anthracene	ug/kg	5.80E+03	1.20E+08		32	J	21	J	43	J	29	J														
SVOCs	Dibenzofuran	ug/kg				21	J	53	J	69	J	18	J														
SVOCs	Diethyl phthalate	ug/kg	1.00E+09	1.00E+09		360	U	370	U	410	U	350	U														
SVOCs	Dimethyl phthalate	ug/kg				360	U	370	U	410	U	350	U														
SVOCs	Di-n-butylphthalate	ug/kg	1.80E+08	4.30E+08		360	U	370	U	410	U	350	U														
SVOCs	Di-N-Octyl phthalate	ug/kg				360	U	370	UJ	100	J	220	J														
SVOCs	Fluoranthene	ug/kg	6.00E+07	1.60E+08		480		260	J	640		410															
SVOCs	Fluorene	ug/kg	6.00E+07	5.20E+08		24	J	370	U	39	J	23	J														
SVOCs	Hexachlorobenzene	ug/kg	3.10E+04	1.40E+04		360	U	370	U	410	U	350	U														
SVOCs	Hexachlorobutadiene, SVOC	ug/kg	6.30E+05	1.40E+06		360	U	370	U	410	U	350	U														
SVOCs	Hexachlorocyclopentadiene	ug/kg	1.10E+07	2.60E+07		1800	U	1800	U	2000	U	1700	U														
SVOCs	Hexachloroethane	ug/kg	1.20E+06	3.00E+06		360	U	370	U	410	U	350	U														
SVOCs	Indeno(1,2,3-cd)pyrene	ug/kg	5.80E+04	1.20E+06		92	J	52	J	120	J	100	J														
SVOCs	Isophorone	ug/kg	5.20E+07	1.00E+09		360	U	370	U	410	U	350	U														
SVOCs	Naphthalene, SVOC	ug/kg	4.50E+05	5.60E+05		22	J	90	J	80	J	350	U														
SVOCs	Nitrobenzene	ug/kg	6.10E+05	3.00E+06		360	U	370	U	410	U	350	U														
SVOCs	N-Nitrosodi-n-propylamine	ug/kg	7.00E+03	1.40E+05		360	U	370	U	410	U	350	U														
SVOCs	N-Nitrosodiphenylamine	ug/kg	1.00E+07	2.00E+08		360	U	370	U	410	U	350	U														
SVOCs	Pentachlorophenol	ug/kg	6.70E+04	9.50E+05		360	U	370	U	410	U	350	U														
SVOCs	Phenanthrene	ug/kg				290	J	340	J	690		310	J														
SVOCs	Phenol	ug/kg	5.30E+08	8.40E+08		360	U	370	U	410	U	350	U														
SVOCs	Pyrene, SVOC	ug/kg	4.50E+07	3.90E+08		460		250	J	650		500															
TPH	Diesel Range Organics (DRO)	mg/kg	2000	2000																							
TPH	Gasoline Range Organics (GRO)	mg/kg	1000	1000																							
VOCs	1,1,1-Trichloroethane	ug/kg	6.40E+05	6.40E+05		940	U	2100	U	5700	U	4.2	U														
VOCs	1,1,2,2-Tetrachloroethane	ug/kg	7.50E+04	6.70E+05		940	U	2100	U	5700	U	4.2	U														
VOCs	1,1,2-Trichloroethane	ug/kg	1.40E+05	1.20E+06		940	U	2100	U	5700	U	4.2	U														
VOCs	1,1-Dichloroethane	ug/kg	4.20E+05	1.70E+06		940	U	2100	U	5700	U	4.2	U														
VOCs	1,1-Dichloroethene	ug/kg	1.20E+06	3.60E+05		940	U	2100	U	5700	U	4.2	U														
VOCs	1,2,4-Trichlorobenzene, VOC	ug/kg	4.00E+05	4.00E+05		940	U	2100	U	5700	U	4.2	U														
VOCs	1,2-Dibromo-3-chloropropane	ug/kg	1.70E+03	1.50E+04		1900	U	4100	U	11000	U	8.4	U														
VOCs	1,2-Dibromoethane	ug/kg	4.40E+03	3.80E+04		940	U	2100	U	5700	U	4.2	U														
VOCs	1,2-Dichlorobenzene, VOC	ug/kg	3.80E+05	3.80E+05		940	U	2100	U	5700	U	4.2	U														
VOCs	1,2-Dichloroethane	ug/kg	5.60E+04	4.80E+05		940	U	2100	U	5700	U	4.2	U														
VOCs	1,2-Dichloropropane	ug/kg	1.20E+05	1.80E+05		940	U	2100	U	5700	U	4.2	U														
VOCs	1,3-Dichlorobenzene, VOC	ug/kg				940	U	2100	U	5700	U	4.2	U														
VOCs	1,4-Dichlorobenzene, VOC	ug/kg	3.10E+05	2.60E+06		940	U	2100	U	5700	U	4.2	U														
VOCs	2-Butanone	ug/kg	2.80E+07	2.80E+07		3800	U	8200	U	23000	U	17	U														
VOCs	2-Hexanone	ug/kg				3800	U	8200	U	23000	U	17	U														
VOCs	4-Methyl-2-Pentanone	ug/kg	3.40E+06	3.40E+06		3800	U	8200	U	23000	U	17	U														
VOCs	Acetone	ug/kg	1.10E+08	1.10E+08		3800	U	8200	U	23000	U	17	U														
VOCs	Benzene	ug/kg	1.40E+05	1.20E+06		940	U	2100	U	5700	U	0.29	J														
VOCs	Bromodichloromethane	ug/kg	3.50E+04	3.00E+05		940	U	2100	U	5700	U	4.2	U														
VOCs	Bromoform	ug/kg	6.20E+06	1.30E+08		940	U	2100	U	5700	U	4.2	UJ														
VOCs	Bromomethane	ug/kg	8.20E+04	5.50E+05		940	U	2100	R	5700	R	4.2	UJ														
VOCs	Carbon disulfide	ug/kg	7.40E+05	7.40E+05		940	U	2100	U	5700	U	4.2	U														
VOCs	Carbon tetrachloride	ug/kg	7.90E+04	4.60E+05		940	UJ	2100	U	5700	U	4.2	UJ														
VOCs	Chlorobenzene	ug/kg	7.60E+05	7.60E+05		940	U	2100	U	5700	U	4.2	U														

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Appendix A
Soil Data Compared to GDCC
P Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units	Ohio VAP C/I GDCSS	Ohio VAP CW GDCSS	Station Name	SB-72-03		SB-73-03		SB-73-03		SB-73-03		TT-SB252		TT-SB252		TT-SB252		TT-SB252		TT-SB253		TT-SB253		TT-SB253	
					FieldSampleID	SB-72-03		SB-73-03		SB-73-03		SB-73-03		TT-SB252-G-02		TT-SB252-G-06		TT-SB252-G-08 DP		TT-SB252-G-08		TT-SB253-G-02		TT-SB253-G-04		TT-SB253-G-06	
					Sample Date	2/20/2003		2/20/2003		2/20/2003		2/20/2003		4/3/2013		4/3/2013		4/3/2013		4/3/2013		4/3/2013		4/3/2013		4/3/2013	
					Depth	12.5 - 14.5 ft		2 - 4 ft		8 - 10 ft		12 - 14 ft		0 - 2 ft		4 - 6 ft		6 - 8 ft		6 - 8 ft		0 - 2 ft		2 - 4 ft		4 - 6 ft	
VOCs	Chloroethane	ug/kg				940	U	2100	U	5700	U	4.2	U														
VOCs	Chloroform	ug/kg	3.80E+04	3.20E+05		940	U	2100	U	5700	U	4.2	U														
VOCs	Chloromethane	ug/kg	1.30E+06	1.30E+06		940	U	2100	U	5700	U	4.2	U														
VOCs	cis-1,2-Dichloroethene	ug/kg				470	U	11000		22000		6.3															
VOCs	cis-1,3-Dichloropropene	ug/kg	2.30E+05	5.20E+05		940	U	2100	U	5700	U	4.2	U														
VOCs	Cyclohexane	ug/kg	1.20E+05	1.20E+05		1900	U	150	J	11000	U	8.4	U														
VOCs	Dibromochloromethane	ug/kg	8.40E+04	7.70E+05		940	U	2100	U	5700	U	4.2	U														
VOCs	Dichlorodifluoromethane	ug/kg	8.50E+05	8.50E+05		940	U	2100	UJ	5700	UJ	4.2	UJ														
VOCs	Ethylbenzene	ug/kg	4.80E+05	4.80E+05		940	U	2100	U	5700	U	4.2	U														
VOCs	Isopropylbenzene, VOC	ug/kg	2.70E+05	2.70E+05		940	U	2100	U	5700	U	4.2	U														
VOCs	Methyl acetate	ug/kg				1900	U	410	J	11000	U	8.4	U														
VOCs	Methyl cyclohexane	ug/kg				130	J	360	J	11000	U	0.55	J														
VOCs	Methyl tert butyl ether	ug/kg	5.70E+06	8.90E+06		3800	U	8200	U	23000	U	17	U														
VOCs	Methylene chloride	ug/kg	3.30E+06	3.30E+06		200	J	2100	U	5700	U	4.2	U														
VOCs	Styrene	ug/kg	8.70E+05	8.70E+05		940	U	2100	U	5700	U	4.2	U														
VOCs	Tetrachloroethene	ug/kg	1.70E+05	1.70E+05		940	U	26000		26000		17															
VOCs	Toluene	ug/kg	8.20E+05	8.20E+05		940	U	2100	U	5700	U	0.81	J														
VOCs	trans-1,2-Dichloroethene	ug/kg	1.70E+06	1.70E+06		470	U	170	J	2900	U	2.1	U														
VOCs	trans-1,3-Dichloropropene	ug/kg	2.30E+05	5.20E+05		940	U	2100	U	5700	U	4.2	U														
VOCs	Trichloroethene	ug/kg	5.10E+04	1.70E+04		940	U	**60000**		**100000**		41															
VOCs	Trichlorofluoromethane	ug/kg	1.20E+06	1.20E+06		940	UJ	2100	U	5700	U	4.2	UJ														
VOCs	Trifluorotrichloroethane	ug/kg				940	U	2100	U	5700	U	4.2	U														
VOCs	Vinyl chloride	ug/kg	5.00E+04	2.80E+05		940	U	2100	U	5700	U	4.2	U														
VOCs	Xylene (Total)	ug/kg	2.60E+05	2.60E+05		1900	U	4100	U	11000	U	8.4	U														

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Soil Data Compared to GDCC
P Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units	Ohio VAP C/I GDCSS	Ohio VAP CW GDCSS	Station Name	TT-SB253		TT-SB253		TT-SB253		TT-SB253		TT-SB253		TT-SB254		TT-SB254	
					FieldSampleID	TT-SB253-C-08		TT-SB253-C-08 DP		TT-SB253-G-08 DP		TT-SB253-G-08		TT-SB253-G-08		TT-SB254-G-02		TT-SB254-G-04	
					Sample Date	4/3/2013		4/3/2013		4/3/2013		4/3/2013		4/3/2013		4/3/2013		4/3/2013	
					Depth	6 - 8 ft		6 - 8 ft		6 - 8 ft		6 - 8 ft		6 - 8 ft		0 - 2 ft		2 - 4 ft	
Field Parameters	pH Field	s.u.																	
Metals	Antimony	mg/kg	1.60E+03	8.50E+02															
Metals	Arsenic	mg/kg	7.70E+01	6.90E+02															
Metals	Barium	mg/kg																	
Metals	Beryllium	mg/kg	7.80E+03	3.40E+03															
Metals	Cadmium	mg/kg	2.60E+03	1.00E+03															
Metals	Chromium Total	mg/kg	2.10E+02	1.20E+03															
Metals	Cobalt	mg/kg																	
Metals	Copper	mg/kg	1.60E+05	2.10E+04															
Metals	Cyanide (total)	mg/kg	3.70E+02	1.50E+02															
Metals	Lead	mg/kg	8.00E+02	4.00E+02															
Metals	Manganese	mg/kg																	
Metals	Mercury	mg/kg	3.10E+00	3.10E+00															
Metals	Nickel	mg/kg	7.40E+04	2.30E+04															
Metals	Selenium	mg/kg	2.00E+04	1.10E+04															
Metals	Silver	mg/kg	2.00E+04	1.10E+04															
Metals	Thallium	mg/kg																	
Metals	Vanadium	mg/kg	2.30E+04	1.10E+04															
Metals	Zinc	mg/kg	1.00E+06	6.40E+05															
Miscellaneous	Percent moisture	%				9.82		15.3		16.7		26.8		15.9		10.8		13.8	
Miscellaneous	Total Solids	%																	
Other	C21-C34 Aliphatics	mg/kg				551	U	588	U										
PCBs/Pesticides	Aroclor-1016	mg/kg	1.00E+02	2.60E+02								0.0267	U			0.0211	U	0.022	U
PCBs/Pesticides	Aroclor-1221	mg/kg	1.40E+01	2.10E+02								0.0267	U			0.0211	U	0.022	U
PCBs/Pesticides	Aroclor-1232	mg/kg	1.40E+01	7.30E+01								0.0267	U			0.0211	U	0.022	U
PCBs/Pesticides	Aroclor-1242	mg/kg	2.00E+01	4.40E+02								0.0267	U			0.0211	U	0.022	U
PCBs/Pesticides	Aroclor-1248	mg/kg	2.00E+01	4.40E+02								0.0267	U			0.0211	U	0.022	U
PCBs/Pesticides	Aroclor-1254	mg/kg	2.00E+01	7.50E+01								0.0267	U			0.507		0.375	
PCBs/Pesticides	Aroclor-1260	mg/kg	2.00E+01	4.40E+02								0.0267	U			0.0211	U	0.022	U
SVOCs	2,2-oxybis(2-Chloropropane), SVOC	ug/kg																	
SVOCs	2,4,5-Trichlorophenol	ug/kg	1.80E+08	1.00E+09															
SVOCs	2,4,6-Trichlorophenol	ug/kg	1.80E+06	1.40E+06															
SVOCs	2,4-Dichlorophenol	ug/kg	5.30E+06	2.80E+07															
SVOCs	2,4-Dimethylphenol	ug/kg	3.50E+07	8.50E+07															
SVOCs	2,4-Dinitrophenol	ug/kg	3.50E+06	2.80E+07															
SVOCs	2,4-Dinitrotoluene	ug/kg	1.60E+05	2.80E+06															
SVOCs	2,6-Dinitrotoluene	ug/kg	3.30E+04	6.70E+05															
SVOCs	2-Chloronaphthalene	ug/kg	3.30E+08	1.00E+09															
SVOCs	2-Chlorophenol	ug/kg	2.00E+07	2.20E+07															
SVOCs	2-Methylnaphthalene	ug/kg	6.00E+06	5.20E+06															
SVOCs	2-Methylphenol	ug/kg	8.80E+07	7.10E+08															
SVOCs	2-Nitroaniline	ug/kg																	
SVOCs	2-Nitrophenol	ug/kg																	
SVOCs	3,3-Dichlorobenzidine	ug/kg	1.10E+05	2.20E+06															
SVOCs	3-Nitroaniline	ug/kg																	
SVOCs	4,6-Dinitro-2-methylphenol	ug/kg																	
SVOCs	4-Bromophenyl phenyl ether	ug/kg																	
SVOCs	4-Chloro-3-methylphenol	ug/kg																	
SVOCs	4-Chloroaniline	ug/kg	2.50E+05	7.10E+05															
SVOCs	4-Chlorophenyl phenyl ether	ug/kg																	
SVOCs	4-Methylphenol	ug/kg	1.80E+08	2.80E+07															
SVOCs	4-Nitroaniline	ug/kg	2.50E+06	1.40E+07															
SVOCs	4-Nitrophenol	ug/kg																	
SVOCs	Acenaphthene	ug/kg	9.00E+07	7.80E+08															
SVOCs	Acenaphthylene	ug/kg																	
SVOCs	Acetophenone	ug/kg	2.50E+06	2.50E+06															
SVOCs	Anthracene	ug/kg	4.50E+08	1.00E+09															
SVOCs	Atrazine	ug/kg																	
SVOCs	Benzaldehyde	ug/kg																	

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Appendix A
Soil Data Compared to GDCC
P Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units	Ohio VAP C/I GDCSS	Ohio VAP CW GDCSS	Station Name	TT-SB253		TT-SB253		TT-SB253		TT-SB253		TT-SB253		TT-SB254		TT-SB254	
					FieldSampleID	TT-SB253-C-08		TT-SB253-C-08 DP		TT-SB253-G-08 DP		TT-SB253-G-08		TT-SB253-G-08		TT-SB254-G-02		TT-SB254-G-04	
					Sample Date	4/3/2013		4/3/2013		4/3/2013		4/3/2013		4/3/2013		4/3/2013		4/3/2013	
					Depth	6 - 8 ft		6 - 8 ft		6 - 8 ft		6 - 8 ft		6 - 8 ft		0 - 2 ft		2 - 4 ft	
SVOCs	Benzo(a)anthracene	ug/kg	5.80E+04	1.20E+06															
SVOCs	Benzo(a)pyrene	ug/kg	5.80E+03	1.20E+05															
SVOCs	Benzo(b)fluoranthene	ug/kg	5.80E+04	1.20E+06															
SVOCs	Benzo(g,h,i)perylene	ug/kg																	
SVOCs	Benzo(k)fluoranthene	ug/kg	5.80E+05	1.20E+07															
SVOCs	Biphenyl	ug/kg	1.40E+07	1.90E+08															
SVOCs	bis(2-Chloroethoxy)methane	ug/kg	5.30E+06	4.30E+07															
SVOCs	bis(2-Chloroethyl)ether	ug/kg	3.00E+04	2.90E+05															
SVOCs	bis(2-Ethylhexyl)phthalate	ug/kg	3.50E+06	7.10E+07															
SVOCs	Butyl benzylphthalate	ug/kg	2.60E+07	5.20E+08															
SVOCs	Caprolactam	ug/kg																	
SVOCs	Carbazole	ug/kg																	
SVOCs	Chrysene	ug/kg	5.80E+06	1.20E+08															
SVOCs	Dibenz(a,h)anthracene	ug/kg	5.80E+03	1.20E+08															
SVOCs	Dibenzofuran	ug/kg																	
SVOCs	Diethyl phthalate	ug/kg	1.00E+09	1.00E+09															
SVOCs	Dimethyl phthalate	ug/kg																	
SVOCs	Di-n-butylphthalate	ug/kg	1.80E+08	4.30E+08															
SVOCs	Di-N-Octyl phthalate	ug/kg																	
SVOCs	Fluoranthene	ug/kg	6.00E+07	1.60E+08															
SVOCs	Fluorene	ug/kg	6.00E+07	5.20E+08															
SVOCs	Hexachlorobenzene	ug/kg	3.10E+04	1.40E+04															
SVOCs	Hexachlorobutadiene, SVOC	ug/kg	6.30E+05	1.40E+06															
SVOCs	Hexachlorocyclopentadiene	ug/kg	1.10E+07	2.60E+07															
SVOCs	Hexachloroethane	ug/kg	1.20E+06	3.00E+06															
SVOCs	Indeno(1,2,3-cd)pyrene	ug/kg	5.80E+04	1.20E+06															
SVOCs	Isophorone	ug/kg	5.20E+07	1.00E+09															
SVOCs	Naphthalene, SVOC	ug/kg	4.50E+05	5.60E+05															
SVOCs	Nitrobenzene	ug/kg	6.10E+05	3.00E+06															
SVOCs	N-Nitrosodi-n-propylamine	ug/kg	7.00E+03	1.40E+05															
SVOCs	N-Nitrosodiphenylamine	ug/kg	1.00E+07	2.00E+08															
SVOCs	Pentachlorophenol	ug/kg	6.70E+04	9.50E+05															
SVOCs	Phenanthrene	ug/kg																	
SVOCs	Phenol	ug/kg	5.30E+08	8.40E+08															
SVOCs	Pyrene, SVOC	ug/kg	4.50E+07	3.90E+08															
TPH	Diesel Range Organics (DRO)	mg/kg	2000	2000		26.1		28.5											
TPH	Gasoline Range Organics (GRO)	mg/kg	1000	1000						5.64	U			5.82	U				
VOCs	1,1,1-Trichloroethane	ug/kg	6.40E+05	6.40E+05															
VOCs	1,1,2,2-Tetrachloroethane	ug/kg	7.50E+04	6.70E+05															
VOCs	1,1,2-Trichloroethane	ug/kg	1.40E+05	1.20E+06															
VOCs	1,1-Dichloroethane	ug/kg	4.20E+05	1.70E+06															
VOCs	1,1-Dichloroethene	ug/kg	1.20E+06	3.60E+05															
VOCs	1,2,4-Trichlorobenzene, VOC	ug/kg	4.00E+05	4.00E+05															
VOCs	1,2-Dibromo-3-chloropropane	ug/kg	1.70E+03	1.50E+04															
VOCs	1,2-Dibromoethane	ug/kg	4.40E+03	3.80E+04															
VOCs	1,2-Dichlorobenzene, VOC	ug/kg	3.80E+05	3.80E+05															
VOCs	1,2-Dichloroethane	ug/kg	5.60E+04	4.80E+05															
VOCs	1,2-Dichloropropane	ug/kg	1.20E+05	1.80E+05															
VOCs	1,3-Dichlorobenzene, VOC	ug/kg																	
VOCs	1,4-Dichlorobenzene, VOC	ug/kg	3.10E+05	2.60E+06															
VOCs	2-Butanone	ug/kg	2.80E+07	2.80E+07															
VOCs	2-Hexanone	ug/kg																	
VOCs	4-Methyl-2-Pentanone	ug/kg	3.40E+06	3.40E+06															
VOCs	Acetone	ug/kg	1.10E+08	1.10E+08															
VOCs	Benzene	ug/kg	1.40E+05	1.20E+06															
VOCs	Bromodichloromethane	ug/kg	3.50E+04	3.00E+05															
VOCs	Bromoform	ug/kg	6.20E+06	1.30E+08															
VOCs	Bromomethane	ug/kg	8.20E+04	5.50E+05															
VOCs	Carbon disulfide	ug/kg	7.40E+05	7.40E+05															
VOCs	Carbon tetrachloride	ug/kg	7.90E+04	4.60E+05															
VOCs	Chlorobenzene	ug/kg	7.60E+05	7.60E+05															

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Appendix A
Soil Data Compared to GDCC
P Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units	Ohio VAP C/I GDCSS	Ohio VAP CW GDCSS	Station Name	TT-SB253		TT-SB253		TT-SB253		TT-SB253		TT-SB253		TT-SB254		TT-SB254	
					FieldSampleID	TT-SB253-C-08		TT-SB253-C-08 DP		TT-SB253-G-08 DP		TT-SB253-G-08		TT-SB253-G-08		TT-SB254-G-02		TT-SB254-G-04	
					Sample Date	4/3/2013		4/3/2013		4/3/2013		4/3/2013		4/3/2013		4/3/2013		4/3/2013	
					Depth	6 - 8 ft		6 - 8 ft		6 - 8 ft		6 - 8 ft		6 - 8 ft		0 - 2 ft		2 - 4 ft	
VOCs	Chloroethane	ug/kg																	
VOCs	Chloroform	ug/kg	3.80E+04	3.20E+05															
VOCs	Chloromethane	ug/kg	1.30E+06	1.30E+06															
VOCs	cis-1,2-Dichloroethene	ug/kg																	
VOCs	cis-1,3-Dichloropropene	ug/kg	2.30E+05	5.20E+05															
VOCs	Cyclohexane	ug/kg	1.20E+05	1.20E+05															
VOCs	Dibromochloromethane	ug/kg	8.40E+04	7.70E+05															
VOCs	Dichlorodifluoromethane	ug/kg	8.50E+05	8.50E+05															
VOCs	Ethylbenzene	ug/kg	4.80E+05	4.80E+05															
VOCs	Isopropylbenzene, VOC	ug/kg	2.70E+05	2.70E+05															
VOCs	Methyl acetate	ug/kg																	
VOCs	Methyl cyclohexane	ug/kg																	
VOCs	Methyl tert butyl ether	ug/kg	5.70E+06	8.90E+06															
VOCs	Methylene chloride	ug/kg	3.30E+06	3.30E+06															
VOCs	Styrene	ug/kg	8.70E+05	8.70E+05															
VOCs	Tetrachloroethene	ug/kg	1.70E+05	1.70E+05															
VOCs	Toluene	ug/kg	8.20E+05	8.20E+05															
VOCs	trans-1,2-Dichloroethene	ug/kg	1.70E+06	1.70E+06															
VOCs	trans-1,3-Dichloropropene	ug/kg	2.30E+05	5.20E+05															
VOCs	Trichloroethene	ug/kg	5.10E+04	1.70E+04															
VOCs	Trichlorofluoromethane	ug/kg	1.20E+06	1.20E+06															
VOCs	Trifluorotrichloroethane	ug/kg																	
VOCs	Vinyl chloride	ug/kg	5.00E+04	2.80E+05															
VOCs	Xylene (Total)	ug/kg	2.60E+05	2.60E+05															

Notes:
Chromium GDCSS based upon the Chromium IV GDCSS
no criteria available
concentration exceeds criteria, and chemical with exceedances
% = percent
ft = feet
mg/kg = milligram per kilogram
ug/kg = microgram per kilogram
GRO = Gasoline Range Organics
J = estimated value
PCB = polychlorinated biphenyl
R = rejected data
TPH = Total petroleum hydrocarbons
U = not detected above detection limit
VOC = Volatile Organic Compounds
SVOC = Semi-Volatile Organic Compounds

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Appendix A
Soil Data Compared to GDCC
Greenspace Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units	Ohio VAP C/I GDCSS	Ohio VAP CW GDCSS	Station Name	BH-181		BH-181		BH-181		MW-14B-04		MW-14B-04		MW-14B-04		MW-14B-04		MW-23-04		MW-23-04		MW-23-04		MW-24-04		MW-24-04		MW-24-04	
					FieldSampleID	S-111104-NZ-035		S-111104-NZ-036		S-111104-NZ-037		MW-14B-04		MW-14B-04 DUP		MW-14B-04		MW-14B-04		MW-23-04 DUP		MW-23-04		MW-23-04		MW-24-04		MW-24-04		MW-24-04	
					Sample Date	11/11/2004		11/11/2004		11/11/2004		3/8/2004		3/8/2004		3/8/2004		3/8/2004		3/3/2004		3/3/2004		3/3/2004		3/3/2004		3/3/2004		3/3/2004		3/3/2004	
					Depth	0 - 2 ft		8 - 10 ft		11.5 - 13.5 ft		0 - 2 ft		8 - 10 ft		8 - 10 ft		11 - 13 ft		0 - 2 ft		0 - 2 ft		8 - 10 ft		0 - 2 ft		8 - 10 ft		13 - 15 ft	
Field Parameters	pH Field	s.u.																													
Metals	Antimony	mg/kg	1.60E+03	8.50E+02								7.2	U	6.4	U	6.3	U	6.4	U	0.85	J	0.38	J	0.3	J	0.9	J	0.34	J	6.3	U
Metals	Arsenic	mg/kg	7.70E+01	6.90E+02								7		6		4.5		3.6		9.6		6		5.8		4.8		5.6		3.8	
Metals	Barium	mg/kg										171		84.9		76.7		54.8		160		91.9		47.1		76.4		117		48.2	
Metals	Beryllium	mg/kg	7.80E+03	3.40E+03								0.98		0.53	U	0.53	U	0.53	U	0.47	J	0.17	J	0.51	J	0.27	J	0.26	J	0.054	J
Metals	Cadmium	mg/kg	2.60E+03	1.00E+03								0.15	J	0.11	J	0.073	J	16.3		0.48	J	0.41	J	0.59	U	0.59	U	0.13	J	40.8	
Metals	Chromium Total	mg/kg	2.10E+02	1.20E+03								6.9		3.5		4		3.8		15.2		13.5		6.4		7		9		51.5	
Metals	Cobalt	mg/kg										4	J	2.1	J	2	J	1.4	J	5.9	J	3.6	J	2.2	J	3.7	J	4.5	J	2.1	J
Metals	Copper	mg/kg	1.60E+05	2.10E+04								52.4		2.9		2.7		6.5	J	58.9		61.9		18.5		55		17.1		16.3	
Metals	Cyanide (total)	mg/kg	3.70E+02	1.50E+02								0.6	U	0.53	U	0.53	U	0.53	U	0.6	U	0.57	U	0.59	U	0.59	U	0.54	U	0.53	U
Metals	Lead	mg/kg	8.00E+02	4.00E+02								32		2.6		1.9		1.2		6470		60.5		45.8		122		20.6		2	
Metals	Manganese	mg/kg										440		403		393		370		625		499		238		200		530		259	
Metals	Mercury	mg/kg	3.10E+00	3.10E+00								0.19		0.0072	J	0.005	J	0.0051	J	0.31		0.27		0.34		0.21		0.087	J	0.077	J
Metals	Nickel	mg/kg	7.40E+04	2.30E+04								9.9		5.4		4.7		4.4		17.1		10.5	J	5.9		9.3		9.8		8.9	
Metals	Potassium	mg/kg																													
Metals	Selenium	mg/kg	2.00E+04	1.10E+04								0.6	U	0.53	U	0.53	U	0.53	U	0.6	U	0.57	U	0.48	J	0.59	U	0.54	U	0.53	U
Metals	Silver	mg/kg	2.00E+04	1.10E+04								0.33	J	1.1	U	1.1	U	1.1	U	0.65	J	1.1	U	1.2	U	1.2	U	1.1	U	0.4	J
Metals	Thallium	mg/kg										0.72	J	1.1	U	1.1	U	1.1	U	2.1		1.4		0.64	J	0.79	J	1.3		0.92	J
Metals	Vanadium	mg/kg	2.30E+04	1.10E+04								13.9		6.8		6.7		5.1	J	19.3		13.7		9.8		12.8		11.9		6.6	
Metals	Zinc	mg/kg	1.00E+06	6.40E+05								55		11		11.7		38.8	J	157		131		41.6		47.2		64.3		23.2	
Miscellaneous	Flash Point Closed Cup	Deg F																													
Miscellaneous	Percent moisture	%																													
Miscellaneous	Total Solids	%				76.8		66.5		90.4		83.8		94.1		95.2		93.6		83.3		87.9		84.5		84.2		92.7		95.2	
PCBs/Pesticides	Aroclor-1016	mg/kg	1.00E+02	2.60E+02		0.043	U	0.05	U	0.037	U	0.039	U	0.035	U	0.035	U	0.035	U	0.79	U	0.38	U	0.078	U	0.039	U	0.036	U	0.035	U
PCBs/Pesticides	Aroclor-1221	mg/kg	1.40E+01	2.10E+02		0.043	U	0.05	U	0.037	U	0.039	U	0.035	U	0.035	U	0.035	U	0.79	U	0.38	U	0.078	U	0.039	U	0.036	U	0.035	U
PCBs/Pesticides	Aroclor-1232	mg/kg	1.40E+01	7.30E+01		0.043	U	0.05	U	0.037	U	0.039	U	0.035	U	0.035	U	0.035	U	0.79	U	0.38	U	0.078	U	0.039	U	0.036	U	0.035	U
PCBs/Pesticides	Aroclor-1242	mg/kg	2.00E+01	4.40E+02		0.043	U	0.05	U	0.037	U	0.039	U	0.035	U	0.035	U	0.035	U	0.79	U	0.38	U	0.078	U	0.039	U	0.036	U	0.035	U
PCBs/Pesticides	Aroclor-1248	mg/kg	2.00E+01	4.40E+02		0.043	U	0.05	U	0.037	U	0.039	U	0.035	U	0.035	U	0.035	U	0.79	U	0.38	U	0.078	U	0.039	U	0.036	U	0.035	U
PCBs/Pesticides	Aroclor-1254	mg/kg	2.00E+01	7.50E+01		0.043	U	0.05	U	0.037	U	0.0045	J	0.06		0.024	J	0.024	J	8.6	J	4.4	J	0.6	J	0.014	J	0.015	J	0.035	UJ
PCBs/Pesticides	Aroclor-1260	mg/kg	2.00E+01	4.40E+02		0.043	U	0.05	U	0.037	U	0.039	U	0.035	U	0.035	U	0.035	U	0.79	UJ	0.38	UJ	0.078	UJ	0.039	UJ	0.036	UJ	0.035	UJ
SVOCs	2,2-oxybis(1-Chloropropane)	ug/kg																													
SVOCs	2,2-oxybis(2-Chloropropane), SVOC	ug/kg										3900	U	350	U	350	U	350	U	1600	U	380	U	390	UJ	390	UJ	360	UJ	17000	UJ
SVOCs	2,4,5-Trichlorophenol	ug/kg	1.80E+08	1.00E+09								3900	U	350	U	350	U	350	U	1600	U	380	U	390	UJ	390	UJ	360	U	17000	UJ
SVOCs	2,4,6-Trichlorophenol	ug/kg	1.80E+06	1.40E+06								3900	U	350	U	350	U	350	U	1600	U	380	U	390	UJ	390	UJ	360	U	17000	UJ
SVOCs	2,4-Dichlorophenol	ug/kg	5.30E+06	2.80E+07								3900	U	350	U	350	U	350	U	1600	U	380	U	390	UJ	390	UJ	360	U	17000	UJ
SVOCs	2,4-Dimethylphenol	ug/kg	3.50E+07	8.50E+07								3900	U	350	U	350	U	350	U	1600	U	380	U	390	UJ	390	UJ	360	U	17000	UJ
SVOCs	2,4-Dinitrophenol	ug/kg	3.50E+06	2.80E+07								19000	U	1700	U	1700	U	1700	U	7700	R	1800	R	1900	R	1900	UJ	1700	U	84000	R
SVOCs	2,4-Dinitrotoluene	ug/kg	1.60E+05	2.80E+06								3900	U	350	U	350	U	350	U	1600	U	380	U	390	UJ	390	UJ	360	U	17000	UJ
SVOCs	2,6-Dinitrotoluene	ug/kg	3.30E+04	6.70E+05								3900	U	350	U	350	U	350	U	1600	U	380	U	390	UJ	390	UJ	360	U	17000	UJ
SVOCs	2-Chloronaphthalene	ug/kg	3.30E+08	1.00E+09								3900	U	350	U	350	U	350	U	1600	U	380	U	390	UJ	390	UJ	360	U	17000	UJ
SVOCs	2-Chlorophenol	ug/kg	2.00E+07	2.20E+07								3900	U	350	U	350	U	350	U	1600	U	380	U	390	UJ	390	UJ	360	UJ	17000	UJ
SVOCs	2-Methylnaphthalene	ug/kg	6.00E+06	5.20E+06								860	J	350	U	350	U	350	U	1600	U	140	J	390	UJ	49	J	360	U	17000	UJ
SVOCs	2-Methylphenol	ug/kg	8.80E+07	7.10E+08								3900	U	350	U	350	U	350	U	1600	U	380	U	390	UJ	390	UJ	360	UJ	17000	UJ
SVOCs	2-Nitroaniline	ug/kg										19000	U	1700	U	1700	U	1700	U	7700	U	1800	U	1900	UJ	1900	UJ	1700	U	84000	UJ
SVOCs	2-Nitrophenol	ug/kg										3900	U	350	U	350	U	350	U	1600	U	380	U	390	UJ	390	UJ	360	U	17000	UJ
SVOCs	3,3-Dichlorobenzidine	ug/kg	1.10E+05	2.20E+06								19000	U	1700	U	1700	U	1700	U	7700	U	1800	U	1900	UJ	1900	UJ	1700	UJ	84000	UJ
SVOCs	3-Nitroaniline	ug/kg										19000	U	1700	U	1700	U	1700	U	7700	U	1800	U	1900	UJ	1900	UJ	1700	U	84000	UJ
SVOCs	4,6-Dinitro-2-methylphenol	ug/kg										19000	U	1700	U	1700	U	1700	U	7700	R	1800	R	1900	R	1900	UJ	1700	U	84000	R
SVOCs	4-Bromophenyl phenyl ether	ug/kg										3900	U	350	U	350	U	350	U	1600	U	380	U	390	UJ	390	UJ	360	U	17000	UJ
SVOCs	4-Chloro-3-methylphenol	ug/kg										3900	U	350	U	350	U	350	U	1600	U	380	U	390	UJ	390	UJ	360	U	17000	UJ
SVOCs	4-Chloroaniline	ug/kg	2.50E+05	7.10E+05								3900	U	350	U	350	U	350	U	1600	U	380	U	390	UJ	390	UJ	360	U	17000	UJ
SVOCs	4-Chlorophenyl phenyl ether	ug/kg										3900	U	350	U	350	U	350	U	1600	U	380	U	390	UJ	390	UJ	360	U	17000	UJ
SVOCs	4-Methylphenol	ug/kg	1.80E+08	2.80E+07								3900	U	350	U	350	U	350	U	1600	U	380	U	390	UJ	390	UJ	360	UJ	17000	UJ
SVOCs	4-Nitroaniline	ug/kg	2.50E+06	1.40E+07								19000	U	1700	U	1700	U	1700	U	7700	U	1800	U	1900	UJ	1900	UJ	1700	U	84000	UJ
SVOCs	4-Nitrophenol	ug/kg										19000	U	1700	U	1700	U	1700	U	7700	U	1800	U	1900	UJ	1900	UJ	1700	U	84000	UJ
SVOCs	Acenaphthene	ug/kg	9.00E+07	7.80E+08								3900	U	350	U	350	U	350	U	1600	U	380	U	390	UJ	390	UJ	360	U	17000	UJ
SVOCs	Acenaphthylene	ug/kg										3900	U	350	U	350	U	350	U	1600	U	380	U	390	UJ	390	UJ	360	U	17000	UJ
SVOCs	Acetophenone	ug/kg	2.50E+06	2.50E+06								3900	U	350	U	350	U	350	U	1600	U	380	U	390	UJ	390	UJ	360	U	17000	UJ
SVOCs	Anthracene	ug/kg	4.50E+08	1.00E+09								3900	U	350	U	350	U	350	U	1600	U	23	J	38	J	49	J	360	U	17000	UJ
SVOCs	Atrazine	ug/kg										3900	U	350	U	350	U	350	U	1600	U	380	U	390	UJ	390	UJ	360	U	17000	UJ
SVOCs	Benzaldehyde	ug/kg										3900	U	350	U	350	U	350	U	1600	U	380	U	390	UJ	390	UJ	360	U	17000	UJ
SVOCs	Benzo(a)anthracene	ug/kg	5.80E+04	1.20E+06								230	J	350	U	350	U	350	U	1600	U	130	J	220	J	310	J	41	J	17000	UJ
SVOCs	Benzo(a)pyrene	ug/kg	5.80E+03	1.20E+05								400	J	350	U	350	U	350	U	1600	U	170	J	230	J	340	J	34	J	17000	UJ
SVOCs	Benzo(b)fluoranthene	ug/kg	5.80E+04	1.20E+06								440	J	350	U	350	U	350	U	1600	U	170	J	250	J	380	J	45	J	17000	UJ
SVOCs	Benzo(g,h,i)perylene	ug/kg										3900	U	350	U	350	U	350	U	1600	U	110	J	130	J	270	J	360	U	17000	UJ
SVOCs	Benzo(k)fluoranthene	ug/kg	5.80E+05	1.20E+07								250	J	350	U	350	U	350	U	1600	U	100	J	120	J	160	J	360	U	17000	UJ
SVOCs	Biphenyl	ug/kg	1.40E+07	1.90E+08								3900	U	350	U	350	U	350	U	1600	U	380	U	390	UJ	390	UJ	360	U	17000	UJ
SVOCs	bis(2-Chloroethoxy)methane	ug/kg	5.30E+06	4.30E+07								3900	U	350	U	350	U	350	U	1600	U	380	U	390	UJ	390	UJ	360	U	17000	UJ
SVOCs	bis(2-Chloroethyl)ether	ug/kg	3.00E+04	2.90E+05								3900	U	350	U	350	U	350	U	1600	U	380	U	390	UJ	390	UJ	360	UJ	17000	UJ
SVOCs	bis(2-Ethylhexyl)phthalate	ug/kg	3.50E+06	7.10E+07								3900	U	36	J	29	J	29	J	1600	U	91	J	390	UJ	390	UJ	360	UJ	17000	UJ
SVOCs	Butyl benzylphthalate	ug/kg	2.60E+07	5.20E+08								3900	U	350	U	350	U	350	U	1600	U	380	U	390	UJ	390	UJ	360	UJ	17000	UJ
SVOCs	Caprolactam	ug/kg										3900	U	350	U	350	U	350	U	1600	U	380	U	390	UJ	390	UJ	360	U	17000	UJ
SVOCs	Carbazole	ug/kg										3900	U	350	U	350	U	350	U	1600	U	380	U	390	UJ	390	UJ	360	U	17000	UJ
SVOCs	Chrysene	ug/kg	5.80E+06	1.20E+08								620	J	350	U	350	U	350	U	1600	U	130	J	210	J	290	J	42	J	17000	UJ
SVOCs	Dibenz(a,h)anthracene	ug/kg	5.80E+03	1.20E+08								3900	U	350	U	350	U	350	U	1600	U	29	J	48	J	63	J	360	U	17000	UJ
SVOCs	Dibenzofuran	ug/kg										310	J	350	U	350	U	350	U	1600	U	380	U	390	UJ	23	J	360	U	17000	UJ
SVOCs	Diethyl phthalate	ug/kg	1.00E+09	1.00E+09								3900	U	350	U	350	U	350	U	1600	U	380	U	390	UJ	390	UJ	360	U	17000	UJ
SVOCs	Dimethyl phthalate	ug/kg										3900	U	350	U	350	U	350	U	1600	U	380	U	390	UJ	390	UJ	360	U	17000	UJ
SVOCs	Di-n-butylphthalate	ug/kg	1.80E+08	4.30E+08								3900	U	350	U	350	U	350	U	1600	U	380	U	390	UJ	390	UJ	360	U	17000	UJ
SVOCs	Di-N-Octyl phthalate	ug/kg										3900	U	23	J	350	U	350	U	1600	U	380	U	390	UJ	390	UJ	360	U	17000	UJ
SVOCs	Fluoranthene	ug/kg	6.00E+07	1.60E+08								1200	J	350	U	350	U	350	U	1600	U	180	J	330	J	570	J	80	J	17000	UJ
SVOCs	Fluorene	ug/kg	6.00E+07	5.20E+08								3900	U	350	U	350	U	350	U	1600	U	380	U	390	UJ	390	UJ	360	U	17000	UJ
SVOCs	Hexachlorobenzene	ug/kg	3.10E+04	1.40E+04								3900	U	350	U	350	U	350	U	1600	U	380	U	390	UJ	390	UJ	360	U	17000	UJ
SVOCs	Hexachlorobutadiene	ug/kg	6.30E+05	1.40E+06																											

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Appendix A
Soil Data Compared to GDCC
Greenspace Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units	Ohio VAP C/I GDCSS	Ohio VAP CW GDCSS	Station Name	BH-181		BH-181		BH-181		MW-14B-04		MW-14B-04		MW-14B-04		MW-14B-04		MW-23-04		MW-23-04		MW-23-04		MW-24-04		MW-24-04		MW-24-04	
					FieldSampleID	S-111104-NZ-035		S-111104-NZ-036		S-111104-NZ-037		MW-14B-04		MW-14B-04 DUP		MW-14B-04		MW-14B-04		MW-23-04 DUP		MW-23-04		MW-23-04		MW-24-04		MW-24-04		MW-24-04	
					Sample Date	11/11/2004		11/11/2004		11/11/2004		3/8/2004		3/8/2004		3/8/2004		3/8/2004		3/3/2004		3/3/2004		3/3/2004		3/3/2004		3/3/2004		3/3/2004		3/3/2004	
					Depth	0 - 2 ft		8 - 10 ft		11.5 - 13.5 ft		0 - 2 ft		8 - 10 ft		8 - 10 ft		11 - 13 ft		0 - 2 ft		0 - 2 ft		8 - 10 ft		0 - 2 ft		8 - 10 ft		13 - 15 ft	
SVOCs	Hexachlorobutadiene, SVOC	ug/kg	6.30E+05	1.40E+06								3900	U	350	U	350	U	350	U	1600	U	380	U	390	UJ	390	UJ	360	U	17000	UJ
SVOCs	Hexachlorocyclopentadiene	ug/kg	1.10E+07	2.60E+07								19000	U	1700	U	1700	U	1700	U	7700	U	1800	U	1900	UJ	1900	UJ	1700	U	84000	UJ
SVOCs	Hexachloroethane	ug/kg	1.20E+06	3.00E+06								3900	U	350	U	350	U	350	U	1600	U	380	U	390	UJ	390	UJ	360	UJ	17000	UJ
SVOCs	Indeno(1,2,3-cd)pyrene	ug/kg	5.80E+04	1.20E+06								3900	U	350	U	350	U	350	U	1600	U	100	J	140	J	220	J	360	U	17000	UJ
SVOCs	Isophorone	ug/kg	5.20E+07	1.00E+09								3900	U	350	U	350	U	350	U	1600	U	380	U	390	UJ	390	UJ	360	U	17000	UJ
SVOCs	Naphthalene, SVOC	ug/kg	4.50E+05	5.60E+05								500	J	350	U	350	U	350	U	1600	U	89	J	390	UJ	35	J	360	U	17000	UJ
SVOCs	Nitrobenzene	ug/kg	6.10E+05	3.00E+06								3900	U	350	U	350	U	350	U	1600	U	380	U	390	UJ	390	UJ	360	U	17000	UJ
SVOCs	N-Nitrosodi-n-propylamine	ug/kg	7.00E+03	1.40E+05								3900	U	350	U	350	U	350	U	1600	U	380	U	390	UJ	390	UJ	360	UJ	17000	UJ
SVOCs	N-Nitrosodiphenylamine	ug/kg	1.00E+07	2.00E+08								3900	U	350	U	350	U	350	U	1600	U	380	U	390	UJ	390	UJ	360	U	17000	UJ
SVOCs	Pentachlorophenol	ug/kg	6.70E+04	9.50E+05								3900	U	350	U	350	U	350	U	1600	U	380	U	390	UJ	390	UJ	360	U	17000	UJ
SVOCs	Phenanthrene	ug/kg										1000	J	350	U	350	U	350	U	1600	U	74	J	130	J	260	J	43	J	17000	UJ
SVOCs	Phenol	ug/kg	5.30E+08	8.40E+08								3900	U	350	U	350	U	350	U	1600	U	380	U	390	UJ	390	UJ	360	UJ	17000	UJ
SVOCs	Pyrene, SVOC	ug/kg	4.50E+07	3.90E+08								930	J	350	U	350	U	350	U	1600	U	190	J	280	J	510	J	63	J	17000	UJ
TPH	C21-C34 Aliphatics	mg/kg	5000	5000																											
TPH	Diesel Range Organics (DRO)	mg/kg	2000	2000																											
TPH	Gasoline Range Organics (GRO)	mg/kg	1000	1000																											
VOCs	1,1,1,2-Tetrachloroethane	ug/kg	2.40E+05	6.80E+05																											
VOCs	1,1,1-Trichloroethane	ug/kg	6.40E+05	6.40E+05		720	U	7.7	U	5.1	U	1000	U	4.4	U	4.3	U	4.4	U	880	U	330	U	850	U	1200	U	230	U	4.5	U
VOCs	1,1,2,2-Tetrachloroethane	ug/kg	7.50E+04	6.70E+05		720	U	7.7	U	5.1	U	1000	U	4.4	U	4.3	U	4.4	U	880	U	330	U	850	U	1200	U	230	U	4.5	U
VOCs	1,1,2-Trichloroethane	ug/kg	1.40E+05	1.20E+06		720	U	7.7	U	5.1	U	1000	U	4.4	U	4.3	U	4.4	U	880	U	330	U	850	U	1200	U	230	U	4.5	U
VOCs	1,1-Dichloroethane	ug/kg	4.20E+05	1.70E+06		720	U	7.7	U	5.1	U	1000	U	4.4	U	4.3	U	4.4	U	880	U	330	U	850	U	1200	U	230	U	4.5	U
VOCs	1,1-Dichloroethene	ug/kg	1.20E+06	3.60E+05		720	U	7.7	U	5.1	U	1000	U	4.4	U	4.3	U	4.4	U	880	U	330	U	850	U	1200	U	230	U	4.5	U
VOCs	1,1-Dichloropropene	ug/kg																													
VOCs	1,2,4-Trichlorobenzene, VOC	ug/kg	4.00E+05	4.00E+05		720	U	7.7	UJ	5.1	UJ	1000	U	4.4	U	4.3	U	4.4	U	880	U	330	U	850	U	1200	U	230	U	4.5	U
VOCs	1,2-Dibromo-3-chloropropane	ug/kg	1.70E+03	1.50E+04		1400	U	15	U	10	U	2000	U	8.7	U	8.6	U	8.8	U	1800	U	650	U	1700	U	2400	U	460	U	8.9	U
VOCs	1,2-Dibromoethane	ug/kg	4.40E+03	3.80E+04		720	U	7.7	U	5.1	U	1000	U	4.4	U	4.3	U	4.4	U	880	U	330	U	850	U	1200	U	230	U	4.5	U
VOCs	1,2-Dichlorobenzene, VOC	ug/kg	3.80E+05	3.80E+05		720	U	7.7	U	5.1	U	1000	U	4.4	U	4.3	U	4.4	U	880	U	330	U	850	U	1200	U	230	U	4.5	U
VOCs	1,2-Dichloroethane	ug/kg	5.60E+04	4.80E+05		720	U	7.7	U	5.1	U	1000	U	4.4	U	4.3	U	4.4	U	880	U	330	U	850	U	1200	U	230	U	4.5	U
VOCs	1,2-Dichloropropane	ug/kg	1.20E+05	1.80E+05		720	U	7.7	U	5.1	U	1000	U	4.4	U	4.3	U	4.4	U	880	U	330	U	850	U	1200	U	230	U	4.5	U
VOCs	1,3-Dichlorobenzene, VOC	ug/kg				720	U	7.7	U	5.1	U	1000	U	4.4	U	4.3	U	4.4	U	880	U	330	U	850	U	1200	U	230	U	4.5	U
VOCs	1,3-Dichloropropane	ug/kg	1.50E+06	1.50E+06																											
VOCs	1,4-Dichlorobenzene, VOC	ug/kg	3.10E+05	2.60E+06		720	U	7.7	U	5.1	U	1000	U	4.4	U	4.3	U	4.4	U	880	U	330	U	850	U	1200	U	230	U	4.5	U
VOCs	2,2-Dichloropropane	ug/kg																													
VOCs	2-Butanone	ug/kg	2.80E+07	2.80E+07		2900	U	6	J	4.1	J	4100	U	17	U	17	U	18	U	3500	U	1300	U	3400	U	4700	U	930	U	16	J
VOCs	2-Chlorotoluene	ug/kg																													
VOCs	2-Hexanone	ug/kg				2900	U	31	U	21	U	4100	U	17	U	17	U	18	U	3500	U	1300	U	3400	U	4700	U	930	U	18	U
VOCs	4-Chlorotoluene	ug/kg																													
VOCs	4-Methyl-2-Pentanone	ug/kg	3.40E+06	3.40E+06		2900	U	31	U	21	U	4100	U	17	U	17	U	18	U	3500	U	1300	U	3400	U	4700	U	930	U	2.2	J
VOCs	Acetone	ug/kg	1.10E+08	1.10E+08		2900	U	32		19	J	4100	UJ	17	U	17	U	18	U	3500	UJ	1300	UJ	3400	UJ	4700	UJ	930	UJ	47	U
VOCs	Acetonitrile	mg/kg	9.20E+03	2.60E+04																											
VOCs	Acrolein	ug/kg																													
VOCs	Acrylonitrile	ug/kg																													
VOCs	Allyl chloride	ug/kg	1.90E+04	6.40E+04																											
VOCs	Benzene	ug/kg	1.40E+05	1.20E+06		720	U	11		4.6	J	1000	U	4.4	U	4.3	U	4.4	U	880	U	330	U	850	U	1200	U	230	U	0.45	J
VOCs	Bromobenzene	ug/kg																													
VOCs	Bromochloromethane	ug/kg																													
VOCs	Bromodichloromethane	ug/kg	3.50E+04	3.00E+05		720	U	7.7	U	5.1	U	1000	U	4.4	U	4.3	U	4.4	U	880	U	330	U	850	U	1200	U	230	U	4.5	U
VOCs	Bromoform	ug/kg	6.20E+06	1.30E+08		720	U	7.7	U	5.1	U	1000	U	4.4	U	4.3	U	4.4	U	880	U	330	U	850	U	1200	U	230	U	4.5	U
VOCs	Bromomethane	ug/kg	8.20E+04	5.50E+05		720	U	7.7	U	5.1	U	1000	U	4.4	U	4.3	U	4.4	U	880	U	330	U	850	U	1200	U	230	U	4.5	U
VOCs	Carbon disulfide	ug/kg	7.40E+05	7.40E+05		720	U	7.7	U	5.1	U	1000	U	4.4	U	4.3	U	4.4	U	880	U	330	U	850	U	1200	U	230	U	4.5	U
VOCs	Carbon tetrachloride	ug/kg	7.90E+04	4.60E+05		720	U	7.7	U	5.1	U	1000	U	4.4	U	4.3	U	4.4	U	880	U	330	U	850	U	1200	U	230	U	4.5	U
VOCs	Chlorobenzene	ug/kg	7.60E+05	7.60E+05		720	U	7.7	U	5.1	U	1000	U	4.4	U	4.3	U	4.4	U	880	U	330	U	850	U	1200	U	230	U	4.5	U
VOCs	Chloroethane	ug/kg				720	U	7.7	U	5.1	U	1000	U	4.4	U	4.3	U	4.4	U	880	U	330	U	850	U	1200	U	230	U	4.5	U
VOCs	Chloroform	ug/kg	3.80E+04	3.20E+05		720	U	7.7	U	5.1	U	1000	U	4.4	U	4.3	U	4.4	U	880	U	330	U	850	U	1200	U	230	U	4.5	U
VOCs	Chloromethane	ug/kg	1.30E+06	1.30E+06		720	U	7.7	U	5.1	U	1000	U	4.4	U	4.3	U	4.4	U	880	U	330	U	850	U	1200	U	230	U	4.5	U
VOCs	cis-1,2-Dichloroethene	ug/kg				2100		2.5	J	5.1	U	1000		2.2	U	2.2	U	2.2	U	19000		3900		3500		5600		540		3	
VOCs	cis-1,3-Dichloropropene	ug/kg	2.30E+05	5.20E+05		720	U	7.7	U	5.1	U	1000	U	4.4	U	4.3	U	4.4	U	880	U	330	U	850	U	1200	U	230	U	4.5	U
VOCs	Cyclohexane	ug/kg	1.20E+05	1.20E+05		1400	U	1.4	J	7.7	J	570	J	8.7	U	8.6	U	8.8	U	1800	U	650	U	1700	U	250	J	460	U	8.9	U
VOCs	Dibromochloromethane	ug/kg	8.40E+04	7.70E+05		720	U	7.7	U	5.1	U	1000	U	4.4	U	4.3	U	4.4	U	880	U	330	U	850	U	1200	U	230	U	4.5	U
VOCs	Dibromomethane	ug/kg	2.80E+06	3.80E+04																											
VOCs	Dichlorodifluoromethane	ug/kg	8.50E+05	8.50E+05		720	UJ	7.7	UJ	5.1	UJ	1000	U	4.4	U	4.3	U	4.4	U	880	UJ	330	UJ	850	UJ	1200	UJ	230	UJ	4.5	U
VOCs	Ethylbenzene	ug/kg	4.80E+05	4.80E+05		720	U	7.7	U	6.8		1000	U	4.4	U	0.37	J	4.4	U	880	U	330	U	510	J	1200	U	230	U	0.9	J
VOCs	Iodomethane	ug/kg																													
VOCs	Isopropylbenzene, VOC	ug/kg	2.70E+05	2.70E+05		720	U	7.7	U	5.1	U	1000	U	4.4	U	4.3	U	4.4	U	880	U	330	U	290	J	1200	U	230	U	4.5	U
VOCs	Methyl acetate	ug/kg				1400	U	15	U	10	U	2000	U	8.7	U	8.6	U	8.8	U	1300	J	260	J	1100	J	370	J	460	U	8.9	U
VOCs	Methyl cyclohexane	ug/kg				98	J	1.7	J	12		590	J	8.7	U	8.6	U	8.8	U	1800	U	650	U	120	J	540	J	460	U	0.58	J
VOCs	Methyl tert butyl ether	ug/kg	5.70E+06	8.90E+06		2900	U	31	U	21	U	4100	U	17	U	17	U	18	U	3500	U	1300	U	3400	U	4700	U	930	U	18	U
VOCs	Methylene chloride	ug/kg	3.30E+06	3.30E+06		720	U	7.7	U	6.5	U	1000	U	2.8	J	2.4	J	2.4	J	880	U	330	U	850	U	1200	U	230	U	1.5	J
VOCs	n-Hexane	ug/kg	1.40E+05	1.40E+05																											
VOCs	o-Xylene	ug/kg	2.60E+05	2.60E+05																											
VOCs	Styrene	ug/kg	8.70E+05	8.70E+05		720	U	7.7	U	5.1	U	1000	U	4.4	U	4.3	U	4.4	U	880	U	330	U	850	U	1200	U	230	U	4.5	U
VOCs	Tetrachloroethene	ug/kg	1.70E+05	1.70E+05		9800		60		1.8	J	13000		3.3	J	5.5		0.72	J	4300		4800		21000		9700		1000		0.46	J
VOCs	Toluene	ug/kg	8.20E+05	8.20E+05		720	U	9.2		16		1000	U	0.64	J	0.87	J	4.4	U	880	U	28	J	270	J	86	J	230	U	2.6	J
VOCs	trans-1,2-Dichloroethene	ug/kg	1.70E+06	1.70E+06		720	U	7.7	U	5.1	U	510	UJ	2.2	U	2.2	U	2.2	U	180	J	68	J	420	U	590	U	120	U	2.2	U
VOCs	trans-1,3-Dichloropropene	ug/kg	2.30E+05	5.20E+05		720	U	7.7	U	5.1	U	1000	U	4.4	U	4.3	U	4.4	U	880	U	330	U	850	U	1200	U	230	U	4.5	U
VOCs	Trichloroethene	ug/kg	5.10E+04	1.70E+04		22000		60		2	J	25000		1.1	J	1.9	J	0.54	J	30000		12000		26000		44000		3800		4.5	U
VOCs	Trichlorofluoromethane	ug/kg	1.20E+06	1.20E+06		720	U	7.7	U	5.1	U	1000	U	4.4	U	4.3	U	4.4	U	880	U	330	U	850	U	1200	U	230	U	4.5	U
VOCs	Trifluorotrichloroethane	ug/kg				720	U	7.7	U	5.1	U	1000	U	4.4	U	4.3	U	4.4	U	880	U	330	U	850	U	1200	U	230	U	4.5	U
VOCs	Vinyl acetate	ug/kg	2.70E+06	6.20E+05																											
VOCs	Vinyl chloride	ug/kg	5.00E+04	2.80E+05		720	U	7.7	U	5.1	U	1000	U	4.4	U	4.3	U	4.4	U	140	J	54	J	850	U	1200	U	230	U	4.5	U
VOCs	Xylene (Total)	ug/kg	2.60E+05	2.60E+05		1400	U	15	U	11		240	J	8.7	U	8.6	U	8.8	U	1800	U	97	J	2900		280	J	460	U	1.2	J

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Appendix A
Soil Data Compared to GDCC
Greenspace Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units	Ohio VAP C/I GDCSS	Ohio VAP CW GDCSS	Station Name	MW-37-05		MW-9-03		MW-9-03		MW-9-03		SB-13-02		SB-13-02		SB-13-02		SB-132-04	
					FieldSampleID	SO-051205-CB-001		MW-9-03 DUP (0-2)		MW-9-03 (0-2)		MW-9-03 (9-11)		SB-13-02		SB-13-02		SB-13-02		SB-132-04	
					Sample Date	5/12/2005		1/17/2003		1/17/2003		1/17/2003		4/5/2002		4/5/2002		4/5/2002		1/21/2004	
					Depth	3.5 - 4.5 ft		0 - 2 ft		0 - 2 ft		9 - 11 ft		1 - 3 ft		8 - 10 ft		10 - 12 ft		0 - 2 ft	
Field Parameters	pH Field	s.u.																			
Metals	Antimony	mg/kg	1.60E+03	8.50E+02		7.2	UJ	6.4	U	6.3	U	6.6	U	7.1	UJ	7	UJ	6.4	UJ		
Metals	Arsenic	mg/kg	7.70E+01	6.90E+02		4.7	J	4.9		4.9		4.5		8.7	J	2.5	J	5.6	J		
Metals	Barium	mg/kg				85.6		28.2	J	23.1	J	66	J	76.8		153		73.8			
Metals	Beryllium	mg/kg	7.80E+03	3.40E+03		0.6	U	0.53	U	0.53	U	0.55	U	0.43	J	0.16	J	0.53	U		
Metals	Cadmium	mg/kg	2.60E+03	1.00E+03		0.39	J	0.07	J	0.05	J	0.11	J	0.6	U	0.58	U	18.3			
Metals	Chromium Total	mg/kg	2.10E+02	1.20E+03		25	J	3.9	J	4.1	J	3.9	J	12.5		14.7		114			
Metals	Cobalt	mg/kg				3.4	J	2.7	J	2.5	J	2.2	J	6.6	J	2	J	1.6	J		
Metals	Copper	mg/kg	1.60E+05	2.10E+04		40	J	7.7		8.7		6.9		13.8		5		32.8			
Metals	Cyanide (total)	mg/kg	3.70E+02	1.50E+02				0.53	U	0.53	U	0.097	J	0.6	U	0.58	U	0.43	J		
Metals	Lead	mg/kg	8.00E+02	4.00E+02		58.5	J	5		4.8		6.6		14.4		4.1		41.3			
Metals	Manganese	mg/kg				360		198	J	199	J	251	J	577	J	211	J	264	J		
Metals	Mercury	mg/kg	3.10E+00	3.10E+00		0.56		0.11	U	0.11	U	0.042	J	0.023	J	0.27		0.48			
Metals	Nickel	mg/kg	7.40E+04	2.30E+04		9.2		7.1		6.8		5.9		12.5	J	5	J	6.4	J		
Metals	Potassium	mg/kg				576	J														
Metals	Selenium	mg/kg	2.00E+04	1.10E+04		30	U	0.53	U	0.53	U	0.55	U	0.6	U	0.58	U	0.53	U		
Metals	Silver	mg/kg	2.00E+04	1.10E+04		1.2	U	1.1	U	1.1	U	0.19	J	1.2	U	1.2	U	1.1	U		
Metals	Thallium	mg/kg				240	U	0.7	J	0.81	J	0.76	J	1.2	U	1.6	U	1.6	U		
Metals	Vanadium	mg/kg	2.30E+04	1.10E+04		10.3		7.3		5.4		6.6		23.5		6.8		5.7			
Metals	Zinc	mg/kg	1.00E+06	6.40E+05		63.3	J	30.6		34.2		25.1		48.2	J	21.6	J	253	J		
Miscellaneous	Flash Point Closed Cup	Deg F																			
Miscellaneous	Percent moisture	%																			
Miscellaneous	Total Solids	%				83.3		93.9		95.1		91.1		84		86		94		84.8	
PCBs/Pesticides	Aroclor-1016	mg/kg	1.00E+02	2.60E+02		7.900001	U	0.035	U	0.035	U	0.036	U	0.039	U	0.038	U	0.18	U	0.078	UJ
PCBs/Pesticides	Aroclor-1221	mg/kg	1.40E+01	2.10E+02		7.900001	U	0.035	U	0.035	U	0.036	U	0.039	U	0.038	U	0.18	U	0.078	UJ
PCBs/Pesticides	Aroclor-1232	mg/kg	1.40E+01	7.30E+01		7.900001	U	0.035	U	0.035	U	0.036	U	0.039	U	0.038	U	0.18	U	0.078	UJ
PCBs/Pesticides	Aroclor-1242	mg/kg	2.00E+01	4.40E+02		7.900001	U	0.035	U	0.035	U	0.036	U	0.039	U	0.038	U	0.18	U	0.078	UJ
PCBs/Pesticides	Aroclor-1248	mg/kg	2.00E+01	4.40E+02		7.900001	U	0.035	U	0.035	U	0.036	U	0.039	U	0.038	U	0.18	U	0.078	UJ
PCBs/Pesticides	Aroclor-1254	mg/kg	2.00E+01	7.50E+01		110		0.035	U	0.035	U	0.055		0.039	U	0.038	U	0.18	U	0.8100001	J
PCBs/Pesticides	Aroclor-1260	mg/kg	2.00E+01	4.40E+02		7.900001	U	0.035	U	0.035	U	0.036	U	0.039	U	0.038	U	1.1		0.078	UJ
SVOCs	2,2-oxybis(1-Chloropropane)	ug/kg				7900	U														
SVOCs	2,2-oxybis(2-Chloropropane), SVOC	ug/kg						350	U	350	U	360	U	390	U	380	U	350	U		
SVOCs	2,4,5-Trichlorophenol	ug/kg	1.80E+08	1.00E+09		7900	U	350	U	350	U	360	U	390	U	380	U	350	U		
SVOCs	2,4,6-Trichlorophenol	ug/kg	1.80E+06	1.40E+06		7900	U	350	U	350	U	360	U	390	U	380	U	350	U		
SVOCs	2,4-Dichlorophenol	ug/kg	5.30E+06	2.80E+07		7900	U	350	U	350	U	360	U	390	U	380	U	350	U		
SVOCs	2,4-Dimethylphenol	ug/kg	3.50E+07	8.50E+07		7900	U	350	U	350	U	360	U	390	U	380	U	350	U		
SVOCs	2,4-Dinitrophenol	ug/kg	3.50E+06	2.80E+07		38000	U	1700	U	1700	U	1800	U	1900	U	1900	U	1700	UJ		
SVOCs	2,4-Dinitrotoluene	ug/kg	1.60E+05	2.80E+06		7900	U	350	U	350	U	360	U	390	U	380	U	350	U		
SVOCs	2,6-Dinitrotoluene	ug/kg	3.30E+04	6.70E+05		7900	U	350	U	350	U	360	U	390	U	380	U	350	U		
SVOCs	2-Chloronaphthalene	ug/kg	3.30E+08	1.00E+09		7900	U	350	U	350	U	360	U	390	U	380	U	350	U		
SVOCs	2-Chlorophenol	ug/kg	2.00E+07	2.20E+07		7900	U	350	U	350	U	360	U	390	U	380	U	350	U		
SVOCs	2-Methylnaphthalene	ug/kg	6.00E+06	5.20E+06		7900	U	350	U	350	U	360	U	390	U	380	U	350	U		
SVOCs	2-Methylphenol	ug/kg	8.80E+07	7.10E+08		7900	U	350	U	350	U	360	U	390	U	380	U	350	U		
SVOCs	2-Nitroaniline	ug/kg				38000	U	1700	U	1700	U	1800	U	1900	U	1900	U	1700	U		
SVOCs	2-Nitrophenol	ug/kg				7900	U	350	U	350	U	360	U	390	U	380	U	350	U		
SVOCs	3,3-Dichlorobenzidine	ug/kg	1.10E+05	2.20E+06		38000	U	1700	U	1700	U	1800	U	1900	U	1900	U	1700	U		
SVOCs	3-Nitroaniline	ug/kg				38000	U	1700	U	1700	U	1800	U	1900	U	1900	U	1700	U		
SVOCs	4,6-Dinitro-2-methylphenol	ug/kg				38000	U	1700	U	1700	U	1800	U	1900	U	1900	U	1700	U		
SVOCs	4-Bromophenyl phenyl ether	ug/kg				7900	U	350	U	350	U	360	U	390	U	380	U	350	U		
SVOCs	4-Chloro-3-methylphenol	ug/kg				7900	U	350	U	350	U	360	U	390	U	380	U	350	U		
SVOCs	4-Chloroaniline	ug/kg	2.50E+05	7.10E+05		7900	U	350	U	350	U	360	U	390	U	380	U	350	U		
SVOCs	4-Chlorophenyl phenyl ether	ug/kg				7900	U	350	U	350	U	360	U	390	U	380	U	350	U		
SVOCs	4-Methylphenol	ug/kg	1.80E+08	2.80E+07		7900	U	350	U	350	U	360	U	390	U	380	U	350	U		
SVOCs	4-Nitroaniline	ug/kg	2.50E+06	1.40E+07		38000	U	1700	U	1700	U	1800	U	1900	U	1900	U	1700	U		
SVOCs	4-Nitrophenol	ug/kg				38000	U	1700	U	1700	U	1800	U	1900	U	1900	U	1700	U		
SVOCs	Acenaphthene	ug/kg	9.00E+07	7.80E+08		7900	U	350	U	350	U	360	U	390	U	380	U	350	U		
SVOCs	Acenaphthylene	ug/kg				7900	U	350	U	350	U	360	U	390	U	380	U	350	U		
SVOCs	Acetophenone	ug/kg	2.50E+06	2.50E+06		7900	U	350	U	350	U	360	U	390	U	380	U	350	U		
SVOCs	Anthracene	ug/kg	4.50E+08	1.00E+09		7900	U	350	U	350	U	360	U	390	U	380	U	350	U		
SVOCs	Atrazine	ug/kg				7900	U	350	U	350	U	360	U	390	U	380	U	350	U		
SVOCs	Benzaldehyde	ug/kg				7900	U	350	U	350	U	360	U	390	U	380	U	350	U		
SVOCs	Benzo(a)anthracene	ug/kg	5.80E+04	1.20E+06		7900	U	350	U	350	U	360	U	390	U	380	U	350	U		
SVOCs	Benzo(a)pyrene	ug/kg	5.80E+03	1.20E+05		7900	U	350	U	350	U	360	U	390	U	380	U	350	U		
SVOCs	Benzo(b)fluoranthene	ug/kg	5.80E+04	1.20E+06		7900	U	350	U	350	U	360	U	390	U	380	U	350	U		
SVOCs	Benzo(g,h,i)perylene	ug/kg				7900	U	350	U	350	U	360	U	390	U	380	U	350	U		
SVOCs	Benzo(k)fluoranthene	ug/kg	5.80E+05	1.20E+07		7900	U	350	U	350	U	360	U	390	U	380	U	350	U		
SVOCs	Biphenyl	ug/kg	1.40E+07	1.90E+08		7900	U	350	U	350	U	360	U	390	U	380	U	350	U		
SVOCs	bis(2-Chloroethoxy)methane	ug/kg	5.30E+06	4.30E+07		7900	U	350	U	350	U	360	U	390	U	380	U	350	U		
SVOCs	bis(2-Chloroethyl)ether	ug/kg	3.00E+04	2.90E+05		7900	U	350	U	350	U	360	U	390	U	380	U	350	U		
SVOCs	bis(2-Ethylhexyl)phthalate	ug/kg	3.50E+06	7.10E+07		7900	U	350	U	350	U	360	U	390	U	380	U	350	U		
SVOCs	Butyl benzylphthalate	ug/kg	2.60E+07	5.20E+08		7900	U	350	U	350	U	360	U	390	U	380	U	350	U		
SVOCs	Caprolactam	ug/kg				7900	U	350	U	350	U	360	U	390	U	380	U	350	U		
SVOCs	Carbazole	ug/kg				7900	U	350	U	350	U	360	U	390	U	380	U	350	U		
SVOCs	Chrysene	ug/kg	5.80E+06	1.20E+08		7900	U	350	U	350	U	360	U	390	U	380	U	350	U		
SVOCs	Dibenz(a,h)anthracene	ug/kg	5.80E+03	1.20E+08		7900	U	350	U	350	U	360	U	390	U	380	U	350	U		
SVOCs	Dibenzofuran	ug/kg				7900	U	350	U	350	U	360	U	390	U	380	U	350	U		
SVOCs	Diethyl phthalate	ug/kg	1.00E+09	1.00E+09		7900	U	350	U	350	U	360	U	390	U	380	U	350	U		
SVOCs	Dimethyl plthalate	ug/kg				7900	U	350	U	350	U	360	U	390	U	380	U	350	U		
SVOCs	Di-n-butylphthalate	ug/kg	1.80E+08	4.30E+08		7900	U	350	U	350	U	360	U	390	U	380	U	350	U		
SVOCs	Di-N-Octyl phthalate	ug/kg				7900	U	350	U	350	U	360	U	390	U	380	U	350	U		
SVOCs	Fluoranthene	ug/kg	6.00E+07	1.60E+08		7900	U	350	U	350	U	30	J	390	U	380	U	350	U		
SVOCs	Fluorene	ug/kg	6.00E+07	5.20E+08		7900	U	350	U	350	U	360	U	390	U	380	U	350	U		
SVOCs	Hexachlorobenzene	ug/kg	3.10E+04	1.40E+04		7900	U	350	U	350	U	360	U	390	U	380	U	350	U		
SVOCs	Hexachlorobutadiene	ug/kg	6.30E+05	1.40E+06		7900	U														

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Appendix A
Soil Data Compared to GDCC
Greenspace Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units	Ohio VAP C/I GDCSS	Ohio VAP CW GDCSS	Station Name	MW-37-05		MW-9-03		MW-9-03		MW-9-03		SB-13-02		SB-13-02		SB-13-02		SB-132-04	
					FieldSampleID	SO-051205-CB-001		MW-9-03 DUP (0-2)		MW-9-03 (0-2)		MW-9-03 (9-11)		SB-13-02		SB-13-02		SB-13-02		SB-132-04	
					Sample Date	5/12/2005		1/17/2003		1/17/2003		1/17/2003		4/5/2002		4/5/2002		4/5/2002		1/21/2004	
					Depth	3.5 - 4.5 ft		0 - 2 ft		0 - 2 ft		9 - 11 ft		1 - 3 ft		8 - 10 ft		10 - 12 ft		0 - 2 ft	
SVOCs	Hexachlorobutadiene, SVOC	ug/kg	6.30E+05	1.40E+06				350	U	350	U	360	U	390	U	380	U	350	U		
SVOCs	Hexachlorocyclopentadiene	ug/kg	1.10E+07	2.60E+07		38000	UJ	1700	U	1700	U	1800	U	1900	U	1900	U	1700	U		
SVOCs	Hexachloroethane	ug/kg	1.20E+06	3.00E+06		7900	U	350	U	350	U	360	U	390	U	380	U	350	U		
SVOCs	Indeno(1,2,3-cd)pyrene	ug/kg	5.80E+04	1.20E+06		7900	U	350	U	350	U	360	U	390	U	380	U	350	U		
SVOCs	Isophorone	ug/kg	5.20E+07	1.00E+09		7900	U	350	U	350	U	360	U	390	U	380	U	350	U		
SVOCs	Naphthalene, SVOC	ug/kg	4.50E+05	5.60E+05		7900	U	350	U	350	U	360	U	390	U	380	U	350	U		
SVOCs	Nitrobenzene	ug/kg	6.10E+05	3.00E+06		7900	U	350	U	350	U	360	U	390	U	380	U	350	U		
SVOCs	N-Nitrosodi-n-propylamine	ug/kg	7.00E+03	1.40E+05		7900	U	350	U	350	U	360	U	390	U	380	U	350	U		
SVOCs	N-Nitrosodiphenylamine	ug/kg	1.00E+07	2.00E+08		7900	U	350	U	350	U	360	U	390	U	380	U	350	U		
SVOCs	Pentachlorophenol	ug/kg	6.70E+04	9.50E+05		7900	U	350	U	350	U	360	U	390	U	380	U	350	U		
SVOCs	Phenanthrene	ug/kg				7900	U	350	U	350	U	360	U	390	U	380	U	350	U		
SVOCs	Phenol	ug/kg	5.30E+08	8.40E+08		7900	U	350	U	350	U	360	U	390	U	380	U	350	U		
SVOCs	Pyrene, SVOC	ug/kg	4.50E+07	3.90E+08		7900	U	350	UJ	350	UJ	360	U	390	U	380	U	350	UJ		
TPH	C21-C34 Aliphatics	mg/kg	5000	5000																	
TPH	Diesel Range Organics (DRO)	mg/kg	2000	2000																	
TPH	Gasoline Range Organics (GRO)	mg/kg	1000	1000																	
VOCs	1,1,1,2-Tetrachloroethane	ug/kg	2.40E+05	6.80E+05																	
VOCs	1,1,1-Trichloroethane	ug/kg	6.40E+05	6.40E+05		450	U	4.4	U	4.2	U	4.6	U	5.1	U	4.7	U	4.9	U	300	U
VOCs	1,1,2,2-Tetrachloroethane	ug/kg	7.50E+04	6.70E+05		450	U	4.4	U	4.2	U	4.6	U	5.1	U	4.7	U	4.9	U	300	U
VOCs	1,1,2-Trichloroethane	ug/kg	1.40E+05	1.20E+06		450	U	4.4	U	4.2	U	4.6	U	5.1	U	4.7	U	4.9	U	300	U
VOCs	1,1-Dichloroethane	ug/kg	4.20E+05	1.70E+06		450	U	4.4	U	4.2	U	4.6	U	5.1	U	4.7	U	4.9	U	300	U
VOCs	1,1-Dichloroethene	ug/kg	1.20E+06	3.60E+05		450	U	4.4	U	4.2	U	4.6	U	5.1	U	4.7	U	4.9	U	300	U
VOCs	1,1-Dichloropropene	ug/kg																			
VOCs	1,2,4-Trichlorobenzene, VOC	ug/kg	4.00E+05	4.00E+05		450	U	4.4	U	4.2	U	4.6	U	5.1	U	4.7	U	4.9	U	300	U
VOCs	1,2-Dibromo-3-chloropropane	ug/kg	1.70E+03	1.50E+04		900	U	8.8	U	8.3	U	9.1	U	10	U	9.3	U	9.9	U	600	U
VOCs	1,2-Dibromoethane	ug/kg	4.40E+03	3.80E+04		450	U	4.4	U	4.2	U	4.6	U	5.1	U	4.7	U	4.9	U	300	U
VOCs	1,2-Dichlorobenzene, VOC	ug/kg	3.80E+05	3.80E+05		450	U	4.4	U	4.2	U	4.6	U	5.1	U	4.7	U	4.9	U	300	U
VOCs	1,2-Dichloroethane	ug/kg	5.60E+04	4.80E+05		450	U	4.4	U	4.2	U	4.6	U	5.1	U	4.7	U	4.9	U	300	U
VOCs	1,2-Dichloropropane	ug/kg	1.20E+05	1.80E+05		450	U	4.4	U	4.2	U	4.6	U	5.1	U	4.7	U	4.9	U	300	U
VOCs	1,3-Dichlorobenzene, VOC	ug/kg				450	U	4.4	U	4.2	U	4.6	U	5.1	U	4.7	U	4.9	U	300	U
VOCs	1,3-Dichloropropane	ug/kg	1.50E+06	1.50E+06																	
VOCs	1,4-Dichlorobenzene, VOC	ug/kg	3.10E+05	2.60E+06		450	U	4.4	U	4.2	U	4.6	U	5.1	U	4.7	U	4.9	U	300	U
VOCs	2,2-Dichloropropane	ug/kg																			
VOCs	2-Butanone	ug/kg	2.80E+07	2.80E+07		1800	U	18	U	17	U	18	U	20	U	19	U	20	U	1200	U
VOCs	2-Chlorotoluene	ug/kg																			
VOCs	2-Hexanone	ug/kg				1800	U	18	U	17	U	18	U	20	U	19	U	20	U	1200	U
VOCs	4-Chlorotoluene	ug/kg																			
VOCs	4-Methyl-2-Pentanone	ug/kg	3.40E+06	3.40E+06		1800	U	18	U	17	U	18	U	20	U	19	U	20	U	1200	U
VOCs	Acetone	ug/kg	1.10E+08	1.10E+08		1800	R	18	U	17	U	18	U	20	UJ	19	UJ	20	UJ	1200	UJ
VOCs	Acetonitrile	mg/kg	9.20E+03	2.60E+04																	
VOCs	Acrolein	ug/kg																			
VOCs	Acrylonitrile	ug/kg																			
VOCs	Allyl chloride	ug/kg	1.90E+04	6.40E+04																	
VOCs	Benzene	ug/kg	1.40E+05	1.20E+06		450	U	4.4	U	4.2	U	4.6	U	5.1	U	4.7	U	4.9	U	300	U
VOCs	Bromobenzene	ug/kg																			
VOCs	Bromochloromethane	ug/kg																			
VOCs	Bromodichloromethane	ug/kg	3.50E+04	3.00E+05		450	UJ	4.4	U	4.2	U	4.6	U	5.1	U	4.7	U	4.9	U	300	U
VOCs	Bromoform	ug/kg	6.20E+06	1.30E+08		450	UJ	4.4	UJ	4.2	UJ	4.6	UJ	5.1	UJ	4.7	UJ	4.9	UJ	300	U
VOCs	Bromomethane	ug/kg	8.20E+04	5.50E+05		450	U	4.4	UJ	4.2	UJ	4.6	UJ	5.1	UJ	4.7	UJ	4.9	UJ	300	U
VOCs	Carbon disulfide	ug/kg	7.40E+05	7.40E+05		450	U	4.4	U	4.2	U	4.6	U	5.1	U	4.7	U	4.9	U	300	U
VOCs	Carbon tetrachloride	ug/kg	7.90E+04	4.60E+05		450	U	4.4	U	4.2	U	4.6	U	5.1	UJ	4.7	U	4.9	U	300	U
VOCs	Chlorobenzene	ug/kg	7.60E+05	7.60E+05		450	U	4.4	U	4.2	U	4.6	U	5.1	U	4.7	U	4.9	U	300	U
VOCs	Chloroethane	ug/kg				450	U	4.4	U	4.2	U	4.6	U	5.1	U	4.7	U	4.9	U	300	R
VOCs	Chloroform	ug/kg	3.80E+04	3.20E+05		450	U	4.4	U	4.2	U	4.6	U	5.1	U	4.7	U	4.9	U	300	U
VOCs	Chloromethane	ug/kg	1.30E+06	1.30E+06		450	U	4.4	U	4.2	U	4.6	U	5.1	U	4.7	U	4.9	U	300	U
VOCs	cis-1,2-Dichloroethene	ug/kg				650		2.2	U	2.1	U	0.35	J	2.5	U	2.3	U	2.5	U	2200	
VOCs	cis-1,3-Dichloropropene	ug/kg	2.30E+05	5.20E+05		450	UJ	4.4	U	4.2	U	4.6	U	5.1	U	4.7	U	4.9	U	300	U
VOCs	Cyclohexane	ug/kg	1.20E+05	1.20E+05		900	U	8.8	U	8.3	U	0.72	J	10	U	9.3	U	9.9	U	600	U
VOCs	Dibromochloromethane	ug/kg	8.40E+04	7.70E+05		450	U	4.4	U	4.2	U	4.6	U	5.1	U	4.7	U	4.9	U	300	U
VOCs	Dibromomethane	ug/kg	2.80E+06	3.80E+04																	
VOCs	Dichlorodifluoromethane	ug/kg	8.50E+05	8.50E+05		450	U	4.4	UJ	4.2	UJ	4.6	UJ	5.1	U	4.7	U	4.9	U	300	U
VOCs	Ethylbenzene	ug/kg	4.80E+05	4.80E+05		450	U	4.4	U	4.2	U	4.6	U	5.1	U	4.7	U	4.9	U	300	U
VOCs	Iodomethane	ug/kg																			
VOCs	Isopropylbenzene, VOC	ug/kg	2.70E+05	2.70E+05		190	J	4.4	U	4.2	U	4.6	U	5.1	U	4.7	U	4.9	U	300	U
VOCs	Methyl acetate	ug/kg				900	U	8.8	U	8.3	U	9.1	U	10	U	9.3	U	9.9	U	600	U
VOCs	Methyl cyclohexane	ug/kg				900	U	8.8	U	8.3	U	1.7	J	10	U	9.3	U	9.9	U	66	J
VOCs	Methyl tert butyl ether	ug/kg	5.70E+06	8.90E+06		1800	U	18	U	17	U	18	U	20	U	19	U	20	U	1200	U
VOCs	Methylene chloride	ug/kg	3.30E+06	3.30E+06		450	U	4.4	U	4.2	U	4.6	U	5.1	U	4.7	U	4.9	U	300	U
VOCs	n-Hexane	ug/kg	1.40E+05	1.40E+05																	
VOCs	o-Xylene	ug/kg	2.60E+05	2.60E+05																	
VOCs	Styrene	ug/kg	8.70E+05	8.70E+05		450	U	4.4	U	4.2	U	4.6	U	5.1	U	4.7	U	4.9	U	300	U
VOCs	Tetrachloroethene	ug/kg	1.70E+05	1.70E+05		450	U	6.5		4.6		20		4.8	J	4.5	J	1.2	J	380	
VOCs	Toluene	ug/kg	8.20E+05	8.20E+05		450	U	4.4	U	0.35	J	0.94	J	5.1	U	4.7	U	4.9	U	300	U
VOCs	trans-1,2-Dichloroethene	ug/kg	1.70E+06	1.70E+06		450	U	2.2	U	2.1	U	2.3	U	2.5	U	2.3	U	2.5	U	150	U
VOCs	trans-1,3-Dichloropropene	ug/kg	2.30E+05	5.20E+05		450	UJ	4.4	U	4.2	U	4.6	U	5.1	U	4.7	U	4.9	U	300	U
VOCs	Trichloroethene	ug/kg	5.10E+04	1.70E+04		260	J	4.4	U	4.2	U	2.4	J	1.4	J	1	J	4.9	U	6400	
VOCs	Trichlorofluoromethane	ug/kg	1.20E+06	1.20E+06		450	U	4.4	U	4.2	U	4.6	U	5.1	U	4.7	U	4.9	U	300	U
VOCs	Trifluorotrichloroethane	ug/kg				450	U	4.4	U	4.2	U	4.6	U	5.1	U	4.7	U	4.9	U	300	U
VOCs	Vinyl acetate	ug/kg	2.70E+06	6.20E+05																	
VOCs	Vinyl chloride	ug/kg	5.00E+04	2.80E+05		450	U	4.4	U	4.2	U	4.6	U	5.1	U	4.7	U	4.9	U	300	U
VOCs	Xylene (Total)	ug/kg	2.60E+05	2.60E+05		760	J	8.8	U	8.3	U	9.1	U	10	U	9.3	U	9.9	U	600	U

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Appendix A
Soil Data Compared to GDCC
Greenspace Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units	Ohio VAP C/I GDCSS	Ohio VAP CW GDCSS	Station Name	SB-132-04		SB-134-04		SB-134-04		SB-134-04		SB-135-04		SB-135-04		SB-135-04		SB-136-04		SB-136-04		SB-136-04		SB-140-04		SB-140-04		SB-140-04		SB-14-02		SB-14-02		SB-14-02	
					FieldSampleID	SB-132-04		SB-134-04 DUP		SB-134-04		SB-134-04		SB-135-04		SB-135-04		SB-135-04		SB-136-04		SB-136-04		SB-136-04		SB-140-04		SB-140-04		SB-140-04		SB-14-02		SB-14-02		SB-14-02	
					Sample Date	1/21/2004		2/6/2004		2/6/2004		2/6/2004		1/22/2004		1/22/2004		1/22/2004		2/5/2004		2/5/2004		2/5/2004		1/27/2004		1/27/2004		1/27/2004		4/5/2002		4/5/2002		4/5/2002	
					Depth	8 - 10 ft		0 - 2 ft		0 - 2 ft		8 - 10 ft		0 - 2 ft		8 - 10 ft		10 - 12 ft		0 - 2 ft		8 - 10 ft		11.5 - 13.5 ft		0 - 2 ft		8 - 10 ft		12 - 14 ft		1 - 3 ft		4 - 6 ft		10 - 12 ft	
Field Parameters	pH Field	s.u.																																	
Metals	Antimony	mg/kg	1.60E+03	8.50E+02																7.2	UJ	7	UJ	6.4	UJ	4	J	6.4	UJ	0.55	J	6.5	UJ	0.79	J	6.4	UJ
Metals	Arsenic	mg/kg	7.70E+01	6.90E+02																2.7		5.2		2.3		3.4		2.5		4.5		4.6	J	13	J	4.3	J
Metals	Barium	mg/kg																		24.6		237		95.1		28.1		54.6		84.6		26		183		77.4	
Metals	Beryllium	mg/kg	7.80E+03	3.40E+03																0.1	J	0.39	J	0.075	J	0.56	U	0.54	U	0.53	U	0.54	U	0.76		0.54	U
Metals	Cadmium	mg/kg	2.60E+03	1.00E+03																0.22	J	91.7		69.3		0.28	J	2.4		0.41	J	0.7		2110		3340	
Metals	Chromium Total	mg/kg	2.10E+02	1.20E+03																4.1	J	123	J	9	J	7.1	J	3.5	J	4.9	J	4.5		47.1		15.8	
Metals	Cobalt	mg/kg																		9.5		7.3		1.8	J	2	J	1.8	J	3.5	J	2.8	J	10.6	J	3.1	J
Metals	Copper	mg/kg	1.60E+05	2.10E+04																13.5	J	91.4	J	17.6	J	488	J	393	J	3480	J	7		1730		14	
Metals	Cyanide (total)	mg/kg	3.70E+02	1.50E+02																0.6	U	0.58	J	0.5	J	2.1		0.54	U	0.71	U	0.54	U	2.6		0.22	J
Metals	Lead	mg/kg	8.00E+02	4.00E+02																28.2	J	116	J	26.1	J	327		2.9		13.3		4.7		191		1.8	
Metals	Manganese	mg/kg																		169		253		216		160		244		508		340	J	1070	J	204	J
Metals	Mercury	mg/kg	3.10E+00	3.10E+00																0.045	J	0.28		0.11	U	2.2		0.082	J	0.18		0.11	U	0.43		0.011	J
Metals	Nickel	mg/kg	7.40E+04	2.30E+04																4.1	J	34.6	J	6.8	J	15.5		3.4	J	5.6		7	J	23	J	3.8	J
Metals	Potassium	mg/kg																																		
Metals	Selenium	mg/kg	2.00E+04	1.10E+04																0.6	U	0.59	U	0.53	U	0.56	U	0.54	U	0.53	U	0.54	U	0.69	U	0.54	U
Metals	Silver	mg/kg	2.00E+04	1.10E+04																1.2	U	1.2	U	1.1	U	0.28	J	1.1	U	0.091	J	1.1	U	1.2	J	0.28	J
Metals	Thallium	mg/kg																		1.2	U	1.2	U	1.1	U	0.65	J	1.1	U	0.86	J	2	U	3.2	U	1.8	U
Metals	Vanadium	mg/kg	2.30E+04	1.10E+04																5.8	J	11.6		6.3		7.1		5.6		6		7.8		21.7		5.2	J
Metals	Zinc	mg/kg	1.00E+06	6.40E+05																41.4	J	858	J	211	J	201	J	103	J	191	J	26.6	J	545	J	28.2	J
Miscellaneous	Flash Point Closed Cup	Deg F																																		
Miscellaneous	Percent moisture	%																																		
Miscellaneous	Total Solids	%				73.2		82.8		79		92		75.7		77		82.4		83.6		85.3		93.5		89.2		93.4		95		92.6		72.1		93.2	
PCBs/Pesticides	Aroclor-1016	mg/kg	1.00E+02	2.60E+02		0.045	UJ	0.04	U	0.042	U	0.036	U	0.044	U	0.043	U	0.04	U	0.039	U	0.039	U	0.035	U	0.037	U	0.035	U	0.035	U	0.036	U	0.23	U	0.71	U
PCBs/Pesticides	Aroclor-1221	mg/kg	1.40E+01	2.10E+02		0.045	UJ	0.04	U	0.042	U	0.036	U	0.044	U	0.043	U	0.04	U	0.039	U	0.039	U	0.035	U	0.037	U	0.035	U	0.035	U	0.036	U	0.23	U	0.71	U
PCBs/Pesticides	Aroclor-1232	mg/kg	1.40E+01	7.30E+01		0.045	UJ	0.04	U	0.042	U	0.036	U	0.044	U	0.043	U	0.04	U	0.039	U	0.039	U	0.035	U	0.037	U	0.035	U	0.035	U	0.036	U	0.23	U	0.71	U
PCBs/Pesticides	Aroclor-1242	mg/kg	2.00E+01	4.40E+02		0.045	UJ	0.04	U	0.042	U	0.036	U	0.044	U	0.043	U	0.04	U	0.039	U	0.039	U	0.035	U	0.037	U	0.035	U	0.035	U	0.036	U	0.23	U	0.71	U
PCBs/Pesticides	Aroclor-1248	mg/kg	2.00E+01	4.40E+02		0.045	UJ	0.04	U	0.042	U	0.036	U	0.044	U	0.043	U	0.04	U	0.039	U	0.017	J	0.035	U	0.037	U	0.035	U	0.035	U	0.036	U	0.23	U	0.71	U
PCBs/Pesticides	Aroclor-1254	mg/kg	2.00E+01	7.50E+01		0.045	UJ	0.04	U	0.042	U	0.036	U	0.044	U	0.043	U	0.014	J	0.039	U	0.039	UJ	0.035	UJ	0.037	U	0.035	U	0.035	U	0.036	U	1.1		4.1	
PCBs/Pesticides	Aroclor-1260	mg/kg	2.00E+01	4.40E+02		0.023	J	0.04	U	0.042	U	0.036	U	0.044	U	0.043	U	0.04	U	0.039	U	0.039	UJ	0.035	UJ	0.037	U	0.035	U	0.035	U	0.036	U	0.23	U	0.71	U
SVOCs	2,2-oxybis(1-Chloropropane)	ug/kg																																		
SVOCs	2,2-oxybis(2-Chloropropane), SVOC	ug/kg																																		
SVOCs	2,4,5-Trichlorophenol	ug/kg	1.80E+08	1.00E+09																7900	U	3900	U	18000	U	370	U	350	U	350	U	360	U	460	U	350	U
SVOCs	2,4,6-Trichlorophenol	ug/kg	1.80E+06	1.40E+06																7900	U	3900	U	18000	U	370	U	350	U	350	U	360	U	460	U	350	U
SVOCs	2,4-Dichlorophenol	ug/kg	5.30E+06	2.80E+07																7900	U	3900	U	18000	U	370	U	350	U	350	U	360	U	460	U	350	U
SVOCs	2,4-Dimethylphenol	ug/kg	3.50E+07	8.50E+07																7900	U	3900	U	18000	U	370	U	350	U	350	U	360	U	460	U	350	U
SVOCs	2,4-Dinitrophenol	ug/kg	3.50E+06	2.80E+07																38000	U	19000	U	86000	U	1800	U	1700	U	1700	U	1700	UJ	2200	UJ	1700	U
SVOCs	2,4-Dinitrotoluene	ug/kg	1.60E+05	2.80E+06																7900	U	3900	U	18000	U	370	U	350	U	350	U	360	U	460	U	350	U
SVOCs	2,6-Dinitrotoluene	ug/kg	3.30E+04	6.70E+05																7900	U	3900	U	18000	U	370	U	350	U	350	U	360	U	460	U	350	U
SVOCs	2-Chloronaphthalene	ug/kg	3.30E+08	1.00E+09																7900	U	3900	U	18000	U	370	U	350	U	350	U	360	U	460	U	350	U
SVOCs	2-Chlorophenol	ug/kg	2.00E+07	2.20E+07																7900	U	3900	U	18000	U	370	U	350	U	350	U	360	U	460	U	350	U
SVOCs	2-Methylnaphthalene	ug/kg	6.00E+06	5.20E+06																7900	U	3900	U	18000	U	23	J	350	U	350	U	360	U	460	U	350	U
SVOCs	2-Methylphenol	ug/kg	8.80E+07	7.10E+08																7900	U	3900	U	18000	U	370	U	350	U	350	U	360	U	460	U	350	U
SVOCs	2-Nitroaniline	ug/kg																		38000	U	19000	U	86000	U	1800	U	1700	U	1700	U	1700	U	2200	U	1700	U
SVOCs	2-Nitrophenol	ug/kg																		7900	U	3900	U	18000	U	370	U	350	U	350	U	360	U	460	U	350	U
SVOCs	3,3-Dichlorobenzidine	ug/kg	1.10E+05	2.20E+06																38000	U	19000	U	86000	U	1800	U	1700	U	1700	U	1700	U	2200	U	1700	U
SVOCs	3-Nitroaniline	ug/kg																		38000	U	19000	U	86000	U	1800	U	1700	U	1700	U	1700	U	2200	U	1700	U
SVOCs	4,6-Dinitro-2-methylphenol	ug/kg																		38000	U	19000	U	86000	U	1800	U	1700	U	1700	U	1700	U	2200	U	1700	U
SVOCs	4-Bromophenyl phenyl ether	ug/kg																		7900	U	3900	U	18000	U	370	U	350	U	350	U	360	U	460	U	350	U
SVOCs	4-Chloro-3-methylphenol	ug/kg																		7900	U	3900	U	18000	U	370	U	350	U	350	U	360	U	460	U	350	U
SVOCs	4-Chloroaniline	ug/kg	2.50E+05	7.10E+05																7900	U	3900	U	18000	U	370	U	350	U	350	U	360	U	460	U	350	U
SVOCs	4-Chlorophenyl phenyl ether	ug/kg																		7900	U	3900	U	18000	U	370	U	350	U	350	U	360	U	460	U	350	U
SVOCs	4-Methylphenol	ug/kg	1.80E+08	2.80E+07																7900	U	3900	U	18000	U	370	U	350	U	350	U	360	U	460	U	350	U
SVOCs	4-Nitroaniline	ug/kg	2.50E+06	1.40E+07																38000	U	19000	U	86000	U	1800	U	1700	U	1700	U	1700	U	2200	U	1700	U
SVOCs	4-Nitrophenol	ug/kg																		38000	U	19000	U	86000	U	1800	U	1700	U	1700	UJ	2200	U	1700	U
SVOCs	Acenaphthene	ug/kg	9.00E+07	7.80E+08																7900	U	3900	U	18000	U	370	U	350	U	350	U	360	U	460	U	350	U
SVOCs	Acenaphthylene	ug/kg																		7900	U	3900	U	18000	U	370	U	350	U	350	U	360	U	460	U	350	U
SVOCs	Acetophenone	ug/kg	2.50E+06	2.50E+06																7900	U	3900	U	18000	U	370	U	350	U	350	U	360	U	460	U	350	U
SVOCs	Anthracene	ug/kg	4.50E+08	1.00E+09																7900	U	3900	U	18000	U	130	J	350	U	350	U	360	U	460	U	350	U
SVOCs	Atrazine	ug/kg																		7900	U	3900	U	18000	U	370	U	350	U	350	U	360	U	460	U	350	U
SVOCs	Benzaldehyde	ug/kg																		7900	U	3900	U	18000	U	370	U	350	U	350	U	360	U	460	U	350	U
SVOCs	Benzo(a)anthracene	ug/kg	5.80E+04	1.20E+06																7900	U	3900	U	18000	U	420		350	U	350	U	360	U	100	J	350	U
SVOCs	Benzo(a)pyrene	ug/kg	5.80E+03	1.20E+05																7900	U	3900	U	18000	U	320	J	350	U	350	U	360	U	120	J	350	U
SVOCs	Benzo(b)fluoranthene	ug/kg	5.80E+04	1.20E+06																7900	U	230	J	18000	U	500		350	U	22	J	360	U	120	J	350	U
SVOCs	Benzo(g,h,i)perylene	ug/kg																		7900	U	3900	U	18000	U	330	J	350	U	350	U	360	U	98	J	350	U
SVOCs	Benzo(k)fluoranthene	ug/kg	5.80E+05	1.20E+07																7900	U	3900	U	18000	U	210	J	350	U	350	U	360	U	74	J	350	U
SVOCs	Biphenyl	ug/kg	1.40E+07	1.90E+08																7900	U	3900	U	18000	U	370	U	350	U	350	U	360	U	460	U	350	U
SVOCs	bis(2-Chloroethoxy)methane	ug/kg	5.30E+06	4.30E+07																7900	U	3900	U	18000	U	370	U	350	U	350	U	360	U	460	U	350	U
SVOCs	bis(2-Chloroethyl)ether	ug/kg	3.00E+04	2.90E+05																7900	U	3900	U	18000	U	370	U	350	U	350	U	360	U	460	U	350	U
SVOCs	bis(2-Ethylhexyl)phthalate	ug/kg	3.50E+06	7.10E+07																7900	U	3900	U	18000	U	41	J	350	U	350	U	360	U	460	U	350	U
SVOCs	Butyl benzylphthalate	ug/kg	2.60E+07	5.20E+08																7900	U	3900	U	18000	U	370	U	350	U	350	U	360	U	460	U	350	U
SVOCs	Caprolactam	ug/kg																		7900	U	3900	U	18000	U	370	U	350	U	350	U	360	U	460	U	350	U
SVOCs	Carbazole	ug/kg																		7900	U	3900	U	18000	U	370	U	350	U	350	U	360	U	460	U	350	U
SVOCs	Chrysene	ug/kg	5.80E+06	1.20E+08																7900	U	3900	U	18000	U	420		350	U	350	U	360	U	110	J	350	U
SVOCs	Dibenz(a,h)anthracene	ug/kg	5.80E+03	1.20E+08																7900	U	3900	U	18000	U	26	J	350	U	350	U	360	U	460	U	350	U
SVOCs	Dibenzofuran	ug/kg																		7900	U	3900	U	18000	U	21	J	350	U	350	U	360	U	460	U	350	U
SVOCs	Diethyl phthalate	ug/kg	1.00E+09	1.00E+09																7900	U	3900	U	18000	U	370	U	350	U	350	U	360	U	460	U	350	U
SVOCs	Dimethyl phthalate	ug/kg																		7900	U	3900	U	18000	U	370	U	350	U	350	U	360	U	460	U	350	U
SVOCs	Di-n-butylphthalate	ug/kg	1.80E+08	4.30E+08																7900	U	3900	U	18000	U	370	U	350	U	350	U	2900		460	U	350	U
SVOCs	Di-N-Octyl phthalate	ug/kg																		7900	U	3900	U	18000	U	370	U	350	U	350	U	360	U	460	U	350	U
SVOCs	Fluoranthene	ug/kg	6.00E+07	1.60E+08																7900	U	280	J	18000	U	1000		350	U	350	U	75	J	190	J	350	U
SVOCs	Fluorene	ug/kg	6.00E+07	5.20E+08																7900	U	3900	U	18000	U	36	J	350	U	350	U	360	U	460	U	350	U
SVOCs	Hexachlorobenzene	ug/kg	3.10E+04	1.40E+04																7900	U	3900	U	18000	U	370	U	350	U	350	U	360	U	460	U	350	U
SVOCs	Hexachlorobutadiene	ug/kg	6.30E+05	1.40E+06																																

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Appendix A
Soil Data Compared to GDCC
Greenspace Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units	Ohio VAP C/I GDCSS	Ohio VAP CW GDCSS	Station Name	SB-132-04		SB-134-04		SB-134-04		SB-134-04		SB-135-04		SB-135-04		SB-135-04		SB-136-04		SB-136-04		SB-136-04		SB-140-04		SB-140-04		SB-140-04		SB-140-04		SB-14-02		SB-14-02		SB-14-02	
					FieldSampleID	SB-132-04		SB-134-04 DUP		SB-134-04		SB-134-04		SB-135-04		SB-135-04		SB-135-04		SB-136-04		SB-136-04		SB-136-04		SB-140-04		SB-140-04		SB-140-04		SB-140-04		SB-14-02		SB-14-02		SB-14-02	
					Sample Date	1/21/2004		2/6/2004		2/6/2004		2/6/2004		1/22/2004		1/22/2004		1/22/2004		2/5/2004		2/5/2004		2/5/2004		1/27/2004		1/27/2004		1/27/2004		1/27/2004		4/5/2002		4/5/2002		4/5/2002	
					Depth	8 - 10 ft		0 - 2 ft		0 - 2 ft		8 - 10 ft		0 - 2 ft		8 - 10 ft		10 - 12 ft		0 - 2 ft		8 - 10 ft		11.5 - 13.5 ft		0 - 2 ft		8 - 10 ft		12 - 14 ft		1 - 3 ft		4 - 6 ft		10 - 12 ft	
SVOCs	Hexachlorobutadiene, SVOC	ug/kg	6.30E+05	1.40E+06																7900	U	3900	U	18000	U	370	U	350	U	350	U	360	U	460	U	350	U
SVOCs	Hexachlorocyclopentadiene	ug/kg	1.10E+07	2.60E+07																38000	U	19000	U	86000	U	1800	U	1700	U	1700	U	1700	U	2200	U	1700	U
SVOCs	Hexachloroethane	ug/kg	1.20E+06	3.00E+06																7900	U	3900	U	18000	U	370	U	350	U	350	U	360	U	460	U	350	U
SVOCs	Indeno(1,2,3-cd)pyrene	ug/kg	5.80E+04	1.20E+06																7900	U	3900	U	18000	U	280	J	350	U	350	U	360	U	460	U	350	U
SVOCs	Isophorone	ug/kg	5.20E+07	1.00E+09																7900	U	3900	U	18000	U	370	U	350	U	350	U	360	U	460	U	350	U
SVOCs	Naphthalene, SVOC	ug/kg	4.50E+05	5.60E+05																7900	U	3900	U	18000	U	26	J	350	U	350	U	360	U	460	U	350	U
SVOCs	Nitrobenzene	ug/kg	6.10E+05	3.00E+06																7900	U	3900	U	18000	U	370	U	350	U	350	U	360	U	460	U	350	U
SVOCs	N-Nitrosodi-n-propylamine	ug/kg	7.00E+03	1.40E+05																7900	U	3900	U	18000	U	370	U	350	U	350	U	360	U	460	U	350	U
SVOCs	N-Nitrosodiphenylamine	ug/kg	1.00E+07	2.00E+08																7900	U	3900	U	18000	U	370	U	350	U	350	U	360	U	460	U	350	U
SVOCs	Pentachlorophenol	ug/kg	6.70E+04	9.50E+05																7900	U	3900	U	18000	U	370	U	350	U	350	U	360	UJ	460	U	350	U
SVOCs	Phenanthrene	ug/kg																		7900	U	3900	U	18000	U	260	J	350	U	350	U	360	U	72	J	350	U
SVOCs	Phenol	ug/kg	5.30E+08	8.40E+08																7900	U	3900	U	18000	U	370	U	350	U	350	U	360	U	460	U	350	U
SVOCs	Pyrene, SVOC	ug/kg	4.50E+07	3.90E+08																7900	U	230	J	18000	U	960		350	U	19	J	360	U	130	J	350	U
TPH	C21-C34 Aliphatics	mg/kg	5000	5000																																	
TPH	Diesel Range Organics (DRO)	mg/kg	2000	2000																																	
TPH	Gasoline Range Organics (GRO)	mg/kg	1000	1000																																	
VOCs	1,1,1,2-Tetrachloroethane	ug/kg	2.40E+05	6.80E+05																																	
VOCs	1,1,1-Trichloroethane	ug/kg	6.40E+05	6.40E+05		7	U	6	U	5.8	U	7	U	300	U	5.8	U	4.7	U	360	U	300	U	5.2	U	260	U	240	U	4.6	U	220	U	610	U	6.3	U
VOCs	1,1,2,2-Tetrachloroethane	ug/kg	7.50E+04	6.70E+05		7	U	6	U	5.8	U	7	U	300	U	5.8	U	4.7	U	360	U	300	U	5.2	U	260	U	240	U	4.6	U	220	U	610	U	6.3	U
VOCs	1,1,2-Trichloroethane	ug/kg	1.40E+05	1.20E+06		7	U	6	U	5.8	U	7	U	300	U	5.8	U	4.7	U	360	U	300	U	5.2	U	260	U	240	U	4.6	U	220	U	610	U	6.3	U
VOCs	1,1-Dichloroethane	ug/kg	4.20E+05	1.70E+06		7	U	6	U	5.8	U	7	U	300	U	5.8	U	4.7	U	360	U	300	U	5.2	U	260	U	240	U	4.6	U	220	U	610	U	6.3	U
VOCs	1,1-Dichloroethene	ug/kg	1.20E+06	3.60E+05		7	U	6	U	5.8	U	7	U	300	U	5.8	U	4.7	U	360	U	300	U	5.2	U	260	U	240	U	4.6	U	220	U	610	U	6.3	U
VOCs	1,1-Dichloropropene	ug/kg																																			
VOCs	1,2,4-Trichlorobenzene, VOC	ug/kg	4.00E+05	4.00E+05		7	U	6	U	5.8	U	7	U	300	U	5.8	U	4.7	U	360	U	300	U	5.2	U	260	U	240	U	4.6	U	220	U	610	U	6.3	U
VOCs	1,2-Dibromo-3-chloropropane	ug/kg	1.70E+03	1.50E+04		14	U	12	U	12	U	14	U	600	U	12	U	9.3	U	710	U	600	U	10	U	520	U	480	U	9.3	U	450	U	1200	U	13	U
VOCs	1,2-Dibromoethane	ug/kg	4.40E+03	3.80E+04		7	U	6	U	5.8	U	7	U	300	U	5.8	U	4.7	U	360	U	300	U	5.2	U	260	U	240	U	4.6	U	220	U	610	U	6.3	U
VOCs	1,2-Dichlorobenzene, VOC	ug/kg	3.80E+05	3.80E+05		7	U	6	U	5.8	U	7	U	300	U	5.8	U	4.7	U	360	U	300	U	5.2	U	260	U	240	U	4.6	U	220	U	610	U	6.3	U
VOCs	1,2-Dichloroethane	ug/kg	5.60E+04	4.80E+05		7	U	6	U	5.8	U	7	U	300	U	5.8	U	4.7	U	360	U	300	U	5.2	U	260	U	240	U	4.6	U	220	U	610	U	6.3	U
VOCs	1,2-Dichloropropane	ug/kg	1.20E+05	1.80E+05		7	U	6	U	5.8	U	7	U	300	U	5.8	U	4.7	U	360	U	300	U	5.2	U	260	U	240	U	4.6	U	220	U	610	U	6.3	U
VOCs	1,3-Dichlorobenzene, VOC	ug/kg				7	U	6	U	5.8	U	7	U	300	U	5.8	U	4.7	U	360	U	300	U	5.2	U	260	U	240	U	4.6	U	220	U	610	U	6.3	U
VOCs	1,3-Dichloropropane	ug/kg	1.50E+06	1.50E+06																																	
VOCs	1,4-Dichlorobenzene, VOC	ug/kg	3.10E+05	2.60E+06		7	U	6	U	5.8	U	7	U	300	U	5.8	U	4.7	U	360	U	300	U	5.2	U	260	U	240	U	4.6	U	220	U	610	U	6.3	U
VOCs	2,2-Dichloropropane	ug/kg																																			
VOCs	2-Butanone	ug/kg	2.80E+07	2.80E+07		28	U	24	U	23	U	28	U	1200	U	23	U	19	U	1400	U	1200	U	21	U	1000	UJ	950	UJ	19	U	900	U	2400	U	25	U
VOCs	2-Chlorotoluene	ug/kg																																			
VOCs	2-Hexanone	ug/kg				28	U	24	U	23	U	28	U	1200	U	23	U	19	U	1400	U	1200	U	21	U	1000	UJ	950	UJ	19	U	900	U	2400	U	25	U
VOCs	4-Chlorotoluene	ug/kg																																			
VOCs	4-Methyl-2-Pentanone	ug/kg	3.40E+06	3.40E+06		28	U	24	U	23	U	28	U	1200	U	23	U	1.4	J	1400	U	1200	U	21	U	1000	U	950	U	19	U	900	U	2400	U	25	U
VOCs	Acetone	ug/kg	1.10E+08	1.10E+08		28	U	24	U	23	U	28	U	1200	UJ	23	U	5.1	J	430	J	430	J	21	U	1000	UJ	950	UJ	19	U	900	U	2400	U	25	UJ
VOCs	Acetonitrile	mg/kg	9.20E+03	2.60E+04																																	
VOCs	Acrolein	ug/kg																																			
VOCs	Acrylonitrile	ug/kg																																			
VOCs	Allyl chloride	ug/kg	1.90E+04	6.40E+04																																	
VOCs	Benzene	ug/kg	1.40E+05	1.20E+06		7	U	6	U	5.8	U	7	U	300	U	5.8	U	4.7	U	360	U	300	U	5.2	U	260	U	240	U	4.6	U	220	U	610	U	6.3	U
VOCs	Bromobenzene	ug/kg																																			
VOCs	Bromochloromethane	ug/kg																																			
VOCs	Bromodichloromethane	ug/kg	3.50E+04	3.00E+05		7	U	6	U	5.8	U	7	U	300	U	5.8	U	4.7	U	360	U	300	U	5.2	U	260	U	240	U	4.6	U	220	U	610	U	6.3	U
VOCs	Bromoform	ug/kg	6.20E+06	1.30E+08		7	U	6	U	5.8	U	7	U	300	U	5.8	U	4.7	U	360	U	300	U	5.2	U	260	U	240	U	4.6	UJ	220	U	610	U	6.3	UJ
VOCs	Bromomethane	ug/kg	8.20E+04	5.50E+05		7	U	6	U	5.8	U	7	U	300	U	5.8	U	4.7	U	210	J	190	J	5.2	U	260	U	240	U	4.6	U	220	U	610	U	6.3	UJ
VOCs	Carbon disulfide	ug/kg	7.40E+05	7.40E+05		7	U	6	U	5.8	U	7	U	300	U	5.8	U	4.7	U	360	U	300	U	5.2	U	260	U	240	U	4.6	U	220	U	610	U	6.3	U
VOCs	Carbon tetrachloride	ug/kg	7.90E+04	4.60E+05		7	U	6	U	5.8	U	7	U	300	U	5.8	U	4.7	U	360	U	300	U	5.2	U	260	U	240	U	4.6	U	220	U	610	U	6.3	UJ
VOCs	Chlorobenzene	ug/kg	7.60E+05	7.60E+05		7	U	6	U	5.8	U	7	U	300	U	5.8	U	4.7	U	360	U	300	U	5.2	U	260	U	240	U	4.6	U	220	U	610	U	6.3	U
VOCs	Chloroethane	ug/kg				7	U	6	U	5.8	U	7	U	300	R	5.8	U	4.7	U	360	U	300	U	5.2	U	260	U	240	U	4.6	U	220	U	610	U	6.3	U
VOCs	Chloroform	ug/kg	3.80E+04	3.20E+05		7	U	6	U	5.8	U	7	U	300	U	5.8	U	4.7	U	360	U	300	U	5.2	U	260	U	240	U	4.6	U	220	U	610	U	6.3	U
VOCs	Chloromethane	ug/kg	1.30E+06	1.30E+06		7	U	6	U	5.8	U	7	U	300	U	5.8	U	4.7	U	360	U	300	U	5.2	U	260	U	240	U	4.6	U	220	U	610	U	6.3	U
VOCs	cis-1,2-Dichloroethene	ug/kg				1.9	J	3	U	2.9	U	3.5	U	150	U	2.9	U	2.3	U	430		40	J	11		130	U	120	U	2.3	U	110	U	3200		3.2	U
VOCs	cis-1,3-Dichloropropene	ug/kg	2.30E+05	5.20E+05		7	U	6	U	5.8	U	7	U	300	U	5.8	U	4.7	U	360	U	300	U	5.2	U	260	U	240	U	4.6	U	220	U	610	U	6.3	U
VOCs	Cyclohexane	ug/kg	1.20E+05	1.20E+05		14	U	12	U	0.69	J	14	U	600	U	12	U	9.3	U	710	U	600	U	10	U	520	U	480	U	9.3	U	450	U	1200	U	13	U
VOCs	Dibromochloromethane	ug/kg	8.40E+04	7.70E+05		7	U	6	U	5.8	U	7	U	300	U	5.8	U	4.7	U	360	U	300	U	5.2	U	260	U	240	U	4.6	U	220	U	610	U	6.3	U
VOCs	Dibromomethane	ug/kg	2.80E+06	3.80E+04																																	
VOCs	Dichlorodifluoromethane	ug/kg	8.50E+05	8.50E+05		7	U	6	U	5.8	U	7	U	300	U	5.8	U	4.7	U	360	U	300	U	5.2	U	260	U	240	U	4.6	U	220	UJ	610	UJ	6.3	U
VOCs	Ethylbenzene	ug/kg	4.80E+05	4.80E+05		7	U	6	U	5.8	U	7	U	300	U	5.8	U	4.7	U	360	U	300	U	5.2	U	260	U	240	U	4.6	U	220	U	610	U	6.3	U
VOCs	Iodomethane	ug/kg																																			
VOCs	Isopropylbenzene, VOC	ug/kg	2.70E+05	2.70E+05		7	U	6	U	5.8	U	7	U	300	U	5.8	U	4.7	U	360	U	300	U	5.2	U	260	U	240	U	4.6	U	220	U	610	U	6.3	U
VOCs	Methyl acetate	ug/kg				14	U	12	U	12	U	14	U	600	U	12	U	9.3	U	150	J	4000		10	U	340	J	480	U	9.3	U	450	U	1200	U	13	U
VOCs	Methyl cyclohexane	ug/kg				14	U	0.89	J	1.2	J	14	U	600	U	12	U	9.3	U	710	U	600	U	10	U	96	J	480	U	0.44	J	450	U	490	J	13	U
VOCs	Methyl tert butyl ether	ug/kg	5.70E+06	8.90E+06		28	U	24	U	23	U	28	U	1200	U	23	U	19	U	1400	U	1200	U	21	U	1000	U	950	U	19	U	900	U	2400	U	25	U
VOCs	Methylene chloride	ug/kg	3.30E+06	3.30E+06		7	U	6	U	5.8	U	7	U	300	U	5.8	U	4.7	U	180	J	160	J	4	J	260	U	240	U	4.6	U	220	U	610	U	6.3	U
VOCs	n-Hexane	ug/kg	1.40E+05	1.40E+05																																	
VOCs	o-Xylene	ug/kg	2.60E+05	2.60E+05																																	
VOCs	Styrene	ug/kg	8.70E+05	8.70E+05		7	U	6	U	5.8	U	7	U	300	U	5.8	U	4.7	U	360	U	300	U	5.2	U	260	U	240	U	4.6	U	93	J	610	U	6.3	U
VOCs	Tetrachloroethene	ug/kg	1.70E+05	1.70E+05		6	J	2.6	J	3.8	J	3.3	J	520		60		7.4		2100		88	J	71		510		340		33		2500		21000		4.5	J
VOCs	Toluene	ug/kg	8.20E+05	8.20E+05		7	U	1	J	1.4	J	7	U	300	U	5.8	U	0.57	J	360	U	300	U	5.2	U	260	U	240	U	0.8	J	220	U	610	U	6.3	U
VOCs	trans-1,2-Dichloroethene	ug/kg	1.70E+06	1.70E+06		3.5	U	3	U	2.9	U	3.5	U	150	U	2.9	U	2.3	U	180	U	150	U	2.6	U	130	U	120	U	2.3	U	110	U	310	U	3.2	U
VOCs	trans-1,3-Dichloropropene	ug/kg	2.30E+05	5.20E+05		7	U	6	U	5.8	U	7	U	300	U	5.8	U	4.7	U	360	U	300	U	5.2	U	260	U	240	U	4.6	U	220	U	610	U	6.3	U
VOCs	Trichloroethene	ug/kg	5.10E+04	1.70E+04		140		1.2	J	1.7	J	7	U	490		7.9		1.7	J	5400		120	J	92		1800		76	J	14		300		20000		1.1	J
VOCs	Trichlorofluoromethane	ug/kg	1.20E+06	1.20E+06		7	U	6	U	5.8	U	7	U	300	UJ	5.8	U	4.7	U	360	U	300	U	5.2	U	260	U	240	U	4.6	U	220	U	610	U	6.3	U
VOCs	Trifluorotrichloroethane	ug/kg				7	U	6	U	5.8	U	7	U	300	U	5.8	U	4.7	U	360	U	300	U	5.2	U	260	U	240	U	4.6	U	220	U	610	U	6.3	U
VOCs	Vinyl acetate	ug/kg	2.70E+06	6.20E+05																																	
VOCs	Vinyl chloride	ug/kg	5.00E+04	2.80E+05		7	U	6	U	5.8	U	7	U	300	U	5.8	U	4.7	U	360	U	300	U	5.2	U	260	U	240	U	4.6	U	220	U	610	U	6.3	U
VOCs	Xylene (Total)	ug/kg	2.60E+05	2.60E+05		14	U	12	U	12	U	14	U	600	U	12	U	9.3	U	710	U	600	U	10	U	520	U	480	U	9.3	U	450	U	1200	U	13	U

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Appendix A
Soil Data Compared to GDCC
Greenspace Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units	Ohio VAP C/I GDCSS	Ohio VAP CW GDCSS	Station Name	SB-141-04		SB-141-04		SB-141-04		SB-143-04		SB-143-04		SB-15-02		SB-15-02		SB-15-02		SB-15-02		SB-23-02		SB-23-02		SB-24-02		SB-24-02		SB-25-02		SB-25-02		SB-34-02		SB-34-02	
					FieldSampleID	SB-141-04 DUP		SB-141-04		SB-141-04		SB-143-04		SB-143-04		SB-15-02		SB-15-02		SB-15-02		SB-15-02		SB-23-02		SB-23-02		SB-24-02		SB-24-02		SB-25-02		SB-25-02		SB-34-02		SB-34-02	
					Sample Date	1/27/2004		1/27/2004		1/27/2004		1/27/2004		1/27/2004		4/5/2002		4/5/2002		4/5/2002		4/5/2002		4/10/2002		4/10/2002		4/10/2002		4/10/2002		4/10/2002		4/10/2002		4/12/2002		4/12/2002	
					Depth	8 - 10 ft		8 - 10 ft		12 - 14 ft		8 - 10 ft		12 - 14 ft		1 - 3 ft		3 - 5 ft		8 - 10 ft		11.5 - 13.5 ft		1 - 3 ft		9 - 11 ft		1 - 3 ft		9 - 11 ft		1 - 3 ft		9 - 11 ft		1 - 3 ft		8 - 10 ft	
Field Parameters	pH Field	s.u.																																			
Metals	Antimony	mg/kg	1.60E+03	8.50E+02		8.4	UJ	8.4	UJ	6.3	UJ	8	UJ	6.4	UJ	6.5	UJ	6.5	UJ	6.4	UJ	6.7	UJ	6.3	U	6.5	U	6.2	U	6.7	U	7.2	U	6.7	U	8	U	7.1	U
Metals	Arsenic	mg/kg	7.70E+01	6.90E+02		5.2		6.5		4.3		1.9		2.8		7.5	J	4.2	J	4.6	J	2	J	1.2		3.7		1.6		4.1		5.9		4		11.2		5.7	
Metals	Barium	mg/kg				172		241		72.8		156		62.3		42.9		38.8		28.4		113		4.2	J	19	J	7.2	J	79.6		131		90.6		184		94.3	
Metals	Beryllium	mg/kg	7.80E+03	3.40E+03		0.35	J	0.43	J	0.52	U	0.67	U	0.53	U	0.54	U	0.55	U	0.54	U	0.56	U	0.52	U	0.54	U	0.52	U	0.56	U	0.63		0.56	U	0.86	U	0.59	U
Metals	Cadmium	mg/kg	2.60E+03	1.00E+03		0.37	J	0.42	J	0.13	J	0.21	J	0.16	J	3.2		14.6		1.1		2.8		0.52	U	0.23	J	0.047	J	0.19	J	0.28	J	0.12	J	0.25	J	0.09	J
Metals	Chromium Total	mg/kg	2.10E+02	1.20E+03		9	J	9.6	J	4.1	J	7.3	J	10.8	J	26.9		14.1		10		53		2.1		5.9		1.7		5.3		7.6		4		11.3		3.4	
Metals	Cobalt	mg/kg				4	J	4.9	J	1.6	J	1.8	J	1.6	J	4.4	J	4.3	J	3.2	J	1.1	J	0.68	J	1.8	J	1.3	J	2	J	3.8	J	2.8	J	5.5	J	2.1	J
Metals	Copper	mg/kg	1.60E+05	2.10E+04		69.8	J	12.7	J	3.5	J	6.8	J	14.5	J	17.1		17.8		8.5		362		2.1	J	6		7.5		6		28.1		3.8		98.1		4.8	
Metals	Cyanide (total)	mg/kg	3.70E+02	1.50E+02		0.7	U	0.7	U	0.52	U	0.67	U	0.53	U	0.21	J	0.55	U	0.54	U	50.5		0.52	U	0.54	U	0.52	U	0.56	U	0.6	U	0.56	U	0.67	U	0.59	U
Metals	Lead	mg/kg	8.00E+02	4.00E+02		10.9		7.7		2		4.5		6.1		14.2		15.6		7.9		4		1.1		4.7		0.86		8.1		46.5		2.4		288		4.6	
Metals	Manganese	mg/kg				504		778		374		175		248		310	J	304	J	244	J	218	J	114		173		97.5		305		342		251		562		886	
Metals	Mercury	mg/kg	3.10E+00	3.10E+00		0.066	J	0.045	J	0.1	U	0.029	J	0.075	J	0.023	J	0.031	J	0.021	J	0.11	U	0.1	U	0.073	J	0.1	U	0.087	J	0.23		0.11	U	0.66		0.12	U
Metals	Nickel	mg/kg	7.40E+04	2.30E+04		9.4		11.3		3.2	J	5.4		4.3		13	J	10.2	J	9.4	J	38.4	J	2	J	5.4		2.9	J	4.8		10.4		4.5		21.5		6.7	
Metals	Potassium	mg/kg																																			
Metals	Selenium	mg/kg	2.00E+04	1.10E+04		0.7	U	0.7	U	0.52	U	0.67	U	0.53	U	0.54	U	0.55	U	0.54	U	0.56	U	0.52	U	0.54	U	0.52	U	0.56	U	0.6	U	0.56	U	0.67	U	0.59	U
Metals	Silver	mg/kg	2.00E+04	1.10E+04		0.12	J	1.4	U	1	U	1.3	U	1.1	U	1.1	U	1.1	U	1.1	U	1.1	U	1	U	1.1	U	1	U	1.1	U	1.2	U	1.1	U	1.3	U	1.2	U
Metals	Thallium	mg/kg				0.61	J	0.73	J	1	U	1.3	U	1.1	U	1.7	U	1.7	U	1.6	U	1.4	U	1.2		1.1		1.2		1.7		1.3		1.2		1.3	U	1.2	U
Metals	Vanadium	mg/kg	2.30E+04	1.10E+04		12.4		14.3		6.1		7.6		6.8		10.1		7.7		7.2		3.8	J	6.5		6.5		3.1	J	6.6		11.8		13.7		18.3		8	
Metals	Zinc	mg/kg	1.00E+06	6.40E+05		52	J	44.7	J	18.9	J	23.2	J	26.5	J	42.9	J	37.9	J	30.6	J	22.4	J	6.2		19.2		17.3		48.2		69		15.2		174		18.2	
Miscellaneous	Flash Point Closed Cup	Deg F																																			
Miscellaneous	Percent moisture	%																																			
Miscellaneous	Total Solids	%				71.4		71		95.5		75		93.5		92		91.7		93.1		89		95.9		92.3		96.1		89.5		82.8		88.9		75		84.8	
PCBs/Pesticides	Aroclor-1016	mg/kg	1.00E+02	2.60E+02		0.046	U	0.046	U	0.035	U	0.044	U	0.35	U	0.036	U	0.036	U	0.035	U	0.074	U	0.034	U	0.036	U	0.034	U	0.037	U	0.04	U	0.037	U	0.044	U	0.039	U
PCBs/Pesticides	Aroclor-1221	mg/kg	1.40E+01	2.10E+02		0.046	U	0.046	U	0.035	U	0.044	U	0.35	U	0.036	U	0.036	U	0.035	U	0.074	U	0.034	U	0.036	U	0.034	U	0.037	U	0.04	U	0.037	U	0.044	U	0.039	U
PCBs/Pesticides	Aroclor-1232	mg/kg	1.40E+01	7.30E+01		0.046	U	0.046	U	0.035	U	0.044	U	0.35	U	0.036	U	0.036	U	0.035	U	0.074	U	0.034	U	0.036	U	0.034	U	0.037	U	0.04	U	0.037	U	0.044	U	0.039	U
PCBs/Pesticides	Aroclor-1242	mg/kg	2.00E+01	4.40E+02		0.046	U	0.046	U	0.035	U	0.044	U	0.35	U	0.036	U	0.036	U	0.035	U	0.074	U	0.034	U	0.036	U	0.034	U	0.037	U	0.04	U	0.037	U	0.044	U	0.039	U
PCBs/Pesticides	Aroclor-1248	mg/kg	2.00E+01	4.40E+02		0.046	U	0.046	U	0.035	U	0.044	U	0.35	U	0.036	U	0.036	U	0.035	U	0.074	U	0.034	U	0.036	U	0.034	U	0.037	U	0.04	U	0.037	U	0.044	U	0.039	U
PCBs/Pesticides	Aroclor-1254	mg/kg	2.00E+01	7.50E+01		0.046	U	0.046	U	0.035	U	0.044	U	2.4		0.036	U	0.035	J	0.027	J	0.58		0.034	U	0.036	U	0.034	U	0.037	U	0.053		0.037	U	0.044	U	0.039	U
PCBs/Pesticides	Aroclor-1260	mg/kg	2.00E+01	4.40E+02		0.046	U	0.046	U	0.035	U	0.044	U	0.35	U	0.036	U	0.036	U	0.035	U	0.074	U	0.034	U	0.036	U	0.034	U	0.037	U	0.04	U	0.037	U	0.044	U	0.039	U
SVOCs	2,2-oxybis(1-Chloropropane)	ug/kg																																			
SVOCs	2,2-oxybis(2-Chloropropane), SVOC	ug/kg				460	U	460	U	350	U	440	U	350	U	360	U	360	U	350	U	370	U													1100	U	390	U
SVOCs	2,4,5-Trichlorophenol	ug/kg	1.80E+08	1.00E+09		460	U	460	U	350	U	440	U	350	U	360	U	360	U	350	U	370	U													1100	U	390	U
SVOCs	2,4,6-Trichlorophenol	ug/kg	1.80E+06	1.40E+06		460	U	460	U	350	U	440	U	350	U	360	U	360	U	350	U	370	U													1100	U	390	U
SVOCs	2,4-Dichlorophenol	ug/kg	5.30E+06	2.80E+07		460	U	460	U	350	U	440	U	350	U	360	U	360	U	350	U	370	U													1100	U	390	UJ
SVOCs	2,4-Dimethylphenol	ug/kg	3.50E+07	8.50E+07		460	U	460	U	350	U	440	U	350	U	360	U	360	U	350	U	370	U													1100	U	390	UJ
SVOCs	2,4-Dinitrophenol	ug/kg	3.50E+06	2.80E+07		2200	U	2300	U	1700	U	2100	U	1700	U	1700	UJ	1700	UJ	1700	UJ	1800	UJ													5300	U	1900	U
SVOCs	2,4-Dinitrotoluene	ug/kg	1.60E+05	2.80E+06		460	U	460	U	350	U	440	U	350	U	360	U	360	U	350	U	370	U													1100	U	390	U
SVOCs	2,6-Dinitrotoluene	ug/kg	3.30E+04	6.70E+05		460	U	460	U	350	U	440	U	350	U	360	U	360	U	350	U	370	U													1100	U	390	U
SVOCs	2-Chloronaphthalene	ug/kg	3.30E+08	1.00E+09		460	U	460	U	350	U	440	U	350	U	360	U	360	U	350	U	370	U													1100	U	390	U
SVOCs	2-Chlorophenol	ug/kg	2.00E+07	2.20E+07		460	U	460	U	350	U	440	U	350	U	360	U	360	U	350	U	370	U													1100	U	390	U
SVOCs	2-Methylnaphthalene	ug/kg	6.00E+06	5.20E+06		460	U	460	U	350	U	440	U	350	U	360	U	360	U	350	U	370	U													1100	U	390	UJ
SVOCs	2-Methylphenol	ug/kg	8.80E+07	7.10E+08		460	U	460	U	350	U	440	U	350	U	360	U	360	U	350	U	370	U													1100	U	390	U
SVOCs	2-Nitroaniline	ug/kg				2200	U	2300	U	1700	U	2100	U	1700	U	1700	U	1700	U	1700	U	1800	U													5300	U	1900	U
SVOCs	2-Nitrophenol	ug/kg				460	U	460	U	350	U	440	U	350	U	360	U	360	U	350	U	370	U													1100	U	390	UJ
SVOCs	3,3-Dichlorobenzidine	ug/kg	1.10E+05	2.20E+06		2200	U	2300	U	1700	U	2100	U	1700	U	1700	U	1700	U	1700	U	1800	U													5300	U	1900	U
SVOCs	3-Nitroaniline	ug/kg				2200	U	2300	U	1700	U	2100	U	1700	U	1700	U	1700	U	1700	U	1800	U													5300	U	1900	U
SVOCs	4,6-Dinitro-2-methylphenol	ug/kg				2200	U	2300	U	1700	U	2100	U	1700	U	1700	U	1700	U	1700	U	1800	U													5300	U	1900	U
SVOCs	4-Bromophenyl phenyl ether	ug/kg				460	U	460	U	350	U	440	U	350	U	360	U	360	U	350	U	370	U													1100	U	390	U
SVOCs	4-Chloro-3-methylphenol	ug/kg				460	U	460	U	350	U	440	U	350	U	360	U	360	U	350	U	370	U													1100	U	390	UJ
SVOCs	4-Chloroaniline	ug/kg	2.50E+05	7.10E+05		460	U	460	U	350	U	440	U	350	U	360	U	360	U	350	U	370	U													1100	U	390	UJ
SVOCs	4-Chlorophenyl phenyl ether	ug/kg				460	U	460	U	350	U	440	U	350	U	360	U	360	U	350	U	370	U													1100	U	390	U
SVOCs	4-Methylphenol	ug/kg	1.80E+08	2.80E+07		460	U	460	U	350	U	440	U	350	U	360	U	360	U	350	U	370	U													1100	U	390	U
SVOCs	4-Nitroaniline	ug/kg	2.50E+06	1.40E+07		2200	U	2300	U	1700	U	2100	U	1700	U	1700	U	1700	U	1700	U	1800	U													5300	U	1900	U
SVOCs	4-Nitrophenol	ug/kg				2200	U	2300	U	1700	U	2100	U	1700	U	1700	U	1700	U	1700	U	1800	U													5300	U	1900	U
SVOCs	Acenaphthene	ug/kg	9.00E+07	7.80E+08		460	U	460	U	350	U	440	U	350	U	360	U	360	U	350	U	370	U													1100	U	390	U
SVOCs	Acenaphthylene	ug/kg				460	U	460	U	350	U	440	U	350	U	360	U	360	U	350	U	370	U													380	J	390	U
SVOCs	Acetophenone	ug/kg	2.50E+06	2.50E+06		460	U	460	U	350	U	440	U	350	U	360	U	360	U	350	U	370	U													1100	U	390	U
SVOCs	Anthracene	ug/kg	4.50E+08	1.00E+09		460	U	460	U	350	U	440	U	350	U	360	U	360	U	350	U	62	J													1900		390	U
SVOCs	Atrazine	ug/kg				460	U	460	U	350	U	440	U	350	U	360	U	360	U	350	U	370	U													1100	U	390	U
SVOCs	Benzaldehyde	ug/kg				460	U	460	U	350	U	440	U	350	U	360	U	360	U	350	U	370	U													1100	U	390	U
SVOCs	Benzo(a)anthracene	ug/kg	5.80E+04	1.20E+06		460	U	460	U	350	U	440	U	350	U	360	U	360	U	350	U	120	J													4400		390	U
SVOCs	Benzo(a)pyrene	ug/kg	5.80E+03	1.20E+05		460	U	460	U	350	U	440	U	350	U	360	U	360	U	350	U	96	J													5400		390	U
SVOCs	Benzo(b)fluoranthene	ug/kg	5.80E+04	1.20E+06		460	U	460	U	350	U	440	U	28	J	360	U	360	U	350	U	120	J													5400		390	U
SVOCs	Benzo(g,h,i)perylene	ug/kg				460	U	460	U	350	U	440	U	350	U	360	U	360	U	350	U	72	J													2900		390	U
SVOCs	Benzo(k)fluoranthene	ug/kg	5.80E+05	1.20E+07		460	U	460	U	350	U	440	U	350	U	360	U	360	U	350	U	61	J													3600		390	U
SVOCs	Biphenyl	ug/kg	1.40E+07	1.90E+08		460	U	460	U	350	U	440	U	350	U	360	U	360	U	350	U	370	U													1100	U	390	U
SVOCs	bis(2-Chloroethoxy)methane	ug/kg	5.30E+06	4.30E+07		460	U	460	U	350	U	440	U	350	U	360	U	360	U	350	U	370	U													1100	U	390	UJ
SVOCs	bis(2-Chloroethyl)ether	ug/kg	3.00E+04	2.90E+05		460	U	460	U	350	U	440	U	350	U	360	U	360	U	350	U	370	U													1100	U	390	U
SVOCs	bis(2-Ethylhexyl)phthalate	ug/kg	3.50E+06	7.10E+07		460	U	460	U	350	U	440	U	350	U	360	U	360	U	350	U	370	U													1100	U	390	U
SVOCs	Butyl benzylphthalate	ug/kg	2.60E+07	5.20E+08		460	U	460	U	350	U	440	U	350	U	360	U	360	U	350	U	370	U													1100	U	390	U
SVOCs	Caprolactam	ug/kg				460	U	460	U	350	U	440	U	350	U	360	U	360	U	350	U	370	U													1100	U	390	U
SVOCs	Carbazole	ug/kg				460	U	460	U	350	U	440	U	350	U	360	U	360	U	350	U	370	U													1100	U	390	U
SVOCs	Chrysene	ug/kg	5.80E+06	1.20E+08		460	U	460	U	350	U	440	U	21	J	360	U	360	U	350	U	140	J													4600		390	U
SVOCs	Dibenz(a,h)anthracene	ug/kg	5.80E+03	1.20E+08		460	U	460	U	350	U	440	U	350	U	360	U	360	U	350	U	370	U													780	J	390	U
SVOCs	Dibenzofuran	ug/kg				460	U	460	U	350	U	440	U	350	U	360	U	360	U	350	U	370	U													1100	U	390	U
SVOCs	Diethyl phthalate	ug/kg	1.00E+09	1.00E+09		460	U	460	U	350	U	440	U	350	U	360	U	360	U	350	U	370	U													1100	U	390	U
SVOCs	Dimethyl phthalate	ug/kg				460	U	460	U	350	U	440	U	350	U	360	U	360	U	350	U	370	U													1100	U	390	U
SVOCs	Di-n-butylphthalate	ug/kg	1.80E+08	4.30E+08		460	U	460	U	350	U	440	U	350	U	360	U	360	U	350	U	370	U													1100	U	390	U
SVOCs	Di-N-Octyl phthalate	ug/kg				460	U	460	U	350	U	440	U	350	U	360	U	360	U	350	U	370	U													1100	U	390	U
SVOCs	Fluoranthene	ug/kg	6.00E+07	1.60E+08		460	U	460	U	350	U	440	U	72	J	360	U	360	U	89	J	300	J													11000		390	U
SVOCs	Fluorene	ug/kg	6.00E+07	5.20E+08		460	U	460	U	350	U	440	U	350	U	360	U	360	U	350	U	370	U													1100	U	390	U
SVOCs	Hexachlorobenzene	ug/kg	3.10E+04	1.40E+04		460	U	460	U	350	U	440	U	350	U	360	U	360	U	350	U	370	U													1100	U	390	U
SVOCs	Hexachlorobutadiene	ug/kg	6.30E+05	1.40E+06																																	

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Appendix A
Soil Data Compared to GDCC
Greenspace Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units	Ohio VAP C/I GDCSS	Ohio VAP CW GDCSS	Station Name	SB-141-04		SB-141-04		SB-141-04		SB-143-04		SB-143-04		SB-15-02		SB-15-02		SB-15-02		SB-15-02		SB-23-02		SB-23-02		SB-24-02		SB-24-02		SB-25-02		SB-25-02		SB-34-02		SB-34-02	
					FieldSampleID	SB-141-04 DUP		SB-141-04		SB-141-04		SB-143-04		SB-143-04		SB-15-02		SB-15-02		SB-15-02		SB-15-02		SB-23-02		SB-23-02		SB-24-02		SB-24-02		SB-25-02		SB-25-02		SB-34-02		SB-34-02	
					Sample Date	1/27/2004		1/27/2004		1/27/2004		1/27/2004		1/27/2004		4/5/2002		4/5/2002		4/5/2002		4/5/2002		4/10/2002		4/10/2002		4/10/2002		4/10/2002		4/10/2002		4/10/2002		4/12/2002		4/12/2002	
					Depth	8 - 10 ft		8 - 10 ft		12 - 14 ft		8 - 10 ft		12 - 14 ft		1 - 3 ft		3 - 5 ft		8 - 10 ft		11.5 - 13.5 ft		1 - 3 ft		9 - 11 ft		1 - 3 ft		9 - 11 ft		1 - 3 ft		9 - 11 ft		1 - 3 ft		8 - 10 ft	
SVOCs	Hexachlorobutadiene, SVOC	ug/kg	6.30E+05	1.40E+06		460	U	460	U	350	U	440	U	350	U	360	U	360	U	350	U	370	U													1100	U	390	UJ
SVOCs	Hexachlorocyclopentadiene	ug/kg	1.10E+07	2.60E+07		2200	U	2300	U	1700	U	2100	U	1700	U	1700	U	1700	U	1700	U	1800	U													5300	U	1900	UJ
SVOCs	Hexachloroethane	ug/kg	1.20E+06	3.00E+06		460	U	460	U	350	U	440	U	350	U	360	U	360	U	350	U	370	U													1100	U	390	U
SVOCs	Indeno(1,2,3-cd)pyrene	ug/kg	5.80E+04	1.20E+06		460	U	460	U	350	U	440	U	350	U	360	U	360	U	350	U	370	U													2900		390	U
SVOCs	Isophorone	ug/kg	5.20E+07	1.00E+09		460	U	460	U	350	U	440	U	350	U	360	U	360	U	350	U	370	U													1100	U	390	UJ
SVOCs	Naphthalene, SVOC	ug/kg	4.50E+05	5.60E+05		460	U	460	U	350	U	440	U	350	U	360	U	360	U	350	U	110	J													260	J	390	UJ
SVOCs	Nitrobenzene	ug/kg	6.10E+05	3.00E+06		460	U	460	U	350	U	440	U	350	U	360	U	360	U	350	U	370	U													1100	U	390	UJ
SVOCs	N-Nitrosodi-n-propylamine	ug/kg	7.00E+03	1.40E+05		460	U	460	U	350	U	440	U	350	U	360	U	360	U	350	U	370	U													1100	U	390	U
SVOCs	N-Nitrosodiphenylamine	ug/kg	1.00E+07	2.00E+08		460	U	460	U	350	U	440	U	350	U	360	U	360	U	350	U	370	U													1100	U	390	U
SVOCs	Pentachlorophenol	ug/kg	6.70E+04	9.50E+05		460	U	460	U	350	U	440	U	350	U	360	U	360	U	350	U	370	U													1100	U	390	U
SVOCs	Phenanthrene	ug/kg				460	U	460	U	350	U	440	U	99	J	360	U	360	U	56	J	300	J													3900		390	U
SVOCs	Phenol	ug/kg	5.30E+08	8.40E+08		460	U	460	U	350	U	440	U	350	U	360	U	360	U	350	U	370	U													1100	U	390	U
SVOCs	Pyrene, SVOC	ug/kg	4.50E+07	3.90E+08		460	U	460	U	350	U	440	U	54	J	360	UJ	360	UJ	66	J	240	J													8200		390	U
TPH	C21-C34 Aliphatics	mg/kg	5000	5000																																			
TPH	Diesel Range Organics (DRO)	mg/kg	2000	2000																																			
TPH	Gasoline Range Organics (GRO)	mg/kg	1000	1000																																			
VOCs	1,1,1,2-Tetrachloroethane	ug/kg	2.40E+05	6.80E+05																																			
VOCs	1,1,1-Trichloroethane	ug/kg	6.40E+05	6.40E+05		360	UJ	410	U	5.1	U	5.9	U	6.1	U	4.7	U	5.7	U	4	U	220	U	5	U	240	U	10	U	5.5	U	240	U	4.7	U	300	U	5.4	U
VOCs	1,1,2,2-Tetrachloroethane	ug/kg	7.50E+04	6.70E+05		360	UJ	410	U	5.1	U	5.9	U	6.1	U	4.7	U	5.7	U	4	U	220	U	5	U	240	U	10	U	5.5	U	240	U	4.7	U	300	U	5.4	U
VOCs	1,1,2-Trichloroethane	ug/kg	1.40E+05	1.20E+06		360	UJ	410	U	5.1	U	5.9	U	6.1	U	4.7	U	5.7	U	4	U	220	U	5	U	240	U	10	U	5.5	U	240	U	4.7	U	300	U	5.4	U
VOCs	1,1-Dichloroethane	ug/kg	4.20E+05	1.70E+06		360	UJ	410	U	5.1	U	5.9	U	6.1	U	4.7	U	5.7	U	4	U	220	U	5	U	240	U	10	U	5.5	U	240	U	4.7	U	300	U	5.4	U
VOCs	1,1-Dichloroethene	ug/kg	1.20E+06	3.60E+05		360	UJ	410	U	5.1	U	5.9	U	6.1	U	4.7	U	5.7	U	4	U	220	U	5	U	240	U	10	U	5.5	U	240	U	4.7	U	300	U	5.4	U
VOCs	1,1-Dichloropropene	ug/kg																																					
VOCs	1,2,4-Trichlorobenzene, VOC	ug/kg	4.00E+05	4.00E+05		360	UJ	410	U	5.1	U	5.9	U	6.1	U	4.7	U	5.7	U	4	U	220	U	5	U	240	U	10	U	5.5	U	240	U	4.7	U	300	UJ	5.4	U
VOCs	1,2-Dibromo-3-chloropropane	ug/kg	1.70E+03	1.50E+04		710	UJ	820	U	10	U	12	U	12	U	9.5	U	11	U	7.9	U	440	U	10	U	480	U	20	U	11	U	480	U	9.4	U	610	U	11	U
VOCs	1,2-Dibromoethane	ug/kg	4.40E+03	3.80E+04		360	UJ	410	U	5.1	U	5.9	U	6.1	U	4.7	U	5.7	U	4	U	220	U	5	U	240	U	10	U	5.5	U	240	U	4.7	U	300	U	5.4	U
VOCs	1,2-Dichlorobenzene, VOC	ug/kg	3.80E+05	3.80E+05		360	UJ	410	U	5.1	U	5.9	U	6.1	U	4.7	U	5.7	U	4	U	220	U	5	U	240	U	10	U	5.5	U	240	U	4.7	U	300	U	5.4	U
VOCs	1,2-Dichloroethane	ug/kg	5.60E+04	4.80E+05		360	UJ	410	U	5.1	U	5.9	U	6.1	U	4.7	U	5.7	U	4	U	220	U	5	U	240	U	10	U	5.5	U	240	U	4.7	U	300	U	5.4	U
VOCs	1,2-Dichloropropane	ug/kg	1.20E+05	1.80E+05		360	UJ	410	U	5.1	U	5.9	U	6.1	U	4.7	U	5.7	U	4	U	220	U	5	U	240	U	10	U	5.5	U	240	U	4.7	U	300	U	5.4	U
VOCs	1,3-Dichlorobenzene, VOC	ug/kg				360	UJ	410	U	5.1	U	5.9	U	6.1	U	4.7	U	5.7	U	4	U	220	U	5	U	240	U	10	U	5.5	U	240	U	4.7	U	300	U	5.4	U
VOCs	1,3-Dichloropropane	ug/kg	1.50E+06	1.50E+06																																			
VOCs	1,4-Dichlorobenzene, VOC	ug/kg	3.10E+05	2.60E+06		360	UJ	410	U	5.1	U	5.9	U	6.1	U	4.7	U	5.7	U	2.1	J	220	U	5	U	240	U	10	U	5.5	U	240	U	4.7	U	300	U	5.4	U
VOCs	2,2-Dichloropropane	ug/kg																																					
VOCs	2-Butanone	ug/kg	2.80E+07	2.80E+07		1400	UJ	1600	UJ	21	U	24	U	24	U	36		18	J	130		890	U	20	U	960	U	40	U	22	U	970	U	19	U	1200	U	22	U
VOCs	2-Chlorotoluene	ug/kg																																					
VOCs	2-Hexanone	ug/kg				1400	UJ	1600	UJ	21	U	24	U	24	U	6.1	J	2.6	J	27		890	U	20	U	960	U	40	U	22	U	970	U	19	U	1200	U	22	U
VOCs	4-Chlorotoluene	ug/kg																																					
VOCs	4-Methyl-2-Pentanone	ug/kg	3.40E+06	3.40E+06		1400	UJ	1600	U	21	U	24	U	24	U	5.4	J	3.9	J	21		890	U	20	U	960	U	40	U	22	U	970	U	19	U	1200	U	3.3	J
VOCs	Acetone	ug/kg	1.10E+08	1.10E+08		1400	UJ	1600	UJ	21	U	24	U	24	U	170	UJ	99	J	780	J	890	U	20	U	960	U	40	UJ	22	UJ	300	J	19	UJ	1200	U	22	UJ
VOCs	Acetonitrile	mg/kg	9.20E+03	2.60E+04																																			
VOCs	Acrolein	ug/kg																																					
VOCs	Acrylonitrile	ug/kg																																					
VOCs	Allyl chloride	ug/kg	1.90E+04	6.40E+04																																			
VOCs	Benzene	ug/kg	1.40E+05	1.20E+06		360	UJ	410	U	5.1	U	5.9	U	6.1	U	4.7	U	5.7	U	1.9	J	220	U	5	U	240	U	10	U	5.5	U	240	R	4.7	U	300	U	5.4	U
VOCs	Bromobenzene	ug/kg																																					
VOCs	Bromochloromethane	ug/kg																																					
VOCs	Bromodichloromethane	ug/kg	3.50E+04	3.00E+05		360	UJ	410	U	5.1	U	5.9	U	6.1	U	4.7	U	5.7	U	4	U	220	U	5	U	240	U	10	U	5.5	U	240	U	4.7	U	300	U	5.4	U
VOCs	Bromoform	ug/kg	6.20E+06	1.30E+08		360	UJ	410	U	5.1	UJ	5.9	UJ	6.1	UJ	4.7	UJ	5.7	UJ	4	UJ	220	U	5	UJ	240	U	10	UJ	5.5	UJ	240	U	4.7	UJ	300	U	5.4	UJ
VOCs	Bromomethane	ug/kg	8.20E+04	5.50E+05		360	UJ	410	U	5.1	U	5.9	U	6.1	U	4.7	UJ	5.7	UJ	4	UJ	220	U	5	UJ	240	U	10	UJ	5.5	UJ	240	U	4.7	UJ	300	U	5.4	UJ
VOCs	Carbon disulfide	ug/kg	7.40E+05	7.40E+05		360	UJ	410	U	5.1	U	5.9	U	6.1	U	4.7	U	5.7	U	2.1	J	220	U	5	U	240	U	10	U	5.5	U	240	U	4.7	U	300	U	5.4	U
VOCs	Carbon tetrachloride	ug/kg	7.90E+04	4.60E+05		360	UJ	410	U	5.1	U	5.9	U	6.1	U	4.7	UJ	5.7	UJ	4	UJ	220	U	5	UJ	240	U	10	U	5.5	U	240	U	4.7	U	300	U	5.4	U
VOCs	Chlorobenzene	ug/kg	7.60E+05	7.60E+05		360	UJ	410	U	5.1	U	5.9	U	6.1	U	4.7	U	5.7	U	4	U	220	U	5	U	240	U	10	U	5.5	U	240	U	4.7	U	300	U	5.4	U
VOCs	Chloroethane	ug/kg				360	UJ	410	U	5.1	U	5.9	U	6.1	U	4.7	U	5.7	U	4	U	220	U	5	U	240	U	10	U	5.5	U	240	U	4.7	U	300	U	5.4	U
VOCs	Chloroform	ug/kg	3.80E+04	3.20E+05		360	UJ	410	U	5.1	U	5.9	U	6.1	U	4.7	U	5.7	U	4	U	220	U	5	U	240	U	10	U	5.5	U	240	U	4.7	U	300	U	5.4	U
VOCs	Chloromethane	ug/kg	1.30E+06	1.30E+06		360	UJ	410	U	5.1	U	5.9	U	6.1	U	4.7	U	5.7	U	4	U	220	U	5	U	240	U	10	U	5.5	U	240	U	4.7	U	300	U	5.4	U
VOCs	cis-1,2-Dichloroethene	ug/kg				180	UJ	200	U	2.6	U	3	U	3	U	2.4	U	2.9	U	11		4300		2.5	U	120	U	5	U	2.8	U	120	U	2.4	U	600		2.7	U
VOCs	cis-1,3-Dichloropropene	ug/kg	2.30E+05	5.20E+05		360	UJ	410	U	5.1	U	5.9	U	6.1	U	4.7	U	5.7	U	4	U	220	U	5	U	240	U	10	U	5.5	U	240	U	4.7	U	300	U	5.4	U
VOCs	Cyclohexane	ug/kg	1.20E+05	1.20E+05		710	UJ	820	U	10	U	12	U	12	U	9.5	U	11	U	2.8	J	170	J	10	U	480	U	20	U	11	U	480	U	9.4	U	46	J	11	U
VOCs	Dibromochloromethane	ug/kg	8.40E+04	7.70E+05		360	UJ	410	U	5.1	U	5.9	U	6.1	U	4.7	U	5.7	U	4	U	220	U	5	U	240	U	10	U	5.5	U	240	U	4.7	U	300	U	5.4	U
VOCs	Dibromomethane	ug/kg	2.80E+06	3.80E+04																																			
VOCs	Dichlorodifluoromethane	ug/kg	8.50E+05	8.50E+05		360	UJ	410	U	5.1	U	5.9	U	6.1	U	4.7	U	5.7	U	4	U	220	UJ	5	U	240	UJ	10	U	5.5	U	240	U	4.7	U	300	U	5.4	U
VOCs	Ethylbenzene	ug/kg	4.80E+05	4.80E+05		360	UJ	410	U	0.4	J	5.9	U	6.1	U	0.96	J	5.7	U	4.6		220	U	5	U	240	U	10	U	5.5	U	240	U	4.7	U	300	U	5.4	U
VOCs	Iodomethane	ug/kg																																					
VOCs	Isopropylbenzene, VOC	ug/kg	2.70E+05	2.70E+05		360	UJ	410	U	5.1	U	5.9	U	6.1	U	4.7	U	5.7	U	4	U	220	U	5	U	240	U	10	U	5.5	U	240	U	4.7	U	300	U	5.4	U
VOCs	Methyl acetate	ug/kg				710	UJ	820	U	10	U	12	U	12	U	9.5	U	11	U	7.9	U	440	U	10	U	480	U	20	U	11	U	480	U	9.4	U	610	U	11	U
VOCs	Methyl cyclohexane	ug/kg				710	UJ	820	U	10	U	12	U	12	U	9.5	U	11	U	4.9	J	180	J	10	U	170	J	20	U	11	U	190	J	9.4	U	150	J	11	U
VOCs	Methyl tert butyl ether	ug/kg	5.70E+06	8.90E+06		1400	UJ	1600	U	21	U	24	U	24	U	19	U	23	U	16	U	890	U	20	U	960	U	40	U	22	U	970	U	19	U	1200	U	22	U
VOCs	Methylene chloride	ug/kg	3.30E+06	3.30E+06		360	UJ	410	U	5.1	U	5.9	U	6.1	U	4.7	U	5.7	U	4	U	220	U	5	U	240	U	10	U	5.5	U	240	U	4.7	U	300	U	5.4	U
VOCs	n-Hexane	ug/kg	1.40E+05	1.40E+05																																			
VOCs	o-Xylene	ug/kg	2.60E+05	2.60E+05																																			
VOCs	Styrene	ug/kg	8.70E+05	8.70E+05		360	UJ	410	U	5.1	U	5.9	U	6.1	U	4.7	U	5.7	U	4	U	220	U	5	U	240	U	10	U	5.5	U	240	U	4.7	U	300	U	5.4	U
VOCs	Tetrachloroethene	ug/kg	1.70E+05	1.70E+05		700	J	840		74		15		7.4		4.7	U	5.7	U	8.3		3300		3.1	J	450		10	U	5.6		250		4.5	J	6600		4.9	J
VOCs	Toluene	ug/kg	8.20E+05	8.20E+05		360	UJ	410	U	1	J	0.58	J	0.7	J	1.5	J	5.7	U	8		220	U	0.69	J	240	U	10	U	0.65	J	240	U	1.4	J	300	U	0.9	J
VOCs	trans-1,2-Dichloroethene	ug/kg	1.70E+06	1.70E+06		180	UJ	200	U	2.6	U	3	U	3	U	2.4	U	2.9	U	2	U	110	U	2.5	U	120	U	5	U	2.8	U	120	U	2.4	U	150	U	2.7	U
VOCs	trans-1,3-Dichloropropene	ug/kg	2.30E+05	5.20E+05		360	UJ	410	U	5.1	U	5.9	U	6.1	U	4.7	U	5.7	U	4	U	220	U	5	U	240	U	10	U	5.5	U	240	U	4.7	U	300	U	5.4	U
VOCs	Trichloroethene	ug/kg	5.10E+04	1.70E+04		110	J	190	J	27		9.5		5.3	J	4.7	U	5.7	U	2.4	J	400		5	U	240	U	10	U	5.5	U	240	U	4.7	U	9800		5	J
VOCs	Trichlorofluoromethane	ug/kg	1.20E+06	1.20E+06		360	UJ	410	U	5.1	U	5.9	U	6.1	U	4.7	U	5.7	U	4	U	220	U	5	UJ	160	J	10	U	5.5	U	240	UJ	4.7	U	300	U	5.4	U
VOCs	Trifluorotrichloroethane	ug/kg				360	UJ	410	U	5.1	U	5.9	U	6.1	U	4.7	U	5.7	U	4	U	220	U	5	U	240	U	10	U	5.5	U	240	U	4.7	U	300	U	5.4	U
VOCs	Vinyl acetate	ug/kg	2.70E+06	6.20E+05																																			
VOCs	Vinyl chloride	ug/kg	5.00E+04	2.80E+05		360	UJ	410	U	5.1	U	5.9	U	6.1	U	4.7	U	5.7	U	4	U	220	U	5	U	240	U	10	U	5.5	U	240	U	4.7	U	300	U	5.4	U
VOCs	Xylene (Total)	ug/kg	2.60E+05	2.60E+05		710	UJ	820	U	1.1	J	12	U	12	U	4.9	J	11	U	14		440	U	10	U	480	U	20	U	11	U	480	U	9.4	U	130	J	11	U

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Appendix A
Soil Data Compared to GDCC
Greenspace Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units	Ohio VAP C/I GDCSS	Ohio VAP CW GDCSS	Station Name	SB-34-02		SB-35-02		SB-35-02		SB-36-02		SB-36-02		SB-36-02		SB-37-02		SB-37-02		SB-92-03	
					FieldSampleID	SB-34-02		SB-35-02		SB-35-02		SB-36-02		SB-36-02		SB-36-02		SB-37-02		SB-37-02		SB-92-03	
					Sample Date	4/12/2002		4/15/2002		4/15/2002		4/15/2002		4/15/2002		4/15/2002		4/15/2002		4/15/2002		4/1/2003	
					Depth	12 - 14 ft		1 - 3 ft		9 - 11 ft		1 - 3 ft		4 - 6 ft		8.5 - 10.5 ft		1 - 3 ft		9 - 11 ft		1 - 3 ft	
Field Parameters	pH Field	s.u.																					
Metals	Antimony	mg/kg	1.60E+03	8.50E+02		6.5	U	6.3	U	6.8	U	7.5	U	7.5	U	6.5	UJ	6.7	UJ	6.5	UJ	6.5	UJ
Metals	Arsenic	mg/kg	7.70E+01	6.90E+02		5.2		1.6		3.4		6.7		4.9		3.6	J	6	J	4.3	J	4.7	
Metals	Barium	mg/kg				81.5		12.1	J	27.8		43.5		162		90.9	J	122	J	54.8	J	28.2	J
Metals	Beryllium	mg/kg	7.80E+03	3.40E+03		0.54	U	0.52	U	0.57	U	0.52	J	0.62	U	0.54	UJ	0.062	J	0.54	UJ	0.54	U
Metals	Cadmium	mg/kg	2.60E+03	1.00E+03		0.085	J	0.097	J	0.097	J	0.13	J	0.27	J	0.057	J	9.4	J	0.091	J	0.078	J
Metals	Chromium Total	mg/kg	2.10E+02	1.20E+03		5		1.7		4.9		5		9.4		3.6	J	12.4	J	4.9	J	5.4	J
Metals	Cobalt	mg/kg				1.9	J	0.98	J	2.1	J	2.4	J	3.2	J	1.4	J	1.9	J	1.8	J	3	J
Metals	Copper	mg/kg	1.60E+05	2.10E+04		5.6		3.1		7.5		23.5		14.5		4.1	J	104	J	6.5	J	13.7	J
Metals	Cyanide (total)	mg/kg	3.70E+02	1.50E+02		0.54	U	0.52	U	0.57	U	0.63	U	0.62	U	0.54	U	0.22	J	0.54	U	0.18	J
Metals	Lead	mg/kg	8.00E+02	4.00E+02		13.5		2.7		5.8		52.2		22.6		2.6	J	216	J	17.4	J	8.7	J
Metals	Manganese	mg/kg				394		163		186		196		905		360		324		238		231	J
Metals	Mercury	mg/kg	3.10E+00	3.10E+00		0.11	U	0.04	J	0.11	U	0.32		0.19		0.11	UJ	0.18	J	0.11	R	0.11	U
Metals	Nickel	mg/kg	7.40E+04	2.30E+04		4.6		1.8	J	5.6		6		7.1		3.5	J	21.7	J	4.7	J	7.7	
Metals	Potassium	mg/kg																					
Metals	Selenium	mg/kg	2.00E+04	1.10E+04		0.54	U	0.52	U	0.57	U	0.48	J	0.62	U	0.54	UJ	0.56	UJ	0.54	UJ	0.54	U
Metals	Silver	mg/kg	2.00E+04	1.10E+04		1.1	U	1	U	1.1	U	1.3	U	1.2	U	1.1	U	1.1	U	1.1	U	1.1	U
Metals	Thallium	mg/kg				1.1	U	1		1	J	1.6		1.3		1	J	1.4	J	0.92	J	1.1	U
Metals	Vanadium	mg/kg	2.30E+04	1.10E+04		7.1		2.7	J	6.6		10.9		17.2		5.1	J	6.2	J	6.8	J	8.4	
Metals	Zinc	mg/kg	1.00E+06	6.40E+05		29.2		12.1		21.4		41.8		58.7		9.9	J	204	J	26.8	J	29.7	J
Miscellaneous	Flash Point Closed Cup	Deg F																					
Miscellaneous	Percent moisture	%																					
Miscellaneous	Total Solids	%				92.3		95.7		88.2		79.6		80.1		92.5		89.4		92.3		92	
PCBs/Pesticides	Aroclor-1016	mg/kg	1.00E+02	2.60E+02		0.036	U	0.034	U	0.037	U	0.083	U	0.041	U	0.036	U	0.18	U	0.036	U		
PCBs/Pesticides	Aroclor-1221	mg/kg	1.40E+01	2.10E+02		0.036	U	0.034	U	0.037	U	0.083	U	0.041	U	0.036	U	0.18	U	0.036	U		
PCBs/Pesticides	Aroclor-1232	mg/kg	1.40E+01	7.30E+01		0.036	U	0.034	U	0.037	U	0.083	U	0.041	U	0.036	U	0.18	U	0.036	U		
PCBs/Pesticides	Aroclor-1242	mg/kg	2.00E+01	4.40E+02		0.036	U	0.034	U	0.037	U	0.083	U	0.041	U	0.036	U	0.18	U	0.036	U		
PCBs/Pesticides	Aroclor-1248	mg/kg	2.00E+01	4.40E+02		0.036	U	0.034	U	0.037	U	0.083	U	0.041	U	0.036	U	0.18	U	0.036	U		
PCBs/Pesticides	Aroclor-1254	mg/kg	2.00E+01	7.50E+01		0.036	U	0.034	U	0.037	U	0.59		0.2		0.17		0.91		0.2			
PCBs/Pesticides	Aroclor-1260	mg/kg	2.00E+01	4.40E+02		0.036	U	0.034	U	0.0089	J	0.083	U	0.041	U	0.036	U	0.18	U	0.036	U		
SVOCs	2,2-oxybis(1-Chloropropane)	ug/kg																					
SVOCs	2,2-oxybis(2-Chloropropane), SVOC	ug/kg				360	U	340	U	370	U	410	U	410	U	360	U	370	U	360	U	360	U
SVOCs	2,4,5-Trichlorophenol	ug/kg	1.80E+08	1.00E+09		360	U	340	U	370	U	410	U	410	U	360	U	370	U	360	U	360	U
SVOCs	2,4,6-Trichlorophenol	ug/kg	1.80E+06	1.40E+06		360	U	340	U	370	U	410	U	410	U	360	U	370	U	360	U	360	U
SVOCs	2,4-Dichlorophenol	ug/kg	5.30E+06	2.80E+07		360	U	340	U	370	U	410	U	410	U	360	U	370	U	360	U	360	U
SVOCs	2,4-Dimethylphenol	ug/kg	3.50E+07	8.50E+07		360	U	340	U	370	U	410	U	410	U	360	U	370	U	360	U	360	U
SVOCs	2,4-Dinitrophenol	ug/kg	3.50E+06	2.80E+07		1700	U	1700	U	1800	U	2000	U	2000	U	1700	U	1800	UJ	1700	U	1700	U
SVOCs	2,4-Dinitrotoluene	ug/kg	1.60E+05	2.80E+06		360	U	340	U	370	U	410	U	410	U	360	U	370	U	360	U	360	U
SVOCs	2,6-Dinitrotoluene	ug/kg	3.30E+04	6.70E+05		360	U	340	U	370	U	410	U	410	U	360	U	370	U	360	U	360	U
SVOCs	2-Chloronaphthalene	ug/kg	3.30E+08	1.00E+09		360	U	340	U	370	U	410	U	410	U	360	U	370	U	360	U	360	U
SVOCs	2-Chlorophenol	ug/kg	2.00E+07	2.20E+07		360	U	340	U	370	U	410	U	410	U	360	U	370	U	360	U	360	U
SVOCs	2-Methylnaphthalene	ug/kg	6.00E+06	5.20E+06		360	U	340	U	370	U	600		170	J	360	U	370	U	360	U	360	U
SVOCs	2-Methylphenol	ug/kg	8.80E+07	7.10E+08		360	U	340	U	370	U	410	U	410	U	360	U	370	U	360	U	360	U
SVOCs	2-Nitroaniline	ug/kg				1700	U	1700	U	1800	U	2000	U	2000	U	1700	U	1800	U	1700	U	1700	U
SVOCs	2-Nitrophenol	ug/kg				360	U	340	U	370	U	410	U	410	U	360	U	370	U	360	U	360	U
SVOCs	3,3-Dichlorobenzidine	ug/kg	1.10E+05	2.20E+06		1700	U	1700	U	1800	U	2000	U	2000	U	1700	U	1800	U	1700	U	1700	U
SVOCs	3-Nitroaniline	ug/kg				1700	U	1700	U	1800	U	2000	U	2000	U	1700	U	1800	U	1700	U	1700	U
SVOCs	4,6-Dinitro-2-methylphenol	ug/kg				1700	U	1700	U	1800	U	2000	U	2000	U	1700	U	1800	UJ	1700	U	1700	U
SVOCs	4-Bromophenyl phenyl ether	ug/kg				360	U	340	U	370	U	410	U	410	U	360	U	370	U	360	U	360	U
SVOCs	4-Chloro-3-methylphenol	ug/kg				360	U	340	U	370	U	410	U	410	U	360	U	370	U	360	U	360	U
SVOCs	4-Chloroaniline	ug/kg	2.50E+05	7.10E+05		360	U	340	U	370	U	410	U	410	U	360	U	370	U	360	U	360	U
SVOCs	4-Chlorophenyl phenyl ether	ug/kg				360	U	340	U	370	U	410	U	410	U	360	U	370	U	360	U	360	U
SVOCs	4-Methylphenol	ug/kg	1.80E+08	2.80E+07		360	U	340	U	370	U	410	U	410	U	360	U	370	U	360	U	360	U
SVOCs	4-Nitroaniline	ug/kg	2.50E+06	1.40E+07		1700	U	1700	U	1800	U	2000	U	2000	U	1700	U	1800	U	1700	U	1700	U
SVOCs	4-Nitrophenol	ug/kg				1700	U	1700	U	1800	U	2000	U	2000	U	1700	U	1800	U	1700	U	1700	U
SVOCs	Acenaphthene	ug/kg	9.00E+07	7.80E+08		360	U	340	U	370	U	410	U	410	U	360	U	370	U	360	U	360	U
SVOCs	Acenaphthylene	ug/kg				360	U	340	U	370	U	410	U	410	U	360	U	370	U	360	U	360	U
SVOCs	Acetophenone	ug/kg	2.50E+06	2.50E+06		360	U	340	U	370	U	410	U	410	U	360	U	370	U	360	U	360	U
SVOCs	Anthracene	ug/kg	4.50E+08	1.00E+09		360	U	340	U	370	U	410	U	410	U	360	U	370	U	360	U	360	U
SVOCs	Atrazine	ug/kg				360	U	340	U	370	U	410	U	410	U	360	U	370	U	360	U	360	U
SVOCs	Benzaldehyde	ug/kg				360	U	340	U	370	U	410	U	410	U	360	U	370	U	360	U	360	U
SVOCs	Benzo(a)anthracene	ug/kg	5.80E+04	1.20E+06		360	U	340	U	370	U	410	U	410	U	360	U	370	U	360	U	360	U
SVOCs	Benzo(a)pyrene	ug/kg	5.80E+03	1.20E+05		360	U	340	U	370	U	410	U	410	U	360	U	370	U	360	U	360	U
SVOCs	Benzo(b)fluoranthene	ug/kg	5.80E+04	1.20E+06		360	U	340	U	370	U	410	U	410	U	360	U	370	U	360	U	360	U
SVOCs	Benzo(g,h,i)perylene	ug/kg				360	U	340	U	370	U	410	U	410	U	360	U	370	U	360	U	360	U
SVOCs	Benzo(k)fluoranthene	ug/kg	5.80E+05	1.20E+07		360	U	340	U	370	U	410	U	410	U	360	U	370	U	360	U	360	U
SVOCs	Biphenyl	ug/kg	1.40E+07	1.90E+08		360	U	340	U	370	U	410	U	410	U	360	U	370	U	360	U	360	U
SVOCs	bis(2-Chloroethoxy)methane	ug/kg	5.30E+06	4.30E+07		360	U	340	U	370	U	410	U	410	U	360	U	370	U	360	U	360	U
SVOCs	bis(2-Chloroethyl)ether	ug/kg	3.00E+04	2.90E+05		360	U	340	U	370	U	410	U	410	U	360	U	370	U	360	U	360	U
SVOCs	bis(2-Ethylhexyl)phthalate	ug/kg	3.50E+06	7.10E+07		360	U	340	U	370	U	410	U	410	U	360	U	370	U	360	U	360	U
SVOCs	Butyl benzylphthalate	ug/kg	2.60E+07	5.20E+08		360	U	340	U	370	U	410	U	410	U	360	U	370	U	360	U	360	U
SVOCs	Caprolactam	ug/kg				360	U	340	U	370	U	410	U	410	U	360	U	370	U	360	U	360	U
SVOCs	Carbazole	ug/kg				360	U	340	U	370	U	410	U	410	U	360	U	370	U	360	U	360	U
SVOCs	Chrysene	ug/kg	5.80E+06	1.20E+08		360	U	340	U	370	U	410	U	410	U	360	U	370	U	360	U	360	U
SVOCs	Dibenz(a,h)anthracene	ug/kg	5.80E+03	1.20E+08		360	U	340	U	370	U	410	U	410	U	360	U	370	U	360	U	360	U
SVOCs	Dibenzofuran	ug/kg				360	U	340	U	370	U	81	J	410	U	360	U	370	U	360	U	360	U
SVOCs	Diethyl phthalate	ug/kg	1.00E+09	1.00E+09		360	U	340	U	370	U	410	U	410	U	360	U	370	U	360	U	360	U
SVOCs	Dimethyl phthalate	ug/kg				360	U	340	U	370	U	410	U	410	U	360	U	370	U	360	U	360	U
SVOCs	Di-n-butylphthalate	ug/kg	1.80E+08	4.30E+08		360	U	340	U	370	U	410	U	410	U	360	U	370	U	360	U	360	U
SVOCs	Di-N-Octyl phthalate	ug/kg				360	U	340	U	370	U	410	U	410	U	360	U	370	U	360	U	360	U
SVOCs	Fluoranthene	ug/kg	6.00E+07	1.60E+08		360	U	340	U	370	U	410	U	410	U	360	U	370	U	360	U	360	U
SVOCs	Fluorene	ug/kg	6.00E+07	5.20E+08		360	U	340	U	370	U	77	J	410	U	360	U	370	U	360	U	360	U
SVOCs	Hexachlorobenzene	ug/kg	3.10E+04	1.40E+04		360	U	340	U	370	U	410	U	410	U	360	U	370	U	360	U	360	U
SVOCs	Hexachlorobutadiene	ug/kg	6.30E+05	1.40E+06																			

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Appendix A
Soil Data Compared to GDCC
Greenspace Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units	Ohio VAP C/I GDCSS	Ohio VAP CW GDCSS	Station Name	SB-34-02		SB-35-02		SB-35-02		SB-36-02		SB-36-02		SB-36-02		SB-37-02		SB-37-02		SB-92-03	
					FieldSampleID	SB-34-02		SB-35-02		SB-35-02		SB-36-02		SB-36-02		SB-36-02		SB-37-02		SB-37-02		SB-92-03	
					Sample Date	4/12/2002		4/15/2002		4/15/2002		4/15/2002		4/15/2002		4/15/2002		4/15/2002		4/15/2002		4/1/2003	
					Depth	12 - 14 ft		1 - 3 ft		9 - 11 ft		1 - 3 ft		4 - 6 ft		8.5 - 10.5 ft		1 - 3 ft		9 - 11 ft		1 - 3 ft	
SVOCs	Hexachlorobutadiene, SVOC	ug/kg	6.30E+05	1.40E+06		360	U	340	U	370	U	410	U	410	U	360	U	370	U	360	U	360	U
SVOCs	Hexachlorocyclopentadiene	ug/kg	1.10E+07	2.60E+07		1700	UJ	1700	U	1800	U	2000	U	2000	U	1700	U	1800	U	1700	U	1700	U
SVOCs	Hexachloroethane	ug/kg	1.20E+06	3.00E+06		360	U	340	U	370	U	410	U	410	U	360	U	370	U	360	U	360	U
SVOCs	Indeno(1,2,3-cd)pyrene	ug/kg	5.80E+04	1.20E+06		360	U	340	U	370	U	410	U	410	U	360	U	370	U	360	U	360	U
SVOCs	Isophorone	ug/kg	5.20E+07	1.00E+09		360	U	340	U	370	U	410	U	410	U	360	U	370	U	360	U	360	U
SVOCs	Naphthalene, SVOC	ug/kg	4.50E+05	5.60E+05		360	U	340	U	370	U	220	J	410	U	360	U	370	U	360	U	360	U
SVOCs	Nitrobenzene	ug/kg	6.10E+05	3.00E+06		360	U	340	U	370	U	410	U	410	U	360	U	370	U	360	U	360	U
SVOCs	N-Nitrosodi-n-propylamine	ug/kg	7.00E+03	1.40E+05		360	U	340	U	370	U	410	U	410	U	360	U	370	U	360	U	360	U
SVOCs	N-Nitrosodiphenylamine	ug/kg	1.00E+07	2.00E+08		360	U	340	U	370	U	410	U	410	U	360	U	370	U	360	U	360	U
SVOCs	Pentachlorophenol	ug/kg	6.70E+04	9.50E+05		360	U	340	U	370	U	410	U	410	U	360	U	370	U	360	U	360	U
SVOCs	Phenanthrene	ug/kg				360	U	340	U	370	U	88	J	410	U	360	U	370	U	360	U	360	U
SVOCs	Phenol	ug/kg	5.30E+08	8.40E+08		360	U	340	U	370	U	410	U	410	U	360	U	370	U	360	U	360	U
SVOCs	Pyrene, SVOC	ug/kg	4.50E+07	3.90E+08		360	U	340	U	370	U	410	U	410	U	360	U	370	U	360	U	360	U
TPH	C21-C34 Aliphatics	mg/kg	5000	5000																			
TPH	Diesel Range Organics (DRO)	mg/kg	2000	2000																			
TPH	Gasoline Range Organics (GRO)	mg/kg	1000	1000																			
VOCs	1,1,1,2-Tetrachloroethane	ug/kg	2.40E+05	6.80E+05																			
VOCs	1,1,1-Trichloroethane	ug/kg	6.40E+05	6.40E+05		4.9	U	7.3	U	4.6	U	420	U	310	U	5.5	U	4.4	U	4.7	U	200	U
VOCs	1,1,2,2-Tetrachloroethane	ug/kg	7.50E+04	6.70E+05		4.9	U	7.3	U	4.6	U	420	U	310	U	5.5	U	4.4	U	4.7	U	200	U
VOCs	1,1,2-Trichloroethane	ug/kg	1.40E+05	1.20E+06		4.9	U	7.3	U	4.6	U	420	U	310	U	5.5	U	4.4	U	4.7	U	200	U
VOCs	1,1-Dichloroethane	ug/kg	4.20E+05	1.70E+06		4.9	U	7.3	U	4.6	U	420	U	310	U	5.5	U	4.4	U	4.7	U	200	U
VOCs	1,1-Dichloroethene	ug/kg	1.20E+06	3.60E+05		4.9	U	7.3	U	4.6	U	420	U	310	U	5.5	U	4.4	U	4.7	U	200	U
VOCs	1,1-Dichloropropene	ug/kg																					
VOCs	1,2,4-Trichlorobenzene, VOC	ug/kg	4.00E+05	4.00E+05		4.9	U	7.3	U	4.6	UJ	420	U	310	U	5.5	U	4.4	U	4.7	U	200	U
VOCs	1,2-Dibromo-3-chloropropane	ug/kg	1.70E+03	1.50E+04		9.7	U	15	U	9.3	UJ	840	U	620	U	11	U	8.8	U	9.4	UJ	400	U
VOCs	1,2-Dibromoethane	ug/kg	4.40E+03	3.80E+04		4.9	U	7.3	U	4.6	U	420	U	310	U	5.5	U	4.4	U	4.7	U	200	U
VOCs	1,2-Dichlorobenzene, VOC	ug/kg	3.80E+05	3.80E+05		4.9	U	7.3	U	4.6	UJ	420	U	310	U	5.5	U	4.4	U	4.7	U	200	U
VOCs	1,2-Dichloroethane	ug/kg	5.60E+04	4.80E+05		4.9	U	7.3	U	4.6	U	420	U	310	U	5.5	U	4.4	U	4.7	U	200	U
VOCs	1,2-Dichloropropane	ug/kg	1.20E+05	1.80E+05		4.9	U	7.3	U	4.6	U	420	U	310	U	5.5	U	4.4	U	4.7	U	200	U
VOCs	1,3-Dichlorobenzene, VOC	ug/kg				4.9	U	7.3	U	4.6	UJ	420	U	310	U	5.5	U	4.4	U	4.7	U	200	U
VOCs	1,3-Dichloropropane	ug/kg	1.50E+06	1.50E+06																			
VOCs	1,4-Dichlorobenzene, VOC	ug/kg	3.10E+05	2.60E+06		4.9	U	7.3	U	4.6	UJ	31	J	22	J	5.5	U	4.4	U	4.7	U	200	U
VOCs	2,2-Dichloropropane	ug/kg																					
VOCs	2-Butanone	ug/kg	2.80E+07	2.80E+07		19	U	29	U	4.3	J	170	J	130	J	22	U	18	U	19	U	790	U
VOCs	2-Chlorotoluene	ug/kg																					
VOCs	2-Hexanone	ug/kg				19	U	29	U	19	U	1700	U	1200	U	22	U	18	U	19	U	790	U
VOCs	4-Chlorotoluene	ug/kg																					
VOCs	4-Methyl-2-Pentanone	ug/kg	3.40E+06	3.40E+06		19	U	29	U	19	U	1700	U	1200	U	22	U	18	U	19	U	790	U
VOCs	Acetone	ug/kg	1.10E+08	1.10E+08		19	UJ	29	UJ	240	J	1700	UJ	1200	UJ	22	UJ	18	UJ	19	UJ	790	UJ
VOCs	Acetonitrile	mg/kg	9.20E+03	2.60E+04																			
VOCs	Acrolein	ug/kg																					
VOCs	Acrylonitrile	ug/kg																					
VOCs	Allyl chloride	ug/kg	1.90E+04	6.40E+04																			
VOCs	Benzene	ug/kg	1.40E+05	1.20E+06		4.9	U	7.3	U	4.6	U	420	U	310	U	5.5	U	4.4	U	4.7	U	200	U
VOCs	Bromobenzene	ug/kg																					
VOCs	Bromochloromethane	ug/kg																					
VOCs	Bromodichloromethane	ug/kg	3.50E+04	3.00E+05		4.9	U	7.3	U	4.6	U	420	U	310	U	5.5	U	4.4	U	4.7	U	200	U
VOCs	Bromoform	ug/kg	6.20E+06	1.30E+08		4.9	UJ	7.3	UJ	4.6	UJ	420	UJ	310	UJ	5.5	UJ	4.4	UJ	4.7	UJ	200	U
VOCs	Bromomethane	ug/kg	8.20E+04	5.50E+05		4.9	UJ	7.3	UJ	4.6	UJ	420	U	310	U	5.5	U	4.4	U	4.7	UJ	200	U
VOCs	Carbon disulfide	ug/kg	7.40E+05	7.40E+05		4.9	U	7.3	U	4.6	U	420	U	310	U	5.5	U	4.4	U	4.7	U	200	U
VOCs	Carbon tetrachloride	ug/kg	7.90E+04	4.60E+05		4.9	U	7.3	U	4.6	U	420	UJ	310	UJ	5.5	UJ	4.4	UJ	4.7	UJ	200	U
VOCs	Chlorobenzene	ug/kg	7.60E+05	7.60E+05		4.9	U	7.3	U	4.6	U	420	U	310	U	5.5	U	4.4	U	4.7	U	200	U
VOCs	Chloroethane	ug/kg				4.9	U	7.3	U	4.6	U	420	U	310	U	5.5	U	4.4	U	4.7	U	200	U
VOCs	Chloroform	ug/kg	3.80E+04	3.20E+05		4.9	U	7.3	U	4.6	U	420	U	310	U	5.5	U	4.4	U	4.7	U	200	U
VOCs	Chloromethane	ug/kg	1.30E+06	1.30E+06		4.9	U	7.3	U	4.6	U	420	U	310	U	5.5	U	4.4	U	4.7	U	200	U
VOCs	cis-1,2-Dichloroethene	ug/kg				2.4	U	3.7	U	2.3	U	110	J	240		3.7		1.4	J	4.6		99	U
VOCs	cis-1,3-Dichloropropene	ug/kg	2.30E+05	5.20E+05		4.9	U	7.3	U	4.6	U	420	U	310	U	5.5	U	4.4	U	4.7	U	200	U
VOCs	Cyclohexane	ug/kg	1.20E+05	1.20E+05		9.7	U	15	U	9.3	U	840	U	620	U	11	U	8.8	U	9.4	U	400	U
VOCs	Dibromochloromethane	ug/kg	8.40E+04	7.70E+05		4.9	U	7.3	U	4.6	U	420	U	310	U	5.5	U	4.4	U	4.7	U	200	U
VOCs	Dibromomethane	ug/kg	2.80E+06	3.80E+04																			
VOCs	Dichlorodifluoromethane	ug/kg	8.50E+05	8.50E+05		4.9	U	7.3	U	4.6	U	420	U	310	U	5.5	U	4.4	U	4.7	U	200	U
VOCs	Ethylbenzene	ug/kg	4.80E+05	4.80E+05		4.9	U	7.3	U	4.6	U	140	J	97	J	5.5	U	4.4	U	4.7	U	200	U
VOCs	Iodomethane	ug/kg																					
VOCs	Isopropylbenzene, VOC	ug/kg	2.70E+05	2.70E+05		4.9	U	7.3	U	4.6	U	95	J	310	U	5.5	U	4.4	U	4.7	U	200	U
VOCs	Methyl acetate	ug/kg				9.7	U	15	U	9.3	U	840	U	620	U	11	U	8.8	U	9.4	U	400	U
VOCs	Methyl cyclohexane	ug/kg				9.7	U	15	U	9.3	U	29	J	620	U	11	U	8.8	U	9.4	U	400	U
VOCs	Methyl tert butyl ether	ug/kg	5.70E+06	8.90E+06		19	U	29	U	19	U	1700	U	1200	U	22	U	18	U	19	U	790	U
VOCs	Methylene chloride	ug/kg	3.30E+06	3.30E+06		4.9	U	7.3	U	4.6	U	420	U	310	U	5.5	U	4.4	U	4.7	U	200	U
VOCs	n-Hexane	ug/kg	1.40E+05	1.40E+05																			
VOCs	o-Xylene	ug/kg	2.60E+05	2.60E+05																			
VOCs	Styrene	ug/kg	8.70E+05	8.70E+05		4.9	U	7.3	U	4.6	U	420	U	310	U	5.5	U	4.4	U	4.7	U	200	U
VOCs	Tetrachloroethene	ug/kg	1.70E+05	1.70E+05		8.4		7.3	U	41		750		1800		67		14		140		1200	
VOCs	Toluene	ug/kg	8.20E+05	8.20E+05		0.69	J	7.3	U	4.6	U	59	J	56	J	5.5	U	0.49	J	0.68	J	200	U
VOCs	trans-1,2-Dichloroethene	ug/kg	1.70E+06	1.70E+06		2.4	U	3.7	U	2.3	U	210	U	150	U	2.8	U	2.2	U	2.4	U	99	U
VOCs	trans-1,3-Dichloropropene	ug/kg	2.30E+05	5.20E+05		4.9	U	7.3	U	4.6	U	420	U	310	U	5.5	U	4.4	U	4.7	U	200	U
VOCs	Trichloroethene	ug/kg	5.10E+04	1.70E+04		13		7.3	U	4.6	U	1300		1800		51		5.5		120		110	J
VOCs	Trichlorofluoromethane	ug/kg	1.20E+06	1.20E+06		4.9	U	7.3	U	4.6	U	420	U	310	U	5.5	U	4.4	U	4.7	U	200	U
VOCs	Trifluorotrichloroethane	ug/kg				4.9	U	7.3	U	4.6	U	420	U	310	U	5.5	U	4.4	U	4.7	U	200	U
VOCs	Vinyl acetate	ug/kg	2.70E+06	6.20E+05																			
VOCs	Vinyl chloride	ug/kg	5.00E+04	2.80E+05		4.9	U	7.3	U	4.6	U	420	U	310	U	5.5	U	4.4	U	4.7	U	200	U
VOCs	Xylene (Total)	ug/kg	2.60E+05	2.60E+05		9.7	U	15	U	9.3	U	930		720		11	U	8.8	U	9.4	U	400	U

See notes on page 18 of 18

Appendix A
Soil Data Compared to GDCC
Greenspace Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units	Ohio VAP C/I GDCSS	Ohio VAP CW GDCSS	Station Name	SB-92-03		SB-92-03		SB-93-03		SB-93-03		SB-94-03		SB-94-03		SB-94-03		SB-95-03		SB-95-03		SB-96-03		SB-96-03	
					FieldSampleID	SB-92-03		SB-92-03		SB-93-03		SB-93-03		SB-94-03		SB-94-03 DUP		SB-94-03		SB-95-03		SB-95-03		SB-96-03		SB-96-03	
					Sample Date	4/1/2003		4/1/2003		4/1/2003		4/1/2003		4/1/2003		4/1/2003		4/1/2003		4/1/2003		4/1/2003		4/1/2003		4/1/2003	
					Depth	6.5 - 8.5 ft		9 - 11 ft		1 - 3 ft		8.5 - 10.5 ft		1 - 3 ft		9 - 11 ft		9 - 11 ft		1 - 3 ft		9 - 11 ft		1 - 3 ft		9 - 11 ft	
Field Parameters	pH Field	s.u.																									
Metals	Antimony	mg/kg	1.60E+03	8.50E+02		6.4	UJ	7.5	UJ	6.5	UJ	6.7	UJ														
Metals	Arsenic	mg/kg	7.70E+01	6.90E+02		2.3		12.3		4.4		3.4															
Metals	Barium	mg/kg				14.8	J	154	J	46.2	J	79.8	J														
Metals	Beryllium	mg/kg	7.80E+03	3.40E+03		0.53	U	0.62	U	0.55	U	0.56	U														
Metals	Cadmium	mg/kg	2.60E+03	1.00E+03		0.14	J	3.3		2.3		0.13	J														
Metals	Chromium Total	mg/kg	2.10E+02	1.20E+03		4.7	J	25.8	J	17.5	J	3.9	J														
Metals	Cobalt	mg/kg				1.7	J	3.1	J	2.7	J	1.4	J														
Metals	Copper	mg/kg	1.60E+05	2.10E+04		5.6	J	48.1	J	31.5	J	2.8	J														
Metals	Cyanide (total)	mg/kg	3.70E+02	1.50E+02		0.53	U	0.95		1.3		0.56	U														
Metals	Lead	mg/kg	8.00E+02	4.00E+02		2.8	J	20.7	J	13.3	J	2.4	J														
Metals	Manganese	mg/kg				139	J	904	J	270	J	404	J														
Metals	Mercury	mg/kg	3.10E+00	3.10E+00		0.11	U	0.12	U	0.13		0.11	U														
Metals	Nickel	mg/kg	7.40E+04	2.30E+04		4.1	J	21.2		9.6		3.2	J														
Metals	Potassium	mg/kg																									
Metals	Selenium	mg/kg	2.00E+04	1.10E+04		0.53	U	0.62	U	0.55	U	0.56	U														
Metals	Silver	mg/kg	2.00E+04	1.10E+04		0.16	J	1.2	U	0.35	J	1.1	U														
Metals	Thallium	mg/kg				1.1	U	1.2	U	1.1	U	1.1	U														
Metals	Vanadium	mg/kg	2.30E+04	1.10E+04		4.8	J	8.7		8		4.6	J														
Metals	Zinc	mg/kg	1.00E+06	6.40E+05		16.4	J	127	J	141	J	11.8	J														
Miscellaneous	Flash Point Closed Cup	Deg F																									
Miscellaneous	Percent moisture	%																									
Miscellaneous	Total Solids	%				94.1		80.3		91.6		90.1		95.8		96.6		96.3		93.1		92.3		79.3		94.6	
PCBs/Pesticides	Aroclor-1016	mg/kg	1.00E+02	2.60E+02																							
PCBs/Pesticides	Aroclor-1221	mg/kg	1.40E+01	2.10E+02																							
PCBs/Pesticides	Aroclor-1232	mg/kg	1.40E+01	7.30E+01																							
PCBs/Pesticides	Aroclor-1242	mg/kg	2.00E+01	4.40E+02																							
PCBs/Pesticides	Aroclor-1248	mg/kg	2.00E+01	4.40E+02																							
PCBs/Pesticides	Aroclor-1254	mg/kg	2.00E+01	7.50E+01																							
PCBs/Pesticides	Aroclor-1260	mg/kg	2.00E+01	4.40E+02																							
SVOCs	2,2-oxybis(1-Chloropropane)	ug/kg																									
SVOCs	2,2-oxybis(2-Chloropropane), SVOC	ug/kg				350	U	410	U	1400	U	370	U	860	U	340	U	340	U	350	U	1800	U	420	U	350	U
SVOCs	2,4,5-Trichlorophenol	ug/kg	1.80E+08	1.00E+09		350	U	410	U	1400	R	370	U	860	U	340	U	340	U	350	U	1800	U	420	U	350	U
SVOCs	2,4,6-Trichlorophenol	ug/kg	1.80E+06	1.40E+06		350	U	410	U	1400	R	370	U	860	U	340	U	340	U	350	U	1800	U	420	U	350	U
SVOCs	2,4-Dichlorophenol	ug/kg	5.30E+06	2.80E+07		350	U	410	U	1400	R	370	U	860	U	340	U	340	U	350	U	1800	U	420	U	350	U
SVOCs	2,4-Dimethylphenol	ug/kg	3.50E+07	8.50E+07		350	U	410	U	1400	R	370	U	860	U	340	U	340	U	350	U	1800	U	420	U	350	U
SVOCs	2,4-Dinitrophenol	ug/kg	3.50E+06	2.80E+07		1700	U	2000	U	7000	R	1800	U	4200	U	1700	U	1700	U	1700	U	8700	U	2000	U	1700	U
SVOCs	2,4-Dinitrotoluene	ug/kg	1.60E+05	2.80E+06		350	U	410	U	1400	U	370	U	860	U	340	U	340	U	350	U	1800	U	420	U	350	U
SVOCs	2,6-Dinitrotoluene	ug/kg	3.30E+04	6.70E+05		350	U	410	U	1400	U	370	U	860	U	340	U	340	U	350	U	1800	U	420	U	350	U
SVOCs	2-Chloronaphthalene	ug/kg	3.30E+08	1.00E+09		350	U	410	U	1400	U	370	U	860	U	340	U	340	U	350	U	1800	U	420	U	350	U
SVOCs	2-Chlorophenol	ug/kg	2.00E+07	2.20E+07		350	U	410	U	1400	R	370	U	860	U	340	U	340	U	350	U	1800	U	420	U	350	U
SVOCs	2-Methylnaphthalene	ug/kg	6.00E+06	5.20E+06		350	U	410	U	1400	U	370	U	860	U	340	U	340	U	350	U	1800	U	100	J	350	U
SVOCs	2-Methylphenol	ug/kg	8.80E+07	7.10E+08		350	U	410	U	1400	R	370	U	860	U	340	U	340	U	350	U	1800	U	420	U	350	U
SVOCs	2-Nitroaniline	ug/kg				1700	U	2000	U	7000	U	1800	U	4200	U	1700	U	1700	U	1700	U	8700	U	2000	U	1700	U
SVOCs	2-Nitrophenol	ug/kg				350	U	410	U	1400	R	370	U	860	U	340	U	340	U	350	U	1800	U	420	U	350	U
SVOCs	3,3-Dichlorobenzidine	ug/kg	1.10E+05	2.20E+06		1700	U	2000	U	7000	U	1800	U	4200	U	1700	U	1700	U	1700	U	8700	U	2000	U	1700	U
SVOCs	3-Nitroaniline	ug/kg				1700	U	2000	U	7000	U	1800	U	4200	U	1700	U	1700	U	1700	U	8700	U	2000	U	1700	U
SVOCs	4,6-Dinitro-2-methylphenol	ug/kg				1700	U	2000	U	7000	R	1800	U	4200	U	1700	U	1700	U	1700	U	8700	U	2000	U	1700	U
SVOCs	4-Bromophenyl phenyl ether	ug/kg				350	U	410	U	1400	U	370	U	860	U	340	U	340	U	350	U	1800	U	420	U	350	U
SVOCs	4-Chloro-3-methylphenol	ug/kg				350	U	410	U	1400	R	370	U	860	U	340	U	340	U	350	U	1800	U	420	U	350	U
SVOCs	4-Chloroaniline	ug/kg	2.50E+05	7.10E+05		350	U	410	U	1400	U	370	U	860	U	340	U	340	U	350	U	1800	U	420	U	350	U
SVOCs	4-Chlorophenyl phenyl ether	ug/kg				350	U	410	U	1400	U	370	U	860	U	340	U	340	U	350	U	1800	U	420	U	350	U
SVOCs	4-Methylphenol	ug/kg	1.80E+08	2.80E+07		350	U	410	U	1400	R	370	U	860	U	340	U	340	U	350	U	1800	U	420	U	350	U
SVOCs	4-Nitroaniline	ug/kg	2.50E+06	1.40E+07		1700	U	2000	U	7000	U	1800	U	4200	U	1700	U	1700	U	1700	U	8700	U	2000	U	1700	U
SVOCs	4-Nitrophenol	ug/kg				1700	U	2000	U	7000	R	1800	U	4200	U	1700	U	1700	U	1700	U	8700	U	2000	U	1700	U
SVOCs	Acenaphthene	ug/kg	9.00E+07	7.80E+08		350	U	410	U	1400	U	370	U	860	U	340	U	340	U	16	J	1800	U	85	J	350	U
SVOCs	Acenaphthylene	ug/kg				350	U	410	U	1400	U	370	U	860	U	340	U	340	U	350	U	1800	U	59	J	350	U
SVOCs	Acetophenone	ug/kg	2.50E+06	2.50E+06		350	U	410	U	1400	U	370	U	860	U	340	U	340	U	350	U	1800	U	420	U	350	U
SVOCs	Anthracene	ug/kg	4.50E+08	1.00E+09		350	U	410	U	1400	U	370	U	860	U	340	U	340	U	24	J	1800	U	290	J	350	U
SVOCs	Atrazine	ug/kg				350	U	410	U	1400	U	370	U	860	U	340	U	340	U	350	U	1800	U	420	U	350	U
SVOCs	Benzaldehyde	ug/kg				350	U	410	U	1400	U	370	U	860	U	340	U	340	U	350	U	1800	U	420	U	350	U
SVOCs	Benzo(a)anthracene	ug/kg	5.80E+04	1.20E+06		350	U	110	J	1400	U	370	U	860	U	340	U	340	U	100	J	1800	U	610		350	U
SVOCs	Benzo(a)pyrene	ug/kg	5.80E+03	1.20E+05		350	U	43	J	1400	U	370	U	860	U	340	U	340	U	41	J	1800	U	520		350	U
SVOCs	Benzo(b)fluoranthene	ug/kg	5.80E+04	1.20E+06		350	U	43	J	1400	U	370	U	860	U	340	U	340	U	44	J	1800	U	400	J	350	U
SVOCs	Benzo(g,h,i)perylene	ug/kg				350	U	30	J	1400	U	370	U	860	U	340	U	340	U	27	J	1800	U	230	J	350	U
SVOCs	Benzo(k)fluoranthene	ug/kg	5.80E+05	1.20E+07		350	U	38	J	1400	U	370	U	860	U	340	U	340	U	28	J	1800	U	410	J	350	U
SVOCs	Biphenyl	ug/kg	1.40E+07	1.90E+08		350	U	410	U	1400	U	370	U	860	U	340	U	340	U	350	U	1800	U	80	J	350	U
SVOCs	bis(2-Chloroethoxy)methane	ug/kg	5.30E+06	4.30E+07		350	U	410	U	1400	U	370	U	860	U	340	U	340	U	350	U	1800	U	420	U	350	U
SVOCs	bis(2-Chloroethyl)ether	ug/kg	3.00E+04	2.90E+05		350	U	410	U	1400	U	370	U	860	U	340	U	340	U	350	U	1800	U	420	U	350	U
SVOCs	bis(2-Ethylhexyl)phthalate	ug/kg	3.50E+06	7.10E+07		29	J	43	J	71	J	370	U	2300		16	J	14	J	15	J	1800	U	150	J	350	U
SVOCs	Butyl benzylphthalate	ug/kg	2.60E+07	5.20E+08		350	U	410	U	1400	U	370	U	860	U	340	U	340	U	350	U	1800	U	420	U	350	U
SVOCs	Caprolactam	ug/kg				350	U	410	U	1400	U	370	U	860	U	340	U	340	U	350	U	1800	U	420	U	350	U
SVOCs	Carbazole	ug/kg				350	U	410	U	1400	U	370	U	860	U	340	U	340	U	350	U	1800	U	110	J	350	U
SVOCs	Chrysene	ug/kg	5.80E+06	1.20E+08		350	U	44	J	1400	U	370	U	860	U	340	U	340	U	47	J	1800	U	640		350	U
SVOCs	Dibenz(a,h)anthracene	ug/kg	5.80E+03	1.20E+08		350	U	410	U	1400	U	370	U	860	U	340	U	340	U	350	U	1800	U	84	J	350	U
SVOCs	Dibenzofuran	ug/kg				350	U	410	U	1400	U	370	U	860	U	340	U	340	U	350	U	1800	U	140	J	350	U
SVOCs	Diethyl phthalate	ug/kg	1.00E+09	1.00E+09		350	U	410	U	1400	U	370	U	860	U	340	U	340	U	350	U	1800	U	420	U	350	U
SVOCs	Dimethyl phthalate	ug/kg				350	U	410	U	1400	U	370	U	860	U	340	U	340	U	350	U	1800	U	420	U	350	U
SVOCs	Di-n-butylphthalate	ug/kg	1.80E+08	4.30E+08		350	U	410	U	1400	U	370	U	860	U	340	U	340	U	350	U	1800	U	420	U	350	U
SVOCs	Di-N-Octyl phthalate	ug/kg				350	U	410	U	1400	U	370	U	860	U	340	U	340	U	350	U	1800	U	420	U	350	U
SVOCs	Fluoranthene	ug/kg	6.00E+07	1.60E+08		350	U	77	J	1400	U	370	U	860	U	340	U	340	U	130	J	1800	U	1500		350	U
SVOCs	Fluorene	ug/kg	6.00E+07	5.20E+08		350	U	69	J	1400	U	370	U	860	U	340	U	340	U	67	J	1800	U	210	J	350	U
SVOCs	Hexachlorobenzene	ug/kg	3.10E+04	1.40E+04		350	U	410	U	1400	U	370	U	860	U	340	U	340	U	350	U	1800	U	420	U	350	U
SVOCs	Hexachlorobutadiene	ug/kg	6.30E+05	1.40E+06																							

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Appendix A
Soil Data Compared to GDCC
Greenspace Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units	Ohio VAP C/I GDCSS	Ohio VAP CW GDCSS	Station Name	SB-92-03		SB-92-03		SB-93-03		SB-93-03		SB-94-03		SB-94-03		SB-94-03		SB-95-03		SB-95-03		SB-96-03		SB-96-03	
					FieldSampleID	SB-92-03		SB-92-03		SB-93-03		SB-93-03		SB-94-03		SB-94-03 DUP		SB-94-03		SB-95-03		SB-95-03		SB-96-03		SB-96-03	
					Sample Date	4/1/2003		4/1/2003		4/1/2003		4/1/2003		4/1/2003		4/1/2003		4/1/2003		4/1/2003		4/1/2003		4/1/2003		4/1/2003	
					Depth	6.5 - 8.5 ft		9 - 11 ft		1 - 3 ft		8.5 - 10.5 ft		1 - 3 ft		9 - 11 ft		9 - 11 ft		1 - 3 ft		9 - 11 ft		1 - 3 ft		9 - 11 ft	
SVOCs	Hexachlorobutadiene, SVOC	ug/kg	6.30E+05	1.40E+06		350	U	410	U	1400	U	370	U	860	U	340	U	340	U	350	U	1800	U	420	U	350	U
SVOCs	Hexachlorocyclopentadiene	ug/kg	1.10E+07	2.60E+07		1700	U	2000	U	7000	U	1800	U	4200	U	1700	U	1700	U	1700	U	8700	U	2000	U	1700	U
SVOCs	Hexachloroethane	ug/kg	1.20E+06	3.00E+06		350	U	410	U	1400	U	370	U	860	U	340	U	340	U	350	U	1800	U	420	U	350	U
SVOCs	Indeno(1,2,3-cd)pyrene	ug/kg	5.80E+04	1.20E+06		350	U	410	U	1400	U	370	U	860	U	340	U	340	U	25	J	1800	U	230	J	350	U
SVOCs	Isophorone	ug/kg	5.20E+07	1.00E+09		350	U	410	U	1400	U	370	U	860	U	340	U	340	U	350	U	1800	U	420	U	350	U
SVOCs	Naphthalene, SVOC	ug/kg	4.50E+05	5.60E+05		350	U	410	U	1400	U	370	U	860	U	340	U	340	U	350	U	1800	U	110	J	350	U
SVOCs	Nitrobenzene	ug/kg	6.10E+05	3.00E+06		350	U	410	U	1400	U	370	U	860	U	340	U	340	U	350	U	1800	U	420	U	350	U
SVOCs	N-Nitrosodi-n-propylamine	ug/kg	7.00E+03	1.40E+05		350	U	410	U	1400	U	370	U	860	U	340	U	340	U	350	U	1800	U	420	U	350	U
SVOCs	N-Nitrosodiphenylamine	ug/kg	1.00E+07	2.00E+08		350	U	410	U	1400	U	370	U	860	U	340	U	340	U	350	U	1800	U	420	U	350	U
SVOCs	Pentachlorophenol	ug/kg	6.70E+04	9.50E+05		350	U	410	U	1400	R	370	U	860	U	340	U	340	U	350	U	1800	U	420	U	350	U
SVOCs	Phenanthrene	ug/kg				350	U	46	J	1400	U	370	U	860	U	340	U	340	U	120	J	1800	U	1700		350	U
SVOCs	Phenol	ug/kg	5.30E+08	8.40E+08		350	U	410	U	1400	R	370	U	860	U	340	U	340	U	350	U	1800	U	420	U	350	U
SVOCs	Pyrene, SVOC	ug/kg	4.50E+07	3.90E+08		350	U	83	J	1400	U	370	U	860	U	340	U	340	U	110	J	1800	U	1300		350	U
TPH	C21-C34 Aliphatics	mg/kg	5000	5000																							
TPH	Diesel Range Organics (DRO)	mg/kg	2000	2000																							
TPH	Gasoline Range Organics (GRO)	mg/kg	1000	1000																							
VOCs	1,1,1,2-Tetrachloroethane	ug/kg	2.40E+05	6.80E+05																							
VOCs	1,1,1-Trichloroethane	ug/kg	6.40E+05	6.40E+05		240	U	250	U	230	UJ	220	U														
VOCs	1,1,2,2-Tetrachloroethane	ug/kg	7.50E+04	6.70E+05		240	U	250	U	230	UJ	220	U														
VOCs	1,1,2-Trichloroethane	ug/kg	1.40E+05	1.20E+06		240	U	250	U	230	UJ	220	U														
VOCs	1,1-Dichloroethane	ug/kg	4.20E+05	1.70E+06		240	U	250	U	89	J	220	U														
VOCs	1,1-Dichloroethene	ug/kg	1.20E+06	3.60E+05		240	U	250	U	230	UJ	220	U														
VOCs	1,1-Dichloropropene	ug/kg																									
VOCs	1,2,4-Trichlorobenzene, VOC	ug/kg	4.00E+05	4.00E+05		240	U	250	U	230	UJ	220	U														
VOCs	1,2-Dibromo-3-chloropropane	ug/kg	1.70E+03	1.50E+04		490	U	500	U	450	UJ	450	U														
VOCs	1,2-Dibromoethane	ug/kg	4.40E+03	3.80E+04		240	U	250	U	230	UJ	220	U														
VOCs	1,2-Dichlorobenzene, VOC	ug/kg	3.80E+05	3.80E+05		240	U	250	U	230	UJ	220	U														
VOCs	1,2-Dichloroethane	ug/kg	5.60E+04	4.80E+05		240	U	250	U	230	UJ	220	U														
VOCs	1,2-Dichloropropane	ug/kg	1.20E+05	1.80E+05		240	U	250	U	230	UJ	220	U														
VOCs	1,3-Dichlorobenzene, VOC	ug/kg				240	U	250	U	230	UJ	220	U														
VOCs	1,3-Dichloropropane	ug/kg	1.50E+06	1.50E+06																							
VOCs	1,4-Dichlorobenzene, VOC	ug/kg	3.10E+05	2.60E+06		240	U	250	U	230	UJ	220	U														
VOCs	2,2-Dichloropropane	ug/kg																									
VOCs	2-Butanone	ug/kg	2.80E+07	2.80E+07		980	U	1000	U	910	UJ	900	U														
VOCs	2-Chlorotoluene	ug/kg																									
VOCs	2-Hexanone	ug/kg				980	U	1000	U	910	UJ	900	U														
VOCs	4-Chlorotoluene	ug/kg																									
VOCs	4-Methyl-2-Pentanone	ug/kg	3.40E+06	3.40E+06		980	U	1000	U	910	UJ	900	U														
VOCs	Acetone	ug/kg	1.10E+08	1.10E+08		980	UJ	1000	UJ	910	UJ	900	UJ														
VOCs	Acetonitrile	mg/kg	9.20E+03	2.60E+04																							
VOCs	Acrolein	ug/kg																									
VOCs	Acrylonitrile	ug/kg																									
VOCs	Allyl chloride	ug/kg	1.90E+04	6.40E+04																							
VOCs	Benzene	ug/kg	1.40E+05	1.20E+06		240	U	250	U	230	UJ	220	U														
VOCs	Bromobenzene	ug/kg																									
VOCs	Bromochloromethane	ug/kg																									
VOCs	Bromodichloromethane	ug/kg	3.50E+04	3.00E+05		240	U	250	U	230	UJ	220	U														
VOCs	Bromoform	ug/kg	6.20E+06	1.30E+08		240	U	250	U	230	UJ	220	U														
VOCs	Bromomethane	ug/kg	8.20E+04	5.50E+05		240	U	250	U	230	UJ	220	U														
VOCs	Carbon disulfide	ug/kg	7.40E+05	7.40E+05		240	U	250	U	230	UJ	220	U														
VOCs	Carbon tetrachloride	ug/kg	7.90E+04	4.60E+05		240	U	250	U	230	UJ	220	U														
VOCs	Chlorobenzene	ug/kg	7.60E+05	7.60E+05		240	U	250	U	230	UJ	220	U														
VOCs	Chloroethane	ug/kg				240	U	250	U	230	UJ	220	U														
VOCs	Chloroform	ug/kg	3.80E+04	3.20E+05		240	U	250	U	230	UJ	220	U														
VOCs	Chloromethane	ug/kg	1.30E+06	1.30E+06		240	U	250	U	230	UJ	220	U														
VOCs	cis-1,2-Dichloroethene	ug/kg				120	U	940		1800	J	110	U														
VOCs	cis-1,3-Dichloropropene	ug/kg	2.30E+05	5.20E+05		240	U	250	U	230	UJ	220	U														
VOCs	Cyclohexane	ug/kg	1.20E+05	1.20E+05		490	U	500	U	450	UJ	450	U														
VOCs	Dibromochloromethane	ug/kg	8.40E+04	7.70E+05		240	U	250	U	230	UJ	220	U														
VOCs	Dibromomethane	ug/kg	2.80E+06	3.80E+04																							
VOCs	Dichlorodifluoromethane	ug/kg	8.50E+05	8.50E+05		240	U	250	U	230	UJ	220	U														
VOCs	Ethylbenzene	ug/kg	4.80E+05	4.80E+05		240	U	250	U	230	UJ	220	U														
VOCs	Iodomethane	ug/kg																									
VOCs	Isopropylbenzene, VOC	ug/kg	2.70E+05	2.70E+05		240	U	250	U	230	UJ	220	U														
VOCs	Methyl acetate	ug/kg				490	U	500	U	450	UJ	450	U														
VOCs	Methyl cyclohexane	ug/kg				490	U	500	U	450	UJ	450	U														
VOCs	Methyl tert butyl ether	ug/kg	5.70E+06	8.90E+06		980	U	1000	U	910	UJ	900	U														
VOCs	Methylene chloride	ug/kg	3.30E+06	3.30E+06		240	U	250	U	230	UJ	220	U														
VOCs	n-Hexane	ug/kg	1.40E+05	1.40E+05																							
VOCs	o-Xylene	ug/kg	2.60E+05	2.60E+05																							
VOCs	Styrene	ug/kg	8.70E+05	8.70E+05		240	U	250	U	230	UJ	220	U														
VOCs	Tetrachloroethene	ug/kg	1.70E+05	1.70E+05		1100		5600		210	J	1300															
VOCs	Toluene	ug/kg	8.20E+05	8.20E+05		240	U	250	U	230	UJ	220	U														
VOCs	trans-1,2-Dichloroethene	ug/kg	1.70E+06	1.70E+06		120	U	130	U	110	UJ	110	U														
VOCs	trans-1,3-Dichloropropene	ug/kg	2.30E+05	5.20E+05		240	U	250	U	230	UJ	220	U														
VOCs	Trichloroethene	ug/kg	5.10E+04	1.70E+04		100	J	980		990	J	570															
VOCs	Trichlorofluoromethane	ug/kg	1.20E+06	1.20E+06		240	U	250	U	230	UJ	220	U														
VOCs	Trifluorotrichloroethane	ug/kg				240	U	250	U	230	UJ	220	U														
VOCs	Vinyl acetate	ug/kg	2.70E+06	6.20E+05																							
VOCs	Vinyl chloride	ug/kg	5.00E+04	2.80E+05		240	U	250	U	230	UJ	220	U														
VOCs	Xylene (Total)	ug/kg	2.60E+05	2.60E+05		490	U	500	U	450	UJ	450	U														

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Appendix A
Soil Data Compared to GDCC
Greenspace Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units	Ohio VAP C/I GDCSS	Ohio VAP CW GDCSS	Station Name	TT-PCB-15E-N		TT-PCB-15E-N		TT-PCB-15E-S		TT-PCB-15E-S		TT-PCB-15W-N		TT-PCB-15W-N		TT-PCB-15W-S		TT-PCB-15W-S		TT-PCB-250-N	
					FieldSampleID	TT-PCB-15E-N0-050214		TT-PCB-15E-N4-050214		TT-PCB-15E-S0-050214		TT-PCB-15E-S4-050214		TT-PCB-15W-N0-050214		TT-PCB-15W-N4-050214		TT-PCB-15W-S0-050214		TT-PCB-15W-S4-050214		TT-PCB-250-N0-050214	
					Sample Date	5/2/2014		5/2/2014		5/2/2014		5/2/2014		5/2/2014		5/2/2014		5/2/2014		5/2/2014		5/2/2014	
					Depth	3.5-4.5		7.5-8.5		3.5-4.5		7.5-8.5		3.5-4.5		7.5-8.5		3.5-4.5		7.5-8.5		3.5-4.5	
Field Parameters	pH Field	s.u.																					
Metals	Antimony	mg/kg	1.60E+03	8.50E+02																			
Metals	Arsenic	mg/kg	7.70E+01	6.90E+02																			
Metals	Barium	mg/kg																					
Metals	Beryllium	mg/kg	7.80E+03	3.40E+03																			
Metals	Cadmium	mg/kg	2.60E+03	1.00E+03																			
Metals	Chromium Total	mg/kg	2.10E+02	1.20E+03																			
Metals	Cobalt	mg/kg																					
Metals	Copper	mg/kg	1.60E+05	2.10E+04																			
Metals	Cyanide (total)	mg/kg	3.70E+02	1.50E+02																			
Metals	Lead	mg/kg	8.00E+02	4.00E+02																			
Metals	Manganese	mg/kg																					
Metals	Mercury	mg/kg	3.10E+00	3.10E+00																			
Metals	Nickel	mg/kg	7.40E+04	2.30E+04																			
Metals	Potassium	mg/kg																					
Metals	Selenium	mg/kg	2.00E+04	1.10E+04																			
Metals	Silver	mg/kg	2.00E+04	1.10E+04																			
Metals	Thallium	mg/kg																					
Metals	Vanadium	mg/kg	2.30E+04	1.10E+04																			
Metals	Zinc	mg/kg	1.00E+06	6.40E+05																			
Miscellaneous	Flash Point Closed Cup	Deg F																					
Miscellaneous	Percent moisture	%																					
Miscellaneous	Total Solids	%																					
PCBs/Pesticides	Aroclor-1016	mg/kg	1.00E+02	2.60E+02		0.11	U	0.14	U	0.12	U	0.13	U	0.12	U	0.12	U	0.12	U	0.14	U	0.12	U
PCBs/Pesticides	Aroclor-1221	mg/kg	1.40E+01	2.10E+02		0.23	U	0.28	U	0.23	U	0.27	U	0.24	U	0.23	U	0.23	U	0.27	U	0.23	U
PCBs/Pesticides	Aroclor-1232	mg/kg	1.40E+01	7.30E+01		0.11	U	0.14	U	0.12	U	0.13	U	0.12	U	0.12	U	0.12	U	0.14	U	0.12	U
PCBs/Pesticides	Aroclor-1242	mg/kg	2.00E+01	4.40E+02		0.11	U	0.14	U	0.12	U	0.13	U	0.12	U	0.12	U	0.12	U	0.14	U	0.12	U
PCBs/Pesticides	Aroclor-1248	mg/kg	2.00E+01	4.40E+02		0.11	U	0.14	U	0.12	U	0.13	U	0.12	U	0.12	U	0.12	U	0.14	U	0.12	U
PCBs/Pesticides	Aroclor-1254	mg/kg	2.00E+01	7.50E+01		14		9.3		13		10		0.44		4.4		1.4		0.14	U	6.1	
PCBs/Pesticides	Aroclor-1260	mg/kg	2.00E+01	4.40E+02		0.56	U	0.69	U	0.58	U	0.67	U	0.12	U	0.12	U	0.12	U	0.14	U	0.59	U
SVOCs	2,2-oxybis(1-Chloropropane)	ug/kg																					
SVOCs	2,2-oxybis(2-Chloropropane), SVOC	ug/kg																					
SVOCs	2,4,5-Trichlorophenol	ug/kg	1.80E+08	1.00E+09																			
SVOCs	2,4,6-Trichlorophenol	ug/kg	1.80E+06	1.40E+06																			
SVOCs	2,4-Dichlorophenol	ug/kg	5.30E+06	2.80E+07																			
SVOCs	2,4-Dimethylphenol	ug/kg	3.50E+07	8.50E+07																			
SVOCs	2,4-Dinitrophenol	ug/kg	3.50E+06	2.80E+07																			
SVOCs	2,4-Dinitrotoluene	ug/kg	1.60E+05	2.80E+06																			
SVOCs	2,6-Dinitrotoluene	ug/kg	3.30E+04	6.70E+05																			
SVOCs	2-Chloronaphthalene	ug/kg	3.30E+08	1.00E+09																			
SVOCs	2-Chlorophenol	ug/kg	2.00E+07	2.20E+07																			
SVOCs	2-Methylnaphthalene	ug/kg	6.00E+06	5.20E+06																			
SVOCs	2-Methylphenol	ug/kg	8.80E+07	7.10E+08																			
SVOCs	2-Nitroaniline	ug/kg																					
SVOCs	2-Nitrophenol	ug/kg																					
SVOCs	3,3-Dichlorobenzidine	ug/kg	1.10E+05	2.20E+06																			
SVOCs	3-Nitroaniline	ug/kg																					
SVOCs	4,6-Dinitro-2-methylphenol	ug/kg																					
SVOCs	4-Bromophenyl phenyl ether	ug/kg																					
SVOCs	4-Chloro-3-methylphenol	ug/kg																					
SVOCs	4-Chloroaniline	ug/kg	2.50E+05	7.10E+05																			
SVOCs	4-Chlorophenyl phenyl ether	ug/kg																					
SVOCs	4-Methylphenol	ug/kg	1.80E+08	2.80E+07																			
SVOCs	4-Nitroaniline	ug/kg	2.50E+06	1.40E+07																			
SVOCs	4-Nitrophenol	ug/kg																					
SVOCs	Acenaphthene	ug/kg	9.00E+07	7.80E+08																			
SVOCs	Acenaphthylene	ug/kg																					
SVOCs	Acetophenone	ug/kg	2.50E+06	2.50E+06																			
SVOCs	Anthracene	ug/kg	4.50E+08	1.00E+09																			
SVOCs	Atrazine	ug/kg																					
SVOCs	Benzaldehyde	ug/kg																					
SVOCs	Benzo(a)anthracene	ug/kg	5.80E+04	1.20E+06																			
SVOCs	Benzo(a)pyrene	ug/kg	5.80E+03	1.20E+05																			
SVOCs	Benzo(b)fluoranthene	ug/kg	5.80E+04	1.20E+06																			
SVOCs	Benzo(g,h,i)perylene	ug/kg																					
SVOCs	Benzo(k)fluoranthene	ug/kg	5.80E+05	1.20E+07																			
SVOCs	Biphenyl	ug/kg	1.40E+07	1.90E+08																			
SVOCs	bis(2-Chloroethoxy)methane	ug/kg	5.30E+06	4.30E+07																			
SVOCs	bis(2-Chloroethyl)ether	ug/kg	3.00E+04	2.90E+05																			
SVOCs	bis(2-Ethylhexyl)phthalate	ug/kg	3.50E+06	7.10E+07																			
SVOCs	Butyl benzylphthalate	ug/kg	2.60E+07	5.20E+08																			
SVOCs	Caprolactam	ug/kg																					
SVOCs	Carbazole	ug/kg																					
SVOCs	Chrysene	ug/kg	5.80E+06	1.20E+08																			
SVOCs	Dibenz(a,h)anthracene	ug/kg	5.80E+03	1.20E+08																			
SVOCs	Dibenzofuran	ug/kg																					
SVOCs	Diethyl phthalate	ug/kg	1.00E+09	1.00E+09																			
SVOCs	Dimethyl phthalate	ug/kg																					
SVOCs	Di-n-butylphthalate	ug/kg	1.80E+08	4.30E+08																			
SVOCs	Di-N-Octyl phthalate	ug/kg																					
SVOCs	Fluoranthene	ug/kg	6.00E+07	1.60E+08																			
SVOCs	Fluorene	ug/kg	6.00E+07	5.20E+08																			
SVOCs	Hexachlorobenzene	ug/kg	3.10E+04	1.40E+04																			
SVOCs	Hexachlorobutadiene	ug/kg	6.30E+05	1.40E+06																			

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Appendix A
Soil Data Compared to GDCC
Greenspace Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units	Ohio VAP C/I GDCSS	Ohio VAP CW GDCSS	Station Name	TT-PCB-15E-N		TT-PCB-15E-N		TT-PCB-15E-S		TT-PCB-15E-S		TT-PCB-15W-N		TT-PCB-15W-N		TT-PCB-15W-S		TT-PCB-15W-S		TT-PCB-250-N	
					FieldSampleID	TT-PCB-15E-N0-050214		TT-PCB-15E-N4-050214		TT-PCB-15E-S0-050214		TT-PCB-15E-S4-050214		TT-PCB-15W-N0-050214		TT-PCB-15W-N4-050214		TT-PCB-15W-S0-050214		TT-PCB-15W-S4-050214		TT-PCB-250-N0-050214	
					Sample Date	5/2/2014		5/2/2014		5/2/2014		5/2/2014		5/2/2014		5/2/2014		5/2/2014		5/2/2014		5/2/2014	
					Depth	3.5-4.5		7.5-8.5		3.5-4.5		7.5-8.5		3.5-4.5		7.5-8.5		3.5-4.5		7.5-8.5		3.5-4.5	
SVOCs	Hexachlorobutadiene, SVOC	ug/kg	6.30E+05	1.40E+06																			
SVOCs	Hexachlorocyclopentadiene	ug/kg	1.10E+07	2.60E+07																			
SVOCs	Hexachloroethane	ug/kg	1.20E+06	3.00E+06																			
SVOCs	Indeno(1,2,3-cd)pyrene	ug/kg	5.80E+04	1.20E+06																			
SVOCs	Isophorone	ug/kg	5.20E+07	1.00E+09																			
SVOCs	Naphthalene, SVOC	ug/kg	4.50E+05	5.60E+05																			
SVOCs	Nitrobenzene	ug/kg	6.10E+05	3.00E+06																			
SVOCs	N-Nitrosodi-n-propylamine	ug/kg	7.00E+03	1.40E+05																			
SVOCs	N-Nitrosodiphenylamine	ug/kg	1.00E+07	2.00E+08																			
SVOCs	Pentachlorophenol	ug/kg	6.70E+04	9.50E+05																			
SVOCs	Phenanthrene	ug/kg																					
SVOCs	Phenol	ug/kg	5.30E+08	8.40E+08																			
SVOCs	Pyrene, SVOC	ug/kg	4.50E+07	3.90E+08																			
TPH	C21-C34 Aliphatics	mg/kg	5000	5000																			
TPH	Diesel Range Organics (DRO)	mg/kg	2000	2000																			
TPH	Gasoline Range Organics (GRO)	mg/kg	1000	1000																			
VOCs	1,1,1,2-Tetrachloroethane	ug/kg	2.40E+05	6.80E+05																			
VOCs	1,1,1-Trichloroethane	ug/kg	6.40E+05	6.40E+05																			
VOCs	1,1,2,2-Tetrachloroethane	ug/kg	7.50E+04	6.70E+05																			
VOCs	1,1,2-Trichloroethane	ug/kg	1.40E+05	1.20E+06																			
VOCs	1,1-Dichloroethane	ug/kg	4.20E+05	1.70E+06																			
VOCs	1,1-Dichloroethene	ug/kg	1.20E+06	3.60E+05																			
VOCs	1,1-Dichloropropene	ug/kg																					
VOCs	1,2,4-Trichlorobenzene, VOC	ug/kg	4.00E+05	4.00E+05																			
VOCs	1,2-Dibromo-3-chloropropane	ug/kg	1.70E+03	1.50E+04																			
VOCs	1,2-Dibromoethane	ug/kg	4.40E+03	3.80E+04																			
VOCs	1,2-Dichlorobenzene, VOC	ug/kg	3.80E+05	3.80E+05																			
VOCs	1,2-Dichloroethane	ug/kg	5.60E+04	4.80E+05																			
VOCs	1,2-Dichloropropane	ug/kg	1.20E+05	1.80E+05																			
VOCs	1,3-Dichlorobenzene, VOC	ug/kg																					
VOCs	1,3-Dichloropropane	ug/kg	1.50E+06	1.50E+06																			
VOCs	1,4-Dichlorobenzene, VOC	ug/kg	3.10E+05	2.60E+06																			
VOCs	2,2-Dichloropropane	ug/kg																					
VOCs	2-Butanone	ug/kg	2.80E+07	2.80E+07																			
VOCs	2-Chlorotoluene	ug/kg																					
VOCs	2-Hexanone	ug/kg																					
VOCs	4-Chlorotoluene	ug/kg																					
VOCs	4-Methyl-2-Pentanone	ug/kg	3.40E+06	3.40E+06																			
VOCs	Acetone	ug/kg	1.10E+08	1.10E+08																			
VOCs	Acetonitrile	mg/kg	9.20E+03	2.60E+04																			
VOCs	Acrolein	ug/kg																					
VOCs	Acrylonitrile	ug/kg																					
VOCs	Allyl chloride	ug/kg	1.90E+04	6.40E+04																			
VOCs	Benzene	ug/kg	1.40E+05	1.20E+06																			
VOCs	Bromobenzene	ug/kg																					
VOCs	Bromochloromethane	ug/kg																					
VOCs	Bromodichloromethane	ug/kg	3.50E+04	3.00E+05																			
VOCs	Bromoform	ug/kg	6.20E+06	1.30E+08																			
VOCs	Bromomethane	ug/kg	8.20E+04	5.50E+05																			
VOCs	Carbon disulfide	ug/kg	7.40E+05	7.40E+05																			
VOCs	Carbon tetrachloride	ug/kg	7.90E+04	4.60E+05																			
VOCs	Chlorobenzene	ug/kg	7.60E+05	7.60E+05																			
VOCs	Chloroethane	ug/kg																					
VOCs	Chloroform	ug/kg	3.80E+04	3.20E+05																			
VOCs	Chloromethane	ug/kg	1.30E+06	1.30E+06																			
VOCs	cis-1,2-Dichloroethene	ug/kg																					
VOCs	cis-1,3-Dichloropropene	ug/kg	2.30E+05	5.20E+05																			
VOCs	Cyclohexane	ug/kg	1.20E+05	1.20E+05																			
VOCs	Dibromochloromethane	ug/kg	8.40E+04	7.70E+05																			
VOCs	Dibromomethane	ug/kg	2.80E+06	3.80E+04																			
VOCs	Dichlorodifluoromethane	ug/kg	8.50E+05	8.50E+05																			
VOCs	Ethylbenzene	ug/kg	4.80E+05	4.80E+05																			
VOCs	Iodomethane	ug/kg																					
VOCs	Isopropylbenzene, VOC	ug/kg	2.70E+05	2.70E+05																			
VOCs	Methyl acetate	ug/kg																					
VOCs	Methyl cyclohexane	ug/kg																					
VOCs	Methyl tert butyl ether	ug/kg	5.70E+06	8.90E+06																			
VOCs	Methylene chloride	ug/kg	3.30E+06	3.30E+06																			
VOCs	n-Hexane	ug/kg	1.40E+05	1.40E+05																			
VOCs	o-Xylene	ug/kg	2.60E+05	2.60E+05																			
VOCs	Styrene	ug/kg	8.70E+05	8.70E+05																			
VOCs	Tetrachloroethene	ug/kg	1.70E+05	1.70E+05																			
VOCs	Toluene	ug/kg	8.20E+05	8.20E+05																			
VOCs	trans-1,2-Dichloroethene	ug/kg	1.70E+06	1.70E+06																			
VOCs	trans-1,3-Dichloropropene	ug/kg	2.30E+05	5.20E+05																			
VOCs	Trichloroethene	ug/kg	5.10E+04	1.70E+04																			
VOCs	Trichlorofluoromethane	ug/kg	1.20E+06	1.20E+06																			
VOCs	Trifluorotrichloroethane	ug/kg																					
VOCs	Vinyl acetate	ug/kg	2.70E+06	6.20E+05																			
VOCs	Vinyl chloride	ug/kg	5.00E+04	2.80E+05																			
VOCs	Xylene (Total)	ug/kg	2.60E+05	2.60E+05																			

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Appendix A
Soil Data Compared to GDCC
Greenspace Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units	Ohio VAP C/I GDCSS	Ohio VAP CW GDCSS	Station Name	TT-PCB-250-N		TT-PCB-250-S		TT-PCB-250-S		TT-SB249		TT-SB249		TT-SB249		TT-SB249		TT-SB249		TT-SB249		TT-SB249		TT-SB249	
					FieldSampleID	TT-PCB-250-N4-050214		TT-PCB-250-S0-050214		TT-PCB-250-S4-050214		TT-SB249-G-02		TT-SB249-G-04		TT-SB249-C-06		TT-SB249-G-06		TT-SB249-G-06		TT-SB249-G-06		TT-SB249-G-06		TT-SB249-G-06		TT-SB249-G-07	
					Sample Date	5/2/2014		5/2/2014		5/2/2014		4/3/2013		4/3/2013		4/3/2013		4/3/2013		4/3/2013		4/3/2013		4/3/2013		4/3/2013		4/3/2013	
					Depth	7.5-8.5		3.5-4.5		7.5-8.5		0 - 2 ft		2 - 4 ft		4 - 6 ft		4 - 6 ft		4 - 6 ft		4 - 6 ft		4 - 6 ft		4 - 6 ft		6 - 7 ft	
Field Parameters	pH Field	s.u.																										
Metals	Antimony	mg/kg	1.60E+03	8.50E+02																								
Metals	Arsenic	mg/kg	7.70E+01	6.90E+02																								
Metals	Barium	mg/kg																										
Metals	Beryllium	mg/kg	7.80E+03	3.40E+03																								
Metals	Cadmium	mg/kg	2.60E+03	1.00E+03																								
Metals	Chromium Total	mg/kg	2.10E+02	1.20E+03																								
Metals	Cobalt	mg/kg																										
Metals	Copper	mg/kg	1.60E+05	2.10E+04																								
Metals	Cyanide (total)	mg/kg	3.70E+02	1.50E+02																								
Metals	Lead	mg/kg	8.00E+02	4.00E+02																								
Metals	Manganese	mg/kg																										
Metals	Mercury	mg/kg	3.10E+00	3.10E+00																								
Metals	Nickel	mg/kg	7.40E+04	2.30E+04																								
Metals	Potassium	mg/kg																										
Metals	Selenium	mg/kg	2.00E+04	1.10E+04																								
Metals	Silver	mg/kg	2.00E+04	1.10E+04																								
Metals	Thallium	mg/kg																										
Metals	Vanadium	mg/kg	2.30E+04	1.10E+04																								
Metals	Zinc	mg/kg	1.00E+06	6.40E+05																								
Miscellaneous	Flash Point Closed Cup	Deg F																				60	U					
Miscellaneous	Percent moisture	%										10.4		10.1		22.8		17.6		35.3		32.8		47		24.1	
Miscellaneous	Total Solids	%																										
PCBs/Pesticides	Aroclor-1016	mg/kg	1.00E+02	2.60E+02		0.12	U	0.11	U	0.12	U	0.0213	U	0.0214	U			0.0242	U							0.0259	U
PCBs/Pesticides	Aroclor-1221	mg/kg	1.40E+01	2.10E+02		0.23	U	0.23	U	0.24	U	0.0213	U	0.0214	U			0.0242	U							0.0259	U
PCBs/Pesticides	Aroclor-1232	mg/kg	1.40E+01	7.30E+01		0.12	U	0.11	U	0.12	U	0.0213	U	0.0214	U			0.0242	U							0.0259	U
PCBs/Pesticides	Aroclor-1242	mg/kg	2.00E+01	4.40E+02		0.12	U	0.11	U	0.12	U	0.0213	U	0.0214	U			0.0242	U							0.0259	U
PCBs/Pesticides	Aroclor-1248	mg/kg	2.00E+01	4.40E+02		0.12	U	0.11	U	0.12	U	0.0213	U	0.0214	U			0.0242	U							0.0259	U
PCBs/Pesticides	Aroclor-1254	mg/kg	2.00E+01	7.50E+01		1.7		8.4		1.8		0.989		0.0214	U			0.0882								0.0259	U
PCBs/Pesticides	Aroclor-1260	mg/kg	2.00E+01	4.40E+02		0.12	U	0.57	U	0.12	U	0.0213	U	0.0214	U			0.0242	U							0.0259	U
SVOCs	2,2-oxybis(1-Chloropropane)	ug/kg																										
SVOCs	2,2-oxybis(2-Chloropropane), SVOC	ug/kg																										
SVOCs	2,4,5-Trichlorophenol	ug/kg	1.80E+08	1.00E+09																								
SVOCs	2,4,6-Trichlorophenol	ug/kg	1.80E+06	1.40E+06																								
SVOCs	2,4-Dichlorophenol	ug/kg	5.30E+06	2.80E+07																								
SVOCs	2,4-Dimethylphenol	ug/kg	3.50E+07	8.50E+07																								
SVOCs	2,4-Dinitrophenol	ug/kg	3.50E+06	2.80E+07																								
SVOCs	2,4-Dinitrotoluene	ug/kg	1.60E+05	2.80E+06																								
SVOCs	2,6-Dinitrotoluene	ug/kg	3.30E+04	6.70E+05																								
SVOCs	2-Chloronaphthalene	ug/kg	3.30E+08	1.00E+09																								
SVOCs	2-Chlorophenol	ug/kg	2.00E+07	2.20E+07																								
SVOCs	2-Methylnaphthalene	ug/kg	6.00E+06	5.20E+06																								
SVOCs	2-Methylphenol	ug/kg	8.80E+07	7.10E+08																								
SVOCs	2-Nitroaniline	ug/kg																										
SVOCs	2-Nitrophenol	ug/kg																										
SVOCs	3,3-Dichlorobenzidine	ug/kg	1.10E+05	2.20E+06																								
SVOCs	3-Nitroaniline	ug/kg																										
SVOCs	4,6-Dinitro-2-methylphenol	ug/kg																										
SVOCs	4-Bromophenyl phenyl ether	ug/kg																										
SVOCs	4-Chloro-3-methylphenol	ug/kg																										
SVOCs	4-Chloroaniline	ug/kg	2.50E+05	7.10E+05																								
SVOCs	4-Chlorophenyl phenyl ether	ug/kg																										
SVOCs	4-Methylphenol	ug/kg	1.80E+08	2.80E+07																								
SVOCs	4-Nitroaniline	ug/kg	2.50E+06	1.40E+07																								
SVOCs	4-Nitrophenol	ug/kg																										
SVOCs	Acenaphthene	ug/kg	9.00E+07	7.80E+08																								
SVOCs	Acenaphthylene	ug/kg																										
SVOCs	Acetophenone	ug/kg	2.50E+06	2.50E+06																								
SVOCs	Anthracene	ug/kg	4.50E+08	1.00E+09																								
SVOCs	Atrazine	ug/kg																										
SVOCs	Benzaldehyde	ug/kg																										
SVOCs	Benzo(a)anthracene	ug/kg	5.80E+04	1.20E+06																								
SVOCs	Benzo(a)pyrene	ug/kg	5.80E+03	1.20E+05																								
SVOCs	Benzo(b)fluoranthene	ug/kg	5.80E+04	1.20E+06																								
SVOCs	Benzo(g,h,i)perylene	ug/kg																										
SVOCs	Benzo(k)fluoranthene	ug/kg	5.80E+05	1.20E+07																								
SVOCs	Biphenyl	ug/kg	1.40E+07	1.90E+08																								
SVOCs	bis(2-Chloroethoxy)methane	ug/kg	5.30E+06	4.30E+07																								
SVOCs	bis(2-Chloroethyl)ether	ug/kg	3.00E+04	2.90E+05																								
SVOCs	bis(2-Ethylhexyl)phthalate	ug/kg	3.50E+06	7.10E+07																								
SVOCs	Butyl benzylphthalate	ug/kg	2.60E+07	5.20E+08																								
SVOCs	Caprolactam	ug/kg																										
SVOCs	Carbazole	ug/kg																										
SVOCs	Chrysene	ug/kg	5.80E+06	1.20E+08																								
SVOCs	Dibenz(a,h)anthracene	ug/kg	5.80E+03	1.20E+08																								
SVOCs	Dibenzofuran	ug/kg																										
SVOCs	Diethyl phthalate	ug/kg	1.00E+09	1.00E+09																								
SVOCs	Dimethyl phthalate	ug/kg																										
SVOCs	Di-n-butylphthalate	ug/kg	1.80E+08	4.30E+08																								
SVOCs	Di-N-Octyl phthalate	ug/kg																										
SVOCs	Fluoranthene	ug/kg	6.00E+07	1.60E+08																								
SVOCs	Fluorene	ug/kg	6.00E+07	5.20E+08																								
SVOCs	Hexachlorobenzene	ug/kg	3.10E+04	1.40E+04																								
SVOCs	Hexachlorobutadiene	ug/kg	6.30E+05	1.40E+06																								

See notes on page 18 of 18

Appendix A
Soil Data Compared to GDCC
Greenspace Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units	Ohio VAP C/I GDCSS	Ohio VAP CW GDCSS	Station Name	TT-PCB-250-N		TT-PCB-250-S		TT-PCB-250-S		TT-SB249		TT-SB249		TT-SB249		TT-SB249		TT-SB249		TT-SB249		TT-SB249		TT-SB249	
					FieldSampleID	TT-PCB-250-N4-050214		TT-PCB-250-S0-050214		TT-PCB-250-S4-050214		TT-SB249-G-02		TT-SB249-G-04		TT-SB249-G-C06		TT-SB249-G-06		TT-SB249-G-06		TT-SB249-G-06		TT-SB249-G-06		TT-SB249-G-06		TT-SB249-G-07	
					Sample Date	5/2/2014		5/2/2014		5/2/2014		4/3/2013		4/3/2013		4/3/2013		4/3/2013		4/3/2013		4/3/2013		4/3/2013		4/3/2013		4/3/2013	
					Depth	7.5-8.5		3.5-4.5		7.5-8.5		0 - 2 ft		2 - 4 ft		4 - 6 ft		4 - 6 ft		4 - 6 ft		4 - 6 ft		4 - 6 ft		6 - 7 ft	
SVOCs	Hexachlorobutadiene, SVOC	ug/kg	6.30E+05	1.40E+06																							
SVOCs	Hexachlorocyclopentadiene	ug/kg	1.10E+07	2.60E+07																							
SVOCs	Hexachloroethane	ug/kg	1.20E+06	3.00E+06																							
SVOCs	Indeno(1,2,3-cd)pyrene	ug/kg	5.80E+04	1.20E+06																							
SVOCs	Isophorone	ug/kg	5.20E+07	1.00E+09																							
SVOCs	Naphthalene, SVOC	ug/kg	4.50E+05	5.60E+05																							
SVOCs	Nitrobenzene	ug/kg	6.10E+05	3.00E+06																							
SVOCs	N-Nitrosodi-n-propylamine	ug/kg	7.00E+03	1.40E+05																							
SVOCs	N-Nitrosodiphenylamine	ug/kg	1.00E+07	2.00E+08																							
SVOCs	Pentachlorophenol	ug/kg	6.70E+04	9.50E+05																							
SVOCs	Phenanthrene	ug/kg																									
SVOCs	Phenol	ug/kg	5.30E+08	8.40E+08																							
SVOCs	Pyrene, SVOC	ug/kg	4.50E+07	3.90E+08																							
TPH	C21-C34 Aliphatics	mg/kg	5000	5000												632	U										
TPH	Diesel Range Organics (DRO)	mg/kg	2000	2000												31.2											
TPH	Gasoline Range Organics (GRO)	mg/kg	1000	1000																7.26	U						
VOCs	1,1,1,2-Tetrachloroethane	ug/kg	2.40E+05	6.80E+05																				472	U		
VOCs	1,1,1-Trichloroethane	ug/kg	6.40E+05	6.40E+05																				20.4			
VOCs	1,1,2,2-Tetrachloroethane	ug/kg	7.50E+04	6.70E+05																				472	U		
VOCs	1,1,2-Trichloroethane	ug/kg	1.40E+05	1.20E+06																				9.34	U		
VOCs	1,1-Dichloroethane	ug/kg	4.20E+05	1.70E+06																				9.34	U		
VOCs	1,1-Dichloroethene	ug/kg	1.20E+06	3.60E+05																				9.34	U		
VOCs	1,1-Dichloropropene	ug/kg																						9.34	U		
VOCs	1,2,4-Trichlorobenzene, VOC	ug/kg	4.00E+05	4.00E+05																							
VOCs	1,2-Dibromo-3-chloropropane	ug/kg	1.70E+03	1.50E+04																							
VOCs	1,2-Dibromoethane	ug/kg	4.40E+03	3.80E+04																				472	U		
VOCs	1,2-Dichlorobenzene, VOC	ug/kg	3.80E+05	3.80E+05																							
VOCs	1,2-Dichloroethane	ug/kg	5.60E+04	4.80E+05																				9.34	U		
VOCs	1,2-Dichloropropane	ug/kg	1.20E+05	1.80E+05																				9.34	U		
VOCs	1,3-Dichlorobenzene, VOC	ug/kg																									
VOCs	1,3-Dichloropropane	ug/kg	1.50E+06	1.50E+06																				9.34	U		
VOCs	1,4-Dichlorobenzene, VOC	ug/kg	3.10E+05	2.60E+06																							
VOCs	2,2-Dichloropropane	ug/kg																						9.34	U		
VOCs	2-Butanone	ug/kg	2.80E+07	2.80E+07																				37.4	U		
VOCs	2-Chlorotoluene	ug/kg																						472	U		
VOCs	2-Hexanone	ug/kg																						37.4	U		
VOCs	4-Chlorotoluene	ug/kg																						472	U		
VOCs	4-Methyl-2-Pentanone	ug/kg	3.40E+06	3.40E+06																				37.4	U		
VOCs	Acetone	ug/kg	1.10E+08	1.10E+08																				93.4	U		
VOCs	Acetonitrile	mg/kg	9.20E+03	2.60E+04																				0.0747	U		
VOCs	Acrolein	ug/kg																						93.4	U		
VOCs	Acrylonitrile	ug/kg																						37.4	U		
VOCs	Allyl chloride	ug/kg	1.90E+04	6.40E+04																				18.7	U		
VOCs	Benzene	ug/kg	1.40E+05	1.20E+06																				13.3			
VOCs	Bromobenzene	ug/kg																						472	U		
VOCs	Bromochloromethane	ug/kg																						9.34	U		
VOCs	Bromodichloromethane	ug/kg	3.50E+04	3.00E+05																				9.34	U		
VOCs	Bromoform	ug/kg	6.20E+06	1.30E+08																				472	U		
VOCs	Bromomethane	ug/kg	8.20E+04	5.50E+05																				9.34	U		
VOCs	Carbon disulfide	ug/kg	7.40E+05	7.40E+05																				37.4	U		
VOCs	Carbon tetrachloride	ug/kg	7.90E+04	4.60E+05																				9.34	U		
VOCs	Chlorobenzene	ug/kg	7.60E+05	7.60E+05																				472	U		
VOCs	Chloroethane	ug/kg																						9.34	U		
VOCs	Chloroform	ug/kg	3.80E+04	3.20E+05																				9.34	U		
VOCs	Chloromethane	ug/kg	1.30E+06	1.30E+06																				9.34	U		
VOCs	cis-1,2-Dichloroethene	ug/kg																						28.8			
VOCs	cis-1,3-Dichloropropene	ug/kg	2.30E+05	5.20E+05																				9.34	U		
VOCs	Cyclohexane	ug/kg	1.20E+05	1.20E+05																							
VOCs	Dibromochloromethane	ug/kg	8.40E+04	7.70E+05																				472	U		
VOCs	Dibromomethane	ug/kg	2.80E+06	3.80E+04																				9.34	U		
VOCs	Dichlorodifluoromethane	ug/kg	8.50E+05	8.50E+05																				9.34	U		
VOCs	Ethylbenzene	ug/kg	4.80E+05	4.80E+05																				472	U		
VOCs	Iodomethane	ug/kg																						18.7	U		
VOCs	Isopropylbenzene, VOC	ug/kg	2.70E+05	2.70E+05																							
VOCs	Methyl acetate	ug/kg																									
VOCs	Methyl cyclohexane	ug/kg																									
VOCs	Methyl tert butyl ether	ug/kg	5.70E+06	8.90E+06																				18.7	U		
VOCs	Methylene chloride	ug/kg	3.30E+06	3.30E+06																				9.34	U		
VOCs	n-Hexane	ug/kg	1.40E+05	1.40E+05																				20.3			
VOCs	o-Xylene	ug/kg	2.60E+05	2.60E+05																				472	U		
VOCs	Styrene	ug/kg	8.70E+05	8.70E+05																				472	U		
VOCs	Tetrachloroethene	ug/kg	1.70E+05	1.70E+05																				6480			
VOCs	Toluene	ug/kg	8.20E+05	8.20E+05																				9.34	U		
VOCs	trans-1,2-Dichloroethene	ug/kg	1.70E+06	1.70E+06																				9.34	U		
VOCs	trans-1,3-Dichloropropene	ug/kg	2.30E+05	5.20E+05																				9.34	U		
VOCs	Trichloroethene	ug/kg	5.10E+04	1.70E+04																				356			
VOCs	Trichlorofluoromethane	ug/kg	1.20E+06	1.20E+06																				9.34	U		
VOCs	Trifluorotrichloroethane	ug/kg																									
VOCs	Vinyl acetate	ug/kg	2.70E+06	6.20E+05																				18.7	U		
VOCs	Vinyl chloride	ug/kg	5.00E+04	2.80E+05																				9.34	U		
VOCs	Xylene (Total)	ug/kg	2.60E+05	2.60E+05																				944	U		

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Appendix A
Soil Data Compared to GDCC
Greenspace Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units	Ohio VAP C/I GDCSS	Ohio VAP CW GDCSS	Station Name	TT-SB250		TT-SB251		TT-SB251		TT-SB251		TT-SB251B		TT-SB251B		TT-SB251B		TT-SB265		TT-SB265		TT-SB265		TT-SB265		TT-SB265	
					FieldSampleID	TT-SB250-G-02		TT-SB251-G-02 DP		TT-SB251-G-02		TT-SB251-G-03		TT-SB251B-G-08 DP		TT-SB251B-G-08		TT-SB251B-G-10		TT-SB265-G-02		TT-SB265-G-04		TT-SB265-G-06		TT-SB265-G-08 DP		TT-SB265-G-08	
					Sample Date	4/3/2013		4/3/2013		4/3/2013		4/3/2013		4/4/2013		4/4/2013		4/4/2013		4/4/2013		4/4/2013		4/4/2013		4/4/2013		4/4/2013	
					Depth	0 - 2 ft		0 - 2 ft		0 - 2 ft		2 - 3 ft		6 - 8 ft		6 - 8 ft		8 - 10 ft		0 - 2 ft		2 - 4 ft		4 - 6 ft		6 - 8 ft		6 - 8 ft	
Field Parameters	pH Field	s.u.																											
Metals	Antimony	mg/kg	1.60E+03	8.50E+02																									
Metals	Arsenic	mg/kg	7.70E+01	6.90E+02																									
Metals	Barium	mg/kg																											
Metals	Beryllium	mg/kg	7.80E+03	3.40E+03																									
Metals	Cadmium	mg/kg	2.60E+03	1.00E+03																									
Metals	Chromium Total	mg/kg	2.10E+02	1.20E+03																									
Metals	Cobalt	mg/kg																											
Metals	Copper	mg/kg	1.60E+05	2.10E+04																									
Metals	Cyanide (total)	mg/kg	3.70E+02	1.50E+02																									
Metals	Lead	mg/kg	8.00E+02	4.00E+02																									
Metals	Manganese	mg/kg																											
Metals	Mercury	mg/kg	3.10E+00	3.10E+00																									
Metals	Nickel	mg/kg	7.40E+04	2.30E+04																									
Metals	Potassium	mg/kg																											
Metals	Selenium	mg/kg	2.00E+04	1.10E+04																									
Metals	Silver	mg/kg	2.00E+04	1.10E+04																									
Metals	Thallium	mg/kg																											
Metals	Vanadium	mg/kg	2.30E+04	1.10E+04																									
Metals	Zinc	mg/kg	1.00E+06	6.40E+05																									
Miscellaneous	Flash Point Closed Cup	Deg F																											
Miscellaneous	Percent moisture	%				6.87		8.73		9.01		10.1		5.3		4.89		19.9		14.5		19		17.1		11.5		9.5	
Miscellaneous	Total Solids	%																											
PCBs/Pesticides	Aroclor-1016	mg/kg	1.00E+02	2.60E+02		0.102	U	0.0213	U	0.0207	U	0.0221	U	0.0199	U	0.02	U	0.0249	U	0.0233	U	0.0237	U	0.0235	U	0.0214	U	0.0213	U
PCBs/Pesticides	Aroclor-1221	mg/kg	1.40E+01	2.10E+02		0.102	U	0.0213	U	0.0207	U	0.0221	U	0.0199	U	0.02	U	0.0249	U	0.0233	U	0.0237	U	0.0235	U	0.0214	U	0.0213	U
PCBs/Pesticides	Aroclor-1232	mg/kg	1.40E+01	7.30E+01		0.102	U	0.0213	U	0.0207	U	0.0221	U	0.0199	U	0.02	U	0.0249	U	0.0233	U	0.0237	U	0.0235	U	0.0214	U	0.0213	U
PCBs/Pesticides	Aroclor-1242	mg/kg	2.00E+01	4.40E+02		0.102	U	0.0213	U	0.0207	U	0.0221	U	0.0199	U	0.02	U	0.0249	U	0.0233	U	0.0237	U	0.0235	U	0.0214	U	0.0213	U
PCBs/Pesticides	Aroclor-1248	mg/kg	2.00E+01	4.40E+02		0.102	U	0.0213	U	0.0207	U	0.0221	U	0.0199	U	0.02	U	0.208		0.463		0.0237	U	0.321		0.0214	U	0.0213	U
PCBs/Pesticides	Aroclor-1254	mg/kg	2.00E+01	7.50E+01		1.22		0.148		0.184		0.252		0.0199	U	0.02	U	0.0249	U	0.0233	U	0.0237	U	0.0235	U	0.0214	U	0.0213	U
PCBs/Pesticides	Aroclor-1260	mg/kg	2.00E+01	4.40E+02		0.102	U	0.0213	U	0.0207	U	0.0221	U	0.0199	U	0.02	U	0.0249	U	0.0233	U	0.0237	U	0.0235	U	0.0214	U	0.0213	U
SVOCs	2,2-oxybis(1-Chloropropane)	ug/kg																											
SVOCs	2,2-oxybis(2-Chloropropane), SVOC	ug/kg																											
SVOCs	2,4,5-Trichlorophenol	ug/kg	1.80E+08	1.00E+09																									
SVOCs	2,4,6-Trichlorophenol	ug/kg	1.80E+06	1.40E+06																									
SVOCs	2,4-Dichlorophenol	ug/kg	5.30E+06	2.80E+07																									
SVOCs	2,4-Dimethylphenol	ug/kg	3.50E+07	8.50E+07																									
SVOCs	2,4-Dinitrophenol	ug/kg	3.50E+06	2.80E+07																									
SVOCs	2,4-Dinitrotoluene	ug/kg	1.60E+05	2.80E+06																									
SVOCs	2,6-Dinitrotoluene	ug/kg	3.30E+04	6.70E+05																									
SVOCs	2-Chloronaphthalene	ug/kg	3.30E+08	1.00E+09																									
SVOCs	2-Chlorophenol	ug/kg	2.00E+07	2.20E+07																									
SVOCs	2-Methylnaphthalene	ug/kg	6.00E+06	5.20E+06																									
SVOCs	2-Methylphenol	ug/kg	8.80E+07	7.10E+08																									
SVOCs	2-Nitroaniline	ug/kg																											
SVOCs	2-Nitrophenol	ug/kg																											
SVOCs	3,3-Dichlorobenzidine	ug/kg	1.10E+05	2.20E+06																									
SVOCs	3-Nitroaniline	ug/kg																											
SVOCs	4,6-Dinitro-2-methylphenol	ug/kg																											
SVOCs	4-Bromophenyl phenyl ether	ug/kg																											
SVOCs	4-Chloro-3-methylphenol	ug/kg																											
SVOCs	4-Chloroaniline	ug/kg	2.50E+05	7.10E+05																									
SVOCs	4-Chlorophenyl phenyl ether	ug/kg																											
SVOCs	4-Methylphenol	ug/kg	1.80E+08	2.80E+07																									
SVOCs	4-Nitroaniline	ug/kg	2.50E+06	1.40E+07																									
SVOCs	4-Nitrophenol	ug/kg																											
SVOCs	Acenaphthene	ug/kg	9.00E+07	7.80E+08																									
SVOCs	Acenaphthylene	ug/kg																											
SVOCs	Acetophenone	ug/kg	2.50E+06	2.50E+06																									
SVOCs	Anthracene	ug/kg	4.50E+08	1.00E+09																									
SVOCs	Atrazine	ug/kg																											
SVOCs	Benzaldehyde	ug/kg																											
SVOCs	Benzo(a)anthracene	ug/kg	5.80E+04	1.20E+06																									
SVOCs	Benzo(a)pyrene	ug/kg	5.80E+03	1.20E+05																									
SVOCs	Benzo(b)fluoranthene	ug/kg	5.80E+04	1.20E+06																									
SVOCs	Benzo(g,h,i)perylene	ug/kg																											
SVOCs	Benzo(k)fluoranthene	ug/kg	5.80E+05	1.20E+07																									
SVOCs	Biphenyl	ug/kg	1.40E+07	1.90E+08																									
SVOCs	bis(2-Chloroethoxy)methane	ug/kg	5.30E+06	4.30E+07																									
SVOCs	bis(2-Chloroethyl)ether	ug/kg	3.00E+04	2.90E+05																									
SVOCs	bis(2-Ethylhexyl)phthalate	ug/kg	3.50E+06	7.10E+07																									
SVOCs	Butyl benzylphthalate	ug/kg	2.60E+07	5.20E+08																									
SVOCs	Caprolactam	ug/kg																											
SVOCs	Carbazole	ug/kg																											
SVOCs	Chrysene	ug/kg	5.80E+06	1.20E+08																									
SVOCs	Dibenz(a,h)anthracene	ug/kg	5.80E+03	1.20E+08																									
SVOCs	Dibenzofuran	ug/kg																											
SVOCs	Diethyl phthalate	ug/kg	1.00E+09	1.00E+09																									
SVOCs	Dimethyl phthalate	ug/kg																											
SVOCs	Di-n-butylphthalate	ug/kg	1.80E+08	4.30E+08																									
SVOCs	Di-N-Octyl phthalate	ug/kg																											
SVOCs	Fluoranthene	ug/kg	6.00E+07	1.60E+08																									
SVOCs	Fluorene	ug/kg	6.00E+07	5.20E+08																									
SVOCs	Hexachlorobenzene	ug/kg	3.10E+04	1.40E+04																									
SVOCs	Hexachlorobutadiene	ug/kg	6.30E+05	1.40E+06																									

See notes on page 18 of 18

Appendix A
Soil Data Compared to GDCC
Greenspace Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units	Ohio VAP C/I GDCSS	Ohio VAP CW GDCSS	Station Name	TT-SB250	TT-SB251	TT-SB251	TT-SB251	TT-SB251B	TT-SB251B	TT-SB251B	TT-SB265	TT-SB265	TT-SB265	TT-SB265	TT-SB265
					FieldSampleID	TT-SB250-G-02	TT-SB251-G-02 DP	TT-SB251-G-02	TT-SB251-G-03	TT-SB251B-G-08 DP	TT-SB251B-G-08	TT-SB251B-G-10	TT-SB265-G-02	TT-SB265-G-04	TT-SB265-G-06	TT-SB265-G-08 DP	TT-SB265-G-08
					Sample Date	4/3/2013	4/3/2013	4/3/2013	4/3/2013	4/4/2013	4/4/2013	4/4/2013	4/4/2013	4/4/2013	4/4/2013	4/4/2013	4/4/2013
					Depth	0 - 2 ft	0 - 2 ft	0 - 2 ft	2 - 3 ft	6 - 8 ft	6 - 8 ft	8 - 10 ft	0 - 2 ft	2 - 4 ft	4 - 6 ft	6 - 8 ft	6 - 8 ft
SVOCs	Hexachlorobutadiene, SVOC	ug/kg	6.30E+05	1.40E+06													
SVOCs	Hexachlorocyclopentadiene	ug/kg	1.10E+07	2.60E+07													
SVOCs	Hexachloroethane	ug/kg	1.20E+06	3.00E+06													
SVOCs	Indeno(1,2,3-cd)pyrene	ug/kg	5.80E+04	1.20E+06													
SVOCs	Isophorone	ug/kg	5.20E+07	1.00E+09													
SVOCs	Naphthalene, SVOC	ug/kg	4.50E+05	5.60E+05													
SVOCs	Nitrobenzene	ug/kg	6.10E+05	3.00E+06													
SVOCs	N-Nitrosodi-n-propylamine	ug/kg	7.00E+03	1.40E+05													
SVOCs	N-Nitrosodiphenylamine	ug/kg	1.00E+07	2.00E+08													
SVOCs	Pentachlorophenol	ug/kg	6.70E+04	9.50E+05													
SVOCs	Phenanthrene	ug/kg															
SVOCs	Phenol	ug/kg	5.30E+08	8.40E+08													
SVOCs	Pyrene, SVOC	ug/kg	4.50E+07	3.90E+08													
TPH	C21-C34 Aliphatics	mg/kg	5000	5000													
TPH	Diesel Range Organics (DRO)	mg/kg	2000	2000													
TPH	Gasoline Range Organics (GRO)	mg/kg	1000	1000													
VOCs	1,1,1,2-Tetrachloroethane	ug/kg	2.40E+05	6.80E+05													
VOCs	1,1,1-Trichloroethane	ug/kg	6.40E+05	6.40E+05													
VOCs	1,1,2,2-Tetrachloroethane	ug/kg	7.50E+04	6.70E+05													
VOCs	1,1,2-Trichloroethane	ug/kg	1.40E+05	1.20E+06													
VOCs	1,1-Dichloroethane	ug/kg	4.20E+05	1.70E+06													
VOCs	1,1-Dichloroethene	ug/kg	1.20E+06	3.60E+05													
VOCs	1,1-Dichloropropene	ug/kg															
VOCs	1,2,4-Trichlorobenzene, VOC	ug/kg	4.00E+05	4.00E+05													
VOCs	1,2-Dibromo-3-chloropropane	ug/kg	1.70E+03	1.50E+04													
VOCs	1,2-Dibromoethane	ug/kg	4.40E+03	3.80E+04													
VOCs	1,2-Dichlorobenzene, VOC	ug/kg	3.80E+05	3.80E+05													
VOCs	1,2-Dichloroethane	ug/kg	5.60E+04	4.80E+05													
VOCs	1,2-Dichloropropane	ug/kg	1.20E+05	1.80E+05													
VOCs	1,3-Dichlorobenzene, VOC	ug/kg															
VOCs	1,3-Dichloropropane	ug/kg	1.50E+06	1.50E+06													
VOCs	1,4-Dichlorobenzene, VOC	ug/kg	3.10E+05	2.60E+06													
VOCs	2,2-Dichloropropane	ug/kg															
VOCs	2-Butanone	ug/kg	2.80E+07	2.80E+07													
VOCs	2-Chlorotoluene	ug/kg															
VOCs	2-Hexanone	ug/kg															
VOCs	4-Chlorotoluene	ug/kg															
VOCs	4-Methyl-2-Pentanone	ug/kg	3.40E+06	3.40E+06													
VOCs	Acetone	ug/kg	1.10E+08	1.10E+08													
VOCs	Acetonitrile	mg/kg	9.20E+03	2.60E+04													
VOCs	Acrolein	ug/kg															
VOCs	Acrylonitrile	ug/kg															
VOCs	Allyl chloride	ug/kg	1.90E+04	6.40E+04													
VOCs	Benzene	ug/kg	1.40E+05	1.20E+06													
VOCs	Bromobenzene	ug/kg															
VOCs	Bromochloromethane	ug/kg															
VOCs	Bromodichloromethane	ug/kg	3.50E+04	3.00E+05													
VOCs	Bromoform	ug/kg	6.20E+06	1.30E+08													
VOCs	Bromomethane	ug/kg	8.20E+04	5.50E+05													
VOCs	Carbon disulfide	ug/kg	7.40E+05	7.40E+05													
VOCs	Carbon tetrachloride	ug/kg	7.90E+04	4.60E+05													
VOCs	Chlorobenzene	ug/kg	7.60E+05	7.60E+05													
VOCs	Chloroethane	ug/kg															
VOCs	Chloroform	ug/kg	3.80E+04	3.20E+05													
VOCs	Chloromethane	ug/kg	1.30E+06	1.30E+06													
VOCs	cis-1,2-Dichloroethene	ug/kg															
VOCs	cis-1,3-Dichloropropene	ug/kg	2.30E+05	5.20E+05													
VOCs	Cyclohexane	ug/kg	1.20E+05	1.20E+05													
VOCs	Dibromochloromethane	ug/kg	8.40E+04	7.70E+05													
VOCs	Dibromomethane	ug/kg	2.80E+06	3.80E+04													
VOCs	Dichlorodifluoromethane	ug/kg	8.50E+05	8.50E+05													
VOCs	Ethylbenzene	ug/kg	4.80E+05	4.80E+05													
VOCs	Iodomethane	ug/kg															
VOCs	Isopropylbenzene, VOC	ug/kg	2.70E+05	2.70E+05													
VOCs	Methyl acetate	ug/kg															
VOCs	Methyl cyclohexane	ug/kg															
VOCs	Methyl tert butyl ether	ug/kg	5.70E+06	8.90E+06													
VOCs	Methylene chloride	ug/kg	3.30E+06	3.30E+06													
VOCs	n-Hexane	ug/kg	1.40E+05	1.40E+05													
VOCs	o-Xylene	ug/kg	2.60E+05	2.60E+05													
VOCs	Styrene	ug/kg	8.70E+05	8.70E+05													
VOCs	Tetrachloroethene	ug/kg	1.70E+05	1.70E+05													
VOCs	Toluene	ug/kg	8.20E+05	8.20E+05													
VOCs	trans-1,2-Dichloroethene	ug/kg	1.70E+06	1.70E+06													
VOCs	trans-1,3-Dichloropropene	ug/kg	2.30E+05	5.20E+05													
VOCs	Trichloroethene	ug/kg	5.10E+04	1.70E+04													
VOCs	Trichlorofluoromethane	ug/kg	1.20E+06	1.20E+06													
VOCs	Trifluorotrichloroethane	ug/kg															
VOCs	Vinyl acetate	ug/kg	2.70E+06	6.20E+05													
VOCs	Vinyl chloride	ug/kg	5.00E+04	2.80E+05													
VOCs	Xylene (Total)	ug/kg	2.60E+05	2.60E+05													

Notes:
Chromium GDCSS based upon the Chromium IV GDCSS
no criteria available
concentration exceeds criteria, and chemical with exceedances

% = percent
ft = feet
mg/kg = milligram per kilogram
ug/kg = microgram per kilogram
GRO = Gasoline Range Organics
J = estimated value
PCB = polychlorinated biphenyl
R = rejected data
TPH = Total petroleum hydrocarbons
U = not detected above detection limit
VOC = Volatile Organic Compounds
SVOC = Semi-Volatile Organic Compounds

See notes on page 18 of 18

APPENDIX A2
SOIL DATA COMPARISON TO GENERIC LBSV

Appendix A
Soil Data Comparison to LBSV
C Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units:	Leach - Based Soil Value August 2015	Station:	091216-3		091216-5		BH-169		BH-169		BH-170		BH-170		BH-176		BH-176		BH-177		BH-177	
				Field Sample ID:	091216-3		091216-5		S-110104-NZ-001		S-110104-NZ-002		S-110104-NZ-003		S-110104-NZ-004		S-110204-NZ-019		S-110204-NZ-020		S-110204-NZ-021		S-110204-NZ-022	
				Date:	12/6/2009		12/6/2009		11/1/2004		11/1/2004		11/1/2004		11/1/2004		11/2/2004		11/2/2004		11/2/2004		11/2/2004	
				Depth:	12 - 12		8 - 8		0 - 2		7.5 - 9.5		0 - 2		8 - 10		0 - 2		8 - 10		0 - 2		7.5 - 9.5	
VOCs	1,1,1-Trichloroethane	ug/kg	18000		22.1	U	13	U	-		-		-		-		4.3	U	8.4	U	6.2	U	8.9	U
VOCs	1,1-Dichloroethane	ug/kg	11.7		22.1	U	13	U	-		-		-		-		4.3	U	8.4	U	6.2	U	8.9	U
VOCs	1,1-Dichloroethene	ug/kg	4200		22.1	U	13	U	-		-		-		-		4.3	U	8.4	U	6.2	U	8.9	U
VOCs	1,2,4-Trichlorobenzene, VOC	ug/kg	3000		-		-		-		-		-		-		4.3	U	8.4	U	6.2	U	8.9	U
VOCs	1,2-Dichlorobenzene, VOC	ug/kg	8700		-		-		-		-		-		-		4.3	U	8.4	U	6.2	U	8.9	U
VOCs	1,4-Dichlorobenzene, VOC	ug/kg	1080		-		-		-		-		-		-		4.3	U	8.4	U	6.2	U	8.9	U
VOCs	2-Butanone	ug/kg	27000		88.2	U	52.1	U	-		-		-		-		5	J	8.1	J	10	J	8.9	J
VOCs	2-Chlorotoluene	ug/kg	3450		22.1	U	927		-		-		-		-		-		-		-		-	
VOCs	2-Hexanone	ug/kg	132		88.2	U	552		-		-		-		-		17	U	34	U	25	U	36	U
VOCs	4-Chlorotoluene	ug/kg	3600		22.1	U	598		-		-		-		-		-		-		-		-	
VOCs	4-Methyl-2-Pentanone	ug/kg	4200		88.2	U	52.1	U	-		-		-		-		17	U	34	U	25	U	36	U
VOCs	Acetone	ug/kg	43500		221	U	130	U	-		-		-		-		19		21	J	42		35	J
VOCs	Benzene	ug/kg	255		22.1	U	13	U	-		-		-		-		5.7		12		32	J	4	J
VOCs	Bromomethane	ug/kg	28.5		22.1	U	13	U	-		-		-		-		4.3	U	8.4	U	6.2	U	8.9	U
VOCs	Carbon disulfide	ug/kg	3600		88.2	U	52.1	U	-		-		-		-		4.3	U	8.4	U	6.2	U	8.9	U
VOCs	Carbon tetrachloride	ug/kg	3750		22.1	U	13	U	-		-		-		-		4.3	U	8.4	U	6.2	U	8.9	U
VOCs	Chlorobenzene	ug/kg	1020		22.1	U	264	U	-		-		-		-		4.3	U	8.4	U	6.2	U	8.9	U
VOCs	Chloroform	ug/kg	330		22.1	U	13	U	-		-		-		-		4.3	U	8.4	U	6.2	U	8.9	U
VOCs	cis-1,2-Dichloroethene	ug/kg	1800		22.1	U	13	U	-		-		-		-		4.3	U	8.4	U	6.2	U	8.9	U
VOCs	Cyclohexane	ug/kg	195000		-		-		-		-		-		-		10		34		6	J	9.3	J
VOCs	Dichlorodifluoromethane	ug/kg	4500		22.1	U	13	U	-		-		-		-		4.3	U	8.4	U	6.2	U	8.9	U
VOCs	Ethylbenzene	ug/kg	180000		120		264	U	-		-		-		-		6.7		17		5.2	J	3.7	J
VOCs	Isopropylbenzene, VOC	ug/kg	11100		-		-		-		-		-		-		4.3	U	2.3	J	6.2	U	8.9	U
VOCs	m&p-Xylene	ug/kg	1E+14		44.1		527	U	-		-		-		-		-		-		-		-	
VOCs	Methyl acetate	ug/kg	61500		-		-		-		-		-		-		8.7	U	17	U	12	U	18	U
VOCs	Methyl cyclohexane	ug/kg	1E+14		-		-		-		-		-		-		15		49		7.6	J	12	J
VOCs	Methylene chloride	ug/kg	19.5		22.1	U	13	U	-		-		-		-		12	U	24	U	20	U	32	U
VOCs	n-Hexane	ug/kg	1815000		22.1	U	13	U	-		-		-		-		-		-		-		-	
VOCs	o-Xylene	ug/kg	2850		22.1		264	U	-		-		-		-		-		-		-		-	
VOCs	Styrene	ug/kg	6900		22.1	U	264	U	-		-		-		-		4.3	U	8.4	U	6.2	U	8.9	U
VOCs	Tetrachloroethene	ug/kg	2250		22.1	U	264	U	-		-		-		-		4.3	U	8.4	U	6.2	U	8.9	U
VOCs	Toluene	ug/kg	102000		22.1	U	13	U	-		-		-		-		15		40		24		17	
VOCs	trans-1,2-Dichloroethene	ug/kg	6150		22.1	U	13	U	-		-		-		-		4.3	U	8.4	U	6.2	U	8.9	U
VOCs	Trichloroethene	ug/kg	540		22.1	U	13	U	-		-		-		-		4.3	U	8.4	U	6.2	U	8.9	U
VOCs	Trichlorofluoromethane	ug/kg	10950		22.1	U	13	U	-		-		-		-		4.3	U	8.4	U	6.2	U	8.9	U
VOCs	Vinyl chloride	ug/kg	135		22.1	U	13	U	-		-		-		-		4.3	U	8.4	U	6.2	U	8.9	U
VOCs	Xylene (Total)	ug/kg	2340000		-		-		-		-		-		-		12		38		11	J	7.3	J
SVOCs	2-Methylnaphthalene	ug/kg	2850		125	U	1050	U	-		-		-		-		370	U	370	U	170	J	350	U
SVOCs	Acenaphthene	ug/kg	82500		125	U	1050	U	-		-		-		-		370	U	370	U	42	J	350	U
SVOCs	Acenaphthylene	ug/kg	88223.85		125	U	1050	U	-		-		-		-		370	U	370	U	280	J	350	U
SVOCs	Acetophenone	ug/kg	8700		-		-		-		-		-		-		370	U	370	U	870	U	350	U
SVOCs	Anthracene	ug/kg	870000		125	U	1050	U	-		-		-		-		370	U	370	U	240	J	350	U
SVOCs	Benzaldehyde	ug/kg	6450		-		-		-		-		-		-		370	U	370	U	870	U	350	U
SVOCs	Benzo(a)anthracene	ug/kg	22200		125	U	1050	U	-		-		-		-		63	J	370	U	830	J	350	U
SVOCs	Benzo(a)pyrene	ug/kg	50600		125	U	1050	U	-		-		-		-		80	J	370	U	1000		350	U

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Appendix A
Soil Data Comparison to LBSV
C Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units:	Leach - Based Soil Value August 2015	Station:	091216-3		091216-5		BH-169		BH-169		BH-170		BH-170		BH-176		BH-176		BH-177		BH-177	
				Field Sample ID:	091216-3		091216-5		S-110104-NZ-001		S-110104-NZ-002		S-110104-NZ-003		S-110104-NZ-004		S-110204-NZ-019		S-110204-NZ-020		S-110204-NZ-021		S-110204-NZ-022	
				Date:	12/6/2009		12/6/2009		11/1/2004		11/1/2004		11/1/2004		11/1/2004		11/2/2004		11/2/2004		11/2/2004		11/2/2004	
				Depth:	12 - 12		8 - 8		0 - 2		7.5 - 9.5		0 - 2		8 - 10		0 - 2		8 - 10		0 - 2		7.5 - 9.5	
SVOCs	Benzo(b)fluoranthene	ug/kg	55300		125	U	1050	U	-		-		-		-		120	J	370	U	1300		350	U
SVOCs	Benzo(g,h,i)perylene	ug/kg	41242500		125	U	1050	U	-		-		-		-		160	J	370	U	1400		350	U
SVOCs	Benzo(k)fluoranthene	ug/kg	501000		125	U	1050	U	-		-		-		-		43	J	370	U	460	J	350	U
SVOCs	Biphenyl	ug/kg	130.5		-		-		-		-		-		-		370	U	370	U	870	U	350	U
SVOCs	bis(2-Ethylhexyl)phthalate	ug/kg	21000		-		-		-		-		-		-		370	U	370	U	870	U	350	U
SVOCs	Carbazole	ug/kg	7007.4		-		-		-		-		-		-		370	U	370	U	130	J	350	U
SVOCs	Chrysene	ug/kg	4410000		125	U	1050	U	-		-		-		-		61	J	370	U	830	J	350	U
SVOCs	Dibenz(a,h)anthracene	ug/kg	94000		125	U	1050	U	-		-		-		-		370	U	370	U	190	J	350	U
SVOCs	Dibenzofuran	ug/kg	2250		-		-		-		-		-		-		370	U	370	U	110	J	350	U
SVOCs	Di-n-butylphthalate	ug/kg	34500		-		-		-		-		-		-		370	U	370	U	870	U	350	U
SVOCs	Di-N-Octyl phthalate	ug/kg	855000		-		-		-		-		-		-		56	J	370	U	870	U	350	U
SVOCs	Fluoranthene	ug/kg	1335000		125	U	1050	U	-		-		-		-		67	J	370	U	2100		350	U
SVOCs	Fluorene	ug/kg	81000		125	U	1050	U	-		-		-		-		370	U	370	U	100	J	350	U
SVOCs	Indeno(1,2,3-cd)pyrene	ug/kg	244000		125	U	1050	U	-		-		-		-		63	J	370	U	660	J	350	U
SVOCs	Naphthalene, SVOC	ug/kg	4050		125	U	1050	U	-		-		-		-		370	U	370	U	110	J	350	U
SVOCs	Phenanthrene	ug/kg	2555100		125	U	1050	U	-		-		-		-		17	J	370	U	1500		350	U
SVOCs	Pyrene, SVOC	ug/kg	195000		125	U	1050	U	-		-		-		-		74	J	370	U	1800	J	350	U
PCBs	Aroclor-1248	ug/kg	18		-		-		-		-		-		-		-		-		-		-	
PCBs	Aroclor-1254	ug/kg	30		-		-		-		-		-		-		-		-		-		-	
PCBs	Aroclor-1260	ug/kg	82.5		-		-		-		-		-		-		-		-		-		-	
Metals	Antimony	mg/kg	7.2		-		-		6.7	UJ	6.4	UJ	6.3	UJ	6.3	UJ	6.7	UJ	6.7	UJ	1.7	J	0.51	J
Metals	Arsenic	mg/kg	5.8		-		-		3.4		3		1.1		6.1		5.2		3.8		9.2		2.8	
Metals	Barium	mg/kg	110000		-		-		78.7		43		2.8	J	26.2		96.4		133		173		44.2	
Metals	Beryllium	mg/kg	114.4		-		-		0.39	J	0.063	J	0.034	J	0.1	J	0.55	U	0.05	J	0.17	J	0.53	U
Metals	Cadmium	mg/kg	42		-		-		0.56	U	0.53	U	0.52	U	0.52	U	1.3		1.2		0.56	J	0.063	J
Metals	Chromium Total	mg/kg	113		-		-		3.4		3.4		2		7.7		9.6	J	4	J	22.7	J	4.1	J
Metals	Cobalt	mg/kg	5.4		-		-		1.7	J	1.6	J	5.2	U	2.2	J	3.7	J	1.7	J	10.6		1.9	J
Metals	Copper	mg/kg	920		-		-		7.6		6.9		1.2	J	9.4		48.4		15.7		428		3.7	
Metals	Cyanide (total)	mg/kg	40		-		-		0.56	U	0.53	U	0.52	U	0.52	U	0.55	U	0.55	U	0.66	U	0.53	U
Metals	Lead	mg/kg	177.6		-		-		20.4		6.3		1.5		3.2		48.8	J	5.2	J	160	J	2.3	J
Metals	Manganese	mg/kg	560		-		-		252		269		122		422		384		359		660		299	
Metals	Mercury	mg/kg	23		-		-		0.15		0.019	J	0.0077	J	0.04	J	0.076	J	0.022	J	0.67		0.11	U
Metals	Nickel	mg/kg	363		-		-		3.4	J	6.2		1	J	5.7		10.1		4.9		19.6		4	J
Metals	Selenium	mg/kg	4.3		-		-		0.56	U	0.53	U	0.52	U	0.52	U	0.55	U	0.55	U	0.66	U	0.53	U
Metals	Silver	mg/kg	6240		-		-		1.1	U	1.1	U	1	U	1	U	0.13	J	1.1	U	1.3	U	1.1	U
Metals	Thallium	mg/kg	2.98		-		-		1.1	U	1.1	U	1	U	1	U	0.71	J	0.78	J	1	J	1.1	
Metals	Vanadium	mg/kg	65		-		-		5.8		5.2	J	1.7	J	7.2		9.9		6.1		20.9		6.4	
Metals	Zinc	mg/kg	88000		-		-		24.6		50.6		3.2		18.1		122		65.9		307		12.8	
TPH	GRO (C6-C12)	ug/kg	1000000		213000		1850000		-		-		-		-		-		-		-		-	
TPH	TPH C10-C20	ug/kg	2000000		429000		1530000		-		-		-		-		-		-		-		-	
TPH	TPH C20-C34	ug/kg	5000000		3330000		9000000		-		-		-		-		-		-		-		-	

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Appendix A
Soil Data Comparison to LBSV
C Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units:	Leach - Based Soil Value August 2015	Station:	BH-177		BH-182		BH-182		BH-182		BH-183		BH-183		BH-183		SB-130-04		SB-130-04		SB-130-04	
				Field Sample ID:	S-110204-NZ-023		S-111104-NZ-038		S-111104-NZ-039		S-111104-NZ-040		S-112904-NZ-041		S-112904-NZ-042		S-112904-NZ-043		SB-130-04		SB-130-04		SB-130-04	
				Date:	11/2/2004		11/11/2004		11/11/2004		11/11/2004		11/29/2004		11/29/2004		11/29/2004		1/21/2004		1/21/2004		1/21/2004	
				Depth:	7.5 - 9.5		0 - 2		8 - 10		12 - 14		0 - 2		8 - 10		12 - 14		0 - 2		8 - 10		10 - 12	
VOCs	1,1,1-Trichloroethane	ug/kg	18000		5.9	U	-		-		-		330	U	7.5	U	5.3	U	290	U	5.4	U	290	U
VOCs	1,1-Dichloroethane	ug/kg	11.7		5.9	U	-		-		-		330	U	7.5	U	5.3	U	290	U	5.4	U	290	U
VOCs	1,1-Dichloroethene	ug/kg	4200		5.9	U	-		-		-		330	U	7.5	U	5.3	U	290	U	5.4	U	290	U
VOCs	1,2,4-Trichlorobenzene, VOC	ug/kg	3000		5.9	U	-		-		-		330	U	7.5	U	5.3	U	290	U	5.4	U	290	U
VOCs	1,2-Dichlorobenzene, VOC	ug/kg	8700		5.9	U	-		-		-		330	U	7.5	U	5.3	U	290	U	5.4	U	290	U
VOCs	1,4-Dichlorobenzene, VOC	ug/kg	1080		5.9	U	-		-		-		330	U	7.5	U	5.3	U	290	U	5.4	U	290	U
VOCs	2-Butanone	ug/kg	27000		11	J	-		-		-		1300	UJ	8.6	J	21	U	1100	U	21	U	1200	U
VOCs	2-Chlorotoluene	ug/kg	3450		-		-		-		-		-		-		-		-		-		-	
VOCs	2-Hexanone	ug/kg	132		24	U	-		-		-		1300	U	30	U	21	U	1100	U	21	U	1200	U
VOCs	4-Chlorotoluene	ug/kg	3600		-		-		-		-		-		-		-		-		-		-	
VOCs	4-Methyl-2-Pentanone	ug/kg	4200		24	U	-		-		-		1300	U	30	U	21	U	1100	U	21	U	1200	U
VOCs	Acetone	ug/kg	43500		52		-		-		-		1300	UJ	56	J	15	J	1100	UJ	21	UJ	1200	UJ
VOCs	Benzene	ug/kg	255		4.5	J	-		-		-		84	J	28		6.2		290	U	5.4	U	290	U
VOCs	Bromomethane	ug/kg	28.5		5.9	U	-		-		-		330	U	7.5	U	5.3	U	290	U	5.4	U	290	U
VOCs	Carbon disulfide	ug/kg	3600		5.9	U	-		-		-		330	U	7.5	U	5.3	U	290	U	5.4	U	290	U
VOCs	Carbon tetrachloride	ug/kg	3750		5.9	U	-		-		-		330	U	7.5	U	5.3	U	290	U	5.4	U	290	U
VOCs	Chlorobenzene	ug/kg	1020		5.9	U	-		-		-		330	U	7.5	U	5.3	U	290	U	5.4	U	290	U
VOCs	Chloroform	ug/kg	330		5.9	U	-		-		-		330	U	7.5	U	5.3	U	290	U	5.4	U	290	U
VOCs	cis-1,2-Dichloroethene	ug/kg	1800		5.9	U	-		-		-		58	J	7.5	U	5.3	U	230		2.3	J	120	J
VOCs	Cyclohexane	ug/kg	195000		5.7	J	-		-		-		230	J	1.8	J	14		120	J	11	U	76	J
VOCs	Dichlorodifluoromethane	ug/kg	4500		5.9	U	-		-		-		330	U	7.5	UJ	5.3	UJ	290	U	5.4	U	290	U
VOCs	Ethylbenzene	ug/kg	180000		2.9	J	-		-		-		47	J	4.9	J	9.7		290	U	5.4	U	290	U
VOCs	Isopropylbenzene, VOC	ug/kg	11100		5.9	U	-		-		-		20	J	7.5	U	5.3	U	290	U	5.4	U	290	U
VOCs	m&p-Xylene	ug/kg	1E+14		-		-		-		-		-		-		-		-		-		-	
VOCs	Methyl acetate	ug/kg	61500		12	U	-		-		-		81	J	15	U	11	U	570	U	11	U	430	J
VOCs	Methyl cyclohexane	ug/kg	1E+14		6.5	J	-		-		-		680		2.1	J	20		330	J	11	U	240	J
VOCs	Methylene chloride	ug/kg	19.5		20	U	-		-		-		330	U	31	J	17	J	290	U	5.4	U	290	U
VOCs	n-Hexane	ug/kg	1815000		-		-		-		-		-		-		-		-		-		-	
VOCs	o-Xylene	ug/kg	2850		-		-		-		-		-		-		-		-		-		-	
VOCs	Styrene	ug/kg	6900		5.9	U	-		-		-		330	U	3.2	J	5.3	U	290	U	5.4	U	290	U
VOCs	Tetrachloroethene	ug/kg	2250		3.2	J	-		-		-		8200		130		85		1000		18		590	
VOCs	Toluene	ug/kg	102000		14		-		-		-		590	J	29	B	26	B	140	J	0.9	J	310	
VOCs	trans-1,2-Dichloroethene	ug/kg	6150		5.9	U	-		-		-		330	U	7.5	U	5.3	U	140	U	2.7	U	150	U
VOCs	Trichloroethene	ug/kg	540		5.9	U	-		-		-		4300	J	35		8.8		6900		210		3800	
VOCs	Trichlorofluoromethane	ug/kg	10950		5.9	U	-		-		-		330	U	7.5	U	5.3	U	290	U	5.4	UJ	290	U
VOCs	Vinyl chloride	ug/kg	135		5.9	U	-		-		-		330	U	7.5	U	5.3	U	290	U	5.4	U	290	U
VOCs	Xylene (Total)	ug/kg	2340000		5.2	J	-		-		-		790		10	J	22		200	J	11	U	140	J
SVOCs	2-Methylnaphthalene	ug/kg	2850		360	U	39	J	460	U	350	U	53	J	440	U	370	U	4300	U	390	U	7300	U
SVOCs	Acenaphthene	ug/kg	82500		360	U	440	U	460	U	350	U	420	U	440	U	370	U	4300	U	390	U	7300	U
SVOCs	Acenaphthylene	ug/kg	88223.85		360	U	440	U	460	U	350	U	420	U	440	U	370	U	4300	U	390	U	7300	U
SVOCs	Acetophenone	ug/kg	8700		360	U	440	U	460	U	350	U	420	U	440	U	370	U	4300	U	390	U	7300	U
SVOCs	Anthracene	ug/kg	870000		360	U	440	U	460	U	350	U	420	U	440	U	370	U	490	J	390	U	7300	U
SVOCs	Benzaldehyde	ug/kg	6450		360	U	440	U	460	U	350	U	420	U	440	U	370	U	4300	U	390	U	7300	U
SVOCs	Benzo(a)anthracene	ug/kg	22200		360	U	34	J	460	U	350	U	420	U	440	U	370	U	1300	J	390	U	7300	U
SVOCs	Benzo(a)pyrene	ug/kg	50600		360	U	30	J	460	U	350	U	21	J	440	U	370	U	1200	J	390	U	7300	U

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Appendix A
Soil Data Comparison to LBSV
C Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units:	Leach - Based Soil Value August 2015	Station:	BH-177		BH-182		BH-182		BH-182		BH-183		BH-183		BH-183		SB-130-04		SB-130-04		SB-130-04	
				Field Sample ID:	S-110204-NZ-023		S-111104-NZ-038		S-111104-NZ-039		S-111104-NZ-040		S-112904-NZ-041		S-112904-NZ-042		S-112904-NZ-043		SB-130-04		SB-130-04		SB-130-04	
				Date:	11/2/2004		11/11/2004		11/11/2004		11/11/2004		11/29/2004		11/29/2004		11/29/2004		1/21/2004		1/21/2004		1/21/2004	
				Depth:	7.5 - 9.5		0 - 2		8 - 10		12 - 14		0 - 2		8 - 10		12 - 14		0 - 2		8 - 10		10 - 12	
SVOCs	Benzo(b)fluoranthene	ug/kg	55300		360	U	38	J	460	U	350	U	27	J	440	U	370	U	1300	J	25	J	7300	U
SVOCs	Benzo(g,h,i)perylene	ug/kg	41242500		360	U	440	U	460	U	350	U	18	J	440	U	370	U	770	J	390	U	7300	U
SVOCs	Benzo(k)fluoranthene	ug/kg	501000		360	U	440	U	460	U	350	U	420	U	440	U	370	U	550	J	390	U	7300	U
SVOCs	Biphenyl	ug/kg	130.5		360	U	440	U	460	U	350	U	420	U	440	U	370	U	4300	U	390	U	7300	U
SVOCs	bis(2-Ethylhexyl)phthalate	ug/kg	21000		360	U	440	U	460	U	350	U	420	U	440	U	370	U	4300	U	390	U	540	J
SVOCs	Carbazole	ug/kg	7007.4		360	U	440	U	460	U	350	U	420	U	440	U	370	U	4300	U	390	U	7300	U
SVOCs	Chrysene	ug/kg	4410000		360	U	30	J	460	U	350	U	420	U	440	U	370	U	1200	J	390	U	7300	U
SVOCs	Dibenz(a,h)anthracene	ug/kg	94000		360	U	440	U	460	U	350	U	420	U	440	U	370	U	4300	U	390	U	7300	U
SVOCs	Dibenzofuran	ug/kg	2250		360	U	440	U	460	U	350	U	420	U	440	U	370	U	4300	U	390	U	7300	U
SVOCs	Di-n-butylphthalate	ug/kg	34500		360	U	440	U	460	U	350	U	420	U	440	U	370	U	4300	U	390	U	7300	U
SVOCs	Di-N-Octyl phthalate	ug/kg	855000		360	U	440	U	460	U	350	U	420	U	440	U	370	U	4300	U	390	U	7300	U
SVOCs	Fluoranthene	ug/kg	1335000		360	U	46	J	460	U	350	U	44	J	440	U	370	U	3000	J	390	U	7300	U
SVOCs	Fluorene	ug/kg	81000		360	U	440	U	460	U	350	U	420	U	440	U	370	U	4300	U	390	U	7300	U
SVOCs	Indeno(1,2,3-cd)pyrene	ug/kg	244000		360	U	440	U	460	U	350	U	420	U	440	U	370	U	660	J	390	U	7300	U
SVOCs	Naphthalene, SVOC	ug/kg	4050		360	U	37	J	460	U	350	U	38	J	440	U	370	U	4300	U	390	U	7300	U
SVOCs	Phenanthrene	ug/kg	2555100		360	U	58	J	460	U	350	U	42	J	440	U	370	U	1800	J	390	U	530	J
SVOCs	Pyrene, SVOC	ug/kg	195000		360	U	42	J	460	U	350	U	28	J	440	U	370	U	2400	J	390	U	410	J
PCBs	Aroclor-1248	ug/kg	18		-		-		-		-		-		-		-		-		-		-	
PCBs	Aroclor-1254	ug/kg	30		-		-		-		-		-		-		-		-		-		-	
PCBs	Aroclor-1260	ug/kg	82.5		-		-		-		-		-		-		-		-		-		-	
Metals	Antimony	mg/kg	7.2		6.5	UJ	1.2	J	8.3	UJ	6.3	UJ	28.8	J	8.1	R	6.7	R	-		-		-	
Metals	Arsenic	mg/kg	5.8		6.4		15.6	J	1.4	J	2.5	J	12.4		6.4		1.8		-		-		-	
Metals	Barium	mg/kg	110000		80.8		224	J	310	J	27.7	J	275		271		159		-		-		-	
Metals	Beryllium	mg/kg	114.4		0.54	U	3.5	J	0.092	J	0.099	J	1.1		0.31	J	0.047	J	-		-		-	
Metals	Cadmium	mg/kg	42		0.11	J	0.3	J	0.69	J	0.14	J	0.035	J	0.14	J	0.07	J	-		-		-	
Metals	Chromium Total	mg/kg	113		5.7	J	15.8	J	8.3	J	3.8	J	11.9	J	9.7	J	2.2	J	-		-		-	
Metals	Cobalt	mg/kg	5.4		1.6	J	9	J	0.49	J	1.8	J	7.6		4.2	J	0.71	J	-		-		-	
Metals	Copper	mg/kg	920		2.5	J	239	J	228	J	4.4	J	33.6		7.1		1.9	J	-		-		-	
Metals	Cyanide (total)	mg/kg	40		0.54	U	0.46	J	0.69	U	0.54		0.64	U	0.67	U	0.56	U	-		-		-	
Metals	Lead	mg/kg	177.6		3	J	242	J	8.5	J	2.4	J	451		6.9		2.8		-		-		-	
Metals	Manganese	mg/kg	560		393		1230		316		291		382	J	265	J	275	J	-		-		-	
Metals	Mercury	mg/kg	23		0.012	J	0.33		0.022	J	0.014	J	0.38		0.021	J	0.011	J	-		-		-	
Metals	Nickel	mg/kg	363		3.8	J	17.3	J	9.1	J	5.7	J	15.4		9.2		2	J	-		-		-	
Metals	Selenium	mg/kg	4.3		0.54	U	0.39	J	0.69	UJ	0.53	UJ	0.63	J	0.67	U	0.56	U	-		-		-	
Metals	Silver	mg/kg	6240		1.1	U	1.3	UJ	1.4	UJ	1.1	UJ	1.3	U	1.3	U	1.1	U	-		-		-	
Metals	Thallium	mg/kg	2.98		0.84	J	1.3	UJ	1.4	UJ	1.1	UJ	1.3	U	1.3	U	1.1	U	-		-		-	
Metals	Vanadium	mg/kg	65		7.6		39.1	J	2.1	J	6.3	J	30.6		14.2		3.3	J	-		-		-	
Metals	Zinc	mg/kg	88000		15.1		76.2	J	31.7	J	14.3	J	73.5		36		16.1		-		-		-	
TPH	GRO (C6-C12)	ug/kg	1000000		-		-		-		-		-		-		-		-		-		-	
TPH	TPH C10-C20	ug/kg	2000000		-		-		-		-		-		-		-		-		-		-	
TPH	TPH C20-C34	ug/kg	5000000		-		-		-		-		-		-		-		-		-		-	

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Appendix A
Soil Data Comparison to LBSV
C Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units:	Leach - Based Soil Value August 2015	Station:	SB-131-04		SB-131-04		SB-131-04		SB-133-04		SB-133-04		SB-133-04		SB-133-04		SB-142-04		SB-142-04		SB-142-04	
				Field Sample ID:	SB-131-04		SB-131-04		SB-131-04 DUP		SB-133-04		SB-133-04		SB-133-04		SB-133-04 DUP		SB-142-04		SB-142-04		SB-142-04	
				Date:	1/21/2004		1/21/2004		1/21/2004		1/22/2004		1/22/2004		1/22/2004		1/22/2004		1/27/2004		1/27/2004		1/27/2004	
				Depth:	0 - 2		8 - 10		8 - 10		0 - 2		8 - 10		11 - 13		11 - 13		0 - 2		8 - 10		11 - 13	
VOCs	1,1,1-Trichloroethane	ug/kg	18000		1100	U	420	U	560	U	320	UJ	5.2	UJ	7.2	UJ	320	UJ	320	UJ	7.1	U	4.6	U
VOCs	1,1-Dichloroethane	ug/kg	11.7		1100	U	420	U	560	U	320	UJ	5.2	UJ	7.2	UJ	320	UJ	320	UJ	7.1	U	4.6	U
VOCs	1,1-Dichloroethene	ug/kg	4200		1100	U	420	U	560	U	320	UJ	5.2	UJ	7.2	UJ	320	UJ	320	UJ	7.1	U	4.6	U
VOCs	1,2,4-Trichlorobenzene, VOC	ug/kg	3000		1100	U	420	U	560	U	320	UJ	5.2	UJ	7.2	UJ	320	UJ	320	UJ	7.1	U	4.6	U
VOCs	1,2-Dichlorobenzene, VOC	ug/kg	8700		1100	U	420	U	560	U	320	UJ	5.2	UJ	7.2	UJ	320	UJ	100	J	7.1	U	4.6	U
VOCs	1,4-Dichlorobenzene, VOC	ug/kg	1080		1100	U	420	U	560	U	320	UJ	5.2	UJ	7.2	UJ	320	UJ	320	UJ	7.1	U	4.6	U
VOCs	2-Butanone	ug/kg	27000		4500	U	1700	U	2300	U	1300	UJ	21	UJ	29	UJ	1300	UJ	1300	UJ	28	U	19	U
VOCs	2-Chlorotoluene	ug/kg	3450		-		-		-		-		-		-		-		-		-		-	
VOCs	2-Hexanone	ug/kg	132		4500	U	1700	U	2300	U	1300	UJ	21	UJ	29	UJ	1300	UJ	1300	UJ	28	U	19	U
VOCs	4-Chlorotoluene	ug/kg	3600		-		-		-		-		-		-		-		-		-		-	
VOCs	4-Methyl-2-Pentanone	ug/kg	4200		4500	U	1700	U	2300	U	1300	UJ	21	UJ	29	UJ	1300	UJ	1300	UJ	28	U	19	U
VOCs	Acetone	ug/kg	43500		4500	UJ	1700	UJ	2300	UJ	1300	UJ	21	UJ	29	UJ	1300	UJ	1300	UJ	28	U	19	U
VOCs	Benzene	ug/kg	255		93	J	420	U	73	J	320	UJ	5.2	UJ	7.2	UJ	320	UJ	320	UJ	7.1	U	4.6	U
VOCs	Bromomethane	ug/kg	28.5		1100	U	420	U	560	U	320	UJ	5.2	UJ	7.2	UJ	320	UJ	320	UJ	7.1	U	4.6	U
VOCs	Carbon disulfide	ug/kg	3600		1100	U	420	U	560	U	320	UJ	5.2	UJ	7.2	UJ	320	UJ	320	UJ	7.1	U	4.6	U
VOCs	Carbon tetrachloride	ug/kg	3750		1100	U	420	U	560	U	320	UJ	5.2	UJ	7.2	UJ	320	UJ	320	UJ	7.1	U	4.6	U
VOCs	Chlorobenzene	ug/kg	1020		1100	U	420	U	560	U	320	UJ	5.2	UJ	7.2	UJ	320	UJ	320	UJ	7.1	U	4.6	U
VOCs	Chloroform	ug/kg	330		100	J	44	J	56	J	320	UJ	5.2	UJ	7.2	UJ	320	UJ	320	UJ	7.1	U	4.6	U
VOCs	cis-1,2-Dichloroethene	ug/kg	1800		920		920		590		200	J	0.72	J	8	J	160	UJ	160	UJ	3.5	U	2.3	U
VOCs	Cyclohexane	ug/kg	195000		1200	J	310	J	550	J	640	UJ	10	UJ	14	UJ	640	UJ	640	UJ	14	U	9.3	U
VOCs	Dichlorodifluoromethane	ug/kg	4500		1100	U	170	J	88	J	320	UJ	5.2	UJ	7.2	UJ	320	UJ	320	UJ	7.1	U	4.6	U
VOCs	Ethylbenzene	ug/kg	180000		1100	U	420	U	47	J	320	UJ	5.2	UJ	7.2	UJ	320	UJ	320	UJ	7.1	U	4.6	U
VOCs	Isopropylbenzene, VOC	ug/kg	11100		1100	U	420	U	560	U	320	UJ	5.2	UJ	7.2	UJ	320	UJ	320	UJ	7.1	U	4.6	U
VOCs	m&p-Xylene	ug/kg	1E+14		-		-		-		-		-		-		-		-		-		-	
VOCs	Methyl acetate	ug/kg	61500		2200	U	860		1200		640	UJ	10	UJ	14	UJ	640	UJ	640	UJ	14	U	9.3	U
VOCs	Methyl cyclohexane	ug/kg	1E+14		3500		890		1600		640	UJ	10	UJ	14	UJ	640	UJ	130	J	14	U	9.3	U
VOCs	Methylene chloride	ug/kg	19.5		1100	U	420	U	560	U	320	UJ	5.2	UJ	7.2	UJ	320	UJ	320	UJ	7.1	U	4.6	U
VOCs	n-Hexane	ug/kg	1815000		-		-		-		-		-		-		-		-		-		-	
VOCs	o-Xylene	ug/kg	2850		-		-		-		-		-		-		-		-		-		-	
VOCs	Styrene	ug/kg	6900		1100	U	420	U	560	U	320	UJ	5.2	UJ	7.2	UJ	320	UJ	320	UJ	7.1	U	4.6	U
VOCs	Tetrachloroethene	ug/kg	2250		7800		2100		3900		2400	J	36	J	160	J	490	J	2600	J	77		1.3	J
VOCs	Toluene	ug/kg	102000		710	J	240	J	520	J	320	UJ	0.69	J	1.3	J	320	UJ	320	UJ	7.1	U	4.6	U
VOCs	trans-1,2-Dichloroethene	ug/kg	6150		560	U	210	U	280	U	160	UJ	2.6	UJ	3.6	UJ	160	UJ	160	UJ	3.5	U	2.3	U
VOCs	Trichloroethene	ug/kg	540		32000		13000		17000		3000	J	29	J	59	J	320	UJ	9800	J	26		1.5	J
VOCs	Trichlorofluoromethane	ug/kg	10950		1100	U	420	U	560	U	320	UJ	5.2	UJ	7.2	UJ	320	UJ	320	UJ	7.1	U	4.6	U
VOCs	Vinyl chloride	ug/kg	135		1100	U	420	U	560	U	320	UJ	5.2	UJ	7.2	UJ	320	UJ	320	UJ	7.1	U	4.6	U
VOCs	Xylene (Total)	ug/kg	2340000		1600	J	450	J	860	J	640	UJ	10	UJ	14	UJ	640	UJ	640	UJ	14	U	9.3	U
SVOCs	2-Methylnaphthalene	ug/kg	2850		3600	U	7100	U	7200	U	83	J	340	U	340	U	350	U	57	J	470	U	1600	J
SVOCs	Acenaphthene	ug/kg	82500		3600	U	7100	U	7200	U	420	U	340	U	340	U	350	U	380	U	470	U	17000	U
SVOCs	Acenaphthylene	ug/kg	88223.85		3600	U	7100	U	7200	U	420	U	340	U	340	U	350	U	380	U	470	U	17000	U
SVOCs	Acetophenone	ug/kg	8700		3600	U	7100	U	7200	U	420	U	340	U	340	U	350	U	380	U	470	U	17000	U
SVOCs	Anthracene	ug/kg	870000		3600	U	7100	U	7200	U	420	U	340	U	45	J	350	U	380	U	470	U	17000	U
SVOCs	Benzaldehyde	ug/kg	6450		3600	U	7100	U	7200	U	420	U	340	U	340	U	350	U	380	U	470	U	17000	U
SVOCs	Benzo(a)anthracene	ug/kg	22200		310	J	7100	U	7200	U	100	J	340	U	120	J	350	U	84	J	470	U	1300	J
SVOCs	Benzo(a)pyrene	ug/kg	50600		250	J	7100	U	7200	U	110	J	340	U	110	J	350	U	380	U	470	U	17000	U

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Appendix A
Soil Data Comparison to LBSV
C Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units:	Leach - Based Soil Value August 2015	Station:	SB-131-04		SB-131-04		SB-131-04		SB-133-04		SB-133-04		SB-133-04		SB-133-04		SB-142-04		SB-142-04		SB-142-04	
				Field Sample ID:	SB-131-04		SB-131-04		SB-131-04 DUP		SB-133-04		SB-133-04		SB-133-04		SB-133-04 DUP		SB-142-04		SB-142-04		SB-142-04	
				Date:	1/21/2004		1/21/2004		1/21/2004		1/22/2004		1/22/2004		1/22/2004		1/22/2004		1/27/2004		1/27/2004		1/27/2004	
				Depth:	0 - 2		8 - 10		8 - 10		0 - 2		8 - 10		11 - 13		11 - 13		0 - 2		8 - 10		11 - 13	
SVOCs	Benzo(b)fluoranthene	ug/kg	55300		450	J	580	J	590	J	150	J	340	U	150	J	350	U	380	U	470	U	1800	J
SVOCs	Benzo(g,h,i)perylene	ug/kg	41242500		3600	U	7100	U	7200	U	86	J	340	U	85	J	350	U	380	U	470	U	17000	U
SVOCs	Benzo(k)fluoranthene	ug/kg	501000		3600	U	7100	U	7200	U	84	J	340	U	80	J	350	U	380	U	470	U	17000	U
SVOCs	Biphenyl	ug/kg	130.5		3600	U	7100	U	7200	U	420	U	340	U	340	U	350	U	380	U	470	U	17000	U
SVOCs	bis(2-Ethylhexyl)phthalate	ug/kg	21000		3600	U	730	J	570	J	420	U	32	J	340	U	350	U	29	J	90	J	17000	U
SVOCs	Carbazole	ug/kg	7007.4		3600	U	7100	U	7200	U	420	U	340	U	34	J	350	U	380	U	470	U	17000	U
SVOCs	Chrysene	ug/kg	4410000		360	J	7100	U	460	J	150	J	340	U	130	J	350	U	87	J	470	U	1900	J
SVOCs	Dibenz(a,h)anthracene	ug/kg	94000		3600	U	7100	U	7200	U	63	J	340	U	49	J	350	U	380	U	470	U	17000	U
SVOCs	Dibenzofuran	ug/kg	2250		3600	U	7100	U	7200	U	62	J	340	U	340	U	350	U	380	U	470	U	17000	U
SVOCs	Di-n-butylphthalate	ug/kg	34500		3600	U	7100	U	7200	U	420	U	340	U	340	U	350	U	380	U	470	U	17000	U
SVOCs	Di-N-Octyl phthalate	ug/kg	855000		3600	U	7100	U	7200	U	420	U	340	U	340	U	350	U	380	U	470	U	17000	U
SVOCs	Fluoranthene	ug/kg	1335000		750	J	700	J	880	J	200	J	340	U	340		350	U	120	J	470	U	6300	J
SVOCs	Fluorene	ug/kg	81000		3600	U	7100	U	7200	U	420	U	340	U	340	U	350	U	380	U	470	U	17000	U
SVOCs	Indeno(1,2,3-cd)pyrene	ug/kg	244000		3600	U	7100	U	7200	U	74	J	340	U	73	J	350	U	380	U	470	U	17000	U
SVOCs	Naphthalene, SVOC	ug/kg	4050		3600	U	7100	U	7200	U	67	J	340	U	340	U	350	U	22	J	470	U	2800	J
SVOCs	Phenanthrene	ug/kg	2555100		570	J	440	J	600	J	290	J	340	U	280	J	350	U	160	J	470	U	8300	J
SVOCs	Pyrene, SVOC	ug/kg	195000		600	J	580	J	700	J	160	J	340	U	260	J	350	U	110	J	470	U	4700	J
PCBs	Aroclor-1248	ug/kg	18		-		-		-		-		-		-		-		76	U	47	U	70	U
PCBs	Aroclor-1254	ug/kg	30		-		-		-		-		-		-		-		76	U	47	U	890	J
PCBs	Aroclor-1260	ug/kg	82.5		-		-		-		-		-		-		-		76	U	47	U	70	U
Metals	Antimony	mg/kg	7.2		-		-		-		-		-		-		-		6.9	UJ	8.5	UJ	6.3	UJ
Metals	Arsenic	mg/kg	5.8		-		-		-		-		-		-		-		9		6.3		3.1	
Metals	Barium	mg/kg	110000		-		-		-		-		-		-		-		181		238		78.1	
Metals	Beryllium	mg/kg	114.4		-		-		-		-		-		-		-		0.64		0.44	J	0.23	J
Metals	Cadmium	mg/kg	42		-		-		-		-		-		-		-		0.98		0.39	J	0.17	J
Metals	Chromium Total	mg/kg	113		-		-		-		-		-		-		-		6.4	J	9.5	J	12.5	J
Metals	Cobalt	mg/kg	5.4		-		-		-		-		-		-		-		5.1	J	4.7	J	3	J
Metals	Copper	mg/kg	920		-		-		-		-		-		-		-		177	J	11.7	J	21.4	J
Metals	Cyanide (total)	mg/kg	40		-		-		-		-		-		-		-		0.58	U	0.71	U	0.53	U
Metals	Lead	mg/kg	177.6		-		-		-		-		-		-		-		39		7.5		10.3	
Metals	Manganese	mg/kg	560		-		-		-		-		-		-		-		799		648		323	
Metals	Mercury	mg/kg	23		-		-		-		-		-		-		-		0.15		0.044	J	0.057	J
Metals	Nickel	mg/kg	363		-		-		-		-		-		-		-		427		11.3		15.9	
Metals	Selenium	mg/kg	4.3		-		-		-		-		-		-		-		0.58	U	0.71	U	0.53	U
Metals	Silver	mg/kg	6240		-		-		-		-		-		-		-		1.2	U	1.4	U	2.9	
Metals	Thallium	mg/kg	2.98		-		-		-		-		-		-		-		1.2	U	1.4	U	1.1	U
Metals	Vanadium	mg/kg	65		-		-		-		-		-		-		-		13.8		13.8		14.2	
Metals	Zinc	mg/kg	88000		-		-		-		-		-		-		-		576	J	46.7	J	47.9	J
TPH	GRO (C6-C12)	ug/kg	1000000		-		-		-		-		-		-		-		-		-		-	
TPH	TPH C10-C20	ug/kg	2000000		-		-		-		-		-		-		-		-		-		-	
TPH	TPH C20-C34	ug/kg	5000000		-		-		-		-		-		-		-		-		-		-	

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Appendix A
Soil Data Comparison to LBSV
C Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units:	Leach - Based Soil Value August 2015	Station:	SB-153-04		SB-153-04		SB-153-04		SB-154-04		SB-154-04		SB-154-04		SB-155-04		SB-155-04		SB-155-04		SB-155-04	
				Field Sample ID:	SB-153-04		SB-153-04		SB-153-04		SB-154-04		SB-154-04		SB-154-04		SB-155-04		SB-155-04		SB-155-04 DUP		SB-155-04	
				Date:	2/3/2004		2/3/2004		2/3/2004		2/5/2004		2/5/2004		2/5/2004		2/3/2004		2/3/2004		2/3/2004		2/3/2004	
				Depth:	0 - 2		8 - 10		11 - 13		0 - 2		8 - 10		11.5 - 13.5		0 - 2		8 - 10		8 - 10		12 - 14	
VOCs	1,1,1-Trichloroethane	ug/kg	18000		750	U	6.2	U	250	U	1100	U	2800	U	4600	U	280	U	4.8	U	5.5	U	7.9	U
VOCs	1,1-Dichloroethane	ug/kg	11.7		750	U	6.2	U	250	U	1100	U	2800	U	4600	U	280	U	4.8	U	5.5	U	7.9	U
VOCs	1,1-Dichloroethene	ug/kg	4200		750	U	6.2	U	250	U	1100	U	2800	U	4600	U	280	U	4.8	U	5.5	U	7.9	U
VOCs	1,2,4-Trichlorobenzene, VOC	ug/kg	3000		750	U	6.2	U	250	U	1100	U	2800	U	4600	U	280	U	4.8	U	5.5	U	7.9	U
VOCs	1,2-Dichlorobenzene, VOC	ug/kg	8700		750	U	6.2	U	250	U	1100	U	2800	U	4600	U	280	U	4.8	U	5.5	U	7.9	U
VOCs	1,4-Dichlorobenzene, VOC	ug/kg	1080		750	U	6.2	U	250	U	1100	U	2800	U	4600	U	280	U	4.8	U	5.5	U	7.9	U
VOCs	2-Butanone	ug/kg	27000		3000	U	25	U	1000	UJ	4300	U	11000	U	18000	U	1100	UJ	19	U	22	U	32	U
VOCs	2-Chlorotoluene	ug/kg	3450		-		-		-		-		-		-		-		-		-		-	
VOCs	2-Hexanone	ug/kg	132		3000	U	25	U	1000	U	4300	U	11000	U	18000	U	1100	U	19	U	22	U	32	U
VOCs	4-Chlorotoluene	ug/kg	3600		-		-		-		-		-		-		-		-		-		-	
VOCs	4-Methyl-2-Pentanone	ug/kg	4200		3000	U	25	U	1000	U	4300	U	11000	U	18000	U	1100	U	19	U	22	U	32	U
VOCs	Acetone	ug/kg	43500		3000	U	7.2	J	1000	UJ	4300	U	11000	U	18000	U	1100	UJ	19	U	22	U	32	U
VOCs	Benzene	ug/kg	255		750	U	6.2	U	250	U	1100	U	2800	U	4600	U	280	U	4.8	U	5.5	U	0.81	J
VOCs	Bromomethane	ug/kg	28.5		750	U	6.2	U	250	U	1100	U	2800	U	4600	U	280	U	4.8	U	5.5	U	7.9	U
VOCs	Carbon disulfide	ug/kg	3600		750	U	6.2	U	250	U	1100	U	2800	U	4600	U	280	U	4.8	U	5.5	U	7.9	U
VOCs	Carbon tetrachloride	ug/kg	3750		750	U	6.2	U	250	U	1100	U	2800	U	4600	U	280	U	4.8	U	5.5	U	7.9	U
VOCs	Chlorobenzene	ug/kg	1020		750	U	6.2	U	250	U	1100	U	2800	U	4600	U	280	U	4.8	U	5.5	U	7.9	U
VOCs	Chloroform	ug/kg	330		750	U	6.2	U	250	U	1100	U	2800	U	4600	U	280	U	4.8	U	5.5	U	7.9	U
VOCs	cis-1,2-Dichloroethene	ug/kg	1800		520		3.1	U	130	U	240	J	370	J	2300	U	140	U	2.4	U	2.8	U	4	U
VOCs	Cyclohexane	ug/kg	195000		190	J	12	U	510	U	330	J	5600	U	9100	U	560	U	9.6	U	11	U	1.1	J
VOCs	Dichlorodifluoromethane	ug/kg	4500		750	U	6.2	UJ	250	U	1100	U	2800	U	4600	U	280	U	4.8	UJ	5.5	UJ	7.9	UJ
VOCs	Ethylbenzene	ug/kg	180000		750	U	6.2	U	250	U	1100	U	2800	U	4600	U	280	U	4.8	U	5.5	U	1.7	J
VOCs	Isopropylbenzene, VOC	ug/kg	11100		750	U	6.2	U	250	U	1100	U	2800	U	4600	U	280	U	4.8	U	5.5	U	7.9	U
VOCs	m&p-Xylene	ug/kg	1E+14		-		-		-		-		-		-		-		-		-		-	
VOCs	Methyl acetate	ug/kg	61500		1500	U	12	U	510	U	2200	U	5600	U	9100	U	560	U	9.6	U	11	U	16	U
VOCs	Methyl cyclohexane	ug/kg	1E+14		390	J	12	U	510	U	690	J	5600	U	9100	U	560	U	9.6	U	11	U	1.9	J
VOCs	Methylene chloride	ug/kg	19.5		300	J	6.2	U	250	U	560	J	1600	J	2600	J	280	U	4.8	U	5.5	U	7.9	U
VOCs	n-Hexane	ug/kg	1815000		-		-		-		-		-		-		-		-		-		-	
VOCs	o-Xylene	ug/kg	2850		-		-		-		-		-		-		-		-		-		-	
VOCs	Styrene	ug/kg	6900		750	U	6.2	U	250	U	1100	U	2800	U	4600	U	280	U	4.8	U	5.5	U	7.9	U
VOCs	Tetrachloroethene	ug/kg	2250		25000		150		1200		30000		66000		130000		450		4.5	J	10		20	
VOCs	Toluene	ug/kg	102000		750	U	6.2	U	250	U	1100	U	2800	U	4600	U	280	U	4.8	U	0.61	J	3.2	J
VOCs	trans-1,2-Dichloroethene	ug/kg	6150		380	U	3.1	U	130	U	540	U	1400	U	2300	U	140	U	2.4	U	2.8	U	4	U
VOCs	Trichloroethene	ug/kg	540		9500		12		77	J	17000		820	J	1900	J	400		1.5	J	7.1		14	
VOCs	Trichlorofluoromethane	ug/kg	10950		750	U	6.2	U	250	U	1100	U	2800	U	4600	U	280	U	4.8	U	5.5	U	7.9	U
VOCs	Vinyl chloride	ug/kg	135		750	U	6.2	U	250	U	1100	U	2800	U	4600	U	280	U	4.8	U	5.5	U	7.9	U
VOCs	Xylene (Total)	ug/kg	2340000		1500	U	12	U	510	U	2200	U	5600	U	9100	U	560	U	9.6	U	11	U	2.3	J
SVOCs	2-Methylnaphthalene	ug/kg	2850		-		-		-		-		-		-		-		-		-		-	
SVOCs	Acenaphthene	ug/kg	82500		-		-		-		-		-		-		-		-		-		-	
SVOCs	Acenaphthylene	ug/kg	88223.85		-		-		-		-		-		-		-		-		-		-	
SVOCs	Acetophenone	ug/kg	8700		-		-		-		-		-		-		-		-		-		-	
SVOCs	Anthracene	ug/kg	870000		-		-		-		-		-		-		-		-		-		-	
SVOCs	Benzaldehyde	ug/kg	6450		-		-		-		-		-		-		-		-		-		-	
SVOCs	Benzo(a)anthracene	ug/kg	22200		-		-		-		-		-		-		-		-		-		-	
SVOCs	Benzo(a)pyrene	ug/kg	50600		-		-		-		-		-		-		-		-		-		-	

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Appendix A
Soil Data Comparison to LBSV
C Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units:	Leach - Based Soil Value August 2015	Station:	SB-153-04		SB-153-04		SB-153-04		SB-154-04		SB-154-04		SB-154-04		SB-155-04		SB-155-04		SB-155-04		SB-155-04	
				Field Sample ID:	SB-153-04		SB-153-04		SB-153-04		SB-154-04		SB-154-04		SB-154-04		SB-155-04		SB-155-04		SB-155-04 DUP		SB-155-04	
				Date:	2/3/2004		2/3/2004		2/3/2004		2/5/2004		2/5/2004		2/5/2004		2/3/2004		2/3/2004		2/3/2004		2/3/2004	
				Depth:	0 - 2		8 - 10		11 - 13		0 - 2		8 - 10		11.5 - 13.5		0 - 2		8 - 10		8 - 10		12 - 14	
SVOCs	Benzo(b)fluoranthene	ug/kg	55300		-		-		-		-		-		-		-		-		-		-	
SVOCs	Benzo(g,h,i)perylene	ug/kg	41242500		-		-		-		-		-		-		-		-		-		-	
SVOCs	Benzo(k)fluoranthene	ug/kg	501000		-		-		-		-		-		-		-		-		-		-	
SVOCs	Biphenyl	ug/kg	130.5		-		-		-		-		-		-		-		-		-		-	
SVOCs	bis(2-Ethylhexyl)phthalate	ug/kg	21000		-		-		-		-		-		-		-		-		-		-	
SVOCs	Carbazole	ug/kg	7007.4		-		-		-		-		-		-		-		-		-		-	
SVOCs	Chrysene	ug/kg	4410000		-		-		-		-		-		-		-		-		-		-	
SVOCs	Dibenz(a,h)anthracene	ug/kg	94000		-		-		-		-		-		-		-		-		-		-	
SVOCs	Dibenzofuran	ug/kg	2250		-		-		-		-		-		-		-		-		-		-	
SVOCs	Di-n-butylphthalate	ug/kg	34500		-		-		-		-		-		-		-		-		-		-	
SVOCs	Di-N-Octyl phthalate	ug/kg	855000		-		-		-		-		-		-		-		-		-		-	
SVOCs	Fluoranthene	ug/kg	1335000		-		-		-		-		-		-		-		-		-		-	
SVOCs	Fluorene	ug/kg	81000		-		-		-		-		-		-		-		-		-		-	
SVOCs	Indeno(1,2,3-cd)pyrene	ug/kg	244000		-		-		-		-		-		-		-		-		-		-	
SVOCs	Naphthalene, SVOC	ug/kg	4050		-		-		-		-		-		-		-		-		-		-	
SVOCs	Phenanthrene	ug/kg	2555100		-		-		-		-		-		-		-		-		-		-	
SVOCs	Pyrene, SVOC	ug/kg	195000		-		-		-		-		-		-		-		-		-		-	
PCBs	Aroclor-1248	ug/kg	18		-		-		-		-		-		-		-		-		-		-	
PCBs	Aroclor-1254	ug/kg	30		-		-		-		-		-		-		-		-		-		-	
PCBs	Aroclor-1260	ug/kg	82.5		-		-		-		-		-		-		-		-		-		-	
Metals	Antimony	mg/kg	7.2		7.6	U	7.3	U	6.7	U	7.3	UJ	7.5	UJ	6.6	UJ	7.6	U	6.4	U	6.4	U	6.5	U
Metals	Arsenic	mg/kg	5.8		6.6		12		7.7		4.6		1.9		3.9		11.2		4.7		5.7		5.6	
Metals	Barium	mg/kg	110000		147		748		155		130		122		227		155		94.4		149		101	
Metals	Beryllium	mg/kg	114.4		0.39	J	0.11	J	0.16	J	0.52	J	0.091	J	0.084	J	0.38	J	0.53	U	0.53	U	0.54	U
Metals	Cadmium	mg/kg	42		9.9		6.2		6.2		0.26	J	0.2	J	0.59		6.5		0.1	J	0.12	J	0.41	J
Metals	Chromium Total	mg/kg	113		54.1		46		27.1		6.2	J	5	J	8.7	J	28.4		3		5.2		5.9	
Metals	Cobalt	mg/kg	5.4		18.1		2.7	J	5.3	J	3.2	J	1.5	J	1.7	J	84.8		1.5	J	2.5	J	3.3	J
Metals	Copper	mg/kg	920		50.1		321		63.1		86.9	J	34.6	J	96.5	J	9420		3.2		4.2		196	
Metals	Cyanide (total)	mg/kg	40		4.3		0.61	U	0.93		0.59	J	0.31	J	0.36	J	0.97		0.53	U	0.53	U	0.54	U
Metals	Lead	mg/kg	177.6		57.8		26.3		15.9		84.6	J	3.3	J	15.7	J	262		2.3		2.9		5.6	
Metals	Manganese	mg/kg	560		436		1130		383		427		204		238		517		482		653		536	
Metals	Mercury	mg/kg	23		0.31		0.6		0.14		0.16		0.12	U	0.11	U	0.92		0.11	U	0.11	U	0.02	J
Metals	Nickel	mg/kg	363		12.3		21.1		9.2		15.7	J	5.2	J	12.4	J	37.3		4.9		8.4		6	
Metals	Selenium	mg/kg	4.3		0.63	U	0.61	U	0.56	U	0.61	U	0.62	U	0.55	U	0.57	J	0.53	U	0.53	U	0.54	U
Metals	Silver	mg/kg	6240		1.3	U	0.29	J	0.16	J	1.2	U	1.2	U	1.1	U	2.5		1.1	U	1.1	U	1.1	U
Metals	Thallium	mg/kg	2.98		1.2	J	1.3		0.61	J	1.2	U	0.55	J	1.1	U	1.4		0.95	J	1.5		1.2	
Metals	Vanadium	mg/kg	65		14		10.7		8.4		11		6.7		7.3		18.8		5.4		7.9		7.3	
Metals	Zinc	mg/kg	88000		3540		77.7		739		89.5	J	14.5	J	78.6	J	876		60.3		292		75.9	
TPH	GRO (C6-C12)	ug/kg	1000000		-		-		-		-		-		-		-		-		-		-	
TPH	TPH C10-C20	ug/kg	2000000		-		-		-		-		-		-		-		-		-		-	
TPH	TPH C20-C34	ug/kg	5000000		-		-		-		-		-		-		-		-		-		-	

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Appendix A
Soil Data Comparison to LBSV
C Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units:	Leach - Based Soil Value August 2015	Station:	SB-156-04		SB-156-04		SB-156-04		SB-159-04		SB-159-04		SB-160-04		SB-160-04		SB-161-04		SB-161-04		SB-162-04	
				Field Sample ID:	SB-156-04		SB-156-04		SB-156-04		SB-159-04		SB-159-04		SB-160-04		SB-160-04		SB-161-04 (0-2)		SB-161-04 (7.5-9.5)		SB-162-04 (0-2)	
				Date:	2/3/2004		2/3/2004		2/3/2004		2/4/2004		2/4/2004		2/4/2004		2/4/2004		2/4/2004		2/4/2004		2/4/2004	
				Depth:	0 - 2		8 - 10		13 - 15		0 - 2		7 - 9		0 - 2		6 - 8		0 - 2		7.5 - 9.5		0 - 2	
VOCs	1,1,1-Trichloroethane	ug/kg	18000		1500	U	1.4	J	1800	U	4.9	U	5.3	U	5.5	U	5.9	UJ	4.7	U	5.1	U	330	U
VOCs	1,1-Dichloroethane	ug/kg	11.7		1500	U	0.61	J	1800	U	4.9	U	5.3	U	5.5	U	5.9	UJ	4.7	U	5.1	U	330	U
VOCs	1,1-Dichloroethene	ug/kg	4200		1500	U	5.1	U	1800	U	4.9	U	5.3	U	5.5	U	5.9	UJ	4.7	U	5.1	U	330	U
VOCs	1,2,4-Trichlorobenzene, VOC	ug/kg	3000		1500	U	5.1	U	1800	U	4.9	U	5.3	U	5.5	U	5.9	UJ	4.7	U	5.1	U	330	U
VOCs	1,2-Dichlorobenzene, VOC	ug/kg	8700		1500	U	5.1	U	1800	U	4.9	U	5.3	U	5.5	U	5.9	UJ	4.7	U	5.1	U	330	U
VOCs	1,4-Dichlorobenzene, VOC	ug/kg	1080		1500	U	5.1	U	1800	U	4.9	U	5.3	U	5.5	U	5.9	UJ	4.7	U	5.1	U	330	U
VOCs	2-Butanone	ug/kg	27000		6000	U	20	U	7100	U	20	U	21	U	22	U	2.7	J	19	U	20	U	1300	UJ
VOCs	2-Chlorotoluene	ug/kg	3450		-		-		-		-		-		-		-		-		-		-	
VOCs	2-Hexanone	ug/kg	132		6000	U	20	U	7100	U	20	U	21	U	22	U	23	UJ	19	U	20	U	1300	U
VOCs	4-Chlorotoluene	ug/kg	3600		-		-		-		-		-		-		-		-		-		-	
VOCs	4-Methyl-2-Pentanone	ug/kg	4200		6000	U	20	U	7100	U	20	U	1.8	J	22	U	23	UJ	19	U	20	U	1300	U
VOCs	Acetone	ug/kg	43500		6000	U	20	U	7100	U	20	U	21	U	22	U	16	J	19	U	20	U	1300	UJ
VOCs	Benzene	ug/kg	255		1500	U	5.1	U	1800	U	4.9	U	5.3	U	5.5	U	5.9	UJ	4.7	U	5.1	U	330	U
VOCs	Bromomethane	ug/kg	28.5		1500	U	5.1	U	1800	U	4.9	U	5.3	U	5.5	U	5.9	UJ	4.7	U	5.1	U	330	U
VOCs	Carbon disulfide	ug/kg	3600		1500	U	5.1	U	1800	U	4.9	U	5.3	U	5.5	U	5.9	UJ	4.7	U	5.1	U	330	U
VOCs	Carbon tetrachloride	ug/kg	3750		1500	U	5.1	U	1800	U	4.9	U	5.3	U	5.5	U	5.9	UJ	4.7	U	5.1	U	330	U
VOCs	Chlorobenzene	ug/kg	1020		1500	U	5.1	U	1800	U	4.9	U	5.3	U	5.5	U	5.9	UJ	4.7	U	5.1	U	330	U
VOCs	Chloroform	ug/kg	330		1500	U	5.1	U	1800	U	4.9	U	5.3	U	5.5	U	5.9	UJ	4.7	U	5.1	U	330	U
VOCs	cis-1,2-Dichloroethene	ug/kg	1800		2500		2.7		3000		2.5	U	2.7	U	2.7	U	2.9	UJ	2.4	U	2.6	U	170	U
VOCs	Cyclohexane	ug/kg	195000		3000	U	10	U	3500	U	9.9	U	11	U	11	U	12	UJ	9.4	U	10	U	660	U
VOCs	Dichlorodifluoromethane	ug/kg	4500		1500	U	5.1	UJ	1800	U	4.9	U	5.3	U	5.5	U	5.9	UJ	4.7	U	5.1	U	330	U
VOCs	Ethylbenzene	ug/kg	180000		1500	U	5.1	U	1800	U	4.9	U	5.3	U	5.5	U	5.9	UJ	0.65	J	5.1	U	330	U
VOCs	Isopropylbenzene, VOC	ug/kg	11100		1500	U	5.1	U	1800	U	4.9	U	5.3	U	5.5	U	5.9	UJ	4.7	U	5.1	U	330	U
VOCs	m&p-Xylene	ug/kg	1E+14		-		-		-		-		-		-		-		-		-		-	
VOCs	Methyl acetate	ug/kg	61500		410	J	10	U	430	J	9.9	U	11	U	11	U	12	UJ	9.4	U	10	U	660	U
VOCs	Methyl cyclohexane	ug/kg	1E+14		300	J	10	U	220	J	9.9	U	11	U	11	U	12	UJ	9.4	U	10	U	40	J
VOCs	Methylene chloride	ug/kg	19.5		660	J	5.1	U	1000	J	5.5		5	J	8.2		8.9	J	7.7		8.7		330	U
VOCs	n-Hexane	ug/kg	1815000		-		-		-		-		-		-		-		-		-		-	
VOCs	o-Xylene	ug/kg	2850		-		-		-		-		-		-		-		-		-		-	
VOCs	Styrene	ug/kg	6900		1500	U	5.1	U	1800	U	4.9	U	5.3	U	5.5	U	5.9	UJ	4.7	U	5.1	U	330	U
VOCs	Tetrachloroethene	ug/kg	2250		29000		98		35000		4.9	U	5.3	U	5.5	U	5.2	J	4.7	U	1	J	1200	
VOCs	Toluene	ug/kg	102000		1500	U	5.1	U	1800	U	4.9	U	5.3	U	0.92	J	0.65	J	1.2	J	5.1	U	330	U
VOCs	trans-1,2-Dichloroethene	ug/kg	6150		750	U	2.6	U	880	U	2.5	U	2.7	U	2.7	U	2.9	UJ	2.4	U	2.6	U	170	U
VOCs	Trichloroethene	ug/kg	540		49000		100		60000		4.9	U	5.3	U	5.5	U	5.9	UJ	4.7	U	5.1	U	56	J
VOCs	Trichlorofluoromethane	ug/kg	10950		1500	U	5.1	U	1800	U	4.9	U	5.3	U	5.5	U	5.9	UJ	4.7	U	5.1	U	330	U
VOCs	Vinyl chloride	ug/kg	135		1500	U	5.1	U	1800	U	4.9	U	5.3	U	5.5	U	5.9	UJ	4.7	U	5.1	U	330	U
VOCs	Xylene (Total)	ug/kg	2340000		3000	U	10	U	3500	U	9.9	U	11	U	11	U	12	UJ	9.4	U	10	U	660	U
SVOCs	2-Methylnaphthalene	ug/kg	2850		-		-		-		-		-		-		-		-		-		-	
SVOCs	Acenaphthene	ug/kg	82500		-		-		-		-		-		-		-		-		-		-	
SVOCs	Acenaphthylene	ug/kg	88223.85		-		-		-		-		-		-		-		-		-		-	
SVOCs	Acetophenone	ug/kg	8700		-		-		-		-		-		-		-		-		-		-	
SVOCs	Anthracene	ug/kg	870000		-		-		-		-		-		-		-		-		-		-	
SVOCs	Benzaldehyde	ug/kg	6450		-		-		-		-		-		-		-		-		-		-	
SVOCs	Benzo(a)anthracene	ug/kg	22200		-		-		-		-		-		-		-		-		-		-	
SVOCs	Benzo(a)pyrene	ug/kg	50600		-		-		-		-		-		-		-		-		-		-	

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Appendix A
Soil Data Comparison to LBSV
C Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units:	Leach - Based Soil Value August 2015	Station:	SB-156-04		SB-156-04		SB-156-04		SB-159-04		SB-159-04		SB-160-04		SB-160-04		SB-161-04		SB-161-04		SB-162-04	
				Field Sample ID:	SB-156-04		SB-156-04		SB-156-04		SB-159-04		SB-159-04		SB-160-04		SB-160-04		SB-161-04 (0-2)		SB-161-04 (7.5-9.5)		SB-162-04 (0-2)	
				Date:	2/3/2004		2/3/2004		2/3/2004		2/4/2004		2/4/2004		2/4/2004		2/4/2004		2/4/2004		2/4/2004		2/4/2004	
				Depth:	0 - 2		8 - 10		13 - 15		0 - 2		7 - 9		0 - 2		6 - 8		0 - 2		7.5 - 9.5		0 - 2	
SVOCs	Benzo(b)fluoranthene	ug/kg	55300		-		-		-		-		-		-		-		-		-		-	
SVOCs	Benzo(g,h,i)perylene	ug/kg	41242500		-		-		-		-		-		-		-		-		-		-	
SVOCs	Benzo(k)fluoranthene	ug/kg	501000		-		-		-		-		-		-		-		-		-		-	
SVOCs	Biphenyl	ug/kg	130.5		-		-		-		-		-		-		-		-		-		-	
SVOCs	bis(2-Ethylhexyl)phthalate	ug/kg	21000		-		-		-		-		-		-		-		-		-		-	
SVOCs	Carbazole	ug/kg	7007.4		-		-		-		-		-		-		-		-		-		-	
SVOCs	Chrysene	ug/kg	4410000		-		-		-		-		-		-		-		-		-		-	
SVOCs	Dibenz(a,h)anthracene	ug/kg	94000		-		-		-		-		-		-		-		-		-		-	
SVOCs	Dibenzofuran	ug/kg	2250		-		-		-		-		-		-		-		-		-		-	
SVOCs	Di-n-butylphthalate	ug/kg	34500		-		-		-		-		-		-		-		-		-		-	
SVOCs	Di-N-Octyl phthalate	ug/kg	855000		-		-		-		-		-		-		-		-		-		-	
SVOCs	Fluoranthene	ug/kg	1335000		-		-		-		-		-		-		-		-		-		-	
SVOCs	Fluorene	ug/kg	81000		-		-		-		-		-		-		-		-		-		-	
SVOCs	Indeno(1,2,3-cd)pyrene	ug/kg	244000		-		-		-		-		-		-		-		-		-		-	
SVOCs	Naphthalene, SVOC	ug/kg	4050		-		-		-		-		-		-		-		-		-		-	
SVOCs	Phenanthrene	ug/kg	2555100		-		-		-		-		-		-		-		-		-		-	
SVOCs	Pyrene, SVOC	ug/kg	195000		-		-		-		-		-		-		-		-		-		-	
PCBs	Aroclor-1248	ug/kg	18		-		-		-		-		-		-		-		-		-		-	
PCBs	Aroclor-1254	ug/kg	30		-		-		-		-		-		-		-		-		-		-	
PCBs	Aroclor-1260	ug/kg	82.5		-		-		-		-		-		-		-		-		-		-	
Metals	Antimony	mg/kg	7.2		1.3	J	7.2	U	7.5	U	-		-		-		-		-		-		-	
Metals	Arsenic	mg/kg	5.8		12.1		2.4		5.2		-		-		-		-		-		-		-	
Metals	Barium	mg/kg	110000		190		106		153		-		-		-		-		-		-		-	
Metals	Beryllium	mg/kg	114.4		1.2		0.6	U	0.24	J	-		-		-		-		-		-		-	
Metals	Cadmium	mg/kg	42		0.52	J	0.11	J	0.47	J	-		-		-		-		-		-		-	
Metals	Chromium Total	mg/kg	113		152		5.2		44.5		-		-		-		-		-		-		-	
Metals	Cobalt	mg/kg	5.4		9.1		1.8	J	5.8	J	-		-		-		-		-		-		-	
Metals	Copper	mg/kg	920		129		6.4		67.8		-		-		-		-		-		-		-	
Metals	Cyanide (total)	mg/kg	40		0.11	J	0.6	U	0.62	U	-		-		-		-		-		-		-	
Metals	Lead	mg/kg	177.6		120		3		18.8		-		-		-		-		-		-		-	
Metals	Manganese	mg/kg	560		457		151		456		-		-		-		-		-		-		-	
Metals	Mercury	mg/kg	23		7.5		0.12	U	4.1		-		-		-		-		-		-		-	
Metals	Nickel	mg/kg	363		22.8		4.7	J	14.6		-		-		-		-		-		-		-	
Metals	Selenium	mg/kg	4.3		0.63	U	0.6	U	0.62	U	-		-		-		-		-		-		-	
Metals	Silver	mg/kg	6240		1.3	U	1.2	U	1.2	U	-		-		-		-		-		-		-	
Metals	Thallium	mg/kg	2.98		1.2	J	0.9	J	0.79	J	-		-		-		-		-		-		-	
Metals	Vanadium	mg/kg	65		19.9		7		11.2		-		-		-		-		-		-		-	
Metals	Zinc	mg/kg	88000		229		16.8		165		-		-		-		-		-		-		-	
TPH	GRO (C6-C12)	ug/kg	1000000		-		-		-		-		-		-		-		-		-		-	
TPH	TPH C10-C20	ug/kg	2000000		-		-		-		-		-		-		-		-		-		-	
TPH	TPH C20-C34	ug/kg	5000000		-		-		-		-		-		-		-		-		-		-	

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Appendix A
Soil Data Comparison to LBSV
C Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units:	Leach - Based Soil Value August 2015	Station:	SB-162-04		SB-162-04		SB-165-04		SB-33-02		SB-33-02		SB-44-02		SB-44-02		SB-74-03		SB-74-03		SB-74-03	
				Field Sample ID:	SB-162-04 DUP (0-2		SB-162-04 (7.5-9.5)		SB-165-04		SB-33-02		SB-33-02		SB-44-02		SB-44-02		SB-74-03		SB-74-03		SB-74-03	
				Date:	2/4/2004		2/4/2004		2/6/2004		4/12/2002		4/12/2002		4/15/2002		4/15/2002		2/20/2003		2/20/2003		2/20/2003	
				Depth:	0 - 2		7.5 - 9.5		0 - 2		1 - 3		9 - 11		1 - 3		9 - 11		2 - 4		8 - 10		13 - 15	
VOCs	1,1,1-Trichloroethane	ug/kg	18000		290	U	5.3	U	7.4	U	330	U	270	U	5.6	U	7.2	U	2700	U	1800	U	4.3	U
VOCs	1,1-Dichloroethane	ug/kg	11.7		290	U	5.3	U	7.4	U	330	U	270	U	5.6	U	7.2	U	2700	U	1800	U	4.3	U
VOCs	1,1-Dichloroethene	ug/kg	4200		290	U	5.3	U	7.4	U	330	U	270	U	5.6	U	7.2	U	2700	U	1800	U	4.3	U
VOCs	1,2,4-Trichlorobenzene, VOC	ug/kg	3000		290	U	5.3	U	7.4	U	330	UJ	270	UJ	5.6	U	7.2	U	2700	U	1800	U	4.3	U
VOCs	1,2-Dichlorobenzene, VOC	ug/kg	8700		290	U	5.3	U	7.4	U	330	U	270	U	5.6	U	7.2	U	2700	U	1800	U	4.3	U
VOCs	1,4-Dichlorobenzene, VOC	ug/kg	1080		290	U	5.3	U	7.4	U	330	U	270	U	5.6	U	7.2	U	2700	U	1800	U	4.3	U
VOCs	2-Butanone	ug/kg	27000		1200	UJ	21	U	30	U	1300	U	1100	U	23	U	29	U	11000	U	7000	U	17	U
VOCs	2-Chlorotoluene	ug/kg	3450		-		-		-		-		-		-		-		-		-		-	
VOCs	2-Hexanone	ug/kg	132		1200	U	21	U	30	U	1300	U	1100	U	23	U	29	U	11000	U	7000	U	17	U
VOCs	4-Chlorotoluene	ug/kg	3600		-		-		-		-		-		-		-		-		-		-	
VOCs	4-Methyl-2-Pentanone	ug/kg	4200		1200	U	21	U	30	U	1300	U	1100	U	2.6	J	29	U	11000	U	7000	U	17	U
VOCs	Acetone	ug/kg	43500		1200	UJ	21	U	240	J	1300	U	1100	U	23	UJ	29	UJ	11000	U	7000	U	17	U
VOCs	Benzene	ug/kg	255		290	U	5.3	U	7.4	U	330	U	270	U	5.6	U	7.2	U	2700	U	1800	U	4.3	U
VOCs	Bromomethane	ug/kg	28.5		290	U	5.3	U	7.4	U	330	U	270	U	5.6	UJ	7.2	UJ	2700	R	1800	R	4.3	UJ
VOCs	Carbon disulfide	ug/kg	3600		290	U	5.3	U	7.4	U	330	U	270	U	5.6	U	7.2	U	2700	U	1800	U	4.3	U
VOCs	Carbon tetrachloride	ug/kg	3750		290	U	5.3	U	7.4	U	330	U	270	U	5.6	UJ	7.2	UJ	2700	U	1800	U	4.3	UJ
VOCs	Chlorobenzene	ug/kg	1020		290	U	5.3	U	7.4	U	330	U	270	U	5.6	U	7.2	U	2700	U	1800	U	4.3	U
VOCs	Chloroform	ug/kg	330		290	U	5.3	U	7.4	U	330	U	270	U	5.6	U	7.2	U	2700	U	1800	U	4.3	U
VOCs	cis-1,2-Dichloroethene	ug/kg	1800		150	U	2.7	U	3.7	U	160	U	130	U	2.8	U	3.6	U	6400		3900		2.2	U
VOCs	Cyclohexane	ug/kg	195000		580	U	11	U	15	U	650	U	530	U	11	U	14	U	1500	J	790	J	8.7	U
VOCs	Dichlorodifluoromethane	ug/kg	4500		290	U	5.3	U	7.4	U	330	U	270	U	5.6	U	7.2	U	300	J	180	J	4.3	UJ
VOCs	Ethylbenzene	ug/kg	180000		290	U	5.3	U	0.82	J	330	U	270	U	5.6	U	7.2	U	2700	U	1800	U	4.3	U
VOCs	Isopropylbenzene, VOC	ug/kg	11100		290	U	5.3	U	7.4	U	330	U	270	U	5.6	U	7.2	U	2700	U	1800	U	4.3	U
VOCs	m&p-Xylene	ug/kg	1E+14		-		-		-		-		-		-		-		-		-		-	
VOCs	Methyl acetate	ug/kg	61500		580	U	11	U	15	U	650	U	530	U	11	U	14	U	5400	U	810	J	8.7	U
VOCs	Methyl cyclohexane	ug/kg	1E+14		580	U	11	U	15	U	650	U	530	U	1.1	J	14	U	3800	J	2000	J	8.7	U
VOCs	Methylene chloride	ug/kg	19.5		290	U	8		7.4	U	330	U	270	U	5.6	U	7.2	U	2700	U	1800	U	4.3	U
VOCs	n-Hexane	ug/kg	1815000		-		-		-		-		-		-		-		-		-		-	
VOCs	o-Xylene	ug/kg	2850		-		-		-		-		-		-		-		-		-		-	
VOCs	Styrene	ug/kg	6900		290	U	5.3	U	7.4	U	330	U	270	U	5.6	U	7.2	U	2700	U	1800	U	4.3	U
VOCs	Tetrachloroethene	ug/kg	2250		800		2.6	J	4.6	J	2200		2000		1.6	J	2.5	J	21000		10000		26	
VOCs	Toluene	ug/kg	102000		290	U	5.3	U	0.68	J	330	U	270	U	2.7	J	7.2	U	680	J	300	J	0.83	J
VOCs	trans-1,2-Dichloroethene	ug/kg	6150		150	U	2.7	U	3.7	U	160	U	130	U	2.8	U	3.6	U	1300	U	880	U	2.2	U
VOCs	Trichloroethene	ug/kg	540		36	J	5.3	U	3.5	J	2600		210	J	5.6	U	7.2	U	81000		53000	J	9.2	
VOCs	Trichlorofluoromethane	ug/kg	10950		290	U	5.3	U	7.4	U	330	U	270	U	5.6	U	7.2	U	2700	U	1800	U	4.3	UJ
VOCs	Vinyl chloride	ug/kg	135		290	U	5.3	U	7.4	U	330	U	270	U	5.6	U	7.2	U	2700	U	1800	U	4.3	U
VOCs	Xylene (Total)	ug/kg	2340000		580	U	11	U	2.1	J	650	U	530	U	11	U	14	U	1600	J	950	J	8.7	U
SVOCs	2-Methylnaphthalene	ug/kg	2850		-		-		-		370	U	450	U	680	J	490	U	2100		10000	U	45	J
SVOCs	Acenaphthene	ug/kg	82500		-		-		-		370	U	450	U	930	J	490	U	810	U	10000	U	17	J
SVOCs	Acenaphthylene	ug/kg	88223.85		-		-		-		370	U	450	U	2200	U	490	U	810	U	610	J	350	U
SVOCs	Acetophenone	ug/kg	8700		-		-		-		370	U	450	U	2200	U	490	U	110	J	10000	U	350	U
SVOCs	Anthracene	ug/kg	870000		-		-		-		370	U	450	U	1400	J	490	U	810	U	1500	J	31	J
SVOCs	Benzaldehyde	ug/kg	6450		-		-		-		370	U	450	U	2200	U	490	U	180	J	10000	U	350	U
SVOCs	Benzo(a)anthracene	ug/kg	22200		-		-		-		370	U	450	U	6800		490	U	250	J	10000		150	J
SVOCs	Benzo(a)pyrene	ug/kg	50600		-		-		-		370	U	450	U	5700		490	U	190	J	8400	J	130	J

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Appendix A
Soil Data Comparison to LBSV
C Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units:	Leach - Based Soil Value August 2015	Station:	SB-162-04		SB-162-04		SB-165-04		SB-33-02		SB-33-02		SB-44-02		SB-44-02		SB-74-03		SB-74-03		SB-74-03	
				Field Sample ID:	SB-162-04 DUP (0-2		SB-162-04 (7.5-9.5)		SB-165-04		SB-33-02		SB-33-02		SB-44-02		SB-44-02		SB-74-03		SB-74-03		SB-74-03	
				Date:	2/4/2004		2/4/2004		2/6/2004		4/12/2002		4/12/2002		4/15/2002		4/15/2002		2/20/2003		2/20/2003		2/20/2003	
				Depth:	0 - 2		7.5 - 9.5		0 - 2		1 - 3		9 - 11		1 - 3		9 - 11		2 - 4		8 - 10		13 - 15	
SVOCs	Benzo(b)fluoranthene	ug/kg	55300		-		-		-		370	U	450	U	9500		490	U	240	J	10000	J	170	J
SVOCs	Benzo(g,h,i)perylene	ug/kg	41242500		-		-		-		370	U	450	U	2600		490	U	79	J	4700	J	65	J
SVOCs	Benzo(k)fluoranthene	ug/kg	501000		-		-		-		370	U	450	U	4000		490	U	110	J	6700	J	130	J
SVOCs	Biphenyl	ug/kg	130.5		-		-		-		370	U	450	U	2200	U	490	U	130	J	10000	U	350	U
SVOCs	bis(2-Ethylhexyl)phthalate	ug/kg	21000		-		-		-		370	U	450	U	2200	U	490	U	810	U	3000	J	32	J
SVOCs	Carbazole	ug/kg	7007.4		-		-		-		370	U	450	U	1700	J	490	U	220	J	5300	J	86	J
SVOCs	Chrysene	ug/kg	4410000		-		-		-		370	U	450	U	8000		490	U	480	J	11000		170	J
SVOCs	Dibenz(a,h)anthracene	ug/kg	94000		-		-		-		370	U	450	U	710	J	490	U	810	U	1000	J	350	U
SVOCs	Dibenzofuran	ug/kg	2250		-		-		-		370	U	450	U	1600	J	490	U	500	J	10000	U	22	J
SVOCs	Di-n-butylphthalate	ug/kg	34500		-		-		-		370	U	450	U	2200	U	490	U	810	U	10000	U	350	U
SVOCs	Di-N-Octyl phthalate	ug/kg	855000		-		-		-		370	U	450	U	2200	U	490	U	810	U	10000	UJ	350	U
SVOCs	Fluoranthene	ug/kg	1335000		-		-		-		370	U	450	U	18000		490	U	270	J	27000		340	J
SVOCs	Fluorene	ug/kg	81000		-		-		-		370	U	450	U	370	J	490	U	810	U	10000	U	350	U
SVOCs	Indeno(1,2,3-cd)pyrene	ug/kg	244000		-		-		-		370	U	450	U	2700		490	U	50	J	4100	J	54	J
SVOCs	Naphthalene, SVOC	ug/kg	4050		-		-		-		370	U	450	U	2200	U	490	U	1100		10000	U	26	J
SVOCs	Phenanthrene	ug/kg	2555100		-		-		-		370	U	450	U	11000		490	U	2000		4000	J	300	J
SVOCs	Pyrene, SVOC	ug/kg	195000		-		-		-		370	U	450	U	19000		490	U	430	J	25000		360	
PCBs	Aroclor-1248	ug/kg	18		-		-		-		37	U	45	U	33	U	49	U	-		-		-	
PCBs	Aroclor-1254	ug/kg	30		-		-		-		37	U	45	U	33	U	49	U	-		-		-	
PCBs	Aroclor-1260	ug/kg	82.5		-		-		-		37	U	45	U	33	U	49	U	-		-		-	
Metals	Antimony	mg/kg	7.2		-		-		7	UJ	6.8	U	8.1	U	6	UJ	8.9	UJ	0.83	J	0.57	J	6.4	UJ
Metals	Arsenic	mg/kg	5.8		-		-		2.9		6.4		3.2		1.6	J	10.7	J	11	J	6.7	J	3.8	J
Metals	Barium	mg/kg	110000		-		-		62.3	J	111		120		7.8	J	197	J	152	J	143	J	74.5	J
Metals	Beryllium	mg/kg	114.4		-		-		0.3	J	0.79	U	0.67	U	0.048	J	1.1	J	0.72	J	0.34	J	0.54	UJ
Metals	Cadmium	mg/kg	42		-		-		0.15	J	81.8		1.2		0.068	J	0.29	J	1.3	J	1.5	J	0.079	J
Metals	Chromium Total	mg/kg	113		-		-		8.9	J	1790		78.1		2.4	J	17.2	J	7.4	J	9.3	J	4.9	J
Metals	Cobalt	mg/kg	5.4		-		-		13.3		3.7	J	2.4	J	0.95	J	7.7	J	7.4	J	7.1	J	1.4	J
Metals	Copper	mg/kg	920		-		-		11.8		377		43.2		4.6	J	45.9	J	158	J	101	J	10.3	J
Metals	Cyanide (total)	mg/kg	40		-		-		0.18	J	11.7		0.43	J	0.5	U	0.74	U	4.7	J	2.1	J	0.21	J
Metals	Lead	mg/kg	177.6		-		-		9.3	J	29.2		5.6		4.1	J	147	J	121	J	53.1	J	5.6	J
Metals	Manganese	mg/kg	560		-		-		44.4		436		325		132		422		47.1	J	261	J	273	J
Metals	Mercury	mg/kg	23		-		-		0.76		2.3		0.44		0.1	R	0.54	J	0.2		0.16		0.11	U
Metals	Nickel	mg/kg	363		-		-		6.4		21.9		8.9		4.6	J	20.1	J	47.5		23.4		4	J
Metals	Selenium	mg/kg	4.3		-		-		0.58	U	0.57	U	0.67	U	0.5	UJ	0.74	UJ	2.3	J	0.62	U	0.54	U
Metals	Silver	mg/kg	6240		-		-		0.11	J	0.65	J	1.3	U	1	U	1.5	U	1.2	U	1.2	U	1.1	U
Metals	Thallium	mg/kg	2.98		-		-		1.2	U	1.1	U	1.3	U	1.1	J	1.9	J	1.2	UJ	0.83	J	1.1	UJ
Metals	Vanadium	mg/kg	65		-		-		4.2	J	14.9		8.6		13.3	J	26.8	J	12.5	J	12.5	J	6	J
Metals	Zinc	mg/kg	88000		-		-		16.4		43300		288		11.3	J	121	J	252	J	372	J	17.1	J
TPH	GRO (C6-C12)	ug/kg	1000000		-		-		-		-		-		-		-		-		-		-	
TPH	TPH C10-C20	ug/kg	2000000		-		-		-		-		-		-		-		-		-		-	
TPH	TPH C20-C34	ug/kg	5000000		-		-		-		-		-		-		-		-		-		-	

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Appendix A
Soil Data Comparison to LBSV
C Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units:	Leach - Based Soil Value August 2015	Station:	SB-89-03		SB-90-03		SB-91-03	
				Field Sample ID:	SB-89-03		SB-90-03		SB-91-03	
				Date:	4/1/2003		4/1/2003		4/1/2003	
				Depth:	1 - 3		1 - 3		1 - 3	
VOCs	1,1,1-Trichloroethane	ug/kg	18000		-		-		-	
VOCs	1,1-Dichloroethane	ug/kg	11.7		-		-		-	
VOCs	1,1-Dichloroethene	ug/kg	4200		-		-		-	
VOCs	1,2,4-Trichlorobenzene, VOC	ug/kg	3000		-		-		-	
VOCs	1,2-Dichlorobenzene, VOC	ug/kg	8700		-		-		-	
VOCs	1,4-Dichlorobenzene, VOC	ug/kg	1080		-		-		-	
VOCs	2-Butanone	ug/kg	27000		-		-		-	
VOCs	2-Chlorotoluene	ug/kg	3450		-		-		-	
VOCs	2-Hexanone	ug/kg	132		-		-		-	
VOCs	4-Chlorotoluene	ug/kg	3600		-		-		-	
VOCs	4-Methyl-2-Pentanone	ug/kg	4200		-		-		-	
VOCs	Acetone	ug/kg	43500		-		-		-	
VOCs	Benzene	ug/kg	255		-		-		-	
VOCs	Bromomethane	ug/kg	28.5		-		-		-	
VOCs	Carbon disulfide	ug/kg	3600		-		-		-	
VOCs	Carbon tetrachloride	ug/kg	3750		-		-		-	
VOCs	Chlorobenzene	ug/kg	1020		-		-		-	
VOCs	Chloroform	ug/kg	330		-		-		-	
VOCs	cis-1,2-Dichloroethene	ug/kg	1800		-		-		-	
VOCs	Cyclohexane	ug/kg	195000		-		-		-	
VOCs	Dichlorodifluoromethane	ug/kg	4500		-		-		-	
VOCs	Ethylbenzene	ug/kg	180000		-		-		-	
VOCs	Isopropylbenzene, VOC	ug/kg	11100		-		-		-	
VOCs	m&p-Xylene	ug/kg	1E+14		-		-		-	
VOCs	Methyl acetate	ug/kg	61500		-		-		-	
VOCs	Methyl cyclohexane	ug/kg	1E+14		-		-		-	
VOCs	Methylene chloride	ug/kg	19.5		-		-		-	
VOCs	n-Hexane	ug/kg	1815000		-		-		-	
VOCs	o-Xylene	ug/kg	2850		-		-		-	
VOCs	Styrene	ug/kg	6900		-		-		-	
VOCs	Tetrachloroethene	ug/kg	2250		-		-		-	
VOCs	Toluene	ug/kg	102000		-		-		-	
VOCs	trans-1,2-Dichloroethene	ug/kg	6150		-		-		-	
VOCs	Trichloroethene	ug/kg	540		-		-		-	
VOCs	Trichlorofluoromethane	ug/kg	10950		-		-		-	
VOCs	Vinyl chloride	ug/kg	135		-		-		-	
VOCs	Xylene (Total)	ug/kg	2340000		-		-		-	
SVOCs	2-Methylnaphthalene	ug/kg	2850		1600	U	100	J	1300	U
SVOCs	Acenaphthene	ug/kg	82500		1600	U	30	J	85	J
SVOCs	Acenaphthylene	ug/kg	88223.85		1600	U	380	U	1300	U
SVOCs	Acetophenone	ug/kg	8700		1600	U	380	U	1300	U
SVOCs	Anthracene	ug/kg	870000		410	J	92	J	260	J
SVOCs	Benzaldehyde	ug/kg	6450		1600	U	380	U	1300	U
SVOCs	Benzo(a)anthracene	ug/kg	22200		1300	J	300	J	1500	
SVOCs	Benzo(a)pyrene	ug/kg	50600		1400	J	280	J	1700	

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Appendix A
Soil Data Comparison to LBSV
C Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units:	Leach - Based Soil Value August 2015	Station:	SB-89-03		SB-90-03		SB-91-03	
				Field Sample ID:	SB-89-03		SB-90-03		SB-91-03	
				Date:	4/1/2003		4/1/2003		4/1/2003	
				Depth:	1 - 3		1 - 3		1 - 3	
SVOCs	Benzo(b)fluoranthene	ug/kg	55300		1600		280	J	1700	
SVOCs	Benzo(g,h,i)perylene	ug/kg	41242500		970	J	160	J	1000	J
SVOCs	Benzo(k)fluoranthene	ug/kg	501000		990	J	170	J	1400	
SVOCs	Biphenyl	ug/kg	130.5		1600	U	61	J	1300	U
SVOCs	bis(2-Ethylhexyl)phthalate	ug/kg	21000		1600	U	380	U	1300	U
SVOCs	Carbazole	ug/kg	7007.4		1600	U	33	J	110	J
SVOCs	Chrysene	ug/kg	4410000		1400	J	310	J	1700	
SVOCs	Dibenz(a,h)anthracene	ug/kg	94000		230	J	38	J	270	J
SVOCs	Dibenzofuran	ug/kg	2250		1600	U	40	J	1300	U
SVOCs	Di-n-butylphthalate	ug/kg	34500		1600	U	380	U	1300	U
SVOCs	Di-N-Octyl phthalate	ug/kg	855000		1600	U	380	U	1300	U
SVOCs	Fluoranthene	ug/kg	1335000		3700		670		3100	
SVOCs	Fluorene	ug/kg	81000		310	J	82	J	270	J
SVOCs	Indeno(1,2,3-cd)pyrene	ug/kg	244000		760	J	140	J	840	J
SVOCs	Naphthalene, SVOC	ug/kg	4050		1600	U	59	J	1300	U
SVOCs	Phenanthrene	ug/kg	2555100		1600		460		1300	
SVOCs	Pyrene, SVOC	ug/kg	195000		3200		630		3200	
PCBs	Aroclor-1248	ug/kg	18		-		-		-	
PCBs	Aroclor-1254	ug/kg	30		-		-		-	
PCBs	Aroclor-1260	ug/kg	82.5		-		-		-	
Metals	Antimony	mg/kg	7.2		-		-		-	
Metals	Arsenic	mg/kg	5.8		-		-		-	
Metals	Barium	mg/kg	110000		-		-		-	
Metals	Beryllium	mg/kg	114.4		-		-		-	
Metals	Cadmium	mg/kg	42		-		-		-	
Metals	Chromium Total	mg/kg	113		-		-		-	
Metals	Cobalt	mg/kg	5.4		-		-		-	
Metals	Copper	mg/kg	920		-		-		-	
Metals	Cyanide (total)	mg/kg	40		-		-		-	
Metals	Lead	mg/kg	177.6		-		-		-	
Metals	Manganese	mg/kg	560		-		-		-	
Metals	Mercury	mg/kg	23		-		-		-	
Metals	Nickel	mg/kg	363		-		-		-	
Metals	Selenium	mg/kg	4.3		-		-		-	
Metals	Silver	mg/kg	6240		-		-		-	
Metals	Thallium	mg/kg	2.98		-		-		-	
Metals	Vanadium	mg/kg	65		-		-		-	
Metals	Zinc	mg/kg	88000		-		-		-	
TPH	GRO (C6-C12)	ug/kg	1000000		-		-		-	
TPH	TPH C10-C20	ug/kg	2000000		-		-		-	
TPH	TPH C20-C34	ug/kg	5000000		-		-		-	

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Appendix A
Soil Data Comparison to LBSV
C Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Notes:

concentration exceeds criteria, and chemical with exceedances

% = percent
ft = feet
mg/kg = milligram per kilogram
ug/kg = microgram per kilogram
J = estimated value
PCB = polychlorinated biphenyl
R = rejected data
TPH = Total petroleum hydrocarbons
U = not detected above detection limit
VOC = Volatile Organic Compounds
SVOC = Semi-Volatile Organic Compounds

Appendix A
Soil Data Comparison to LBSV
CTA Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units:	Leach - Based Soil Value August 2015	Station:	B01		B01		B01		B01		B02		B02		B02		B02		B02	
				Field Sample ID:	B01-0-05		B01-0-05		B01-0-10		B01-0-10		B02-0-05		B02-1-05		B02-0-05		B02-1-05		B02-0-10	
				Date:	5/19/2006		5/19/2006		5/19/2006		5/19/2006		5/19/2006		5/19/2006		5/19/2006		5/19/2006		5/19/2006	
				Depth:	0.5 - 1.5		0.5 - 5		5 - 6		5 - 10		0.5 - 5		0.5 - 5		3 - 4		3 - 4		5 - 10	
VOCs	1,1,1-Trichloroethane	ug/kg	18000		5	U	-		5	U	-		-		-		5	U	5	U	-	
VOCs	1,1-Dichloroethane	ug/kg	11.7		5	U	-		5	U	-		-		-		5	U	5	U	-	
VOCs	1,1-Dichloroethene	ug/kg	4200		5	U	-		5	U	-		-		-		5	U	5	U	-	
VOCs	1,2,4-Trichlorobenzene, VOC	ug/kg	3000		5	U	-		5	U	-		-		-		5	U	5	U	-	
VOCs	1,2,4-Trimethylbenzene	ug/kg	315		5	U	-		5	U	-		-		-		5	U	5	U	-	
VOCs	1,2-Dichlorobenzene, VOC	ug/kg	8700		5	U	-		5	U	-		-		-		5	U	5	U	-	
VOCs	1,3,5-Trimethylbenzene	ug/kg	2550		5	U	-		5	U	-		-		-		5	U	5	U	-	
VOCs	1,4-Dichlorobenzene, VOC	ug/kg	1080		5	U	-		5	U	-		-		-		5	U	5	U	-	
VOCs	2-Butanone	ug/kg	27000		50	U	-		50	U	-		-		-		50	U	50	U	-	
VOCs	2-Chlorotoluene	ug/kg	3450		5	U	-		5	U	-		-		-		5	U	5	U	-	
VOCs	2-Hexanone	ug/kg	132		50	U	-		50	U	-		-		-		50	U	50	U	-	
VOCs	4-Chlorotoluene	ug/kg	3600		5	U	-		5	U	-		-		-		5	U	5	U	-	
VOCs	4-Methyl-2-Pentanone	ug/kg	4200		50	U	-		50	U	-		-		-		50	U	50	U	-	
VOCs	Acetone	ug/kg	43500		100	U	-		100	U	-		-		-		100	U	100	U	-	
VOCs	Benzene	ug/kg	255		5	U	-		10.1		-		-		-		10.4		9.4		-	
VOCs	Bromomethane	ug/kg	28.5		10	U	-		10	U	-		-		-		10	U	10	U	-	
VOCs	Carbon disulfide	ug/kg	3600		5	U	-		5	U	-		-		-		5	U	5	U	-	
VOCs	Carbon tetrachloride	ug/kg	3750		5	U	-		5	U	-		-		-		5	U	5	U	-	
VOCs	Chlorobenzene	ug/kg	1020		5	U	-		5	U	-		-		-		5	U	5	U	-	
VOCs	Chloroform	ug/kg	330		5	U	-		5	U	-		-		-		5	U	5	U	-	
VOCs	cis-1,2-Dichloroethene	ug/kg	1800		5	U	-		5	U	-		-		-		5	U	5	U	-	
VOCs	Dichlorodifluoromethane	ug/kg	4500		5	U	-		5	U	-		-		-		5	U	5	U	-	
VOCs	Ethylbenzene	ug/kg	180000		5	U	-		5	U	-		-		-		5	U	5	U	-	
VOCs	Isopropylbenzene, VOC	ug/kg	11100		5	U	-		5	U	-		-		-		5	U	5	U	-	
VOCs	m&p-Xylene	ug/kg	1E+14		-		-		-		-		-		-		-		-		-	
VOCs	Methylene chloride	ug/kg	19.5		10	U	-		10	U	-		-		-		10	U	10	U	-	
VOCs	n-Hexane	ug/kg	1815000		20	U	-		20	U	-		-		-		20	U	20	U	-	
VOCs	o-Xylene	ug/kg	2850		-		-		-		-		-		-		-		-		-	
VOCs	Styrene	ug/kg	6900		5	U	-		5	U	-		-		-		5	U	5	U	-	
VOCs	Tetrachloroethene	ug/kg	2250		5	U	-		6.8		-		-		-		5	U	5	U	-	
VOCs	Toluene	ug/kg	102000		5	U	-		8.3		-		-		-		8.9		7.5		-	
VOCs	trans-1,2-Dichloroethene	ug/kg	6150		5	U	-		5	U	-		-		-		5	U	5	U	-	
VOCs	Trichloroethene	ug/kg	540		5	U	-		5	U	-		-		-		5	U	5	U	-	
VOCs	Trichlorofluoromethane	ug/kg	10950		5	U	-		5	U	-		-		-		5	U	5	U	-	
VOCs	Vinyl chloride	ug/kg	135		2	U	-		2	U	-		-		-		2	U	2	U	-	
VOCs	Xylene (Total)	ug/kg	2340000		5	U	-		5	U	-		-		-		5	U	5	U	-	
SVOCs	2-Methylnaphthalene	ug/kg	2850		-		-		-		-		-		-		-		-		-	
SVOCs	Acenaphthene	ug/kg	82500		-		330	U	-		330	U	330	U	330	U	-		-		330	U
SVOCs	Acenaphthylene	ug/kg	88223.85		-		330	U	-		330	U	330	U	330	U	-		-		330	U
SVOCs	Acetophenone	ug/kg	8700		-		-		-		-		-		-		-		-		-	

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Appendix A
Soil Data Comparison to LBSV
CTA Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units:	Leach - Based Soil Value August 2015	Station:	B01		B01		B01		B01		B02		B02		B02		B02		B02	
				Field Sample ID:	B01-0-05		B01-0-05		B01-0-10		B01-0-10		B02-0-05		B02-1-05		B02-0-05		B02-1-05		B02-0-10	
				Date:	5/19/2006		5/19/2006		5/19/2006		5/19/2006		5/19/2006		5/19/2006		5/19/2006		5/19/2006		5/19/2006	
				Depth:	0.5 - 1.5		0.5 - 5		5 - 6		5 - 10		0.5 - 5		0.5 - 5		3 - 4		3 - 4		5 - 10	
SVOCs	Anthracene	ug/kg	870000		-		330	U	-		330	U	330	U	330	U	-		-		330	U
SVOCs	Benzo(a)anthracene	ug/kg	22200		-		403		-		330	U	619		330	U	-		-		330	U
SVOCs	Benzo(a)pyrene	ug/kg	50600		-		391		-		191		665		234		-		-		199	
SVOCs	Benzo(b)fluoranthene	ug/kg	55300		-		627		-		344		1190		384		-		-		389	
SVOCs	Benzo(g,h,i)perylene	ug/kg	41242500		-		330	U	-		330	U	330	U	330	U	-		-		330	U
SVOCs	Benzo(k)fluoranthene	ug/kg	501000		-		330	U	-		330	U	373		330	U	-		-		330	U
SVOCs	bis(2-Ethylhexyl)phthalate	ug/kg	21000		-		330	U	-		330	U	330	U	330	U	-		-		330	U
SVOCs	Chrysene	ug/kg	4410000		-		394		-		330	U	604		330	U	-		-		330	U
SVOCs	Dibenz(a,h)anthracene	ug/kg	94000		-		165	U	-		165	U	165	U	165	U	-		-		165	U
SVOCs	Dibenzofuran	ug/kg	2250		-		330	U	-		330	U	330	U	330	U	-		-		330	U
SVOCs	Di-n-butylphthalate	ug/kg	34500		-		-		-		-		-		-		-		-		-	
SVOCs	Di-N-Octyl phthalate	ug/kg	855000		-		330	U	-		330	U	330	U	330	U	-		-		330	U
SVOCs	Fluoranthene	ug/kg	1335000		-		782		-		485		1330		523		-		-		673	
SVOCs	Fluorene	ug/kg	81000		-		330	U	-		330	U	330	U	330	U	-		-		330	U
SVOCs	Indeno(1,2,3-cd)pyrene	ug/kg	244000		-		330	U	-		330	U	330	U	330	U	-		-		330	U
SVOCs	Naphthalene, SVOC	ug/kg	4050		-		330	U	-		330	U	330	U	330	U	-		-		330	U
SVOCs	Phenanthrene	ug/kg	2555100		-		429		-		385		1030		330	U	-		-		739	
SVOCs	Pyrene, SVOC	ug/kg	195000		-		740		-		426		1690		570		-		-		749	
PCBs	Aroclor-1248	ug/kg	18		-		250	U	-		250	U	250	U	250	U	-		-		250	U
PCBs	Aroclor-1254	ug/kg	30		-		250	U	-		250	U	250	U	250	U	-		-		250	U
PCBs	Aroclor-1260	ug/kg	82.5		-		250	U	-		250	U	250	U	250	U	-		-		250	U
Metals	Antimony	mg/kg	7.2		-		0.96	U	-		1	U	0.99	U	0.97	U	-		-		1	U
Metals	Arsenic	mg/kg	5.8		-		4.8		-		4		8.5		8.9		-		-		3.4	
Metals	Barium	mg/kg	110000		-		115		-		122		172		165		-		-		52.1	
Metals	Beryllium	mg/kg	114.4		-		1.6	U	-		1.6	U	1.6	U	1.6	U	-		-		1.6	U
Metals	Cadmium	mg/kg	42		-		3.3	U	-		3.2	U	3.2	U	3.1	U	-		-		3.2	U
Metals	Chromium Total	mg/kg	113		-		6.5	U	-		6.4	U	8.3		8.35		-		-		6.3	U
Metals	Copper	mg/kg	920		-		22.2		-		9.4		27.2		34.2		-		-		9.3	
Metals	Lead	mg/kg	177.6		-		87.8		-		47.9		63.9		60.1		-		-		18.2	
Metals	Mercury	mg/kg	23		-		0.135		-		0.026		0.639		0.294		-		-		0.024	
Metals	Nickel	mg/kg	363		-		7.08		-		5.18		15.2		20.8		-		-		6.06	
Metals	Selenium	mg/kg	4.3		-		6.5	U	-		6.4	U	6.5	U	6.3	U	-		-		6.3	U
Metals	Silver	mg/kg	6240		-		0.5	U	-		0.5	U	0.5	U	0.5	U	-		-		0.5	U
Metals	Thallium	mg/kg	2.98		-		0.96	U	-		1	U	0.99	U	0.97	U	-		-		1	U
Metals	Zinc	mg/kg	88000		-		51.1		-		26.2		208		218		-		-		94.2	
TPH	TPH C10-C20	ug/kg	2000000		-		12800		-		10000	U	10000		10000	U	-		-		10000	U
TPH	TPH C20-C34	ug/kg	5000000		-		72700		-		25100		51200		25700		-		-		38100	

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Soil Data Comparison to LBSV
CTA Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
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Analysis	Parameter	Units:	Leach - Based Soil Value August 2015	Station:	B02		B03		B03		B03		B03		B04		B04		B04		B04	
				Field Sample ID:	B02-0-10		B03-0-05		B03-0-05		B03-0-10		B03-0-10		B04-0-05		B04-0-05		B04-0-10		B04-0-10	
				Date:	5/19/2006		5/19/2006		5/19/2006		5/19/2006		5/19/2006		5/18/2006		5/18/2006		5/18/2006		5/18/2006	
				Depth:	8 - 9		0.5 - 1		0.5 - 5		5 - 10		7 - 8		0.5 - 5		2 - 2.5		5 - 6		5 - 10	
VOCs	1,1,1-Trichloroethane	ug/kg	18000		5	U	42	U	-		-		42	U	-		5	U	5	U	-	
VOCs	1,1-Dichloroethane	ug/kg	11.7		5	U	42	U	-		-		42	U	-		5	U	5	U	-	
VOCs	1,1-Dichloroethene	ug/kg	4200		5	U	42	U	-		-		42	U	-		5	U	5	U	-	
VOCs	1,2,4-Trichlorobenzene, VOC	ug/kg	3000		5	U	42	U	-		-		42	U	-		5	U	5	U	-	
VOCs	1,2,4-Trimethylbenzene	ug/kg	315		6		106		-		-		42	U	-		5	U	5	U	-	
VOCs	1,2-Dichlorobenzene, VOC	ug/kg	8700		5	U	42	U	-		-		42	U	-		5	U	5	U	-	
VOCs	1,3,5-Trimethylbenzene	ug/kg	2550		5	U	46.9		-		-		42	U	-		5	U	5	U	-	
VOCs	1,4-Dichlorobenzene, VOC	ug/kg	1080		5	U	42	U	-		-		42	U	-		5	U	5	U	-	
VOCs	2-Butanone	ug/kg	27000		50	U	420	U	-		-		420	U	-		50	U	50	U	-	
VOCs	2-Chlorotoluene	ug/kg	3450		5	U	42	U	-		-		42	U	-		5	U	5	U	-	
VOCs	2-Hexanone	ug/kg	132		50	U	420	U	-		-		420	U	-		50	U	50	U	-	
VOCs	4-Chlorotoluene	ug/kg	3600		5	U	42	U	-		-		42	U	-		5	U	5	U	-	
VOCs	4-Methyl-2-Pentanone	ug/kg	4200		50	U	420	U	-		-		420	U	-		50	U	50	U	-	
VOCs	Acetone	ug/kg	43500		100	U	840	U	-		-		840	U	-		100	U	100	U	-	
VOCs	Benzene	ug/kg	255		7.1		42	U	-		-		42	U	-		18.2		10		-	
VOCs	Bromomethane	ug/kg	28.5		10	U	84	U	-		-		84	U	-		10	U	10	U	-	
VOCs	Carbon disulfide	ug/kg	3600		5	U	42	U	-		-		42	U	-		5	U	5	U	-	
VOCs	Carbon tetrachloride	ug/kg	3750		5	U	42	U	-		-		42	U	-		5	U	5	U	-	
VOCs	Chlorobenzene	ug/kg	1020		5	U	42	U	-		-		42	U	-		5	U	5	U	-	
VOCs	Chloroform	ug/kg	330		5	U	42	U	-		-		42	U	-		5	U	5	U	-	
VOCs	cis-1,2-Dichloroethene	ug/kg	1800		5	U	42	U	-		-		42	U	-		5	U	5	U	-	
VOCs	Dichlorodifluoromethane	ug/kg	4500		5	U	42	U	-		-		42	U	-		5	U	5	U	-	
VOCs	Ethylbenzene	ug/kg	180000		8		42	U	-		-		42	U	-		5	U	5	U	-	
VOCs	Isopropylbenzene, VOC	ug/kg	11100		5	U	42	U	-		-		42	U	-		5	U	5	U	-	
VOCs	m&p-Xylene	ug/kg	1E+14		-		-		-		-		-		-		-		-		-	
VOCs	Methylene chloride	ug/kg	19.5		10	U	84	U	-		-		84	U	-		10	U	10	U	-	
VOCs	n-Hexane	ug/kg	1815000		39		170	U	-		-		170	U	-		20	U	20	U	-	
VOCs	o-Xylene	ug/kg	2850		-		-		-		-		-		-		-		-		-	
VOCs	Styrene	ug/kg	6900		5	U	42	U	-		-		42	U	-		5	U	5	U	-	
VOCs	Tetrachloroethene	ug/kg	2250		5	U	-		-		-		42	U	-		6.2		5	U	-	
VOCs	Toluene	ug/kg	102000		19.2		188		-		-		42	U	-		15.1		8.2		-	
VOCs	trans-1,2-Dichloroethene	ug/kg	6150		5	U	42	U	-		-		42	U	-		5	U	5	U	-	
VOCs	Trichloroethene	ug/kg	540		5	U	42	U	-		-		42	U	-		5	U	5	U	-	
VOCs	Trichlorofluoromethane	ug/kg	10950		5	U	42	U	-		-		42	U	-		5	U	5	U	-	
VOCs	Vinyl chloride	ug/kg	135		2	U	17	U	-		-		17	U	-		2	U	2	U	-	
VOCs	Xylene (Total)	ug/kg	2340000		10.1		371		-		-		42	U	-		5	U	5	U	-	
SVOCs	2-Methylnaphthalene	ug/kg	2850		-		-		-		-		-		-		-		-		-	
SVOCs	Acenaphthene	ug/kg	82500		-		-		6600	U	330	U	-		3300	U	-		-		330	U
SVOCs	Acenaphthylene	ug/kg	88223.85		-		-		6600	U	330	U	-		3300	U	-		-		330	U
SVOCs	Acetophenone	ug/kg	8700		-		-		-		-		-		-		-		-		-	

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Soil Data Comparison to LBSV
CTA Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
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Analysis	Parameter	Units:	Leach - Based Soil Value August 2015	Station:	B02		B03		B03		B03		B03		B04		B04		B04		B04	
				Field Sample ID:	B02-0-10		B03-0-05		B03-0-05		B03-0-10		B03-0-10		B04-0-05		B04-0-05		B04-0-10		B04-0-10	
				Date:	5/19/2006		5/19/2006		5/19/2006		5/19/2006		5/19/2006		5/18/2006		5/18/2006		5/18/2006		5/18/2006	
				Depth:	8 - 9		0.5 - 1		0.5 - 5		5 - 10		7 - 8		0.5 - 5		2 - 2.5		5 - 6		5 - 10	
SVOCs	Anthracene	ug/kg	870000		-		-		6600	U	330	U	-		3300	U	-		-		330	U
SVOCs	Benzo(a)anthracene	ug/kg	22200		-		-		6600	U	570		-		3300	U	-		-		481	
SVOCs	Benzo(a)pyrene	ug/kg	50600		-		-		4930		941		-		1600	U	-		-		415	
SVOCs	Benzo(b)fluoranthene	ug/kg	55300		-		-		8850		1240		-		3300	U	-		-		821	
SVOCs	Benzo(g,h,i)perylene	ug/kg	41242500		-		-		6600	U	330	U	-		3300	U	-		-		330	U
SVOCs	Benzo(k)fluoranthene	ug/kg	501000		-		-		6600	U	539		-		3300	U	-		-		330	U
SVOCs	bis(2-Ethylhexyl)phthalate	ug/kg	21000		-		-		6600	U	330	U	-		3300	U	-		-		330	U
SVOCs	Chrysene	ug/kg	4410000		-		-		6600	U	503		-		3300	U	-		-		481	
SVOCs	Dibenz(a,h)anthracene	ug/kg	94000		-		-		3300	U	165	U	-		1600	U	-		-		165	U
SVOCs	Dibenzofuran	ug/kg	2250		-		-		6600	U	330	U	-		3300	U	-		-		330	U
SVOCs	Di-n-butylphthalate	ug/kg	34500		-		-		-		-		-		-		-		-		-	
SVOCs	Di-N-Octyl phthalate	ug/kg	855000		-		-		6600	U	330	U	-		3300	U	-		-		330	U
SVOCs	Fluoranthene	ug/kg	1335000		-		-		11800		618		-		3710		-		-		1310	
SVOCs	Fluorene	ug/kg	81000		-		-		6600	U	330	U	-		3300	U	-		-		330	U
SVOCs	Indeno(1,2,3-cd)pyrene	ug/kg	244000		-		-		6600	U	330	U	-		3300	U	-		-		330	U
SVOCs	Naphthalene, SVOC	ug/kg	4050		-		-		6600	U	330	U	-		3300	U	-		-		330	U
SVOCs	Phenanthrene	ug/kg	2555100		-		-		8900		410		-		3570		-		-		1200	
SVOCs	Pyrene, SVOC	ug/kg	195000		-		-		15700		695		-		4430		-		-		1360	
PCBs	Aroclor-1248	ug/kg	18		-		-		250	U	250	U	-		250	U	-		-		250	U
PCBs	Aroclor-1254	ug/kg	30		-		-		250	U	250	U	-		250	U	-		-		250	U
PCBs	Aroclor-1260	ug/kg	82.5		-		-		250	U	250	U	-		250	U	-		-		250	U
Metals	Antimony	mg/kg	7.2		-		-		0.97	U	0.95	U	-		1	U	-		-		0.99	U
Metals	Arsenic	mg/kg	5.8		-		-		6.1		4.5	U	-		5.4		-		-		6.2	
Metals	Barium	mg/kg	110000		-		-		67.8		48.8		-		137		-		-		76.2	
Metals	Beryllium	mg/kg	114.4		-		-		1.6	U	1.6	U	-		1.6	U	-		-		1.6	U
Metals	Cadmium	mg/kg	42		-		-		3.2	U	3.1	U	-		3.3	U	-		-		3.1	U
Metals	Chromium Total	mg/kg	113		-		-		9.14		8.73		-		7.04		-		-		9.38	
Metals	Copper	mg/kg	920		-		-		37.9		16.3		-		17.4		-		-		7.51	
Metals	Lead	mg/kg	177.6		-		-		104		67.4		-		41.1		-		-		20.1	
Metals	Mercury	mg/kg	23		-		-		0.098		0.025		-		0.183		-		-		0.246	
Metals	Nickel	mg/kg	363		-		-		16.2		5.72		-		9.65		-		-		7.66	
Metals	Selenium	mg/kg	4.3		-		-		6.5	U	6.3	U	-		6.6	U	-		-		6.3	U
Metals	Silver	mg/kg	6240		-		-		0.5	U	1.2		-		0.5	U	-		-		0.5	U
Metals	Thallium	mg/kg	2.98		-		-		0.97	U	0.95	U	-		1	U	-		-		0.99	U
Metals	Zinc	mg/kg	88000		-		-		80		1400		-		52.3		-		-		38	
TPH	TPH C10-C20	ug/kg	2000000		-		-		104000		10000	U	-		27500		-		-		50000	U
TPH	TPH C20-C34	ug/kg	5000000		-		-		407000		48100		-		103000		-		-		100000	U

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Soil Data Comparison to LBSV
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Analysis	Parameter	Units:	Leach - Based Soil Value August 2015	Station:	COD05-C004		COD05-N003		COD05-S005		DAY-20		DAY-20		SS15		SS15		SS17		SS17	
				Field Sample ID:	COD05-C004		COD05-N003		COD05-S005		DAY-20 0-2		DAY-20 5-7		SS15-0-01		SS15-0-01		SS17-0-01		SS17-0-01	
				Date:	5/22/2007		5/22/2007		5/22/2007		1/10/2002		1/10/2002		5/19/2006		5/19/2006		5/18/2006		5/18/2006	
				Depth:	3 - 3		1.5 - 1.5		1.5 - 1.5		0 - 2		5 - 7		0.5 - 1		0.5 - 1.5		0.5 - 1		0.5 - 1.5	
VOCs	1,1,1-Trichloroethane	ug/kg	18000		-		-		-		5	U	5	U	5	U	-		5	U	-	
VOCs	1,1-Dichloroethane	ug/kg	11.7		-		-		-		5	U	5	U	5	U	-		5	U	-	
VOCs	1,1-Dichloroethene	ug/kg	4200		-		-		-		5	U	5	U	5	U	-		5	U	-	
VOCs	1,2,4-Trichlorobenzene, VOC	ug/kg	3000		-		-		-		5	U	5	U	5	U	-		5	U	-	
VOCs	1,2,4-Trimethylbenzene	ug/kg	315		-		-		-		5	U	5	U	5	U	-		5	U	-	
VOCs	1,2-Dichlorobenzene, VOC	ug/kg	8700		-		-		-		5	U	5	U	5	U	-		5	U	-	
VOCs	1,3,5-Trimethylbenzene	ug/kg	2550		-		-		-		5	U	5	U	5	U	-		5	U	-	
VOCs	1,4-Dichlorobenzene, VOC	ug/kg	1080		-		-		-		5	U	5	U	5	U	-		5	U	-	
VOCs	2-Butanone	ug/kg	27000		-		-		-		50	U	50	U	50	U	-		50	U	-	
VOCs	2-Chlorotoluene	ug/kg	3450		-		-		-		5	U	5	U	5	U	-		5	U	-	
VOCs	2-Hexanone	ug/kg	132		-		-		-		50	U	50	U	50	U	-		50	U	-	
VOCs	4-Chlorotoluene	ug/kg	3600		-		-		-		5	U	5	U	5	U	-		5	U	-	
VOCs	4-Methyl-2-Pentanone	ug/kg	4200		-		-		-		50	U	50	U	50	U	-		50	U	-	
VOCs	Acetone	ug/kg	43500		-		-		-		50	U	50	U	100	U	-		100	U	-	
VOCs	Benzene	ug/kg	255		-		-		-		5	U	5	U	5	U	-		6.5		-	
VOCs	Bromomethane	ug/kg	28.5		-		-		-		5	U	5	U	10	U	-		10	U	-	
VOCs	Carbon disulfide	ug/kg	3600		-		-		-		50	U	50	U	5	U	-		5	U	-	
VOCs	Carbon tetrachloride	ug/kg	3750		-		-		-		5	U	5	U	5	U	-		5	U	-	
VOCs	Chlorobenzene	ug/kg	1020		-		-		-		5	U	5	U	5	U	-		5	U	-	
VOCs	Chloroform	ug/kg	330		-		-		-		5	U	5	U	5	U	-		5	U	-	
VOCs	cis-1,2-Dichloroethene	ug/kg	1800		-		-		-		5	U	5	U	5	U	-		5	U	-	
VOCs	Dichlorodifluoromethane	ug/kg	4500		-		-		-		5	U	5	U	5	U	-		5	U	-	
VOCs	Ethylbenzene	ug/kg	180000		-		-		-		5	U	5	U	5	U	-		5	U	-	
VOCs	Isopropylbenzene, VOC	ug/kg	11100		-		-		-		5	U	5	U	5	U	-		5	U	-	
VOCs	m&p-Xylene	ug/kg	1E+14		-		-		-		5	U	5	U	-		-		-		-	
VOCs	Methylene chloride	ug/kg	19.5		-		-		-		5	U	5	U	10	U	-		10	U	-	
VOCs	n-Hexane	ug/kg	1815000		-		-		-		-		-		20	U	-		20	U	-	
VOCs	o-Xylene	ug/kg	2850		-		-		-		5	U	5	U	-		-		-		-	
VOCs	Styrene	ug/kg	6900		-		-		-		5	U	5	U	5	U	-		5	U	-	
VOCs	Tetrachloroethene	ug/kg	2250		-		-		-		5	U	5	U	5	U	-		5	U	-	
VOCs	Toluene	ug/kg	102000		-		-		-		5	U	5	U	5	U	-		6.3		-	
VOCs	trans-1,2-Dichloroethene	ug/kg	6150		-		-		-		5	U	5	U	5	U	-		5	U	-	
VOCs	Trichloroethene	ug/kg	540		-		-		-		5	U	5	U	5	U	-		5	U	-	
VOCs	Trichlorofluoromethane	ug/kg	10950		-		-		-		5	U	5	U	5	U	-		5	U	-	
VOCs	Vinyl chloride	ug/kg	135		-		-		-		2	U	2	U	2	U	-		2	U	-	
VOCs	Xylene (Total)	ug/kg	2340000		-		-		-		-		-		5	U	-		5	U	-	
SVOCs	2-Methylnaphthalene	ug/kg	2850		83.89999	U	86.7	U	80.2	U	330	U	330	U	-		-		-		-	
SVOCs	Acenaphthene	ug/kg	82500		83.89999	U	86.7	U	80.2	U	330	U	330	U	-		3300	U	-		6600	U
SVOCs	Acenaphthylene	ug/kg	88223.85		83.89999	U	86.7	U	173		330	U	330	U	-		3300	U	-		6600	U
SVOCs	Acetophenone	ug/kg	8700		-		-		-		330	U	330	U	-		-		-		-	

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Appendix A
Soil Data Comparison to LBSV
CTA Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units:	Leach - Based Soil Value August 2015	Station:	COD05-C004		COD05-N003		COD05-S005		DAY-20		DAY-20		SS15		SS15		SS17		SS17	
				Field Sample ID:	COD05-C004		COD05-N003		COD05-S005		DAY-20 0-2		DAY-20 5-7		SS15-0-01		SS15-0-01		SS17-0-01		SS17-0-01	
				Date:	5/22/2007		5/22/2007		5/22/2007		1/10/2002		1/10/2002		5/19/2006		5/19/2006		5/18/2006		5/18/2006	
				Depth:	3 - 3		1.5 - 1.5		1.5 - 1.5		0 - 2		5 - 7		0.5 - 1		0.5 - 1.5		0.5 - 1		0.5 - 1.5	
SVOCs	Anthracene	ug/kg	870000		83.89999	U	86.7	U	125		420		330	U	-		3300	U	-		6600	U
SVOCs	Benzo(a)anthracene	ug/kg	22200		83.89999	U	86.7	U	283		1800		330	U	-		3300	U	-		6600	U
SVOCs	Benzo(a)pyrene	ug/kg	50600		83.89999	U	86.7	U	279		1700		330	U	-		1600	U	-		4220	
SVOCs	Benzo(b)fluoranthene	ug/kg	55300		83.89999	U	86.7	U	273		1700		330	U	-		3300	U	-		8530	
SVOCs	Benzo(g,h,i)perylene	ug/kg	41242500		83.89999	U	86.7	U	262		1100		330	U	-		3300	U	-		6600	U
SVOCs	Benzo(k)fluoranthene	ug/kg	501000		83.89999	U	86.7	U	218		1900		330	U	-		3300	U	-		6600	U
SVOCs	bis(2-Ethylhexyl)phthalate	ug/kg	21000		-		-		-		1650	U	1650	U	-		3300	U	-		6600	U
SVOCs	Chrysene	ug/kg	4410000		83.89999	U	86.7	U	259		1600		330	U	-		3300	U	-		6600	U
SVOCs	Dibenz(a,h)anthracene	ug/kg	94000		83.89999	U	86.7	U	80.2	U	540		330	U	-		1600	U	-		3300	U
SVOCs	Dibenzofuran	ug/kg	2250		-		-		-		330	U	330	U	-		3300	U	-		6600	U
SVOCs	Di-n-butylphthalate	ug/kg	34500		-		-		-		330	U	330	U	-		-		-		-	
SVOCs	Di-N-Octyl phthalate	ug/kg	855000		-		-		-		330	U	330	U	-		3300	U	-		6600	U
SVOCs	Fluoranthene	ug/kg	1335000		169		86.7	U	437		3900		330	U	-		4600		-		10700	
SVOCs	Fluorene	ug/kg	81000		83.89999	U	86.7	U	80.2	U	330	U	330	U	-		3300	U	-		6600	U
SVOCs	Indeno(1,2,3-cd)pyrene	ug/kg	244000		83.89999	U	86.7	U	192		960		150	U	-		3300	U	-		6600	U
SVOCs	Naphthalene, SVOC	ug/kg	4050		83.89999	U	86.7	U	80.2	U	330	U	330	U	-		3300	U	-		6600	U
SVOCs	Phenanthrene	ug/kg	2555100		83.89999	U	86.7	U	150		1900		330	U	-		4180		-		9120	
SVOCs	Pyrene, SVOC	ug/kg	195000		134		86.7	U	384		3400		330	U	-		5100		-		17100	
PCBs	Aroclor-1248	ug/kg	18		-		-		-		0.02	U	0.02	U	-		250	U	-		250	U
PCBs	Aroclor-1254	ug/kg	30		-		-		-		20	U	20	U	-		250	U	-		250	U
PCBs	Aroclor-1260	ug/kg	82.5		-		-		-		20	U	20	U	-		250	U	-		250	U
Metals	Antimony	mg/kg	7.2		-		-		-		-		-		-		0.93	U	-		0.93	U
Metals	Arsenic	mg/kg	5.8		-		-		-		9.1		5	U	-		6.4		-		5	U
Metals	Barium	mg/kg	110000		-		-		-		170		150		-		57.2		-		91.2	
Metals	Beryllium	mg/kg	114.4		-		-		-		-		-		-		1.6	U	-		3.3	U
Metals	Cadmium	mg/kg	42		-		-		-		0.5	U	0.5	U	-		3.2	U	-		6.6	U
Metals	Chromium Total	mg/kg	113		-		-		-		9.3		5.4		-		7.44		-		14.4	
Metals	Copper	mg/kg	920		-		-		-		-		-		-		60.3		-		27.5	
Metals	Lead	mg/kg	177.6		-		-		-		120		4.3		-		74.3		-		86.7	
Metals	Mercury	mg/kg	23		-		-		-		0.3	U	0.3	U	-		0.184		-		0.067	
Metals	Nickel	mg/kg	363		-		-		-		-		-		-		7		-		6.6	U
Metals	Selenium	mg/kg	4.3		-		-		-		3	U	3	U	-		6.5	U	-		13	U
Metals	Silver	mg/kg	6240		-		-		-		1	U	1	U	-		0.5	U	-		0.5	U
Metals	Thallium	mg/kg	2.98		-		-		-		-		-		-		0.93	U	-		0.93	U
Metals	Zinc	mg/kg	88000		-		-		-		-		-		-		73.7		-		42.5	
TPH	TPH C10-C20	ug/kg	2000000		-		-		-		-		-		-		52500		-		180000	
TPH	TPH C20-C34	ug/kg	5000000		-		-		-		-		-		-		231000		-		865000	

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Appendix A
Soil Data Comparison to LBSV
CTA Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units:	Leach - Based Soil Value August 2015	Station:	SS18		SS18	
				Field Sample ID:	SS18-0-01		SS18-0-01	
				Date:	5/18/2006		5/18/2006	
				Depth:	0.5 - 1		0.5 - 1.5	
VOCs	1,1,1-Trichloroethane	ug/kg	18000		5	U	-	
VOCs	1,1-Dichloroethane	ug/kg	11.7		5	U	-	
VOCs	1,1-Dichloroethene	ug/kg	4200		5	U	-	
VOCs	1,2,4-Trichlorobenzene, VOC	ug/kg	3000		5	U	-	
VOCs	1,2,4-Trimethylbenzene	ug/kg	315		5	U	-	
VOCs	1,2-Dichlorobenzene, VOC	ug/kg	8700		5	U	-	
VOCs	1,3,5-Trimethylbenzene	ug/kg	2550		5	U	-	
VOCs	1,4-Dichlorobenzene, VOC	ug/kg	1080		5	U	-	
VOCs	2-Butanone	ug/kg	27000		50	U	-	
VOCs	2-Chlorotoluene	ug/kg	3450		5	U	-	
VOCs	2-Hexanone	ug/kg	132		50	U	-	
VOCs	4-Chlorotoluene	ug/kg	3600		5	U	-	
VOCs	4-Methyl-2-Pentanone	ug/kg	4200		50	U	-	
VOCs	Acetone	ug/kg	43500		100	U	-	
VOCs	Benzene	ug/kg	255		5.7		-	
VOCs	Bromomethane	ug/kg	28.5		10	U	-	
VOCs	Carbon disulfide	ug/kg	3600		5	U	-	
VOCs	Carbon tetrachloride	ug/kg	3750		5	U	-	
VOCs	Chlorobenzene	ug/kg	1020		5	U	-	
VOCs	Chloroform	ug/kg	330		5	U	-	
VOCs	cis-1,2-Dichloroethene	ug/kg	1800		5	U	-	
VOCs	Dichlorodifluoromethane	ug/kg	4500		5	U	-	
VOCs	Ethylbenzene	ug/kg	180000		5	U	-	
VOCs	Isopropylbenzene, VOC	ug/kg	11100		5	U	-	
VOCs	m&p-Xylene	ug/kg	1E+14		-		-	
VOCs	Methylene chloride	ug/kg	19.5		10	U	-	
VOCs	n-Hexane	ug/kg	1815000		20	U	-	
VOCs	o-Xylene	ug/kg	2850		-		-	
VOCs	Styrene	ug/kg	6900		5	U	-	
VOCs	Tetrachloroethene	ug/kg	2250		5	U	-	
VOCs	Toluene	ug/kg	102000		5.2		-	
VOCs	trans-1,2-Dichloroethene	ug/kg	6150		5	U	-	
VOCs	Trichloroethene	ug/kg	540		5	U	-	
VOCs	Trichlorofluoromethane	ug/kg	10950		5	U	-	
VOCs	Vinyl chloride	ug/kg	135		2	U	-	
VOCs	Xylene (Total)	ug/kg	2340000		5	U	-	
SVOCs	2-Methylnaphthalene	ug/kg	2850		-		-	
SVOCs	Acenaphthene	ug/kg	82500		-		3300	U
SVOCs	Acenaphthylene	ug/kg	88223.85		-		3300	U
SVOCs	Acetophenone	ug/kg	8700		-		-	

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Appendix A
Soil Data Comparison to LBSV
CTA Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units:	Leach - Based Soil Value August 2015	Station:	SS18		SS18	
				Field Sample ID:	SS18-0-01		SS18-0-01	
				Date:	5/18/2006		5/18/2006	
				Depth:	0.5 - 1		0.5 - 1.5	
SVOCs	Anthracene	ug/kg	870000		-		3300	U
SVOCs	Benzo(a)anthracene	ug/kg	22200		-		3300	U
SVOCs	Benzo(a)pyrene	ug/kg	50600		-		1600	U
SVOCs	Benzo(b)fluoranthene	ug/kg	55300		-		3300	U
SVOCs	Benzo(g,h,i)perylene	ug/kg	41242500		-		3300	U
SVOCs	Benzo(k)fluoranthene	ug/kg	501000		-		3300	U
SVOCs	bis(2-Ethylhexyl)phthalate	ug/kg	21000		-		3300	U
SVOCs	Chrysene	ug/kg	4410000		-		3300	U
SVOCs	Dibenz(a,h)anthracene	ug/kg	94000		-		1600	U
SVOCs	Dibenzofuran	ug/kg	2250		-		3300	U
SVOCs	Di-n-butylphthalate	ug/kg	34500		-		-	
SVOCs	Di-N-Octyl phthalate	ug/kg	855000		-		3300	U
SVOCs	Fluoranthene	ug/kg	1335000		-		3300	U
SVOCs	Fluorene	ug/kg	81000		-		3300	U
SVOCs	Indeno(1,2,3-cd)pyrene	ug/kg	244000		-		3300	U
SVOCs	Naphthalene, SVOC	ug/kg	4050		-		3300	U
SVOCs	Phenanthrene	ug/kg	2555100		-		3300	U
SVOCs	Pyrene, SVOC	ug/kg	195000		-		3300	U
PCBs	Aroclor-1248	ug/kg	18		-		250	U
PCBs	Aroclor-1254	ug/kg	30		-		250	U
PCBs	Aroclor-1260	ug/kg	82.5		-		250	U
Metals	Antimony	mg/kg	7.2		-		0.99	U
Metals	Arsenic	mg/kg	5.8		-		8.3	
Metals	Barium	mg/kg	110000		-		139	
Metals	Beryllium	mg/kg	114.4		-		1.6	U
Metals	Cadmium	mg/kg	42		-		3.2	U
Metals	Chromium Total	mg/kg	113		-		6.74	
Metals	Copper	mg/kg	920		-		33.7	
Metals	Lead	mg/kg	177.6		-		168	
Metals	Mercury	mg/kg	23		-		0.275	
Metals	Nickel	mg/kg	363		-		7.24	
Metals	Selenium	mg/kg	4.3		-		6.3	U
Metals	Silver	mg/kg	6240		-		0.5	U
Metals	Thallium	mg/kg	2.98		-		0.99	U
Metals	Zinc	mg/kg	88000		-		132	
TPH	TPH C10-C20	ug/kg	2000000		-		24400	
TPH	TPH C20-C34	ug/kg	5000000		-		111000	

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Appendix A
Soil Data Comparison to LBSV
CTA Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Notes:

concentration exceeds criteria, and chemical with exceedances

% = percent
ft = feet
mg/kg = milligram per kilogram
ug/kg = microgram per kilogram
J = estimated value
PCB = polychlorinated biphenyl
R = rejected data
TPH = Total petroleum hydrocarbons
U = not detected above detection limit
VOC = Volatile Organic Compounds
SVOC = Semi-Volatile Organic Compounds

Appendix A
Soil Data Compared to LBSV
N Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units:	Leach - Based Soil Value August 2015	Station:	BH-171		BH-171		MW-13-03		MW-13-03		MW-3-02		MW-3-02		MW-3-02		SB-144-04	
				Field Sample ID:	S-110104-NZ-005		S-110104-NZ-006		MW-13-03		MW-13-03		MW-3-02		MW-3-02		MW-3-02		SB-144-04	
				Date:	11/1/2004		11/1/2004		3/5/2003		3/5/2003		6/26/2002		6/26/2002		6/26/2002		1/27/2004	
				Depth:	0 - 2		7.5 - 9.5		2 - 4		9 - 11		0 - 2		8 - 10		12 - 14		0 - 2	
VOCs	1,1,1-Trichloroethane	ug/kg	18000		-		-		370	U	4.6	U	-		-		-		1500	U
VOCs	1,1-Dichloroethane	ug/kg	11.7		-		-		370	U	4.6	U	-		-		-		1500	U
VOCs	1,1-Dichloroethene	ug/kg	4200		-		-		370	U	4.6	U	-		-		-		1500	U
VOCs	1,2,4-Trichlorobenzene, VOC	ug/kg	3000		-		-		370	U	4.6	U	-		-		-		1500	U
VOCs	1,2-Dichlorobenzene, VOC	ug/kg	8700		-		-		370	U	4.6	U	-		-		-		1500	U
VOCs	1,4-Dichlorobenzene, VOC	ug/kg	1080		-		-		370	U	4.6	U	-		-		-		1500	U
VOCs	2-Butanone	ug/kg	27000		-		-		130	J	18	U	-		-		-		6200	UJ
VOCs	2-Hexanone	ug/kg	132		-		-		1500	U	18	U	-		-		-		6200	UJ
VOCs	4-Methyl-2-Pentanone	ug/kg	4200		-		-		1500	U	18	U	-		-		-		6200	U
VOCs	Acetone	ug/kg	43500		-		-		1500	U	18	U	-		-		-		6200	UJ
VOCs	Benzene	ug/kg	255		-		-		370	U	0.33	J	-		-		-		1500	U
VOCs	Bromomethane	ug/kg	28.5		-		-		370	U	4.6	U	-		-		-		1500	U
VOCs	Carbon disulfide	ug/kg	3600		-		-		370	U	4.6	U	-		-		-		1500	U
VOCs	Carbon tetrachloride	ug/kg	3750		-		-		370	U	4.6	U	-		-		-		1500	U
VOCs	Chlorobenzene	ug/kg	1020		-		-		370	U	4.6	U	-		-		-		1500	U
VOCs	Chloroform	ug/kg	330		-		-		370	U	4.6	U	-		-		-		1500	U
VOCs	cis-1,2-Dichloroethene	ug/kg	1800		-		-		160	J	2.3	U	-		-		-		4000	
VOCs	Cyclohexane	ug/kg	195000		-		-		38	J	9.1	U	-		-		-		3100	U
VOCs	Dichlorodifluoromethane	ug/kg	4500		-		-		370	U	4.6	U	-		-		-		1500	U
VOCs	Ethylbenzene	ug/kg	180000		-		-		370	U	4.6	U	-		-		-		1500	U
VOCs	Isopropylbenzene, VOC	ug/kg	11100		-		-		370	U	4.6	U	-		-		-		1500	U
VOCs	Methyl acetate	ug/kg	61500		-		-		750	U	9.1	U	-		-		-		3100	U
VOCs	Methyl cyclohexane	ug/kg	1E+14		-		-		90	J	9.1	U	-		-		-		530	J
VOCs	Methylene chloride	ug/kg	19.5		-		-		370	U	4.6	U	-		-		-		1500	U
VOCs	Styrene	ug/kg	6900		-		-		370	U	4.6	U	-		-		-		1500	U
VOCs	Tetrachloroethene	ug/kg	2250		-		-		1600		6.4		-		-		-		53000	
VOCs	Toluene	ug/kg	102000		-		-		370	U	1.1	J	-		-		-		1500	U
VOCs	trans-1,2-Dichloroethene	ug/kg	6150		-		-		190	U	2.3	U	-		-		-		770	U
VOCs	Trichloroethene	ug/kg	540		-		-		1600		1.2	J	-		-		-		48000	
VOCs	Trichlorofluoromethane	ug/kg	10950		-		-		370	U	4.6	U	-		-		-		1500	U
VOCs	Vinyl chloride	ug/kg	135		-		-		370	U	4.6	U	-		-		-		1500	U
VOCs	Xylene (Total)	ug/kg	2340000		-		-		750	U	9.1	U	-		-		-		3100	U
SVOCs	2-Methylnaphthalene	ug/kg	2850		-		-		33	J	340	U	-		-		-		51	J
SVOCs	Acenaphthene	ug/kg	82500		-		-		450	U	340	U	-		-		-		400	U
SVOCs	Acenaphthylene	ug/kg	88223.85		-		-		450	U	340	U	-		-		-		400	U
SVOCs	Acetophenone	ug/kg	8700		-		-		450	U	340	U	-		-		-		400	U
SVOCs	Anthracene	ug/kg	870000		-		-		450	U	340	U	-		-		-		400	U
SVOCs	Benzaldehyde	ug/kg	6450		-		-		450	U	340	U	-		-		-		400	U
SVOCs	Benzo(a)anthracene	ug/kg	22200		-		-		450	U	340	U	-		-		-		31	J
SVOCs	Benzo(a)pyrene	ug/kg	50600		-		-		450	U	340	U	-		-		-		400	U

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Soil Data Compared to LBSV
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Analysis	Parameter	Units:	Leach - Based Soil Value August 2015	Station:	BH-171		BH-171		MW-13-03		MW-13-03		MW-3-02		MW-3-02		MW-3-02		SB-144-04	
				Field Sample ID:	S-110104-NZ-005		S-110104-NZ-006		MW-13-03		MW-13-03		MW-3-02		MW-3-02		MW-3-02		SB-144-04	
				Date:	11/1/2004		11/1/2004		3/5/2003		3/5/2003		6/26/2002		6/26/2002		6/26/2002		1/27/2004	
				Depth:	0 - 2		7.5 - 9.5		2 - 4		9 - 11		0 - 2		8 - 10		12 - 14		0 - 2	
SVOCs	Benzo(b)fluoranthene	ug/kg	55300		-		-		450	U	340	U	-		-		-		400	U
SVOCs	Benzo(g,h,i)perylene	ug/kg	41242500		-		-		450	U	340	U	-		-		-		29	J
SVOCs	Benzo(k)fluoranthene	ug/kg	501000		-		-		450	U	340	U	-		-		-		400	U
SVOCs	Biphenyl	ug/kg	130.5		-		-		450	U	340	U	-		-		-		400	U
SVOCs	bis(2-Ethylhexyl)phthalate	ug/kg	21000		-		-		450	U	340	U	-		-		-		400	U
SVOCs	Carbazole	ug/kg	7007.4		-		-		450	U	340	U	-		-		-		400	U
SVOCs	Chrysene	ug/kg	4410000		-		-		450	U	340	U	-		-		-		54	J
SVOCs	Dibenz(a,h)anthracene	ug/kg	94000		-		-		450	U	340	U	-		-		-		400	U
SVOCs	Dibenzofuran	ug/kg	2250		-		-		450	U	340	U	-		-		-		400	U
SVOCs	Di-n-butylphthalate	ug/kg	34500		-		-		450	U	340	U	-		-		-		400	U
SVOCs	Di-N-Octyl phthalate	ug/kg	855000		-		-		450	U	340	U	-		-		-		400	U
SVOCs	Fluoranthene	ug/kg	1335000		-		-		24	J	340	U	-		-		-		63	J
SVOCs	Fluorene	ug/kg	81000		-		-		450	U	340	U	-		-		-		400	U
SVOCs	Indeno(1,2,3-cd)pyrene	ug/kg	244000		-		-		450	U	340	U	-		-		-		400	U
SVOCs	Naphthalene, SVOC	ug/kg	4050		-		-		450	U	340	U	-		-		-		30	J
SVOCs	Phenanthrene	ug/kg	2555100		-		-		43	J	340	U	-		-		-		100	J
SVOCs	Pyrene, SVOC	ug/kg	195000		-		-		450	U	340	U	-		-		-		57	J
PCBs	Aroclor-1248	ug/kg	18		-		-		45	U	69	U	40	U	2400	U	7100	U	40	U
PCBs	Aroclor-1254	ug/kg	30		-		-		45	U	550		190		27000		61000		40	U
PCBs	Aroclor-1260	ug/kg	82.5		-		-		45	U	69	U	40	U	2400	U	7100	U	40	U
Metals	Antimony	mg/kg	7.2		-		-		0.68	J	0.24	J	7.2	U	8.6	U	6.4	U	7.3	UJ
Metals	Arsenic	mg/kg	5.8		-		-		7.8		2.4		11.7		3.6		3.1		3.3	
Metals	Barium	mg/kg	110000		-		-		233	J	30.4	J	148		211		44		151	
Metals	Beryllium	mg/kg	114.4		-		-		0.4	J	0.52	U	0.6	U	0.71	U	0.54	U	0.8	
Metals	Cadmium	mg/kg	42		-		-		0.065	J	0.52	U	0.6	U	0.56	J	0.58		0.51	J
Metals	Chromium Total	mg/kg	113		-		-		10.1		3.4		15		8		12.4		36.3	J
Metals	Cobalt	mg/kg	5.4		-		-		4.8	J	2	J	12		3.7	J	2.1	J	4.4	J
Metals	Copper	mg/kg	920		-		-		17.3		4.2		74.2		7.9		2.7	U	454	J
Metals	Cyanide (total)	mg/kg	40		-		-		0.15	J	0.13	J	0.15	J	0.71	U	0.54	U	0.61	U
Metals	Lead	mg/kg	177.6		-		-		23.9		2.2		228		7.1		2.4		172	
Metals	Manganese	mg/kg	560		182		401		627	J	164	J	1090		292		235		266	
Metals	Mercury	mg/kg	23		-		-		0.14	U	0.1	U	0.11	J	0.14	U	0.11	U	0.072	J
Metals	Nickel	mg/kg	363		-		-		12.7		4.9		22.4		10.4		5.5		66.5	
Metals	Selenium	mg/kg	4.3		-		-		0.76		0.52	U	0.6	U	0.71	U	0.54	U	0.61	U
Metals	Silver	mg/kg	6240		-		-		1.4	U	1	U	1.2	U	1.4	U	1.1	U	0.29	J
Metals	Thallium	mg/kg	2.98		-		-		1.7		1	U	1.2	U	1.4	U	1.7		0.74	J
Metals	Vanadium	mg/kg	65		-		-		15.6		6.8		26.9		12.9		7.4		8.9	
Metals	Zinc	mg/kg	88000		-		-		61.2	J	15.2	U	65.9		42.8		15.3		153	J
TPH	Diesel Range Organics (DRO)	ug/kg	2000000		-		-		-		-		-		-		-		-	
TPH	Gasoline Range Organics (GRO)	ug/kg	1000000		-		-		-		-		-		-		-		-	

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Appendix A
Soil Data Compared to LBSV
N Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
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Analysis	Parameter	Units:	Leach - Based Soil Value August 2015	Station:	SB-144-04		SB-144-04		SB-145-04		SB-145-04		SB-145-04		SB-146-04		SB-146-04		SB-146-04	
				Field Sample ID:	SB-144-04		SB-144-04		SB-145-04		SB-145-04		SB-145-04		SB-146-04		SB-146-04		SB-146-04	
				Date:	1/27/2004		1/27/2004		1/28/2004		1/28/2004		1/28/2004		1/28/2004		1/28/2004		1/28/2004	
				Depth:	8 - 10		12.5 - 14.5		0 - 2		8 - 10		11 - 13		0 - 2		8 - 10		12 - 14	
VOCs	1,1,1-Trichloroethane	ug/kg	18000		9.3	U	300	U	2900	U	4.5	U	5.4	U	460	U	270	U	300	U
VOCs	1,1-Dichloroethane	ug/kg	11.7		9.3	U	300	U	2900	U	4.5	U	5.4	U	460	U	270	U	300	U
VOCs	1,1-Dichloroethene	ug/kg	4200		9.3	U	300	U	2900	U	4.5	U	5.4	U	460	U	270	U	300	U
VOCs	1,2,4-Trichlorobenzene, VOC	ug/kg	3000		9.3	U	300	U	2900	U	4.5	U	5.4	U	460	U	270	U	300	U
VOCs	1,2-Dichlorobenzene, VOC	ug/kg	8700		72		340		2900	U	4.5	U	5.4	U	460	U	270	U	300	U
VOCs	1,4-Dichlorobenzene, VOC	ug/kg	1080		11		300	U	2900	U	4.5	U	5.4	U	460	U	270	U	300	U
VOCs	2-Butanone	ug/kg	27000		10	J	1200	UJ	11000	U	18	U	21	U	1900	U	1100	U	1200	U
VOCs	2-Hexanone	ug/kg	132		37	U	1200	UJ	11000	U	18	U	21	U	1900	U	1100	U	1200	U
VOCs	4-Methyl-2-Pentanone	ug/kg	4200		37	U	1200	U	11000	U	18	U	21	U	1900	U	1100	U	1200	U
VOCs	Acetone	ug/kg	43500		36	J	1200	UJ	11000	U	18	U	21	U	1900	U	1100	U	1200	U
VOCs	Benzene	ug/kg	255		9.3	U	300	U	2900	U	4.5	U	5.4	U	460	U	270	U	300	U
VOCs	Bromomethane	ug/kg	28.5		9.3	U	300	U	770	J	4.5	U	5.4	U	460	U	120	J	300	U
VOCs	Carbon disulfide	ug/kg	3600		9.3	U	300	U	2900	U	4.5	U	5.4	U	460	U	270	U	300	U
VOCs	Carbon tetrachloride	ug/kg	3750		9.3	U	300	U	2900	U	4.5	U	5.4	U	460	U	270	U	300	U
VOCs	Chlorobenzene	ug/kg	1020		23		63	J	2900	U	4.5	U	5.4	U	460	U	270	U	300	U
VOCs	Chloroform	ug/kg	330		9.3	U	300	U	2900	U	4.5	U	0.55	J	180	J	270	U	300	U
VOCs	cis-1,2-Dichloroethene	ug/kg	1800		4.7	U	77	J	1400	U	2.2	U	2.7	U	6200		130	U	150	U
VOCs	Cyclohexane	ug/kg	195000		19	U	590	U	5700	U	9	U	11	U	930	U	530	U	600	U
VOCs	Dichlorodifluoromethane	ug/kg	4500		9.3	U	300	U	2900	UJ	4.5	U	5.4	U	460	UJ	270	UJ	300	UJ
VOCs	Ethylbenzene	ug/kg	180000		9.3	U	300	U	2900	U	0.46	J	5.4	U	460	U	270	U	300	U
VOCs	Isopropylbenzene, VOC	ug/kg	11100		25		270	J	2900	U	4.5	U	5.4	U	460	U	270	U	300	U
VOCs	Methyl acetate	ug/kg	61500		19	U	590	U	5700	U	9	U	11	U	930	U	530	U	600	U
VOCs	Methyl cyclohexane	ug/kg	1E+14		3.2	J	590	U	5700	U	9	U	11	U	110	J	530	U	600	U
VOCs	Methylene chloride	ug/kg	19.5		9.3	U	300	U	2900	U	4.5	U	5.4	U	460	U	270	U	300	U
VOCs	Styrene	ug/kg	6900		9.3	U	300	U	2900	U	4.5	U	5.4	U	460	U	270	U	300	U
VOCs	Tetrachloroethene	ug/kg	2250		7.1	J	300	U	840	J	2	J	14		12000		270	U	300	U
VOCs	Toluene	ug/kg	102000		1.1	J	300	U	2900	U	1.2	J	0.81	J	460	U	270	U	300	U
VOCs	trans-1,2-Dichloroethene	ug/kg	6150		4.7	U	150	U	1400	U	2.2	U	2.7	U	270		130	U	150	U
VOCs	Trichloroethene	ug/kg	540		1.9	J	300	U	91000		2.1	J	170		10000		270	U	300	U
VOCs	Trichlorofluoromethane	ug/kg	10950		9.3	U	300	U	2900	U	4.5	U	5.4	U	460	U	270	U	300	U
VOCs	Vinyl chloride	ug/kg	135		9.3	U	300	U	2900	U	4.5	U	5.4	U	460	U	270	U	300	U
VOCs	Xylene (Total)	ug/kg	2340000		2.1	J	590	U	5700	U	9	U	11	U	110	J	530	U	600	U
SVOCs	2-Methylnaphthalene	ug/kg	2850		470	U	7400	U	390	U	340	U	350	U	4800	U	19000	U	18000	U
SVOCs	Acenaphthene	ug/kg	82500		470	U	7400	U	390	U	340	U	350	U	4800	U	19000	U	18000	U
SVOCs	Acenaphthylene	ug/kg	88223.85		470	U	7400	U	390	U	340	U	350	U	4800	U	19000	U	18000	U
SVOCs	Acetophenone	ug/kg	8700		470	U	7400	U	390	U	340	U	350	U	4800	U	19000	U	18000	U
SVOCs	Anthracene	ug/kg	870000		470	U	7400	U	390	U	340	U	350	U	4800	U	19000	U	18000	U
SVOCs	Benzaldehyde	ug/kg	6450		470	U	7400	U	390	U	340	U	350	U	4800	U	19000	U	18000	U
SVOCs	Benzo(a)anthracene	ug/kg	22200		470	U	7400	U	38	J	340	U	350	U	4800	U	19000	U	18000	U
SVOCs	Benzo(a)pyrene	ug/kg	50600		470	U	7400	U	55	J	340	U	350	U	4800	U	19000	U	18000	U

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N Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
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Analysis	Parameter	Units:	Leach - Based Soil Value August 2015	Station:	SB-144-04		SB-144-04		SB-145-04		SB-145-04		SB-145-04		SB-146-04		SB-146-04		SB-146-04	
				Field Sample ID:	SB-144-04		SB-144-04		SB-145-04		SB-145-04		SB-145-04		SB-146-04		SB-146-04		SB-146-04	
				Date:	1/27/2004		1/27/2004		1/28/2004		1/28/2004		1/28/2004		1/28/2004		1/28/2004		1/28/2004	
				Depth:	8 - 10		12.5 - 14.5		0 - 2		8 - 10		11 - 13		0 - 2		8 - 10		12 - 14	
SVOCs	Benzo(b)fluoranthene	ug/kg	55300		470	U	7400	U	85	J	340	U	350	U	4800	U	19000	U	18000	U
SVOCs	Benzo(g,h,i)perylene	ug/kg	41242500		470	U	7400	U	39	J	340	U	350	U	4800	U	19000	U	18000	U
SVOCs	Benzo(k)fluoranthene	ug/kg	501000		470	U	7400	U	27	J	340	U	350	U	4800	U	19000	U	18000	U
SVOCs	Biphenyl	ug/kg	130.5		470	U	7400	U	390	U	340	U	350	U	4800	U	19000	U	18000	U
SVOCs	bis(2-Ethylhexyl)phthalate	ug/kg	21000		69	J	7400	U	390	U	340	U	350	U	4800	U	19000	U	18000	U
SVOCs	Carbazole	ug/kg	7007.4		470	U	7400	U	390	U	340	U	350	U	4800	U	19000	U	18000	U
SVOCs	Chrysene	ug/kg	4410000		470	U	7400	U	62	J	340	U	350	U	4800	U	19000	U	18000	U
SVOCs	Dibenz(a,h)anthracene	ug/kg	94000		470	U	7400	U	390	U	340	U	350	U	4800	U	19000	U	18000	U
SVOCs	Dibenzofuran	ug/kg	2250		470	U	7400	U	390	U	340	U	350	U	4800	U	19000	U	18000	U
SVOCs	Di-n-butylphthalate	ug/kg	34500		470	U	7400	U	390	U	340	U	350	U	4800	U	19000	U	18000	U
SVOCs	Di-N-Octyl phthalate	ug/kg	855000		470	U	7400	U	390	U	340	U	350	U	4800	U	19000	U	18000	U
SVOCs	Fluoranthene	ug/kg	1335000		470	U	7400	U	140	J	340	U	350	U	4800	U	19000	U	18000	U
SVOCs	Fluorene	ug/kg	81000		470	U	7400	U	390	U	340	U	350	U	4800	U	19000	U	18000	U
SVOCs	Indeno(1,2,3-cd)pyrene	ug/kg	244000		470	U	7400	U	34	J	340	U	350	U	4800	U	19000	U	18000	U
SVOCs	Naphthalene, SVOC	ug/kg	4050		470	U	7400	U	390	U	340	U	350	U	4800	U	19000	U	18000	U
SVOCs	Phenanthrene	ug/kg	2555100		470	U	7400	U	110	J	340	U	350	U	4800	U	19000	U	18000	U
SVOCs	Pyrene, SVOC	ug/kg	195000		470	U	7400	U	110	J	340	U	350	U	4800	U	19000	U	18000	U
PCBs	Aroclor-1248	ug/kg	18		47	U	1800	U	39	U	34	U	35	U	2400	U	37	U	36	U
PCBs	Aroclor-1254	ug/kg	30		13	J	12000		14	J	34	U	35		13000		250		190	
PCBs	Aroclor-1260	ug/kg	82.5		47	U	1800	U	39	U	34	U	35	U	2400	U	37	U	36	U
Metals	Antimony	mg/kg	7.2		8.5	UJ	6.7	UJ	0.56	J	6.2	UJ	6.4	UJ	0.5	J	6.8	UJ	6.5	UJ
Metals	Arsenic	mg/kg	5.8		4.4		8.2		8.5		5.3		2.8		6.5		2		4.7	
Metals	Barium	mg/kg	110000		249		364		167		157		148		255		178		62.9	
Metals	Beryllium	mg/kg	114.4		0.47	J	0.56	U	0.87		0.52	U	0.54	U	1.3		0.57	U	0.55	U
Metals	Cadmium	mg/kg	42		0.4	J	0.71		0.24	J	0.24	J	0.19	J	3		1.6		0.55	U
Metals	Chromium Total	mg/kg	113		9.8	J	13.8	J	10.4		3.3		2.5		43.5		25.6		5.6	
Metals	Cobalt	mg/kg	5.4		5.3	J	4.3	J	5.4	J	1.4	J	0.84	J	4	J	1.8	J	1.4	J
Metals	Copper	mg/kg	920		10.8	J	397	J	92.8		3.2		14.9		310		73.1		6.7	
Metals	Cyanide (total)	mg/kg	40		0.71	U	0.56	U	0.59	U	0.52	U	0.54	U	0.73	U	0.57	U	0.55	U
Metals	Lead	mg/kg	177.6		9.6		15.2		130		2.1		2.3		240		40.8		2.2	
Metals	Manganese	mg/kg	560		751		1090		578		523		358		217		297		163	
Metals	Mercury	mg/kg	23		0.054	J	0.065	J	0.11	J	0.25		0.11	U	0.081	J	0.12		0.11	U
Metals	Nickel	mg/kg	363		12.3		20.4		11.9		4.6		3.8	J	49.4		101		11.8	
Metals	Selenium	mg/kg	4.3		0.71	U	0.56	U	0.59	U	0.52	U	0.54	U	0.73	U	0.57	U	0.55	U
Metals	Silver	mg/kg	6240		1.4	U	0.43	J	1.2	U	1	U	1.1	U	1.5	U	1.1	U	1.1	U
Metals	Thallium	mg/kg	2.98		1.4	U	1.1	U	0.54	J	1	U	0.45	J	0.72	J	1.1	U	1.1	U
Metals	Vanadium	mg/kg	65		14		9.5		21		5.4		3.7	J	23.5		4.5	J	5.6	
Metals	Zinc	mg/kg	88000		46.3	J	35.5	J	84		13.4		11.5		141		79.4		11.3	
TPH	Diesel Range Organics (DRO)	ug/kg	2000000		-		-		-		-		-		-		-		-	
TPH	Gasoline Range Organics (GRO)	ug/kg	1000000		-		-		-		-		-		-		-		-	

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Appendix A
Soil Data Compared to LBSV
N Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units:	Leach - Based Soil Value August 2015	Station:	SB-150-04		SB-150-04		SB-150-04		SB-150-04		SB-151-04		SB-151-04		SB-151-04		SB-151-04	
				Field Sample ID:	SB-150-04 DUP		SB-150-04		SB-150-04		SB-150-04		SB-151-04		SB-151-04		SB-151-04 DUP		SB-151-04	
				Date:	1/28/2004		1/28/2004		1/28/2004		1/28/2004		2/5/2004		2/5/2004		2/5/2004		2/5/2004	
				Depth:	0 - 2		0 - 2		8 - 10		12 - 14		0 - 2		8 - 10		8 - 10		11 - 13	
VOCs	1,1,1-Trichloroethane	ug/kg	18000		240	J	210	J	1.5	J	6.2	U	5.6	U	4.9	U	7	U	5.2	U
VOCs	1,1-Dichloroethane	ug/kg	11.7		3600		3100		5.1		6.2	U	5.6	U	4.9	U	7	U	5.2	U
VOCs	1,1-Dichloroethene	ug/kg	4200		340	J	290	J	4.4	U	6.2	U	5.6	U	4.9	U	7	U	5.2	U
VOCs	1,2,4-Trichlorobenzene, VOC	ug/kg	3000		1100	U	900	U	4.4	U	6.2	U	5.6	U	4.9	U	7	U	5.2	U
VOCs	1,2-Dichlorobenzene, VOC	ug/kg	8700		1100	U	900	U	4.4	U	6.2	U	5.6	U	4.9	U	7	U	5.2	U
VOCs	1,4-Dichlorobenzene, VOC	ug/kg	1080		1100	U	900	U	4.4	U	6.2	U	5.6	U	4.9	U	7	U	5.2	U
VOCs	2-Butanone	ug/kg	27000		4500	U	3600	U	4.1	J	2.4	J	22	U	20	U	28	U	21	U
VOCs	2-Hexanone	ug/kg	132		4500	U	3600	U	18	U	25	U	22	U	20	U	28	U	21	U
VOCs	4-Methyl-2-Pentanone	ug/kg	4200		4500	U	3600	U	18	U	1.4	J	22	U	20	U	28	U	21	U
VOCs	Acetone	ug/kg	43500		4500	U	3600	U	18		13	J	22	U	20	U	28	U	21	U
VOCs	Benzene	ug/kg	255		1100	U	900	U	4.4	U	6.2	U	5.6	U	4.9	U	7	U	5.2	U
VOCs	Bromomethane	ug/kg	28.5		1100	U	900	U	4.4	U	6.2	U	5.6	U	4.9	U	7	U	5.2	U
VOCs	Carbon disulfide	ug/kg	3600		1100	U	900	U	4.4	U	2	J	5.6	U	4.9	U	7	U	5.2	U
VOCs	Carbon tetrachloride	ug/kg	3750		1100	U	900	U	4.4	U	6.2	U	5.6	U	4.9	U	7	U	5.2	U
VOCs	Chlorobenzene	ug/kg	1020		1100	U	900	U	4.4	U	6.2	U	5.6	U	4.9	U	7	U	5.2	U
VOCs	Chloroform	ug/kg	330		1100	U	900	U	4.4	U	6.2	U	5.6	U	4.9	U	7	U	5.2	U
VOCs	cis-1,2-Dichloroethene	ug/kg	1800		13000		10000		1.1	J	3.1	U	0.77	J	2.5	U	3.5	U	2.6	U
VOCs	Cyclohexane	ug/kg	195000		330	J	280	J	8.8	U	12	U	11	U	9.8	U	14	U	10	U
VOCs	Dichlorodifluoromethane	ug/kg	4500		1100	UJ	900	UJ	4.4	U	6.2	U	5.6	U	4.9	U	7	U	5.2	U
VOCs	Ethylbenzene	ug/kg	180000		1100	U	900	U	4.4	U	1	J	0.49	J	4.9	U	7	U	5.2	U
VOCs	Isopropylbenzene, VOC	ug/kg	11100		1100	U	900	U	4.4	U	6.2	U	5.6	U	4.9	U	7	U	5.2	U
VOCs	Methyl acetate	ug/kg	61500		2300	U	1800	U	8.8	U	12	U	11	U	9.8	U	14	U	10	U
VOCs	Methyl cyclohexane	ug/kg	1E+14		780	J	660	J	8.8	U	0.47	J	11	U	9.8	U	14	U	10	U
VOCs	Methylene chloride	ug/kg	19.5		1100	U	900	U	4.4	U	6.2	U	4.6	J	4.4	J	6.1	J	4.5	J
VOCs	Styrene	ug/kg	6900		1100	U	900	U	4.4	U	6.2	U	5.6	U	4.9	U	7	U	5.2	U
VOCs	Tetrachloroethene	ug/kg	2250		630	J	500	J	1.5	J	1.2	J	150		1.9	J	11		3.7	J
VOCs	Toluene	ug/kg	102000		120	J	98	J	0.86	J	2.2	J	0.94	J	4.9	U	1.3	J	5.2	U
VOCs	trans-1,2-Dichloroethene	ug/kg	6150		930		700		2.2	U	3.1	U	2.8	U	2.5	U	3.5	U	2.6	U
VOCs	Trichloroethene	ug/kg	540		32000		27000		6		6.2	U	40		0.46	J	2.9	J	0.9	J
VOCs	Trichlorofluoromethane	ug/kg	10950		1100	U	900	U	4.4	U	6.2	U	5.6	U	4.9	U	7	U	5.2	U
VOCs	Vinyl chloride	ug/kg	135		1700		1900		4.4	U	6.2	U	5.6	U	4.9	U	7	U	5.2	U
VOCs	Xylene (Total)	ug/kg	2340000		220	J	290	J	8.8	U	2.1	J	1.7	J	9.8	U	14	U	10	U
SVOCs	2-Methylnaphthalene	ug/kg	2850		4600	U	3800	U	3500	U	18000	U	78	J	350	U	410	U	360	U
SVOCs	Acenaphthene	ug/kg	82500		4600	U	3800	U	3500	U	18000	U	390	U	350	U	410	U	360	U
SVOCs	Acenaphthylene	ug/kg	88223.85		4600	U	3800	U	3500	U	18000	U	390	U	350	U	410	U	360	U
SVOCs	Acetophenone	ug/kg	8700		4600	U	3800	U	3500	U	18000	U	390	U	350	U	410	U	360	U
SVOCs	Anthracene	ug/kg	870000		4600	U	3800	U	3500	U	18000	U	390	U	350	U	410	U	360	U
SVOCs	Benzaldehyde	ug/kg	6450		4600	U	3800	U	3500	U	18000	U	390	U	350	U	410	U	360	U
SVOCs	Benzo(a)anthracene	ug/kg	22200		4600	U	3800	U	3500	U	18000	U	390	U	350	U	410	U	360	U
SVOCs	Benzo(a)pyrene	ug/kg	50600		4600	U	3800	U	3500	U	18000	U	390	U	350	U	410	U	360	U

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Appendix A
Soil Data Compared to LBSV
N Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units:	Leach - Based Soil Value August 2015	Station:	SB-150-04		SB-150-04		SB-150-04		SB-150-04		SB-151-04		SB-151-04		SB-151-04		SB-151-04	
				Field Sample ID:	SB-150-04 DUP		SB-150-04		SB-150-04		SB-150-04		SB-151-04		SB-151-04		SB-151-04 DUP		SB-151-04	
				Date:	1/28/2004		1/28/2004		1/28/2004		1/28/2004		2/5/2004		2/5/2004		2/5/2004		2/5/2004	
				Depth:	0 - 2		0 - 2		8 - 10		12 - 14		0 - 2		8 - 10		8 - 10		11 - 13	
SVOCs	Benzo(b)fluoranthene	ug/kg	55300		4600	U	3800	U	3500	U	18000	U	390	U	350	U	410	U	360	U
SVOCs	Benzo(g,h,i)perylene	ug/kg	41242500		4600	U	3800	U	3500	U	18000	U	390	U	350	U	410	U	360	U
SVOCs	Benzo(k)fluoranthene	ug/kg	501000		4600	U	3800	U	3500	U	18000	U	390	U	350	U	410	U	360	U
SVOCs	Biphenyl	ug/kg	130.5		4600	U	3800	U	3500	U	18000	U	29	J	350	U	410	U	360	U
SVOCs	bis(2-Ethylhexyl)phthalate	ug/kg	21000		4600	U	3800	U	3500	U	18000	U	71	J	350	U	410	U	360	U
SVOCs	Carbazole	ug/kg	7007.4		4600	U	3800	U	3500	U	18000	U	390	U	350	U	410	U	360	U
SVOCs	Chrysene	ug/kg	4410000		4600	U	3800	U	3500	U	18000	U	390	U	350	U	410	U	360	U
SVOCs	Dibenz(a,h)anthracene	ug/kg	94000		4600	U	3800	U	3500	U	18000	U	390	U	350	U	410	U	360	U
SVOCs	Dibenzofuran	ug/kg	2250		4600	U	3800	U	3500	U	18000	U	390	U	350	U	410	U	360	U
SVOCs	Di-n-butylphthalate	ug/kg	34500		4600	U	3800	U	3500	U	18000	U	390	U	350	U	410	U	360	U
SVOCs	Di-N-Octyl phthalate	ug/kg	855000		4600	U	3800	U	3500	U	18000	U	390	U	350	U	410	U	360	U
SVOCs	Fluoranthene	ug/kg	1335000		4600	U	3800	U	3500	U	18000	U	390	U	350	U	410	U	360	U
SVOCs	Fluorene	ug/kg	81000		4600	U	3800	U	3500	U	18000	U	390	U	350	U	410	U	360	U
SVOCs	Indeno(1,2,3-cd)pyrene	ug/kg	244000		4600	U	3800	U	3500	U	18000	U	390	U	350	U	410	U	360	U
SVOCs	Naphthalene, SVOC	ug/kg	4050		4600	U	3800	U	3500	U	18000	U	390	U	350	U	410	U	360	U
SVOCs	Phenanthrene	ug/kg	2555100		4600	U	3800	U	3500	U	18000	U	45	J	350	U	410	U	360	U
SVOCs	Pyrene, SVOC	ug/kg	195000		4600	U	3800	U	3500	U	18000	U	26	J	350	U	410	U	360	U
PCBs	Aroclor-1248	ug/kg	18		46	U	38	U	35	U	35	U	39	U	35	U	41	U	36	U
PCBs	Aroclor-1254	ug/kg	30		14	J	8.1	J	35	U	290		490	J	35	UJ	41	UJ	36	UJ
PCBs	Aroclor-1260	ug/kg	82.5		46	U	38	U	35	U	35	U	39	UJ	35	UJ	41	UJ	100	J
Metals	Antimony	mg/kg	7.2		0.6	J	1.1	J	6.4	UJ	6.4	UJ	7.2	UJ	6.3	UJ	7.4	UJ	6.5	UJ
Metals	Arsenic	mg/kg	5.8		10.2		7		1.1	U	2.8		3.2		3		2.9		5.1	
Metals	Barium	mg/kg	110000		178		211		21.5		53.1		56.1		51.5		52		41.7	
Metals	Beryllium	mg/kg	114.4		1.1		0.74		0.53	U	0.53	U	0.14	J	0.078	J	0.082	J	0.1	J
Metals	Cadmium	mg/kg	42		0.69	U	0.57	U	0.53	U	0.53	U	0.15	J	0.17	J	0.16	J	0.2	J
Metals	Chromium Total	mg/kg	113		9.1		7		2.5		3.3		10.4	J	3.5	J	3.8	J	3.7	J
Metals	Cobalt	mg/kg	5.4		6.8	J	5	J	0.88	J	1.3	J	39.5		1.6	J	2	J	2.5	J
Metals	Copper	mg/kg	920		67.5		73.2		1.5	J	3.2		9.8	J	2.4	J	3.5	J	2	J
Metals	Cyanide (total)	mg/kg	40		0.69	U	0.21	J	0.53	U	0.53	U	0.6	U	0.53	U	0.62	U	0.54	U
Metals	Lead	mg/kg	177.6		105		109		1.1		2.1		4.8	J	2.1	J	2.8	J	2	J
Metals	Manganese	mg/kg	560		537		306		90.1		180		609		240		520		339	
Metals	Mercury	mg/kg	23		0.15		0.07	J	0.11	U	0.02	J	0.12	U	0.11	U	0.12	U	0.11	U
Metals	Nickel	mg/kg	363		14		10.8		1.9	J	3.2	J	7.4	J	3.7	J	3.9	J	4.1	J
Metals	Selenium	mg/kg	4.3		0.69	U	0.57	U	0.53	U	0.53	U	0.6	U	0.53	U	0.62	U	0.54	U
Metals	Silver	mg/kg	6240		1.4	U	1.1	U	1.1	U	1.1	U	0.35	J	1.1	U	1.2	U	1.1	U
Metals	Thallium	mg/kg	2.98		1.1	J	0.74	J	0.71	J	1.1	U	1.2	U	1.1	U	1.2	U	1.1	U
Metals	Vanadium	mg/kg	65		13.9		10.4		3.4	J	9.5		13.2		5.3		5.5	J	5.8	
Metals	Zinc	mg/kg	88000		74.4		68.5		6.4		11.3		23.5	J	13	J	10.3	J	10.3	J
TPH	Diesel Range Organics (DRO)	ug/kg	2000000		-		-		-		-		-		-		-		-	
TPH	Gasoline Range Organics (GRO)	ug/kg	1000000		-		-		-		-		-		-		-		-	

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Appendix A
Soil Data Compared to LBSV
N Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units:	Leach - Based Soil Value August 2015	Station:	SB-164-04		SB-164-04		SB-164-04		SB-19-02		SB-19-02		SB-22-02		SB-22-02		SB-38-02	
				Field Sample ID:	SB-164-04		SB-164-04		SB-164-04		SB-19-02		SB-19-02		SB-22-02		SB-22-02		SB-38-02	
				Date:	2/6/2004		2/6/2004		2/6/2004		4/9/2002		4/9/2002		4/10/2002		4/10/2002		4/15/2002	
				Depth:	0 - 2		8 - 10		11 - 13		1 - 3		9.5 - 11.5		1 - 3		9 - 11		1 - 3	
VOCs	1,1,1-Trichloroethane	ug/kg	18000		8700	J	6.7	U	6.4	U	140	J	5	U	240	U	270	U	260	U
VOCs	1,1-Dichloroethane	ug/kg	11.7		1500	J	6.7	U	6.4	U	340		5	U	240	U	270	U	260	U
VOCs	1,1-Dichloroethene	ug/kg	4200		110	J	6.7	U	6.4	U	320	U	5	U	240	U	270	U	260	U
VOCs	1,2,4-Trichlorobenzene, VOC	ug/kg	3000		370	UJ	6.7	U	6.4	U	320	U	5	U	240	U	270	U	260	U
VOCs	1,2-Dichlorobenzene, VOC	ug/kg	8700		370	UJ	6.7	U	6.4	U	320	U	5	U	240	U	270	U	260	U
VOCs	1,4-Dichlorobenzene, VOC	ug/kg	1080		370	UJ	6.7	U	6.4	U	320	U	5	U	240	U	270	U	17	J
VOCs	2-Butanone	ug/kg	27000		1500	UJ	27	U	26	U	1300	U	20	U	970	U	1100	U	110	J
VOCs	2-Hexanone	ug/kg	132		1500	UJ	27	U	26	U	1300	U	20	U	970	U	1100	U	1000	U
VOCs	4-Methyl-2-Pentanone	ug/kg	4200		1500	UJ	27	U	26	U	1300	U	20	U	970	U	1100	U	1000	U
VOCs	Acetone	ug/kg	43500		1500	UJ	27	U	26	U	320	J	20	UJ	320	J	320	J	1000	UJ
VOCs	Benzene	ug/kg	255		30	J	6.7	U	6.4	U	320	U	5	U	240	R	270	R	260	U
VOCs	Bromomethane	ug/kg	28.5		370	UJ	6.7	U	6.4	U	320	U	5	UJ	240	U	270	U	260	U
VOCs	Carbon disulfide	ug/kg	3600		370	UJ	6.7	U	6.4	U	320	U	5	U	240	U	270	U	260	U
VOCs	Carbon tetrachloride	ug/kg	3750		43	J	6.7	U	6.4	U	320	U	5	UJ	240	U	270	U	260	UJ
VOCs	Chlorobenzene	ug/kg	1020		370	UJ	6.7	U	6.4	U	320	U	5	U	240	U	270	U	260	U
VOCs	Chloroform	ug/kg	330		90	J	6.7	U	6.4	U	320	U	5	U	240	U	270	U	260	U
VOCs	cis-1,2-Dichloroethene	ug/kg	1800		630	J	3.4	U	3.2	U	2100		2.5	U	120	U	140	U	130	U
VOCs	Cyclohexane	ug/kg	195000		330	J	13	U	13	U	640	U	9.9	U	480	U	550	U	520	U
VOCs	Dichlorodifluoromethane	ug/kg	4500		370	UJ	6.7	UJ	6.4	U	320	U	5	U	240	UJ	270	UJ	260	U
VOCs	Ethylbenzene	ug/kg	180000		370	UJ	6.7	U	6.4	U	320	U	5	U	240	U	270	U	260	U
VOCs	Isopropylbenzene, VOC	ug/kg	11100		370	UJ	6.7	U	6.4	U	150	J	5	U	240	U	270	U	260	U
VOCs	Methyl acetate	ug/kg	61500		130	J	13	U	13	U	640	U	9.9	U	480	U	550	U	160	J
VOCs	Methyl cyclohexane	ug/kg	1E+14		1000	J	13	U	13	U	640	U	9.9	U	480	U	550	U	520	U
VOCs	Methylene chloride	ug/kg	19.5		370	UJ	6.7	U	6.4	U	320	U	5	U	240	U	270	U	260	U
VOCs	Styrene	ug/kg	6900		370	UJ	6.7	U	6.4	U	320	U	5	U	240	U	270	U	260	U
VOCs	Tetrachloroethene	ug/kg	2250		5000	J	17		0.96	J	1300		1.7	J	1900		4100		840	
VOCs	Toluene	ug/kg	102000		110	J	6.7	U	6.4	U	320	U	5	U	240	U	270	U	13	J
VOCs	trans-1,2-Dichloroethene	ug/kg	6150		180	UJ	3.4	U	3.2	U	170		2.5	U	120	U	140	U	130	U
VOCs	Trichloroethene	ug/kg	540		7800	J	1.2	J	6.4	U	5100	J	1.6	J	140	J	270		410	
VOCs	Trichlorofluoromethane	ug/kg	10950		370	UJ	6.7	U	6.4	U	320	UJ	5	UJ	240	U	270	U	260	U
VOCs	Vinyl chloride	ug/kg	135		370	UJ	6.7	U	6.4	U	320	U	5	U	240	U	270	U	260	U
VOCs	Xylene (Total)	ug/kg	2340000		280	J	13	U	13	U	640	U	9.9	U	480	U	550	U	520	U
SVOCs	2-Methylnaphthalene	ug/kg	2850		95	J	350	U	710	U	430	U	360	U	-		-		360	U
SVOCs	Acenaphthene	ug/kg	82500		380	U	350	U	710	U	430	U	360	U	-		-		360	U
SVOCs	Acenaphthylene	ug/kg	88223.85		380	U	350	U	710	U	430	U	360	U	-		-		360	U
SVOCs	Acetophenone	ug/kg	8700		380	U	350	U	710	U	430	U	360	U	-		-		360	U
SVOCs	Anthracene	ug/kg	870000		380	U	350	U	710	U	430	U	360	U	-		-		360	U
SVOCs	Benzaldehyde	ug/kg	6450		380	U	350	U	710	U	430	U	360	U	-		-		360	U
SVOCs	Benzo(a)anthracene	ug/kg	22200		29	J	350	U	710	U	99	J	360	U	-		-		360	U
SVOCs	Benzo(a)pyrene	ug/kg	50600		22	J	350	U	710	U	86	J	360	U	-		-		360	U

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Appendix A
Soil Data Compared to LBSV
N Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units:	Leach - Based Soil Value August 2015	Station:	SB-164-04		SB-164-04		SB-164-04		SB-19-02		SB-19-02		SB-22-02		SB-22-02		SB-38-02	
				Field Sample ID:	SB-164-04		SB-164-04		SB-164-04		SB-19-02		SB-19-02		SB-22-02		SB-22-02		SB-38-02	
				Date:	2/6/2004		2/6/2004		2/6/2004		4/9/2002		4/9/2002		4/10/2002		4/10/2002		4/15/2002	
				Depth:	0 - 2		8 - 10		11 - 13		1 - 3		9.5 - 11.5		1 - 3		9 - 11		1 - 3	
SVOCs	Benzo(b)fluoranthene	ug/kg	55300		48	J	350	U	710	U	130	J	360	U	-		-		360	U
SVOCs	Benzo(g,h,i)perylene	ug/kg	41242500		380	U	350	U	710	U	430	U	360	U	-		-		360	U
SVOCs	Benzo(k)fluoranthene	ug/kg	501000		380	U	350	U	710	U	430	U	360	U	-		-		360	U
SVOCs	Biphenyl	ug/kg	130.5		380	U	350	U	710	U	430	U	360	U	-		-		360	U
SVOCs	bis(2-Ethylhexyl)phthalate	ug/kg	21000		380	U	350	U	710	U	430	U	360	U	-		-		110	J
SVOCs	Carbazole	ug/kg	7007.4		380	U	350	U	710	U	430	U	360	U	-		-		360	U
SVOCs	Chrysene	ug/kg	4410000		56	J	350	U	710	U	130	J	360	U	-		-		360	U
SVOCs	Dibenz(a,h)anthracene	ug/kg	94000		380	U	350	U	710	U	430	U	360	U	-		-		360	U
SVOCs	Dibenzofuran	ug/kg	2250		31	J	350	U	710	U	430	U	360	U	-		-		360	U
SVOCs	Di-n-butylphthalate	ug/kg	34500		380	U	350	U	710	U	430	U	360	U	-		-		360	U
SVOCs	Di-N-Octyl phthalate	ug/kg	855000		380	U	350	U	710	U	430	U	360	U	-		-		110	J
SVOCs	Fluoranthene	ug/kg	1335000		48	J	350	U	710	U	280	J	360	U	-		-		360	U
SVOCs	Fluorene	ug/kg	81000		380	U	350	U	710	U	430	U	360	U	-		-		360	U
SVOCs	Indeno(1,2,3-cd)pyrene	ug/kg	244000		380	U	350	U	710	U	430	U	360	U	-		-		360	U
SVOCs	Naphthalene, SVOC	ug/kg	4050		47	J	350	U	710	U	430	U	360	U	-		-		360	U
SVOCs	Phenanthrene	ug/kg	2555100		140	J	350	U	710	U	210	J	360	U	-		-		360	U
SVOCs	Pyrene, SVOC	ug/kg	195000		42	J	350	U	710	U	180	J	360	U	-		-		360	U
PCBs	Aroclor-1248	ug/kg	18		38	U	35	U	36	U	43	U	36	U	39	U	38	U	180	U
PCBs	Aroclor-1254	ug/kg	30		38	U	35	U	36	U	27	J	250		39	U	38	U	1100	
PCBs	Aroclor-1260	ug/kg	82.5		38	U	35	U	68		43	U	36	U	39	U	38	U	180	U
Metals	Antimony	mg/kg	7.2		6.9	UJ	6.4	UJ	6.5	UJ	7.8	UJ	6.5	UJ	7.1	U	7	U	6.6	UJ
Metals	Arsenic	mg/kg	5.8		8.6		7		8.4		4.7		3.9		8.7		8.9		5.2	J
Metals	Barium	mg/kg	110000		125	J	80.2	J	127	J	68.2		90.8		43.1		30.5		42.1	J
Metals	Beryllium	mg/kg	114.4		0.73		0.079	J	0.073	J	0.65	U	0.54	U	0.59	U	0.58	U	0.55	UJ
Metals	Cadmium	mg/kg	42		1.1		0.25	J	0.27	J	0.65	U	0.54	U	0.38	J	0.36	J	0.55	UJ
Metals	Chromium Total	mg/kg	113		26.2	J	4.6	J	3.4	J	11.6		5.5		9.3		8.8		11.9	J
Metals	Cobalt	mg/kg	5.4		8.6		1.9	J	2.9	J	4.5	J	1.7	J	6.1		5.7	J	5.4	J
Metals	Copper	mg/kg	920		128		2.8		3.6		21.7	J	9.9	J	16.8		17.9		21.4	J
Metals	Cyanide (total)	mg/kg	40		0.58	U	0.54	U	0.54	U	0.22	J	0.54	U	0.59	U	0.58	U	0.55	U
Metals	Lead	mg/kg	177.6		98.2	J	2.4	J	2.7	J	276	J	28.3	J	8		8.3		15.7	J
Metals	Manganese	mg/kg	560		3940		308		773		710		391		299		273		362	
Metals	Mercury	mg/kg	23		0.077	J	0.11	U	0.045	J	0.045	J	0.018	J	0.12	U	0.12	U	0.11	UJ
Metals	Nickel	mg/kg	363		11.9		4.2	J	5.6		6.5		15.6		20		16.8		10.4	J
Metals	Selenium	mg/kg	4.3		1.2	U	0.54	U	0.54	U	0.65	U	0.54	U	0.59	U	0.58	U	0.55	UJ
Metals	Silver	mg/kg	6240		2.3	U	1.1	U	1.1	U	1.3	U	1.1	U	1.2	U	1.2	U	1.1	U
Metals	Thallium	mg/kg	2.98		1.2	U	1.1	U	1.1	U	1.3	U	1.1	U	2.1		1.3		1	J
Metals	Vanadium	mg/kg	65		63.1	J	7.6	J	9.3	J	16.1		5	J	14.1		14.4		13.5	J
Metals	Zinc	mg/kg	88000		495		16.2		47.2		39.4	J	43.4	J	55.7		60.8		24.2	J
TPH	Diesel Range Organics (DRO)	ug/kg	2000000		-		-		-		-		-		-		-		-	
TPH	Gasoline Range Organics (GRO)	ug/kg	1000000		-		-		-		-		-		-		-		-	

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Appendix A
Soil Data Compared to LBSV
N Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units:	Leach - Based Soil Value August 2015	Station:	SB-38-02		SB-39-02		SB-39-02		SB-39-02		SB-40-02		SB-40-02		SB-41-02		SB-41-02	
				Field Sample ID:	SB-38-02		SB-39-02 DUP		SB-39-02		SB-39-02		SB-40-02		SB-40-02		SB-41-02		SB-41-02	
				Date:	4/15/2002		4/15/2002		4/15/2002		4/15/2002		4/15/2002		4/15/2002		4/15/2002		4/15/2002	
				Depth:	9 - 11		1 - 3		1 - 3		8.5 - 10.5		1 - 3		9.5 - 11.5		1 - 3		6 - 8	
VOCs	1,1,1-Trichloroethane	ug/kg	18000		5.6	U	240	U	270	U	300	UJ	620	U	300	U	510	J	880	UJ
VOCs	1,1-Dichloroethane	ug/kg	11.7		5.6	U	240	U	270	U	300	UJ	620	U	300	U	150	J	880	UJ
VOCs	1,1-Dichloroethene	ug/kg	4200		5.6	U	240	U	270	U	300	UJ	120	J	300	U	680	UJ	880	UJ
VOCs	1,2,4-Trichlorobenzene, VOC	ug/kg	3000		5.6	U	240	U	270	U	300	UJ	620	U	300	U	680	UJ	880	UJ
VOCs	1,2-Dichlorobenzene, VOC	ug/kg	8700		5.6	U	240	U	270	U	300	UJ	620	U	300	U	680	UJ	880	UJ
VOCs	1,4-Dichlorobenzene, VOC	ug/kg	1080		0.85	J	17	J	22	J	22	J	620	U	27	J	680	UJ	880	UJ
VOCs	2-Butanone	ug/kg	27000		22	U	96	J	120	J	140	J	2500	U	110	J	2700	UJ	310	J
VOCs	2-Hexanone	ug/kg	132		22	U	950	U	1100	U	1200	UJ	2500	U	1200	U	2700	UJ	3500	UJ
VOCs	4-Methyl-2-Pentanone	ug/kg	4200		22	U	950	U	1100	U	1200	UJ	2500	U	1200	U	2700	UJ	3500	UJ
VOCs	Acetone	ug/kg	43500		22	UJ	950	UJ	1100	UJ	1200	UJ	2500	U	1200	UJ	2700	UJ	3500	UJ
VOCs	Benzene	ug/kg	255		5.6	U	240	U	270	U	52	J	620	U	300	U	680	UJ	880	UJ
VOCs	Bromomethane	ug/kg	28.5		5.6	UJ	240	U	270	U	300	UJ	620	U	300	U	680	UJ	880	UJ
VOCs	Carbon disulfide	ug/kg	3600		5.6	U	240	U	270	U	300	UJ	620	U	300	U	680	UJ	880	UJ
VOCs	Carbon tetrachloride	ug/kg	3750		5.6	UJ	240	UJ	270	UJ	300	UJ	620	U	300	UJ	680	UJ	880	UJ
VOCs	Chlorobenzene	ug/kg	1020		5.6	U	240	U	270	U	300	UJ	620	U	300	U	680	UJ	880	UJ
VOCs	Chloroform	ug/kg	330		5.6	U	240	U	270	U	300	UJ	620	U	300	U	680	UJ	880	UJ
VOCs	cis-1,2-Dichloroethene	ug/kg	1800		2.8	U	19	J	33	J	42	J	19000		230		1900	J	180	J
VOCs	Cyclohexane	ug/kg	195000		11	U	470	U	550	U	95	J	48	J	590	U	1400	UJ	1800	UJ
VOCs	Dichlorodifluoromethane	ug/kg	4500		5.6	U	240	U	270	U	300	UJ	620	U	300	U	680	UJ	880	UJ
VOCs	Ethylbenzene	ug/kg	180000		5.6	U	240	U	270	U	34	J	37	J	300	U	680	UJ	880	UJ
VOCs	Isopropylbenzene, VOC	ug/kg	11100		5.6	U	240	U	270	U	300	UJ	620	U	300	U	680	UJ	880	UJ
VOCs	Methyl acetate	ug/kg	61500		11	U	470	U	550	U	470	J	200	J	130	J	1400	UJ	1800	UJ
VOCs	Methyl cyclohexane	ug/kg	1E+14		11	U	23	J	550	U	53	J	160	J	22	J	54	J	1800	UJ
VOCs	Methylene chloride	ug/kg	19.5		5.6	U	240	U	270	U	300	UJ	620	U	300	U	680	UJ	880	UJ
VOCs	Styrene	ug/kg	6900		5.6	U	240	U	270	U	300	UJ	620	U	300	U	680	UJ	880	UJ
VOCs	Tetrachloroethene	ug/kg	2250		2	J	2800		1200		5100	J	7300		4800		23000	J	880	UJ
VOCs	Toluene	ug/kg	102000		5.6	U	240	U	270	U	81	J	70	J	18	J	35	J	54	J
VOCs	trans-1,2-Dichloroethene	ug/kg	6150		2.8	U	120	U	140	U	150	UJ	390		150	U	110	J	440	UJ
VOCs	Trichloroethene	ug/kg	540		5.6	U	780		420		840	J	7600	J	510		15000	J	880	UJ
VOCs	Trichlorofluoromethane	ug/kg	10950		5.6	U	240	U	270	U	300	UJ	620	U	300	U	680	UJ	880	UJ
VOCs	Vinyl chloride	ug/kg	135		5.6	U	240	U	270	U	300	UJ	620	U	300	U	680	UJ	880	UJ
VOCs	Xylene (Total)	ug/kg	2340000		11	U	470	U	550	U	78	J	180	J	35	J	70	J	1800	UJ
SVOCs	2-Methylnaphthalene	ug/kg	2850		340	U	340	U	390	U	440	U	440	U	350	U	380	U	460	U
SVOCs	Acenaphthene	ug/kg	82500		340	U	340	U	390	U	440	U	440	U	350	U	380	U	460	U
SVOCs	Acenaphthylene	ug/kg	88223.85		340	U	340	U	390	U	440	U	440	U	350	U	380	U	460	U
SVOCs	Acetophenone	ug/kg	8700		340	U	340	U	390	U	440	U	440	U	350	U	380	U	460	U
SVOCs	Anthracene	ug/kg	870000		340	U	340	U	390	U	440	U	440	U	350	U	380	U	460	U
SVOCs	Benzaldehyde	ug/kg	6450		340	U	340	U	390	U	440	U	440	U	350	U	380	U	460	U
SVOCs	Benzo(a)anthracene	ug/kg	22200		340	U	340	U	72	J	440	U	440	U	350	U	160	J	460	U
SVOCs	Benzo(a)pyrene	ug/kg	50600		340	U	70	J	80	J	440	U	440	U	350	U	230	J	460	U

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Soil Data Compared to LBSV
N Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
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Analysis	Parameter	Units:	Leach - Based Soil Value August 2015	Station:	SB-38-02		SB-39-02		SB-39-02		SB-39-02		SB-40-02		SB-40-02		SB-41-02		SB-41-02	
				Field Sample ID:	SB-38-02		SB-39-02 DUP		SB-39-02		SB-39-02		SB-40-02		SB-40-02		SB-41-02		SB-41-02	
				Date:	4/15/2002		4/15/2002		4/15/2002		4/15/2002		4/15/2002		4/15/2002		4/15/2002		4/15/2002	
				Depth:	9 - 11		1 - 3		1 - 3		8.5 - 10.5		1 - 3		9.5 - 11.5		1 - 3		6 - 8	
SVOCs	Benzo(b)fluoranthene	ug/kg	55300		340	U	110	J	91	J	440	U	440	U	350	U	420		460	U
SVOCs	Benzo(g,h,i)perylene	ug/kg	41242500		340	U	340	U	390	U	440	U	440	U	350	U	150	J	460	U
SVOCs	Benzo(k)fluoranthene	ug/kg	501000		340	U	340	U	65	J	440	U	440	U	350	U	160	J	460	U
SVOCs	Biphenyl	ug/kg	130.5		340	U	340	U	390	U	440	U	440	U	350	U	380	U	460	U
SVOCs	bis(2-Ethylhexyl)phthalate	ug/kg	21000		340	U	340	U	390	U	440	U	440	U	350	U	380	U	84	J
SVOCs	Carbazole	ug/kg	7007.4		340	U	340	U	390	U	440	U	440	U	350	U	380	U	460	U
SVOCs	Chrysene	ug/kg	4410000		340	U	58	J	69	J	440	U	440	U	350	U	200	J	460	U
SVOCs	Dibenz(a,h)anthracene	ug/kg	94000		340	U	340	U	390	U	440	U	440	U	350	U	380	U	460	U
SVOCs	Dibenzofuran	ug/kg	2250		340	U	340	U	390	U	440	U	440	U	350	U	380	U	460	U
SVOCs	Di-n-butylphthalate	ug/kg	34500		340	U	340	U	390	U	440	U	440	U	350	U	380	U	460	U
SVOCs	Di-N-Octyl phthalate	ug/kg	855000		340	U	340	U	390	U	440	U	440	U	350	U	380	U	460	U
SVOCs	Fluoranthene	ug/kg	1335000		340	U	110	J	100	J	440	U	440	U	350	U	220	J	460	U
SVOCs	Fluorene	ug/kg	81000		340	U	340	U	390	U	440	U	440	U	350	U	380	U	71	J
SVOCs	Indeno(1,2,3-cd)pyrene	ug/kg	244000		340	U	340	U	390	U	440	U	440	U	350	U	130	J	460	U
SVOCs	Naphthalene, SVOC	ug/kg	4050		340	U	340	U	390	U	440	U	440	U	350	U	380	U	460	U
SVOCs	Phenanthrene	ug/kg	2555100		340	U	340	U	390	U	440	U	440	U	350	U	95	J	170	J
SVOCs	Pyrene, SVOC	ug/kg	195000		340	U	92	J	85	J	440	U	440	U	350	U	200	J	460	U
PCBs	Aroclor-1248	ug/kg	18		34	U	34	U	39	U	44	U	44	U	35	U	38	U	2300	U
PCBs	Aroclor-1254	ug/kg	30		46		34	U	39	U	44	U	41	J	440		67		20000	
PCBs	Aroclor-1260	ug/kg	82.5		34	U	34	U	39	U	44	U	44	U	35	U	38	U	2300	U
Metals	Antimony	mg/kg	7.2		6.2	UJ	1.7	J	7	UJ	1.5	J	8	UJ	6.3	UJ	1.5	J	8.4	UJ
Metals	Arsenic	mg/kg	5.8		2.7	J	12	J	9.4	J	5.2	J	5.4	J	2.8	J	13	J	3.1	J
Metals	Barium	mg/kg	110000		25.8	J	77.7	J	122	J	140	J	299	J	79.7	J	101	J	207	J
Metals	Beryllium	mg/kg	114.4		0.52	UJ	0.39	J	0.41	J	0.66	UJ	4.3	J	0.68	J	0.58	UJ	0.28	J
Metals	Cadmium	mg/kg	42		0.52	UJ	0.52	UJ	0.58	UJ	0.66	UJ	0.67	UJ	0.52	UJ	0.064	J	0.29	J
Metals	Chromium Total	mg/kg	113		3.8	J	12.4	J	9.5	J	23.3	J	30.3	J	8.9	J	16.8	J	7.2	J
Metals	Cobalt	mg/kg	5.4		1.4	J	7.7	J	5.1	J	4.3	J	2.6	J	1.5	J	7.6	J	3.3	J
Metals	Copper	mg/kg	920		6.7	J	142	J	52.9	J	24.4	J	18.6	J	5.5	J	278	J	8.2	J
Metals	Cyanide (total)	mg/kg	40		0.52	U	0.52	U	0.58	U	0.66	U	1.7		0.77		0.58	U	0.7	U
Metals	Lead	mg/kg	177.6		5.7	J	137	J	140	J	47.5	J	11.9	J	4.5	J	80.6	J	6.8	J
Metals	Manganese	mg/kg	560		262		802		616		2700		5760		1230		1810		420	
Metals	Mercury	mg/kg	23		0.1	UJ	0.16	J	0.097	J	0.13	UJ	0.13	UJ	0.1	UJ	0.12	UJ	0.14	R
Metals	Nickel	mg/kg	363		3.8	J	14.4	J	10.5	J	8.3	J	4.2	J	2.6	J	15.1	J	7.9	J
Metals	Selenium	mg/kg	4.3		0.52	UJ	0.52	UJ	0.58	UJ	0.66	UJ	1.2	J	0.5	J	0.58	UJ	0.52	J
Metals	Silver	mg/kg	6240		1	U	1	U	1.2	U	1.3	U	2.7	U	1	U	1.2	U	1.4	U
Metals	Thallium	mg/kg	2.98		1.7	J	0.94	J	1	J	2	J	2.5	J	2.5	J	0.74	J	0.88	J
Metals	Vanadium	mg/kg	65		5.3	J	23.5	J	19.7	J	42.1	J	18.9	J	7.1	J	30.2	J	10.4	J
Metals	Zinc	mg/kg	88000		12.1	J	104	J	80.3	J	46	J	11.7	J	8.6	J	138	J	35.6	J
TPH	Diesel Range Organics (DRO)	ug/kg	2000000		-		-		-		-		-		-		-		-	
TPH	Gasoline Range Organics (GRO)	ug/kg	1000000		-		-		-		-		-		-		-		-	

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Soil Data Compared to LBSV
N Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
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Analysis	Parameter	Units:	Leach - Based Soil Value August 2015	Station:	SB-41-02		SB-43-02		SB-43-02		SB-43-02		SB-56-02		SB-56-02		SB-56-02		SB-75-03	
				Field Sample ID:	SB-41-02		SB-43-02		SB-43-02		SB-43-02		SB-56-02		SB-56-02		SB-56-02		SB-75-03 DUP	
				Date:	4/15/2002		4/15/2002		4/15/2002		4/15/2002		4/17/2002		4/17/2002		4/17/2002		2/20/2003	
				Depth:	9 - 11		1 - 3		4 - 6		9 - 11		1 - 3		6 - 8		9.5 - 11.5		9.5 - 11.5	
VOCs	1,1,1-Trichloroethane	ug/kg	18000		660	U	420	U	230	U	330	U	3700	J	7	U	4.6	U	5.1	U
VOCs	1,1-Dichloroethane	ug/kg	11.7		660	U	420	U	230	U	330	U	1100	J	26		4.6	U	5.1	U
VOCs	1,1-Dichloroethene	ug/kg	4200		660	U	420	U	230	U	330	U	1300	UJ	7	U	4.6	U	5.1	U
VOCs	1,2,4-Trichlorobenzene, VOC	ug/kg	3000		660	U	420	U	230	U	330	U	1300	UJ	7	UJ	4.6	U	5.1	U
VOCs	1,2-Dichlorobenzene, VOC	ug/kg	8700		660	U	420	U	230	U	330	U	1300	UJ	7	UJ	4.6	U	5.1	U
VOCs	1,4-Dichlorobenzene, VOC	ug/kg	1080		660	U	420	U	230	U	330	U	1300	UJ	7	UJ	4.6	U	5.1	U
VOCs	2-Butanone	ug/kg	27000		2600	U	210	J	930	U	150	J	5400	UJ	28	U	18	U	20	U
VOCs	2-Hexanone	ug/kg	132		2600	U	1700	U	930	U	1300	U	5400	UJ	28	U	18	U	20	U
VOCs	4-Methyl-2-Pentanone	ug/kg	4200		2600	U	1700	U	930	U	1300	U	5400	UJ	28	U	18	U	20	U
VOCs	Acetone	ug/kg	43500		2600	UJ	1700	UJ	930	UJ	1300	UJ	5400	UJ	52	UJ	18	UJ	20	U
VOCs	Benzene	ug/kg	255		660	U	420	U	230	U	330	U	1300	UJ	7	U	4.6	U	5.1	U
VOCs	Bromomethane	ug/kg	28.5		660	U	420	U	230	U	330	U	1300	UJ	7	UJ	4.6	UJ	5.1	UJ
VOCs	Carbon disulfide	ug/kg	3600		660	U	420	U	230	U	330	U	1300	UJ	7	U	4.6	U	5.1	U
VOCs	Carbon tetrachloride	ug/kg	3750		660	UJ	420	UJ	230	UJ	330	UJ	69	J	7	UJ	4.6	UJ	5.1	UJ
VOCs	Chlorobenzene	ug/kg	1020		660	U	420	U	230	U	330	U	1300	UJ	7	U	4.6	U	5.1	U
VOCs	Chloroform	ug/kg	330		660	U	420	U	230	U	330	U	94	J	7	U	4.6	U	5.1	U
VOCs	cis-1,2-Dichloroethene	ug/kg	1800		330	U	100	J	740		160	U	2200	J	180		2.3	U	2.5	U
VOCs	Cyclohexane	ug/kg	195000		1300	U	290	J	24	J	660	U	140	J	14	U	9.1	U	10	U
VOCs	Dichlorodifluoromethane	ug/kg	4500		660	U	420	U	230	U	330	U	1300	UJ	7	U	4.6	U	5.1	UJ
VOCs	Ethylbenzene	ug/kg	180000		660	U	31	J	230	U	330	U	1300	UJ	7	U	4.6	U	5.1	U
VOCs	Isopropylbenzene, VOC	ug/kg	11100		660	U	420	U	230	U	330	U	1300	UJ	7	U	4.6	U	5.1	U
VOCs	Methyl acetate	ug/kg	61500		1300	U	830	U	62	J	79	J	470	J	14	U	9.1	U	10	U
VOCs	Methyl cyclohexane	ug/kg	1E+14		1300	U	770	J	63	J	660	U	380	J	14	U	9.1	U	10	U
VOCs	Methylene chloride	ug/kg	19.5		660	U	420	U	230	U	330	U	1300	UJ	7	U	4.6	U	5.1	U
VOCs	Styrene	ug/kg	6900		660	U	420	U	230	U	330	U	1300	UJ	7	U	4.6	U	5.1	U
VOCs	Tetrachloroethene	ug/kg	2250		660	U	15000		1300		180	J	39000	J	29		92		25	
VOCs	Toluene	ug/kg	102000		70	J	120	J	35	J	23	J	1300	UJ	7	U	0.56	J	0.64	J
VOCs	trans-1,2-Dichloroethene	ug/kg	6150		330	U	210	U	36	J	160	U	670	UJ	2.6	J	2.3	U	2.5	U
VOCs	Trichloroethene	ug/kg	540		660	U	1300		700		45	J	12000	J	13		3.8	J	1.4	J
VOCs	Trichlorofluoromethane	ug/kg	10950		660	U	420	U	230	U	330	U	1300	UJ	7	U	4.6	U	5.1	UJ
VOCs	Vinyl chloride	ug/kg	135		660	U	420	U	220	J	330	U	1300	UJ	16		4.6	U	5.1	U
VOCs	Xylene (Total)	ug/kg	2340000		1300	U	440	J	56	J	80	J	380	J	14	U	9.1	U	10	U
SVOCs	2-Methylnaphthalene	ug/kg	2850		1300	J	980	U	350	U	1000		370	U	3100	U	350	U	350	U
SVOCs	Acenaphthene	ug/kg	82500		7100	U	980	U	350	U	600	J	370	U	3100	U	350	U	350	U
SVOCs	Acenaphthylene	ug/kg	88223.85		7100	U	980	U	350	U	210	J	93	J	3100	U	350	U	350	U
SVOCs	Acetophenone	ug/kg	8700		7100	U	980	U	350	U	900	U	370	U	3100	U	350	U	350	U
SVOCs	Anthracene	ug/kg	870000		7100	U	980	U	350	U	2700		140	J	3100	U	350	U	350	U
SVOCs	Benzaldehyde	ug/kg	6450		7100	U	980	U	350	U	900	U	370	U	3100	U	350	U	350	U
SVOCs	Benzo(a)anthracene	ug/kg	22200		7100	U	980	U	350	U	4200		1300		3100	U	350	U	350	U
SVOCs	Benzo(a)pyrene	ug/kg	50600		7100	U	980	U	350	U	3200		2100		3100	U	79	J	350	U

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Soil Data Compared to LBSV
N Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units:	Leach - Based Soil Value August 2015	Station:	SB-41-02		SB-43-02		SB-43-02		SB-43-02		SB-56-02		SB-56-02		SB-56-02		SB-75-03	
				Field Sample ID:	SB-41-02		SB-43-02		SB-43-02		SB-43-02		SB-56-02		SB-56-02		SB-56-02		SB-75-03 DUP	
				Date:	4/15/2002		4/15/2002		4/15/2002		4/15/2002		4/17/2002		4/17/2002		4/17/2002		2/20/2003	
				Depth:	9 - 11		1 - 3		4 - 6		9 - 11		1 - 3		6 - 8		9.5 - 11.5		9.5 - 11.5	
SVOCs	Benzo(b)fluoranthene	ug/kg	55300		7100	U	980	U	70	J	3800		3000		3100	U	110	J	350	U
SVOCs	Benzo(g,h,i)perylene	ug/kg	41242500		7100	U	980	U	350	U	880	J	1300		3100	U	71	J	350	U
SVOCs	Benzo(k)fluoranthene	ug/kg	501000		7100	U	980	U	350	U	1500		1400		3100	U	350	U	350	U
SVOCs	Biphenyl	ug/kg	130.5		7100	U	980	U	350	U	900	U	370	U	3100	U	350	U	350	U
SVOCs	bis(2-Ethylhexyl)phthalate	ug/kg	21000		7100	U	980	U	350	U	900	U	370	U	3100	U	350	U	40	J
SVOCs	Carbazole	ug/kg	7007.4		7100	U	980	U	350	U	680	J	68	J	3100	U	350	U	350	U
SVOCs	Chrysene	ug/kg	4410000		7100	U	980	U	58	J	3300		1500		3100	U	62	J	350	U
SVOCs	Dibenz(a,h)anthracene	ug/kg	94000		7100	U	980	U	350	U	380	J	340	J	3100	U	350	U	350	U
SVOCs	Dibenzofuran	ug/kg	2250		7100	U	980	U	350	U	1200		370	U	3100	U	350	U	350	U
SVOCs	Di-n-butylphthalate	ug/kg	34500		7100	U	980	U	350	U	900	U	370	U	3100	U	350	U	350	U
SVOCs	Di-N-Octyl phthalate	ug/kg	855000		7100	U	980	U	350	U	900	U	370	U	3100	U	350	U	350	U
SVOCs	Fluoranthene	ug/kg	1335000		7100	U	980	U	350	U	6300		1600		3100	U	63	J	350	U
SVOCs	Fluorene	ug/kg	81000		7100	U	980	U	350	U	1600		370	U	3100	U	350	U	350	U
SVOCs	Indeno(1,2,3-cd)pyrene	ug/kg	244000		7100	U	980	U	350	U	1000		1100		3100	U	350	U	350	U
SVOCs	Naphthalene, SVOC	ug/kg	4050		7100	U	980	U	350	U	720	J	370	U	3100	U	350	U	350	U
SVOCs	Phenanthrene	ug/kg	2555100		1100	J	980	U	62	J	9100		370		3100	U	350	U	350	U
SVOCs	Pyrene, SVOC	ug/kg	195000		7100	U	980	U	350	U	6500		1800		3100	U	78	J	350	U
PCBs	Aroclor-1248	ug/kg	18		710	U	2000	U	180	U	2300	U	740	U	4700	U	1800	U	-	
PCBs	Aroclor-1254	ug/kg	30		13000		23000		1400		30000		9300		48000		33000		-	
PCBs	Aroclor-1260	ug/kg	82.5		710	U	2000	U	180	U	2300	U	740	U	4700	U	1800	U	-	
Metals	Antimony	mg/kg	7.2		6.4	UJ	7.1	UJ	3.2	J	1.6	J	6.7	U	8.5	U	6.4	U	6.3	UJ
Metals	Arsenic	mg/kg	5.8		3.8	J	2.8	J	32.4	J	15.3	J	8		4.7		3.4		3.9	J
Metals	Barium	mg/kg	110000		47.5	J	44.5	J	40	J	226	J	152		237		43.4		33.4	J
Metals	Beryllium	mg/kg	114.4		0.12	J	0.1	J	0.36	J	0.29	J	0.49	J	0.71	U	0.54	U	0.53	UJ
Metals	Cadmium	mg/kg	42		0.62	J	0.59	UJ	2.7	UJ	0.26	J	0.83		0.37	J	0.31	J	0.02	J
Metals	Chromium Total	mg/kg	113		18.4	J	4.3	J	8.5	J	17	J	12.5		8		7.2		5.3	J
Metals	Cobalt	mg/kg	5.4		2.9	J	1.8	J	28.6	J	4.4	J	4.8	J	3.9	J	1.7	J	1.8	J
Metals	Copper	mg/kg	920		8.6	J	23.3	J	112	J	87.2	J	178		9.3		25		4.6	J
Metals	Cyanide (total)	mg/kg	40		0.53	U	0.59	U	0.39	J	0.49	J	0.56	U	0.71	U	0.54	U	0.53	UJ
Metals	Lead	mg/kg	177.6		8.8	J	15	J	65.1	J	71.2	J	94.7		7.4		18.5		2.1	J
Metals	Manganese	mg/kg	560		333		139		457		436		462		427		214		180	J
Metals	Mercury	mg/kg	23		0.11	R	0.12	R	0.19	J	2.8	J	0.23		0.026	J	0.06	J	0.11	U
Metals	Nickel	mg/kg	363		6.6	J	3.9	J	55.7	J	10.5	J	12.3		9.3		4.7		4	J
Metals	Selenium	mg/kg	4.3		0.53	UJ	0.59	UJ	1.7	J	0.69	UJ	0.56	U	0.71	U	0.54	U	0.53	U
Metals	Silver	mg/kg	6240		1.1	U	1.2	U	1.1	U	1.4	U	0.31	J	1.4	U	1.1	U	1.1	U
Metals	Thallium	mg/kg	2.98		0.94	J	1.2	UJ	5.4	UJ	1.6	J	1.1	U	1.4	U	1.1	U	0.67	J
Metals	Vanadium	mg/kg	65		9.2	J	5.3	J	13.2	J	14	J	14.1		13.2		6.6		7	J
Metals	Zinc	mg/kg	88000		25	J	17.5	J	51	J	135	J	155		41.8		36.9		9.9	J
TPH	Diesel Range Organics (DRO)	ug/kg	2000000		-		-		-		-		-		-		-		-	
TPH	Gasoline Range Organics (GRO)	ug/kg	1000000		-		-		-		-		-		-		-		-	

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Appendix A
Soil Data Compared to LBSV
N Area Exposure Unit
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Analysis	Parameter	Units:	Leach - Based Soil Value August 2015	Station:	SB-75-03		SB-75-03		SB-87-03		SB-87-03		SB-88-03		SB-88-03		SB-88-03		TT-SB262	
				Field Sample ID:	SB-75-03		SB-75-03		SB-87-03		SB-87-03		SB-88-03 DUP		SB-88-03		SB-88-03		TT-SB262-G-02	
				Date:	2/20/2003		2/20/2003		4/1/2003		4/1/2003		4/1/2003		4/1/2003		4/1/2003		4/4/2013	
				Depth:	1 - 3		9.5 - 11.5		1 - 3		9 - 11		3 - 5		1 - 3		3 - 5		0 - 2	
VOCs	1,1,1-Trichloroethane	ug/kg	18000		230	U	4.9	U	-		-		680	U	240	U	200	U	-	
VOCs	1,1-Dichloroethane	ug/kg	11.7		230	U	4.9	U	-		-		680	U	240	U	200	U	-	
VOCs	1,1-Dichloroethene	ug/kg	4200		230	U	4.9	U	-		-		680	U	240	U	200	U	-	
VOCs	1,2,4-Trichlorobenzene, VOC	ug/kg	3000		230	U	4.9	U	-		-		680	U	240	U	200	U	-	
VOCs	1,2-Dichlorobenzene, VOC	ug/kg	8700		230	U	4.9	U	-		-		680	U	240	U	200	U	-	
VOCs	1,4-Dichlorobenzene, VOC	ug/kg	1080		230	U	4.9	U	-		-		680	U	240	U	200	U	-	
VOCs	2-Butanone	ug/kg	27000		920	U	20	U	-		-		2700	U	940	U	820	U	-	
VOCs	2-Hexanone	ug/kg	132		920	U	20	U	-		-		2700	U	940	U	820	U	-	
VOCs	4-Methyl-2-Pentanone	ug/kg	4200		920	U	20	U	-		-		2700	U	940	U	820	U	-	
VOCs	Acetone	ug/kg	43500		77	J	20	U	-		-		2700	UJ	940	UJ	820	UJ	-	
VOCs	Benzene	ug/kg	255		230	U	4.9	U	-		-		680	U	240	U	200	U	-	
VOCs	Bromomethane	ug/kg	28.5		230	R	4.9	UJ	-		-		680	U	240	U	200	U	-	
VOCs	Carbon disulfide	ug/kg	3600		230	U	4.9	U	-		-		680	U	240	U	200	U	-	
VOCs	Carbon tetrachloride	ug/kg	3750		230	U	4.9	UJ	-		-		680	U	240	U	200	U	-	
VOCs	Chlorobenzene	ug/kg	1020		230	U	4.9	U	-		-		680	U	240	U	200	U	-	
VOCs	Chloroform	ug/kg	330		230	U	4.9	U	-		-		680	U	240	U	52	J	-	
VOCs	cis-1,2-Dichloroethene	ug/kg	1800		360		2.5	U	-		-		340	U	120	U	100	U	-	
VOCs	Cyclohexane	ug/kg	195000		16	J	9.8	U	-		-		1400	U	470	U	410	U	-	
VOCs	Dichlorodifluoromethane	ug/kg	4500		230	U	4.9	UJ	-		-		680	U	240	U	200	U	-	
VOCs	Ethylbenzene	ug/kg	180000		230	U	4.9	U	-		-		680	U	240	U	200	U	-	
VOCs	Isopropylbenzene, VOC	ug/kg	11100		230	U	4.9	U	-		-		680	U	240	U	200	U	-	
VOCs	Methyl acetate	ug/kg	61500		170	J	9.8	U	-		-		1400	UJ	470	U	410	U	-	
VOCs	Methyl cyclohexane	ug/kg	1E+14		460	U	9.8	U	-		-		1400	U	470	U	410	U	-	
VOCs	Methylene chloride	ug/kg	19.5		230	U	1.8	J	-		-		400	J	240	U	200	U	-	
VOCs	Styrene	ug/kg	6900		230	U	4.9	U	-		-		680	U	240	U	200	U	-	
VOCs	Tetrachloroethene	ug/kg	2250		2400		9.9		-		-		17000		1800		4400		-	
VOCs	Toluene	ug/kg	102000		230	U	0.45	J	-		-		680	U	240	U	200	U	-	
VOCs	trans-1,2-Dichloroethene	ug/kg	6150		22	J	2.5	U	-		-		340	U	120	U	100	U	-	
VOCs	Trichloroethene	ug/kg	540		630		4.9	U	-		-		180	J	34	J	89	J	-	
VOCs	Trichlorofluoromethane	ug/kg	10950		230	U	4.9	UJ	-		-		680	U	240	U	200	U	-	
VOCs	Vinyl chloride	ug/kg	135		230	U	4.9	U	-		-		680	U	240	U	200	U	-	
VOCs	Xylene (Total)	ug/kg	2340000		460	U	9.8	U	-		-		1400	U	470	U	410	U	-	
SVOCs	2-Methylnaphthalene	ug/kg	2850		270	J	350	U	380	U	360	U	350	U	360	U	350	U	-	
SVOCs	Acenaphthene	ug/kg	82500		3800	U	350	U	380	U	360	U	350	U	24	J	350	U	-	
SVOCs	Acenaphthylene	ug/kg	88223.85		3800	U	350	U	380	U	360	U	350	U	41	J	350	U	-	
SVOCs	Acetophenone	ug/kg	8700		3800	U	350	U	380	U	360	U	350	U	360	U	350	U	-	
SVOCs	Anthracene	ug/kg	870000		3800	U	350	U	380	U	19	J	350	U	73	J	22	J	-	
SVOCs	Benzaldehyde	ug/kg	6450		3800	U	350	U	380	U	360	U	350	U	360	U	350	U	-	
SVOCs	Benzo(a)anthracene	ug/kg	22200		290	J	350	U	380	U	160	J	130	J	550		140	J	-	
SVOCs	Benzo(a)pyrene	ug/kg	50600		3800	U	350	U	380	U	130	J	96	J	860		99	J	-	

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Soil Data Compared to LBSV
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Analysis	Parameter	Units:	Leach - Based Soil Value August 2015	Station:	SB-75-03		SB-75-03		SB-87-03		SB-87-03		SB-88-03		SB-88-03		SB-88-03		TT-SB262	
				Field Sample ID:	SB-75-03		SB-75-03		SB-87-03		SB-87-03		SB-88-03 DUP		SB-88-03		SB-88-03		TT-SB262-G-02	
				Date:	2/20/2003		2/20/2003		4/1/2003		4/1/2003		4/1/2003		4/1/2003		4/1/2003		4/4/2013	
				Depth:	1 - 3		9.5 - 11.5		1 - 3		9 - 11		3 - 5		1 - 3		3 - 5		0 - 2	
SVOCs	Benzo(b)fluoranthene	ug/kg	55300		3800	U	350	U	380	U	170	J	150	J	1600		180	J	-	
SVOCs	Benzo(g,h,i)perylene	ug/kg	41242500		3800	U	350	U	380	U	85	J	63	J	580		110	J	-	
SVOCs	Benzo(k)fluoranthene	ug/kg	501000		3800	U	350	U	380	U	72	J	83	J	720		94	J	-	
SVOCs	Biphenyl	ug/kg	130.5		3800	U	350	U	380	U	360	U	350	U	360	U	350	U	-	
SVOCs	bis(2-Ethylhexyl)phthalate	ug/kg	21000		3800	U	350	U	380	U	16	J	21	J	55	J	22	J	-	
SVOCs	Carbazole	ug/kg	7007.4		3800	U	350	U	380	U	360	U	350	U	25	J	350	U	-	
SVOCs	Chrysene	ug/kg	4410000		550	J	350	U	380	U	130	J	110	J	820		130	J	-	
SVOCs	Dibenz(a,h)anthracene	ug/kg	94000		3800	U	350	U	380	U	23	J	350	U	180	J	350	U	-	
SVOCs	Dibenzofuran	ug/kg	2250		3800	U	350	U	380	U	360	U	350	U	360	U	350	U	-	
SVOCs	Di-n-butylphthalate	ug/kg	34500		3800	U	350	U	380	U	360	U	350	U	360	U	350	U	-	
SVOCs	Di-N-Octyl phthalate	ug/kg	855000		3800	U	350	U	380	U	360	U	350	U	360	U	350	U	-	
SVOCs	Fluoranthene	ug/kg	1335000		950	J	350	U	380	U	200	J	150	J	1200		180	J	-	
SVOCs	Fluorene	ug/kg	81000		3800	U	350	U	380	U	360	U	61	J	76	J	350	U	-	
SVOCs	Indeno(1,2,3-cd)pyrene	ug/kg	244000		3800	U	350	U	380	U	71	J	59	J	540		89	J	-	
SVOCs	Naphthalene, SVOC	ug/kg	4050		3800	U	350	U	380	U	360	U	350	U	360	U	350	U	-	
SVOCs	Phenanthrene	ug/kg	2555100		930	J	350	U	380	U	46	J	58	J	180	J	75	J	-	
SVOCs	Pyrene, SVOC	ug/kg	195000		1400	J	350	U	380	U	220	J	150	J	1500		170	J	-	
PCBs	Aroclor-1248	ug/kg	18		-		-		-		-		35	U	36	U	35	U	21.5	U
PCBs	Aroclor-1254	ug/kg	30		-		-		-		-		35	U	36	U	35	U	579	
PCBs	Aroclor-1260	ug/kg	82.5		-		-		-		-		34	J	210		30	J	21.5	U
Metals	Antimony	mg/kg	7.2		1.1	J	6.4	UJ	-		-		-		-		-		-	
Metals	Arsenic	mg/kg	5.8		15.2	J	3.1	J	-		-		-		-		-		-	
Metals	Barium	mg/kg	110000		81.3	J	39.9	J	-		-		-		-		-		-	
Metals	Beryllium	mg/kg	114.4		0.49	J	0.53	UJ	-		-		-		-		-		-	
Metals	Cadmium	mg/kg	42		0.57	UJ	0.032	J	-		-		-		-		-		-	
Metals	Chromium Total	mg/kg	113		10.4	J	4.1	J	-		-		-		-		-		-	
Metals	Cobalt	mg/kg	5.4		8.4	J	1.5	J	-		-		-		-		-		-	
Metals	Copper	mg/kg	920		53.5	J	3	J	-		-		-		-		-		-	
Metals	Cyanide (total)	mg/kg	40		0.26	J	0.53	UJ	-		-		-		-		-		-	
Metals	Lead	mg/kg	177.6		63.1	J	1.8	J	-		-		-		-		-		-	
Metals	Manganese	mg/kg	560		560	J	160	J	-		-		-		-		-		-	
Metals	Mercury	mg/kg	23		0.09	J	0.11	U	-		-		-		-		-		-	
Metals	Nickel	mg/kg	363		19.7		3.6	J	-		-		-		-		-		-	
Metals	Selenium	mg/kg	4.3		0.71	J	0.53	U	-		-		-		-		-		-	
Metals	Silver	mg/kg	6240		1.1	U	1.1	U	-		-		-		-		-		-	
Metals	Thallium	mg/kg	2.98		1.1	J	1.1	UJ	-		-		-		-		-		-	
Metals	Vanadium	mg/kg	65		18.7	J	7.7	J	-		-		-		-		-		-	
Metals	Zinc	mg/kg	88000		62.1	J	12.4	J	-		-		-		-		-		-	
TPH	Diesel Range Organics (DRO)	ug/kg	2000000		-		-		-		-		-		-		-		-	
TPH	Gasoline Range Organics (GRO)	ug/kg	1000000		-		-		-		-		-		-		-		-	

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Appendix A
Soil Data Compared to LBSV
N Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units:	Leach - Based Soil Value August 2015	Station:	TT-SB262		TT-SB262		TT-SB262		TT-SB263		TT-SB263		TT-SB263		TT-SB264		TT-SB264	
				Field Sample ID:	TT-SB262-G-04		TT-SB262-G-06		TT-SB262-G-08		TT-SB263-G-02		TT-SB263-G-04		TT-SB263-G-06		TT-SB264-G-02		TT-SB264-G-04	
				Date:	4/4/2013		4/4/2013		4/4/2013		4/4/2013		4/4/2013		4/4/2013		4/4/2013		4/4/2013	
				Depth:	2 - 4		4 - 6		6 - 8		0 - 2		2 - 4		4 - 6		0 - 2		2 - 4	
VOCs	1,1,1-Trichloroethane	ug/kg	18000		-		-		-		-		-		-		-		-	
VOCs	1,1-Dichloroethane	ug/kg	11.7		-		-		-		-		-		-		-		-	
VOCs	1,1-Dichloroethene	ug/kg	4200		-		-		-		-		-		-		-		-	
VOCs	1,2,4-Trichlorobenzene, VOC	ug/kg	3000		-		-		-		-		-		-		-		-	
VOCs	1,2-Dichlorobenzene, VOC	ug/kg	8700		-		-		-		-		-		-		-		-	
VOCs	1,4-Dichlorobenzene, VOC	ug/kg	1080		-		-		-		-		-		-		-		-	
VOCs	2-Butanone	ug/kg	27000		-		-		-		-		-		-		-		-	
VOCs	2-Hexanone	ug/kg	132		-		-		-		-		-		-		-		-	
VOCs	4-Methyl-2-Pentanone	ug/kg	4200		-		-		-		-		-		-		-		-	
VOCs	Acetone	ug/kg	43500		-		-		-		-		-		-		-		-	
VOCs	Benzene	ug/kg	255		-		-		-		-		-		-		-		-	
VOCs	Bromomethane	ug/kg	28.5		-		-		-		-		-		-		-		-	
VOCs	Carbon disulfide	ug/kg	3600		-		-		-		-		-		-		-		-	
VOCs	Carbon tetrachloride	ug/kg	3750		-		-		-		-		-		-		-		-	
VOCs	Chlorobenzene	ug/kg	1020		-		-		-		-		-		-		-		-	
VOCs	Chloroform	ug/kg	330		-		-		-		-		-		-		-		-	
VOCs	cis-1,2-Dichloroethene	ug/kg	1800		-		-		-		-		-		-		-		-	
VOCs	Cyclohexane	ug/kg	195000		-		-		-		-		-		-		-		-	
VOCs	Dichlorodifluoromethane	ug/kg	4500		-		-		-		-		-		-		-		-	
VOCs	Ethylbenzene	ug/kg	180000		-		-		-		-		-		-		-		-	
VOCs	Isopropylbenzene, VOC	ug/kg	11100		-		-		-		-		-		-		-		-	
VOCs	Methyl acetate	ug/kg	61500		-		-		-		-		-		-		-		-	
VOCs	Methyl cyclohexane	ug/kg	1E+14		-		-		-		-		-		-		-		-	
VOCs	Methylene chloride	ug/kg	19.5		-		-		-		-		-		-		-		-	
VOCs	Styrene	ug/kg	6900		-		-		-		-		-		-		-		-	
VOCs	Tetrachloroethene	ug/kg	2250		-		-		-		-		-		-		-		-	
VOCs	Toluene	ug/kg	102000		-		-		-		-		-		-		-		-	
VOCs	trans-1,2-Dichloroethene	ug/kg	6150		-		-		-		-		-		-		-		-	
VOCs	Trichloroethene	ug/kg	540		-		-		-		-		-		-		-		-	
VOCs	Trichlorofluoromethane	ug/kg	10950		-		-		-		-		-		-		-		-	
VOCs	Vinyl chloride	ug/kg	135		-		-		-		-		-		-		-		-	
VOCs	Xylene (Total)	ug/kg	2340000		-		-		-		-		-		-		-		-	
SVOCs	2-Methylnaphthalene	ug/kg	2850		-		-		-		-		-		-		-		-	
SVOCs	Acenaphthene	ug/kg	82500		-		-		-		-		-		-		-		-	
SVOCs	Acenaphthylene	ug/kg	88223.85		-		-		-		-		-		-		-		-	
SVOCs	Acetophenone	ug/kg	8700		-		-		-		-		-		-		-		-	
SVOCs	Anthracene	ug/kg	870000		-		-		-		-		-		-		-		-	
SVOCs	Benzaldehyde	ug/kg	6450		-		-		-		-		-		-		-		-	
SVOCs	Benzo(a)anthracene	ug/kg	22200		-		-		-		-		-		-		-		-	
SVOCs	Benzo(a)pyrene	ug/kg	50600		-		-		-		-		-		-		-		-	

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Appendix A
Soil Data Compared to LBSV
N Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units:	Leach - Based Soil Value August 2015	Station:	TT-SB262		TT-SB262		TT-SB262		TT-SB263		TT-SB263		TT-SB263		TT-SB264		TT-SB264	
				Field Sample ID:	TT-SB262-G-04		TT-SB262-G-06		TT-SB262-G-08		TT-SB263-G-02		TT-SB263-G-04		TT-SB263-G-06		TT-SB264-G-02		TT-SB264-G-04	
				Date:	4/4/2013		4/4/2013		4/4/2013		4/4/2013		4/4/2013		4/4/2013		4/4/2013		4/4/2013	
				Depth:	2 - 4		4 - 6		6 - 8		0 - 2		2 - 4		4 - 6		0 - 2		2 - 4	
SVOCs	Benzo(b)fluoranthene	ug/kg	55300		-		-		-		-		-		-		-		-	
SVOCs	Benzo(g,h,i)perylene	ug/kg	41242500		-		-		-		-		-		-		-		-	
SVOCs	Benzo(k)fluoranthene	ug/kg	501000		-		-		-		-		-		-		-		-	
SVOCs	Biphenyl	ug/kg	130.5		-		-		-		-		-		-		-		-	
SVOCs	bis(2-Ethylhexyl)phthalate	ug/kg	21000		-		-		-		-		-		-		-		-	
SVOCs	Carbazole	ug/kg	7007.4		-		-		-		-		-		-		-		-	
SVOCs	Chrysene	ug/kg	4410000		-		-		-		-		-		-		-		-	
SVOCs	Dibenz(a,h)anthracene	ug/kg	94000		-		-		-		-		-		-		-		-	
SVOCs	Dibenzofuran	ug/kg	2250		-		-		-		-		-		-		-		-	
SVOCs	Di-n-butylphthalate	ug/kg	34500		-		-		-		-		-		-		-		-	
SVOCs	Di-N-Octyl phthalate	ug/kg	855000		-		-		-		-		-		-		-		-	
SVOCs	Fluoranthene	ug/kg	1335000		-		-		-		-		-		-		-		-	
SVOCs	Fluorene	ug/kg	81000		-		-		-		-		-		-		-		-	
SVOCs	Indeno(1,2,3-cd)pyrene	ug/kg	244000		-		-		-		-		-		-		-		-	
SVOCs	Naphthalene, SVOC	ug/kg	4050		-		-		-		-		-		-		-		-	
SVOCs	Phenanthrene	ug/kg	2555100		-		-		-		-		-		-		-		-	
SVOCs	Pyrene, SVOC	ug/kg	195000		-		-		-		-		-		-		-		-	
PCBs	Aroclor-1248	ug/kg	18		21.5	U	234	UD	25.5	U	21.1	U	20.8	U	21.6	U	24.2	U	22	U
PCBs	Aroclor-1254	ug/kg	30		2120	D	3660	D	7620	D	246		54.8		78.2		5610	D	29300	D
PCBs	Aroclor-1260	ug/kg	82.5		21.5	U	234	UD	25.5	U	21.1	U	20.8	U	21.6	U	24.2	U	22	U
Metals	Antimony	mg/kg	7.2		-		-		-		-		-		-		-		-	
Metals	Arsenic	mg/kg	5.8		-		-		-		-		-		-		-		-	
Metals	Barium	mg/kg	110000		-		-		-		-		-		-		-		-	
Metals	Beryllium	mg/kg	114.4		-		-		-		-		-		-		-		-	
Metals	Cadmium	mg/kg	42		-		-		-		-		-		-		-		-	
Metals	Chromium Total	mg/kg	113		-		-		-		-		-		-		-		-	
Metals	Cobalt	mg/kg	5.4		-		-		-		-		-		-		-		-	
Metals	Copper	mg/kg	920		-		-		-		-		-		-		-		-	
Metals	Cyanide (total)	mg/kg	40		-		-		-		-		-		-		-		-	
Metals	Lead	mg/kg	177.6		-		-		-		-		-		-		-		-	
Metals	Manganese	mg/kg	560		-		-		-		-		-		-		-		-	
Metals	Mercury	mg/kg	23		-		-		-		-		-		-		-		-	
Metals	Nickel	mg/kg	363		-		-		-		-		-		-		-		-	
Metals	Selenium	mg/kg	4.3		-		-		-		-		-		-		-		-	
Metals	Silver	mg/kg	6240		-		-		-		-		-		-		-		-	
Metals	Thallium	mg/kg	2.98		-		-		-		-		-		-		-		-	
Metals	Vanadium	mg/kg	65		-		-		-		-		-		-		-		-	
Metals	Zinc	mg/kg	88000		-		-		-		-		-		-		-		-	
TPH	Diesel Range Organics (DRO)	ug/kg	2000000		-		-		51700		-		-		-		-		-	
TPH	Gasoline Range Organics (GRO)	ug/kg	1000000		-		-		6190	UD	-		-		-		-		-	

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Appendix A
Soil Data Compared to LBSV
N Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units:	Leach - Based Soil Value August 2015	Station:	TT-SB264		TT-SB264		TT-SB264		TT-SB264	
				Field Sample ID:	TT-SB264-G-06		TT-SB264-G-08		TT-SB264-G-08		TT-SB264-G-10	
				Date:	4/4/2013		4/4/2013		4/4/2013		4/4/2013	
				Depth:	4 - 6		6 - 8		6 - 8		8 - 10	
VOCs	1,1,1-Trichloroethane	ug/kg	18000		-		-		-		-	
VOCs	1,1-Dichloroethane	ug/kg	11.7		-		-		-		-	
VOCs	1,1-Dichloroethene	ug/kg	4200		-		-		-		-	
VOCs	1,2,4-Trichlorobenzene, VOC	ug/kg	3000		-		-		-		-	
VOCs	1,2-Dichlorobenzene, VOC	ug/kg	8700		-		-		-		-	
VOCs	1,4-Dichlorobenzene, VOC	ug/kg	1080		-		-		-		-	
VOCs	2-Butanone	ug/kg	27000		-		-		-		-	
VOCs	2-Hexanone	ug/kg	132		-		-		-		-	
VOCs	4-Methyl-2-Pentanone	ug/kg	4200		-		-		-		-	
VOCs	Acetone	ug/kg	43500		-		-		-		-	
VOCs	Benzene	ug/kg	255		-		-		-		-	
VOCs	Bromomethane	ug/kg	28.5		-		-		-		-	
VOCs	Carbon disulfide	ug/kg	3600		-		-		-		-	
VOCs	Carbon tetrachloride	ug/kg	3750		-		-		-		-	
VOCs	Chlorobenzene	ug/kg	1020		-		-		-		-	
VOCs	Chloroform	ug/kg	330		-		-		-		-	
VOCs	cis-1,2-Dichloroethene	ug/kg	1800		-		-		-		-	
VOCs	Cyclohexane	ug/kg	195000		-		-		-		-	
VOCs	Dichlorodifluoromethane	ug/kg	4500		-		-		-		-	
VOCs	Ethylbenzene	ug/kg	180000		-		-		-		-	
VOCs	Isopropylbenzene, VOC	ug/kg	11100		-		-		-		-	
VOCs	Methyl acetate	ug/kg	61500		-		-		-		-	
VOCs	Methyl cyclohexane	ug/kg	1E+14		-		-		-		-	
VOCs	Methylene chloride	ug/kg	19.5		-		-		-		-	
VOCs	Styrene	ug/kg	6900		-		-		-		-	
VOCs	Tetrachloroethene	ug/kg	2250		-		-		-		-	
VOCs	Toluene	ug/kg	102000		-		-		-		-	
VOCs	trans-1,2-Dichloroethene	ug/kg	6150		-		-		-		-	
VOCs	Trichloroethene	ug/kg	540		-		-		-		-	
VOCs	Trichlorofluoromethane	ug/kg	10950		-		-		-		-	
VOCs	Vinyl chloride	ug/kg	135		-		-		-		-	
VOCs	Xylene (Total)	ug/kg	2340000		-		-		-		-	
SVOCs	2-Methylnaphthalene	ug/kg	2850		-		-		-		-	
SVOCs	Acenaphthene	ug/kg	82500		-		-		-		-	
SVOCs	Acenaphthylene	ug/kg	88223.85		-		-		-		-	
SVOCs	Acetophenone	ug/kg	8700		-		-		-		-	
SVOCs	Anthracene	ug/kg	870000		-		-		-		-	
SVOCs	Benzaldehyde	ug/kg	6450		-		-		-		-	
SVOCs	Benzo(a)anthracene	ug/kg	22200		-		-		-		-	
SVOCs	Benzo(a)pyrene	ug/kg	50600		-		-		-		-	

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Soil Data Compared to LBSV
N Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
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Analysis	Parameter	Units:	Leach - Based Soil Value August 2015	Station:	TT-SB264		TT-SB264		TT-SB264		TT-SB264	
				Field Sample ID:	TT-SB264-G-06		TT-SB264-G-08		TT-SB264-G-08		TT-SB264-G-10	
				Date:	4/4/2013		4/4/2013		4/4/2013		4/4/2013	
				Depth:	4 - 6		6 - 8		6 - 8		8 - 10	
SVOCs	Benzo(b)fluoranthene	ug/kg	55300		-		-		-		-	
SVOCs	Benzo(g,h,i)perylene	ug/kg	41242500		-		-		-		-	
SVOCs	Benzo(k)fluoranthene	ug/kg	501000		-		-		-		-	
SVOCs	Biphenyl	ug/kg	130.5		-		-		-		-	
SVOCs	bis(2-Ethylhexyl)phthalate	ug/kg	21000		-		-		-		-	
SVOCs	Carbazole	ug/kg	7007.4		-		-		-		-	
SVOCs	Chrysene	ug/kg	4410000		-		-		-		-	
SVOCs	Dibenz(a,h)anthracene	ug/kg	94000		-		-		-		-	
SVOCs	Dibenzofuran	ug/kg	2250		-		-		-		-	
SVOCs	Di-n-butylphthalate	ug/kg	34500		-		-		-		-	
SVOCs	Di-N-Octyl phthalate	ug/kg	855000		-		-		-		-	
SVOCs	Fluoranthene	ug/kg	1335000		-		-		-		-	
SVOCs	Fluorene	ug/kg	81000		-		-		-		-	
SVOCs	Indeno(1,2,3-cd)pyrene	ug/kg	244000		-		-		-		-	
SVOCs	Naphthalene, SVOC	ug/kg	4050		-		-		-		-	
SVOCs	Phenanthrene	ug/kg	2555100		-		-		-		-	
SVOCs	Pyrene, SVOC	ug/kg	195000		-		-		-		-	
PCBs	Aroclor-1248	ug/kg	18		21.8	U	24.1	U	24.5	U	21.3	U
PCBs	Aroclor-1254	ug/kg	30		18100	D	4060	D	6270	D	299	
PCBs	Aroclor-1260	ug/kg	82.5		21.8	U	24.1	U	24.5	U	21.3	U
Metals	Antimony	mg/kg	7.2		-		-		-		-	
Metals	Arsenic	mg/kg	5.8		-		-		-		-	
Metals	Barium	mg/kg	110000		-		-		-		-	
Metals	Beryllium	mg/kg	114.4		-		-		-		-	
Metals	Cadmium	mg/kg	42		-		-		-		-	
Metals	Chromium Total	mg/kg	113		-		-		-		-	
Metals	Cobalt	mg/kg	5.4		-		-		-		-	
Metals	Copper	mg/kg	920		-		-		-		-	
Metals	Cyanide (total)	mg/kg	40		-		-		-		-	
Metals	Lead	mg/kg	177.6		-		-		-		-	
Metals	Manganese	mg/kg	560		-		-		-		-	
Metals	Mercury	mg/kg	23		-		-		-		-	
Metals	Nickel	mg/kg	363		-		-		-		-	
Metals	Selenium	mg/kg	4.3		-		-		-		-	
Metals	Silver	mg/kg	6240		-		-		-		-	
Metals	Thallium	mg/kg	2.98		-		-		-		-	
Metals	Vanadium	mg/kg	65		-		-		-		-	
Metals	Zinc	mg/kg	88000		-		-		-		-	
TPH	Diesel Range Organics (DRO)	ug/kg	2000000		-		-		-		27000	
TPH	Gasoline Range Organics (GRO)	ug/kg	1000000		-		-		-		5310	U

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Soil Data Compared to LBSV
N Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
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Notes:

concentration exceeds criteria, and chemical with exceedances

% = percent

ft = feet

mg/kg = milligram per kilogram

ug/kg = microgram per kilogram

J = estimated value

PCB = polychlorinated biphenyl

SVOC = Semi-Volatile Organic Compounds

U = not detected above detection limit

VOC = Volatile Organic Compounds

Appendix A
Soil Data Compared to LBSV
P Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units:	Leach - Based Soil Value August 2015	Station:	BH-180		BH-180		BH-180		BH-180		MW-12-03		MW-12-03		MW-25-04		MW-25-04		MW-25-04	
				Field Sample ID:	S-111104-NZ-031		S-111104-NZ-032		S-111104-NZ-033		S-111104-NZ-034		MW-12-03		MW-12-03		MW-25-04		MW-25-04		MW-25-04 DUP	
				Date:	11/11/2004		11/11/2004		11/11/2004		11/11/2004		3/5/2003		3/5/2003		3/4/2004		3/4/2004		3/4/2004	
				Depth:	0 - 2		0 - 2		8 - 10		12.5 - 14.5		1 - 3		9 - 11		8 - 10		13 - 15		13 - 15	
VOCs	1,1,1-Trichloroethane	ug/kg	18000		770	U	29	J	8.3	U	4.7	U	290	U	470	U	6.3	U	4.1	U	4.2	U
VOCs	1,1-Dichloroethane	ug/kg	11.7		770	U	270	U	8.3	U	4.7	U	290	U	470	U	6.3	U	4.1	U	4.2	U
VOCs	1,1-Dichloroethene	ug/kg	4200		770	U	270	U	8.3	U	4.7	U	290	U	470	U	6.3	U	4.1	U	4.2	U
VOCs	1,2,4-Trichlorobenzene, VOC	ug/kg	3000		770	U	270	U	8.3	U	4.7	U	290	U	470	U	1.1	J	4.1	U	4.2	U
VOCs	1,2-Dichlorobenzene, VOC	ug/kg	8700		770	U	270	U	8.3	U	4.7	U	290	U	470	U	6.3	U	4.1	U	4.2	U
VOCs	1,4-Dichlorobenzene, VOC	ug/kg	1080		770	U	270	U	8.3	U	4.7	U	290	U	470	U	6.3	U	4.1	U	4.2	U
VOCs	2-Butanone	ug/kg	27000		3100	U	1100	U	7.9	J	3.5	J	87	J	1900	U	25	U	17	U	17	U
VOCs	2-Hexanone	ug/kg	132		3100	U	1100	U	33	U	19	U	1200	U	1900	U	25	U	17	U	17	U
VOCs	4-Methyl-2-Pentanone	ug/kg	4200		3100	U	1100	U	33	U	19	U	1200	U	1900	U	25	U	17	U	17	U
VOCs	Acetone	ug/kg	43500		3100	U	1100	U	31	J	13	J	1200	U	1900	U	25	UJ	5	J	5.1	J
VOCs	Benzene	ug/kg	255		110	J	270	U	15		4.2	J	290	U	470	U	6.3	U	0.7	J	4.2	U
VOCs	Bromomethane	ug/kg	28.5		770	U	270	U	8.3	U	4.7	U	290	U	470	R	6.3	U	4.1	U	4.2	U
VOCs	Carbon disulfide	ug/kg	3600		770	U	270	U	8.3	U	4.7	U	290	U	470	U	6.3	U	4.1	U	4.2	U
VOCs	Carbon tetrachloride	ug/kg	3750		770	U	270	U	8.3	U	4.7	U	290	U	470	U	6.3	U	4.1	U	4.2	U
VOCs	Chlorobenzene	ug/kg	1020		770	U	270	U	8.3	U	4.7	U	290	U	470	U	6.3	U	4.1	U	4.2	U
VOCs	Chloroform	ug/kg	330		770	U	270	U	8.3	U	4.7	U	290	U	470	U	6.3	U	4.1	U	4.2	U
VOCs	cis-1,2-Dichloroethene	ug/kg	1800		110	J	26	J	8.3	U	4.7	U	340		860		1.7	J	2.1	U	2.1	U
VOCs	Cyclohexane	ug/kg	195000		750	J	81	J	21		6.2	J	580	U	70	J	13	U	0.76	J	8.3	U
VOCs	Dichlorodifluoromethane	ug/kg	4500		770	U	270	U	8.3	UJ	4.7	UJ	290	U	470	U	6.3	UJ	4.1	UJ	4.2	UJ
VOCs	Ethylbenzene	ug/kg	180000		81	J	270	U	23		4.2	J	290	U	470	U	6.3	U	1.4	J	0.42	J
VOCs	Isopropylbenzene, VOC	ug/kg	11100		770	U	270	U	2.8	J	4.7	U	290	U	470	U	6.3	U	4.1	U	4.2	U
VOCs	Methyl acetate	ug/kg	61500		280	J	530	U	17	U	9.3	U	580	U	55	J	13	U	8.3	U	8.3	U
VOCs	Methyl cyclohexane	ug/kg	1E+14		2200		210	J	33		9	J	34	J	210	J	13	U	1.6	J	0.46	J
VOCs	Methylene chloride	ug/kg	19.5		770	U	270	U	8.5	U	4.7	U	290	U	470	U	6.3	U	4.1	U	4.2	U
VOCs	Styrene	ug/kg	6900		770	U	270	U	8.3	U	4.7	U	290	U	470	U	6.3	U	4.1	U	4.2	U
VOCs	Tetrachloroethene	ug/kg	2250		740	J	750		8.3	U	4.7	U	7300		8700		96		8.7		2.6	J
VOCs	Toluene	ug/kg	102000		800	B	270	U	48		12		290	U	64	J	0.59	J	2.7	J	0.66	J
VOCs	trans-1,2-Dichloroethene	ug/kg	6150		770	U	270	U	8.3	U	4.7	U	140	U	240	U	3.1	U	2.1	U	2.1	U
VOCs	Trichloroethene	ug/kg	540		12000		5300		7.2	J	3.6	J	9400		14000		100	J	5.1		1.9	J
VOCs	Trichlorofluoromethane	ug/kg	10950		770	U	270	U	8.3	U	4.7	U	290	U	470	U	6.3	U	4.1	U	4.2	U
VOCs	Vinyl chloride	ug/kg	135		770	U	270	U	8.3	U	4.7	U	290	U	470	U	6.3	U	4.1	U	4.2	U
VOCs	Xylene (Total)	ug/kg	2340000		1600		170	J	38		8.7	J	580	U	160	J	13	U	2.7	J	8.3	U
SVOCs	2-Methylnaphthalene	ug/kg	2850		-		-		-		350	UJ	4300	U	96	J	-		-		-	
SVOCs	Acenaphthene	ug/kg	82500		-		-		-		350	UJ	420	J	360	U	-		-		-	
SVOCs	Acenaphthylene	ug/kg	88223.85		-		-		-		350	UJ	4300	U	29	J	-		-		-	
SVOCs	Acetophenone	ug/kg	8700		-		-		-		350	UJ	4300	U	360	U	-		-		-	
SVOCs	Anthracene	ug/kg	870000		-		-		-		350	UJ	2700	J	79	J	-		-		-	
SVOCs	Benzaldehyde	ug/kg	6450		-		-		-		350	UJ	4300	U	360	U	-		-		-	
SVOCs	Benzo(a)anthracene	ug/kg	22200		-		-		-		350	UJ	3800	J	340	J	-		-		-	
SVOCs	Benzo(a)pyrene	ug/kg	50600		-		-		-		350	UJ	3500	J	380		-		-		-	
SVOCs	Benzo(b)fluoranthene	ug/kg	55300		-		-		-		350	UJ	4000	J	400		-		-		-	
SVOCs	Benzo(g,h,i)perylene	ug/kg	41242500		-		-		-		350	UJ	1800	J	180	J	-		-		-	

See notes on page 15

Appendix A
Soil Data Compared to LBSV
P Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units:	Leach - Based Soil Value August 2015	Station:	BH-180	BH-180	BH-180	BH-180	MW-12-03	MW-12-03	MW-25-04	MW-25-04	MW-25-04
				Field Sample ID:	S-111104-NZ-031	S-111104-NZ-032	S-111104-NZ-033	S-111104-NZ-034	MW-12-03	MW-12-03	MW-25-04	MW-25-04	MW-25-04 DUP
				Date:	11/11/2004	11/11/2004	11/11/2004	11/11/2004	3/5/2003	3/5/2003	3/4/2004	3/4/2004	3/4/2004
				Depth:	0 - 2	0 - 2	8 - 10	12.5 - 14.5	1 - 3	9 - 11	8 - 10	13 - 15	13 - 15
SVOCs	Benzo(k)fluoranthene	ug/kg	501000		-	-	-	350 UJ	2600 J	340 J	-	-	-
SVOCs	Biphenyl	ug/kg	130.5		-	-	-	350 UJ	4300 U	360 U	-	-	-
SVOCs	bis(2-Ethylhexyl)phthalate	ug/kg	21000		-	-	-	350 UJ	4300 U	360 U	-	-	-
SVOCs	Carbazole	ug/kg	7007.4		-	-	-	350 UJ	620 J	32 J	-	-	-
SVOCs	Chrysene	ug/kg	4410000		-	-	-	350 UJ	5500	420	-	-	-
SVOCs	Dibenz(a,h)anthracene	ug/kg	94000		-	-	-	350 UJ	4300 U	55 J	-	-	-
SVOCs	Dibenzofuran	ug/kg	2250		-	-	-	350 UJ	230 J	32 J	-	-	-
SVOCs	Di-n-butylphthalate	ug/kg	34500		-	-	-	350 UJ	4300 U	360 U	-	-	-
SVOCs	Di-N-Octyl phthalate	ug/kg	855000		-	-	-	350 UJ	4300 U	360 U	-	-	-
SVOCs	Fluoranthene	ug/kg	1335000		-	-	-	350 UJ	10000	760	-	-	-
SVOCs	Fluorene	ug/kg	81000		-	-	-	350 UJ	290 J	360 U	-	-	-
SVOCs	Indeno(1,2,3-cd)pyrene	ug/kg	244000		-	-	-	350 UJ	1600 J	170 J	-	-	-
SVOCs	Naphthalene, SVOC	ug/kg	4050		-	-	-	350 UJ	4300 U	92 J	-	-	-
SVOCs	Phenanthrene	ug/kg	2555100		-	-	-	350 UJ	7000	370	-	-	-
SVOCs	Pyrene, SVOC	ug/kg	195000		-	-	-	350 UJ	7700	540	-	-	-
PCBs	Aroclor-1248	ug/kg	18		-	-	-	35 U	43 U	360 U	-	-	-
PCBs	Aroclor-1254	ug/kg	30		-	-	-	35 U	43 U	2100	-	-	-
PCBs	Aroclor-1260	ug/kg	82.5		-	-	-	35 U	43 U	360 U	-	-	-
Metals	Antimony	mg/kg	7.2		-	-	-	6.4 UJ	2.2 J	6.1 J	-	-	-
Metals	Arsenic	mg/kg	5.8		-	-	-	7.4 J	9.1	7.1	-	-	-
Metals	Barium	mg/kg	110000		-	-	-	123 J	98.4 J	79.6 J	-	-	-
Metals	Beryllium	mg/kg	114.4		-	-	-	0.13 J	0.6 J	0.42 J	-	-	-
Metals	Cadmium	mg/kg	42		-	-	-	0.19 J	0.65 U	0.14 J	-	-	-
Metals	Chromium Total	mg/kg	113		-	-	-	4.3 J	10.7	7.4	-	-	-
Metals	Cobalt	mg/kg	5.4		-	-	-	2.6 J	6.3 J	4.8 J	-	-	-
Metals	Copper	mg/kg	920		-	-	-	3.1 J	78.4	54.6	-	-	-
Metals	Cyanide (total)	mg/kg	40		-	-	-	0.53 U	0.13 J	0.54 U	-	-	-
Metals	Lead	mg/kg	177.6		-	-	-	3.5 J	392	339	-	-	-
Metals	Manganese	mg/kg	560		-	-	-	637	880 J	429 J	-	-	-
Metals	Mercury	mg/kg	23		-	-	-	0.015 J	0.18 J	0.16 J	-	-	-
Metals	Nickel	mg/kg	363		-	-	-	5.7 J	13.1	10.3	-	-	-
Metals	Selenium	mg/kg	4.3		-	-	-	0.53 UJ	0.65 U	0.54 U	-	-	-
Metals	Silver	mg/kg	6240		-	-	-	1.1 UJ	1.3 U	1.1 U	-	-	-
Metals	Thallium	mg/kg	2.98		-	-	-	1.1 UJ	1.6	1.5	-	-	-
Metals	Vanadium	mg/kg	65		-	-	-	8.8 J	24.7	14.8	-	-	-
Metals	Zinc	mg/kg	88000		-	-	-	14.5 J	122 J	69.2 J	-	-	-
TPH	Diesel Range Organics (DRO)	ug/kg	2000000		-	-	-	-	-	-	-	-	-
TPH	Gasoline Range Organics (GRO)	ug/kg	1000000		-	-	-	-	-	-	-	-	-

See notes on page 15

Appendix A
Soil Data Compared to LBSV
P Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units:	Leach - Based Soil Value August 2015	Station:	MW-26-04		MW-26-04		MW-26-04		SB-137-04		SB-137-04		SB-137-04		SB-138-04		SB-138-04		SB-138-04	
				Field Sample ID:	MW-26-04		MW-26-04		MW-26-04		SB-137-04		SB-137-04		SB-137-04		SB-138-04		SB-138-04		SB-138-04 DUP	
				Date:	3/4/2004		3/4/2004		3/4/2004		1/26/2004		1/26/2004		1/26/2004		1/26/2004		1/26/2004		1/26/2004	
				Depth:	0 - 2		8 - 10		10 - 12		0 - 2		8 - 10		11 - 13		0 - 2		8 - 10		8 - 10	
VOCs	1,1,1-Trichloroethane	ug/kg	18000		1900	U	4.2	U	4.7	U	370	U	210	U	4.7	U	720	U	6.2	U	6.4	U
VOCs	1,1-Dichloroethane	ug/kg	11.7		1900	U	4.2	U	4.7	U	370	U	210	U	4.7	U	720	U	6.2	U	6.4	U
VOCs	1,1-Dichloroethene	ug/kg	4200		1900	U	4.2	U	4.7	U	370	U	210	U	4.7	U	720	U	6.2	U	6.4	U
VOCs	1,2,4-Trichlorobenzene, VOC	ug/kg	3000		1900	U	4.2	U	4.7	U	370	U	210	U	4.7	U	720	U	6.2	U	6.4	U
VOCs	1,2-Dichlorobenzene, VOC	ug/kg	8700		1900	U	4.2	U	4.7	U	370	U	210	U	4.7	U	720	U	6.2	U	6.4	U
VOCs	1,4-Dichlorobenzene, VOC	ug/kg	1080		1900	U	4.2	U	4.7	U	370	U	210	U	4.7	U	720	U	6.2	U	6.4	U
VOCs	2-Butanone	ug/kg	27000		7500	U	17	U	19	U	1500	UJ	850	UJ	19	UJ	2900	UJ	25	UJ	26	UJ
VOCs	2-Hexanone	ug/kg	132		7500	U	17	U	19	U	1500	UJ	850	UJ	19	UJ	2900	UJ	25	UJ	26	UJ
VOCs	4-Methyl-2-Pentanone	ug/kg	4200		7500	U	17	U	19	U	1500	U	850	U	19	U	2900	U	25	U	26	U
VOCs	Acetone	ug/kg	43500		7500	UJ	17	UJ	19	UJ	1500	UJ	850	UJ	19	UJ	2900	UJ	25	UJ	26	UJ
VOCs	Benzene	ug/kg	255		1900	U	4.2	U	0.51	J	370	U	210	U	0.39	J	180	J	6.2	U	6.4	U
VOCs	Bromomethane	ug/kg	28.5		1900	U	4.2	U	4.7	U	370	U	210	U	4.7	U	720	U	6.2	U	6.4	U
VOCs	Carbon disulfide	ug/kg	3600		1900	U	4.2	U	4.7	U	370	U	210	U	4.7	U	720	U	6.2	U	6.4	U
VOCs	Carbon tetrachloride	ug/kg	3750		1900	U	4.2	U	4.7	U	370	U	210	U	4.7	U	720	U	6.2	U	6.4	U
VOCs	Chlorobenzene	ug/kg	1020		1900	U	4.2	U	4.7	U	370	U	210	U	4.7	U	720	U	6.2	U	6.4	U
VOCs	Chloroform	ug/kg	330		1900	U	4.2	U	4.7	U	370	U	210	U	4.7	U	720	U	6.2	U	6.4	U
VOCs	cis-1,2-Dichloroethene	ug/kg	1800		3400		2.1	U	0.71	J	34	J	110	U	2.4	U	360	U	3.1	U	3.2	U
VOCs	Cyclohexane	ug/kg	195000		3800	U	8.4	U	0.68	J	740	U	420	U	9.5	U	1000	J	12	U	13	U
VOCs	Dichlorodifluoromethane	ug/kg	4500		1900	UJ	4.2	UJ	4.7	UJ	370	U	210	U	4.7	U	720	U	6.2	U	6.4	U
VOCs	Ethylbenzene	ug/kg	180000		1900	U	4.2	U	1.3	J	370	U	210	U	0.55	J	700	J	6.2	U	6.4	U
VOCs	Isopropylbenzene, VOC	ug/kg	11100		1900	U	4.2	U	4.7	U	370	U	210	U	4.7	U	580	J	6.2	U	6.4	U
VOCs	Methyl acetate	ug/kg	61500		3800	U	8.4	U	9.3	U	140	J	52	J	9.5	U	170	J	12	U	13	U
VOCs	Methyl cyclohexane	ug/kg	1E+14		3800	U	8.4	U	1.2	J	740	U	420	U	0.47	J	3000		12	U	13	U
VOCs	Methylene chloride	ug/kg	19.5		1900	U	4.2	U	4.7	U	370	U	210	U	4.7	U	720	U	2.2	J	4	J
VOCs	Styrene	ug/kg	6900		1900	U	4.2	U	4.7	U	370	U	210	U	4.7	U	720	U	6.2	U	6.4	U
VOCs	Tetrachloroethene	ug/kg	2250		49000		1.7	J	29		2700		230		24		17000		3.8	J	3.1	J
VOCs	Toluene	ug/kg	102000		1900	U	0.45	J	2.3	J	370	U	210	U	1.3	J	2100		0.64	J	6.4	U
VOCs	trans-1,2-Dichloroethene	ug/kg	6150		290	J	2.1	U	2.3	U	180	U	110	U	2.4	U	360	U	3.1	U	3.2	U
VOCs	Trichloroethene	ug/kg	540		66000		5.1		150		5200	J	240		56		14000		57		59	
VOCs	Trichlorofluoromethane	ug/kg	10950		1900	U	4.2	U	4.7	U	370	U	210	U	4.7	U	720	U	6.2	U	6.4	U
VOCs	Vinyl chloride	ug/kg	135		1900	U	4.2	U	4.7	U	370	U	210	U	4.7	U	720	U	6.2	U	6.4	U
VOCs	Xylene (Total)	ug/kg	2340000		3800	U	8.4	U	2.5	J	740	U	420	U	1.1	J	5400		12	U	13	U
SVOCs	2-Methylnaphthalene	ug/kg	2850		190	J	350	U	350	U	-		-		-		-		-		-	
SVOCs	Acenaphthene	ug/kg	82500		950	U	350	U	350	U	-		-		-		-		-		-	
SVOCs	Acenaphthylene	ug/kg	88223.85		950	U	350	U	350	U	-		-		-		-		-		-	
SVOCs	Acetophenone	ug/kg	8700		950	U	350	U	350	U	-		-		-		-		-		-	
SVOCs	Anthracene	ug/kg	870000		950	U	350	U	350	U	-		-		-		-		-		-	
SVOCs	Benzaldehyde	ug/kg	6450		950	U	350	U	350	U	-		-		-		-		-		-	
SVOCs	Benzo(a)anthracene	ug/kg	22200		140	J	350	U	350	U	-		-		-		-		-		-	
SVOCs	Benzo(a)pyrene	ug/kg	50600		130	J	350	U	350	U	-		-		-		-		-		-	
SVOCs	Benzo(b)fluoranthene	ug/kg	55300		200	J	350	U	350	U	-		-		-		-		-		-	
SVOCs	Benzo(g,h,i)perylene	ug/kg	41242500		91	J	350	U	350	U	-		-		-		-		-		-	

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Appendix A
Soil Data Compared to LBSV
P Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units:	Leach - Based Soil Value August 2015	Station:	MW-26-04		MW-26-04		MW-26-04		SB-137-04	SB-137-04	SB-137-04	SB-138-04	SB-138-04	SB-138-04
				Field Sample ID:	MW-26-04		MW-26-04		MW-26-04		SB-137-04	SB-137-04	SB-137-04	SB-138-04	SB-138-04	SB-138-04 DUP
				Date:	3/4/2004		3/4/2004		3/4/2004		1/26/2004	1/26/2004	1/26/2004	1/26/2004	1/26/2004	1/26/2004
				Depth:	0 - 2		8 - 10		10 - 12		0 - 2	8 - 10	11 - 13	0 - 2	8 - 10	8 - 10
SVOCs	Benzo(k)fluoranthene	ug/kg	501000		67	J	350	U	350	U	-	-	-	-	-	-
SVOCs	Biphenyl	ug/kg	130.5		950	U	350	U	350	U	-	-	-	-	-	-
SVOCs	bis(2-Ethylhexyl)phthalate	ug/kg	21000		950	U	350	U	350	U	-	-	-	-	-	-
SVOCs	Carbazole	ug/kg	7007.4		950	U	350	U	350	U	-	-	-	-	-	-
SVOCs	Chrysene	ug/kg	4410000		160	J	350	U	350	U	-	-	-	-	-	-
SVOCs	Dibenz(a,h)anthracene	ug/kg	94000		90	J	350	U	350	U	-	-	-	-	-	-
SVOCs	Dibenzofuran	ug/kg	2250		950	U	350	U	350	U	-	-	-	-	-	-
SVOCs	Di-n-butylphthalate	ug/kg	34500		950	U	350	U	350	U	-	-	-	-	-	-
SVOCs	Di-N-Octyl phthalate	ug/kg	855000		950	U	350	U	350	U	-	-	-	-	-	-
SVOCs	Fluoranthene	ug/kg	1335000		150	J	350	U	350	U	-	-	-	-	-	-
SVOCs	Fluorene	ug/kg	81000		950	U	350	U	350	U	-	-	-	-	-	-
SVOCs	Indeno(1,2,3-cd)pyrene	ug/kg	244000		73	J	350	U	350	U	-	-	-	-	-	-
SVOCs	Naphthalene, SVOC	ug/kg	4050		150	J	350	U	350	U	-	-	-	-	-	-
SVOCs	Phenanthrene	ug/kg	2555100		400	J	350	U	350	U	-	-	-	-	-	-
SVOCs	Pyrene, SVOC	ug/kg	195000		180	J	350	U	350	U	-	-	-	-	-	-
PCBs	Aroclor-1248	ug/kg	18		38	U	3.9	J	35	U	-	-	-	-	-	-
PCBs	Aroclor-1254	ug/kg	30		38	U	35	U	42		-	-	-	-	-	-
PCBs	Aroclor-1260	ug/kg	82.5		38	U	35	U	35	U	-	-	-	-	-	-
Metals	Antimony	mg/kg	7.2		11	J	0.41	J	6.3	UJ	-	-	-	-	-	-
Metals	Arsenic	mg/kg	5.8		10.7		5.5		7.2		-	-	-	-	-	-
Metals	Barium	mg/kg	110000		24.4		34.7		116		-	-	-	-	-	-
Metals	Beryllium	mg/kg	114.4		0.26	J	0.53	U	0.53	U	-	-	-	-	-	-
Metals	Cadmium	mg/kg	42		0.58	U	0.53	U	0.53	U	-	-	-	-	-	-
Metals	Chromium Total	mg/kg	113		6.4		5.1		4.7		-	-	-	-	-	-
Metals	Cobalt	mg/kg	5.4		8.5		2	J	2.5	J	-	-	-	-	-	-
Metals	Copper	mg/kg	920		49.1	J	2.9	J	3.9	J	-	-	-	-	-	-
Metals	Cyanide (total)	mg/kg	40		0.17	J	0.53	U	0.53	U	-	-	-	-	-	-
Metals	Lead	mg/kg	177.6		153	J	2.5	J	2.8	J	-	-	-	-	-	-
Metals	Manganese	mg/kg	560		299		247		623		727	230	194	452	261	290
Metals	Mercury	mg/kg	23		0.1	J	0.0057	J	0.014	J	-	-	-	-	-	-
Metals	Nickel	mg/kg	363		19		4.4		6		-	-	-	-	-	-
Metals	Selenium	mg/kg	4.3		0.58	U	0.53	U	0.53	U	-	-	-	-	-	-
Metals	Silver	mg/kg	6240		1.2	U	1.1	U	1.1	U	-	-	-	-	-	-
Metals	Thallium	mg/kg	2.98		0.52	J	0.79	J	1	J	-	-	-	-	-	-
Metals	Vanadium	mg/kg	65		12.4		7.8		7.3		-	-	-	-	-	-
Metals	Zinc	mg/kg	88000		29.8		9.7		13		-	-	-	-	-	-
TPH	Diesel Range Organics (DRO)	ug/kg	2000000		-		-		-		-	-	-	-	-	-
TPH	Gasoline Range Organics (GRO)	ug/kg	1000000		-		-		-		-	-	-	-	-	-

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Appendix A
Soil Data Compared to LBSV
P Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units:	Leach - Based Soil Value August 2015	Station:	SB-138-04		SB-139-04		SB-139-04		SB-139-04		SB-147-04		SB-147-04		SB-147-04		SB-148-04		SB-148-04	
				Field Sample ID:	SB-138-04		SB-139-04		SB-139-04		SB-139-04		SB-147-04		SB-147-04 DUP		SB-147-04		SB-148-04		SB-148-04	
				Date:	1/26/2004		1/27/2004		1/27/2004		1/27/2004		1/28/2004		1/28/2004		1/28/2004		1/28/2004		1/28/2004	
				Depth:	11 - 13		0 - 2		8 - 10		11.5 - 13.5		8 - 10		12.5 - 14.5		12.5 - 14.5		0 - 2		8 - 10	
VOCs	1,1,1-Trichloroethane	ug/kg	18000		290	UJ	71	J	6	U	5.1	U	5.3	U	5.4	U	1.8	J	540	U	4.7	U
VOCs	1,1-Dichloroethane	ug/kg	11.7		290	UJ	450	U	6	U	5.1	U	5.3	U	5.4	U	4.8	U	540	U	4.7	U
VOCs	1,1-Dichloroethene	ug/kg	4200		290	UJ	450	U	6	U	5.1	U	5.3	U	5.4	U	4.8	U	540	U	4.7	U
VOCs	1,2,4-Trichlorobenzene, VOC	ug/kg	3000		290	UJ	450	U	6	U	5.1	U	5.3	U	5.4	U	4.8	U	540	U	4.7	U
VOCs	1,2-Dichlorobenzene, VOC	ug/kg	8700		290	UJ	450	U	6	U	5.1	U	5.3	U	5.4	U	4.8	U	540	U	4.7	U
VOCs	1,4-Dichlorobenzene, VOC	ug/kg	1080		290	UJ	450	U	6	U	5.1	U	5.3	U	5.4	U	4.8	U	540	U	4.7	U
VOCs	2-Butanone	ug/kg	27000		1100	UJ	1800	UJ	24	UJ	20	UJ	21	U	21	U	19	U	2200	U	19	U
VOCs	2-Hexanone	ug/kg	132		1100	UJ	1800	UJ	24	UJ	20	UJ	21	U	21	U	19	U	2200	U	19	U
VOCs	4-Methyl-2-Pentanone	ug/kg	4200		1100	UJ	1800	U	24	U	20	U	21	U	21	U	19	U	2200	U	19	U
VOCs	Acetone	ug/kg	43500		1100	UJ	1800	UJ	24	UJ	20	UJ	21	U	21	U	5.6	J	2200	U	19	U
VOCs	Benzene	ug/kg	255		84	J	450	U	6	U	0.47	J	5.3	U	5.4	U	0.45	J	540	U	4.7	U
VOCs	Bromomethane	ug/kg	28.5		290	UJ	450	U	6	U	5.1	U	5.3	U	5.4	U	4.8	U	540	U	4.7	U
VOCs	Carbon disulfide	ug/kg	3600		290	UJ	450	U	6	U	5.1	U	5.3	U	5.4	U	4.8	U	540	U	4.7	U
VOCs	Carbon tetrachloride	ug/kg	3750		290	UJ	450	U	6	U	5.1	U	5.3	U	5.4	U	4.8	U	540	U	4.7	U
VOCs	Chlorobenzene	ug/kg	1020		290	UJ	450	U	6	U	5.1	U	5.3	U	5.4	U	4.8	U	540	U	4.7	U
VOCs	Chloroform	ug/kg	330		290	UJ	450	U	6	U	5.1	U	5.3	U	5.4	U	4.8	U	540	U	4.7	U
VOCs	cis-1,2-Dichloroethene	ug/kg	1800		140	UJ	120	J	3	U	2.5	U	1.1	J	2.7	U	2.4	U	140	J	2.3	U
VOCs	Cyclohexane	ug/kg	195000		180	J	900	U	12	U	10	U	11	U	11	U	9.6	U	1100	U	9.4	U
VOCs	Dichlorodifluoromethane	ug/kg	4500		290	UJ	450	U	6	U	5.1	U	5.3	U	5.4	U	4.8	U	540	UJ	4.7	U
VOCs	Ethylbenzene	ug/kg	180000		50	J	450	U	6	U	0.43	J	0.39	J	0.51	J	0.64	J	540	U	0.38	J
VOCs	Isopropylbenzene, VOC	ug/kg	11100		290	UJ	450	U	6	U	5.1	U	5.3	U	5.4	U	4.8	U	540	U	4.7	U
VOCs	Methyl acetate	ug/kg	61500		360	J	900	U	12	U	10	U	11	U	11	U	9.6	U	1100	U	9.4	U
VOCs	Methyl cyclohexane	ug/kg	1E+14		510	J	900	U	12	U	0.44	J	11	U	11	U	9.6	U	73	J	9.4	U
VOCs	Methylene chloride	ug/kg	19.5		290	UJ	450	U	6	U	5.1	U	5.3	U	5.4	U	4.8	U	540	U	4.7	U
VOCs	Styrene	ug/kg	6900		290	UJ	450	U	6	U	5.1	U	5.3	U	5.4	U	4.8	U	540	U	4.7	U
VOCs	Tetrachloroethene	ug/kg	2250		4000	J	3400		3.1	J	3.7	J	8.5		32		30		1100		4.7	
VOCs	Toluene	ug/kg	102000		370	J	450	U	0.6	J	1.7	J	0.81	J	1.2	J	1.8	J	540	U	0.87	J
VOCs	trans-1,2-Dichloroethene	ug/kg	6150		140	UJ	220	U	3	U	2.5	U	2.7	U	2.7	U	2.4	U	270	U	2.3	U
VOCs	Trichloroethene	ug/kg	540		3400	J	10000		5.3	J	9.9		5.4		4.3	J	6.2		17000		24	
VOCs	Trichlorofluoromethane	ug/kg	10950		290	UJ	450	U	6	UJ	5.1	UJ	5.3	U	5.4	U	4.8	U	540	U	4.7	U
VOCs	Vinyl chloride	ug/kg	135		290	UJ	450	U	6	U	5.1	U	5.3	U	5.4	U	4.8	U	540	U	4.7	U
VOCs	Xylene (Total)	ug/kg	2340000		560	J	900	U	12	U	10	U	11	U	11	U	1.3	J	110	J	9.4	U
SVOCs	2-Methylnaphthalene	ug/kg	2850		-		-		-		-		-		-		-		370	J	350	U
SVOCs	Acenaphthene	ug/kg	82500		-		-		-		-		-		-		-		3800	U	350	U
SVOCs	Acenaphthylene	ug/kg	88223.85		-		-		-		-		-		-		-		3800	U	350	U
SVOCs	Acetophenone	ug/kg	8700		-		-		-		-		-		-		-		3800	U	350	U
SVOCs	Anthracene	ug/kg	870000		-		-		-		-		-		-		-		3800	U	350	U
SVOCs	Benzaldehyde	ug/kg	6450		-		-		-		-		-		-		-		3800	U	350	U
SVOCs	Benzo(a)anthracene	ug/kg	22200		-		-		-		-		-		-		-		3800	U	350	U
SVOCs	Benzo(a)pyrene	ug/kg	50600		-		-		-		-		-		-		-		3800	U	350	U
SVOCs	Benzo(b)fluoranthene	ug/kg	55300		-		-		-		-		-		-		-		320	J	350	U
SVOCs	Benzo(g,h,i)perylene	ug/kg	41242500		-		-		-		-		-		-		-		3800	U	350	U

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Appendix A
Soil Data Compared to LBSV
P Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units:	Leach - Based Soil Value August 2015	Station:	SB-138-04	SB-139-04	SB-139-04	SB-139-04	SB-147-04	SB-147-04	SB-147-04	SB-148-04	SB-148-04
				Field Sample ID:	SB-138-04	SB-139-04	SB-139-04	SB-139-04	SB-147-04	SB-147-04 DUP	SB-147-04	SB-148-04	SB-148-04
				Date:	1/26/2004	1/27/2004	1/27/2004	1/27/2004	1/28/2004	1/28/2004	1/28/2004	1/28/2004	1/28/2004
				Depth:	11 - 13	0 - 2	8 - 10	11.5 - 13.5	8 - 10	12.5 - 14.5	12.5 - 14.5	0 - 2	8 - 10
SVOCs	Benzo(k)fluoranthene	ug/kg	501000		-	-	-	-	-	-	-	3800 U	350 U
SVOCs	Biphenyl	ug/kg	130.5		-	-	-	-	-	-	-	3800 U	350 U
SVOCs	bis(2-Ethylhexyl)phthalate	ug/kg	21000		-	-	-	-	-	-	-	3800 U	350 U
SVOCs	Carbazole	ug/kg	7007.4		-	-	-	-	-	-	-	3800 U	350 U
SVOCs	Chrysene	ug/kg	4410000		-	-	-	-	-	-	-	410 J	350 U
SVOCs	Dibenz(a,h)anthracene	ug/kg	94000		-	-	-	-	-	-	-	3800 U	350 U
SVOCs	Dibenzofuran	ug/kg	2250		-	-	-	-	-	-	-	3800 U	350 U
SVOCs	Di-n-butylphthalate	ug/kg	34500		-	-	-	-	-	-	-	3800 U	350 U
SVOCs	Di-N-Octyl phthalate	ug/kg	855000		-	-	-	-	-	-	-	3800 U	350 U
SVOCs	Fluoranthene	ug/kg	1335000		-	-	-	-	-	-	-	340 J	350 U
SVOCs	Fluorene	ug/kg	81000		-	-	-	-	-	-	-	3800 U	350 U
SVOCs	Indeno(1,2,3-cd)pyrene	ug/kg	244000		-	-	-	-	-	-	-	3800 U	350 U
SVOCs	Naphthalene, SVOC	ug/kg	4050		-	-	-	-	-	-	-	640 J	350 U
SVOCs	Phenanthrene	ug/kg	2555100		-	-	-	-	-	-	-	360 J	350 U
SVOCs	Pyrene, SVOC	ug/kg	195000		-	-	-	-	-	-	-	310 J	350 U
PCBs	Aroclor-1248	ug/kg	18		-	-	-	-	-	-	-	38 U	35 U
PCBs	Aroclor-1254	ug/kg	30		-	-	-	-	-	-	-	300	81
PCBs	Aroclor-1260	ug/kg	82.5		-	-	-	-	-	-	-	38 U	35 U
Metals	Antimony	mg/kg	7.2		-	-	-	-	-	-	-	1 J	6.3 UJ
Metals	Arsenic	mg/kg	5.8		-	-	-	-	-	-	-	16.5	3.1
Metals	Barium	mg/kg	110000		-	-	-	-	-	-	-	133	91.9
Metals	Beryllium	mg/kg	114.4		-	-	-	-	-	-	-	1.1	0.53 U
Metals	Cadmium	mg/kg	42		-	-	-	-	-	-	-	0.91	0.53 U
Metals	Chromium Total	mg/kg	113		-	-	-	-	-	-	-	12.9	4.1
Metals	Cobalt	mg/kg	5.4		-	-	-	-	-	-	-	7.4	1.8 J
Metals	Copper	mg/kg	920		-	-	-	-	-	-	-	107	2.9
Metals	Cyanide (total)	mg/kg	40		-	-	-	-	-	-	-	0.21 J	0.53 U
Metals	Lead	mg/kg	177.6		-	-	-	-	-	-	-	528	1.4
Metals	Manganese	mg/kg	560		275	-	-	-	-	-	-	642	330
Metals	Mercury	mg/kg	23		-	-	-	-	-	-	-	0.17	0.11 U
Metals	Nickel	mg/kg	363		-	-	-	-	-	-	-	14.3	4.4
Metals	Selenium	mg/kg	4.3		-	-	-	-	-	-	-	0.57 U	0.53 U
Metals	Silver	mg/kg	6240		-	-	-	-	-	-	-	1.1 U	1.1 U
Metals	Thallium	mg/kg	2.98		-	-	-	-	-	-	-	1.2	0.61 J
Metals	Vanadium	mg/kg	65		-	-	-	-	-	-	-	26.1	6.1
Metals	Zinc	mg/kg	88000		-	-	-	-	-	-	-	285	10.1
TPH	Diesel Range Organics (DRO)	ug/kg	2000000		-	-	-	-	-	-	-	-	-
TPH	Gasoline Range Organics (GRO)	ug/kg	1000000		-	-	-	-	-	-	-	-	-

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Appendix A
Soil Data Compared to LBSV
P Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units:	Leach - Based Soil Value August 2015	Station:	SB-148-04		SB-149-04		SB-149-04		SB-149-04		SB-163-04		SB-163-04		SB-163-04		SB-17-02		SB-17-02	
				Field Sample ID:	SB-148-04		SB-149-04		SB-149-04		SB-149-04		SB-163-04		SB-163-04		SB-163-04		SB-17-02		SB-17-02	
				Date:	1/28/2004		1/28/2004		1/28/2004		1/28/2004		2/5/2004		2/5/2004		2/5/2004		4/8/2002		4/8/2002	
				Depth:	11 - 13		0 - 2		8 - 10		11 - 13		0 - 2		8 - 10		11.5 - 13.5		1 - 3		8 - 10	
VOCs	1,1,1-Trichloroethane	ug/kg	18000		5.3	U	5.1	U	390	U	250	U	980	U	5.7	U	280	U	230	U	6.5	U
VOCs	1,1-Dichloroethane	ug/kg	11.7		5.3	U	5.1	U	390	U	250	U	980	U	5.7	U	280	U	230	U	6.5	U
VOCs	1,1-Dichloroethene	ug/kg	4200		5.3	U	5.1	U	390	U	250	U	980	U	5.7	U	280	U	230	U	6.5	U
VOCs	1,2,4-Trichlorobenzene, VOC	ug/kg	3000		5.3	U	5.1	U	390	U	250	U	980	U	5.7	U	280	U	230	U	6.5	U
VOCs	1,2-Dichlorobenzene, VOC	ug/kg	8700		5.3	U	5.1	U	390	U	250	U	980	U	5.7	U	280	U	230	U	6.5	U
VOCs	1,4-Dichlorobenzene, VOC	ug/kg	1080		5.3	U	5.1	U	390	U	250	U	980	U	5.7	U	280	U	230	U	6.5	U
VOCs	2-Butanone	ug/kg	27000		21	U	1.6	J	1500	U	990	U	3900	U	23	U	1100	U	900	U	26	U
VOCs	2-Hexanone	ug/kg	132		21	U	20	U	1500	U	990	U	3900	U	23	U	1100	U	900	U	26	U
VOCs	4-Methyl-2-Pentanone	ug/kg	4200		21	U	20	U	1500	U	990	U	3900	U	23	U	1100	U	900	U	26	U
VOCs	Acetone	ug/kg	43500		21	U	8.1	J	1500	U	990	U	3900	U	23	U	330	J	900	U	26	UJ
VOCs	Benzene	ug/kg	255		5.3	U	5.1	U	390	U	250	U	980	U	5.7	U	280	U	230	U	6.5	U
VOCs	Bromomethane	ug/kg	28.5		5.3	U	5.1	U	160	J	80	J	980	U	5.7	U	280	U	230	U	6.5	U
VOCs	Carbon disulfide	ug/kg	3600		5.3	U	5.1	U	390	U	250	U	980	U	5.7	U	280	U	230	U	6.5	U
VOCs	Carbon tetrachloride	ug/kg	3750		5.3	U	5.1	U	390	U	250	U	980	U	5.7	U	280	U	230	U	6.5	U
VOCs	Chlorobenzene	ug/kg	1020		5.3	U	5.1	U	390	U	250	U	980	U	5.7	U	280	U	230	U	6.5	U
VOCs	Chloroform	ug/kg	330		5.3	U	5.1	U	390	U	250	U	980	U	5.7	U	280	U	230	U	6.5	U
VOCs	cis-1,2-Dichloroethene	ug/kg	1800		2.6	U	2.5	U	190	U	120	U	380	J	1.4	J	140	U	110	U	3.3	U
VOCs	Cyclohexane	ug/kg	195000		11	U	10	U	770	U	500	U	2000	U	11	U	550	U	450	U	13	U
VOCs	Dichlorodifluoromethane	ug/kg	4500		5.3	U	5.1	U	390	UJ	250	UJ	980	UJ	5.7	U	280	U	230	U	6.5	U
VOCs	Ethylbenzene	ug/kg	180000		5.3	U	5.1	U	390	U	250	U	980	U	5.7	U	280	U	230	U	6.5	U
VOCs	Isopropylbenzene, VOC	ug/kg	11100		5.3	U	5.1	U	390	U	250	U	980	U	5.7	U	280	U	230	U	6.5	U
VOCs	Methyl acetate	ug/kg	61500		11	U	10	U	770	U	500	U	2000	U	11	U	90	J	450	U	13	U
VOCs	Methyl cyclohexane	ug/kg	1E+14		11	U	10	U	770	U	500	U	2000	U	11	U	550	U	450	U	13	U
VOCs	Methylene chloride	ug/kg	19.5		5.3	U	5.1	U	390	U	250	U	560	J	5.7	U	130	J	230	U	6.5	U
VOCs	Styrene	ug/kg	6900		5.3	U	5.1	U	390	U	250	U	980	U	5.7	U	280	U	230	U	6.5	U
VOCs	Tetrachloroethene	ug/kg	2250		3.1	J	2.8	J	390	U	23	J	27000		93		940		950		260	
VOCs	Toluene	ug/kg	102000		0.79	J	5.1	U	390	U	250	U	980	U	5.7	U	280	U	230	U	0.96	J
VOCs	trans-1,2-Dichloroethene	ug/kg	6150		2.6	U	2.5	U	190	U	120	U	490	U	2.9	U	140	U	110	U	3.3	U
VOCs	Trichloroethene	ug/kg	540		12		2	J	390	U	28	J	12000		8.8		40	J	280		130	
VOCs	Trichlorofluoromethane	ug/kg	10950		5.3	U	5.1	U	390	U	250	U	980	U	5.7	U	280	U	230	U	6.5	U
VOCs	Vinyl chloride	ug/kg	135		5.3	U	5.1	U	390	U	250	U	980	U	5.7	U	280	U	230	U	6.5	U
VOCs	Xylene (Total)	ug/kg	2340000		11	U	10	U	770	U	500	U	2000	U	11	U	550	U	450	U	13	U
SVOCs	2-Methylnaphthalene	ug/kg	2850		340	U	83	J	22000	U	18000	U	390	U	360	U	7300	U	350	U	440	U
SVOCs	Acenaphthene	ug/kg	82500		340	U	180	J	22000	U	18000	U	390	U	360	U	7300	U	350	U	440	U
SVOCs	Acenaphthylene	ug/kg	88223.85		340	U	360	U	22000	U	18000	U	390	U	360	U	7300	U	350	U	440	U
SVOCs	Acetophenone	ug/kg	8700		340	U	360	U	22000	U	18000	U	390	U	360	U	7300	U	350	U	440	U
SVOCs	Anthracene	ug/kg	870000		340	U	390		22000	U	18000	U	390	U	360	U	7300	U	350	U	440	U
SVOCs	Benzaldehyde	ug/kg	6450		340	U	360	U	22000	U	18000	U	390	U	360	U	7300	U	350	U	440	U
SVOCs	Benzo(a)anthracene	ug/kg	22200		340	U	1100		22000	U	18000	U	50	J	360	U	7300	U	350	U	440	U
SVOCs	Benzo(a)pyrene	ug/kg	50600		340	U	1100		22000	U	18000	U	51	J	360	U	7300	U	350	U	440	U
SVOCs	Benzo(b)fluoranthene	ug/kg	55300		340	U	1300		22000	U	18000	U	65	J	360	U	7300	U	350	U	440	U
SVOCs	Benzo(g,h,i)perylene	ug/kg	41242500		340	U	570		22000	U	18000	U	27	J	360	U	7300	U	350	U	440	U

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Appendix A
Soil Data Compared to LBSV
P Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units:	Leach - Based Soil Value August 2015	Station:	SB-148-04		SB-149-04		SB-149-04		SB-149-04		SB-163-04		SB-163-04		SB-163-04		SB-17-02		SB-17-02	
				Field Sample ID:	SB-148-04		SB-149-04		SB-149-04		SB-149-04		SB-163-04		SB-163-04		SB-163-04		SB-17-02		SB-17-02	
				Date:	1/28/2004		1/28/2004		1/28/2004		1/28/2004		2/5/2004		2/5/2004		2/5/2004		4/8/2002		4/8/2002	
				Depth:	11 - 13		0 - 2		8 - 10		11 - 13		0 - 2		8 - 10		11.5 - 13.5		1 - 3		8 - 10	
SVOCs	Benzo(k)fluoranthene	ug/kg	501000		340	U	600		22000	U	18000	U	27	J	360	U	7300	U	350	U	440	U
SVOCs	Biphenyl	ug/kg	130.5		340	U	360	U	22000	U	18000	U	390	U	360	U	7300	U	350	U	440	U
SVOCs	bis(2-Ethylhexyl)phthalate	ug/kg	21000		340	U	51	J	22000	U	18000	U	390	U	360	U	7300	U	350	U	440	U
SVOCs	Carbazole	ug/kg	7007.4		340	U	250	J	22000	U	18000	U	390	U	360	U	7300	U	350	U	440	U
SVOCs	Chrysene	ug/kg	4410000		340	U	1000		22000	U	18000	U	57	J	360	U	7300	U	350	U	64	J
SVOCs	Dibenz(a,h)anthracene	ug/kg	94000		340	U	210	J	22000	U	18000	U	390	U	360	U	7300	U	350	U	440	U
SVOCs	Dibenzofuran	ug/kg	2250		340	U	140	J	22000	U	18000	U	390	U	360	U	7300	U	350	U	440	U
SVOCs	Di-n-butylphthalate	ug/kg	34500		340	U	360	U	22000	U	18000	U	390	U	360	U	7300	U	350	U	440	U
SVOCs	Di-N-Octyl phthalate	ug/kg	855000		340	U	360	U	22000	U	18000	U	390	U	360	U	7300	U	350	U	440	U
SVOCs	Fluoranthene	ug/kg	1335000		340	U	2600		22000	U	18000	U	93	J	360	U	7300	U	350	U	160	J
SVOCs	Fluorene	ug/kg	81000		340	U	170	J	22000	U	18000	U	390	U	360	U	7300	U	350	U	440	U
SVOCs	Indeno(1,2,3-cd)pyrene	ug/kg	244000		340	U	520		22000	U	18000	U	26	J	360	U	7300	U	350	U	440	U
SVOCs	Naphthalene, SVOC	ug/kg	4050		340	U	360	U	22000	U	18000	U	390	U	360	U	7300	U	350	U	440	U
SVOCs	Phenanthrene	ug/kg	2555100		340	U	1700		22000	U	18000	U	31	J	360	U	7300	U	350	U	160	J
SVOCs	Pyrene, SVOC	ug/kg	195000		340	U	2000		22000	U	18000	U	82	J	360	U	7300	U	350	U	140	J
PCBs	Aroclor-1248	ug/kg	18		34	U	360	U	65	J	36	U	39	U	36	U	36	U	35	U	44	U
PCBs	Aroclor-1254	ug/kg	30		17	J	3700		220	U	320		39	UJ	36	UJ	36	UJ	35	U	44	U
PCBs	Aroclor-1260	ug/kg	82.5		34	U	360	U	220	U	36	U	39	UJ	36	UJ	30	J	35	U	44	U
Metals	Antimony	mg/kg	7.2		6.2	UJ	6.5	UJ	5.1	J	6.5	UJ	7.2	UJ	6.6	UJ	6.6	UJ	6.4	U	8	U
Metals	Arsenic	mg/kg	5.8		6		5.3		6.1		2.8		8.4		4.5		4.8		3.2		7.5	
Metals	Barium	mg/kg	110000		45.6		34.1		193		28.6		66.2		67.8		73.8		26.5		259	
Metals	Beryllium	mg/kg	114.4		0.52	U	0.54	U	0.55	J	0.55	U	0.38	J	0.093	J	0.068	J	0.54	UJ	0.67	UJ
Metals	Cadmium	mg/kg	42		0.52	U	0.33	J	0.28	J	0.55	U	0.3	J	0.17	J	0.14	J	0.54	U	0.67	U
Metals	Chromium Total	mg/kg	113		4		4.7		10.5		3.7		7.8	J	3.3	J	2.4	J	4		11.5	
Metals	Cobalt	mg/kg	5.4		2.3	J	2.6	J	4.5	J	1.4	J	7.1		1.8	J	1.4	J	1.5	J	5.7	J
Metals	Copper	mg/kg	920		4.6		13.9		12.8		24.2		23.9	J	2.5	J	2.5	J	7.6		11.2	
Metals	Cyanide (total)	mg/kg	40		0.52	U	0.54	U	0.68	U	0.55	U	0.6	U	0.55	U	0.55	U	0.54	U	0.26	J
Metals	Lead	mg/kg	177.6		2.5		11		11		3.5		209	J	2	J	1.9	J	3.5		10.2	
Metals	Manganese	mg/kg	560		248		227		464		215		322		279		477		283		844	
Metals	Mercury	mg/kg	23		0.1	U	0.025	J	0.09	J	0.11	U	0.087	J	0.11	U	0.11	U	0.025	J	0.053	J
Metals	Nickel	mg/kg	363		13.7		7.2		10.9		3.3	J	6.9	J	4	J	3.6	J	3.7	J	13	
Metals	Selenium	mg/kg	4.3		0.52	U	0.54	U	0.68	U	0.55	U	0.6	U	0.55	U	0.55	U	0.54	U	0.55	J
Metals	Silver	mg/kg	6240		1	U	1.1	U	1.4	U	1.1	U	1.2	U	1.1	U	1.1	U	1.1	U	1.3	U
Metals	Thallium	mg/kg	2.98		0.62	J	0.78	J	0.74	J	0.82	J	1.2	U	1.1	U	1.1	U	1.1	U	1.3	U
Metals	Vanadium	mg/kg	65		8.4		7.1		15.6		6.2		23.5		6.4		4.8	J	4.7	J	16.8	
Metals	Zinc	mg/kg	88000		27.8		52.4		44.1		15.9		40	J	12.3	J	10.6	J	13		57.5	
TPH	Diesel Range Organics (DRO)	ug/kg	2000000		-		-		-		-		-		-		-		-		-	
TPH	Gasoline Range Organics (GRO)	ug/kg	1000000		-		-		-		-		-		-		-		-		-	

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Appendix A
Soil Data Compared to LBSV
P Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units:	Leach - Based Soil Value August 2015	Station:	SB-17-02		SB-18-02		SB-18-02		SB-53-02		SB-54-02		SB-54-02		SB-72-03		SB-72-03		SB-72-03	
				Field Sample ID:	SB-17-02		SB-18-02		SB-18-02		SB-53-02		SB-54-02		SB-54-02		SB-72-03		SB-72-03		SB-72-03 DUP	
				Date:	4/8/2002		4/8/2002		4/8/2002		4/17/2002		4/17/2002		4/17/2002		2/20/2003		2/20/2003		2/20/2003	
				Depth:	10 - 12		1 - 3		9 - 11		1 - 3		1 - 3		9 - 11		1 - 3		9 - 11		9 - 11	
VOCs	1,1,1-Trichloroethane	ug/kg	18000		5.4	U	300	J	8	U	94	J	310	U	270	U	270	U	4.9	U	4.3	U
VOCs	1,1-Dichloroethane	ug/kg	11.7		5.4	U	560	U	8	U	460	U	310	U	270	U	270	U	4.9	U	4.3	U
VOCs	1,1-Dichloroethene	ug/kg	4200		5.4	U	560	U	8	U	460	U	310	U	270	U	270	U	4.9	U	4.3	U
VOCs	1,2,4-Trichlorobenzene, VOC	ug/kg	3000		5.4	U	560	U	8	U	460	U	310	U	270	U	270	U	4.9	U	4.3	U
VOCs	1,2-Dichlorobenzene, VOC	ug/kg	8700		5.4	U	560	U	8	U	460	U	310	U	270	U	270	U	4.9	U	4.3	U
VOCs	1,4-Dichlorobenzene, VOC	ug/kg	1080		5.4	U	560	U	8	U	460	U	310	U	270	U	270	U	4.9	U	4.3	U
VOCs	2-Butanone	ug/kg	27000		22	U	2200	U	32	U	1800	U	1200	U	1100	U	1100	U	20	U	17	U
VOCs	2-Hexanone	ug/kg	132		22	U	2200	U	32	U	1800	U	1200	U	1100	U	1100	U	20	U	17	U
VOCs	4-Methyl-2-Pentanone	ug/kg	4200		22	U	2200	U	32	U	1800	U	1200	U	1100	U	1100	U	20	U	17	U
VOCs	Acetone	ug/kg	43500		22	UJ	2200	U	32	UJ	1800	U	1200	U	1100	U	1100	U	20	U	17	U
VOCs	Benzene	ug/kg	255		5.4	U	560	U	8	U	460	U	310	U	270	U	270	U	4.9	U	0.3	J
VOCs	Bromomethane	ug/kg	28.5		5.4	U	560	U	8	UJ	460	U	310	U	270	U	270	R	4.9	UJ	4.3	UJ
VOCs	Carbon disulfide	ug/kg	3600		5.4	U	560	U	8	U	460	U	310	U	270	U	270	U	4.9	U	4.3	U
VOCs	Carbon tetrachloride	ug/kg	3750		5.4	U	560	U	8	UJ	460	U	310	U	270	U	270	U	4.9	UJ	4.3	UJ
VOCs	Chlorobenzene	ug/kg	1020		5.4	U	560	U	8	U	460	U	310	U	270	U	270	U	4.9	U	4.3	U
VOCs	Chloroform	ug/kg	330		5.4	U	560	U	8	U	460	U	310	U	270	U	270	U	4.9	U	4.3	U
VOCs	cis-1,2-Dichloroethene	ug/kg	1800		2.7	U	590		1.3	J	720		110	J	200		20	J	2.5	U	2.2	U
VOCs	Cyclohexane	ug/kg	195000		11	U	430	J	16	U	910	U	46	J	47	J	29	J	9.9	U	8.7	U
VOCs	Dichlorodifluoromethane	ug/kg	4500		5.4	U	560	UJ	8	U	460	U	310	U	270	U	270	U	4.9	UJ	4.3	UJ
VOCs	Ethylbenzene	ug/kg	180000		5.4	U	560	U	8	U	460	U	310	U	270	U	270	U	4.9	U	4.3	U
VOCs	Isopropylbenzene, VOC	ug/kg	11100		5.4	U	560	U	8	U	460	U	310	U	270	U	270	U	4.9	U	4.3	U
VOCs	Methyl acetate	ug/kg	61500		11	U	1100	U	16	U	910	U	610	U	130	J	32	J	9.9	U	8.7	U
VOCs	Methyl cyclohexane	ug/kg	1E+14		11	U	430	J	16	U	34	J	190	J	96	J	67	J	9.9	U	0.42	J
VOCs	Methylene chloride	ug/kg	19.5		5.4	U	210	J	8	U	460	U	310	U	270	U	270	U	4.9	U	4.3	U
VOCs	Styrene	ug/kg	6900		5.4	U	560	U	8	U	460	U	310	U	270	U	270	U	4.9	U	4.3	U
VOCs	Tetrachloroethene	ug/kg	2250		4.2	J	6100		25		16000		6300		2900		810		4.9	U	4.3	U
VOCs	Toluene	ug/kg	102000		0.75	J	560	U	1.1	J	460	U	310	U	270	U	27	J	0.51	J	0.87	J
VOCs	trans-1,2-Dichloroethene	ug/kg	6150		2.7	U	280	U	4	U	45	J	150	U	140	U	130	U	2.5	U	2.2	U
VOCs	Trichloroethene	ug/kg	540		1.6	J	23000		28		5000		8400		6800		9900		0.91	J	1.2	J
VOCs	Trichlorofluoromethane	ug/kg	10950		5.4	U	560	U	8	UJ	460	U	310	U	270	U	270	U	4.9	UJ	4.3	UJ
VOCs	Vinyl chloride	ug/kg	135		5.4	U	560	U	8	U	460	U	310	U	270	U	270	U	4.9	U	4.3	U
VOCs	Xylene (Total)	ug/kg	2340000		11	U	1100	U	16	U	910	U	100	J	78	J	530	U	9.9	U	8.7	U
SVOCs	2-Methylnaphthalene	ug/kg	2850		340	U	170	J	360	U	400	U	7800	U	1800	U	110	J	360	U	350	U
SVOCs	Acenaphthene	ug/kg	82500		340	U	440	U	360	U	71	J	7800	U	1800	U	370	U	360	U	350	U
SVOCs	Acenaphthylene	ug/kg	88223.85		340	U	440	U	360	U	400	U	7800	U	1800	U	25	J	360	U	350	U
SVOCs	Acetophenone	ug/kg	8700		340	U	440	U	360	U	400	U	7800	U	1800	U	370	U	360	U	350	U
SVOCs	Anthracene	ug/kg	870000		340	U	110	J	360	U	230	J	7800	U	1800	U	33	J	360	U	350	U
SVOCs	Benzaldehyde	ug/kg	6450		340	U	440	U	360	U	400	U	7800	U	1800	U	21	J	360	U	350	U
SVOCs	Benzo(a)anthracene	ug/kg	22200		340	U	360	J	360	U	920		7800	U	1800	U	240	J	360	U	350	U
SVOCs	Benzo(a)pyrene	ug/kg	50600		340	U	330	J	360	U	1100		7800	U	1800	U	230	J	360	U	350	U
SVOCs	Benzo(b)fluoranthene	ug/kg	55300		340	U	430	J	360	U	1100		7800	U	1800	U	220	J	360	U	350	U
SVOCs	Benzo(g,h,i)perylene	ug/kg	41242500		340	U	250	J	360	U	860		7800	U	1800	U	98	J	360	U	350	U

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Appendix A
Soil Data Compared to LBSV
P Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units:	Leach - Based Soil Value August 2015	Station:	SB-17-02		SB-18-02		SB-18-02		SB-53-02		SB-54-02		SB-54-02		SB-72-03		SB-72-03		SB-72-03	
				Field Sample ID:	SB-17-02		SB-18-02		SB-18-02		SB-53-02		SB-54-02		SB-54-02		SB-72-03		SB-72-03		SB-72-03 DUP	
				Date:	4/8/2002		4/8/2002		4/8/2002		4/17/2002		4/17/2002		4/17/2002		2/20/2003		2/20/2003		2/20/2003	
				Depth:	10 - 12		1 - 3		9 - 11		1 - 3		1 - 3		9 - 11		1 - 3		9 - 11		9 - 11	
SVOCs	Benzo(k)fluoranthene	ug/kg	501000		340	U	220	J	360	U	610		7800	U	1800	U	180	J	360	U	350	U
SVOCs	Biphenyl	ug/kg	130.5		340	U	440	U	360	U	400	U	7800	U	1800	U	370	U	360	U	350	U
SVOCs	bis(2-Ethylhexyl)phthalate	ug/kg	21000		340	U	440	U	360	U	400	U	7800	U	1800	U	24	J	360	U	350	U
SVOCs	Carbazole	ug/kg	7007.4		340	U	440	U	360	U	110	J	7800	U	1800	U	81	J	360	U	350	U
SVOCs	Chrysene	ug/kg	4410000		340	U	410	J	360	U	990		7800	U	1800	U	240	J	360	U	350	U
SVOCs	Dibenz(a,h)anthracene	ug/kg	94000		340	U	440	U	360	U	200	J	7800	U	1800	U	44	J	360	U	350	U
SVOCs	Dibenzofuran	ug/kg	2250		340	U	86	J	360	U	400	U	7800	U	1800	U	36	J	360	U	350	U
SVOCs	Di-n-butylphthalate	ug/kg	34500		340	U	440	U	360	U	400	U	7800	U	1800	U	370	U	360	U	350	U
SVOCs	Di-N-Octyl phthalate	ug/kg	855000		340	U	440	U	360	U	400	U	7800	U	1800	U	370	U	360	U	350	U
SVOCs	Fluoranthene	ug/kg	1335000		340	U	940		360	U	1900		7800	U	1800	U	360	J	360	U	350	U
SVOCs	Fluorene	ug/kg	81000		340	U	440	U	360	U	61	J	7800	U	1800	U	370	U	360	U	350	U
SVOCs	Indeno(1,2,3-cd)pyrene	ug/kg	244000		340	U	220	J	360	U	720		7800	U	1800	U	100	J	360	U	350	U
SVOCs	Naphthalene, SVOC	ug/kg	4050		340	U	350	J	360	U	67	J	7800	U	1800	U	77	J	360	U	350	U
SVOCs	Phenanthrene	ug/kg	2555100		340	U	860		360	U	1100		7800	U	1800	U	230	J	360	U	350	U
SVOCs	Pyrene, SVOC	ug/kg	195000		340	U	790		360	U	1800		7800	U	1800	U	360	J	360	U	350	U
PCBs	Aroclor-1248	ug/kg	18		34	U	44	U	36	U	40	U	39	U	37	U	-		-		-	
PCBs	Aroclor-1254	ug/kg	30		34	U	44	U	36	U	40	U	39	U	37	U	-		-		-	
PCBs	Aroclor-1260	ug/kg	82.5		34	U	44	U	36	U	40	U	39	U	37	U	-		-		-	
Metals	Antimony	mg/kg	7.2		6.2	U	2.6	J	6.5	U	7.2	U	3.1	J	13.4	U	1.8	J	6.5	UJ	0.43	J
Metals	Arsenic	mg/kg	5.8		3.3		6.4		5.5		8.8		15.4		8.4		7.7	J	5.9	J	5.3	J
Metals	Barium	mg/kg	110000		57.8		141		89.1		150		61.3		84.5		50	J	79	J	52.2	J
Metals	Beryllium	mg/kg	114.4		0.52	UJ	0.69	J	0.54	UJ	0.6		0.5	J	0.56	U	0.13	J	0.54	UJ	0.53	UJ
Metals	Cadmium	mg/kg	42		0.52	U	0.67		0.54	U	0.8		4		2.3		0.57	UJ	0.081	J	0.043	J
Metals	Chromium Total	mg/kg	113		3.1		8.7		3.3		12.6		13.2		21.7		11.7	J	3.6	J	6.2	J
Metals	Cobalt	mg/kg	5.4		1.4	J	18		2.2	J	4.5	J	11.5		8.9		7	J	1.4	J	2.5	J
Metals	Copper	mg/kg	920		1.5	J	172		4.9		404		153		77.8		71.2	J	2.7	J	2.9	J
Metals	Cyanide (total)	mg/kg	40		0.52	U	0.29	J	0.54	U	3.6		0.59	U	0.28	J	0.17	J	0.54	UJ	0.53	UJ
Metals	Lead	mg/kg	177.6		1.9		137		3.7		213		286		181		134	J	1.9	J	2.5	J
Metals	Manganese	mg/kg	560		271		373		353		479		578		3360		1190	J	317	J	366	J
Metals	Mercury	mg/kg	23		0.015	J	0.28		0.11	U	0.51		0.28		0.18		0.1	J	0.11	U	0.11	U
Metals	Nickel	mg/kg	363		3.1	J	10		4	J	27.2		17.1		12.5		11.5		4	J	7.7	
Metals	Selenium	mg/kg	4.3		0.52	U	1.5		0.54	U	0.6	U	1.2	U	1.1	U	0.57	U	0.54	U	0.53	U
Metals	Silver	mg/kg	6240		1	U	1.3	U	1.1	U	1.2	U	0.48	J	0.79	J	1.1	U	1.1	U	1.1	U
Metals	Thallium	mg/kg	2.98		1	U	1.3	U	1.1	U	1.2	U	1.2	J	2.2	U	1.1	UJ	1.1	UJ	1.1	UJ
Metals	Vanadium	mg/kg	65		5.2		16.6		6.2		15		16.4		40.8		24.3	J	6.8	J	9	J
Metals	Zinc	mg/kg	88000		10.1		160		13.8		464		1750		929		89	J	11.1	J	18.2	J
TPH	Diesel Range Organics (DRO)	ug/kg	2000000		-		-		-		-		-		-		-		-		-	
TPH	Gasoline Range Organics (GRO)	ug/kg	1000000		-		-		-		-		-		-		-		-		-	

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Appendix A
Soil Data Compared to LBSV
P Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units:	Leach - Based Soil Value August 2015	Station:	SB-72-03		SB-73-03		SB-73-03		SB-73-03		TT-SB252	TT-SB252	TT-SB252	TT-SB252	TT-SB253
				Field Sample ID:	SB-72-03		SB-73-03		SB-73-03		SB-73-03		TT-SB252-G-02	TT-SB252-G-06	TT-SB252-G-08 DP	TT-SB252-G-08	TT-SB253-G-02
				Date:	2/20/2003		2/20/2003		2/20/2003		2/20/2003		4/3/2013	4/3/2013	4/3/2013	4/3/2013	4/3/2013
				Depth:	12.5 - 14.5		2 - 4		8 - 10		12 - 14		0 - 2	4 - 6	6 - 8	6 - 8	0 - 2
VOCs	1,1,1-Trichloroethane	ug/kg	18000		940	U	2100	U	5700	U	4.2	U	-	-	-	-	-
VOCs	1,1-Dichloroethane	ug/kg	11.7		940	U	2100	U	5700	U	4.2	U	-	-	-	-	-
VOCs	1,1-Dichloroethene	ug/kg	4200		940	U	2100	U	5700	U	4.2	U	-	-	-	-	-
VOCs	1,2,4-Trichlorobenzene, VOC	ug/kg	3000		940	U	2100	U	5700	U	4.2	U	-	-	-	-	-
VOCs	1,2-Dichlorobenzene, VOC	ug/kg	8700		940	U	2100	U	5700	U	4.2	U	-	-	-	-	-
VOCs	1,4-Dichlorobenzene, VOC	ug/kg	1080		940	U	2100	U	5700	U	4.2	U	-	-	-	-	-
VOCs	2-Butanone	ug/kg	27000		3800	U	8200	U	23000	U	17	U	-	-	-	-	-
VOCs	2-Hexanone	ug/kg	132		3800	U	8200	U	23000	U	17	U	-	-	-	-	-
VOCs	4-Methyl-2-Pentanone	ug/kg	4200		3800	U	8200	U	23000	U	17	U	-	-	-	-	-
VOCs	Acetone	ug/kg	43500		3800	U	8200	U	23000	U	17	U	-	-	-	-	-
VOCs	Benzene	ug/kg	255		940	U	2100	U	5700	U	0.29	J	-	-	-	-	-
VOCs	Bromomethane	ug/kg	28.5		940	U	2100	R	5700	R	4.2	UJ	-	-	-	-	-
VOCs	Carbon disulfide	ug/kg	3600		940	U	2100	U	5700	U	4.2	U	-	-	-	-	-
VOCs	Carbon tetrachloride	ug/kg	3750		940	UJ	2100	U	5700	U	4.2	UJ	-	-	-	-	-
VOCs	Chlorobenzene	ug/kg	1020		940	U	2100	U	5700	U	4.2	U	-	-	-	-	-
VOCs	Chloroform	ug/kg	330		940	U	2100	U	5700	U	4.2	U	-	-	-	-	-
VOCs	cis-1,2-Dichloroethene	ug/kg	1800		470	U	11000		22000		6.3		-	-	-	-	-
VOCs	Cyclohexane	ug/kg	195000		1900	U	150	J	11000	U	8.4	U	-	-	-	-	-
VOCs	Dichlorodifluoromethane	ug/kg	4500		940	U	2100	UJ	5700	UJ	4.2	UJ	-	-	-	-	-
VOCs	Ethylbenzene	ug/kg	180000		940	U	2100	U	5700	U	4.2	U	-	-	-	-	-
VOCs	Isopropylbenzene, VOC	ug/kg	11100		940	U	2100	U	5700	U	4.2	U	-	-	-	-	-
VOCs	Methyl acetate	ug/kg	61500		1900	U	410	J	11000	U	8.4	U	-	-	-	-	-
VOCs	Methyl cyclohexane	ug/kg	1E+14		130	J	360	J	11000	U	0.55	J	-	-	-	-	-
VOCs	Methylene chloride	ug/kg	19.5		200	J	2100	U	5700	U	4.2	U	-	-	-	-	-
VOCs	Styrene	ug/kg	6900		940	U	2100	U	5700	U	4.2	U	-	-	-	-	-
VOCs	Tetrachloroethene	ug/kg	2250		940	U	26000		26000		17		-	-	-	-	-
VOCs	Toluene	ug/kg	102000		940	U	2100	U	5700	U	0.81	J	-	-	-	-	-
VOCs	trans-1,2-Dichloroethene	ug/kg	6150		470	U	170	J	2900	U	2.1	U	-	-	-	-	-
VOCs	Trichloroethene	ug/kg	540		940	U	60000		100000		41		-	-	-	-	-
VOCs	Trichlorofluoromethane	ug/kg	10950		940	UJ	2100	U	5700	U	4.2	UJ	-	-	-	-	-
VOCs	Vinyl chloride	ug/kg	135		940	U	2100	U	5700	U	4.2	U	-	-	-	-	-
VOCs	Xylene (Total)	ug/kg	2340000		1900	U	4100	U	11000	U	8.4	U	-	-	-	-	-
SVOCs	2-Methylnaphthalene	ug/kg	2850		52	J	210	J	140	J	350	U	-	-	-	-	-
SVOCs	Acenaphthene	ug/kg	82500		17	J	370	U	36	J	28	J	-	-	-	-	-
SVOCs	Acenaphthylene	ug/kg	88223.85		360	U	370	U	410	U	350	U	-	-	-	-	-
SVOCs	Acetophenone	ug/kg	8700		360	U	370	U	410	U	350	U	-	-	-	-	-
SVOCs	Anthracene	ug/kg	870000		43	J	29	J	110	J	47	J	-	-	-	-	-
SVOCs	Benzaldehyde	ug/kg	6450		360	U	370	U	29	J	350	U	-	-	-	-	-
SVOCs	Benzo(a)anthracene	ug/kg	22200		250	J	130	J	340	J	180	J	-	-	-	-	-
SVOCs	Benzo(a)pyrene	ug/kg	50600		230	J	370	UJ	300	J	170	J	-	-	-	-	-
SVOCs	Benzo(b)fluoranthene	ug/kg	55300		250	J	370	UJ	330	J	220	J	-	-	-	-	-
SVOCs	Benzo(g,h,i)perylene	ug/kg	41242500		97	J	58	J	120	J	140	J	-	-	-	-	-

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Appendix A
Soil Data Compared to LBSV
P Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units:	Leach - Based Soil Value August 2015	Station:	SB-72-03		SB-73-03		SB-73-03		SB-73-03		TT-SB252		TT-SB252		TT-SB252		TT-SB252		TT-SB253	
				Field Sample ID:	SB-72-03		SB-73-03		SB-73-03		SB-73-03		TT-SB252-G-02		TT-SB252-G-06		TT-SB252-G-08 DP		TT-SB252-G-08		TT-SB253-G-02	
				Date:	2/20/2003		2/20/2003		2/20/2003		2/20/2003		4/3/2013		4/3/2013		4/3/2013		4/3/2013		4/3/2013	
				Depth:	12.5 - 14.5		2 - 4		8 - 10		12 - 14		0 - 2		4 - 6		6 - 8		6 - 8		0 - 2	
SVOCs	Benzo(k)fluoranthene	ug/kg	501000		180	J	370	UJ	260	J	98	J	-		-		-		-		-	
SVOCs	Biphenyl	ug/kg	130.5		360	U	29	J	410	U	350	U	-		-		-		-		-	
SVOCs	bis(2-Ethylhexyl)phthalate	ug/kg	21000		93	J	370	U	130	J	150	J	-		-		-		-		-	
SVOCs	Carbazole	ug/kg	7007.4		90	J	85	J	120	J	30	J	-		-		-		-		-	
SVOCs	Chrysene	ug/kg	4410000		280	J	190	J	360	J	200	J	-		-		-		-		-	
SVOCs	Dibenz(a,h)anthracene	ug/kg	94000		32	J	21	J	43	J	29	J	-		-		-		-		-	
SVOCs	Dibenzofuran	ug/kg	2250		21	J	53	J	69	J	18	J	-		-		-		-		-	
SVOCs	Di-n-butylphthalate	ug/kg	34500		360	U	370	U	410	U	350	U	-		-		-		-		-	
SVOCs	Di-N-Octyl phthalate	ug/kg	855000		360	U	370	UJ	100	J	220	J	-		-		-		-		-	
SVOCs	Fluoranthene	ug/kg	1335000		480		260	J	640		410		-		-		-		-		-	
SVOCs	Fluorene	ug/kg	81000		24	J	370	U	39	J	23	J	-		-		-		-		-	
SVOCs	Indeno(1,2,3-cd)pyrene	ug/kg	244000		92	J	52	J	120	J	100	J	-		-		-		-		-	
SVOCs	Naphthalene, SVOC	ug/kg	4050		22	J	90	J	80	J	350	U	-		-		-		-		-	
SVOCs	Phenanthrene	ug/kg	2555100		290	J	340	J	690		310	J	-		-		-		-		-	
SVOCs	Pyrene, SVOC	ug/kg	195000		460		250	J	650		500		-		-		-		-		-	
PCBs	Aroclor-1248	ug/kg	18		-		-		-		-		21.8	U	22	U	24.1	U	25.7	U	22.2	U
PCBs	Aroclor-1254	ug/kg	30		-		-		-		-		269		108		24.1	U	25.7	U	300	
PCBs	Aroclor-1260	ug/kg	82.5		-		-		-		-		21.8	U	22	U	24.1	U	25.7	U	22.2	U
Metals	Antimony	mg/kg	7.2		0.84	J	1.1	J	6.5	J	0.38	J	-		-		-		-		-	
Metals	Arsenic	mg/kg	5.8		5.8	J	6.8	J	14	J	4.4	J	-		-		-		-		-	
Metals	Barium	mg/kg	110000		75.3	J	75.7	J	128	J	60.5	J	-		-		-		-		-	
Metals	Beryllium	mg/kg	114.4		0.13	J	0.39	J	0.3	J	0.12	J	-		-		-		-		-	
Metals	Cadmium	mg/kg	42		0.14	J	0.062	J	0.12	J	0.23	J	-		-		-		-		-	
Metals	Chromium Total	mg/kg	113		8.2	J	14.5	J	12.2	J	6.5	J	-		-		-		-		-	
Metals	Cobalt	mg/kg	5.4		2.4	J	6.3	J	6.3	J	2.2	J	-		-		-		-		-	
Metals	Copper	mg/kg	920		20.2	J	81.1	J	5610	J	305	J	-		-		-		-		-	
Metals	Cyanide (total)	mg/kg	40		0.55	UJ	0.12	J	0.21	J	0.18	J	-		-		-		-		-	
Metals	Lead	mg/kg	177.6		86.6	J	84.6	J	302	J	65.8	J	-		-		-		-		-	
Metals	Manganese	mg/kg	560		435	J	592	J	525	J	273	J	-		-		-		-		-	
Metals	Mercury	mg/kg	23		0.54		0.087	J	0.22		0.53		-		-		-		-		-	
Metals	Nickel	mg/kg	363		5.6		15.2		16.9		5.9		-		-		-		-		-	
Metals	Selenium	mg/kg	4.3		0.55	U	0.52	J	0.65	J	0.53	U	-		-		-		-		-	
Metals	Silver	mg/kg	6240		1.1	U	1.1	U	0.35	J	1.1	U	-		-		-		-		-	
Metals	Thallium	mg/kg	2.98		0.89	J	1.1	UJ	1.2	UJ	1.1	UJ	-		-		-		-		-	
Metals	Vanadium	mg/kg	65		12.5	J	17.3	J	17.1	J	8.2	J	-		-		-		-		-	
Metals	Zinc	mg/kg	88000		58.3	J	142	J	467	J	68	J	-		-		-		-		-	
TPH	Diesel Range Organics (DRO)	ug/kg	2000000		-		-		-		-		-		-		-		-		-	
TPH	Gasoline Range Organics (GRO)	ug/kg	1000000		-		-		-		-		-		-		-		-		-	

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Appendix A
Soil Data Compared to LBSV
P Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units:	Leach - Based Soil Value August 2015	Station:	TT-SB253	TT-SB253	TT-SB253	TT-SB253	TT-SB253	TT-SB253	TT-SB254	TT-SB254
				Field Sample ID:	TT-SB253-G-04	TT-SB253-G-06	TT-SB253-C-08	TT-SB253-C-08	TT-SB253-G-08	TT-SB253-G-08 DP	TT-SB254-G-02	TT-SB254-G-04
				Date:	4/3/2013	4/3/2013	4/3/2013	4/3/2013	4/3/2013	4/3/2013	4/3/2013	4/3/2013
				Depth:	2 - 4	4 - 6	6 - 8	6 - 8	6 - 8	6 - 8	0 - 2	2 - 4
VOCs	1,1,1-Trichloroethane	ug/kg	18000		-	-	-	-	-	-	-	-
VOCs	1,1-Dichloroethane	ug/kg	11.7		-	-	-	-	-	-	-	-
VOCs	1,1-Dichloroethene	ug/kg	4200		-	-	-	-	-	-	-	-
VOCs	1,2,4-Trichlorobenzene, VOC	ug/kg	3000		-	-	-	-	-	-	-	-
VOCs	1,2-Dichlorobenzene, VOC	ug/kg	8700		-	-	-	-	-	-	-	-
VOCs	1,4-Dichlorobenzene, VOC	ug/kg	1080		-	-	-	-	-	-	-	-
VOCs	2-Butanone	ug/kg	27000		-	-	-	-	-	-	-	-
VOCs	2-Hexanone	ug/kg	132		-	-	-	-	-	-	-	-
VOCs	4-Methyl-2-Pentanone	ug/kg	4200		-	-	-	-	-	-	-	-
VOCs	Acetone	ug/kg	43500		-	-	-	-	-	-	-	-
VOCs	Benzene	ug/kg	255		-	-	-	-	-	-	-	-
VOCs	Bromomethane	ug/kg	28.5		-	-	-	-	-	-	-	-
VOCs	Carbon disulfide	ug/kg	3600		-	-	-	-	-	-	-	-
VOCs	Carbon tetrachloride	ug/kg	3750		-	-	-	-	-	-	-	-
VOCs	Chlorobenzene	ug/kg	1020		-	-	-	-	-	-	-	-
VOCs	Chloroform	ug/kg	330		-	-	-	-	-	-	-	-
VOCs	cis-1,2-Dichloroethene	ug/kg	1800		-	-	-	-	-	-	-	-
VOCs	Cyclohexane	ug/kg	195000		-	-	-	-	-	-	-	-
VOCs	Dichlorodifluoromethane	ug/kg	4500		-	-	-	-	-	-	-	-
VOCs	Ethylbenzene	ug/kg	180000		-	-	-	-	-	-	-	-
VOCs	Isopropylbenzene, VOC	ug/kg	11100		-	-	-	-	-	-	-	-
VOCs	Methyl acetate	ug/kg	61500		-	-	-	-	-	-	-	-
VOCs	Methyl cyclohexane	ug/kg	1E+14		-	-	-	-	-	-	-	-
VOCs	Methylene chloride	ug/kg	19.5		-	-	-	-	-	-	-	-
VOCs	Styrene	ug/kg	6900		-	-	-	-	-	-	-	-
VOCs	Tetrachloroethene	ug/kg	2250		-	-	-	-	-	-	-	-
VOCs	Toluene	ug/kg	102000		-	-	-	-	-	-	-	-
VOCs	trans-1,2-Dichloroethene	ug/kg	6150		-	-	-	-	-	-	-	-
VOCs	Trichloroethene	ug/kg	540		-	-	-	-	-	-	-	-
VOCs	Trichlorofluoromethane	ug/kg	10950		-	-	-	-	-	-	-	-
VOCs	Vinyl chloride	ug/kg	135		-	-	-	-	-	-	-	-
VOCs	Xylene (Total)	ug/kg	2340000		-	-	-	-	-	-	-	-
SVOCs	2-Methylnaphthalene	ug/kg	2850		-	-	-	-	-	-	-	-
SVOCs	Acenaphthene	ug/kg	82500		-	-	-	-	-	-	-	-
SVOCs	Acenaphthylene	ug/kg	88223.85		-	-	-	-	-	-	-	-
SVOCs	Acetophenone	ug/kg	8700		-	-	-	-	-	-	-	-
SVOCs	Anthracene	ug/kg	870000		-	-	-	-	-	-	-	-
SVOCs	Benzaldehyde	ug/kg	6450		-	-	-	-	-	-	-	-
SVOCs	Benzo(a)anthracene	ug/kg	22200		-	-	-	-	-	-	-	-
SVOCs	Benzo(a)pyrene	ug/kg	50600		-	-	-	-	-	-	-	-
SVOCs	Benzo(b)fluoranthene	ug/kg	55300		-	-	-	-	-	-	-	-
SVOCs	Benzo(g,h,i)perylene	ug/kg	41242500		-	-	-	-	-	-	-	-

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Appendix A
Soil Data Compared to LBSV
P Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
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Analysis	Parameter	Units:	Leach - Based Soil Value August 2015	Station:	TT-SB253		TT-SB253		TT-SB253	TT-SB253	TT-SB253		TT-SB253		TT-SB254		TT-SB254	
				Field Sample ID:	TT-SB253-G-04		TT-SB253-G-06		TT-SB253-C-08	TT-SB253-C-08	TT-SB253-G-08		TT-SB253-G-08 DP		TT-SB254-G-02		TT-SB254-G-04	
				Date:	4/3/2013		4/3/2013		4/3/2013	4/3/2013	4/3/2013		4/3/2013		4/3/2013		4/3/2013	
				Depth:	2 - 4		4 - 6		6 - 8	6 - 8	6 - 8		6 - 8		0 - 2		2 - 4	
SVOCs	Benzo(k)fluoranthene	ug/kg	501000		-		-		-	-	-		-		-		-	
SVOCs	Biphenyl	ug/kg	130.5		-		-		-	-	-		-		-		-	
SVOCs	bis(2-Ethylhexyl)phthalate	ug/kg	21000		-		-		-	-	-		-		-		-	
SVOCs	Carbazole	ug/kg	7007.4		-		-		-	-	-		-		-		-	
SVOCs	Chrysene	ug/kg	4410000		-		-		-	-	-		-		-		-	
SVOCs	Dibenz(a,h)anthracene	ug/kg	94000		-		-		-	-	-		-		-		-	
SVOCs	Dibenzofuran	ug/kg	2250		-		-		-	-	-		-		-		-	
SVOCs	Di-n-butylphthalate	ug/kg	34500		-		-		-	-	-		-		-		-	
SVOCs	Di-N-Octyl phthalate	ug/kg	855000		-		-		-	-	-		-		-		-	
SVOCs	Fluoranthene	ug/kg	1335000		-		-		-	-	-		-		-		-	
SVOCs	Fluorene	ug/kg	81000		-		-		-	-	-		-		-		-	
SVOCs	Indeno(1,2,3-cd)pyrene	ug/kg	244000		-		-		-	-	-		-		-		-	
SVOCs	Naphthalene, SVOC	ug/kg	4050		-		-		-	-	-		-		-		-	
SVOCs	Phenanthrene	ug/kg	2555100		-		-		-	-	-		-		-		-	
SVOCs	Pyrene, SVOC	ug/kg	195000		-		-		-	-	-		-		-		-	
PCBs	Aroclor-1248	ug/kg	18		21.9	U	20.8	U	-	-	26.7	U	-		21.1	U	22	U
PCBs	Aroclor-1254	ug/kg	30		246		38.5		-	-	26.7	U	-		507		375	
PCBs	Aroclor-1260	ug/kg	82.5		21.9	U	20.8	U	-	-	26.7	U	-		21.1	U	22	U
Metals	Antimony	mg/kg	7.2		-		-		-	-	-		-		-		-	
Metals	Arsenic	mg/kg	5.8		-		-		-	-	-		-		-		-	
Metals	Barium	mg/kg	110000		-		-		-	-	-		-		-		-	
Metals	Beryllium	mg/kg	114.4		-		-		-	-	-		-		-		-	
Metals	Cadmium	mg/kg	42		-		-		-	-	-		-		-		-	
Metals	Chromium Total	mg/kg	113		-		-		-	-	-		-		-		-	
Metals	Cobalt	mg/kg	5.4		-		-		-	-	-		-		-		-	
Metals	Copper	mg/kg	920		-		-		-	-	-		-		-		-	
Metals	Cyanide (total)	mg/kg	40		-		-		-	-	-		-		-		-	
Metals	Lead	mg/kg	177.6		-		-		-	-	-		-		-		-	
Metals	Manganese	mg/kg	560		-		-		-	-	-		-		-		-	
Metals	Mercury	mg/kg	23		-		-		-	-	-		-		-		-	
Metals	Nickel	mg/kg	363		-		-		-	-	-		-		-		-	
Metals	Selenium	mg/kg	4.3		-		-		-	-	-		-		-		-	
Metals	Silver	mg/kg	6240		-		-		-	-	-		-		-		-	
Metals	Thallium	mg/kg	2.98		-		-		-	-	-		-		-		-	
Metals	Vanadium	mg/kg	65		-		-		-	-	-		-		-		-	
Metals	Zinc	mg/kg	88000		-		-		-	-	-		-		-		-	
TPH	Diesel Range Organics (DRO)	ug/kg	2000000		-		-		26100	28500	-		-		-		-	
TPH	Gasoline Range Organics (GRO)	ug/kg	1000000		-		-		-	-	5820	U	5640	U	-		-	

See notes on page 15

Appendix A
Soil Data Compared to LBSV
P Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Notes:

concentration exceeds criteria, and chemical with exceedances

% = percent
ft = feet
mg/kg = milligram per kilogram
ug/kg = microgram per kilogram
J = estimated value
PCB = polychlorinated biphenyl
R = rejected data
TPH = Total petroleum hydrocarbons
U = not detected above detection limit
VOC = Volatile Organic Compounds
SVOC = Semi-Volatile Organic Compounds

Appendix A
Soil Data Compared to LBSV
Greenspace Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units:	Leach - Based Soil Value August 2015	Station:	BH-181		BH-181		BH-181		MW-14B-04		MW-14B-04		MW-14B-04		MW-14B-04		MW-23-04		MW-23-04		MW-23-04	
				Field Sample ID:	S-111104-NZ-035		S-111104-NZ-036		S-111104-NZ-037		MW-14B-04		MW-14B-04		MW-14B-04 DUP		MW-14B-04		MW-23-04		MW-23-04 DUP		MW-23-04	
				Date:	11/11/2004		11/11/2004		11/11/2004		3/8/2004		3/8/2004		3/8/2004		3/8/2004		3/3/2004		3/3/2004		3/3/2004	
				Depth:	0 - 2		8 - 10		11.5 - 13.5		0 - 2		8 - 10		8 - 10		11 - 13		0 - 2		0 - 2		8 - 10	
VOCs	1,1,1-Trichloroethane	ug/kg	18000		720	U	7.7	U	5.1	U	1000	U	4.3	U	4.4	U	4.4	U	330	U	880	U	850	U
VOCs	1,1-Dichloroethane	ug/kg	11.7		720	U	7.7	U	5.1	U	1000	U	4.3	U	4.4	U	4.4	U	330	U	880	U	850	U
VOCs	1,1-Dichloroethene	ug/kg	4200		720	U	7.7	U	5.1	U	1000	U	4.3	U	4.4	U	4.4	U	330	U	880	U	850	U
VOCs	1,2,4-Trichlorobenzene, VOC	ug/kg	3000		720	U	7.7	UJ	5.1	UJ	1000	U	4.3	U	4.4	U	4.4	U	330	U	880	U	850	U
VOCs	1,2-Dichlorobenzene, VOC	ug/kg	8700		720	U	7.7	U	5.1	U	1000	U	4.3	U	4.4	U	4.4	U	330	U	880	U	850	U
VOCs	1,4-Dichlorobenzene, VOC	ug/kg	1080		720	U	7.7	U	5.1	U	1000	U	4.3	U	4.4	U	4.4	U	330	U	880	U	850	U
VOCs	2-Butanone	ug/kg	27000		2900	U	6	J	4.1	J	4100	U	17	U	17	U	18	U	1300	U	3500	U	3400	U
VOCs	2-Chlorotoluene	ug/kg	3450		-		-		-		-		-		-		-		-		-		-	
VOCs	2-Hexanone	ug/kg	132		2900	U	31	U	21	U	4100	U	17	U	17	U	18	U	1300	U	3500	U	3400	U
VOCs	4-Chlorotoluene	ug/kg	3600		-		-		-		-		-		-		-		-		-		-	
VOCs	4-Methyl-2-Pentanone	ug/kg	4200		2900	U	31	U	21	U	4100	U	17	U	17	U	18	U	1300	U	3500	U	3400	U
VOCs	Acetone	ug/kg	43500		2900	U	32		19	J	4100	UJ	17	U	17	U	18	U	1300	UJ	3500	UJ	3400	UJ
VOCs	Benzene	ug/kg	255		720	U	11		4.6	J	1000	U	4.3	U	4.4	U	4.4	U	330	U	880	U	850	U
VOCs	Bromomethane	ug/kg	28.5		720	U	7.7	U	5.1	U	1000	U	4.3	U	4.4	U	4.4	U	330	U	880	U	850	U
VOCs	Carbon disulfide	ug/kg	3600		720	U	7.7	U	5.1	U	1000	U	4.3	U	4.4	U	4.4	U	330	U	880	U	850	U
VOCs	Carbon tetrachloride	ug/kg	3750		720	U	7.7	U	5.1	U	1000	U	4.3	U	4.4	U	4.4	U	330	U	880	U	850	U
VOCs	Chlorobenzene	ug/kg	1020		720	U	7.7	U	5.1	U	1000	U	4.3	U	4.4	U	4.4	U	330	U	880	U	850	U
VOCs	Chloroform	ug/kg	330		720	U	7.7	U	5.1	U	1000	U	4.3	U	4.4	U	4.4	U	330	U	880	U	850	U
VOCs	cis-1,2-Dichloroethene	ug/kg	1800		2100		2.5	J	5.1	U	1000		2.2	U	2.2	U	2.2	U	3900		19000		3500	
VOCs	Cyclohexane	ug/kg	195000		1400	U	1.4	J	7.7	J	570	J	8.6	U	8.7	U	8.8	U	650	U	1800	U	1700	U
VOCs	Dichlorodifluoromethane	ug/kg	4500		720	UJ	7.7	UJ	5.1	UJ	1000	U	4.3	U	4.4	U	4.4	U	330	UJ	880	UJ	850	UJ
VOCs	Ethylbenzene	ug/kg	180000		720	U	7.7	U	6.8		1000	U	0.37	J	4.4	U	4.4	U	330	U	880	U	510	J
VOCs	Isopropylbenzene, VOC	ug/kg	11100		720	U	7.7	U	5.1	U	1000	U	4.3	U	4.4	U	4.4	U	330	U	880	U	290	J
VOCs	Methyl acetate	ug/kg	61500		1400	U	15	U	10	U	2000	U	8.6	U	8.7	U	8.8	U	260	J	1300	J	1100	J
VOCs	Methyl cyclohexane	ug/kg	1E+14		98	J	1.7	J	12		590	J	8.6	U	8.7	U	8.8	U	650	U	1800	U	120	J
VOCs	Methylene chloride	ug/kg	19.5		720	U	7.7	U	6.5	U	1000	U	2.4	J	2.8	J	2.4	J	330	U	880	U	850	U
VOCs	n-Hexane	ug/kg	1815000		-		-		-		-		-		-		-		-		-		-	
VOCs	o-Xylene	ug/kg	2850		-		-		-		-		-		-		-		-		-		-	
VOCs	Styrene	ug/kg	6900		720	U	7.7	U	5.1	U	1000	U	4.3	U	4.4	U	4.4	U	330	U	880	U	850	U
VOCs	Tetrachloroethene	ug/kg	2250		9800		60		1.8	J	13000		5.5		3.3	J	0.72	J	4800		4300		21000	
VOCs	Toluene	ug/kg	102000		720	U	9.2		16		1000	U	0.87	J	0.64	J	4.4	U	28	J	880	U	270	J
VOCs	trans-1,2-Dichloroethene	ug/kg	6150		720	U	7.7	U	5.1	U	510	UJ	2.2	U	2.2	U	2.2	U	68	J	180	J	420	U
VOCs	Trichloroethene	ug/kg	540		22000		60		2	J	25000		1.9	J	1.1	J	0.54	J	12000		30000		26000	
VOCs	Trichlorofluoromethane	ug/kg	10950		720	U	7.7	U	5.1	U	1000	U	4.3	U	4.4	U	4.4	U	330	U	880	U	850	U
VOCs	Vinyl chloride	ug/kg	135		720	U	7.7	U	5.1	U	1000	U	4.3	U	4.4	U	4.4	U	54	J	140	J	850	U
VOCs	Xylene (Total)	ug/kg	2340000		1400	U	15	U	11		240	J	8.6	U	8.7	U	8.8	U	97	J	1800	U	2900	
SVOCs	2-Methylnaphthalene	ug/kg	2850		-		-		-		860	J	350	U	350	U	350	U	140	J	1600	U	390	UJ
SVOCs	Acenaphthene	ug/kg	82500		-		-		-		3900	U	350	U	350	U	350	U	380	U	1600	U	390	UJ
SVOCs	Acenaphthylene	ug/kg	88223.85		-		-		-		3900	U	350	U	350	U	350	U	380	U	1600	U	390	UJ
SVOCs	Acetophenone	ug/kg	8700		-		-		-		3900	U	350	U	350	U	350	U	380	U	1600	U	390	UJ
SVOCs	Anthracene	ug/kg	870000		-		-		-		3900	U	350	U	350	U	350	U	23	J	1600	U	38	J
SVOCs	Benzaldehyde	ug/kg	6450		-		-		-		3900	U	350	U	350	U	350	U	380	U	1600	U	390	UJ
SVOCs	Benzo(a)anthracene	ug/kg	22200		-		-		-		230	J	350	U	350	U	350	U	130	J	1600	U	220	J
SVOCs	Benzo(a)pyrene	ug/kg	50600		-		-		-		400	J	350	U	350	U	350	U	170	J	1600	U	230	J

See notes on page 23

Appendix A
Soil Data Compared to LBSV
Greenspace Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units:	Leach - Based Soil Value August 2015	Station:	BH-181		BH-181		BH-181		MW-14B-04		MW-14B-04		MW-14B-04		MW-14B-04		MW-23-04		MW-23-04		MW-23-04	
				Field Sample ID:	S-111104-NZ-035		S-111104-NZ-036		S-111104-NZ-037		MW-14B-04		MW-14B-04		MW-14B-04 DUP		MW-14B-04		MW-23-04		MW-23-04 DUP		MW-23-04	
				Date:	11/11/2004		11/11/2004		11/11/2004		3/8/2004		3/8/2004		3/8/2004		3/8/2004		3/3/2004		3/3/2004		3/3/2004	
				Depth:	0 - 2		8 - 10		11.5 - 13.5		0 - 2		8 - 10		8 - 10		11 - 13		0 - 2		0 - 2		8 - 10	
SVOCs	Benzo(b)fluoranthene	ug/kg	55300		-		-		-		440	J	350	U	350	U	350	U	170	J	1600	U	250	J
SVOCs	Benzo(g,h,i)perylene	ug/kg	41242500		-		-		-		3900	U	350	U	350	U	350	U	110	J	1600	U	130	J
SVOCs	Benzo(k)fluoranthene	ug/kg	501000		-		-		-		250	J	350	U	350	U	350	U	100	J	1600	U	120	J
SVOCs	Biphenyl	ug/kg	130.5		-		-		-		3900	U	350	U	350	U	350	U	380	U	1600	U	390	UJ
SVOCs	bis(2-Ethylhexyl)phthalate	ug/kg	21000		-		-		-		3900	U	29	J	36	J	29	J	91	J	1600	U	390	UJ
SVOCs	Carbazole	ug/kg	7007.4		-		-		-		3900	U	350	U	350	U	350	U	380	U	1600	U	390	UJ
SVOCs	Chrysene	ug/kg	4410000		-		-		-		620	J	350	U	350	U	350	U	130	J	1600	U	210	J
SVOCs	Dibenz(a,h)anthracene	ug/kg	94000		-		-		-		3900	U	350	U	350	U	350	U	29	J	1600	U	48	J
SVOCs	Dibenzofuran	ug/kg	2250		-		-		-		310	J	350	U	350	U	350	U	380	U	1600	U	390	UJ
SVOCs	Di-n-butylphthalate	ug/kg	34500		-		-		-		3900	U	350	U	350	U	350	U	380	U	1600	U	390	UJ
SVOCs	Di-N-Octyl phthalate	ug/kg	855000		-		-		-		3900	U	350	U	23	J	350	U	380	U	1600	U	390	UJ
SVOCs	Fluoranthene	ug/kg	1335000		-		-		-		1200	J	350	U	350	U	350	U	180	J	1600	U	330	J
SVOCs	Fluorene	ug/kg	81000		-		-		-		3900	U	350	U	350	U	350	U	380	U	1600	U	390	UJ
SVOCs	Indeno(1,2,3-cd)pyrene	ug/kg	244000		-		-		-		3900	U	350	U	350	U	350	U	100	J	1600	U	140	J
SVOCs	Naphthalene, SVOC	ug/kg	4050		-		-		-		500	J	350	U	350	U	350	U	89	J	1600	U	390	UJ
SVOCs	Phenanthrene	ug/kg	2555100		-		-		-		1000	J	350	U	350	U	350	U	74	J	1600	U	130	J
SVOCs	Pyrene, SVOC	ug/kg	195000		-		-		-		930	J	350	U	350	U	350	U	190	J	1600	U	280	J
PCBs	Aroclor-1248	ug/kg	18		43	U	50	U	37	U	39	U	35	U	35	U	35	U	380	U	790	U	78	U
PCBs	Aroclor-1254	ug/kg	30		43	U	50	U	37	U	4.5	J	24	J	60		24	J	4400	J	8600	J	600	J
PCBs	Aroclor-1260	ug/kg	82.5		43	U	50	U	37	U	39	U	35	U	35	U	35	U	380	UJ	790	UJ	78	UJ
Metals	Antimony	mg/kg	7.2		-		-		-		7.2	U	6.3	U	6.4	U	6.4	U	0.38	J	0.85	J	0.3	J
Metals	Arsenic	mg/kg	5.8		-		-		-		7		4.5		6		3.6		6		9.6		5.8	
Metals	Barium	mg/kg	110000		-		-		-		171		76.7		84.9		54.8		91.9		160		47.1	
Metals	Beryllium	mg/kg	114.4		-		-		-		0.98		0.53	U	0.53	U	0.53	U	0.17	J	0.47	J	0.51	J
Metals	Cadmium	mg/kg	42		-		-		-		0.15	J	0.073	J	0.11	J	16.3		0.41	J	0.48	J	0.59	U
Metals	Chromium Total	mg/kg	113		-		-		-		6.9		4		3.5		3.8		13.5		15.2		6.4	
Metals	Cobalt	mg/kg	5.4		-		-		-		4	J	2	J	2.1	J	1.4	J	3.6	J	5.9	J	2.2	J
Metals	Copper	mg/kg	920		-		-		-		52.4		2.7		2.9		6.5	J	61.9		58.9		18.5	
Metals	Cyanide (total)	mg/kg	40		-		-		-		0.6	U	0.53	U	0.53	U	0.53	U	0.57	U	0.6	U	0.59	U
Metals	Lead	mg/kg	177.6		-		-		-		32		1.9		2.6		1.2		60.5		6470		45.8	
Metals	Manganese	mg/kg	560		-		-		-		440		393		403		370		499		625		238	
Metals	Mercury	mg/kg	23		-		-		-		0.19		0.005	J	0.0072	J	0.0051	J	0.27		0.31		0.34	
Metals	Nickel	mg/kg	363		-		-		-		9.9		4.7		5.4		4.4		10.5	J	17.1		5.9	
Metals	Potassium	mg/kg	1E+14		-		-		-		-		-		-		-		-		-		-	
Metals	Selenium	mg/kg	4.3		-		-		-		0.6	U	0.53	U	0.53	U	0.53	U	0.57	U	0.6	U	0.48	J
Metals	Silver	mg/kg	6240		-		-		-		0.33	J	1.1	U	1.1	U	1.1	U	1.1	U	0.65	J	1.2	U
Metals	Thallium	mg/kg	2.98		-		-		-		0.72	J	1.1	U	1.1	U	1.1	U	1.4		2.1		0.64	J
Metals	Vanadium	mg/kg	65		-		-		-		13.9		6.7		6.8		5.1	J	13.7		19.3		9.8	
Metals	Zinc	mg/kg	88000		-		-		-		55		11.7		11		38.8	J	131		157		41.6	
TPH	Diesel Range Organics (DRO)	ug/kg	2000000		-		-		-		-		-		-		-		-		-		-	
TPH	Gasoline Range Organics (GRO)	ug/kg	1000000		-		-		-		-		-		-		-		-		-		-	

See notes on page 23

Appendix A
Soil Data Compared to LBSV
Greenspace Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units:	Leach - Based Soil Value August 2015	Station:	MW-24-04		MW-24-04		MW-24-04		MW-37-05		MW-9-03		MW-9-03		MW-9-03		SB-13-02		SB-13-02		SB-13-02	
				Field Sample ID:	MW-24-04		MW-24-04		MW-24-04		SO-051205-CB-001		MW-9-03 (0-2)		MW-9-03 DUP (0-2)		MW-9-03 (9-11)		SB-13-02		SB-13-02		SB-13-02	
				Date:	3/3/2004		3/3/2004		3/3/2004		5/12/2005		1/17/2003		1/17/2003		1/17/2003		4/5/2002		4/5/2002		4/5/2002	
				Depth:	0 - 2		8 - 10		13 - 15		3.5 - 4.5		0 - 2		0 - 2		9 - 11		1 - 3		8 - 10		10 - 12	
VOCs	1,1,1-Trichloroethane	ug/kg	18000		1200	U	230	U	4.5	U	450	U	4.2	U	4.4	U	4.6	U	5.1	U	4.7	U	4.9	U
VOCs	1,1-Dichloroethane	ug/kg	11.7		1200	U	230	U	4.5	U	450	U	4.2	U	4.4	U	4.6	U	5.1	U	4.7	U	4.9	U
VOCs	1,1-Dichloroethene	ug/kg	4200		1200	U	230	U	4.5	U	450	U	4.2	U	4.4	U	4.6	U	5.1	U	4.7	U	4.9	U
VOCs	1,2,4-Trichlorobenzene, VOC	ug/kg	3000		1200	U	230	U	4.5	U	450	U	4.2	U	4.4	U	4.6	U	5.1	U	4.7	U	4.9	U
VOCs	1,2-Dichlorobenzene, VOC	ug/kg	8700		1200	U	230	U	4.5	U	450	U	4.2	U	4.4	U	4.6	U	5.1	U	4.7	U	4.9	U
VOCs	1,4-Dichlorobenzene, VOC	ug/kg	1080		1200	U	230	U	4.5	U	450	U	4.2	U	4.4	U	4.6	U	5.1	U	4.7	U	4.9	U
VOCs	2-Butanone	ug/kg	27000		4700	U	930	U	16	J	1800	U	17	U	18	U	18	U	20	U	19	U	20	U
VOCs	2-Chlorotoluene	ug/kg	3450		-		-		-		-		-		-		-		-		-		-	
VOCs	2-Hexanone	ug/kg	132		4700	U	930	U	18	U	1800	U	17	U	18	U	18	U	20	U	19	U	20	U
VOCs	4-Chlorotoluene	ug/kg	3600		-		-		-		-		-		-		-		-		-		-	
VOCs	4-Methyl-2-Pentanone	ug/kg	4200		4700	U	930	U	2.2	J	1800	U	17	U	18	U	18	U	20	U	19	U	20	U
VOCs	Acetone	ug/kg	43500		4700	UJ	930	UJ	47	U	1800	R	17	U	18	U	18	U	20	UJ	19	UJ	20	UJ
VOCs	Benzene	ug/kg	255		1200	U	230	U	0.45	J	450	U	4.2	U	4.4	U	4.6	U	5.1	U	4.7	U	4.9	U
VOCs	Bromomethane	ug/kg	28.5		1200	U	230	U	4.5	U	450	U	4.2	UJ	4.4	UJ	4.6	UJ	5.1	UJ	4.7	UJ	4.9	UJ
VOCs	Carbon disulfide	ug/kg	3600		1200	U	230	U	4.5	U	450	U	4.2	U	4.4	U	4.6	U	5.1	U	4.7	U	4.9	U
VOCs	Carbon tetrachloride	ug/kg	3750		1200	U	230	U	4.5	U	450	U	4.2	U	4.4	U	4.6	U	5.1	UJ	4.7	U	4.9	U
VOCs	Chlorobenzene	ug/kg	1020		1200	U	230	U	4.5	U	450	U	4.2	U	4.4	U	4.6	U	5.1	U	4.7	U	4.9	U
VOCs	Chloroform	ug/kg	330		1200	U	230	U	4.5	U	450	U	4.2	U	4.4	U	4.6	U	5.1	U	4.7	U	4.9	U
VOCs	cis-1,2-Dichloroethene	ug/kg	1800		5600		540		3		650		2.1	U	2.2	U	0.35	J	2.5	U	2.3	U	2.5	U
VOCs	Cyclohexane	ug/kg	195000		250	J	460	U	8.9	U	900	U	8.3	U	8.8	U	0.72	J	10	U	9.3	U	9.9	U
VOCs	Dichlorodifluoromethane	ug/kg	4500		1200	UJ	230	UJ	4.5	U	450	U	4.2	UJ	4.4	UJ	4.6	UJ	5.1	U	4.7	U	4.9	U
VOCs	Ethylbenzene	ug/kg	180000		1200	U	230	U	0.9	J	450	U	4.2	U	4.4	U	4.6	U	5.1	U	4.7	U	4.9	U
VOCs	Isopropylbenzene, VOC	ug/kg	11100		1200	U	230	U	4.5	U	190	J	4.2	U	4.4	U	4.6	U	5.1	U	4.7	U	4.9	U
VOCs	Methyl acetate	ug/kg	61500		370	J	460	U	8.9	U	900	U	8.3	U	8.8	U	9.1	U	10	U	9.3	U	9.9	U
VOCs	Methyl cyclohexane	ug/kg	1E+14		540	J	460	U	0.58	J	900	U	8.3	U	8.8	U	1.7	J	10	U	9.3	U	9.9	U
VOCs	Methylene chloride	ug/kg	19.5		1200	U	230	U	1.5	J	450	U	4.2	U	4.4	U	4.6	U	5.1	U	4.7	U	4.9	U
VOCs	n-Hexane	ug/kg	1815000		-		-		-		-		-		-		-		-		-		-	
VOCs	o-Xylene	ug/kg	2850		-		-		-		-		-		-		-		-		-		-	
VOCs	Styrene	ug/kg	6900		1200	U	230	U	4.5	U	450	U	4.2	U	4.4	U	4.6	U	5.1	U	4.7	U	4.9	U
VOCs	Tetrachloroethene	ug/kg	2250		9700		1000		0.46	J	450	U	4.6		6.5		20		4.8	J	4.5	J	1.2	J
VOCs	Toluene	ug/kg	102000		86	J	230	U	2.6	J	450	U	0.35	J	4.4	U	0.94	J	5.1	U	4.7	U	4.9	U
VOCs	trans-1,2-Dichloroethene	ug/kg	6150		590	U	120	U	2.2	U	450	U	2.1	U	2.2	U	2.3	U	2.5	U	2.3	U	2.5	U
VOCs	Trichloroethene	ug/kg	540		44000		3800		4.5	U	260	J	4.2	U	4.4	U	2.4	J	1.4	J	1	J	4.9	U
VOCs	Trichlorofluoromethane	ug/kg	10950		1200	U	230	U	4.5	U	450	U	4.2	U	4.4	U	4.6	U	5.1	U	4.7	U	4.9	U
VOCs	Vinyl chloride	ug/kg	135		1200	U	230	U	4.5	U	450	U	4.2	U	4.4	U	4.6	U	5.1	U	4.7	U	4.9	U
VOCs	Xylene (Total)	ug/kg	2340000		280	J	460	U	1.2	J	760	J	8.3	U	8.8	U	9.1	U	10	U	9.3	U	9.9	U
SVOCs	2-Methylnaphthalene	ug/kg	2850		49	J	360	U	17000	UJ	7900	U	350	U	350	U	360	U	390	U	380	U	350	U
SVOCs	Acenaphthene	ug/kg	82500		390	UJ	360	U	17000	UJ	7900	U	350	U	350	U	360	U	390	U	380	U	350	U
SVOCs	Acenaphthylene	ug/kg	88223.85		390	UJ	360	U	17000	UJ	7900	U	350	U	350	U	360	U	390	U	380	U	350	U
SVOCs	Acetophenone	ug/kg	8700		390	UJ	360	U	17000	UJ	7900	U	350	U	350	U	360	U	390	U	380	U	350	U
SVOCs	Anthracene	ug/kg	870000		49	J	360	U	17000	UJ	7900	U	350	U	350	U	360	U	390	U	380	U	350	U
SVOCs	Benzaldehyde	ug/kg	6450		390	UJ	360	U	17000	UJ	7900	U	350	U	350	U	360	U	390	U	380	U	350	U
SVOCs	Benzo(a)anthracene	ug/kg	22200		310	J	41	J	17000	UJ	7900	U	350	U	350	U	360	U	390	U	380	U	350	U
SVOCs	Benzo(a)pyrene	ug/kg	50600		340	J	34	J	17000	UJ	7900	U	350	U	350	U	360	U	390	U	380	U	350	U

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Appendix A
Soil Data Compared to LBSV
Greenspace Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units:	Leach - Based Soil Value August 2015	Station:	MW-24-04		MW-24-04		MW-24-04		MW-37-05		MW-9-03		MW-9-03		MW-9-03		SB-13-02		SB-13-02		SB-13-02	
				Field Sample ID:	MW-24-04		MW-24-04		MW-24-04		SO-051205-CB-001		MW-9-03 (0-2)		MW-9-03 DUP (0-2)		MW-9-03 (9-11)		SB-13-02		SB-13-02		SB-13-02	
				Date:	3/3/2004		3/3/2004		3/3/2004		5/12/2005		1/17/2003		1/17/2003		1/17/2003		4/5/2002		4/5/2002		4/5/2002	
				Depth:	0 - 2		8 - 10		13 - 15		3.5 - 4.5		0 - 2		0 - 2		9 - 11		1 - 3		8 - 10		10 - 12	
SVOCs	Benzo(b)fluoranthene	ug/kg	55300		380	J	45	J	17000	UJ	7900	U	350	U	350	U	360	U	390	U	380	U	350	U
SVOCs	Benzo(g,h,i)perylene	ug/kg	41242500		270	J	360	U	17000	UJ	7900	U	350	U	350	U	360	U	390	U	380	U	350	U
SVOCs	Benzo(k)fluoranthene	ug/kg	501000		160	J	360	U	17000	UJ	7900	U	350	U	350	U	360	U	390	U	380	U	350	U
SVOCs	Biphenyl	ug/kg	130.5		390	UJ	360	U	17000	UJ	7900	U	350	U	350	U	360	U	390	U	380	U	350	U
SVOCs	bis(2-Ethylhexyl)phthalate	ug/kg	21000		390	UJ	360	UJ	17000	UJ	7900	U	350	U	350	U	360	U	390	U	380	U	350	U
SVOCs	Carbazole	ug/kg	7007.4		390	UJ	360	U	17000	UJ	7900	U	350	U	350	U	360	U	390	U	380	U	350	U
SVOCs	Chrysene	ug/kg	4410000		290	J	42	J	17000	UJ	7900	U	350	U	350	U	360	U	390	U	380	U	350	U
SVOCs	Dibenz(a,h)anthracene	ug/kg	94000		63	J	360	U	17000	UJ	7900	U	350	U	350	U	360	U	390	U	380	U	350	U
SVOCs	Dibenzofuran	ug/kg	2250		23	J	360	U	17000	UJ	7900	U	350	U	350	U	360	U	390	U	380	U	350	U
SVOCs	Di-n-butylphthalate	ug/kg	34500		390	UJ	360	U	17000	UJ	7900	U	350	U	350	U	360	U	390	U	380	U	350	U
SVOCs	Di-N-Octyl phthalate	ug/kg	855000		390	UJ	360	U	17000	UJ	7900	U	350	U	350	U	360	U	390	U	380	U	350	U
SVOCs	Fluoranthene	ug/kg	1335000		570	J	80	J	17000	UJ	7900	U	350	U	350	U	30	J	390	U	380	U	350	U
SVOCs	Fluorene	ug/kg	81000		390	UJ	360	U	17000	UJ	7900	U	350	U	350	U	360	U	390	U	380	U	350	U
SVOCs	Indeno(1,2,3-cd)pyrene	ug/kg	244000		220	J	360	U	17000	UJ	7900	U	350	U	350	U	360	U	390	U	380	U	350	U
SVOCs	Naphthalene, SVOC	ug/kg	4050		35	J	360	U	17000	UJ	7900	U	350	U	350	U	360	U	390	U	380	U	350	U
SVOCs	Phenanthrene	ug/kg	2555100		260	J	43	J	17000	UJ	7900	U	350	U	350	U	360	U	390	U	380	U	350	U
SVOCs	Pyrene, SVOC	ug/kg	195000		510	J	63	J	17000	UJ	7900	U	350	UJ	350	UJ	360	U	390	U	380	U	350	UJ
PCBs	Aroclor-1248	ug/kg	18		39	U	36	U	35	U	7900	U	35	U	35	U	36	U	39	U	38	U	180	U
PCBs	Aroclor-1254	ug/kg	30		14	J	15	J	35	UJ	110000		35	U	35	U	55		39	U	38	U	180	U
PCBs	Aroclor-1260	ug/kg	82.5		39	UJ	36	UJ	35	UJ	7900	U	35	U	35	U	36	U	39	U	38	U	1100	
Metals	Antimony	mg/kg	7.2		0.9	J	0.34	J	6.3	U	7.2	UJ	6.3	U	6.4	U	6.6	U	7.1	UJ	7	UJ	6.4	UJ
Metals	Arsenic	mg/kg	5.8		4.8		5.6		3.8		4.7	J	4.9		4.9		4.5		8.7	J	2.5	J	5.6	J
Metals	Barium	mg/kg	110000		76.4		117		48.2		85.6		23.1	J	28.2	J	66	J	76.8		153		73.8	
Metals	Beryllium	mg/kg	114.4		0.27	J	0.26	J	0.054	J	0.6	U	0.53	U	0.53	U	0.55	U	0.43	J	0.16	J	0.53	U
Metals	Cadmium	mg/kg	42		0.59	U	0.13	J	40.8		0.39	J	0.05	J	0.07	J	0.11	J	0.6	U	0.58	U	18.3	
Metals	Chromium Total	mg/kg	113		7		9		51.5		25	J	4.1	J	3.9	J	3.9	J	12.5		14.7		114	
Metals	Cobalt	mg/kg	5.4		3.7	J	4.5	J	2.1	J	3.4	J	2.5	J	2.7	J	2.2	J	6.6	J	2	J	1.6	J
Metals	Copper	mg/kg	920		55		17.1		16.3		40	J	8.7		7.7		6.9		13.8		5		32.8	
Metals	Cyanide (total)	mg/kg	40		0.59	U	0.54	U	0.53	U	-		0.53	U	0.53	U	0.097	J	0.6	U	0.58	U	0.43	J
Metals	Lead	mg/kg	177.6		122		20.6		2		58.5	J	4.8		5		6.6		14.4		4.1		41.3	
Metals	Manganese	mg/kg	560		200		530		259		360		199	J	198	J	251	J	577	J	211	J	264	J
Metals	Mercury	mg/kg	23		0.21		0.087	J	0.077	J	0.56		0.11	U	0.11	U	0.042	J	0.023	J	0.27		0.48	
Metals	Nickel	mg/kg	363		9.3		9.8		8.9		9.2		6.8		7.1		5.9		12.5	J	5	J	6.4	J
Metals	Potassium	mg/kg	1E+14		-		-		-		576	J	-		-		-		-		-		-	
Metals	Selenium	mg/kg	4.3		0.59	U	0.54	U	0.53	U	30	U	0.53	U	0.53	U	0.55	U	0.6	U	0.58	U	0.53	U
Metals	Silver	mg/kg	6240		1.2	U	1.1	U	0.4	J	1.2	U	1.1	U	1.1	U	0.19	J	1.2	U	1.2	U	1.1	U
Metals	Thallium	mg/kg	2.98		0.79	J	1.3		0.92	J	240	U	0.81	J	0.7	J	0.76	J	1.2	U	1.6	U	1.6	U
Metals	Vanadium	mg/kg	65		12.8		11.9		6.6		10.3		5.4		7.3		6.6		23.5		6.8		5.7	
Metals	Zinc	mg/kg	88000		47.2		64.3		23.2		63.3	J	34.2		30.6		25.1		48.2	J	21.6	J	253	J
TPH	Diesel Range Organics (DRO)	ug/kg	2000000		-		-		-		-		-		-		-		-		-		-	
TPH	Gasoline Range Organics (GRO)	ug/kg	1000000		-		-		-		-		-		-		-		-		-		-	

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Appendix A
Soil Data Compared to LBSV
Greenspace Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units:	Leach - Based Soil Value August 2015	Station:	SB-132-04		SB-132-04		SB-134-04		SB-134-04		SB-134-04		SB-135-04		SB-135-04		SB-135-04		SB-136-04		SB-136-04	
				Field Sample ID:	SB-132-04		SB-132-04		SB-134-04		SB-134-04 DUP		SB-134-04		SB-135-04		SB-135-04		SB-135-04		SB-136-04		SB-136-04	
				Date:	1/21/2004		1/21/2004		2/6/2004		2/6/2004		2/6/2004		1/22/2004		1/22/2004		1/22/2004		2/5/2004		2/5/2004	
				Depth:	0 - 2		8 - 10		0 - 2		0 - 2		8 - 10		0 - 2		8 - 10		10 - 12		0 - 2		8 - 10	
VOCs	1,1,1-Trichloroethane	ug/kg	18000		300	U	7	U	5.8	U	6	U	7	U	300	U	5.8	U	4.7	U	360	U	300	U
VOCs	1,1-Dichloroethane	ug/kg	11.7		300	U	7	U	5.8	U	6	U	7	U	300	U	5.8	U	4.7	U	360	U	300	U
VOCs	1,1-Dichloroethene	ug/kg	4200		300	U	7	U	5.8	U	6	U	7	U	300	U	5.8	U	4.7	U	360	U	300	U
VOCs	1,2,4-Trichlorobenzene, VOC	ug/kg	3000		300	U	7	U	5.8	U	6	U	7	U	300	U	5.8	U	4.7	U	360	U	300	U
VOCs	1,2-Dichlorobenzene, VOC	ug/kg	8700		300	U	7	U	5.8	U	6	U	7	U	300	U	5.8	U	4.7	U	360	U	300	U
VOCs	1,4-Dichlorobenzene, VOC	ug/kg	1080		300	U	7	U	5.8	U	6	U	7	U	300	U	5.8	U	4.7	U	360	U	300	U
VOCs	2-Butanone	ug/kg	27000		1200	U	28	U	23	U	24	U	28	U	1200	U	23	U	19	U	1400	U	1200	U
VOCs	2-Chlorotoluene	ug/kg	3450		-		-		-		-		-		-		-		-		-		-	
VOCs	2-Hexanone	ug/kg	132		1200	U	28	U	23	U	24	U	28	U	1200	U	23	U	19	U	1400	U	1200	U
VOCs	4-Chlorotoluene	ug/kg	3600		-		-		-		-		-		-		-		-		-		-	
VOCs	4-Methyl-2-Pentanone	ug/kg	4200		1200	U	28	U	23	U	24	U	28	U	1200	U	23	U	1.4	J	1400	U	1200	U
VOCs	Acetone	ug/kg	43500		1200	UJ	28	U	23	U	24	U	28	U	1200	UJ	23	U	5.1	J	430	J	430	J
VOCs	Benzene	ug/kg	255		300	U	7	U	5.8	U	6	U	7	U	300	U	5.8	U	4.7	U	360	U	300	U
VOCs	Bromomethane	ug/kg	28.5		300	U	7	U	5.8	U	6	U	7	U	300	U	5.8	U	4.7	U	210	J	190	J
VOCs	Carbon disulfide	ug/kg	3600		300	U	7	U	5.8	U	6	U	7	U	300	U	5.8	U	4.7	U	360	U	300	U
VOCs	Carbon tetrachloride	ug/kg	3750		300	U	7	U	5.8	U	6	U	7	U	300	U	5.8	U	4.7	U	360	U	300	U
VOCs	Chlorobenzene	ug/kg	1020		300	U	7	U	5.8	U	6	U	7	U	300	U	5.8	U	4.7	U	360	U	300	U
VOCs	Chloroform	ug/kg	330		300	U	7	U	5.8	U	6	U	7	U	300	U	5.8	U	4.7	U	360	U	300	U
VOCs	cis-1,2-Dichloroethene	ug/kg	1800		2200		1.9	J	2.9	U	3	U	3.5	U	150	U	2.9	U	2.3	U	430		40	J
VOCs	Cyclohexane	ug/kg	195000		600	U	14	U	0.69	J	12	U	14	U	600	U	12	U	9.3	U	710	U	600	U
VOCs	Dichlorodifluoromethane	ug/kg	4500		300	U	7	U	5.8	U	6	U	7	U	300	U	5.8	U	4.7	U	360	U	300	U
VOCs	Ethylbenzene	ug/kg	180000		300	U	7	U	5.8	U	6	U	7	U	300	U	5.8	U	4.7	U	360	U	300	U
VOCs	Isopropylbenzene, VOC	ug/kg	11100		300	U	7	U	5.8	U	6	U	7	U	300	U	5.8	U	4.7	U	360	U	300	U
VOCs	Methyl acetate	ug/kg	61500		600	U	14	U	12	U	12	U	14	U	600	U	12	U	9.3	U	150	J	4000	
VOCs	Methyl cyclohexane	ug/kg	1E+14		66	J	14	U	1.2	J	0.89	J	14	U	600	U	12	U	9.3	U	710	U	600	U
VOCs	Methylene chloride	ug/kg	19.5		300	U	7	U	5.8	U	6	U	7	U	300	U	5.8	U	4.7	U	180	J	160	J
VOCs	n-Hexane	ug/kg	1815000		-		-		-		-		-		-		-		-		-		-	
VOCs	o-Xylene	ug/kg	2850		-		-		-		-		-		-		-		-		-		-	
VOCs	Styrene	ug/kg	6900		300	U	7	U	5.8	U	6	U	7	U	300	U	5.8	U	4.7	U	360	U	300	U
VOCs	Tetrachloroethene	ug/kg	2250		380		6	J	3.8	J	2.6	J	3.3	J	520		60		7.4		2100		88	J
VOCs	Toluene	ug/kg	102000		300	U	7	U	1.4	J	1	J	7	U	300	U	5.8	U	0.57	J	360	U	300	U
VOCs	trans-1,2-Dichloroethene	ug/kg	6150		150	U	3.5	U	2.9	U	3	U	3.5	U	150	U	2.9	U	2.3	U	180	U	150	U
VOCs	Trichloroethene	ug/kg	540		6400		140		1.7	J	1.2	J	7	U	490		7.9		1.7	J	5400		120	J
VOCs	Trichlorofluoromethane	ug/kg	10950		300	U	7	U	5.8	U	6	U	7	U	300	UJ	5.8	U	4.7	U	360	U	300	U
VOCs	Vinyl chloride	ug/kg	135		300	U	7	U	5.8	U	6	U	7	U	300	U	5.8	U	4.7	U	360	U	300	U
VOCs	Xylene (Total)	ug/kg	2340000		600	U	14	U	12	U	12	U	14	U	600	U	12	U	9.3	U	710	U	600	U
SVOCs	2-Methylnaphthalene	ug/kg	2850		-		-		-		-		-		-		-		-		7900	U	3900	U
SVOCs	Acenaphthene	ug/kg	82500		-		-		-		-		-		-		-		-		7900	U	3900	U
SVOCs	Acenaphthylene	ug/kg	88223.85		-		-		-		-		-		-		-		-		7900	U	3900	U
SVOCs	Acetophenone	ug/kg	8700		-		-		-		-		-		-		-		-		7900	U	3900	U
SVOCs	Anthracene	ug/kg	870000		-		-		-		-		-		-		-		-		7900	U	3900	U
SVOCs	Benzaldehyde	ug/kg	6450		-		-		-		-		-		-		-		-		7900	U	3900	U
SVOCs	Benzo(a)anthracene	ug/kg	22200		-		-		-		-		-		-		-		-		7900	U	3900	U
SVOCs	Benzo(a)pyrene	ug/kg	50600		-		-		-		-		-		-		-		-		7900	U	3900	U

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Appendix A
Soil Data Compared to LBSV
Greenspace Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units:	Leach - Based Soil Value August 2015	Station:	SB-132-04		SB-132-04		SB-134-04		SB-134-04		SB-134-04		SB-135-04		SB-135-04		SB-135-04		SB-136-04		SB-136-04	
				Field Sample ID:	SB-132-04		SB-132-04		SB-134-04		SB-134-04 DUP		SB-134-04		SB-135-04		SB-135-04		SB-135-04		SB-136-04		SB-136-04	
				Date:	1/21/2004		1/21/2004		2/6/2004		2/6/2004		2/6/2004		1/22/2004		1/22/2004		1/22/2004		2/5/2004		2/5/2004	
				Depth:	0 - 2		8 - 10		0 - 2		0 - 2		8 - 10		0 - 2		8 - 10		10 - 12		0 - 2		8 - 10	
SVOCs	Benzo(b)fluoranthene	ug/kg	55300		-		-		-		-		-		-		-		-		7900	U	230	J
SVOCs	Benzo(g,h,i)perylene	ug/kg	41242500		-		-		-		-		-		-		-		-		7900	U	3900	U
SVOCs	Benzo(k)fluoranthene	ug/kg	501000		-		-		-		-		-		-		-		-		7900	U	3900	U
SVOCs	Biphenyl	ug/kg	130.5		-		-		-		-		-		-		-		-		7900	U	3900	U
SVOCs	bis(2-Ethylhexyl)phthalate	ug/kg	21000		-		-		-		-		-		-		-		-		7900	U	3900	U
SVOCs	Carbazole	ug/kg	7007.4		-		-		-		-		-		-		-		-		7900	U	3900	U
SVOCs	Chrysene	ug/kg	4410000		-		-		-		-		-		-		-		-		7900	U	3900	U
SVOCs	Dibenz(a,h)anthracene	ug/kg	94000		-		-		-		-		-		-		-		-		7900	U	3900	U
SVOCs	Dibenzofuran	ug/kg	2250		-		-		-		-		-		-		-		-		7900	U	3900	U
SVOCs	Di-n-butylphthalate	ug/kg	34500		-		-		-		-		-		-		-		-		7900	U	3900	U
SVOCs	Di-N-Octyl phthalate	ug/kg	855000		-		-		-		-		-		-		-		-		7900	U	3900	U
SVOCs	Fluoranthene	ug/kg	1335000		-		-		-		-		-		-		-		-		7900	U	280	J
SVOCs	Fluorene	ug/kg	81000		-		-		-		-		-		-		-		-		7900	U	3900	U
SVOCs	Indeno(1,2,3-cd)pyrene	ug/kg	244000		-		-		-		-		-		-		-		-		7900	U	3900	U
SVOCs	Naphthalene, SVOC	ug/kg	4050		-		-		-		-		-		-		-		-		7900	U	3900	U
SVOCs	Phenanthrene	ug/kg	2555100		-		-		-		-		-		-		-		-		7900	U	3900	U
SVOCs	Pyrene, SVOC	ug/kg	195000		-		-		-		-		-		-		-		-		7900	U	230	J
PCBs	Aroclor-1248	ug/kg	18		78	UJ	45	UJ	42	U	40	U	36	U	44	U	43	U	40	U	39	U	17	J
PCBs	Aroclor-1254	ug/kg	30		810	J	45	UJ	42	U	40	U	36	U	44	U	43	U	14	J	39	U	39	UJ
PCBs	Aroclor-1260	ug/kg	82.5		78	UJ	23	J	42	U	40	U	36	U	44	U	43	U	40	U	39	U	39	UJ
Metals	Antimony	mg/kg	7.2		-		-		-		-		-		-		-		-		7.2	UJ	7	UJ
Metals	Arsenic	mg/kg	5.8		-		-		-		-		-		-		-		-		2.7		5.2	
Metals	Barium	mg/kg	110000		-		-		-		-		-		-		-		-		24.6		237	
Metals	Beryllium	mg/kg	114.4		-		-		-		-		-		-		-		-		0.1	J	0.39	J
Metals	Cadmium	mg/kg	42		-		-		-		-		-		-		-		-		0.22	J	91.7	
Metals	Chromium Total	mg/kg	113		-		-		-		-		-		-		-		-		4.1	J	123	J
Metals	Cobalt	mg/kg	5.4		-		-		-		-		-		-		-		-		9.5		7.3	
Metals	Copper	mg/kg	920		-		-		-		-		-		-		-		-		13.5	J	91.4	J
Metals	Cyanide (total)	mg/kg	40		-		-		-		-		-		-		-		-		0.6	U	0.58	J
Metals	Lead	mg/kg	177.6		-		-		-		-		-		-		-		-		28.2	J	116	J
Metals	Manganese	mg/kg	560		-		-		-		-		-		-		-		-		169		253	
Metals	Mercury	mg/kg	23		-		-		-		-		-		-		-		-		0.045	J	0.28	
Metals	Nickel	mg/kg	363		-		-		-		-		-		-		-		-		4.1	J	34.6	J
Metals	Potassium	mg/kg	1E+14		-		-		-		-		-		-		-		-		-		-	
Metals	Selenium	mg/kg	4.3		-		-		-		-		-		-		-		-		0.6	U	0.59	U
Metals	Silver	mg/kg	6240		-		-		-		-		-		-		-		-		1.2	U	1.2	U
Metals	Thallium	mg/kg	2.98		-		-		-		-		-		-		-		-		1.2	U	1.2	U
Metals	Vanadium	mg/kg	65		-		-		-		-		-		-		-		-		5.8	J	11.6	
Metals	Zinc	mg/kg	88000		-		-		-		-		-		-		-		-		41.4	J	858	J
TPH	Diesel Range Organics (DRO)	ug/kg	2000000		-		-		-		-		-		-		-		-		-		-	
TPH	Gasoline Range Organics (GRO)	ug/kg	1000000		-		-		-		-		-		-		-		-		-		-	

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Appendix A
Soil Data Compared to LBSV
Greenspace Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units:	Leach - Based Soil Value August 2015	Station:	SB-136-04		SB-140-04		SB-140-04		SB-140-04		SB-14-02		SB-14-02		SB-14-02		SB-141-04		SB-141-04		SB-141-04	
				Field Sample ID:	SB-136-04		SB-140-04		SB-140-04		SB-140-04		SB-14-02		SB-14-02		SB-14-02		SB-141-04		SB-141-04 DUP		SB-141-04	
				Date:	2/5/2004		1/27/2004		1/27/2004		1/27/2004		4/5/2002		4/5/2002		4/5/2002		1/27/2004		1/27/2004		1/27/2004	
				Depth:	11.5 - 13.5		0 - 2		8 - 10		12 - 14		1 - 3		4 - 6		10 - 12		8 - 10		8 - 10		12 - 14	
VOCs	1,1,1-Trichloroethane	ug/kg	18000		5.2	U	260	U	240	U	4.6	U	220	U	610	U	6.3	U	410	U	360	UJ	5.1	U
VOCs	1,1-Dichloroethane	ug/kg	11.7		5.2	U	260	U	240	U	4.6	U	220	U	610	U	6.3	U	410	U	360	UJ	5.1	U
VOCs	1,1-Dichloroethene	ug/kg	4200		5.2	U	260	U	240	U	4.6	U	220	U	610	U	6.3	U	410	U	360	UJ	5.1	U
VOCs	1,2,4-Trichlorobenzene, VOC	ug/kg	3000		5.2	U	260	U	240	U	4.6	U	220	U	610	U	6.3	U	410	U	360	UJ	5.1	U
VOCs	1,2-Dichlorobenzene, VOC	ug/kg	8700		5.2	U	260	U	240	U	4.6	U	220	U	610	U	6.3	U	410	U	360	UJ	5.1	U
VOCs	1,4-Dichlorobenzene, VOC	ug/kg	1080		5.2	U	260	U	240	U	4.6	U	220	U	610	U	6.3	U	410	U	360	UJ	5.1	U
VOCs	2-Butanone	ug/kg	27000		21	U	1000	UJ	950	UJ	19	U	900	U	2400	U	25	U	1600	UJ	1400	UJ	21	U
VOCs	2-Chlorotoluene	ug/kg	3450		-		-		-		-		-		-		-		-		-		-	
VOCs	2-Hexanone	ug/kg	132		21	U	1000	UJ	950	UJ	19	U	900	U	2400	U	25	U	1600	UJ	1400	UJ	21	U
VOCs	4-Chlorotoluene	ug/kg	3600		-		-		-		-		-		-		-		-		-		-	
VOCs	4-Methyl-2-Pentanone	ug/kg	4200		21	U	1000	U	950	U	19	U	900	U	2400	U	25	U	1600	U	1400	UJ	21	U
VOCs	Acetone	ug/kg	43500		21	U	1000	UJ	950	UJ	19	U	900	U	2400	U	25	UJ	1600	UJ	1400	UJ	21	U
VOCs	Benzene	ug/kg	255		5.2	U	260	U	240	U	4.6	U	220	U	610	U	6.3	U	410	U	360	UJ	5.1	U
VOCs	Bromomethane	ug/kg	28.5		5.2	U	260	U	240	U	4.6	U	220	U	610	U	6.3	UJ	410	U	360	UJ	5.1	U
VOCs	Carbon disulfide	ug/kg	3600		5.2	U	260	U	240	U	4.6	U	220	U	610	U	6.3	U	410	U	360	UJ	5.1	U
VOCs	Carbon tetrachloride	ug/kg	3750		5.2	U	260	U	240	U	4.6	U	220	U	610	U	6.3	UJ	410	U	360	UJ	5.1	U
VOCs	Chlorobenzene	ug/kg	1020		5.2	U	260	U	240	U	4.6	U	220	U	610	U	6.3	U	410	U	360	UJ	5.1	U
VOCs	Chloroform	ug/kg	330		5.2	U	260	U	240	U	4.6	U	220	U	610	U	6.3	U	410	U	360	UJ	5.1	U
VOCs	cis-1,2-Dichloroethene	ug/kg	1800		11		130	U	120	U	2.3	U	110	U	3200		3.2	U	200	U	180	UJ	2.6	U
VOCs	Cyclohexane	ug/kg	195000		10	U	520	U	480	U	9.3	U	450	U	1200	U	13	U	820	U	710	UJ	10	U
VOCs	Dichlorodifluoromethane	ug/kg	4500		5.2	U	260	U	240	U	4.6	U	220	UJ	610	UJ	6.3	U	410	U	360	UJ	5.1	U
VOCs	Ethylbenzene	ug/kg	180000		5.2	U	260	U	240	U	4.6	U	220	U	610	U	6.3	U	410	U	360	UJ	0.4	J
VOCs	Isopropylbenzene, VOC	ug/kg	11100		5.2	U	260	U	240	U	4.6	U	220	U	610	U	6.3	U	410	U	360	UJ	5.1	U
VOCs	Methyl acetate	ug/kg	61500		10	U	340	J	480	U	9.3	U	450	U	1200	U	13	U	820	U	710	UJ	10	U
VOCs	Methyl cyclohexane	ug/kg	1E+14		10	U	96	J	480	U	0.44	J	450	U	490	J	13	U	820	U	710	UJ	10	U
VOCs	Methylene chloride	ug/kg	19.5		4	J	260	U	240	U	4.6	U	220	U	610	U	6.3	U	410	U	360	UJ	5.1	U
VOCs	n-Hexane	ug/kg	1815000		-		-		-		-		-		-		-		-		-		-	
VOCs	o-Xylene	ug/kg	2850		-		-		-		-		-		-		-		-		-		-	
VOCs	Styrene	ug/kg	6900		5.2	U	260	U	240	U	4.6	U	93	J	610	U	6.3	U	410	U	360	UJ	5.1	U
VOCs	Tetrachloroethene	ug/kg	2250		71		510		340		33		2500		21000		4.5	J	840		700	J	74	
VOCs	Toluene	ug/kg	102000		5.2	U	260	U	240	U	0.8	J	220	U	610	U	6.3	U	410	U	360	UJ	1	J
VOCs	trans-1,2-Dichloroethene	ug/kg	6150		2.6	U	130	U	120	U	2.3	U	110	U	310	U	3.2	U	200	U	180	UJ	2.6	U
VOCs	Trichloroethene	ug/kg	540		92		1800		76	J	14		300		20000		1.1	J	190	J	110	J	27	
VOCs	Trichlorofluoromethane	ug/kg	10950		5.2	U	260	U	240	U	4.6	U	220	U	610	U	6.3	U	410	U	360	UJ	5.1	U
VOCs	Vinyl chloride	ug/kg	135		5.2	U	260	U	240	U	4.6	U	220	U	610	U	6.3	U	410	U	360	UJ	5.1	U
VOCs	Xylene (Total)	ug/kg	2340000		10	U	520	U	480	U	9.3	U	450	U	1200	U	13	U	820	U	710	UJ	1.1	J
SVOCs	2-Methylnaphthalene	ug/kg	2850		18000	U	23	J	350	U	350	U	360	U	460	U	350	U	460	U	460	U	350	U
SVOCs	Acenaphthene	ug/kg	82500		18000	U	370	U	350	U	350	U	360	U	460	U	350	U	460	U	460	U	350	U
SVOCs	Acenaphthylene	ug/kg	88223.85		18000	U	370	U	350	U	350	U	360	U	460	U	350	U	460	U	460	U	350	U
SVOCs	Acetophenone	ug/kg	8700		18000	U	370	U	350	U	350	U	360	U	460	U	350	U	460	U	460	U	350	U
SVOCs	Anthracene	ug/kg	870000		18000	U	130	J	350	U	350	U	360	U	460	U	350	U	460	U	460	U	350	U
SVOCs	Benzaldehyde	ug/kg	6450		18000	U	370	U	350	U	350	U	360	U	460	U	350	U	460	U	460	U	350	U
SVOCs	Benzo(a)anthracene	ug/kg	22200		18000	U	420		350	U	350	U	360	U	100	J	350	U	460	U	460	U	350	U
SVOCs	Benzo(a)pyrene	ug/kg	50600		18000	U	320	J	350	U	350	U	360	U	120	J	350	U	460	U	460	U	350	U

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Appendix A
Soil Data Compared to LBSV
Greenspace Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units:	Leach - Based Soil Value August 2015	Station:	SB-136-04		SB-140-04		SB-140-04		SB-140-04		SB-14-02		SB-14-02		SB-14-02		SB-141-04		SB-141-04		SB-141-04	
				Field Sample ID:	SB-136-04		SB-140-04		SB-140-04		SB-140-04		SB-14-02		SB-14-02		SB-14-02		SB-141-04		SB-141-04 DUP		SB-141-04	
				Date:	2/5/2004		1/27/2004		1/27/2004		1/27/2004		4/5/2002		4/5/2002		4/5/2002		1/27/2004		1/27/2004		1/27/2004	
				Depth:	11.5 - 13.5		0 - 2		8 - 10		12 - 14		1 - 3		4 - 6		10 - 12		8 - 10		8 - 10		12 - 14	
SVOCs	Benzo(b)fluoranthene	ug/kg	55300		18000	U	500		350	U	22	J	360	U	120	J	350	U	460	U	460	U	350	U
SVOCs	Benzo(g,h,i)perylene	ug/kg	41242500		18000	U	330	J	350	U	350	U	360	U	98	J	350	U	460	U	460	U	350	U
SVOCs	Benzo(k)fluoranthene	ug/kg	501000		18000	U	210	J	350	U	350	U	360	U	74	J	350	U	460	U	460	U	350	U
SVOCs	Biphenyl	ug/kg	130.5		18000	U	370	U	350	U	350	U	360	U	460	U	350	U	460	U	460	U	350	U
SVOCs	bis(2-Ethylhexyl)phthalate	ug/kg	21000		18000	U	41	J	350	U	350	U	360	U	460	U	350	U	460	U	460	U	350	U
SVOCs	Carbazole	ug/kg	7007.4		18000	U	370	U	350	U	350	U	360	U	460	U	350	U	460	U	460	U	350	U
SVOCs	Chrysene	ug/kg	4410000		18000	U	420		350	U	350	U	360	U	110	J	350	U	460	U	460	U	350	U
SVOCs	Dibenz(a,h)anthracene	ug/kg	94000		18000	U	26	J	350	U	350	U	360	U	460	U	350	U	460	U	460	U	350	U
SVOCs	Dibenzofuran	ug/kg	2250		18000	U	21	J	350	U	350	U	360	U	460	U	350	U	460	U	460	U	350	U
SVOCs	Di-n-butylphthalate	ug/kg	34500		18000	U	370	U	350	U	350	U	2900		460	U	350	U	460	U	460	U	350	U
SVOCs	Di-N-Octyl phthalate	ug/kg	855000		18000	U	370	U	350	U	350	U	360	U	460	U	350	U	460	U	460	U	350	U
SVOCs	Fluoranthene	ug/kg	1335000		18000	U	1000		350	U	350	U	75	J	190	J	350	U	460	U	460	U	350	U
SVOCs	Fluorene	ug/kg	81000		18000	U	36	J	350	U	350	U	360	U	460	U	350	U	460	U	460	U	350	U
SVOCs	Indeno(1,2,3-cd)pyrene	ug/kg	244000		18000	U	280	J	350	U	350	U	360	U	460	U	350	U	460	U	460	U	350	U
SVOCs	Naphthalene, SVOC	ug/kg	4050		18000	U	26	J	350	U	350	U	360	U	460	U	350	U	460	U	460	U	350	U
SVOCs	Phenanthrene	ug/kg	2555100		18000	U	260	J	350	U	350	U	360	U	72	J	350	U	460	U	460	U	350	U
SVOCs	Pyrene, SVOC	ug/kg	195000		18000	U	960		350	U	19	J	360	U	130	J	350	U	460	U	460	U	350	U
PCBs	Aroclor-1248	ug/kg	18		35	U	37	U	35	U	35	U	36	U	230	U	710	U	46	U	46	U	35	U
PCBs	Aroclor-1254	ug/kg	30		35	UJ	37	U	35	U	35	U	36	U	1100		4100		46	U	46	U	35	U
PCBs	Aroclor-1260	ug/kg	82.5		35	UJ	37	U	35	U	35	U	36	U	230	U	710	U	46	U	46	U	35	U
Metals	Antimony	mg/kg	7.2		6.4	UJ	4	J	6.4	UJ	0.55	J	6.5	UJ	0.79	J	6.4	UJ	8.4	UJ	8.4	UJ	6.3	UJ
Metals	Arsenic	mg/kg	5.8		2.3		3.4		2.5		4.5		4.6	J	13	J	4.3	J	6.5		5.2		4.3	
Metals	Barium	mg/kg	110000		95.1		28.1		54.6		84.6		26		183		77.4		241		172		72.8	
Metals	Beryllium	mg/kg	114.4		0.075	J	0.56	U	0.54	U	0.53	U	0.54	U	0.76		0.54	U	0.43	J	0.35	J	0.52	U
Metals	Cadmium	mg/kg	42		69.3		0.28	J	2.4		0.41	J	0.7		2110		3340		0.42	J	0.37	J	0.13	J
Metals	Chromium Total	mg/kg	113		9	J	7.1	J	3.5	J	4.9	J	4.5		47.1		15.8		9.6	J	9	J	4.1	J
Metals	Cobalt	mg/kg	5.4		1.8	J	2	J	1.8	J	3.5	J	2.8	J	10.6	J	3.1	J	4.9	J	4	J	1.6	J
Metals	Copper	mg/kg	920		17.6	J	488	J	393	J	3480	J	7		1730		14		12.7	J	69.8	J	3.5	J
Metals	Cyanide (total)	mg/kg	40		0.5	J	2.1		0.54	U	0.71	U	0.54	U	2.6		0.22	J	0.7	U	0.7	U	0.52	U
Metals	Lead	mg/kg	177.6		26.1	J	327		2.9		13.3		4.7		191		1.8		7.7		10.9		2	
Metals	Manganese	mg/kg	560		216		160		244		508		340	J	1070	J	204	J	778		504		374	
Metals	Mercury	mg/kg	23		0.11	U	2.2		0.082	J	0.18		0.11	U	0.43		0.011	J	0.045	J	0.066	J	0.1	U
Metals	Nickel	mg/kg	363		6.8	J	15.5		3.4	J	5.6		7	J	23	J	3.8	J	11.3		9.4		3.2	J
Metals	Potassium	mg/kg	1E+14		-		-		-		-		-		-		-		-		-		-	
Metals	Selenium	mg/kg	4.3		0.53	U	0.56	U	0.54	U	0.53	U	0.54	U	0.69	U	0.54	U	0.7	U	0.7	U	0.52	U
Metals	Silver	mg/kg	6240		1.1	U	0.28	J	1.1	U	0.091	J	1.1	U	1.2	J	0.28	J	1.4	U	0.12	J	1	U
Metals	Thallium	mg/kg	2.98		1.1	U	0.65	J	1.1	U	0.86	J	2	U	3.2	U	1.8	U	0.73	J	0.61	J	1	U
Metals	Vanadium	mg/kg	65		6.3		7.1		5.6		6		7.8		21.7		5.2	J	14.3		12.4		6.1	
Metals	Zinc	mg/kg	88000		211	J	201	J	103	J	191	J	26.6	J	545	J	28.2	J	44.7	J	52	J	18.9	J
TPH	Diesel Range Organics (DRO)	ug/kg	2000000		-		-		-		-		-		-		-		-		-		-	
TPH	Gasoline Range Organics (GRO)	ug/kg	1000000		-		-		-		-		-		-		-		-		-		-	

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Appendix A
Soil Data Compared to LBSV
Greenspace Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units:	Leach - Based Soil Value August 2015	Station:	SB-143-04		SB-143-04		SB-15-02		SB-15-02		SB-15-02		SB-15-02		SB-23-02		SB-23-02		SB-24-02		SB-24-02	
				Field Sample ID:	SB-143-04		SB-143-04		SB-15-02		SB-15-02		SB-15-02		SB-15-02		SB-23-02		SB-23-02		SB-24-02		SB-24-02	
				Date:	1/27/2004		1/27/2004		4/5/2002		4/5/2002		4/5/2002		4/5/2002		4/10/2002		4/10/2002		4/10/2002		4/10/2002	
				Depth:	8 - 10		12 - 14		1 - 3		3 - 5		8 - 10		11.5 - 13.5		1 - 3		9 - 11		1 - 3		9 - 11	
VOCs	1,1,1-Trichloroethane	ug/kg	18000		5.9	U	6.1	U	4.7	U	5.7	U	4	U	220	U	5	U	240	U	10	U	5.5	U
VOCs	1,1-Dichloroethane	ug/kg	11.7		5.9	U	6.1	U	4.7	U	5.7	U	4	U	220	U	5	U	240	U	10	U	5.5	U
VOCs	1,1-Dichloroethene	ug/kg	4200		5.9	U	6.1	U	4.7	U	5.7	U	4	U	220	U	5	U	240	U	10	U	5.5	U
VOCs	1,2,4-Trichlorobenzene, VOC	ug/kg	3000		5.9	U	6.1	U	4.7	U	5.7	U	4	U	220	U	5	U	240	U	10	U	5.5	U
VOCs	1,2-Dichlorobenzene, VOC	ug/kg	8700		5.9	U	6.1	U	4.7	U	5.7	U	4	U	220	U	5	U	240	U	10	U	5.5	U
VOCs	1,4-Dichlorobenzene, VOC	ug/kg	1080		5.9	U	6.1	U	4.7	U	5.7	U	2.1	J	220	U	5	U	240	U	10	U	5.5	U
VOCs	2-Butanone	ug/kg	27000		24	U	24	U	36		18	J	130		890	U	20	U	960	U	40	U	22	U
VOCs	2-Chlorotoluene	ug/kg	3450		-		-		-		-		-		-		-		-		-		-	
VOCs	2-Hexanone	ug/kg	132		24	U	24	U	6.1	J	2.6	J	27		890	U	20	U	960	U	40	U	22	U
VOCs	4-Chlorotoluene	ug/kg	3600		-		-		-		-		-		-		-		-		-		-	
VOCs	4-Methyl-2-Pentanone	ug/kg	4200		24	U	24	U	5.4	J	3.9	J	21		890	U	20	U	960	U	40	U	22	U
VOCs	Acetone	ug/kg	43500		24	U	24	U	170	UJ	99	J	780	J	890	U	20	U	960	U	40	UJ	22	UJ
VOCs	Benzene	ug/kg	255		5.9	U	6.1	U	4.7	U	5.7	U	1.9	J	220	U	5	U	240	U	10	U	5.5	U
VOCs	Bromomethane	ug/kg	28.5		5.9	U	6.1	U	4.7	UJ	5.7	UJ	4	UJ	220	U	5	UJ	240	U	10	UJ	5.5	UJ
VOCs	Carbon disulfide	ug/kg	3600		5.9	U	6.1	U	4.7	U	5.7	U	2.1	J	220	U	5	U	240	U	10	U	5.5	U
VOCs	Carbon tetrachloride	ug/kg	3750		5.9	U	6.1	U	4.7	UJ	5.7	UJ	4	UJ	220	U	5	UJ	240	U	10	U	5.5	U
VOCs	Chlorobenzene	ug/kg	1020		5.9	U	6.1	U	4.7	U	5.7	U	4	U	220	U	5	U	240	U	10	U	5.5	U
VOCs	Chloroform	ug/kg	330		5.9	U	6.1	U	4.7	U	5.7	U	4	U	220	U	5	U	240	U	10	U	5.5	U
VOCs	cis-1,2-Dichloroethene	ug/kg	1800		3	U	3	U	2.4	U	2.9	U	11		4300		2.5	U	120	U	5	U	2.8	U
VOCs	Cyclohexane	ug/kg	195000		12	U	12	U	9.5	U	11	U	2.8	J	170	J	10	U	480	U	20	U	11	U
VOCs	Dichlorodifluoromethane	ug/kg	4500		5.9	U	6.1	U	4.7	U	5.7	U	4	U	220	UJ	5	U	240	UJ	10	U	5.5	U
VOCs	Ethylbenzene	ug/kg	180000		5.9	U	6.1	U	0.96	J	5.7	U	4.6		220	U	5	U	240	U	10	U	5.5	U
VOCs	Isopropylbenzene, VOC	ug/kg	11100		5.9	U	6.1	U	4.7	U	5.7	U	4	U	220	U	5	U	240	U	10	U	5.5	U
VOCs	Methyl acetate	ug/kg	61500		12	U	12	U	9.5	U	11	U	7.9	U	440	U	10	U	480	U	20	U	11	U
VOCs	Methyl cyclohexane	ug/kg	1E+14		12	U	12	U	9.5	U	11	U	4.9	J	180	J	10	U	170	J	20	U	11	U
VOCs	Methylene chloride	ug/kg	19.5		5.9	U	6.1	U	4.7	U	5.7	U	4	U	220	U	5	U	240	U	10	U	5.5	U
VOCs	n-Hexane	ug/kg	1815000		-		-		-		-		-		-		-		-		-		-	
VOCs	o-Xylene	ug/kg	2850		-		-		-		-		-		-		-		-		-		-	
VOCs	Styrene	ug/kg	6900		5.9	U	6.1	U	4.7	U	5.7	U	4	U	220	U	5	U	240	U	10	U	5.5	U
VOCs	Tetrachloroethene	ug/kg	2250		15		7.4		4.7	U	5.7	U	8.3		3300		3.1	J	450		10	U	5.6	
VOCs	Toluene	ug/kg	102000		0.58	J	0.7	J	1.5	J	5.7	U	8		220	U	0.69	J	240	U	10	U	0.65	J
VOCs	trans-1,2-Dichloroethene	ug/kg	6150		3	U	3	U	2.4	U	2.9	U	2	U	110	U	2.5	U	120	U	5	U	2.8	U
VOCs	Trichloroethene	ug/kg	540		9.5		5.3	J	4.7	U	5.7	U	2.4	J	400		5	U	240	U	10	U	5.5	U
VOCs	Trichlorofluoromethane	ug/kg	10950		5.9	U	6.1	U	4.7	U	5.7	U	4	U	220	U	5	UJ	160	J	10	U	5.5	U
VOCs	Vinyl chloride	ug/kg	135		5.9	U	6.1	U	4.7	U	5.7	U	4	U	220	U	5	U	240	U	10	U	5.5	U
VOCs	Xylene (Total)	ug/kg	2340000		12	U	12	U	4.9	J	11	U	14		440	U	10	U	480	U	20	U	11	U
SVOCs	2-Methylnaphthalene	ug/kg	2850		440	U	350	U	360	U	360	U	350	U	370	U	-		-		-		-	
SVOCs	Acenaphthene	ug/kg	82500		440	U	350	U	360	U	360	U	350	U	370	U	-		-		-		-	
SVOCs	Acenaphthylene	ug/kg	88223.85		440	U	350	U	360	U	360	U	350	U	370	U	-		-		-		-	
SVOCs	Acetophenone	ug/kg	8700		440	U	350	U	360	U	360	U	350	U	370	U	-		-		-		-	
SVOCs	Anthracene	ug/kg	870000		440	U	350	U	360	U	360	U	350	U	62	J	-		-		-		-	
SVOCs	Benzaldehyde	ug/kg	6450		440	U	350	U	360	U	360	U	350	U	370	U	-		-		-		-	
SVOCs	Benzo(a)anthracene	ug/kg	22200		440	U	350	U	360	U	360	U	350	U	120	J	-		-		-		-	
SVOCs	Benzo(a)pyrene	ug/kg	50600		440	U	350	U	360	U	360	U	350	U	96	J	-		-		-		-	

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Appendix A
Soil Data Compared to LBSV
Greenspace Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units:	Leach - Based Soil Value August 2015	Station:	SB-143-04		SB-143-04		SB-15-02		SB-15-02		SB-15-02		SB-15-02		SB-23-02		SB-23-02		SB-24-02		SB-24-02	
				Field Sample ID:	SB-143-04		SB-143-04		SB-15-02		SB-15-02		SB-15-02		SB-15-02		SB-23-02		SB-23-02		SB-24-02		SB-24-02	
				Date:	1/27/2004		1/27/2004		4/5/2002		4/5/2002		4/5/2002		4/5/2002		4/10/2002		4/10/2002		4/10/2002		4/10/2002	
				Depth:	8 - 10		12 - 14		1 - 3		3 - 5		8 - 10		11.5 - 13.5		1 - 3		9 - 11		1 - 3		9 - 11	
SVOCs	Benzo(b)fluoranthene	ug/kg	55300		440	U	28	J	360	U	360	U	350	U	120	J	-		-		-		-	
SVOCs	Benzo(g,h,i)perylene	ug/kg	41242500		440	U	350	U	360	U	360	U	350	U	72	J	-		-		-		-	
SVOCs	Benzo(k)fluoranthene	ug/kg	501000		440	U	350	U	360	U	360	U	350	U	61	J	-		-		-		-	
SVOCs	Biphenyl	ug/kg	130.5		440	U	350	U	360	U	360	U	350	U	370	U	-		-		-		-	
SVOCs	bis(2-Ethylhexyl)phthalate	ug/kg	21000		440	U	350	U	360	U	360	U	350	U	370	U	-		-		-		-	
SVOCs	Carbazole	ug/kg	7007.4		440	U	350	U	360	U	360	U	350	U	370	U	-		-		-		-	
SVOCs	Chrysene	ug/kg	4410000		440	U	21	J	360	U	360	U	350	U	140	J	-		-		-		-	
SVOCs	Dibenz(a,h)anthracene	ug/kg	94000		440	U	350	U	360	U	360	U	350	U	370	U	-		-		-		-	
SVOCs	Dibenzofuran	ug/kg	2250		440	U	350	U	360	U	360	U	350	U	370	U	-		-		-		-	
SVOCs	Di-n-butylphthalate	ug/kg	34500		440	U	350	U	360	U	360	U	350	U	370	U	-		-		-		-	
SVOCs	Di-N-Octyl phthalate	ug/kg	855000		440	U	350	U	360	U	360	U	350	U	370	U	-		-		-		-	
SVOCs	Fluoranthene	ug/kg	1335000		440	U	72	J	360	U	360	U	89	J	300	J	-		-		-		-	
SVOCs	Fluorene	ug/kg	81000		440	U	350	U	360	U	360	U	350	U	370	U	-		-		-		-	
SVOCs	Indeno(1,2,3-cd)pyrene	ug/kg	244000		440	U	350	U	360	U	360	U	350	U	370	U	-		-		-		-	
SVOCs	Naphthalene, SVOC	ug/kg	4050		440	U	350	U	360	U	360	U	350	U	110	J	-		-		-		-	
SVOCs	Phenanthrene	ug/kg	2555100		440	U	99	J	360	U	360	U	56	J	300	J	-		-		-		-	
SVOCs	Pyrene, SVOC	ug/kg	195000		440	U	54	J	360	UJ	360	UJ	66	J	240	J	-		-		-		-	
PCBs	Aroclor-1248	ug/kg	18		44	U	350	U	36	U	36	U	35	U	74	U	34	U	36	U	34	U	37	U
PCBs	Aroclor-1254	ug/kg	30		44	U	2400		36	U	35	J	27	J	580		34	U	36	U	34	U	37	U
PCBs	Aroclor-1260	ug/kg	82.5		44	U	350	U	36	U	36	U	35	U	74	U	34	U	36	U	34	U	37	U
Metals	Antimony	mg/kg	7.2		8	UJ	6.4	UJ	6.5	UJ	6.5	UJ	6.4	UJ	6.7	UJ	6.3	U	6.5	U	6.2	U	6.7	U
Metals	Arsenic	mg/kg	5.8		1.9		2.8		7.5	J	4.2	J	4.6	J	2	J	1.2		3.7		1.6		4.1	
Metals	Barium	mg/kg	110000		156		62.3		42.9		38.8		28.4		113		4.2	J	19	J	7.2	J	79.6	
Metals	Beryllium	mg/kg	114.4		0.67	U	0.53	U	0.54	U	0.55	U	0.54	U	0.56	U	0.52	U	0.54	U	0.52	U	0.56	U
Metals	Cadmium	mg/kg	42		0.21	J	0.16	J	3.2		14.6		1.1		2.8		0.52	U	0.23	J	0.047	J	0.19	J
Metals	Chromium Total	mg/kg	113		7.3	J	10.8	J	26.9		14.1		10		53		2.1		5.9		1.7		5.3	
Metals	Cobalt	mg/kg	5.4		1.8	J	1.6	J	4.4	J	4.3	J	3.2	J	1.1	J	0.68	J	1.8	J	1.3	J	2	J
Metals	Copper	mg/kg	920		6.8	J	14.5	J	17.1		17.8		8.5		362		2.1	J	6		7.5		6	
Metals	Cyanide (total)	mg/kg	40		0.67	U	0.53	U	0.21	J	0.55	U	0.54	U	50.5		0.52	U	0.54	U	0.52	U	0.56	U
Metals	Lead	mg/kg	177.6		4.5		6.1		14.2		15.6		7.9		4		1.1		4.7		0.86		8.1	
Metals	Manganese	mg/kg	560		175		248		310	J	304	J	244	J	218	J	114		173		97.5		305	
Metals	Mercury	mg/kg	23		0.029	J	0.075	J	0.023	J	0.031	J	0.021	J	0.11	U	0.1	U	0.073	J	0.1	U	0.087	J
Metals	Nickel	mg/kg	363		5.4		4.3		13	J	10.2	J	9.4	J	38.4	J	2	J	5.4		2.9	J	4.8	
Metals	Potassium	mg/kg	1E+14		-		-		-		-		-		-		-		-		-		-	
Metals	Selenium	mg/kg	4.3		0.67	U	0.53	U	0.54	U	0.55	U	0.54	U	0.56	U	0.52	U	0.54	U	0.52	U	0.56	U
Metals	Silver	mg/kg	6240		1.3	U	1.1		1.1	U	1.1	U	1.1	U	1.1	U	1	U	1.1	U	1	U	1.1	U
Metals	Thallium	mg/kg	2.98		1.3	U	1.1	U	1.7	U	1.7	U	1.6	U	1.4	U	1.2		1.1		1.2		1.7	
Metals	Vanadium	mg/kg	65		7.6		6.8		10.1		7.7		7.2		3.8	J	6.5		6.5		3.1	J	6.6	
Metals	Zinc	mg/kg	88000		23.2	J	26.5	J	42.9	J	37.9	J	30.6	J	22.4	J	6.2		19.2		17.3		48.2	
TPH	Diesel Range Organics (DRO)	ug/kg	2000000		-		-		-		-		-		-		-		-		-		-	
TPH	Gasoline Range Organics (GRO)	ug/kg	1000000		-		-		-		-		-		-		-		-		-		-	

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Soil Data Compared to LBSV
Greenspace Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units:	Leach - Based Soil Value August 2015	Station:	SB-25-02		SB-25-02		SB-34-02		SB-34-02		SB-34-02		SB-35-02		SB-35-02		SB-36-02		SB-36-02		SB-36-02	
				Field Sample ID:	SB-25-02		SB-25-02		SB-34-02		SB-34-02		SB-34-02		SB-35-02		SB-35-02		SB-36-02		SB-36-02		SB-36-02	
				Date:	4/10/2002		4/10/2002		4/12/2002		4/12/2002		4/12/2002		4/15/2002		4/15/2002		4/15/2002		4/15/2002		4/15/2002	
				Depth:	1 - 3		9 - 11		1 - 3		8 - 10		12 - 14		1 - 3		9 - 11		1 - 3		4 - 6		8.5 - 10.5	
VOCs	1,1,1-Trichloroethane	ug/kg	18000		240	U	4.7	U	300	U	5.4	U	4.9	U	7.3	U	4.6	U	420	U	310	U	5.5	U
VOCs	1,1-Dichloroethane	ug/kg	11.7		240	U	4.7	U	300	U	5.4	U	4.9	U	7.3	U	4.6	U	420	U	310	U	5.5	U
VOCs	1,1-Dichloroethene	ug/kg	4200		240	U	4.7	U	300	U	5.4	U	4.9	U	7.3	U	4.6	U	420	U	310	U	5.5	U
VOCs	1,2,4-Trichlorobenzene, VOC	ug/kg	3000		240	U	4.7	U	300	UJ	5.4	U	4.9	U	7.3	U	4.6	UJ	420	U	310	U	5.5	U
VOCs	1,2-Dichlorobenzene, VOC	ug/kg	8700		240	U	4.7	U	300	U	5.4	U	4.9	U	7.3	U	4.6	UJ	420	U	310	U	5.5	U
VOCs	1,4-Dichlorobenzene, VOC	ug/kg	1080		240	U	4.7	U	300	U	5.4	U	4.9	U	7.3	U	4.6	UJ	31	J	22	J	5.5	U
VOCs	2-Butanone	ug/kg	27000		970	U	19	U	1200	U	22	U	19	U	29	U	4.3	J	170	J	130	J	22	U
VOCs	2-Chlorotoluene	ug/kg	3450		-		-		-		-		-		-		-		-		-		-	
VOCs	2-Hexanone	ug/kg	132		970	U	19	U	1200	U	22	U	19	U	29	U	19	U	1700	U	1200	U	22	U
VOCs	4-Chlorotoluene	ug/kg	3600		-		-		-		-		-		-		-		-		-		-	
VOCs	4-Methyl-2-Pentanone	ug/kg	4200		970	U	19	U	1200	U	3.3	J	19	U	29	U	19	U	1700	U	1200	U	22	U
VOCs	Acetone	ug/kg	43500		300	J	19	UJ	1200	U	22	UJ	19	UJ	29	UJ	240	J	1700	UJ	1200	UJ	22	UJ
VOCs	Benzene	ug/kg	255		240	R	4.7	U	300	U	5.4	U	4.9	U	7.3	U	4.6	U	420	U	310	U	5.5	U
VOCs	Bromomethane	ug/kg	28.5		240	U	4.7	UJ	300	U	5.4	UJ	4.9	UJ	7.3	UJ	4.6	UJ	420	U	310	U	5.5	U
VOCs	Carbon disulfide	ug/kg	3600		240	U	4.7	U	300	U	5.4	U	4.9	U	7.3	U	4.6	U	420	U	310	U	5.5	U
VOCs	Carbon tetrachloride	ug/kg	3750		240	U	4.7	U	300	U	5.4	U	4.9	U	7.3	U	4.6	U	420	UJ	310	UJ	5.5	UJ
VOCs	Chlorobenzene	ug/kg	1020		240	U	4.7	U	300	U	5.4	U	4.9	U	7.3	U	4.6	U	420	U	310	U	5.5	U
VOCs	Chloroform	ug/kg	330		240	U	4.7	U	300	U	5.4	U	4.9	U	7.3	U	4.6	U	420	U	310	U	5.5	U
VOCs	cis-1,2-Dichloroethene	ug/kg	1800		120	U	2.4	U	600		2.7	U	2.4	U	3.7	U	2.3	U	110	J	240		3.7	
VOCs	Cyclohexane	ug/kg	195000		480	U	9.4	U	46	J	11	U	9.7	U	15	U	9.3	U	840	U	620	U	11	U
VOCs	Dichlorodifluoromethane	ug/kg	4500		240	U	4.7	U	300	U	5.4	U	4.9	U	7.3	U	4.6	U	420	U	310	U	5.5	U
VOCs	Ethylbenzene	ug/kg	180000		240	U	4.7	U	300	U	5.4	U	4.9	U	7.3	U	4.6	U	140	J	97	J	5.5	U
VOCs	Isopropylbenzene, VOC	ug/kg	11100		240	U	4.7	U	300	U	5.4	U	4.9	U	7.3	U	4.6	U	95	J	310	U	5.5	U
VOCs	Methyl acetate	ug/kg	61500		480	U	9.4	U	610	U	11	U	9.7	U	15	U	9.3	U	840	U	620	U	11	U
VOCs	Methyl cyclohexane	ug/kg	1E+14		190	J	9.4	U	150	J	11	U	9.7	U	15	U	9.3	U	29	J	620	U	11	U
VOCs	Methylene chloride	ug/kg	19.5		240	U	4.7	U	300	U	5.4	U	4.9	U	7.3	U	4.6	U	420	U	310	U	5.5	U
VOCs	n-Hexane	ug/kg	1815000		-		-		-		-		-		-		-		-		-		-	
VOCs	o-Xylene	ug/kg	2850		-		-		-		-		-		-		-		-		-		-	
VOCs	Styrene	ug/kg	6900		240	U	4.7	U	300	U	5.4	U	4.9	U	7.3	U	4.6	U	420	U	310	U	5.5	U
VOCs	Tetrachloroethene	ug/kg	2250		250		4.5	J	6600		4.9	J	8.4		7.3	U	41		750		1800		67	
VOCs	Toluene	ug/kg	102000		240	U	1.4	J	300	U	0.9	J	0.69	J	7.3	U	4.6	U	59	J	56	J	5.5	U
VOCs	trans-1,2-Dichloroethene	ug/kg	6150		120	U	2.4	U	150	U	2.7	U	2.4	U	3.7	U	2.3	U	210	U	150	U	2.8	U
VOCs	Trichloroethene	ug/kg	540		240	U	4.7	U	9800		5	J	13		7.3	U	4.6	U	1300		1800		51	
VOCs	Trichlorofluoromethane	ug/kg	10950		240	UJ	4.7	U	300	U	5.4	U	4.9	U	7.3	U	4.6	U	420	U	310	U	5.5	U
VOCs	Vinyl chloride	ug/kg	135		240	U	4.7	U	300	U	5.4	U	4.9	U	7.3	U	4.6	U	420	U	310	U	5.5	U
VOCs	Xylene (Total)	ug/kg	2340000		480	U	9.4	U	130	J	11	U	9.7	U	15	U	9.3	U	930		720		11	U
SVOCs	2-Methylnaphthalene	ug/kg	2850		-		-		1100	U	390	UJ	360	U	340	U	370	U	600		170	J	360	U
SVOCs	Acenaphthene	ug/kg	82500		-		-		1100	U	390	U	360	U	340	U	370	U	410	U	410	U	360	U
SVOCs	Acenaphthylene	ug/kg	88223.85		-		-		380	J	390	U	360	U	340	U	370	U	410	U	410	U	360	U
SVOCs	Acetophenone	ug/kg	8700		-		-		1100	U	390	U	360	U	340	U	370	U	410	U	410	U	360	U
SVOCs	Anthracene	ug/kg	870000		-		-		1900		390	U	360	U	340	U	370	U	410	U	410	U	360	U
SVOCs	Benzaldehyde	ug/kg	6450		-		-		1100	U	390	U	360	U	340	U	370	U	410	U	410	U	360	U
SVOCs	Benzo(a)anthracene	ug/kg	22200		-		-		4400		390	U	360	U	340	U	370	U	410	U	410	U	360	U
SVOCs	Benzo(a)pyrene	ug/kg	50600		-		-		5400		390	U	360	U	340	U	370	U	410	U	410	U	360	U

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Appendix A
Soil Data Compared to LBSV
Greenspace Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units:	Leach - Based Soil Value August 2015	Station:	SB-25-02		SB-25-02		SB-34-02		SB-34-02		SB-34-02		SB-35-02		SB-35-02		SB-36-02		SB-36-02		SB-36-02	
				Field Sample ID:	SB-25-02		SB-25-02		SB-34-02		SB-34-02		SB-34-02		SB-35-02		SB-35-02		SB-36-02		SB-36-02		SB-36-02	
				Date:	4/10/2002		4/10/2002		4/12/2002		4/12/2002		4/12/2002		4/15/2002		4/15/2002		4/15/2002		4/15/2002		4/15/2002	
				Depth:	1 - 3		9 - 11		1 - 3		8 - 10		12 - 14		1 - 3		9 - 11		1 - 3		4 - 6		8.5 - 10.5	
SVOCs	Benzo(b)fluoranthene	ug/kg	55300		-		-		5400		390	U	360	U	340	U	370	U	410	U	410	U	360	U
SVOCs	Benzo(g,h,i)perylene	ug/kg	41242500		-		-		2900		390	U	360	U	340	U	370	U	410	U	410	U	360	U
SVOCs	Benzo(k)fluoranthene	ug/kg	501000		-		-		3600		390	U	360	U	340	U	370	U	410	U	410	U	360	U
SVOCs	Biphenyl	ug/kg	130.5		-		-		1100	U	390	U	360	U	340	U	370	U	410	U	410	U	360	U
SVOCs	bis(2-Ethylhexyl)phthalate	ug/kg	21000		-		-		1100	U	390	U	360	U	340	U	370	U	410	U	410	U	360	U
SVOCs	Carbazole	ug/kg	7007.4		-		-		1100	U	390	U	360	U	340	U	370	U	410	U	410	U	360	U
SVOCs	Chrysene	ug/kg	4410000		-		-		4600		390	U	360	U	340	U	370	U	410	U	410	U	360	U
SVOCs	Dibenz(a,h)anthracene	ug/kg	94000		-		-		780	J	390	U	360	U	340	U	370	U	410	U	410	U	360	U
SVOCs	Dibenzofuran	ug/kg	2250		-		-		1100	U	390	U	360	U	340	U	370	U	81	J	410	U	360	U
SVOCs	Di-n-butylphthalate	ug/kg	34500		-		-		1100	U	390	U	360	U	340	U	370	U	410	U	410	U	360	U
SVOCs	Di-N-Octyl phthalate	ug/kg	855000		-		-		1100	U	390	U	360	U	340	U	370	U	410	U	410	U	360	U
SVOCs	Fluoranthene	ug/kg	1335000		-		-		11000		390	U	360	U	340	U	370	U	410	U	410	U	360	U
SVOCs	Fluorene	ug/kg	81000		-		-		1100	U	390	U	360	U	340	U	370	U	77	J	410	U	360	U
SVOCs	Indeno(1,2,3-cd)pyrene	ug/kg	244000		-		-		2900		390	U	360	U	340	U	370	U	410	U	410	U	360	U
SVOCs	Naphthalene, SVOC	ug/kg	4050		-		-		260	J	390	UJ	360	U	340	U	370	U	220	J	410	U	360	U
SVOCs	Phenanthrene	ug/kg	2555100		-		-		3900		390	U	360	U	340	U	370	U	88	J	410	U	360	U
SVOCs	Pyrene, SVOC	ug/kg	195000		-		-		8200		390	U	360	U	340	U	370	U	410	U	410	U	360	U
PCBs	Aroclor-1248	ug/kg	18		40	U	37	U	44	U	39	U	36	U	34	U	37	U	83	U	41	U	36	U
PCBs	Aroclor-1254	ug/kg	30		53		37	U	44	U	39	U	36	U	34	U	37	U	590		200		170	
PCBs	Aroclor-1260	ug/kg	82.5		40	U	37	U	44	U	39	U	36	U	34	U	8.9	J	83	U	41	U	36	U
Metals	Antimony	mg/kg	7.2		7.2	U	6.7	U	8	U	7.1	U	6.5	U	6.3	U	6.8	U	7.5	U	7.5	U	6.5	UJ
Metals	Arsenic	mg/kg	5.8		5.9		4		11.2		5.7		5.2		1.6		3.4		6.7		4.9		3.6	J
Metals	Barium	mg/kg	110000		131		90.6		184		94.3		81.5		12.1	J	27.8		43.5		162		90.9	J
Metals	Beryllium	mg/kg	114.4		0.63		0.56	U	0.86	U	0.59	U	0.54	U	0.52	U	0.57	U	0.52	J	0.62	U	0.54	UJ
Metals	Cadmium	mg/kg	42		0.28	J	0.12	J	0.25	J	0.09	J	0.085	J	0.097	J	0.097	J	0.13	J	0.27	J	0.057	J
Metals	Chromium Total	mg/kg	113		7.6		4		11.3		3.4		5		1.7		4.9		5		9.4		3.6	J
Metals	Cobalt	mg/kg	5.4		3.8	J	2.8	J	5.5	J	2.1	J	1.9	J	0.98	J	2.1	J	2.4	J	3.2	J	1.4	J
Metals	Copper	mg/kg	920		28.1		3.8		98.1		4.8		5.6		3.1		7.5		23.5		14.5		4.1	J
Metals	Cyanide (total)	mg/kg	40		0.6	U	0.56	U	0.67	U	0.59	U	0.54	U	0.52	U	0.57	U	0.63	U	0.62	U	0.54	U
Metals	Lead	mg/kg	177.6		46.5		2.4		288		4.6		13.5		2.7		5.8		52.2		22.6		2.6	J
Metals	Manganese	mg/kg	560		342		251		562		886		394		163		186		196		905		360	
Metals	Mercury	mg/kg	23		0.23		0.11	U	0.66		0.12	U	0.11	U	0.04	J	0.11	U	0.32		0.19		0.11	UJ
Metals	Nickel	mg/kg	363		10.4		4.5		21.5		6.7		4.6		1.8	J	5.6		6		7.1		3.5	J
Metals	Potassium	mg/kg	1E+14		-		-		-		-		-		-		-		-		-		-	
Metals	Selenium	mg/kg	4.3		0.6	U	0.56	U	0.67	U	0.59	U	0.54	U	0.52	U	0.57	U	0.48	J	0.62	U	0.54	UJ
Metals	Silver	mg/kg	6240		1.2	U	1.1	U	1.3	U	1.2	U	1.1	U	1	U	1.1	U	1.3	U	1.2	U	1.1	U
Metals	Thallium	mg/kg	2.98		1.3		1.2		1.3	U	1.2	U	1.1	U	1		1	J	1.6		1.3		1	J
Metals	Vanadium	mg/kg	65		11.8		13.7		18.3		8		7.1		2.7	J	6.6		10.9		17.2		5.1	J
Metals	Zinc	mg/kg	88000		69		15.2		174		18.2		29.2		12.1		21.4		41.8		58.7		9.9	J
TPH	Diesel Range Organics (DRO)	ug/kg	2000000		-		-		-		-		-		-		-		-		-		-	
TPH	Gasoline Range Organics (GRO)	ug/kg	1000000		-		-		-		-		-		-		-		-		-		-	

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Appendix A
Soil Data Compared to LBSV
Greenspace Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units:	Leach - Based Soil Value August 2015	Station:	SB-37-02		SB-37-02		SB-92-03		SB-92-03		SB-92-03		SB-93-03		SB-93-03		SB-94-03		SB-94-03		SB-94-03	
				Field Sample ID:	SB-37-02		SB-37-02		SB-92-03		SB-92-03		SB-92-03		SB-93-03		SB-93-03		SB-94-03		SB-94-03		SB-94-03 DUP	
				Date:	4/15/2002		4/15/2002		4/1/2003		4/1/2003		4/1/2003		4/1/2003		4/1/2003		4/1/2003		4/1/2003		4/1/2003	
				Depth:	1 - 3		9 - 11		1 - 3		6.5 - 8.5		9 - 11		1 - 3		8.5 - 10.5		1 - 3		9 - 11		9 - 11	
VOCs	1,1,1-Trichloroethane	ug/kg	18000		4.4	U	4.7	U	200	U	240	U	250	U	230	UJ	220	U	-		-		-	
VOCs	1,1-Dichloroethane	ug/kg	11.7		4.4	U	4.7	U	200	U	240	U	250	U	89	J	220	U	-		-		-	
VOCs	1,1-Dichloroethene	ug/kg	4200		4.4	U	4.7	U	200	U	240	U	250	U	230	UJ	220	U	-		-		-	
VOCs	1,2,4-Trichlorobenzene, VOC	ug/kg	3000		4.4	U	4.7	U	200	U	240	U	250	U	230	UJ	220	U	-		-		-	
VOCs	1,2-Dichlorobenzene, VOC	ug/kg	8700		4.4	U	4.7	U	200	U	240	U	250	U	230	UJ	220	U	-		-		-	
VOCs	1,4-Dichlorobenzene, VOC	ug/kg	1080		4.4	U	4.7	U	200	U	240	U	250	U	230	UJ	220	U	-		-		-	
VOCs	2-Butanone	ug/kg	27000		18	U	19	U	790	U	980	U	1000	U	910	UJ	900	U	-		-		-	
VOCs	2-Chlorotoluene	ug/kg	3450		-		-		-		-		-		-		-		-		-		-	
VOCs	2-Hexanone	ug/kg	132		18	U	19	U	790	U	980	U	1000	U	910	UJ	900	U	-		-		-	
VOCs	4-Chlorotoluene	ug/kg	3600		-		-		-		-		-		-		-		-		-		-	
VOCs	4-Methyl-2-Pentanone	ug/kg	4200		18	U	19	U	790	U	980	U	1000	U	910	UJ	900	U	-		-		-	
VOCs	Acetone	ug/kg	43500		18	UJ	19	UJ	790	UJ	980	UJ	1000	UJ	910	UJ	900	UJ	-		-		-	
VOCs	Benzene	ug/kg	255		4.4	U	4.7	U	200	U	240	U	250	U	230	UJ	220	U	-		-		-	
VOCs	Bromomethane	ug/kg	28.5		4.4	U	4.7	UJ	200	U	240	U	250	U	230	UJ	220	U	-		-		-	
VOCs	Carbon disulfide	ug/kg	3600		4.4	U	4.7	U	200	U	240	U	250	U	230	UJ	220	U	-		-		-	
VOCs	Carbon tetrachloride	ug/kg	3750		4.4	UJ	4.7	UJ	200	U	240	U	250	U	230	UJ	220	U	-		-		-	
VOCs	Chlorobenzene	ug/kg	1020		4.4	U	4.7	U	200	U	240	U	250	U	230	UJ	220	U	-		-		-	
VOCs	Chloroform	ug/kg	330		4.4	U	4.7	U	200	U	240	U	250	U	230	UJ	220	U	-		-		-	
VOCs	cis-1,2-Dichloroethene	ug/kg	1800		1.4	J	4.6		99	U	120	U	940		1800	J	110	U	-		-		-	
VOCs	Cyclohexane	ug/kg	195000		8.8	U	9.4	U	400	U	490	U	500	U	450	UJ	450	U	-		-		-	
VOCs	Dichlorodifluoromethane	ug/kg	4500		4.4	U	4.7	U	200	U	240	U	250	U	230	UJ	220	U	-		-		-	
VOCs	Ethylbenzene	ug/kg	180000		4.4	U	4.7	U	200	U	240	U	250	U	230	UJ	220	U	-		-		-	
VOCs	Isopropylbenzene, VOC	ug/kg	11100		4.4	U	4.7	U	200	U	240	U	250	U	230	UJ	220	U	-		-		-	
VOCs	Methyl acetate	ug/kg	61500		8.8	U	9.4	U	400	U	490	U	500	U	450	UJ	450	U	-		-		-	
VOCs	Methyl cyclohexane	ug/kg	1E+14		8.8	U	9.4	U	400	U	490	U	500	U	450	UJ	450	U	-		-		-	
VOCs	Methylene chloride	ug/kg	19.5		4.4	U	4.7	U	200	U	240	U	250	U	230	UJ	220	U	-		-		-	
VOCs	n-Hexane	ug/kg	1815000		-		-		-		-		-		-		-		-		-		-	
VOCs	o-Xylene	ug/kg	2850		-		-		-		-		-		-		-		-		-		-	
VOCs	Styrene	ug/kg	6900		4.4	U	4.7	U	200	U	240	U	250	U	230	UJ	220	U	-		-		-	
VOCs	Tetrachloroethene	ug/kg	2250		14		140		1200		1100		5600		210	J	1300		-		-		-	
VOCs	Toluene	ug/kg	102000		0.49	J	0.68	J	200	U	240	U	250	U	230	UJ	220	U	-		-		-	
VOCs	trans-1,2-Dichloroethene	ug/kg	6150		2.2	U	2.4	U	99	U	120	U	130	U	110	UJ	110	U	-		-		-	
VOCs	Trichloroethene	ug/kg	540		5.5		120		110	J	100	J	980		990	J	570		-		-		-	
VOCs	Trichlorofluoromethane	ug/kg	10950		4.4	U	4.7	U	200	U	240	U	250	U	230	UJ	220	U	-		-		-	
VOCs	Vinyl chloride	ug/kg	135		4.4	U	4.7	U	200	U	240	U	250	U	230	UJ	220	U	-		-		-	
VOCs	Xylene (Total)	ug/kg	2340000		8.8	U	9.4	U	400	U	490	U	500	U	450	UJ	450	U	-		-		-	
SVOCs	2-Methylnaphthalene	ug/kg	2850		370	U	360	U	360	U	350	U	410	U	1400	U	370	U	860	U	340	U	340	U
SVOCs	Acenaphthene	ug/kg	82500		370	U	360	U	360	U	350	U	410	U	1400	U	370	U	860	U	340	U	340	U
SVOCs	Acenaphthylene	ug/kg	88223.85		370	U	360	U	360	U	350	U	410	U	1400	U	370	U	860	U	340	U	340	U
SVOCs	Acetophenone	ug/kg	8700		370	U	360	U	360	U	350	U	410	U	1400	U	370	U	860	U	340	U	340	U
SVOCs	Anthracene	ug/kg	870000		370	U	360	U	360	U	350	U	410	U	1400	U	370	U	860	U	340	U	340	U
SVOCs	Benzaldehyde	ug/kg	6450		370	U	360	U	360	U	350	U	410	U	1400	U	370	U	860	U	340	U	340	U
SVOCs	Benzo(a)anthracene	ug/kg	22200		370	U	360	U	360	U	350	U	110	J	1400	U	370	U	860	U	340	U	340	U
SVOCs	Benzo(a)pyrene	ug/kg	50600		370	U	360	U	360	U	350	U	43	J	1400	U	370	U	860	U	340	U	340	U

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Appendix A
Soil Data Compared to LBSV
Greenspace Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units:	Leach - Based Soil Value August 2015	Station:	SB-37-02		SB-37-02		SB-92-03		SB-92-03		SB-92-03		SB-93-03		SB-93-03		SB-94-03		SB-94-03		SB-94-03	
				Field Sample ID:	SB-37-02		SB-37-02		SB-92-03		SB-92-03		SB-92-03		SB-93-03		SB-93-03		SB-94-03		SB-94-03		SB-94-03 DUP	
				Date:	4/15/2002		4/15/2002		4/1/2003		4/1/2003		4/1/2003		4/1/2003		4/1/2003		4/1/2003		4/1/2003		4/1/2003	
				Depth:	1 - 3		9 - 11		1 - 3		6.5 - 8.5		9 - 11		1 - 3		8.5 - 10.5		1 - 3		9 - 11		9 - 11	
SVOCs	Benzo(b)fluoranthene	ug/kg	55300		370	U	360	U	360	U	350	U	43	J	1400	U	370	U	860	U	340	U	340	U
SVOCs	Benzo(g,h,i)perylene	ug/kg	41242500		370	U	360	U	360	U	350	U	30	J	1400	U	370	U	860	U	340	U	340	U
SVOCs	Benzo(k)fluoranthene	ug/kg	501000		370	U	360	U	360	U	350	U	38	J	1400	U	370	U	860	U	340	U	340	U
SVOCs	Biphenyl	ug/kg	130.5		370	U	360	U	360	U	350	U	410	U	1400	U	370	U	860	U	340	U	340	U
SVOCs	bis(2-Ethylhexyl)phthalate	ug/kg	21000		370	U	360	U	360	U	29	J	43	J	71	J	370	U	2300		14	J	16	J
SVOCs	Carbazole	ug/kg	7007.4		370	U	360	U	360	U	350	U	410	U	1400	U	370	U	860	U	340	U	340	U
SVOCs	Chrysene	ug/kg	4410000		370	U	360	U	360	U	350	U	44	J	1400	U	370	U	860	U	340	U	340	U
SVOCs	Dibenz(a,h)anthracene	ug/kg	94000		370	U	360	U	360	U	350	U	410	U	1400	U	370	U	860	U	340	U	340	U
SVOCs	Dibenzofuran	ug/kg	2250		370	U	360	U	360	U	350	U	410	U	1400	U	370	U	860	U	340	U	340	U
SVOCs	Di-n-butylphthalate	ug/kg	34500		370	U	360	U	360	U	350	U	410	U	1400	U	370	U	860	U	340	U	340	U
SVOCs	Di-N-Octyl phthalate	ug/kg	855000		370	U	360	U	360	U	350	U	410	U	1400	U	370	U	860	U	340	U	340	U
SVOCs	Fluoranthene	ug/kg	1335000		370	U	360	U	360	U	350	U	77	J	1400	U	370	U	860	U	340	U	340	U
SVOCs	Fluorene	ug/kg	81000		370	U	360	U	360	U	350	U	69	J	1400	U	370	U	860	U	340	U	340	U
SVOCs	Indeno(1,2,3-cd)pyrene	ug/kg	244000		370	U	360	U	360	U	350	U	410	U	1400	U	370	U	860	U	340	U	340	U
SVOCs	Naphthalene, SVOC	ug/kg	4050		370	U	360	U	360	U	350	U	410	U	1400	U	370	U	860	U	340	U	340	U
SVOCs	Phenanthrene	ug/kg	2555100		370	U	360	U	360	U	350	U	46	J	1400	U	370	U	860	U	340	U	340	U
SVOCs	Pyrene, SVOC	ug/kg	195000		370	U	360	U	360	U	350	U	83	J	1400	U	370	U	860	U	340	U	340	U
PCBs	Aroclor-1248	ug/kg	18		180	U	36	U	-		-		-		-		-		-		-		-	
PCBs	Aroclor-1254	ug/kg	30		910		200		-		-		-		-		-		-		-		-	
PCBs	Aroclor-1260	ug/kg	82.5		180	U	36	U	-		-		-		-		-		-		-		-	
Metals	Antimony	mg/kg	7.2		6.7	UJ	6.5	UJ	6.5	UJ	6.4	UJ	7.5	UJ	6.5	UJ	6.7	UJ	-		-		-	
Metals	Arsenic	mg/kg	5.8		6	J	4.3	J	4.7		2.3		12.3		4.4		3.4		-		-		-	
Metals	Barium	mg/kg	110000		122	J	54.8	J	28.2	J	14.8	J	154	J	46.2	J	79.8	J	-		-		-	
Metals	Beryllium	mg/kg	114.4		0.062	J	0.54	UJ	0.54	U	0.53	U	0.62	U	0.55	U	0.56	U	-		-		-	
Metals	Cadmium	mg/kg	42		9.4	J	0.091	J	0.078	J	0.14	J	3.3		2.3		0.13	J	-		-		-	
Metals	Chromium Total	mg/kg	113		12.4	J	4.9	J	5.4	J	4.7	J	25.8	J	17.5	J	3.9	J	-		-		-	
Metals	Cobalt	mg/kg	5.4		1.9	J	1.8	J	3	J	1.7	J	3.1	J	2.7	J	1.4	J	-		-		-	
Metals	Copper	mg/kg	920		104	J	6.5	J	13.7	J	5.6	J	48.1	J	31.5	J	2.8	J	-		-		-	
Metals	Cyanide (total)	mg/kg	40		0.22	J	0.54	U	0.18	J	0.53	U	0.95		1.3		0.56	U	-		-		-	
Metals	Lead	mg/kg	177.6		216	J	17.4	J	8.7	J	2.8	J	20.7	J	13.3	J	2.4	J	-		-		-	
Metals	Manganese	mg/kg	560		324		238		231	J	139	J	904	J	270	J	404	J	-		-		-	
Metals	Mercury	mg/kg	23		0.18	J	0.11	R	0.11	U	0.11	U	0.12	U	0.13		0.11	U	-		-		-	
Metals	Nickel	mg/kg	363		21.7	J	4.7	J	7.7		4.1	J	21.2		9.6		3.2	J	-		-		-	
Metals	Potassium	mg/kg	1E+14		-		-		-		-		-		-		-		-		-		-	
Metals	Selenium	mg/kg	4.3		0.56	UJ	0.54	UJ	0.54	U	0.53	U	0.62	U	0.55	U	0.56	U	-		-		-	
Metals	Silver	mg/kg	6240		1.1	U	1.1	U	1.1	U	0.16	J	1.2	U	0.35	J	1.1	U	-		-		-	
Metals	Thallium	mg/kg	2.98		1.4	J	0.92	J	1.1	U	1.1	U	1.2	U	1.1	U	1.1	U	-		-		-	
Metals	Vanadium	mg/kg	65		6.2	J	6.8	J	8.4		4.8	J	8.7		8		4.6	J	-		-		-	
Metals	Zinc	mg/kg	88000		204	J	26.8	J	29.7	J	16.4	J	127	J	141	J	11.8	J	-		-		-	
TPH	Diesel Range Organics (DRO)	ug/kg	2000000		-		-		-		-		-		-		-		-		-		-	
TPH	Gasoline Range Organics (GRO)	ug/kg	1000000		-		-		-		-		-		-		-		-		-		-	

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Appendix A
Soil Data Compared to LBSV
Greenspace Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units:	Leach - Based Soil Value August 2015	Station:	SB-95-03		SB-95-03		SB-96-03		SB-96-03		TT-PCB-15E-N		TT-PCB-15E-N		TT-PCB-15E-S		TT-PCB-15E-S		TT-PCB-15W-N		TT-PCB-15W-N	
				Field Sample ID:	SB-95-03		SB-95-03		SB-96-03		SB-96-03		TT-PCB-15E-N0-050214		TT-PCB-15E-N4-050214		TT-PCB-15E-S0-050214		TT-PCB-15E-S4-050214		TT-PCB-15W-N0-050214		TT-PCB-15W-N4-050214	
				Date:	4/1/2003		4/1/2003		4/1/2003		4/1/2003		5/2/2014		5/2/2014		5/2/2014		5/2/2014		5/2/2014		5/2/2014	
				Depth:	1 - 3		9 - 11		1 - 3		9 - 11		3.5-4.5		7.5-8.5		3.5-4.5		7.5-8.5		3.5-4.5		7.5-8.5	
VOCs	1,1,1-Trichloroethane	ug/kg	18000		-		-		-		-		-		-		-		-		-		-	
VOCs	1,1-Dichloroethane	ug/kg	11.7		-		-		-		-		-		-		-		-		-		-	
VOCs	1,1-Dichloroethene	ug/kg	4200		-		-		-		-		-		-		-		-		-		-	
VOCs	1,2,4-Trichlorobenzene, VOC	ug/kg	3000		-		-		-		-		-		-		-		-		-		-	
VOCs	1,2-Dichlorobenzene, VOC	ug/kg	8700		-		-		-		-		-		-		-		-		-		-	
VOCs	1,4-Dichlorobenzene, VOC	ug/kg	1080		-		-		-		-		-		-		-		-		-		-	
VOCs	2-Butanone	ug/kg	27000		-		-		-		-		-		-		-		-		-		-	
VOCs	2-Chlorotoluene	ug/kg	3450		-		-		-		-		-		-		-		-		-		-	
VOCs	2-Hexanone	ug/kg	132		-		-		-		-		-		-		-		-		-		-	
VOCs	4-Chlorotoluene	ug/kg	3600		-		-		-		-		-		-		-		-		-		-	
VOCs	4-Methyl-2-Pentanone	ug/kg	4200		-		-		-		-		-		-		-		-		-		-	
VOCs	Acetone	ug/kg	43500		-		-		-		-		-		-		-		-		-		-	
VOCs	Benzene	ug/kg	255		-		-		-		-		-		-		-		-		-		-	
VOCs	Bromomethane	ug/kg	28.5		-		-		-		-		-		-		-		-		-		-	
VOCs	Carbon disulfide	ug/kg	3600		-		-		-		-		-		-		-		-		-		-	
VOCs	Carbon tetrachloride	ug/kg	3750		-		-		-		-		-		-		-		-		-		-	
VOCs	Chlorobenzene	ug/kg	1020		-		-		-		-		-		-		-		-		-		-	
VOCs	Chloroform	ug/kg	330		-		-		-		-		-		-		-		-		-		-	
VOCs	cis-1,2-Dichloroethene	ug/kg	1800		-		-		-		-		-		-		-		-		-		-	
VOCs	Cyclohexane	ug/kg	195000		-		-		-		-		-		-		-		-		-		-	
VOCs	Dichlorodifluoromethane	ug/kg	4500		-		-		-		-		-		-		-		-		-		-	
VOCs	Ethylbenzene	ug/kg	180000		-		-		-		-		-		-		-		-		-		-	
VOCs	Isopropylbenzene, VOC	ug/kg	11100		-		-		-		-		-		-		-		-		-		-	
VOCs	Methyl acetate	ug/kg	61500		-		-		-		-		-		-		-		-		-		-	
VOCs	Methyl cyclohexane	ug/kg	1E+14		-		-		-		-		-		-		-		-		-		-	
VOCs	Methylene chloride	ug/kg	19.5		-		-		-		-		-		-		-		-		-		-	
VOCs	n-Hexane	ug/kg	1815000		-		-		-		-		-		-		-		-		-		-	
VOCs	o-Xylene	ug/kg	2850		-		-		-		-		-		-		-		-		-		-	
VOCs	Styrene	ug/kg	6900		-		-		-		-		-		-		-		-		-		-	
VOCs	Tetrachloroethene	ug/kg	2250		-		-		-		-		-		-		-		-		-		-	
VOCs	Toluene	ug/kg	102000		-		-		-		-		-		-		-		-		-		-	
VOCs	trans-1,2-Dichloroethene	ug/kg	6150		-		-		-		-		-		-		-		-		-		-	
VOCs	Trichloroethene	ug/kg	540		-		-		-		-		-		-		-		-		-		-	
VOCs	Trichlorofluoromethane	ug/kg	10950		-		-		-		-		-		-		-		-		-		-	
VOCs	Vinyl chloride	ug/kg	135		-		-		-		-		-		-		-		-		-		-	
VOCs	Xylene (Total)	ug/kg	2340000		-		-		-		-		-		-		-		-		-		-	
SVOCs	2-Methylnaphthalene	ug/kg	2850		350	U	1800	U	100	J	350	U	-		-		-		-		-		-	
SVOCs	Acenaphthene	ug/kg	82500		16	J	1800	U	85	J	350	U	-		-		-		-		-		-	
SVOCs	Acenaphthylene	ug/kg	88223.85		350	U	1800	U	59	J	350	U	-		-		-		-		-		-	
SVOCs	Acetophenone	ug/kg	8700		350	U	1800	U	420	U	350	U	-		-		-		-		-		-	
SVOCs	Anthracene	ug/kg	870000		24	J	1800	U	290	J	350	U	-		-		-		-		-		-	
SVOCs	Benzaldehyde	ug/kg	6450		350	U	1800	U	420	U	350	U	-		-		-		-		-		-	
SVOCs	Benzo(a)anthracene	ug/kg	22200		100	J	1800	U	610		350	U	-		-		-		-		-		-	
SVOCs	Benzo(a)pyrene	ug/kg	50600		41	J	1800	U	520		350	U	-		-		-		-		-		-	

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Appendix A
Soil Data Compared to LBSV
Greenspace Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units:	Leach - Based Soil Value August 2015	Station:	SB-95-03		SB-95-03		SB-96-03		SB-96-03		TT-PCB-15E-N		TT-PCB-15E-N		TT-PCB-15E-S		TT-PCB-15E-S		TT-PCB-15W-N		TT-PCB-15W-N	
				Field Sample ID:	SB-95-03		SB-95-03		SB-96-03		SB-96-03		TT-PCB-15E-N0-050214		TT-PCB-15E-N4-050214		TT-PCB-15E-S0-050214		TT-PCB-15E-S4-050214		TT-PCB-15W-N0-050214		TT-PCB-15W-N4-050214	
				Date:	4/1/2003		4/1/2003		4/1/2003		4/1/2003		5/2/2014		5/2/2014		5/2/2014		5/2/2014		5/2/2014		5/2/2014	
				Depth:	1 - 3		9 - 11		1 - 3		9 - 11		3.5-4.5		7.5-8.5		3.5-4.5		7.5-8.5		3.5-4.5		7.5-8.5	
SVOCs	Benzo(b)fluoranthene	ug/kg	55300		44	J	1800	U	400	J	350	U	-		-		-		-		-		-	
SVOCs	Benzo(g,h,i)perylene	ug/kg	41242500		27	J	1800	U	230	J	350	U	-		-		-		-		-		-	
SVOCs	Benzo(k)fluoranthene	ug/kg	501000		28	J	1800	U	410	J	350	U	-		-		-		-		-		-	
SVOCs	Biphenyl	ug/kg	130.5		350	U	1800	U	80	J	350	U	-		-		-		-		-		-	
SVOCs	bis(2-Ethylhexyl)phthalate	ug/kg	21000		15	J	1800	U	150	J	350	U	-		-		-		-		-		-	
SVOCs	Carbazole	ug/kg	7007.4		350	U	1800	U	110	J	350	U	-		-		-		-		-		-	
SVOCs	Chrysene	ug/kg	4410000		47	J	1800	U	640		350	U	-		-		-		-		-		-	
SVOCs	Dibenz(a,h)anthracene	ug/kg	94000		350	U	1800	U	84	J	350	U	-		-		-		-		-		-	
SVOCs	Dibenzofuran	ug/kg	2250		350	U	1800	U	140	J	350	U	-		-		-		-		-		-	
SVOCs	Di-n-butylphthalate	ug/kg	34500		350	U	1800	U	420	U	350	U	-		-		-		-		-		-	
SVOCs	Di-N-Octyl phthalate	ug/kg	855000		350	U	1800	U	420	U	350	U	-		-		-		-		-		-	
SVOCs	Fluoranthene	ug/kg	1335000		130	J	1800	U	1500		350	U	-		-		-		-		-		-	
SVOCs	Fluorene	ug/kg	81000		67	J	1800	U	210	J	350	U	-		-		-		-		-		-	
SVOCs	Indeno(1,2,3-cd)pyrene	ug/kg	244000		25	J	1800	U	230	J	350	U	-		-		-		-		-		-	
SVOCs	Naphthalene, SVOC	ug/kg	4050		350	U	1800	U	110	J	350	U	-		-		-		-		-		-	
SVOCs	Phenanthrene	ug/kg	2555100		120	J	1800	U	1700		350	U	-		-		-		-		-		-	
SVOCs	Pyrene, SVOC	ug/kg	195000		110	J	1800	U	1300		350	U	-		-		-		-		-		-	
PCBs	Aroclor-1248	ug/kg	18		-		-		-		-		110	U	140	U	120	U	130	U	120	U	120	U
PCBs	Aroclor-1254	ug/kg	30		-		-		-		-		14000		9300		13000		10000		440		4400	
PCBs	Aroclor-1260	ug/kg	82.5		-		-		-		-		560	U	690	U	580	U	670	U	120	U	120	U
Metals	Antimony	mg/kg	7.2		-		-		-		-		-		-		-		-		-		-	
Metals	Arsenic	mg/kg	5.8		-		-		-		-		-		-		-		-		-		-	
Metals	Barium	mg/kg	110000		-		-		-		-		-		-		-		-		-		-	
Metals	Beryllium	mg/kg	114.4		-		-		-		-		-		-		-		-		-		-	
Metals	Cadmium	mg/kg	42		-		-		-		-		-		-		-		-		-		-	
Metals	Chromium Total	mg/kg	113		-		-		-		-		-		-		-		-		-		-	
Metals	Cobalt	mg/kg	5.4		-		-		-		-		-		-		-		-		-		-	
Metals	Copper	mg/kg	920		-		-		-		-		-		-		-		-		-		-	
Metals	Cyanide (total)	mg/kg	40		-		-		-		-		-		-		-		-		-		-	
Metals	Lead	mg/kg	177.6		-		-		-		-		-		-		-		-		-		-	
Metals	Manganese	mg/kg	560		-		-		-		-		-		-		-		-		-		-	
Metals	Mercury	mg/kg	23		-		-		-		-		-		-		-		-		-		-	
Metals	Nickel	mg/kg	363		-		-		-		-		-		-		-		-		-		-	
Metals	Potassium	mg/kg	1E+14		-		-		-		-		-		-		-		-		-		-	
Metals	Selenium	mg/kg	4.3		-		-		-		-		-		-		-		-		-		-	
Metals	Silver	mg/kg	6240		-		-		-		-		-		-		-		-		-		-	
Metals	Thallium	mg/kg	2.98		-		-		-		-		-		-		-		-		-		-	
Metals	Vanadium	mg/kg	65		-		-		-		-		-		-		-		-		-		-	
Metals	Zinc	mg/kg	88000		-		-		-		-		-		-		-		-		-		-	
TPH	Diesel Range Organics (DRO)	ug/kg	2000000		-		-		-		-		-		-		-		-		-		-	
TPH	Gasoline Range Organics (GRO)	ug/kg	1000000		-		-		-		-		-		-		-		-		-		-	

See notes on page 23

Appendix A
Soil Data Compared to LBSV
Greenspace Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units:	Leach - Based Soil Value August 2015	Station:	TT-PCB-15W-S		TT-PCB-15W-S		TT-PCB-250-N		TT-PCB-250-N		TT-PCB-250-S		TT-PCB-250-S		TT-SB249		TT-SB249		TT-SB249		TT-SB249	
				Field Sample ID:	TT-PCB-15W-S0-050214		TT-PCB-15W-S4-050214		TT-PCB-250-N0-050214		TT-PCB-250-N4-050214		TT-PCB-250-S0-050214		TT-PCB-250-S4-050214		TT-SB249-C-06		TT-SB249-G-02		TT-SB249-G-04		TT-SB249-G-06	
				Date:	5/2/2014		5/2/2014		5/2/2014		5/2/2014		5/2/2014		5/2/2014		4/3/2013		4/3/2013		4/3/2013		4/3/2013	
				Depth:	3.5-4.5		7.5-8.5		3.5-4.5		7.5-8.5		3.5-4.5		7.5-8.5		4 - 6		0 - 2		2 - 4		4 - 6	
VOCs	1,1,1-Trichloroethane	ug/kg	18000		-		-		-		-		-		-		-		-		-		20.4	
VOCs	1,1-Dichloroethane	ug/kg	11.7		-		-		-		-		-		-		-		-		-		9.34	U
VOCs	1,1-Dichloroethene	ug/kg	4200		-		-		-		-		-		-		-		-		-		9.34	U
VOCs	1,2,4-Trichlorobenzene, VOC	ug/kg	3000		-		-		-		-		-		-		-		-		-		-	
VOCs	1,2-Dichlorobenzene, VOC	ug/kg	8700		-		-		-		-		-		-		-		-		-		-	
VOCs	1,4-Dichlorobenzene, VOC	ug/kg	1080		-		-		-		-		-		-		-		-		-		-	
VOCs	2-Butanone	ug/kg	27000		-		-		-		-		-		-		-		-		-		37.4	U
VOCs	2-Chlorotoluene	ug/kg	3450		-		-		-		-		-		-		-		-		-		472	UD
VOCs	2-Hexanone	ug/kg	132		-		-		-		-		-		-		-		-		-		37.4	U
VOCs	4-Chlorotoluene	ug/kg	3600		-		-		-		-		-		-		-		-		-		472	UD
VOCs	4-Methyl-2-Pentanone	ug/kg	4200		-		-		-		-		-		-		-		-		-		37.4	U
VOCs	Acetone	ug/kg	43500		-		-		-		-		-		-		-		-		-		93.4	U
VOCs	Benzene	ug/kg	255		-		-		-		-		-		-		-		-		-		13.3	
VOCs	Bromomethane	ug/kg	28.5		-		-		-		-		-		-		-		-		-		9.34	U
VOCs	Carbon disulfide	ug/kg	3600		-		-		-		-		-		-		-		-		-		37.4	U
VOCs	Carbon tetrachloride	ug/kg	3750		-		-		-		-		-		-		-		-		-		9.34	U
VOCs	Chlorobenzene	ug/kg	1020		-		-		-		-		-		-		-		-		-		472	UD
VOCs	Chloroform	ug/kg	330		-		-		-		-		-		-		-		-		-		9.34	U
VOCs	cis-1,2-Dichloroethene	ug/kg	1800		-		-		-		-		-		-		-		-		-		28.8	
VOCs	Cyclohexane	ug/kg	195000		-		-		-		-		-		-		-		-		-		-	
VOCs	Dichlorodifluoromethane	ug/kg	4500		-		-		-		-		-		-		-		-		-		9.34	U
VOCs	Ethylbenzene	ug/kg	180000		-		-		-		-		-		-		-		-		-		472	UD
VOCs	Isopropylbenzene, VOC	ug/kg	11100		-		-		-		-		-		-		-		-		-		-	
VOCs	Methyl acetate	ug/kg	61500		-		-		-		-		-		-		-		-		-		-	
VOCs	Methyl cyclohexane	ug/kg	1E+14		-		-		-		-		-		-		-		-		-		-	
VOCs	Methylene chloride	ug/kg	19.5		-		-		-		-		-		-		-		-		-		9.34	U
VOCs	n-Hexane	ug/kg	1815000		-		-		-		-		-		-		-		-		-		20.3	
VOCs	o-Xylene	ug/kg	2850		-		-		-		-		-		-		-		-		-		472	UD
VOCs	Styrene	ug/kg	6900		-		-		-		-		-		-		-		-		-		472	UD
VOCs	Tetrachloroethene	ug/kg	2250		-		-		-		-		-		-		-		-		-		6480	D
VOCs	Toluene	ug/kg	102000		-		-		-		-		-		-		-		-		-		9.34	U
VOCs	trans-1,2-Dichloroethene	ug/kg	6150		-		-		-		-		-		-		-		-		-		9.34	U
VOCs	Trichloroethene	ug/kg	540		-		-		-		-		-		-		-		-		-		356	
VOCs	Trichlorofluoromethane	ug/kg	10950		-		-		-		-		-		-		-		-		-		9.34	U
VOCs	Vinyl chloride	ug/kg	135		-		-		-		-		-		-		-		-		-		9.34	U
VOCs	Xylene (Total)	ug/kg	2340000		-		-		-		-		-		-		-		-		-		944	UD
SVOCs	2-Methylnaphthalene	ug/kg	2850		-		-		-		-		-		-		-		-		-		-	
SVOCs	Acenaphthene	ug/kg	82500		-		-		-		-		-		-		-		-		-		-	
SVOCs	Acenaphthylene	ug/kg	88223.85		-		-		-		-		-		-		-		-		-		-	
SVOCs	Acetophenone	ug/kg	8700		-		-		-		-		-		-		-		-		-		-	
SVOCs	Anthracene	ug/kg	870000		-		-		-		-		-		-		-		-		-		-	
SVOCs	Benzaldehyde	ug/kg	6450		-		-		-		-		-		-		-		-		-		-	
SVOCs	Benzo(a)anthracene	ug/kg	22200		-		-		-		-		-		-		-		-		-		-	
SVOCs	Benzo(a)pyrene	ug/kg	50600		-		-		-		-		-		-		-		-		-		-	

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Appendix A
Soil Data Compared to LBSV
Greenspace Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units:	Leach - Based Soil Value August 2015	Station:	TT-PCB-15W-S		TT-PCB-15W-S		TT-PCB-250-N		TT-PCB-250-N		TT-PCB-250-S		TT-PCB-250-S		TT-SB249		TT-SB249		TT-SB249		TT-SB249	
				Field Sample ID:	TT-PCB-15W-S0-050214		TT-PCB-15W-S4-050214		TT-PCB-250-N0-050214		TT-PCB-250-N4-050214		TT-PCB-250-S0-050214		TT-PCB-250-S4-050214		TT-SB249-C-06		TT-SB249-G-02		TT-SB249-G-04		TT-SB249-G-06	
				Date:	5/2/2014		5/2/2014		5/2/2014		5/2/2014		5/2/2014		5/2/2014		4/3/2013		4/3/2013		4/3/2013		4/3/2013	
				Depth:	3.5-4.5		7.5-8.5		3.5-4.5		7.5-8.5		3.5-4.5		7.5-8.5		4 - 6		0 - 2		2 - 4		4 - 6	
SVOCs	Benzo(b)fluoranthene	ug/kg	55300		-		-		-		-		-		-		-		-		-		-	
SVOCs	Benzo(g,h,i)perylene	ug/kg	41242500		-		-		-		-		-		-		-		-		-		-	
SVOCs	Benzo(k)fluoranthene	ug/kg	501000		-		-		-		-		-		-		-		-		-		-	
SVOCs	Biphenyl	ug/kg	130.5		-		-		-		-		-		-		-		-		-		-	
SVOCs	bis(2-Ethylhexyl)phthalate	ug/kg	21000		-		-		-		-		-		-		-		-		-		-	
SVOCs	Carbazole	ug/kg	7007.4		-		-		-		-		-		-		-		-		-		-	
SVOCs	Chrysene	ug/kg	4410000		-		-		-		-		-		-		-		-		-		-	
SVOCs	Dibenz(a,h)anthracene	ug/kg	94000		-		-		-		-		-		-		-		-		-		-	
SVOCs	Dibenzofuran	ug/kg	2250		-		-		-		-		-		-		-		-		-		-	
SVOCs	Di-n-butylphthalate	ug/kg	34500		-		-		-		-		-		-		-		-		-		-	
SVOCs	Di-N-Octyl phthalate	ug/kg	855000		-		-		-		-		-		-		-		-		-		-	
SVOCs	Fluoranthene	ug/kg	1335000		-		-		-		-		-		-		-		-		-		-	
SVOCs	Fluorene	ug/kg	81000		-		-		-		-		-		-		-		-		-		-	
SVOCs	Indeno(1,2,3-cd)pyrene	ug/kg	244000		-		-		-		-		-		-		-		-		-		-	
SVOCs	Naphthalene, SVOC	ug/kg	4050		-		-		-		-		-		-		-		-		-		-	
SVOCs	Phenanthrene	ug/kg	2555100		-		-		-		-		-		-		-		-		-		-	
SVOCs	Pyrene, SVOC	ug/kg	195000		-		-		-		-		-		-		-		-		-		-	
PCBs	Aroclor-1248	ug/kg	18		120	U	140	U	120	U	120	U	110	U	120	U	-		21.3	U	21.4	U	24.2	U
PCBs	Aroclor-1254	ug/kg	30		1400		140	U	6100		1700		8400		1800		-		989	D	21.4	U	88.2	
PCBs	Aroclor-1260	ug/kg	82.5		120	U	140	U	590	U	120	U	570	U	120	U	-		21.3	U	21.4	U	24.2	U
Metals	Antimony	mg/kg	7.2		-		-		-		-		-		-		-		-		-		-	
Metals	Arsenic	mg/kg	5.8		-		-		-		-		-		-		-		-		-		-	
Metals	Barium	mg/kg	110000		-		-		-		-		-		-		-		-		-		-	
Metals	Beryllium	mg/kg	114.4		-		-		-		-		-		-		-		-		-		-	
Metals	Cadmium	mg/kg	42		-		-		-		-		-		-		-		-		-		-	
Metals	Chromium Total	mg/kg	113		-		-		-		-		-		-		-		-		-		-	
Metals	Cobalt	mg/kg	5.4		-		-		-		-		-		-		-		-		-		-	
Metals	Copper	mg/kg	920		-		-		-		-		-		-		-		-		-		-	
Metals	Cyanide (total)	mg/kg	40		-		-		-		-		-		-		-		-		-		-	
Metals	Lead	mg/kg	177.6		-		-		-		-		-		-		-		-		-		-	
Metals	Manganese	mg/kg	560		-		-		-		-		-		-		-		-		-		-	
Metals	Mercury	mg/kg	23		-		-		-		-		-		-		-		-		-		-	
Metals	Nickel	mg/kg	363		-		-		-		-		-		-		-		-		-		-	
Metals	Potassium	mg/kg	1E+14		-		-		-		-		-		-		-		-		-		-	
Metals	Selenium	mg/kg	4.3		-		-		-		-		-		-		-		-		-		-	
Metals	Silver	mg/kg	6240		-		-		-		-		-		-		-		-		-		-	
Metals	Thallium	mg/kg	2.98		-		-		-		-		-		-		-		-		-		-	
Metals	Vanadium	mg/kg	65		-		-		-		-		-		-		-		-		-		-	
Metals	Zinc	mg/kg	88000		-		-		-		-		-		-		-		-		-		-	
TPH	Diesel Range Organics (DRO)	ug/kg	2000000		-		-		-		-		-		-		31200		-		-		-	
TPH	Gasoline Range Organics (GRO)	ug/kg	1000000		-		-		-		-		-		-		-		-		-		7260	U

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Appendix A
Soil Data Compared to LBSV
Greenspace Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units:	Leach - Based Soil Value August 2015	Station:	TT-SB249		TT-SB250		TT-SB251		TT-SB251		TT-SB251		TT-SB251B		TT-SB251B		TT-SB251B		TT-SB265		TT-SB265	
				Field Sample ID:	TT-SB249-G-07		TT-SB250-G-02		TT-SB251-G-02 DP		TT-SB251-G-02		TT-SB251-G-03		TT-SB251B-G-08 DP		TT-SB251B-G-08		TT-SB251B-G-10		TT-SB265-G-02		TT-SB265-G-04	
				Date:	4/3/2013		4/3/2013		4/3/2013		4/3/2013		4/3/2013		4/4/2013		4/4/2013		4/4/2013		4/4/2013		4/4/2013	
				Depth:	6 - 7		0 - 2		0 - 2		0 - 2		2 - 3		6 - 8		6 - 8		8 - 10		0 - 2		2 - 4	
VOCs	1,1,1-Trichloroethane	ug/kg	18000		-		-		-		-		-		-		-		-		-		-	
VOCs	1,1-Dichloroethane	ug/kg	11.7		-		-		-		-		-		-		-		-		-		-	
VOCs	1,1-Dichloroethene	ug/kg	4200		-		-		-		-		-		-		-		-		-		-	
VOCs	1,2,4-Trichlorobenzene, VOC	ug/kg	3000		-		-		-		-		-		-		-		-		-		-	
VOCs	1,2-Dichlorobenzene, VOC	ug/kg	8700		-		-		-		-		-		-		-		-		-		-	
VOCs	1,4-Dichlorobenzene, VOC	ug/kg	1080		-		-		-		-		-		-		-		-		-		-	
VOCs	2-Butanone	ug/kg	27000		-		-		-		-		-		-		-		-		-		-	
VOCs	2-Chlorotoluene	ug/kg	3450		-		-		-		-		-		-		-		-		-		-	
VOCs	2-Hexanone	ug/kg	132		-		-		-		-		-		-		-		-		-		-	
VOCs	4-Chlorotoluene	ug/kg	3600		-		-		-		-		-		-		-		-		-		-	
VOCs	4-Methyl-2-Pentanone	ug/kg	4200		-		-		-		-		-		-		-		-		-		-	
VOCs	Acetone	ug/kg	43500		-		-		-		-		-		-		-		-		-		-	
VOCs	Benzene	ug/kg	255		-		-		-		-		-		-		-		-		-		-	
VOCs	Bromomethane	ug/kg	28.5		-		-		-		-		-		-		-		-		-		-	
VOCs	Carbon disulfide	ug/kg	3600		-		-		-		-		-		-		-		-		-		-	
VOCs	Carbon tetrachloride	ug/kg	3750		-		-		-		-		-		-		-		-		-		-	
VOCs	Chlorobenzene	ug/kg	1020		-		-		-		-		-		-		-		-		-		-	
VOCs	Chloroform	ug/kg	330		-		-		-		-		-		-		-		-		-		-	
VOCs	cis-1,2-Dichloroethene	ug/kg	1800		-		-		-		-		-		-		-		-		-		-	
VOCs	Cyclohexane	ug/kg	195000		-		-		-		-		-		-		-		-		-		-	
VOCs	Dichlorodifluoromethane	ug/kg	4500		-		-		-		-		-		-		-		-		-		-	
VOCs	Ethylbenzene	ug/kg	180000		-		-		-		-		-		-		-		-		-		-	
VOCs	Isopropylbenzene, VOC	ug/kg	11100		-		-		-		-		-		-		-		-		-		-	
VOCs	Methyl acetate	ug/kg	61500		-		-		-		-		-		-		-		-		-		-	
VOCs	Methyl cyclohexane	ug/kg	1E+14		-		-		-		-		-		-		-		-		-		-	
VOCs	Methylene chloride	ug/kg	19.5		-		-		-		-		-		-		-		-		-		-	
VOCs	n-Hexane	ug/kg	1815000		-		-		-		-		-		-		-		-		-		-	
VOCs	o-Xylene	ug/kg	2850		-		-		-		-		-		-		-		-		-		-	
VOCs	Styrene	ug/kg	6900		-		-		-		-		-		-		-		-		-		-	
VOCs	Tetrachloroethene	ug/kg	2250		-		-		-		-		-		-		-		-		-		-	
VOCs	Toluene	ug/kg	102000		-		-		-		-		-		-		-		-		-		-	
VOCs	trans-1,2-Dichloroethene	ug/kg	6150		-		-		-		-		-		-		-		-		-		-	
VOCs	Trichloroethene	ug/kg	540		-		-		-		-		-		-		-		-		-		-	
VOCs	Trichlorofluoromethane	ug/kg	10950		-		-		-		-		-		-		-		-		-		-	
VOCs	Vinyl chloride	ug/kg	135		-		-		-		-		-		-		-		-		-		-	
VOCs	Xylene (Total)	ug/kg	2340000		-		-		-		-		-		-		-		-		-		-	
SVOCs	2-Methylnaphthalene	ug/kg	2850		-		-		-		-		-		-		-		-		-		-	
SVOCs	Acenaphthene	ug/kg	82500		-		-		-		-		-		-		-		-		-		-	
SVOCs	Acenaphthylene	ug/kg	88223.85		-		-		-		-		-		-		-		-		-		-	
SVOCs	Acetophenone	ug/kg	8700		-		-		-		-		-		-		-		-		-		-	
SVOCs	Anthracene	ug/kg	870000		-		-		-		-		-		-		-		-		-		-	
SVOCs	Benzaldehyde	ug/kg	6450		-		-		-		-		-		-		-		-		-		-	
SVOCs	Benzo(a)anthracene	ug/kg	22200		-		-		-		-		-		-		-		-		-		-	
SVOCs	Benzo(a)pyrene	ug/kg	50600		-		-		-		-		-		-		-		-		-		-	

See notes on page 23

Appendix A
Soil Data Compared to LBSV
Greenspace Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units:	Leach - Based Soil Value August 2015	Station:	TT-SB249		TT-SB250		TT-SB251		TT-SB251		TT-SB251		TT-SB251B		TT-SB251B		TT-SB251B		TT-SB265		TT-SB265	
				Field Sample ID:	TT-SB249-G-07		TT-SB250-G-02		TT-SB251-G-02 DP		TT-SB251-G-02		TT-SB251-G-03		TT-SB251B-G-08 DP		TT-SB251B-G-08		TT-SB251B-G-10		TT-SB265-G-02		TT-SB265-G-04	
				Date:	4/3/2013		4/3/2013		4/3/2013		4/3/2013		4/3/2013		4/4/2013		4/4/2013		4/4/2013		4/4/2013		4/4/2013	
				Depth:	6 - 7		0 - 2		0 - 2		0 - 2		2 - 3		6 - 8		6 - 8		8 - 10		0 - 2		2 - 4	
SVOCs	Benzo(b)fluoranthene	ug/kg	55300		-		-		-		-		-		-		-		-		-		-	
SVOCs	Benzo(g,h,i)perylene	ug/kg	41242500		-		-		-		-		-		-		-		-		-		-	
SVOCs	Benzo(k)fluoranthene	ug/kg	501000		-		-		-		-		-		-		-		-		-		-	
SVOCs	Biphenyl	ug/kg	130.5		-		-		-		-		-		-		-		-		-		-	
SVOCs	bis(2-Ethylhexyl)phthalate	ug/kg	21000		-		-		-		-		-		-		-		-		-		-	
SVOCs	Carbazole	ug/kg	7007.4		-		-		-		-		-		-		-		-		-		-	
SVOCs	Chrysene	ug/kg	4410000		-		-		-		-		-		-		-		-		-		-	
SVOCs	Dibenz(a,h)anthracene	ug/kg	94000		-		-		-		-		-		-		-		-		-		-	
SVOCs	Dibenzofuran	ug/kg	2250		-		-		-		-		-		-		-		-		-		-	
SVOCs	Di-n-butylphthalate	ug/kg	34500		-		-		-		-		-		-		-		-		-		-	
SVOCs	Di-N-Octyl phthalate	ug/kg	855000		-		-		-		-		-		-		-		-		-		-	
SVOCs	Fluoranthene	ug/kg	1335000		-		-		-		-		-		-		-		-		-		-	
SVOCs	Fluorene	ug/kg	81000		-		-		-		-		-		-		-		-		-		-	
SVOCs	Indeno(1,2,3-cd)pyrene	ug/kg	244000		-		-		-		-		-		-		-		-		-		-	
SVOCs	Naphthalene, SVOC	ug/kg	4050		-		-		-		-		-		-		-		-		-		-	
SVOCs	Phenanthrene	ug/kg	2555100		-		-		-		-		-		-		-		-		-		-	
SVOCs	Pyrene, SVOC	ug/kg	195000		-		-		-		-		-		-		-		-		-		-	
PCBs	Aroclor-1248	ug/kg	18		25.9	U	102	UD	21.3	U	20.7	U	22.1	U	19.9	U	20	U	208		463	D	23.7	U
PCBs	Aroclor-1254	ug/kg	30		25.9	U	1220	D	148		184		252		19.9	U	20	U	24.9	U	23.3	U	23.7	U
PCBs	Aroclor-1260	ug/kg	82.5		25.9	U	102	UD	21.3	U	20.7	U	22.1	U	19.9	U	20	U	24.9	U	23.3	U	23.7	U
Metals	Antimony	mg/kg	7.2		-		-		-		-		-		-		-		-		-		-	
Metals	Arsenic	mg/kg	5.8		-		-		-		-		-		-		-		-		-		-	
Metals	Barium	mg/kg	110000		-		-		-		-		-		-		-		-		-		-	
Metals	Beryllium	mg/kg	114.4		-		-		-		-		-		-		-		-		-		-	
Metals	Cadmium	mg/kg	42		-		-		-		-		-		-		-		-		-		-	
Metals	Chromium Total	mg/kg	113		-		-		-		-		-		-		-		-		-		-	
Metals	Cobalt	mg/kg	5.4		-		-		-		-		-		-		-		-		-		-	
Metals	Copper	mg/kg	920		-		-		-		-		-		-		-		-		-		-	
Metals	Cyanide (total)	mg/kg	40		-		-		-		-		-		-		-		-		-		-	
Metals	Lead	mg/kg	177.6		-		-		-		-		-		-		-		-		-		-	
Metals	Manganese	mg/kg	560		-		-		-		-		-		-		-		-		-		-	
Metals	Mercury	mg/kg	23		-		-		-		-		-		-		-		-		-		-	
Metals	Nickel	mg/kg	363		-		-		-		-		-		-		-		-		-		-	
Metals	Potassium	mg/kg	1E+14		-		-		-		-		-		-		-		-		-		-	
Metals	Selenium	mg/kg	4.3		-		-		-		-		-		-		-		-		-		-	
Metals	Silver	mg/kg	6240		-		-		-		-		-		-		-		-		-		-	
Metals	Thallium	mg/kg	2.98		-		-		-		-		-		-		-		-		-		-	
Metals	Vanadium	mg/kg	65		-		-		-		-		-		-		-		-		-		-	
Metals	Zinc	mg/kg	88000		-		-		-		-		-		-		-		-		-		-	
TPH	Diesel Range Organics (DRO)	ug/kg	2000000		-		-		-		-		-		-		-		-		-		-	
TPH	Gasoline Range Organics (GRO)	ug/kg	1000000		-		-		-		-		-		-		-		-		-		-	

See notes on page 23

Appendix A
Soil Data Compared to LBSV
Greenspace Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units:	Leach - Based Soil Value August 2015	Station:	TT-SB265		TT-SB265		TT-SB265	
				Field Sample ID:	TT-SB265-G-06		TT-SB265-G-08 DP		TT-SB265-G-08	
				Date:	4/4/2013		4/4/2013		4/4/2013	
				Depth:	4 - 6		6 - 8		6 - 8	
VOCs	1,1,1-Trichloroethane	ug/kg	18000		-		-		-	
VOCs	1,1-Dichloroethane	ug/kg	11.7		-		-		-	
VOCs	1,1-Dichloroethene	ug/kg	4200		-		-		-	
VOCs	1,2,4-Trichlorobenzene, VOC	ug/kg	3000		-		-		-	
VOCs	1,2-Dichlorobenzene, VOC	ug/kg	8700		-		-		-	
VOCs	1,4-Dichlorobenzene, VOC	ug/kg	1080		-		-		-	
VOCs	2-Butanone	ug/kg	27000		-		-		-	
VOCs	2-Chlorotoluene	ug/kg	3450		-		-		-	
VOCs	2-Hexanone	ug/kg	132		-		-		-	
VOCs	4-Chlorotoluene	ug/kg	3600		-		-		-	
VOCs	4-Methyl-2-Pentanone	ug/kg	4200		-		-		-	
VOCs	Acetone	ug/kg	43500		-		-		-	
VOCs	Benzene	ug/kg	255		-		-		-	
VOCs	Bromomethane	ug/kg	28.5		-		-		-	
VOCs	Carbon disulfide	ug/kg	3600		-		-		-	
VOCs	Carbon tetrachloride	ug/kg	3750		-		-		-	
VOCs	Chlorobenzene	ug/kg	1020		-		-		-	
VOCs	Chloroform	ug/kg	330		-		-		-	
VOCs	cis-1,2-Dichloroethene	ug/kg	1800		-		-		-	
VOCs	Cyclohexane	ug/kg	195000		-		-		-	
VOCs	Dichlorodifluoromethane	ug/kg	4500		-		-		-	
VOCs	Ethylbenzene	ug/kg	180000		-		-		-	
VOCs	Isopropylbenzene, VOC	ug/kg	11100		-		-		-	
VOCs	Methyl acetate	ug/kg	61500		-		-		-	
VOCs	Methyl cyclohexane	ug/kg	1E+14		-		-		-	
VOCs	Methylene chloride	ug/kg	19.5		-		-		-	
VOCs	n-Hexane	ug/kg	1815000		-		-		-	
VOCs	o-Xylene	ug/kg	2850		-		-		-	
VOCs	Styrene	ug/kg	6900		-		-		-	
VOCs	Tetrachloroethene	ug/kg	2250		-		-		-	
VOCs	Toluene	ug/kg	102000		-		-		-	
VOCs	trans-1,2-Dichloroethene	ug/kg	6150		-		-		-	
VOCs	Trichloroethene	ug/kg	540		-		-		-	
VOCs	Trichlorofluoromethane	ug/kg	10950		-		-		-	
VOCs	Vinyl chloride	ug/kg	135		-		-		-	
VOCs	Xylene (Total)	ug/kg	2340000		-		-		-	
SVOCs	2-Methylnaphthalene	ug/kg	2850		-		-		-	
SVOCs	Acenaphthene	ug/kg	82500		-		-		-	
SVOCs	Acenaphthylene	ug/kg	88223.85		-		-		-	
SVOCs	Acetophenone	ug/kg	8700		-		-		-	
SVOCs	Anthracene	ug/kg	870000		-		-		-	
SVOCs	Benzaldehyde	ug/kg	6450		-		-		-	
SVOCs	Benzo(a)anthracene	ug/kg	22200		-		-		-	
SVOCs	Benzo(a)pyrene	ug/kg	50600		-		-		-	

See notes on page 23

Appendix A
Soil Data Compared to LBSV
Greenspace Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Analysis	Parameter	Units:	Leach - Based Soil Value August 2015	Station:	TT-SB265		TT-SB265		TT-SB265	
				Field Sample ID:	TT-SB265-G-06		TT-SB265-G-08 DP		TT-SB265-G-08	
				Date:	4/4/2013		4/4/2013		4/4/2013	
				Depth:	4 - 6		6 - 8		6 - 8	
SVOCs	Benzo(b)fluoranthene	ug/kg	55300		-		-		-	
SVOCs	Benzo(g,h,i)perylene	ug/kg	41242500		-		-		-	
SVOCs	Benzo(k)fluoranthene	ug/kg	501000		-		-		-	
SVOCs	Biphenyl	ug/kg	130.5		-		-		-	
SVOCs	bis(2-Ethylhexyl)phthalate	ug/kg	21000		-		-		-	
SVOCs	Carbazole	ug/kg	7007.4		-		-		-	
SVOCs	Chrysene	ug/kg	4410000		-		-		-	
SVOCs	Dibenz(a,h)anthracene	ug/kg	94000		-		-		-	
SVOCs	Dibenzofuran	ug/kg	2250		-		-		-	
SVOCs	Di-n-butylphthalate	ug/kg	34500		-		-		-	
SVOCs	Di-N-Octyl phthalate	ug/kg	855000		-		-		-	
SVOCs	Fluoranthene	ug/kg	1335000		-		-		-	
SVOCs	Fluorene	ug/kg	81000		-		-		-	
SVOCs	Indeno(1,2,3-cd)pyrene	ug/kg	244000		-		-		-	
SVOCs	Naphthalene, SVOC	ug/kg	4050		-		-		-	
SVOCs	Phenanthrene	ug/kg	2555100		-		-		-	
SVOCs	Pyrene, SVOC	ug/kg	195000		-		-		-	
PCBs	Aroclor-1248	ug/kg	18		321	D	21.4	U	21.3	U
PCBs	Aroclor-1254	ug/kg	30		23.5	U	21.4	U	21.3	U
PCBs	Aroclor-1260	ug/kg	82.5		23.5	U	21.4	U	21.3	U
Metals	Antimony	mg/kg	7.2		-		-		-	
Metals	Arsenic	mg/kg	5.8		-		-		-	
Metals	Barium	mg/kg	110000		-		-		-	
Metals	Beryllium	mg/kg	114.4		-		-		-	
Metals	Cadmium	mg/kg	42		-		-		-	
Metals	Chromium Total	mg/kg	113		-		-		-	
Metals	Cobalt	mg/kg	5.4		-		-		-	
Metals	Copper	mg/kg	920		-		-		-	
Metals	Cyanide (total)	mg/kg	40		-		-		-	
Metals	Lead	mg/kg	177.6		-		-		-	
Metals	Manganese	mg/kg	560		-		-		-	
Metals	Mercury	mg/kg	23		-		-		-	
Metals	Nickel	mg/kg	363		-		-		-	
Metals	Potassium	mg/kg	1E+14		-		-		-	
Metals	Selenium	mg/kg	4.3		-		-		-	
Metals	Silver	mg/kg	6240		-		-		-	
Metals	Thallium	mg/kg	2.98		-		-		-	
Metals	Vanadium	mg/kg	65		-		-		-	
Metals	Zinc	mg/kg	88000		-		-		-	
TPH	Diesel Range Organics (DRO)	ug/kg	2000000		-		-		-	
TPH	Gasoline Range Organics (GRO)	ug/kg	1000000		-		-		-	

See notes on page 23

Appendix A
Soil Data Compared to LBSV
Greenspace Area Exposure Unit
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Notes:

concentration exceeds criteria, and chemical with exceedances

% = percent
ft = feet
mg/kg = milligram per kilogram
ug/kg = microgram per kilogram
J = estimated value
PCB = polychlorinated biphenyl
R = rejected data
TPH = Total petroleum hydrocarbons
U = not detected above detection limit
VOC = Volatile Organic Compounds
SVOC = Semi-Volatile Organic Compounds

APPENDIX B
DERIVATION OF THE 95% UCL CONCENTRATIONS

Appendix B
Derivation of the 95% UCL Concentrations
C Area Exposure Unit - Chromium
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

General UCL Statistics for Data Sets with Non-Detects

User Selected Options

From File	WorkSheet_b.wst
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

Chromium-0-3

General Statistics

Number of Valid Observations	15	Number of Distinct Observations	15

Raw Statistics		**Log-transformed Statistics**	
Minimum	2	Minimum of Log Data	0.693
Maximum	1790	Maximum of Log Data	7.49
Mean	141.4	Mean of log Data	2.742
Geometric Mean	15.52	SD of log Data	1.744
Median	9.6		
SD	457.6		
Std. Error of Mean	118.2		
Coefficient of Variation	3.236		
Skewness	3.829		

Relevant UCL Statistics

Normal Distribution Test		**Lognormal Distribution Test**	
Shapiro Wilk Test Statistic	0.334	Shapiro Wilk Test Statistic	0.873
Shapiro Wilk Critical Value	0.881	Shapiro Wilk Critical Value	0.881
Data not Normal at 5% Significance Level		**Data not Lognormal at 5% Significance Level**	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
95% Student's-t UCL	349.5	95% H-UCL	473.7
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	188.4
95% Adjusted-CLT UCL (Chen-1995)	460.6	97.5% Chebyshev (MVUE) UCL	244.8
95% Modified-t UCL (Johnson-1978)	369	99% Chebyshev (MVUE) UCL	355.8
Gamma Distribution Test		**Data Distribution**	
k star (bias corrected)	0.293	**Data do not follow a Discernable Distribution (0.05)**	
Theta Star	483.1		
MLE of Mean	141.4		
MLE of Standard Deviation	261.4		
nu star	8.782		
Approximate Chi Square Value (.05)	3.196	**Nonparametric Statistics**	
Adjusted Level of Significance	0.0324	95% CLT UCL	335.8
Adjusted Chi Square Value	2.794	95% Jackknife UCL	349.5
		95% Standard Bootstrap UCL	330.3
Anderson-Darling Test Statistic	2.355	95% Bootstrap-t UCL	4571
Anderson-Darling 5% Critical Value	0.833	95% Hall's Bootstrap UCL	3132
Kolmogorov-Smirnov Test Statistic	0.335	95% Percentile Bootstrap UCL	371
Kolmogorov-Smirnov 5% Critical Value	0.24	95% BCA Bootstrap UCL	502.6
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	656.5
		97.5% Chebyshev(Mean, Sd) UCL	879.4
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	1317
95% Approximate Gamma UCL (Use when n >= 40)	388.6		
95% Adjusted Gamma UCL (Use when n < 40)	444.4		
Potential UCL to Use		Use 99% Chebyshev (Mean, Sd) UCL	1317

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Appendix B
Derivation of the 95% UCL Concentrations
C Area Exposure Unit - Chromium
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

General UCL Statistics for Data Sets with Non-Detects

User Selected Options

From File	WorkSheet_c.wst
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

Chromium-0-12

General Statistics

Number of Valid Observations	32	Number of Distinct Observations	31

Raw Statistics		Log-transformed Statistics	
Minimum	2	Minimum of Log Data	0.693
Maximum	1790	Maximum of Log Data	7.49
Mean	74.43	Mean of log Data	2.498
Geometric Mean	12.16	SD of log Data	1.35
Median	9.1		
SD	314.4		
Std. Error of Mean	55.58		
Coefficient of Variation	4.224		
Skewness	5.581		

Relevant UCL Statistics

Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.231	Shapiro Wilk Test Statistic	0.854
Shapiro Wilk Critical Value	0.93	Shapiro Wilk Critical Value	0.93
Data not Normal at 5% Significance Level		**Data not Lognormal at 5% Significance Level**	

Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	168.7	95% H-UCL	60.84
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	65.77
95% Adjusted-CLT UCL (Chen-1995)	224.5	97.5% Chebyshev (MVUE) UCL	81.78
95% Modified-t UCL (Johnson-1978)	177.8	99% Chebyshev (MVUE) UCL	113.2

Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.354	**Data do not follow a Discernable Distribution (0.05)**	
Theta Star	210		
MLE of Mean	74.43		
MLE of Standard Deviation	125		
nu star	22.68		
Approximate Chi Square Value (.05)	12.85	**Nonparametric Statistics**	
Adjusted Level of Significance	0.0416	95% CLT UCL	165.9
Adjusted Chi Square Value	12.45	95% Jackknife UCL	168.7
		95% Standard Bootstrap UCL	165.9
Anderson-Darling Test Statistic	5.421	95% Bootstrap-t UCL	1286
Anderson-Darling 5% Critical Value	0.84	95% Hall's Bootstrap UCL	755.8
Kolmogorov-Smirnov Test Statistic	0.318	95% Percentile Bootstrap UCL	183.8
Kolmogorov-Smirnov 5% Critical Value	0.167	95% BCA Bootstrap UCL	245.9
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	316.7
		97.5% Chebyshev(Mean, Sd) UCL	421.6
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	627.5
95% Approximate Gamma UCL (Use when n >= 40)	131.4		
95% Adjusted Gamma UCL (Use when n < 40)	135.6		

Potential UCL to Use		Use 95% Chebyshev (Mean, Sd) UCL	316.7

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Appendix B
Derivation of the 95% UCL Concentrations
C Area Exposure Unit - Mercury
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

General UCL Statistics for Data Sets with Non-Detects

User Selected Options

From File	WorkSheet_d.wst
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

Mercury

General Statistics

Number of Valid Observations	15	Number of Distinct Observations	14

Raw Statistics

Minimum	0.0077
Maximum	7.5
Mean	0.934
Geometric Mean	0.298
Median	0.31
SD	1.905
Std. Error of Mean	0.492
Coefficient of Variation	2.039
Skewness	3.352

Log-transformed Statistics

Minimum of Log Data	-4.867
Maximum of Log Data	2.015
Mean of log Data	-1.209
SD of log Data	1.589

Relevant UCL Statistics

Normal Distribution Test

Shapiro Wilk Test Statistic	0.494
Shapiro Wilk Critical Value	0.881

Data not Normal at 5% Significance Level

Lognormal Distribution Test

Shapiro Wilk Test Statistic	0.961
Shapiro Wilk Critical Value	0.881

Data appear Lognormal at 5% Significance Level

Assuming Normal Distribution

95% Student's-t UCL	1.8

95% UCLs (Adjusted for Skewness)

95% Adjusted-CLT UCL (Chen-1995)	2.198
95% Modified-t UCL (Johnson-1978)	1.871

Assuming Lognormal Distribution

95% H-UCL	5.251
95% Chebyshev (MVUE) UCL	2.746
97.5% Chebyshev (MVUE) UCL	3.545
99% Chebyshev (MVUE) UCL	5.114

Gamma Distribution Test

k star (bias corrected)	0.483
Theta Star	1.933
MLE of Mean	0.934
MLE of Standard Deviation	1.344
nu star	14.5
Approximate Chi Square Value (.05)	6.916
Adjusted Level of Significance	0.0324
Adjusted Chi Square Value	6.28
Anderson-Darling Test Statistic	0.855
Anderson-Darling 5% Critical Value	0.79
Kolmogorov-Smirnov Test Statistic	0.209
Kolmogorov-Smirnov 5% Critical Value	0.233

Data follow Appr. Gamma Distribution at 5% Significance Level

Data Distribution

Data Follow Appr. Gamma Distribution at 5% Significance Level

Assuming Gamma Distribution

95% Approximate Gamma UCL (Use when n >= 40)	1.959
95% Adjusted Gamma UCL (Use when n < 40)	2.157

Nonparametric Statistics

95% CLT UCL	1.743
95% Jackknife UCL	1.8
95% Standard Bootstrap UCL	1.724
95% Bootstrap-t UCL	5.334
95% Hall's Bootstrap UCL	5.024
95% Percentile Bootstrap UCL	1.828
95% BCA Bootstrap UCL	2.416
95% Chebyshev(Mean, Sd) UCL	3.078
97.5% Chebyshev(Mean, Sd) UCL	4.006
99% Chebyshev(Mean, Sd) UCL	5.828

Potential UCL to Use

Use 95% Approximate Gamma UCL 1.959

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Appendix B
Derivation of the 95% UCL Concentrations
C Area Exposure Unit - TCE
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

General UCL Statistics for Data Sets with Non-Detects

User Selected Options

From File	WorkSheet.wst
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

TCE 0 - 3

General Statistics

Number of Valid Data	19	Number of Detected Data	13
Number of Distinct Detected Data	13	Number of Non-Detect Data	6
		Percent Non-Detects	31.58%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	3.5	Minimum Detected	1.253
Maximum Detected	81000	Maximum Detected	11.3
Mean of Detected	16581	Mean of Detected	8.055
SD of Detected	24099	SD of Detected	2.857
Minimum Non-Detect	4.3	Minimum Non-Detect	1.459
Maximum Non-Detect	6.2	Maximum Non-Detect	1.825

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

Number treated as Non-Detect	7
Number treated as Detected	12
Single DL Non-Detect Percentage	36.84%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.719	Shapiro Wilk Test Statistic	0.874
5% Shapiro Wilk Critical Value	0.866	5% Shapiro Wilk Critical Value	0.866
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	11346	Mean	5.811
SD	21210	SD	4.119
95% DL/2 (t) UCL	19783	95% H-Stat (DL/2) UCL	3571000000
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	3375	Mean in Log Scale	6.403
SD	28599	SD in Log Scale	3.418
95% MLE (t) UCL	14753	Mean in Original Scale	11350
95% MLE (Tiku) UCL	15829	SD in Original Scale	21208
		95% t UCL	19787
		95% Percentile Bootstrap UCL	19733
		95% BCA Bootstrap UCL	23451
		95% H UCL	52396118

Appendix B
Derivation of the 95% UCL Concentrations
C Area Exposure Unit - TCE
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Gamma Distribution Test with Detected Values Only	
k star (bias corrected)	0.356
Theta Star	46520
nu star	9.267
A-D Test Statistic	0.173
5% A-D Critical Value	0.811
K-S Test Statistic	0.811
5% K-S Critical Value	0.253
Data appear Gamma Distributed at 5% Significance Level	
Assuming Gamma Distribution	
Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	81000
Mean	11345
Median	2600
SD	21211
k star	0.119
Theta star	95585
Nu star	4.51
AppChi2	0.933
95% Gamma Approximate UCL (Use when n >= 40)	54842
95% Adjusted Gamma UCL (Use when n < 40)	63753

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only	
Data appear Gamma Distributed at 5% Significance Level	

Nonparametric Statistics	
Kaplan-Meier (KM) Method	
Mean	11346
SD	20644
SE of Mean	4929
95% KM (t) UCL	19894
95% KM (z) UCL	19454
95% KM (jackknife) UCL	19773
95% KM (bootstrap t) UCL	30639
95% KM (BCA) UCL	20339
95% KM (Percentile Bootstrap) UCL	19907
95% KM (Chebyshev) UCL	32833
97.5% KM (Chebyshev) UCL	42131
99% KM (Chebyshev) UCL	60394
Potential UCLs to Use	
95% KM (BCA) UCL	20339

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Appendix B
Derivation of the 95% UCL Concentrations
C Area Exposure Unit - TCE
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

General UCL Statistics for Data Sets with Non-Detects

User Selected Options

From File	WorkSheet_a.wst
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

TCE - 3-12

General Statistics

Number of Valid Data	28	Number of Detected Data	18
Number of Distinct Detected Data	17	Number of Non-Detect Data	10
		Percent Non-Detects	35.71%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	1.5	Minimum Detected	0.405
Maximum Detected	81000	Maximum Detected	11.3
Mean of Detected	8690	Mean of Detected	5.353
SD of Detected	22035	SD of Detected	3.139
Minimum Non-Detect	5.1	Minimum Non-Detect	1.629
Maximum Non-Detect	22.1	Maximum Non-Detect	3.096

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

Number treated as Non-Detect	14
Number treated as Detected	14
Single DL Non-Detect Percentage	50.00%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.463	Shapiro Wilk Test Statistic	0.953
5% Shapiro Wilk Critical Value	0.897	5% Shapiro Wilk Critical Value	0.897
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	5588	Mean	3.925
SD	17991	SD	3.176
95% DL/2 (t) UCL	11379	95% H-Stat (DL/2) UCL	271321
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	3.418
		SD in Log Scale	3.657
		Mean in Original Scale	5587
		SD in Original Scale	17992
		95% t UCL	11378
		95% Percentile Bootstrap UCL	11795
		95% BCA Bootstrap UCL	14334
		95% H-UCL	2553546

Appendix B
Derivation of the 95% UCL Concentrations
C Area Exposure Unit - TCE
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Gamma Distribution Test with Detected Values Only	
k star (bias corrected)	0.202
Theta Star	42968
nu star	7.281
A-D Test Statistic	1.518
5% A-D Critical Value	0.885
K-S Test Statistic	0.885
5% K-S Critical Value	0.225
Data not Gamma Distributed at 5% Significance Level	
Assuming Gamma Distribution	
Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	81000
Mean	5587
Median	20
SD	17992
k star	0.0972
Theta star	57493
Nu star	5.442
AppChi2	1.362
95% Gamma Approximate UCL (Use when n >= 40)	22329
95% Adjusted Gamma UCL (Use when n < 40)	24501

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only	
Data appear Lognormal at 5% Significance Level	
Nonparametric Statistics	
Kaplan-Meier (KM) Method	
Mean	5588
SD	17667
SE of Mean	3436
95% KM (t) UCL	11440
95% KM (z) UCL	11239
95% KM (jackknife) UCL	11379
95% KM (bootstrap t) UCL	36648
95% KM (BCA) UCL	12562
95% KM (Percentile Bootstrap) UCL	11757
95% KM (Chebyshev) UCL	20563
97.5% KM (Chebyshev) UCL	27043
99% KM (Chebyshev) UCL	39771
Potential UCLs to Use	
99% KM (Chebyshev) UCL	39771

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Appendix B
Derivation of the 95% UCL Concentrations
C Area Exposure Unit - TCE
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

General UCL Statistics for Data Sets with Non-Detects

User Selected Options

From File	WorkSheet_b.wst
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

TCE - 0 - 12

General Statistics

Number of Valid Data	45	Number of Detected Data	30
Number of Distinct Detected Data	29	Number of Non-Detect Data	15
		Percent Non-Detects	33.33%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	1.5	Minimum Detected	0.405
Maximum Detected	81000	Maximum Detected	11.3
Mean of Detected	9699	Mean of Detected	6.293
SD of Detected	19275	SD of Detected	3.241
Minimum Non-Detect	4.3	Minimum Non-Detect	1.459
Maximum Non-Detect	22.1	Maximum Non-Detect	3.096

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

Number treated as Non-Detect	20
Number treated as Detected	25
Single DL Non-Detect Percentage	44.44%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.578	Shapiro Wilk Test Statistic	0.947
5% Shapiro Wilk Critical Value	0.927	5% Shapiro Wilk Critical Value	0.927
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	6467	Mean	4.601
SD	16317	SD	3.584
95% DL/2 (t) UCL	10554	95% H-Stat (DL/2) UCL	1651651
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	4.442
		SD in Log Scale	3.744
		Mean in Original Scale	6467
		SD in Original Scale	16317
		95% t UCL	10554
		95% Percentile Bootstrap UCL	10792
		95% BCA Bootstrap UCL	11586
		95% H-UCL	3394701

Appendix B
Derivation of the 95% UCL Concentrations
C Area Exposure Unit - TCE
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Gamma Distribution Test with Detected Values Only	
k star (bias corrected)	0.244
Theta Star	39723
nu star	14.65
A-D Test Statistic	0.699
5% A-D Critical Value	0.877
K-S Test Statistic	0.877
5% K-S Critical Value	0.176
Data appear Gamma Distributed at 5% Significance Level	
Assuming Gamma Distribution	
Gamma ROS Statistics using Extrapolated Data	
Minimum	0.000001
Maximum	81000
Mean	6466
Median	35
SD	16317
k star	0.0985
Theta star	65667
Nu star	8.862
AppChi2	3.244
95% Gamma Approximate UCL (Use when n >= 40)	17665
95% Adjusted Gamma UCL (Use when n < 40)	18297

Note: DL/2 is not a recommended method.

Data Distribution Test with Detected Values Only	
Data appear Gamma Distributed at 5% Significance Level	

Nonparametric Statistics	
Kaplan-Meier (KM) Method	
Mean	6467
SD	16134
SE of Mean	2446
95% KM (t) UCL	10577
95% KM (z) UCL	10491
95% KM (jackknife) UCL	10554
95% KM (bootstrap t) UCL	13532
95% KM (BCA) UCL	11365
95% KM (Percentile Bootstrap) UCL	10641
95% KM (Chebyshev) UCL	17130
97.5% KM (Chebyshev) UCL	21744
99% KM (Chebyshev) UCL	30807
Potential UCLs to Use	
95% KM (BCA) UCL	11365

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Appendix B
Derivation of the 95% UCL Concentrations
C Area Exposure Unit - Benzo(a)pyrene
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

General UCL Statistics for Data Sets with Non-Detects

User Selected Options

From File	WorkSheet.wst
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

Benzo(a)pyrene - 3 - 12

General Statistics

Number of Valid Data	18	Number of Detected Data	4
Number of Distinct Detected Data	3	Number of Non-Detect Data	14
		Percent Non-Detects	77.78%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	110	Minimum Detected	4.7
Maximum Detected	8400	Maximum Detected	9.036
Mean of Detected	2203	Mean of Detected	5.921
SD of Detected	4132	SD of Detected	2.093
Minimum Non-Detect	125	Minimum Non-Detect	4.828
Maximum Non-Detect	17000	Maximum Non-Detect	9.741

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

Number treated as Non-Detect	18
Number treated as Detected	0
Single DL Non-Detect Percentage	100.00%

Warning: There are only 3 Distinct Detected Values in this data set
The number of detected data may not be adequate enough to perform GOF tests, bootstrap, and ROS methods.
Those methods will return a 'N/A' value on your output display!

It is necessary to have 4 or more Distinct Values for bootstrap methods.
However, results obtained using 4 to 9 distinct values may not be reliable.
It is recommended to have 10 to 15 or more observations for accurate and meaningful results and estimates.

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Shapiro Wilk Test Statistic	0.637	Shapiro Wilk Test Statistic	0.718
5% Shapiro Wilk Critical Value	0.748	5% Shapiro Wilk Critical Value	0.748
Data not Normal at 5% Significance Level		**Data not Lognormal at 5% Significance Level**	

Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	1500	Mean	5.974
SD	2756	SD	1.529
95% DL/2 (t) UCL	2630	95% H-Stat (DL/2) UCL	4597
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE method failed to converge properly		Mean in Log Scale	5.187
		SD in Log Scale	0.974
		Mean in Original Scale	603.2
		SD in Original Scale	1946
		95% t UCL	1401
		95% Percentile Bootstrap UCL	1520
		95% BCA Bootstrap UCL	1981
		95% H-UCL	532

Appendix B
Derivation of the 95% UCL Concentrations
C Area Exposure Unit - Benzo(a)pyrene
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**	
k star (bias corrected)	0.26	**Data do not follow a Discernable Distribution (0.05)**	
Theta Star	8462		
nu star	2.082		
A-D Test Statistic	0.804	**Nonparametric Statistics**	
5% A-D Critical Value	0.695	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.695	Mean	616.5
5% K-S Critical Value	0.415	SD	1946
Data not Gamma Distributed at 5% Significance Level		SE of Mean	545.3
		95% KM (t) UCL	1565
Assuming Gamma Distribution		95% KM (z) UCL	1513
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	1465
Minimum	0.000001	95% KM (bootstrap t) UCL	23906
Maximum	8400	95% KM (BCA) UCL	2719
Mean	489.4	95% KM (Percentile Bootstrap) UCL	1768
Median	0.000001	95% KM (Chebyshev) UCL	2993
SD	1975	97.5% KM (Chebyshev) UCL	4022
k star	0.0833	99% KM (Chebyshev) UCL	6042
Theta star	5878		
Nu star	2.998	**Potential UCLs to Use**	
AppChi2	0.372	99% KM (Chebyshev) UCL	6042
95% Gamma Approximate UCL (Use when n >= 40)	3947		
95% Adjusted Gamma UCL (Use when n < 40)	N/A		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Appendix B
Derivation of the 95% UCL Concentrations
B Area Exposure Unit - Aroclor 1254
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

General UCL Statistics for Data Sets with Non-Detects

User Selected Options

From File	WorkSheet.wst
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

Aroclor 1254 - 0-3

General Statistics

Number of Valid Data	23	Number of Detected Data	17
Number of Distinct Detected Data	17	Number of Non-Detect Data	6
		Percent Non-Detects	26.09%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.0115	Minimum Detected	-4.465
Maximum Detected	29.3	Maximum Detected	3.378
Mean of Detected	5.009	Mean of Detected	-0.682
SD of Detected	8.854	SD of Detected	2.635
Minimum Non-Detect	0.036	Minimum Non-Detect	-3.324
Maximum Non-Detect	0.045	Maximum Non-Detect	-3.101

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

Number treated as Non-Detect	10
Number treated as Detected	13
Single DL Non-Detect Percentage	43.48%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.641	Shapiro Wilk Test Statistic	0.939
5% Shapiro Wilk Critical Value	0.892	5% Shapiro Wilk Critical Value	0.892
Data not Normal at 5% Significance Level		**Data appear Lognormal at 5% Significance Level**	

Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	3.707	Mean	-1.531
SD	7.876	SD	2.681
95% DL/2 (t) UCL	6.527	95% H-Stat (DL/2) UCL	154.8
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	-1.666
		SD in Log Scale	2.815
		Mean in Original Scale	3.705
		SD in Original Scale	7.877
		95% t UCL	6.526
		95% Percentile Bootstrap UCL	6.487
		95% BCA Bootstrap UCL	7.671
		95% H-UCL	260.1

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.287	**Data appear Gamma Distributed at 5% Significance Level**	
Theta Star	17.47		
nu star	9.751		
A-D Test Statistic	0.701	**Nonparametric Statistics**	
5% A-D Critical Value	0.842	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.842	Mean	3.707
5% K-S Critical Value	0.227	SD	7.703
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	1.656
		95% KM (t) UCL	6.55
Assuming Gamma Distribution		95% KM (z) UCL	6.43
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	6.527
Minimum	0.000001	95% KM (bootstrap t) UCL	10.07
Maximum	29.3	95% KM (BCA) UCL	6.316
Mean	3.702	95% KM (Percentile Bootstrap) UCL	6.674
Median	0.067	95% KM (Chebyshev) UCL	10.92
SD	7.879	97.5% KM (Chebyshev) UCL	14.05
k star	0.153	99% KM (Chebyshev) UCL	20.18
Theta star	24.16		
Nu star	7.049	**Potential UCLs to Use**	
AppChi2	2.197	95% KM (Chebyshev) UCL	10.92
95% Gamma Approximate UCL (Use when n >= 40)	11.88		
95% Adjusted Gamma UCL (Use when n < 40)	13.01		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Appendix B
Derivation of the 95% UCL Concentrations
B Area Exposure Unit - Aroclor 1254
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

General UCL Statistics for Data Sets with Non-Detects

User Selected Options

From File	WorkSheet_a.wst
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

Aroclor 1254 - 3-12

General Statistics

Number of Valid Data	34	Number of Detected Data	23
Number of Distinct Detected Data	22	Number of Non-Detect Data	11
		Percent Non-Detects	32.35%

Raw Statistics		Log-transformed Statistics	
Minimum Detected	0.035	Minimum Detected	-3.352
Maximum Detected	48	Maximum Detected	3.871
Mean of Detected	10.97	Mean of Detected	0.746
SD of Detected	13.91	SD of Detected	2.426
Minimum Non-Detect	0.013	Minimum Non-Detect	-4.343
Maximum Non-Detect	0.045	Maximum Non-Detect	-3.101

Note: Data have multiple DLs - Use of KM Method is recommended
For all methods (except KM, DL/2, and ROS Methods),
Observations < Largest ND are treated as NDs

Number treated as Non-Detect	12
Number treated as Detected	22
Single DL Non-Detect Percentage	35.29%

UCL Statistics

Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.795	Shapiro Wilk Test Statistic	0.905
5% Shapiro Wilk Critical Value	0.914	5% Shapiro Wilk Critical Value	0.914
Data not Normal at 5% Significance Level		**Data not Lognormal at 5% Significance Level**	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	7.428	Mean	-0.814
SD	12.49	SD	3.033
95% DL/2 (t) UCL	11.05	95% H-Stat (DL/2) UCL	818.6
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	
Mean	3.059	Mean in Log Scale	-1.006
SD	16.85	SD in Log Scale	3.276
95% MLE (t) UCL	7.949	Mean in Original Scale	7.427
95% MLE (Tiku) UCL	8.355	SD in Original Scale	12.49
		95% t UCL	11.05
		95% Percentile Bootstrap UCL	11.25
		95% BCA Bootstrap UCL	11.29
		95% H UCL	2316

Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
k star (bias corrected)	0.376	**Data appear Gamma Distributed at 5% Significance Level**	
Theta Star	29.18		
nu star	17.3		
A-D Test Statistic	0.631	**Nonparametric Statistics**	
5% A-D Critical Value	0.827	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.827	Mean	7.434
5% K-S Critical Value	0.194	SD	12.3
Data appear Gamma Distributed at 5% Significance Level		SE of Mean	2.158
		95% KM (t) UCL	11.09
Assuming Gamma Distribution		95% KM (z) UCL	10.98
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	11.06
Minimum	0.000001	95% KM (bootstrap t) UCL	12.17
Maximum	48	95% KM (BCA) UCL	11.58
Mean	7.423	95% KM (Percentile Bootstrap) UCL	10.98
Median	0.275	95% KM (Chebyshev) UCL	16.84
SD	12.5	97.5% KM (Chebyshev) UCL	20.91
k star	0.139	99% KM (Chebyshev) UCL	28.9
Theta star	53.3		
Nu star	9.469	**Potential UCLs to Use**	
AppChi2	3.613	95% KM (BCA) UCL	11.58
95% Gamma Approximate UCL (Use when n >= 40)	19.45		
95% Adjusted Gamma UCL (Use when n < 40)	20.46		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Appendix B
Derivation of the 95% UCL Concentrations
N Area Exposure Unit - TCE
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

General UCL Statistics for Data Sets with Non-Detects

User Selected Options

From File	WorkSheet.wst
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

TCE-0-3

General Statistics

Number of Valid Observations	17	Number of Distinct Observations	17

Raw Statistics

Minimum	34
Maximum	91000
Mean	13574
Geometric Mean	2456
Median	5100
SD	23640
Std. Error of Mean	5734
Coefficient of Variation	1.742
Skewness	2.629

Log-transformed Statistics

Minimum of Log Data	3.526
Maximum of Log Data	11.42
Mean of log Data	7.806
SD of log Data	2.373

Relevant UCL Statistics

Normal Distribution Test

Shapiro Wilk Test Statistic	0.624
Shapiro Wilk Critical Value	0.892

Data not Normal at 5% Significance Level

Lognormal Distribution Test

Shapiro Wilk Test Statistic	0.953
Shapiro Wilk Critical Value	0.892

Data appear Lognormal at 5% Significance Level

Assuming Normal Distribution

95% Student's-t UCL	23584

95% UCLs (Adjusted for Skewness)

95% Adjusted-CLT UCL (Chen-1995)	26911
95% Modified-t UCL (Johnson-1978)	24193

Assuming Lognormal Distribution

95% H-UCL	837264
95% Chebyshev (MVUE) UCL	102149
97.5% Chebyshev (MVUE) UCL	135149
99% Chebyshev (MVUE) UCL	199972

Gamma Distribution Test

k star (bias corrected)	0.358
Theta Star	37927
MLE of Mean	13574
MLE of Standard Deviation	22689
nu star	12.17
Approximate Chi Square Value (.05)	5.338
Adjusted Level of Significance	0.0346
Adjusted Chi Square Value	4.871
Anderson-Darling Test Statistic	0.276
Anderson-Darling 5% Critical Value	0.823
Kolmogorov-Smirnov Test Statistic	0.134
Kolmogorov-Smirnov 5% Critical Value	0.224

Data appear Gamma Distributed at 5% Significance Level

Data Distribution

Data appear Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

95% Approximate Gamma UCL (Use when n >= 40)	30942
95% Adjusted Gamma UCL (Use when n < 40)	33908

Nonparametric Statistics

95% CLT UCL	23005
95% Jackknife UCL	23584
95% Standard Bootstrap UCL	22543
95% Bootstrap-t UCL	39174
95% Hall's Bootstrap UCL	61054
95% Percentile Bootstrap UCL	24087
95% BCA Bootstrap UCL	28653
95% Chebyshev(Mean, Sd) UCL	38566
97.5% Chebyshev(Mean, Sd) UCL	49380
99% Chebyshev(Mean, Sd) UCL	70623

Potential UCL to Use

Use 95% Adjusted Gamma UCL 33908

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL. These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Appendix B
Derivation of the 95% UCL Concentrations
N Area Exposure Unit - TCE
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

General UCL Statistics for Data Sets with Non-Detects

User Selected Options

From File	WorkSheet_a.wst
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

TCE-0-12

General Statistics

Number of Valid Data	40	Number of Detected Data	35
Number of Distinct Detected Data	34	Number of Non-Detect Data	5
		Percent Non-Detects	12.50%

Raw Statistics		**Log-transformed Statistics**	
Minimum Detected	0.9	Minimum Detected	-0.105
Maximum Detected	91000	Maximum Detected	11.42
Mean of Detected	6670	Mean of Detected	5.152
SD of Detected	17589	SD of Detected	3.571
Minimum Non-Detect	5.6	Minimum Non-Detect	1.723
Maximum Non-Detect	880	Maximum Non-Detect	6.78

Note: Data have multiple DLs - Use of KM Method is recommended	Number treated as Non-Detect	29
For all methods (except KM, DL/2, and ROS Methods),	Number treated as Detected	11
Observations < Largest ND are treated as NDs	Single DL Non-Detect Percentage	72.50%

Appendix B
Derivation of the 95% UCL Concentrations
N Area Exposure Unit - TCE
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

UCL Statistics

Normal Distribution Test with Detected Values Only		**Lognormal Distribution Test with Detected Values Only**	
Shapiro Wilk Test Statistic	0.444	Shapiro Wilk Test Statistic	0.926
5% Shapiro Wilk Critical Value	0.934	5% Shapiro Wilk Critical Value	0.934
Data not Normal at 5% Significance Level		**Data not Lognormal at 5% Significance Level**	
Assuming Normal Distribution		**Assuming Lognormal Distribution**	
DL/2 Substitution Method		DL/2 Substitution Method	
Mean	5859	Mean	4.983
SD	16566	SD	3.459
95% DL/2 (t) UCL	10272	95% H-Stat (DL/2) UCL	1663183
Maximum Likelihood Estimate(MLE) Method	N/A	Log ROS Method	
MLE yields a negative mean		Mean in Log Scale	4.788
		SD in Log Scale	3.492
		Mean in Original Scale	5838
		SD in Original Scale	16573
		95% t UCL	10253
		95% Percentile Bootstrap UCL	10584
		95% BCA Bootstrap UCL	13045
		95% H-UCL	1636591
Gamma Distribution Test with Detected Values Only		**Data Distribution Test with Detected Values Only**	
k star (bias corrected)	0.203	**Data do not follow a Discernable Distribution (0.05)**	
Theta Star	32850		
nu star	14.21		
A-D Test Statistic	1.262	**Nonparametric Statistics**	
5% A-D Critical Value	0.899	Kaplan-Meier (KM) Method	
K-S Test Statistic	0.899	Mean	5845
5% K-S Critical Value	0.165	SD	16363
Data not Gamma Distributed at 5% Significance Level		SE of Mean	2625
		95% KM (t) UCL	10267
Assuming Gamma Distribution		95% KM (z) UCL	10162
Gamma ROS Statistics using Extrapolated Data		95% KM (jackknife) UCL	10259
Minimum	0.000001	95% KM (bootstrap t) UCL	17877
Maximum	91000	95% KM (BCA) UCL	10765
Mean	5836	95% KM (Percentile Bootstrap) UCL	10420
Median	137.3	95% KM (Chebyshev) UCL	17286
SD	16574	97.5% KM (Chebyshev) UCL	22237
k star	0.139	99% KM (Chebyshev) UCL	31962
Theta star	41846		
Nu star	11.16	**Potential UCLs to Use**	
AppChi2	4.678	99% KM (Chebyshev) UCL	31962
95% Gamma Approximate UCL (Use when n >= 40)	13922		
95% Adjusted Gamma UCL (Use when n < 40)	14405		

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

Appendix B
Derivation of the 95% UCL Concentrations
P Area Exposure Unit - TCE
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

General UCL Statistics for Data Sets with Non-Detects

User Selected Options			
From File	WorkSheet.wst		
Full Precision	OFF		
Confidence Coefficient	95%		
Number of Bootstrap Operations	2000		
Trichloroethene 0-3 ft			
General Statistics			
Number of Valid Observations	15	Number of Distinct Observations	15
Raw Statistics		Log-transformed Statistics	
Minimum	2	Minimum of Log Data	0.693
Maximum	66000	Maximum of Log Data	11.1
Mean	16589	Mean of log Data	8.659
Geometric Mean	5762	SD of log Data	2.53
Median	9900		
SD	19767		
Std. Error of Mean	5104		
Coefficient of Variation	119.20%		
Skewness	2.013		
Relevant UCL Statistics			
Normal Distribution Test		Lognormal Distribution Test	
Shapiro Wilk Test Statistic	0.692	Shapiro Wilk Test Statistic	0.685
Shapiro Wilk Critical Value	0.881	Shapiro Wilk Critical Value	0.881
Data not Normal at 5% Significance Level		Data not Lognormal at 5% Significance Level	
Assuming Normal Distribution		Assuming Lognormal Distribution	
95% Student's-t UCL	25578	95% H-UCL	6315685
95% UCLs (Adjusted for Skewness)		95% Chebyshev (MVUE) UCL	320689
95% Adjusted-CLT UCL (Chen-1995)	27818	97.5% Chebyshev (MVUE) UCL	426237
95% Modified-t UCL (Johnson-1978)	26020	99% Chebyshev (MVUE) UCL	633565
Gamma Distribution Test		Data Distribution	
k star (bias corrected)	0.513	Data do not follow a Discernable Distribution (0.05)	
Theta Star	3230600.00%		
MLE of Mean	16589		
MLE of Standard Deviation	23150		
nu star	15.4		
Approximate Chi Square Value (.05)	7.544	Nonparametric Statistics	
Adjusted Level of Significance	0.0324	95% CLT UCL	24984
Adjusted Chi Square Value	6.876	95% Jackknife UCL	25578
		95% Standard Bootstrap UCL	24728
Anderson-Darling Test Statistic	0.895	95% Bootstrap-t UCL	40908
Anderson-Darling 5% Critical Value	0.787	95% Hall's Bootstrap UCL	75910
Kolmogorov-Smirnov Test Statistic	0.247	95% Percentile Bootstrap UCL	24833
Kolmogorov-Smirnov 5% Critical Value	0.233	95% BCA Bootstrap UCL	28223
Data not Gamma Distributed at 5% Significance Level		95% Chebyshev(Mean, Sd) UCL	38835
		97.5% Chebyshev(Mean, Sd) UCL	48461
Assuming Gamma Distribution		99% Chebyshev(Mean, Sd) UCL	67370
95% Approximate Gamma UCL (Use when n >= 40)	33875		
95% Adjusted Gamma UCL (Use when n < 40)	37166		
Potential UCL to Use		Use 99% Chebyshev (Mean, Sd) UCL	67370
Recommended UCL exceeds the maximum observation			

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). For additional insight, the user may want to consult a statistician.

Appendix B
Derivation of the 95% UCL Concentrations
P Area Exposure Unit - TCE
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Trichloroethene 0 to 12

General Statistics			
Number of Valid Data	39	Number of Detected Data	38
Number of Distinct Detected Data	36	Number of Non-Detect Data	1
		Percent Non-Detects	2.56%
Raw Statistics		Log-transformed Statistics	
Minimum Detected	0	Log Statistics Not Avaliable	
Maximum Detected	100000		
Mean of Detected	10813		
Mean of Detected	10813		
Mean of Detected	10813		
Maximum Non-Detect	390		
UCL Statistics			
Normal Distribution Test with Detected Values Only		Lognormal Distribution Test with Detected Values Only	
Shapiro Wilk Test Statistic	0.571	Not Available	
5% Shapiro Wilk Critical Value	0.938		
Data not Normal at 5% Significance Level			
Assuming Normal Distribution		Assuming Lognormal Distribution	
DL/2 Substitution Method		DL/2 Substitution Method	N/A
Mean	10540		
SD	21014		
95% DL/2 (t) UCL	16214		
Maximum Likelihood Estimate(MLE) Method		Log ROS Method	N/A
Mean	-6128		
SD	36071		
95% MLE (t) UCL	3611		
95% MLE (Tiku) UCL	6532		
Gamma Distribution Test with Detected Values Only		Data Distribution Test with Detected Values Only	
Gamma Statistics Not Available		Data do not follow a Discernable Distribution (0.05)	
Potential UCLs to Use		Nonparametric Statistics	
99% KM (Chebyshev) UCL	44032	Kaplan-Meier (KM) Method	
		Mean	10537
		SD	20744
		SE of Mean	3366
		95% KM (t) UCL	16212
		95% KM (z) UCL	16074
		95% KM (jackknife) UCL	16210
		95% KM (bootstrap t) UCL	21094
		95% KM (BCA) UCL	16333
		95% KM (Percentile Bootstrap) UCL	15894
		95% KM (Chebyshev) UCL	25211
		97.5% KM (Chebyshev) UCL	31560
		99% KM (Chebyshev) UCL	44032

Note: DL/2 is not a recommended method.

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
For additional insight, the user may want to consult a statistician.

UCL Statistics for Data Sets with Non-Detects

User Selected Options

Date/Time of Computation	ProUCL 5.111/6/2017 12:08:51 PM
From File	WorkSheet.xls
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

Greenspace_PCB0to12

General Statistics

Total Number of Observations	77	Number of Distinct Observations	56
Number of Detects	38	Number of Non-Detects	39
Number of Distinct Detects	36	Number of Distinct Non-Detects	21
Minimum Detect	0.0045	Minimum Non-Detect	0.02
Maximum Detect	110	Maximum Non-Detect	0.18
Variance Detects	319.1	Percent Non-Detects	50.65%
Mean Detects	5.245	SD Detects	17.86
Median Detects	0.595	CV Detects	3.406
Skewness Detects	5.744	Kurtosis Detects	34.34
Mean of Logged Detects	-0.691	SD of Logged Detects	2.402

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.302	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.938	Detected Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.385	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.142	Detected Data Not Normal at 5% Significance Level	

Detected Data Not Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	2.596	KM Standard Error of Mean	1.462
KM SD	12.66	95% KM (BCA) UCL	5.684
95% KM (t) UCL	5.03	95% KM (Percentile Bootstrap) UCL	5.276
95% KM (z) UCL	5	95% KM Bootstrap t UCL	12.51
90% KM Chebyshev UCL	6.981	95% KM Chebyshev UCL	8.967
97.5% KM Chebyshev UCL	11.72	99% KM Chebyshev UCL	17.14

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	1.558	Anderson-Darling GOF Test	
5% A-D Critical Value	0.86	Detected Data Not Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.183	Kolmogorov-Smirnov GOF	
5% K-S Critical Value	0.156	Detected Data Not Gamma Distributed at 5% Significance Level	

Detected Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	0.295	k star (bias corrected MLE)	0.289
Theta hat (MLE)	17.81	Theta star (bias corrected MLE)	18.16
nu hat (MLE)	22.38	nu star (bias corrected)	21.95
Mean (detects)	5.245		

Gamma ROS Statistics using Imputed Non-Detects
GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs
GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)
For such situations, GROS method may yield incorrect values of UCLs and BTVs
This is especially true when the sample size is small.
For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.0045	Mean	2.593
Maximum	110	Median	0.01
SD	12.74	CV	4.912
k hat (MLE)	0.203	k star (bias corrected MLE)	0.203
Theta hat (MLE)	12.81	Theta star (bias corrected MLE)	12.76
nu hat (MLE)	31.19	nu star (bias corrected)	31.31
Adjusted Level of Significance (β)	0.0469		
Approximate Chi Square Value (31.31, α)	19.52	Adjusted Chi Square Value (31.31, β)	19.35
95% Gamma Approximate UCL (use when n>=50)	4.159	95% Gamma Adjusted UCL (use when n<50)	4.197

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	2.596	SD (KM)	12.66
Variance (KM)	160.2	SE of Mean (KM)	1.462
k hat (KM)	0.0421	k star (KM)	0.0491
nu hat (KM)	6.478	nu star (KM)	7.559
theta hat (KM)	61.71	theta star (KM)	52.88
80% gamma percentile (KM)	0.33	90% gamma percentile (KM)	3.866
95% gamma percentile (KM)	13.71	99% gamma percentile (KM)	56.88

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (7.56, α)	2.482	Adjusted Chi Square Value (7.56, β)	2.427
95% Gamma Approximate KM-UCL (use when n>=50)	7.904	95% Gamma Adjusted KM-UCL (use when n<50)	8.083

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.974	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.938	Detected Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.0843	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.142	Detected Data appear Lognormal at 5% Significance Level	

Detected Data appear Lognormal at 5% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	2.595	Mean in Log Scale	-2.745
SD in Original Scale	12.74	SD in Log Scale	2.74
95% t UCL (assumes normality of ROS data)	5.013	95% Percentile Bootstrap UCL	5.403
95% BCA Bootstrap UCL	6.975	95% Bootstrap t UCL	12.65
95% H-UCL (Log ROS)	10.98		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	-2.558	KM Geo Mean	0.0774
KM SD (logged)	2.519	95% Critical H Value (KM-Log)	4.118
KM Standard Error of Mean (logged)	0.316	95% H-UCL (KM -Log)	6.077
KM SD (logged)	2.519	95% Critical H Value (KM-Log)	4.118
KM Standard Error of Mean (logged)	0.316		

DL/2 Statistics

DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	2.599	Mean in Log Scale	-2.357
SD in Original Scale	12.74	SD in Log Scale	2.373
95% t UCL (Assumes normality)	5.016	95% H-Stat UCL	4.606

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics
Detected Data appear Lognormal Distributed at 5% Significance Level

Suggested UCL to Use	
KM H-UCL	6.077

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

UCL Statistics for Data Sets with Non-Detects

User Selected Options

Date/Time of Computation	ProUCL 5.111/6/2017 12:10:32 PM
From File	WorkSheet.xls
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

Greenspace_PCB3to12

General Statistics

Total Number of Observations	50	Number of Distinct Observations	42
Number of Detects	27	Number of Non-Detects	23
Number of Distinct Detects	26	Number of Distinct Non-Detects	17
Minimum Detect	0.014	Minimum Non-Detect	0.02
Maximum Detect	110	Maximum Non-Detect	0.18
Variance Detects	442.3	Percent Non-Detects	46%
Mean Detects	6.955	SD Detects	21.03
Median Detects	0.6	CV Detects	3.024
Skewness Detects	4.866	Kurtosis Detects	24.56
Mean of Logged Detects	-0.434	SD of Logged Detects	2.493

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.341	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.923	Detected Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.371	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.167	Detected Data Not Normal at 5% Significance Level	

Detected Data Not Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	3.764	KM Standard Error of Mean	2.242
KM SD	15.55	95% KM (BCA) UCL	8.201
95% KM (t) UCL	7.523	95% KM (Percentile Bootstrap) UCL	7.988
95% KM (z) UCL	7.452	95% KM Bootstrap t UCL	19.19
90% KM Chebyshev UCL	10.49	95% KM Chebyshev UCL	13.54
97.5% KM Chebyshev UCL	17.76	99% KM Chebyshev UCL	26.07

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	1.066	Anderson-Darling GOF Test	
5% A-D Critical Value	0.857	Detected Data Not Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.152	Kolmogorov-Smirnov GOF	
5% K-S Critical Value	0.183	Detected data appear Gamma Distributed at 5% Significance Level	

Detected data follow Appr. Gamma Distribution at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	0.292	k star (bias corrected MLE)	0.284
Theta hat (MLE)	23.83	Theta star (bias corrected MLE)	24.48
nu hat (MLE)	15.76	nu star (bias corrected)	15.34
Mean (detects)	6.955		

Gamma ROS Statistics using Imputed Non-Detects
GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs
GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)
For such situations, GROS method may yield incorrect values of UCLs and BTVs
This is especially true when the sample size is small.
For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	3.76
Maximum	110	Median	0.0195
SD	15.71	CV	4.179
k hat (MLE)	0.2	k star (bias corrected MLE)	0.201
Theta hat (MLE)	18.79	Theta star (bias corrected MLE)	18.67
nu hat (MLE)	20.01	nu star (bias corrected)	20.14
Adjusted Level of Significance (β)	0.0452		
Approximate Chi Square Value (20.14, α)	10.96	Adjusted Chi Square Value (20.14, β)	10.76
95% Gamma Approximate UCL (use when n>=50)	6.913	95% Gamma Adjusted UCL (use when n<50)	7.043

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	3.764	SD (KM)	15.55
Variance (KM)	241.9	SE of Mean (KM)	2.242
k hat (KM)	0.0586	k star (KM)	0.0684
nu hat (KM)	5.857	nu star (KM)	6.839
theta hat (KM)	64.27	theta star (KM)	55.04
80% gamma percentile (KM)	1.276	90% gamma percentile (KM)	7.973
95% gamma percentile (KM)	21.59	99% gamma percentile (KM)	71.69

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (6.84, α)	2.083	Adjusted Chi Square Value (6.84, β)	2.006
95% Gamma Approximate KM-UCL (use when n>=50)	12.36	95% Gamma Adjusted KM-UCL (use when n<50)	12.84

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.953	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.923	Detected Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.104	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.167	Detected Data appear Lognormal at 5% Significance Level	

Detected Data appear Lognormal at 5% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	3.762	Mean in Log Scale	-2.394
SD in Original Scale	15.71	SD in Log Scale	2.866
95% t UCL (assumes normality of ROS data)	7.487	95% Percentile Bootstrap UCL	7.993
95% BCA Bootstrap UCL	11.07	95% Bootstrap t UCL	18.58
95% H-UCL (Log ROS)	40.91		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	-2.097	KM Geo Mean	0.123
KM SD (logged)	2.555	95% Critical H Value (KM-Log)	4.42
KM Standard Error of Mean (logged)	0.371	95% H-UCL (KM -Log)	16.12
KM SD (logged)	2.555	95% Critical H Value (KM-Log)	4.42
KM Standard Error of Mean (logged)	0.371		

DL/2 Statistics

DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	3.767	Mean in Log Scale	-2.039
SD in Original Scale	15.71	SD in Log Scale	2.549
95% t UCL (Assumes normality)	7.492	95% H-Stat UCL	16.7

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics
Detected Data appear Approximate Gamma Distributed at 5% Significance Level

Suggested UCL to Use	
95% KM Approximate Gamma UCL	12.36

When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test
When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

UCL Statistics for Data Sets with Non-Detects

User Selected Options

Date/Time of Computation	ProUCL 5.111/6/2017 12:21:04 PM
From File	WorkSheet.xls
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

Greenspace_PCB0to3

General Statistics

Total Number of Observations	27	Number of Distinct Observations	22
Number of Detects	11	Number of Non-Detects	16
Number of Distinct Detects	11	Number of Distinct Non-Detects	11
Minimum Detect	0.0045	Minimum Non-Detect	0.0214
Maximum Detect	6.5	Maximum Non-Detect	0.044
Variance Detects	3.46	Percent Non-Detects	59.26%
Mean Detects	1.046	SD Detects	1.86
Median Detects	0.59	CV Detects	1.778
Skewness Detects	2.995	Kurtosis Detects	9.446
Mean of Logged Detects	-1.323	SD of Logged Detects	2.14

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.558	Shapiro Wilk GOF Test
5% Shapiro Wilk Critical Value	0.85	Detected Data Not Normal at 5% Significance Level
Lilliefors Test Statistic	0.372	Lilliefors GOF Test
5% Lilliefors Critical Value	0.251	Detected Data Not Normal at 5% Significance Level

Detected Data Not Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

KM Mean	0.432	KM Standard Error of Mean	0.251
KM SD	1.241	95% KM (BCA) UCL	0.952
95% KM (t) UCL	0.859	95% KM (Percentile Bootstrap) UCL	0.902
95% KM (z) UCL	0.844	95% KM Bootstrap t UCL	1.748
90% KM Chebyshev UCL	1.183	95% KM Chebyshev UCL	1.524
97.5% KM Chebyshev UCL	1.997	99% KM Chebyshev UCL	2.925

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.32	Anderson-Darling GOF Test
5% A-D Critical Value	0.787	Detected data appear Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.185	Kolmogorov-Smirnov GOF
5% K-S Critical Value	0.27	Detected data appear Gamma Distributed at 5% Significance Level

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	0.469	k star (bias corrected MLE)	0.402
Theta hat (MLE)	2.232	Theta star (bias corrected MLE)	2.605
nu hat (MLE)	10.31	nu star (bias corrected)	8.834
Mean (detects)	1.046		

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)

For such situations, GROS method may yield incorrect values of UCLs and BTVs

This is especially true when the sample size is small.

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.0045	Mean	0.432
Maximum	6.5	Median	0.01
SD	1.265	CV	2.927
k hat (MLE)	0.286	k star (bias corrected MLE)	0.279
Theta hat (MLE)	1.511	Theta star (bias corrected MLE)	1.549
nu hat (MLE)	15.45	nu star (bias corrected)	15.06
Adjusted Level of Significance (β)	0.0401		
Approximate Chi Square Value (15.06, α)	7.307	Adjusted Chi Square Value (15.06, β)	6.962
95% Gamma Approximate UCL (use when n>=50)	0.891	95% Gamma Adjusted UCL (use when n<50)	0.935

Estimates of Gamma Parameters using KM Estimates

Mean (KM)	0.432	SD (KM)	1.241
Variance (KM)	1.541	SE of Mean (KM)	0.251
k hat (KM)	0.121	k star (KM)	0.132
nu hat (KM)	6.53	nu star (KM)	7.138
theta hat (KM)	3.57	theta star (KM)	3.266
80% gamma percentile (KM)	0.419	90% gamma percentile (KM)	1.252
95% gamma percentile (KM)	2.43	99% gamma percentile (KM)	5.942

Gamma Kaplan-Meier (KM) Statistics

Approximate Chi Square Value (7.14, α)	2.247	Adjusted Chi Square Value (7.14, β)	2.075
95% Gamma Approximate KM-UCL (use when n>=50)	1.372	95% Gamma Adjusted KM-UCL (use when n<50)	1.485

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.935	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.85	Detected Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.19	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.251	Detected Data appear Lognormal at 5% Significance Level	

Detected Data appear Lognormal at 5% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	0.432	Mean in Log Scale	-3.385
SD in Original Scale	1.265	SD in Log Scale	2.265
95% t UCL (assumes normality of ROS data)	0.848	95% Percentile Bootstrap UCL	0.889
95% BCA Bootstrap UCL	1.165	95% Bootstrap t UCL	1.814
95% H-UCL (Log ROS)	3.217		

Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution

KM Mean (logged)	-3.405	KM Geo Mean	0.0332
KM SD (logged)	2.206	95% Critical H Value (KM-Log)	4.38
KM Standard Error of Mean (logged)	0.518	95% H-UCL (KM -Log)	2.516
KM SD (logged)	2.206	95% Critical H Value (KM-Log)	4.38
KM Standard Error of Mean (logged)	0.518		

DL/2 Statistics

DL/2 Normal		DL/2 Log-Transformed	
Mean in Original Scale	0.437	Mean in Log Scale	-2.946
SD in Original Scale	1.263	SD in Log Scale	1.916
95% t UCL (Assumes normality)	0.851	95% H-Stat UCL	1.424

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Gamma Distributed at 5% Significance Level

Suggested UCL to Use

Gamma Adjusted KM-UCL (use when k<=1 and 15 < n < 1.485

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

APPENDIX C
DISTANCE X WHERE CONTAMINANT IN GROUNDWATER EQUALS GUPUS AND BIOCHLOR MODELING SENSITIVITY ANALYSIS

Appendix C
Distance X where Contaminant Concentration in Groundwater Equals GUPUS

INPUT	PARAMETER	Value	Unit	Reference
Hydrogeology	SEEPAGE VELOCITY	--	ft/yr	Calculated by Biochlor
	HYDRAULIC CONDUCTIVITY , K			
	Upper zone	7.0E-02	cm/sec	3.5E-2 to 1.4E-1 cm/s in upper aquifer (RFI, CRA 2006); used geometric mean (K_A)
		3.5E-02	cm/sec	3.5E-2 to 1.4E-1 cm/s in upper aquifer (RFI, CRA 2006); lower end (K_B)
		1.4E-01	cm/sec	3.5E-2 to 1.4E-1 cm/s in upper aquifer (RFI, CRA 2006); upper end (K_C)
	Till zone	3.0E-02	cm/sec	2E-2 to 4.5E-2 cm/s in till- more conductive layers (RFI, CRA 2006); used geometric mean (K_A)
		1.0E-07	cm/sec	6.1E-08 to 1.8E-07 in till- lower permeability layers (RFI, CRA 2006); used geometric mean (K_B)
		5.6E-05	cm/sec	(RFI, CRA 2006); used geometric mean of more conducive and lower permeability layers (K_C)
	Lower aquifer	9.5E-02	cm/sec	6E-2 to 1.5E-1 cm/s in lower aquifer (RFI, CRA 2006); used geometric mean (K_A)
		6.0E-02	cm/sec	6E-2 to 1.5E-1 cm/s in lower aquifer (RFI, CRA 2006); lower end (K_B)
		1.5E-01	cm/sec	6E-2 to 1.5E-1 cm/s in lower aquifer (RFI, CRA 2006); upper end (K_C)
	HYDRAULIC GRADIENT, i			
	Upper zone	1.10E-03	ft/ft	RFI (CRA, 2006)
	Till zone	5.00E-03	ft/ft	based on gradient for lower zone (RFI, CRA, 2006)
	Lower aquifer	5.00E-03	ft/ft	average gradient, away from pumping (RFI, CRA 2006)
	POROSITY, n	0.3	cm3/cm3	BUSTR Bioscreen defaul for silty sand, common saturated zone soil type at site
Dispersion	Longitudinal Dispersivity (alpha L)	36.54	ft	Longitudinal dispersivity of a based on Xu and Eckstein equation (OEPA, 2007, TGM for Hydrogeological Investigation and Monitoring, Chapter 14) alpha L = 0.83 x (log Lp (meter)^2.312)
	Longitudinal Dispersivity (alpha x)	264	ft	Longitudinal dispersivity = 0.1 *alpha x* (Pickens and Grisak, 1981, as presented in Biochlor User's Guide, EPA, 2000)
	Transverse Dispersivity (alpha y)	12.06	ft	Transverse dispersivity = 0.33 *alpha x* (ASTM, 1995; EPA, 1986, as presented in Biochlor User's Guide, EPA, 2000)
	Vertical Dispersivity (alpha z)	1.83	ft	Vertical dispersivity = 0.05 *alpha x* (ASTM, 1995; as presented in Biochlor User's Guide, 2000)
Adsorption	RETARDATION FACTOR , R	--	unitless	Chemical-specific; calculated by Biochlor; R = 1+(Kd x BD)/n)
	SOIL BULK DENSITY, BD	1.6	kg/L	BUSTR Bioscreen default for silty sand; common soil type at site
	PARTITION COEFFICIENT, Koc			
	PCE	265	L/kg	Voluntary Action Program (VAP) Chemical Information Database and Applicable Regulatory Standards (CIDARS) spreadsheet, Revised 2-5-09 (Ohio EPA, 2009).
	TCE	94	L/kg	Voluntary Action Program (VAP) Chemical Information Database and Applicable Regulatory Standards (CIDARS) spreadsheet, Revised 2-5-09 (Ohio EPA, 2009).
	cis-1,2-DCE	36	L/kg	Voluntary Action Program (VAP) Chemical Information Database and Applicable Regulatory Standards (CIDARS) spreadsheet, Revised 2-5-09 (Ohio EPA, 2009).
	Vinyl chloride	19	L/kg	Voluntary Action Program (VAP) Chemical Information Database and Applicable Regulatory Standards (CIDARS) spreadsheet, Revised 2-5-09 (Ohio EPA, 2009).
	Ethene	302	L/kg	Biochlor default
	FRACTION ORGANIC CARBON, FOC	0.001	unitless	BUSTR Bioscreen default for silty sand; common saturated zone soil type at site
Biodegradation	1ST ORDER DECAY COEFFICIENT, k			
	PCE	0.350	per year	35 IAC 742, 0.00096/day x 365 days/yr
	TCE	0.153	per year	35 IAC 742, 0.00042/day x 365 days/yr
	cis-1,2-DCE	0.0880	per year	35 IAC 742, 0.00024/day x 365 days/yr
	Vinyl chloride	0.0870	per year	35 IAC 742, 0.00024/day x 365 days/yr
	PCE	<0.8 (0.799)	per year	minimum rate constants estimated using Biochlor (Aziz et al., 2002. BIOCHLOR Natural Attenuation Decision Support
	TCE	<0.3 (0.299)	per year	System Version 2.2., User's Manual Addendum, March) (Decay_B)
	cis-1,2-DCE	<0.1 (0.099)	per year	
	Vinyl chloride	<0.4 (0.399)	per year	

Appendix C
Distance X where Contaminant Concentration in Groundwater Equals GUPUS

General Data	SIMULATION TIME	100	years	Significant enough length of time to reach steady-state conditions.
	MODELED LENGTH			
	Impacts 1/2 mile from property	2640	ft	One-half mile beyond the Property boundary, consistent with the groundwater response requirements for Critical Resource Groundwater in an Urban Setting Designation (USD).
	Impacts on surface water	100	ft	Distance to river from MW23-04
	MODELED AREA WIDTH			
	Upper zone - all GW data	450	ft	Site Specific; Estimated at half N/S property width of 900 ft
	Upper zone - 2015 GW data	450	ft	Site Specific; Estimated at half N/S property width of 900 ft
	Till zone	450	ft	Site Specific; Estimated at half N/S property width of 900 ft
	Lower aquifer	450	ft	Site Specific; Estimated at half N/S property width of 900 ft
	SATURATED ZONE			
	Upper zone	25	ft	Upper unit minimum thickness of 25 ft (25 to 50 ft range; RFI, CRI, 2006)
	Till zone	10	ft	Till zone minimum thickness (10 ft to 45 ft west; 80 ft eastt, CRI, 2006)
	Lower aquifer	110	ft	Lower aquifer saturated thickness (RFI, CRI, 2006)
Source Area	SOURCE THICKNESS IN SATURATED ZONE			
	Upper zone	25	ft	Upper unit minimum thickness of 25 ft (25 to 50 ft range; RFI, CRI, 2006)
	Till zone	10	ft	Till zone minimum thickness (10 ft to 45 ft west; 80 ft east, CRI, 2006)
	Lower aquifer	110	ft	Lower aquifer saturated thickness (RFI, CRI, 2006)
	SOURCE AREA CONCENTRATION			
	Upper Zone - all GW data	PCE- 4.6; TCE-1.39; DCE-40.3 ; VC - 3.48	mg/L	GW maximum concentrations; East Phase
	Upper Zone - 2015 GW data	PCE-0.516; TCE - 0.302; DCE-7.43; VC-0.456	mg/L	2015 GW maximum concentrations; East Phase
	Till zone - all GW data	PCE-0.013; TCE - 0.19; DCE-0.072; VC-ND	mg/L	GW maximum concentrations; East Phase
	Lower aquifer - all GW data	PCE-ND; TCE - ND; DCE- 0.0012; VC-0.0041	mg/L	GW maximum concentrations; East Phase
	SOURCE WIDTH			
	Upper Zone - all GW data	500	ft	Site-Specific; approximate distance between HD-13 and MW-27-04
	Upper Zone - 2015 GW data	500	ft	Site-Specific; approximate distance between HD-13 and MW-27-04
	Till zone - all GW data	200	ft	Site-Specific; 50 ft radius around MW36-05
	Lower aquifer - all GW data	200	ft	Site-Specific; 50 ft radius around MW39-05

Source:
BIOCHLOR Natural Attenuation Decision Support System Version 2.2., User's Manual Addendum, March. 2002.

APPENDIX C-1
UPPER AQUIFER, ALL DATA, MAXIMUM CONCENTRATIONS

East Phase Upper Aquifer Maximum Concentrations (All Data) BIOCHLOR Sensitivity Analysis

Groundwater Unit	Conductivity	Decay	PCE (mg/L)		TCE (mg/L)		DCE (mg/L)		VC (mg/L)	
			No degradation	Biotransformation	No degradation	Biotransformation	No degradation	Biotransformation	No degradation	Biotransformation
Continuous Source										
Upper	A	A	0.351	0.013	0.106	0.118	3.074	1.423	0.265	0.86
Upper	B	A	0.351	0.001	0.106	0.031	3.074	0.656	0.265	0.709
Upper	C	A	0.351	0.064	0.106	0.193	3.074	2.079	0.265	0.738
Upper	A	B	0.351	0	0.106	0.031	3.074	1.306	0.265	0.261
Upper	B	B	0.351	0	0.106	0.002	3.074	0.518	0.265	0.109
Upper	C	B	0.351	0.008	0.106	0.118	3.074	2.034	0.265	0.36
Decaying Source (Kpoint = 0.0493)										
Upper	A	A	0.005	0	0.002	0.002	0.047	0.021	**0.004**	**0.013**
Upper	B	A	0.011	0	0.003	0.001	**0.1**	0.02	**0.009**	**0.022**
Upper	C	A	0.004	0.001	0.001	0.002	0.032	0.022	**0.003**	**0.008**
Upper	A	B	0.005	0	0.002	0	0.047	0.019	**0.004**	**0.004**
Upper	B	B	0.011	0	0.003	0	**0.1**	0.016	**0.009**	**0.003**
Upper	C	B	0.004	0	0.001	0.001	0.032	0.021	**0.003**	**0.004**
		UPUS	0.005 mg/L		0.005 mg/L		0.07 mg/L		0.002 mg/L	

Maximum Concentration- All Data (mg/L)	Upper Zone
PCE	4.6
TCE	1.39
DCE	40.3
VC	3.48

BIOCHLOR Natural Attenuation Decision Support System

Version 2.2
Excel 2000

TT East Phase Upper
Max GW; KA DA CONT
Run Name

Data Input Instructions:
115 → 1. Enter value directly....or
↑ or
0.02 → 2. Calculate by filling in gray cells. Press Enter, then C
(To restore formulas, hit "Restore Formulas" button)
Variable* → Data used directly in model.

Test if Biotransformation is Occurring → Natural Attenuation Screening Protocol

TYPE OF CHLORINATED SOLVENT: Ethenes ◉ Ethanes ○

1. ADVECTION

Seepage Velocity*	Vs	265.6	(ft/yr)
or			
Hydraulic Conductivity	K	7.0E-02	(cm/sec)
Hydraulic Gradient	i	1.10E-03	(ft/ft)
Effective Porosity	n	0.3	(-)

2. DISPERSION

Alpha x*	36.543	(ft)
(Alpha y) / (Alpha x)*	0.33	(-)
(Alpha z) / (Alpha x)*	5.E-02	(-)

Calc. Alpha x

3. ADSORPTION

Retardation Factor* → R
or

Soil Bulk Density, rho	1.6	(kg/L)		
FractionOrganicCarbon, foc	1.0E-3	(-)		
Partition Coefficient	Koc			
PCE	265	(L/kg)	2.41	(-)
TCE	94	(L/kg)	1.50	(-)
DCE	36	(L/kg)	1.19	(-)
VC	19	(L/kg)	1.10	(-)
ETH	302	(L/kg)	2.61	(-)
Common R (used in model)* =			**1.50**	

4. BIOTRANSFORMATION -1st Order Decay Coefficient*

Zone 1	λ (1/yr)	half-life (yrs)	Yield
PCE → TCE	0.350		0.79
TCE → DCE	0.153		0.74
DCE → VC	0.088		0.64
VC → ETH	0.087		0.45

Zone 2	λ (1/yr)	half-life (yrs)
PCE → TCE	0.000	
TCE → DCE	0.000	
DCE → VC	0.000	
VC → ETH	0.000	

λ HELP

5. GENERAL

Simulation Time*	100	(yr)
Modeled Area Width*	450	(ft)
Modeled Area Length*	2640	(ft)
Zone 1 Length*	2640	(ft)
Zone 2 Length*	0	(ft)

L, W

Zone 2= L - Zone 1

6. SOURCE DATA TYPE: Continuous Single Planar

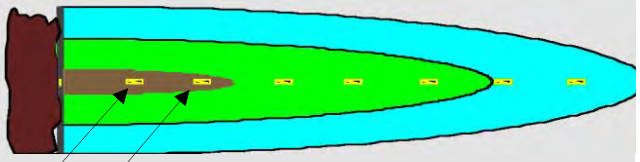
Source Options

Source Thickness in Sat. Zone* 25 (ft)

Width* (ft) Y1: 250

Conc. (mg/L)*	C1	k_s* (1/yr)
PCE	4.6	0
TCE	1.39	0
DCE	40.3	0
VC	3.48	0
ETH		0

Vertical Plane Source: Determine Source Well Location and Input Solvent Concentrations



View of Plume Looking Down

Observed Centerline Conc. at Monitoring Wells

7. FIELD DATA FOR COMPARISON

PCE Conc. (mg/L)											
TCE Conc. (mg/L)											
DCE Conc. (mg/L)											
VC Conc. (mg/L)											
ETH Conc. (mg/L)											
Distance from Source (ft)	0										
Date Data Collected											

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE | RUN ARRAY | Help | Restore | RESET | SEE OUTPUT | Paste

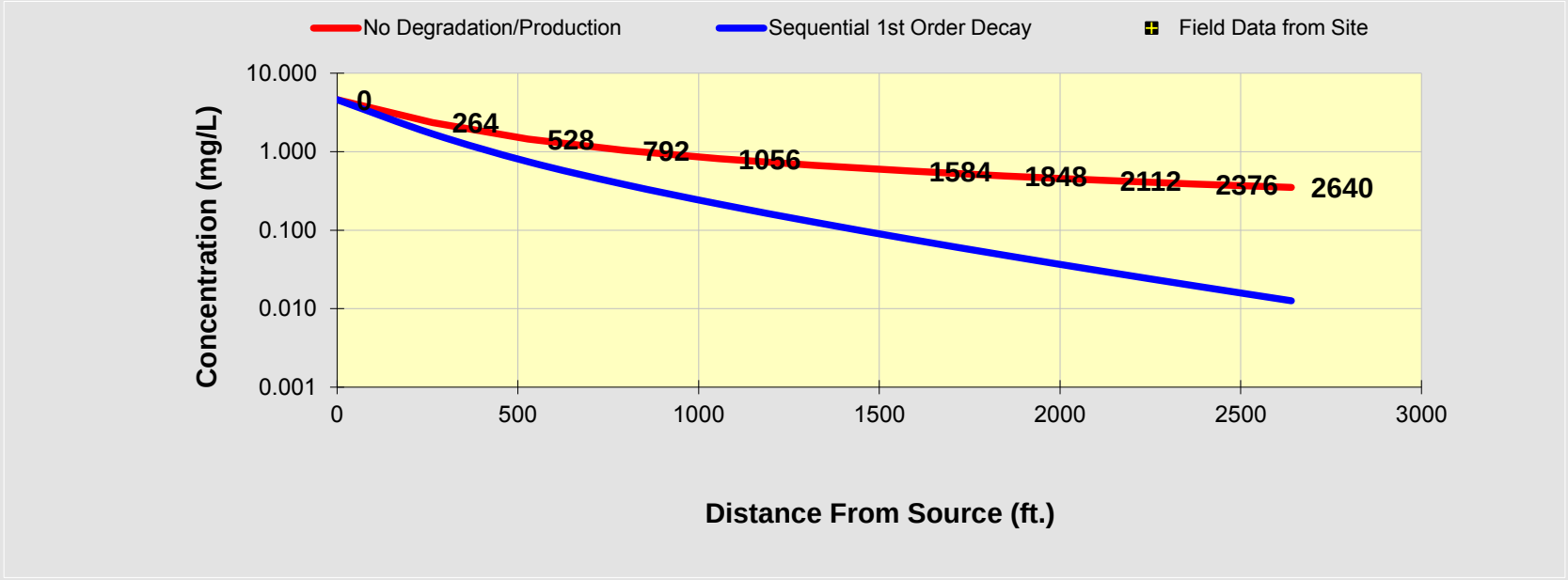
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

PCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	4.600	2.352	1.450	1.044	0.815	0.668	0.566	0.491	0.433	0.388	0.351
Biotransformation	4.6000	1.686	0.746	0.385	0.215	0.127	0.077	0.048	0.030	0.019	0.013

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

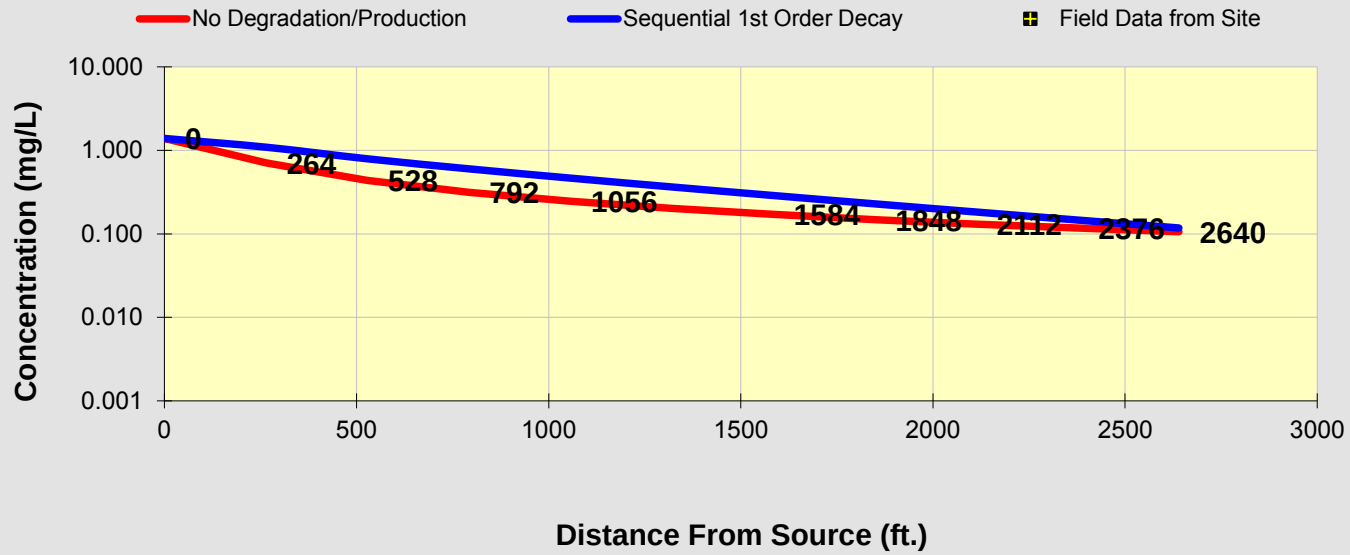
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

TCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	1.390	0.711	0.438	0.315	0.246	0.202	0.171	0.148	0.131	0.117	0.106
Biotransformation	1.3900	1.092	0.793	0.601	0.465	0.365	0.288	0.229	0.183	0.146	0.118

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

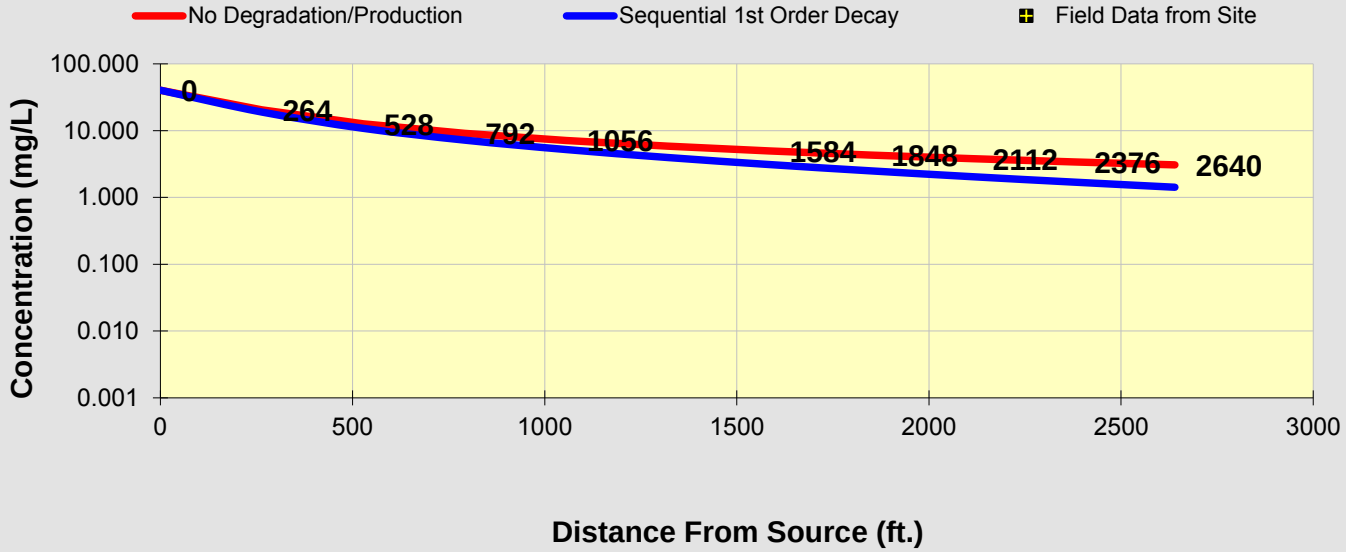
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

DCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	40.300	20.602	12.707	9.147	7.138	5.851	4.956	4.298	3.795	3.397	3.074
Biotransformation	40.3000	19.007	10.836	7.220	5.219	3.965	3.113	2.502	2.047	1.697	1.423

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

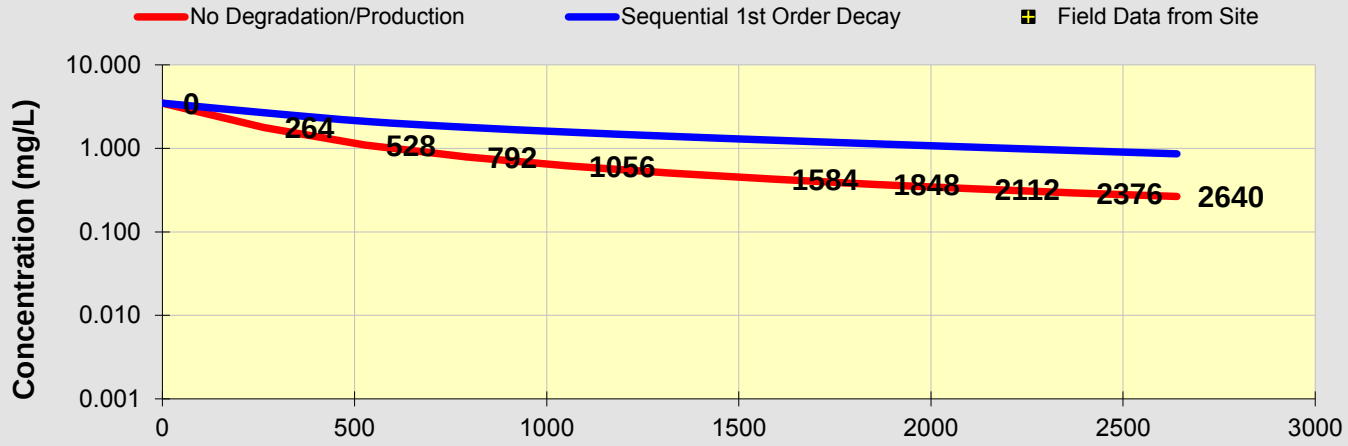
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

VC	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	3.480	1.779	1.097	0.790	0.616	0.505	0.428	0.371	0.328	0.293	0.265
Biotransformation	3.4800	2.674	2.107	1.788	1.566	1.395	1.255	1.136	1.033	0.942	0.860

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

BIOCHLOR Natural Attenuation Decision Support System

Version 2.2
Excel 2000

TT East Phase Upper
Max GW; KB DA CONT
Run Name

Data Input Instructions:
115 → 1. Enter value directly....or
↑ or
0.02 → 2. Calculate by filling in gray cells. Press Enter, then C
(To restore formulas, hit "Restore Formulas" button)
Variable* → Data used directly in model.

Test if Biotransformation is Occurring → Natural Attenuation Screening Protocol

TYPE OF CHLORINATED SOLVENT: Ethenes ◉ Ethanes ○

1. ADVECTION

Seepage Velocity*	Vs	132.8	(ft/yr)
or			
Hydraulic Conductivity	K	3.5E-02	(cm/sec)
Hydraulic Gradient	i	1.10E-03	(ft/ft)
Effective Porosity	n	0.3	(-)

2. DISPERSION

Alpha x*	36.543	(ft)
(Alpha y) / (Alpha x)*	0.33	(-)
(Alpha z) / (Alpha x)*	5.E-02	(-)

Calc. Alpha x

3. ADSORPTION

Retardation Factor* → R

or

Soil Bulk Density, rho	1.6	(kg/L)		
FractionOrganicCarbon, foc	1.0E-3	(-)		
Partition Coefficient	Koc			
PCE	265	(L/kg)	2.41	(-)
TCE	94	(L/kg)	1.50	(-)
DCE	36	(L/kg)	1.19	(-)
VC	19	(L/kg)	1.10	(-)
ETH	302	(L/kg)	2.61	(-)
Common R (used in model)* =			**1.50**	

4. BIOTRANSFORMATION

-1st Order Decay Coefficient*

	λ (1/yr)	half-life (yrs)	Yield
Zone 1			
PCE → TCE	0.350		0.79
TCE → DCE	0.153		0.74
DCE → VC	0.088		0.64
VC → ETH	0.087		0.45
Zone 2	λ (1/yr)	half-life (yrs)	
PCE → TCE	0.000		
TCE → DCE	0.000		
DCE → VC	0.000		
VC → ETH	0.000		

λ HELP

5. GENERAL

Simulation Time*	100	(yr)
Modeled Area Width*	450	(ft)
Modeled Area Length*	2640	(ft)
Zone 1 Length*	2640	(ft)
Zone 2 Length*	0	(ft)

L, W

Zone 2= L - Zone 1

6. SOURCE DATA

TYPE: Continuous Single Planar

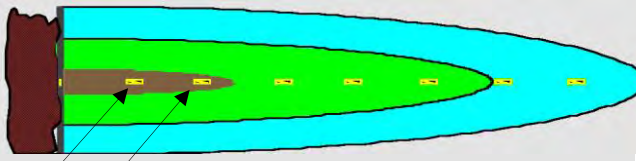
Source Options

Source Thickness in Sat. Zone* 25 (ft)

Width* (ft) Y1: 250

Conc. (mg/L)*	C1	k_s* (1/yr)
PCE	4.6	0
TCE	1.39	0
DCE	40.3	0
VC	3.48	0
ETH		0

Vertical Plane Source: Determine Source Well Location and Input Solvent Concentrations



View of Plume Looking Down

Observed Centerline Conc. at Monitoring Wells

7. FIELD DATA FOR COMPARISON

PCE Conc. (mg/L)											
TCE Conc. (mg/L)											
DCE Conc. (mg/L)											
VC Conc. (mg/L)											
ETH Conc. (mg/L)											
Distance from Source (ft)	0										
Date Data Collected											

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE | RUN ARRAY | Help | Restore | RESET | SEE OUTPUT | Paste

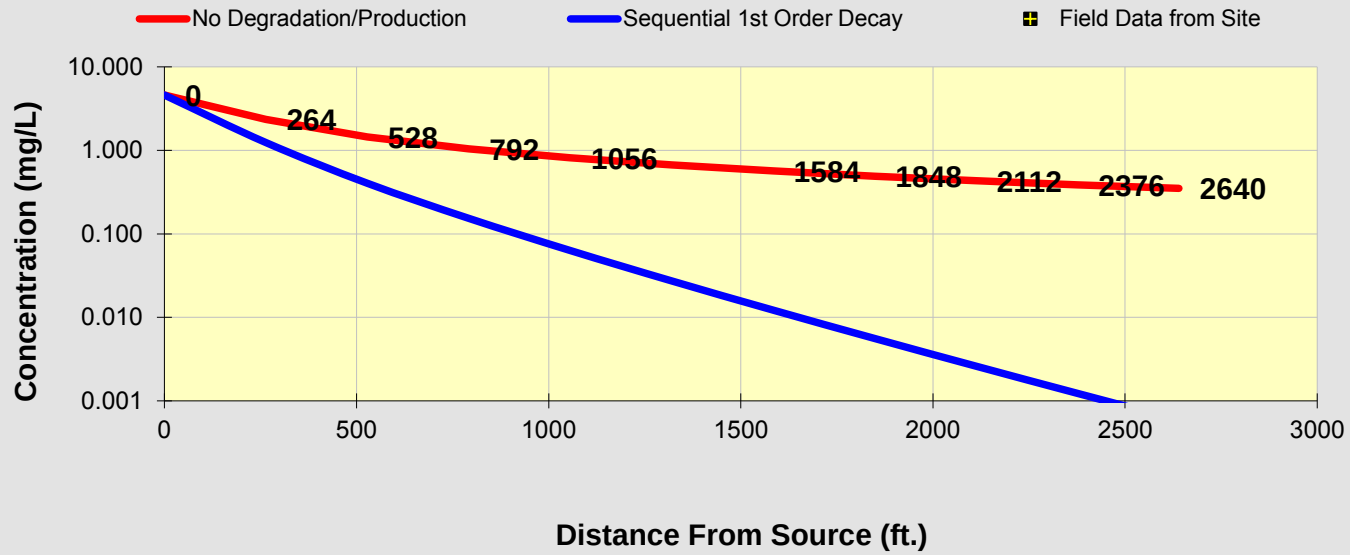
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

PCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	4.600	2.352	1.450	1.044	0.815	0.668	0.566	0.491	0.433	0.388	0.351
Biotransformation	4.6000	1.241	0.404	0.153	0.063	0.027	0.012	0.006	0.003	0.001	0.001

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

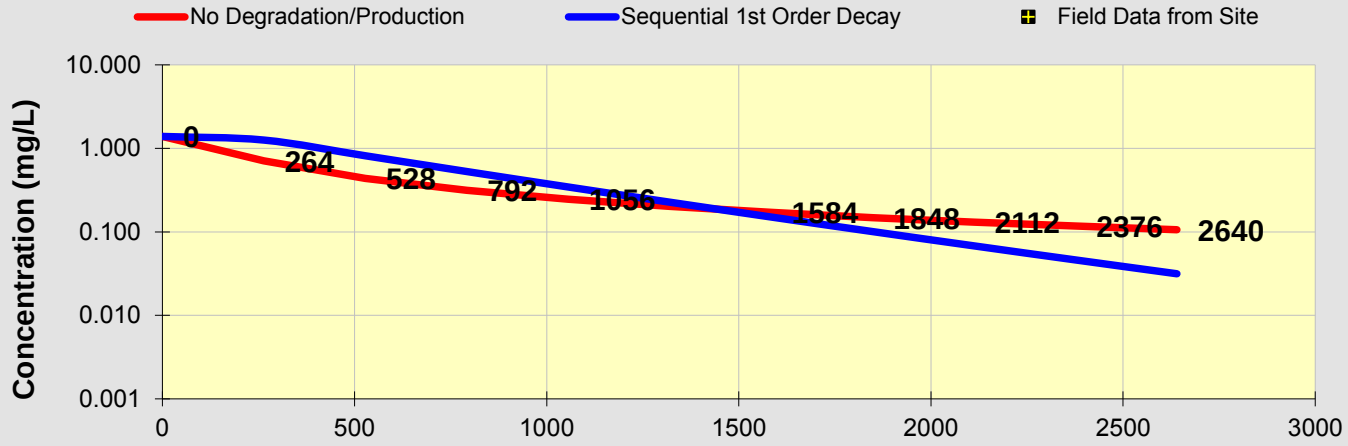
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

TCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	1.390	0.711	0.438	0.315	0.246	0.202	0.171	0.148	0.131	0.117	0.106
Biotransformation	1.3900	1.257	0.815	0.528	0.345	0.227	0.151	0.101	0.068	0.046	0.031

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

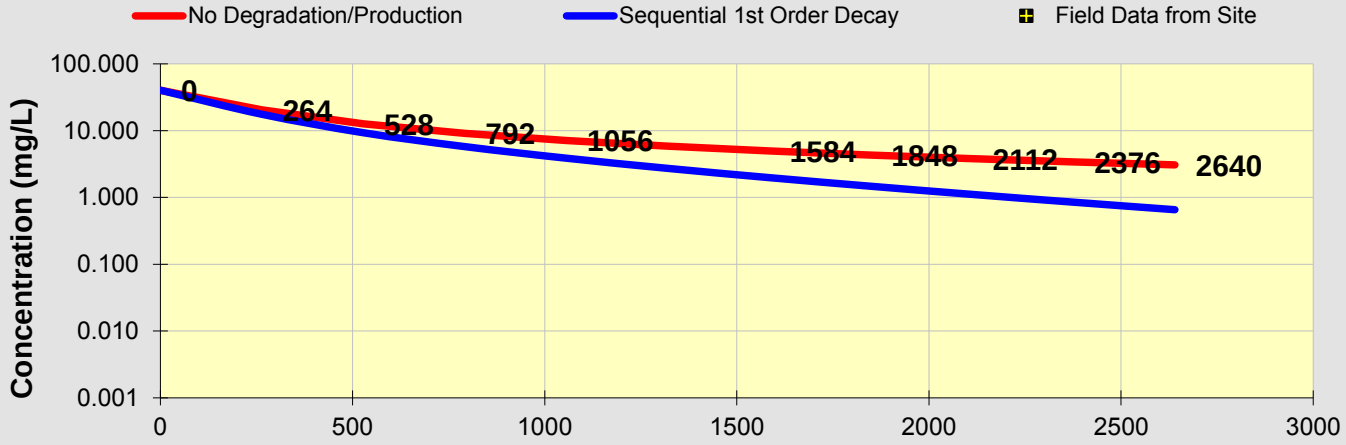
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

DCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	40.300	20.602	12.707	9.147	7.138	5.851	4.956	4.298	3.795	3.397	3.074
Biotransformation	40.3000	17.602	9.322	5.771	3.873	2.728	1.982	1.473	1.112	0.850	0.656

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

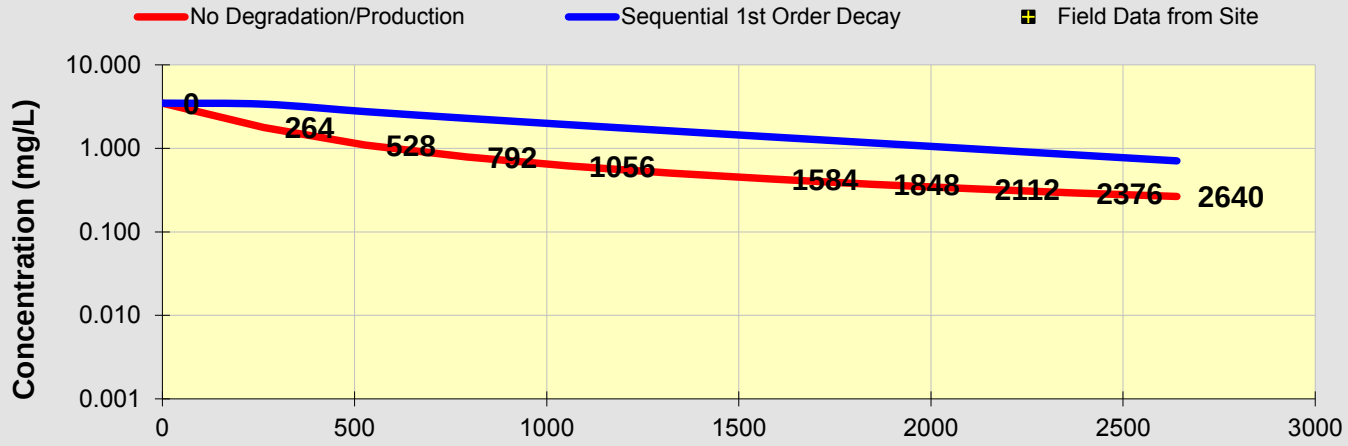
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

VC	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	3.480	1.779	1.097	0.790	0.616	0.505	0.428	0.371	0.328	0.293	0.265
Biotransformation	3.4800	3.382	2.756	2.290	1.922	1.622	1.372	1.162	0.985	0.835	0.709

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

BIOCHLOR Natural Attenuation Decision Support System

Version 2.2
Excel 2000

TT East Phase Upper
Max GW; KC DA CONT
Run Name

Data Input Instructions:
115 → 1. Enter value directly....or
↑ or
0.02 → 2. Calculate by filling in gray cells. Press Enter, then C
(To restore formulas, hit "Restore Formulas" button)
Variable* → Data used directly in model.

Test if Biotransformation is Occurring → Natural Attenuation Screening Protocol

TYPE OF CHLORINATED SOLVENT: Ethenes ◉ Ethanes ○

1. ADVECTION

Seepage Velocity*	Vs	531.1	(ft/yr)
or			
Hydraulic Conductivity	K	1.4E-01	(cm/sec)
Hydraulic Gradient	i	1.10E-03	(ft/ft)
Effective Porosity	n	0.3	(-)

2. DISPERSION

Alpha x*	36.543	(ft)
(Alpha y) / (Alpha x)*	0.33	(-)
(Alpha z) / (Alpha x)*	5.E-02	(-)

Calc. Alpha x

3. ADSORPTION

Retardation Factor* → R
or

Soil Bulk Density, rho	1.6	(kg/L)		
FractionOrganicCarbon, foc	1.0E-3	(-)		
Partition Coefficient	Koc			
PCE	265	(L/kg)	2.41	(-)
TCE	94	(L/kg)	1.50	(-)
DCE	36	(L/kg)	1.19	(-)
VC	19	(L/kg)	1.10	(-)
ETH	302	(L/kg)	2.61	(-)
Common R (used in model)* =			**1.50**	

4. BIOTRANSFORMATION -1st Order Decay Coefficient*

Zone 1	λ (1/yr)	half-life (yrs)	Yield
PCE → TCE	0.350		0.79
TCE → DCE	0.153		0.74
DCE → VC	0.088		0.64
VC → ETH	0.087		0.45
Zone 2	λ (1/yr)	half-life (yrs)	
PCE → TCE	0.000		
TCE → DCE	0.000		
DCE → VC	0.000		
VC → ETH	0.000		

λ HELP

5. GENERAL

Simulation Time*	100	(yr)
Modeled Area Width*	450	(ft)
Modeled Area Length*	2640	(ft)
Zone 1 Length*	2640	(ft)
Zone 2 Length*	0	(ft)

L, W

Zone 2= L - Zone 1

6. SOURCE DATA TYPE: Continuous Single Planar

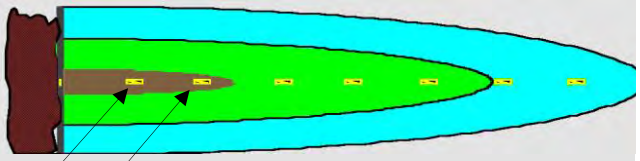
Source Options

Source Thickness in Sat. Zone* 25 (ft)

Width* (ft) Y1: 250

Conc. (mg/L)*	C1	k_s* (1/yr)
PCE	4.6	0
TCE	1.39	0
DCE	40.3	0
VC	3.48	0
ETH		0

Vertical Plane Source: Determine Source Well Location and Input Solvent Concentrations



View of Plume Looking Down

Observed Centerline Conc. at Monitoring Wells

7. FIELD DATA FOR COMPARISON

PCE Conc. (mg/L)											
TCE Conc. (mg/L)											
DCE Conc. (mg/L)											
VC Conc. (mg/L)											
ETH Conc. (mg/L)											
Distance from Source (ft)	0										
Date Data Collected											

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE | RUN ARRAY | Help | Restore | RESET | SEE OUTPUT | Paste

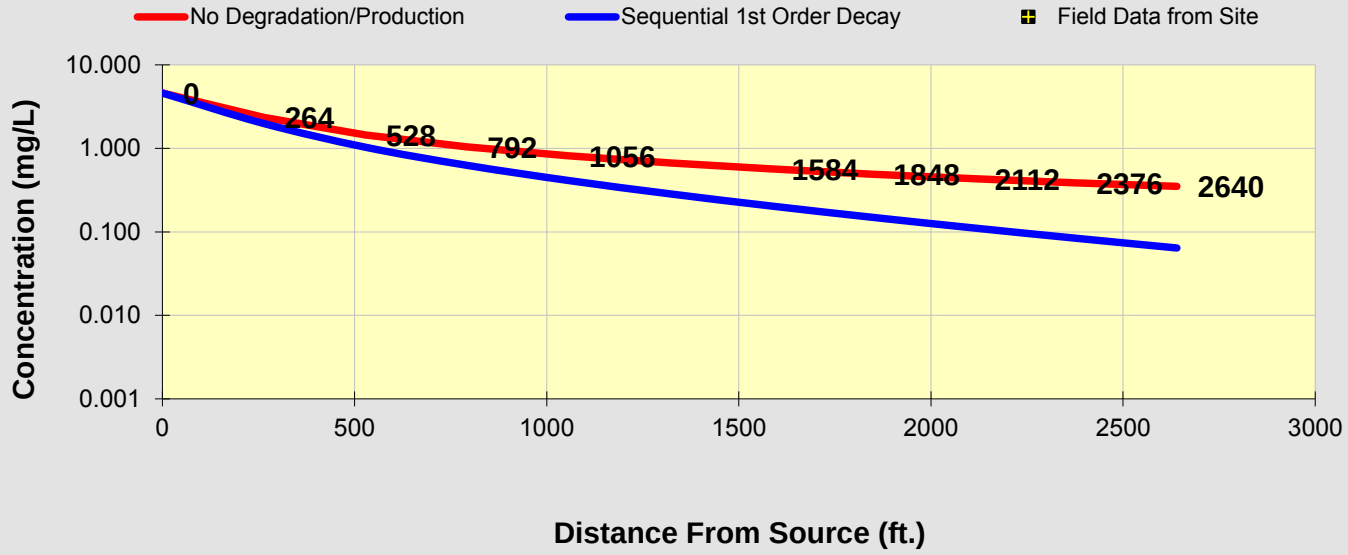
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

PCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	4.600	2.352	1.450	1.044	0.815	0.668	0.566	0.491	0.433	0.388	0.351
Biotransformation	4.6000	1.984	1.032	0.627	0.413	0.285	0.204	0.149	0.111	0.084	0.064

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

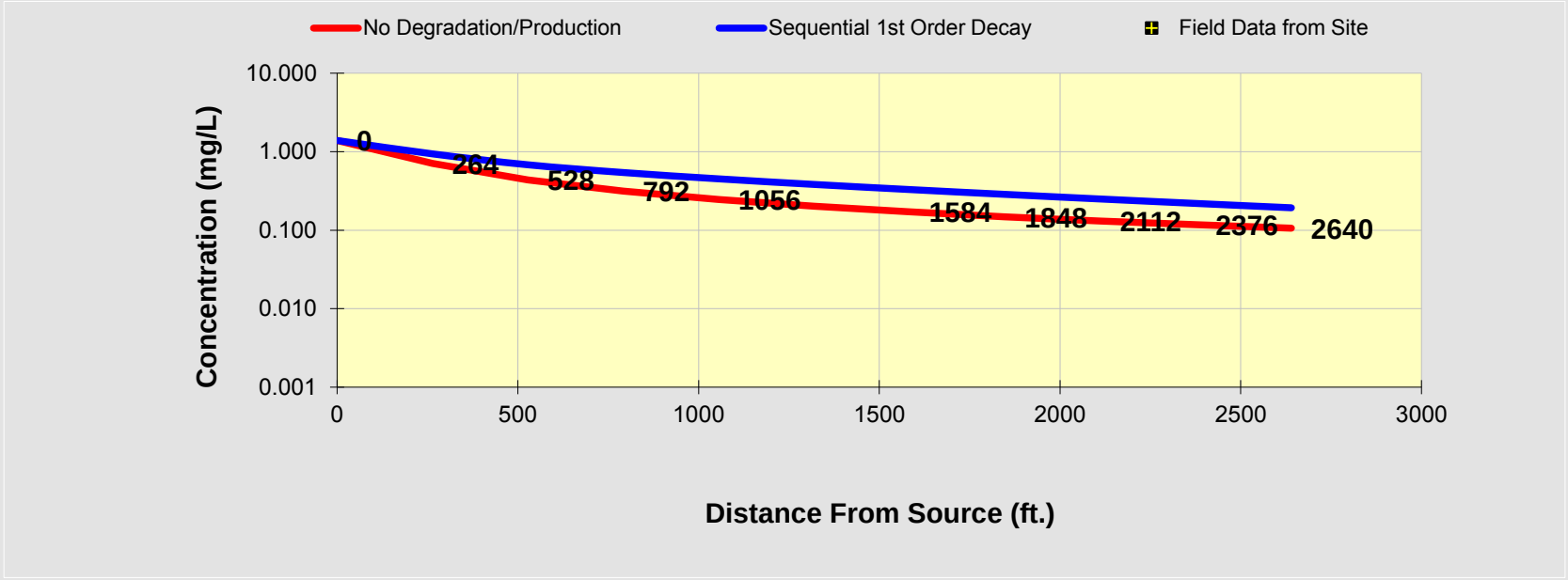
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

TCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	1.390	0.711	0.438	0.315	0.246	0.202	0.171	0.148	0.131	0.117	0.106
Biotransformation	1.3900	0.937	0.681	0.543	0.451	0.383	0.329	0.286	0.250	0.219	0.193

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

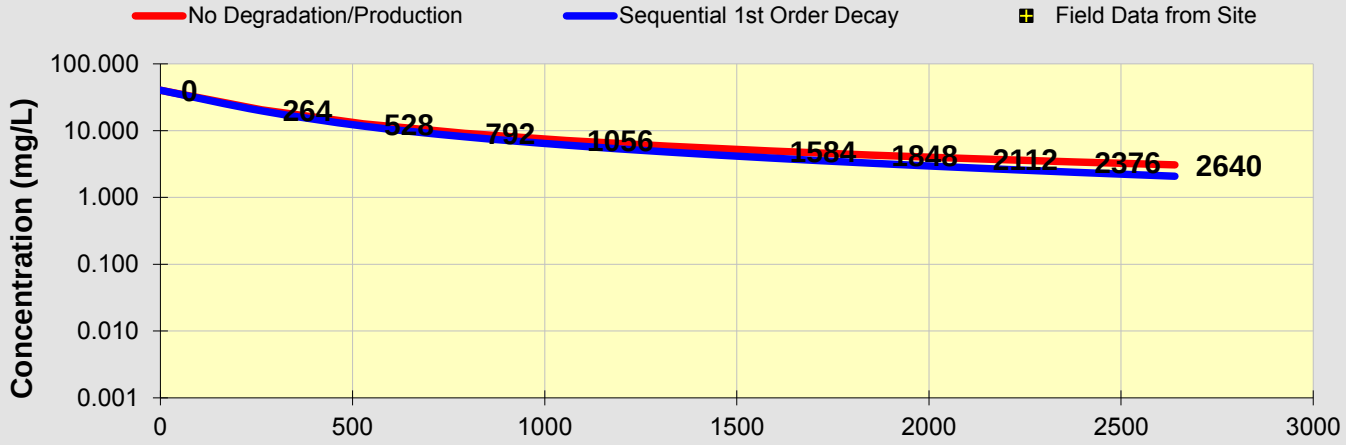
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

DCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	40.300	20.602	12.707	9.147	7.138	5.851	4.956	4.298	3.795	3.397	3.074
Biotransformation	40.3000	19.777	11.716	8.105	6.081	4.794	3.907	3.260	2.770	2.387	2.079

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

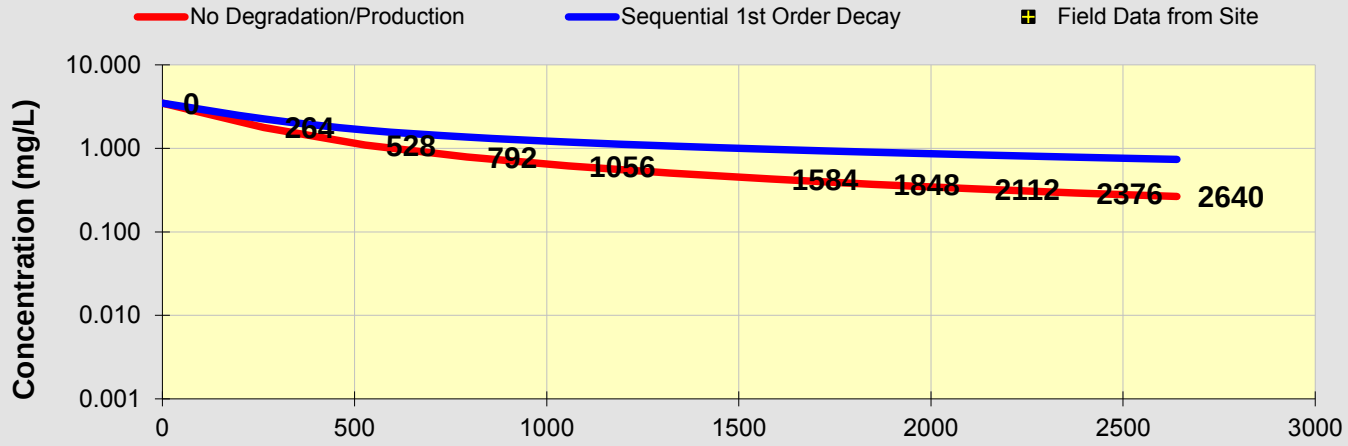
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

VC	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	3.480	1.779	1.097	0.790	0.616	0.505	0.428	0.371	0.328	0.293	0.265
Biotransformation	3.4800	2.253	1.656	1.366	1.190	1.067	0.974	0.900	0.838	0.784	0.738

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

BIOCHLOR Natural Attenuation Decision Support System

Version 2.2
Excel 2000

TT East Phase Upper
Max GW; KA DB CONT
Run Name

Data Input Instructions:
115 → 1. Enter value directly....or
↑ or
0.02 → 2. Calculate by filling in gray cells. Press Enter, then C
(To restore formulas, hit "Restore Formulas" button)
Variable* → Data used directly in model.

Test if Biotransformation is Occurring → Natural Attenuation Screening Protocol

TYPE OF CHLORINATED SOLVENT: Ethenes ◉ Ethanes ○

1. ADVECTION

Seepage Velocity*	Vs	265.6	(ft/yr)
or			
Hydraulic Conductivity	K	7.0E-02	(cm/sec)
Hydraulic Gradient	i	1.10E-03	(ft/ft)
Effective Porosity	n	0.3	(-)

2. DISPERSION

Alpha x*	36.543	(ft)
(Alpha y) / (Alpha x)*	0.33	(-)
(Alpha z) / (Alpha x)*	5.E-02	(-)

Calc. Alpha x

3. ADSORPTION

Retardation Factor* → R

or

Soil Bulk Density, rho	1.6	(kg/L)		
FractionOrganicCarbon, foc	1.0E-3	(-)		
Partition Coefficient	Koc			
PCE	265	(L/kg)	2.41	(-)
TCE	94	(L/kg)	1.50	(-)
DCE	36	(L/kg)	1.19	(-)
VC	19	(L/kg)	1.10	(-)
ETH	302	(L/kg)	2.61	(-)
Common R (used in model)* =			**1.50**	

4. BIOTRANSFORMATION

-1st Order Decay Coefficient*

	λ (1/yr)	half-life (yrs)	Yield
Zone 1			
PCE → TCE	0.799		0.79
TCE → DCE	0.299		0.74
DCE → VC	0.099		0.64
VC → ETH	0.399		0.45
Zone 2	λ (1/yr)	half-life (yrs)	
PCE → TCE	0.000		
TCE → DCE	0.000		
DCE → VC	0.000		
VC → ETH	0.000		

λ HELP

5. GENERAL

Simulation Time*	100	(yr)
Modeled Area Width*	450	(ft)
Modeled Area Length*	2640	(ft)
Zone 1 Length*	2640	(ft)
Zone 2 Length*	0	(ft)

L, W

Zone 2= L - Zone 1

6. SOURCE DATA

TYPE: Continuous Single Planar

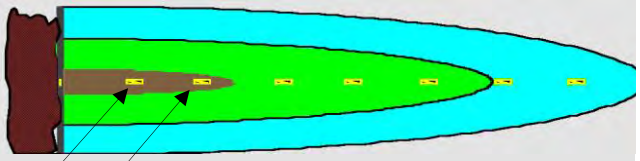
Source Options

Source Thickness in Sat. Zone* 25 (ft)

Width* (ft) Y1: 250

Conc. (mg/L)*	C1	k_s* (1/yr)
PCE	4.6	0
TCE	1.39	0
DCE	40.3	0
VC	3.48	0
ETH		0

Vertical Plane Source: Determine Source Well Location and Input Solvent Concentrations



View of Plume Looking Down

Observed Centerline Conc. at Monitoring Wells

7. FIELD DATA FOR COMPARISON

PCE Conc. (mg/L)											
TCE Conc. (mg/L)											
DCE Conc. (mg/L)											
VC Conc. (mg/L)											
ETH Conc. (mg/L)											
Distance from Source (ft)	0										
Date Data Collected											

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE | RUN ARRAY | Help | Restore | RESET | SEE OUTPUT | Paste

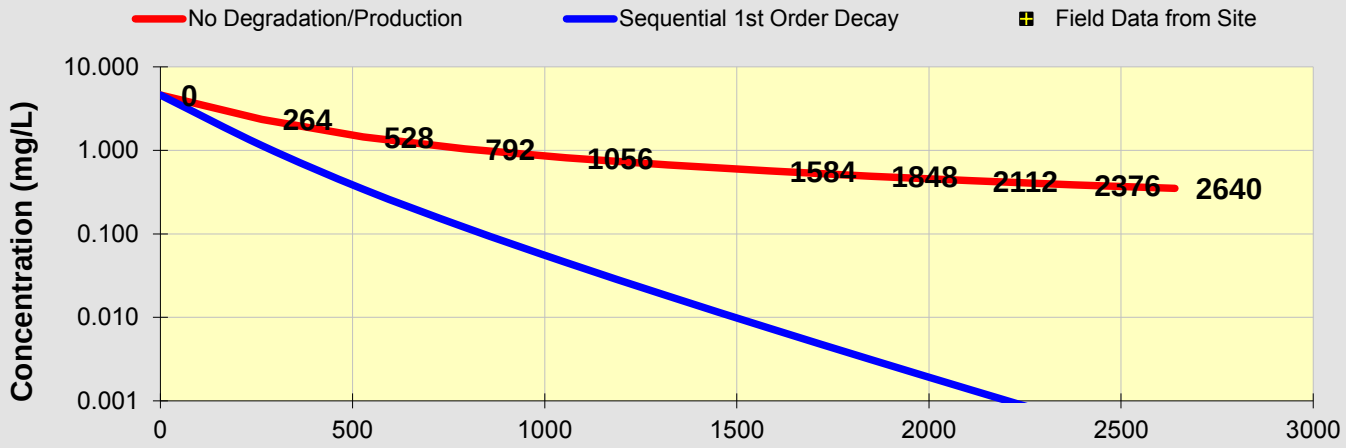
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

PCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	4.600	2.352	1.450	1.044	0.815	0.668	0.566	0.491	0.433	0.388	0.351
Biotransformation	4.6000	1.142	0.342	0.120	0.045	0.018	0.007	0.003	0.001	0.001	0.000

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

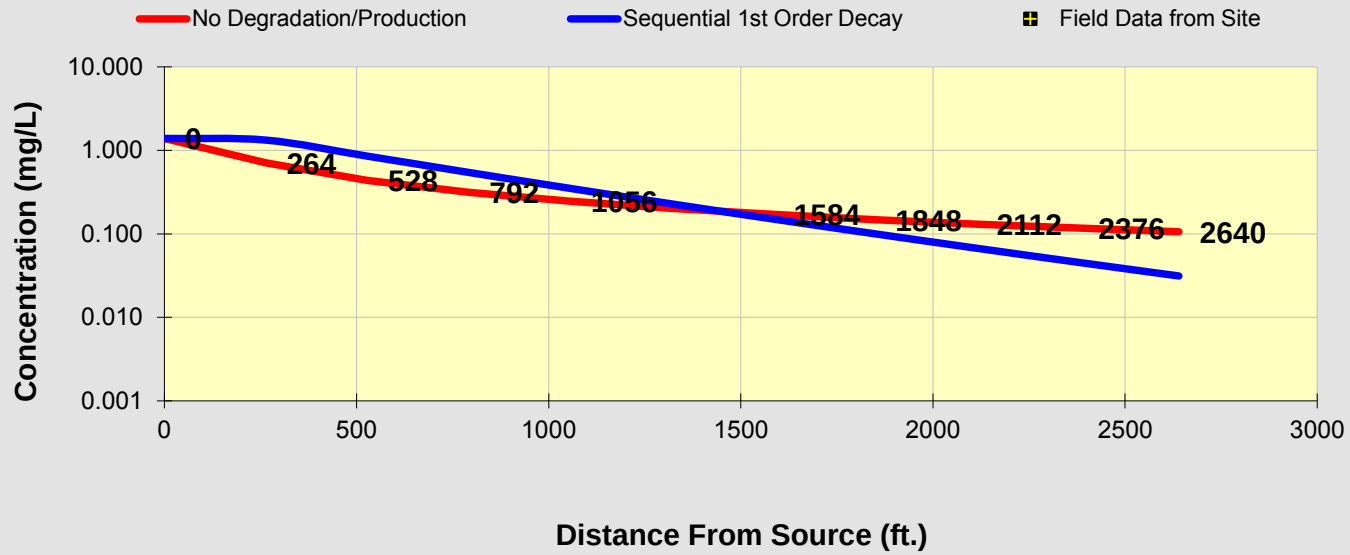
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

TCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	1.390	0.711	0.438	0.315	0.246	0.202	0.171	0.148	0.131	0.117	0.106
Biotransformation	1.3900	1.327	0.853	0.544	0.351	0.228	0.151	0.100	0.067	0.046	0.031

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

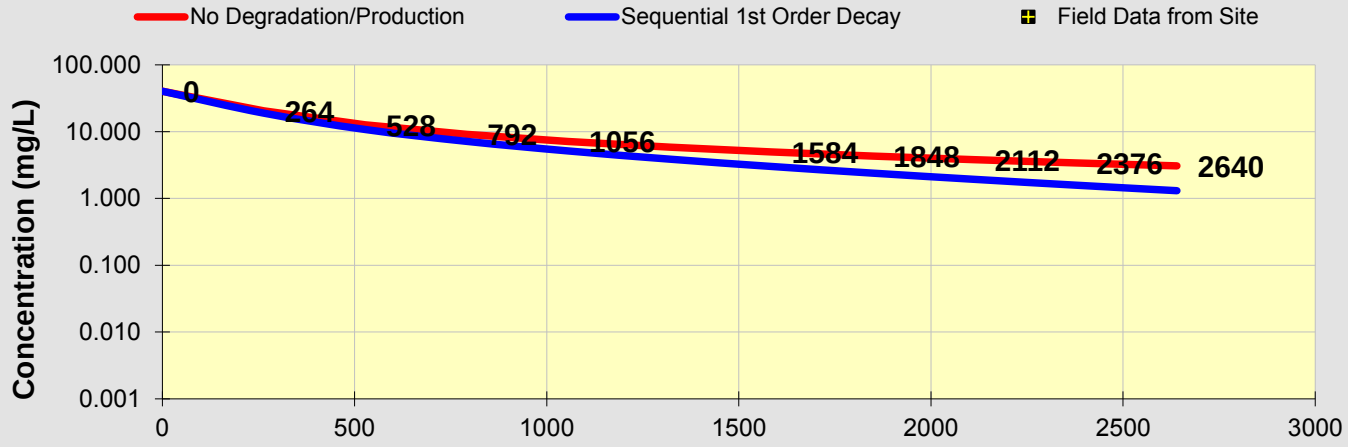
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

DCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	40.300	20.602	12.707	9.147	7.138	5.851	4.956	4.298	3.795	3.397	3.074
Biotransformation	40.3000	18.935	10.774	7.155	5.145	3.878	3.015	2.396	1.935	1.582	1.306

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

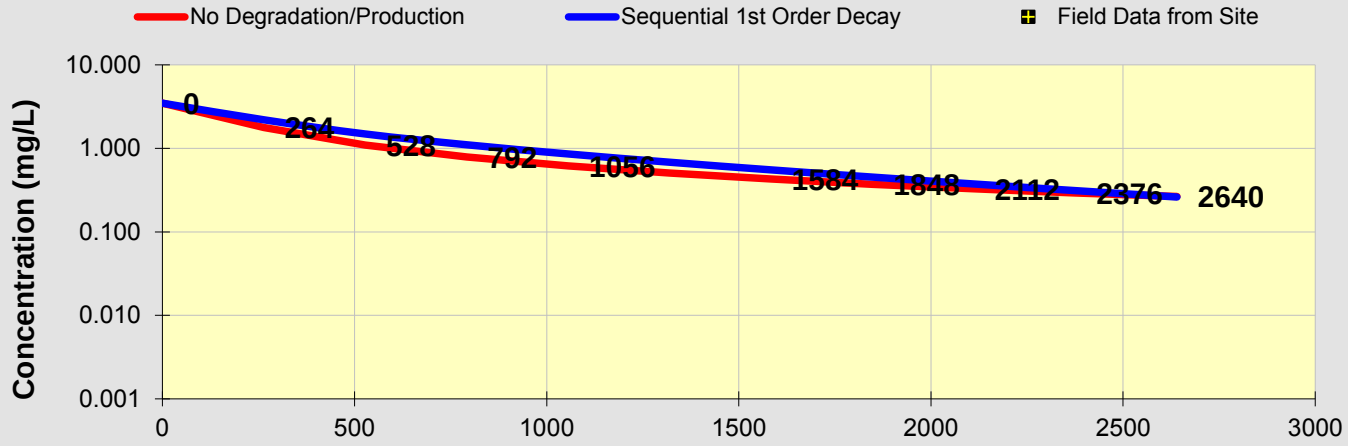
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

VC	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	3.480	1.779	1.097	0.790	0.616	0.505	0.428	0.371	0.328	0.293	0.265
Biotransformation	3.4800	2.199	1.487	1.104	0.857	0.682	0.553	0.453	0.374	0.312	0.261

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

BIOCHLOR Natural Attenuation Decision Support System

Version 2.2
Excel 2000

TT East Phase Upper
Max GW; KB DB CONT
Run Name

Data Input Instructions:
115 → 1. Enter value directly....or
↑ or
0.02 → 2. Calculate by filling in gray cells. Press Enter, then C
(To restore formulas, hit "Restore Formulas" button)
Variable* → Data used directly in model.

Test if Biotransformation is Occurring → Natural Attenuation Screening Protocol

TYPE OF CHLORINATED SOLVENT: Ethenes ◉ Ethanes ○

1. ADVECTION

Seepage Velocity*	Vs	132.8	(ft/yr)
or			
Hydraulic Conductivity	K	3.5E-02	(cm/sec)
Hydraulic Gradient	i	1.10E-03	(ft/ft)
Effective Porosity	n	0.3	(-)

2. DISPERSION

Alpha x*	36.543	(ft)
(Alpha y) / (Alpha x)*	0.33	(-)
(Alpha z) / (Alpha x)*	5.E-02	(-)

Calc. Alpha x

3. ADSORPTION

Retardation Factor* → R
or

Soil Bulk Density, rho	1.6	(kg/L)		
FractionOrganicCarbon, foc	1.0E-3	(-)		
Partition Coefficient	Koc			
PCE	265	(L/kg)	2.41	(-)
TCE	94	(L/kg)	1.50	(-)
DCE	36	(L/kg)	1.19	(-)
VC	19	(L/kg)	1.10	(-)
ETH	302	(L/kg)	2.61	(-)
Common R (used in model)* =			**1.50**	

4. BIOTRANSFORMATION -1st Order Decay Coefficient*

Zone 1	λ (1/yr)	half-life (yrs)	Yield
PCE → TCE	0.799		0.79
TCE → DCE	0.299		0.74
DCE → VC	0.099		0.64
VC → ETH	0.399		0.45

Zone 2	λ (1/yr)	half-life (yrs)
PCE → TCE	0.000	
TCE → DCE	0.000	
DCE → VC	0.000	
VC → ETH	0.000	

λ HELP

5. GENERAL

Simulation Time*	100	(yr)
Modeled Area Width*	450	(ft)
Modeled Area Length*	2640	(ft)
Zone 1 Length*	2640	(ft)
Zone 2 Length*	0	(ft)

L, W

Zone 2= L - Zone 1

6. SOURCE DATA TYPE: Continuous Single Planar

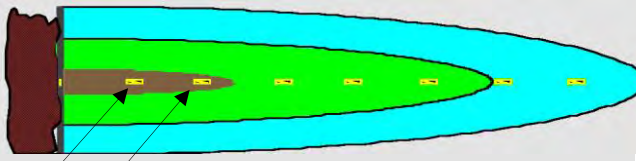
Source Options

Source Thickness in Sat. Zone* 25 (ft)

Width* (ft) Y1: 250

Conc. (mg/L)*	C1	k_s* (1/yr)
PCE	4.6	0
TCE	1.39	0
DCE	40.3	0
VC	3.48	0
ETH		0

Vertical Plane Source: Determine Source Well Location and Input Solvent Concentrations



View of Plume Looking Down

Observed Centerline Conc. at Monitoring Wells

7. FIELD DATA FOR COMPARISON

PCE Conc. (mg/L)											
TCE Conc. (mg/L)											
DCE Conc. (mg/L)											
VC Conc. (mg/L)											
ETH Conc. (mg/L)											
Distance from Source (ft)	0										
Date Data Collected											

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE | RUN ARRAY | Help | Restore | RESET | SEE OUTPUT | Paste

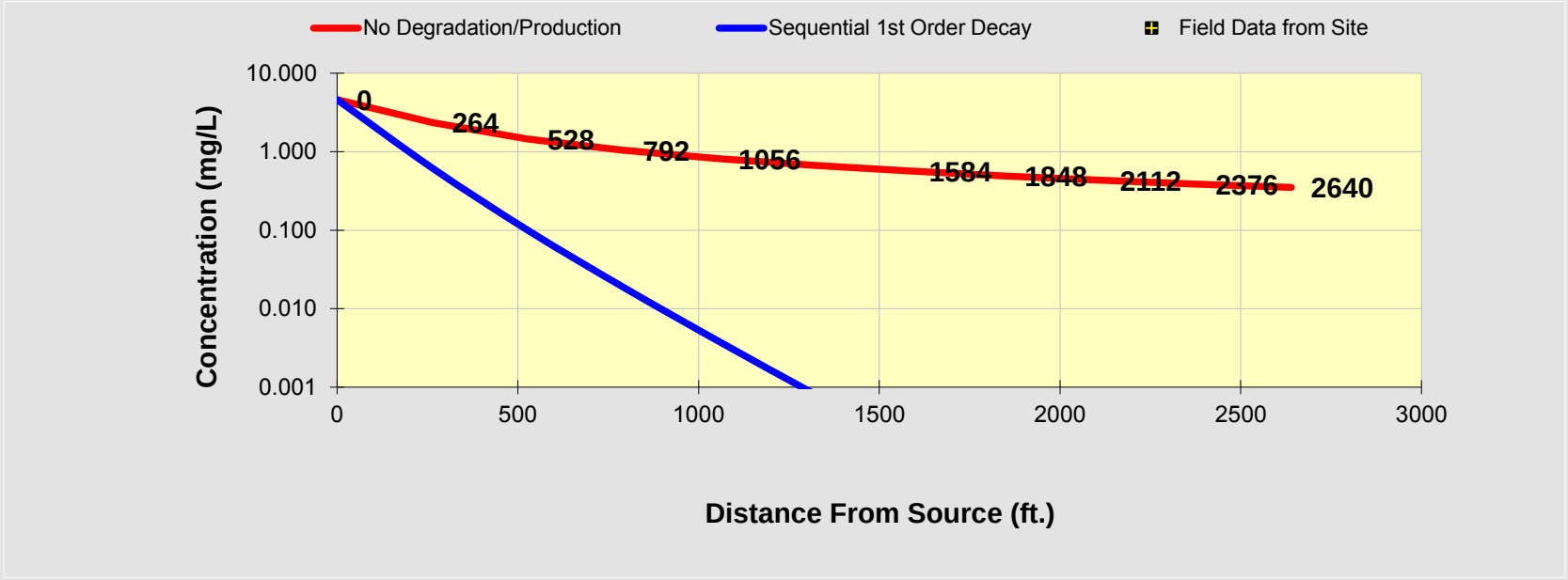
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

PCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	4.600	2.352	1.450	1.044	0.815	0.668	0.566	0.491	0.433	0.388	0.351
Biotransformation	4.6000	0.616	0.099	0.019	0.004	0.001	0.000	0.000	0.000	0.000	0.000

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

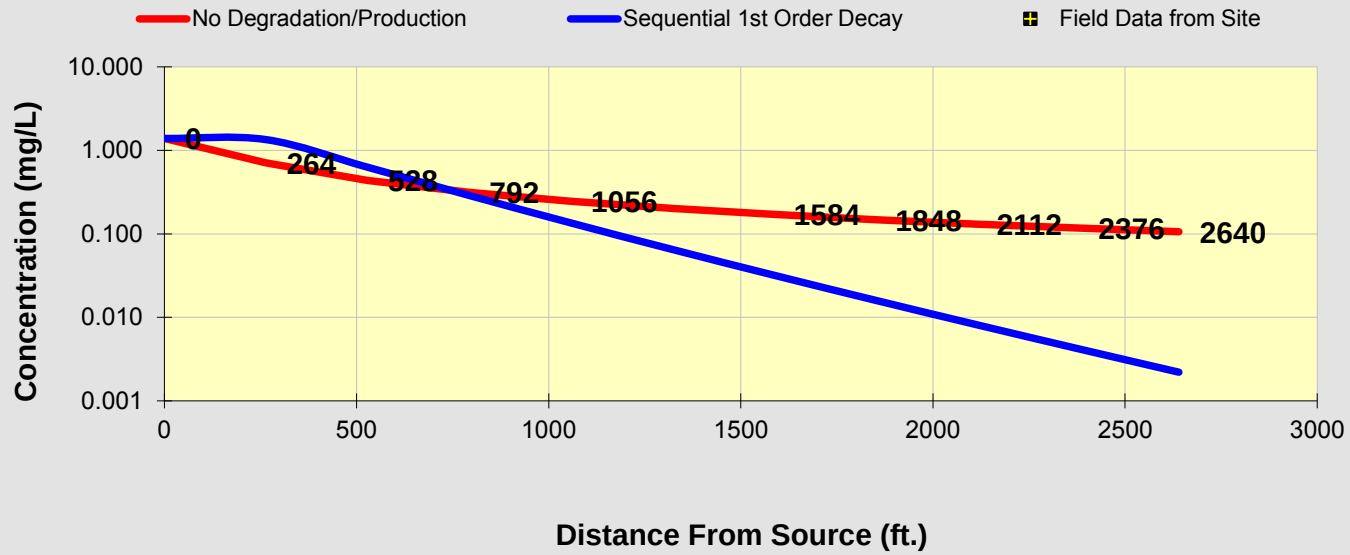
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

TCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	1.390	0.711	0.438	0.315	0.246	0.202	0.171	0.148	0.131	0.117	0.106
Biotransformation	1.3900	1.346	0.629	0.289	0.136	0.065	0.032	0.016	0.008	0.004	0.002

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

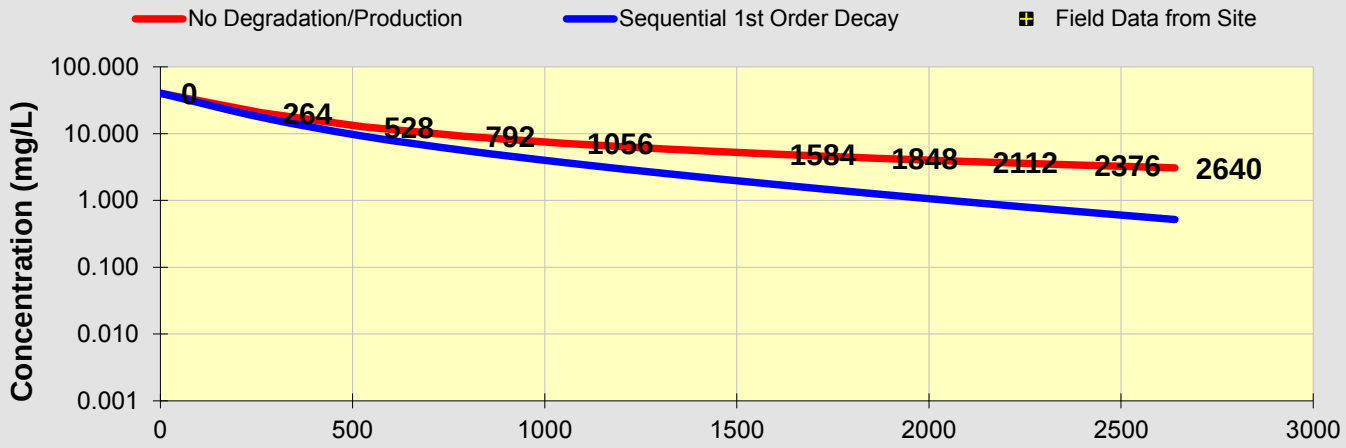
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

DCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	40.300	20.602	12.707	9.147	7.138	5.851	4.956	4.298	3.795	3.397	3.074
Biotransformation	40.3000	17.496	9.184	5.591	3.666	2.512	1.772	1.276	0.934	0.692	0.518

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

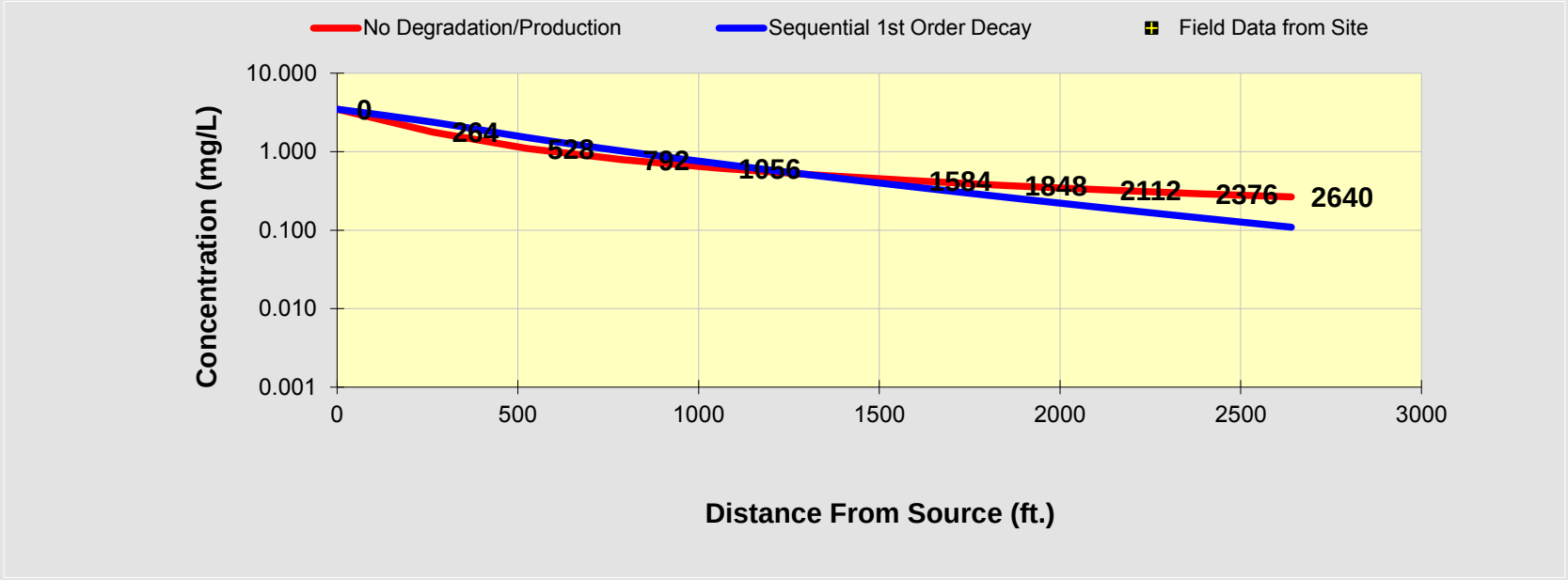
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

VC	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	3.480	1.779	1.097	0.790	0.616	0.505	0.428	0.371	0.328	0.293	0.265
Biotransformation	3.4800	2.380	1.509	1.014	0.704	0.499	0.360	0.263	0.195	0.145	0.109

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

BIOCHLOR Natural Attenuation Decision Support System

Version 2.2
Excel 2000

TT East Phase Upper
Max GW; KC DB CONT
Run Name

Data Input Instructions:
115 → 1. Enter value directly....or
↑ or
0.02 → 2. Calculate by filling in gray cells. Press Enter, then C
(To restore formulas, hit "Restore Formulas" button)
Variable* → Data used directly in model.

Test if Biotransformation is Occurring → Natural Attenuation Screening Protocol

TYPE OF CHLORINATED SOLVENT: Ethenes ◉ Ethanes ○

1. ADVECTION

Seepage Velocity*	Vs	531.1	(ft/yr)
or			
Hydraulic Conductivity	K	1.4E-01	(cm/sec)
Hydraulic Gradient	i	1.10E-03	(ft/ft)
Effective Porosity	n	0.3	(-)

2. DISPERSION

Alpha x*	36.543	(ft)
(Alpha y) / (Alpha x)*	0.33	(-)
(Alpha z) / (Alpha x)*	5.E-02	(-)

Calc. Alpha x

3. ADSORPTION

Retardation Factor* → R
or

Soil Bulk Density, rho	1.6	(kg/L)		
FractionOrganicCarbon, foc	1.0E-3	(-)		
Partition Coefficient	Koc			
PCE	265	(L/kg)	2.41	(-)
TCE	94	(L/kg)	1.50	(-)
DCE	36	(L/kg)	1.19	(-)
VC	19	(L/kg)	1.10	(-)
ETH	302	(L/kg)	2.61	(-)
Common R (used in model)* =			**1.50**	

4. BIOTRANSFORMATION -1st Order Decay Coefficient*

Zone 1	λ (1/yr)	half-life (yrs)	Yield
PCE → TCE	0.799		0.79
TCE → DCE	0.299		0.74
DCE → VC	0.099		0.64
VC → ETH	0.399		0.45

Zone 2	λ (1/yr)	half-life (yrs)
PCE → TCE	0.000	
TCE → DCE	0.000	
DCE → VC	0.000	
VC → ETH	0.000	

λ HELP

5. GENERAL

Simulation Time*	100	(yr)
Modeled Area Width*	450	(ft)
Modeled Area Length*	2640	(ft)
Zone 1 Length*	2640	(ft)
Zone 2 Length*	0	(ft)

L, W

Zone 2= L - Zone 1

6. SOURCE DATA TYPE: Continuous Single Planar

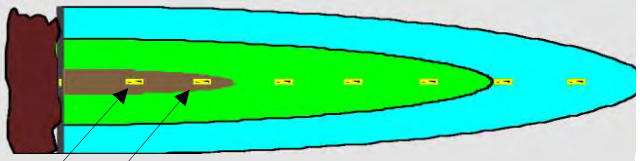
Source Options

Source Thickness in Sat. Zone* 25 (ft)

Width* (ft) Y1: 250

Conc. (mg/L)*	C1	k_s* (1/yr)
PCE	4.6	0
TCE	1.39	0
DCE	40.3	0
VC	3.48	0
ETH		0

Vertical Plane Source: Determine Source Well Location and Input Solvent Concentrations



View of Plume Looking Down

Observed Centerline Conc. at Monitoring Wells

7. FIELD DATA FOR COMPARISON

PCE Conc. (mg/L)												
TCE Conc. (mg/L)												
DCE Conc. (mg/L)												
VC Conc. (mg/L)												
ETH Conc. (mg/L)												
Distance from Source (ft)	0											
Date Data Collected												

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE | RUN ARRAY | Help | Restore | RESET | SEE OUTPUT | Paste

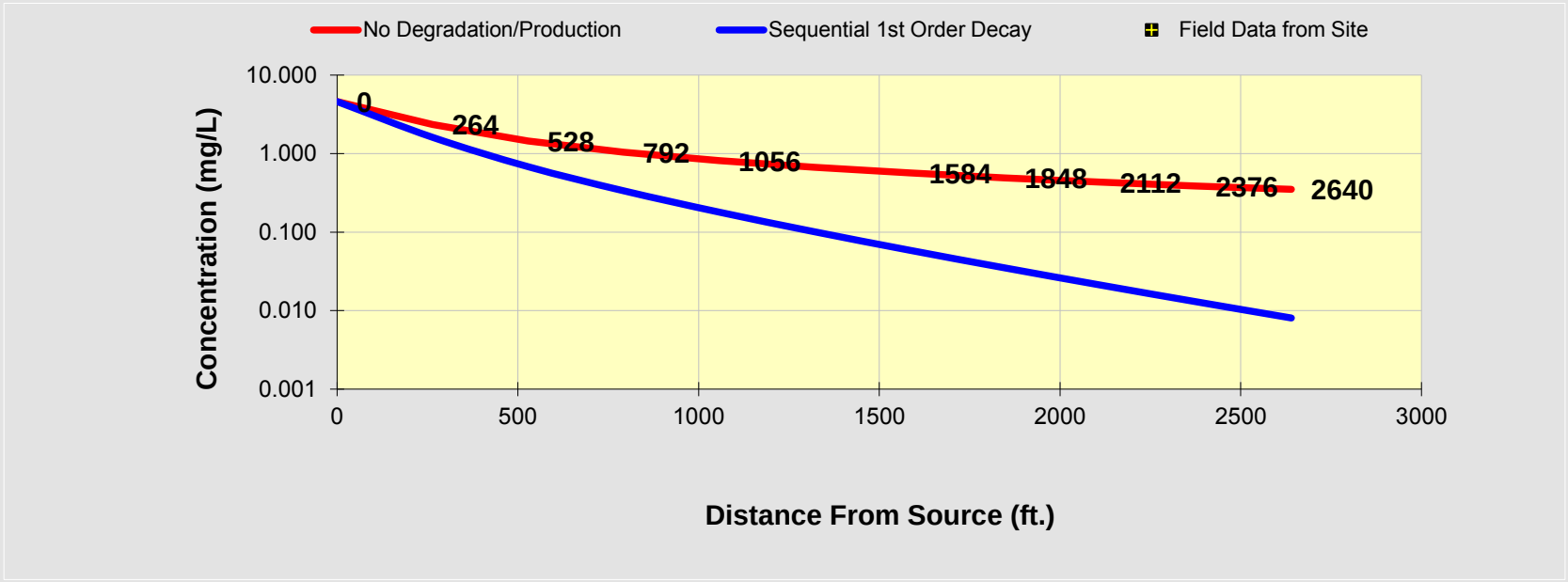
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

PCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	4.600	2.352	1.450	1.044	0.815	0.668	0.566	0.491	0.433	0.388	0.351
Biotransformation	4.6000	1.612	0.682	0.336	0.180	0.101	0.059	0.035	0.021	0.013	0.008

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

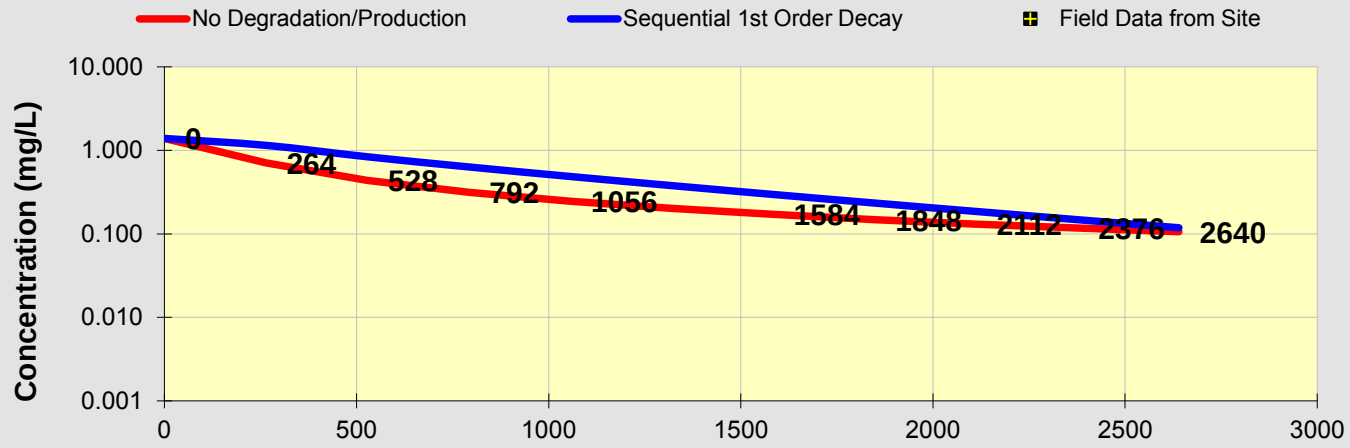
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

TCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	1.390	0.711	0.438	0.315	0.246	0.202	0.171	0.148	0.131	0.117	0.106
Biotransformation	1.3900	1.148	0.838	0.633	0.487	0.378	0.297	0.234	0.185	0.148	0.118

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

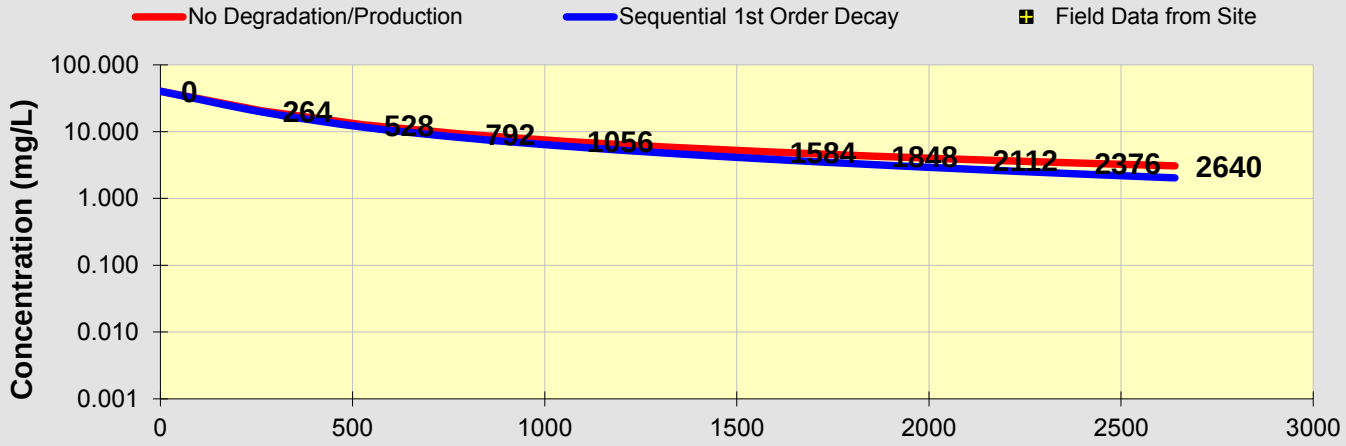
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

DCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	40.300	20.602	12.707	9.147	7.138	5.851	4.956	4.298	3.795	3.397	3.074
Biotransformation	40.3000	19.727	11.671	8.067	6.047	4.761	3.873	3.225	2.732	2.345	2.034

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

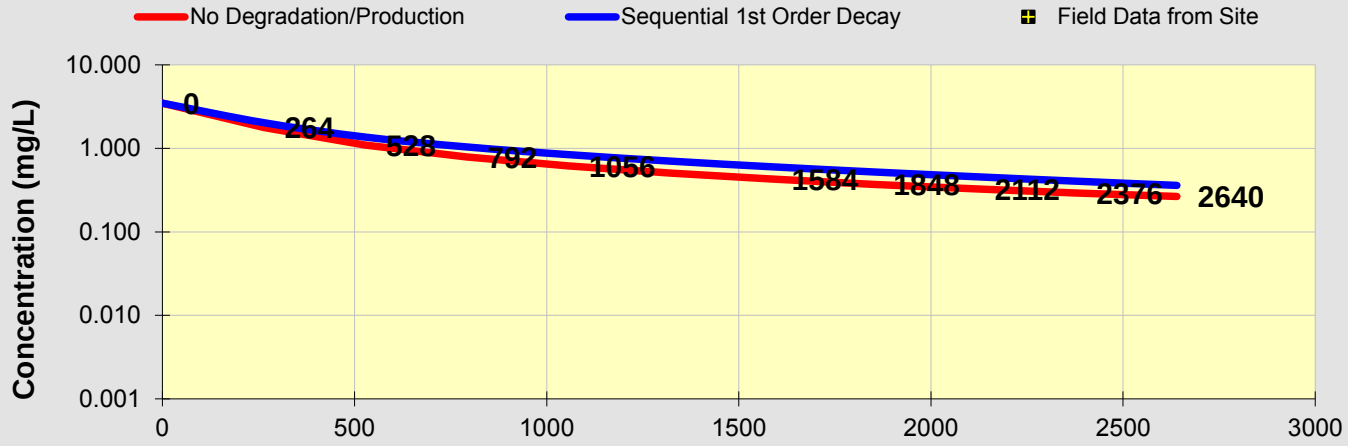
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

VC	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	3.480	1.779	1.097	0.790	0.616	0.505	0.428	0.371	0.328	0.293	0.265
Biotransformation	3.4800	2.030	1.365	1.040	0.841	0.704	0.602	0.523	0.458	0.405	0.360

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

BIOCHLOR Natural Attenuation Decision Support System

Version 2.2
Excel 2000

TT East Phase Upper
Max GW; KA DA decay
Run Name

Data Input Instructions:
115 → 1. Enter value directly....or
↑ or
0.02 → 2. Calculate by filling in gray cells. Press Enter, then C
(To restore formulas, hit "Restore Formulas" button)
Variable* → Data used directly in model.

Test if Biotransformation is Occurring → Natural Attenuation Screening Protocol

TYPE OF CHLORINATED SOLVENT: Ethenes ◉ Ethanes ○

1. ADVECTION

Seepage Velocity*	Vs	265.6	(ft/yr)
or			
Hydraulic Conductivity	K	7.0E-02	(cm/sec)
Hydraulic Gradient	i	1.10E-03	(ft/ft)
Effective Porosity	n	0.3	(-)

2. DISPERSION

Alpha x*	36.543	(ft)
(Alpha y) / (Alpha x)*	0.33	(-)
(Alpha z) / (Alpha x)*	5.E-02	(-)

Calc. Alpha x

3. ADSORPTION

Retardation Factor* → R
or

Soil Bulk Density, rho	1.6	(kg/L)		
FractionOrganicCarbon, foc	1.0E-3	(-)		
Partition Coefficient	Koc			
PCE	265	(L/kg)	2.41	(-)
TCE	94	(L/kg)	1.50	(-)
DCE	36	(L/kg)	1.19	(-)
VC	19	(L/kg)	1.10	(-)
ETH	302	(L/kg)	2.61	(-)
Common R (used in model)* =			**1.50**	

4. BIOTRANSFORMATION

-1st Order Decay Coefficient*

	λ (1/yr)	half-life (yrs)	Yield
Zone 1			
PCE → TCE	0.350		0.79
TCE → DCE	0.153		0.74
DCE → VC	0.088		0.64
VC → ETH	0.087		0.45
Zone 2	λ (1/yr)	half-life (yrs)	
PCE → TCE	0.000		
TCE → DCE	0.000		
DCE → VC	0.000		
VC → ETH	0.000		

λ HELP

5. GENERAL

Simulation Time*	100	(yr)
Modeled Area Width*	450	(ft)
Modeled Area Length*	2640	(ft)
Zone 1 Length*	2640	(ft)
Zone 2 Length*	0	(ft)

L, W

Zone 2= L - Zone 1

6. SOURCE DATA

TYPE: Decaying Single Planar

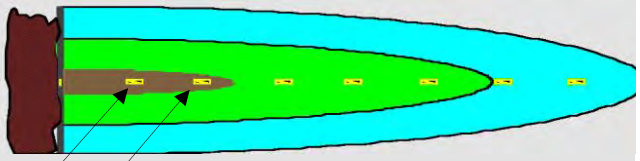
Source Options

Source Thickness in Sat. Zone* 25 (ft)

Width* (ft) Y1: 250

Conc. (mg/L)*	C1	k_s* (1/yr)
PCE	4.6	0.049
TCE	1.39	0.049
DCE	40.3	0.049
VC	3.48	0.049
ETH		0.049

Vertical Plane Source: Determine Source Well Location and Input Solvent Concentrations



View of Plume Looking Down

Observed Centerline Conc. at Monitoring Wells

7. FIELD DATA FOR COMPARISON

PCE Conc. (mg/L)											
TCE Conc. (mg/L)											
DCE Conc. (mg/L)											
VC Conc. (mg/L)											
ETH Conc. (mg/L)											
Distance from Source (ft)	0										
Date Data Collected											

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE | RUN ARRAY | Help | Restore | RESET | SEE OUTPUT | Paste

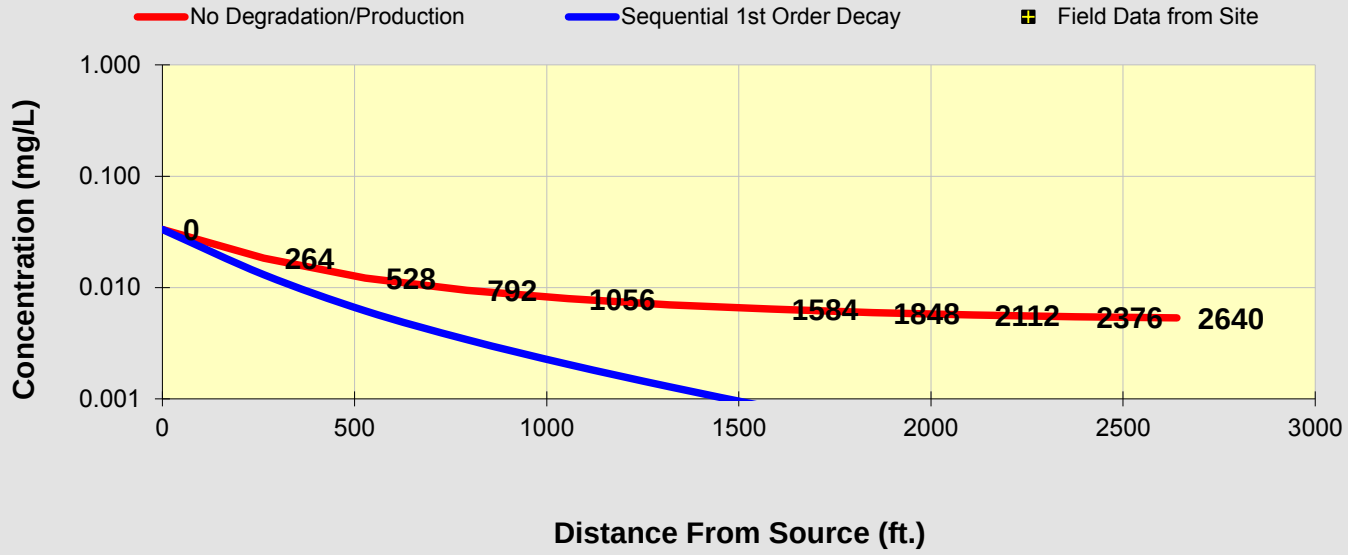
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

PCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.033	0.018	0.012	0.009	0.008	0.007	0.006	0.006	0.006	0.005	0.005
Biotransformation	0.0332	0.013	0.006	0.003	0.002	0.001	0.001	0.001	0.000	0.000	0.000

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

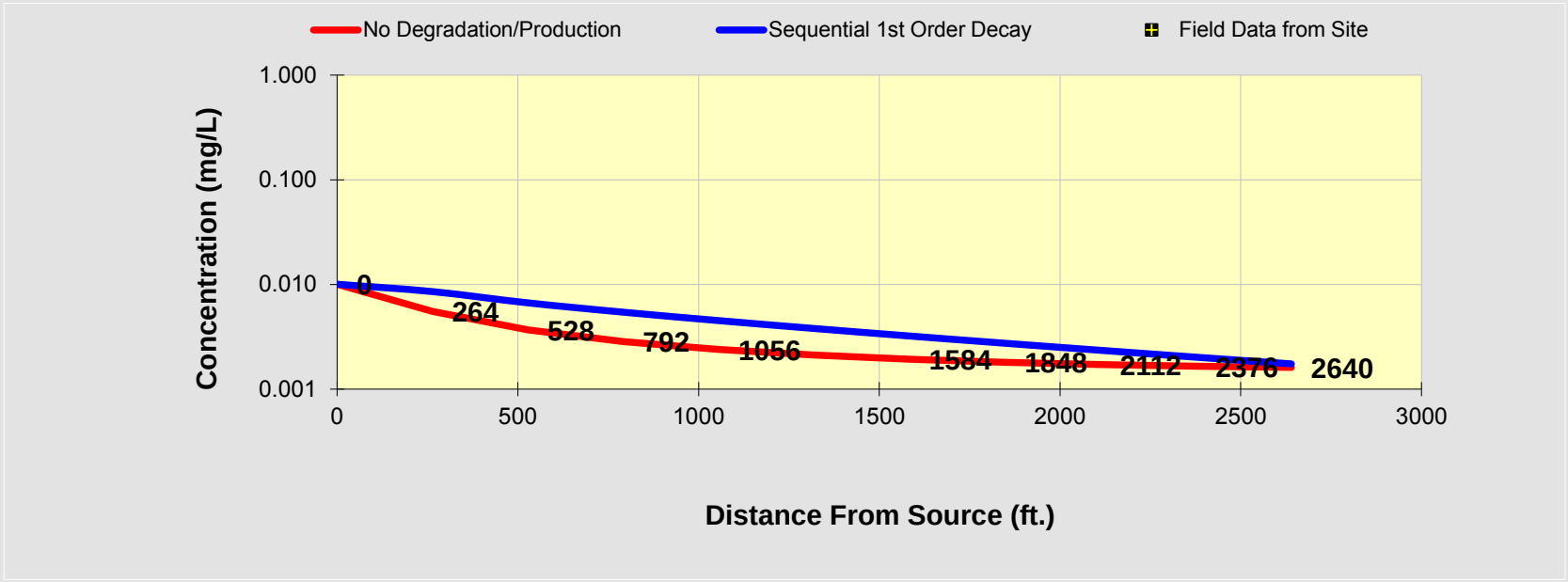
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

TCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.010	0.006	0.004	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002
Biotransformation	0.0100	0.009	0.007	0.005	0.005	0.004	0.003	0.003	0.002	0.002	0.002

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

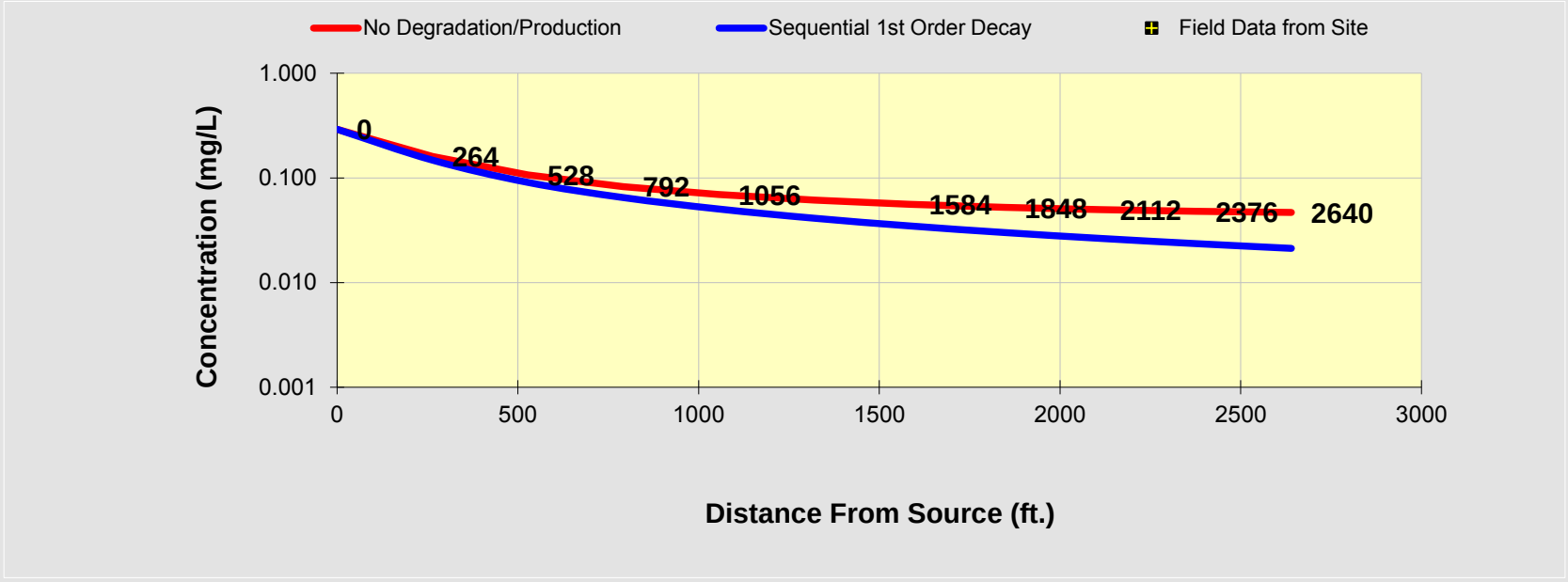
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

DCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.291	0.160	0.107	0.083	0.069	0.061	0.056	0.052	0.050	0.048	0.047
Biotransformation	0.2912	0.148	0.091	0.065	0.050	0.041	0.035	0.030	0.026	0.024	0.021

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

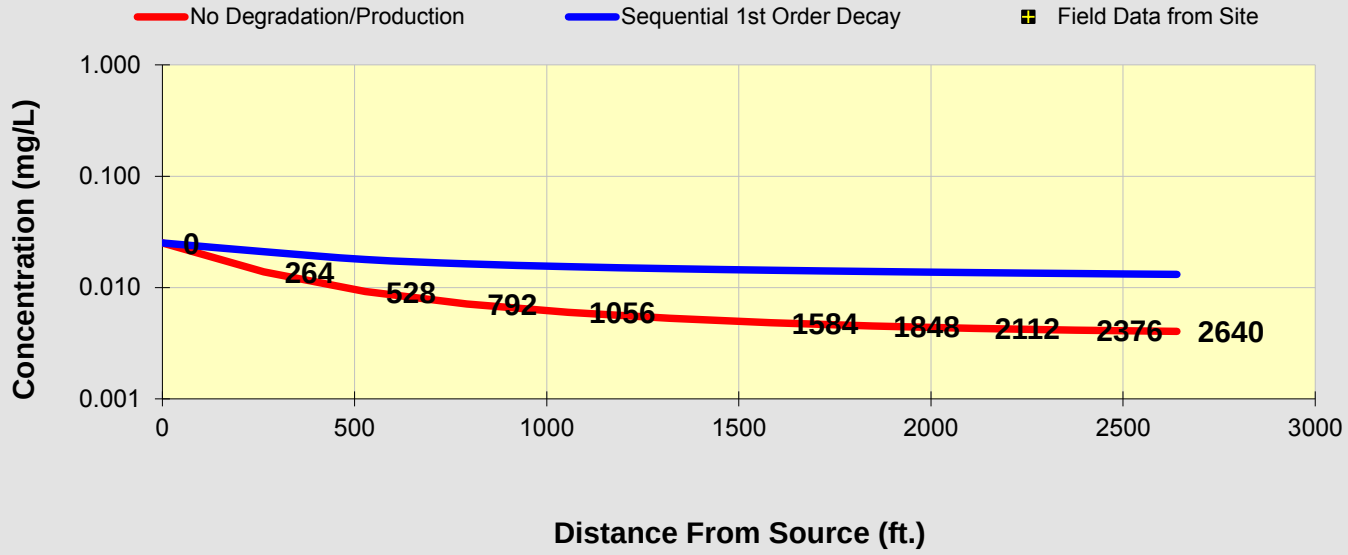
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

VC	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.025	0.014	0.009	0.007	0.006	0.005	0.005	0.005	0.004	0.004	0.004
Biotransformation	0.0251	0.021	0.018	0.016	0.015	0.015	0.014	0.014	0.014	0.013	0.013

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

BIOCHLOR Natural Attenuation Decision Support System

Version 2.2
Excel 2000

TT East Phase Upper
Max GW; KB DA decay
Run Name

Data Input Instructions:
115 → 1. Enter value directly....or
↑ or
0.02 → 2. Calculate by filling in gray cells. Press Enter, then C
(To restore formulas, hit "Restore Formulas" button)
Variable* → Data used directly in model.

Test if Biotransformation is Occurring → Natural Attenuation Screening Protocol

TYPE OF CHLORINATED SOLVENT: Ethenes ◉ Ethanes ○

1. ADVECTION

Seepage Velocity*	Vs	132.8	(ft/yr)
or			
Hydraulic Conductivity	K	3.5E-02	(cm/sec)
Hydraulic Gradient	i	1.10E-03	(ft/ft)
Effective Porosity	n	0.3	(-)

2. DISPERSION

Alpha x*	36.543	(ft)
(Alpha y) / (Alpha x)*	0.33	(-)
(Alpha z) / (Alpha x)*	5.E-02	(-)

Calc. Alpha x

3. ADSORPTION

Retardation Factor* → R
or

Soil Bulk Density, rho	1.6	(kg/L)		
FractionOrganicCarbon, foc	1.0E-3	(-)		
Partition Coefficient	Koc			
PCE	265	(L/kg)	2.41	(-)
TCE	94	(L/kg)	1.50	(-)
DCE	36	(L/kg)	1.19	(-)
VC	19	(L/kg)	1.10	(-)
ETH	302	(L/kg)	2.61	(-)
Common R (used in model)* =			**1.50**	

4. BIOTRANSFORMATION

-1st Order Decay Coefficient*

	λ (1/yr)	half-life (yrs)	Yield
Zone 1			
PCE → TCE	0.350		0.79
TCE → DCE	0.153		0.74
DCE → VC	0.088		0.64
VC → ETH	0.087		0.45
Zone 2	λ (1/yr)	half-life (yrs)	
PCE → TCE	0.000		
TCE → DCE	0.000		
DCE → VC	0.000		
VC → ETH	0.000		

λ HELP

5. GENERAL

Simulation Time*	100	(yr)
Modeled Area Width*	450	(ft)
Modeled Area Length*	2640	(ft)
Zone 1 Length*	2640	(ft)
Zone 2 Length*	0	(ft)

L, W

Zone 2= L - Zone 1

6. SOURCE DATA

TYPE: Decaying Single Planar

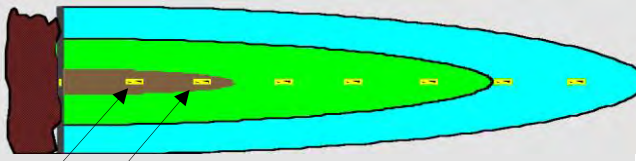
Source Options

Source Thickness in Sat. Zone* 25 (ft)

Width* (ft) Y1: 250

Conc. (mg/L)*	C1	k_s* (1/yr)
PCE	4.6	0.049
TCE	1.39	0.049
DCE	40.3	0.049
VC	3.48	0.049
ETH		0.049

Vertical Plane Source: Determine Source Well Location and Input Solvent Concentrations



View of Plume Looking Down

Observed Centerline Conc. at Monitoring Wells

7. FIELD DATA FOR COMPARISON

PCE Conc. (mg/L)											
TCE Conc. (mg/L)											
DCE Conc. (mg/L)											
VC Conc. (mg/L)											
ETH Conc. (mg/L)											
Distance from Source (ft)	0										
Date Data Collected											

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE | RUN ARRAY | Help | Restore | RESET | SEE OUTPUT | Paste

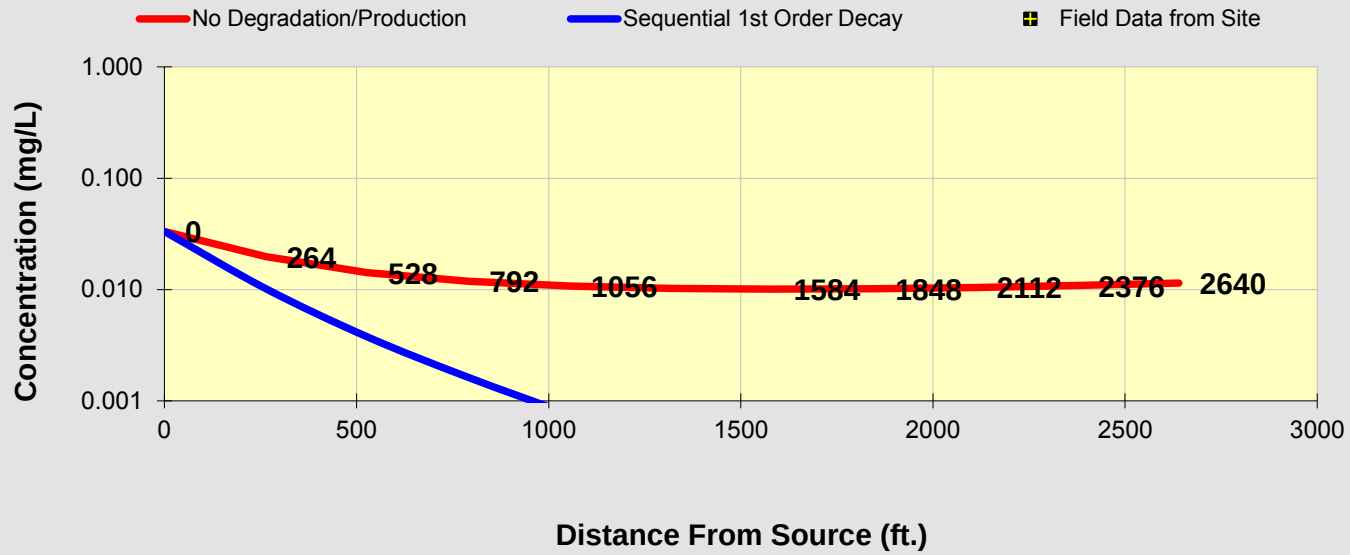
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

PCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.033	0.020	0.014	0.012	0.011	0.010	0.010	0.010	0.010	0.011	0.011
Biotransformation	0.0332	0.010	0.004	0.002	0.001	0.000	0.000	0.000	0.000	0.000	0.000

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

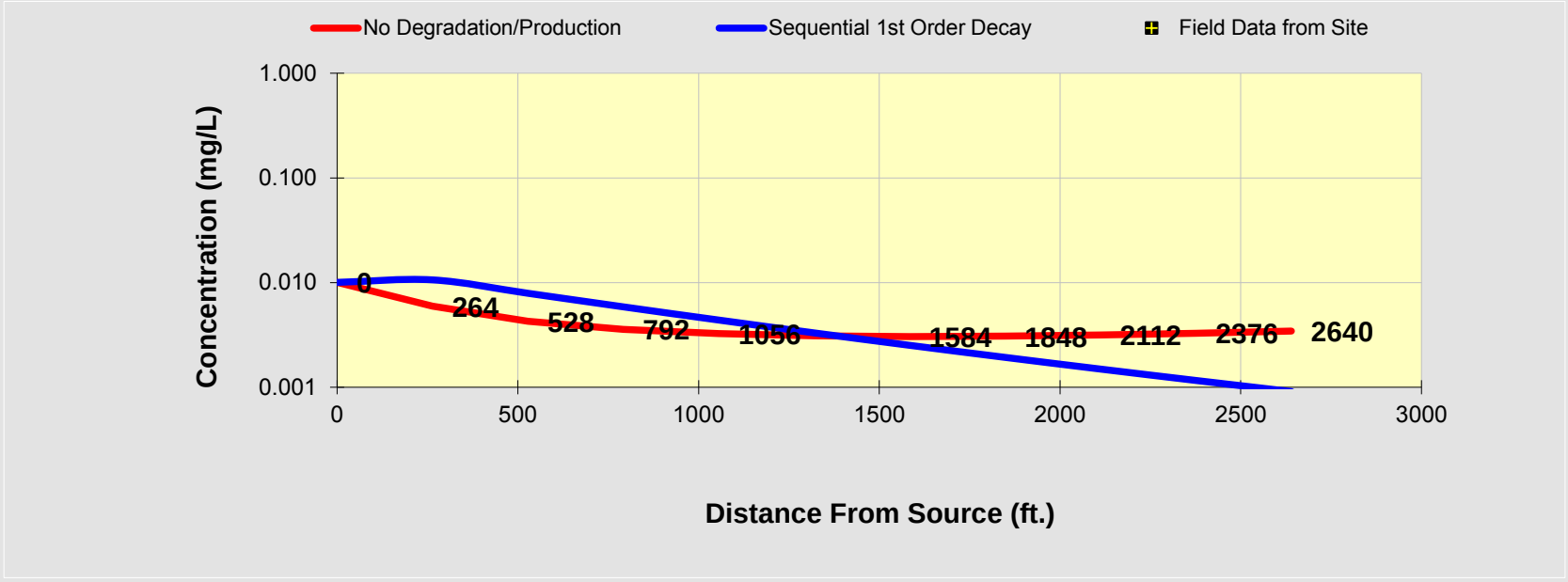
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

TCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.010	0.006	0.004	0.004	0.003	0.003	0.003	0.003	0.003	0.003	0.003
Biotransformation	0.0100	0.011	0.008	0.006	0.004	0.003	0.003	0.002	0.001	0.001	0.001

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

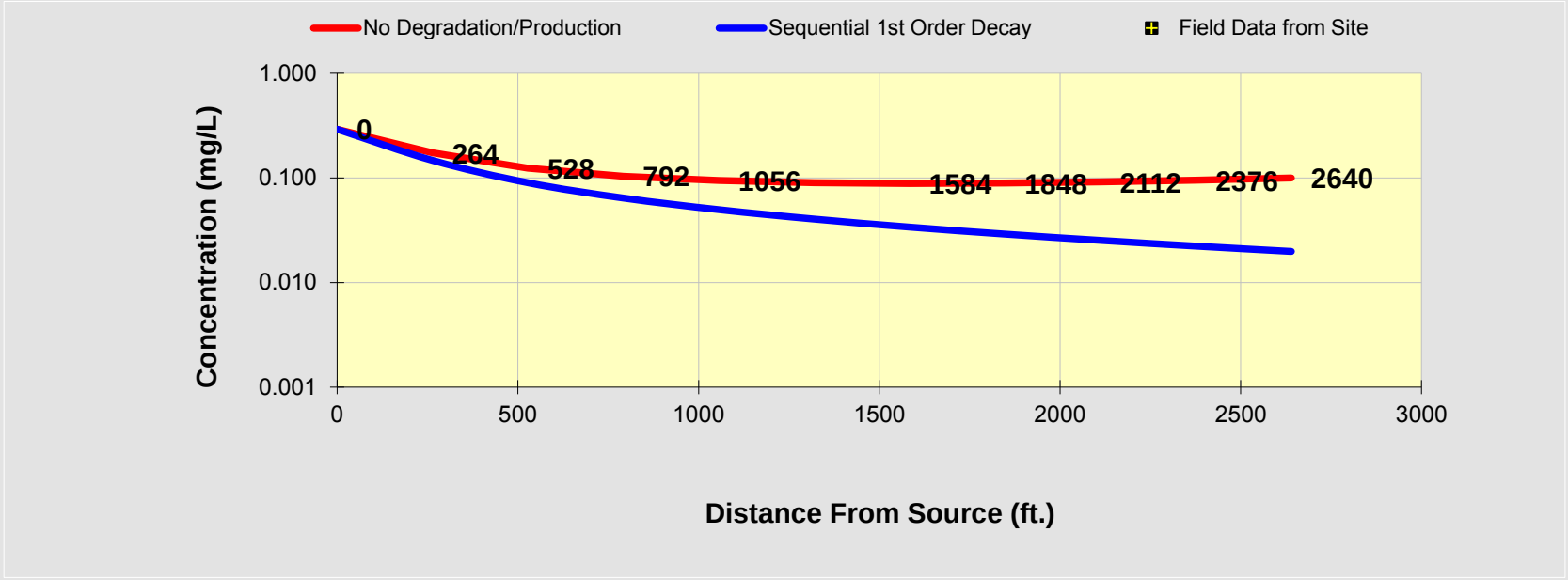
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

DCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.291	0.173	0.124	0.104	0.094	0.090	0.088	0.089	0.091	0.095	0.100
Biotransformation	0.2912	0.147	0.090	0.064	0.050	0.040	0.034	0.029	0.025	0.022	0.020

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

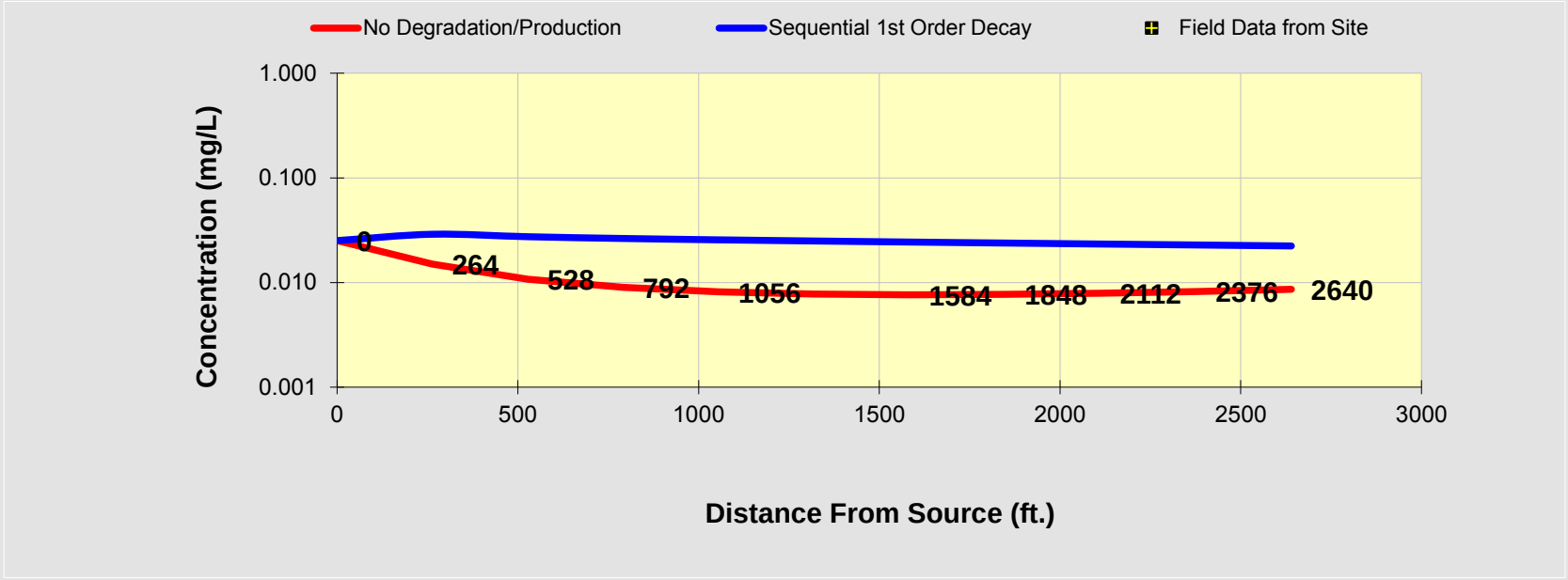
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

VC	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.025	0.015	0.011	0.009	0.008	0.008	0.008	0.008	0.008	0.008	0.009
Biotransformation	0.0251	0.029	0.027	0.026	0.026	0.025	0.024	0.024	0.023	0.023	0.022

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

BIOCHLOR Natural Attenuation Decision Support System

Version 2.2
Excel 2000

TT East Phase Upper
Max GW; KC DA decay
Run Name

TYPE OF CHLORINATED SOLVENT: Ethenes ◉ Ethanes ○

1. ADVECTION

Seepage Velocity*	Vs	531.1	(ft/yr)
or			
Hydraulic Conductivity	K	1.4E-01	(cm/sec)
Hydraulic Gradient	i	1.10E-03	(ft/ft)
Effective Porosity	n	0.3	(-)

2. DISPERSION

Alpha x*	36.543	(ft)
(Alpha y) / (Alpha x)*	0.33	(-)
(Alpha z) / (Alpha x)*	5.E-02	(-)

Calc. Alpha x

3. ADSORPTION

Retardation Factor* → R

or

Soil Bulk Density, rho	1.6	(kg/L)		
FractionOrganicCarbon, foc	1.0E-3	(-)		
Partition Coefficient	Koc			
PCE	265	(L/kg)	2.41	(-)
TCE	94	(L/kg)	1.50	(-)
DCE	36	(L/kg)	1.19	(-)
VC	19	(L/kg)	1.10	(-)
ETH	302	(L/kg)	2.61	(-)
Common R (used in model)* =			**1.50**	

4. BIOTRANSFORMATION

-1st Order Decay Coefficient*

	λ (1/yr)	half-life (yrs)	Yield
Zone 1			
PCE → TCE	0.350		0.79
TCE → DCE	0.153		0.74
DCE → VC	0.088		0.64
VC → ETH	0.087		0.45
Zone 2	λ (1/yr)	half-life (yrs)	
PCE → TCE	0.000		
TCE → DCE	0.000		
DCE → VC	0.000		
VC → ETH	0.000		

λ HELP

5. GENERAL

Simulation Time*	100	(yr)
Modeled Area Width*	450	(ft)
Modeled Area Length*	2640	(ft)
Zone 1 Length*	2640	(ft)
Zone 2 Length*	0	(ft)

L, W

Zone 2= L - Zone 1

6. SOURCE DATA

TYPE: Decaying Single Planar

Source Options

Source Thickness in Sat. Zone* 25 (ft)

Width* (ft) Y1: 250

Conc. (mg/L)*	C1	k_s* (1/yr)
PCE	4.6	0.049
TCE	1.39	0.049
DCE	40.3	0.049
VC	3.48	0.049
ETH		0.049

7. FIELD DATA FOR COMPARISON

PCE Conc. (mg/L)											
TCE Conc. (mg/L)											
DCE Conc. (mg/L)											
VC Conc. (mg/L)											
ETH Conc. (mg/L)											
Distance from Source (ft)	0										
Date Data Collected											

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE | RUN ARRAY | Help | Restore | RESET | SEE OUTPUT | Paste

Data Input Instructions:

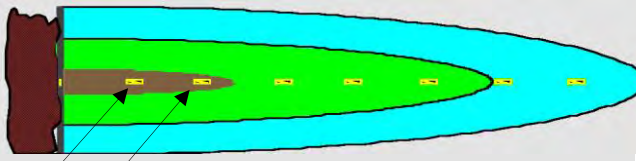
115 → 1. Enter value directly....or
↑ or
0.02 → 2. Calculate by filling in gray cells. Press Enter, then C

(To restore formulas, hit "Restore Formulas" button)

Variable* → Data used directly in model.

Test if Biotransformation is Occurring → Natural Attenuation Screening Protocol

Vertical Plane Source: Determine Source Well Location and Input Solvent Concentrations



View of Plume Looking Down

Observed Centerline Conc. at Monitoring Wells

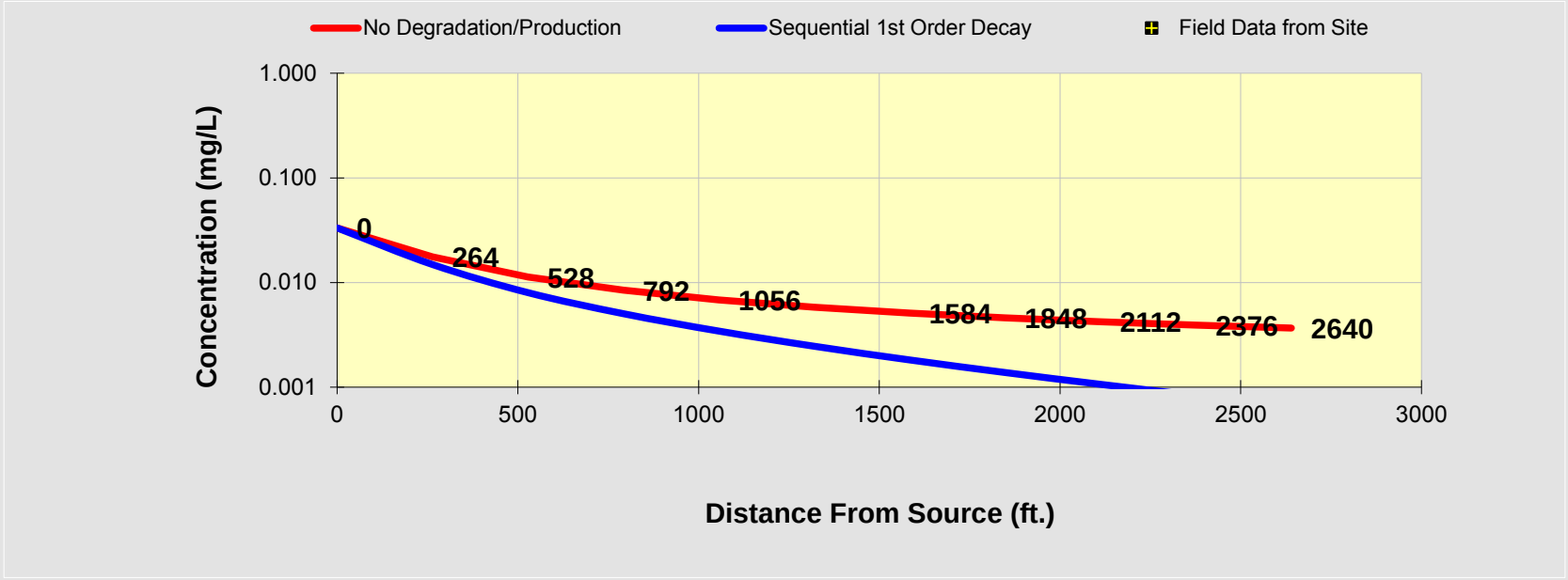
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

PCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.033	0.018	0.011	0.008	0.007	0.006	0.005	0.005	0.004	0.004	0.004
Biotransformation	0.0332	0.015	0.008	0.005	0.003	0.002	0.002	0.001	0.001	0.001	0.001

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

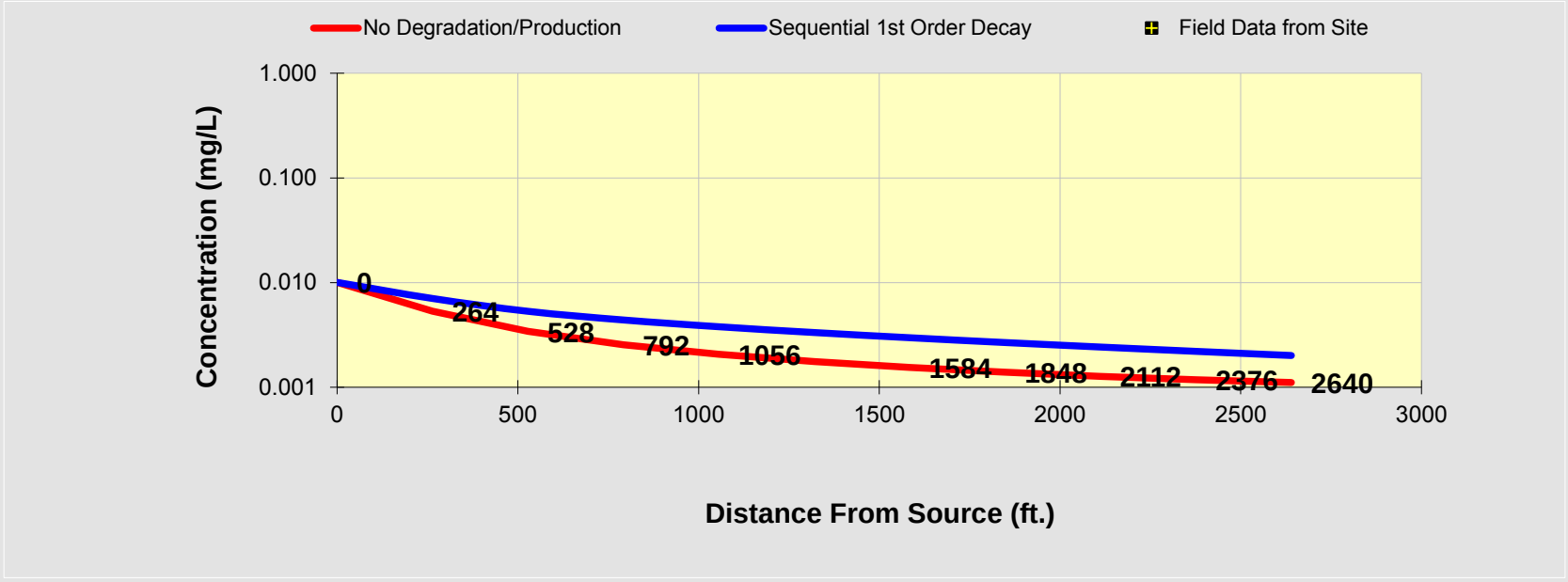
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

TCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.010	0.005	0.003	0.003	0.002	0.002	0.002	0.001	0.001	0.001	0.001
Biotransformation	0.0100	0.007	0.005	0.004	0.004	0.003	0.003	0.003	0.002	0.002	0.002

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

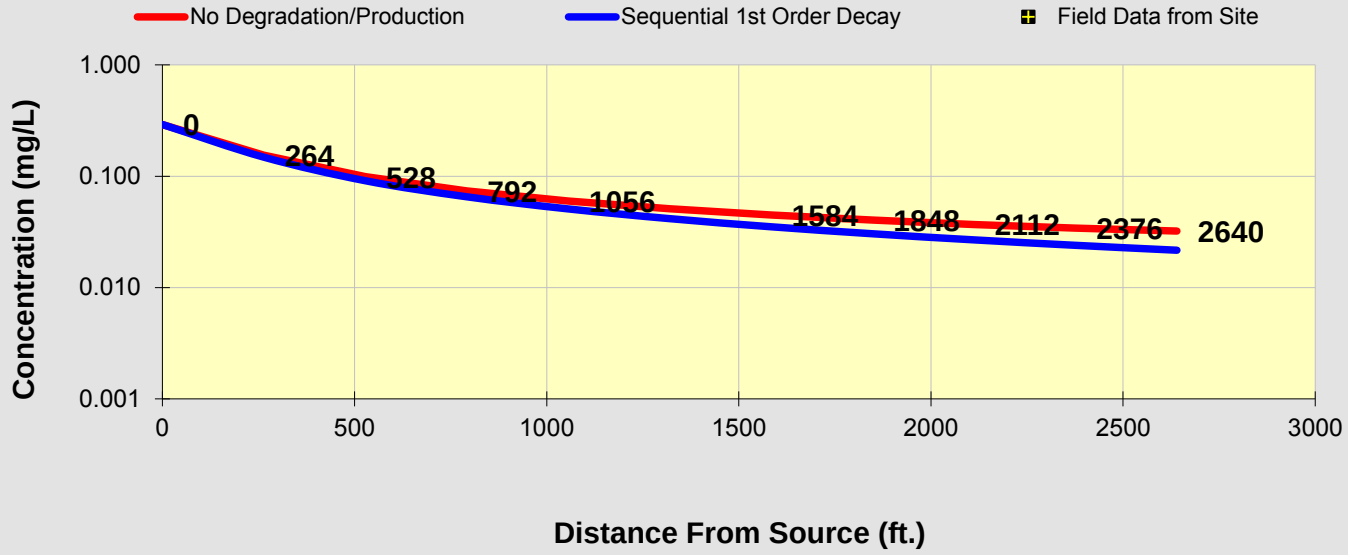
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

DCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.291	0.154	0.099	0.074	0.060	0.051	0.045	0.040	0.037	0.034	0.032
Biotransformation	0.2912	0.148	0.091	0.065	0.051	0.042	0.035	0.030	0.027	0.024	0.022

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

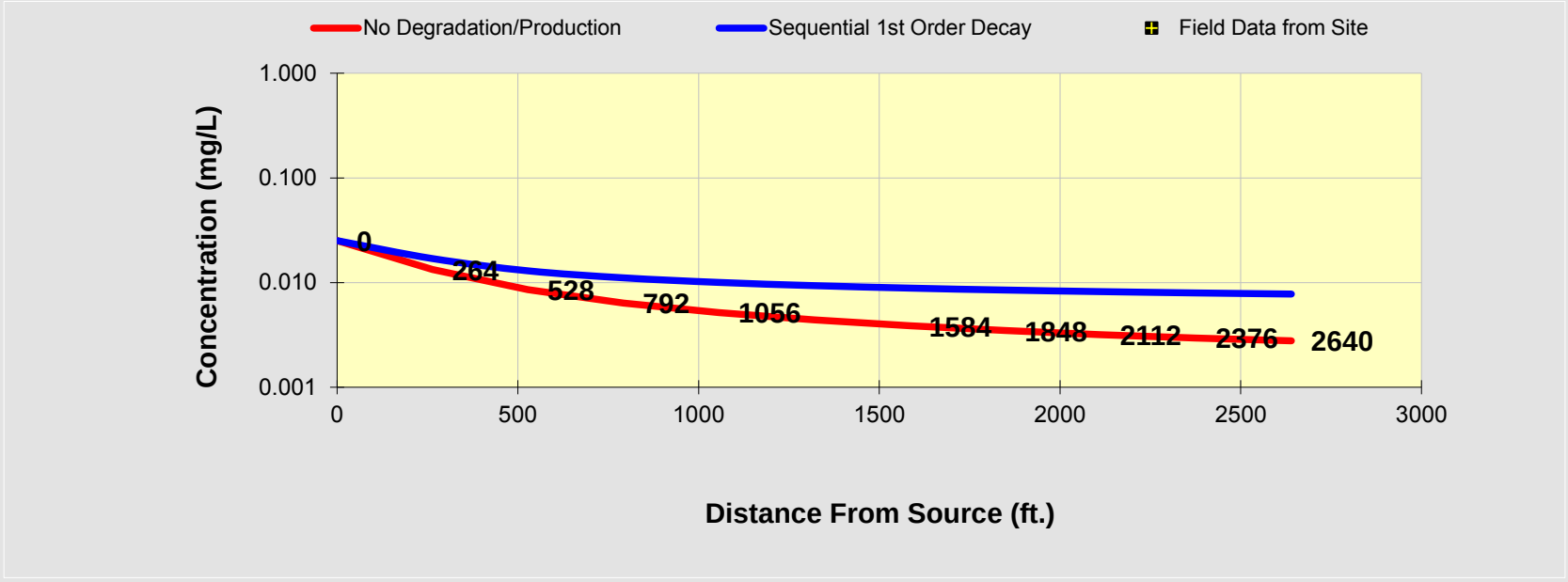
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

VC	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.025	0.013	0.009	0.006	0.005	0.004	0.004	0.003	0.003	0.003	0.003
Biotransformation	0.0251	0.017	0.013	0.011	0.010	0.009	0.009	0.008	0.008	0.008	0.008

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

BIOCHLOR Natural Attenuation Decision Support System

Version 2.2
Excel 2000

TT East Phase Upper
Max GW; KA DB decay
Run Name

TYPE OF CHLORINATED SOLVENT: Ethenes ◉ Ethanes ○

1. ADVECTION

Seepage Velocity*	Vs	265.6	(ft/yr)
or			
Hydraulic Conductivity	K	7.0E-02	(cm/sec)
Hydraulic Gradient	i	1.10E-03	(ft/ft)
Effective Porosity	n	0.3	(-)

2. DISPERSION

Alpha x*	36.543	(ft)
(Alpha y) / (Alpha x)*	0.33	(-)
(Alpha z) / (Alpha x)*	5.E-02	(-)

Calc. Alpha x

3. ADSORPTION

Retardation Factor* → R

or

Soil Bulk Density, rho	1.6	(kg/L)		
FractionOrganicCarbon, foc	1.0E-3	(-)		
Partition Coefficient	Koc			
PCE	265	(L/kg)	2.41	(-)
TCE	94	(L/kg)	1.50	(-)
DCE	36	(L/kg)	1.19	(-)
VC	19	(L/kg)	1.10	(-)
ETH	302	(L/kg)	2.61	(-)
Common R (used in model)* =			**1.50**	

4. BIOTRANSFORMATION

-1st Order Decay Coefficient*

	λ (1/yr)	half-life (yrs)	Yield
Zone 1			
PCE → TCE	0.799		0.79
TCE → DCE	0.299		0.74
DCE → VC	0.099		0.64
VC → ETH	0.399		0.45
Zone 2	λ (1/yr)	half-life (yrs)	
PCE → TCE	0.000		
TCE → DCE	0.000		
DCE → VC	0.000		
VC → ETH	0.000		

λ HELP

5. GENERAL

Simulation Time*	100	(yr)
Modeled Area Width*	450	(ft)
Modeled Area Length*	2640	(ft)
Zone 1 Length*	2640	(ft)
Zone 2 Length*	0	(ft)

L, W

Zone 2= L - Zone 1

6. SOURCE DATA

TYPE: Decaying Single Planar

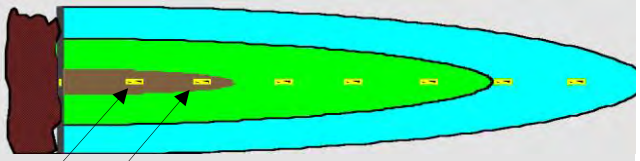
Source Options

Source Thickness in Sat. Zone* 25 (ft)

Width* (ft) Y1: 250

Conc. (mg/L)*	C1	k_s* (1/yr)
PCE	4.6	0.049
TCE	1.39	0.049
DCE	40.3	0.049
VC	3.48	0.049
ETH		0.049

Vertical Plane Source: Determine Source Well Location and Input Solvent Concentrations



View of Plume Looking Down

Observed Centerline Conc. at Monitoring Wells

7. FIELD DATA FOR COMPARISON

PCE Conc. (mg/L)											
TCE Conc. (mg/L)											
DCE Conc. (mg/L)											
VC Conc. (mg/L)											
ETH Conc. (mg/L)											
Distance from Source (ft)	0										
Date Data Collected											

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE | RUN ARRAY | Help | Restore | RESET | SEE OUTPUT | Paste

Data Input Instructions:

115 → 1. Enter value directly....or
↑ or
0.02 → 2. Calculate by filling in gray cells. Press Enter, then C

(To restore formulas, hit "Restore Formulas" button)

Variable* → Data used directly in model.

Test if Biotransformation is Occurring → Natural Attenuation Screening Protocol

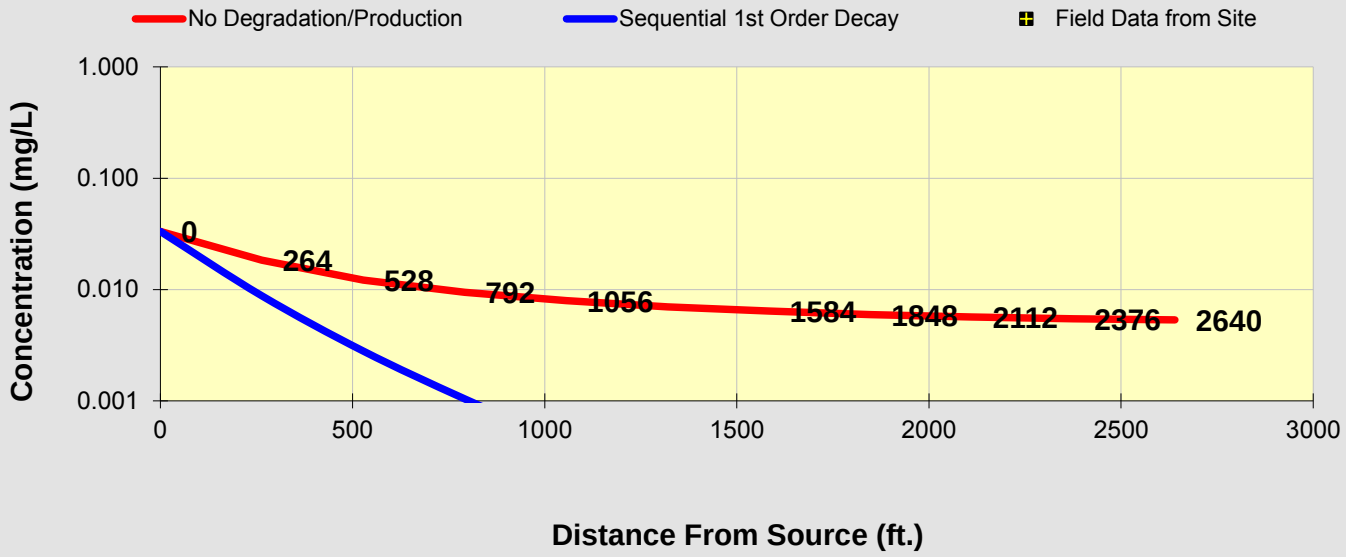
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

PCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.033	0.018	0.012	0.009	0.008	0.007	0.006	0.006	0.006	0.005	0.005
Biotransformation	0.0332	0.009	0.003	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

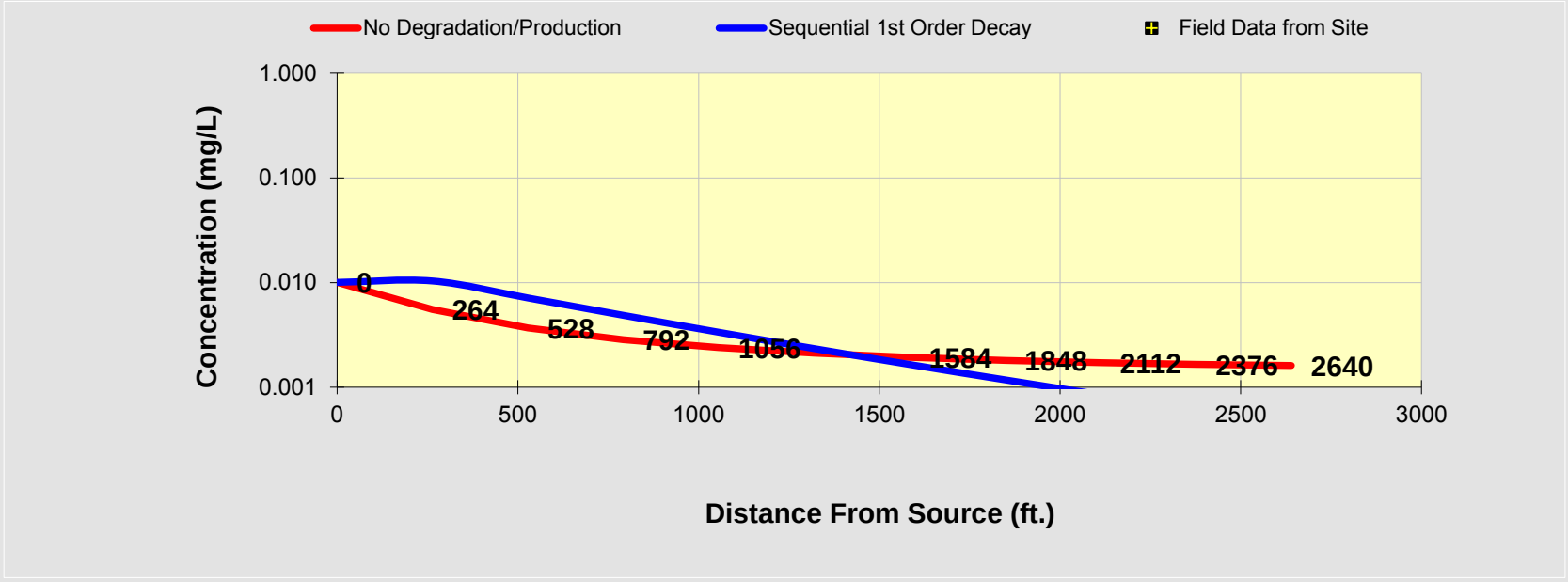
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

TCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.010	0.006	0.004	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002
Biotransformation	0.0100	0.010	0.007	0.005	0.003	0.002	0.002	0.001	0.001	0.001	0.000

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

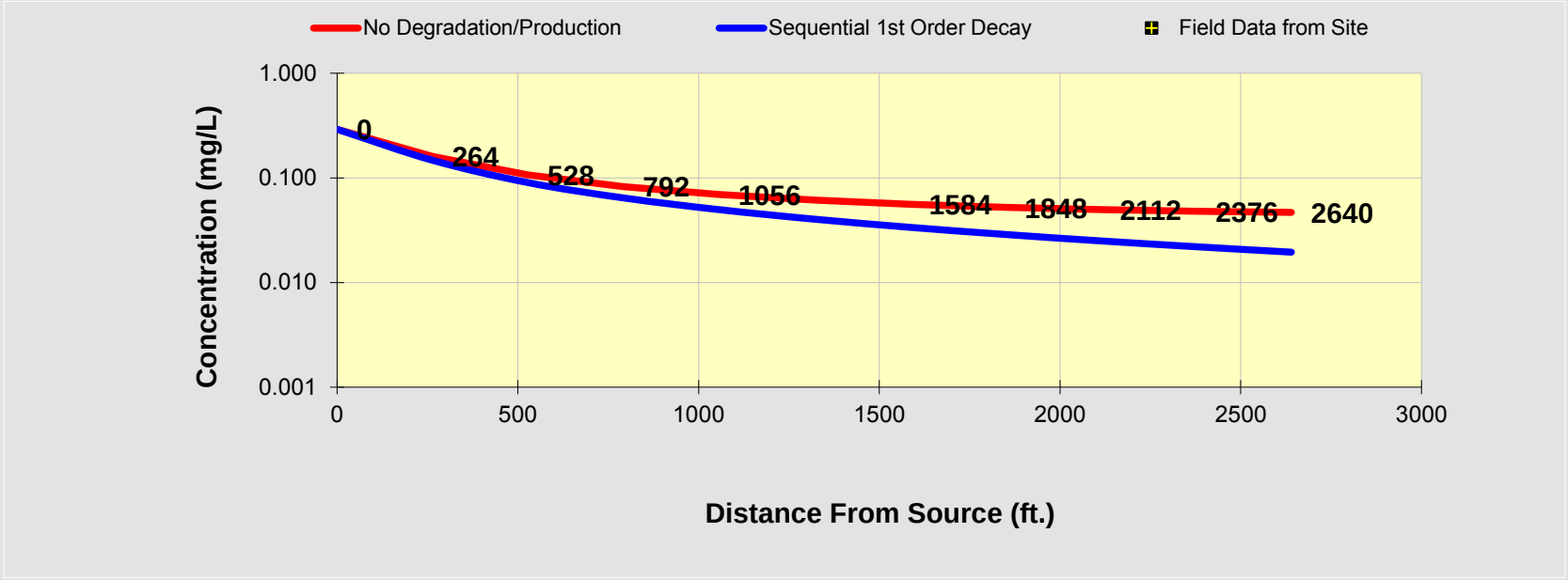
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

DCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.291	0.160	0.107	0.083	0.069	0.061	0.056	0.052	0.050	0.048	0.047
Biotransformation	0.2912	0.147	0.090	0.064	0.050	0.040	0.034	0.029	0.025	0.022	0.019

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

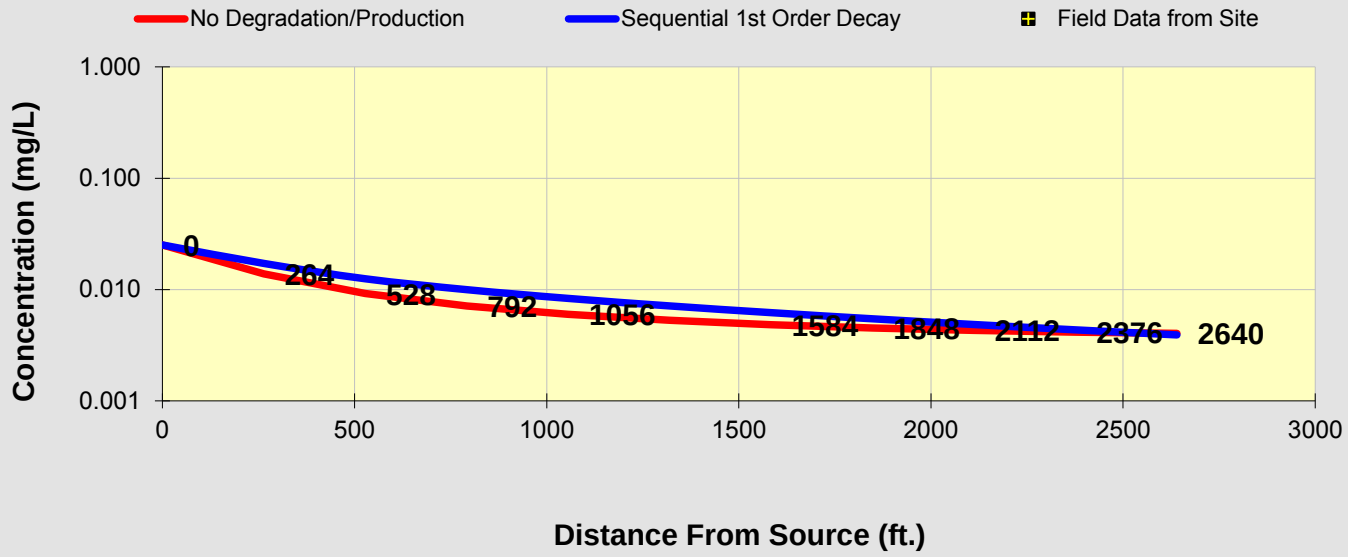
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

VC	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.025	0.014	0.009	0.007	0.006	0.005	0.005	0.005	0.004	0.004	0.004
Biotransformation	0.0251	0.017	0.012	0.010	0.008	0.007	0.006	0.005	0.005	0.004	0.004

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

BIOCHLOR Natural Attenuation Decision Support System

Version 2.2
Excel 2000

TT East Phase Upper
Max GW; KB DB decay
Run Name

TYPE OF CHLORINATED SOLVENT: Ethenes ◉ Ethanes ○

1. ADVECTION

Seepage Velocity*	Vs	132.8	(ft/yr)
or			
Hydraulic Conductivity	K	3.5E-02	(cm/sec)
Hydraulic Gradient	i	1.10E-03	(ft/ft)
Effective Porosity	n	0.3	(-)

2. DISPERSION

Alpha x*	36.543	(ft)
(Alpha y) / (Alpha x)*	0.33	(-)
(Alpha z) / (Alpha x)*	5.E-02	(-)

Calc. Alpha x

3. ADSORPTION

Retardation Factor* → R

or

Soil Bulk Density, rho		1.6	(kg/L)	
FractionOrganicCarbon, foc		1.0E-3	(-)	
Partition Coefficient	Koc			
PCE	265	(L/kg)	2.41	(-)
TCE	94	(L/kg)	1.50	(-)
DCE	36	(L/kg)	1.19	(-)
VC	19	(L/kg)	1.10	(-)
ETH	302	(L/kg)	2.61	(-)

Common R (used in model)* = 1.50

4. BIOTRANSFORMATION

-1st Order Decay Coefficient*

	λ (1/yr)	half-life (yrs)	Yield
Zone 1			
PCE → TCE	0.799		0.79
TCE → DCE	0.299		0.74
DCE → VC	0.099		0.64
VC → ETH	0.399		0.45
Zone 2			
PCE → TCE	0.000		
TCE → DCE	0.000		
DCE → VC	0.000		
VC → ETH	0.000		

λ HELP

5. GENERAL

Simulation Time*	100	(yr)
Modeled Area Width*	450	(ft)
Modeled Area Length*	2640	(ft)
Zone 1 Length*	2640	(ft)
Zone 2 Length*	0	(ft)

L, W

Zone 2= L - Zone 1

6. SOURCE DATA

TYPE: Decaying Single Planar

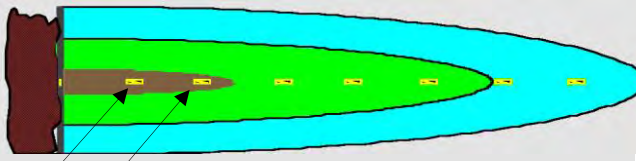
Source Options

Source Thickness in Sat. Zone* 25 (ft)

Width* (ft) Y1: 250

Conc. (mg/L)*	C1	k_s* (1/yr)
PCE	4.6	0.049
TCE	1.39	0.049
DCE	40.3	0.049
VC	3.48	0.049
ETH		0.049

Vertical Plane Source: Determine Source Well Location and Input Solvent Concentrations



View of Plume Looking Down

Observed Centerline Conc. at Monitoring Wells

7. FIELD DATA FOR COMPARISON

PCE Conc. (mg/L)											
TCE Conc. (mg/L)											
DCE Conc. (mg/L)											
VC Conc. (mg/L)											
ETH Conc. (mg/L)											
Distance from Source (ft)	0										
Date Data Collected											

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE | **RUN ARRAY** | ***Help*** | Restore | RESET | ***SEE OUTPUT*** | Paste

Data Input Instructions:

115 → 1. Enter value directly....or
↑ *or*
0.02 → 2. Calculate by filling in gray cells. Press Enter, then C

(To restore formulas, hit "Restore Formulas" button)

Variable* → Data used directly in model.

Test if Biotransformation is Occurring → Natural Attenuation Screening Protocol

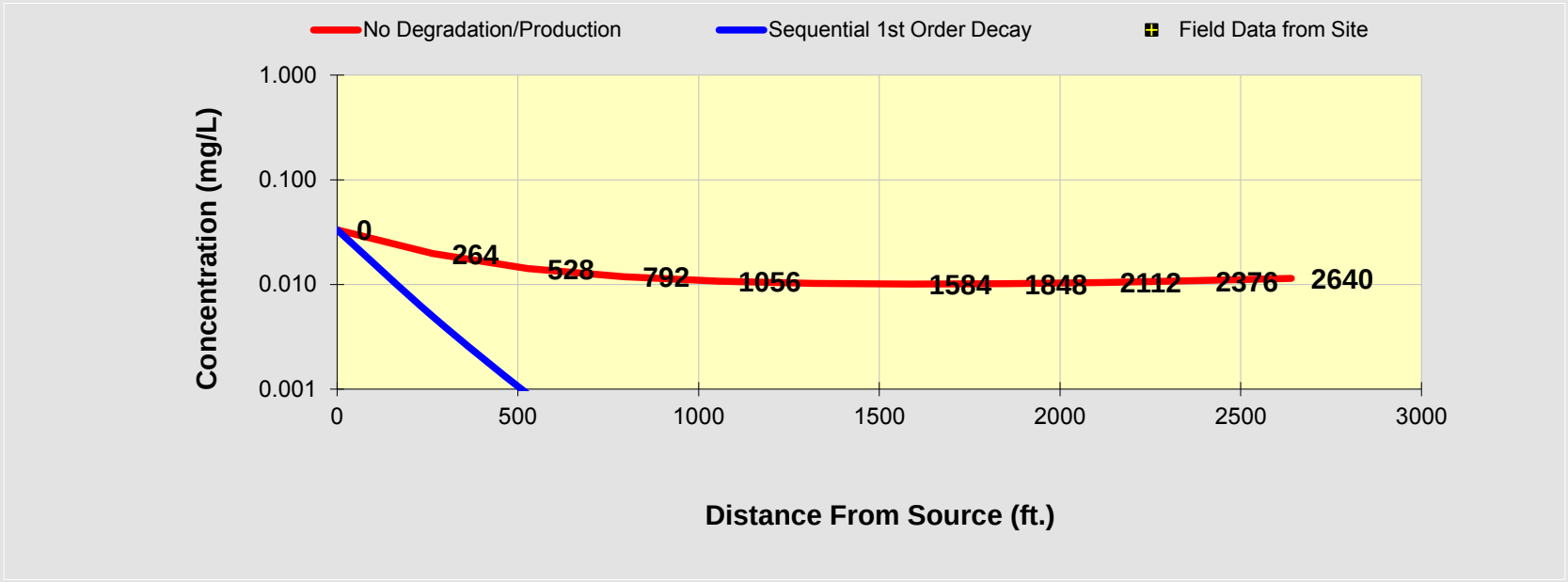
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

PCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.033	0.020	0.014	0.012	0.011	0.010	0.010	0.010	0.010	0.011	0.011
Biotransformation	0.0332	0.005	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

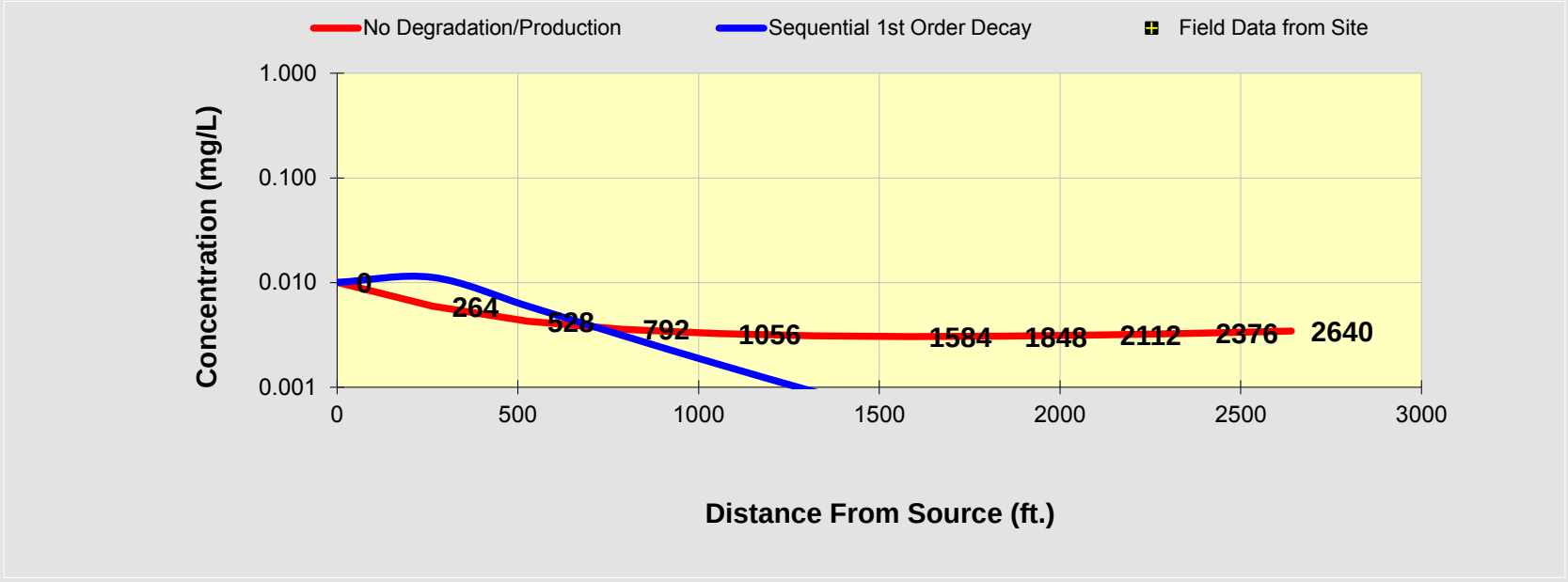
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

TCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.010	0.006	0.004	0.004	0.003	0.003	0.003	0.003	0.003	0.003	0.003
Biotransformation	0.0100	0.011	0.006	0.003	0.002	0.001	0.001	0.000	0.000	0.000	0.000

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

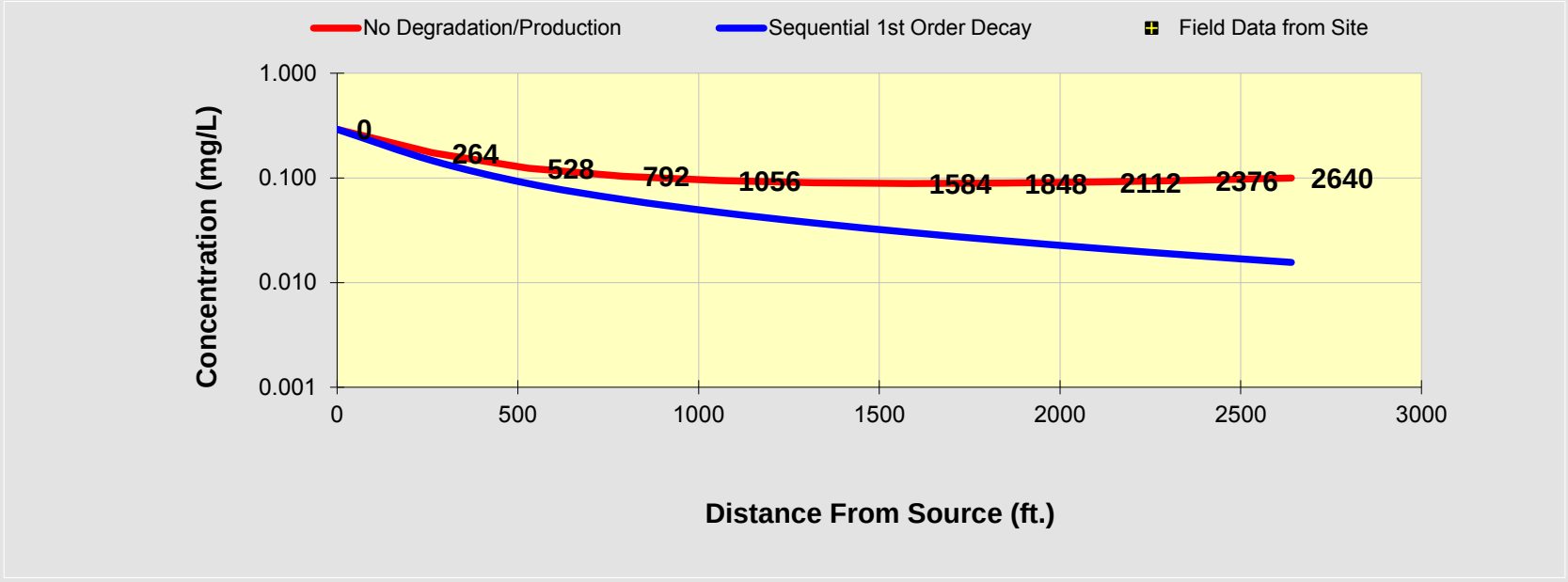
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

DCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.291	0.173	0.124	0.104	0.094	0.090	0.088	0.089	0.091	0.095	0.100
Biotransformation	0.2912	0.146	0.088	0.062	0.047	0.037	0.030	0.025	0.021	0.018	0.016

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

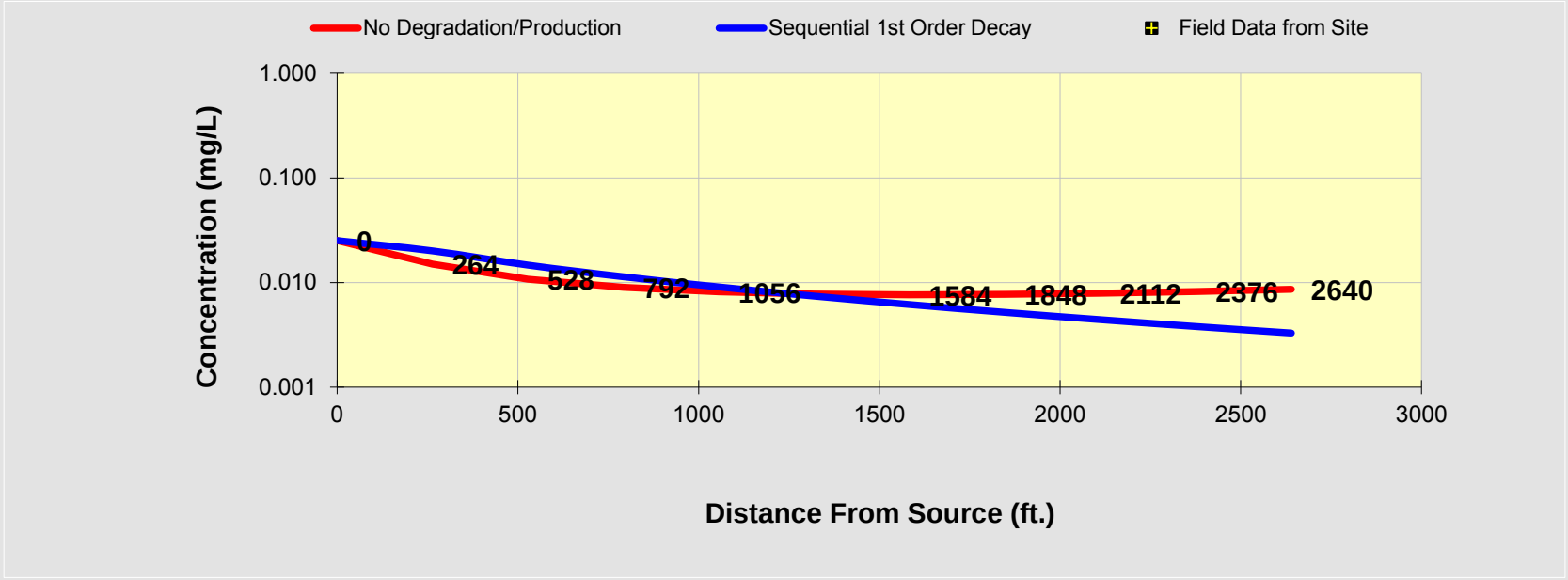
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

VC	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.025	0.015	0.011	0.009	0.008	0.008	0.008	0.008	0.008	0.008	0.009
Biotransformation	0.0251	0.020	0.015	0.011	0.009	0.007	0.006	0.005	0.004	0.004	0.003

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

BIOCHLOR Natural Attenuation Decision Support System

Version 2.2
Excel 2000

TT East Phase Upper
Max GW; KC DB decay
Run Name

Data Input Instructions:
115 → 1. Enter value directly....or
↑ or
0.02 → 2. Calculate by filling in gray cells. Press Enter, then C
(To restore formulas, hit "Restore Formulas" button)
Variable* → Data used directly in model.

Test if Biotransformation is Occurring → Natural Attenuation Screening Protocol

TYPE OF CHLORINATED SOLVENT: Ethenes ◉ Ethanes ○

1. ADVECTION

Seepage Velocity*	Vs	531.1	(ft/yr)
or			
Hydraulic Conductivity	K	1.4E-01	(cm/sec)
Hydraulic Gradient	i	1.10E-03	(ft/ft)
Effective Porosity	n	0.3	(-)

2. DISPERSION

Alpha x*	36.543	(ft)
(Alpha y) / (Alpha x)*	0.33	(-)
(Alpha z) / (Alpha x)*	5.E-02	(-)

Calc. Alpha x

3. ADSORPTION

Retardation Factor* → R

or

Soil Bulk Density, rho	1.6	(kg/L)		
FractionOrganicCarbon, foc	1.0E-3	(-)		
Partition Coefficient	Koc			
PCE	265	(L/kg)	2.41	(-)
TCE	94	(L/kg)	1.50	(-)
DCE	36	(L/kg)	1.19	(-)
VC	19	(L/kg)	1.10	(-)
ETH	302	(L/kg)	2.61	(-)
Common R (used in model)* =			**1.50**	

4. BIOTRANSFORMATION

-1st Order Decay Coefficient*

	λ (1/yr)	half-life (yrs)	Yield
Zone 1			
PCE → TCE	0.799		0.79
TCE → DCE	0.299		0.74
DCE → VC	0.099		0.64
VC → ETH	0.399		0.45
Zone 2	λ (1/yr)	half-life (yrs)	
PCE → TCE	0.000		
TCE → DCE	0.000		
DCE → VC	0.000		
VC → ETH	0.000		

λ HELP

5. GENERAL

Simulation Time*	100	(yr)
Modeled Area Width*	450	(ft)
Modeled Area Length*	2640	(ft)
Zone 1 Length*	2640	(ft)
Zone 2 Length*	0	(ft)

L, W

Zone 2= L - Zone 1

6. SOURCE DATA

TYPE: Decaying Single Planar

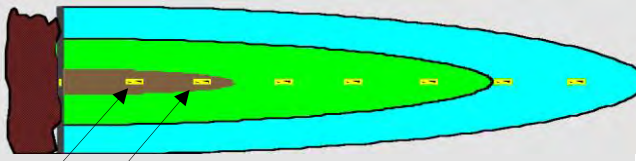
Source Options

Source Thickness in Sat. Zone* 25 (ft)

Width* (ft) Y1: 250

Conc. (mg/L)*	C1	k_s* (1/yr)
PCE	4.6	0.049
TCE	1.39	0.049
DCE	40.3	0.049
VC	3.48	0.049
ETH		0.049

Vertical Plane Source: Determine Source Well Location and Input Solvent Concentrations



View of Plume Looking Down

Observed Centerline Conc. at Monitoring Wells

7. FIELD DATA FOR COMPARISON

PCE Conc. (mg/L)											
TCE Conc. (mg/L)											
DCE Conc. (mg/L)											
VC Conc. (mg/L)											
ETH Conc. (mg/L)											
Distance from Source (ft)	0										
Date Data Collected											

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE | RUN ARRAY | Help | Restore | RESET | SEE OUTPUT | Paste

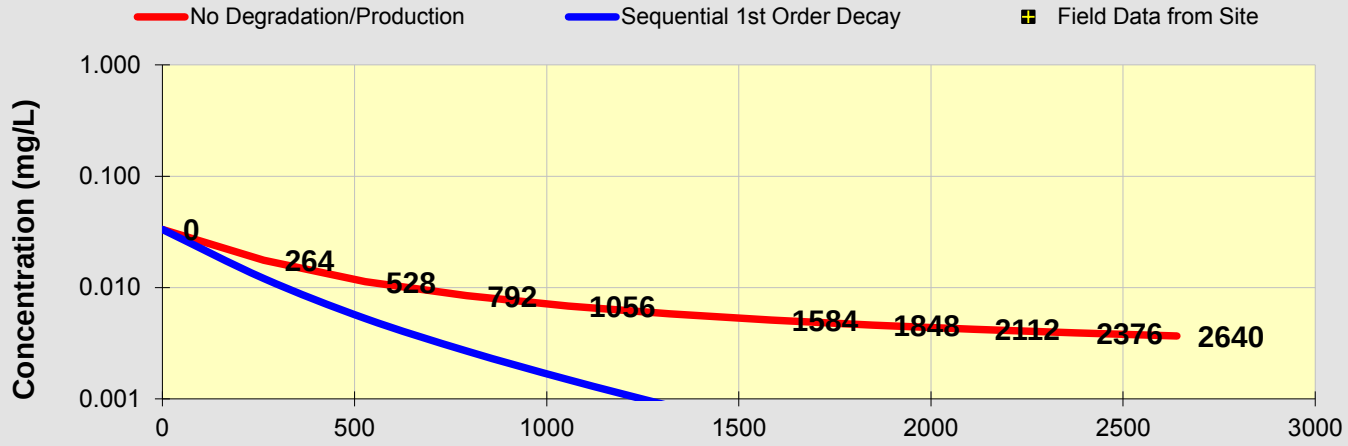
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

PCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.033	0.018	0.011	0.008	0.007	0.006	0.005	0.005	0.004	0.004	0.004
Biotransformation	0.0332	0.012	0.005	0.003	0.001	0.001	0.001	0.000	0.000	0.000	0.000

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

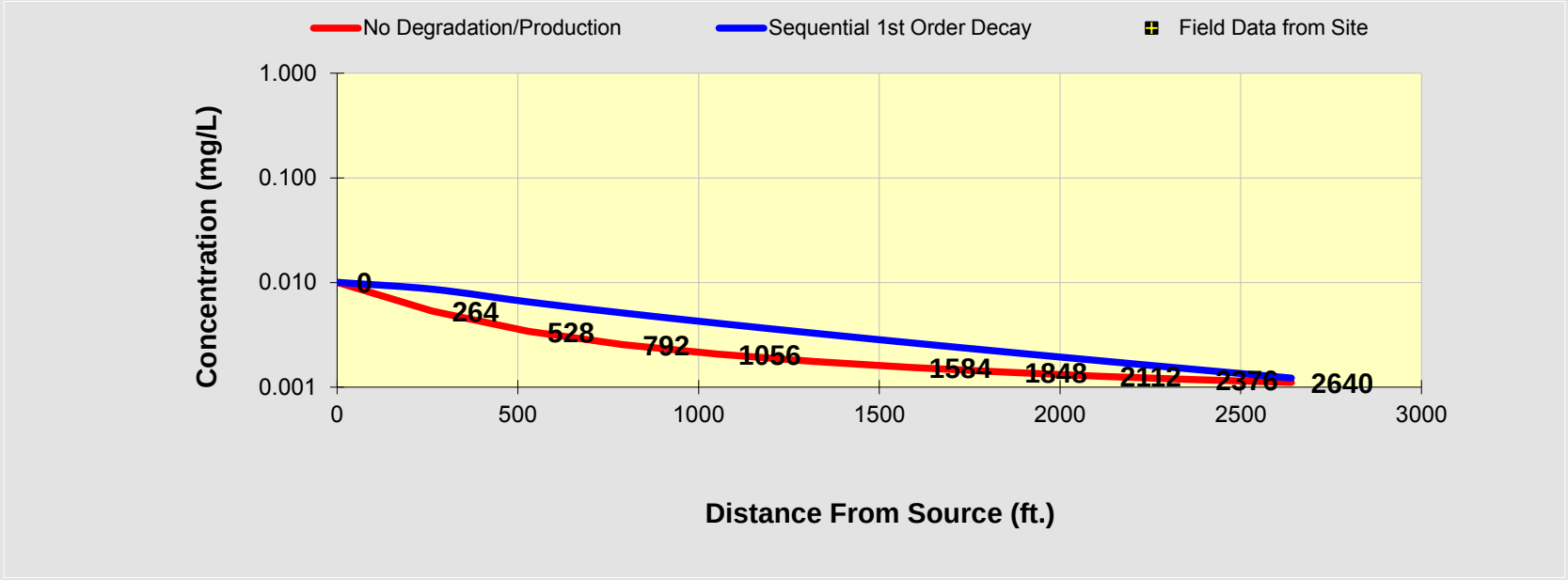
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

TCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.010	0.005	0.003	0.003	0.002	0.002	0.002	0.001	0.001	0.001	0.001
Biotransformation	0.0100	0.009	0.007	0.005	0.004	0.003	0.003	0.002	0.002	0.001	0.001

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

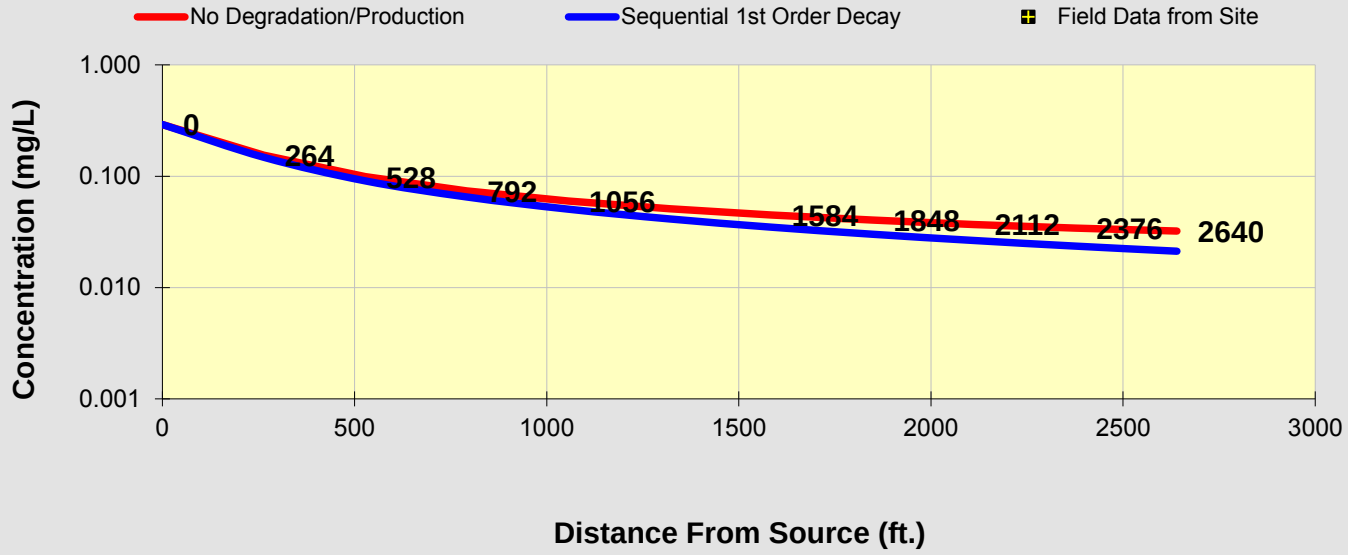
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

DCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.291	0.154	0.099	0.074	0.060	0.051	0.045	0.040	0.037	0.034	0.032
Biotransformation	0.2912	0.148	0.091	0.065	0.051	0.041	0.035	0.030	0.026	0.024	0.021

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

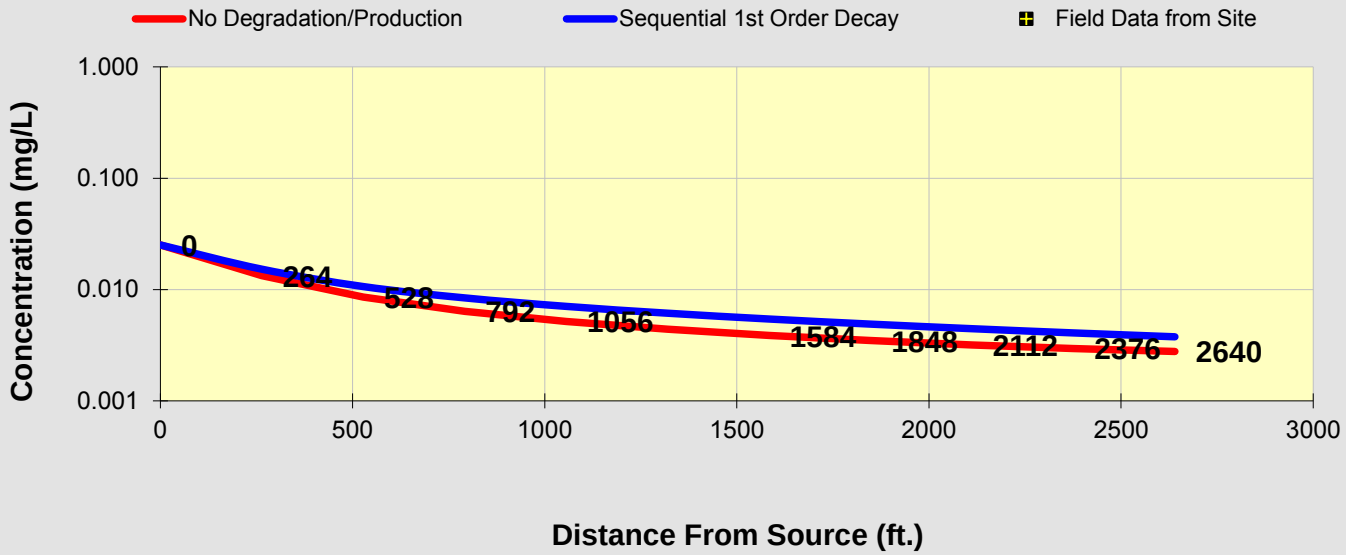
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

VC	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.025	0.013	0.009	0.006	0.005	0.004	0.004	0.003	0.003	0.003	0.003
Biotransformation	0.0251	0.015	0.011	0.008	0.007	0.006	0.005	0.005	0.004	0.004	0.004

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

APPENDIX C-2
UPPER AQUIFER, 2015 DATA, MAXIMUM CONCENTRATIONS

East Phase Upper Aquifer Maximum Concentrations (2015 Data) BIOCHLOR Sensitivity Analysis

Groundwater Unit	Conductivity	Decay	PCE (mg/L)		TCE (mg/L)		DCE (mg/L)		VC (mg/L)	
			No degradation	Biotransformation	No degradation	Biotransformation	No degradation	Biotransformation	No degradation	Biotransformation
Continuous Source										
Upper	A	A	0.039	0.001	0.023	0.016	0.567	0.257	0.035	0.151
Upper	B	A	0.039	0	0.023	0.004	0.567	0.116	0.035	0.126
Upper	C	A	0.039	0.007	0.023	0.027	0.567	0.381	0.035	0.127
Upper	A	B	0.039	0	0.023	0.004	0.567	0.235	0.035	0.047
Upper	B	B	0.039	0	0.023	0	0.567	0.092	0.035	0.02
Upper	C	B	0.039	0.001	0.023	0.016	0.567	0.369	0.035	0.064
Decaying Source (Kpoint = 0.0493)										
Upper	A	A	0.001	0	0	0	0.009	0.004	0.001	0.002
Upper	B	A	0.001	0	0.001	0	0.018	0.004	0.001	**0.004**
Upper	C	A	0	0	0	0	0.006	0.004	0	0.001
Upper	A	B	0.001	0	0	0	0.009	0.003	0.001	0.001
Upper	B	B	0.001	0	0.001	0	0.018	0.003	0.001	0.001
Upper	C	B	0	0	0	0	0.006	0.004	0	0.001
		UPUS	0.005 mg/L		0.005 mg/L		0.07 mg/L		0.002 mg/L	

Maximum Concentration- 2015 Data (mg/L)	Upper Zone
PCE	0.516
TCE	0.302
DCE	7.43
VC	0.456

BIOCHLOR Natural Attenuation Decision Support System

Version 2.2
Excel 2000

Tech Town East Phase Uppe
2015 CONT KA DA
Run Name

Data Input Instructions:
115 → 1. Enter value directly....or
↑ or
0.02 → 2. Calculate by filling in gray cells. Press Enter, then C
(To restore formulas, hit "Restore Formulas" button)
Variable* → Data used directly in model.

Test if Biotransformation is Occurring → Natural Attenuation Screening Protocol

TYPE OF CHLORINATED SOLVENT: Ethenes ◉ Ethanes ○

1. ADVECTION

Seepage Velocity*	Vs	265.6	(ft/yr)
or			
Hydraulic Conductivity	K	7.0E-02	(cm/sec)
Hydraulic Gradient	i	1.10E-03	(ft/ft)
Effective Porosity	n	0.3	(-)

2. DISPERSION

Alpha x*	36.543	(ft)
(Alpha y) / (Alpha x)*	0.33	(-)
(Alpha z) / (Alpha x)*	5.E-02	(-)

Calc. Alpha x

3. ADSORPTION

Retardation Factor* → R
or

Soil Bulk Density, rho	1.6	(kg/L)		
FractionOrganicCarbon, foc	1.0E-3	(-)		
Partition Coefficient	Koc			
PCE	265	(L/kg)	2.41	(-)
TCE	94	(L/kg)	1.50	(-)
DCE	36	(L/kg)	1.19	(-)
VC	19	(L/kg)	1.10	(-)
ETH	302	(L/kg)	2.61	(-)
Common R (used in model)* =			**1.50**	

4. BIOTRANSFORMATION

-1st Order Decay Coefficient*

Zone 1	λ (1/yr)	half-life (yrs)	Yield
PCE → TCE	0.350		0.79
TCE → DCE	0.153		0.74
DCE → VC	0.088		0.64
VC → ETH	0.087		0.45
Zone 2	λ (1/yr)	half-life (yrs)	
PCE → TCE	0.000		
TCE → DCE	0.000		
DCE → VC	0.000		
VC → ETH	0.000		

λ HELP

5. GENERAL

Simulation Time*	100	(yr)
Modeled Area Width*	450	(ft)
Modeled Area Length*	2640	(ft)
Zone 1 Length*	2640	(ft)
Zone 2 Length*	0	(ft)

L, W

Zone 2= L - Zone 1

6. SOURCE DATA

TYPE: Continuous Single Planar

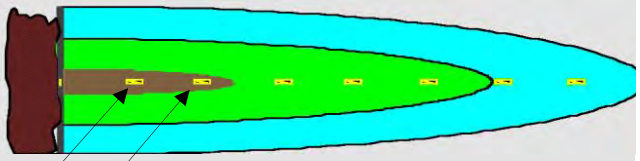
Source Options

Source Thickness in Sat. Zone* 25 (ft)

Width* (ft) Y1: 250

Conc. (mg/L)*	C1	k_s* (1/yr)
PCE	.516	0
TCE	.302	0
DCE	7.43	0
VC	.456	0
ETH		0

Vertical Plane Source: Determine Source Well Location and Input Solvent Concentrations



View of Plume Looking Down

Observed Centerline Conc. at Monitoring Wells

7. FIELD DATA FOR COMPARISON

PCE Conc. (mg/L)											
TCE Conc. (mg/L)											
DCE Conc. (mg/L)											
VC Conc. (mg/L)											
ETH Conc. (mg/L)											
Distance from Source (ft)	0										
Date Data Collected											

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE | RUN ARRAY | Help | Restore | RESET | SEE OUTPUT | Paste

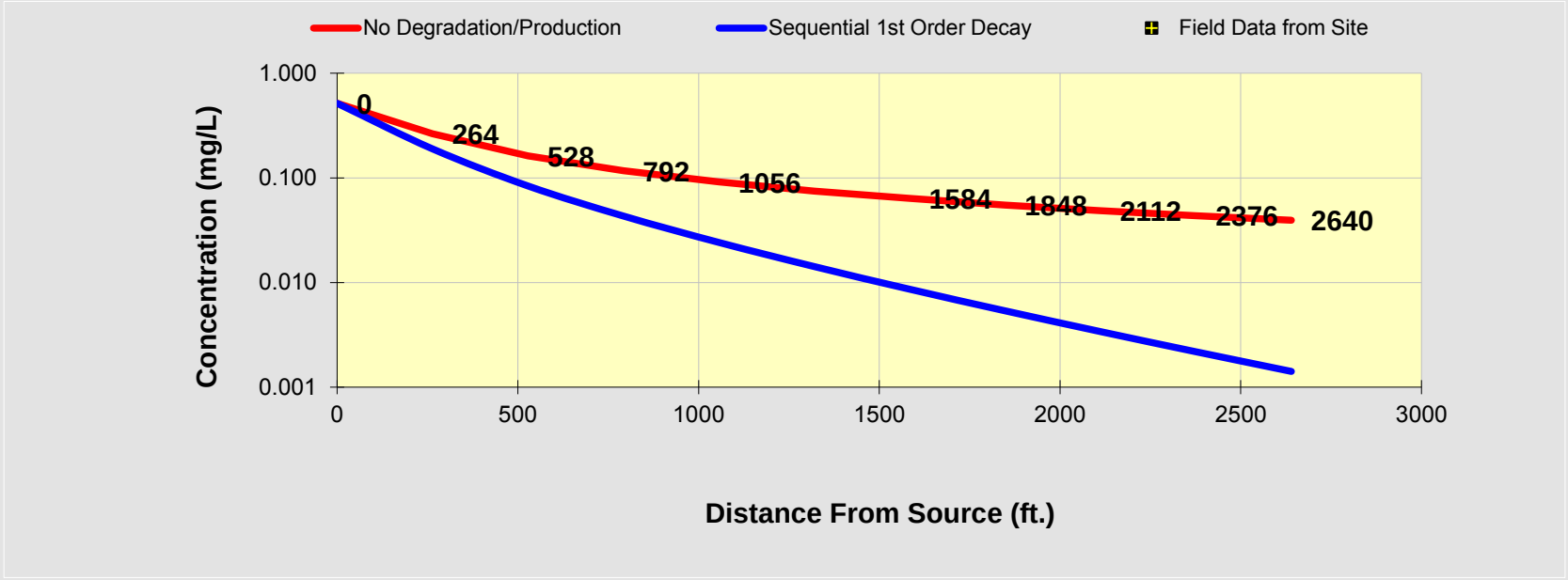
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

PCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.516	0.264	0.163	0.117	0.091	0.075	0.063	0.055	0.049	0.043	0.039
Biotransformation	0.5160	0.189	0.084	0.043	0.024	0.014	0.009	0.005	0.003	0.002	0.001

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

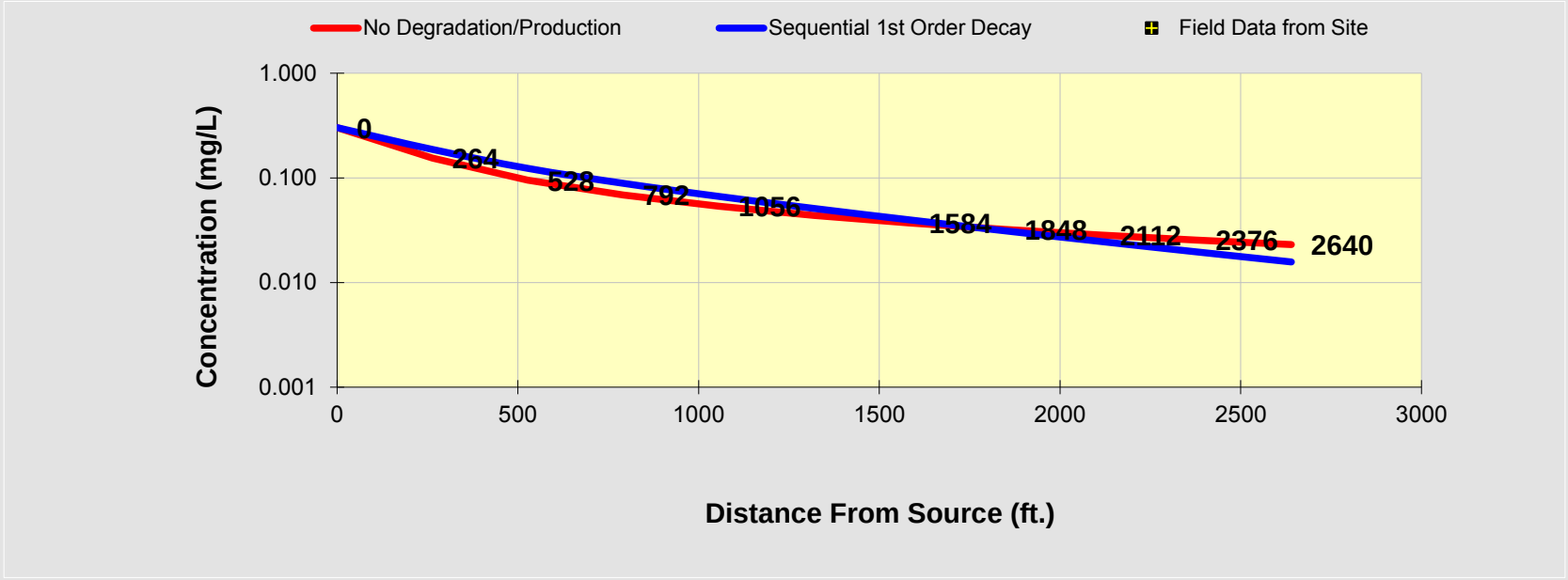
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

TCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.302	0.154	0.095	0.069	0.053	0.044	0.037	0.032	0.028	0.025	0.023
Biotransformation	0.3020	0.187	0.123	0.089	0.066	0.051	0.040	0.031	0.025	0.020	0.016

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

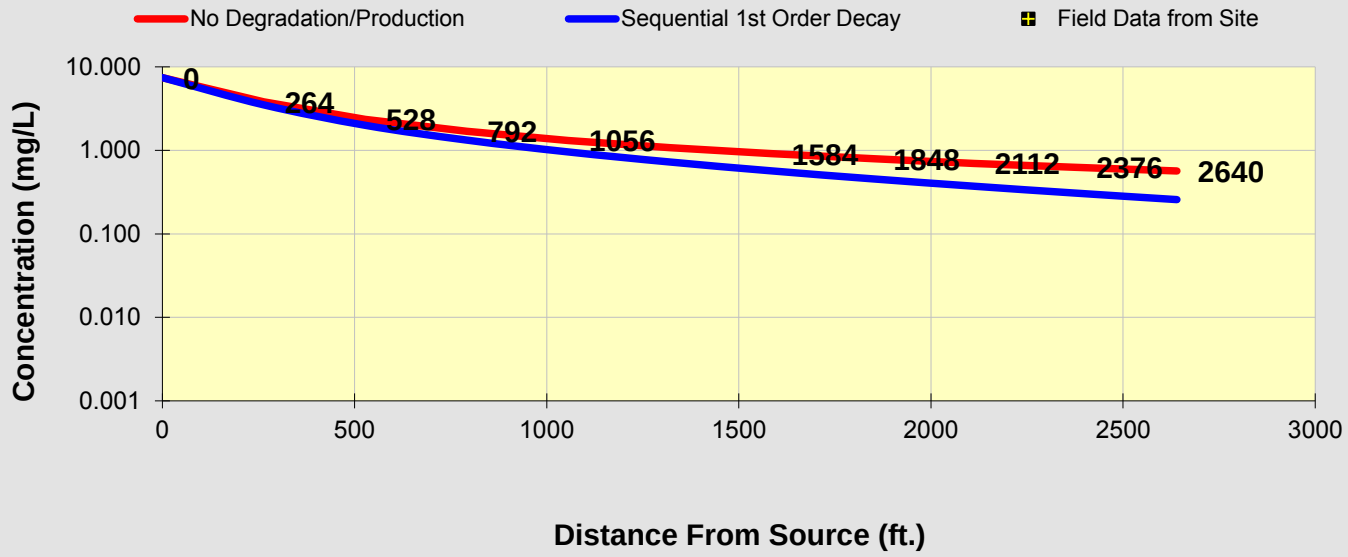
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

DCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	7.430	3.798	2.343	1.686	1.316	1.079	0.914	0.792	0.700	0.626	0.567
Biotransformation	7.4300	3.504	1.996	1.328	0.958	0.726	0.569	0.456	0.372	0.308	0.257

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

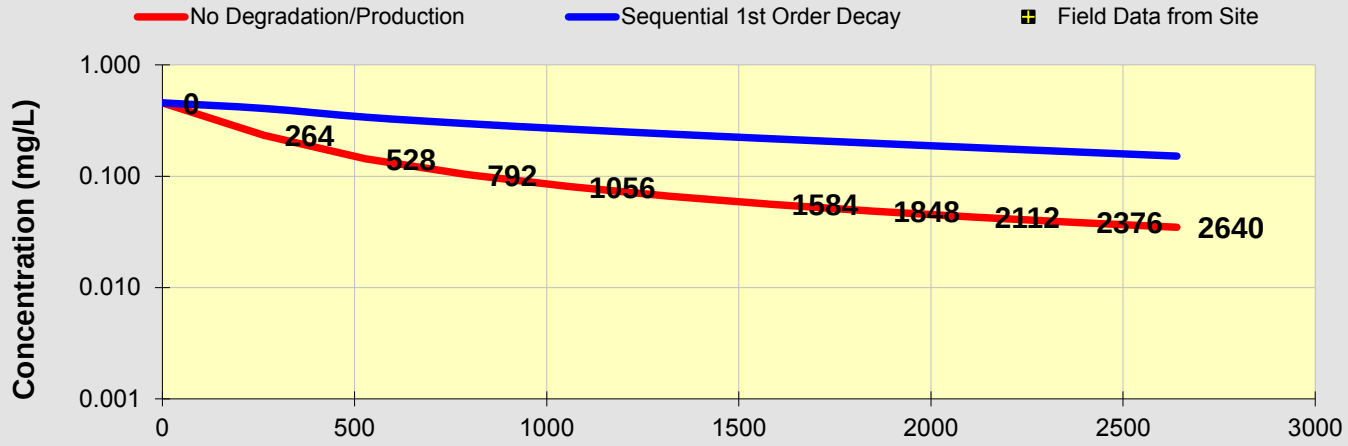
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

VC	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.456	0.233	0.144	0.103	0.081	0.066	0.056	0.049	0.043	0.038	0.035
Biotransformation	0.4560	0.406	0.339	0.297	0.265	0.239	0.217	0.198	0.181	0.165	0.151

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

BIOCHLOR Natural Attenuation Decision Support System

Version 2.2
Excel 2000

Tech Town East Phase Uppe
2015 CONT KB DA
Run Name

TYPE OF CHLORINATED SOLVENT: Ethenes ◉ Ethanes ○

1. ADVECTION

Seepage Velocity*	Vs	132.8	(ft/yr)
or			
Hydraulic Conductivity	K	3.5E-02	(cm/sec)
Hydraulic Gradient	i	1.10E-03	(ft/ft)
Effective Porosity	n	0.3	(-)

2. DISPERSION

Alpha x*	36.543	(ft)
(Alpha y) / (Alpha x)*	0.33	(-)
(Alpha z) / (Alpha x)*	5.E-02	(-)

Calc. Alpha x

3. ADSORPTION

Retardation Factor* → R

or

Soil Bulk Density, rho	1.6	(kg/L)		
FractionOrganicCarbon, foc	1.0E-3	(-)		
Partition Coefficient	Koc			
PCE	265	(L/kg)	2.41	(-)
TCE	94	(L/kg)	1.50	(-)
DCE	36	(L/kg)	1.19	(-)
VC	19	(L/kg)	1.10	(-)
ETH	302	(L/kg)	2.61	(-)

Common R (used in model)* = 1.50

4. BIOTRANSFORMATION

-1st Order Decay Coefficient*

	λ (1/yr)	half-life (yrs)	Yield
Zone 1			
PCE → TCE	0.350		0.79
TCE → DCE	0.153		0.74
DCE → VC	0.088		0.64
VC → ETH	0.087		0.45
Zone 2	λ (1/yr)	half-life (yrs)	
PCE → TCE	0.000		
TCE → DCE	0.000		
DCE → VC	0.000		
VC → ETH	0.000		

λ HELP

5. GENERAL

Simulation Time*	100	(yr)
Modeled Area Width*	450	(ft)
Modeled Area Length*	2640	(ft)
Zone 1 Length*	2640	(ft)
Zone 2 Length*	0	(ft)

Zone 2= L - Zone 1

6. SOURCE DATA

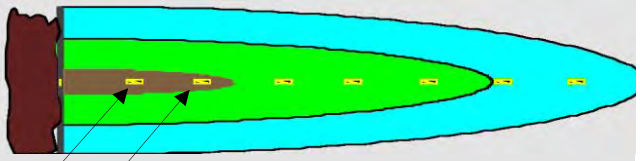
TYPE: Continuous Single Planar

Source Options

Source Thickness in Sat. Zone* 25 (ft)

	Y1	k_s*
Width* (ft)	250	
Conc. (mg/L)*	C1	(1/yr)
PCE	.516	0
TCE	.302	0
DCE	7.43	0
VC	.456	0
ETH		0

Vertical Plane Source: Determine Source Well Location and Input Solvent Concentrations



View of Plume Looking Down

Observed Centerline Conc. at Monitoring Wells

7. FIELD DATA FOR COMPARISON

PCE Conc. (mg/L)											
TCE Conc. (mg/L)											
DCE Conc. (mg/L)											
VC Conc. (mg/L)											
ETH Conc. (mg/L)											
Distance from Source (ft)	0										
Date Data Collected											

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE | RUN ARRAY | Help | Restore | RESET | SEE OUTPUT | Paste

Data Input Instructions:

115 → 1. Enter value directly....or
↑ or
0.02 → 2. Calculate by filling in gray cells. Press Enter, then C

(To restore formulas, hit "Restore Formulas" button)

Variable* → Data used directly in model.

Test if Biotransformation is Occurring → Natural Attenuation Screening Protocol

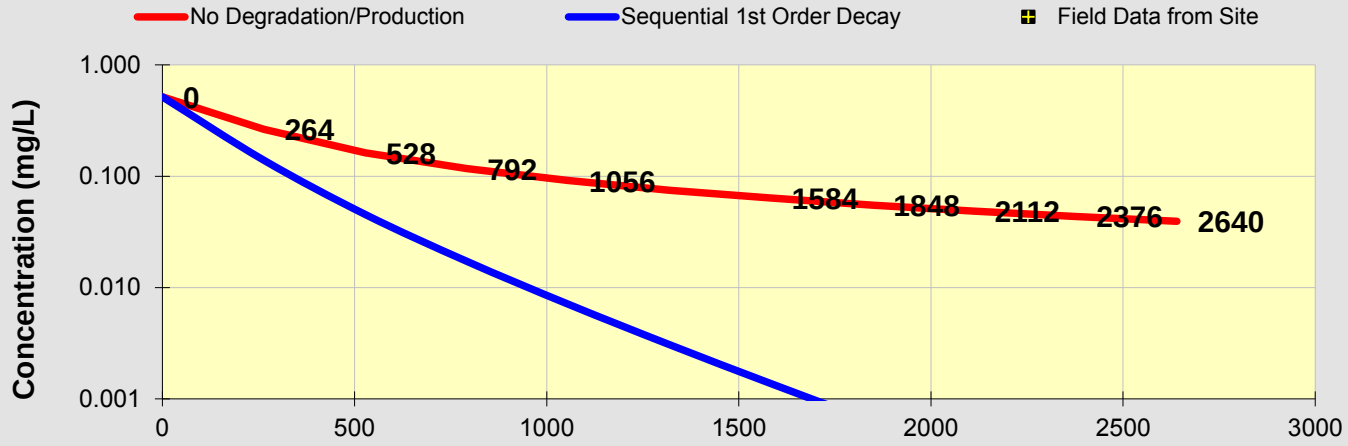
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

PCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.516	0.264	0.163	0.117	0.091	0.075	0.063	0.055	0.049	0.043	0.039
Biotransformation	0.5160	0.139	0.045	0.017	0.007	0.003	0.001	0.001	0.000	0.000	0.000

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

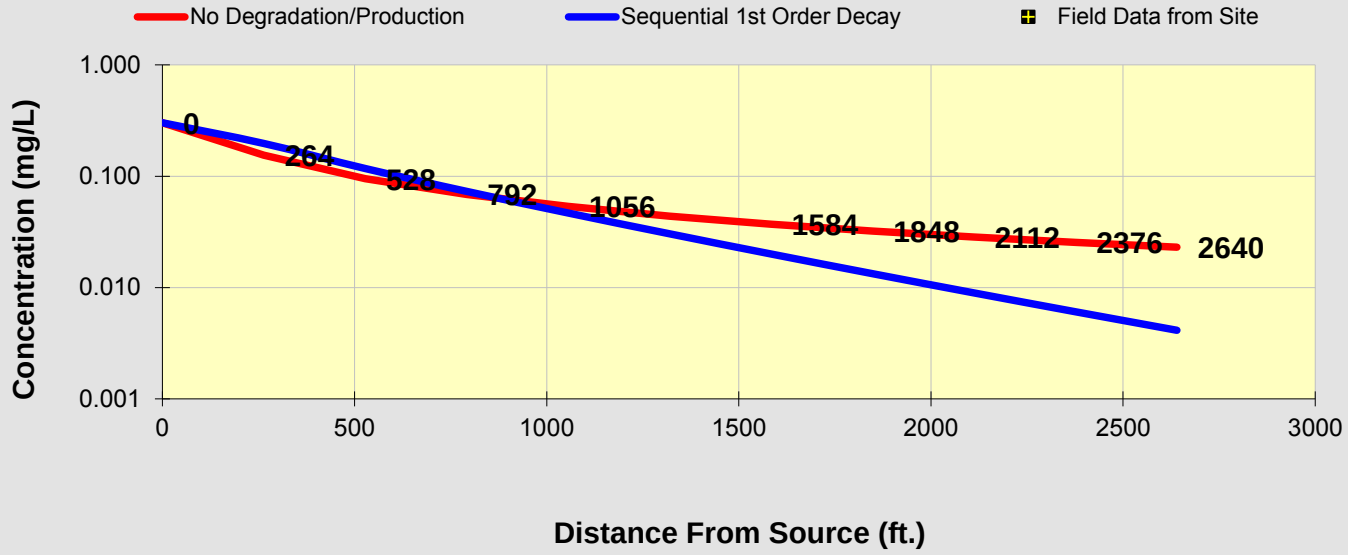
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

TCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.302	0.154	0.095	0.069	0.053	0.044	0.037	0.032	0.028	0.025	0.023
Biotransformation	0.3020	0.197	0.117	0.073	0.047	0.030	0.020	0.013	0.009	0.006	0.004

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

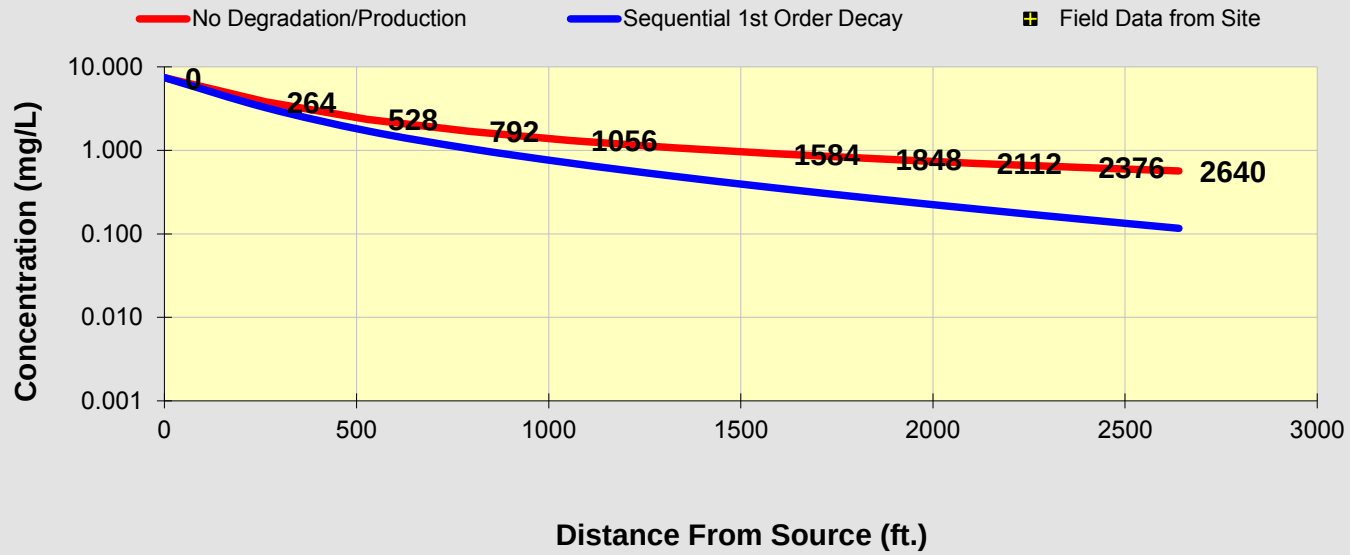
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

DCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	7.430	3.798	2.343	1.686	1.316	1.079	0.914	0.792	0.700	0.626	0.567
Biotransformation	7.4300	3.242	1.711	1.054	0.704	0.494	0.357	0.264	0.199	0.151	0.116

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

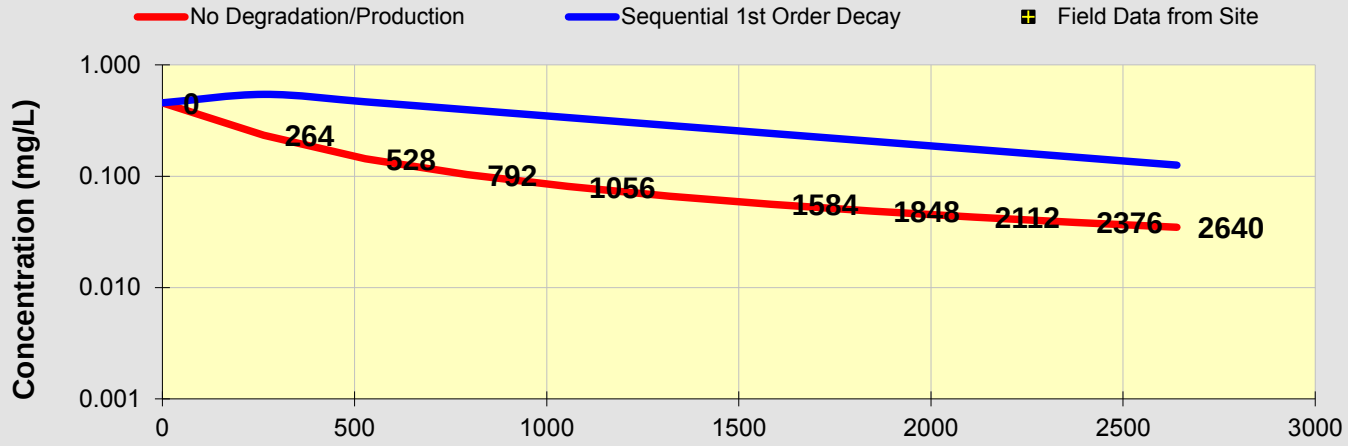
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

VC	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.456	0.233	0.144	0.103	0.081	0.066	0.056	0.049	0.043	0.038	0.035
Biotransformation	0.4560	0.543	0.466	0.396	0.336	0.285	0.242	0.206	0.175	0.148	0.126

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

BIOCHLOR Natural Attenuation Decision Support System

Version 2.2
Excel 2000

Tech Town East Phase Uppe
2015 CONT KC Da
Run Name

TYPE OF CHLORINATED SOLVENT: Ethenes ◉ Ethanes ○

1. ADVECTION

Seepage Velocity*	Vs	531.1	(ft/yr)
or			
Hydraulic Conductivity	K	1.4E-01	(cm/sec)
Hydraulic Gradient	i	1.10E-03	(ft/ft)
Effective Porosity	n	0.3	(-)

2. DISPERSION

Alpha x*	36.543	(ft)
(Alpha y) / (Alpha x)*	0.33	(-)
(Alpha z) / (Alpha x)*	5.E-02	(-)

Calc. Alpha x

3. ADSORPTION

Retardation Factor* → R

or

Soil Bulk Density, rho	1.6	(kg/L)		
FractionOrganicCarbon, foc	1.0E-3	(-)		
Partition Coefficient	Koc			
PCE	265	(L/kg)	2.41	(-)
TCE	94	(L/kg)	1.50	(-)
DCE	36	(L/kg)	1.19	(-)
VC	19	(L/kg)	1.10	(-)
ETH	302	(L/kg)	2.61	(-)
Common R (used in model)* =			**1.50**	

4. BIOTRANSFORMATION

-1st Order Decay Coefficient*

	λ (1/yr)	half-life (yrs)	Yield
Zone 1			
PCE → TCE	0.350		0.79
TCE → DCE	0.153		0.74
DCE → VC	0.088		0.64
VC → ETH	0.087		0.45
Zone 2	λ (1/yr)	half-life (yrs)	
PCE → TCE	0.000		
TCE → DCE	0.000		
DCE → VC	0.000		
VC → ETH	0.000		

λ HELP

5. GENERAL

Simulation Time*	100	(yr)
Modeled Area Width*	450	(ft)
Modeled Area Length*	2640	(ft)
Zone 1 Length*	2640	(ft)
Zone 2 Length*	0	(ft)

Zone 2= L - Zone 1

6. SOURCE DATA

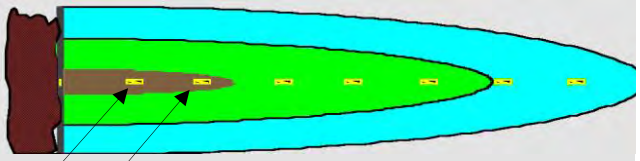
TYPE: Continuous Single Planar

Source Options

Source Thickness in Sat. Zone* 25 (ft)

	Y1	k_s*
Width* (ft)	250	
Conc. (mg/L)*	C1	(1/yr)
PCE	.516	0
TCE	.302	0
DCE	7.43	0
VC	.456	0
ETH		0

Vertical Plane Source: Determine Source Well Location and Input Solvent Concentrations



View of Plume Looking Down

Observed Centerline Conc. at Monitoring Wells

7. FIELD DATA FOR COMPARISON

PCE Conc. (mg/L)											
TCE Conc. (mg/L)											
DCE Conc. (mg/L)											
VC Conc. (mg/L)											
ETH Conc. (mg/L)											
Distance from Source (ft)	0										
Date Data Collected											

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE | **RUN ARRAY** | ***Help*** | Restore | RESET | ***SEE OUTPUT*** | Paste

Data Input Instructions:

115 → 1. Enter value directly....or
↑ *or*
0.02 → 2. Calculate by filling in gray cells. Press Enter, then C

(To restore formulas, hit "Restore Formulas" button)

Variable* → Data used directly in model.

Test if Biotransformation is Occurring → Natural Attenuation Screening Protocol

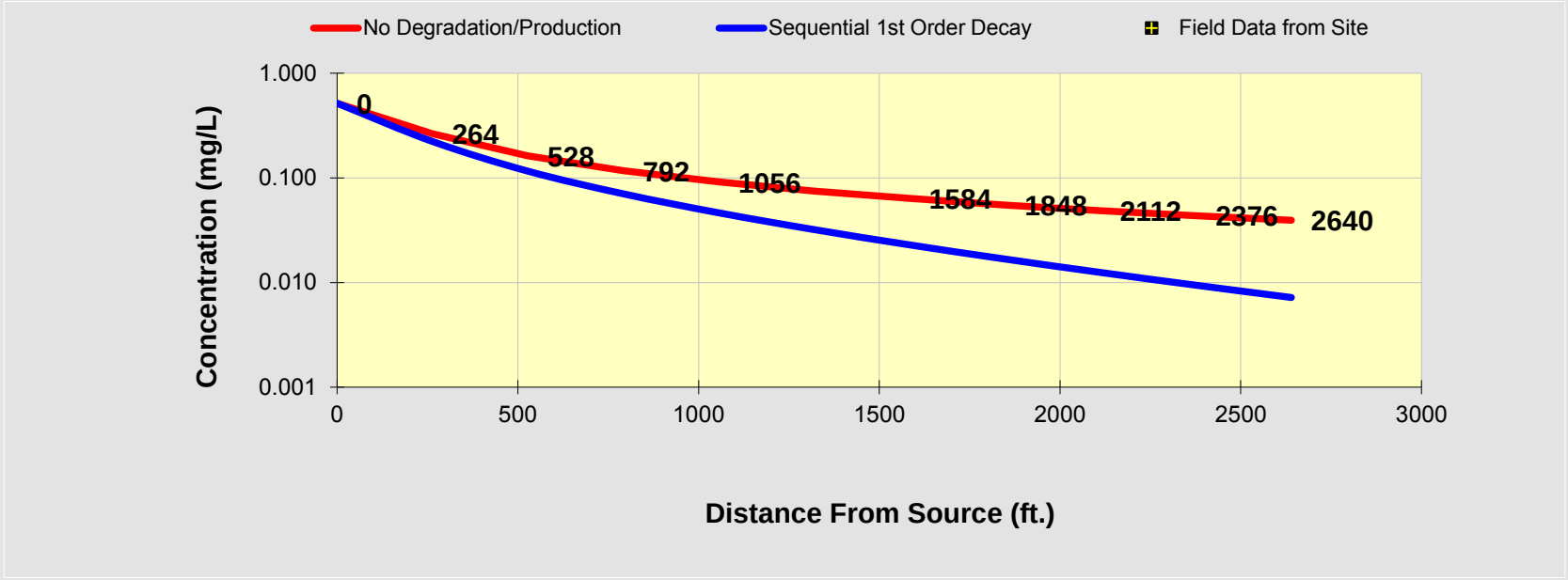
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

PCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.516	0.264	0.163	0.117	0.091	0.075	0.063	0.055	0.049	0.043	0.039
Biotransformation	0.5160	0.223	0.116	0.070	0.046	0.032	0.023	0.017	0.012	0.009	0.007

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

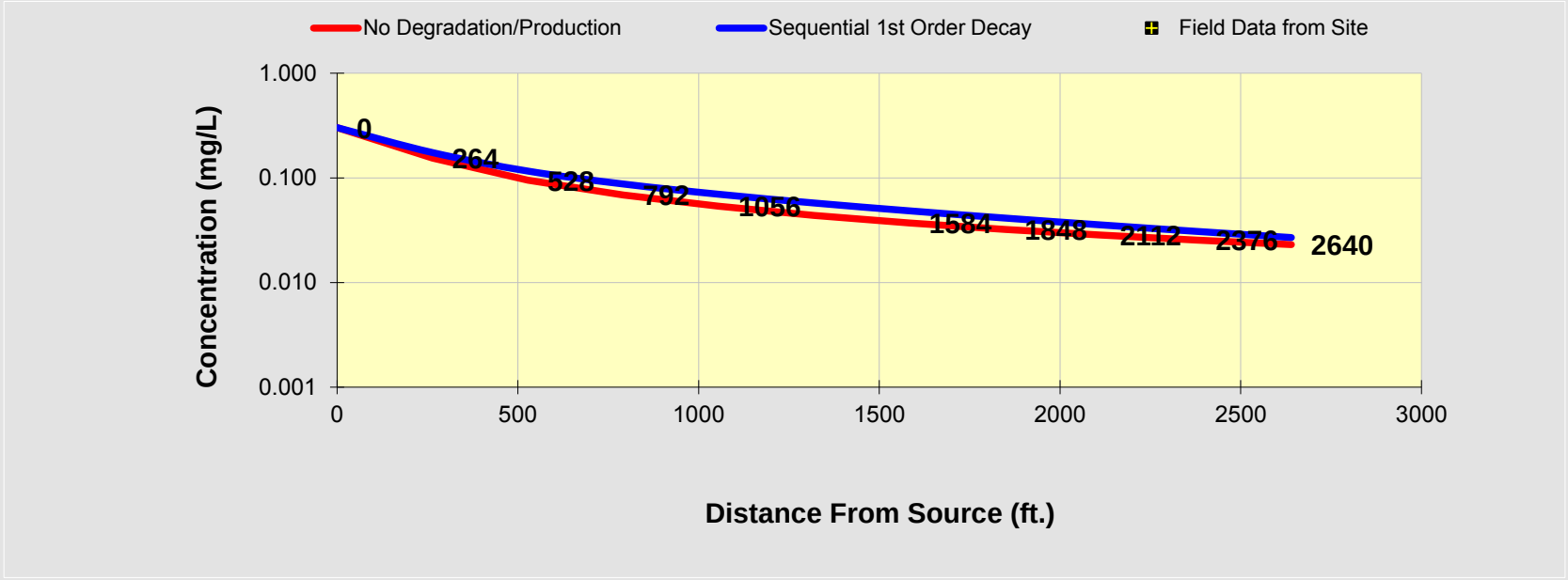
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

TCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.302	0.154	0.095	0.069	0.053	0.044	0.037	0.032	0.028	0.025	0.023
Biotransformation	0.3020	0.174	0.116	0.087	0.070	0.057	0.048	0.041	0.036	0.031	0.027

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

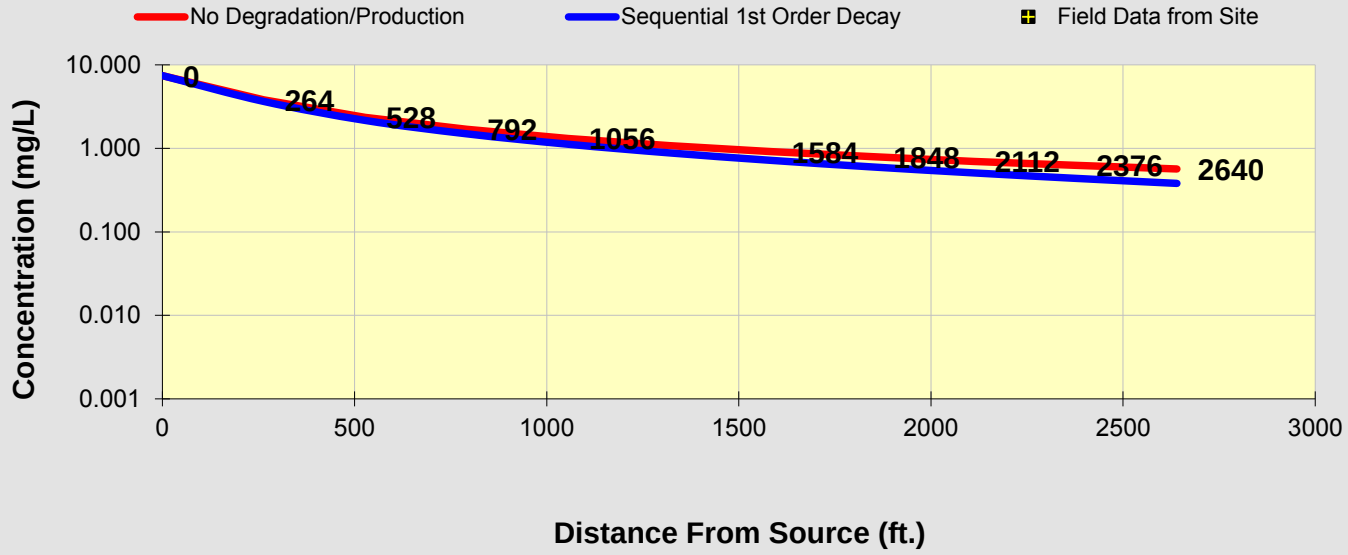
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

DCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	7.430	3.798	2.343	1.686	1.316	1.079	0.914	0.792	0.700	0.626	0.567
Biotransformation	7.4300	3.647	2.160	1.494	1.120	0.882	0.718	0.599	0.508	0.437	0.381

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

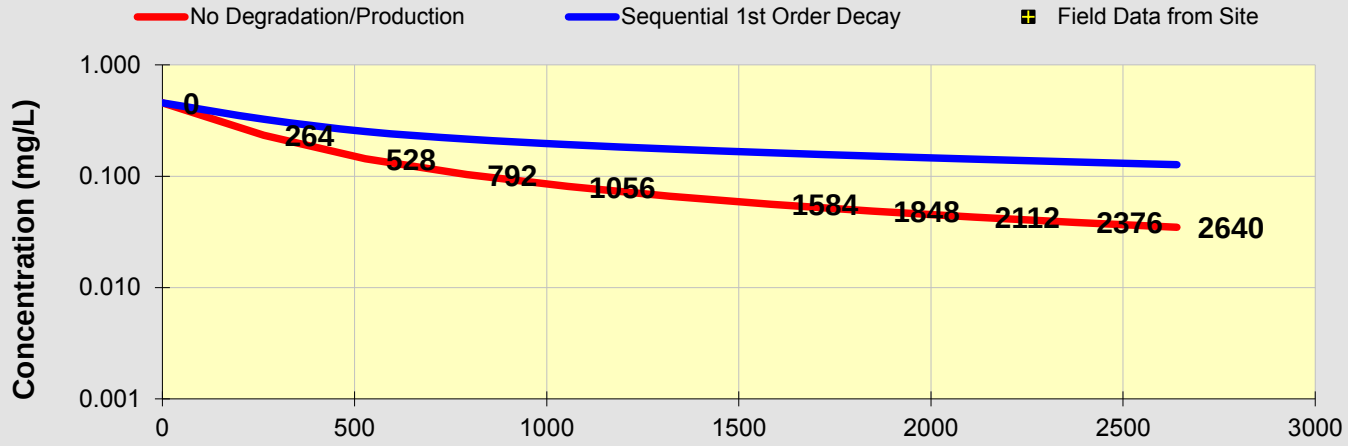
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

VC	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.456	0.233	0.144	0.103	0.081	0.066	0.056	0.049	0.043	0.038	0.035
Biotransformation	0.4560	0.325	0.252	0.215	0.192	0.175	0.162	0.152	0.142	0.134	0.127

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

BIOCHLOR Natural Attenuation Decision Support System

Version 2.2
Excel 2000

Tech Town East Phase Uppe
2015 CONT KA DB
Run Name

Data Input Instructions:
115 → 1. Enter value directly....or
↑ or
0.02 → 2. Calculate by filling in gray cells. Press Enter, then C
(To restore formulas, hit "Restore Formulas" button)
Variable* → Data used directly in model.

Test if Biotransformation is Occurring → Natural Attenuation Screening Protocol

TYPE OF CHLORINATED SOLVENT: Ethenes ◉ Ethanes ○

1. ADVECTION

Seepage Velocity*	Vs	265.6	(ft/yr)
or			
Hydraulic Conductivity	K	7.0E-02	(cm/sec)
Hydraulic Gradient	i	1.10E-03	(ft/ft)
Effective Porosity	n	0.3	(-)

2. DISPERSION

Alpha x*	36.543	(ft)
(Alpha y) / (Alpha x)*	0.33	(-)
(Alpha z) / (Alpha x)*	5.E-02	(-)

Calc. Alpha x

3. ADSORPTION

Retardation Factor* → R
or

Soil Bulk Density, rho		1.6	(kg/L)	
FractionOrganicCarbon, foc		1.0E-3	(-)	
Partition Coefficient	Koc			
PCE	265	(L/kg)	2.41	(-)
TCE	94	(L/kg)	1.50	(-)
DCE	36	(L/kg)	1.19	(-)
VC	19	(L/kg)	1.10	(-)
ETH	302	(L/kg)	2.61	(-)

Common R (used in model)* = 1.50

4. BIOTRANSFORMATION

-1st Order Decay Coefficient*

	λ (1/yr)	half-life (yrs)	Yield
Zone 1			
PCE → TCE	0.799		0.79
TCE → DCE	0.299		0.74
DCE → VC	0.099		0.64
VC → ETH	0.399		0.45
Zone 2	λ (1/yr)	half-life (yrs)	
PCE → TCE	0.000		
TCE → DCE	0.000		
DCE → VC	0.000		
VC → ETH	0.000		

λ HELP

5. GENERAL

Simulation Time*	100	(yr)
Modeled Area Width*	450	(ft)
Modeled Area Length*	2640	(ft)
Zone 1 Length*	2640	(ft)
Zone 2 Length*	0	(ft)

L, W

Zone 2= L - Zone 1

6. SOURCE DATA

TYPE: Continuous Single Planar

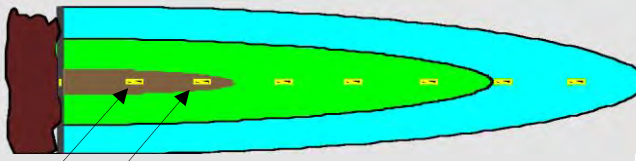
Source Options

Source Thickness in Sat. Zone* 25 (ft)

Width* (ft) Y1: 250

Conc. (mg/L)*	C1	k_s* (1/yr)
PCE	.516	0
TCE	.302	0
DCE	7.43	0
VC	.456	0
ETH		0

Vertical Plane Source: Determine Source Well Location and Input Solvent Concentrations



View of Plume Looking Down

Observed Centerline Conc. at Monitoring Wells

7. FIELD DATA FOR COMPARISON

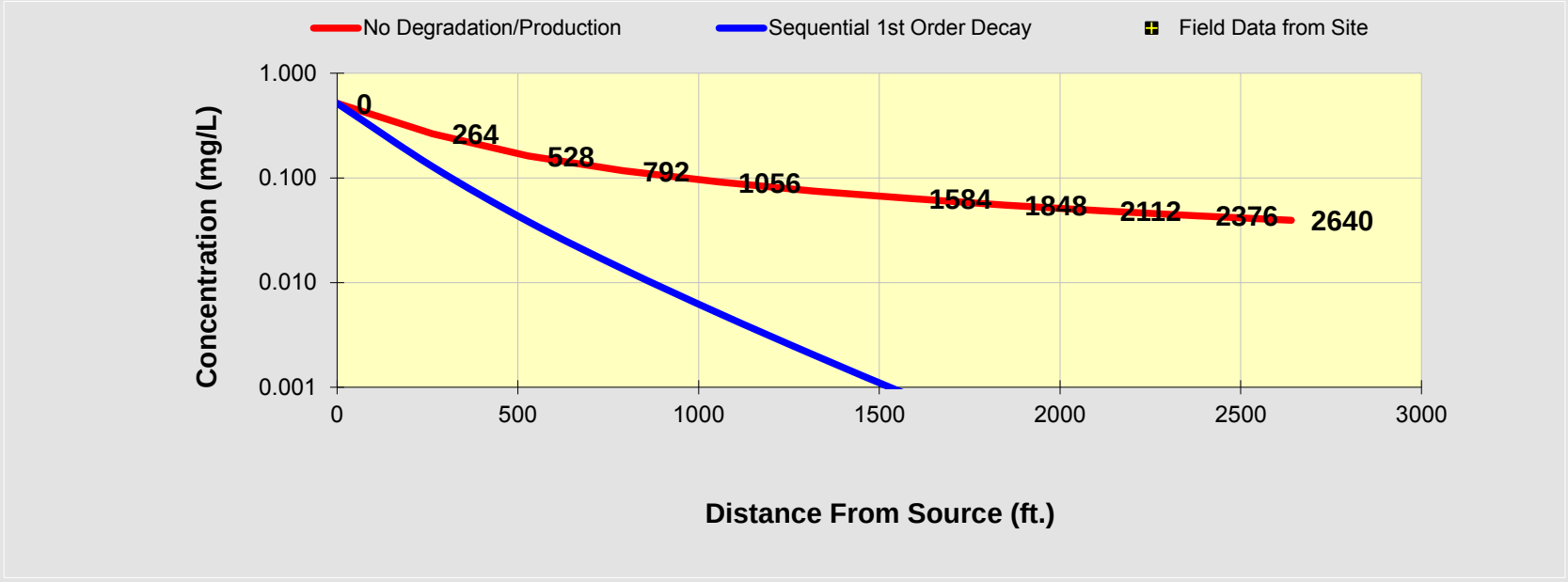
PCE Conc. (mg/L)											
TCE Conc. (mg/L)											
DCE Conc. (mg/L)											
VC Conc. (mg/L)											
ETH Conc. (mg/L)											
Distance from Source (ft)	0										
Date Data Collected											

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE | RUN ARRAY | Help | Restore | RESET | SEE OUTPUT | Paste

DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

PCE	Distance from Source (ft)										
	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.516	0.264	0.163	0.117	0.091	0.075	0.063	0.055	0.049	0.043	0.039
Biotransformation	0.5160	0.128	0.038	0.013	0.005	0.002	0.001	0.000	0.000	0.000	0.000
	Monitoring Well Locations (ft)										
	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

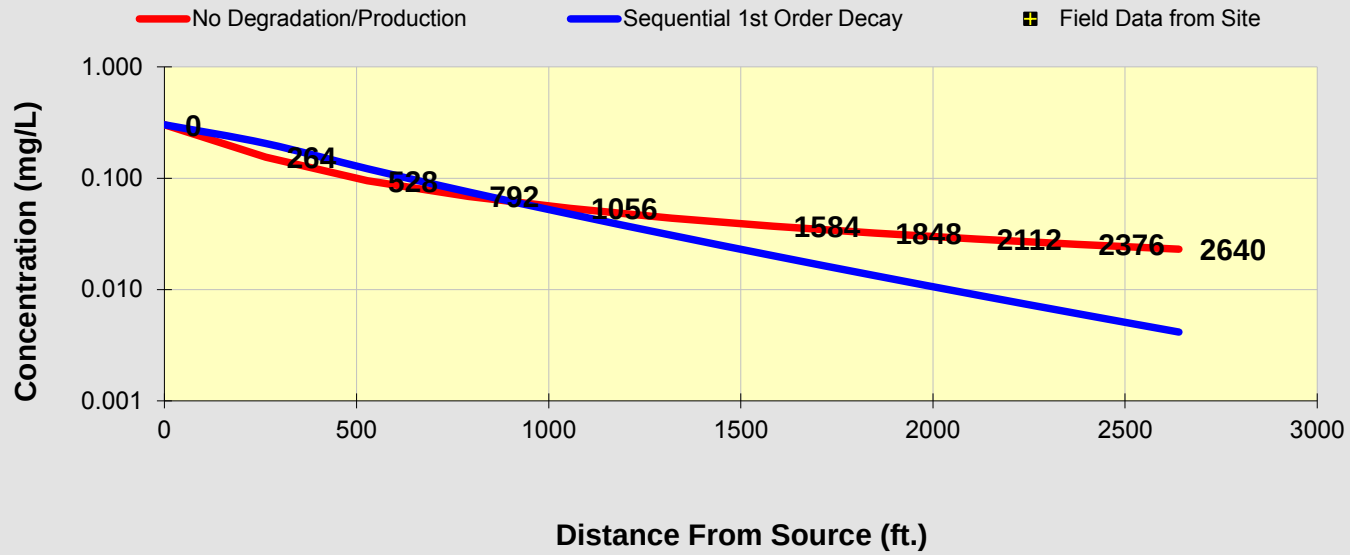
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

TCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.302	0.154	0.095	0.069	0.053	0.044	0.037	0.032	0.028	0.025	0.023
Biotransformation	0.3020	0.205	0.122	0.075	0.048	0.031	0.020	0.013	0.009	0.006	0.004

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

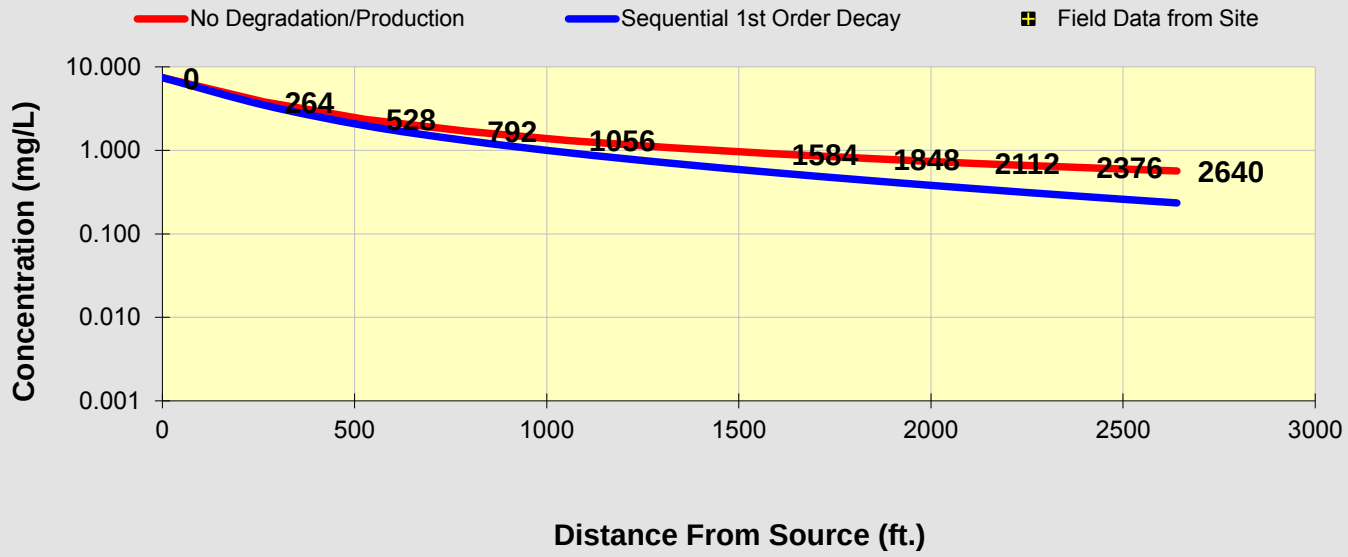
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

DCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	7.430	3.798	2.343	1.686	1.316	1.079	0.914	0.792	0.700	0.626	0.567
Biotransformation	7.4300	3.487	1.977	1.308	0.937	0.704	0.546	0.432	0.348	0.284	0.235

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

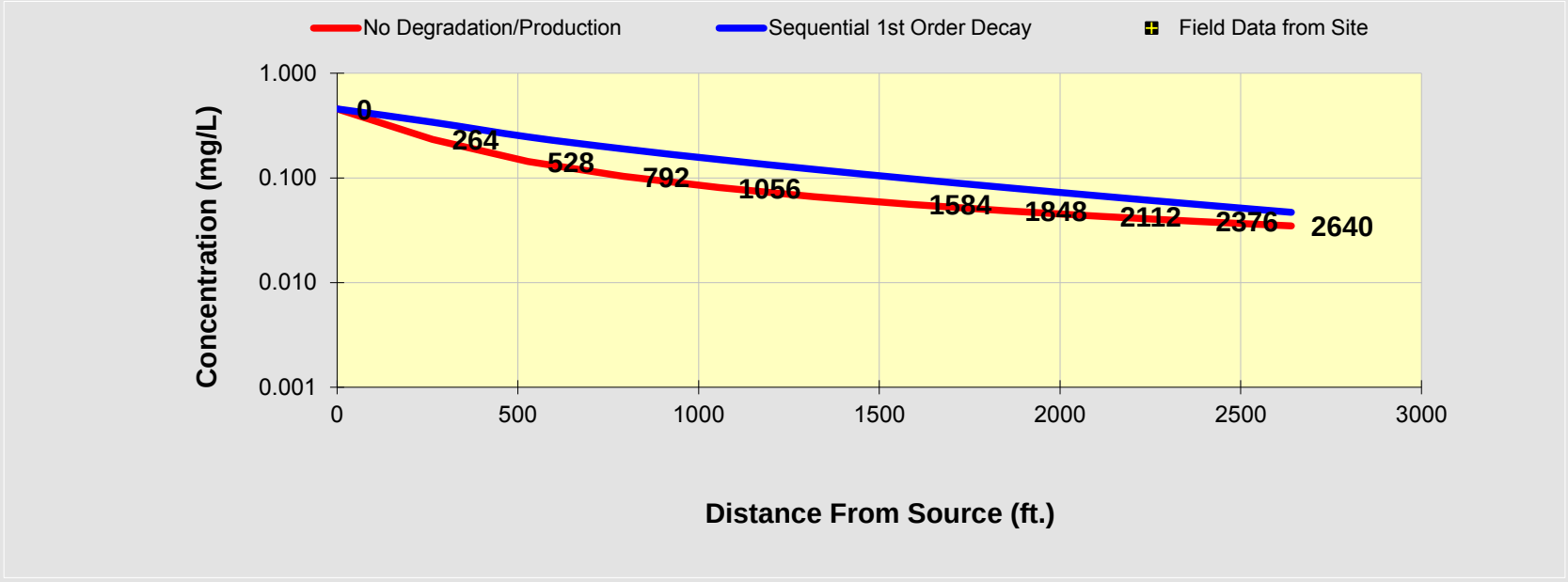
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

VC	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.456	0.233	0.144	0.103	0.081	0.066	0.056	0.049	0.043	0.038	0.035
Biotransformation	0.4560	0.340	0.246	0.189	0.150	0.121	0.098	0.081	0.067	0.056	0.047

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

BIOCHLOR Natural Attenuation Decision Support System

Version 2.2
Excel 2000

Tech Town East Phase Uppe
2015 CONT KB DB
Run Name

Data Input Instructions:
115 → 1. Enter value directly....or
↑ or
0.02 → 2. Calculate by filling in gray cells. Press Enter, then C
(To restore formulas, hit "Restore Formulas" button)
Variable* → Data used directly in model.

Test if Biotransformation is Occurring → Natural Attenuation Screening Protocol

TYPE OF CHLORINATED SOLVENT: Ethenes ◉ Ethanes ○

1. ADVECTION

Seepage Velocity*	Vs	132.8	(ft/yr)
or			
Hydraulic Conductivity	K	3.5E-02	(cm/sec)
Hydraulic Gradient	i	1.10E-03	(ft/ft)
Effective Porosity	n	0.3	(-)

2. DISPERSION

Alpha x*	36.543	(ft)
(Alpha y) / (Alpha x)*	0.33	(-)
(Alpha z) / (Alpha x)*	5.E-02	(-)

Calc. Alpha x

3. ADSORPTION

Retardation Factor* → R
or

Soil Bulk Density, rho		1.6	(kg/L)	
FractionOrganicCarbon, foc		1.0E-3	(-)	
Partition Coefficient	Koc			
PCE	265	(L/kg)	2.41	(-)
TCE	94	(L/kg)	1.50	(-)
DCE	36	(L/kg)	1.19	(-)
VC	19	(L/kg)	1.10	(-)
ETH	302	(L/kg)	2.61	(-)

Common R (used in model)* = 1.50

4. BIOTRANSFORMATION

-1st Order Decay Coefficient*

	λ (1/yr)	half-life (yrs)	Yield
Zone 1			
PCE → TCE	0.799		0.79
TCE → DCE	0.299		0.74
DCE → VC	0.099		0.64
VC → ETH	0.399		0.45
Zone 2	λ (1/yr)	half-life (yrs)	
PCE → TCE	0.000		
TCE → DCE	0.000		
DCE → VC	0.000		
VC → ETH	0.000		

λ HELP

5. GENERAL

Simulation Time*	100	(yr)
Modeled Area Width*	450	(ft)
Modeled Area Length*	2640	(ft)
Zone 1 Length*	2640	(ft)
Zone 2 Length*	0	(ft)

L, W

Zone 2= L - Zone 1

6. SOURCE DATA

TYPE: Continuous Single Planar

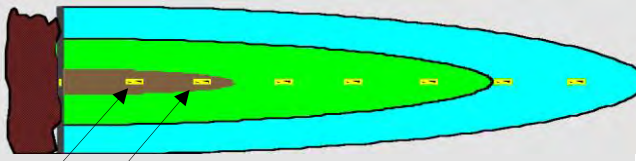
Source Options

Source Thickness in Sat. Zone* 25 (ft)

Width* (ft) Y1: 250

Conc. (mg/L)*	C1	k_s* (1/yr)
PCE	.516	0
TCE	.302	0
DCE	7.43	0
VC	.456	0
ETH		0

Vertical Plane Source: Determine Source Well Location and Input Solvent Concentrations



View of Plume Looking Down

Observed Centerline Conc. at Monitoring Wells

7. FIELD DATA FOR COMPARISON

PCE Conc. (mg/L)												
TCE Conc. (mg/L)												
DCE Conc. (mg/L)												
VC Conc. (mg/L)												
ETH Conc. (mg/L)												
Distance from Source (ft)	0											
Date Data Collected												

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE | RUN ARRAY | Help | Restore | RESET | SEE OUTPUT | Paste

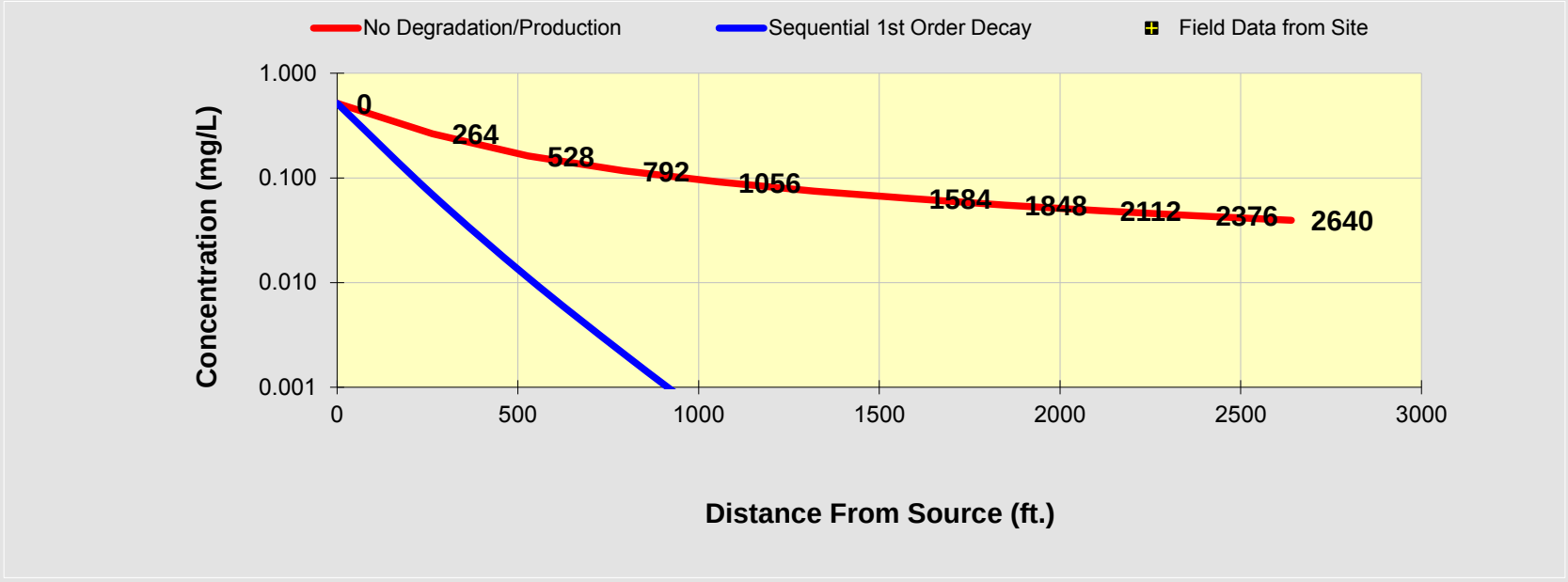
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

PCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.516	0.264	0.163	0.117	0.091	0.075	0.063	0.055	0.049	0.043	0.039
Biotransformation	0.5160	0.069	0.011	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

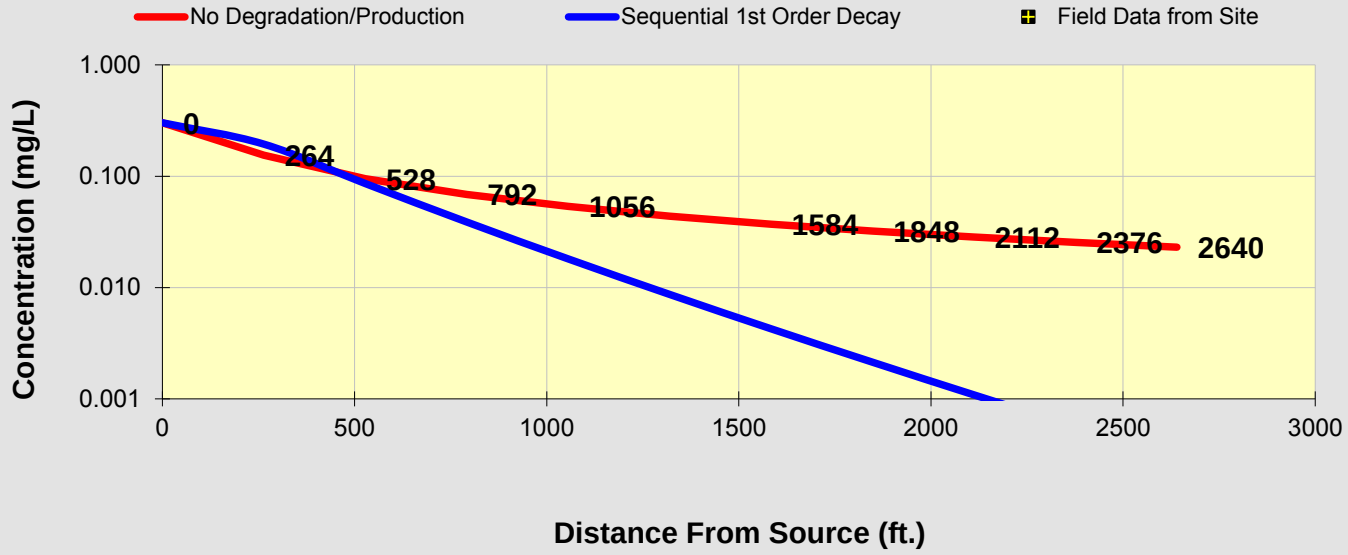
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

TCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.302	0.154	0.095	0.069	0.053	0.044	0.037	0.032	0.028	0.025	0.023
Biotransformation	0.3020	0.194	0.086	0.039	0.018	0.009	0.004	0.002	0.001	0.001	0.000

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

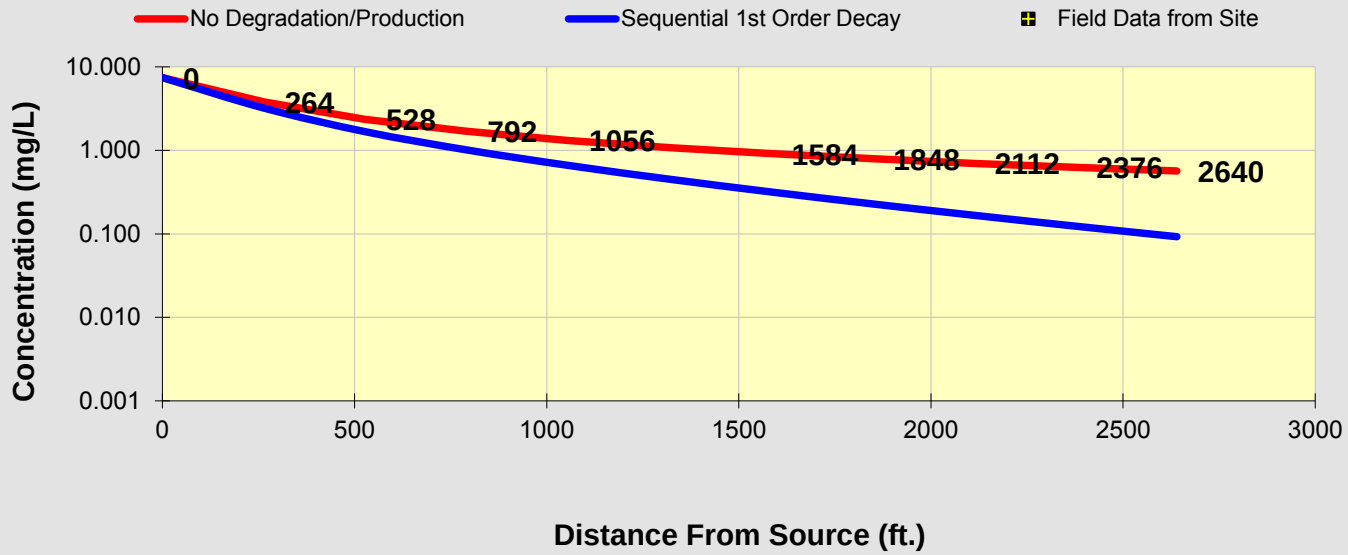
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

DCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	7.430	3.798	2.343	1.686	1.316	1.079	0.914	0.792	0.700	0.626	0.567
Biotransformation	7.4300	3.211	1.673	1.012	0.661	0.451	0.318	0.228	0.167	0.124	0.092

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

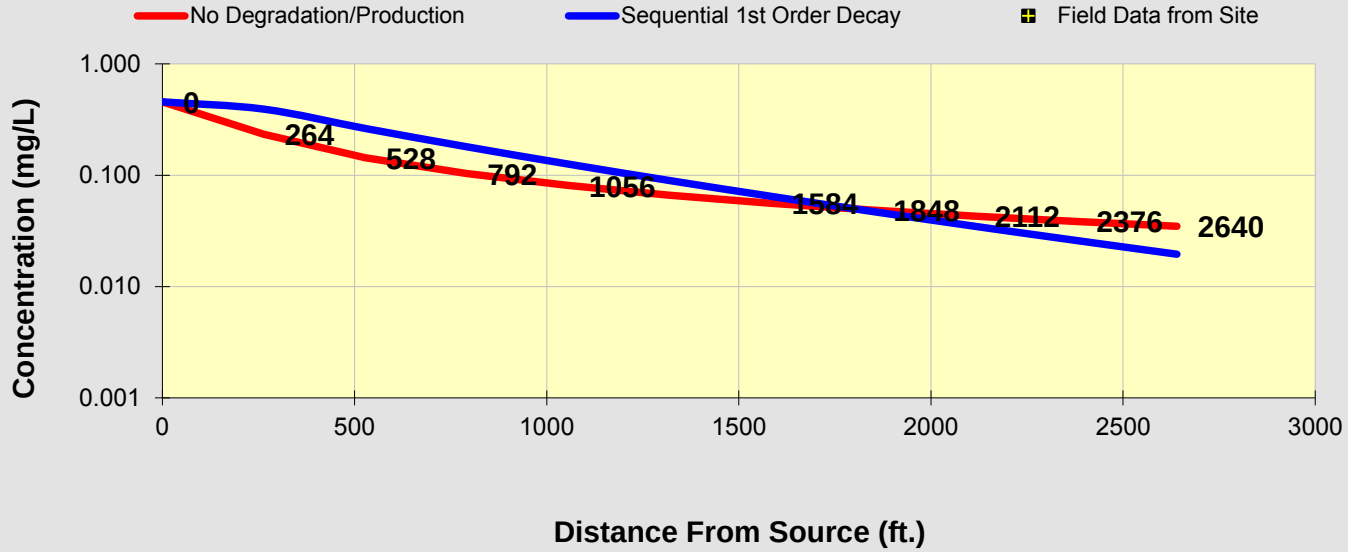
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

VC	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.456	0.233	0.144	0.103	0.081	0.066	0.056	0.049	0.043	0.038	0.035
Biotransformation	0.4560	0.392	0.263	0.180	0.126	0.090	0.065	0.047	0.035	0.026	0.020

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

BIOCHLOR Natural Attenuation Decision Support System

Version 2.2
Excel 2000

Tech Town East Phase Uppe
2015 CONT KC DB
Run Name

Data Input Instructions:
115 → 1. Enter value directly....or
↑ or
0.02 → 2. Calculate by filling in gray cells. Press Enter, then C
(To restore formulas, hit "Restore Formulas" button)
Variable* → Data used directly in model.

Test if Biotransformation is Occurring → Natural Attenuation Screening Protocol

TYPE OF CHLORINATED SOLVENT: Ethenes ◉ Ethanes ○

1. ADVECTION

Seepage Velocity*	Vs	531.1	(ft/yr)
or			
Hydraulic Conductivity	K	1.4E-01	(cm/sec)
Hydraulic Gradient	i	1.10E-03	(ft/ft)
Effective Porosity	n	0.3	(-)

2. DISPERSION

Alpha x*	36.543	(ft)
(Alpha y) / (Alpha x)*	0.33	(-)
(Alpha z) / (Alpha x)*	5.E-02	(-)

Calc. Alpha x

3. ADSORPTION

Retardation Factor* → R
or

Soil Bulk Density, rho		1.6	(kg/L)	
FractionOrganicCarbon, foc		1.0E-3	(-)	
Partition Coefficient	Koc			
PCE	265	(L/kg)	2.41	(-)
TCE	94	(L/kg)	1.50	(-)
DCE	36	(L/kg)	1.19	(-)
VC	19	(L/kg)	1.10	(-)
ETH	302	(L/kg)	2.61	(-)

Common R (used in model)* = 1.50

4. BIOTRANSFORMATION -1st Order Decay Coefficient*

	λ (1/yr)	half-life (yrs)	Yield
Zone 1			
PCE → TCE	0.799		0.79
TCE → DCE	0.299		0.74
DCE → VC	0.099		0.64
VC → ETH	0.399		0.45
Zone 2	λ (1/yr)	half-life (yrs)	
PCE → TCE	0.000		
TCE → DCE	0.000		
DCE → VC	0.000		
VC → ETH	0.000		

λ HELP

5. GENERAL

Simulation Time*	100	(yr)
Modeled Area Width*	450	(ft)
Modeled Area Length*	2640	(ft)
Zone 1 Length*	2640	(ft)
Zone 2 Length*	0	(ft)

L, W

Zone 2= L - Zone 1

6. SOURCE DATA TYPE: Continuous Single Planar

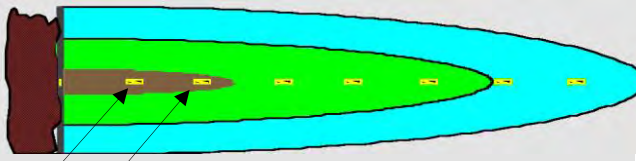
Source Options

Source Thickness in Sat. Zone* 25 (ft)

Width* (ft) Y1: 250

Conc. (mg/L)*	C1	k_s* (1/yr)
PCE	.516	0
TCE	.302	0
DCE	7.43	0
VC	.456	0
ETH		0

Vertical Plane Source: Determine Source Well Location and Input Solvent Concentrations



View of Plume Looking Down

Observed Centerline Conc. at Monitoring Wells

7. FIELD DATA FOR COMPARISON

PCE Conc. (mg/L)												
TCE Conc. (mg/L)												
DCE Conc. (mg/L)												
VC Conc. (mg/L)												
ETH Conc. (mg/L)												
Distance from Source (ft)	0											
Date Data Collected												

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE | RUN ARRAY | Help | Restore | RESET | SEE OUTPUT | Paste

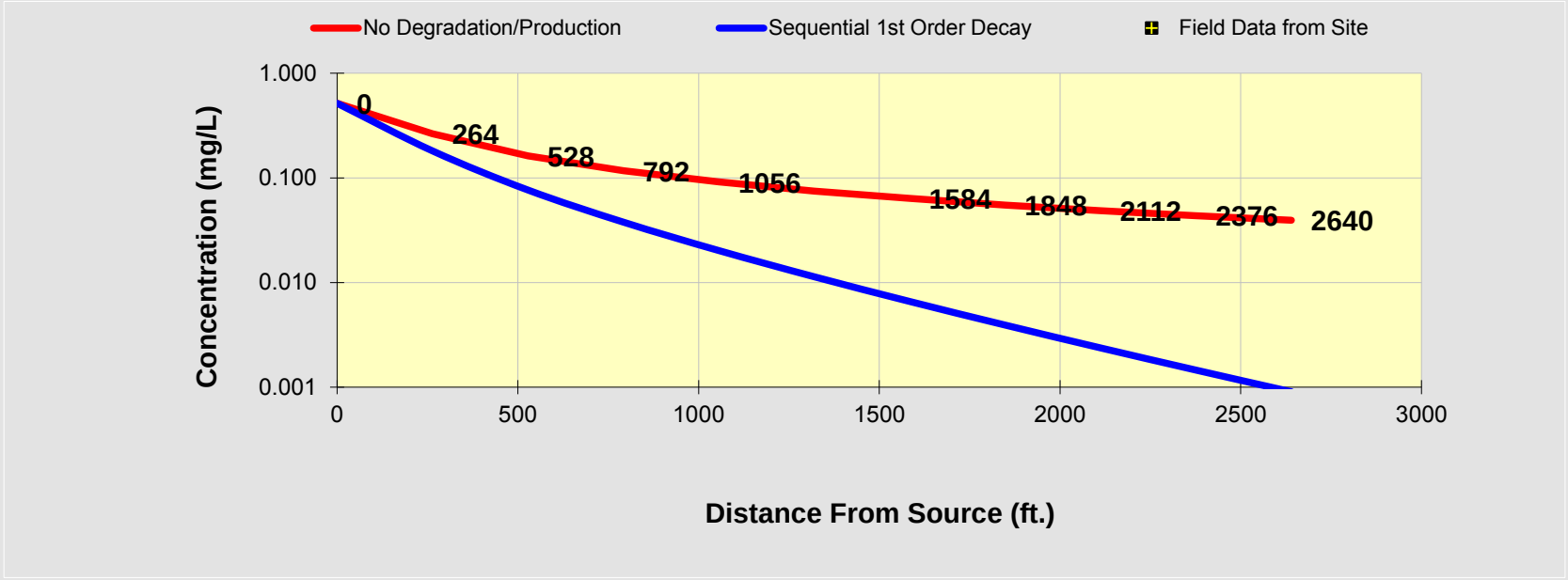
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

PCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.516	0.264	0.163	0.117	0.091	0.075	0.063	0.055	0.049	0.043	0.039
Biotransformation	0.5160	0.181	0.076	0.038	0.020	0.011	0.007	0.004	0.002	0.001	0.001

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

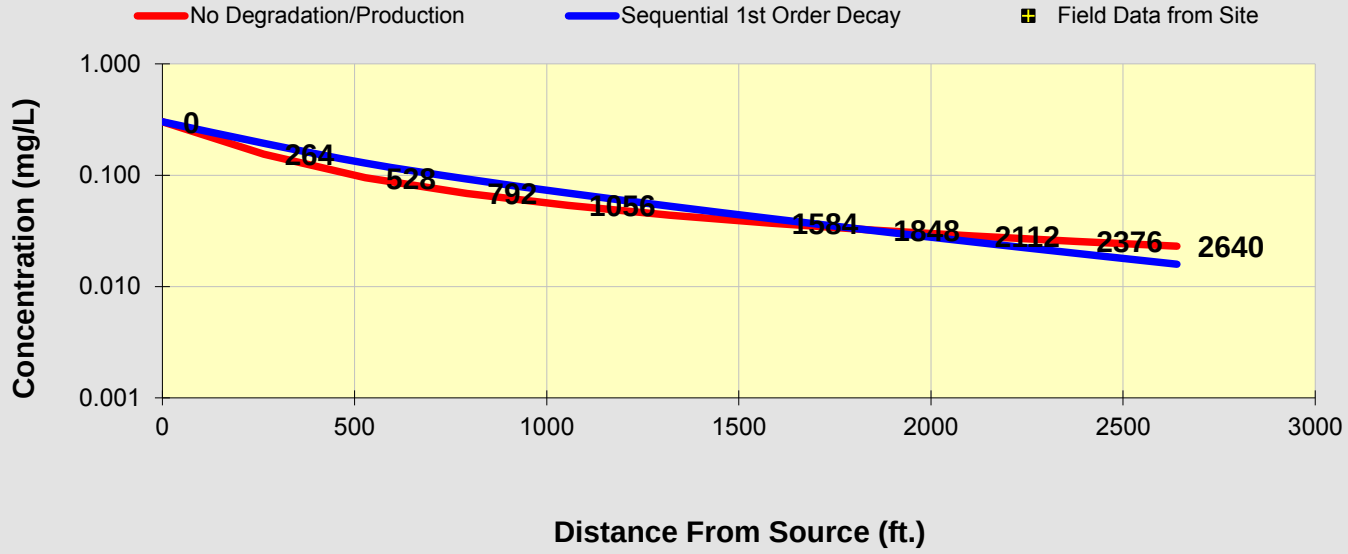
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

TCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.302	0.154	0.095	0.069	0.053	0.044	0.037	0.032	0.028	0.025	0.023
Biotransformation	0.3020	0.193	0.128	0.092	0.069	0.053	0.041	0.032	0.025	0.020	0.016

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

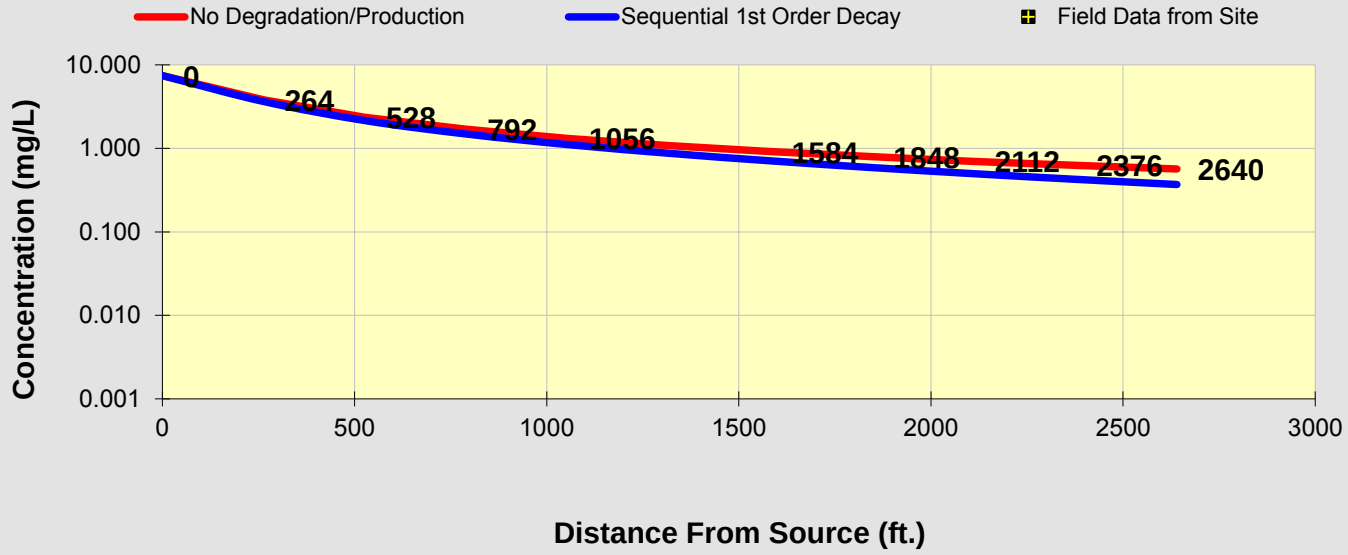
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

DCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	7.430	3.798	2.343	1.686	1.316	1.079	0.914	0.792	0.700	0.626	0.567
Biotransformation	7.4300	3.636	2.149	1.483	1.110	0.872	0.708	0.588	0.497	0.426	0.369

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

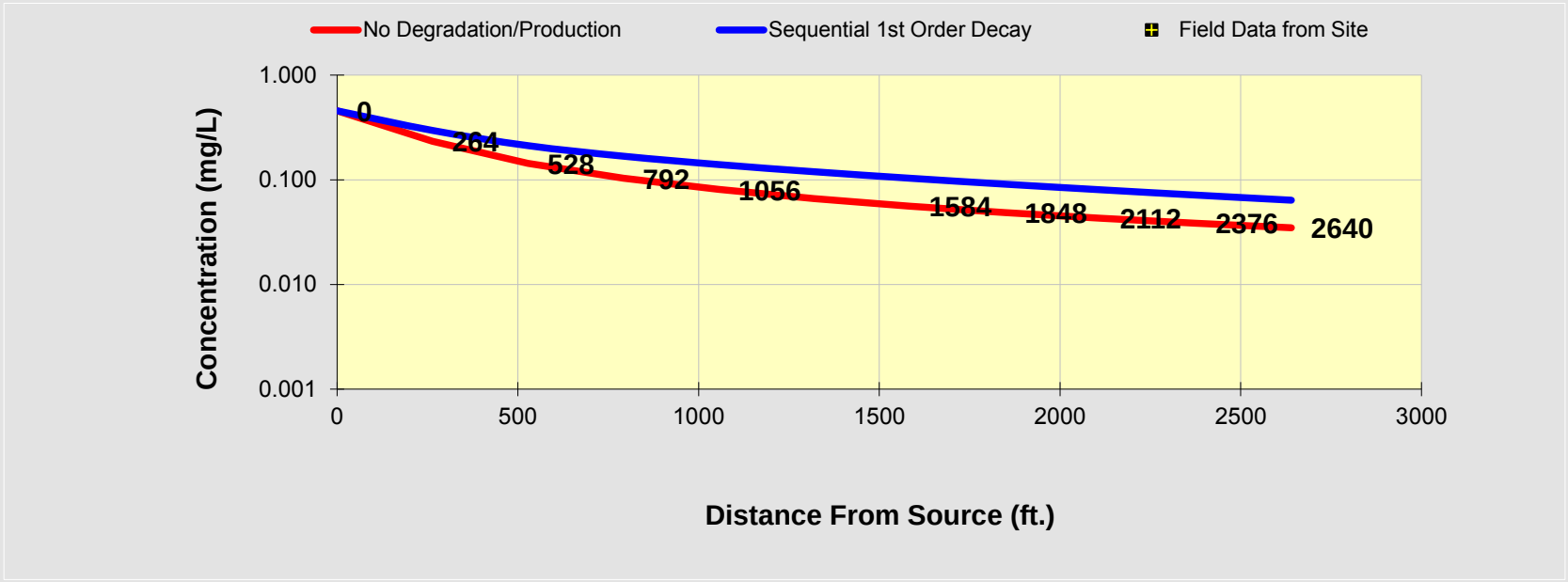
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

VC	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.456	0.233	0.144	0.103	0.081	0.066	0.056	0.049	0.043	0.038	0.035
Biotransformation	0.4560	0.296	0.212	0.168	0.140	0.119	0.103	0.091	0.080	0.071	0.064

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

BIOCHLOR Natural Attenuation Decision Support System

Version 2.2
Excel 2000

Tech Town East Phase Uppe
2015 decay KA DA
Run Name

Data Input Instructions:
115 → 1. Enter value directly....or
↑ or
0.02 → 2. Calculate by filling in gray cells. Press Enter, then C
(To restore formulas, hit "Restore Formulas" button)
Variable* → Data used directly in model.

Test if Biotransformation is Occurring → Natural Attenuation Screening Protocol

TYPE OF CHLORINATED SOLVENT: Ethenes ◉ Ethanes ○

1. ADVECTION

Seepage Velocity*	Vs	265.6	(ft/yr)
or		↑	
Hydraulic Conductivity	K	7.0E-02	(cm/sec)
Hydraulic Gradient	i	1.10E-03	(ft/ft)
Effective Porosity	n	0.3	(-)

2. DISPERSION

Alpha x*	36.543	(ft)
(Alpha y) / (Alpha x)*	0.33	(-)
(Alpha z) / (Alpha x)*	5.E-02	(-)

Calc. Alpha x

3. ADSORPTION

Retardation Factor* → R
or

Soil Bulk Density, rho	1.6	(kg/L)		
FractionOrganicCarbon, foc	1.0E-3	(-)		
Partition Coefficient	Koc			
PCE	265	(L/kg)	2.41	(-)
TCE	94	(L/kg)	1.50	(-)
DCE	36	(L/kg)	1.19	(-)
VC	19	(L/kg)	1.10	(-)
ETH	302	(L/kg)	2.61	(-)
Common R (used in model)* =			**1.50**	

4. BIOTRANSFORMATION -1st Order Decay Coefficient*

Zone 1	λ (1/yr)	half-life (yrs)	Yield
PCE → TCE	0.350		0.79
TCE → DCE	0.153		0.74
DCE → VC	0.088		0.64
VC → ETH	0.087		0.45

Zone 2	λ (1/yr)	half-life (yrs)
PCE → TCE	0.000	
TCE → DCE	0.000	
DCE → VC	0.000	
VC → ETH	0.000	

λ HELP

5. GENERAL

Simulation Time*	100	(yr)
Modeled Area Width*	450	(ft)
Modeled Area Length*	2640	(ft)
Zone 1 Length*	2640	(ft)
Zone 2 Length*	0	(ft)

L, W

Zone 2= L - Zone 1

6. SOURCE DATA TYPE: Decaying Single Planar

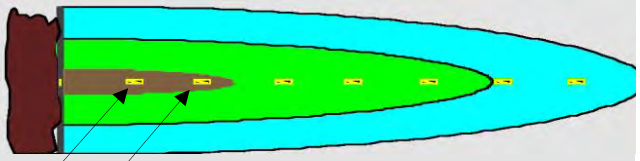
Source Options

Source Thickness in Sat. Zone* 25 (ft)

Width* (ft) Y1: 250

Conc. (mg/L)*	C1	k_s* (1/yr)
PCE	.516	0.049
TCE	.302	0.049
DCE	7.43	0.049
VC	.456	0.049
ETH		0.049

Vertical Plane Source: Determine Source Well Location and Input Solvent Concentrations



View of Plume Looking Down

Observed Centerline Conc. at Monitoring Wells

7. FIELD DATA FOR COMPARISON

PCE Conc. (mg/L)											
TCE Conc. (mg/L)											
DCE Conc. (mg/L)											
VC Conc. (mg/L)											
ETH Conc. (mg/L)											
Distance from Source (ft)	0										
Date Data Collected											

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE | RUN ARRAY | Help | Restore | RESET | SEE OUTPUT | Paste

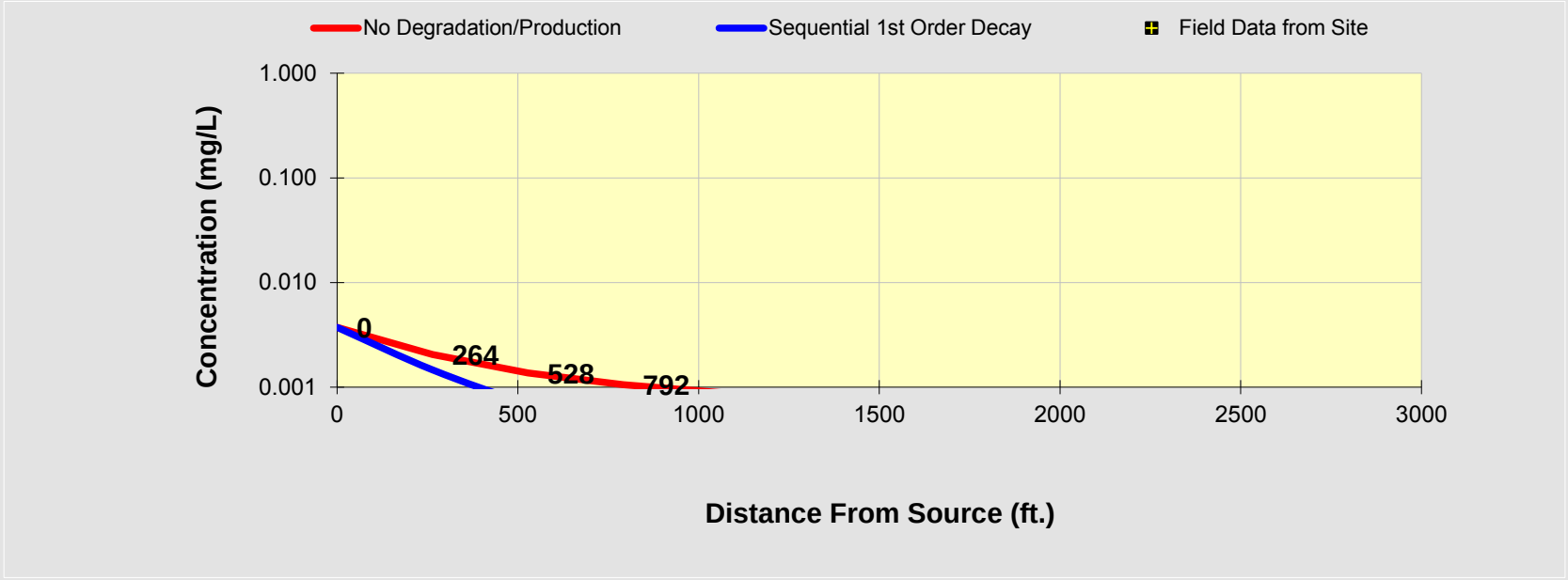
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

PCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.004	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Biotransformation	0.0037	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

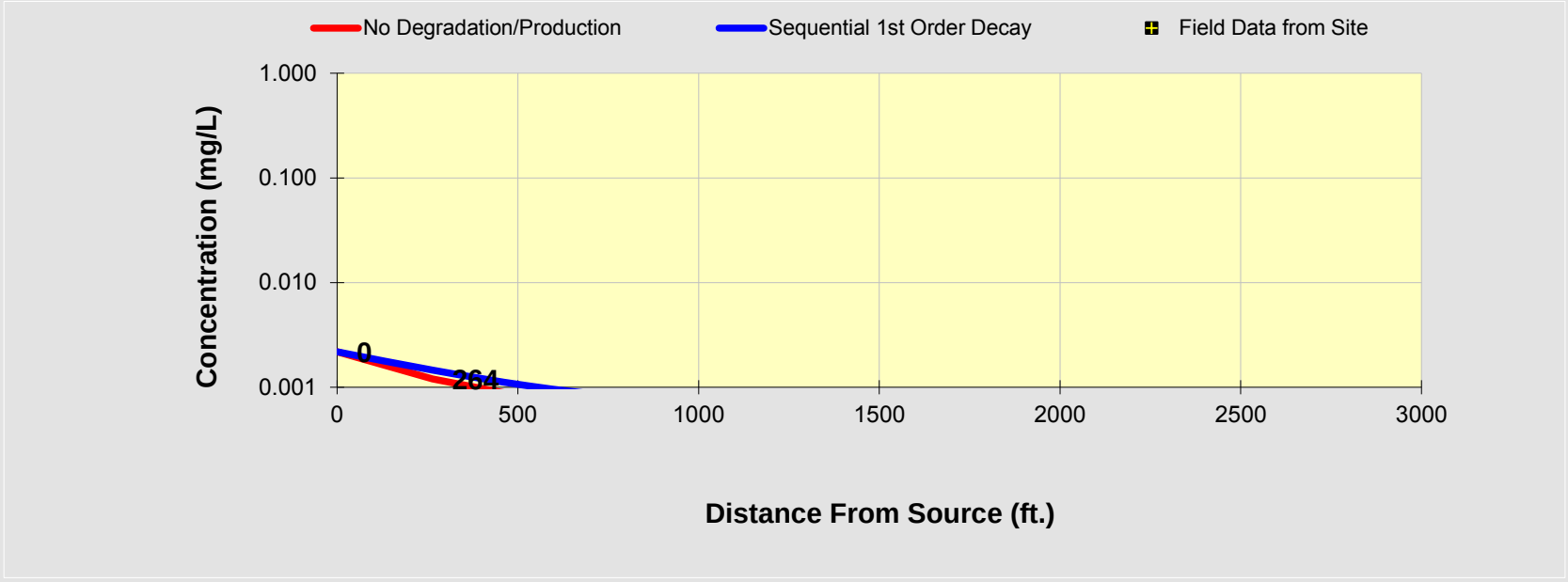
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

TCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.002	0.001	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000
Biotransformation	0.0022	0.001	0.001	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

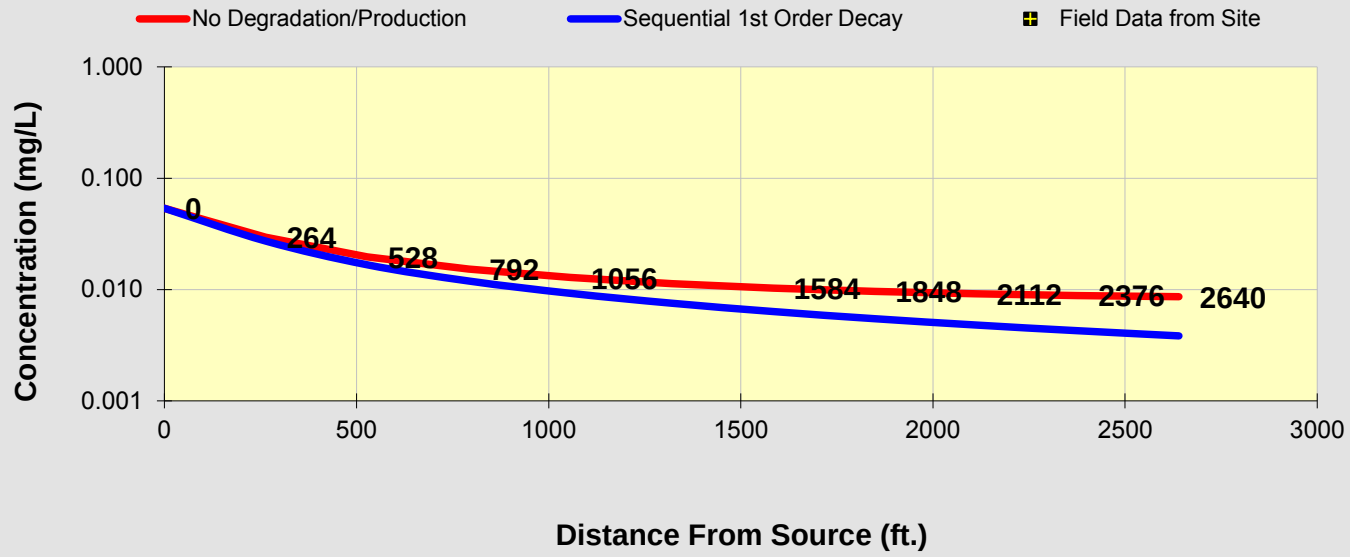
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

DCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.054	0.030	0.020	0.015	0.013	0.011	0.010	0.010	0.009	0.009	0.009
Biotransformation	0.0537	0.027	0.017	0.012	0.009	0.008	0.006	0.005	0.005	0.004	0.004

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

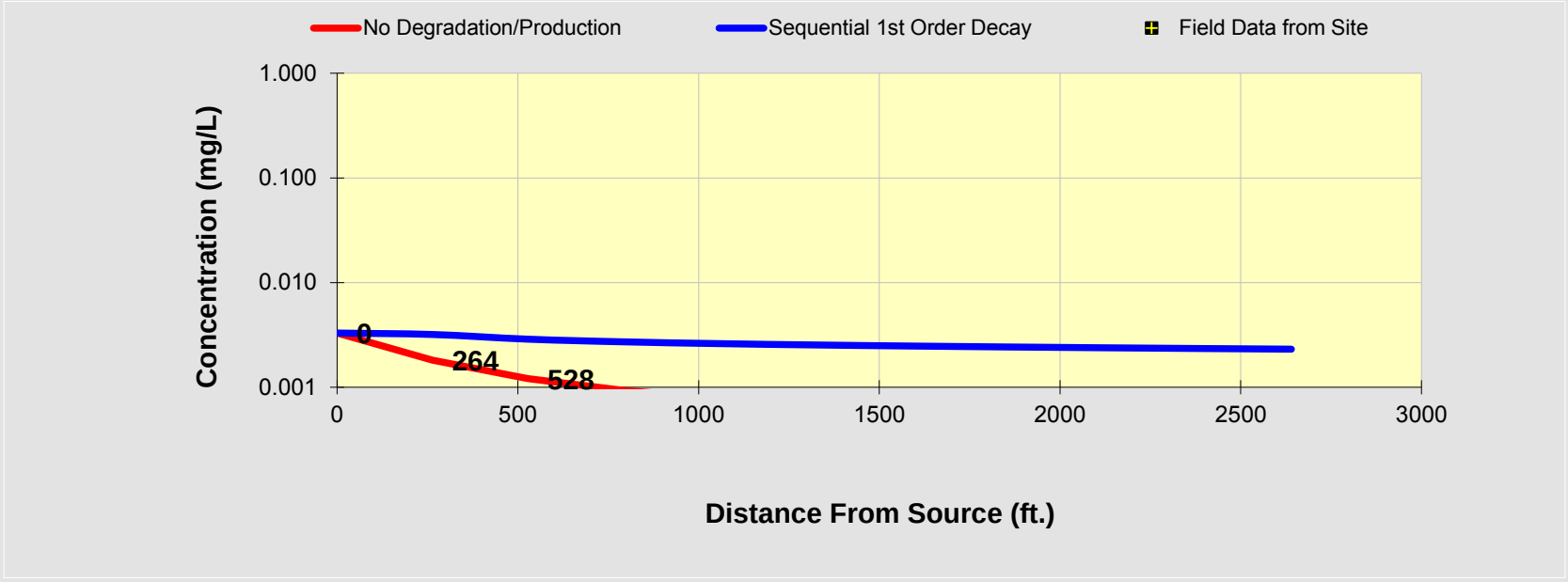
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

VC	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.003	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Biotransformation	0.0033	0.003	0.003	0.003	0.003	0.003	0.002	0.002	0.002	0.002	0.002

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

BIOCHLOR Natural Attenuation Decision Support System

Version 2.2
Excel 2000

Tech Town East Phase Uppe
2015 decay KB DA
Run Name

Data Input Instructions:
115 → 1. Enter value directly....or
↑ or
0.02 → 2. Calculate by filling in gray cells. Press Enter, then C
(To restore formulas, hit "Restore Formulas" button)
Variable* → Data used directly in model.

Test if Biotransformation is Occurring → Natural Attenuation Screening Protocol

TYPE OF CHLORINATED SOLVENT: Ethenes ◉ Ethanes ○

1. ADVECTION

Seepage Velocity*	Vs	132.8	(ft/yr)
or			
Hydraulic Conductivity	K	3.5E-02	(cm/sec)
Hydraulic Gradient	i	1.10E-03	(ft/ft)
Effective Porosity	n	0.3	(-)

2. DISPERSION

Alpha x*	36.543	(ft)
(Alpha y) / (Alpha x)*	0.33	(-)
(Alpha z) / (Alpha x)*	5.E-02	(-)

Calc. Alpha x

3. ADSORPTION

Retardation Factor* → R
or

Soil Bulk Density, rho		1.6	(kg/L)	
FractionOrganicCarbon, foc		1.0E-3	(-)	
Partition Coefficient	Koc			
PCE	265	(L/kg)	2.41	(-)
TCE	94	(L/kg)	1.50	(-)
DCE	36	(L/kg)	1.19	(-)
VC	19	(L/kg)	1.10	(-)
ETH	302	(L/kg)	2.61	(-)

Common R (used in model)* = 1.50

4. BIOTRANSFORMATION -1st Order Decay Coefficient*

	λ (1/yr)	half-life (yrs)	Yield
Zone 1			
PCE → TCE	0.350		0.79
TCE → DCE	0.153		0.74
DCE → VC	0.088		0.64
VC → ETH	0.087		0.45
Zone 2	λ (1/yr)	half-life (yrs)	
PCE → TCE	0.000		
TCE → DCE	0.000		
DCE → VC	0.000		
VC → ETH	0.000		

λ HELP

5. GENERAL

Simulation Time*	100	(yr)
Modeled Area Width*	450	(ft)
Modeled Area Length*	2640	(ft)
Zone 1 Length*	2640	(ft)
Zone 2 Length*	0	(ft)

L, W

Zone 2= L - Zone 1

6. SOURCE DATA TYPE: Decaying Single Planar

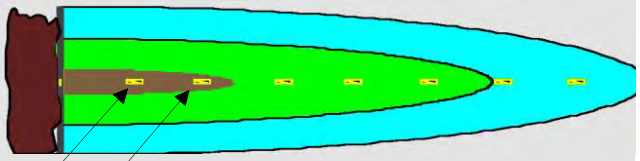
Source Options

Source Thickness in Sat. Zone* 25 (ft)

Width* (ft) Y1: 250

Conc. (mg/L)*	C1	k_s* (1/yr)
PCE	.516	0.049
TCE	.302	0.049
DCE	7.43	0.049
VC	.456	0.049
ETH		0.049

Vertical Plane Source: Determine Source Well Location and Input Solvent Concentrations



View of Plume Looking Down

Observed Centerline Conc. at Monitoring Wells

7. FIELD DATA FOR COMPARISON

PCE Conc. (mg/L)												
TCE Conc. (mg/L)												
DCE Conc. (mg/L)												
VC Conc. (mg/L)												
ETH Conc. (mg/L)												
Distance from Source (ft)	0											
Date Data Collected												

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE | RUN ARRAY | Help | Restore | RESET | SEE OUTPUT | Paste

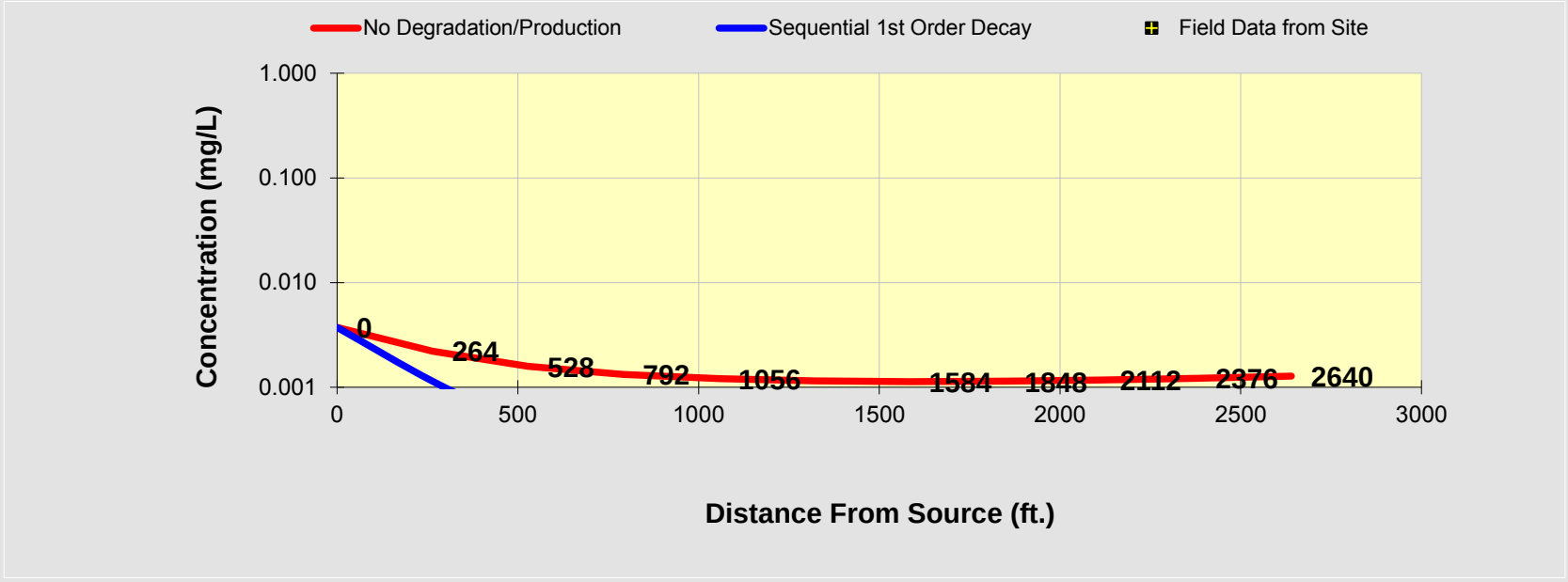
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

PCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.004	0.002	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Biotransformation	0.0037	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

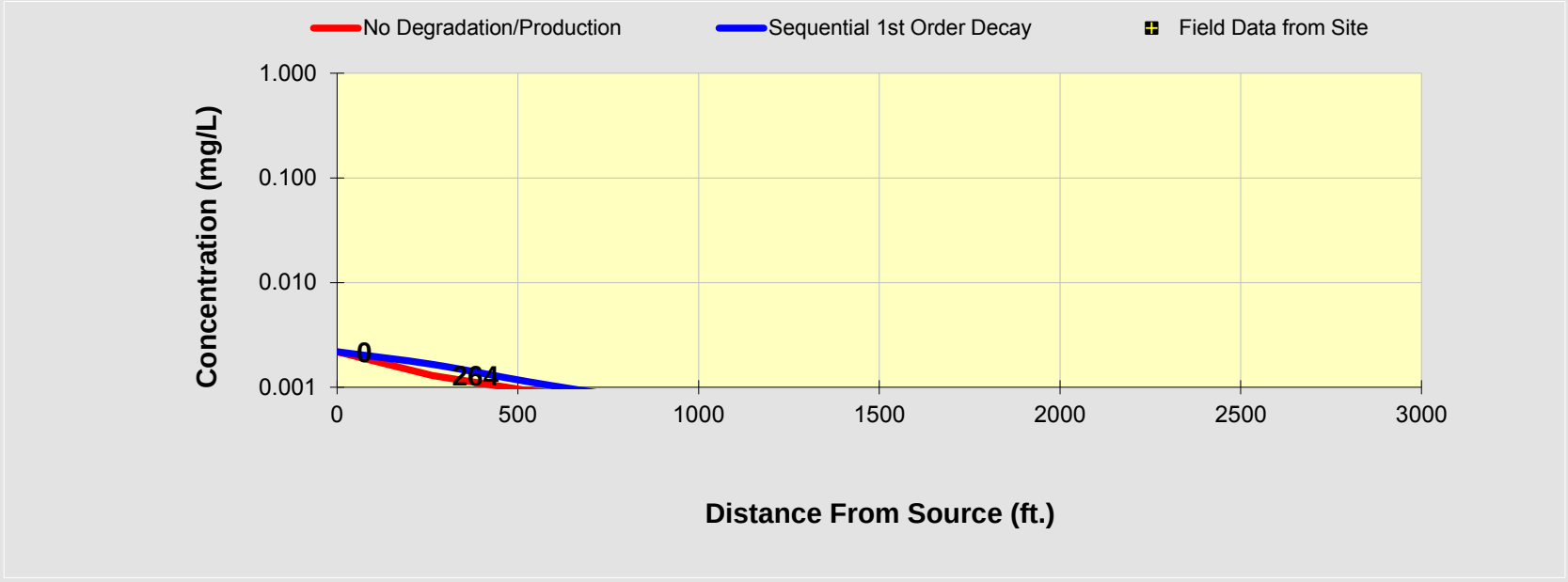
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

TCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Biotransformation	0.0022	0.002	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

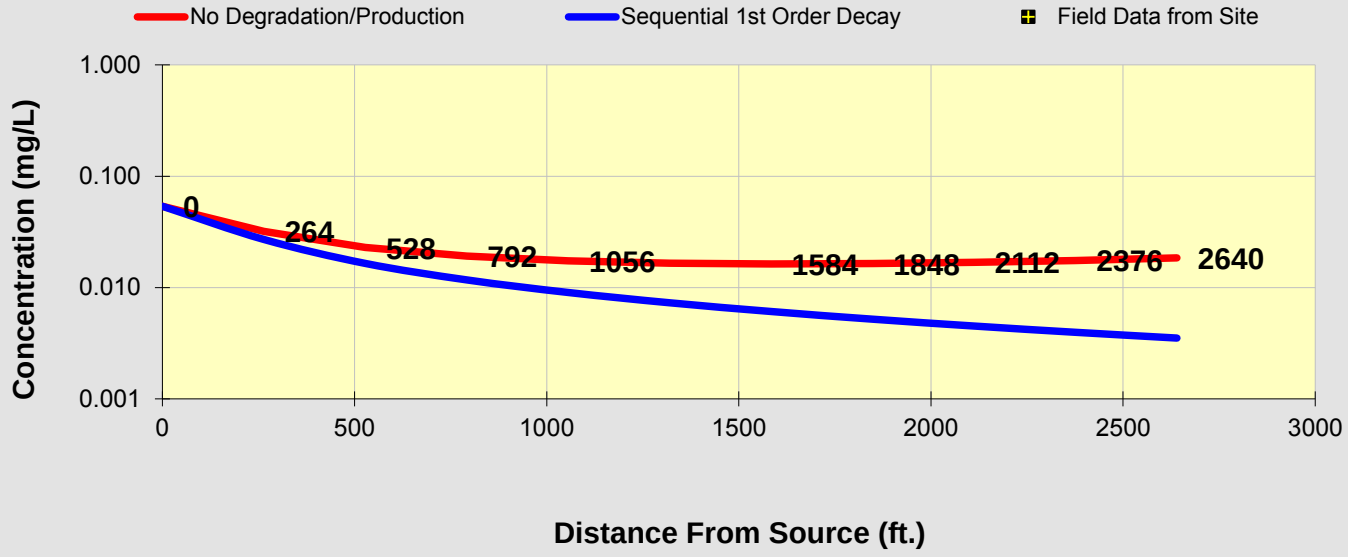
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

DCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.054	0.032	0.023	0.019	0.017	0.017	0.016	0.016	0.017	0.018	0.018
Biotransformation	0.0537	0.027	0.016	0.012	0.009	0.007	0.006	0.005	0.005	0.004	0.004

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

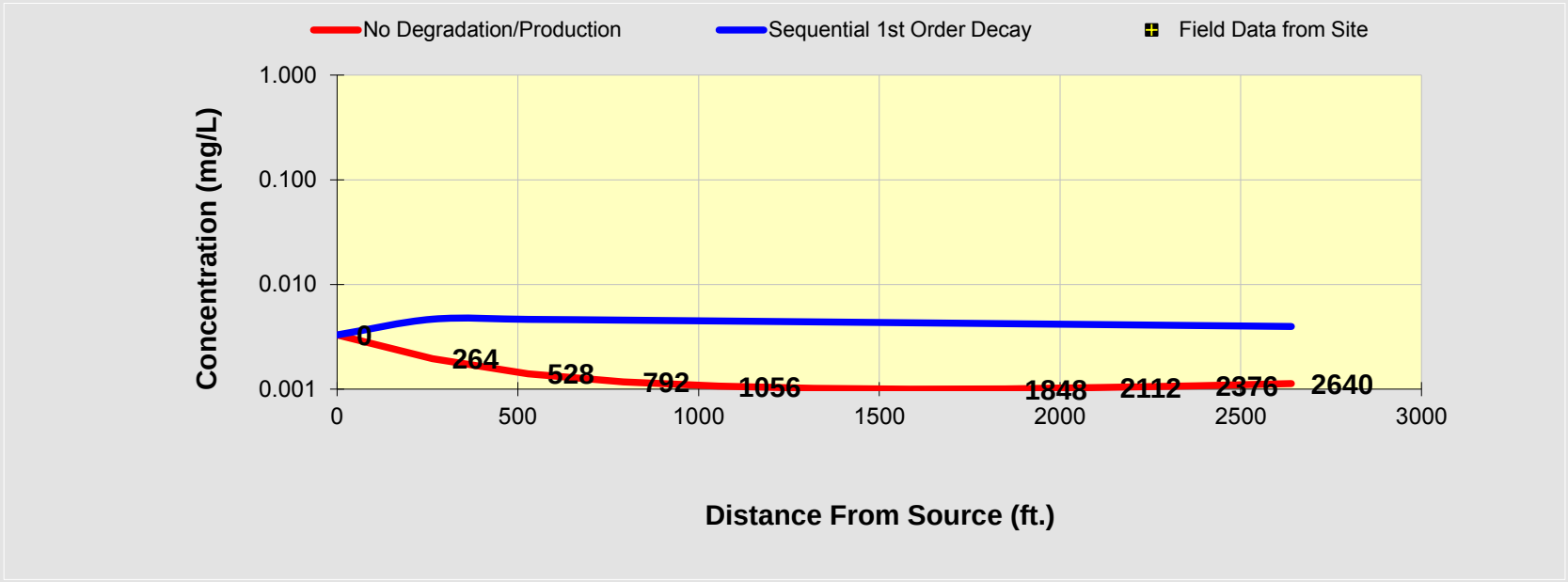
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

VC	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.003	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Biotransformation	0.0033	0.005	0.005	0.005	0.004	0.004	0.004	0.004	0.004	0.004	0.004

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

BIOCHLOR Natural Attenuation Decision Support System

Version 2.2
Excel 2000

Tech Town East Phase Uppe
2015 decay KC DA
Run Name

Data Input Instructions:
115 → 1. Enter value directly....or
↑ or
0.02 → 2. Calculate by filling in gray cells. Press Enter, then C
(To restore formulas, hit "Restore Formulas" button)
Variable* → Data used directly in model.

Test if Biotransformation is Occurring → Natural Attenuation Screening Protocol

TYPE OF CHLORINATED SOLVENT: Ethenes ◉ Ethanes ○

1. ADVECTION

Seepage Velocity*	Vs	531.1	(ft/yr)
or			
Hydraulic Conductivity	K	1.4E-01	(cm/sec)
Hydraulic Gradient	i	1.10E-03	(ft/ft)
Effective Porosity	n	0.3	(-)

2. DISPERSION

Alpha x*	36.543	(ft)
(Alpha y) / (Alpha x)*	0.33	(-)
(Alpha z) / (Alpha x)*	5.E-02	(-)

Calc. Alpha x

3. ADSORPTION

Retardation Factor* → R
or

Soil Bulk Density, rho	1.6	(kg/L)		
FractionOrganicCarbon, foc	1.0E-3	(-)		
Partition Coefficient	Koc			
PCE	265	(L/kg)	2.41	(-)
TCE	94	(L/kg)	1.50	(-)
DCE	36	(L/kg)	1.19	(-)
VC	19	(L/kg)	1.10	(-)
ETH	302	(L/kg)	2.61	(-)
Common R (used in model)* =			**1.50**	

4. BIOTRANSFORMATION -1st Order Decay Coefficient*

Zone 1	λ (1/yr)	half-life (yrs)	Yield
PCE → TCE	0.350		0.79
TCE → DCE	0.153		0.74
DCE → VC	0.088		0.64
VC → ETH	0.087		0.45

Zone 2	λ (1/yr)	half-life (yrs)
PCE → TCE	0.000	
TCE → DCE	0.000	
DCE → VC	0.000	
VC → ETH	0.000	

λ HELP

5. GENERAL

Simulation Time*	100	(yr)
Modeled Area Width*	450	(ft)
Modeled Area Length*	2640	(ft)
Zone 1 Length*	2640	(ft)
Zone 2 Length*	0	(ft)

L, W

Zone 2= L - Zone 1

6. SOURCE DATA TYPE: Decaying Single Planar

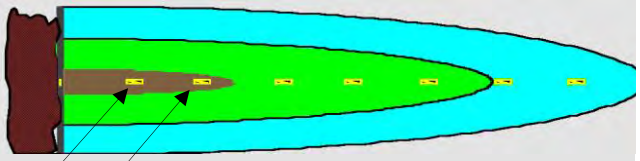
Source Options

Source Thickness in Sat. Zone* 25 (ft)

Width* (ft) Y1: 250

Conc. (mg/L)*	C1	k_s* (1/yr)
PCE	.516	0.049
TCE	.302	0.049
DCE	7.43	0.049
VC	.456	0.049
ETH		0.049

Vertical Plane Source: Determine Source Well Location and Input Solvent Concentrations



View of Plume Looking Down

Observed Centerline Conc. at Monitoring Wells

7. FIELD DATA FOR COMPARISON

PCE Conc. (mg/L)											
TCE Conc. (mg/L)											
DCE Conc. (mg/L)											
VC Conc. (mg/L)											
ETH Conc. (mg/L)											
Distance from Source (ft)	0										
Date Data Collected											

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE | RUN ARRAY | Help | Restore | RESET | SEE OUTPUT | Paste

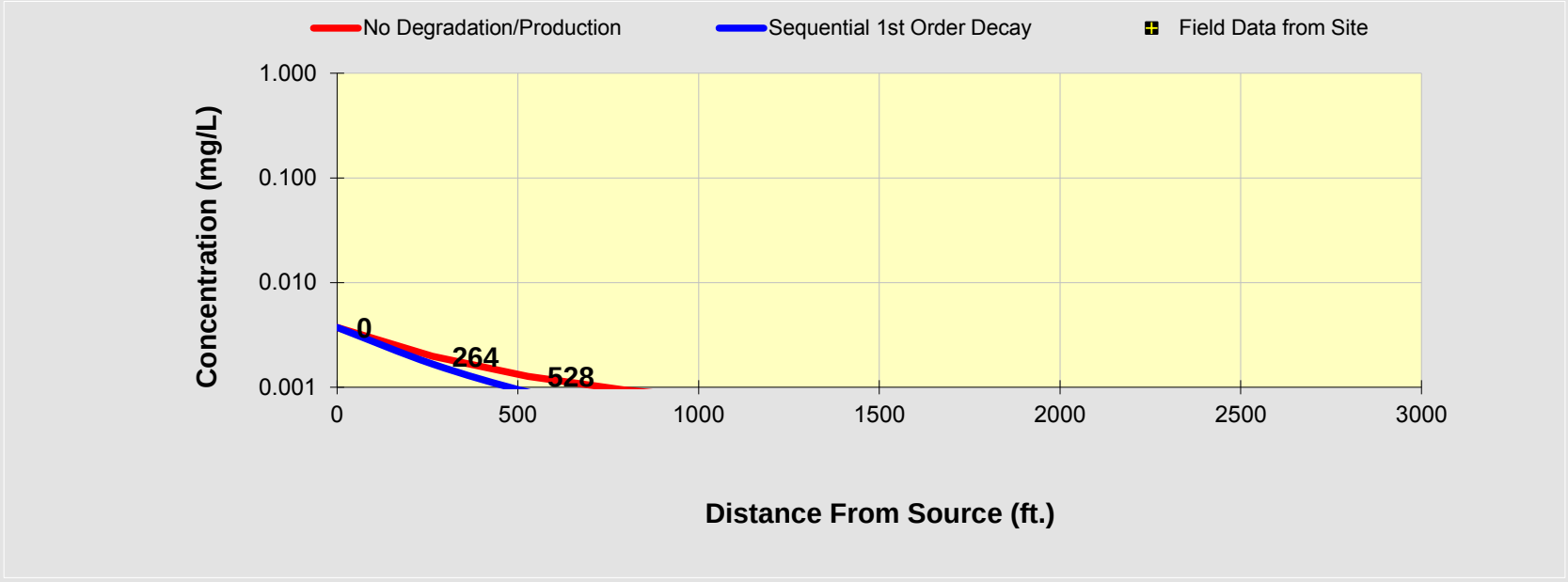
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

PCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.004	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.000	0.000	0.000
Biotransformation	0.0037	0.002	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

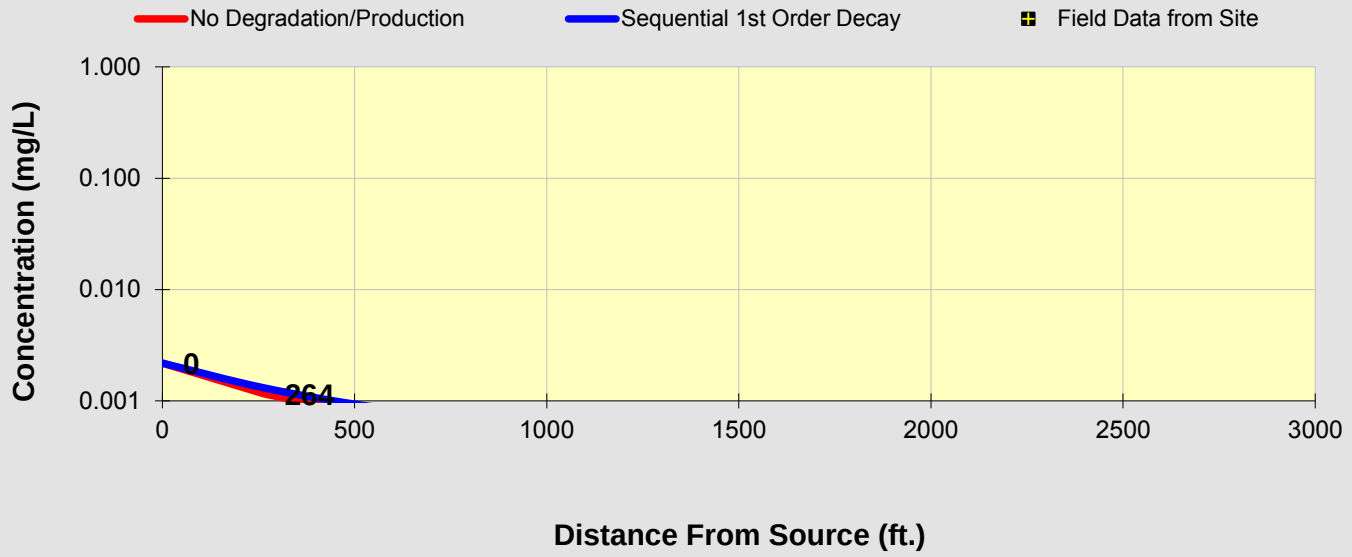
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

TCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.002	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Biotransformation	0.0022	0.001	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

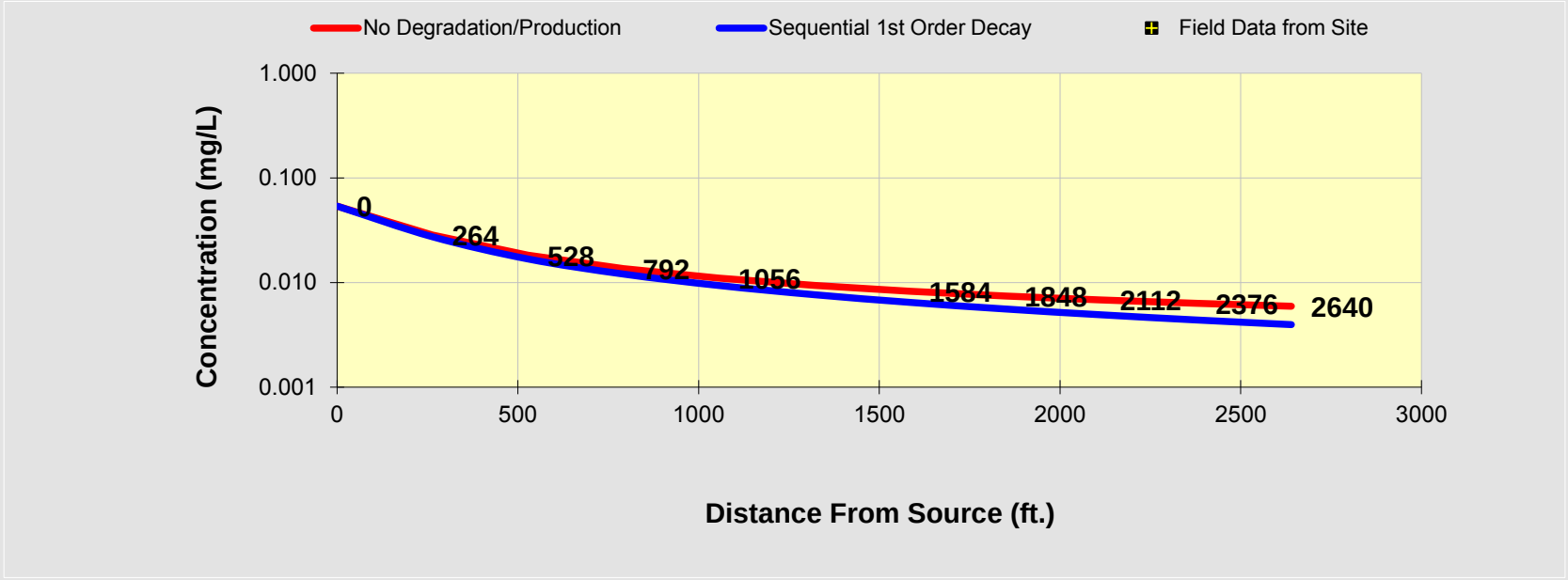
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

DCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.054	0.028	0.018	0.014	0.011	0.009	0.008	0.007	0.007	0.006	0.006
Biotransformation	0.0537	0.027	0.017	0.012	0.009	0.008	0.006	0.006	0.005	0.004	0.004

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

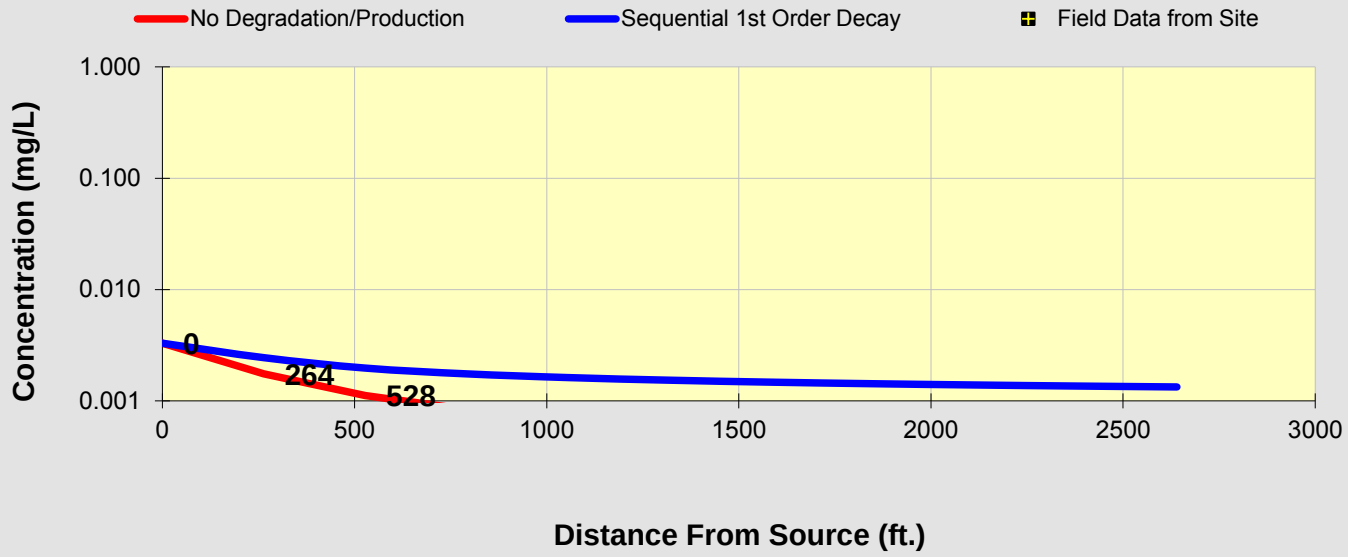
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

VC	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.003	0.002	0.001	0.001	0.001	0.001	0.001	0.000	0.000	0.000	0.000
Biotransformation	0.0033	0.002	0.002	0.002	0.002	0.002	0.001	0.001	0.001	0.001	0.001

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

BIOCHLOR Natural Attenuation Decision Support System

Version 2.2
Excel 2000

Tech Town East Phase Uppe
2015 decay KA DB
Run Name

Data Input Instructions:
115 → 1. Enter value directly....or
↑ or
0.02 → 2. Calculate by filling in gray cells. Press Enter, then C
(To restore formulas, hit "Restore Formulas" button)
Variable* → Data used directly in model.

Test if Biotransformation is Occurring → Natural Attenuation Screening Protocol

TYPE OF CHLORINATED SOLVENT: Ethenes ◉ Ethanes ○

1. ADVECTION

Seepage Velocity*	Vs	265.6	(ft/yr)
or			
Hydraulic Conductivity	K	7.0E-02	(cm/sec)
Hydraulic Gradient	i	1.10E-03	(ft/ft)
Effective Porosity	n	0.3	(-)

2. DISPERSION

Alpha x*	36.543	(ft)
(Alpha y) / (Alpha x)*	0.33	(-)
(Alpha z) / (Alpha x)*	5.E-02	(-)

Calc. Alpha x

3. ADSORPTION

Retardation Factor* → R
or

Soil Bulk Density, rho	1.6	(kg/L)		
FractionOrganicCarbon, foc	1.0E-3	(-)		
Partition Coefficient	Koc			
PCE	265	(L/kg)	2.41	(-)
TCE	94	(L/kg)	1.50	(-)
DCE	36	(L/kg)	1.19	(-)
VC	19	(L/kg)	1.10	(-)
ETH	302	(L/kg)	2.61	(-)
Common R (used in model)* =			**1.50**	

4. BIOTRANSFORMATION -1st Order Decay Coefficient*

Zone 1	λ (1/yr)	half-life (yrs)	Yield
PCE → TCE	0.799		0.79
TCE → DCE	0.299		0.74
DCE → VC	0.099		0.64
VC → ETH	0.399		0.45

Zone 2	λ (1/yr)	half-life (yrs)
PCE → TCE	0.000	
TCE → DCE	0.000	
DCE → VC	0.000	
VC → ETH	0.000	

λ HELP

5. GENERAL

Simulation Time*	100	(yr)
Modeled Area Width*	450	(ft)
Modeled Area Length*	2640	(ft)
Zone 1 Length*	2640	(ft)
Zone 2 Length*	0	(ft)

L, W

Zone 2= L - Zone 1

6. SOURCE DATA TYPE: Decaying Single Planar

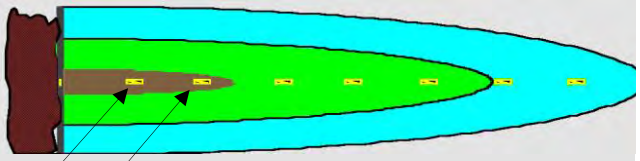
Source Options

Source Thickness in Sat. Zone* 25 (ft)

Width* (ft) Y1: 250

Conc. (mg/L)*	C1	k_s* (1/yr)
PCE	.516	0.049
TCE	.302	0.049
DCE	7.43	0.049
VC	.456	0.049
ETH		0.049

Vertical Plane Source: Determine Source Well Location and Input Solvent Concentrations



View of Plume Looking Down

Observed Centerline Conc. at Monitoring Wells

7. FIELD DATA FOR COMPARISON

PCE Conc. (mg/L)												
TCE Conc. (mg/L)												
DCE Conc. (mg/L)												
VC Conc. (mg/L)												
ETH Conc. (mg/L)												
Distance from Source (ft)	0											
Date Data Collected												

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE | RUN ARRAY | Help | Restore | RESET | SEE OUTPUT | Paste

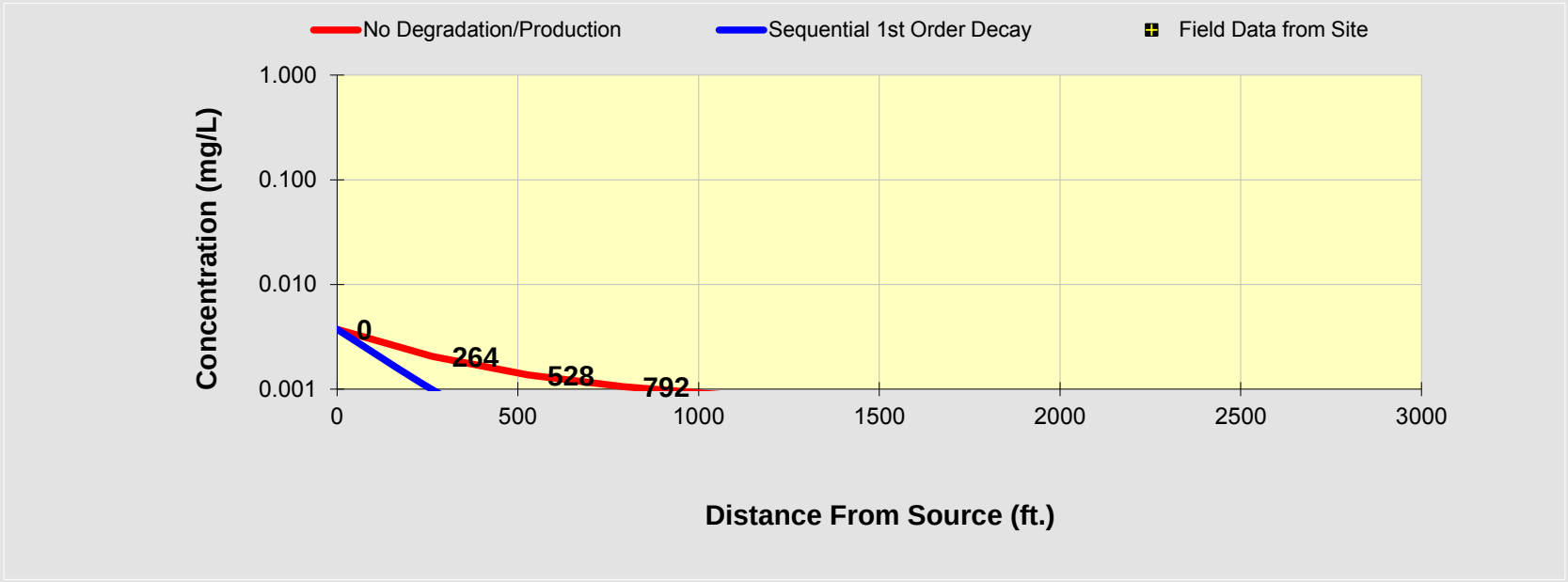
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

PCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.004	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Biotransformation	0.0037	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

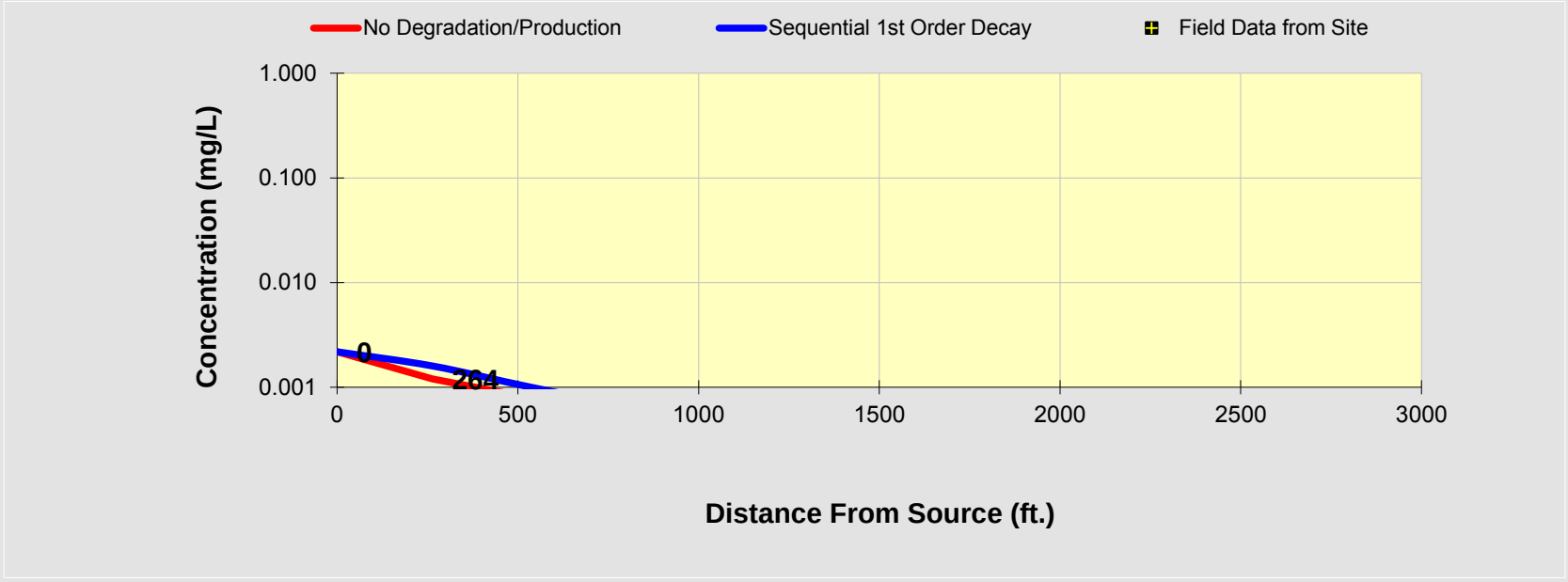
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

TCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.002	0.001	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000
Biotransformation	0.0022	0.002	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

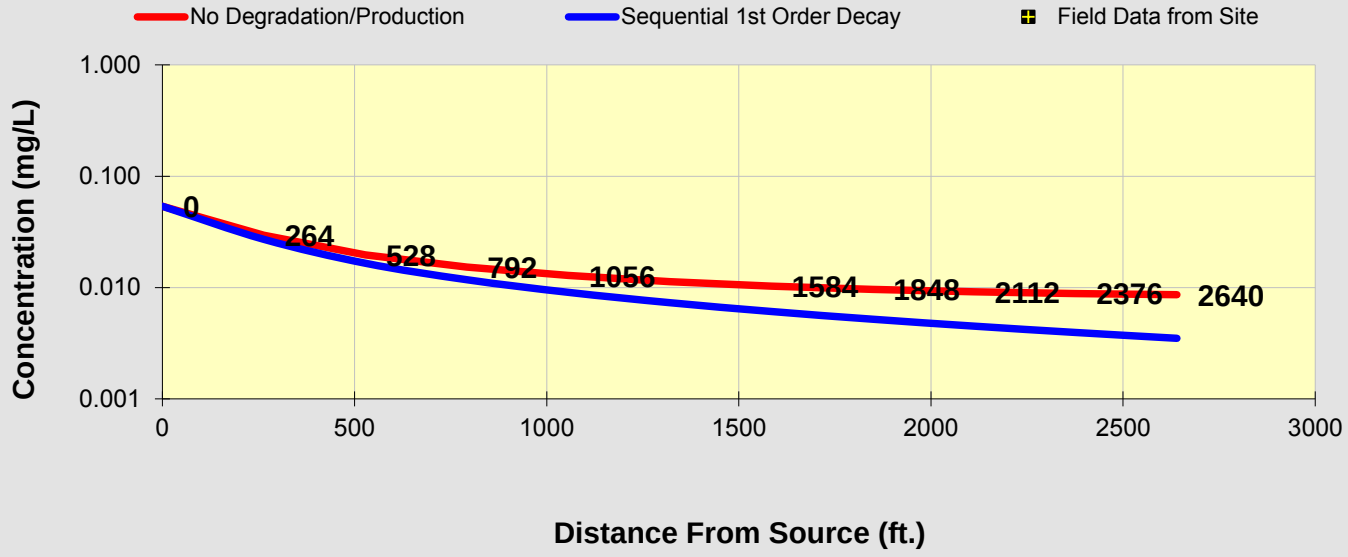
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

DCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.054	0.030	0.020	0.015	0.013	0.011	0.010	0.010	0.009	0.009	0.009
Biotransformation	0.0537	0.027	0.017	0.012	0.009	0.007	0.006	0.005	0.004	0.004	0.003

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

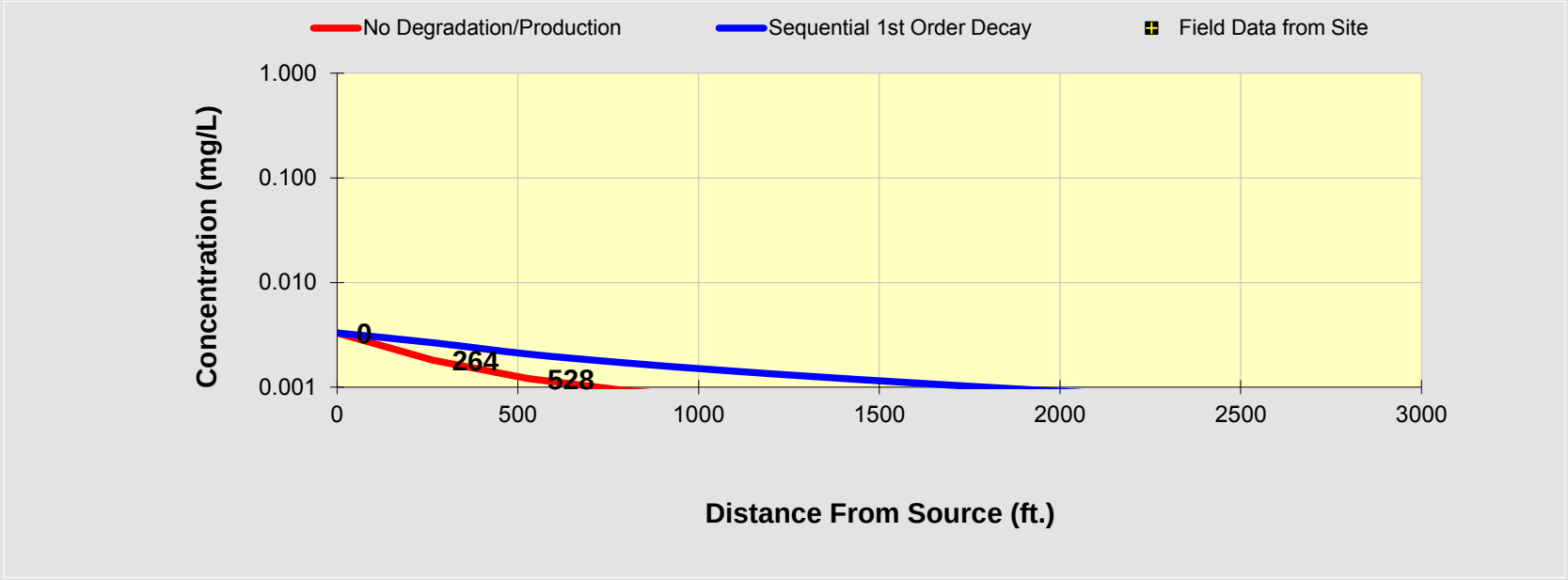
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

VC	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.003	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Biotransformation	0.0033	0.003	0.002	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

BIOCHLOR Natural Attenuation Decision Support System

Version 2.2
Excel 2000

Tech Town East Phase Uppe
2015 decay KB DB
Run Name

TYPE OF CHLORINATED SOLVENT: Ethenes ◉ Ethanes ○

1. ADVECTION

Seepage Velocity*	Vs	132.8	(ft/yr)
or			
Hydraulic Conductivity	K	3.5E-02	(cm/sec)
Hydraulic Gradient	i	1.10E-03	(ft/ft)
Effective Porosity	n	0.3	(-)

2. DISPERSION

Alpha x*	36.543	(ft)
(Alpha y) / (Alpha x)*	0.33	(-)
(Alpha z) / (Alpha x)*	5.E-02	(-)

Calc. Alpha x

3. ADSORPTION

Retardation Factor* → R

or

Soil Bulk Density, rho	1.6	(kg/L)		
FractionOrganicCarbon, foc	1.0E-3	(-)		
Partition Coefficient	Koc			
PCE	265	(L/kg)	2.41	(-)
TCE	94	(L/kg)	1.50	(-)
DCE	36	(L/kg)	1.19	(-)
VC	19	(L/kg)	1.10	(-)
ETH	302	(L/kg)	2.61	(-)
Common R (used in model)* =			**1.50**	

4. BIOTRANSFORMATION

-1st Order Decay Coefficient*

	λ (1/yr)	half-life (yrs)	Yield
Zone 1			
PCE → TCE	0.799		0.79
TCE → DCE	0.299		0.74
DCE → VC	0.099		0.64
VC → ETH	0.399		0.45
Zone 2	λ (1/yr)	half-life (yrs)	
PCE → TCE	0.000		
TCE → DCE	0.000		
DCE → VC	0.000		
VC → ETH	0.000		

λ HELP

5. GENERAL

Simulation Time*	100	(yr)
Modeled Area Width*	450	(ft)
Modeled Area Length*	2640	(ft)
Zone 1 Length*	2640	(ft)
Zone 2 Length*	0	(ft)

Zone 2= L - Zone 1

6. SOURCE DATA

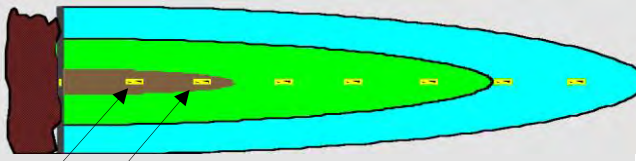
TYPE: Decaying Single Planar

Source Options

Source Thickness in Sat. Zone* 25 (ft)

	Y1	k_s*
Width* (ft)	250	
Conc. (mg/L)*	C1	(1/yr)
PCE	.516	0.049
TCE	.302	0.049
DCE	7.43	0.049
VC	.456	0.049
ETH		0.049

Vertical Plane Source: Determine Source Well Location and Input Solvent Concentrations



View of Plume Looking Down

Observed Centerline Conc. at Monitoring Wells

7. FIELD DATA FOR COMPARISON

PCE Conc. (mg/L)											
TCE Conc. (mg/L)											
DCE Conc. (mg/L)											
VC Conc. (mg/L)											
ETH Conc. (mg/L)											
Distance from Source (ft)	0										
Date Data Collected											

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE | **RUN ARRAY** | ***Help*** | Restore | RESET | ***SEE OUTPUT*** | Paste

Data Input Instructions:

115 → 1. Enter value directly....or
↑ *or*
0.02 → 2. Calculate by filling in gray cells. Press Enter, then C

(To restore formulas, hit "Restore Formulas" button)

Variable* → Data used directly in model.

Test if Biotransformation is Occurring → Natural Attenuation Screening Protocol

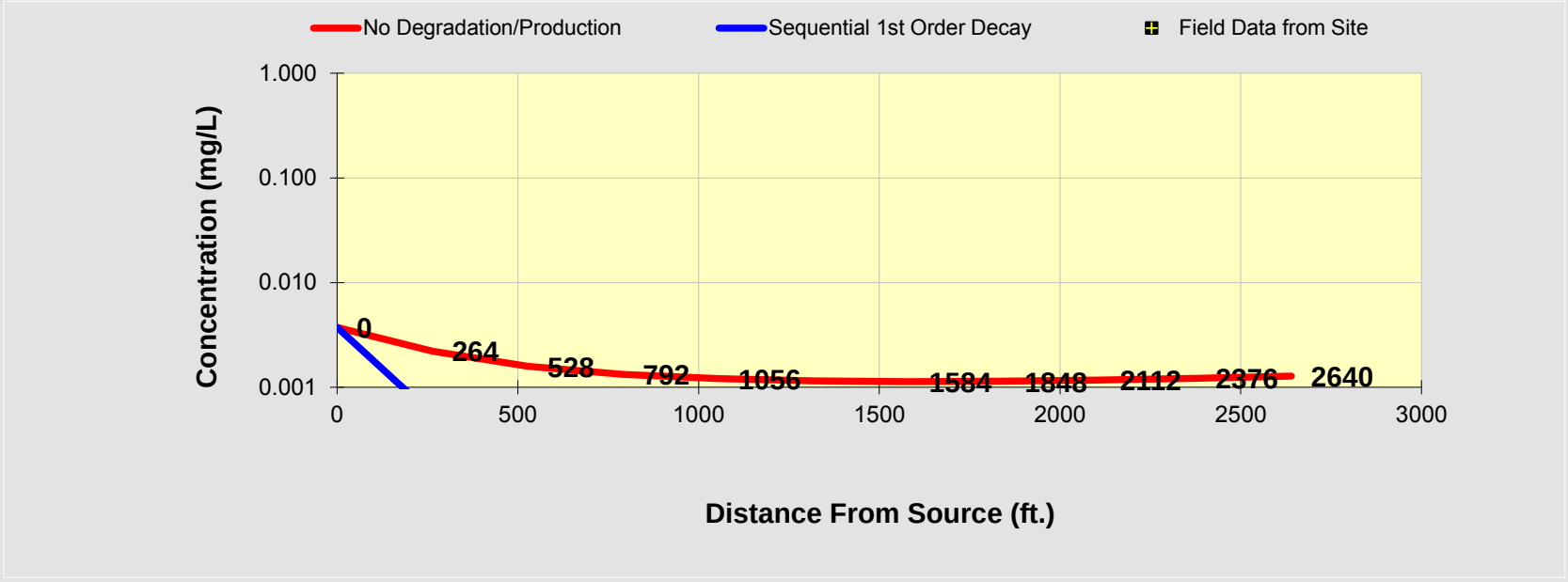
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

PCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.004	0.002	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Biotransformation	0.0037	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

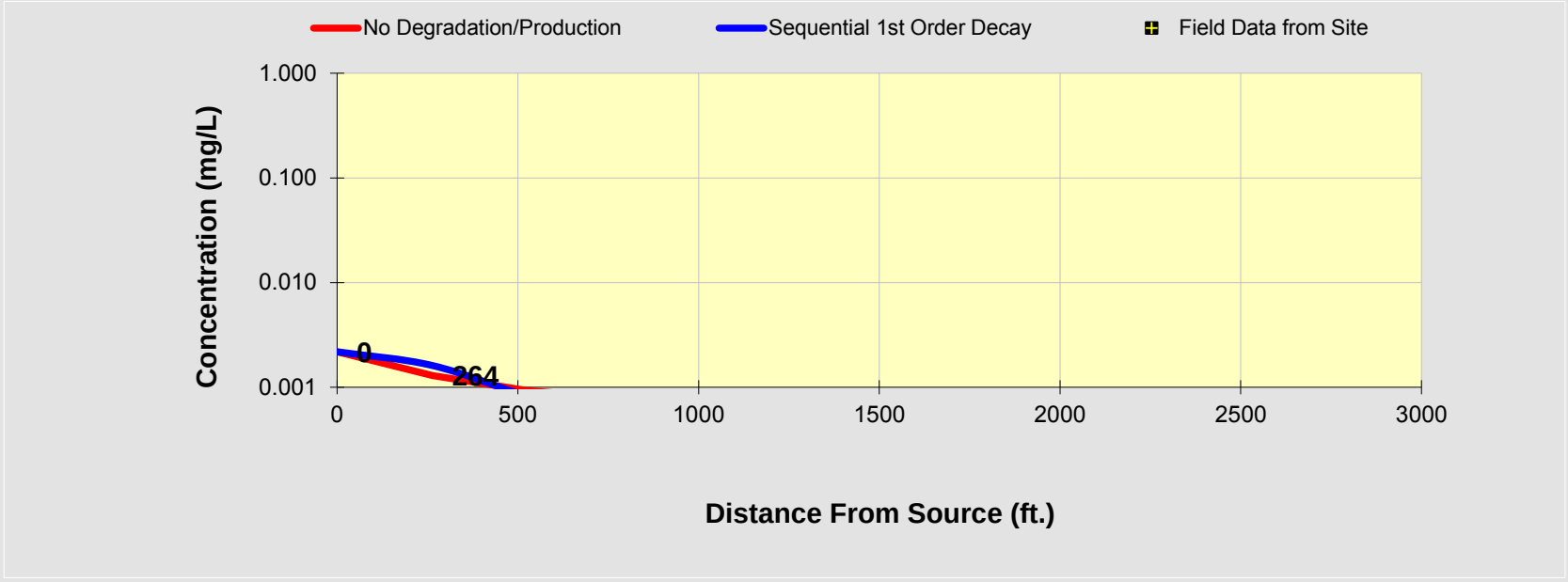
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

TCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Biotransformation	0.0022	0.002	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

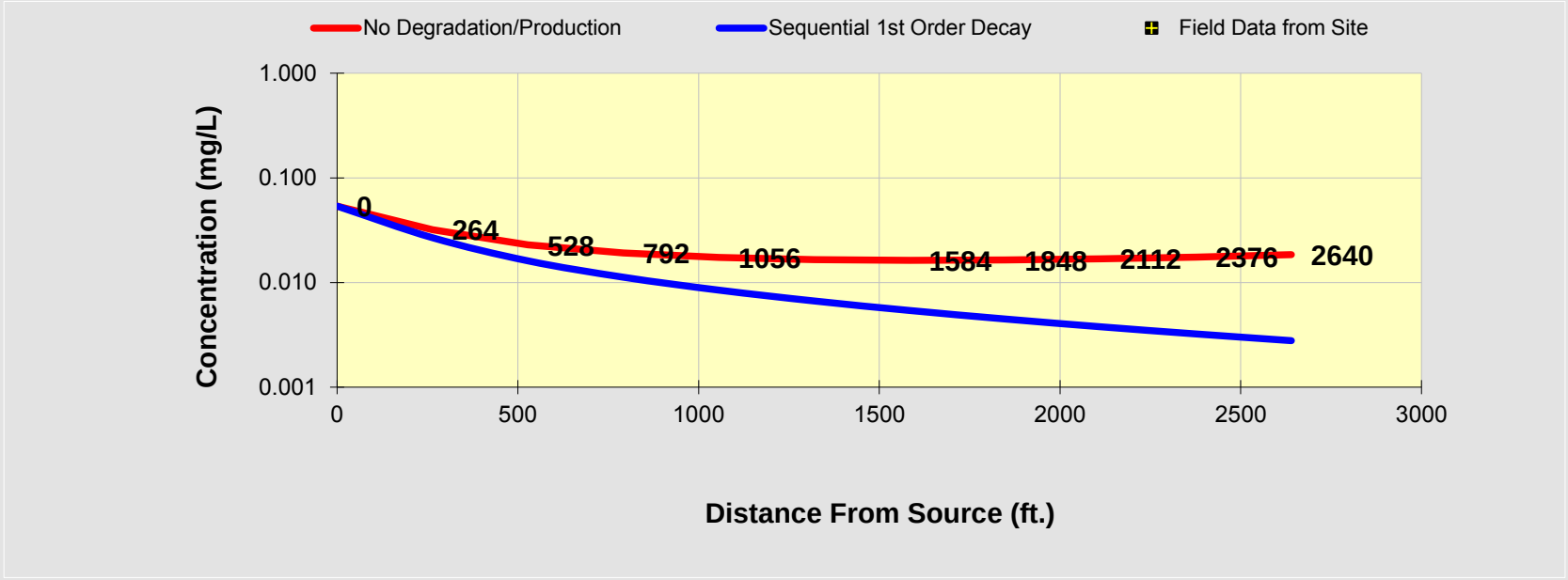
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

DCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.054	0.032	0.023	0.019	0.017	0.017	0.016	0.016	0.017	0.018	0.018
Biotransformation	0.0537	0.027	0.016	0.011	0.008	0.007	0.005	0.004	0.004	0.003	0.003

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

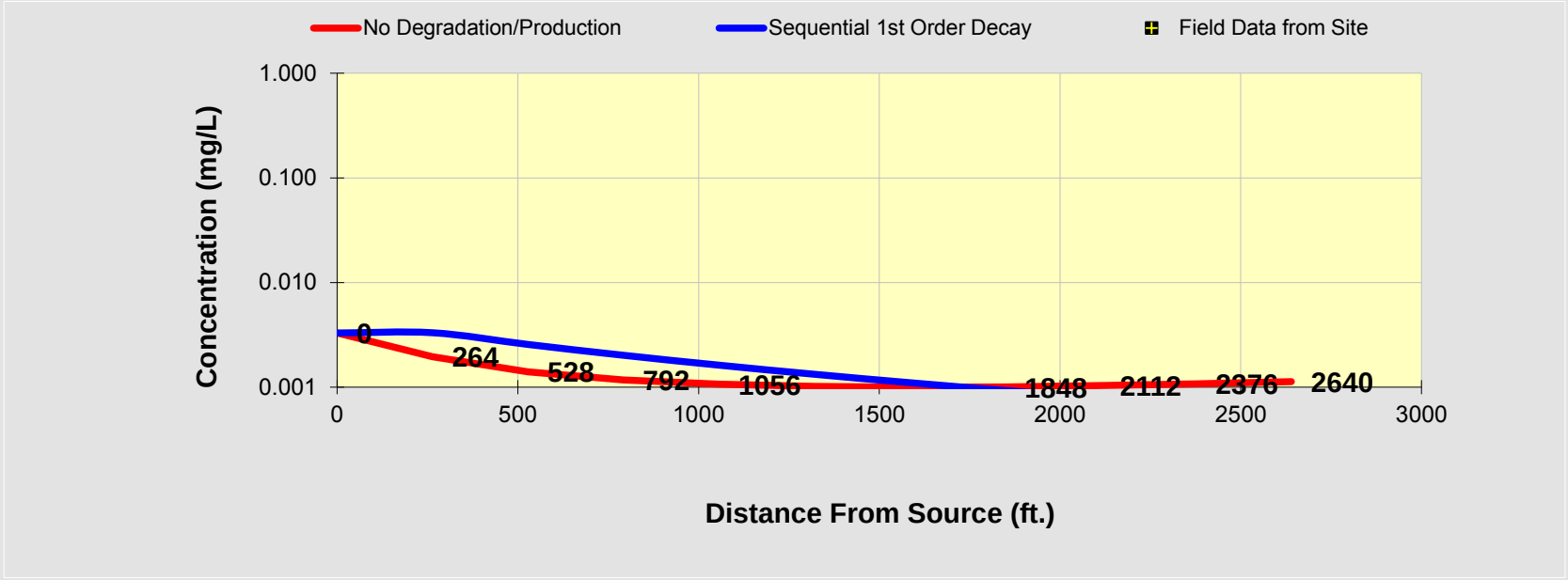
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

VC	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.003	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Biotransformation	0.0033	0.003	0.003	0.002	0.002	0.001	0.001	0.001	0.001	0.001	0.001

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

BIOCHLOR Natural Attenuation Decision Support System

Version 2.2
Excel 2000

Tech Town East Phase Uppe
2015 decay KC DB
Run Name

Data Input Instructions:
115 → 1. Enter value directly....or
↑ or
0.02 → 2. Calculate by filling in gray cells. Press Enter, then C
(To restore formulas, hit "Restore Formulas" button)
Variable* → Data used directly in model.

Test if Biotransformation is Occurring → Natural Attenuation Screening Protocol

TYPE OF CHLORINATED SOLVENT: Ethenes ◉ Ethanes ○

1. ADVECTION

Seepage Velocity*	Vs	531.1	(ft/yr)
or			
Hydraulic Conductivity	K	1.4E-01	(cm/sec)
Hydraulic Gradient	i	1.10E-03	(ft/ft)
Effective Porosity	n	0.3	(-)

2. DISPERSION

Alpha x*	36.543	(ft)
(Alpha y) / (Alpha x)*	0.33	(-)
(Alpha z) / (Alpha x)*	5.E-02	(-)

Calc. Alpha x

3. ADSORPTION

Retardation Factor* → R
or

Soil Bulk Density, rho		1.6	(kg/L)	
FractionOrganicCarbon, foc		1.0E-3	(-)	
Partition Coefficient	Koc			
PCE	265	(L/kg)	2.41	(-)
TCE	94	(L/kg)	1.50	(-)
DCE	36	(L/kg)	1.19	(-)
VC	19	(L/kg)	1.10	(-)
ETH	302	(L/kg)	2.61	(-)

Common R (used in model)* = 1.50

4. BIOTRANSFORMATION -1st Order Decay Coefficient*

	λ (1/yr)	half-life (yrs)	Yield
Zone 1			
PCE → TCE	0.799		0.79
TCE → DCE	0.299		0.74
DCE → VC	0.099		0.64
VC → ETH	0.399		0.45
Zone 2			
PCE → TCE	0.000		
TCE → DCE	0.000		
DCE → VC	0.000		
VC → ETH	0.000		

λ HELP

5. GENERAL

Simulation Time*	100	(yr)
Modeled Area Width*	450	(ft)
Modeled Area Length*	2640	(ft)
Zone 1 Length*	2640	(ft)
Zone 2 Length*	0	(ft)

L, W

Zone 2= L - Zone 1

6. SOURCE DATA TYPE: Decaying Single Planar

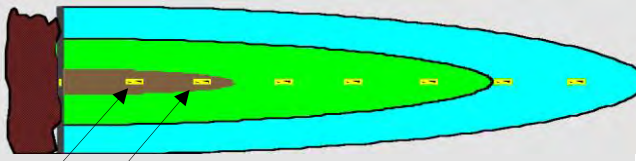
Source Options

Source Thickness in Sat. Zone* 25 (ft)

Width* (ft) Y1: 250

Conc. (mg/L)*	C1	k_s* (1/yr)
PCE	.516	0.049
TCE	.302	0.049
DCE	7.43	0.049
VC	.456	0.049
ETH		0.049

Vertical Plane Source: Determine Source Well Location and Input Solvent Concentrations



View of Plume Looking Down

Observed Centerline Conc. at Monitoring Wells

7. FIELD DATA FOR COMPARISON

PCE Conc. (mg/L)												
TCE Conc. (mg/L)												
DCE Conc. (mg/L)												
VC Conc. (mg/L)												
ETH Conc. (mg/L)												
Distance from Source (ft)	0											
Date Data Collected												

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE | RUN ARRAY | Help | Restore | RESET | SEE OUTPUT | Paste

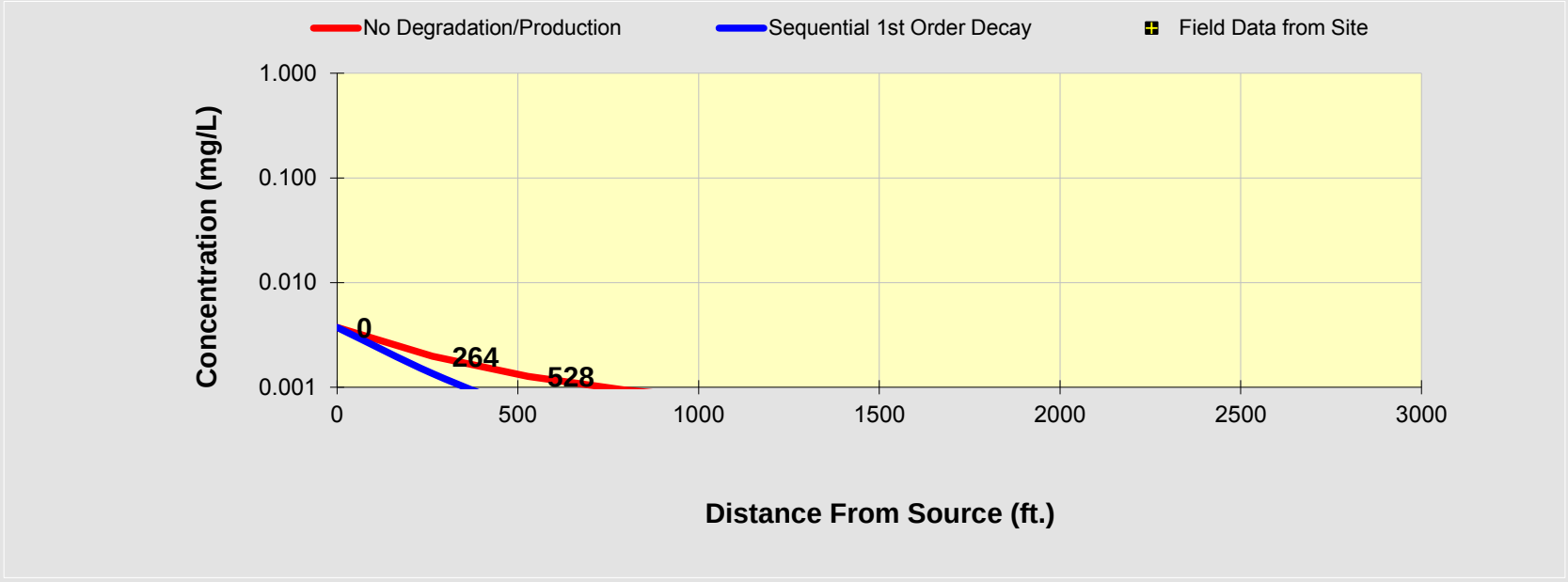
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

PCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.004	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.000	0.000	0.000
Biotransformation	0.0037	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

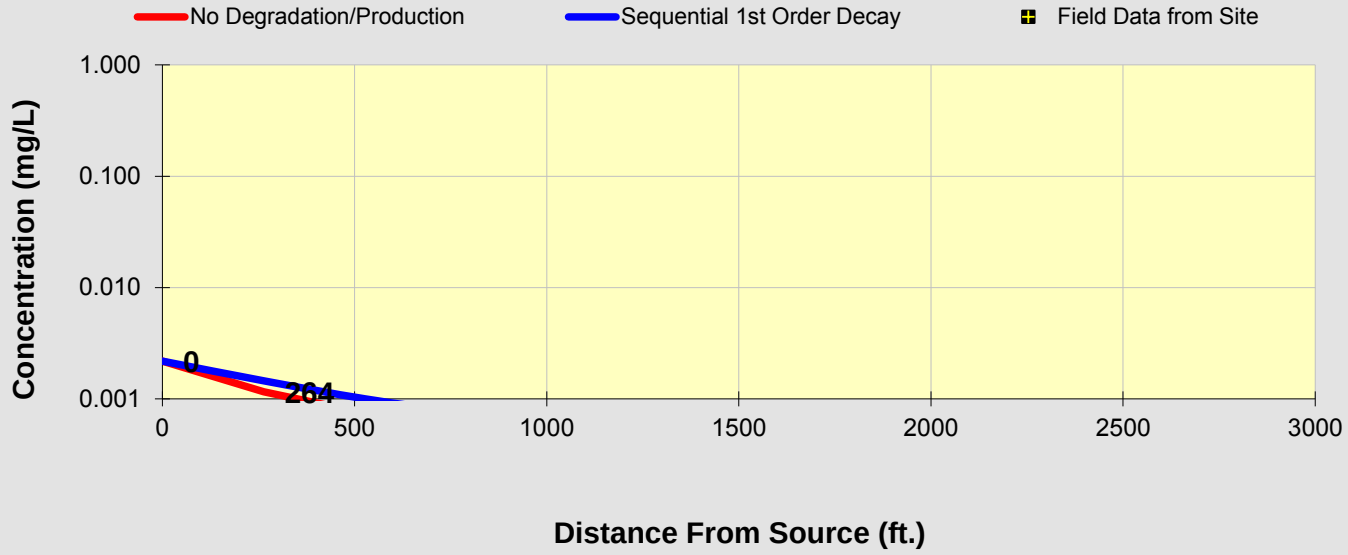
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

TCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.002	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Biotransformation	0.0022	0.001	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

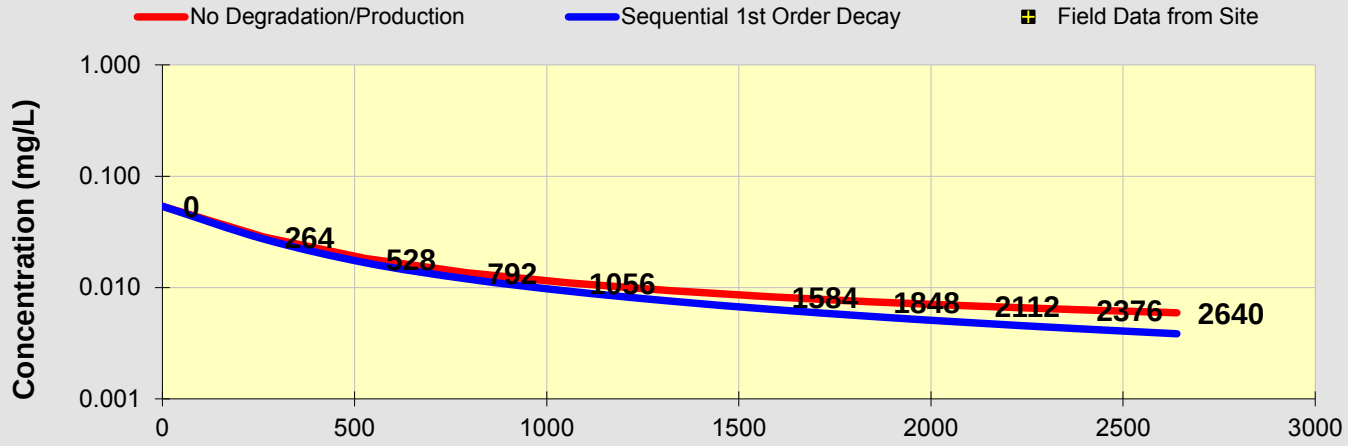
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

DCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.054	0.028	0.018	0.014	0.011	0.009	0.008	0.007	0.007	0.006	0.006
Biotransformation	0.0537	0.027	0.017	0.012	0.009	0.008	0.006	0.005	0.005	0.004	0.004

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

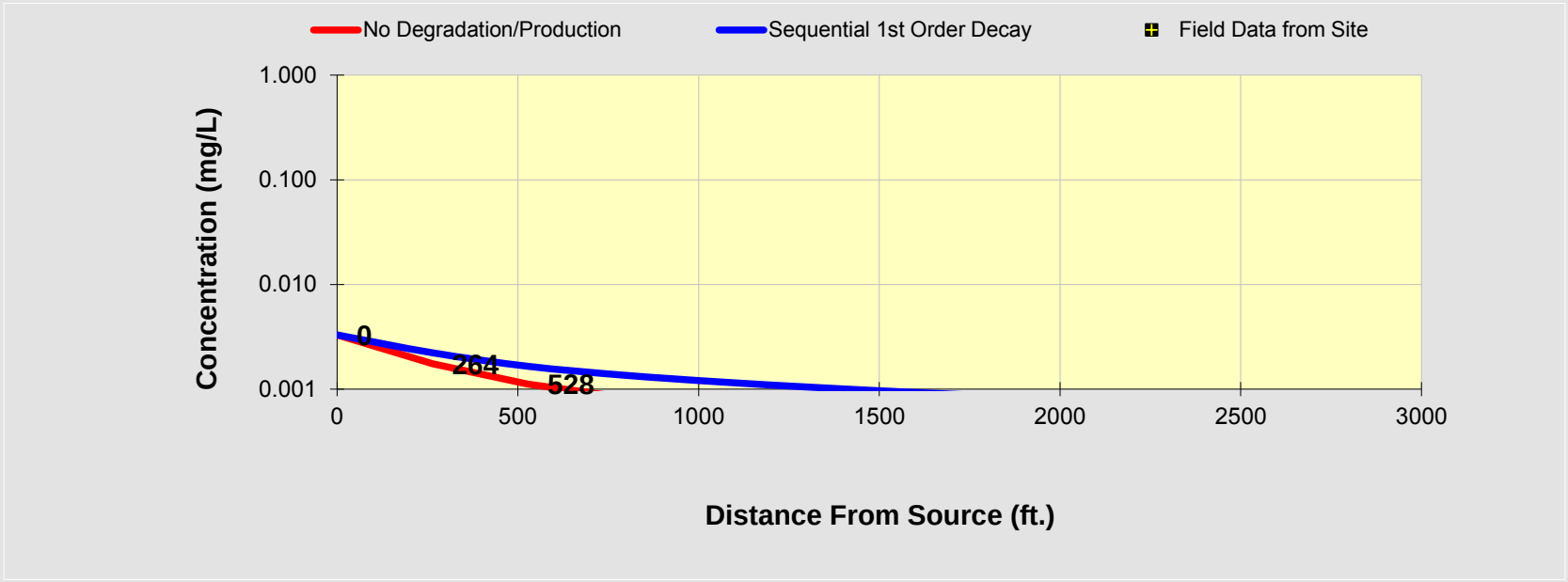
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

VC	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.003	0.002	0.001	0.001	0.001	0.001	0.001	0.000	0.000	0.000	0.000
Biotransformation	0.0033	0.002	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

APPENDIX C-3
TILL-RICH ZONE, ALL DATA, MAXIMUM CONCENTRATIONS

East Phase Tll Zone BIOCHLOR Sensitivity Analysis

Groundwater Unit	Conductivity	Decay	PCE (mg/L)		TCE (mg/L)		DCE (mg/L)		VC (mg/L)	
			No degradation	Biotransformation	No degradation	Biotransformation	No degradation	Biotransformation	No degradation	Biotransformation
Continuous Source										
Till	A	A	0	0	0.005	0.002	0.002	0.003	0	0.001
Till	B	A	0	0	0	0	0	0	0	0
Till	C	A	0	0	0	0	0	0	0	0
Till	A	B	0	0	0.005	0.001	0.002	0.003	0	0
Till	B	B	0	0	0	0	0	0	0	0
Till	C	B	0	0	0	0	0	0	0	0
Decaying Source (Kpoint = 0.0493)										
Till	A	A	0	0	0	0	0	0	0	0
Till	B	A	--	--	--	--	--	--	--	--
Till	C	A	--	--	--	--	--	--	--	--
Till	A	B	0	0	0	0	0	0	0	0
Till	B	B	--	--	--	--	--	--	--	--
Till	C	B	--	--	--	--	--	--	--	--
		UPUS	0.005 mg/L		0.005 mg/L		0.07 mg/L		0.002 mg/L	

Maximum Concentration (mg/L)

	Till Zone
PCE	0.013
TCE	0.19
DCE	0.072
VC	ND

-- = not applicable

BIOCHLOR Natural Attenuation Decision Support System

Version 2.2
Excel 2000

Tech Town East Phase Till
Max, KA, DA, CONT
Run Name

Data Input Instructions:
115 → 1. Enter value directly....or
↑ or
0.02 → 2. Calculate by filling in gray cells. Press Enter, then C
(To restore formulas, hit "Restore Formulas" button)
Variable* → Data used directly in model.

Test if Biotransformation is Occurring → Natural Attenuation Screening Protocol

TYPE OF CHLORINATED SOLVENT: Ethenes ◉ Ethanes ○

1. ADVECTION

Seepage Velocity*	Vs	517.3	(ft/yr)
or		↑	
Hydraulic Conductivity	K	3.0E-02	(cm/sec)
Hydraulic Gradient	i	5.00E-03	(ft/ft)
Effective Porosity	n	0.3	(-)

2. DISPERSION

Alpha x*	36.543	(ft)
(Alpha y) / (Alpha x)*	0.33	(-)
(Alpha z) / (Alpha x)*	5.E-02	(-)

Calc. Alpha x

3. ADSORPTION

Retardation Factor* → R
or

Soil Bulk Density, rho	1.6	(kg/L)		
FractionOrganicCarbon, foc	1.0E-3	(-)		
Partition Coefficient	Koc			
PCE	265	(L/kg)	2.41	(-)
TCE	94	(L/kg)	1.50	(-)
DCE	36	(L/kg)	1.19	(-)
VC	19	(L/kg)	1.10	(-)
ETH	302	(L/kg)	2.61	(-)
Common R (used in model)* =			**1.50**	

4. BIOTRANSFORMATION -1st Order Decay Coefficient*

Zone 1	λ (1/yr)	half-life (yrs)	Yield
PCE → TCE	0.350		0.79
TCE → DCE	0.153		0.74
DCE → VC	0.088		0.64
VC → ETH	0.087		0.45

Zone 2	λ (1/yr)	half-life (yrs)
PCE → TCE	0.000	
TCE → DCE	0.000	
DCE → VC	0.000	
VC → ETH	0.000	

λ HELP

5. GENERAL

Simulation Time*	100	(yr)
Modeled Area Width*	450	(ft)
Modeled Area Length*	2640	(ft)
Zone 1 Length*	2640	(ft)
Zone 2 Length*	0	(ft)

L, W

Zone 2= L - Zone 1

6. SOURCE DATA TYPE: Continuous Single Planar

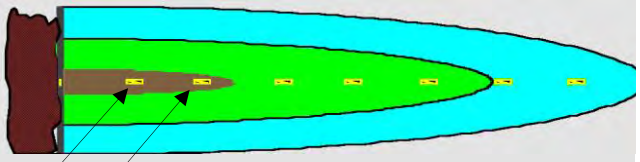
Source Options

Source Thickness in Sat. Zone* 10 (ft)

Width* (ft) Y1: 200

Conc. (mg/L)*	C1	k_s* (1/yr)
PCE	.013	0
TCE	.19	0
DCE	.072	0
VC		0
ETH		0

Vertical Plane Source: Determine Source Well Location and Input Solvent Concentrations



View of Plume Looking Down

Observed Centerline Conc. at Monitoring Wells

7. FIELD DATA FOR COMPARISON

PCE Conc. (mg/L)												
TCE Conc. (mg/L)												
DCE Conc. (mg/L)												
VC Conc. (mg/L)												
ETH Conc. (mg/L)												
Distance from Source (ft)	0											
Date Data Collected												

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE | RUN ARRAY | Help | Restore | RESET | SEE OUTPUT | Paste

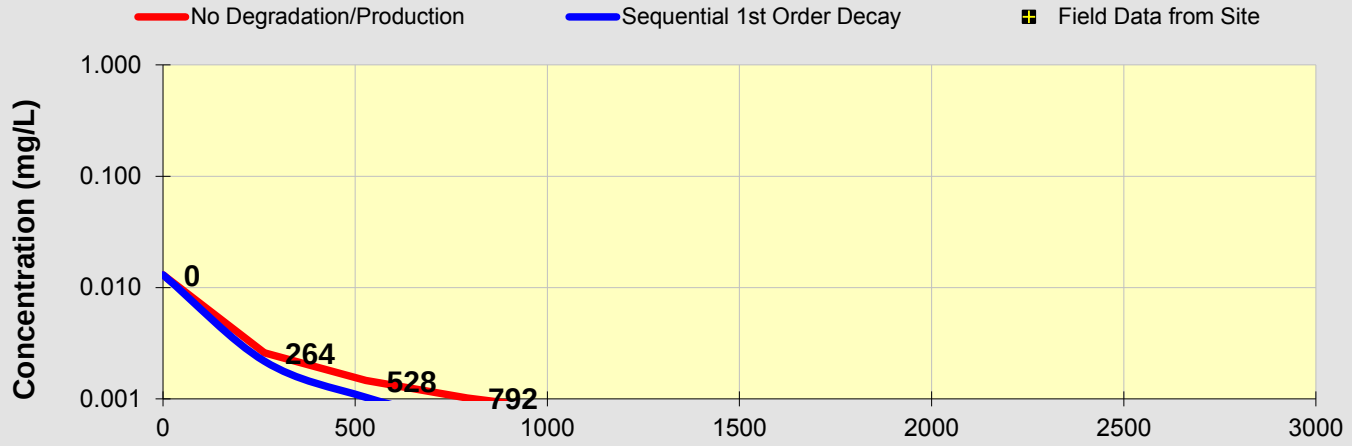
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

PCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.013	0.003	0.001	0.001	0.001	0.001	0.001	0.000	0.000	0.000	0.000
Biotransformation	0.0130	0.002	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

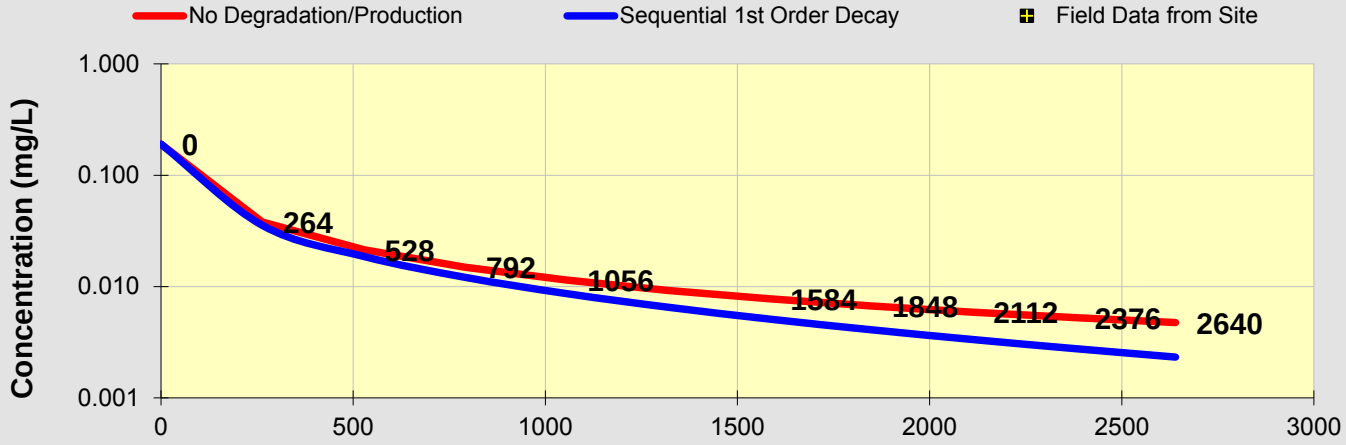
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

TCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.190	0.038	0.021	0.015	0.011	0.009	0.008	0.007	0.006	0.005	0.005
Biotransformation	0.1900	0.035	0.019	0.012	0.009	0.007	0.005	0.004	0.003	0.003	0.002

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

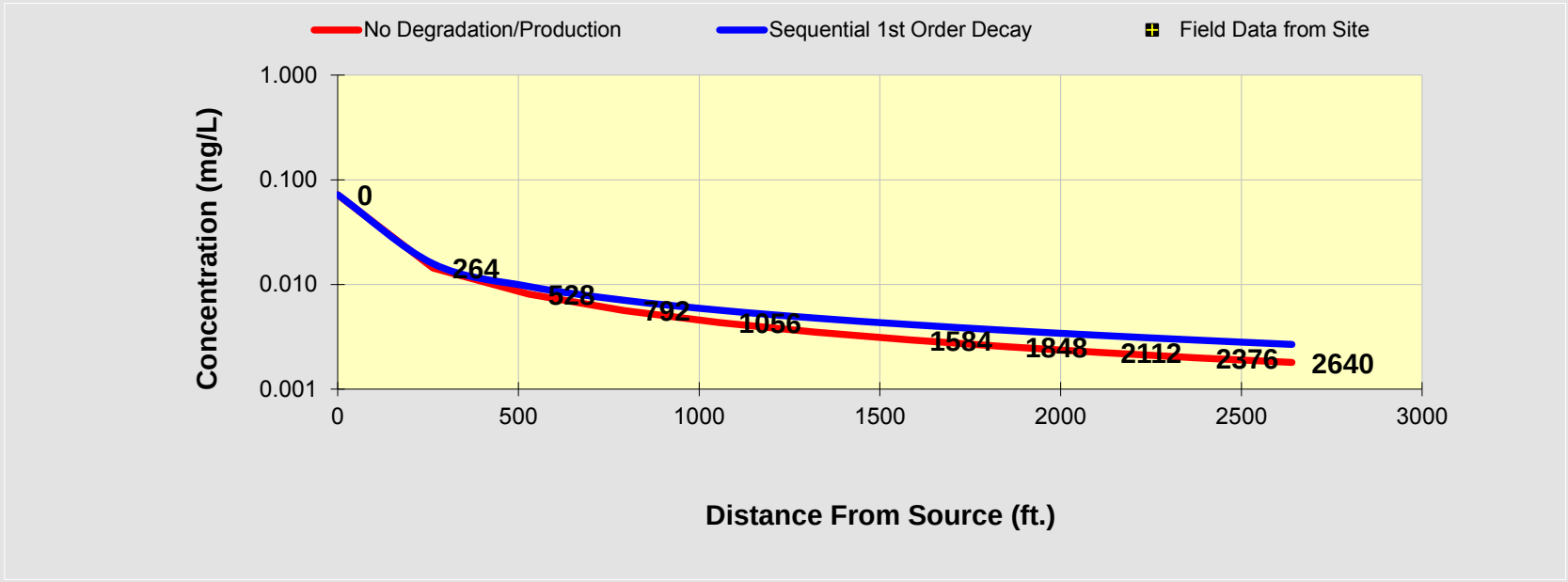
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

DCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.072	0.014	0.008	0.006	0.004	0.004	0.003	0.003	0.002	0.002	0.002
Biotransformation	0.0720	0.016	0.010	0.007	0.006	0.005	0.004	0.004	0.003	0.003	0.003

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

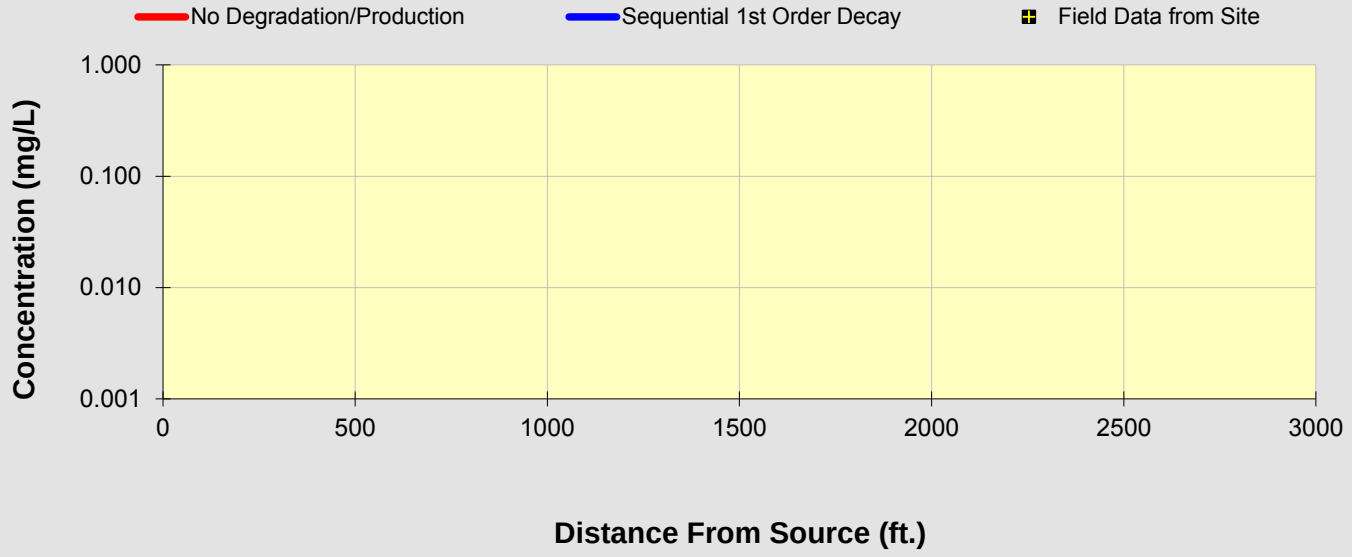
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

VC	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Biotransformation	0.0000	0.000	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

BIOCHLOR Natural Attenuation Decision Support System

Version 2.2
Excel 2000

Tech Town East Phase Till
Max, KB, DA, CONT
Run Name

TYPE OF CHLORINATED SOLVENT: Ethenes ◉ Ethanes ○

1. ADVECTION

Seepage Velocity*	Vs	0.0	(ft/yr)
or			
Hydraulic Conductivity	K	1.0E-07	(cm/sec)
Hydraulic Gradient	i	5.00E-03	(ft/ft)
Effective Porosity	n	0.3	(-)

2. DISPERSION

Alpha x*	36.543	(ft)
(Alpha y) / (Alpha x)*	0.33	(-)
(Alpha z) / (Alpha x)*	5.E-02	(-)

Calc. Alpha x

3. ADSORPTION

Retardation Factor* → R

or

Soil Bulk Density, rho		1.6	(kg/L)	
FractionOrganicCarbon, foc		1.0E-3	(-)	
Partition Coefficient	Koc			
PCE	265	(L/kg)	2.41	(-)
TCE	94	(L/kg)	1.50	(-)
DCE	36	(L/kg)	1.19	(-)
VC	19	(L/kg)	1.10	(-)
ETH	302	(L/kg)	2.61	(-)

Common R (used in model)* = 1.50

4. BIOTRANSFORMATION

-1st Order Decay Coefficient*

	λ (1/yr)	half-life (yrs)	Yield
Zone 1			
PCE → TCE	0.350		0.79
TCE → DCE	0.153		0.74
DCE → VC	0.088		0.64
VC → ETH	0.087		0.45
Zone 2	λ (1/yr)	half-life (yrs)	
PCE → TCE	0.000		
TCE → DCE	0.000		
DCE → VC	0.000		
VC → ETH	0.000		

λ HELP

5. GENERAL

Simulation Time*	100	(yr)
Modeled Area Width*	450	(ft)
Modeled Area Length*	2640	(ft)
Zone 1 Length*	2640	(ft)
Zone 2 Length*	0	(ft)

Zone 2= L - Zone 1

6. SOURCE DATA

TYPE: Continuous Single Planar

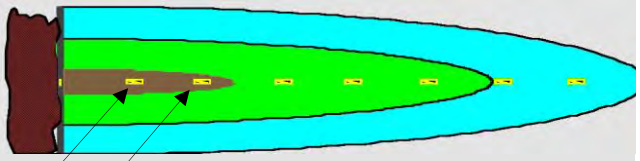
Source Options

Source Thickness in Sat. Zone* 10 (ft)

Width* (ft) Y1: 200

Conc. (mg/L)*	C1	k_s* (1/yr)
PCE	.013	0
TCE	.19	0
DCE	.072	0
VC		0
ETH		0

Vertical Plane Source: Determine Source Well Location and Input Solvent Concentrations



View of Plume Looking Down

Observed Centerline Conc. at Monitoring Wells

7. FIELD DATA FOR COMPARISON

PCE Conc. (mg/L)											
TCE Conc. (mg/L)											
DCE Conc. (mg/L)											
VC Conc. (mg/L)											
ETH Conc. (mg/L)											
Distance from Source (ft)	0										
Date Data Collected											

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE | **RUN ARRAY** | ***Help*** | Restore | RESET | ***SEE OUTPUT*** | Paste

Data Input Instructions:

115 ← 1. Enter value directly....or
↑ *or*
0.02 ← 2. Calculate by filling in gray cells. Press Enter, then C

(To restore formulas, hit "Restore Formulas" button)

Variable* → Data used directly in model.

Test if Biotransformation is Occurring → Natural Attenuation Screening Protocol

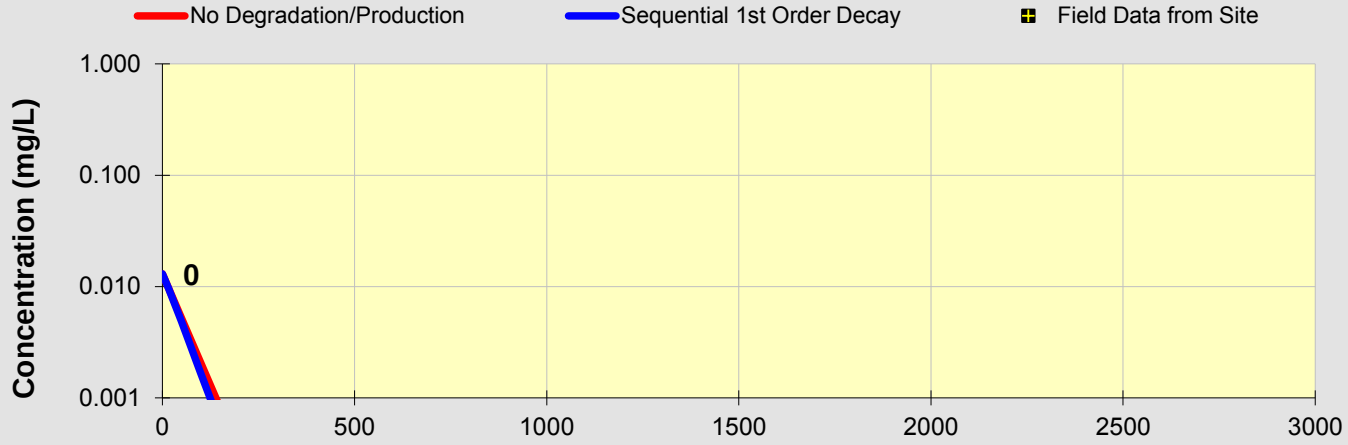
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

PCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.013	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Biotransformation	0.0130	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

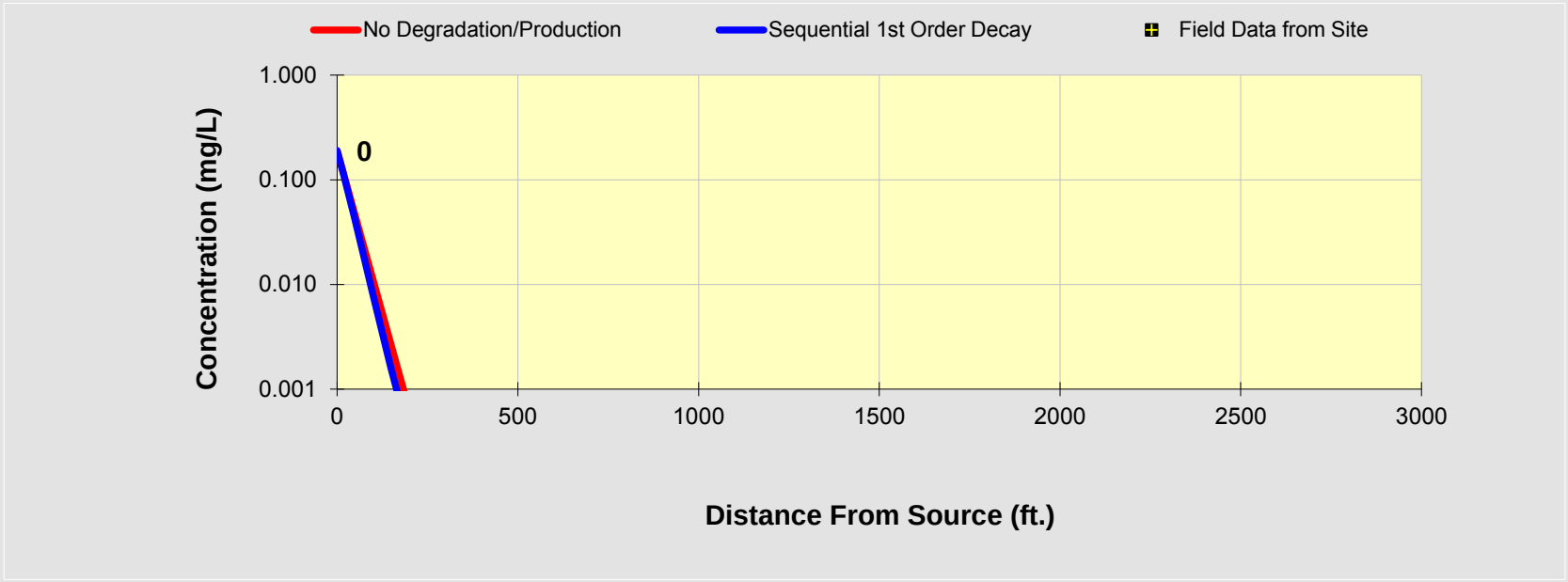
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

TCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.190	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Biotransformation	0.1900	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

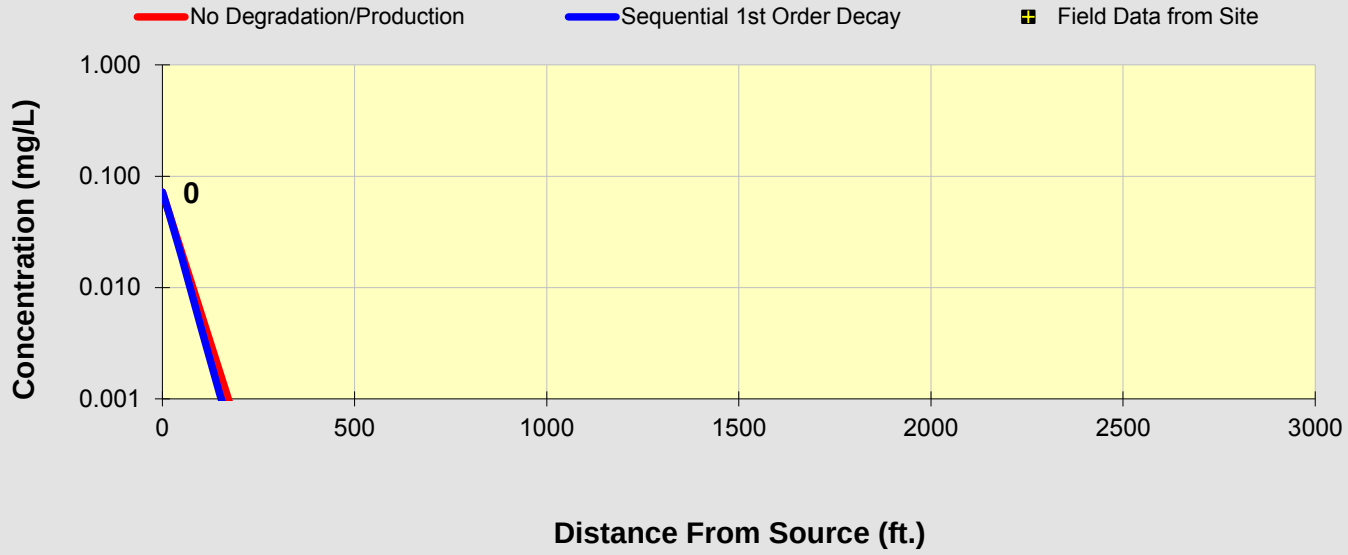
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

DCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.072	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Biotransformation	0.0720	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

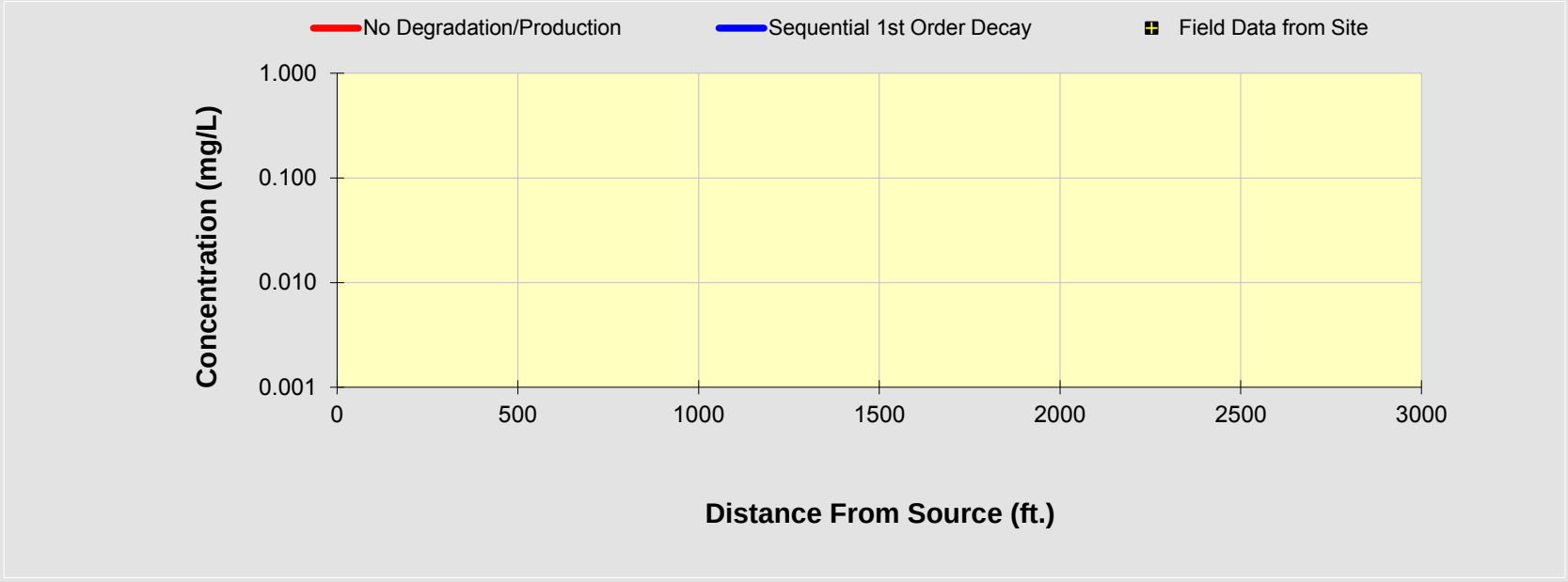
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

VC	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Biotransformation	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

BIOCHLOR Natural Attenuation Decision Support System

Version 2.2
Excel 2000

Tech Town East Phase Till
Max, KC, DA, CONT
Run Name

Data Input Instructions:
115 → 1. Enter value directly....or
↑ or
0.02 → 2. Calculate by filling in gray cells. Press Enter, then C
(To restore formulas, hit "Restore Formulas" button)
Variable* → Data used directly in model.

Test if Biotransformation is Occurring → Natural Attenuation Screening Protocol

TYPE OF CHLORINATED SOLVENT: Ethenes ◉ Ethanes ○

1. ADVECTION

Seepage Velocity*	Vs	1.0	(ft/yr)
or			
Hydraulic Conductivity	K	5.6E-05	(cm/sec)
Hydraulic Gradient	i	5.00E-03	(ft/ft)
Effective Porosity	n	0.3	(-)

2. DISPERSION

Alpha x*	36.543	(ft)
(Alpha y) / (Alpha x)*	0.33	(-)
(Alpha z) / (Alpha x)*	5.E-02	(-)

Calc. Alpha x

3. ADSORPTION

Retardation Factor* → R
or

Soil Bulk Density, rho		1.6	(kg/L)	
FractionOrganicCarbon, foc		1.0E-3	(-)	
Partition Coefficient	Koc			
PCE	265	(L/kg)	2.41	(-)
TCE	94	(L/kg)	1.50	(-)
DCE	36	(L/kg)	1.19	(-)
VC	19	(L/kg)	1.10	(-)
ETH	302	(L/kg)	2.61	(-)

Common R (used in model)* = 1.50

4. BIOTRANSFORMATION -1st Order Decay Coefficient*

Zone 1	λ (1/yr)	half-life (yrs)	Yield
PCE → TCE	0.350		0.79
TCE → DCE	0.153		0.74
DCE → VC	0.088		0.64
VC → ETH	0.087		0.45

Zone 2	λ (1/yr)	half-life (yrs)
PCE → TCE	0.000	
TCE → DCE	0.000	
DCE → VC	0.000	
VC → ETH	0.000	

λ HELP

5. GENERAL

Simulation Time*	100	(yr)
Modeled Area Width*	450	(ft)
Modeled Area Length*	2640	(ft)
Zone 1 Length*	2640	(ft)
Zone 2 Length*	0	(ft)

L, W

Zone 2= L - Zone 1

6. SOURCE DATA TYPE: Continuous Single Planar

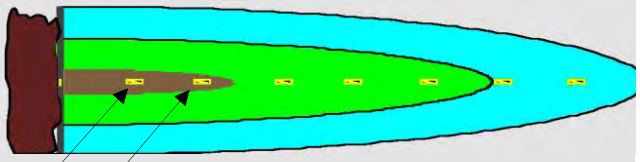
Source Options

Source Thickness in Sat. Zone* 10 (ft)

Width* (ft) Y1: 200

Conc. (mg/L)*	C1	k_s* (1/yr)
PCE	.013	0
TCE	.19	0
DCE	.072	0
VC		0
ETH		0

Vertical Plane Source: Determine Source Well Location and Input Solvent Concentrations



View of Plume Looking Down

Observed Centerline Conc. at Monitoring Wells

7. FIELD DATA FOR COMPARISON

PCE Conc. (mg/L)												
TCE Conc. (mg/L)												
DCE Conc. (mg/L)												
VC Conc. (mg/L)												
ETH Conc. (mg/L)												
Distance from Source (ft)	0											
Date Data Collected												

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE | RUN ARRAY | Help | Restore | RESET | SEE OUTPUT | Paste

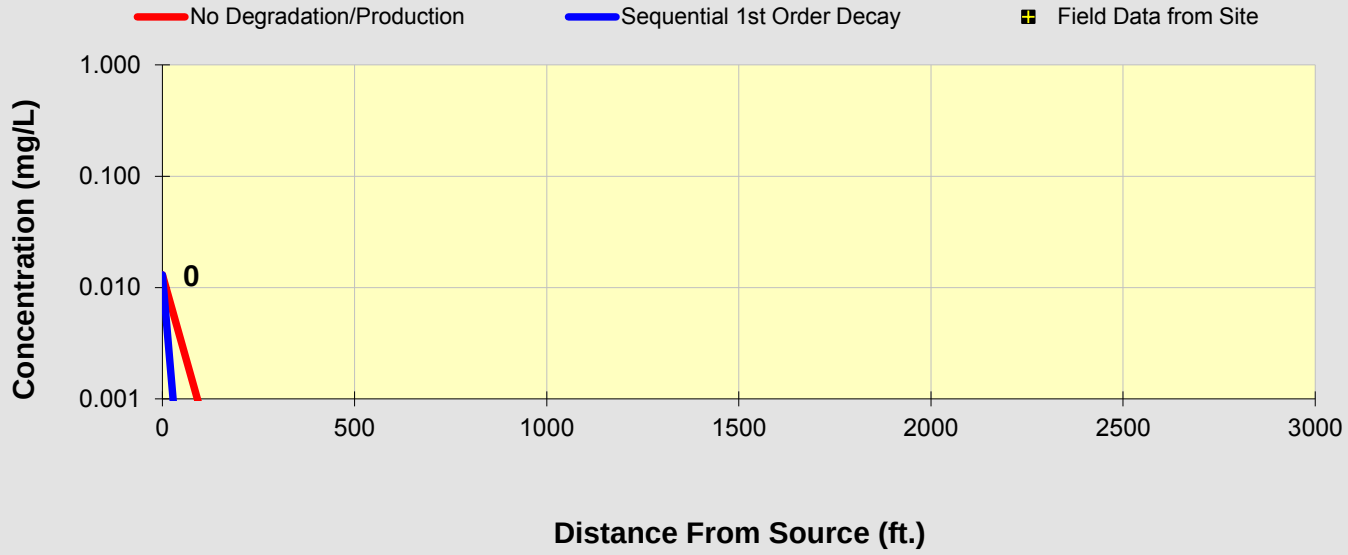
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

PCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.013	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Biotransformation	0.0130	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

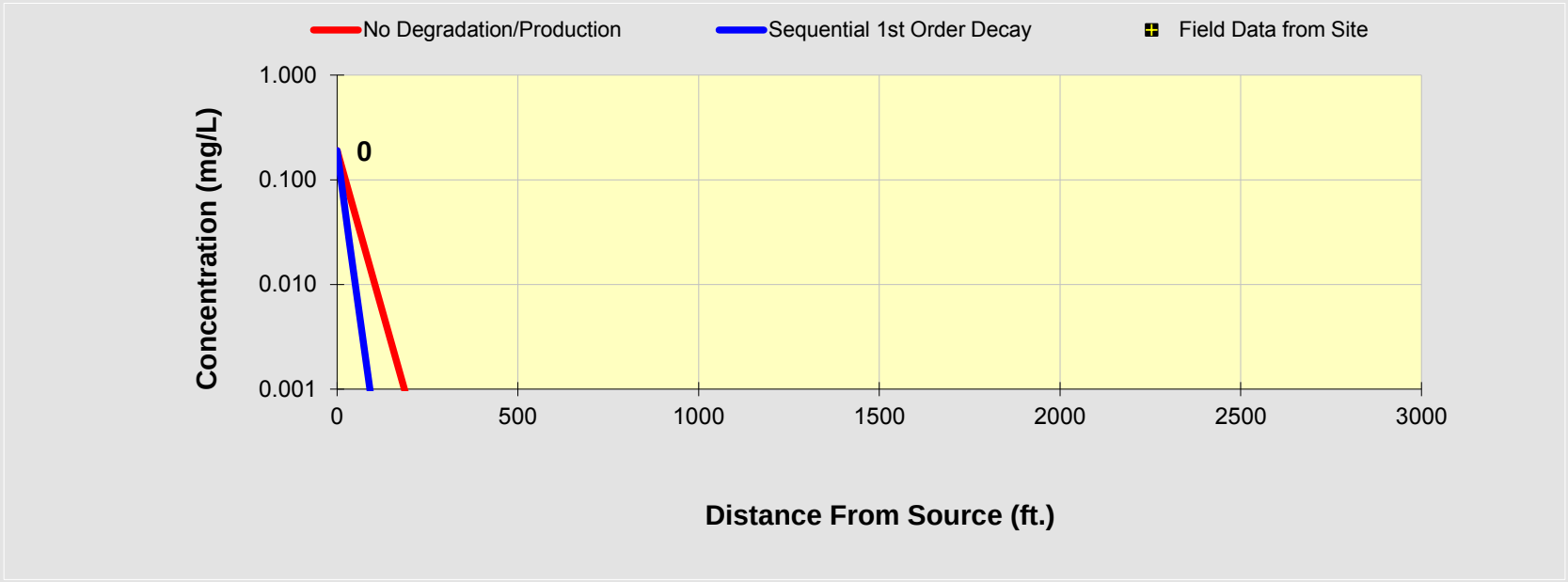
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

TCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.190	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Biotransformation	0.1900	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

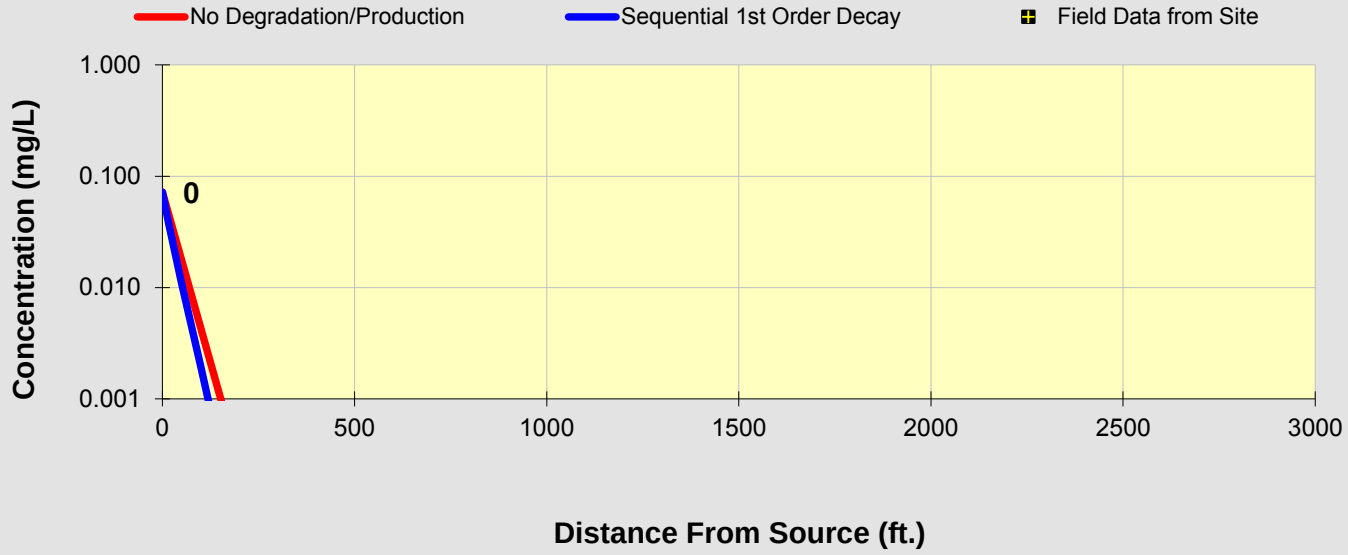
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

DCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.072	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Biotransformation	0.0720	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

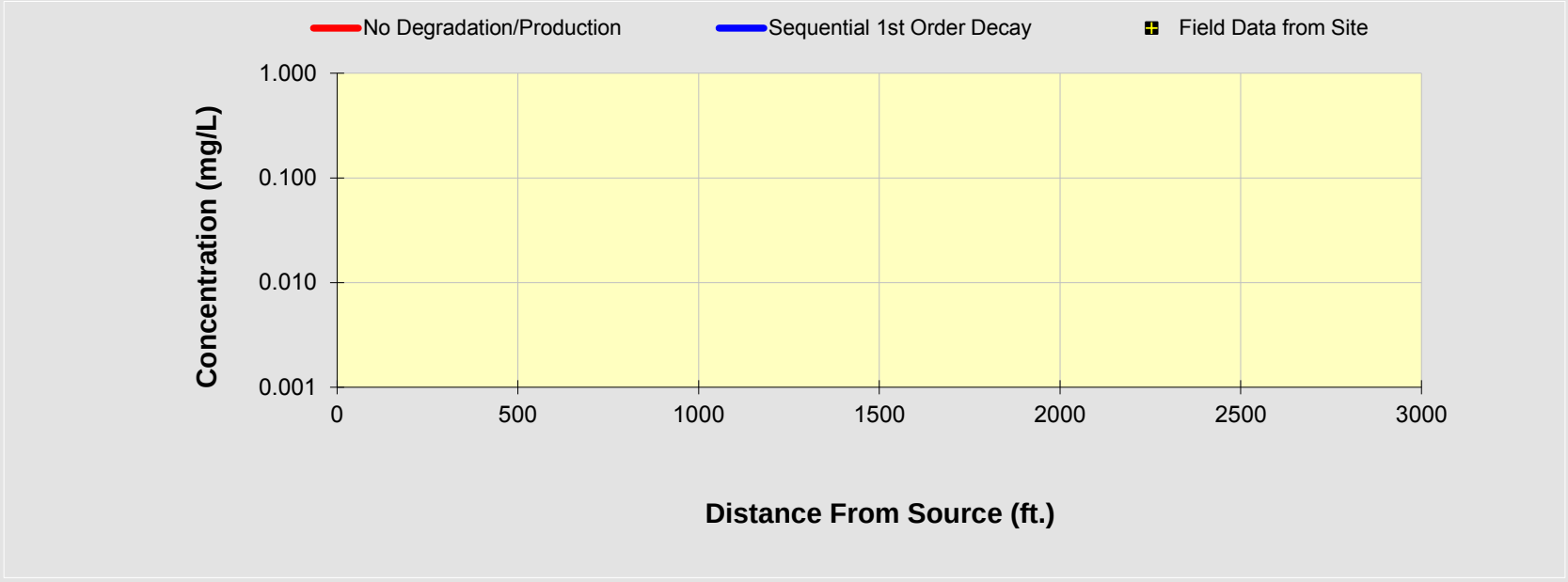
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

VC	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Biotransformation	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

BIOCHLOR Natural Attenuation Decision Support System

Version 2.2
Excel 2000

Tech Town East Phase Till
Max, KA, DB, CONT
Run Name

TYPE OF CHLORINATED SOLVENT: Ethenes ◉ Ethanes ○

1. ADVECTION

Seepage Velocity*	Vs	517.3	(ft/yr)
or			
Hydraulic Conductivity	K	3.0E-02	(cm/sec)
Hydraulic Gradient	i	5.00E-03	(ft/ft)
Effective Porosity	n	0.3	(-)

2. DISPERSION

Alpha x*	36.543	(ft)
(Alpha y) / (Alpha x)*	0.33	(-)
(Alpha z) / (Alpha x)*	5.E-02	(-)

Calc. Alpha x

3. ADSORPTION

Retardation Factor* → R

or

Soil Bulk Density, rho		1.6	(kg/L)	
FractionOrganicCarbon, foc		1.0E-3	(-)	
Partition Coefficient	Koc			
PCE	265	(L/kg)	2.41	(-)
TCE	94	(L/kg)	1.50	(-)
DCE	36	(L/kg)	1.19	(-)
VC	19	(L/kg)	1.10	(-)
ETH	302	(L/kg)	2.61	(-)

Common R (used in model)* = 1.50

4. BIOTRANSFORMATION

-1st Order Decay Coefficient*

	λ (1/yr)	half-life (yrs)	Yield
Zone 1			
PCE → TCE	0.799		0.79
TCE → DCE	0.299		0.74
DCE → VC	0.099		0.64
VC → ETH	0.399		0.45
Zone 2	λ (1/yr)	half-life (yrs)	
PCE → TCE	0.000		
TCE → DCE	0.000		
DCE → VC	0.000		
VC → ETH	0.000		

λ HELP

5. GENERAL

Simulation Time*	100	(yr)
Modeled Area Width*	450	(ft)
Modeled Area Length*	2640	(ft)
Zone 1 Length*	2640	(ft)
Zone 2 Length*	0	(ft)

Zone 2= L - Zone 1

6. SOURCE DATA

TYPE: Continuous Single Planar

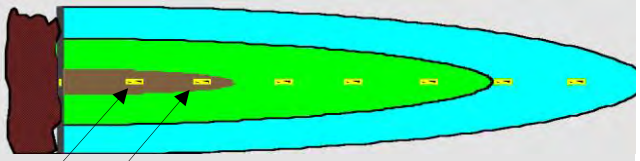
Source Options

Source Thickness in Sat. Zone* 10 (ft)

Width* (ft) Y1: 200

Conc. (mg/L)*	C1	k_s* (1/yr)
PCE	.013	0
TCE	.19	0
DCE	.072	0
VC		0
ETH		0

Vertical Plane Source: Determine Source Well Location and Input Solvent Concentrations



View of Plume Looking Down

Observed Centerline Conc. at Monitoring Wells

7. FIELD DATA FOR COMPARISON

PCE Conc. (mg/L)												
TCE Conc. (mg/L)												
DCE Conc. (mg/L)												
VC Conc. (mg/L)												
ETH Conc. (mg/L)												
Distance from Source (ft)	0											
Date Data Collected												

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE | **RUN ARRAY** | ***Help*** | Restore | RESET | ***SEE OUTPUT*** | Paste

Data Input Instructions:

115 ← 1. Enter value directly....or
↑ *or*
0.02 ← 2. Calculate by filling in gray cells. Press Enter, then C

(To restore formulas, hit "Restore Formulas" button)

Variable* → Data used directly in model.

Test if Biotransformation is Occurring → Natural Attenuation Screening Protocol

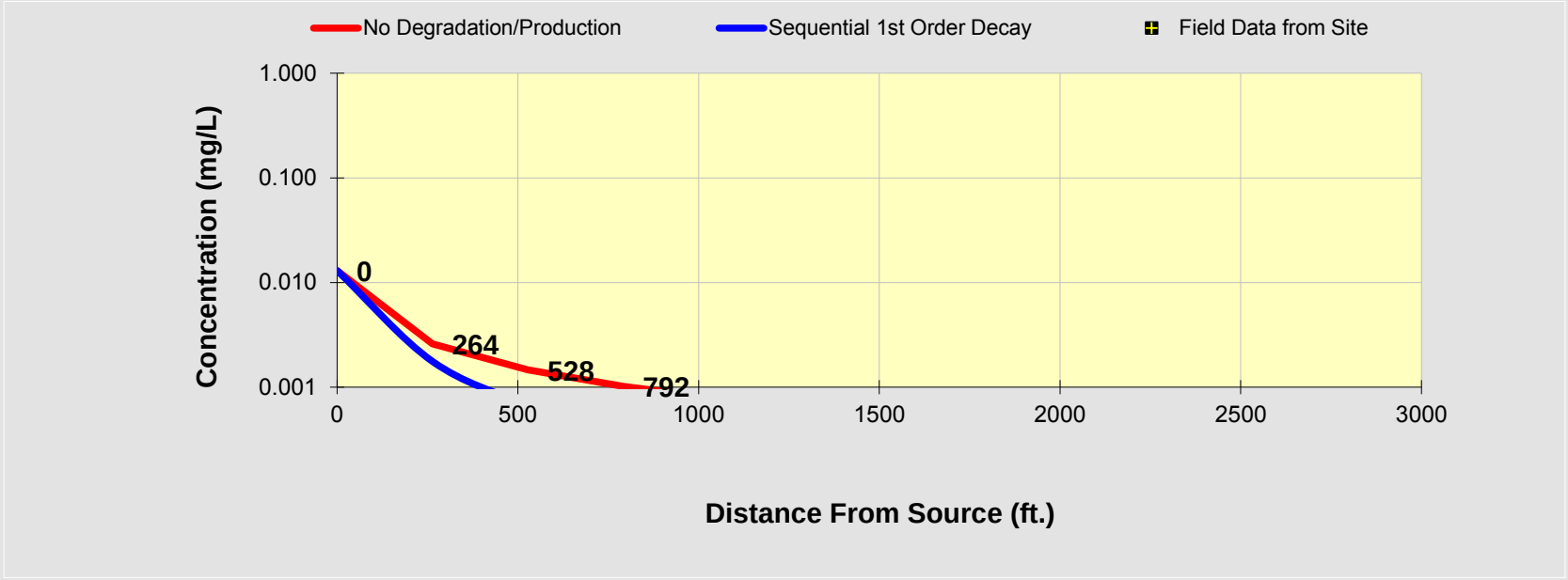
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

PCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.013	0.003	0.001	0.001	0.001	0.001	0.001	0.000	0.000	0.000	0.000
Biotransformation	0.0130	0.002	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

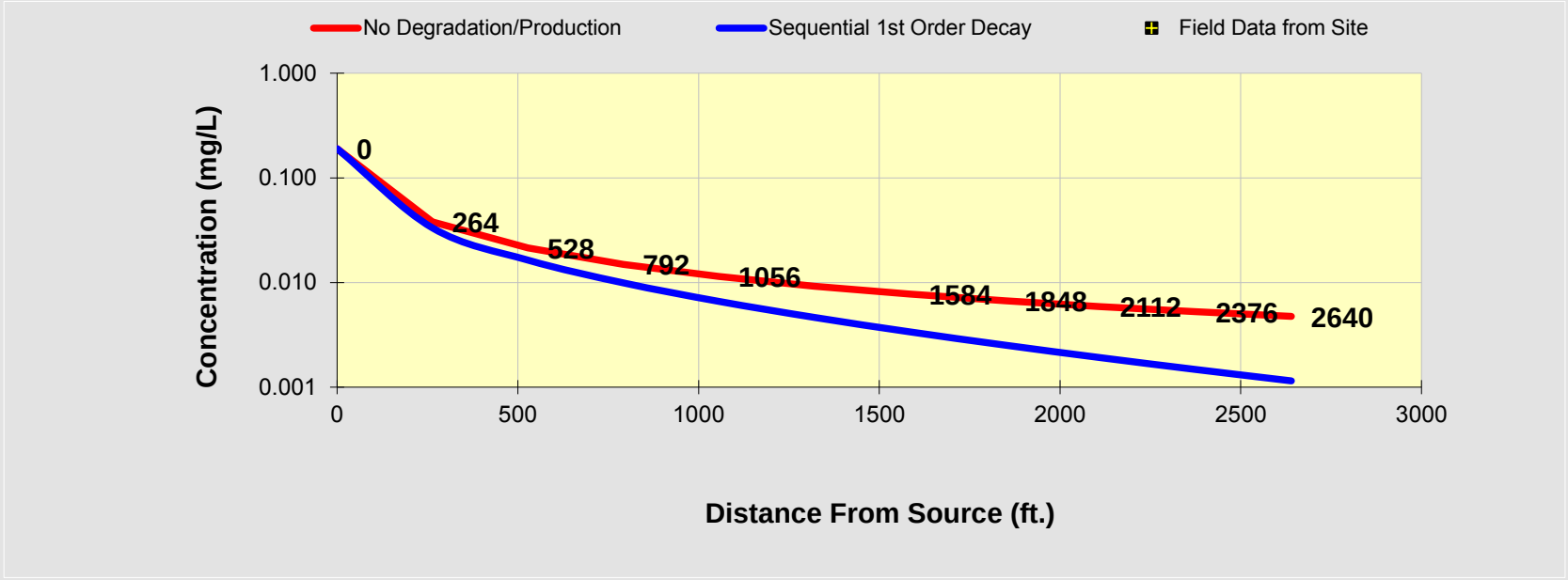
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

TCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.190	0.038	0.021	0.015	0.011	0.009	0.008	0.007	0.006	0.005	0.005
Biotransformation	0.1900	0.033	0.016	0.010	0.007	0.005	0.003	0.003	0.002	0.001	0.001

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

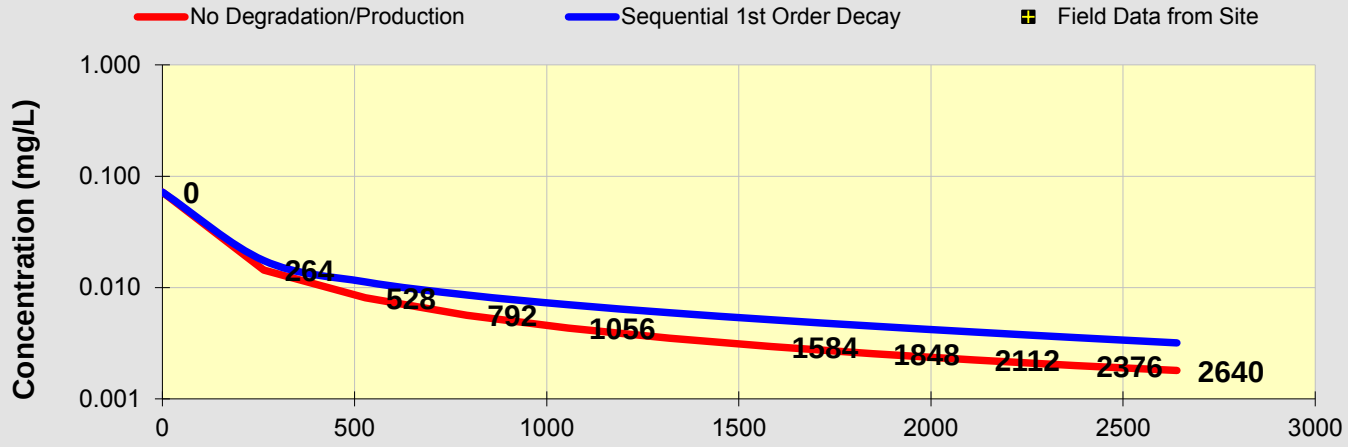
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

DCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.072	0.014	0.008	0.006	0.004	0.004	0.003	0.003	0.002	0.002	0.002
Biotransformation	0.0720	0.017	0.011	0.009	0.007	0.006	0.005	0.005	0.004	0.004	0.003

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

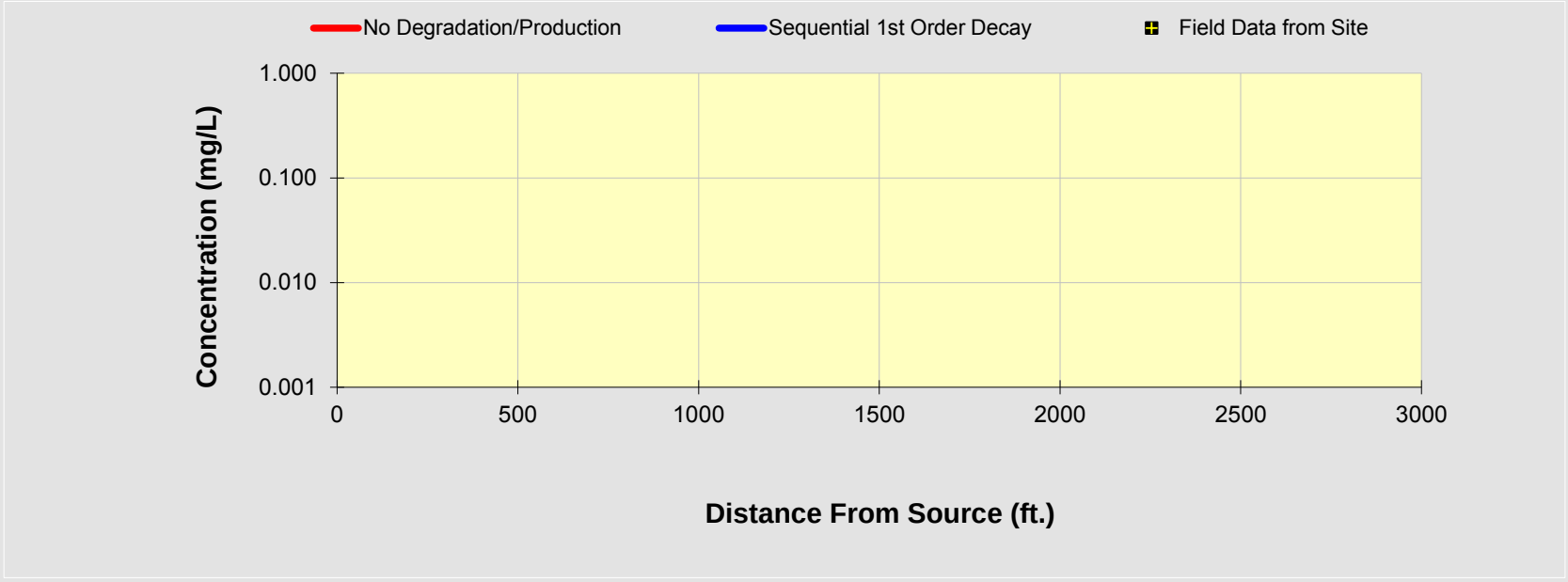
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

VC	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Biotransformation	0.0000	0.000	0.001	0.001	0.001	0.001	0.001	0.000	0.000	0.000	0.000

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

BIOCHLOR Natural Attenuation Decision Support System

Version 2.2
Excel 2000

Tech Town East Phase Till
Max, KB, DB, CONT
Run Name

Data Input Instructions:
115 → 1. Enter value directly....or
↑ or
0.02 → 2. Calculate by filling in gray cells. Press Enter, then C
(To restore formulas, hit "Restore Formulas" button)
Variable* → Data used directly in model.

Test if Biotransformation is Occurring → Natural Attenuation Screening Protocol

TYPE OF CHLORINATED SOLVENT: Ethenes ◉ Ethanes ○

1. ADVECTION

Seepage Velocity*	Vs	0.0	(ft/yr)
or			
Hydraulic Conductivity	K	1.0E-07	(cm/sec)
Hydraulic Gradient	i	5.00E-03	(ft/ft)
Effective Porosity	n	0.3	(-)

2. DISPERSION

Alpha x*	36.543	(ft)
(Alpha y) / (Alpha x)*	0.33	(-)
(Alpha z) / (Alpha x)*	5.E-02	(-)

Calc. Alpha x

3. ADSORPTION

Retardation Factor* → R
or

Soil Bulk Density, rho	1.6	(kg/L)		
FractionOrganicCarbon, foc	1.0E-3	(-)		
Partition Coefficient	Koc			
PCE	265	(L/kg)	2.41	(-)
TCE	94	(L/kg)	1.50	(-)
DCE	36	(L/kg)	1.19	(-)
VC	19	(L/kg)	1.10	(-)
ETH	302	(L/kg)	2.61	(-)
Common R (used in model)* =			**1.50**	

4. BIOTRANSFORMATION

-1st Order Decay Coefficient*

	Zone 1 λ (1/yr)	half-life (yrs)	Yield
PCE → TCE	0.799		0.79
TCE → DCE	0.299		0.74
DCE → VC	0.099		0.64
VC → ETH	0.399		0.45

	Zone 2 λ (1/yr)	half-life (yrs)
PCE → TCE	0.000	
TCE → DCE	0.000	
DCE → VC	0.000	
VC → ETH	0.000	

λ HELP

5. GENERAL

Simulation Time*	100	(yr)
Modeled Area Width*	450	(ft)
Modeled Area Length*	2640	(ft)
Zone 1 Length*	2640	(ft)
Zone 2 Length*	0	(ft)

L, W

Zone 2= L - Zone 1

6. SOURCE DATA

TYPE: Continuous Single Planar

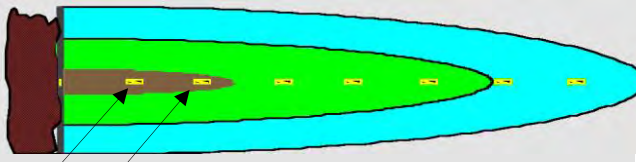
Source Options

Source Thickness in Sat. Zone* 10 (ft)

Width* (ft) Y1: 200

Conc. (mg/L)*	C1	k_s* (1/yr)
PCE	.013	0
TCE	.19	0
DCE	.072	0
VC		0
ETH		0

Vertical Plane Source: Determine Source Well Location and Input Solvent Concentrations



View of Plume Looking Down

Observed Centerline Conc. at Monitoring Wells

7. FIELD DATA FOR COMPARISON

PCE Conc. (mg/L)												
TCE Conc. (mg/L)												
DCE Conc. (mg/L)												
VC Conc. (mg/L)												
ETH Conc. (mg/L)												
Distance from Source (ft)	0											
Date Data Collected												

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE | RUN ARRAY | Help | Restore | RESET | SEE OUTPUT | Paste

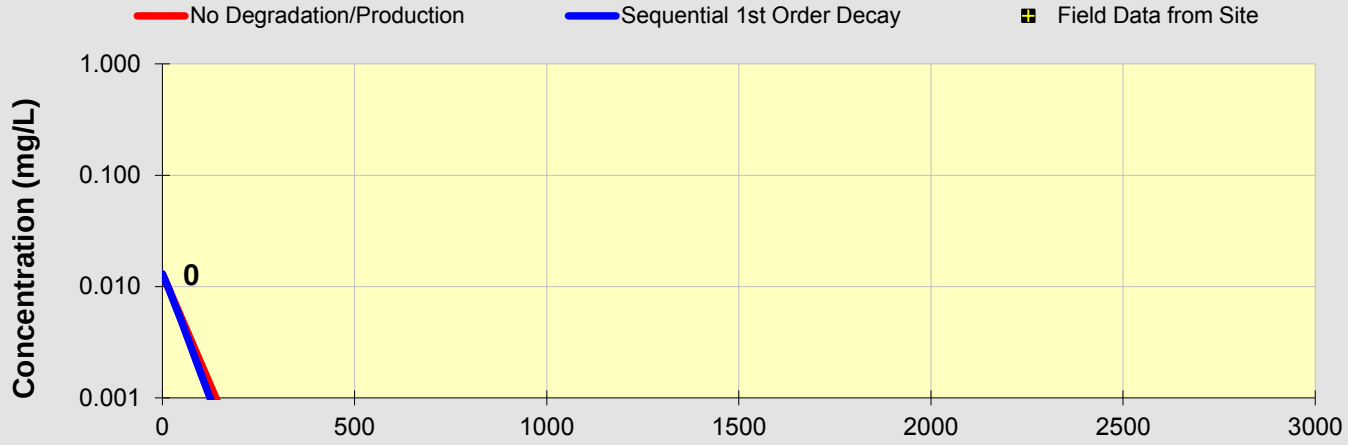
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

PCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.013	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Biotransformation	0.0130	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

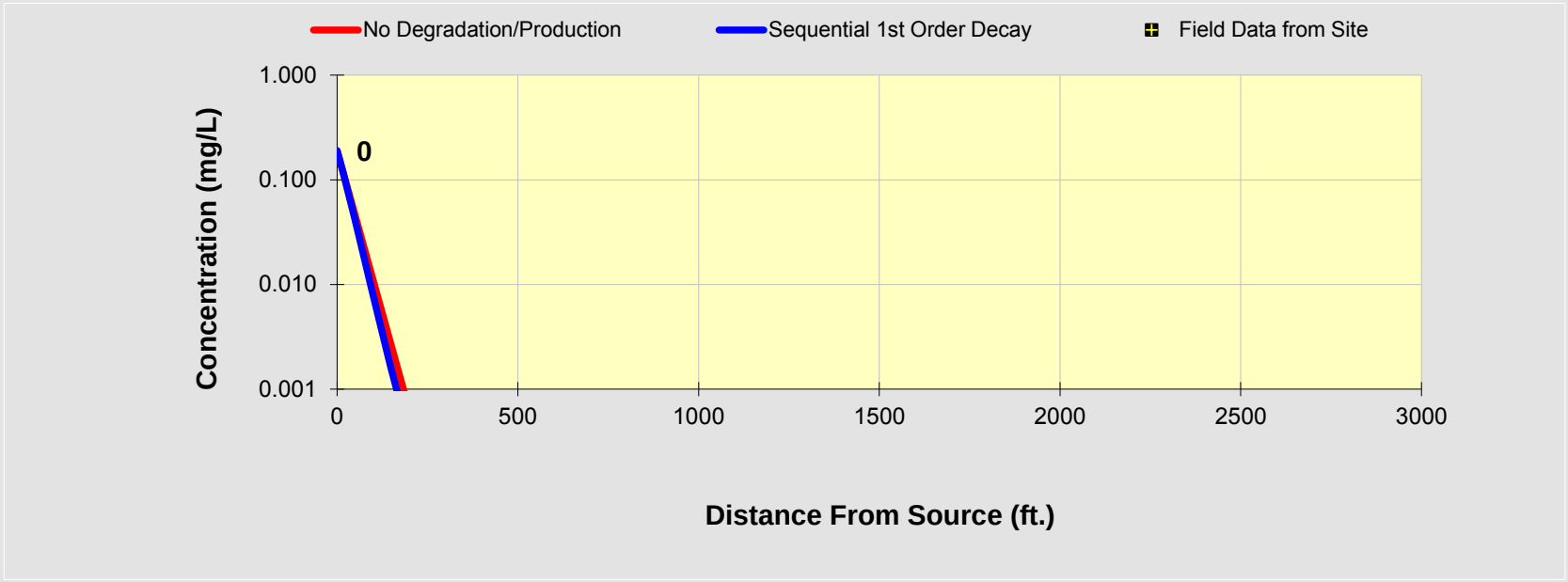
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

TCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.190	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Biotransformation	0.1900	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

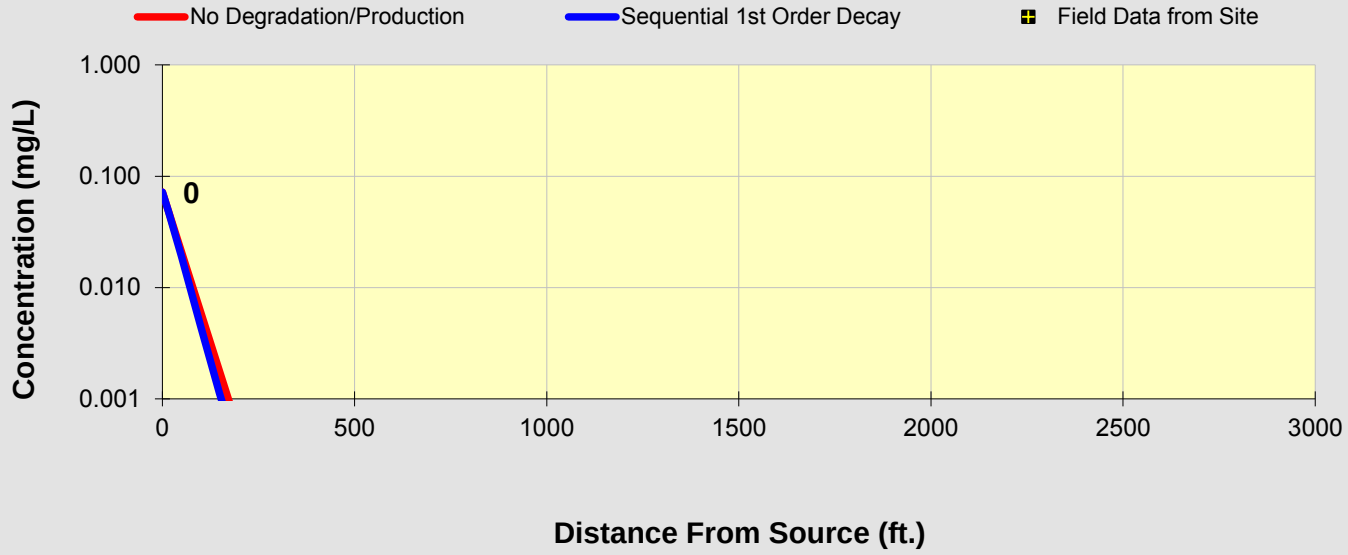
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

DCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.072	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Biotransformation	0.0720	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

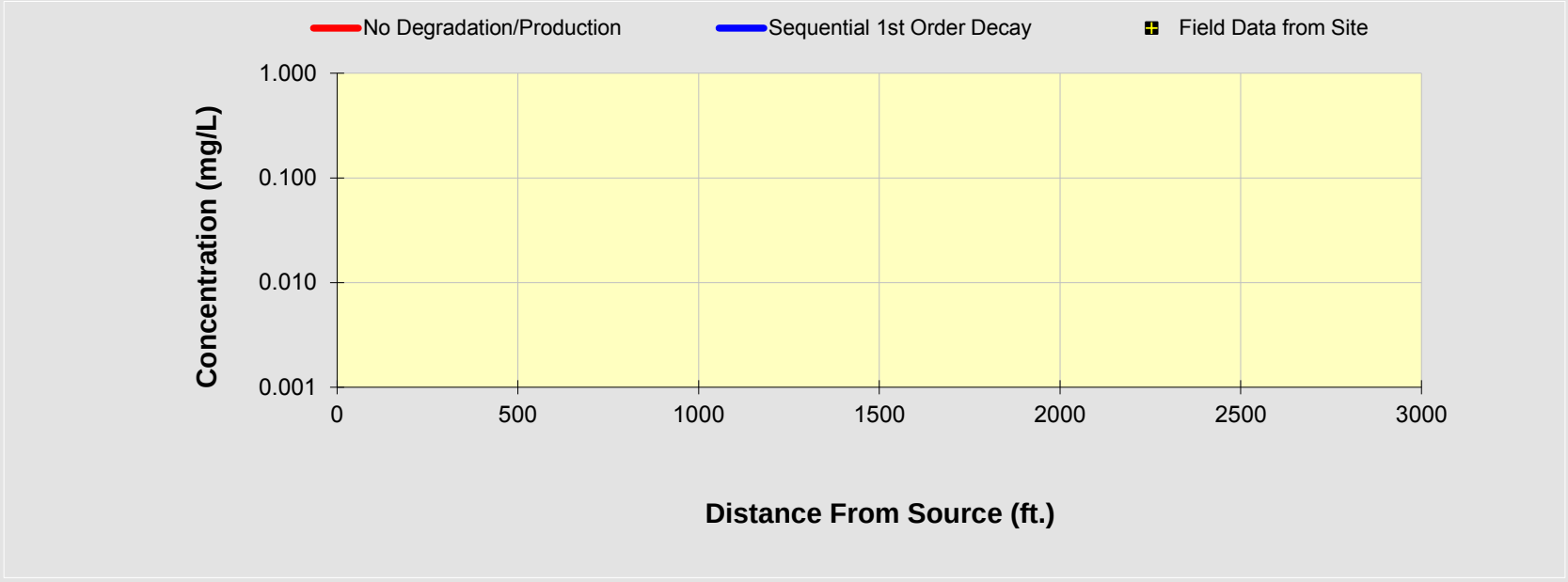
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

VC	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Biotransformation	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

BIOCHLOR Natural Attenuation Decision Support System

Version 2.2
Excel 2000

Tech Town East Phase Till
Max, KC, DB, CONT
Run Name

Data Input Instructions:
115 → 1. Enter value directly....or
↑ or
0.02 → 2. Calculate by filling in gray cells. Press Enter, then C
(To restore formulas, hit "Restore Formulas" button)
Variable* → Data used directly in model.

Test if Biotransformation is Occurring → Natural Attenuation Screening Protocol

TYPE OF CHLORINATED SOLVENT: Ethenes ◉ Ethanes ○

1. ADVECTION

Seepage Velocity*	Vs	1.0	(ft/yr)
or			
Hydraulic Conductivity	K	5.6E-05	(cm/sec)
Hydraulic Gradient	i	5.00E-03	(ft/ft)
Effective Porosity	n	0.3	(-)

2. DISPERSION

Alpha x*	36.543	(ft)
(Alpha y) / (Alpha x)*	0.33	(-)
(Alpha z) / (Alpha x)*	5.E-02	(-)

Calc. Alpha x

3. ADSORPTION

Retardation Factor* → R
or

Soil Bulk Density, rho		1.6	(kg/L)	
FractionOrganicCarbon, foc		1.0E-3	(-)	
Partition Coefficient	Koc			
PCE	265	(L/kg)	2.41	(-)
TCE	94	(L/kg)	1.50	(-)
DCE	36	(L/kg)	1.19	(-)
VC	19	(L/kg)	1.10	(-)
ETH	302	(L/kg)	2.61	(-)

Common R (used in model)* = 1.50

4. BIOTRANSFORMATION -1st Order Decay Coefficient*

	λ (1/yr)	half-life (yrs)	Yield
Zone 1			
PCE → TCE	0.799		0.79
TCE → DCE	0.299		0.74
DCE → VC	0.099		0.64
VC → ETH	0.399		0.45
Zone 2	λ (1/yr)	half-life (yrs)	
PCE → TCE	0.000		
TCE → DCE	0.000		
DCE → VC	0.000		
VC → ETH	0.000		

λ HELP

5. GENERAL

Simulation Time*	100	(yr)
Modeled Area Width*	450	(ft)
Modeled Area Length*	2640	(ft)
Zone 1 Length*	2640	(ft)
Zone 2 Length*	0	(ft)

L, W

Zone 2= L - Zone 1

6. SOURCE DATA TYPE: Continuous Single Planar

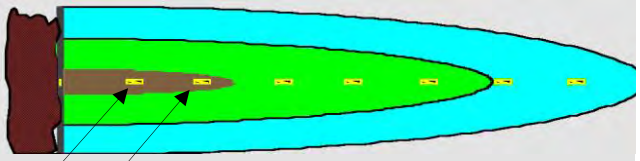
Source Options

Source Thickness in Sat. Zone* 10 (ft)

Width* (ft) Y1: 200

Conc. (mg/L)*	C1	k_s* (1/yr)
PCE	.013	0
TCE	.19	0
DCE	.072	0
VC		0
ETH		0

Vertical Plane Source: Determine Source Well Location and Input Solvent Concentrations



View of Plume Looking Down

Observed Centerline Conc. at Monitoring Wells

7. FIELD DATA FOR COMPARISON

PCE Conc. (mg/L)												
TCE Conc. (mg/L)												
DCE Conc. (mg/L)												
VC Conc. (mg/L)												
ETH Conc. (mg/L)												
Distance from Source (ft)	0											
Date Data Collected												

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE | RUN ARRAY | Help | Restore | RESET | SEE OUTPUT | Paste

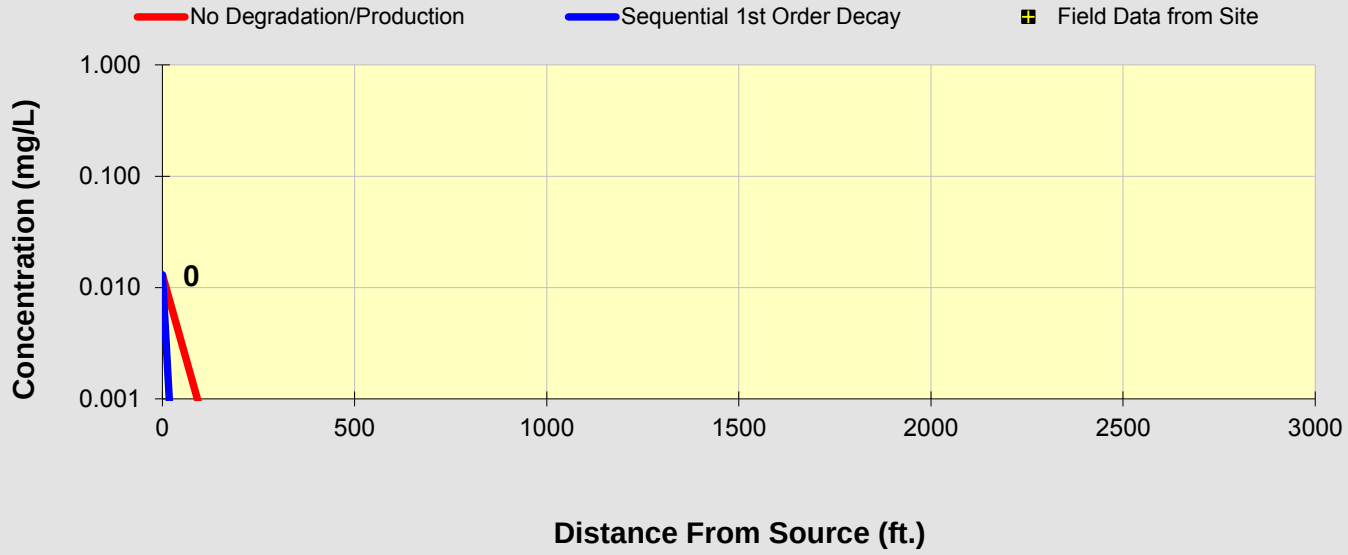
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

PCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.013	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Biotransformation	0.0130	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

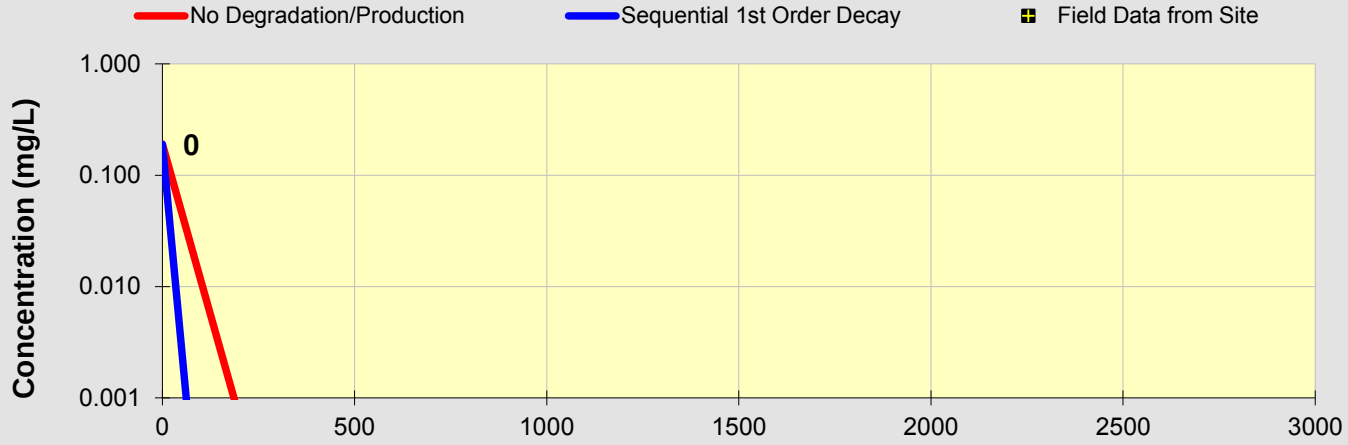
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

TCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.190	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Biotransformation	0.1900	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

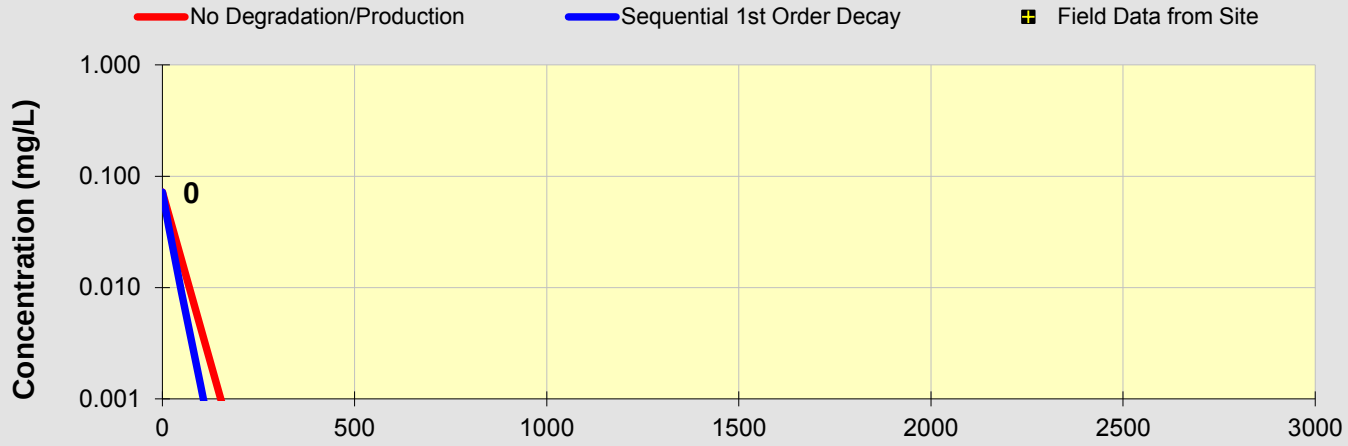
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

DCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.072	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Biotransformation	0.0720	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

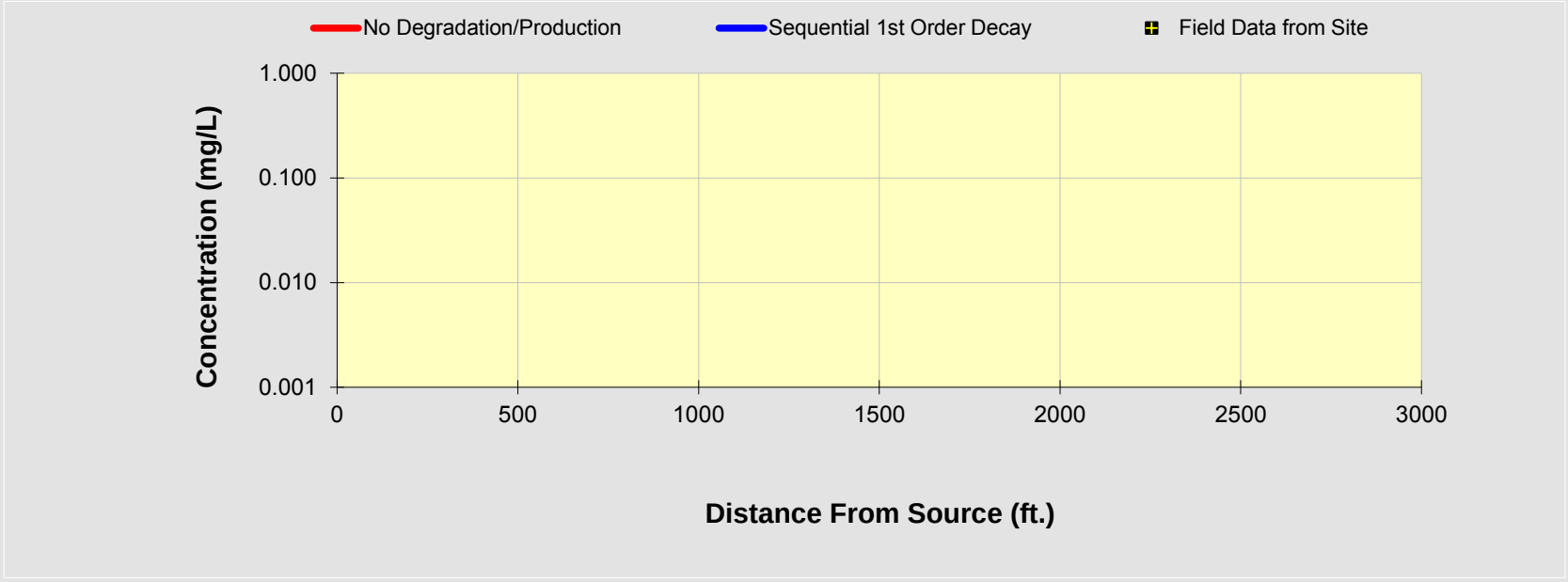
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

VC	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Biotransformation	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

BIOCHLOR Natural Attenuation Decision Support System

Version 2.2
Excel 2000

Tech Town East Phase Till
Max, KA, DA, Decay
Run Name

TYPE OF CHLORINATED SOLVENT: Ethenes ◉ Ethanes ○

1. ADVECTION

Seepage Velocity*	Vs	517.3	(ft/yr)
or			
Hydraulic Conductivity	K	3.0E-02	(cm/sec)
Hydraulic Gradient	i	5.00E-03	(ft/ft)
Effective Porosity	n	0.3	(-)

2. DISPERSION

Alpha x*	36.543	(ft)
(Alpha y) / (Alpha x)*	0.33	(-)
(Alpha z) / (Alpha x)*	5.E-02	(-)

Calc. Alpha x

3. ADSORPTION

Retardation Factor* → R

or

Soil Bulk Density, rho	1.6	(kg/L)		
FractionOrganicCarbon, foc	1.0E-3	(-)		
Partition Coefficient	Koc			
PCE	265	(L/kg)	2.41	(-)
TCE	94	(L/kg)	1.50	(-)
DCE	36	(L/kg)	1.19	(-)
VC	19	(L/kg)	1.10	(-)
ETH	302	(L/kg)	2.61	(-)
Common R (used in model)* =			**1.50**	

4. BIOTRANSFORMATION

-1st Order Decay Coefficient*

	λ (1/yr)	half-life (yrs)	Yield
Zone 1			
PCE → TCE	0.350		0.79
TCE → DCE	0.153		0.74
DCE → VC	0.088		0.64
VC → ETH	0.087		0.45
Zone 2	λ (1/yr)	half-life (yrs)	
PCE → TCE	0.000		
TCE → DCE	0.000		
DCE → VC	0.000		
VC → ETH	0.000		

λ HELP

5. GENERAL

Simulation Time*	100	(yr)
Modeled Area Width*	450	(ft)
Modeled Area Length*	2640	(ft)
Zone 1 Length*	2640	(ft)
Zone 2 Length*	0	(ft)

L, W

Zone 2= L - Zone 1

6. SOURCE DATA

TYPE: Decaying Single Planar

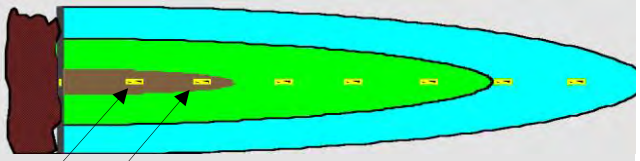
Source Options

Source Thickness in Sat. Zone* 10 (ft)

Width* (ft) Y1: 450

Conc. (mg/L)*	C1	k_s* (1/yr)
PCE	.013	0.049
TCE	.19	0.049
DCE	.072	0.049
VC		0.049
ETH		0.049

Vertical Plane Source: Determine Source Well Location and Input Solvent Concentrations



View of Plume Looking Down

Observed Centerline Conc. at Monitoring Wells

7. FIELD DATA FOR COMPARISON

PCE Conc. (mg/L)											
TCE Conc. (mg/L)											
DCE Conc. (mg/L)											
VC Conc. (mg/L)											
ETH Conc. (mg/L)											
Distance from Source (ft)	0										
Date Data Collected											

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE | RUN ARRAY | Help | Restore | RESET | SEE OUTPUT | Paste

Data Input Instructions:

115 → 1. Enter value directly....or
↑ or
0.02 → 2. Calculate by filling in gray cells. Press Enter, then C

(To restore formulas, hit "Restore Formulas" button)

Variable* → Data used directly in model.

Test if Biotransformation is Occurring → Natural Attenuation Screening Protocol

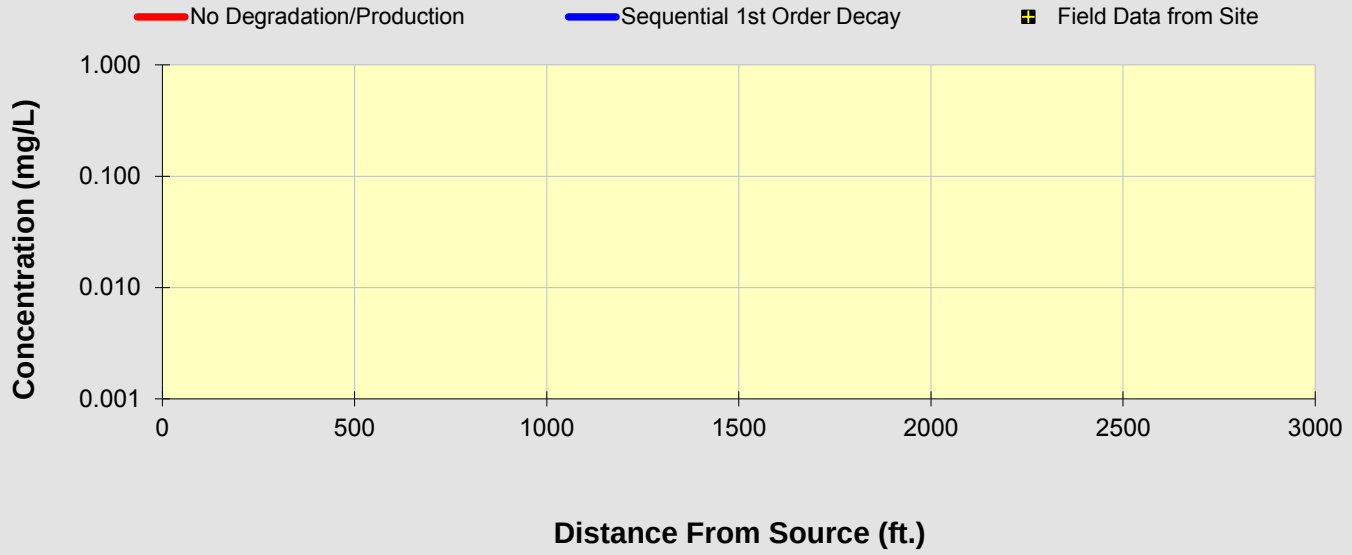
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

PCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Biotransformation	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

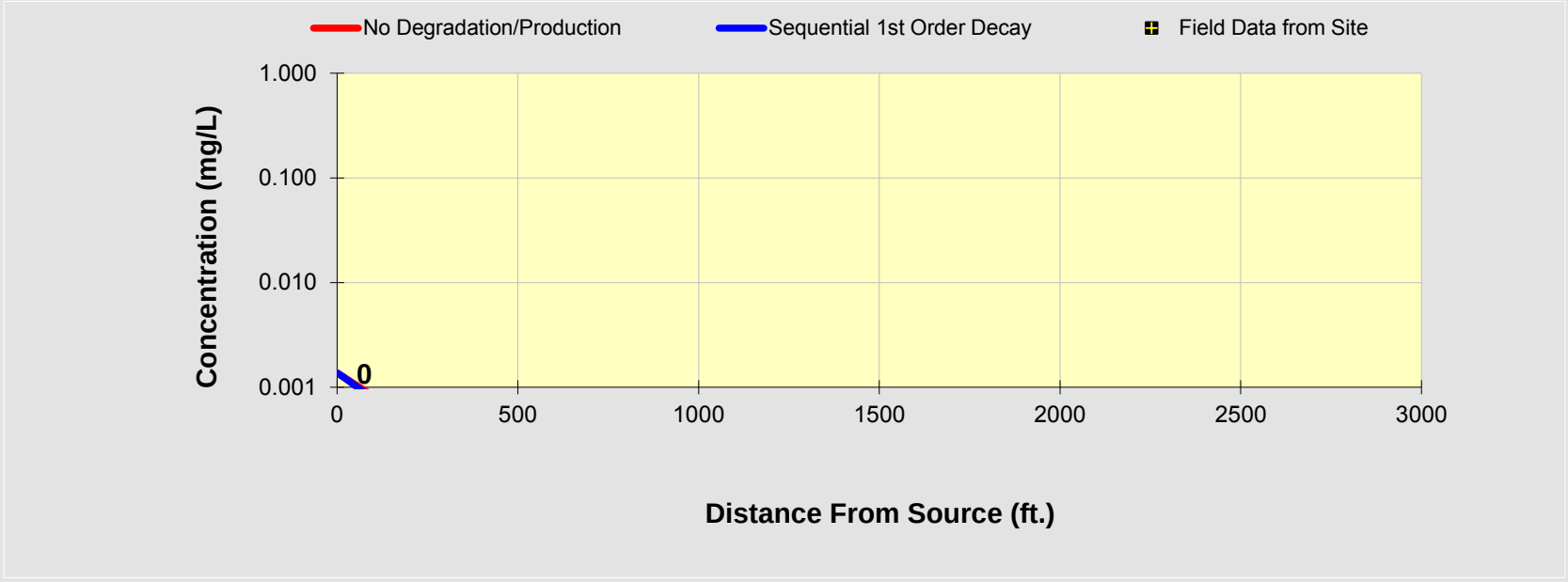
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

TCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Biotransformation	0.0014	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

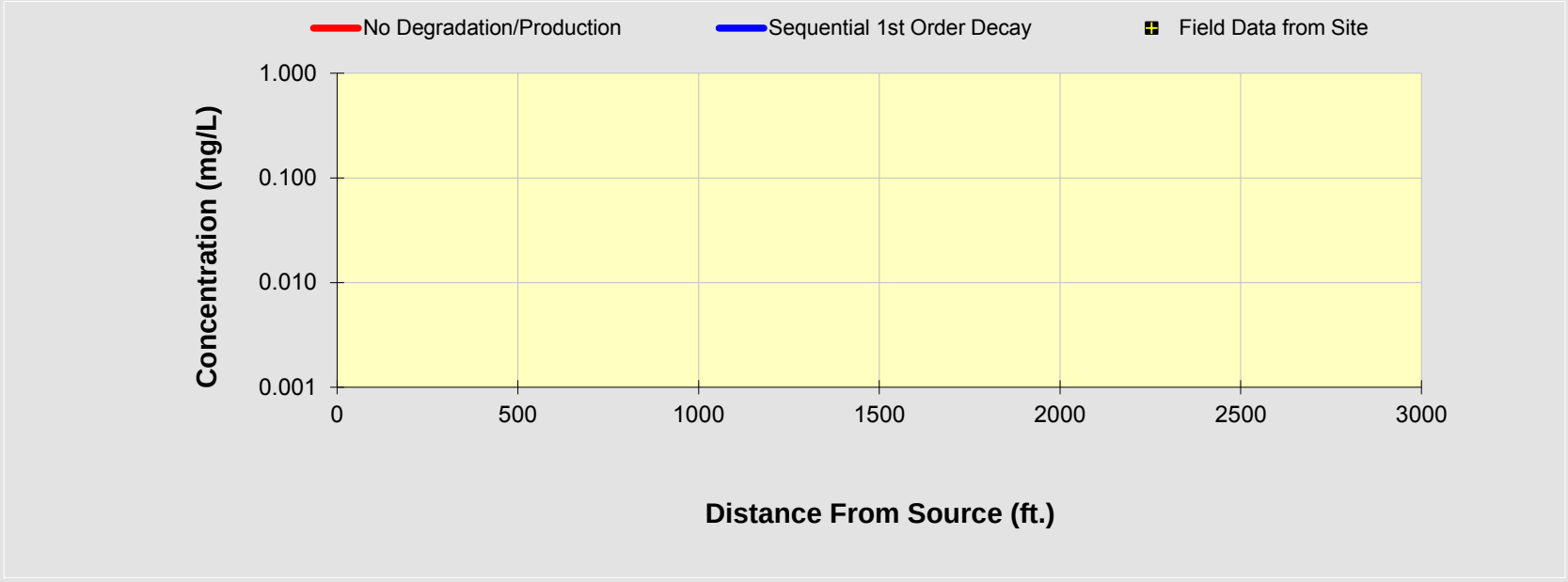
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

DCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Biotransformation	0.0005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

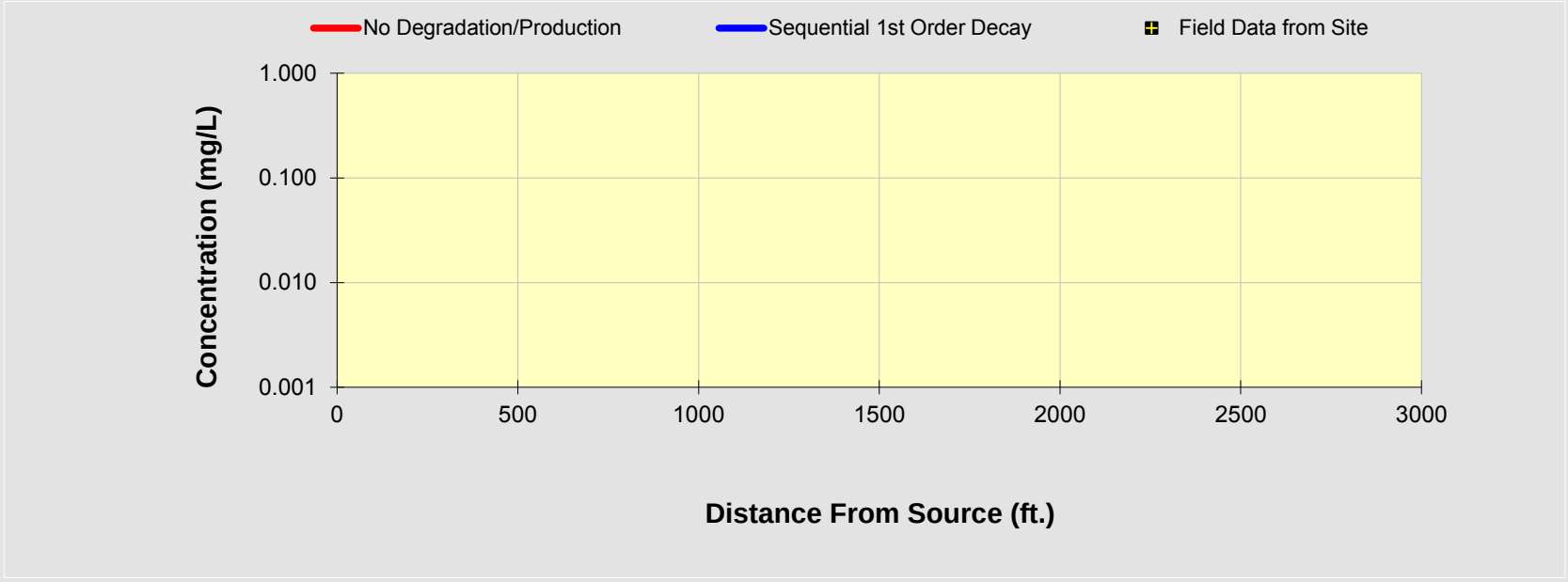
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

VC	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Biotransformation	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

BIOCHLOR Natural Attenuation Decision Support System

Version 2.2
Excel 2000

Tech Town East Phase Till
Max, KA, DB, decay
Run Name

TYPE OF CHLORINATED SOLVENT: Ethenes ◉ Ethanes ○

1. ADVECTION

Seepage Velocity*	Vs	517.3	(ft/yr)
or			
Hydraulic Conductivity	K	3.0E-02	(cm/sec)
Hydraulic Gradient	i	5.00E-03	(ft/ft)
Effective Porosity	n	0.3	(-)

2. DISPERSION

Alpha x*	36.543	(ft)
(Alpha y) / (Alpha x)*	0.33	(-)
(Alpha z) / (Alpha x)*	5.E-02	(-)

Calc. Alpha x

3. ADSORPTION

Retardation Factor* → R

or

Soil Bulk Density, rho	1.6	(kg/L)		
FractionOrganicCarbon, foc	1.0E-3	(-)		
Partition Coefficient	Koc			
PCE	265	(L/kg)	2.41	(-)
TCE	94	(L/kg)	1.50	(-)
DCE	36	(L/kg)	1.19	(-)
VC	19	(L/kg)	1.10	(-)
ETH	302	(L/kg)	2.61	(-)
Common R (used in model)* =			**1.50**	

4. BIOTRANSFORMATION

-1st Order Decay Coefficient*

	λ (1/yr)	half-life (yrs)	Yield
Zone 1			
PCE → TCE	0.799		0.79
TCE → DCE	0.299		0.74
DCE → VC	0.099		0.64
VC → ETH	0.399		0.45
Zone 2	λ (1/yr)	half-life (yrs)	
PCE → TCE	0.000		
TCE → DCE	0.000		
DCE → VC	0.000		
VC → ETH	0.000		

λ HELP

5. GENERAL

Simulation Time*	100	(yr)
Modeled Area Width*	450	(ft)
Modeled Area Length*	2640	(ft)
Zone 1 Length*	2640	(ft)
Zone 2 Length*	0	(ft)

L, W

Zone 2= L - Zone 1

6. SOURCE DATA

TYPE: Decaying Single Planar

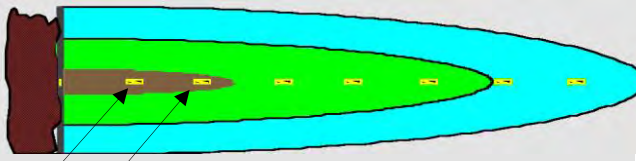
Source Options

Source Thickness in Sat. Zone* 10 (ft)

Width* (ft) Y1: 450

Conc. (mg/L)*	C1	k_s* (1/yr)
PCE	.013	0.049
TCE	.19	0.049
DCE	.072	0.049
VC		0.049
ETH		0.049

Vertical Plane Source: Determine Source Well Location and Input Solvent Concentrations



View of Plume Looking Down

Observed Centerline Conc. at Monitoring Wells

7. FIELD DATA FOR COMPARISON

PCE Conc. (mg/L)											
TCE Conc. (mg/L)											
DCE Conc. (mg/L)											
VC Conc. (mg/L)											
ETH Conc. (mg/L)											
Distance from Source (ft)	0										
Date Data Collected											

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE | **RUN ARRAY** | ***Help*** | Restore | RESET | ***SEE OUTPUT*** | Paste

Data Input Instructions:

115 → 1. Enter value directly....or

↑ *or*

0.02 → 2. Calculate by filling in gray cells. Press Enter, then C

(To restore formulas, hit "Restore Formulas" button)

Variable* → Data used directly in model.

Test if Biotransformation is Occurring → Natural Attenuation Screening Protocol

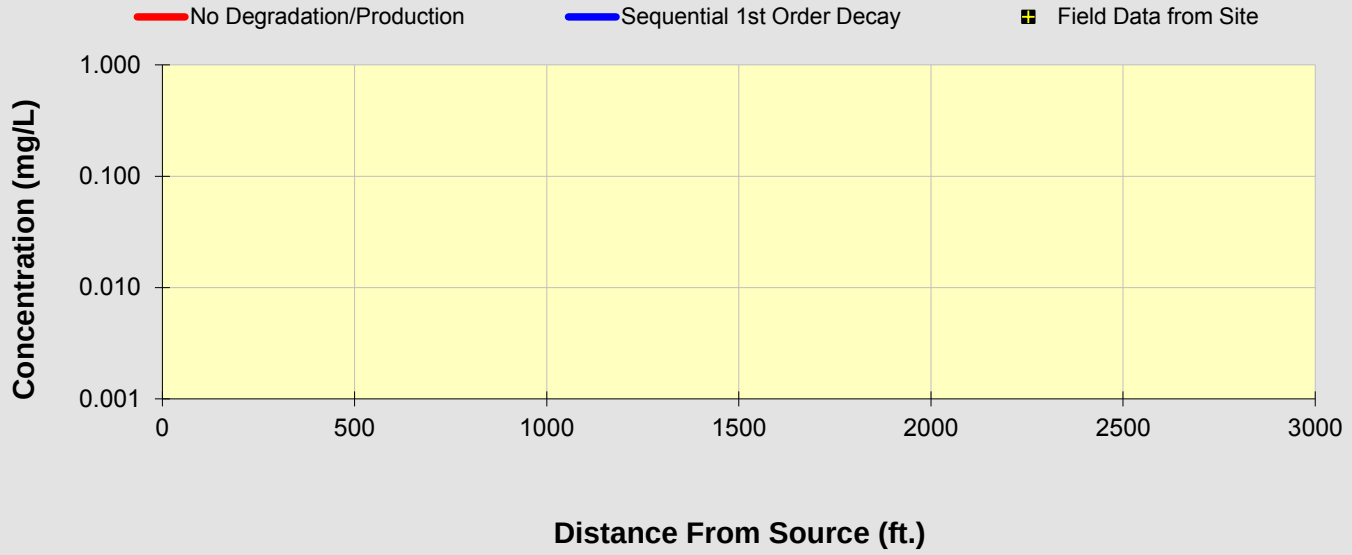
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

PCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Biotransformation	0.0001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

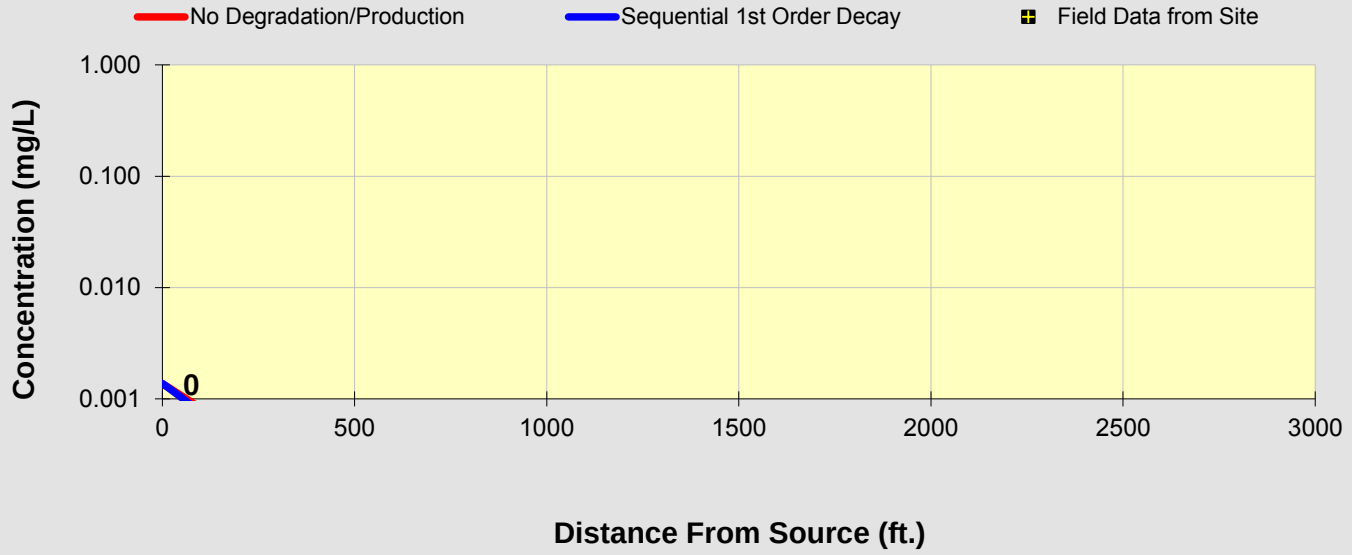
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

TCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Biotransformation	0.0014	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

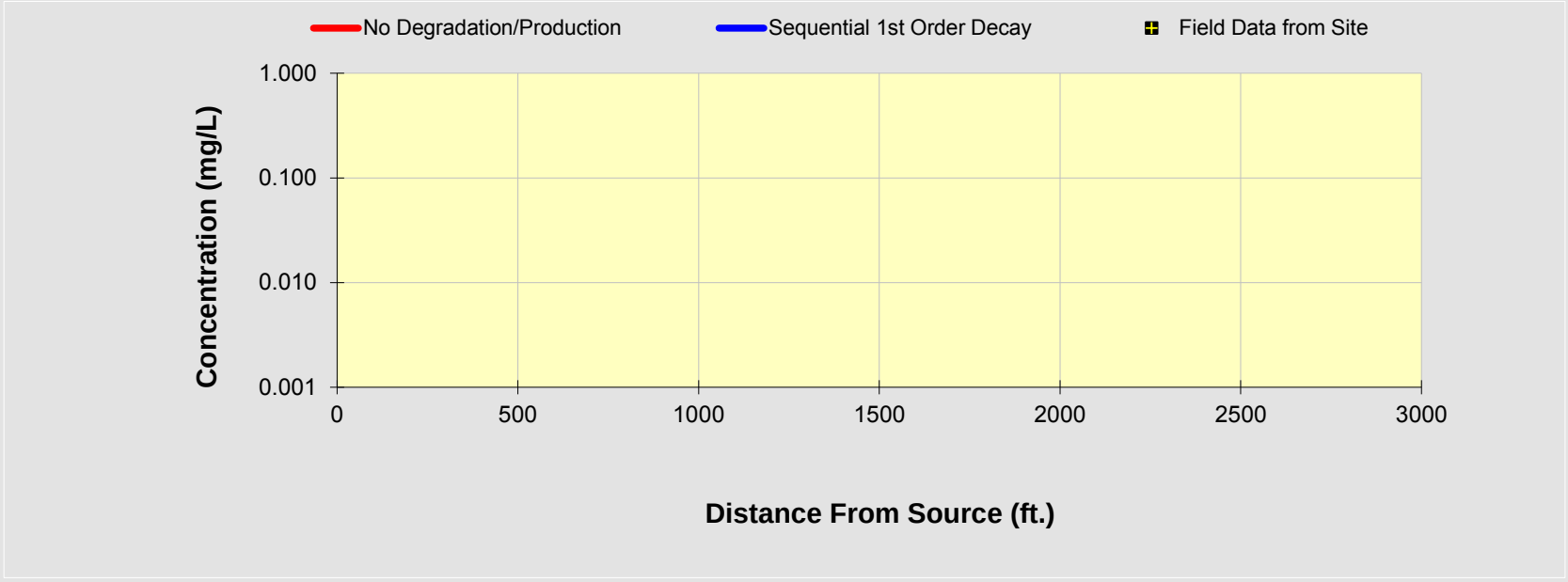
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

DCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Biotransformation	0.0005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

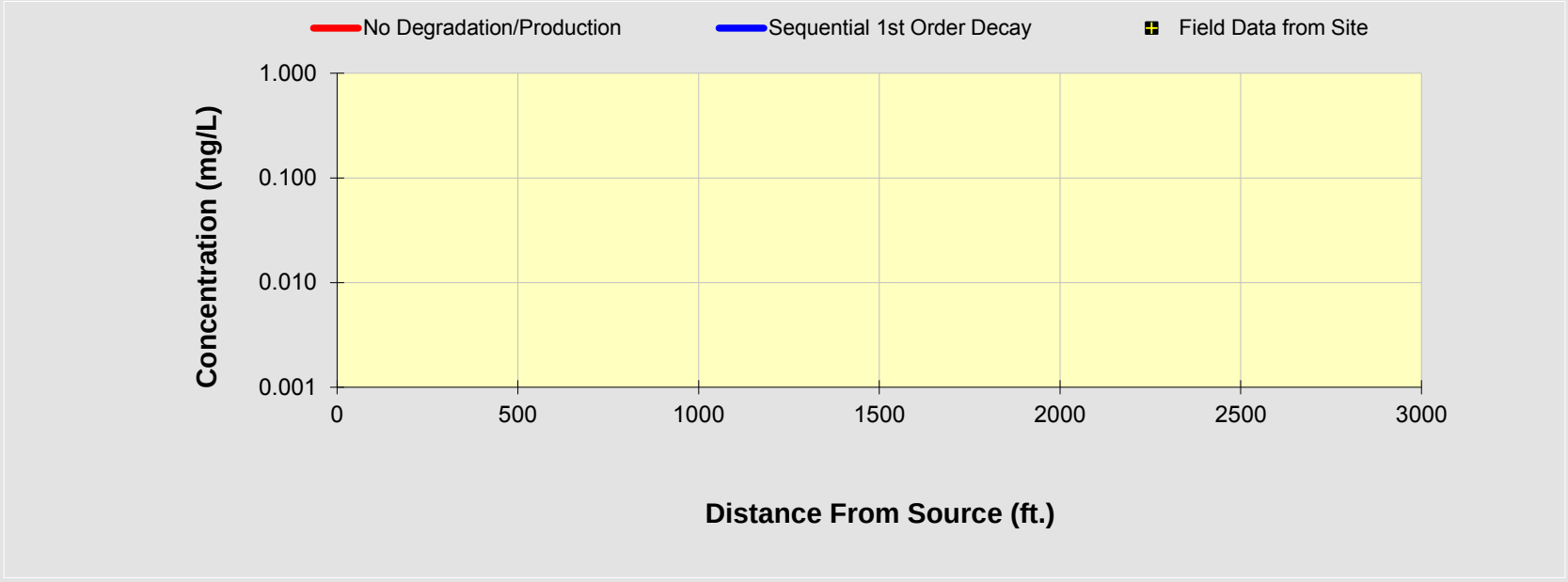
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

VC	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Biotransformation	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

APPENDIX C-4
LOWER AQUIFER, ALL DATA, MAXIMUM CONCENTRATIONS

East Phase Lower Aquifer BIOCHLOR Sensitivity Analysis

Groundwater Unit	Conductivity	Decay	DCE (mg/L)		VC (mg/L)	
			No degradation	Biotransformation	No degradation	Biotransformation
Continuous Source						
Lower	A	A	0	0	0.001	0.001
Lower	B	A	0	0	0.001	0.001
Lower	C	A	0	0	0.001	0.001
Lower	A	B	0	0	0.001	0.001
Lower	B	B	0	0	0.001	0
Lower	C	B	0	0	0.001	0.001
Decaying Source (Kpoint = 0.0493)						
Lower	A	A	0	0	0	0
Lower	B	A	0	0	0	0
Lower	C	A	0	0	0	0
Lower	A	B	0	0	0	0
Lower	B	B	0	0	0	0
Lower	C	B	0	0	0	0
		UPUS	0.07 mg/L		0.002 mg/L	

Maximum Concentration (mg/L)	Lower Aquifer
PCE	ND
TCE	ND
DCE	0.0012
VC	0.0041

BIOCHLOR Natural Attenuation Decision Support System

Version 2.2
Excel 2000

Tech Town East Phase Lowe
Max GW - A; A; Cont
Run Name

TYPE OF CHLORINATED SOLVENT: Ethenes ◉ Ethanes ○

1. ADVECTION

Seepage Velocity*	Vs	1638.2	(ft/yr)
or			
Hydraulic Conductivity	K	9.5E-02	(cm/sec)
Hydraulic Gradient	i	5.00E-03	(ft/ft)
Effective Porosity	n	0.3	(-)

2. DISPERSION

Alpha x*	36.543	(ft)
(Alpha y) / (Alpha x)*	0.33	(-)
(Alpha z) / (Alpha x)*	5.E-02	(-)

Calc. Alpha x

3. ADSORPTION

Retardation Factor* → R

or

Soil Bulk Density, rho	1.6	(kg/L)		
FractionOrganicCarbon, foc	1.0E-3	(-)		
Partition Coefficient	Koc			
PCE	265	(L/kg)	2.41	(-)
TCE	94	(L/kg)	1.50	(-)
DCE	36	(L/kg)	1.19	(-)
VC	19	(L/kg)	1.10	(-)
ETH	302	(L/kg)	2.61	(-)

Common R (used in model)* = **1.50**

4. BIOTRANSFORMATION

-1st Order Decay Coefficient*

	λ (1/yr)	half-life (yrs)	Yield
Zone 1			
PCE → TCE	0.350		0.79
TCE → DCE	0.153		0.74
DCE → VC	0.088		0.64
VC → ETH	0.087		0.45
Zone 2	λ (1/yr)	half-life (yrs)	
PCE → TCE	0.000		
TCE → DCE	0.000		
DCE → VC	0.000		
VC → ETH	0.000		

λ HELP

5. GENERAL

Simulation Time*	100	(yr)
Modeled Area Width*	450	(ft)
Modeled Area Length*	2640	(ft)
Zone 1 Length*	2640	(ft)
Zone 2 Length*	0	(ft)

L, W

Zone 2= L - Zone 1

6. SOURCE DATA

TYPE: Continuous Single Planar

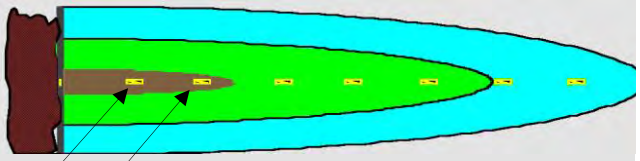
Source Options

Source Thickness in Sat. Zone* 110 (ft)

Width* (ft) Y1: 200

Conc. (mg/L)*	C1	k_s* (1/yr)
PCE		0
TCE		0
DCE	.001	0
VC	.004	0
ETH		0

Vertical Plane Source: Determine Source Well Location and Input Solvent Concentrations



View of Plume Looking Down

Observed Centerline Conc. at Monitoring Wells

7. FIELD DATA FOR COMPARISON

PCE Conc. (mg/L)											
TCE Conc. (mg/L)											
DCE Conc. (mg/L)											
VC Conc. (mg/L)											
ETH Conc. (mg/L)											
Distance from Source (ft)	0										
Date Data Collected											

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE | **RUN ARRAY** | ***Help*** | Restore | RESET | ***SEE OUTPUT*** | Paste

Data Input Instructions:

115 → 1. Enter value directly....or
↑ *or*
0.02 → 2. Calculate by filling in gray cells. Press Enter, then C

(To restore formulas, hit "Restore Formulas" button)

Variable* → Data used directly in model.

Test if Biotransformation is Occurring → Natural Attenuation Screening Protocol

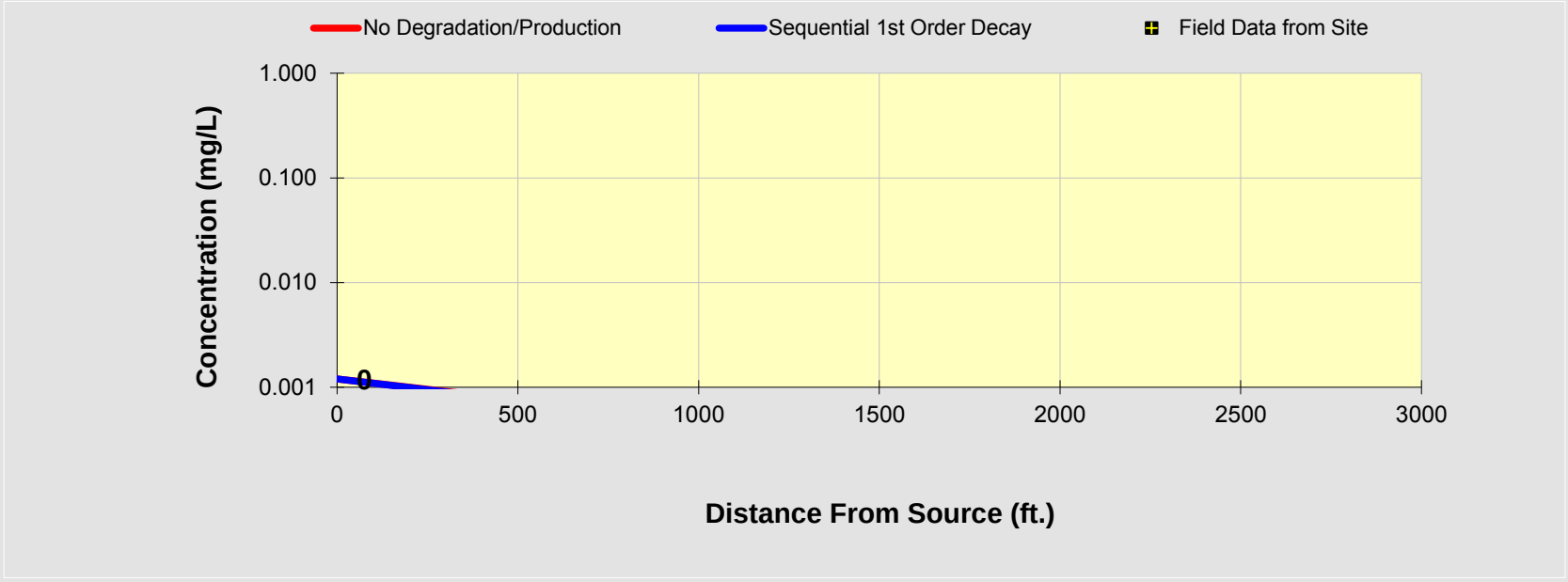
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

DCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.001	0.001	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000
Biotransformation	0.0012	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

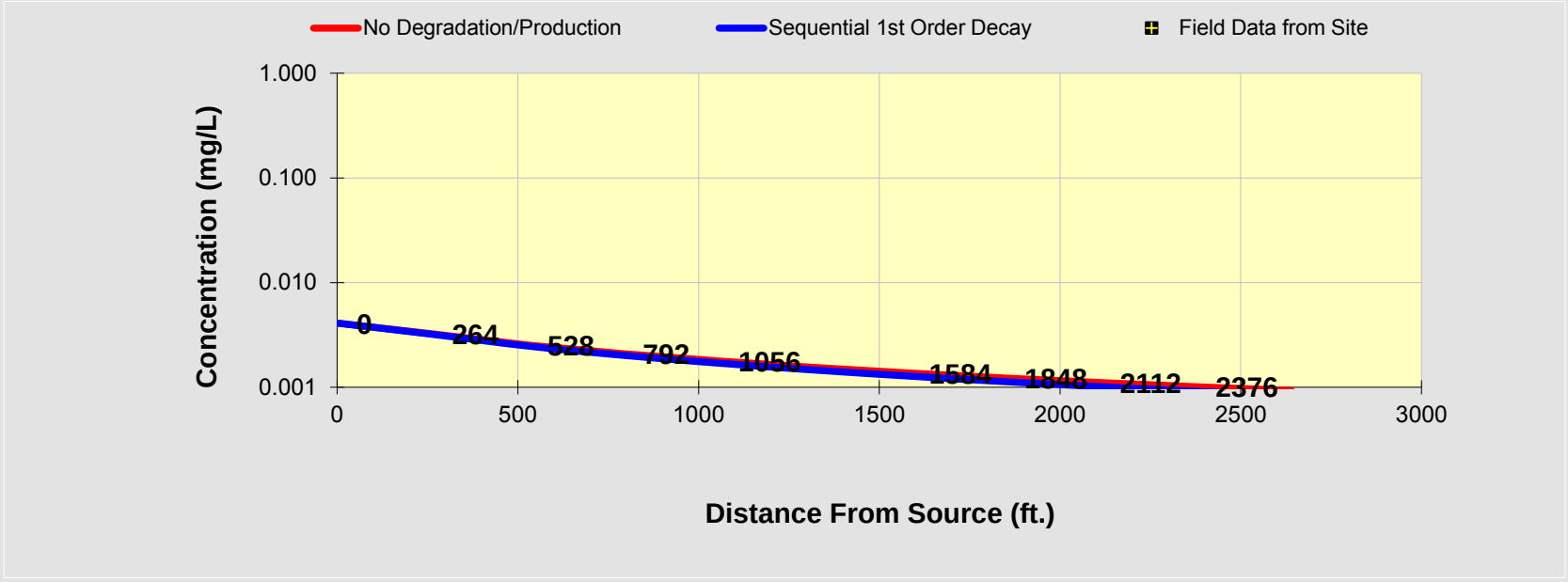
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

VC	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.004	0.003	0.003	0.002	0.002	0.002	0.001	0.001	0.001	0.001	0.001
Biotransformation	0.0041	0.003	0.002	0.002	0.002	0.001	0.001	0.001	0.001	0.001	0.001

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

BIOCHLOR Natural Attenuation Decision Support System

Version 2.2
Excel 2000

Tech Town East Phase Lowe
Max GW - B; A; Cont
Run Name

Data Input Instructions:
115 → 1. Enter value directly....or
or
0.02 → 2. Calculate by filling in gray cells. Press Enter, then C
(To restore formulas, hit "Restore Formulas" button)
Variable* → Data used directly in model.

Test if Biotransformation is Occurring → Natural Attenuation Screening Protocol

TYPE OF CHLORINATED SOLVENT: Ethenes ◉ Ethanes ○

1. ADVECTION

Seepage Velocity*	Vs	1034.6	(ft/yr)
or			
Hydraulic Conductivity	K	6.0E-02	(cm/sec)
Hydraulic Gradient	i	5.00E-03	(ft/ft)
Effective Porosity	n	0.3	(-)

2. DISPERSION

Alpha x*	36.543	(ft)
(Alpha y) / (Alpha x)*	0.33	(-)
(Alpha z) / (Alpha x)*	5.E-02	(-)

Calc. Alpha x

3. ADSORPTION

Retardation Factor* → R
or

Soil Bulk Density, rho		1.6	(kg/L)	
FractionOrganicCarbon, foc		1.0E-3	(-)	
Partition Coefficient	Koc			
PCE	265	(L/kg)	2.41	(-)
TCE	94	(L/kg)	1.50	(-)
DCE	36	(L/kg)	1.19	(-)
VC	19	(L/kg)	1.10	(-)
ETH	302	(L/kg)	2.61	(-)

Common R (used in model)* = 1.50

4. BIOTRANSFORMATION -1st Order Decay Coefficient*

Zone 1	λ (1/yr)	half-life (yrs)	Yield
PCE → TCE	0.350		0.79
TCE → DCE	0.153		0.74
DCE → VC	0.088		0.64
VC → ETH	0.087		0.45

Zone 2	λ (1/yr)	half-life (yrs)
PCE → TCE	0.000	
TCE → DCE	0.000	
DCE → VC	0.000	
VC → ETH	0.000	

λ HELP

5. GENERAL

Simulation Time*	100	(yr)	
Modeled Area Width*	450	(ft)	W
Modeled Area Length*	2640	(ft)	L
Zone 1 Length*	2640	(ft)	
Zone 2 Length*	0	(ft)	Zone 2= L - Zone 1

6. SOURCE DATA TYPE: Continuous Single Planar

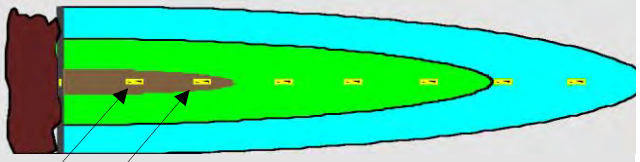
Source Options

Source Thickness in Sat. Zone* 110 (ft)

Width* (ft) Y1: 200

Conc. (mg/L)*	C1	k_s* (1/yr)
PCE		0
TCE		0
DCE	.001	0
VC	.004	0
ETH		0

Vertical Plane Source: Determine Source Well Location and Input Solvent Concentrations



View of Plume Looking Down

Observed Centerline Conc. at Monitoring Wells

7. FIELD DATA FOR COMPARISON

PCE Conc. (mg/L)												
TCE Conc. (mg/L)												
DCE Conc. (mg/L)												
VC Conc. (mg/L)												
ETH Conc. (mg/L)												
Distance from Source (ft)	0											
Date Data Collected												

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE | RUN ARRAY | Help | Restore | RESET | SEE OUTPUT | Paste

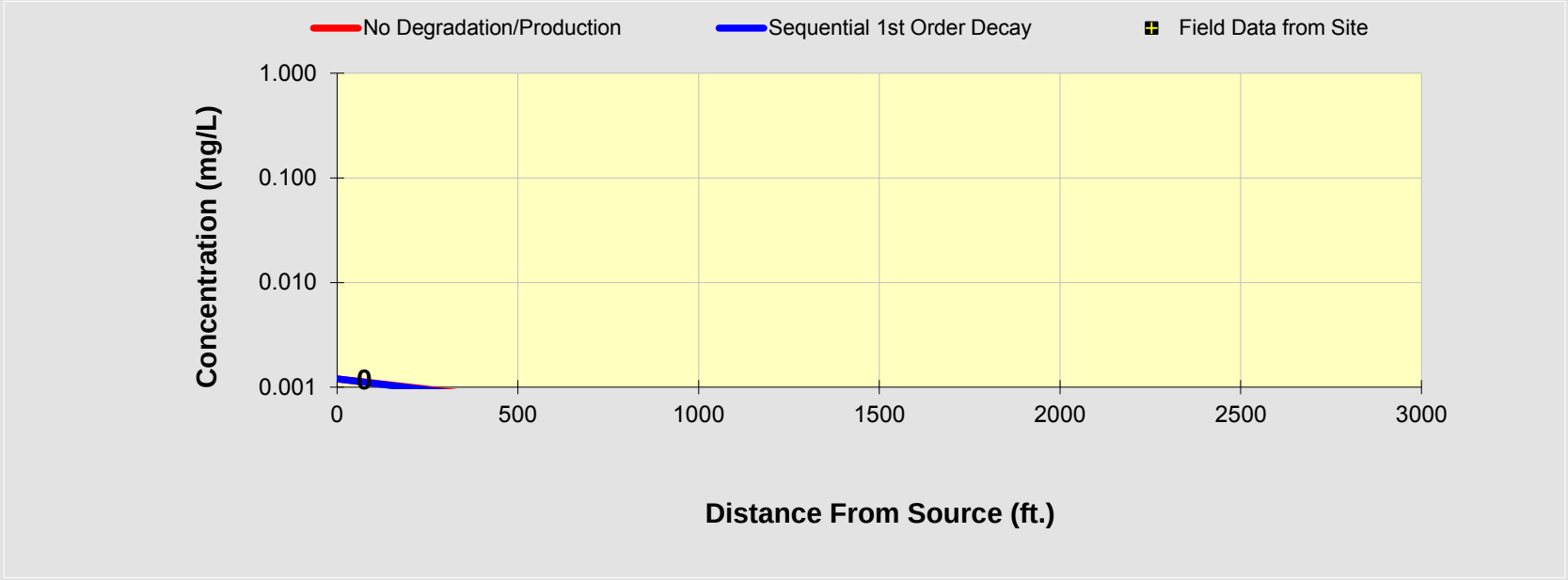
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

DCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.001	0.001	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000
Biotransformation	0.0012	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

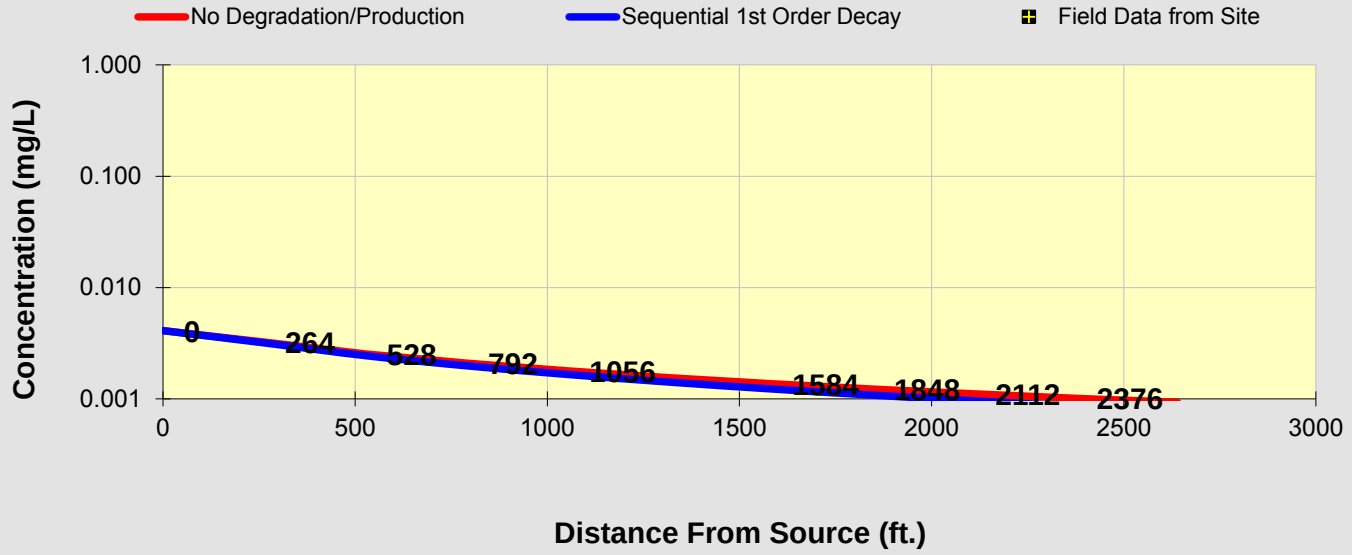
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

VC	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.004	0.003	0.003	0.002	0.002	0.002	0.001	0.001	0.001	0.001	0.001
Biotransformation	0.0041	0.003	0.002	0.002	0.002	0.001	0.001	0.001	0.001	0.001	0.001

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

BIOCHLOR Natural Attenuation Decision Support System

Version 2.2
Excel 2000

Tech Town East Phase Lowe
Max GW - C; A; Cont
Run Name

TYPE OF CHLORINATED SOLVENT: Ethenes ◉ Ethanes ○

1. ADVECTION

Seepage Velocity*	Vs	2586.6	(ft/yr)
or			
Hydraulic Conductivity	K	1.5E-01	(cm/sec)
Hydraulic Gradient	i	5.00E-03	(ft/ft)
Effective Porosity	n	0.3	(-)

2. DISPERSION

Alpha x*	36.543	(ft)
(Alpha y) / (Alpha x)*	0.33	(-)
(Alpha z) / (Alpha x)*	5.E-02	(-)

Calc. Alpha x

3. ADSORPTION

Retardation Factor* → R

or

Soil Bulk Density, rho	1.6	(kg/L)		
FractionOrganicCarbon, foc	1.0E-3	(-)		
Partition Coefficient	Koc			
PCE	265	(L/kg)	2.41	(-)
TCE	94	(L/kg)	1.50	(-)
DCE	36	(L/kg)	1.19	(-)
VC	19	(L/kg)	1.10	(-)
ETH	302	(L/kg)	2.61	(-)
Common R (used in model)* =			**1.50**	

4. BIOTRANSFORMATION

-1st Order Decay Coefficient*

	λ (1/yr)	half-life (yrs)	Yield
Zone 1			
PCE → TCE	0.350		0.79
TCE → DCE	0.153		0.74
DCE → VC	0.088		0.64
VC → ETH	0.087		0.45
Zone 2	λ (1/yr)	half-life (yrs)	
PCE → TCE	0.000		
TCE → DCE	0.000		
DCE → VC	0.000		
VC → ETH	0.000		

λ HELP

5. GENERAL

Simulation Time*	100	(yr)
Modeled Area Width*	450	(ft)
Modeled Area Length*	2640	(ft)
Zone 1 Length*	2640	(ft)
Zone 2 Length*	0	(ft)

Zone 2= L - Zone 1

6. SOURCE DATA

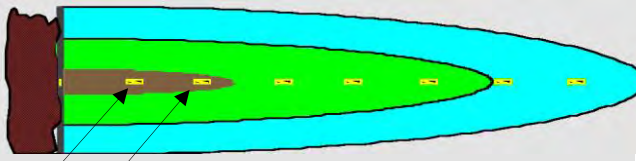
TYPE: Continuous Single Planar

Source Options

Source Thickness in Sat. Zone* 110 (ft)

	Y1	k_s*
Width* (ft)	200	
Conc. (mg/L)*	C1	(1/yr)
PCE		0
TCE		0
DCE	.001	0
VC	.004	0
ETH		0

Vertical Plane Source: Determine Source Well Location and Input Solvent Concentrations



View of Plume Looking Down

Observed Centerline Conc. at Monitoring Wells

7. FIELD DATA FOR COMPARISON

PCE Conc. (mg/L)											
TCE Conc. (mg/L)											
DCE Conc. (mg/L)											
VC Conc. (mg/L)											
ETH Conc. (mg/L)											
Distance from Source (ft)	0										
Date Data Collected											

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE | RUN ARRAY | Help | Restore | RESET | SEE OUTPUT | Paste

Data Input Instructions:

115 ← 1. Enter value directly....or
↑ or
0.02 → 2. Calculate by filling in gray cells. Press Enter, then C

(To restore formulas, hit "Restore Formulas" button)

Variable* → Data used directly in model.

Test if Biotransformation is Occurring → Natural Attenuation Screening Protocol

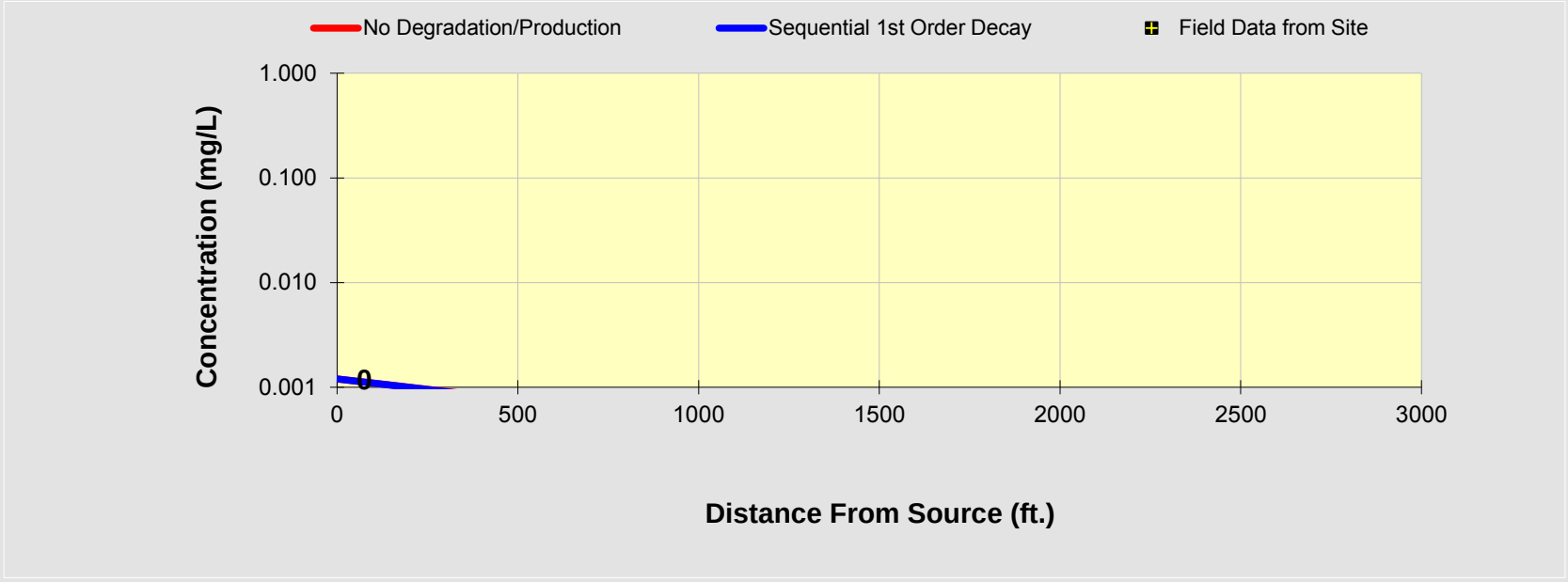
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

DCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.001	0.001	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000
Biotransformation	0.0012	0.001	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

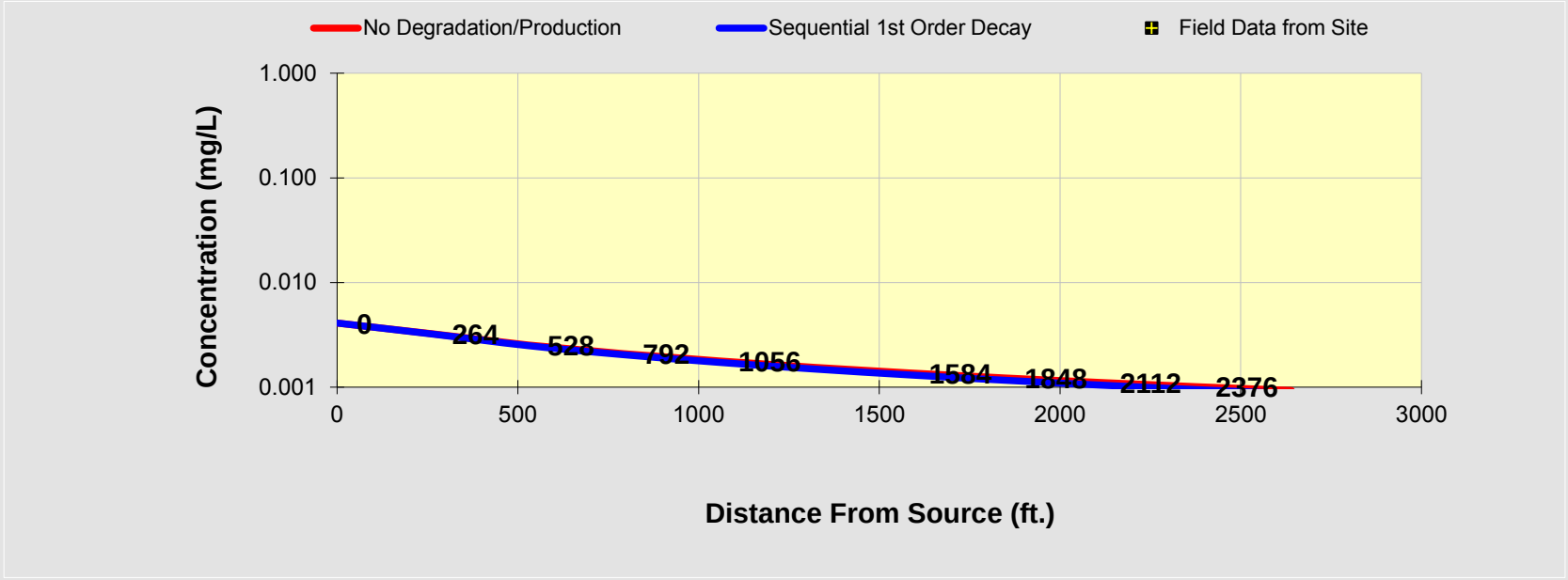
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

VC	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.004	0.003	0.003	0.002	0.002	0.002	0.001	0.001	0.001	0.001	0.001
Biotransformation	0.0041	0.003	0.002	0.002	0.002	0.001	0.001	0.001	0.001	0.001	0.001

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

BIOCHLOR Natural Attenuation Decision Support System

Version 2.2
Excel 2000

Tech Town East Phase Lowe
Max GW - A; B; Cont
Run Name

TYPE OF CHLORINATED SOLVENT: Ethenes ◉ Ethanes ○

1. ADVECTION

Seepage Velocity*	Vs	1638.2	(ft/yr)
or			
Hydraulic Conductivity	K	9.5E-02	(cm/sec)
Hydraulic Gradient	i	5.00E-03	(ft/ft)
Effective Porosity	n	0.3	(-)

2. DISPERSION

Alpha x*	36.543	(ft)
(Alpha y) / (Alpha x)*	0.33	(-)
(Alpha z) / (Alpha x)*	5.E-02	(-)

Calc. Alpha x

3. ADSORPTION

Retardation Factor* → R

or

Soil Bulk Density, rho	1.6	(kg/L)		
FractionOrganicCarbon, foc	1.0E-3	(-)		
Partition Coefficient	Koc			
PCE	265	(L/kg)	2.41	(-)
TCE	94	(L/kg)	1.50	(-)
DCE	36	(L/kg)	1.19	(-)
VC	19	(L/kg)	1.10	(-)
ETH	302	(L/kg)	2.61	(-)
Common R (used in model)* =			**1.50**	

4. BIOTRANSFORMATION

-1st Order Decay Coefficient*

	λ (1/yr)	half-life (yrs)	Yield
Zone 1			
PCE → TCE	0.799		0.79
TCE → DCE	0.299		0.74
DCE → VC	0.099		0.64
VC → ETH	0.399		0.45
Zone 2	λ (1/yr)	half-life (yrs)	
PCE → TCE	0.000		
TCE → DCE	0.000		
DCE → VC	0.000		
VC → ETH	0.000		

λ HELP

5. GENERAL

Simulation Time*	100	(yr)
Modeled Area Width*	450	(ft)
Modeled Area Length*	2640	(ft)
Zone 1 Length*	2640	(ft)
Zone 2 Length*	0	(ft)

Zone 2= L - Zone 1

6. SOURCE DATA

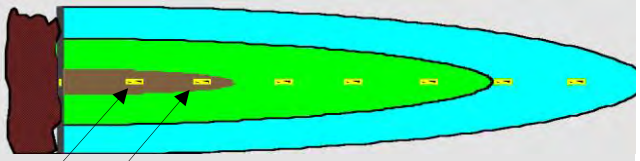
TYPE: Continuous Single Planar

Source Options

Source Thickness in Sat. Zone* 110 (ft)

	Y1	k_s* (1/yr)
Width* (ft)	200	
Conc. (mg/L)*	C1	
PCE		0
TCE		0
DCE	.001	0
VC	.004	0
ETH		0

Vertical Plane Source: Determine Source Well Location and Input Solvent Concentrations



View of Plume Looking Down

Observed Centerline Conc. at Monitoring Wells

7. FIELD DATA FOR COMPARISON

PCE Conc. (mg/L)											
TCE Conc. (mg/L)											
DCE Conc. (mg/L)											
VC Conc. (mg/L)											
ETH Conc. (mg/L)											
Distance from Source (ft)	0										
Date Data Collected											

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE | RUN ARRAY | Help | Restore | RESET | SEE OUTPUT | Paste

Data Input Instructions:

115 → 1. Enter value directly....or
↑ or
0.02 → 2. Calculate by filling in gray cells. Press Enter, then C

(To restore formulas, hit "Restore Formulas" button)

Variable* → Data used directly in model.

Test if Biotransformation is Occurring → Natural Attenuation Screening Protocol

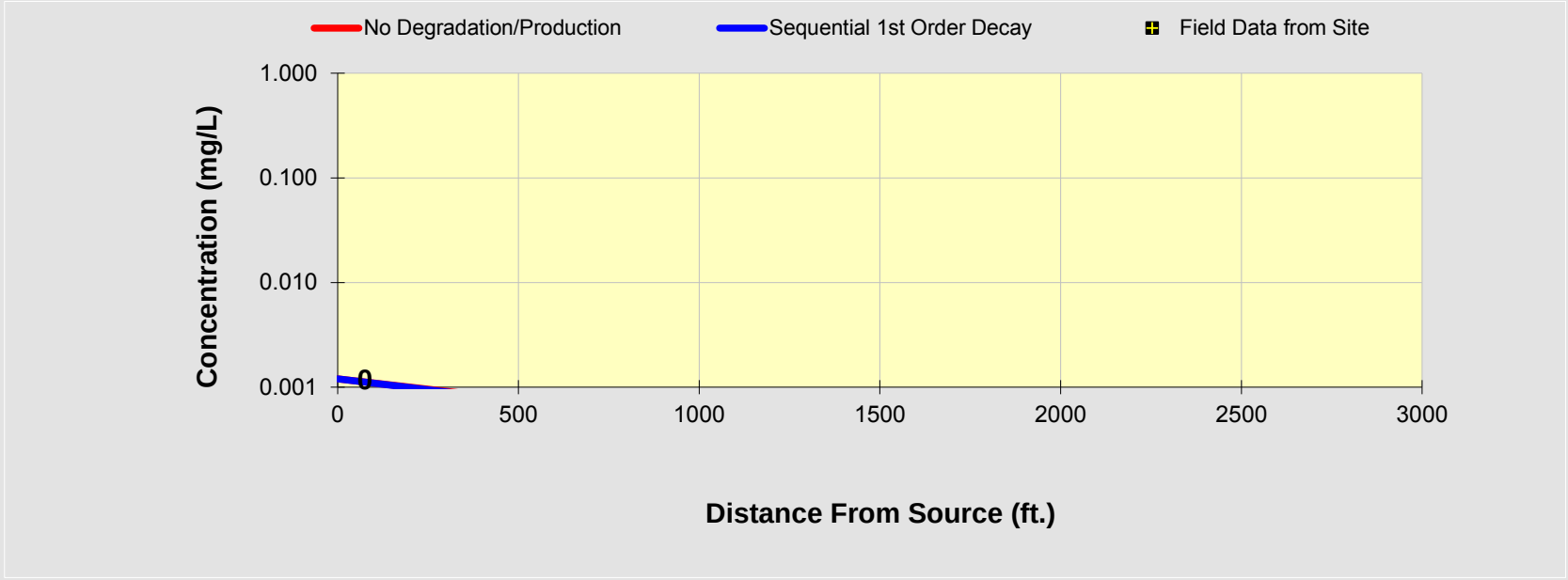
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

DCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.001	0.001	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000
Biotransformation	0.0012	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

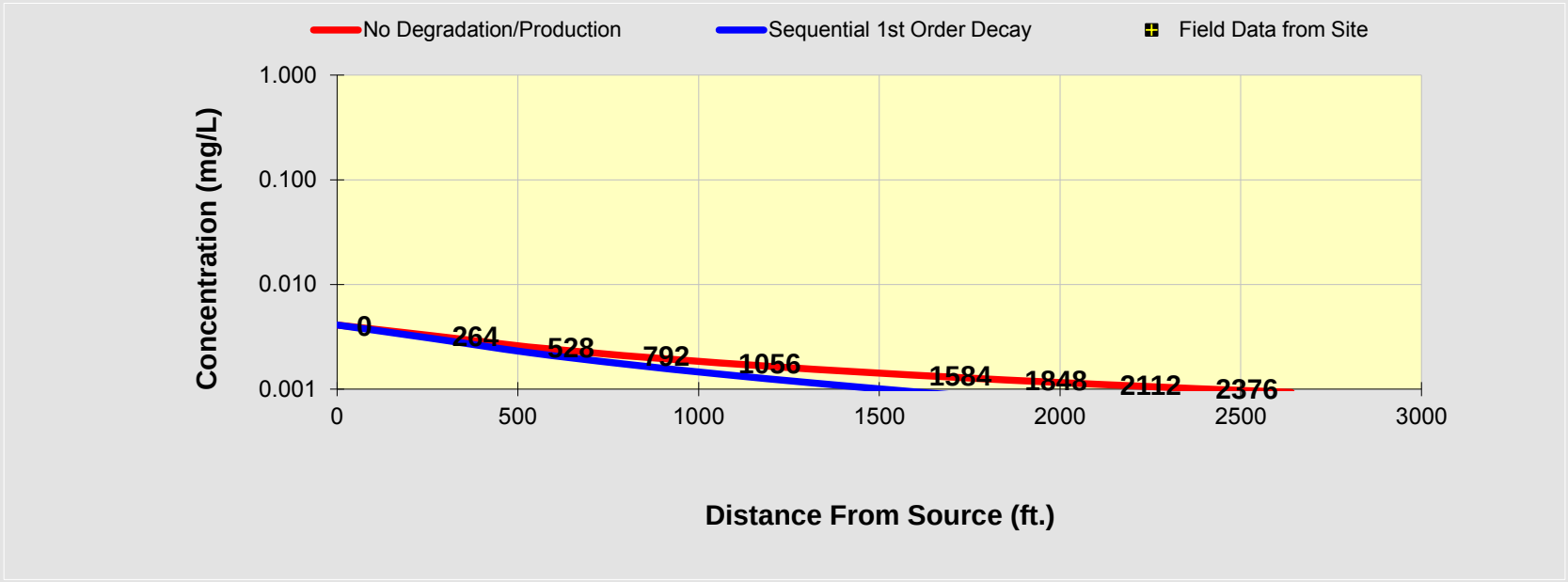
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

VC	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.004	0.003	0.003	0.002	0.002	0.002	0.001	0.001	0.001	0.001	0.001
Biotransformation	0.0041	0.003	0.002	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

BIOCHLOR Natural Attenuation Decision Support System

Version 2.2
Excel 2000

Tech Town East Phase Lowe
Max GW - B; B; Cont
Run Name

TYPE OF CHLORINATED SOLVENT: Ethenes ◉ Ethanes ○

1. ADVECTION

Seepage Velocity*	Vs	1034.6	(ft/yr)
or			
Hydraulic Conductivity	K	6.0E-02	(cm/sec)
Hydraulic Gradient	i	5.00E-03	(ft/ft)
Effective Porosity	n	0.3	(-)

2. DISPERSION

Alpha x*	36.543	(ft)
(Alpha y) / (Alpha x)*	0.33	(-)
(Alpha z) / (Alpha x)*	5.E-02	(-)

Calc. Alpha x

3. ADSORPTION

Retardation Factor* → R

or

Soil Bulk Density, rho	1.6	(kg/L)		
FractionOrganicCarbon, foc	1.0E-3	(-)		
Partition Coefficient	Koc			
PCE	265	(L/kg)	2.41	(-)
TCE	94	(L/kg)	1.50	(-)
DCE	36	(L/kg)	1.19	(-)
VC	19	(L/kg)	1.10	(-)
ETH	302	(L/kg)	2.61	(-)
Common R (used in model)* =			**1.50**	

4. BIOTRANSFORMATION

-1st Order Decay Coefficient*

	λ (1/yr)	half-life (yrs)	Yield
Zone 1			
PCE → TCE	0.799		0.79
TCE → DCE	0.299		0.74
DCE → VC	0.099		0.64
VC → ETH	0.399		0.45
Zone 2	λ (1/yr)	half-life (yrs)	
PCE → TCE	0.000		
TCE → DCE	0.000		
DCE → VC	0.000		
VC → ETH	0.000		

λ HELP

5. GENERAL

Simulation Time*	100	(yr)
Modeled Area Width*	450	(ft)
Modeled Area Length*	2640	(ft)
Zone 1 Length*	2640	(ft)
Zone 2 Length*	0	(ft)

L, W

Zone 2= L - Zone 1

6. SOURCE DATA

TYPE: Continuous Single Planar

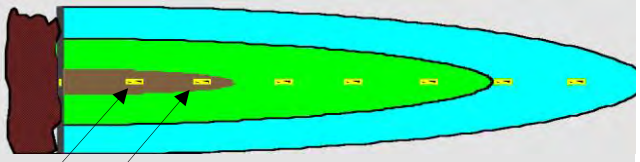
Source Options

Source Thickness in Sat. Zone* 110 (ft)

Width* (ft) Y1: 200

Conc. (mg/L)*	C1	k_s* (1/yr)
PCE		0
TCE		0
DCE	.001	0
VC	.004	0
ETH		0

Vertical Plane Source: Determine Source Well Location and Input Solvent Concentrations



View of Plume Looking Down

Observed Centerline Conc. at Monitoring Wells

7. FIELD DATA FOR COMPARISON

PCE Conc. (mg/L)												
TCE Conc. (mg/L)												
DCE Conc. (mg/L)												
VC Conc. (mg/L)												
ETH Conc. (mg/L)												
Distance from Source (ft)	0											
Date Data Collected												

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE | RUN ARRAY | Help | Restore | RESET | SEE OUTPUT | Paste

Data Input Instructions:

115 → 1. Enter value directly....or
↑ or
0.02 → 2. Calculate by filling in gray cells. Press Enter, then C

(To restore formulas, hit "Restore Formulas" button)

Variable* → Data used directly in model.

Test if Biotransformation is Occurring → Natural Attenuation Screening Protocol

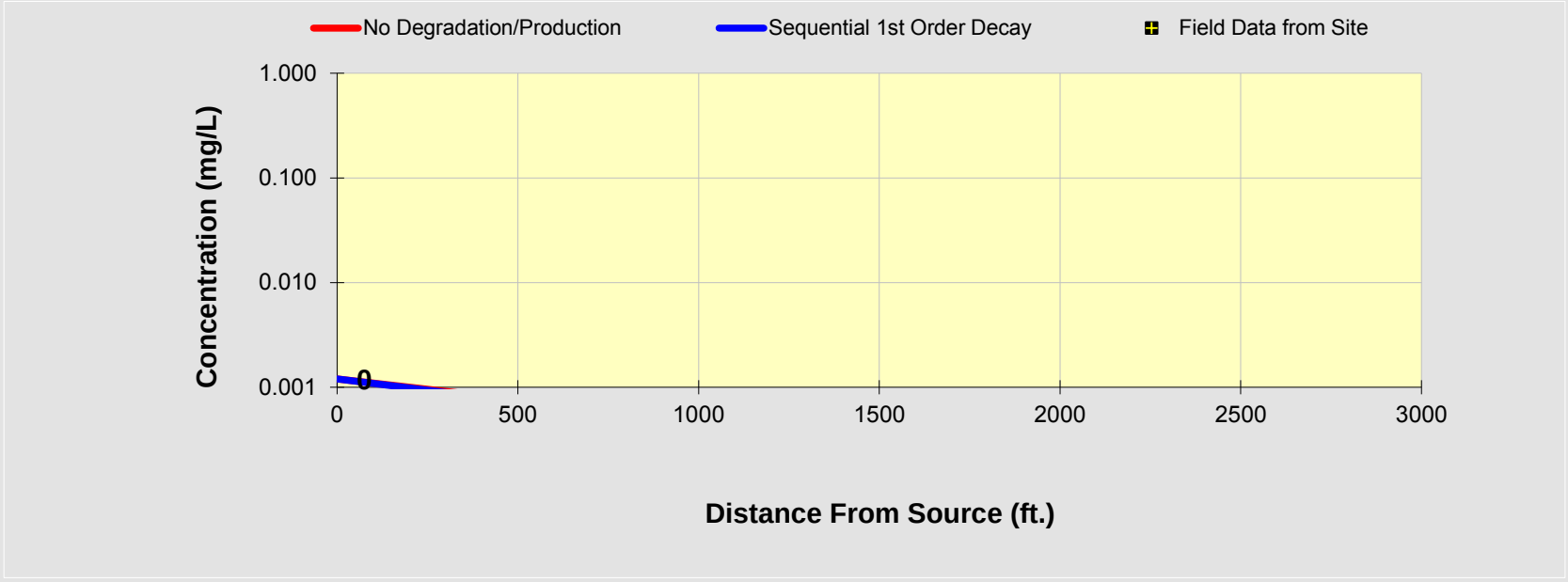
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

DCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.001	0.001	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000
Biotransformation	0.0012	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

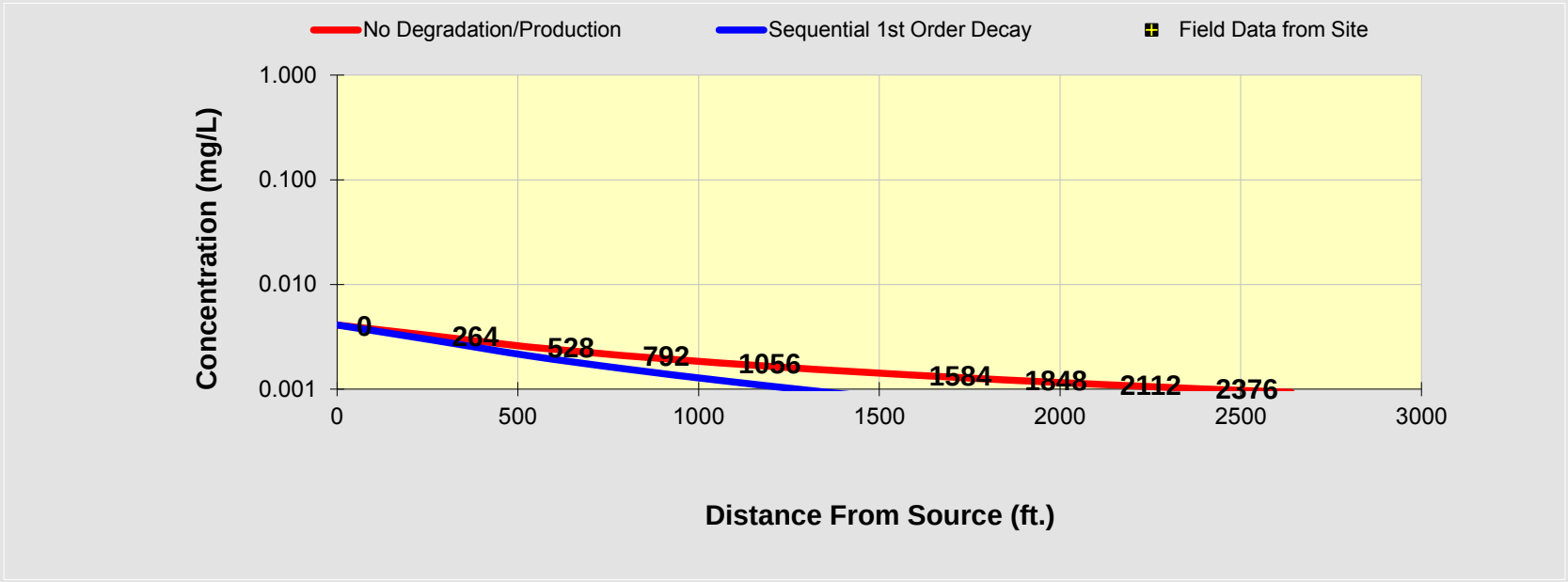
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

VC	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.004	0.003	0.003	0.002	0.002	0.002	0.001	0.001	0.001	0.001	0.001
Biotransformation	0.0041	0.003	0.002	0.002	0.001	0.001	0.001	0.001	0.001	0.000	0.000

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

BIOCHLOR Natural Attenuation Decision Support System

Version 2.2
Excel 2000

Tech Town East Phase Lowe
Max GW - C; B; Cont
Run Name

TYPE OF CHLORINATED SOLVENT: Ethenes ◉ Ethanes ○

1. ADVECTION

Seepage Velocity*	Vs	2586.6	(ft/yr)
or			
Hydraulic Conductivity	K	1.5E-01	(cm/sec)
Hydraulic Gradient	i	5.00E-03	(ft/ft)
Effective Porosity	n	0.3	(-)

2. DISPERSION

Alpha x*	36.543	(ft)
(Alpha y) / (Alpha x)*	0.33	(-)
(Alpha z) / (Alpha x)*	5.E-02	(-)

Calc. Alpha x

3. ADSORPTION

Retardation Factor* → R

or

Soil Bulk Density, rho	1.6	(kg/L)		
FractionOrganicCarbon, foc	1.0E-3	(-)		
Partition Coefficient	Koc			
PCE	265	(L/kg)	2.41	(-)
TCE	94	(L/kg)	1.50	(-)
DCE	36	(L/kg)	1.19	(-)
VC	19	(L/kg)	1.10	(-)
ETH	302	(L/kg)	2.61	(-)
Common R (used in model)* =			**1.50**	

4. BIOTRANSFORMATION

-1st Order Decay Coefficient*

	λ (1/yr)	half-life (yrs)	Yield
Zone 1			
PCE → TCE	0.799		0.79
TCE → DCE	0.299		0.74
DCE → VC	0.099		0.64
VC → ETH	0.399		0.45
Zone 2	λ (1/yr)	half-life (yrs)	
PCE → TCE	0.000		
TCE → DCE	0.000		
DCE → VC	0.000		
VC → ETH	0.000		

λ HELP

5. GENERAL

Simulation Time*	100	(yr)
Modeled Area Width*	450	(ft)
Modeled Area Length*	2640	(ft)
Zone 1 Length*	2640	(ft)
Zone 2 Length*	0	(ft)

L, W

Zone 2= L - Zone 1

6. SOURCE DATA

TYPE: Continuous Single Planar

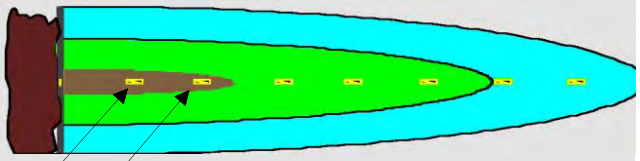
Source Options

Source Thickness in Sat. Zone* 110 (ft)

Width* (ft) Y1: 200

Conc. (mg/L)*	C1	k_s* (1/yr)
PCE		0
TCE		0
DCE	.001	0
VC	.004	0
ETH		0

Vertical Plane Source: Determine Source Well Location and Input Solvent Concentrations



View of Plume Looking Down

Observed Centerline Conc. at Monitoring Wells

7. FIELD DATA FOR COMPARISON

PCE Conc. (mg/L)												
TCE Conc. (mg/L)												
DCE Conc. (mg/L)												
VC Conc. (mg/L)												
ETH Conc. (mg/L)												
Distance from Source (ft)	0											
Date Data Collected												

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE | RUN ARRAY | Help | Restore | RESET | SEE OUTPUT | Paste

Data Input Instructions:

115 → 1. Enter value directly....or
or
0.02 → 2. Calculate by filling in gray cells. Press Enter, then C

(To restore formulas, hit "Restore Formulas" button)

Variable* → Data used directly in model.

Test if Biotransformation is Occurring → Natural Attenuation Screening Protocol

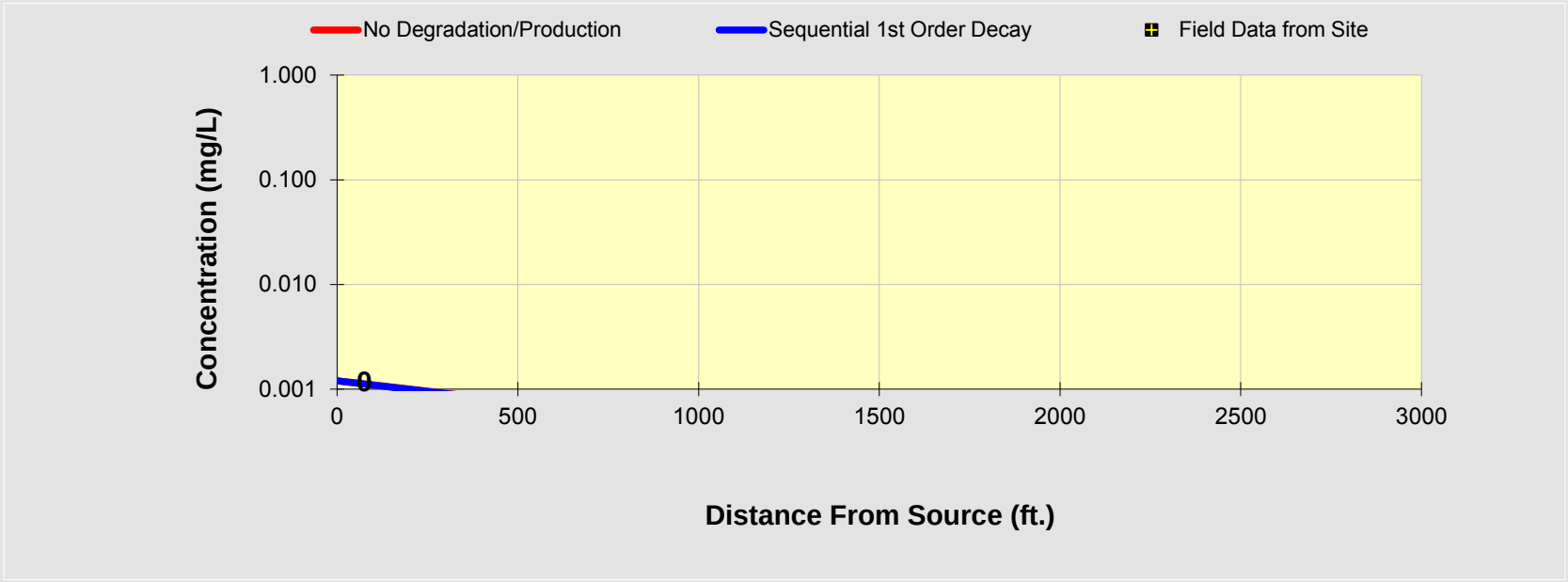
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

DCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.001	0.001	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000
Biotransformation	0.0012	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

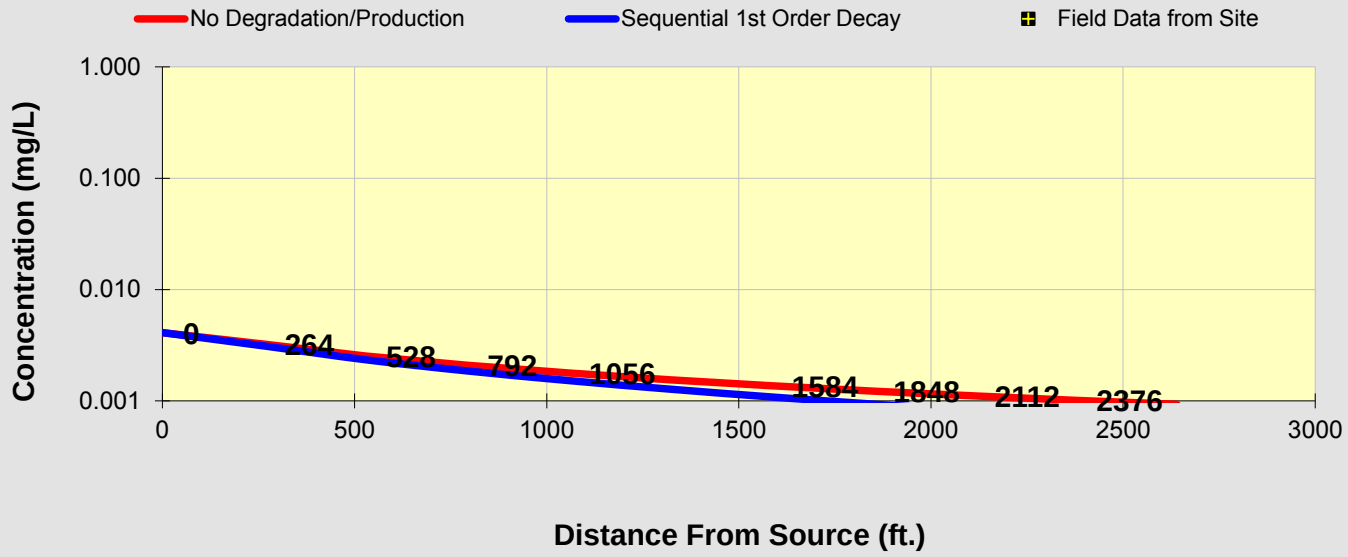
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

VC	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.004	0.003	0.003	0.002	0.002	0.002	0.001	0.001	0.001	0.001	0.001
Biotransformation	0.0041	0.003	0.002	0.002	0.002	0.001	0.001	0.001	0.001	0.001	0.001

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

BIOCHLOR Natural Attenuation Decision Support System

Version 2.2
Excel 2000

Tech Town East Phase Lowe
Max GW - A; A; Decay
Run Name

Data Input Instructions:
115 → 1. Enter value directly....or
or
0.02 → 2. Calculate by filling in gray cells. Press Enter, then C
(To restore formulas, hit "Restore Formulas" button)
Variable* → Data used directly in model.

Test if Biotransformation is Occurring → Natural Attenuation Screening Protocol

TYPE OF CHLORINATED SOLVENT: ◉ Ethenes ○ Ethanes

1. ADVECTION

Seepage Velocity*	Vs	1638.2	(ft/yr)
or			
Hydraulic Conductivity	K	9.5E-02	(cm/sec)
Hydraulic Gradient	i	5.00E-03	(ft/ft)
Effective Porosity	n	0.3	(-)

2. DISPERSION

Calc. Alpha x

Alpha x*	36.543	(ft)
(Alpha y) / (Alpha x)*	0.33	(-)
(Alpha z) / (Alpha x)*	5.E-02	(-)

3. ADSORPTION

Retardation Factor* → R

or

Soil Bulk Density, rho		1.6	(kg/L)	
FractionOrganicCarbon, foc		1.0E-3	(-)	
Partition Coefficient	Koc			
PCE	265	(L/kg)	2.41	(-)
TCE	94	(L/kg)	1.50	(-)
DCE	36	(L/kg)	1.19	(-)
VC	19	(L/kg)	1.10	(-)
ETH	302	(L/kg)	2.61	(-)

Common R (used in model)* = 1.50

4. BIOTRANSFORMATION

-1st Order Decay Coefficient*

	λ (1/yr)	half-life (yrs)	Yield
Zone 1			
PCE → TCE	0.350		0.79
TCE → DCE	0.153		0.74
DCE → VC	0.088		0.64
VC → ETH	0.087		0.45
Zone 2	λ (1/yr)	half-life (yrs)	
PCE → TCE	0.000		
TCE → DCE	0.000		
DCE → VC	0.000		
VC → ETH	0.000		

λ HELP

5. GENERAL

Simulation Time*	100	(yr)	
Modeled Area Width*	450	(ft)	W
Modeled Area Length*	2640	(ft)	L
Zone 1 Length*	2640	(ft)	
Zone 2 Length*	0	(ft)	Zone 2= L - Zone 1

6. SOURCE DATA

TYPE: Decaying Single Planar

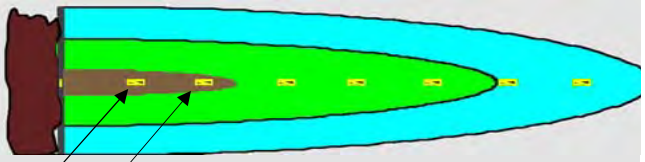
Source Options

Source Thickness in Sat. Zone* 110 (ft)

Width* (ft) Y1: 200

Conc. (mg/L)*	C1	k_s* (1/yr)
PCE	.0	0.049
TCE	.0	0.049
DCE	.001	0.049
VC	.004	0.049
ETH	0	0.049

Vertical Plane Source: Determine Source Well Location and Input Solvent Concentrations



View of Plume Looking Down

Observed Centerline Conc. at Monitoring Wells

7. FIELD DATA FOR COMPARISON

PCE Conc. (mg/L)											
TCE Conc. (mg/L)											
DCE Conc. (mg/L)											
VC Conc. (mg/L)											
ETH Conc. (mg/L)											
Distance from Source (ft)	0										
Date Data Collected											

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE | **RUN ARRAY** | **Help** | Restore | RESET | *SEE OUTPUT* | Paste

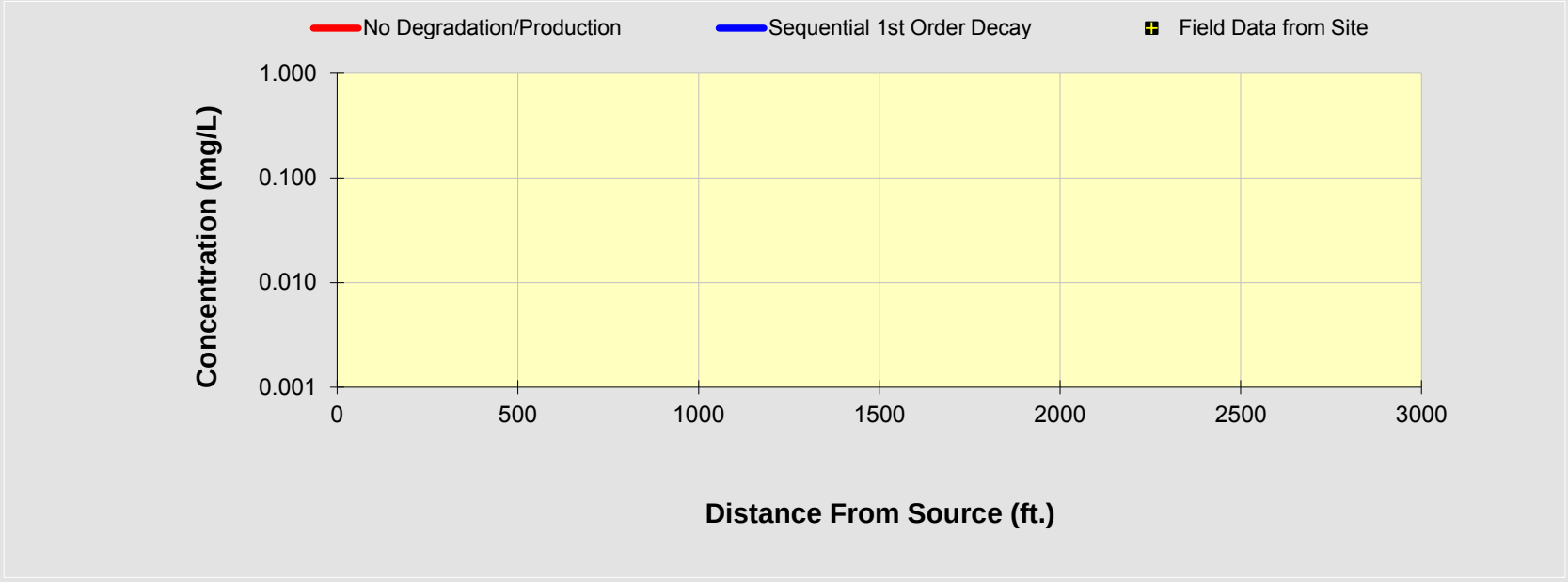
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

DCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Biotransformation	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

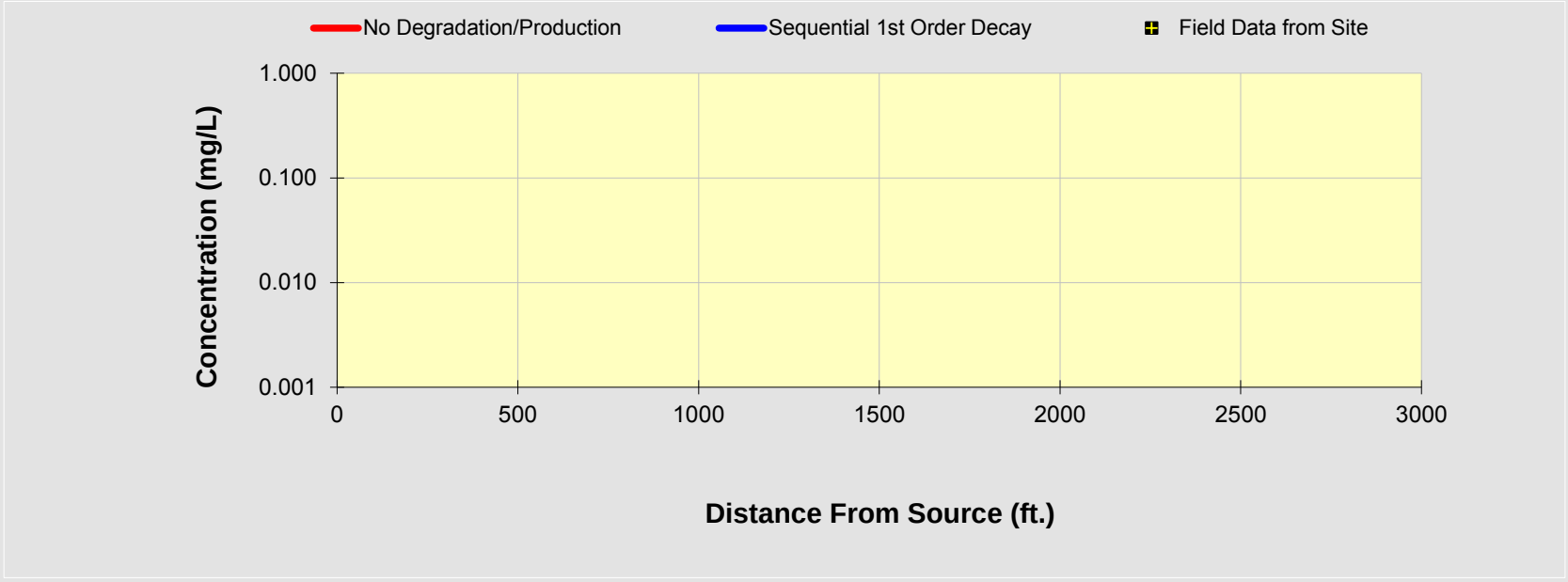
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

VC	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Biotransformation	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

BIOCHLOR Natural Attenuation Decision Support System

Version 2.2
Excel 2000

Tech Town East Phase Lowe
Max GW - B; A; Decay
Run Name

TYPE OF CHLORINATED SOLVENT: Ethenes ◉ Ethanes ○

1. ADVECTION

Seepage Velocity*	Vs	1034.6	(ft/yr)
or			
Hydraulic Conductivity	K	6.0E-02	(cm/sec)
Hydraulic Gradient	i	5.00E-03	(ft/ft)
Effective Porosity	n	0.3	(-)

2. DISPERSION

Alpha x*	36.543	(ft)
(Alpha y) / (Alpha x)*	0.33	(-)
(Alpha z) / (Alpha x)*	5.E-02	(-)

Calc. Alpha x

3. ADSORPTION

Retardation Factor* → R

or

Soil Bulk Density, rho	1.6	(kg/L)		
FractionOrganicCarbon, foc	1.0E-3	(-)		
Partition Coefficient	Koc			
PCE	265	(L/kg)	2.41	(-)
TCE	94	(L/kg)	1.50	(-)
DCE	36	(L/kg)	1.19	(-)
VC	19	(L/kg)	1.10	(-)
ETH	302	(L/kg)	2.61	(-)
Common R (used in model)* =			**1.50**	

4. BIOTRANSFORMATION

-1st Order Decay Coefficient*

	λ (1/yr)	half-life (yrs)	Yield
Zone 1			
PCE → TCE	0.350		0.79
TCE → DCE	0.153		0.74
DCE → VC	0.088		0.64
VC → ETH	0.087		0.45
Zone 2	λ (1/yr)	half-life (yrs)	
PCE → TCE	0.000		
TCE → DCE	0.000		
DCE → VC	0.000		
VC → ETH	0.000		

λ HELP

5. GENERAL

Simulation Time*	100	(yr)
Modeled Area Width*	450	(ft)
Modeled Area Length*	2640	(ft)
Zone 1 Length*	2640	(ft)
Zone 2 Length*	0	(ft)

Zone 2= L - Zone 1

6. SOURCE DATA

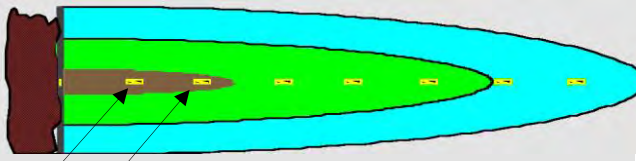
TYPE: Decaying Single Planar

Source Options

Source Thickness in Sat. Zone* 110 (ft)

	Y1	k_s*
Width* (ft)	200	
Conc. (mg/L)*	C1	(1/yr)
PCE	.0	0.049
TCE	.0	0.049
DCE	.001	0.049
VC	.004	0.049
ETH	0	0.049

Vertical Plane Source: Determine Source Well Location and Input Solvent Concentrations



View of Plume Looking Down

Observed Centerline Conc. at Monitoring Wells

7. FIELD DATA FOR COMPARISON

PCE Conc. (mg/L)											
TCE Conc. (mg/L)											
DCE Conc. (mg/L)											
VC Conc. (mg/L)											
ETH Conc. (mg/L)											
Distance from Source (ft)	0										
Date Data Collected											

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE | **RUN ARRAY** | ***Help*** | Restore | RESET | ***SEE OUTPUT*** | Paste

Data Input Instructions:

115 → 1. Enter value directly....or
↑ *or*
0.02 → 2. Calculate by filling in gray cells. Press Enter, then C

(To restore formulas, hit "Restore Formulas" button)

Variable* → Data used directly in model.

Test if Biotransformation is Occurring → Natural Attenuation Screening Protocol

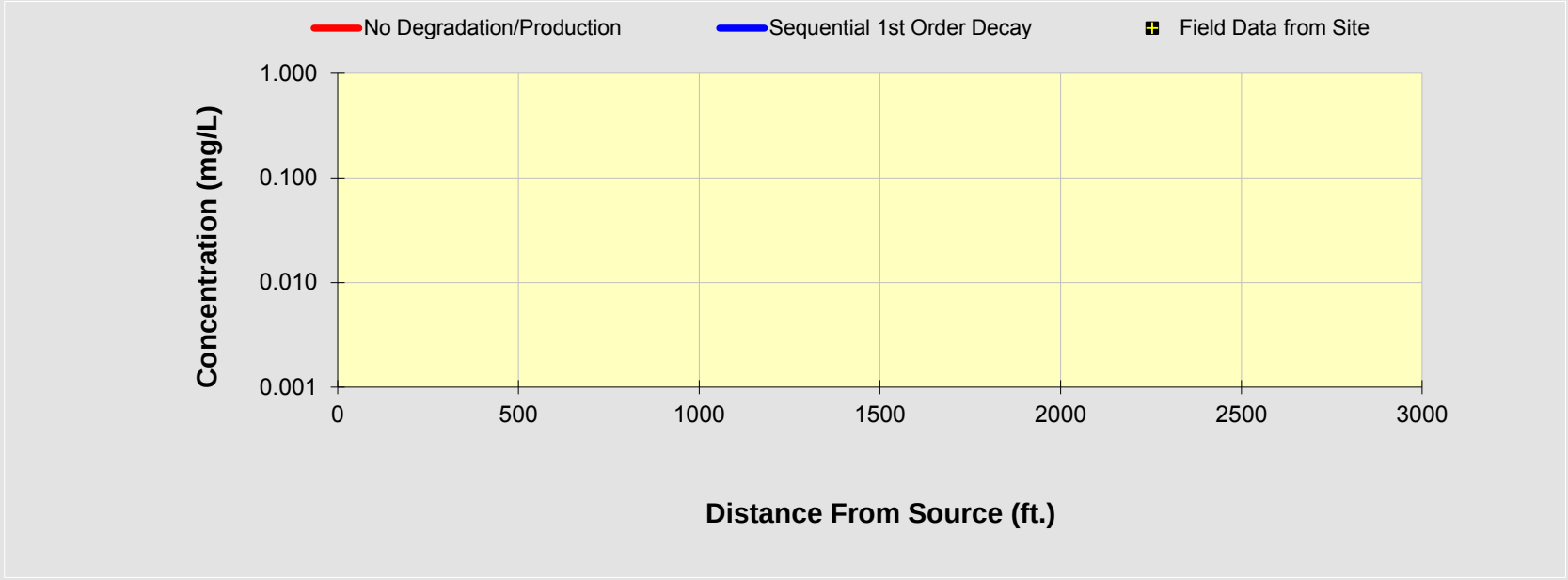
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

DCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Biotransformation	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

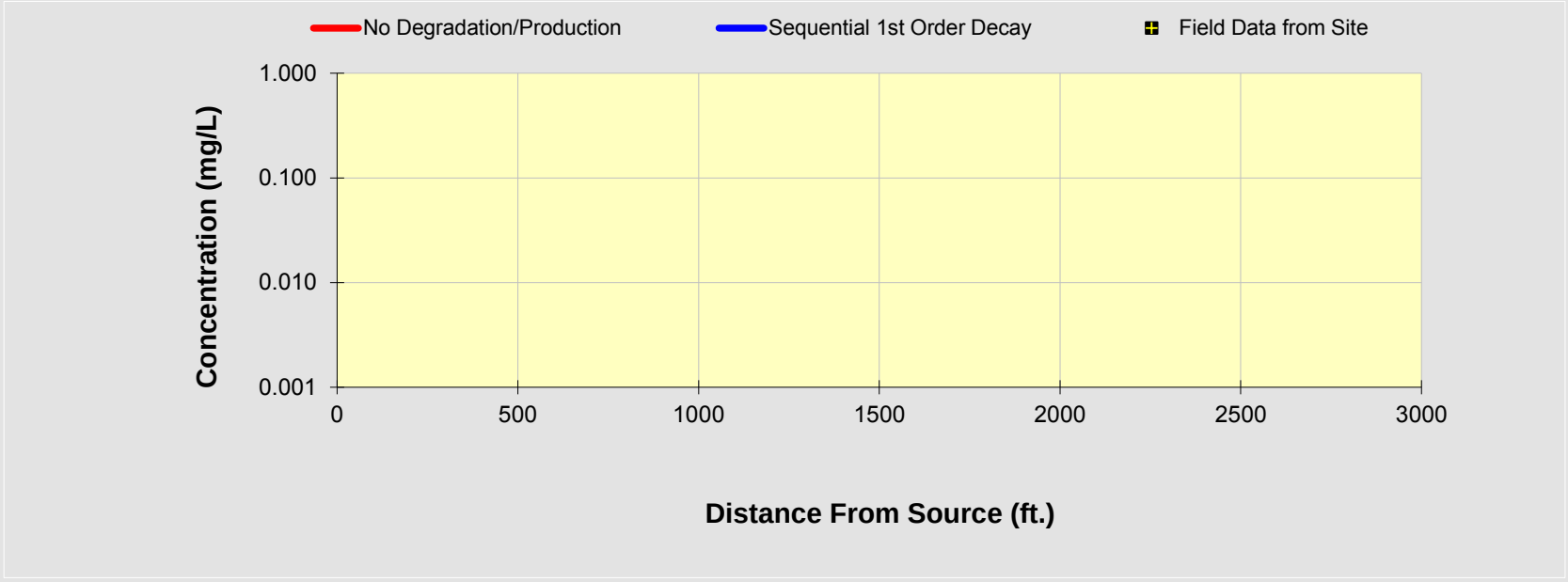
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

VC	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Biotransformation	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

BIOCHLOR Natural Attenuation Decision Support System

Version 2.2
Excel 2000

Tech Town East Phase Lowe
Max GW - C; A; Decay
Run Name

TYPE OF CHLORINATED SOLVENT: Ethenes ◉ Ethanes ○

1. ADVECTION

Seepage Velocity*	Vs	2586.6	(ft/yr)
or			
Hydraulic Conductivity	K	1.5E-01	(cm/sec)
Hydraulic Gradient	i	5.00E-03	(ft/ft)
Effective Porosity	n	0.3	(-)

2. DISPERSION

Alpha x*	36.543	(ft)
(Alpha y) / (Alpha x)*	0.33	(-)
(Alpha z) / (Alpha x)*	5.E-02	(-)

Calc. Alpha x

3. ADSORPTION

Retardation Factor* → R

or

Soil Bulk Density, rho	1.6	(kg/L)		
FractionOrganicCarbon, foc	1.0E-3	(-)		
Partition Coefficient	Koc			
PCE	265	(L/kg)	2.41	(-)
TCE	94	(L/kg)	1.50	(-)
DCE	36	(L/kg)	1.19	(-)
VC	19	(L/kg)	1.10	(-)
ETH	302	(L/kg)	2.61	(-)
Common R (used in model)* =			**1.50**	

4. BIOTRANSFORMATION

-1st Order Decay Coefficient*

	λ (1/yr)	half-life (yrs)	Yield
Zone 1			
PCE → TCE	0.350		0.79
TCE → DCE	0.153		0.74
DCE → VC	0.088		0.64
VC → ETH	0.087		0.45
Zone 2	λ (1/yr)	half-life (yrs)	
PCE → TCE	0.000		
TCE → DCE	0.000		
DCE → VC	0.000		
VC → ETH	0.000		

λ HELP

5. GENERAL

Simulation Time*	100	(yr)
Modeled Area Width*	450	(ft)
Modeled Area Length*	2640	(ft)
Zone 1 Length*	2640	(ft)
Zone 2 Length*	0	(ft)

Zone 2= L - Zone 1

6. SOURCE DATA

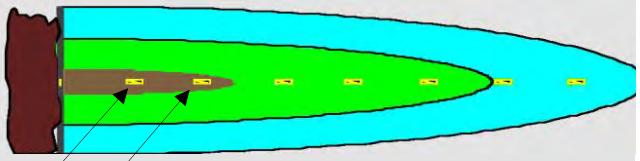
TYPE: Decaying Single Planar

Source Options

Source Thickness in Sat. Zone* 110 (ft)

	Y1	k_s* (1/yr)
Width* (ft)	200	
Conc. (mg/L)*	C1	
PCE	.0	0.049
TCE	.0	0.049
DCE	.001	0.049
VC	.004	0.049
ETH	0	0.049

Vertical Plane Source: Determine Source Well Location and Input Solvent Concentrations



View of Plume Looking Down

Observed Centerline Conc. at Monitoring Wells

7. FIELD DATA FOR COMPARISON

PCE Conc. (mg/L)											
TCE Conc. (mg/L)											
DCE Conc. (mg/L)											
VC Conc. (mg/L)											
ETH Conc. (mg/L)											
Distance from Source (ft)	0										
Date Data Collected											

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE | RUN ARRAY | Help | Restore | RESET | SEE OUTPUT | Paste

Data Input Instructions:

115 → 1. Enter value directly....or
↑ or
0.02 → 2. Calculate by filling in gray cells. Press Enter, then C

(To restore formulas, hit "Restore Formulas" button)

Variable* → Data used directly in model.

Test if Biotransformation is Occurring → Natural Attenuation Screening Protocol

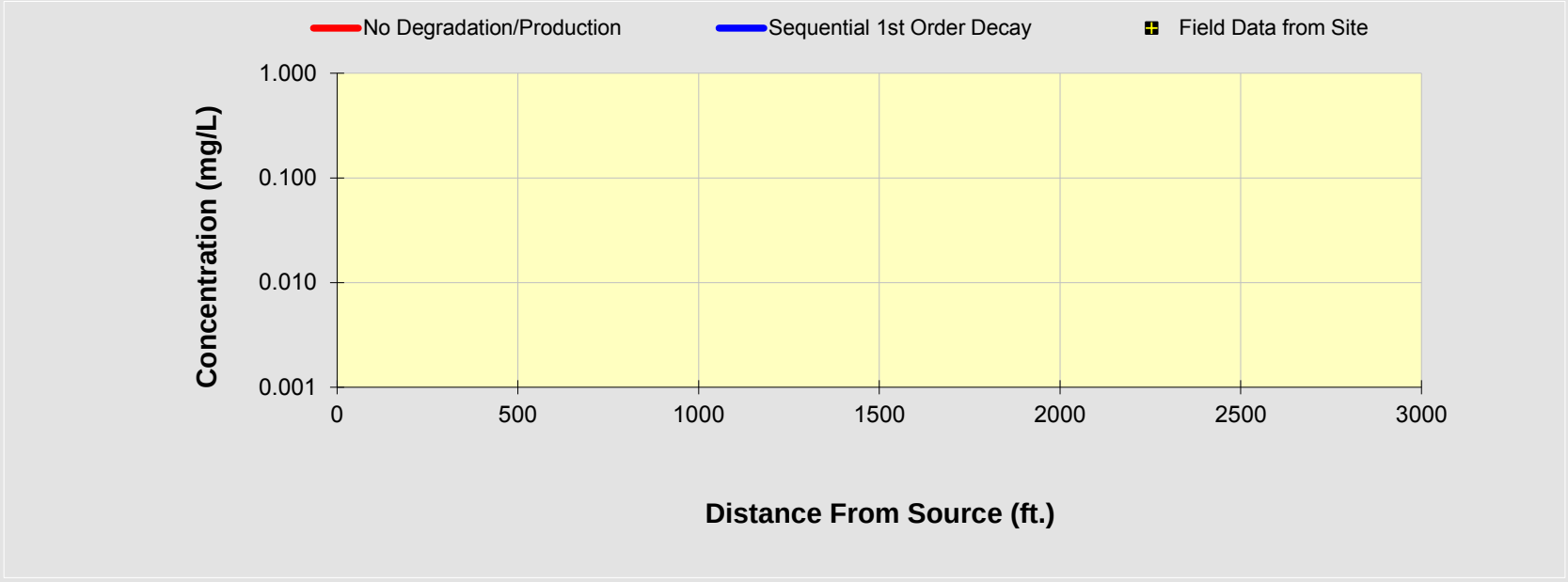
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

DCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Biotransformation	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

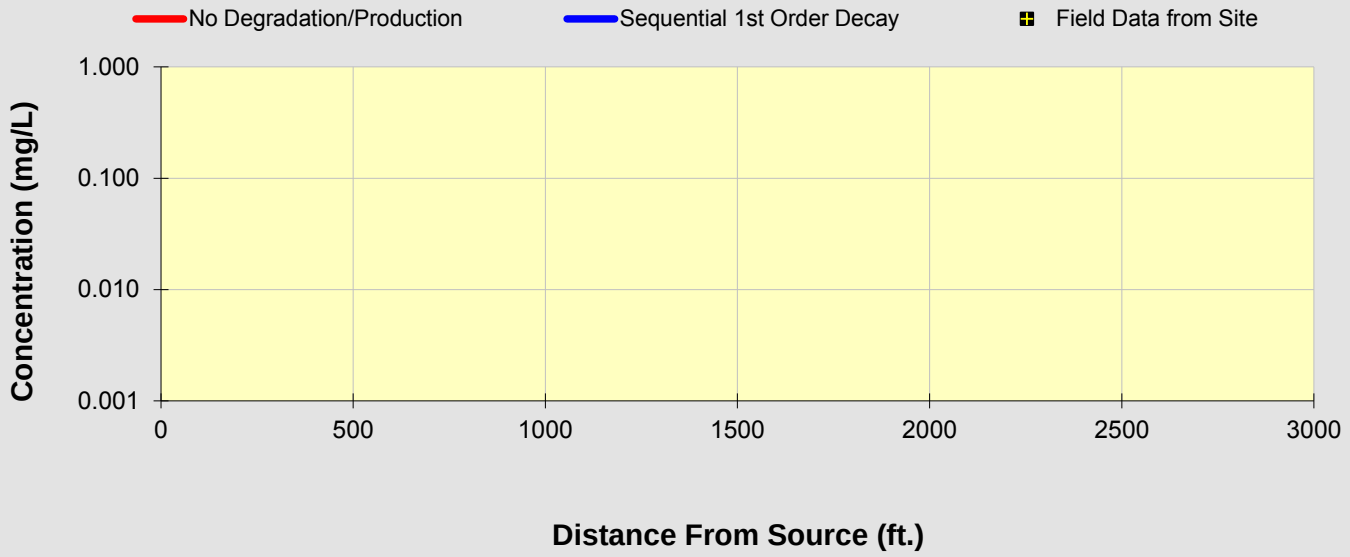
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

VC	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Biotransformation	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

BIOCHLOR Natural Attenuation Decision Support System

Version 2.2
Excel 2000

Tech Town East Phase Lowe
Max GW - A; B; Decay
Run Name

TYPE OF CHLORINATED SOLVENT: Ethenes ◉ Ethanes ○

1. ADVECTION

Seepage Velocity*	Vs	1638.2	(ft/yr)
or			
Hydraulic Conductivity	K	9.5E-02	(cm/sec)
Hydraulic Gradient	i	5.00E-03	(ft/ft)
Effective Porosity	n	0.3	(-)

2. DISPERSION

Alpha x*	36.543	(ft)
(Alpha y) / (Alpha x)*	0.33	(-)
(Alpha z) / (Alpha x)*	5.E-02	(-)

Calc. Alpha x

3. ADSORPTION

Retardation Factor* → R

or

Soil Bulk Density, rho	1.6	(kg/L)		
FractionOrganicCarbon, foc	1.0E-3	(-)		
Partition Coefficient	Koc			
PCE	265	(L/kg)	2.41	(-)
TCE	94	(L/kg)	1.50	(-)
DCE	36	(L/kg)	1.19	(-)
VC	19	(L/kg)	1.10	(-)
ETH	302	(L/kg)	2.61	(-)

Common R (used in model)* = **1.50**

4. BIOTRANSFORMATION

-1st Order Decay Coefficient*

	λ (1/yr)	half-life (yrs)	Yield
Zone 1			
PCE → TCE	0.799		0.79
TCE → DCE	0.399		0.74
DCE → VC	0.099		0.64
VC → ETH	0.299		0.45
Zone 2	λ (1/yr)	half-life (yrs)	
PCE → TCE	0.000		
TCE → DCE	0.000		
DCE → VC	0.000		
VC → ETH	0.000		

λ HELP

5. GENERAL

Simulation Time*	100	(yr)
Modeled Area Width*	450	(ft)
Modeled Area Length*	2640	(ft)
Zone 1 Length*	2640	(ft)
Zone 2 Length*	0	(ft)

L, W

Zone 2= L - Zone 1

6. SOURCE DATA

TYPE: Decaying Single Planar

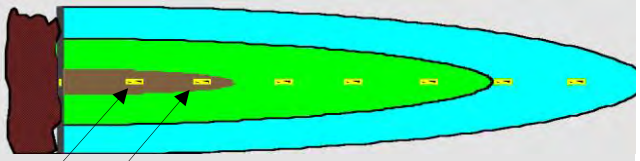
Source Options

Source Thickness in Sat. Zone* 110 (ft)

Width* (ft) Y1: 200

Conc. (mg/L)*	C1	k_s* (1/yr)
PCE	.0	0.049
TCE	.0	0.049
DCE	.001	0.049
VC	.004	0.049
ETH	0	0.049

Vertical Plane Source: Determine Source Well Location and Input Solvent Concentrations



View of Plume Looking Down

Observed Centerline Conc. at Monitoring Wells

7. FIELD DATA FOR COMPARISON

PCE Conc. (mg/L)												
TCE Conc. (mg/L)												
DCE Conc. (mg/L)												
VC Conc. (mg/L)												
ETH Conc. (mg/L)												
Distance from Source (ft)	0											
Date Data Collected												

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE | **RUN ARRAY** | ***Help*** | Restore | RESET | ***SEE OUTPUT*** | Paste

Data Input Instructions:

115 → 1. Enter value directly....or

↑ *or*

0.02 → 2. Calculate by filling in gray cells. Press Enter, then C

(To restore formulas, hit "Restore Formulas" button)

Variable* → Data used directly in model.

Test if Biotransformation is Occurring → Natural Attenuation Screening Protocol

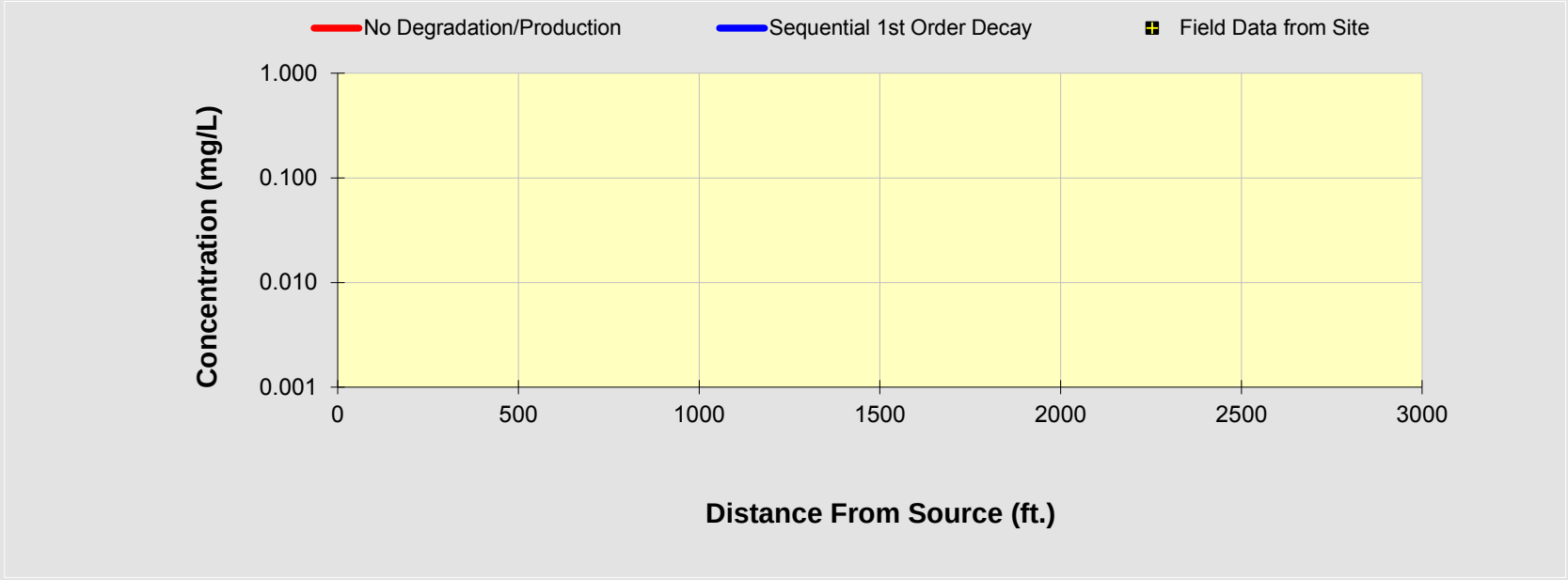
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

DCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Biotransformation	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

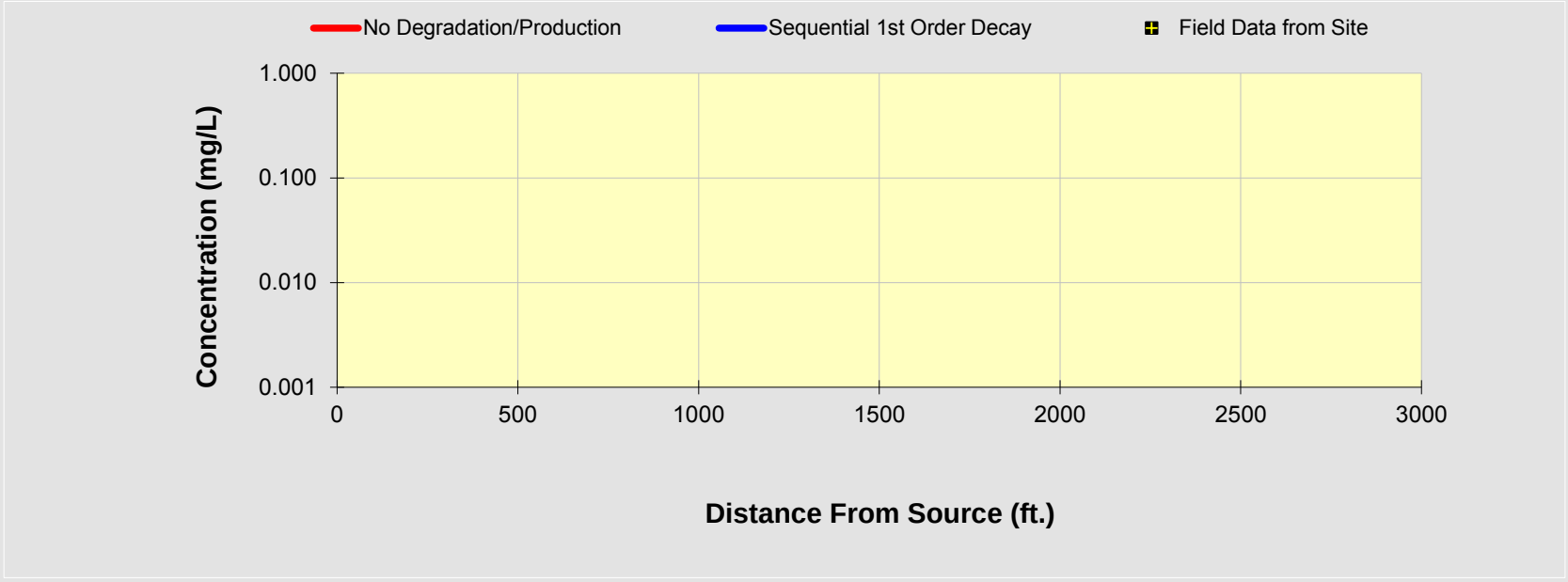
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

VC	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Biotransformation	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

BIOCHLOR Natural Attenuation Decision Support System

Version 2.2
Excel 2000

Tech Town East Phase Lowe
Max GW - B; B; Decay
Run Name

Data Input Instructions:
115 → 1. Enter value directly....or
↑ or
0.02 → 2. Calculate by filling in gray cells. Press Enter, then C
(To restore formulas, hit "Restore Formulas" button)
Variable* → Data used directly in model.

Test if Biotransformation is Occurring → Natural Attenuation Screening Protocol

TYPE OF CHLORINATED SOLVENT: Ethenes ◉ Ethanes ○

1. ADVECTION

Seepage Velocity*	Vs	1034.6	(ft/yr)
or			
Hydraulic Conductivity	K	6.0E-02	(cm/sec)
Hydraulic Gradient	i	5.00E-03	(ft/ft)
Effective Porosity	n	0.3	(-)

2. DISPERSION

Alpha x*	36.543	(ft)
(Alpha y) / (Alpha x)*	0.33	(-)
(Alpha z) / (Alpha x)*	5.E-02	(-)

Calc. Alpha x

3. ADSORPTION

Retardation Factor* → R
or

Soil Bulk Density, rho	1.6	(kg/L)		
FractionOrganicCarbon, foc	1.0E-3	(-)		
Partition Coefficient	Koc			
PCE	265	(L/kg)	2.41	(-)
TCE	94	(L/kg)	1.50	(-)
DCE	36	(L/kg)	1.19	(-)
VC	19	(L/kg)	1.10	(-)
ETH	302	(L/kg)	2.61	(-)
Common R (used in model)* =			**1.50**	

4. BIOTRANSFORMATION -1st Order Decay Coefficient*

Zone 1	λ (1/yr)	half-life (yrs)	Yield
PCE → TCE	0.799		0.79
TCE → DCE	0.399		0.74
DCE → VC	0.099		0.64
VC → ETH	0.299		0.45

Zone 2	λ (1/yr)	half-life (yrs)
PCE → TCE	0.000	
TCE → DCE	0.000	
DCE → VC	0.000	
VC → ETH	0.000	

λ HELP

5. GENERAL

Simulation Time*	100	(yr)
Modeled Area Width*	450	(ft)
Modeled Area Length*	2640	(ft)
Zone 1 Length*	2640	(ft)
Zone 2 Length*	0	(ft)

L, W

Zone 2= L - Zone 1

6. SOURCE DATA TYPE: Decaying Single Planar

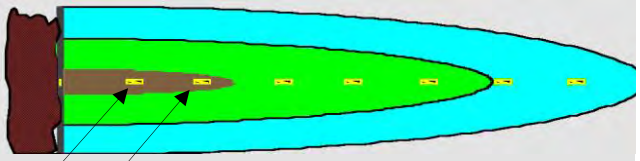
Source Options

Source Thickness in Sat. Zone* 110 (ft)

Width* (ft) Y1: 200

Conc. (mg/L)*	C1	k_s* (1/yr)
PCE	.0	0.049
TCE	.0	0.049
DCE	.001	0.049
VC	.004	0.049
ETH	0	0.049

Vertical Plane Source: Determine Source Well Location and Input Solvent Concentrations



View of Plume Looking Down

Observed Centerline Conc. at Monitoring Wells

7. FIELD DATA FOR COMPARISON

PCE Conc. (mg/L)											
TCE Conc. (mg/L)											
DCE Conc. (mg/L)											
VC Conc. (mg/L)											
ETH Conc. (mg/L)											
Distance from Source (ft)	0										
Date Data Collected											

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE | RUN ARRAY | Help | Restore | RESET | SEE OUTPUT | Paste

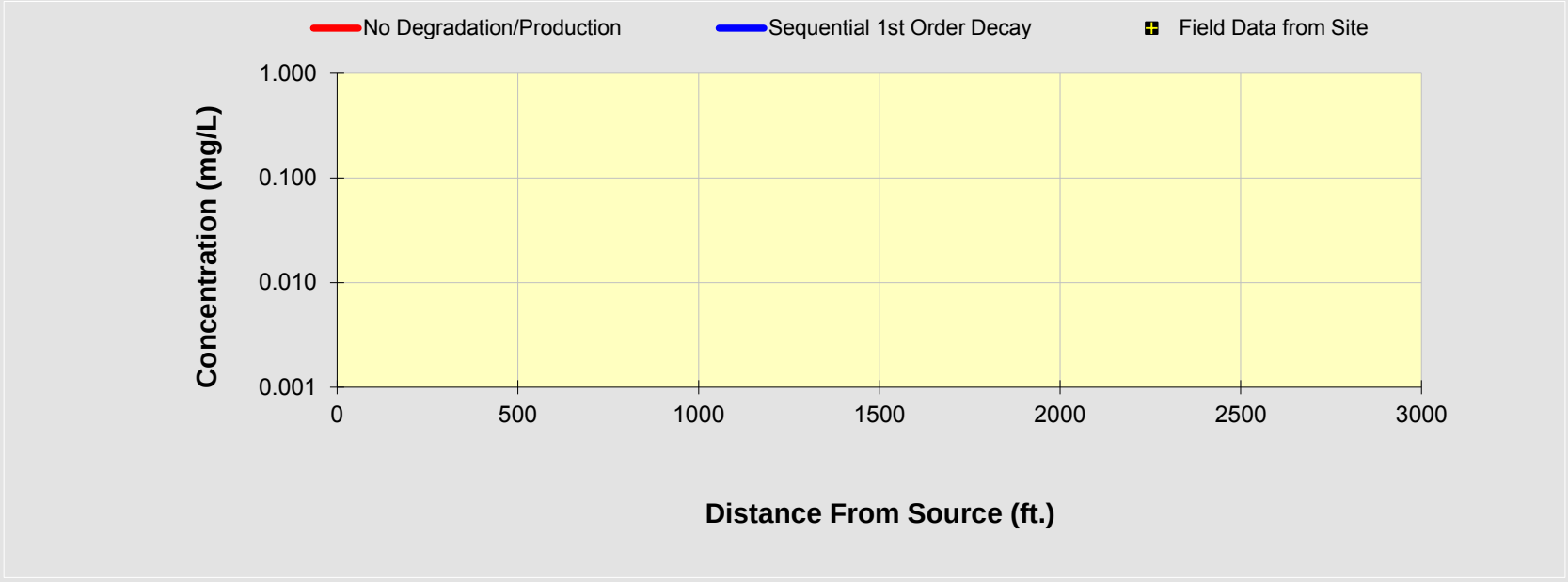
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

DCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Biotransformation	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

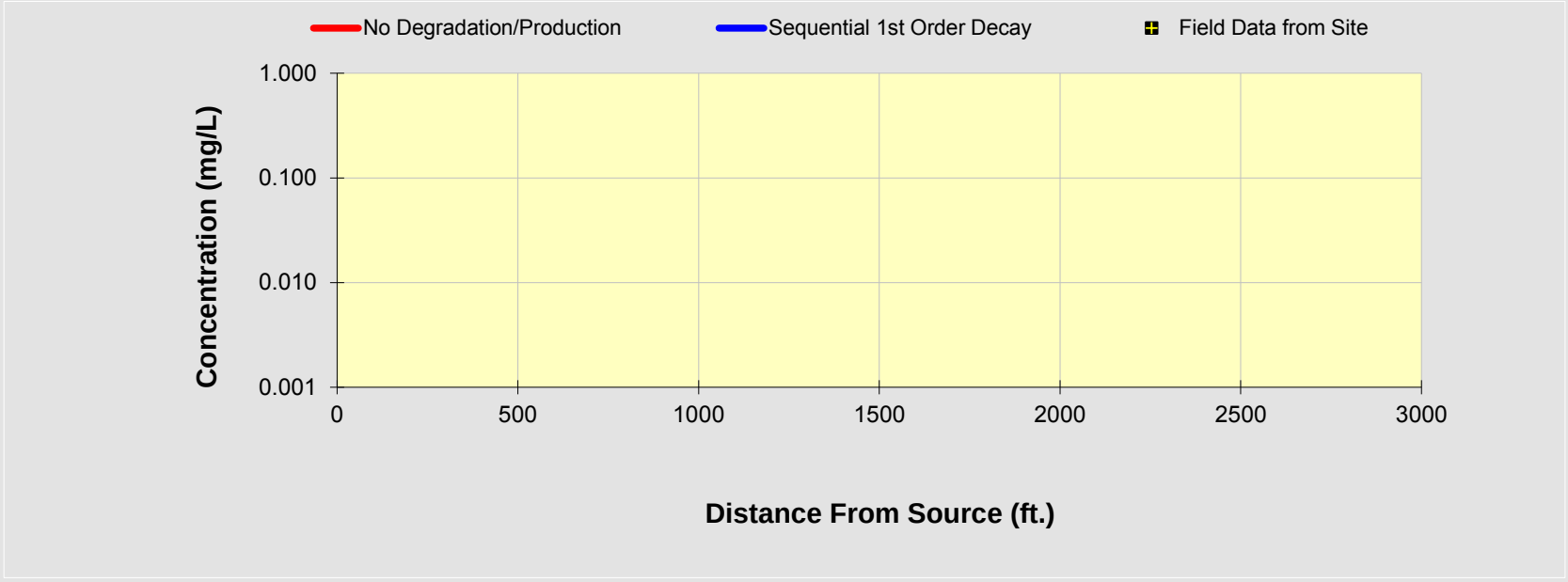
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

VC	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Biotransformation	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

BIOCHLOR Natural Attenuation Decision Support System

Version 2.2
Excel 2000

Tech Town East Phase Lowe
Max GW - C; B; Decay
Run Name

Data Input Instructions:
115 → 1. Enter value directly....or
↑ or
0.02 → 2. Calculate by filling in gray cells. Press Enter, then C
(To restore formulas, hit "Restore Formulas" button)
Variable* → Data used directly in model.

Test if Biotransformation is Occurring → Natural Attenuation Screening Protocol

TYPE OF CHLORINATED SOLVENT: Ethenes ◉ Ethanes ○

1. ADVECTION

Seepage Velocity*	Vs	2586.6	(ft/yr)
or			
Hydraulic Conductivity	K	1.5E-01	(cm/sec)
Hydraulic Gradient	i	5.00E-03	(ft/ft)
Effective Porosity	n	0.3	(-)

2. DISPERSION

Alpha x*	36.543	(ft)
(Alpha y) / (Alpha x)*	0.33	(-)
(Alpha z) / (Alpha x)*	5.E-02	(-)

Calc. Alpha x

3. ADSORPTION

Retardation Factor* → R
or

Soil Bulk Density, rho		1.6	(kg/L)	
FractionOrganicCarbon, foc		1.0E-3	(-)	
Partition Coefficient	Koc			
PCE	265	(L/kg)	2.41	(-)
TCE	94	(L/kg)	1.50	(-)
DCE	36	(L/kg)	1.19	(-)
VC	19	(L/kg)	1.10	(-)
ETH	302	(L/kg)	2.61	(-)

Common R (used in model)* = 1.50

4. BIOTRANSFORMATION

-1st Order Decay Coefficient*

	Zone 1 λ (1/yr)	half-life (yrs)	Yield
PCE → TCE	0.799		0.79
TCE → DCE	0.399		0.74
DCE → VC	0.099		0.64
VC → ETH	0.299		0.45

	Zone 2 λ (1/yr)	half-life (yrs)
PCE → TCE	0.000	
TCE → DCE	0.000	
DCE → VC	0.000	
VC → ETH	0.000	

λ HELP

5. GENERAL

Simulation Time*	100	(yr)
Modeled Area Width*	450	(ft)
Modeled Area Length*	2640	(ft)
Zone 1 Length*	2640	(ft)
Zone 2 Length*	0	(ft)

L, W

Zone 2= L - Zone 1

6. SOURCE DATA

TYPE: Decaying Single Planar

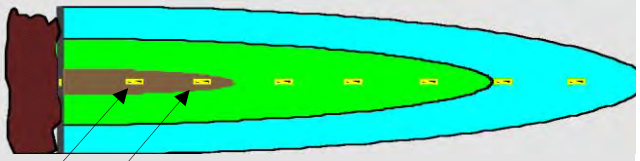
Source Options

Source Thickness in Sat. Zone* 110 (ft)

Width* (ft) Y1: 200

Conc. (mg/L)*	C1	k_s* (1/yr)
PCE	.0	0.049
TCE	.0	0.049
DCE	.001	0.049
VC	.004	0.049
ETH	0	0.049

Vertical Plane Source: Determine Source Well Location and Input Solvent Concentrations



View of Plume Looking Down

Observed Centerline Conc. at Monitoring Wells

7. FIELD DATA FOR COMPARISON

PCE Conc. (mg/L)												
TCE Conc. (mg/L)												
DCE Conc. (mg/L)												
VC Conc. (mg/L)												
ETH Conc. (mg/L)												
Distance from Source (ft)	0											
Date Data Collected												

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE | RUN ARRAY | Help | Restore | RESET | SEE OUTPUT | Paste

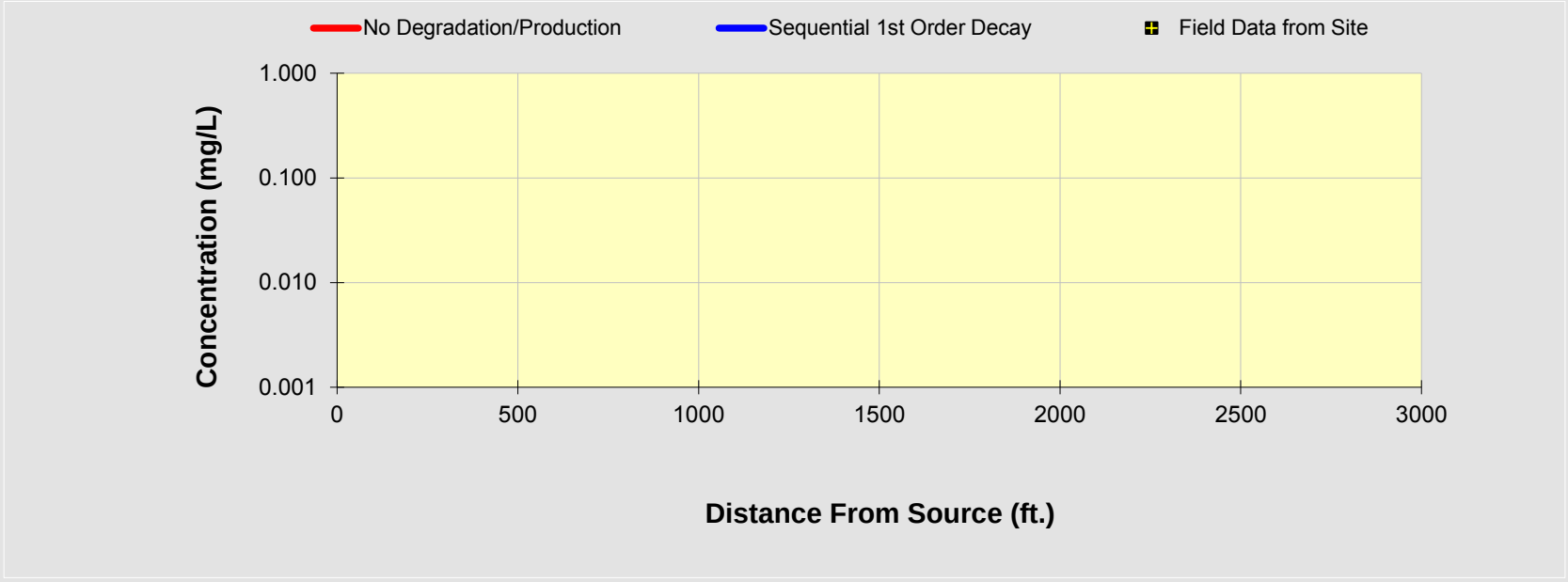
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

DCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Biotransformation	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

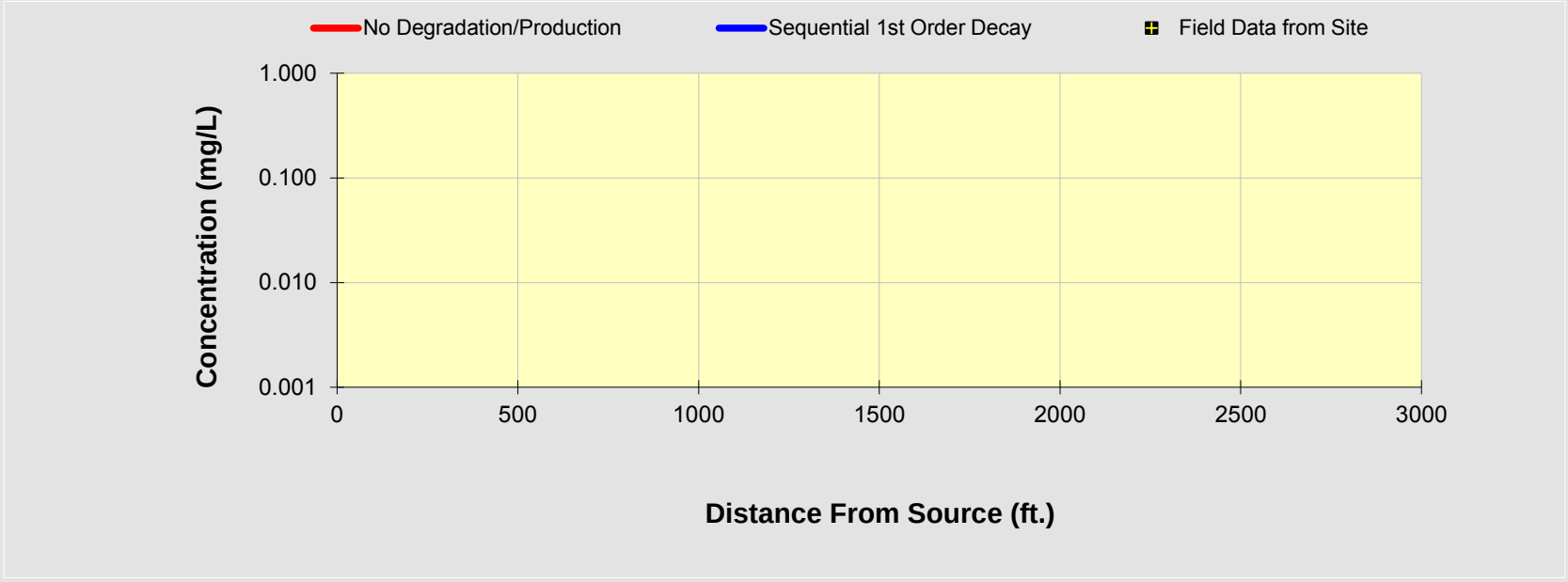
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

VC	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Biotransformation	0.0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

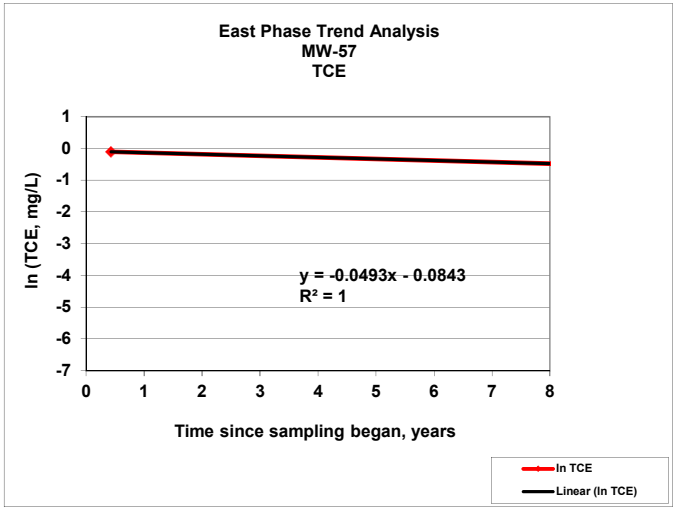
APPENDIX C-5
DECAY RATE CALCULATIONS

First-Order Decay Rate Calculation
for Monitored Natural Attenuation

Facility Name: **Example from EPA Issue Paper (Newell, Rifai Wilson, Connor, Aziz and Suarez, November 2002)**

Facility Location and Address: ____ DTT East Phase

Sampling Date	Depth to Ground Water feet	TCE MW-57 mg/L	TCE MW-57 ug/L	ln TCE MW-57 mg/L	Elapsed time since 1/1/07 years
6/7/2007		0.900	900	-0.105	0.43
9/21/2016		0.568	568.0	-0.566	9.73
6/15/2017		0.550	550	-0.598	10.46
MCL		*0.005*	*5*	*-5.298317367*	
UPUS		*0.005*	*5*	*-5.298317367*	



Formula

$t = -[\ln(C_{CL}/C_o)] / k_{point}$

where:

t = Time to achieve cleanup levels, years

C_{CL} = Cleanup level for contaminant of concern, mg/L

C_o = Initial concentration of contaminant of concern, mg/L

k_{point} = First-order decay rate constant at one monitoring point, $years^{-1}$

= slope of the line, y

Solutions

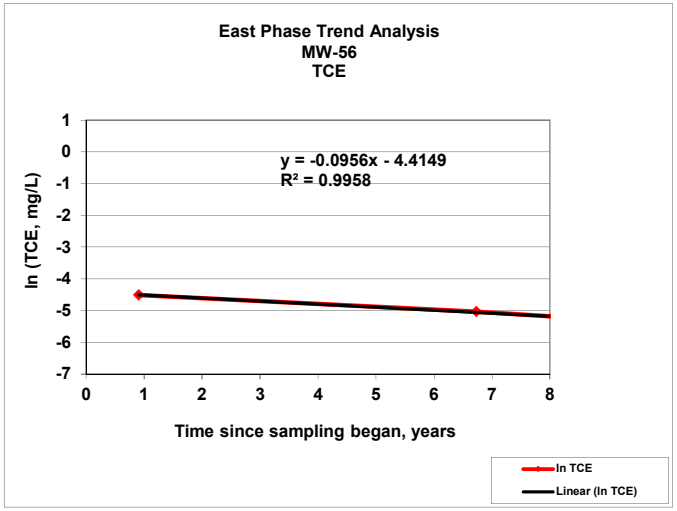
East Phase MW-57, TCE				
Enter C_{CL}	⇨	0.005		
Enter C_o	⇨	0.9		
Enter k_{point}	⇨	0.0493		
Time to reach cleanup level			105.3	years

First-Order Decay Rate Calculation
for Monitored Natural Attenuation

Facility Name: **Example from EPA Issue Paper (Newell, Rifai Wilson, Connor, Aziz and Suarez, November 2002)**

Facility Location and Address: ____ DTT East Phase

Sampling Date	Depth to Ground Water feet	TCE MW-56 mg/L	TCE MW-56 ug/L	ln TCE MW-56 mg/L	Elapsed time since 1/1/06 years
11/28/2006		0.011	11	-4.510	0.91
9/24/2012		0.007	6.5	-5.030	6.73
1/6/2015		0.005	5	-5.298	9.02
MCL		*0.005*	*5*	*-5.298317367*	
UPUS		*0.005*	*5*	*-5.298317367*	



Formula

$t = -[\ln(C_{CL}/C_o)] / k_{point}$

where:

t = Time to achieve cleanup levels, years

C_{CL} = Cleanup level for contaminant of concern, mg/L

C_o = Initial concentration of contaminant of concern, mg/L

k_{point} = First-order decay rate constant at one monitoring point, $years^{-1}$

= slope of the line, y

Solutions

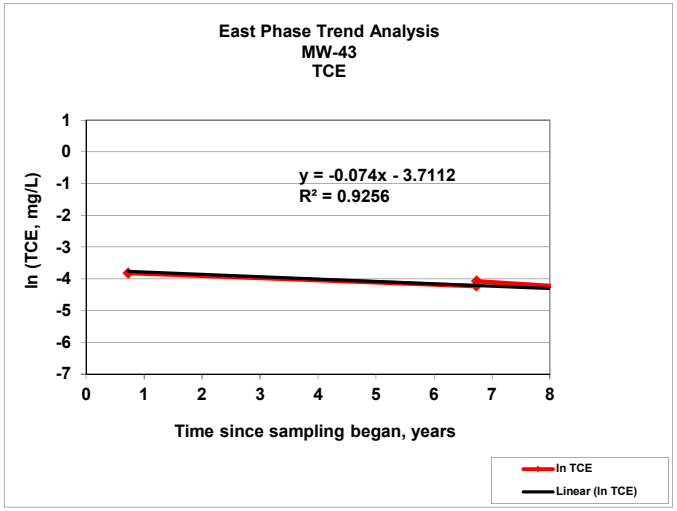
East Phase MW-56, TCE			
Enter C_{CL}	⇨	0.005	
Enter C_o	⇨	0.011	
Enter k_{point}	⇨	0.0956	
Time to reach cleanup level		8.2	years

First-Order Decay Rate Calculation
for Monitored Natural Attenuation

Facility Name: **Example from EPA Issue Paper (Newell, Rifai Wilson, Connor, Aziz and Suarez, November 2002)**

Facility Location and Address: ____ DTT East Phase

Sampling Date	Depth to Ground Water feet	TCE MW-43 mg/L	TCE MW-43 ug/L	ln TCE MW-43 mg/L	Elapsed time since 1/1/06 years
9/24/2006		0.022	22	-3.817	0.73
9/24/2012		0.015	14.6	-4.227	6.73
9/25/2012		0.017	17	-4.075	6.74
6/14/2017		0.010	9.81	-4.624	11.46
MCL		*0.005*	*5*	*-5.298317367*	
UPUS		*0.005*	*5*	*-5.298317367*	



Formula

$t = -[\ln(C_{CL}/C_o)] / k_{point}$

where:

t = Time to achieve cleanup levels, years

C_{CL} = Cleanup level for contaminant of concern, mg/L

C_o = Initial concentration of contaminant of concern, mg/L

k_{point} = First-order decay rate constant at one monitoring point, $years^{-1}$

= slope of the line, y

Solutions

East Phase MW-43, TCE			
Enter C_{CL}	⇨	0.005	
Enter C_o	⇨	0.022	
Enter k_{point}	⇨	0.074	
Time to reach cleanup level		20.0	years

APPENDIX D
DEVELOPMENT OF LEACH-BASED SCREENING VALUES FOR SOIL TO EQUAL GUPUS ½ MILE FROM PROPERTY BOUNDARY

Appendix D
Table D-1
Development of Leach-Based Screening Values to Meet GUPUS at 1/2 Mile from Property Boundary
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Organics:

$$C_s = C_w \times [K_d + \frac{E_w + E_a H'}{\rho_b}] \times DAF$$

where:
Cs = allowable soil concentration or soil screening number, ppm (mg/kg)
Foc = fraction of organic carbon in soil, unitless
Koc = partition coefficient between octanol and carbon (obtained from literature), L/kg, and
H' = Henry's Law constant (unitless)
Ew = water-filled soil porosity 0.3 (Lwater/Lsoil), OEPA, 2008
Ea = air-filled soil porosity 0.13 (Lair/Lsoil), EPA 1996
BD = Dry soil bulk density (1.6 kg/L), OEPA, 2008
[a]Cw = groundwater concentration at the source area that migrates (using Biochlor model) at a concentration equal to GUPUS 1/2 mile from property boundary, ppm (mg/L)
DF = Dilution factor, unitless

Chemical	H'	Koc (mL/g)	Source	CW source (mg/L)[a]	Decay Constant (per year)**	foc	Kd = Koc x foc	DF	Cs (mg/kg)	Cs (ug/kg)
cis-1,2-Dichloroethene	1.67E-01	3.96E+01	CIDARS 6 2015	0.075	0.088	0.003	0.1188	15	0.36	3.60E+02
Tetrachloroethene	7.24E-01	9.49E+01	CIDARS 6 2015	0.15	0.35	0.003	0.28482	15	1.20	1.20E+03
Trichloroethene	4.03E-01	6.07E+01	CIDARS 6 2015	0.17	0.15	0.003	0.1821	15	1.03	1.03E+03
Vinyl chloride	1.14E+00	2.17E+01	CIDARS 6 2015	0.04	0.087	0.003	0.06519	15	0.207	2.07E+02
1,1-Dichloroethane	2.30E-01	3.18E+01	CIDARS 6 2015	100	0.6935	0.003	0.09546	15	452.442	4.52E+05
Methylene chloride[b]	1.33E-01	2.17E+01	CIDARS 6 2015	1.00E+05	4.38	0.003	6.52E-02	15	395229	3.95E+08

Inorganics:
Cs = Cw x [Kd +(Ew/BD)] x DAF
where:
Cs = leached based soil value (mg/kg)
Kd = soil/water partitioning coefficient (L/kg)
Ew = water-filled soil porosity (Lwater/Lsoil)
BD = Dry soil bulk density (kg/L)
[a]CW_{source} - Source concentration predicted using Biochlor to achieve GUPUS at one-half mile beyond the property boundary.
DAF = Dilution attenuation factor, unitless
** 35 IAC Part 742
b Set CW source at a maximum concentration of 1E+5 mg/L.

Chemical	CW source (mg/L)[a]	Kd (L/kg)	BD (kg/L)	Ew	DAF	Cs (mg/kg)
Arsenic	0.1	19	1.6	0.3	20	38

BIOCHLOR Natural Attenuation Decision Support System

Version 2.2
Excel 2000

Tech Town East Phase Uppe
Meet UPUS at half mile
Run Name

TYPE OF CHLORINATED SOLVENT: Ethenes ◉ Ethanes ○

1. ADVECTION

Seepage Velocity*	Vs	265.6	(ft/yr)
or			
Hydraulic Conductivity	K	7.0E-02	(cm/sec)
Hydraulic Gradient	i	1.10E-03	(ft/ft)
Effective Porosity	n	0.3	(-)

2. DISPERSION

Alpha x*	36.543	(ft)	Calc.
(Alpha y) / (Alpha x)*	0.33	(-)	
(Alpha z) / (Alpha x)*	5.E-02	(-)	

3. ADSORPTION

Retardation Factor* → R

or

Soil Bulk Density, rho	1.6	(kg/L)		
FractionOrganicCarbon, foc	1.0E-3	(-)		
Partition Coefficient	Koc			
PCE		(L/kg)	1.00	(-)
TCE		(L/kg)	1.00	(-)
DCE		(L/kg)	1.00	(-)
VC		(L/kg)	1.00	(-)
ETH		(L/kg)	1.00	(-)
Common R (used in model)* =			**1.00**	

4. BIOTRANSFORMATION

-1st Order Decay Coefficient*

Zone 1	λ (1/yr)		half-life (yrs)	Yield
PCE → TCE	0.000	←		0.79
TCE → DCE	0.000	←		0.74
DCE → VC	0.000	←		0.64
VC → ETH	0.000	←		0.45
Zone 2	λ (1/yr)		half-life (yrs)	
PCE → TCE	0.000	←		
TCE → DCE	0.000	←		
DCE → VC	0.000	←		
VC → ETH	0.000	←		

λ HELP

5. GENERAL

Simulation Time*	100	(yr)	
Modeled Area Width*	450	(ft)	
Modeled Area Length*	2640	(ft)	
Zone 1 Length*	2640	(ft)	
Zone 2 Length*	0	(ft)	Zone 2= L - Zone 1

6. SOURCE DATA

TYPE: Decaying Single Planar

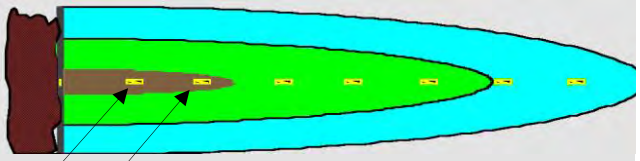
Source Options

Source Thickness in Sat. Zone* 25 (ft)

Width* (ft) Y1: 500

Conc. (mg/L)*	C1	k_s* (1/yr)
Arsenic	.1	0
TCE		0
DCE		0
VC		0
ETH		0

Vertical Plane Source: Determine Source Well Location and Input Solvent Concentrations



View of Plume Looking Down

Observed Centerline Conc. at Monitoring Wells

7. FIELD DATA FOR COMPARISON

PCE Conc. (mg/L)												
TCE Conc. (mg/L)												
DCE Conc. (mg/L)												
VC Conc. (mg/L)												
ETH Conc. (mg/L)												
Distance from Source (ft)	0											
Date Data Collected												

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE | RUN ARRAY | Help | Restore | RESE | SEE | Paste

Data Input Instructions:

115 → 1. Enter value directly....or
↑ *or*
0.02 → 2. Calculate by filling in gray cells. Press Enter, then C

(To restore formulas, hit "Restore Formulas" button)

Variable* → Data used directly in model.

Test if Biotransformation is Occurring → Natural Attenuation

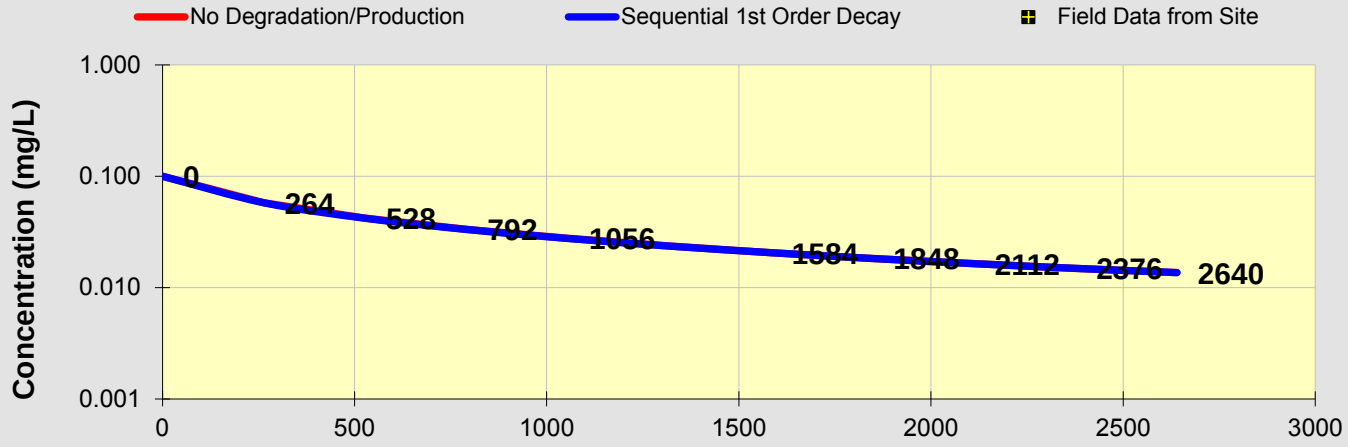
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

Arsenic	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.10	0.06	0.04	0.03	0.03	0.02	0.02	0.02	0.02	0.01	0.01
Biotransformation	0.10	0.06	0.04	0.03	0.03	0.02	0.02	0.02	0.02	0.01	0.01

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

BIOCHLOR Natural Attenuation Decision Support System

Version 2.2
Excel 2000

Tech Town East Phase Uppe
Meet UPUS at half mile
Run Name

Data Input Instructions:
115 → 1. Enter value directly....or
↑ or
0.02 → 2. Calculate by filling in gray cells. Press Enter, then C
(To restore formulas, hit "Restore Formulas" button)
Variable* → Data used directly in model.

Test if Biotransformation is Occurring → Natural Attenuation

TYPE OF CHLORINATED SOLVENT: Ethenes ◉ Ethanes ○

1. ADVECTION

Seepage Velocity*	Vs	265.6	(ft/yr)
or			
Hydraulic Conductivity	K	7.0E-02	(cm/sec)
Hydraulic Gradient	i	1.10E-03	(ft/ft)
Effective Porosity	n	0.3	(-)

2. DISPERSION

Alpha x*	36.543	(ft)	Calc.
(Alpha y) / (Alpha x)*	0.33	(-)	
(Alpha z) / (Alpha x)*	5.E-02	(-)	

3. ADSORPTION

Retardation Factor* → R
or

Soil Bulk Density, rho	1.6	(kg/L)		
FractionOrganicCarbon, foc	1.0E-3	(-)		
Partition Coefficient	Koc			
ME CL	119600	(L/kg)	638.87	(-)
TCE		(L/kg)	1.00	(-)
DCE		(L/kg)	1.00	(-)
VC		(L/kg)	1.00	(-)
ETH		(L/kg)	1.00	(-)
Common R (used in model)* =			**1.00**	

4. BIOTRANSFORMATION -1st Order Decay Coefficient*

	λ (1/yr)	half-life (yrs)	Yield
Zone 1			
PCE → TCE	4.380 ←		0.79
TCE → DCE	0.000 ←		0.74
DCE → VC	0.000 ←		0.64
VC → ETH	0.000 ←		0.45
Zone 2	λ (1/yr)	half-life (yrs)	
PCE → TCE	0.000 ←		
TCE → DCE	0.000 ←		
DCE → VC	0.000 ←		
VC → ETH	0.000 ←		

λ HELP

5. GENERAL

Simulation Time*	100	(yr)	
Modeled Area Width*	450	(ft)	
Modeled Area Length*	2640	(ft)	
Zone 1 Length*	2640	(ft)	
Zone 2 Length*	0	(ft)	Zone 2= L - Zone 1

6. SOURCE DATA TYPE: Decaying Single Planar

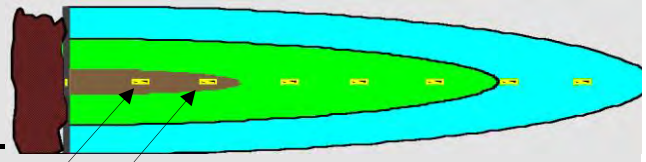
Source Options

Source Thickness in Sat. Zone* 25 (ft)

Width* (ft) Y1: 500

Conc. (mg/L)*	C1	k_s* (1/yr)
ME CL	100000.0	0
TCE		0
DCE		0
VC		0
ETH		0

Vertical Plane Source: Determine Source Well Location and Input Solvent Concentrations



View of Plume Looking Down

Observed Centerline Conc. at Monitoring Wells

7. FIELD DATA FOR COMPARISON

PCE Conc. (mg/L)												
TCE Conc. (mg/L)												
DCE Conc. (mg/L)												
VC Conc. (mg/L)												
ETH Conc. (mg/L)												
Distance from Source (ft)	0											
Date Data Collected												

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE | RUN ARRAY | Help | Restore | RESE | SEE | Paste

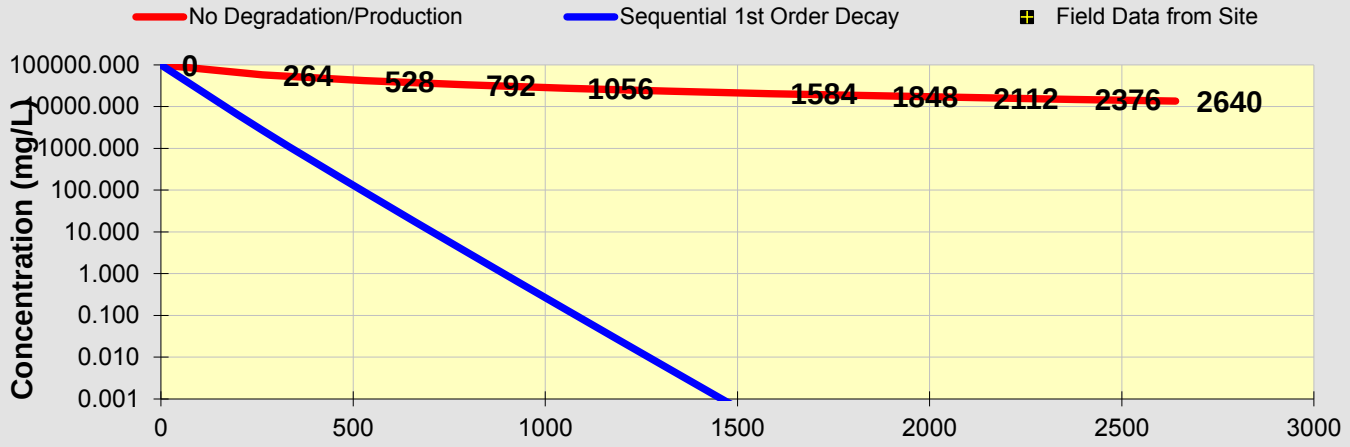
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

ME CL	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	#########	57811.106	41922.226	33263.353	27598.981	23580.901	20580.183	18254.160	16398.731	14884.532	13625.570
Biotransformation	#########	2713.339	92.349	3.439	0.134	0.005	0.000	0.000	0.000	0.000	0.000

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

BIOCHLOR Natural Attenuation Decision Support System

Version 2.2
Excel 2000

Tech Town East Phase Uppe
Meet UPUS at half mile
Run Name

TYPE OF CHLORINATED SOLVENT: Ethenes ◉ Ethanes ○

1. ADVECTION

Seepage Velocity*	Vs	265.6	(ft/yr)
or			
Hydraulic Conductivity	K	7.0E-02	(cm/sec)
Hydraulic Gradient	i	1.10E-03	(ft/ft)
Effective Porosity	n	0.3	(-)

2. DISPERSION

Alpha x*	36.543	(ft)	Calc.
(Alpha y) / (Alpha x)*	0.33	(-)	
(Alpha z) / (Alpha x)*	5.E-02	(-)	

3. ADSORPTION

Retardation Factor* → R

or

			Koc		R	
Soil Bulk Density, rho	1.6	(kg/L)				
FractionOrganicCarbon, foc	1.0E-3	(-)				
Partition Coefficient						
11 DCA	32	(L/kg)		1.17	(-)	
TCE		(L/kg)		1.00	(-)	
DCE		(L/kg)		1.00	(-)	
VC		(L/kg)		1.00	(-)	
ETH		(L/kg)		1.00	(-)	
Common R (used in model)* =				**1.00**		

4. BIOTRANSFORMATION

-1st Order Decay Coefficient*

Zone 1	λ (1/yr)		half-life (yrs)	Yield
PCE → TCE	0.694	←		0.79
TCE → DCE	0.000	←		0.74
DCE → VC	0.000	←		0.64
VC → ETH	0.000	←		0.45

Zone 2	λ (1/yr)		half-life (yrs)
PCE → TCE	0.000	←	
TCE → DCE	0.000	←	
DCE → VC	0.000	←	
VC → ETH	0.000	←	

λ HELP

5. GENERAL

Simulation Time*	100	(yr)	
Modeled Area Width*	450	(ft)	
Modeled Area Length*	2640	(ft)	
Zone 1 Length*	2640	(ft)	
Zone 2 Length*	0	(ft)	Zone 2= L - Zone 1

6. SOURCE DATA

TYPE: Decaying Single Planar

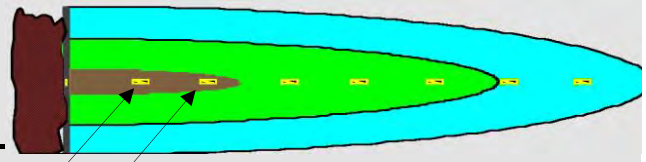
Source Options

Source Thickness in Sat. Zone* 25 (ft)

Width* (ft) Y1: 500

Conc. (mg/L)*	C1	k_s* (1/yr)
11 dca	100.0	0
TCE		0
DCE		0
VC		0
ETH		0

Vertical Plane Source: Determine Source Well Location and Input Solvent Concentrations



View of Plume Looking Down

Observed Centerline Conc. at Monitoring Wells

7. FIELD DATA FOR COMPARISON

PCE Conc. (mg/L)												
TCE Conc. (mg/L)												
DCE Conc. (mg/L)												
VC Conc. (mg/L)												
ETH Conc. (mg/L)												
Distance from Source (ft)	0											
Date Data Collected												

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE | RUN ARRAY | Help | Restore | RESE | SEE | Paste

Data Input Instructions:

115 → 1. Enter value directly....or
↑ or
0.02 → 2. Calculate by filling in gray cells. Press Enter, then C

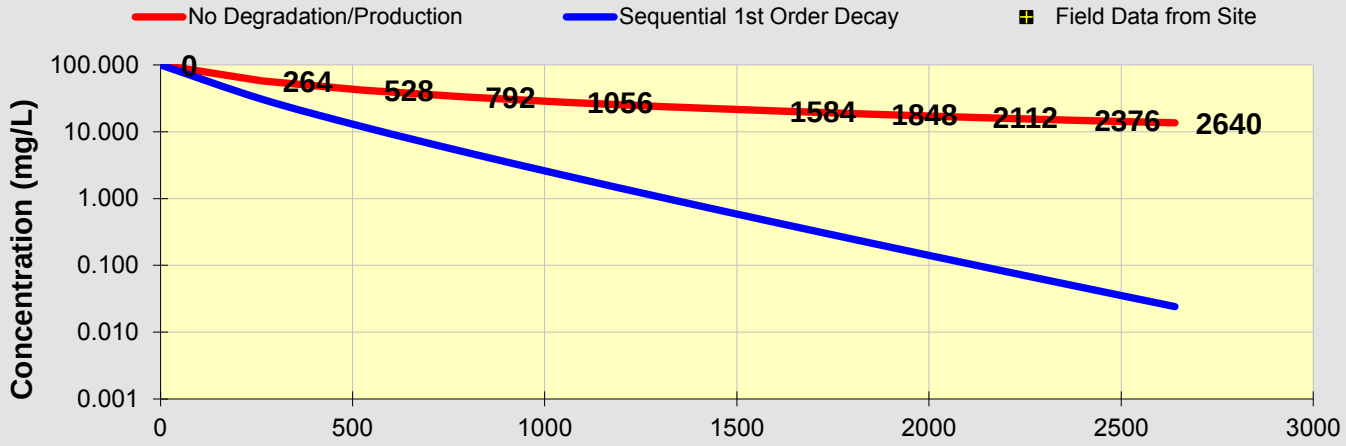
(To restore formulas, hit "Restore Formulas" button)

Variable* → Data used directly in model.

Test if Biotransformation is Occurring → Natural Attenuation

DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

11DCA	Distance from Source (ft)										
	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	100.000	57.811	41.922	33.263	27.599	23.581	20.580	18.254	16.399	14.885	13.626
Biotransformation	100.0000	30.672	11.801	4.968	2.187	0.991	0.459	0.216	0.103	0.050	0.024
	Monitoring Well Locations (ft)										
	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

Appendix D
Table D-2
Development of Leach-Based Screening Values to Meet GUPUS at 1/2 Mile from Property Boundary
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Organics:

$$C_s = C_w \times [K_d + \frac{E_w + E_a H'}{\rho_b}] \times DAF$$

where:

Cs = allowable soil concentration or soil screening number, ppm (mg/kg)

[a]Cw = groundwater concentration at the source area that migrates (using Biochlor model) at a concentration equal to GUPUS 1/2 mile from property boundary, ppm (mg/L)

Foc = fraction of organic carbon in soil, unitless

Koc = partition coefficient between octanol and carbon (obtained from literature), L/kg, and

H' = Henry's Law constant (unitless)

Ew = water-filled soil porosity 0.3 (Lwater/Lsoil), OEPA, 2008

Ea = air-filled soil porosity 0.13 (Lair/Lsoil), EPA 1996

BD = Dry soil bulk density (1.6 kg/L), OEPA, 2008

DF = Dilution factor, unitless

Chemical	H'	Koc (mL/g)	Source	CW source (mg/L)[a]	Decay Constant (per year)**	foc	Kd = Koc x foc	DF	Cs (mg/kg)	Cs (ug/kg)
cis-1,2-Dichloroethene*	1.67E-01	3.96E+01	CIDARS 6 2015	5	0.088	0.003	0.1188	15	23.99	2.40E+04
Tetrachloroethene*	7.24E-01	9.49E+01	CIDARS 6 2015	10	0.35	0.003	0.28482	15	79.67	7.97E+04
Trichloroethene*	4.03E-01	6.07E+01	CIDARS 6 2015	10	0.15	0.003	0.1821	15	60.35	6.03E+04
Vinyl chloride*	1.14E+00	2.17E+01	CIDARS 6 2015	3	0.087	0.003	0.06519	15	15.527	1.55E+04

[a]CW_{source} - Source concentration predicted using Biochlor to achieve GUPUS at one-half mile beyond the property boundary.

* Assumes decaying source and biotransformation and the predicted concentrations consider that GUPUS is met for both the contaminant and its degradation product (i.e., vinyl chloride).

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BIOCHLOR Natural Attenuation Decision Support System

Version 2.2
Excel 2000

Tech Town East Phase Uppe
Meet UPUS at half mile
Run Name

TYPE OF CHLORINATED SOLVENT: Ethenes ◉ Ethanes ○

1. ADVECTION

Seepage Velocity*	Vs	265.6	(ft/yr)
or			
Hydraulic Conductivity	K	7.0E-02	(cm/sec)
Hydraulic Gradient	i	1.10E-03	(ft/ft)
Effective Porosity	n	0.3	(-)

2. DISPERSION

Alpha x*	36.543	(ft)
(Alpha y) / (Alpha x)*	0.33	(-)
(Alpha z) / (Alpha x)*	5.E-02	(-)

Calc. Alpha x

3. ADSORPTION

Retardation Factor* → R

or

Soil Bulk Density, rho	1.6	(kg/L)		
FractionOrganicCarbon, foc	1.0E-3	(-)		
Partition Coefficient	Koc			
PCE	265	(L/kg)	2.41	(-)
TCE	94	(L/kg)	1.50	(-)
DCE	36	(L/kg)	1.19	(-)
VC	19	(L/kg)	1.10	(-)
ETH	302	(L/kg)	2.61	(-)
Common R (used in model)* =			**1.50**	

4. BIOTRANSFORMATION

-1st Order Decay Coefficient*

Zone 1	λ (1/yr)	half-life (yrs)	Yield
PCE → TCE	0.350		0.79
TCE → DCE	0.153		0.74
DCE → VC	0.088		0.64
VC → ETH	0.087		0.45

Zone 2	λ (1/yr)	half-life (yrs)
PCE → TCE	0.000	
TCE → DCE	0.000	
DCE → VC	0.000	
VC → ETH	0.000	

λ HELP

5. GENERAL

Simulation Time*	100	(yr)
Modeled Area Width*	450	(ft)
Modeled Area Length*	2640	(ft)
Zone 1 Length*	2640	(ft)
Zone 2 Length*	0	(ft)

L, W

Zone 2= L - Zone 1

6. SOURCE DATA

TYPE: Decaying Single Planar

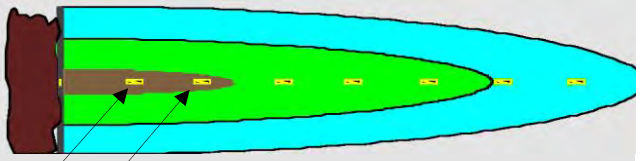
Source Options

Source Thickness in Sat. Zone* 25 (ft)

Width* (ft) Y1: 500

Conc. (mg/L)*	C1	k_s* (1/yr)
PCE	10.0	0.049
TCE		0.049
DCE		0.049
VC		0.049
ETH		0.049

Vertical Plane Source: Determine Source Well Location and Input Solvent Concentrations



View of Plume Looking Down

Observed Centerline Conc. at Monitoring Wells

7. FIELD DATA FOR COMPARISON

PCE Conc. (mg/L)											
TCE Conc. (mg/L)											
DCE Conc. (mg/L)											
VC Conc. (mg/L)											
ETH Conc. (mg/L)											
Distance from Source (ft)	0										
Date Data Collected											

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE | RUN ARRAY | Help | Restore | RESET | SEE OUTPUT | Paste

Data Input Instructions:

115 → 1. Enter value directly....or
↑ or
0.02 → 2. Calculate by filling in gray cells. Press Enter, then C

(To restore formulas, hit "Restore Formulas" button)

Variable* → Data used directly in model.

Test if Biotransformation is Occurring → Natural Attenuation Screening Protocol

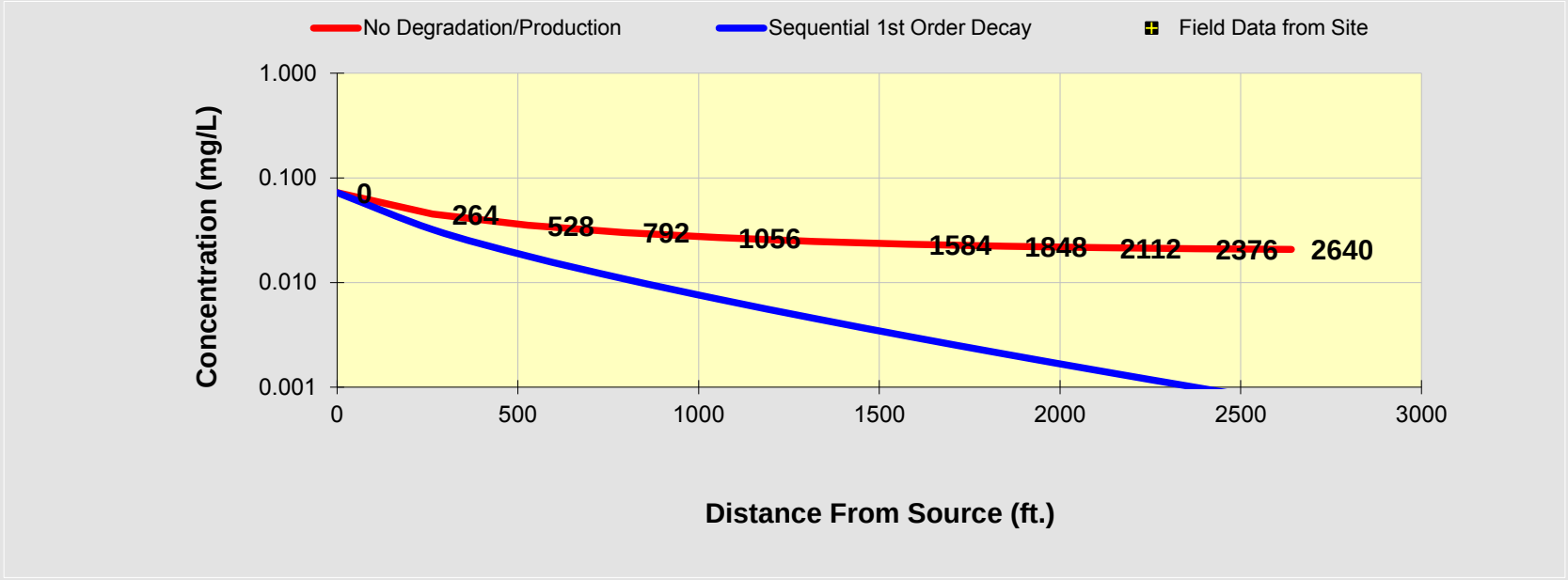
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

PCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.072	0.045	0.035	0.030	0.027	0.025	0.023	0.022	0.021	0.021	0.021
Biotransformation	0.0723	0.032	0.018	0.011	0.007	0.005	0.003	0.002	0.001	0.001	0.001

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

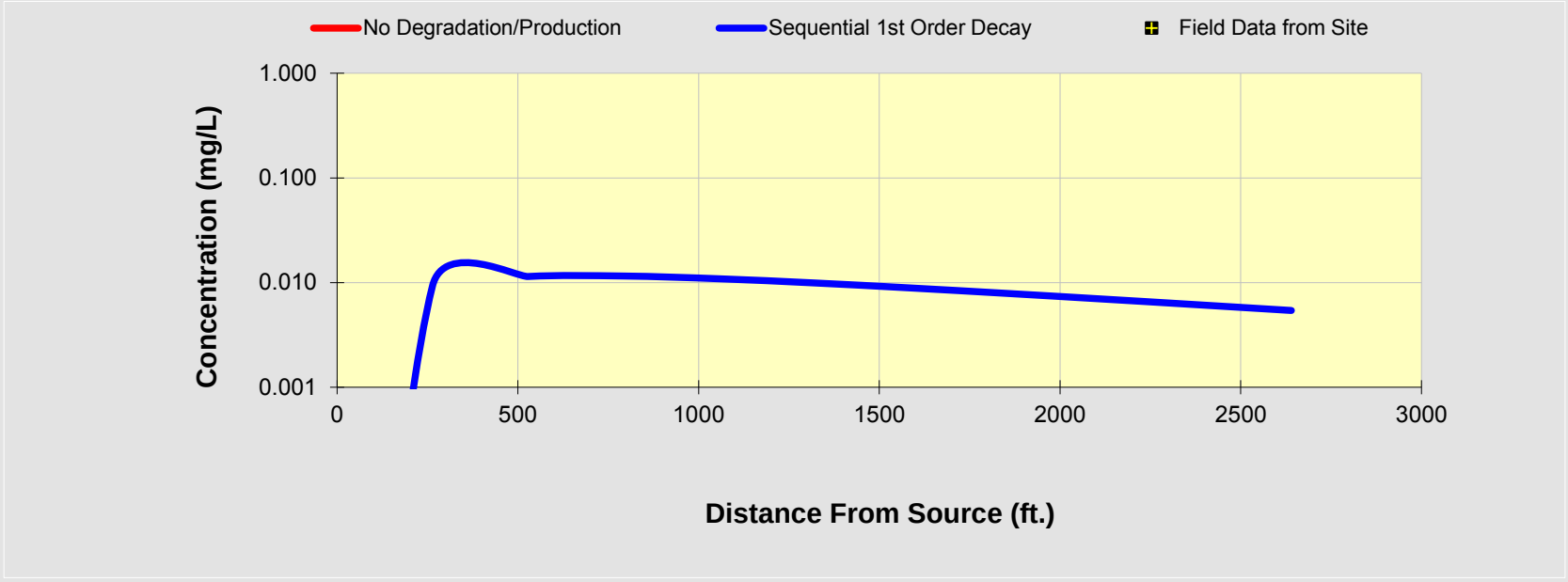
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

TCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Biotransformation	0.0000	0.009	0.011	0.012	0.011	0.010	0.009	0.008	0.007	0.006	0.005

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

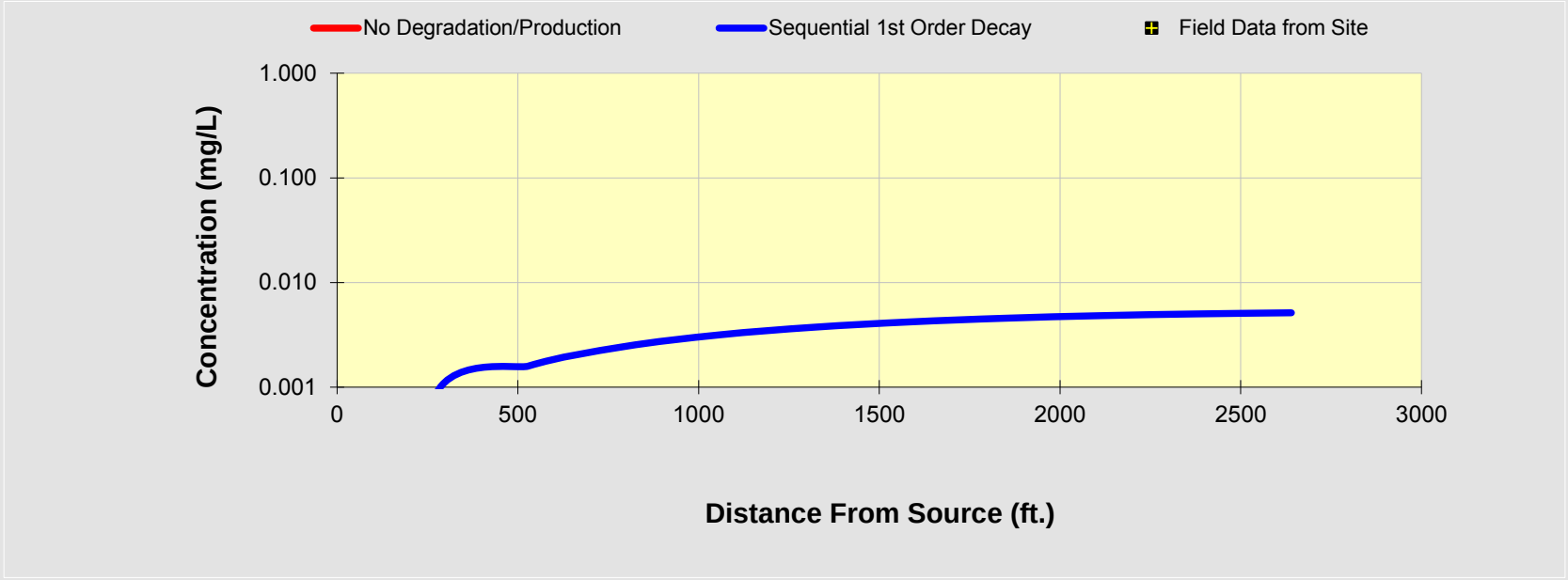
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

DCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Biotransformation	0.0000	0.001	0.002	0.002	0.003	0.004	0.004	0.005	0.005	0.005	0.005

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

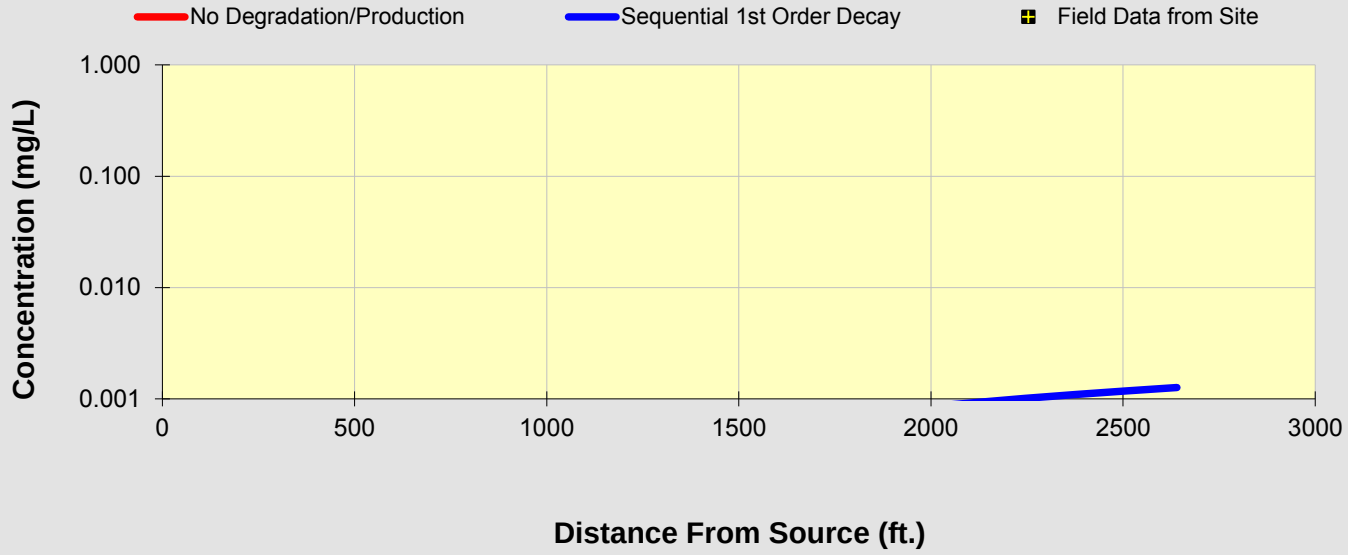
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

VC	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Biotransformation	0.0000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.001	0.001	0.001

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

BIOCHLOR Natural Attenuation Decision Support System

Version 2.2
Excel 2000

Tech Town East Phase Uppe
Meet UPUS at half mile
Run Name

TYPE OF CHLORINATED SOLVENT: Ethenes ◉ Ethanes ○

1. ADVECTION

Seepage Velocity*	Vs	265.6	(ft/yr)
or			
Hydraulic Conductivity	K	7.0E-02	(cm/sec)
Hydraulic Gradient	i	1.10E-03	(ft/ft)
Effective Porosity	n	0.3	(-)

2. DISPERSION

Alpha x*	36.543	(ft)
(Alpha y) / (Alpha x)*	0.33	(-)
(Alpha z) / (Alpha x)*	5.E-02	(-)

Calc. Alpha x

3. ADSORPTION

Retardation Factor* → R

or

Soil Bulk Density, rho	1.6	(kg/L)		
FractionOrganicCarbon, foc	1.0E-3	(-)		
Partition Coefficient	Koc			
PCE	265	(L/kg)	2.41	(-)
TCE	94	(L/kg)	1.50	(-)
DCE	36	(L/kg)	1.19	(-)
VC	19	(L/kg)	1.10	(-)
ETH	302	(L/kg)	2.61	(-)
Common R (used in model)* =			**1.50**	

4. BIOTRANSFORMATION

-1st Order Decay Coefficient*

	λ (1/yr)	half-life (yrs)	Yield
Zone 1			
PCE → TCE	0.350		0.79
TCE → DCE	0.153		0.74
DCE → VC	0.088		0.64
VC → ETH	0.087		0.45
Zone 2	λ (1/yr)	half-life (yrs)	
PCE → TCE	0.000		
TCE → DCE	0.000		
DCE → VC	0.000		
VC → ETH	0.000		

λ HELP

5. GENERAL

Simulation Time*	100	(yr)
Modeled Area Width*	450	(ft)
Modeled Area Length*	2640	(ft)
Zone 1 Length*	2640	(ft)
Zone 2 Length*	0	(ft)

Zone 2= L - Zone 1

6. SOURCE DATA

TYPE: Decaying Single Planar

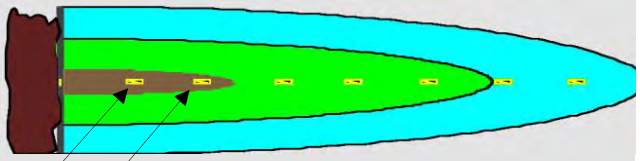
Source Options

Source Thickness in Sat. Zone* 25 (ft)

Width* (ft) Y1: 500

Conc. (mg/L)*	C1	k_s* (1/yr)
PCE		0.049
TCE	10.0	0.049
DCE		0.049
VC		0.049
ETH		0.049

Vertical Plane Source: Determine Source Well Location and Input Solvent Concentrations



View of Plume Looking Down

Observed Centerline Conc. at Monitoring Wells

7. FIELD DATA FOR COMPARISON

PCE Conc. (mg/L)											
TCE Conc. (mg/L)											
DCE Conc. (mg/L)											
VC Conc. (mg/L)											
ETH Conc. (mg/L)											
Distance from Source (ft)	0										
Date Data Collected											

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE | **RUN ARRAY** | ***Help*** | Restore | RESET | ***SEE OUTPUT*** | Paste

Data Input Instructions:

115 → 1. Enter value directly....or
↑ *or*
0.02 → 2. Calculate by filling in gray cells. Press Enter, then C

(To restore formulas, hit "Restore Formulas" button)

Variable* → Data used directly in model.

Test if Biotransformation is Occurring → Natural Attenuation Screening Protocol

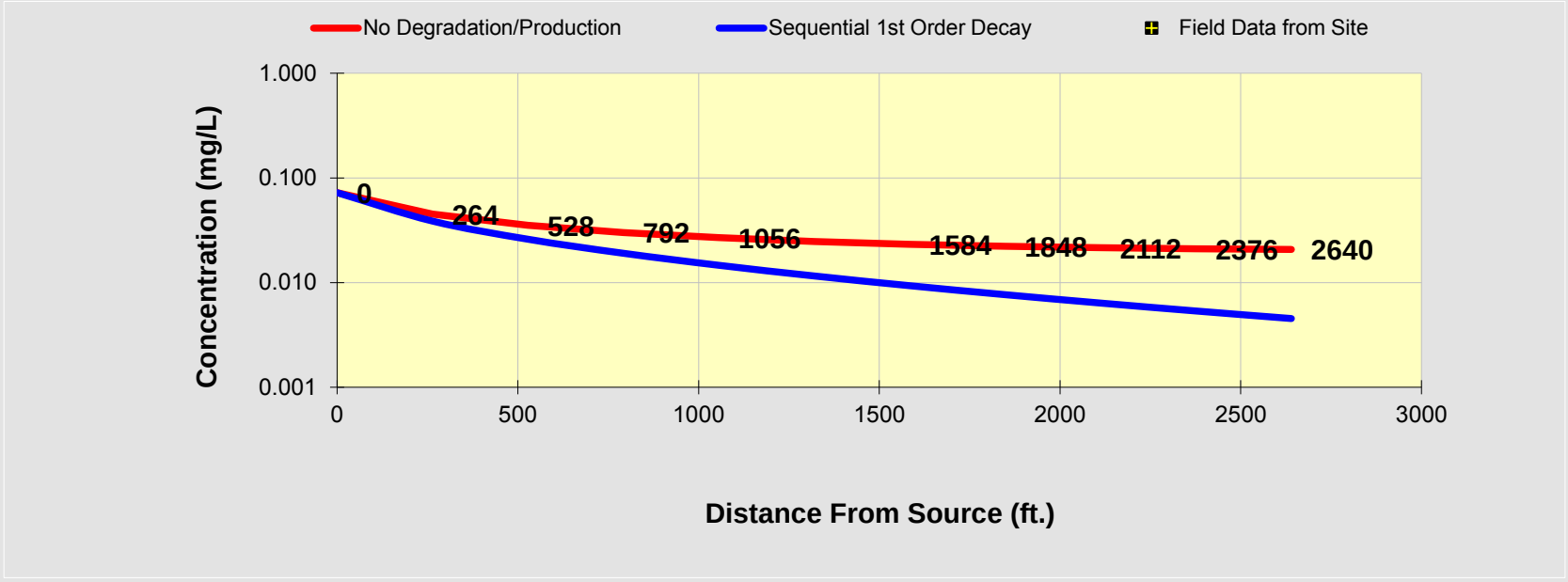
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

TCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.072	0.045	0.035	0.030	0.027	0.025	0.023	0.022	0.021	0.021	0.021
Biotransformation	0.0723	0.039	0.026	0.019	0.015	0.012	0.009	0.008	0.006	0.005	0.005

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

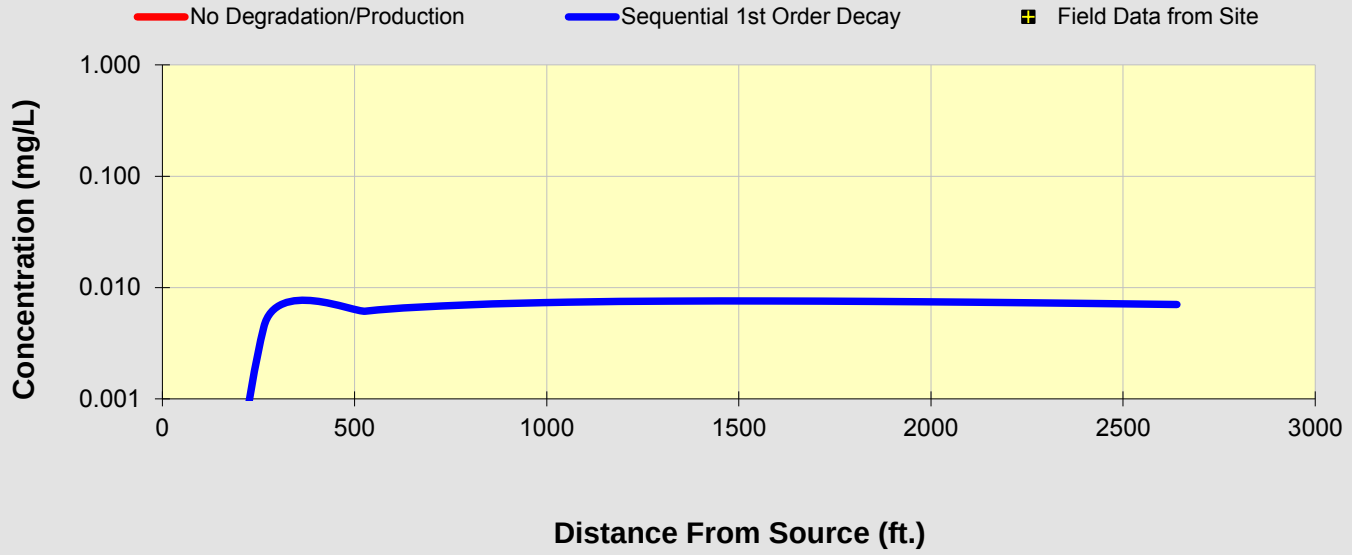
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

DCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Biotransformation	0.0000	0.004	0.006	0.007	0.007	0.008	0.008	0.008	0.007	0.007	0.007

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

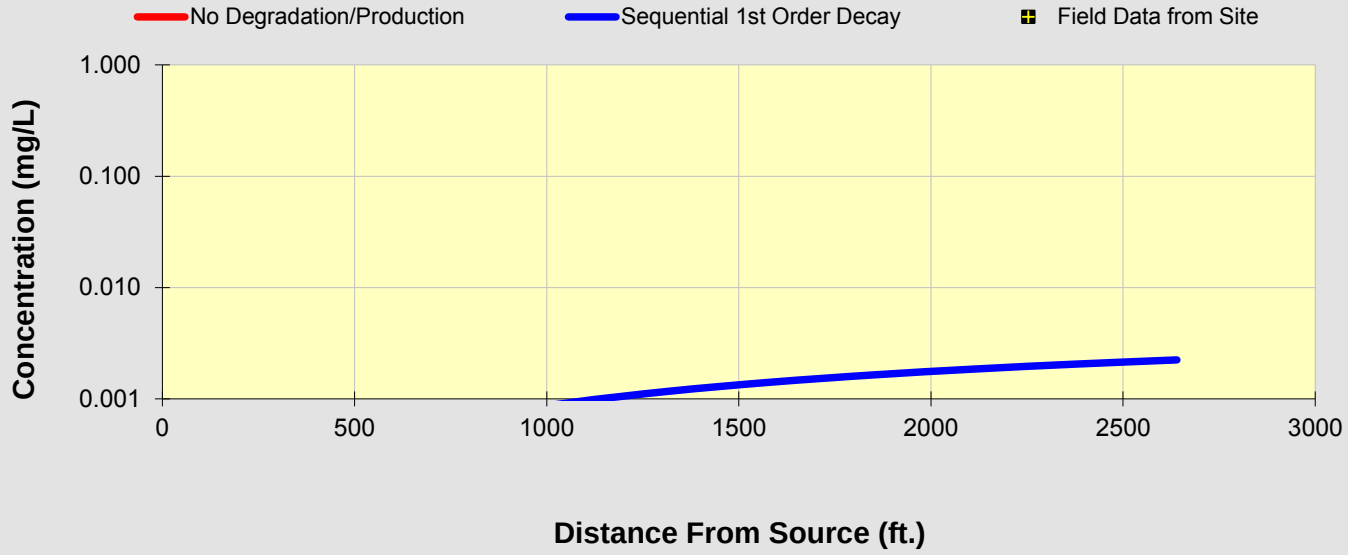
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

VC	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Biotransformation	0.0000	0.000	0.000	0.001	0.001	0.001	0.001	0.002	0.002	0.002	0.002

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

BIOCHLOR Natural Attenuation Decision Support System

Version 2.2
Excel 2000

Tech Town East Phase Uppe
Meet UPUS at half mile
Run Name

TYPE OF CHLORINATED SOLVENT: Ethenes ◉ Ethanes ○

1. ADVECTION

Seepage Velocity*	Vs	265.6	(ft/yr)
or			
Hydraulic Conductivity	K	7.0E-02	(cm/sec)
Hydraulic Gradient	i	1.10E-03	(ft/ft)
Effective Porosity	n	0.3	(-)

2. DISPERSION

Alpha x*	36.543	(ft)
(Alpha y) / (Alpha x)*	0.33	(-)
(Alpha z) / (Alpha x)*	5.E-02	(-)

Calc. Alpha x

3. ADSORPTION

Retardation Factor* → R

or

Soil Bulk Density, rho	1.6	(kg/L)		
FractionOrganicCarbon, foc	1.0E-3	(-)		
Partition Coefficient	Koc			
PCE	265	(L/kg)	2.41	(-)
TCE	94	(L/kg)	1.50	(-)
DCE	36	(L/kg)	1.19	(-)
VC	19	(L/kg)	1.10	(-)
ETH	302	(L/kg)	2.61	(-)
Common R (used in model)* =			**1.50**	

4. BIOTRANSFORMATION

-1st Order Decay Coefficient*

	λ (1/yr)	half-life (yrs)	Yield
Zone 1			
PCE → TCE	0.350		0.79
TCE → DCE	0.153		0.74
DCE → VC	0.088		0.64
VC → ETH	0.087		0.45
Zone 2	λ (1/yr)	half-life (yrs)	
PCE → TCE	0.000		
TCE → DCE	0.000		
DCE → VC	0.000		
VC → ETH	0.000		

λ HELP

5. GENERAL

Simulation Time*	100	(yr)
Modeled Area Width*	450	(ft)
Modeled Area Length*	2640	(ft)
Zone 1 Length*	2640	(ft)
Zone 2 Length*	0	(ft)

L, W

Zone 2= L - Zone 1

6. SOURCE DATA

TYPE: Decaying Single Planar

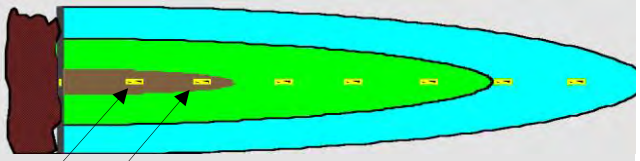
Source Options

Source Thickness in Sat. Zone* 25 (ft)

Width* (ft) Y1: 500

Conc. (mg/L)*	C1	k_s* (1/yr)
PCE		0.049
TCE		0.049
DCE	5.0	0.049
VC		0.049
ETH		0.049

Vertical Plane Source: Determine Source Well Location and Input Solvent Concentrations



View of Plume Looking Down

Observed Centerline Conc. at Monitoring Wells

7. FIELD DATA FOR COMPARISON

PCE Conc. (mg/L)											
TCE Conc. (mg/L)											
DCE Conc. (mg/L)											
VC Conc. (mg/L)											
ETH Conc. (mg/L)											
Distance from Source (ft)	0										
Date Data Collected											

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE | RUN ARRAY | Help | Restore | RESET | SEE OUTPUT | Paste

Data Input Instructions:

115 → 1. Enter value directly....or
↑ or
0.02 → 2. Calculate by filling in gray cells. Press Enter, then C

(To restore formulas, hit "Restore Formulas" button)

Variable* → Data used directly in model.

Test if Biotransformation is Occurring → Natural Attenuation Screening Protocol

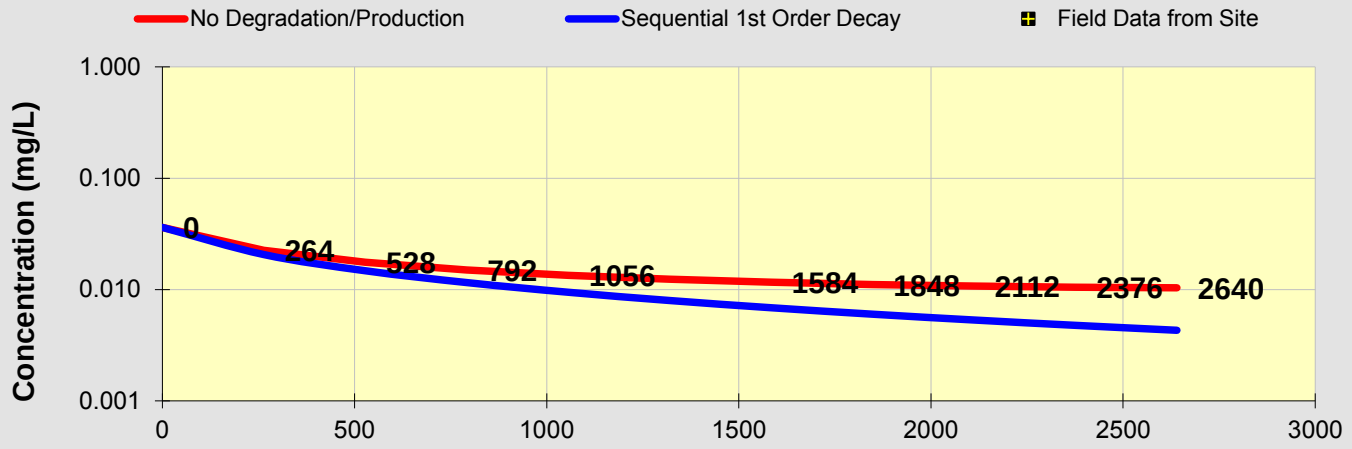
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

DCE	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.036	0.023	0.018	0.015	0.013	0.012	0.012	0.011	0.011	0.011	0.010
Biotransformation	0.0361	0.021	0.015	0.012	0.009	0.008	0.007	0.006	0.005	0.005	0.004

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

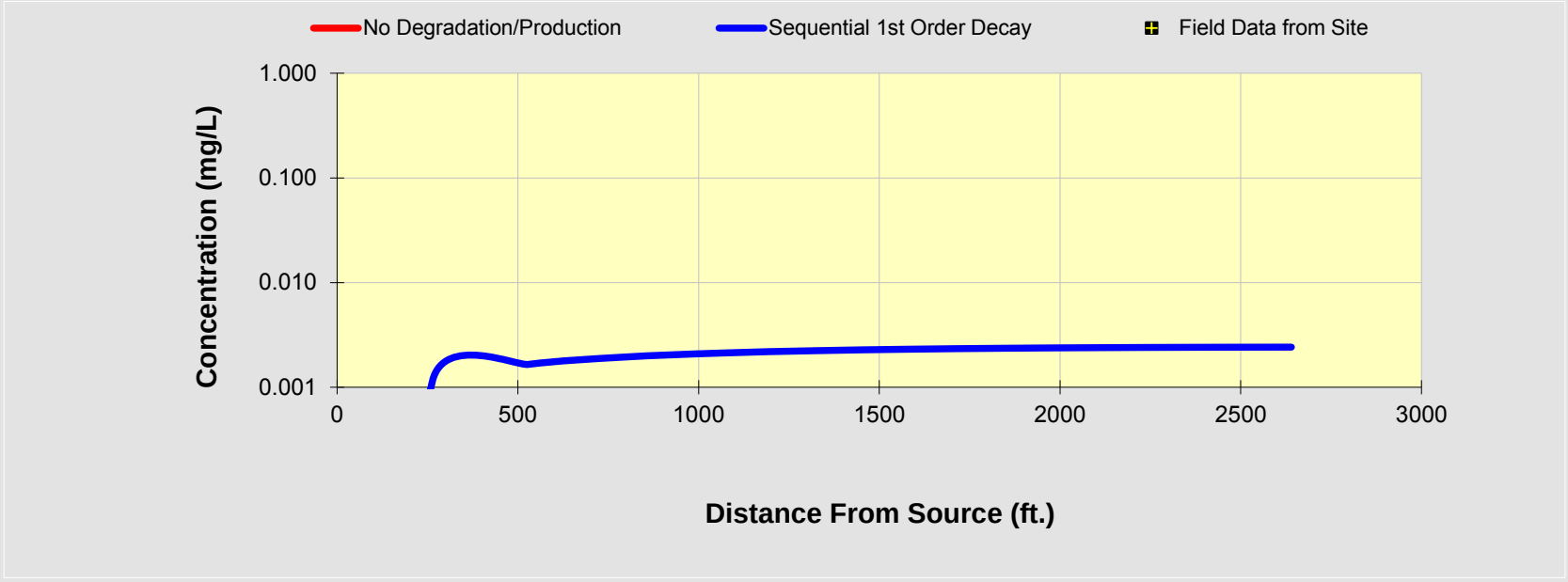
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

VC	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Biotransformation	0.0000	0.001	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

BIOCHLOR Natural Attenuation Decision Support System

Version 2.2
Excel 2000

Tech Town East Phase Uppe
Meet UPUS at half mile
Run Name

TYPE OF CHLORINATED SOLVENT: Ethenes ◉ Ethanes ○

1. ADVECTION

Seepage Velocity*	Vs	265.6	(ft/yr)
or			
Hydraulic Conductivity	K	7.0E-02	(cm/sec)
Hydraulic Gradient	i	1.10E-03	(ft/ft)
Effective Porosity	n	0.3	(-)

2. DISPERSION

Alpha x*	36.543	(ft)
(Alpha y) / (Alpha x)*	0.33	(-)
(Alpha z) / (Alpha x)*	5.E-02	(-)

Calc. Alpha x

3. ADSORPTION

Retardation Factor* → R

or

Soil Bulk Density, rho	1.6	(kg/L)		
FractionOrganicCarbon, foc	1.0E-3	(-)		
Partition Coefficient	Koc			
PCE	265	(L/kg)		(-)
TCE	94	(L/kg)		(-)
DCE	36	(L/kg)		(-)
VC	19	(L/kg)	1.10	(-)
ETH	302	(L/kg)		(-)

Common R (used in model)* = 1.10

4. BIOTRANSFORMATION

-1st Order Decay Coefficient*

	λ (1/yr)	half-life (yrs)	Yield
Zone 1			
PCE → TCE	0.350		0.79
TCE → DCE	0.153		0.74
DCE → VC	0.088		0.64
VC → ETH	0.087		0.45
Zone 2	λ (1/yr)	half-life (yrs)	
PCE → TCE	0.000		
TCE → DCE	0.000		
DCE → VC	0.000		
VC → ETH	0.000		

λ HELP

5. GENERAL

Simulation Time*	100	(yr)
Modeled Area Width*	450	(ft)
Modeled Area Length*	2640	(ft)
Zone 1 Length*	2640	(ft)
Zone 2 Length*	0	(ft)

Zone 2= L - Zone 1

6. SOURCE DATA

TYPE: Decaying Single Planar

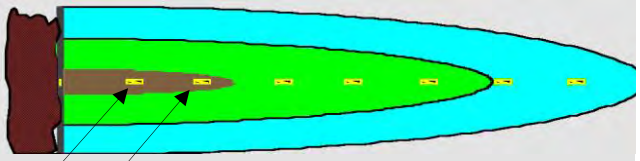
Source Options

Source Thickness in Sat. Zone* 25 (ft)

Width* (ft) Y1: 500

Conc. (mg/L)*	C1	k_s* (1/yr)
PCE		0.049
TCE		0.049
DCE		0.049
VC	3.0	0.049
ETH		0.049

Vertical Plane Source: Determine Source Well Location and Input Solvent Concentrations



View of Plume Looking Down

Observed Centerline Conc. at Monitoring Wells

7. FIELD DATA FOR COMPARISON

PCE Conc. (mg/L)											
TCE Conc. (mg/L)											
DCE Conc. (mg/L)											
VC Conc. (mg/L)											
ETH Conc. (mg/L)											
Distance from Source (ft)	0										
Date Data Collected											

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE | **RUN ARRAY** | ***Help*** | Restore | RESET | ***SEE OUTPUT*** | Paste

Data Input Instructions:

115 → 1. Enter value directly....or
↑ *or*
0.02 → 2. Calculate by filling in gray cells. Press Enter, then C

(To restore formulas, hit "Restore Formulas" button)

Variable* → Data used directly in model.

Test if Biotransformation is Occurring → Natural Attenuation Screening Protocol

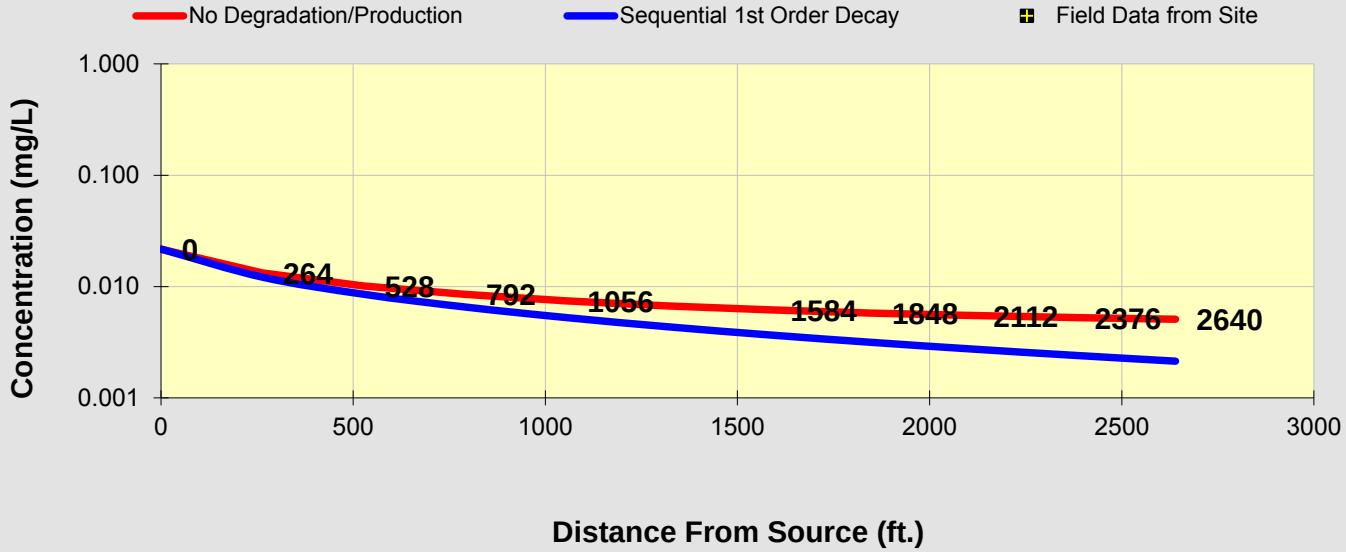
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

VC	0	264	528	792	1056	1320	1584	1848	2112	2376	2640
No Degradation	0.022	0.013	0.010	0.008	0.007	0.007	0.006	0.006	0.005	0.005	0.005
Biotransformation	0.0217	0.012	0.009	0.007	0.005	0.004	0.004	0.003	0.003	0.002	0.002

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

Appendix D
Table D-3
Development of Leach-Based Screening Values to Meet GUPUS at 1/2 Mile from Property Boundary
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

Organics:

$$C_s = C_w \times [K_d + \frac{E_w + E_a H'}{\rho_b}] \times DAF$$

where:
Cs = allowable soil concentration or soil screening number, ppm (mg/kg)
Foc = fraction of organic carbon in soil, unitless
Koc = partition coefficient between octanol and carbon (obtained from literature), L/kg, and
H' = Henry's Law constant (unitless)
Ew = water-filled soil porosity 0.3 (Lwater/Lsoil), OEPA, 2008
Ea = air-filled soil porosity 0.13 (Lair/Lsoil), EPA 1996
BD = Dry soil bulk density (1.6 kg/L), OEPA, 2008
[a]Cw = groundwater concentration at the source area that migrates (using Biochlor model) at a concentration equal to GUPUS 1/2 mile from property boundary, ppm (mg/L)
DF = Dilution factor, unitless

Chemical	H'	Koc (mL/g)	Source	CW source (mg/L)[a]	Decay Constant (per year)**	foc	Kd = Koc x foc	DF	Cs (mg/kg)	Cs (ug/kg)
PCB	1.70E-02	7.81E+04		0.0005		0.009	702.9	15	5.273	5.27E+03

APPENDIX E
DEVELOPMENT OF VAPOR INTRUSION SCREENING LEVELS

OSWER VAPOR INTRUSION ASSESSMENT

ADJUSTED to use OEPA VAP INDOOR AIR STANDARDS

Vapor Intrusion Screening Level (VISL) Calculator Version 3.4, June 2015 RSLs

The primary objective of risk-based screening is to identify sites or buildings unlikely to pose a health concern through the vapor intrusion pathway. Generally, at properties where subsurface concentrations of vapor-forming chemicals (e.g., groundwater or "near source" soil gas concentrations) fall below screening levels (i.e., VISLs), no further action or study is warranted, so long as the exposure assumptions match those taken into account by the calculations and the site fulfills the conditions and assumptions of the generic conceptual model underlying the screening levels. In a similar fashion, the results of risk-based screening can help the data review team identify areas, buildings, and/or chemicals that can be eliminated from further assessment. The generic conceptual model underlying these screening levels is described in OSWER Publication 9200.2-154 (OSWER Technical Guide for Assessing and Mitigating the Vapor Intrusion Pathway From Subsurface Vapor Sources to Indoor Air) (EPA 2015; Section 6.5)

Parameter	Symbol	Value	Instructions
Exposure Scenario	Scenario	Commercial	Select residential or commercial scenario from pull down list
Target Risk for Carcinogens	TCR	1.00E-05	Enter target risk for carcinogens
Target Hazard Quotient for Non-Carcinogens	THQ	1	Enter target hazard quotient for non-carcinogens
Average Groundwater Temperature (^{o}C)	Tgw	11	Enter average of the stabilized groundwater temperature to correct Henry's Law Constant for groundwater target concentrations

	CAS	Chemical Name	Does the chemical meet the definition for volatility? (HLC>1E-5 or VP>1) Yes/No	Does chemical have inhalation toxicity data? (IUR and/or RfC) Yes/No	Is Chemical Sufficiently Volatile and Toxic to Pose Inhalation Risk Via Vapor Intrusion from Soil Source? Cvp > Cia,target? Yes/No	Is Chemical Sufficiently Volatile and Toxic to Pose Inhalation Risk Via Vapor Intrusion from Groundwater Source? Chc > Cia,target? Yes/No	TR = 1E-5; THQ=1 Target Indoor Air Conc. @ TCR = 10E-06 or THQ = 1 MIN(Cia,c;Cia,nc) (ug/m^3)	Toxicity Basis C/NC	TR = 1E-5; THQ=1 Target Sub-Slab and Exterior Soil Gas Conc. @ TCR = 10E-06 or THQ = 1 Csg (ug/m^3)	TR = 1E-5; THQ=1 Target Ground Water Conc. @ TCR = 10E-06 or THQ = 1 Cgw (ug/L)	Is Target Ground Water Conc. < MCL? Cgw<MCL? Yes/No (MCL ug/L)
x	75-07-0	Acetaldehyde	Yes	Yes	Yes	Yes	3.9E+01	NC	1.3E+03	2.4E+04	--
	67-64-1	Acetone	Yes	Yes	Yes	Yes	1.4E+05	NC	4.7E+06	1.8E+08	--
	75-86-5	Acetone Cyanohydrin	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	0.0E+00	--
	75-05-8	Acetonitrile	Yes	Yes	Yes	Yes	2.6E+02	NC	8.7E+03	3.5E+05	--
	107-02-8	Acrolein	Yes	Yes	Yes	Yes	8.8E-02	NC	2.9E+00	3.2E+01	--
	79-10-7	Acrylic Acid	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	0.0E+00	--
	107-13-1	Acrylonitrile	Yes	Yes	Yes	Yes	1.8E+00	C	6.0E+01	6.7E+02	--
	309-00-2	Aldrin	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	0.0E+00	--
	107-18-6	Allyl Alcohol	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	0.0E+00	--
	107-05-1	Allyl Chloride	Yes	Yes	Yes	Yes	4.4E+00	NC	1.5E+02	1.8E+01	--
	7664-41-7	Ammonia	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	0.0E+00	--
	75-85-4	Amyl Alcohol, tert-	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	0.0E+00	--
	12674-11-2	Aroclor 1016	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	0.0E+00	--
	11104-28-2	Aroclor 1221	Yes	Yes	Yes	Yes	2.2E-01	C	7.3E+00	7.3E+00	--
	11141-16-5	Aroclor 1232	Yes	Yes	Yes	Yes	2.2E-01	C	7.3E+00	7.3E+00	--
	53469-21-9	Aroclor 1242	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	0.0E+00	--
	12672-29-6	Aroclor 1248	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	0.0E+00	--
	11097-69-1	Aroclor 1254	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	0.0E+00	--
	11096-82-5	Aroclor 1260	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	0.0E+00	--
x	103-33-3	Azobenzene	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	0.0E+00	--
	56-55-3	Benz[a]anthracene	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	0.0E+00	--
	71-43-2	Benzene	Yes	Yes	Yes	Yes	1.6E+01	C	5.3E+02	1.4E+02	No (5)
	100-44-7	Benzyl Chloride	Yes	Yes	Yes	Yes	2.5E+00	C	8.3E+01	3.6E+02	--
	92-52-4	Biphenyl, 1,1'-	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	0.0E+00	--
	108-60-1	Bis(2-chloro-1-methylethyl) ether	Yes	Yes	Yes	Yes	1.2E+01	C	4.0E+02	1.1E+04	--
	111-44-4	Bis(2-chloroethyl)ether	Yes	Yes	Yes	Yes	3.7E-01	C	1.2E+01	1.7E+03	--
	542-88-1	Bis(chloromethyl)ether	Yes	Yes	Yes	Yes	2.0E-03	C	6.7E-02	1.1E-02	--
	10294-34-5	Boron Trichloride	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	No S	--
	7637-07-2	Boron Trifluoride	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	No HLC	--
	107-04-0	Bromo-2-chloroethane, 1-	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	0.0E+00	--
	108-86-1	Bromobenzene	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	0.0E+00	--
	74-97-5	Bromochloromethane	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	0.0E+00	--
	75-27-4	Bromodichloromethane	Yes	Yes	Yes	Yes	3.3E+00	C	1.1E+02	7.8E+01	Yes (8.0E+01(F))
	75-25-2	Bromoform	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	0.0E+00	Yes (8.0E+01(F))
	74-83-9	Bromomethane	Yes	Yes	Yes	Yes	2.2E+01	NC	7.3E+02	1.2E+02	--
	106-99-0	Butadiene, 1,3-	Yes	Yes	Yes	Yes	4.1E+00	C	1.4E+02	2.1E+00	--
	78-92-2	Butyl alcohol, sec-	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	0.0E+00	--
	75-15-0	Carbon Disulfide	Yes	Yes	Yes	Yes	3.1E+03	NC	1.0E+05	9.2E+03	--
	56-23-5	Carbon Tetrachloride	Yes	Yes	Yes	Yes	2.0E+01	C	6.7E+02	3.4E+01	No (5)
	12789-03-6	Chlordane	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	0.0E+00	Yes (2)
	7782-50-5	Chlorine	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	0.0E+00	--
	10049-04-4	Chlorine Dioxide	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	No HLC	--
	75-68-3	Chloro-1,1-difluoroethane, 1-	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	0.0E+00	--
	126-99-8	Chloro-1,3-butadiene, 2-	Yes	Yes	Yes	Yes	4.1E-01	C	1.4E+01	3.7E-01	--
	108-90-7	Chlorobenzene	Yes	Yes	Yes	Yes	2.2E+02	NC	7.3E+03	3.9E+03	No (100)
	98-56-6	Chlorobenzotrifluoride, 4-	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	0.0E+00	--
	75-45-6	Chlorodifluoromethane	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	0.0E+00	--
	67-66-3	Chloroform	Yes	Yes	Yes	Yes	5.3E+00	C	1.8E+02	6.6E+01	Yes (8.0E+01(F))
	74-87-3	Chloromethane	Yes	Yes	Yes	Yes	3.9E+02	NC	1.3E+04	1.6E+03	--
	107-30-2	Chloromethyl Methyl Ether	Yes	Yes	Yes	Yes	1.8E-01	C	6.0E+00	1.4E+01	--
	76-06-2	Chloropicrin	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	0.0E+00	--
	8007-45-2	Coke Oven Emissions	Yes	Yes	No	Yes	No MW	NC	No MW	No MW	--
	98-82-8	Cumene	Yes	Yes	Yes	Yes	1.8E+03	NC	6.0E+04	1.1E+04	--
x	57-12-5	Cyanide (CN-)	Yes	Yes	Yes	Yes	3.5E+00	NC	1.2E+02	3.5E+00	Yes (200)
	110-82-7	Cyclohexane	Yes	Yes	Yes	Yes	2.6E+04	NC	8.7E+05	8.2E+03	--
	108-94-1	Cyclohexanone	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	0.0E+00	--
	110-83-8	Cyclohexene	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	0.0E+00	--
	72-55-9	DDE, p,p'-	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	0.0E+00	--
	96-12-8	Dibromo-3-chloropropane, 1,2-	Yes	Yes	Yes	Yes	2.0E-02	C	6.7E-01	9.3E+00	No (0.2)
	124-48-1	Dibromochloromethane	Yes	Yes	Yes	Yes	4.5E+00	C	1.5E+02	2.4E+02	Yes (8.0E+01(F))
	106-93-4	Dibromoethane, 1,2-	Yes	Yes	Yes	Yes	2.0E-01	C	6.7E+00	1.8E+01	No (0.05)
	74-95-3	Dibromomethane (Methylene Bromide)	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	0.0E+00	--
	764-41-0	Dichloro-2-butene, 1,4-	Yes	Yes	Yes	Yes	2.9E-02	C	9.7E-01	1.3E+00	--
	1476-11-5	Dichloro-2-butene, cis-1,4-	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	0.0E+00	--
	110-57-6	Dichloro-2-butene, trans-1,4-	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	0.0E+00	--
	95-50-1	Dichlorobenzene, 1,2-	Yes	Yes	Yes	Yes	8.8E+02	NC	2.9E+04	3.0E+04	No (600)
	106-46-7	Dichlorobenzene, 1,4-	Yes	Yes	Yes	Yes	1.1E+01	C	3.7E+02	2.8E+02	No (75)
	75-71-8	Dichlorodifluoromethane	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	0.0E+00	--
	75-34-3	Dichloroethane, 1,1-	Yes	Yes	Yes	Yes	7.7E+01	C	2.6E+03	6.2E+02	--
	107-06-2	Dichloroethane, 1,2-	Yes	Yes	Yes	Yes	4.7E+00	C	1.6E+02	2.0E+02	No (5)
	75-35-4	Dichloroethylene, 1,1-	Yes	Yes	Yes	Yes	8.8E+02	NC	2.9E+04	1.4E+03	No (7)
	78-87-5	Dichloropropane, 1,2-	Yes	Yes	Yes	Yes	1.2E+01	C	4.0E+02	2.1E+02	No (5)
	542-75-6	Dichloropropene, 1,3-	Yes	Yes	Yes	Yes	3.1E+01	C	1.0E+03	4.6E+02	--
	77-73-6	Dicyclopentadiene	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	0.0E+00	--
	75-37-6	Difluoroethane, 1,1-	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	0.0E+00	--
	94-58-6	Dihydrosafrole	Yes	Yes	Yes	Yes	9.4E+00	C	3.1E+02	1.4E+00	--
	108-20-3	Diisopropyl Ether	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	0.0E+00	--
	68-12-2	Dimethylformamide	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	0.0E+00	--
	57-14-7	Dimethylhydrazine, 1,1-	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	0.0E+00	--
	540-73-8	Dimethylhydrazine, 1,2-	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	0.0E+00	--
	513-37-1	Dimethylvinylchloride	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	0.0E+00	--
	123-91-1	Dioxane, 1,4-	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	0.0E+00	--
	106-89-8	Epichlorohydrin	Yes	Yes	Yes	Yes	4.4E+00	NC	1.5E+02	3.5E+03	--
	106-88-7	Epoxybutane, 1,2-	Yes	Yes	Yes	Yes	8.8E+01	NC	2.9E+03	2.3E+04	--
	111-15-9	Ethoxyethanol Acetate, 2-	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	0.0E+00	--
	110-80-5	Ethoxyethanol, 2-	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	0.0E+00	--
	141-78-6	Ethyl Acetate	Yes	Yes	Yes	Yes	3.1E+02	NC	1.0E+04	1.2E+05	--
	75-00-3	Ethyl Chloride (Chloroethane)	Yes	Yes	Yes	Yes	4.4E+04	NC	1.5E+06	1.6E+05	--
	97-63-2	Ethyl Methacrylate	Yes	Yes	Yes	Yes	1.3E+03	NC	4.3E+04	1.7E+05	--
	100-41-4	Ethylbenzene	Yes	Yes	Yes	Yes	4.9E+01	C	1.6E+03	3.5E+02	Yes (700)
	75-21-8	Ethylene Oxide	Yes	Yes	Yes	Yes	1.4E+00	C	4.7E+01	3.8E+02	--
	151-56-4	Ethyleneimine	Yes	Yes	Yes	Yes	6.5E-03	C	2.2E-01	1.3E+01	--
	50-00-0	Formaldehyde	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	0.0E+00	--
	64-18-6	Formic Acid	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	0.0E+00	--
	98-01-1	Furfural	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	0.0E+00	--
	765-34-4	Glycidyl	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	0.0E+00	--
	76-44-8	Heptachlor	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	0.0E+00	Yes (0.4)
	1024-57-3	Heptachlor Epoxide	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	0.0E+00	Yes (0.2)
	39635-31-9	Heptachlorobiphenyl, 2,3,3',4,4',5,5'- (PCB 189)	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	0.0E+00	--
	118-74-1	Hexachlorobenzene	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	0.0E+00	Yes (1)
	38380-08-4	Hexachlorobiphenyl, 2,3,3',4,4',5- (PCB 156)	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	0.0E+00	--
	69782-90-7	Hexachlorobiphenyl, 2,3,3',4,4',5'- (PCB 157)	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	0.0E+00	--
	52663-72-6	Hexachlorobiphenyl, 2,3',4,4',5,5'- (PCB 167)	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	0.0E+00	--
	32774-16-6	Hexachlorobiphenyl, 3,3',4,4',5,5'- (PCB 169)	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	0.0E+00	--
	87-68-3	Hexachlorobutadiene	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	0.0E+00	--
	77-47-4	Hexachlorocyclopentadiene	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	0.0E+00	Yes (50)
x	67-72-1	Hexachloroethane	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	0.0E+00	--
	822-06-0	Hexamethylene Diisocyanate, 1,6-	Yes	Yes	Yes	Yes	4.4E-02	C	1.5E+00	2.2E+01	--
	110-54-3	Hexane, N-	Yes	Yes	Yes	Yes	3.1E+03	NC	1.0E+05	8.0E+01	--

CAS	Pure Phase Vapor Conc. @ 25°C Cvp (ug/m^3)	Groundwater Vapor Conc. Chc (ug/m^3)	Temperature for Groundwater Vapor Conc. Tgw or 25 (C)	Lower Explosive Limit** LEL (% by vol)	LEL Source	Inhalation Unit Risk IUR (ug/m^3)$^{-1}$	IUR Source*	Reference Concentration RfC (mg/m^3)	RFC Source*	Mutagenic Indicator i	TR = 10-5 [redacted] Cia,c, IND (ug/m^3)	HQ = 1 Cia,nc, IND (ug/m^3)	TR = 10-5 Res Indoor air standard cancer Cia,c (ug/m^3)	HQ = 1 Res Indoor air standard noncancer Cia,nc (ug/m^3)	TR = 10-5 IND Indoor Air Standard cancer Cia,c (ug/m^3)	HQ = 1 IND Indoor Air Standard noncancer Cia,nc (ug/m^3)
75-07-0	2.14E+09	1.62E+09	11	4	E	2.20E-06	I	9.00E-03	I		5.6E+01	3.9E+01	11	9.4	56	39
67-64-1	7.25E+08	7.64E+08	11	2.6	E			3.10E+01	A		NA	1.4E+05	na	32,000	NA	140,000
75-86-5	1.56E+06	5.31E+08	25					2.00E-03	X		NL	nl	nl	NL	NL	nl
75-05-8	1.96E+08	7.48E+08	11	3	N			6.00E-02	I		NA	2.6E+02	NA	63	NA	260
107-02-8	8.27E+08	5.78E+08	11	2.8	N			2.00E-05	I		NA	8.8E-02	NA	0.021	NA	0.088
79-10-7	1.54E+07	5.01E+06	11	N	N			1.00E-03	I		NA	NA	NA	NA	NA	NA
107-13-1	3.11E+08	2.01E+08	11	3	N	6.80E-05	I	2.00E-03	I		1.8E+00	8.8E+00	0.36	2.1	1.8	8.8
309-00-2	2.36E+03	6.78E+00	11			4.90E-03	I				NA	NA	NA	NA	NA	NA
107-18-6	8.16E+07	8.02E+07	11	2.5	N			1.00E-04	X		NA	NA	NA	NA	NA	NA
107-05-1	1.52E+09	8.23E+08	11			6.00E-06	CA	1.00E-03	I		2.0E+01	4.4E+00	4.1	1.0	20	4.4
7664-41-7	6.88E+09	3.89E+08	11	15	N			1.00E-01	I		NL	NL	NL	NL	NL	NL
75-85-4	7.92E+07	2.41E+07	11	1.2	M			3.00E-03	X		NL	NL	NL	NL	NL	NL
12674-11-2	5.54E+03	3.43E+03	25			2.00E-05	S				NA	NA	NA	NA	NA	NA
11104-28-2	1.40E+04	4.51E+05	25			5.70E-04	S				2.2E-01	NA	0.043	NA	0.22	NA
11141-16-5	1.40E+04	4.36E+04	25			5.70E-04	S				2.2E-01	NA	0.043	NA	0.22	NA
53469-21-9	1.36E+03	2.15E+03	25			5.70E-04	S				NA	NA	NA	NA	NA	NA
12672-29-6	7.76E+03	1.80E+03	25			5.70E-04	S				NA	NA	NA	NA	NA	NA
11097-69-1	1.15E+02	4.97E+02	25			5.70E-04	S				NA	NA	NA	NA	NA	NA
11096-82-5	2.77E+00	1.98E+02	25			5.70E-04	S				NA	NA	NA	NA	NA	NA
103-33-3	3.54E+03	3.53E+03	25			3.10E-05	I				NL	NL	NL	NL	NL	NL
56-55-3	2.58E+00	7.67E-01	11			1.10E-04	CA			Mut	NA	NA	NA	NA	NA	NA
71-43-2	3.98E+08	2.07E+08	11	1.2	N	7.80E-06	I	3.00E-02	I		1.6E+01	1.3E+02	3.1	31	16	130
100-44-7	8.38E+06	3.62E+06	11	1.1	N	4.90E-05	CA	1.00E-03	P		2.5E+00	4.4E+00	0.50	1.0	2.5	4.4
92-52-4	7.41E+04	2.72E+04	11	0.6	N			4.00E-04	X		NA	NA	NA	NA	NA	NA
108-60-1	5.15E+06	1.90E+06	11			1.00E-05	H				1.2E+01	NA	2.4	NA	12	NA
111-44-4	1.19E+07	3.85E+06	11	2.7	N	3.30E-04	I				3.7E-01	NA	0.074	NA	0.37	NA
542-88-1	1.82E+08	3.92E+09	25			6.20E-02	I				2.0E-03	NA	0.00039	NA	0.0020	NA
10294-34-5	6.30E+06	No S	11					2.00E-02	P		NL	NL	NL	NL	NL	NL
7637-07-2	1.33E+11	No HLC	0					1.30E-02	CA		NL	NL	NL	NL	NL	NL
107-04-0	2.55E+08	1.06E+08	11			6.00E-04	X				NL	NL	NL	NL	NL	NL
108-86-1	3.53E+07	1.58E+07	11					6.00E-02	I		NL	NL	NL	NL	NL	NL
74-97-5	9.96E+08	5.12E+08	11					4.00E-02	X		NL	NL	NL	NL	NL	NL
75-27-4	4.41E+08	1.28E+08	11			3.70E-05	CA				3.3E+00	NA	0.66	NA	3.3	NA
75-25-2	7.34E+07	2.61E+07	11			1.10E-06	I				NA	NA	Na	NA	NA	NA
74-83-9	8.28E+09	2.85E+09	11	10	N			5.00E-03	I		NA	2.2E+01	NA	5.2	NA	22
106-99-0	6.14E+09	1.44E+09	11	2	N	3.00E-05	I	2.00E-03	I		4.1E+00	8.8E+00	0.81	2.1	4.1	8.8
78-92-2	7.30E+07	2.07E+07	11	1.7	N			3.00E+01	P		NA	NA	NA	NA	NA	NA
75-15-0	1.47E+09	7.29E+08	11	1.3	N			7.00E-01	I		NA	3.1E+03	NA	730	NA	3,100
56-23-5	9.52E+08	4.65E+08	11			6.00E-06	I	1.00E-01	I		2.0E+01	4.4E+02	4.1	100	20	440
12789-03-6	2.20E+02	8.90E+00	11			1.00E-04	I	7.00E-04	I		NA	NA	NA	NA	NA	NA
7782-50-5	2.23E+10	1.63E+07	11					1.50E-04	A		NA	NA	NA	NA	NA	NA
10049-04-4	2.75E+09	No HLC	25					2.00E-04	I		NL	NL	NL	NL	NL	NL
75-68-3	1.37E+10	5.04E+07	11					5.00E+01	I		NL	NL	NL	NL	NL	NL
126-99-8	1.03E+09	9.27E+08	11	1.9	N	3.00E-04	I	2.00E-02	I		4.1E-01	8.8E+01	0.081	21	0.41	88
108-90-7	7.27E+07	2.80E+07	11	1.3	N			5.00E-02	P		NA	2.2E+02	NA	52	NA	220
98-56-6	7.41E+07	1.66E+07	25					3.00E-01	P		NL	NL	NL	NL	NL	NL
75-45-6	3.37E+10	3.27E+09	11					5.00E+01	I		NL	NL	NL	NL	NL	NL
67-66-3	1.27E+09	6.37E+08	11			2.30E-05	I	9.80E-02	A		5.3E+00	4.3E+02	1.1	100	5.3	430
74-87-3	1.17E+10	1.29E+09	11	8.1	N			9.00E-02	I		NA	3.9E+02	NA	94	NA	390
107-30-2	1.30E+08	2.39E+09	25			6.90E-04	CA				1.8E-01	NA	0.035	NA	0.18	NA
76-06-2	2.11E+08	1.36E+08	25					4.00E-04	CA		NL	NL	NL	NL	NL	NL
8007-45-2	No MW	No S	25			6.20E-04	I			Mut	NL	NL	NL	NL	NL	NL
98-82-8	2.91E+07	1.01E+07	11	0.9	N			4.00E-01	I		NA	1.8E+03	NA	420	NA	1,800
57-12-5	4.31E+08	9.44E+10	25					8.00E-04	S		NA	3.5E+00	NA	0.83	NA	3.5
110-82-7	4.39E+08	1.74E+08	11					6.00E+00	I		NA	2.6E+04	NA	6,300	NA	26,000
108-94-1	2.29E+07	3.04E+06	11	1.1	N			7.00E-01	P		NA	NA	NA	NA	NA	NA
110-83-8	3.93E+08	2.02E+08	11					1.00E+00	X		NA	NA	NA	NA	NA	NA
72-55-9	1.03E+02	1.32E+01	11			9.70E-05	CA				NA	NA	NA	NA	NA	NA
96-12-8	7.38E+06	2.63E+06	11			6.00E-03	P	2.00E-04	I	Mut	2.0E-02	8.8E-01	0.0041	0.21	0.020	0.88
124-48-1	1.75E+08	5.02E+07	11			2.70E-05	CA				4.5E+00	NA	0.90	NA	4.5	NA
106-93-4	1.13E+08	4.44E+07	11			6.00E-04	I	9.00E-03	I		2.0E-01	3.9E+01	0.041	9.4	0.20	39
74-95-3	4.15E+08	1.91E+08	11					4.00E-03	X		NA	NA	NA	NA	NA	NA
764-41-0	2.02E+07	1.27E+07	25			4.20E-03	P				2.9E-02	NA	0.0058	NA	0.029	NA
1476-11-5	2.75E+07	6.28E+06	11			4.20E-03	P				NL	NL	NL	NL	NL	NL
110-57-6	2.75E+07	9.20E+06	11			4.20E-03	P				NL	NL	NL	NL	NL	NL
95-50-1	1.08E+07	4.64E+06	11	2.2	N			2.00E-01	H		NA	8.8E+02	NA	210	NA	880
106-46-7	1.38E+07	3.14E+06	11	2.5	N	1.10E-05	CA	8.00E-01	I		1.1E+01	3.5E+03	2.2	830	11	3,500
75-71-8	3.16E+10	1.96E+09	11					1.00E-01	X		NA	NA	NA	NA	NA	NA
75-34-3	1.21E+09	6.23E+08	11	5.4	N	1.60E-06	CA				7.7E+01	NA	15	NA	77	NA
107-06-2	4.20E+08	2.04E+08	11	6.2	N	2.60E-05	I	7.00E-03	P		4.7E+00	3.1E+01	0.94	7.3	4.7	31
75-35-4	3.13E+09	1.52E+09	11	6.5	N			2.00E-01	I		NA	8.8E+02	NA	210	NA	880
78-87-5	3.24E+08	1.58E+08	11	3.4	N	1.00E-05	CA	4.00E-03	I		1.2E+01	1.8E+01	2.4	4.2	12	18
542-75-6	2.03E+08	1.89E+08	11	5.3	N	4.00E-06	I	2.00E-02	I		3.1E+01	8.8E+01	6.1	21	31	88
77-73-6	1.63E+07	2.79E+07	11					3.00E-04	X		NL	NL	NL	NL	NL	NL
75-37-6	1.62E+10	1.82E+09	11					4.00E+01	I		NL	NL	NL	NL	NL	NL
94-58-6	4.90E+05	3.89E+07	25			1.30E-05	CA				9.4E+00	NA	1.9	NA	9.4	NA
108-20-3	8.19E+08	9.21E+08	25					7.00E-01	P		NL	NL	NL	NL	NL	NL
68-12-2	1.52E+07	9.68E+05	11	N	N			3.00E-02	I		NL	NL	NL	NL	NL	NL
57-14-7	5.27E+08	1.40E+06	11	N	N			2.00E-06	X		NL	NL	NL	NL	NL	NL
540-73-8	2.26E+08	2.84E+06	25			1.60E-01	CA				NA	NA	NA	NA	NA	NA
513-37-1	7.50E+08	3.31E+09	25			1.30E-05	CA				NL	NL	NL	NL	NL	NL
123-91-1	1.81E+08	8.62E+07	11	2	N	5.00E-06	I	3.00E-02	I		NA	NA	NA	NA	NA	NA
106-89-8	8.17E+07	8.18E+07	11	3.8	N	1.20E-06	I	1.00E-03	I		1.0E+02	4.4E+00	20	1.0	100	4.4
106-88-7	6.98E+08	3.62E+08	11					2.00E-02	I		NA	8.8E+01	NA	21	NA	88
111-15-9	1.66E+07	1.14E+07	11	1.7	N			6.00E-02	P		NL	NL	NL	NL	NL	NL
110-80-5	2.57E+07	7.33E+06	11	N	N			2.00E-01	I		NA	NA	NA	NA	NA	NA
141-78-6	4.42E+08	2.14E+08	11	2	N			7.00E-02	P		NA	3.1E+02	NA	73	NA	310
75-00-3	3.51E+09	1.86E+09	11	3.8	N			1.00E+01	I		NA	4.4E+04	NA	10,000	NA	44,000
97-63-2	1.27E+08	4.25E+07	11	1.8	M			3.00E-01	P		NA	1.3E+03	NA	310	NA	1,300
100-41-4	5.48E+07	2.34E+07	11	0.8	N	2.50E-06	CA	1.00E+00	I		4.9E+01	4.4E+03	9.7	1,000	49	4,400
75-21-8	3.11E+09	3.64E+09	11	3	N	8.80E-05	CA	3.00E-02	CA		1.4E+00	1.3E+02	0.28	31	1.4	130
151-56-4	4.94E+08	4.95E+08	25	3.3	N	1.90E-02	CA				6.5E-03	NA	0.0013	NA	0.0065	NA
50-00-0	6.29E+09	3.48E+06	11	N	N	1.30E-05	I	9.80E-03	A		NA	NA	NA	NA	NA	NA
64-18-6	1.06E+08	4.34E+06	11	N	N			3.00E-04	X		NA	NA	NA	NA	NA	NA
98-01-1	1.14E+07	4.55E+06	11	2.1	N			5.00E-02	H		NA	NA	NA	NA	NA	NA
765-34-4	8.45E+07	3.20E+07	25					1.00E-03	H		NA	NA	NA	NA	NA	NA
76-44-8	8.04E+03	5.27E+02	11			1.30E-03	I				NA	NA	NA	NA	NA	NA
1024-57-3	4.09E+02	2.97E+01	11			2.60E-03	I				NA	NA	NA	NA	NA	NA
39635-31-9	2.77E+00	4.25E+00	25			1.10E-03	E	1.30E-03	E		NL	NL	NL	NL	NL	NL
118-74-1	2.76E+02	1.20E+02	11			4.60E-04	I				NA	NA	NA	NA	NA	NA
38380-08-4	3.13E+01	3.12E+01	25			1.10E-03	E	1.30E-03	E		NL	NL	NL	NL	NL	NL
69782-90-7	1.13E+01	1.09E+01	25			1.10E-03	E	1.30E-03	E		NL	NL	NL	NL	NL	NL
52663-72-6	1.13E+01	1.48E+01	25			1.10E-03	E	1.30E-03	E		NL	NL	NL	NL	NL	NL
32774-16-6	1.13E+01	3.38E+00	25			1.10E+00	E	1.30E-06	E		NL	NL	NL	NL	NL	NL
87-68-3	3.09E+06	4.63E+05	11			2.20E-05	I				NA	NA	NA	NA	NA	NA
77-47-4	8.81E+05	2.10E+04	11					2.00E-04	I		NA	NA	NA	NA	NA	NA
67-72-1	2.68E+06	2.43E+06	11			1.10E-05	CA	3.00E-02	I		NA	NA	NA	NA	NA	NA
822-06-0	1.88E+05	3.51E+05	25					1.00E-05	I		4.4E-02	na	0.010	NA	0.044	na
110-54-3	7.00E+08	3.67E+08	11	1.1	N			7.00E-01	I		NA	3.1E+03	NA	730	NA	3,100

Appendix E
Development of Vapor Intrusion Screening Levels
Former GM Delphi Harrison Thermal Systems Facility
Dayton, Ohio

OSWER VAPOR INTRUSION ASSESSMENT

ADJUSTED to use OEPA VAP INDOOR AIR STANDARDS

Vapor Intrusion Screening Level (VISL) Calculator Version 3.4, June 2015 RSLs

The primary objective of risk-based screening is to identify sites or buildings unlikely to pose a health concern through the vapor intrusion pathway. Generally, at properties where subsurface concentrations of vapor-forming chemicals (e.g., groundwater or "near source" soil gas concentrations) fall below screening levels (i.e., VISLs), no further action or study is warranted, so long as the exposure assumptions match those taken into account by the calculations and the site fulfills the conditions and assumptions of the generic conceptual model underlying the screening levels. In a similar fashion, the results of risk-based screening can help the data review team identify areas, buildings, and/or chemicals that can be eliminated from further assessment. The generic conceptual model underlying these screening levels is described in OSWER Publication 9200.2-154 (OSWER Technical Guide for Assessing and Mitigating the Vapor Intrusion Pathway From Subsurface Vapor Sources to Indoor Air) (EPA 2015; Section 6.5)

Parameter	Symbol	Value	Instructions
Exposure Scenario	Scenario	Commercial	Select residential or commercial scenario from pull down list
Target Risk for Carcinogens	TCR	1.00E-05	Enter target risk for carcinogens
Target Hazard Quotient for Non-Carcinogens	THQ	1	Enter target hazard quotient for non-carcinogens
Average Groundwater Temperature (°C)	Tgw	11	Enter average of the stabilized groundwater temperature to correct Henry's Law Constant for groundwater target concentrations

						TR = 1E-5; THQ=1		TR = 1E-5; THQ=1	TR = 1E-5; THQ=1								TR = 10-5	HQ = 1	TR = 10-5	HQ = 1	TR = 10-5	HQ = 1
		Does the chemical meet the definition for volatility?	Does chemical have inhalation toxicity data?	Is Chemical Sufficiently Volatile and Toxic to Pose Inhalation Risk Via Vapor Intrusion from Soil Source?	Is Chemical Sufficiently Volatile and Toxic to Pose Inhalation Risk Via Vapor Intrusion from Groundwater Source?	Target Indoor Air Conc. @ TCR = 10E-06 or THQ = 1	Toxicity Basis	Target Sub-Slab and Exterior Soil Gas Conc. @ TCR = 10E-06 or THQ = 1	Target Ground Water Conc. @ TCR = 10E-06 or THQ = 1	Is Target Ground Water Conc. < MCL?	Pure Phase Vapor Conc. @ 25°C	Groundwater Vapor Conc.	Temperature for Groundwater Vapor Conc.	Lower Explosive Limit**	LEL Source	Inhalation Unit Risk	IUR Source*	Reference Concentration	RFC Source*	Mutagenic Indicator			Res Indoor air standard cancer	Res Indoor air standard noncancer	IND Indoor Air Standard cancer	IND Indoor Air Standard noncancer
		(HLC>1E-5 or VP>1)	(IUR and/or RfC)	Cvp > Cia,target?	Chc > Cia,target?	MIN(Cia,c;Cia,nc)		Csg	Cgw	Cgw<MCL? Yes/No (MCL ug/L)	Cvp	Chc	Tgw or 25	LEL		IUR		RfC		i	Cia,c, IND	Cia,nc, IND	Cia,c	Cia,nc	Cia,c	Cia,nc
CAS	Chemical Name	Yes/No	Yes/No	Yes/No	Yes/No	(ug/m³)	C/NC	(ug/m³)	(ug/L)		(ug/m³)	(ug/m³)	C	(% by vol)		(ug/m³)⁻¹		(mg/m³)			(ug/m³)	(ug/m³)	(ug/m³)	(ug/m³)	(ug/m³)	(ug/m³)
591-78-6	Hexanone, 2-	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	0.0E+00	--	6.25E+07	2.79E+07	11					3.00E-02	I		NL	NL	NL	NL	NL	NL
302-01-2	Hydrazine	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	0.0E+00	--	2.48E+07	9.18E+06	11	N	N	4.90E-03	I	3.00E-05	P		NA	NA	NA	NA	NA	NA
7647-01-0	Hydrogen Chloride	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	0.0E+00	--	6.76E+10	4.51E+19	11					2.00E-02	I		NA	NA	NA	NA	NA	NA
74-90-8	Hydrogen Cyanide	Yes	Yes	Yes	Yes	3.5E+00	NC	1.2E+02	1.1E+03	--	1.08E+09	3.06E+09	11	5.6	N			8.00E-04	I		NA	3.5E+00	NA	0.83	NA	3.5
7664-39-3	Hydrogen Fluoride	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	0.0E+00	--	9.87E+08	3.65E+09	11					1.40E-02	CA		NA	NA	NA	NA	NA	NA
7783-06-4	Hydrogen Sulfide	Yes	Yes	Yes	Yes	8.8E+00	NC	2.9E+02	3.4E+01	--	2.87E+10	1.12E+12	11	4	N			2.00E-03	I		NA	8.8E+00	NA	2.1	NA	8.8
67-63-0	Isopropanol	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	0.0E+00	--	1.47E+08	1.16E+08	11	2	N			2.00E-01	P		NL	NL	NL	NL	NL	NL
7439-97-6	Mercury (elemental)	Yes	Yes	Yes	Yes	1.3E+00	NC	4.3E+01	9.2E+00	No (2)	2.12E+04	8.49E+03	11					3.00E-04	I		NA	1.3E+00	NA	0.31	NA	1.3
126-98-7	Methacrylonitrile	Yes	Yes	Yes	Yes	1.3E+02	NC	4.3E+03	2.6E+04	--	2.57E+08	1.25E+08	11	2	N			3.00E-02	P		NA	1.3E+02	NA	31	NA	130
67-56-1	Methanol	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	0.0E+00	--	2.19E+08	8.19E+07	11	6	N			2.00E+01	I		NA	NA	NA	NA	NA	NA
110-49-6	Methoxyethanol Acetate, 2-	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	0.0E+00	--	1.27E+07	4.44E+06	11	N	N			1.00E-03	P		NL	NL	NL	NL	NL	NL
109-86-4	Methoxyethanol, 2-	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	0.0E+00	--	3.89E+07	5.58E+06	11	N	N			2.00E-02	I		NL	NL	NL	NL	NL	NL
96-33-3	Methyl Acrylate	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	0.0E+00	--	4.01E+08	1.94E+08	11	2.8	N			2.00E-02	P		NL	NL	NL	NL	NL	NL
78-93-3	Methyl Ethyl Ketone (2-Butanone)	Yes	Yes	Yes	Yes	2.2E+04	NC	7.3E+05	1.9E+07	--	3.52E+08	2.58E+08	11	1.4	N			5.00E+00	I		NA	2.2E+04	NA	5,200	NA	22,000
60-34-4	Methyl Hydrazine	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	0.0E+00	--	1.24E+08	5.70E+05	11	N	N	1.00E-03	X	2.00E-05	X		NA	NA	NA	NA	NA	NA
108-10-1	Methyl Isobutyl Ketone (4-methyl-2-pentanone)	Yes	Yes	Yes	Yes	1.3E+04	NC	4.3E+05	5.2E+06	--	1.07E+08	4.72E+07	11	1.2	N			3.00E+00	I		NA	1.3E+04	NA	3,100	NA	13,000
624-83-9	Methyl Isocyanate	Yes	Yes	Yes	Yes	4.4E+00	NC	1.5E+02	1.2E+02	--	1.07E+09	1.83E+09	25	5.3	N			1.00E-03	CA		NA	4.4E+00	NA	1.0	NA	4.4
80-62-6	Methyl Methacrylate	Yes	Yes	Yes	Yes	3.1E+03	NC	1.0E+05	5.6E+05	--	2.07E+08	8.27E+07	11	1.7	N			7.00E-01	I		NA	3.1E+03	NA	730	NA	3,100
25013-15-4	Methyl Styrene (Mixed Isomers)	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	0.0E+00	--	1.08E+07	3.21E+06	11					4.00E-02	H		NL	NL	NL	NL	NL	NL
1634-04-4	Methyl tert-Butyl Ether (MTBE)	Yes	Yes	Yes	Yes	4.7E+02	C	1.6E+04	3.6E+04	--	1.19E+09	6.67E+08	11	1.6	M	2.60E-07	CA	3.00E+00	I		4.7E+02	1.3E+04	94	3,100	470	13,000
75-09-2	Methylene Chloride	Yes	Yes	Yes	Yes	2.6E+03	NC	8.7E+04	3.5E+04	No (5)	1.99E+09	9.62E+08	11	13	N	1.00E-08	I	6.00E-01	I	Mut	1.2E+04	2.6E+03	960	630	12,000	2,600
2385-85-5	Mirex	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	0.0E+00	--	2.35E+01	2.82E+03	25			5.10E-03	CA				NL	NL	NL	NL	NL	NL
64742-95-6	Naphtha, High Flash Aromatic (HFAN)	Yes	No	No																	NL	NL	NL	NL	NL	NL
91-20-3	Naphthalene	Yes	Yes	Yes	Yes	3.6E+00	C	1.2E+02	5.9E+02	--	5.86E+05	1.91E+05	11	N	N	3.40E-05	CA	3.00E-03	I		3.6E+00	1.3E+01	0.72	3.1	3.6	13
13463-39-3	Nickel Carbonyl	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	No HLC	--	2.89E+09	No HLC	25	N	N	2.60E-04	CA	1.40E-05	CA		NA	NA	NA	NA	NA	NA
98-95-3	Nitrobenzene	Yes	Yes	Yes	Yes	3.1E+00	C	1.0E+02	9.6E+03	--	1.62E+06	6.74E+05	11	N	N	4.00E-05	I	9.00E-03	I		3.1E+00	3.9E+01	0.61	9.4	3.1	39
75-52-5	Nitromethane	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	0.0E+00	--	1.18E+08	5.48E+07	11			8.80E-06	P	5.00E-03	P		NL	NL	NL	NL	NL	NL
79-46-9	Nitropropane, 2-	Yes	Yes	Yes	Yes	4.5E-02	C	1.5E+00	2.1E+01	--	8.25E+07	3.64E+07	11	2.6	N	2.70E-03	H	2.00E-02	I		4.5E-02	8.8E+01	0.00090	21	0.045	88
62-75-9	Nitrosodimethylamine, N-	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	0.0E+00	--	1.08E+07	7.44E+07	25			1.40E-02	I	4.00E-05	X	Mut	NA	NA	NA	NA	NA	NA
924-16-3	Nitroso-di-N-butylamine, N-	Yes	Yes	Yes	Yes	7.7E-02	C	2.6E+00	1.4E+02	--	3.99E+05	6.85E+05	25			1.60E-03	I				7.7E-02	NA	0.015	NA	0.077	NA
10595-95-6	Nitrosomethylethylamine, N-	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	0.0E+00	--	9.91E+06	1.77E+07	25			6.30E-03	CA				NL	NL	NL	NL	NL	NL
111-84-2	Nonane, n-	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	0.0E+00	--	3.07E+07	9.40E+06	11					2.00E-02	P		NL	NL	NL	NL	NL	NL
32598-14-4	Pentachlorobiphenyl, 2,3,3',4,4'- (PCB 105)	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	0.0E+00	--	1.15E+02	3.93E+01	25			1.10E-03	E	1.30E-03	E		NL	NL	NL	NL	NL	NL
74472-37-0	Pentachlorobiphenyl, 2,3,4,4',5- (PCB 114)	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	0.0E+00	--	9.61E+01	1.24E+02	25			1.10E-03	E	1.30E-03	E		NL	NL	NL	NL	NL	NL
31508-00-6	Pentachlorobiphenyl, 2,3',4,4',5- (PCB 118)	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	0.0E+00	--	1.58E+02	1.58E+02	25			1.10E-03	E	1.30E-03	E		NL	NL	NL	NL	NL	NL
65510-44-3	Pentachlorobiphenyl, 2',3,4,4',5- (PCB 123)	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	0.0E+00	--	9.61E+01	1.24E+02	25			1.10E-03	E	1.30E-03	E		NL	NL	NL	NL	NL	NL
57465-28-8	Pentachlorobiphenyl, 3,3',4,4',5- (PCB 126)	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	0.0E+00	--	3.90E+01	5.69E+01	25			3.80E+00	E	4.00E-07	E		NL	NL	NL	NL	NL	NL
109-66-0	Pentane, n-	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	0.0E+00	--	2.00E+09	1.13E+09	11					1.00E+00	P		NL	NL	NL	NL	NL	NL
75-44-5	Phosgene	Yes	Yes	Yes	Yes	1.3E+00	NC	4.3E+01	3.5E+00	--	7.56E+09	2.53E+09	11					3.00E-04	I		NA	1.3E+00	NA	0.31	NA	1.3
7803-51-2	Phosphine	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	0.0E+00	--	5.36E+10	2.59E+11	25	1.79	N			3.00E-04	I		NA	NA	NA	NA	NA	NA
123-38-6	Propionaldehyde	Yes	Yes	Yes	Yes	3.5E+01	NC	1.2E+03	2.2E+04	--	9.91E+08	4.88E+08	11					8.00E-03	I		NA	3.5E+01	NA	8.3	NA	35
103-65-1	Propyl benzene	Yes	Yes	Yes	Yes	4.4E+03	NC	1.5E+05	2.6E+04	--	2.21E+07	8.70E+06	11	0.8	M			1.00E+00	X		NA	4.4E+03	NA	1,000	NA	4,400
115-07-1	Propylene	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	0.0E+00	--	1.97E+10	1.18E+09	11	2	E			3.00E+00	CA		NL	NL	NL	NL	NL	NL
107-98-2	Propylene Glycol Monomethyl Ether	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	0.0E+00	--	6.06E+07	1.75E+07	11	N	N			2.00E+00	I		NL	NL	NL	NL	NL	NL
75-56-9	Propylene Oxide	Yes	Yes	Yes	Yes	3.3E+01	C	1.1E+03	2.1E+04	--	1.68E+09	9.42E+08	11			3.70E-06	I	3.00E-02	I		3.3E+01	1.3E+02	6.6	31	33	130
100-42-5	Styrene	Yes	Yes	Yes	Yes	4.4E+03	NC	1.5E+05	9.3E+04	No (100)	3.59E+07	1.46E+07	11	1.1	E			1.00E+00	I		NA	4.4E+03	NA	1,000	NA	4,400
7446-11-9	Sulfur Trioxide	Yes	Yes	No	No																NL	NL	NL	NL	NL	NL
1746-01-6	TCDD, 2,3,7,8-	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	0.0E+00	Yes (0.00003)	2.60E-02	4.09E-01	25			3.80E+01	CA	4.00E-08	CA		NA	NA	NA	NA	NA	NA
70362-50-4	Tetrachlorobiphenyl, 3,4,4',5- (PCB 81)	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	0.0E+00	--	1.33E+02	2.94E+02	25			1.10E-02	E	1.30E-04	E		NL	NL	NL	NL	NL	NL
630-20-6	Tetrachloroethane, 1,1,1,2-	Yes	Yes	Yes	Yes	1.7E+01	C	5.7E+02	4.3E+02	--	1.08E+08	4.22E+07	11			7.40E-06	I				1.7E+01	NA	3.3	NA	17	NA
79-34-5	Tetrachloroethane, 1,1,2,2-	Yes	Yes	Yes	Yes	2.1E+00	C	7.0E+01	3.4E+02	--	4.17E+07	1.77E+07	11			5.80E-05	CA				2.1E+00	NA	0.42	NA	2.1	NA
127-18-4	Tetrachloroethylene	Yes	Yes	Yes	Yes	1.8E+02	NC	6.0E+03	5.5E+02	No (5)	1.65E+08	6.73E+07	11			2.60E-07	I	4.00E-02	I		4.7E+02	1.8E+02	94	42	470	180
811-97-2	Tetrafluoroethane, 1,1,1,2-	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	0.0E+00	--	2.74E+10	1.25E+09	11					8.00E+01	I		NL	NL	NL	NL	NL	NL
109-99-9	Tetrahydrofuran	Yes	Yes	Yes	Yes	8.8E+03	NC	2.9E+05	5.8E+06	--	6.29E+08	1.52E+09	11	2	N			2.00E+00	I		NA	8.8E+03	NA	2,100	NA	8,800
7550-45-0	Titanium Tetrachloride	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	No HLC	--	1.02E+08	No HLC	25					1.00E-04	A		NA	NA	NA	NA	NA	NA
108-88-3	Toluene	Yes	Yes	Yes	Yes	2.2E+04	NC	7.3E+05	1.7E+05	No (1000)	1.41E+08	6.67E+07	11	1.1	N			5.00E+00	I		NA	2.2E+04	NA	5,200	NA	22,000
76-13-1	Trichloro-1,2,2-trifluoroethane, 1,1,2-	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	0.0E+00	--	3.66E+09	2.05E+09	11					3.00E+01	H		NL	NL	NL	NL	NL	NL
120-82-1	Trichlorobenzene, 1,2,4-	Yes	Yes	Yes	Yes	8.8E+00	NC	2.9E+02	4.6E+02	No (70)	4.49E+06	9.45E+05	11	2.5	N			2.00E-03	P		NA	8.8E+00	NA	2.1	NA	8.8
71-55-6	Trichloroethane, 1,1,1-	Yes	Yes	Yes	Yes	2.2E+04	NC	7.3E+05	6.0E+04	No (200)	8.90E+08	4.71E+08	11	7.5	N			5.00E+00	I		NA	2.2E+04	NA	5,200	NA	22,000
79-00-5	Trichloroethane, 1,1,2-	Yes	Yes	Yes	Yes	7.7E+00	C	2.6E+02	5.1E+02	No (5)	1.65E+08	6.97E+07	11	6	N	1.60E-05	I	2.00E-04	X		7.7E+00	NA	1.5	NA	7.7	NA
79-01-6	Trichloroethylene	Yes	Yes	Yes	Yes	8.8E+00	NC	2.9E+02	4.5E+01	No (5)	4.88E+08	2.53E+08	11	8	N	see note	I	2.00E-03	I	TCE	3.0E+01	8.8E+00	4.3	2.1	30	8.8
75-69-4	Trichlorofluoromethane	Yes	Yes	Yes	Yes	3.1E+03	NC	1.0E+05	1.3E+03	--	5.94E+09	2.61E+09	11					7.00E-01	H		NA	3.1E+03	NA	730	NA	3,100
96-18-4	Trichloropropane, 1,2,3-	Yes	Yes	Yes	Yes	1.3E+00	NC	4.3E+01	2.3E+02	--	2.93E+07	9.76E+06	11	3.2	N			3.00E-04	I	Mut	NA	1.3E+00	NA	0.31	NA	1.3
96-19-5	Trichloropropene, 1,2,3-	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	0.0E+00	--	3.44E+07	3.48E+08	25					3.00E-04	P		NL	NL	NL	NL	NL	NL
121-44-8	Triethylamine	Yes	Yes	Yes	Yes	3.1E+01	NC	1.0E+03	1.1E+04	--	3.11E+08	1.92E+08	11					7.00E-03	I		NA	3.1E+01	NA	7.3	NA	31
526-73-8	Trimethylbenzene, 1,2,3-	Yes	Yes	Yes	Yes	2.2E+01	NC	7.3E+02	4.2E+02	--	1.09E+07	3.98E+06	11					5.00E-03	P		NA	2.2E+01	NA	5.2	NA	22
95-63-6	Trimethylbenzene, 1,2,4-	Yes	Yes	Yes	Yes	3.1E+01	NC	1.0E+03	3.3E+02	--	1.36E+07	5.43E+06	11	0.9	N			7.00E-03	P		NA	3.1E+01	NA	7.3	NA	31
108-05-4	Vinyl Acetate	Yes	Yes	Yes	Yes	8.8E+02	NC	2.9E+04	8.7E+04	--	4.18E+08	2.02E+08	11	2.6	N			2.00E-01	I		NA	8.8E+02	NA	210	NA	880
593-60-2	Vinyl Bromide	Yes	Yes	Yes	Yes	3.8E+00	C	1.3E+02	1.2E+01	--	5.93E+09	3.31E+09	11			3.20E-05	H	3.00E-03	I		3.8E+00	1.3E+01	0.76	3.1	3.8	13
75-01-4	Vinyl Chloride	Yes	Yes	Yes	Yes	2.8E+01	C	9.3E+02	3.7E+01	No (2)	1.00E+10	6.60E+09	11	3.6	N	4.40E-06	I	1.00E-01	I	VC	2.8E+01	4.4E+02	1.6	100	28	440
108-38-3	Xylene, m-	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	0.0E+00	--	4.74E+07	2.01E+07	11	1.1	N			1.00E-01	S		NL	NL	NL	NL	NL	NL
95-47-6	Xylene, o-	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	0.0E+00	--	3.78E+07	1.61E+07	11	0.9	N			1.00E-01	S		NL	NL	NL	NL	NL	NL
106-42-3	Xylene, P-	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	0.0E+00	--	5.05E+07	1.95E+07	11	1	N			1.00E-01	S		NL	NL	NL	NL	NL	NL
1330-20-7	Xylenes	Yes	Yes	Yes	Yes	4.4E+02	NC	1.5E+04	4.9E+03	Yes (10000)	4.56E+07	9.58E+06	11					1.00E-01	I		NA	4.4E+02	NA	100	NA	440
140-88-5	Ethyl Acrylate	Yes	Yes	Yes	Yes	0.0E+00	NC	0.0E+00	0.0E+00	--	2.08E+08	2.08E+08	11					8.00E-03	P		NA	NA	NA	NA	NA	NA
156-60-5	Dichloroethylene, 1,2-trans-	Yes	No	Yes	Yes	2.6E+02	NC	8.7E+03	1.6E+03	No (100)	1.73E+09	7.54E+08	11	9.7	M			6.0E-02	P		NA	2.6E+02	NA	63	NA	260

OSWER VAPOR INTRUSION ASSESSMENT ADJUSTED to use OEPA VAP INDOOR AIR STANDARDS

Vapor Intrusion Screening Level (VISL) Calculator Version 3.4, June 2015 RSLs

The primary objective of risk-based screening is to identify sites or buildings unlikely to pose a health concern through the vapor intrusion pathway. Generally, at properties where subsurface concentrations of vapor-forming chemicals (e.g., groundwater or "near source" soil gas concentrations) fall below screening levels (i.e., VISLs), no further action or study is warranted, so long as the exposure assumptions match those taken into account by the calculations and the site fulfills the conditions and assumptions of the generic conceptual model underlying the screening levels. In a similar fashion, the results of risk-based screening can help the data review team identify areas, buildings, and/or chemicals that can be eliminated from further assessment. The generic conceptual model underlying these screening levels is described in OSWER Publication 9200.2-154 (OSWER Technical Guide for Assessing and Mitigating the Vapor Intrusion Pathway From Subsurface Vapor Sources to Indoor Air) (EPA 2015; Section 6.5)

Parameter	Symbol	Value	Instructions
Exposure Scenario	Scenario	Commercial	Select residential or commercial scenario from pull down list
Target Risk for Carcinogens	TCR	1.00E-05	Enter target risk for carcinogens
Target Hazard Quotient for Non-Carcinogens	THQ	1	Enter target hazard quotient for non-carcinogens
Average Groundwater Temperature (°C)	Tgw	11	Enter average of the stabilized groundwater temperature to correct Henry's Law Constant for groundwater target concentrations

							TR = 1E-5; THQ=1		TR = 1E-5; THQ=1	TR = 1E-5; THQ=1					
CAS	Chemical Name	Does the chemical meet the definition for volatility? (HLC>1E-5 or VP>1) Yes/No	Does chemical have inhalation toxicity data? (IUR and/or RfC) Yes/No	Is Chemical Sufficiently Volatile and Toxic to Pose Inhalation Risk Via Vapor Intrusion from Soil Source? Cvp > Cia,target? Yes/No	Is Chemical Sufficiently Volatile and Toxic to Pose Inhalation Risk Via Vapor Intrusion from Groundwater Source? Chc > Cia,target? Yes/No	Target Indoor Air Conc. @ TCR = 10E-06 or THQ = 1 MIN(Cia,c;Cia,nc) (ug/m³)	Toxicity Basis C/NC	Target Sub-Slab and Exterior Soil Gas Conc. @ TCR = 10E-06 or THQ = 1 Csg (ug/m³)	Target Ground Water Conc. @ TCR = 10E-06 or THQ = 1 Cgw (ug/L)	Is Target Ground Water Conc. < MCL? Cgw<MCL? Yes/No (MCL ug/L)	Pure Phase Vapor Conc. @ 25°C Cvp (ug/m³)	Groundwater Vapor Conc. Chc (ug/m³)	Temperature for Groundwater Vapor Conc. Tgw or 25 C	Lower Explosive Limit** LEL (% by vol)	LEL Source	

Notes:

(1) **Inhalation Pathway Exposure Parameters (RME):**

Exposure Scenario	Units	Residential Symbol	Residential Value	Commercial Symbol	Commercial Value	Selected (based on scenario in cell G10) Symbol	Selected (based on scenario in cell G10) Value
Averaging time for carcinogens	(yrs)	ATc_R	70	ATc_C	70	ATc	70
Averaging time for non-carcinogens	(yrs)	ATnc_R	26	ATnc_C	25	ATnc	25
Exposure duration	(yrs)	ED_R	26	ED_C	25	ED	25
Exposure frequency	(days/yr)	EF_R	350	EF_C	250	EF	250
Exposure time	(hr/day)	ET_R	24	ET_C	8	ET	8

(2) **Generic Attenuation Factors:**

Source Medium of Vapors	Residential Symbol	Residential Value	Commercial Symbol	Commercial Value	Selected (based on scenario in cell G10) Symbol	Selected (based on scenario in cell G10) Value
Groundwater	AFgw_R	0.001	AFgw_C	0.001	AFgw	0.001
Sub-Slab and Exterior Soil Gas	AFss_R	0.03	AFss_C	0.03	AFss	0.03

(3) **Formulas**

Cia, target = MIN(Cia,c; Cia,nc)
Cia,c (ug/m3) = TCR x ATc x (365 days/yr) x (24 hrs/day) / (ED x EF x ET x IUR)
Cia,nc (ug/m3) = THQ x ATnc x (365 days/yr) x (24 hrs/day) x RfC x (1000 ug/mg) / (ED x EF x ET)

(4) **Special Case Chemicals**

Trichloroethylene

	Residential Symbol	Residential Value	Commercial Symbol	Commercial Value	Selected (based on scenario in cell G10) Symbol	Selected (based on scenario in cell G10) Value
	mIURTCE_R	1.00E-06	mIURTCE_C	0.00E+00	mIURTCE	0.00E+00
	IURTCE_R	3.10E-06	IURTCE_C	4.10E-06	IURTCE	4.10E-06

Mutagenic Chemicals

Note: This section applies to trichloroethylene and other mutagenic chemicals, but not to vinyl chloride.

The exposure durations and age-dependent adjustment factors for mutagenic-mode-of-action are listed in the table below:

Age Cohort	Exposure Duration (years)	Age-dependent adjustment factor
0 - 2 years	2	10
2 - 6 years	4	3
6 - 16 years	10	3
16 - 26 years	10	1

Mutagenic-mode-of-action (MMOA) adjustment factor 25 This factor is used in the equations for mutagenic chemicals.

Vinyl Chloride

See the Navigation Guide equation for Cia,c for vinyl chloride.

Notation:

NVT = Not sufficiently volatile and/or toxic to pose inhalation risk in selected exposure scenario for the indicated medium
C = Carcinogenic
NC = Non-carcinogenic
I = IRIS: EPA Integrated Risk Information System (IRIS). Available online at: http://www.epa.gov/iris/subst/index.html
P = PPRTV. EPA Provisional Peer Reviewed Toxicity Values (PPRTVs). Available online at: http://hhpprtv.ornl.gov/pprtv.shtml
A = Agency for Toxic Substances and Disease Registry (ATSDR) Minimum Risk Levels (MRLs). Available online at: http://www.atsdr.cdc.gov/mrls/index.html
CA = California Environmental Protection Agency/Office of Environmental Health Hazard Assessment assessments. Available online at: http://www.oehha.ca.gov/risk/ChemicalDB/index.asp
H = HEAST. EPA Superfund Health Effects Assessment Summary Tables (HEAST) database. Available online at: http://epa-heast.ornl.gov/heast.shtml
S = See RSL User Guide, Section 5
X = PPRTV Appendix
E = The Engineering ToolBox. Available online at http://www.engineeringtoolbox.com/explosive-concentration-limits-d_423.html
N = Centers for Disease Control and Prevention (CDC) National Institute for Occupational Safety and Health (NIOSH). Pocket Guide to Chemical Hazards. Available online at: http://www.cdc.gov/niosh/npg/default.html http://www.cdc.gov/niosh/npg/default.html
M = Chemical-specific MSDS
Mut = Chemical acts according to the mutagenic-mode-of-action, special exposure parameters apply (see footnote (4) above).
VC = Special exposure equation for vinyl chloride applies (see Navigation Guide for equation).
TCE = Special mutagenic and non-mutagenic IURs for trichloroethylene apply (see footnote (4) above).
Yellow highlighting indicates site-specific parameters that may be edited by the user.
Blue highlighting indicates exposure factors that are based on Risk Assessment Guidance for Superfund (RAGS) or EPA vapor intrusion guidance, which generally should not be changed.
**Lower explosive limit is the minimum concentration of the compound in air (% by volume) that is needed for the gas to ignite and explode.

Site-specific
Resident Equation Inputs for Tap Water

*** Inputted values different from Resident defaults are highlighted.**

Maintenance Worker INH SL

Variable	Resident Tap Water Default Value	Form-input Value
BW_{0-2} (mutagenic body weight) kg	15	0
BW_{2-6} (mutagenic body weight) kg	15	0
BW_{6-16} (mutagenic body weight) kg	80	0
BW_{16-26} (mutagenic body weight) kg	80	80
BW_{res-a} (body weight - adult) kg	80	80
BW_{res-c} (body weight - child) kg	15	0
$DFW_{res-adj}$ (age-adjusted dermal factor) cm^2-event/kg	2610650	0
$DFWM_{res-adj}$ (mutagenic age-adjusted dermal factor) cm^2-event/kg	8191633	0
ED_{res} (exposure duration - resident) years	26	1
ED_{0-2} (mutagenic exposure duration first phase) years	2	0
ED_{2-6} (mutagenic exposure duration second phase) years	4	0
ED_{6-16} (mutagenic exposure duration third phase) years	10	0
ED_{16-26} (mutagenic exposure duration fourth phase) years	10	1
ED_{res-a} (exposure duration - adult) years	20	1
ED_{res-c} (exposure duration - child) years	6	0
EF_{res} (exposure frequency) days/year	350	120
EF_{0-2} (mutagenic exposure frequency first phase) days/year	350	0
EF_{2-6} (mutagenic exposure frequency second phase) days/year	350	0
EF_{6-16} (mutagenic exposure frequency third phase) days/year	350	0
EF_{16-26} (mutagenic exposure frequency fourth phase) days/year	350	120
EF_{res-a} (exposure frequency - adult) days/year	350	120
EF_{res-c} (exposure frequency - child) days/year	350	0
ET_{res} (exposure time) hours/day	24	1
$ET_{event-res-adj}$ (age-adjusted exposure time) hours/event	0.67077	0
$ET_{event-res-madj}$ (mutagenic age-adjusted exposure time) hours/event	0.67077	0
ET_{0-2} (mutagenic dermal exposure time first phase) hours/event	0.54	0
ET_{2-6} (mutagenic dermal exposure time second phase) hours/event	0.54	0
ET_{6-16} (mutagenic dermal exposure time third phase) hours/event	0.71	0
ET_{16-26} (mutagenic dermal exposure time fourth phase) hours/event	0.71	0

Output generated 14NOV2019:14:02:54

Site-specific
Resident Equation Inputs for Tap Water

*** Inputted values different from Resident defaults are highlighted.**

Maintenance Worker INH SL

Variable	Resident Tap Water Default Value	Form-input Value
ET_{res-a} (dermal exposure time - adult) hours/event	0.71	0
ET_{res-c} (dermal exposure time - child) hours/event	0.54	0
ET_{0-2} (mutagenic inhalation exposure time first phase) hours/day	24	0
ET_{2-6} (mutagenic inhalation exposure time second phase) hours/day	24	0
ET_{6-16} (mutagenic inhalation exposure time third phase) hours/day	24	0
ET_{16-26} (mutagenic inhalation exposure time fourth phase) hours/day	24	1
ET_{res-a} (inhalation exposure time - adult) hours/day	24	1
ET_{res-c} (inhalation exposure time - child) hours/day	24	0
EV_{0-2} (mutagenic events) per day	1	0
EV_{2-6} (mutagenic events) per day	1	0
EV_{6-16} (mutagenic events) per day	1	0
EV_{16-26} (mutagenic events) per day	1	1
EV_{res-a} (events - adult) per day	1	1
EV_{res-c} (events - child) per day	1	0
THQ (target hazard quotient) unitless	0.1	1
$IFW_{res-adj}$ (adjusted intake factor) L/kg	327.95	0
$IFWM_{res-adj}$ (mutagenic adjusted intake factor) L/kg	1019.9	0
IRW_{0-2} (mutagenic water intake rate) L/day	0.78	0
IRW_{2-6} (mutagenic water intake rate) L/day	0.78	0
IRW_{6-16} (mutagenic water intake rate) L/day	2.5	0
IRW_{16-26} (mutagenic water intake rate) L/day	2.5	0
IRW_{res-a} (water intake rate - adult) L/day	2.5	0
IRW_{res-c} (water intake rate - child) L/day	0.78	0
K (volatilization factor of Andelman) L/m^3	0.5	0.5
LT (lifetime) years	70	70
SA_{0-2} (mutagenic skin surface area) cm^2	6365	0
SA_{2-6} (mutagenic skin surface area) cm^2	6365	0
SA_{6-16} (mutagenic skin surface area) cm^2	19652	0
SA_{16-26} (mutagenic skin surface area) cm^2	19652	0

Output generated 14NOV2019:14:02:54

Site-specific
Resident Equation Inputs for Tap Water

*** Inputted values different from Resident defaults are highlighted.**

Variable	Resident Tap Water Default Value	Form-input Value
SA_{res-a} (skin surface area - adult) cm^2	19652	0
SA_{res-c} (skin surface area - child) cm^2	6365	0
l_{sc} (apparent thickness of stratum corneum) cm	0.001	0.001
TR (target risk) unitless	1.0E-06	1.0E-06

Maintenance Worker INH SL

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Site-specific
Resident Regional Screening Levels (RSL) for Tap Water

Key: I = IRIS; P = PPRTV; O = OPP; A = ATSDR; C = Cal EPA; X = PPRTV Screening Level; H = HEAST; D = DWSHA; W = TEF applied; E = RPF applied; G = see user's guide; U = user provided; ca = cancer; nc = noncancer; * = where: nc SL < 100X ca SL; ** = where nc SL < 10X ca SL; SSL values are based on DAF=1; max = ceiling limit exceeded; sat = Csat exceeded.

Chemical	CAS Number	Mutagen?	Volatile?	Chemical Type	SF_o (mg/kg-day)$^{-1}$	SF_o Ref	IUR (ug/m^3)$^{-1}$	IUR Ref	RfD (mg/kg-day)	RfD Ref	RfC (mg/m^3)	RfC Ref	GIABS	K_p (cm/hr)
Dichlorodifluoromethane	75-71-8	No	Yes	Organics	-		-		2.00E-01	I	1.00E-01	X	1	8.95E-03
Dichloroethylene, 1,1-	75-35-4	No	Yes	Organics	-		-		5.00E-02	I	2.00E-01	I	1	1.17E-02
Dichloroethylene, 1,2-cis-	156-59-2	No	Yes	Organics	-		-		2.00E-03	I	-		1	1.10E-02
Dichloroethylene, 1,2-trans-	156-60-5	No	Yes	Organics	-		-		2.00E-02	I	-		1	1.10E-02
Tetrachloroethylene	127-18-4	No	Yes	Organics	2.10E-03	I	2.60E-07	I	6.00E-03	I	4.00E-02	I	1	3.34E-02
Trichloroethylene	79-01-6	Yes	Yes	Organics	4.60E-02	I	4.10E-06	I	5.00E-04	I	2.00E-03	I	1	1.16E-02
Vinyl Chloride	75-01-4	Yes	Yes	Organics	7.20E-01	I	4.40E-06	I	3.00E-03	I	1.00E-01	I	1	8.38E-03

Maintenance Worker INH SL

Site-specific
Resident Regional Screening Levels (RSL) for Tap Water

Key: I = IRIS; P = PPRTV; O = OPP; A = ATSDR; C = Cal EPA; X = PPRTV Screening Level; H = HEAST; D = DWSHA; W = TEF applied; E = RPF applied; G = see user's guide; U = user provided; ca = cancer; nc = noncancer; * = where: nc SL < 100X ca SL; ** = where nc SL < 10X ca SL; SSL values are based on DAF=1; max = ceiling limit exceeded; sat = Csat exceeded.

MW	B (unitless)	t^* (hr)	τ_{event} (hr/event)	FA (unitless)	In EPD?	$DA_{event\ (ca)}$	$DA_{event\ (nc\ child)}$	$DA_{event\ (nc\ adult)}$	MCL (ug/L)	Ingestion SL TR=1E-06 (ug/L)	Dermal SL TR=1E-06 (ug/L)	Inhalation SL TR=1E-06 (ug/L)	Carcinogenic SL TR=1E-06 (ug/L)	Ingestion SL Child THQ=1 (ug/L)
120.91	3.79E-02	1.20E+00	5.00E-01	1	Yes	-	-	-	-	-	-	-	-	-
96.944	4.43E-02	8.81E-01	3.67E-01	1	Yes	-	-	-	7.00E+00	-	-	-	-	-
96.944	4.17E-02	8.81E-01	3.67E-01	1	Yes	-	-	-	7.00E+01	-	-	-	-	-
96.944	4.17E-02	8.81E-01	3.67E-01	1	Yes	-	-	-	1.00E+02	-	-	-	-	-
165.83	1.65E-01	2.14E+00	8.92E-01	1	Yes	-	-	-	5.00E+00	-	-	3.93E+04	3.93E+04	-
131.39	5.11E-02	1.37E+00	5.72E-01	1	Yes	-	-	-	5.00E+00	-	-	2.49E+03	2.49E+03	-
62.499	2.55E-02	5.65E-01	2.35E-01	1	Yes	-	-	-	2.00E+00	-	-	4.54E-01	4.54E-01	-

Maintenance Worker INH SL

Site-specific
Resident Regional Screening Levels (RSL) for Tap Water

Key: I = IRIS; P = PPRTV; O = OPP; A = ATSDR; C = Cal EPA; X = PPRTV Screening Level; H = HEAST; D = DWSHA; W = TEF applied; E = RPF applied; G = see user's guide; U = user provided; ca = cancer; nc = noncancer; * = where: nc SL < 100X ca SL; ** = where nc SL < 10X ca SL; SSL values are based on DAF=1; max = ceiling limit exceeded; sat = Csat exceeded.

Dermal SL Child THQ=1 (ug/L)	Inhalation SL Child THQ=1 (ug/L)	Noncarcinogenic SL Child THI=1 (ug/L)	Ingestion SL Adult THQ=1 (ug/L)	Dermal SL Adult THQ=1 (ug/L)	Inhalation SL Adult THQ=1 (ug/L)	Noncarcinogenic SL Adult THI=1 (ug/L)	Screening Level (ug/L)
-	-	-	-	-	1.46E+04	1.46E+04	1.46E+04 nc
-	-	-	-	-	2.92E+04	2.92E+04	2.92E+04 nc
-	-	-	-	-	-	-	
-	-	-	-	-	-	-	
-	-	-	-	-	5.84E+03	5.84E+03	5.84E+03 nc
-	-	-	-	-	2.92E+02	2.92E+02	2.92E+02 nc
-	-	-	-	-	1.46E+04	1.46E+04	4.54E-01 ca

Maintenance Worker INH SL

APPENDIX F
CONSTRUCTION WORKER INHALATION OF GROUNDWATER VAPORS IN TRENCH

Table F-1
Calculated Construction Worker Inhalation Risk From Groundwater in a Trench
Former GM Delphi Harrison Thermal Systems Facility
Dayton, OH

Parameter Name	MW-23-04 5/18/2015 Concentration	Noncancer Risk	Cancer Risk	MW-37-05 9/21/2012 Concentration	Noncancer Risk	Cancer Risk	MW-9-03 9/24/2012 Concentration	Noncancer Risk	Cancer Risk
VOCs									
Tetrachloroethene	516	1.74E-01	2.58E-08	292	9.84E-02	1.46E-08	5 U	8.42E-04	1.25E-10
Trichloroethene	302	1.54E+00	1.81E-07	94.3	4.81E-01	5.64E-08	5 U	1.28E-02	1.49E-09
Vinyl chloride	456	2.67E-01	1.29E-06	<1 U	2.93E-04	1.41E-09	68.3	4.00E-02	1.93E-07
	Cumulative Risk	**1.98E+00**	1.50E-06	**Cumulative Risk**	5.80E-01	7.24E-08	**Cumulative Risk**	5.36E-02	1.95E-07

Notes:
[1] Upper Aquifer groundwater zone; volatile compounds; most recent sampe dates
[2] See text for discussion on construction worker trench inhalation pathway.
#NA = Not Available/Not Applicable
µg/L = micrograms per Liter
VOCs = Volatile organic compounds

Table F2
Construction Worker Vapor Inhalation Risk from Groundwater in a Trench - Maximum Detections
Former GM Delphi Harrison Thermal Systems Facility
Dayton, OH

Parameter Name	Maximum Detected Concentration[1]	Noncancer Risk	Cancer Risk
VOCs			
1,1,1-Trichloroethane	2.9	9.76E-06	0.00E+00
1,1-Dichloroethane	12	0.00E+00	1.95E-09
1,1-Dichloroethene	39.4	1.69E-02	0.00E+00
Acetone	140	2.54E-07	0.00E+00
Benzene	0.42	3.94E-05	3.51E-10
Chlorobenzene	9.11	6.17E-05	0.00E+00
Chloroform	18	3.14E-04	2.52E-08
cis-1,2-Dichloroethene	40300	0.00E+00	0.00E+00
Cyclohexane	0.46	4.63E-06	0.00E+00
Ethylbenzene	18.9	1.71E-05	5.49E-09
Isopropylbenzene	5.61	6.52E-04	0.00E+00
Methylene chloride	70	3.29E-04	4.90E-11
o-Xylene	50.4	2.71E-03	0.00E+00
Tetrachloroethene	4600	1.55E+00	2.30E-07
Toluene	19.2	2.99E-05	0.00E+00
trans-1,2-Dichloroethene	141	0.00E+00	0.00E+00
Trichloroethene	1390	7.09E+00	8.31E-07
Vinyl chloride	3480	2.04E+00	9.83E-06
Xylene (Total)	24.2	4.15E-04	0.00E+00
SVOCs			
bis(2-Ethylhexyl)phthalate	54	0.00E+00	0.00E+00
Caprolactam	470	0.00E+00	0.00E+00
Diethyl phthalate	0.86 J	0.00E+00	0.00E+00
PCBs			
Aroclor-1248	0.13 J	0.00E+00	1.14E-10
Aroclor-1254	6.51	0.00E+00	5.37E-09
	Cumulative Risk	**1.07E+01**	**1.09E-05**

Notes:
[1] Upper Aquifer groundwater zone; volatile compounds; all sample
[2] See text for discussion on construction worker trench inhalation pathway.
#NA = Not Available/Not Applicable
µg/L = micrograms per Liter
PCB = polychlorinated biphenyl
SVOC = Semi-Volatile Organic Compounds
VOCs = Volatile organic compounds

Virginia Department of Environmental Quality

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Virginia Unified Risk Assessment Model

VERSION: 1.12

Construction Calculated Hazard/Risk Report

Total Hazard/Risk for All Media

Non-Cancer Adult		Cancer	
Total:	**9.15E+00**	**Total:**	**1.07E-05**
Hazard Index Exceeded!		***cumulative risk not exceeded***	

All Report Pages are Required for Risk Assessment Submission

DETAILED REPORT FOLLOWS

Risk Based Performance Criteria

Default Hazard Index	Default Risk for Each Chemical	Default Risk for All Chemicals
1.00E+00	1.00E-06	1.00E-04

Contact Depth to Groundwater: Indirect Greater than 15f

Groundwater

Analyte: Acetone

CAS: 67-64-1

Concentration:	1.40E+02
RfDo:	9.00E-01
RfCi:	3.10E+01
SFO:	
IUR:	
Mutagen:	

ug/L

Calculated Hazard/Risk Values

	Non-Cancer Adult	Cancer
Ingestion:		
Dermal:		
Inhalation:	2.54E-07	
Total:	**2.54E-07**	**0.00E+00**
% Contribution to Media Risk	0.00%	0.00%

Analyte: Aroclor 1248

CAS: 12672-29-6

Concentration:	1.30E-01
RfDo:	
RfCi:	
SFO:	2.00E+00
IUR:	5.70E-04
Mutagen:	

ug/L

Calculated Hazard/Risk Values

	Non-Cancer Adult	Cancer
Ingestion:		
Dermal:		
Inhalation:		1.14E-10
Total:	**0.00E+00**	**1.14E-10**
% Contribution to Media Risk	0.00%	0.00%

Risk Based Performance Criteria

Default Hazard Index	Default Risk for Each Chemical	Default Risk for All Chemicals
1.00E+00	1.00E-06	1.00E-04

Contact Depth to Groundwater: Indirect Greater than 15f

Groundwater

Analyte: Aroclor 1254
CAS: 11097-69-1

Concentration:	6.51E+00
RfDo:	2.00E-05
RfCi:	
SFO:	2.00E+00
IUR:	5.70E-04
Mutagen:	

ug/L

Calculated Hazard/Risk Values

Non-Cancer Adult		**Cancer**	
Ingestion:		Ingestion:	
Dermal:		Dermal:	
Inhalation:		Inhalation:	5.37E-09
Total:	**0.00E+00**	**Total:**	**5.37E-09**
% Contribution to Media Risk	0.00%		0.05%

Analyte: Benzene
CAS: 71-43-2

Concentration:	4.20E-01
RfDo:	4.00E-03
RfCi:	3.00E-02
SFO:	5.50E-02
IUR:	7.80E-06
Mutagen:	

ug/L

Calculated Hazard/Risk Values

Non-Cancer Adult		**Cancer**	
Ingestion:		Ingestion:	
Dermal:		Dermal:	
Inhalation:	3.94E-05	Inhalation:	3.51E-10
Total:	**3.94E-05**	**Total:**	**3.51E-10**
% Contribution to Media Risk	0.00%		0.00%

Risk Based Performance Criteria

Default Hazard Index	Default Risk for Each Chemical	Default Risk for All Chemicals
1.00E+00	1.00E-06	1.00E-04

Contact Depth to Groundwater: Indirect Greater than 15f

Groundwater

Analyte: Bis(2-ethylhexyl)phthalate

CAS: 117-81-7

Concentration:	5.40E+01
RfDo:	2.00E-02
RfCi:	
SFO:	1.40E-02
IUR:	2.40E-06
Mutagen:	

ug/L

Calculated Hazard/Risk Values

Non-Cancer Adult		**Cancer**	
Ingestion:		Ingestion:	
Dermal:		Dermal:	
Inhalation:		Inhalation:	
Total:	**0.00E+00**	**Total:**	**0.00E+00**
% Contribution to Media Risk	0.00%		0.00%

Analyte: Caprolactam

CAS: 105-60-2

Concentration:	4.70E+02
RfDo:	5.00E-01
RfCi:	2.20E-03
SFO:	
IUR:	
Mutagen:	

ug/L

Calculated Hazard/Risk Values

Non-Cancer Adult		**Cancer**	
Ingestion:		Ingestion:	
Dermal:		Dermal:	
Inhalation:		Inhalation:	
Total:	**0.00E+00**	**Total:**	**0.00E+00**
% Contribution to Media Risk	0.00%		0.00%

Risk Based Performance Criteria

Default Hazard Index	Default Risk for Each Chemical	Default Risk for All Chemicals
1.00E+00	1.00E-06	1.00E-04

Contact Depth to Groundwater: Indirect Greater than 15f

Groundwater

Analyte: Chlorobenzene
CAS: 108-90-7

Concentration:	9.11E+00
RfDo:	2.00E-02
RfCi:	5.00E-02
SFO:	
IUR:	
Mutagen:	

ug/L

Calculated Hazard/Risk Values

Non-Cancer Adult		Cancer	
Ingestion:		Ingestion:	
Dermal:		Dermal:	
Inhalation:	6.17E-05	Inhalation:	
Total:	**6.17E-05**	**Total:**	**0.00E+00**
% Contribution to Media Risk	0.00%		0.00%

Analyte: Chloroform
CAS: 67-66-3

Concentration:	1.80E+01
RfDo:	1.00E-02
RfCi:	9.80E-02
SFO:	3.10E-02
IUR:	2.30E-05
Mutagen:	

ug/L

Calculated Hazard/Risk Values

Non-Cancer Adult		Cancer	
Ingestion:		Ingestion:	
Dermal:		Dermal:	
Inhalation:	3.14E-04	Inhalation:	2.52E-08
Total:	**3.14E-04**	**Total:**	**2.52E-08**
% Contribution to Media Risk	0.00%		0.24%

Risk Based Performance Criteria

Default Hazard Index	Default Risk for Each Chemical	Default Risk for All Chemicals
1.00E+00	1.00E-06	1.00E-04

Contact Depth to Groundwater: Indirect Greater than 15f

Groundwater

Analyte: Cumene
CAS: 98-82-8

Concentration:	5.61E+00
RfDo:	1.00E-01
RfCi:	4.00E-01
SFO:	
IUR:	
Mutagen:	

ug/L

Calculated Hazard/Risk Values

Non-Cancer Adult		Cancer	
Ingestion:		Ingestion:	
Dermal:		Dermal:	
Inhalation:	6.52E-04	Inhalation:	
Total:	**6.52E-04**	**Total:**	**0.00E+00**
% Contribution to Media Risk	0.01%		0.00%

Analyte: Cyclohexane
CAS: 110-82-7

Concentration:	4.60E-01
RfDo:	
RfCi:	6.00E+00
SFO:	
IUR:	
Mutagen:	

ug/L

Calculated Hazard/Risk Values

Non-Cancer Adult		Cancer	
Ingestion:		Ingestion:	
Dermal:		Dermal:	
Inhalation:	4.63E-06	Inhalation:	
Total:	**4.63E-06**	**Total:**	**0.00E+00**
% Contribution to Media Risk	0.00%		0.00%

Risk Based Performance Criteria

Default Hazard Index	Default Risk for Each Chemical	Default Risk for All Chemicals
1.00E+00	1.00E-06	1.00E-04

Contact Depth to Groundwater: Indirect Greater than 15f

Groundwater

Analyte: Dichloroethane, 1,1-

CAS: 75-34-3

Concentration:	1.20E+01
RfDo:	2.00E-01
RfCi:	
SFO:	5.70E-03
IUR:	1.60E-06
Mutagen:	

ug/L

Calculated Hazard/Risk Values

Non-Cancer Adult		**Cancer**	
Ingestion:		Ingestion:	
Dermal:		Dermal:	
Inhalation:		Inhalation:	1.95E-09
Total:	**0.00E+00**	**Total:**	**1.95E-09**
% Contribution to Media Risk	0.00%		0.02%

Analyte: Dichloroethylene, 1,1-

CAS: 75-35-4

Concentration:	3.94E+01
RfDo:	5.00E-02
RfCi:	2.00E-01
SFO:	
IUR:	
Mutagen:	

ug/L

Calculated Hazard/Risk Values

Non-Cancer Adult		**Cancer**	
Ingestion:		Ingestion:	
Dermal:		Dermal:	
Inhalation:	1.69E-02	Inhalation:	
Total:	**1.69E-02**	**Total:**	**0.00E+00**
% Contribution to Media Risk	0.18%		0.00%

Risk Based Performance Criteria

Default Hazard Index	Default Risk for Each Chemical	Default Risk for All Chemicals
1.00E+00	1.00E-06	1.00E-04

Contact Depth to Groundwater: Indirect Greater than 15f

Groundwater

Analyte: Dichloroethylene, 1,2-cis-
CAS: 156-59-2

Concentration:	4.03E+04
RfDo:	2.00E-03
RfCi:	
SFO:	
IUR:	
Mutagen:	

ug/L

Calculated Hazard/Risk Values

Non-Cancer Adult		**Cancer**	
Ingestion:		Ingestion:	
Dermal:		Dermal:	
Inhalation:		Inhalation:	
Total:	**0.00E+00**	**Total:**	**0.00E+00**
% Contribution to Media Risk	0.00%		0.00%

Analyte: Dichloroethylene, 1,2-trans-
CAS: 156-60-5

Concentration:	1.41E+02
RfDo:	2.00E-02
RfCi:	
SFO:	
IUR:	
Mutagen:	

ug/L

Calculated Hazard/Risk Values

Non-Cancer Adult		**Cancer**	
Ingestion:		Ingestion:	
Dermal:		Dermal:	
Inhalation:		Inhalation:	
Total:	**0.00E+00**	**Total:**	**0.00E+00**
% Contribution to Media Risk	0.00%		0.00%

Risk Based Performance Criteria

Default Hazard Index	Default Risk for Each Chemical	Default Risk for All Chemicals
1.00E+00	1.00E-06	1.00E-04

Contact Depth to Groundwater: Indirect Greater than 15f

Groundwater

Analyte: Diethyl Phthalate
CAS: 84-66-2

Concentration:	8.60E-01
RfDo:	8.00E-01
RfCi:	
SFO:	
IUR:	
Mutagen:	

ug/L

Calculated Hazard/Risk Values

Non-Cancer Adult		Cancer	
Ingestion:		Ingestion:	
Dermal:		Dermal:	
Inhalation:		Inhalation:	
Total:	**0.00E+00**	**Total:**	**0.00E+00**
% Contribution to Media Risk	0.00%		0.00%

Analyte: Ethylbenzene
CAS: 100-41-4

Concentration:	1.89E+01
RfDo:	1.00E-01
RfCi:	1.00E+00
SFO:	1.10E-02
IUR:	2.50E-06
Mutagen:	

ug/L

Calculated Hazard/Risk Values

Non-Cancer Adult		Cancer	
Ingestion:		Ingestion:	
Dermal:		Dermal:	
Inhalation:	1.71E-05	Inhalation:	5.49E-09
Total:	**1.71E-05**	**Total:**	**5.49E-09**
% Contribution to Media Risk	0.00%		0.05%

Risk Based Performance Criteria

Default Hazard Index	Default Risk for Each Chemical	Default Risk for All Chemicals
1.00E+00	1.00E-06	1.00E-04

Contact Depth to Groundwater: Indirect Greater than 15f

Groundwater

Analyte: Methylene Chloride

CAS: 75-09-2

Concentration:	7.00E+01
RfDo:	6.00E-03
RfCi:	6.00E-01
SFO:	2.00E-03
IUR:	1.00E-08
Mutagen:	Y

ug/L

Calculated Hazard/Risk Values

Non-Cancer Adult		**Cancer**	
Ingestion:		Ingestion:	
Dermal:		Dermal:	
Inhalation:	3.29E-04	Inhalation:	4.90E-11
Total:	**3.29E-04**	**Total:**	**4.90E-11**
% Contribution to Media Risk	0.00%		0.00%

Analyte: Toluene

CAS: 108-88-3

Concentration:	1.92E+01
RfDo:	8.00E-02
RfCi:	5.00E+00
SFO:	
IUR:	
Mutagen:	

ug/L

Calculated Hazard/Risk Values

Non-Cancer Adult		**Cancer**	
Ingestion:		Ingestion:	
Dermal:		Dermal:	
Inhalation:	2.99E-05	Inhalation:	
Total:	**2.99E-05**	**Total:**	**0.00E+00**
% Contribution to Media Risk	0.00%		0.00%

Risk Based Performance Criteria

Default Hazard Index	Default Risk for Each Chemical	Default Risk for All Chemicals
1.00E+00	1.00E-06	1.00E-04

Contact Depth to Groundwater: Indirect Greater than 15f

Groundwater

Analyte: Trichloroethane, 1,1,1-

CAS: 71-55-6

Concentration:	2.90E+00
RfDo:	2.00E+00
RfCi:	5.00E+00
SFO:	
IUR:	
Mutagen:	

ug/L

Calculated Hazard/Risk Values

Non-Cancer Adult		**Cancer**	
Ingestion:		Ingestion:	
Dermal:		Dermal:	
Inhalation:	9.76E-06	Inhalation:	
Total:	**9.76E-06**	**Total:**	**0.00E+00**
% Contribution to Media Risk	0.00%		0.00%

Analyte: Trichloroethylene

CAS: 79-01-6

Concentration:	1.39E+03
RfDo:	5.00E-04
RfCi:	2.00E-03
SFO:	4.60E-02
IUR:	4.10E-06
Mutagen:	Y

ug/L

Calculated Hazard/Risk Values

Non-Cancer Adult		**Cancer**	
Ingestion:		Ingestion:	
Dermal:		Dermal:	
Inhalation:	7.09E+00	Inhalation:	8.31E-07
Total:	**7.09E+00**	**Total:**	**8.31E-07**
% Contribution to Media Risk	77.49%		7.77%

Hazard Exceeded!

Risk Based Performance Criteria

Default Hazard Index	Default Risk for Each Chemical	Default Risk for All Chemicals
1.00E+00	1.00E-06	1.00E-04

Contact Depth to Groundwater: Indirect Greater than 15f

Groundwater

Analyte: Vinyl Chloride
CAS: 75-01-4

Concentration:	3.48E+03
RfDo:	3.00E-03
RfCi:	1.00E-01
SFO:	7.20E-01
IUR:	4.40E-06
Mutagen:	Y

ug/L

Calculated Hazard/Risk Values

Non-Cancer Adult		**Cancer**	
Ingestion:		Ingestion:	
Dermal:		Dermal:	
Inhalation:	2.04E+00	Inhalation:	9.83E-06
Total:	**2.04E+00**	**Total:**	**9.83E-06**
% Contribution to Media Risk	22.28%		91.87%

Hazard Exceeded! ***Risk Exceeded!***

Analyte: Xylene, o-
CAS: 95-47-6

Concentration:	5.04E+01
RfDo:	2.00E-01
RfCi:	1.00E-01
SFO:	
IUR:	
Mutagen:	

ug/L

Calculated Hazard/Risk Values

Non-Cancer Adult		**Cancer**	
Ingestion:		Ingestion:	
Dermal:		Dermal:	
Inhalation:	2.71E-03	Inhalation:	
Total:	**2.71E-03**	**Total:**	**0.00E+00**
% Contribution to Media Risk	0.03%		0.00%

Risk Based Performance Criteria

Default Hazard Index	Default Risk for Each Chemical	Default Risk for All Chemicals
1.00E+00	1.00E-06	1.00E-04

Contact Depth to Groundwater: Indirect Greater than 15f

Groundwater

Analyte: Xylenes

CAS: 1330-20-7

Concentration:	2.42E+01
RfDo:	2.00E-01
RfCi:	1.00E-01
SFO:	
IUR:	
Mutagen:	

ug/L

Calculated Hazard/Risk Values

Non-Cancer Adult		Cancer	
Ingestion:		Ingestion:	
Dermal:		Dermal:	
Inhalation:	4.15E-04	Inhalation:	
Total:	**4.15E-04**	**Total:**	**0.00E+00**
% Contribution to Media Risk	0.00%		0.00%

Total Calculated Hazard/Risk For Media: Groundwater

Non-Cancer Adult		Cancer	
Ingestion:	0.00E+00	Ingestion:	0.00E+00
Dermal:	0.00E+00	Dermal:	0.00E+00
Inhalation:	9.15E+00	Inhalation:	1.07E-05
Total:	**9.15E+00**	**Total:**	**1.07E-05**

Risk Based Performance Criteria

Default Hazard Index	Default Risk for Each Chemical	Default Risk for All Chemicals
1.00E+00	1.00E-06	1.00E-04

Contact Depth to Groundwater: Indirect Greater than 15f

Total Hazard/Risk for All Media

Non-Cancer Adult		Cancer	
Ingestion:	0.00E+00	Ingestion:	0.00E+00
Dermal:	0.00E+00	Dermal:	0.00E+00
Inhalation:	9.15E+00	Inhalation:	1.07E-05
Total:	**9.15E+00**	**Total:**	**1.07E-05**
Hazard Index Exceeded!		***cumulative risk not exceeded***	

Risk Based Performance Criteria

Default Hazard Index	Default Risk for Each Chemical	Default Risk for All Chemicals
1.00E+00	1.00E-06	1.00E-04

Contact Depth to Groundwater: Indirect Greater than 15f

Construction Exposure Default Values

Description	Value
Construction Worker Soil Adherence Factor (mg/cm2)	0.3
Construction Worker Averaging Time (days/yr)	365
Construction Worker Body Weight (kg)	80
Construction Worker Total Exposure Duration (yr) - VDEQ	1
Construction Worker Exposure Frequency (days/yr)	250
Construction Worker Air Exposure Frequency (days/yr)	250
Construction Worker Groundwater Exposure Frequency (days/yr) - VDEQ	125
Construction Worker Soil Exposure Frequency (days/yr)	250
Construction Worker Soil Exposure Frequency (days/yr) - VRP Only - VDEQ	125
Construction Worker Groundwater Exposure Time (hr/day)	4
Construction Worker Soil Exposure Time (hrs/day)	8
Construction Worker Groundwater Events (event/day)	1
Construction Worker Groundwater Ingestion Rate (L/day)	0.02
Construction Worker Soil Ingestion Rate (mg/day)	330
LifeTime Residential/Industrial/Construction/Recreator/Trespasser (yrs)	70
Noncancerous Averaging Time Construction Worker Groundwater (days)	365
Noncancerous Averaging Time Construction Worker Soil: 250 days * 1yr (days)	250
Construction Worker Soil Particulate Emission Factor - Calculated using EPA Soil Screening Gu	3339236953.22437
Construction Worker Surface Area (cm2/day)	3527
Construction Worker Total Time which construction occurs (days) - VDEQ	365
Trench Construction Worker Exposure Time Dermal (hr/day) - VDEQ	4
Trench Construction Worker Exposure Time Inhalation (hr/day) - VDEQ	0.17

Risk Based Performance Criteria

Default Hazard Index	Default Risk for Each Chemical	Default Risk for All Chemicals
1.00E+00	1.00E-06	1.00E-04

Contact Depth to Groundwater: Indirect Greater than 15f

Trench Construction Worker Events Frequency (event/day) - VDEQ	1

Virginia Department of Environmental Quality

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Virginia Unified Risk Assessment Model

VERSION: 1.12

Construction Calculated Hazard/Risk Report

Total Hazard/Risk for All Media

Non-Cancer Adult		Cancer	
Total:	**5.36E-02**	**Total:**	**1.95E-07**
hazard index not exceeded		***cumulative risk not exceeded***	

All Report Pages are Required for Risk Assessment Submission

DETAILED REPORT FOLLOWS

Program: Voluntary Remediation Program

Risk Based Performance Criteria

Default Hazard Index	Default Risk for Each Chemical	Default Risk for All Chemicals
1.00E+00	1.00E-06	1.00E-04

Contact Depth to Groundwater: Indirect Greater than 15f

Groundwater

Analyte: Tetrachloroethylene

CAS: 127-18-4

Concentration:	2.50E+00
RfDo:	6.00E-03
RfCi:	4.00E-02
SFO:	2.10E-03
IUR:	2.60E-07
Mutagen:	

ug/L

Calculated Hazard/Risk Values

	Non-Cancer Adult	Cancer
Ingestion:		
Dermal:		
Inhalation:	8.42E-04	1.25E-10
Total:	**8.42E-04**	**1.25E-10**
% Contribution to Media Risk	1.57%	0.06%

Analyte: Trichloroethylene

CAS: 79-01-6

Concentration:	2.50E+00
RfDo:	5.00E-04
RfCi:	2.00E-03
SFO:	4.60E-02
IUR:	4.10E-06
Mutagen:	Y

ug/L

Calculated Hazard/Risk Values

	Non-Cancer Adult	Cancer
Ingestion:		
Dermal:		
Inhalation:	1.28E-02	1.49E-09
Total:	**1.28E-02**	**1.49E-09**
% Contribution to Media Risk	23.79%	0.77%

Risk Based Performance Criteria

Default Hazard Index	Default Risk for Each Chemical	Default Risk for All Chemicals
1.00E+00	1.00E-06	1.00E-04

Contact Depth to Groundwater: Indirect Greater than 15f

Groundwater

Analyte: Vinyl Chloride

CAS: 75-01-4

Concentration:	6.83E+01
RfDo:	3.00E-03
RfCi:	1.00E-01
SFO:	7.20E-01
IUR:	4.40E-06
Mutagen:	Y

ug/L

Calculated Hazard/Risk Values

	Non-Cancer Adult	Cancer
Ingestion:		
Dermal:		
Inhalation:	4.00E-02	1.93E-07
Total:	**4.00E-02**	**1.93E-07**
% Contribution to Media Risk	74.64%	99.17%

Total Calculated Hazard/Risk For Media: Groundwater

	Non-Cancer Adult	Cancer
Ingestion:	0.00E+00	0.00E+00
Dermal:	0.00E+00	0.00E+00
Inhalation:	5.36E-02	1.95E-07
Total:	**5.36E-02**	**1.95E-07**

Risk Based Performance Criteria

Default Hazard Index	Default Risk for Each Chemical	Default Risk for All Chemicals
1.00E+00	1.00E-06	1.00E-04

Contact Depth to Groundwater: Indirect Greater than 15f

Total Hazard/Risk for All Media

Non-Cancer Adult		Cancer	
Ingestion:	0.00E+00	Ingestion:	0.00E+00
Dermal:	0.00E+00	Dermal:	0.00E+00
Inhalation:	5.36E-02	Inhalation:	1.95E-07
Total:	**5.36E-02**	**Total:**	**1.95E-07**
hazard index not exceeded		***cumulative risk not exceeded***	

Risk Based Performance Criteria

Default Hazard Index	Default Risk for Each Chemical	Default Risk for All Chemicals
1.00E+00	1.00E-06	1.00E-04

Contact Depth to Groundwater: Indirect Greater than 15f

Construction Exposure Default Values

Description	Value
Construction Worker Soil Adherence Factor (mg/cm2)	0.3
Construction Worker Averaging Time (days/yr)	365
Construction Worker Body Weight (kg)	80
Construction Worker Total Exposure Duration (yr) - VDEQ	1
Construction Worker Exposure Frequency (days/yr)	250
Construction Worker Air Exposure Frequency (days/yr)	250
Construction Worker Groundwater Exposure Frequency (days/yr) - VDEQ	125
Construction Worker Soil Exposure Frequency (days/yr)	250
Construction Worker Soil Exposure Frequency (days/yr) - VRP Only - VDEQ	125
Construction Worker Groundwater Exposure Time (hr/day)	4
Construction Worker Soil Exposure Time (hrs/day)	8
Construction Worker Groundwater Events (event/day)	1
Construction Worker Groundwater Ingestion Rate (L/day)	0.02
Construction Worker Soil Ingestion Rate (mg/day)	330
LifeTime Residential/Industrial/Construction/Recreator/Trespasser (yrs)	70
Noncancerous Averaging Time Construction Worker Groundwater (days)	365
Noncancerous Averaging Time Construction Worker Soil: 250 days * 1yr (days)	250
Construction Worker Soil Particulate Emission Factor - Calculated using EPA Soil Screening Gu	3339236953.22437
Construction Worker Surface Area (cm2/day)	3527
Construction Worker Total Time which construction occurs (days) - VDEQ	365
Trench Construction Worker Exposure Time Dermal (hr/day) - VDEQ	4
Trench Construction Worker Exposure Time Inhalation (hr/day) - VDEQ	0.17

Risk Based Performance Criteria

Default Hazard Index	Default Risk for Each Chemical	Default Risk for All Chemicals
1.00E+00	1.00E-06	1.00E-04

Contact Depth to Groundwater: Indirect Greater than 15f

Trench Construction Worker Events Frequency (event/day) - VDEQ	1

Virginia Department of Environmental Quality

VURAM

Virginia Unified Risk Assessment Model

VERSION: 1.12

Construction Calculated Hazard/Risk Report

Total Hazard/Risk for All Media

Non-Cancer Adult		Cancer	
Total:	**1.98E+00**	**Total:**	**1.49E-06**
Hazard Index Exceeded!		***cumulative risk not exceeded***	

All Report Pages are Required for Risk Assessment Submission

DETAILED REPORT FOLLOWS

Risk Based Performance Criteria

Default Hazard Index	Default Risk for Each Chemical	Default Risk for All Chemicals
1.00E+00	1.00E-06	1.00E-04

Contact Depth to Groundwater: Indirect Greater than 15f

Groundwater

Analyte: Tetrachloroethylene

CAS: 127-18-4

Concentration:	5.16E+02
RfDo:	6.00E-03
RfCi:	4.00E-02
SFO:	2.10E-03
IUR:	2.60E-07
Mutagen:	

ug/L

Calculated Hazard/Risk Values

Non-Cancer Adult		Cancer	
Ingestion:		Ingestion:	
Dermal:		Dermal:	
Inhalation:	1.74E-01	Inhalation:	2.58E-08
Total:	**1.74E-01**	**Total:**	**2.58E-08**
% Contribution to Media Risk	8.77%		1.73%

Analyte: Trichloroethylene

CAS: 79-01-6

Concentration:	3.02E+02
RfDo:	5.00E-04
RfCi:	2.00E-03
SFO:	4.60E-02
IUR:	4.10E-06
Mutagen:	Y

ug/L

Calculated Hazard/Risk Values

Non-Cancer Adult		Cancer	
Ingestion:		Ingestion:	
Dermal:		Dermal:	
Inhalation:	1.54E+00	Inhalation:	1.81E-07
Total:	**1.54E+00**	**Total:**	**1.81E-07**
% Contribution to Media Risk	77.75%		12.08%

Hazard Exceeded!

Program: Voluntary Remediation Program

Risk Based Performance Criteria

Default Hazard Index	Default Risk for Each Chemical	Default Risk for All Chemicals
1.00E+00	1.00E-06	1.00E-04

Contact Depth to Groundwater: Indirect Greater than 15f

Groundwater

Analyte: Vinyl Chloride

CAS: 75-01-4

Concentration:	4.56E+02
RfDo:	3.00E-03
RfCi:	1.00E-01
SFO:	7.20E-01
IUR:	4.40E-06
Mutagen:	Y

ug/L

Calculated Hazard/Risk Values

	Non-Cancer Adult	Cancer
Ingestion:		
Dermal:		
Inhalation:	2.67E-01	1.29E-06
Total:	**2.67E-01**	**1.29E-06**
% Contribution to Media Risk	13.48%	86.19%

Risk Exceeded!

Total Calculated Hazard/Risk For Media: Groundwater

Non-Cancer Adult		Cancer	
Ingestion:	0.00E+00	Ingestion:	0.00E+00
Dermal:	0.00E+00	Dermal:	0.00E+00
Inhalation:	1.98E+00	Inhalation:	1.49E-06
Total:	**1.98E+00**	**Total:**	**1.49E-06**

Risk Based Performance Criteria

Default Hazard Index	Default Risk for Each Chemical	Default Risk for All Chemicals
1.00E+00	1.00E-06	1.00E-04

Contact Depth to Groundwater: Indirect Greater than 15f

Total Hazard/Risk for All Media

Non-Cancer Adult		Cancer	
Ingestion:	0.00E+00	Ingestion:	0.00E+00
Dermal:	0.00E+00	Dermal:	0.00E+00
Inhalation:	1.98E+00	Inhalation:	1.49E-06
Total:	**1.98E+00**	**Total:**	**1.49E-06**
Hazard Index Exceeded!		***cumulative risk not exceeded***	

Risk Based Performance Criteria

Default Hazard Index	Default Risk for Each Chemical	Default Risk for All Chemicals
1.00E+00	1.00E-06	1.00E-04

Contact Depth to Groundwater: Indirect Greater than 15f

Construction Exposure Default Values

Description	Value
Construction Worker Soil Adherence Factor (mg/cm2)	0.3
Construction Worker Averaging Time (days/yr)	365
Construction Worker Body Weight (kg)	80
Construction Worker Total Exposure Duration (yr) - VDEQ	1
Construction Worker Exposure Frequency (days/yr)	250
Construction Worker Air Exposure Frequency (days/yr)	250
Construction Worker Groundwater Exposure Frequency (days/yr) - VDEQ	125
Construction Worker Soil Exposure Frequency (days/yr)	250
Construction Worker Soil Exposure Frequency (days/yr) - VRP Only - VDEQ	125
Construction Worker Groundwater Exposure Time (hr/day)	4
Construction Worker Soil Exposure Time (hrs/day)	8
Construction Worker Groundwater Events (event/day)	1
Construction Worker Groundwater Ingestion Rate (L/day)	0.02
Construction Worker Soil Ingestion Rate (mg/day)	330
LifeTime Residential/Industrial/Construction/Recreator/Trespasser (yrs)	70
Noncancerous Averaging Time Construction Worker Groundwater (days)	365
Noncancerous Averaging Time Construction Worker Soil: 250 days * 1yr (days)	250
Construction Worker Soil Particulate Emission Factor - Calculated using EPA Soil Screening Gu	3339236953.22437
Construction Worker Surface Area (cm2/day)	3527
Construction Worker Total Time which construction occurs (days) - VDEQ	365
Trench Construction Worker Exposure Time Dermal (hr/day) - VDEQ	4
Trench Construction Worker Exposure Time Inhalation (hr/day) - VDEQ	0.17

Risk Based Performance Criteria

Default Hazard Index	Default Risk for Each Chemical	Default Risk for All Chemicals
1.00E+00	1.00E-06	1.00E-04

Contact Depth to Groundwater: Indirect Greater than 15f

Trench Construction Worker Events Frequency (event/day) - VDEQ	1

Virginia Department of Environmental Quality

VURAM

Virginia Unified Risk Assessment Model

VERSION: 1.12

Construction Calculated Hazard/Risk Report

Total Hazard/Risk for All Media

Non-Cancer Adult		Cancer	
Total:	**5.80E-01**	**Total:**	**7.24E-08**
hazard index not exceeded		***cumulative risk not exceeded***	

All Report Pages are Required for Risk Assessment Submission

DETAILED REPORT FOLLOWS

Risk Based Performance Criteria

Default Hazard Index	Default Risk for Each Chemical	Default Risk for All Chemicals
1.00E+00	1.00E-06	1.00E-04

Contact Depth to Groundwater: Indirect Greater than 15f

Groundwater

Analyte: Tetrachloroethylene

CAS: 127-18-4

Concentration:	2.92E+02
RfDo:	6.00E-03
RfCi:	4.00E-02
SFO:	2.10E-03
IUR:	2.60E-07
Mutagen:	

ug/L

Calculated Hazard/Risk Values

Non-Cancer Adult		Cancer	
Ingestion:		Ingestion:	
Dermal:		Dermal:	
Inhalation:	9.84E-02	Inhalation:	1.46E-08
Total:	**9.84E-02**	**Total:**	**1.46E-08**
% Contribution to Media Risk	16.97%		20.19%

Analyte: Trichloroethylene

CAS: 79-01-6

Concentration:	9.43E+01
RfDo:	5.00E-04
RfCi:	2.00E-03
SFO:	4.60E-02
IUR:	4.10E-06
Mutagen:	Y

ug/L

Calculated Hazard/Risk Values

Non-Cancer Adult		Cancer	
Ingestion:		Ingestion:	
Dermal:		Dermal:	
Inhalation:	4.81E-01	Inhalation:	5.64E-08
Total:	**4.81E-01**	**Total:**	**5.64E-08**
% Contribution to Media Risk	82.98%		77.86%

Risk Based Performance Criteria

Default Hazard Index	Default Risk for Each Chemical	Default Risk for All Chemicals
1.00E+00	1.00E-06	1.00E-04

Contact Depth to Groundwater: Indirect Greater than 15f

Groundwater

Analyte: Vinyl Chloride

CAS: 75-01-4

Concentration:	5.00E-01
RfDo:	3.00E-03
RfCi:	1.00E-01
SFO:	7.20E-01
IUR:	4.40E-06
Mutagen:	Y

ug/L

Calculated Hazard/Risk Values

	Non-Cancer Adult	Cancer
Ingestion:		
Dermal:		
Inhalation:	2.93E-04	1.41E-09
Total:	**2.93E-04**	**1.41E-09**
% Contribution to Media Risk	0.05%	1.95%

Total Calculated Hazard/Risk For Media: Groundwater

Non-Cancer Adult		Cancer	
Ingestion:	0.00E+00	Ingestion:	0.00E+00
Dermal:	0.00E+00	Dermal:	0.00E+00
Inhalation:	5.80E-01	Inhalation:	7.24E-08
Total:	**5.80E-01**	**Total:**	**7.24E-08**

Risk Based Performance Criteria

Default Hazard Index	Default Risk for Each Chemical	Default Risk for All Chemicals
1.00E+00	1.00E-06	1.00E-04

Contact Depth to Groundwater: Indirect Greater than 15f

Total Hazard/Risk for All Media

Non-Cancer Adult		Cancer	
Ingestion:	0.00E+00	Ingestion:	0.00E+00
Dermal:	0.00E+00	Dermal:	0.00E+00
Inhalation:	5.80E-01	Inhalation:	7.24E-08
Total:	**5.80E-01**	**Total:**	**7.24E-08**
hazard index not exceeded		***cumulative risk not exceeded***	

Risk Based Performance Criteria

Default Hazard Index	Default Risk for Each Chemical	Default Risk for All Chemicals
1.00E+00	1.00E-06	1.00E-04

Contact Depth to Groundwater: Indirect Greater than 15f

Construction Exposure Default Values

Description	Value
Construction Worker Soil Adherence Factor (mg/cm2)	0.3
Construction Worker Averaging Time (days/yr)	365
Construction Worker Body Weight (kg)	80
Construction Worker Total Exposure Duration (yr) - VDEQ	1
Construction Worker Exposure Frequency (days/yr)	250
Construction Worker Air Exposure Frequency (days/yr)	250
Construction Worker Groundwater Exposure Frequency (days/yr) - VDEQ	125
Construction Worker Soil Exposure Frequency (days/yr)	250
Construction Worker Soil Exposure Frequency (days/yr) - VRP Only - VDEQ	125
Construction Worker Groundwater Exposure Time (hr/day)	4
Construction Worker Soil Exposure Time (hrs/day)	8
Construction Worker Groundwater Events (event/day)	1
Construction Worker Groundwater Ingestion Rate (L/day)	0.02
Construction Worker Soil Ingestion Rate (mg/day)	330
LifeTime Residential/Industrial/Construction/Recreator/Trespasser (yrs)	70
Noncancerous Averaging Time Construction Worker Groundwater (days)	365
Noncancerous Averaging Time Construction Worker Soil: 250 days * 1yr (days)	250
Construction Worker Soil Particulate Emission Factor - Calculated using EPA Soil Screening Gu	3339236953.22437
Construction Worker Surface Area (cm2/day)	3527
Construction Worker Total Time which construction occurs (days) - VDEQ	365
Trench Construction Worker Exposure Time Dermal (hr/day) - VDEQ	4
Trench Construction Worker Exposure Time Inhalation (hr/day) - VDEQ	0.17

Risk Based Performance Criteria

Default Hazard Index	Default Risk for Each Chemical	Default Risk for All Chemicals
1.00E+00	1.00E-06	1.00E-04

Contact Depth to Groundwater: Indirect Greater than 15f

Trench Construction Worker Events Frequency (event/day) - VDEQ	1

Virginia Department of Environmental Quality

VURAM

Virginia Unified Risk Assessment Model

VERSION: 1.12

Construction Calculated Hazard/Risk Report

Total Hazard/Risk for All Media

Non-Cancer Adult		Cancer	
Total:	**1.55E+00**	**Total:**	**2.30E-07**
Hazard Index Exceeded!		***cumulative risk not exceeded***	

All Report Pages are Required for Risk Assessment Submission

DETAILED REPORT FOLLOWS

Program: Voluntary Remediation Program

Risk Based Performance Criteria

Default Hazard Index	Default Risk for Each Chemical	Default Risk for All Chemicals
1.00E+00	1.00E-06	1.00E-04

Contact Depth to Groundwater: Indirect Greater than 15f

Groundwater

Analyte: Tetrachloroethylene

CAS: 127-18-4

Concentration:	4.60E+03
RfDo:	6.00E-03
RfCi:	4.00E-02
SFO:	2.10E-03
IUR:	2.60E-07
Mutagen:	

ug/L

Calculated Hazard/Risk Values

	Non-Cancer Adult	Cancer
Ingestion:		
Dermal:		
Inhalation:	1.55E+00	2.30E-07
Total:	**1.55E+00**	**2.30E-07**
% Contribution to Media Risk	100.00%	100.00%

Hazard Exceeded!

Total Calculated Hazard/Risk For Media: Groundwater

Non-Cancer Adult		Cancer	
Ingestion:	0.00E+00	Ingestion:	0.00E+00
Dermal:	0.00E+00	Dermal:	0.00E+00
Inhalation:	1.55E+00	Inhalation:	2.30E-07
Total:	**1.55E+00**	**Total:**	**2.30E-07**

Risk Based Performance Criteria

Default Hazard Index	Default Risk for Each Chemical	Default Risk for All Chemicals
1.00E+00	1.00E-06	1.00E-04

Contact Depth to Groundwater: Indirect Greater than 15f

Total Hazard/Risk for All Media

Non-Cancer Adult		Cancer	
Ingestion:	0.00E+00	Ingestion:	0.00E+00
Dermal:	0.00E+00	Dermal:	0.00E+00
Inhalation:	1.55E+00	Inhalation:	2.30E-07
Total:	**1.55E+00**	**Total:**	**2.30E-07**
Hazard Index Exceeded!		***cumulative risk not exceeded***	

Risk Based Performance Criteria

Default Hazard Index	Default Risk for Each Chemical	Default Risk for All Chemicals
1.00E+00	1.00E-06	1.00E-04

Contact Depth to Groundwater: Indirect Greater than 15f

Construction Exposure Default Values

Description	Value
Construction Worker Soil Adherence Factor (mg/cm2)	0.3
Construction Worker Averaging Time (days/yr)	365
Construction Worker Body Weight (kg)	80
Construction Worker Total Exposure Duration (yr) - VDEQ	1
Construction Worker Exposure Frequency (days/yr)	250
Construction Worker Air Exposure Frequency (days/yr)	250
Construction Worker Groundwater Exposure Frequency (days/yr) - VDEQ	125
Construction Worker Soil Exposure Frequency (days/yr)	250
Construction Worker Soil Exposure Frequency (days/yr) - VRP Only - VDEQ	125
Construction Worker Groundwater Exposure Time (hr/day)	4
Construction Worker Soil Exposure Time (hrs/day)	8
Construction Worker Groundwater Events (event/day)	1
Construction Worker Groundwater Ingestion Rate (L/day)	0.02
Construction Worker Soil Ingestion Rate (mg/day)	330
LifeTime Residential/Industrial/Construction/Recreator/Trespasser (yrs)	70
Noncancerous Averaging Time Construction Worker Groundwater (days)	365
Noncancerous Averaging Time Construction Worker Soil: 250 days * 1yr (days)	250
Construction Worker Soil Particulate Emission Factor - Calculated using EPA Soil Screening Gu	3339236953.22437
Construction Worker Surface Area (cm2/day)	3527
Construction Worker Total Time which construction occurs (days) - VDEQ	365
Trench Construction Worker Exposure Time Dermal (hr/day) - VDEQ	4
Trench Construction Worker Exposure Time Inhalation (hr/day) - VDEQ	0.17

Risk Based Performance Criteria

Default Hazard Index	Default Risk for Each Chemical	Default Risk for All Chemicals
1.00E+00	1.00E-06	1.00E-04

Contact Depth to Groundwater: Indirect Greater than 15f

Trench Construction Worker Events Frequency (event/day) - VDEQ	1

APPENDIX G
BIOCHLOR MODELING - GROUNDWATER TO SURFACE WATER

Groundwater Unit	Conductivity	Decay	PCE(mg/L)		TCE (mg/L)		DCE (mg/L)		VC (mg/L)	
			No degradation	Biotransformation	No degradation	Biotransformation	No degradation	Biotransformation	No degradation	Biotransformation
Continuous Source										
Upper	A	A	0.417470853	0.368049924	0.244333716	0.268644893	6.011256666	5.82833573	0.368927731	0.478842036
Upper	B	A	0.417470853	0.327684187	0.244333716	0.284286225	6.011256666	5.656312458	0.368927731	0.576925299
Upper	C	A	0.417470853	0.391439452	0.244333716	0.257799114	6.011256666	5.918318285	0.368927731	0.425466989
Upper	A	B	0.417470853	0.317564816	0.244333716	0.291727949	6.011256666	5.817023954	0.368927731	0.44430387
Upper	B	B	0.417470853	0.251293201	0.244333716	0.309203854	6.011256666	5.636712792	0.368927731	0.49849818
Upper	C	B	0.417470853	0.361856168	0.244333716	0.273390725	6.011256666	5.911980197	0.368927731	0.409808622
Decaying Source										
Upper	A	A	0.003157283	0.002772541	0.001847867	0.002036226	0.045462429	0.044033622	0.002790157	0.003647657
Upper	B	A	0.003309611	0.00255988	0.001937021	0.00226412	0.047655837	0.044655601	0.002924773	0.004673737
Upper	C	A	0.003085677	0.002890292	0.001805958	0.001906906	0.044431354	0.04373317	0.002726877	0.003151494
Upper	A	B	0.003157283	0.002383099	0.001847867	0.00221189	0.045462429	0.043945879	0.002790157	0.003375371
Upper	B	B	0.003309611	0.001940732	0.001937021	0.002452361	0.047655837	0.044491527	0.002924773	0.003995463
Upper	C	B	0.003085677	0.002668825	0.001805958	0.002023265	0.044431354	0.043685681	0.002726877	0.003033503
Surface Water Criteria										
OMZA			0.053 mg/L		0.220 mg/L		0.970 mg/L		0.930 mg/L	

East Phase

Maximum Concentration (mg/L)	2015 Upper MW 23-04-data
PCE	0.516
TCE	0.302
DCE	7.43
VC	0.456

BIOCHLOR Natural Attenuation Decision Support System

Version 2.2
Excel 2000

Tech Town Upper East Phase
SW (MW23-04) Cont A A
Run Name

TYPE OF CHLORINATED SOLVENT: Ethenes ◉ Ethanes ○

1. ADVECTION

Seepage Velocity*	Vs	265.6	(ft/yr)
or			
Hydraulic Conductivity	K	7.0E-02	(cm/sec)
Hydraulic Gradient	i	1.10E-03	(ft/ft)
Effective Porosity	n	0.3	(-)

2. DISPERSION

Alpha x*	36.543	(ft)
(Alpha y) / (Alpha x)*	0.33	(-)
(Alpha z) / (Alpha x)*	5.E-02	(-)

Calc. Alpha x

3. ADSORPTION

Retardation Factor* → R

or

Soil Bulk Density, rho	1.6	(kg/L)		
FractionOrganicCarbon, foc	1.0E-3	(-)		
Partition Coefficient	Koc			
PCE	265	(L/kg)	2.41	(-)
TCE	94	(L/kg)	1.50	(-)
DCE	36	(L/kg)	1.19	(-)
VC	19	(L/kg)	1.10	(-)
ETH	302	(L/kg)	2.61	(-)

Common R (used in model)* = 2.41

4. BIOTRANSFORMATION

-1st Order Decay Coefficient*

	Zone 1 λ (1/yr)	half-life (yrs)	Yield	Zone 2 λ (1/yr)	half-life (yrs)
PCE → TCE	0.350		0.79	0.000	
TCE → DCE	0.150		0.74	0.000	
DCE → VC	0.088		0.64	0.000	
VC → ETH	0.087		0.45	0.000	

λ HELP

5. GENERAL

Simulation Time*	100	(yr)
Modeled Area Width*	450	(ft)
Modeled Area Length*	100	(ft)
Zone 1 Length*	100	(ft)
Zone 2 Length*	0	(ft)

L, W

Zone 2= L - Zone 1

6. SOURCE DATA

TYPE: Continuous Single Planar

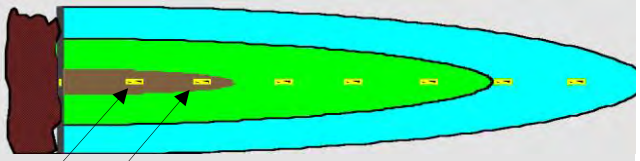
Source Options

Source Thickness in Sat. Zone* 25 (ft)

Width* (ft) Y1: 500

Conc. (mg/L)*	C1	k_s* (1/yr)
PCE	.516	0
TCE	.302	0
DCE	7.43	0
VC	.456	0
ETH		0

Vertical Plane Source: Determine Source Well Location and Input Solvent Concentrations



View of Plume Looking Down

Observed Centerline Conc. at Monitoring Wells

7. FIELD DATA FOR COMPARISON

PCE Conc. (mg/L)	
TCE Conc. (mg/L)	
DCE Conc. (mg/L)	
VC Conc. (mg/L)	
ETH Conc. (mg/L)	
Distance from Source (ft)	0
Date Data Collected	

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE | **RUN ARRAY** | ***Help*** | Restore | RESET | ***SEE OUTPUT*** | Paste

Data Input Instructions:

115 → 1. Enter value directly....or

↑ *or*

0.02 → 2. Calculate by filling in gray cells. Press Enter, then C

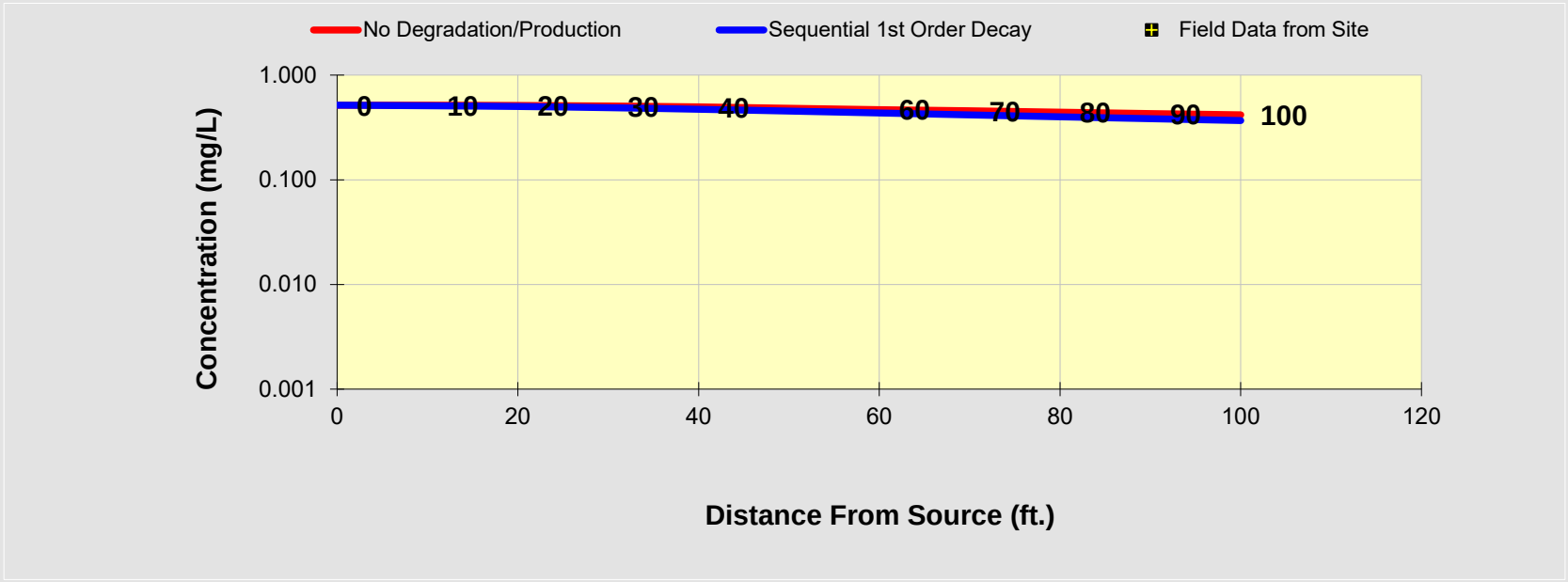
(To restore formulas, hit "Restore Formulas" button)

Variable* → Data used directly in model.

Test if Biotransformation is Occurring → Natural Attenuation Screening Protocol

DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

PCE	Distance from Source (ft)										
	0	10	20	30	40	50	60	70	80	90	100
No Degradation	0.516	0.516	0.514	0.507	0.496	0.483	0.469	0.455	0.442	0.429	0.417
Biotransformation	0.5160	0.510	0.501	0.488	0.472	0.453	0.435	0.417	0.399	0.383	0.368
	Monitoring Well Locations (ft)										
	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

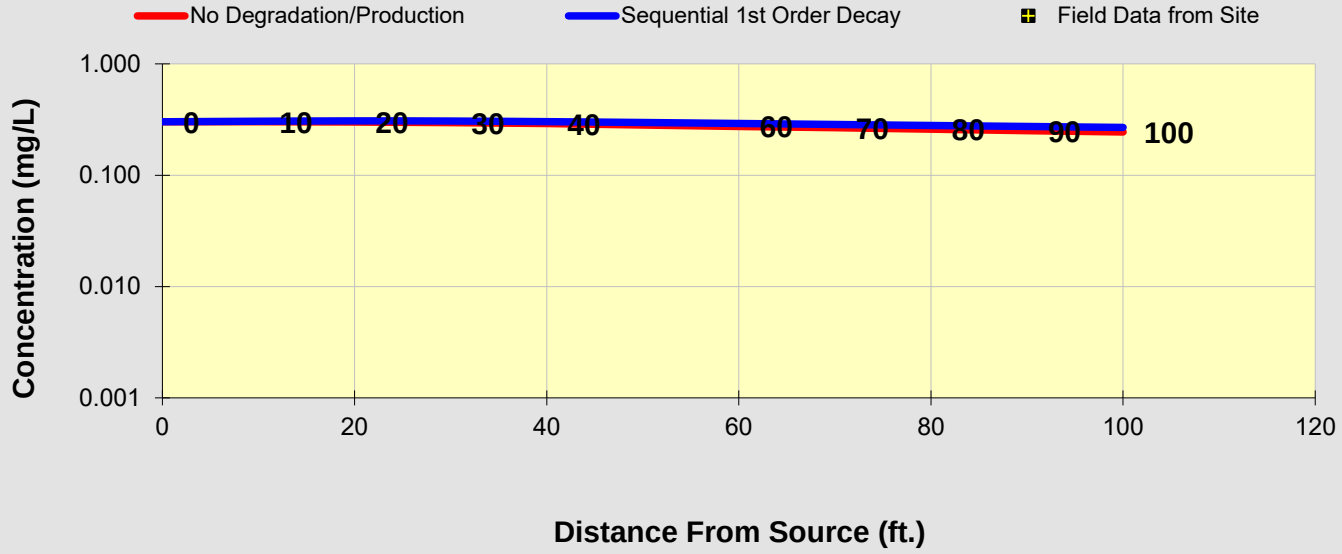
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

TCE	0	10	20	30	40	50	60	70	80	90	100
No Degradation	0.302	0.302	0.301	0.297	0.290	0.283	0.274	0.266	0.259	0.251	0.244
Biotransformation	0.3020	0.305	0.308	0.307	0.303	0.298	0.292	0.286	0.280	0.274	0.269

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

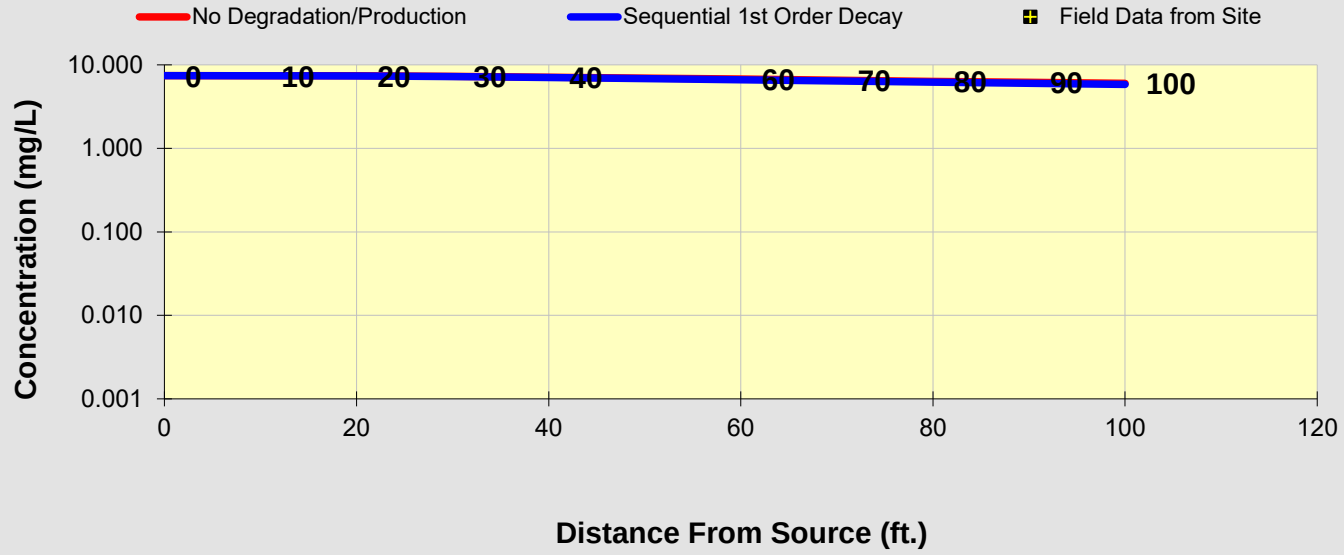
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

DCE	0	10	20	30	40	50	60	70	80	90	100
No Degradation	7.430	7.430	7.404	7.304	7.143	6.952	6.751	6.553	6.362	6.181	6.011
Biotransformation	7.4300	7.407	7.359	7.236	7.055	6.845	6.627	6.413	6.207	6.012	5.828

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

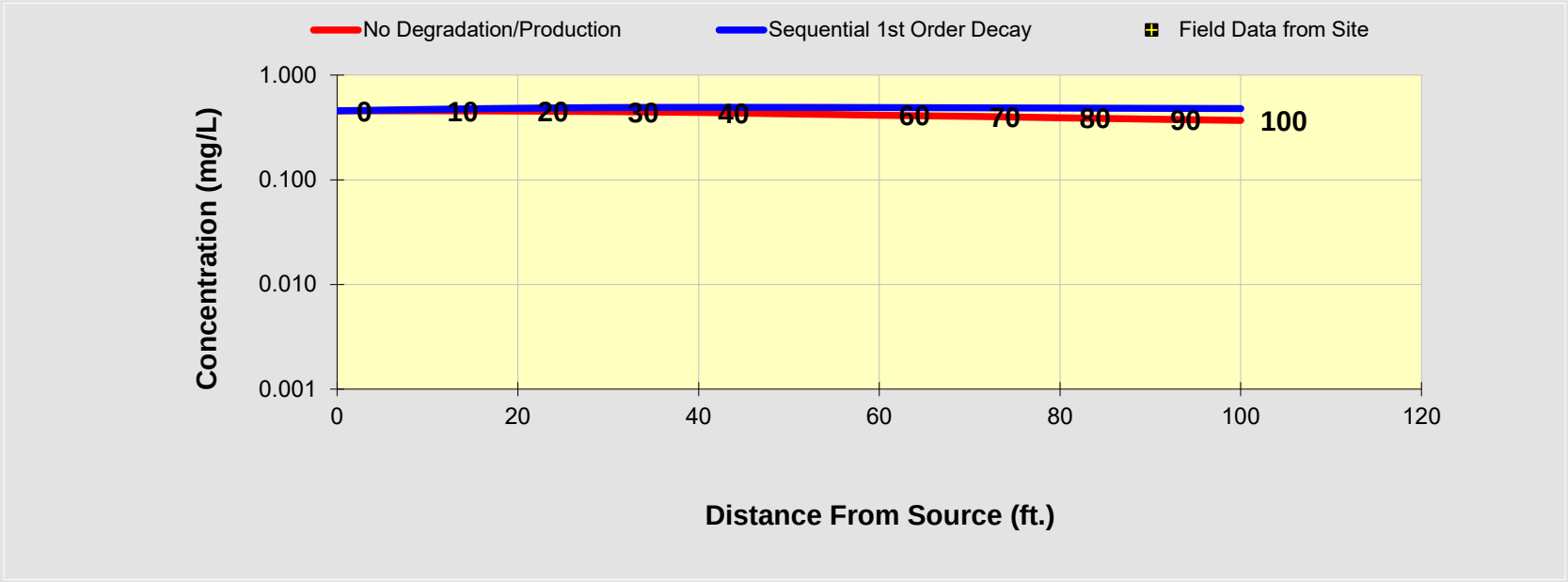
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

VC	0	10	20	30	40	50	60	70	80	90	100
No Degradation	0.456	0.456	0.454	0.448	0.438	0.427	0.414	0.402	0.390	0.379	0.369
Biotransformation	0.4560	0.470	0.482	0.489	0.492	0.491	0.489	0.487	0.484	0.481	0.479

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

BIOCHLOR Natural Attenuation Decision Support System

Version 2.2
Excel 2000

Tech Town Upper East Phase
SW (MW23-04) Cont B A
Run Name

Data Input Instructions:
115 → 1. Enter value directly....or
or
0.02 → 2. Calculate by filling in gray cells. Press Enter, then C
(To restore formulas, hit "Restore Formulas" button)
Variable* → Data used directly in model.

Test if Biotransformation is Occurring → Natural Attenuation Screening Protocol

TYPE OF CHLORINATED SOLVENT: Ethenes ◉ Ethanes ○

1. ADVECTION

Seepage Velocity*	Vs	132.8	(ft/yr)
or			
Hydraulic Conductivity	K	3.5E-02	(cm/sec)
Hydraulic Gradient	i	1.10E-03	(ft/ft)
Effective Porosity	n	0.3	(-)

2. DISPERSION

Alpha x*	36.543	(ft)
(Alpha y) / (Alpha x)*	0.33	(-)
(Alpha z) / (Alpha x)*	5.E-02	(-)

Calc. Alpha x

3. ADSORPTION

Retardation Factor* → R
or

Soil Bulk Density, rho	1.6	(kg/L)		
FractionOrganicCarbon, foc	1.0E-3	(-)		
Partition Coefficient	Koc			
PCE	265	(L/kg)	2.41	(-)
TCE	94	(L/kg)	1.50	(-)
DCE	36	(L/kg)	1.19	(-)
VC	19	(L/kg)	1.10	(-)
ETH	302	(L/kg)	2.61	(-)
Common R (used in model)* =			**2.41**	

4. BIOTRANSFORMATION -1st Order Decay Coefficient*

Zone 1	λ (1/yr)	half-life (yrs)	Yield
PCE → TCE	0.350		0.79
TCE → DCE	0.150		0.74
DCE → VC	0.088		0.64
VC → ETH	0.087		0.45
Zone 2	λ (1/yr)	half-life (yrs)	
PCE → TCE	0.000		
TCE → DCE	0.000		
DCE → VC	0.000		
VC → ETH	0.000		

λ HELP

5. GENERAL

Simulation Time*	100	(yr)
Modeled Area Width*	450	(ft)
Modeled Area Length*	100	(ft)
Zone 1 Length*	100	(ft)
Zone 2 Length*	0	(ft)

L, W

Zone 2= L - Zone 1

6. SOURCE DATA TYPE: Continuous Single Planar

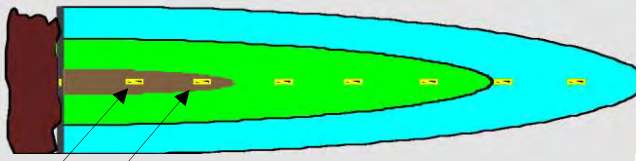
Source Options

Source Thickness in Sat. Zone* 25 (ft)

Width* (ft) Y1: 500

Conc. (mg/L)*	C1	k_s* (1/yr)
PCE	.516	0
TCE	.302	0
DCE	7.43	0
VC	.456	0
ETH		0

Vertical Plane Source: Determine Source Well Location and Input Solvent Concentrations



View of Plume Looking Down

Observed Centerline Conc. at Monitoring Wells

7. FIELD DATA FOR COMPARISON

PCE Conc. (mg/L)											
TCE Conc. (mg/L)											
DCE Conc. (mg/L)											
VC Conc. (mg/L)											
ETH Conc. (mg/L)											
Distance from Source (ft)	0										
Date Data Collected											

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE | RUN ARRAY | Help | Restore | RESET | SEE OUTPUT | Paste

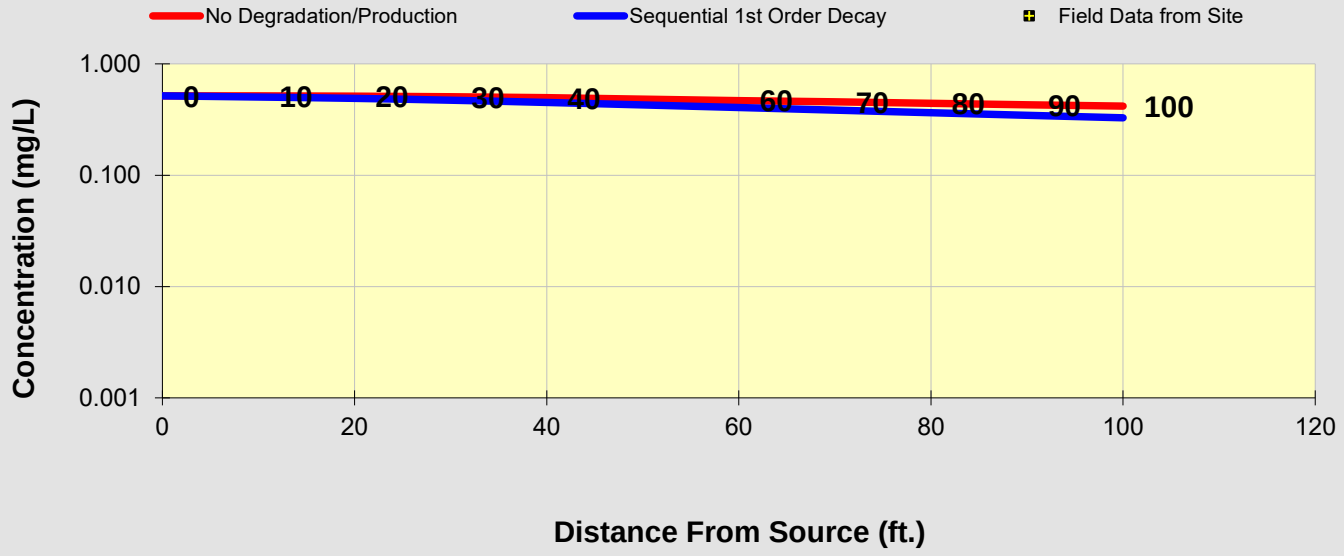
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

PCE	0	10	20	30	40	50	60	70	80	90	100
No Degradation	0.516	0.516	0.514	0.507	0.496	0.483	0.469	0.455	0.442	0.429	0.417
Biotransformation	0.5160	0.504	0.490	0.472	0.450	0.428	0.405	0.384	0.364	0.345	0.328

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

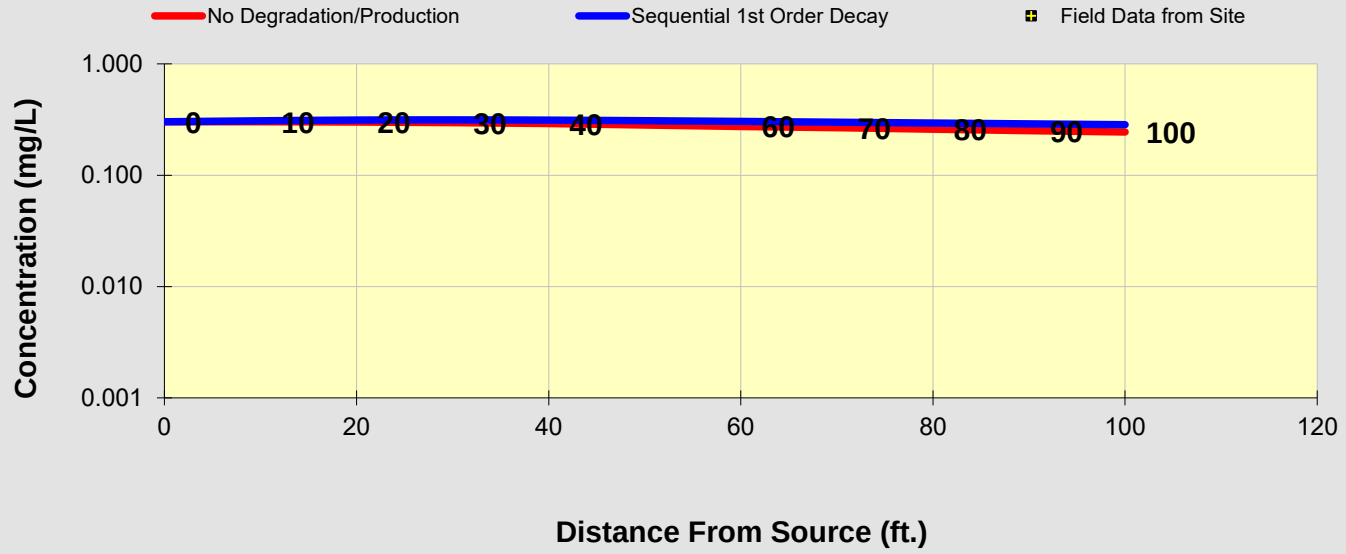
Return to Input

To All

To Array

DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

TCE	Distance from Source (ft)										
	0	10	20	30	40	50	60	70	80	90	100
No Degradation	0.302	0.302	0.301	0.297	0.290	0.283	0.274	0.266	0.259	0.251	0.244
Biotransformation	0.3020	0.308	0.313	0.314	0.312	0.309	0.304	0.299	0.294	0.289	0.284
	Monitoring Well Locations (ft)										
	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

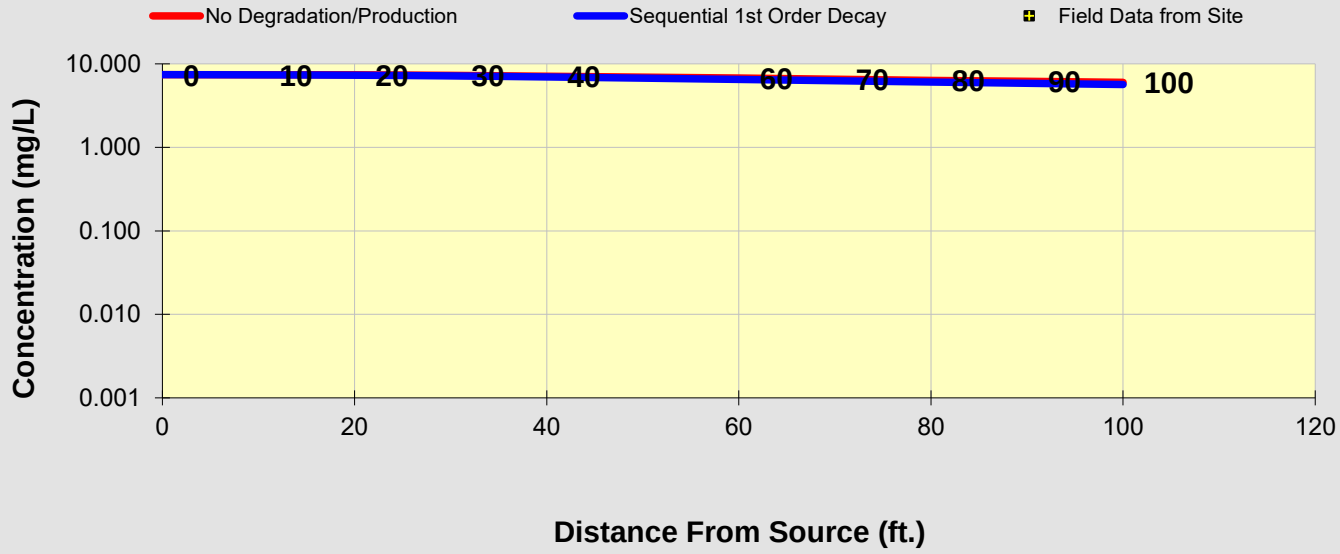
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

DCE	0	10	20	30	40	50	60	70	80	90	100
No Degradation	7.430	7.430	7.404	7.304	7.143	6.952	6.751	6.553	6.362	6.181	6.011
Biotransformation	7.4300	7.384	7.314	7.171	6.970	6.743	6.509	6.279	6.060	5.852	5.656

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

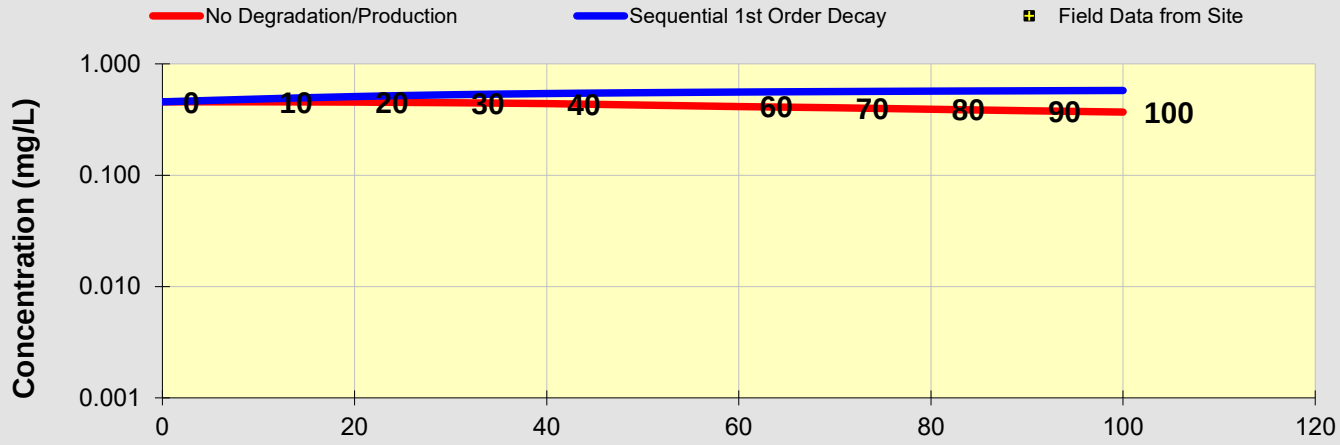
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

VC	0	10	20	30	40	50	60	70	80	90	100
No Degradation	0.456	0.456	0.454	0.448	0.438	0.427	0.414	0.402	0.390	0.379	0.369
Biotransformation	0.4560	0.483	0.508	0.528	0.541	0.551	0.558	0.564	0.569	0.573	0.577

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

BIOCHLOR Natural Attenuation Decision Support System

Version 2.2
Excel 2000

Tech Town Upper East Phase
SW (MW23-04) Cont C A
Run Name

Data Input Instructions:
115 → 1. Enter value directly....or
or
0.02 → 2. Calculate by filling in gray cells. Press Enter, then C
(To restore formulas, hit "Restore Formulas" button)
Variable* → Data used directly in model.

Test if Biotransformation is Occurring → Natural Attenuation Screening Protocol

TYPE OF CHLORINATED SOLVENT: Ethenes ◉ Ethanes ○

1. ADVECTION

Seepage Velocity*	Vs	531.1	(ft/yr)
or			
Hydraulic Conductivity	K	1.4E-01	(cm/sec)
Hydraulic Gradient	i	1.10E-03	(ft/ft)
Effective Porosity	n	0.3	(-)

2. DISPERSION

Alpha x*	36.543	(ft)
(Alpha y) / (Alpha x)*	0.33	(-)
(Alpha z) / (Alpha x)*	5.E-02	(-)

Calc. Alpha x

3. ADSORPTION

Retardation Factor* → R
or

Soil Bulk Density, rho	1.6	(kg/L)		
FractionOrganicCarbon, foc	1.0E-3	(-)		
Partition Coefficient	Koc			
PCE	265	(L/kg)	2.41	(-)
TCE	94	(L/kg)	1.50	(-)
DCE	36	(L/kg)	1.19	(-)
VC	19	(L/kg)	1.10	(-)
ETH	302	(L/kg)	2.61	(-)
Common R (used in model)* =			**2.41**	

4. BIOTRANSFORMATION

-1st Order Decay Coefficient*

	Zone 1 λ (1/yr)	half-life (yrs)	Yield
PCE → TCE	0.350		0.79
TCE → DCE	0.150		0.74
DCE → VC	0.088		0.64
VC → ETH	0.087		0.45

	Zone 2 λ (1/yr)	half-life (yrs)
PCE → TCE	0.000	
TCE → DCE	0.000	
DCE → VC	0.000	
VC → ETH	0.000	

λ HELP

5. GENERAL

Simulation Time*	100	(yr)
Modeled Area Width*	450	(ft)
Modeled Area Length*	100	(ft)
Zone 1 Length*	100	(ft)
Zone 2 Length*	0	(ft)

L, W

Zone 2= L - Zone 1

6. SOURCE DATA

TYPE: Continuous Single Planar

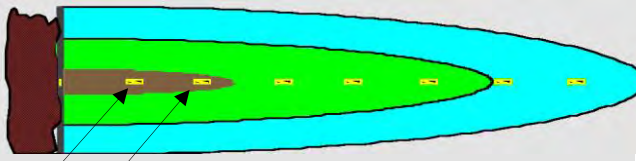
Source Options

Source Thickness in Sat. Zone* 25 (ft)

Width* (ft) Y1: 500

Conc. (mg/L)*	C1	k_s* (1/yr)
PCE	.516	0
TCE	.302	0
DCE	7.43	0
VC	.456	0
ETH		0

Vertical Plane Source: Determine Source Well Location and Input Solvent Concentrations



View of Plume Looking Down

Observed Centerline Conc. at Monitoring Wells

7. FIELD DATA FOR COMPARISON

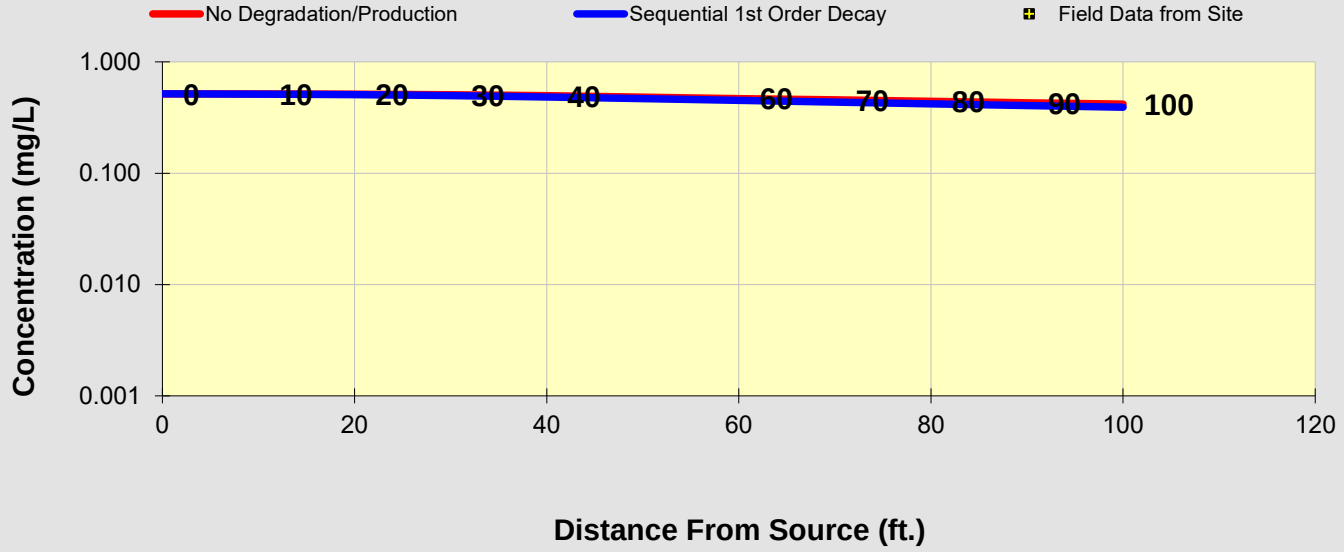
PCE Conc. (mg/L)											
TCE Conc. (mg/L)											
DCE Conc. (mg/L)											
VC Conc. (mg/L)											
ETH Conc. (mg/L)											
Distance from Source (ft)	0										
Date Data Collected											

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE | RUN ARRAY | Help | Restore | RESET | SEE OUTPUT | Paste

DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

PCE	Distance from Source (ft)										
	0	10	20	30	40	50	60	70	80	90	100
No Degradation	0.516	0.516	0.514	0.507	0.496	0.483	0.469	0.455	0.442	0.429	0.417
Biotransformation	0.5160	0.513	0.508	0.498	0.483	0.467	0.451	0.435	0.420	0.405	0.391
	Monitoring Well Locations (ft)										
	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

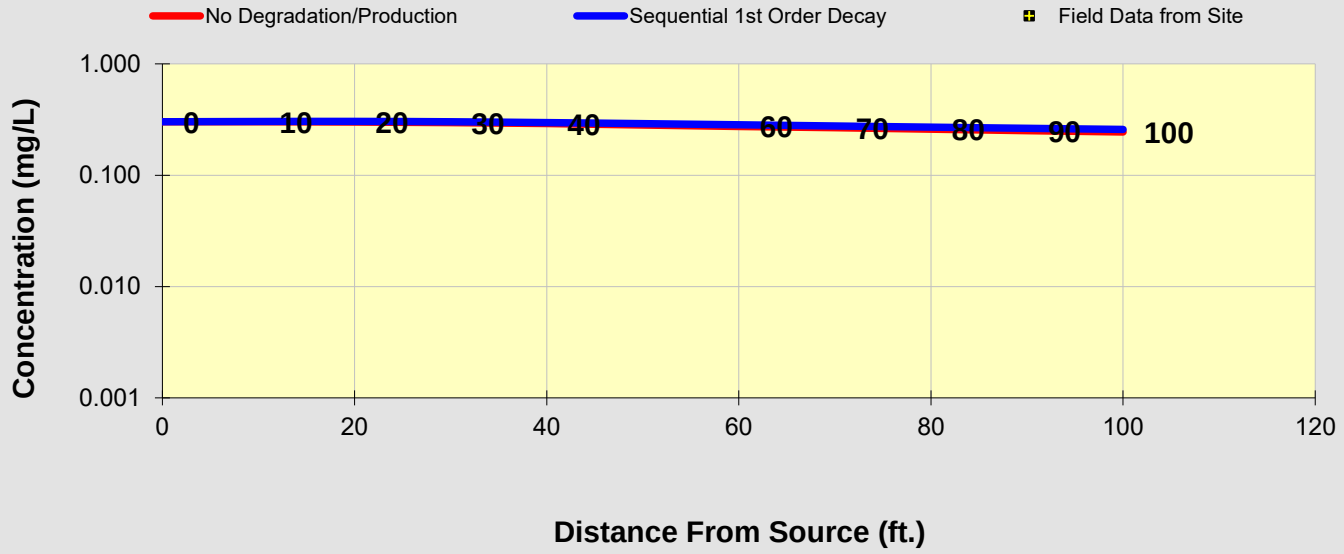
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

TCE	0	10	20	30	40	50	60	70	80	90	100
No Degradation	0.302	0.302	0.301	0.297	0.290	0.283	0.274	0.266	0.259	0.251	0.244
Biotransformation	0.3020	0.304	0.304	0.302	0.297	0.291	0.284	0.277	0.270	0.264	0.258

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

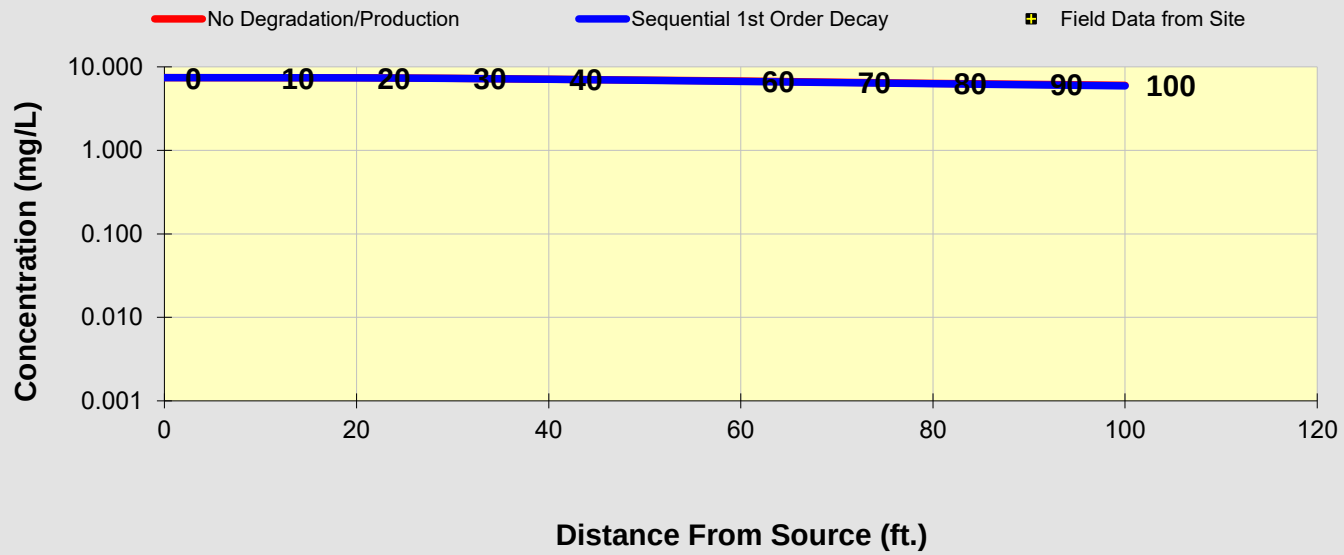
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

DCE	0	10	20	30	40	50	60	70	80	90	100
No Degradation	7.430	7.430	7.404	7.304	7.143	6.952	6.751	6.553	6.362	6.181	6.011
Biotransformation	7.4300	7.418	7.381	7.270	7.098	6.898	6.688	6.482	6.283	6.095	5.918

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

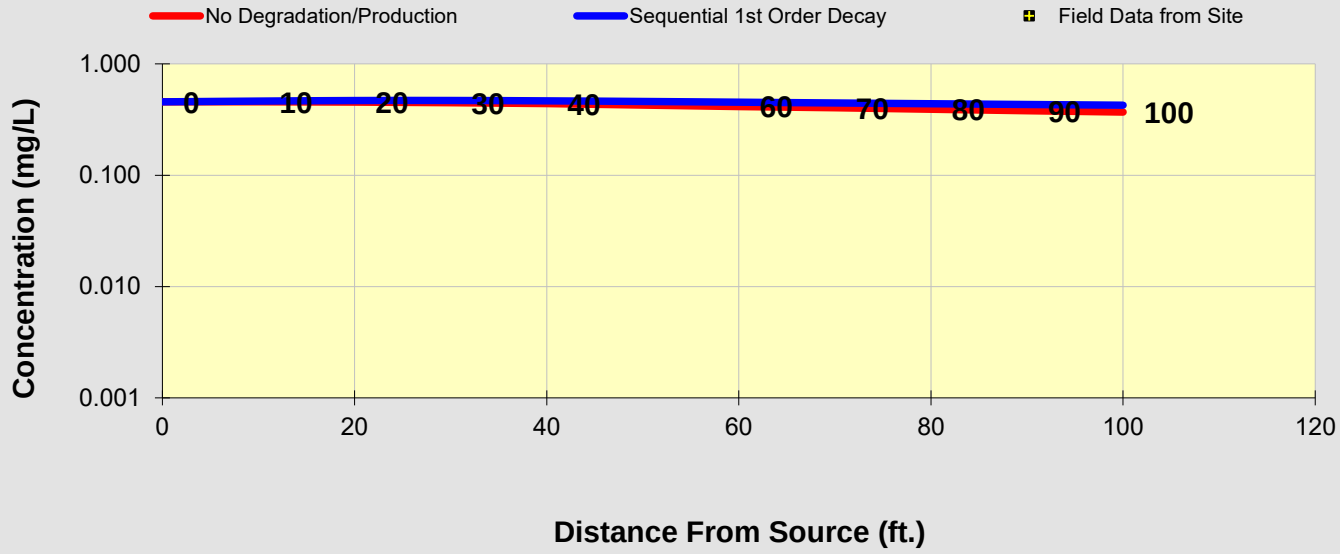
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

VC	0	10	20	30	40	50	60	70	80	90	100
No Degradation	0.456	0.456	0.454	0.448	0.438	0.427	0.414	0.402	0.390	0.379	0.369
Biotransformation	0.4560	0.463	0.469	0.469	0.466	0.460	0.453	0.446	0.439	0.432	0.425

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

BIOCHLOR Natural Attenuation Decision Support System

Version 2.2
Excel 2000

Tech Town Upper East Phase
SW MW23-04 Cont A B
Run Name

Data Input Instructions:
115 → 1. Enter value directly....or
or
0.02 → 2. Calculate by filling in gray cells. Press Enter, then C
(To restore formulas, hit "Restore Formulas" button)
Variable* → Data used directly in model.

Test if Biotransformation is Occurring → Natural Attenuation Screening Protocol

TYPE OF CHLORINATED SOLVENT: Ethenes ◉ Ethanes ○

1. ADVECTION

Seepage Velocity*	Vs	265.6	(ft/yr)
or			
Hydraulic Conductivity	K	7.0E-02	(cm/sec)
Hydraulic Gradient	i	1.10E-03	(ft/ft)
Effective Porosity	n	0.3	(-)

2. DISPERSION

Alpha x*	36.543	(ft)
(Alpha y) / (Alpha x)*	0.33	(-)
(Alpha z) / (Alpha x)*	5.E-02	(-)

Calc. Alpha x

3. ADSORPTION

Retardation Factor* → R
or

Soil Bulk Density, rho	1.6	(kg/L)		
FractionOrganicCarbon, foc	1.0E-3	(-)		
Partition Coefficient	Koc			
PCE	265	(L/kg)	2.41	(-)
TCE	94	(L/kg)	1.50	(-)
DCE	36	(L/kg)	1.19	(-)
VC	19	(L/kg)	1.10	(-)
ETH	302	(L/kg)	2.61	(-)
Common R (used in model)* =			**2.41**	

4. BIOTRANSFORMATION

-1st Order Decay Coefficient*

	Zone 1 λ (1/yr)	half-life (yrs)	Yield
PCE → TCE	0.799		0.79
TCE → DCE	0.299		0.74
DCE → VC	0.099		0.64
VC → ETH	0.399		0.45

	Zone 2 λ (1/yr)	half-life (yrs)
PCE → TCE	0.000	
TCE → DCE	0.000	
DCE → VC	0.000	
VC → ETH	0.000	

λ HELP

5. GENERAL

Simulation Time*	100	(yr)
Modeled Area Width*	450	(ft)
Modeled Area Length*	100	(ft)
Zone 1 Length*	100	(ft)
Zone 2 Length*	0	(ft)

L, W

Zone 2= L - Zone 1

6. SOURCE DATA

TYPE: Continuous Single Planar

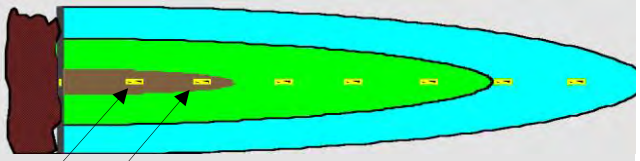
Source Options

Source Thickness in Sat. Zone* 25 (ft)

Width* (ft) Y1: 500

Conc. (mg/L)*	C1	k_s* (1/yr)
PCE	.516	0
TCE	.302	0
DCE	7.43	0
VC	.456	0
ETH		0

Vertical Plane Source: Determine Source Well Location and Input Solvent Concentrations



View of Plume Looking Down

Observed Centerline Conc. at Monitoring Wells

7. FIELD DATA FOR COMPARISON

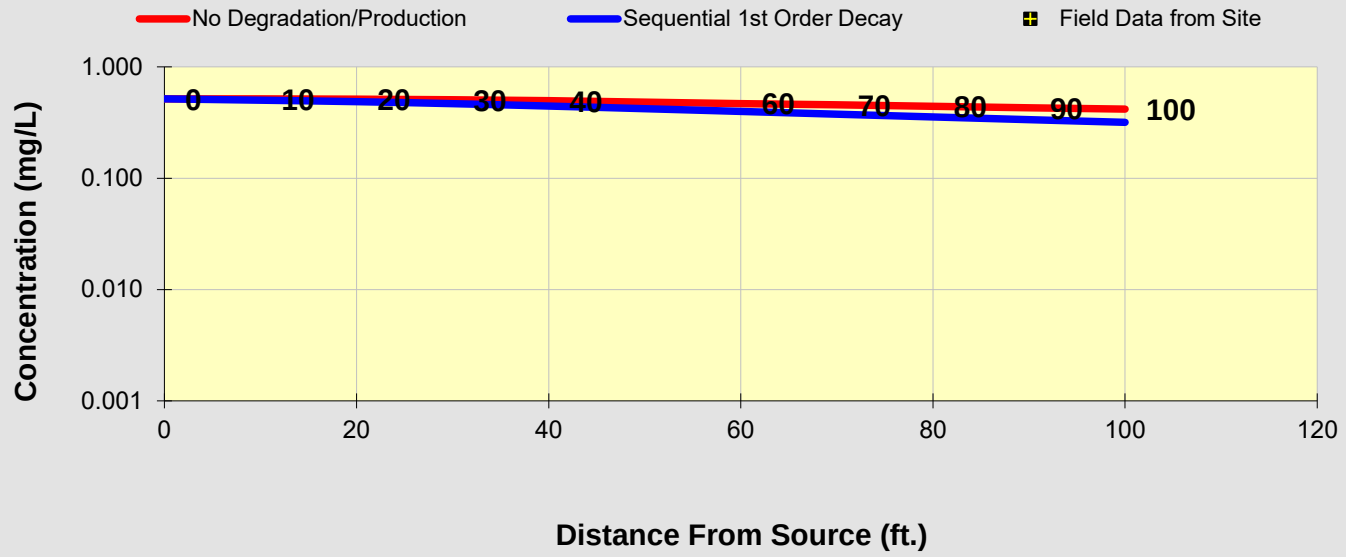
PCE Conc. (mg/L)											
TCE Conc. (mg/L)											
DCE Conc. (mg/L)											
VC Conc. (mg/L)											
ETH Conc. (mg/L)											
Distance from Source (ft)	0										
Date Data Collected											

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE | RUN ARRAY | Help | Restore | RESET | SEE OUTPUT | Paste

DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

PCE	Distance from Source (ft)										
	0	10	20	30	40	50	60	70	80	90	100
No Degradation	0.516	0.516	0.514	0.507	0.496	0.483	0.469	0.455	0.442	0.429	0.417
Biotransformation	0.5160	0.502	0.487	0.467	0.445	0.421	0.398	0.376	0.355	0.336	0.318
	Monitoring Well Locations (ft)										
	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

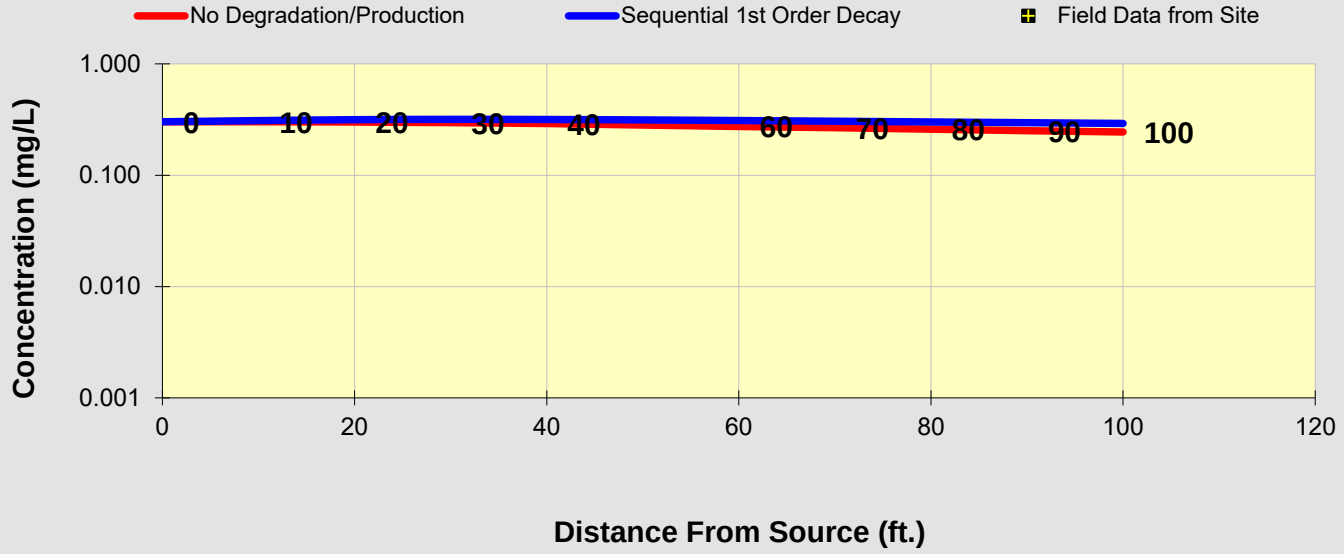
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

TCE	0	10	20	30	40	50	60	70	80	90	100
No Degradation	0.302	0.302	0.301	0.297	0.290	0.283	0.274	0.266	0.259	0.251	0.244
Biotransformation	0.3020	0.309	0.315	0.318	0.317	0.314	0.310	0.305	0.301	0.296	0.292

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

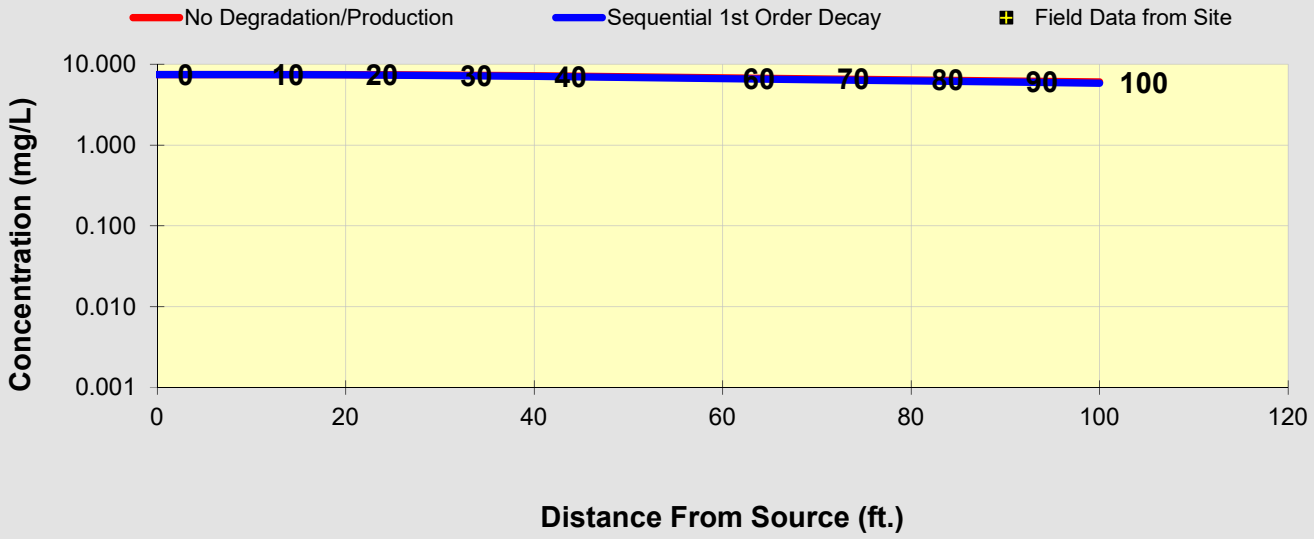
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

DCE	0	10	20	30	40	50	60	70	80	90	100
No Degradation	7.430	7.430	7.404	7.304	7.143	6.952	6.751	6.553	6.362	6.181	6.011
Biotransformation	7.4300	7.405	7.355	7.232	7.049	6.838	6.619	6.404	6.197	6.001	5.817

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

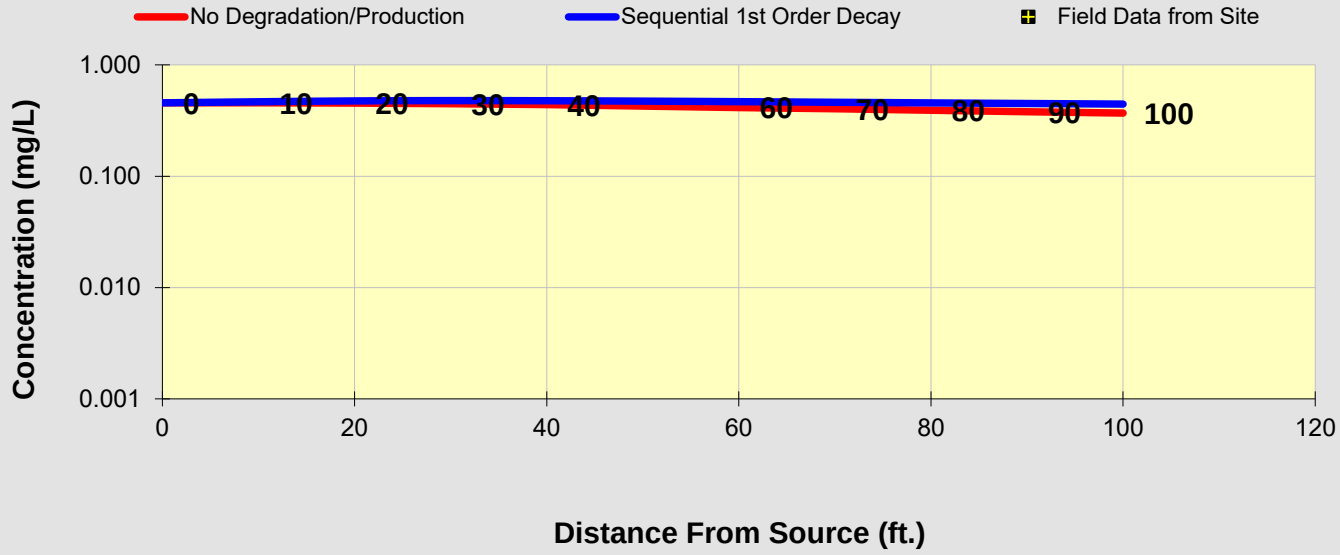
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

VC	0	10	20	30	40	50	60	70	80	90	100
No Degradation	0.456	0.456	0.454	0.448	0.438	0.427	0.414	0.402	0.390	0.379	0.369
Biotransformation	0.4560	0.466	0.475	0.478	0.476	0.472	0.467	0.461	0.456	0.450	0.444

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

BIOCHLOR Natural Attenuation Decision Support System

Version 2.2
Excel 2000

Tech Town Upper East Phase
SW MW23-04 Cont B B
Run Name

Data Input Instructions:
115 → 1. Enter value directly....or
↑ or
0.02 → 2. Calculate by filling in gray cells. Press Enter, then C
(To restore formulas, hit "Restore Formulas" button)
Variable* → Data used directly in model.

Test if Biotransformation is Occurring → Natural Attenuation Screening Protocol

TYPE OF CHLORINATED SOLVENT: Ethenes ◉ Ethanes ○

1. ADVECTION

Seepage Velocity*	Vs	132.8	(ft/yr)
or			
Hydraulic Conductivity	K	3.5E-02	(cm/sec)
Hydraulic Gradient	i	1.10E-03	(ft/ft)
Effective Porosity	n	0.3	(-)

2. DISPERSION

Alpha x*	36.543	(ft)
(Alpha y) / (Alpha x)*	0.33	(-)
(Alpha z) / (Alpha x)*	5.E-02	(-)

Calc. Alpha x

3. ADSORPTION

Retardation Factor* → R
or

Soil Bulk Density, rho	1.6	(kg/L)		
FractionOrganicCarbon, foc	1.0E-3	(-)		
Partition Coefficient	Koc			
PCE	265	(L/kg)	2.41	(-)
TCE	94	(L/kg)	1.50	(-)
DCE	36	(L/kg)	1.19	(-)
VC	19	(L/kg)	1.10	(-)
ETH	302	(L/kg)	2.61	(-)
Common R (used in model)* =			**2.41**	

4. BIOTRANSFORMATION

-1st Order Decay Coefficient*

	Zone 1 λ (1/yr)	half-life (yrs)	Yield
PCE → TCE	0.799		0.79
TCE → DCE	0.299		0.74
DCE → VC	0.099		0.64
VC → ETH	0.399		0.45

	Zone 2 λ (1/yr)	half-life (yrs)
PCE → TCE	0.000	
TCE → DCE	0.000	
DCE → VC	0.000	
VC → ETH	0.000	

λ HELP

5. GENERAL

Simulation Time*	100	(yr)
Modeled Area Width*	450	(ft)
Modeled Area Length*	100	(ft)
Zone 1 Length*	100	(ft)
Zone 2 Length*	0	(ft)

Zone 2= L - Zone 1

6. SOURCE DATA

TYPE: Continuous Single Planar

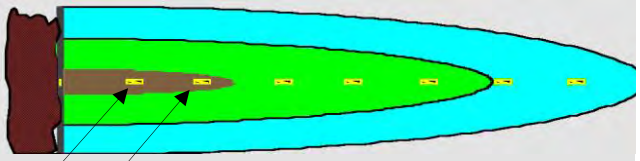
Source Options

Source Thickness in Sat. Zone* 25 (ft)

Width* (ft) Y1: 500

Conc. (mg/L)*	C1	k_s* (1/yr)
PCE	.516	0
TCE	.302	0
DCE	7.43	0
VC	.456	0
ETH		0

Vertical Plane Source: Determine Source Well Location and Input Solvent Concentrations



View of Plume Looking Down

Observed Centerline Conc. at Monitoring Wells

7. FIELD DATA FOR COMPARISON

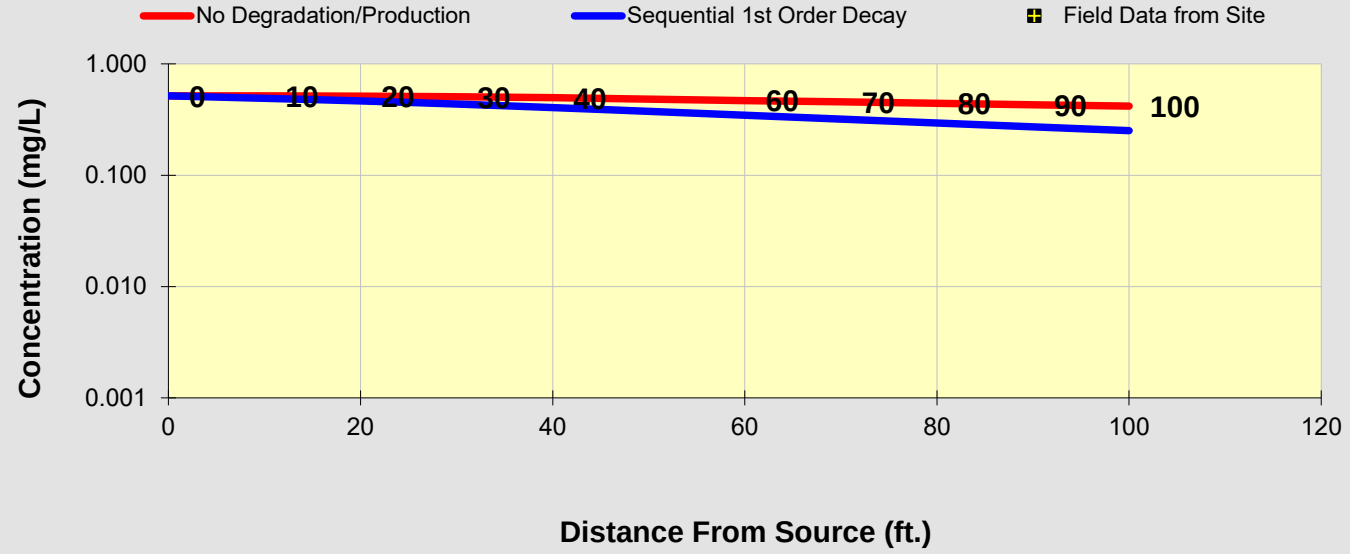
PCE Conc. (mg/L)											
TCE Conc. (mg/L)											
DCE Conc. (mg/L)											
VC Conc. (mg/L)											
ETH Conc. (mg/L)											
Distance from Source (ft)	0										
Date Data Collected											

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE | RUN ARRAY | Help | Restore | RESET | SEE OUTPUT | Paste

DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

PCE	Distance from Source (ft)										
	0	10	20	30	40	50	60	70	80	90	100
No Degradation	0.516	0.516	0.514	0.507	0.496	0.483	0.469	0.455	0.442	0.429	0.417
Biotransformation	0.5160	0.490	0.465	0.436	0.405	0.375	0.346	0.319	0.294	0.272	0.251
	Monitoring Well Locations (ft)										
	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

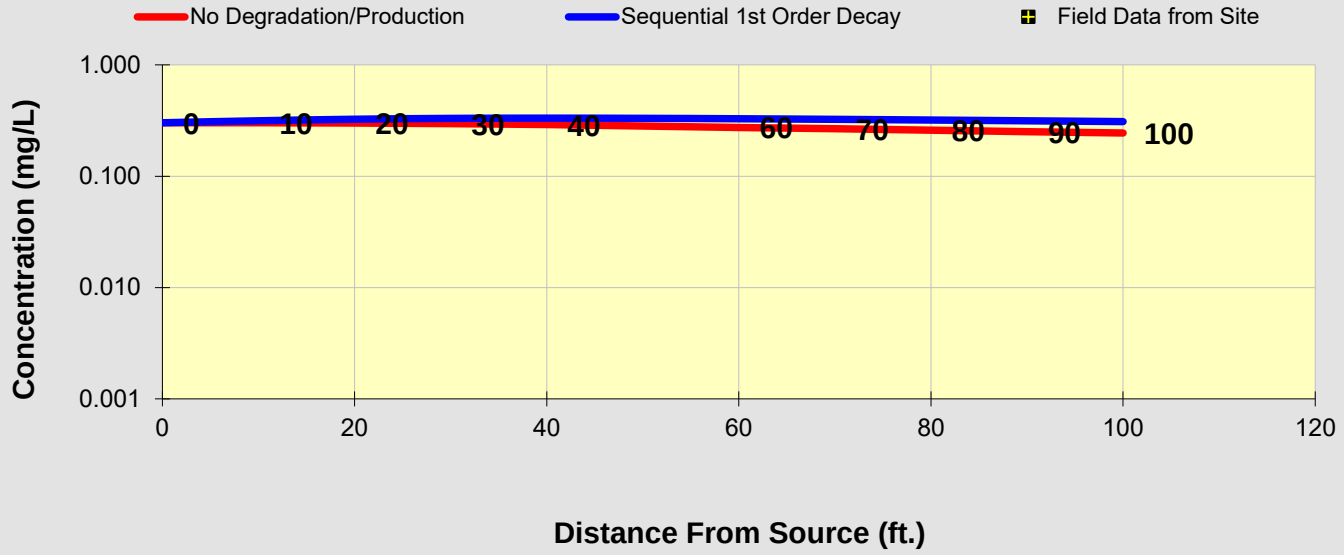
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

TCE	0	10	20	30	40	50	60	70	80	90	100
No Degradation	0.302	0.302	0.301	0.297	0.290	0.283	0.274	0.266	0.259	0.251	0.244
Biotransformation	0.3020	0.315	0.325	0.331	0.332	0.331	0.328	0.324	0.320	0.315	0.309

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

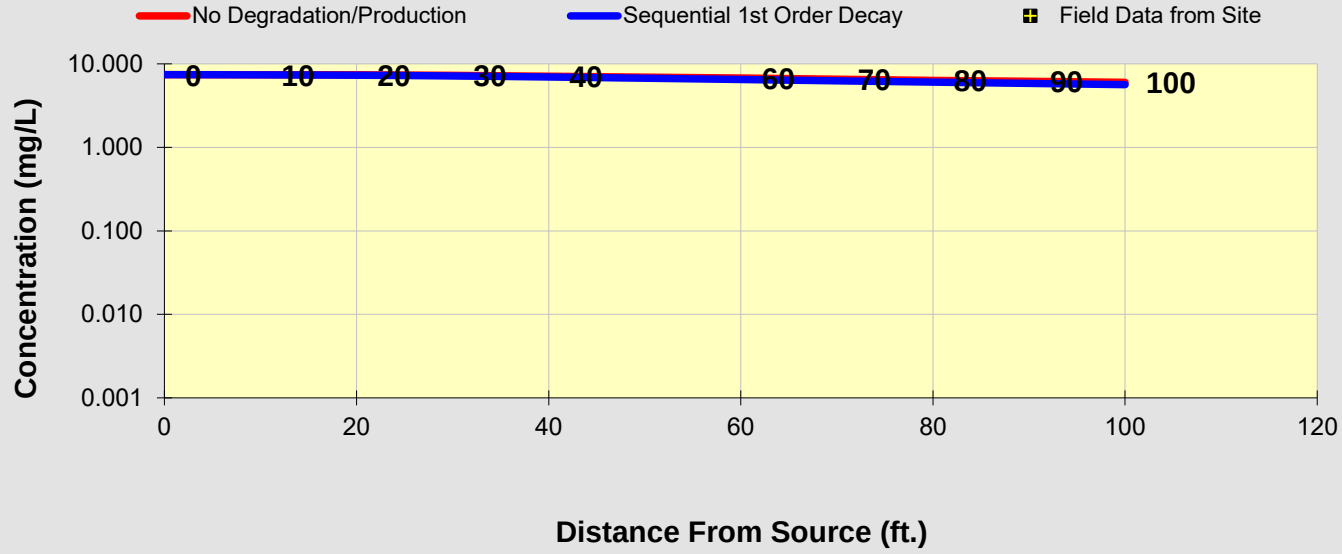
Return to Input

To All

To Array

DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

DCE	Distance from Source (ft)										
	0	10	20	30	40	50	60	70	80	90	100
No Degradation	7.430	7.430	7.404	7.304	7.143	6.952	6.751	6.553	6.362	6.181	6.011
Biotransformation	7.4300	7.381	7.309	7.163	6.960	6.730	6.494	6.263	6.042	5.833	5.637
	Monitoring Well Locations (ft)										
	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

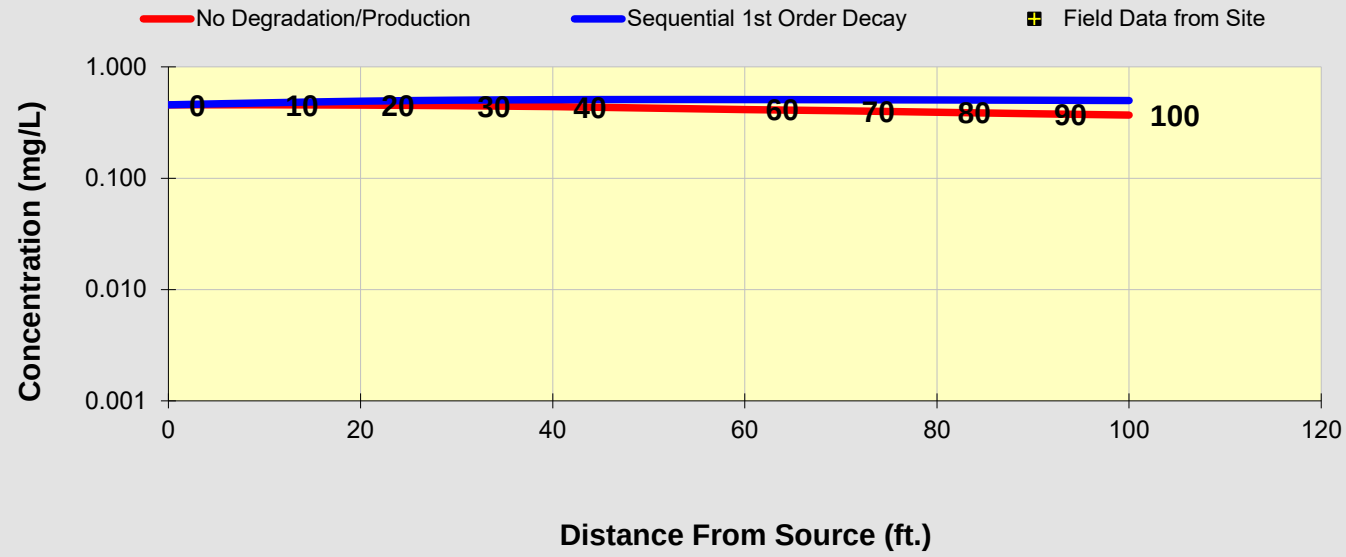
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

VC	0	10	20	30	40	50	60	70	80	90	100
No Degradation	0.456	0.456	0.454	0.448	0.438	0.427	0.414	0.402	0.390	0.379	0.369
Biotransformation	0.4560	0.475	0.492	0.502	0.507	0.509	0.508	0.507	0.504	0.502	0.498

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

BIOCHLOR Natural Attenuation Decision Support System

Version 2.2
Excel 2000

Tech Town Upper East Phase
SW MW23-04 Cont C B
Run Name

Data Input Instructions:
115 → 1. Enter value directly....or
↑ or
0.02 → 2. Calculate by filling in gray cells. Press Enter, then C
(To restore formulas, hit "Restore Formulas" button)
Variable* → Data used directly in model.

Test if Biotransformation is Occurring → Natural Attenuation Screening Protocol

TYPE OF CHLORINATED SOLVENT: Ethenes ◉ Ethanes ○

1. ADVECTION

Seepage Velocity*	Vs	531.1	(ft/yr)
or			
Hydraulic Conductivity	K	1.4E-01	(cm/sec)
Hydraulic Gradient	i	1.10E-03	(ft/ft)
Effective Porosity	n	0.3	(-)

2. DISPERSION

Alpha x*	36.543	(ft)
(Alpha y) / (Alpha x)*	0.33	(-)
(Alpha z) / (Alpha x)*	5.E-02	(-)

Calc. Alpha x

3. ADSORPTION

Retardation Factor* → R
or

Soil Bulk Density, rho	1.6	(kg/L)		
FractionOrganicCarbon, foc	1.0E-3	(-)		
Partition Coefficient	Koc			
PCE	265	(L/kg)	2.41	(-)
TCE	94	(L/kg)	1.50	(-)
DCE	36	(L/kg)	1.19	(-)
VC	19	(L/kg)	1.10	(-)
ETH	302	(L/kg)	2.61	(-)
Common R (used in model)* =			**2.41**	

4. BIOTRANSFORMATION

-1st Order Decay Coefficient*

	Zone 1 λ (1/yr)	half-life (yrs)	Yield
PCE → TCE	0.799		0.79
TCE → DCE	0.299		0.74
DCE → VC	0.099		0.64
VC → ETH	0.399		0.45

	Zone 2 λ (1/yr)	half-life (yrs)
PCE → TCE	0.000	
TCE → DCE	0.000	
DCE → VC	0.000	
VC → ETH	0.000	

λ HELP

5. GENERAL

Simulation Time*	100	(yr)
Modeled Area Width*	450	(ft)
Modeled Area Length*	100	(ft)
Zone 1 Length*	100	(ft)
Zone 2 Length*	0	(ft)

L, W

Zone 2= L - Zone 1

6. SOURCE DATA

TYPE: Continuous Single Planar

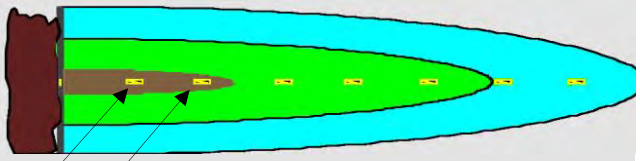
Source Options

Source Thickness in Sat. Zone* 25 (ft)

Width* (ft) Y1: 500

Conc. (mg/L)*	C1	k_s* (1/yr)
PCE	.516	0
TCE	.302	0
DCE	7.43	0
VC	.456	0
ETH		0

Vertical Plane Source: Determine Source Well Location and Input Solvent Concentrations



View of Plume Looking Down

Observed Centerline Conc. at Monitoring Wells

7. FIELD DATA FOR COMPARISON

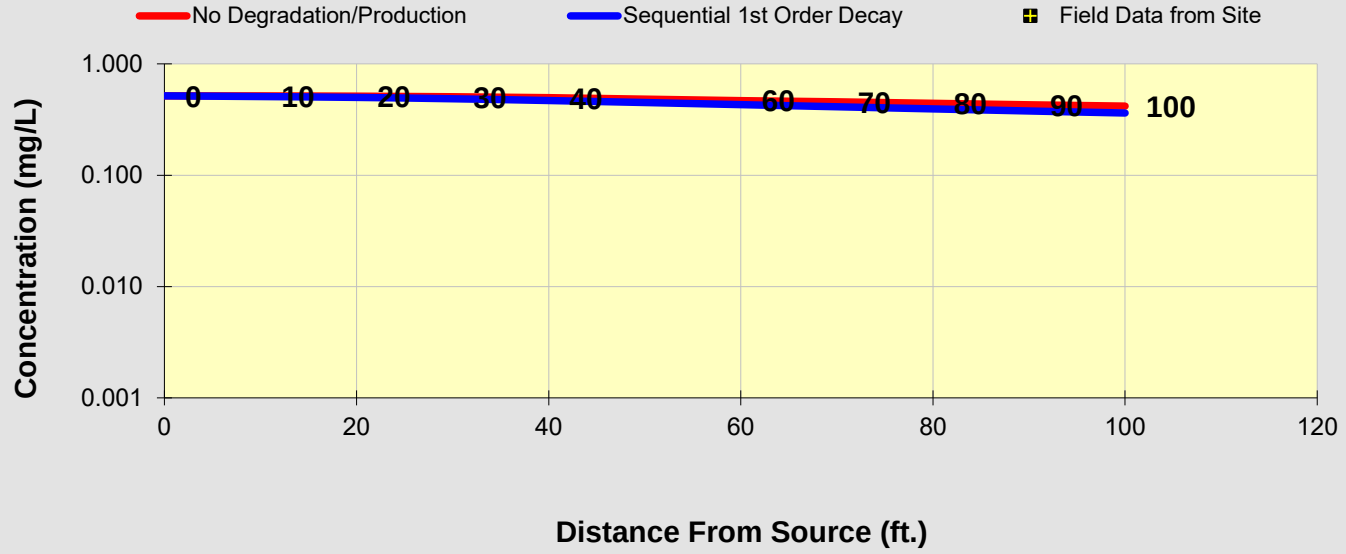
PCE Conc. (mg/L)											
TCE Conc. (mg/L)											
DCE Conc. (mg/L)											
VC Conc. (mg/L)											
ETH Conc. (mg/L)											
Distance from Source (ft)	0										
Date Data Collected											

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE | RUN ARRAY | Help | Restore | RESET | SEE OUTPUT | Paste

DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

PCE	Distance from Source (ft)										
	0	10	20	30	40	50	60	70	80	90	100
No Degradation	0.516	0.516	0.514	0.507	0.496	0.483	0.469	0.455	0.442	0.429	0.417
Biotransformation	0.5160	0.509	0.500	0.486	0.468	0.449	0.430	0.412	0.394	0.377	0.362
	Monitoring Well Locations (ft)										
	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

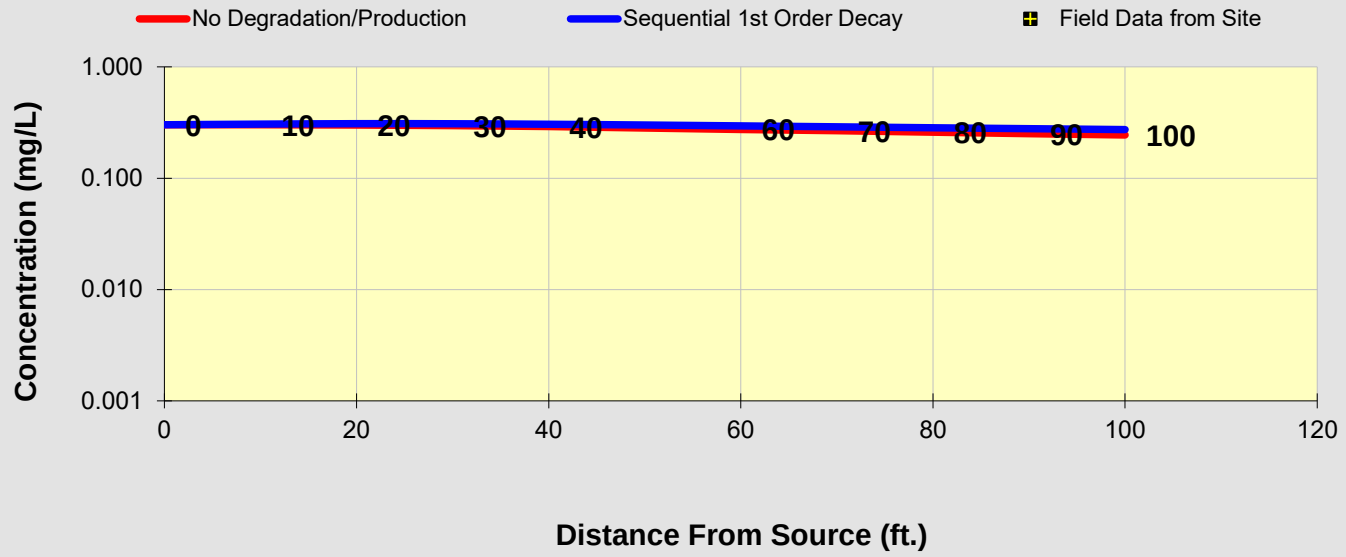
Return to Input

To All

To Array

DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

TCE	Distance from Source (ft)										
	0	10	20	30	40	50	60	70	80	90	100
No Degradation	0.302	0.302	0.301	0.297	0.290	0.283	0.274	0.266	0.259	0.251	0.244
Biotransformation	0.3020	0.306	0.309	0.308	0.305	0.300	0.295	0.289	0.284	0.278	0.273
	Monitoring Well Locations (ft)										
	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

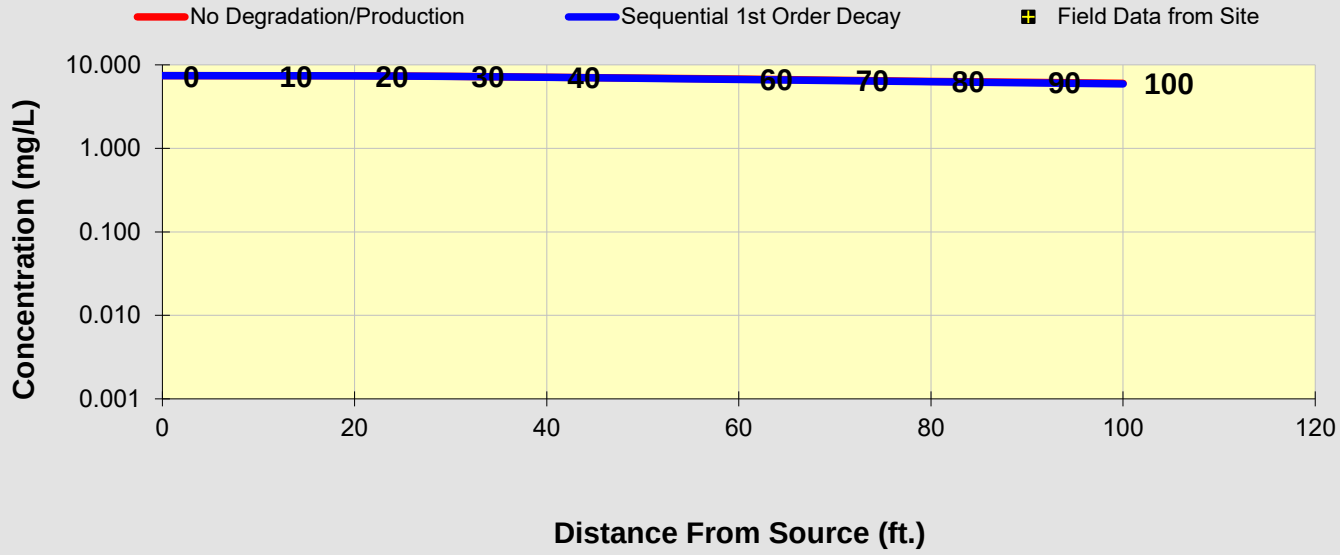
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

DCE	0	10	20	30	40	50	60	70	80	90	100
No Degradation	7.430	7.430	7.404	7.304	7.143	6.952	6.751	6.553	6.362	6.181	6.011
Biotransformation	7.4300	7.417	7.380	7.267	7.095	6.894	6.684	6.477	6.278	6.089	5.912

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

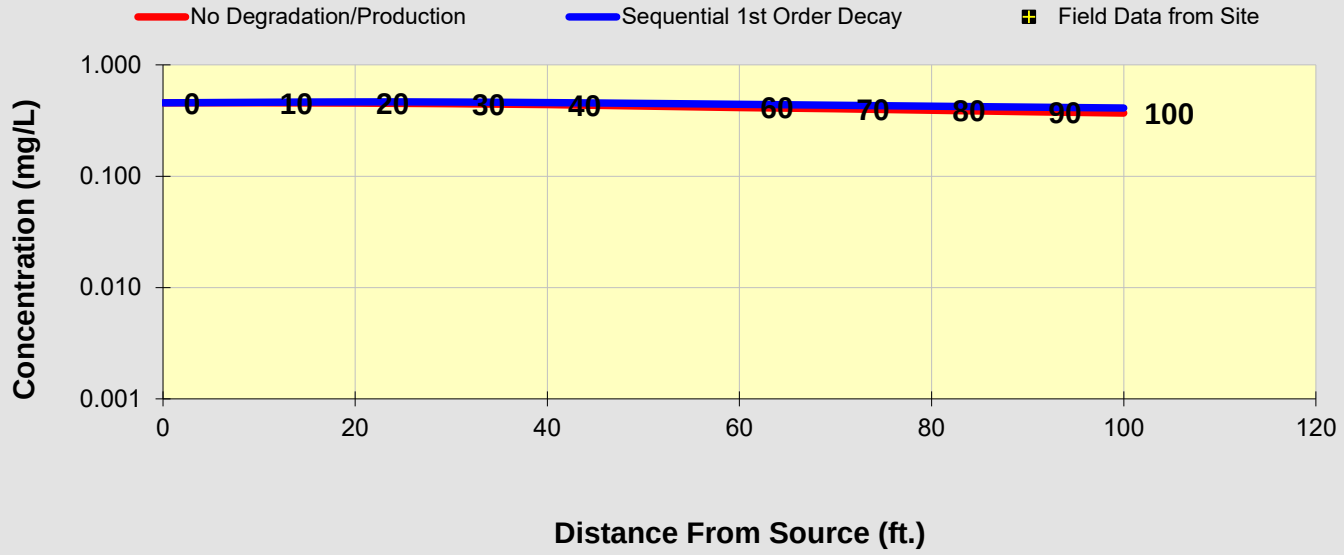
Return to Input

To All

To Array

DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

VC	Distance from Source (ft)										
	0	10	20	30	40	50	60	70	80	90	100
No Degradation	0.456	0.456	0.454	0.448	0.438	0.427	0.414	0.402	0.390	0.379	0.369
Biotransformation	0.4560	0.461	0.465	0.464	0.458	0.451	0.442	0.434	0.425	0.417	0.410
	Monitoring Well Locations (ft)										
	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

BIOCHLOR Natural Attenuation Decision Support System

Version 2.2
Excel 2000

Tech Town Upper East Phase
SW (MW23-04) decay A A
Run Name

Data Input Instructions:
115 → 1. Enter value directly....or
or
0.02 → 2. Calculate by filling in gray cells. Press Enter, then C
(To restore formulas, hit "Restore Formulas" button)
Variable* → Data used directly in model.

Test if Biotransformation is Occurring → Natural Attenuation Screening Protocol

TYPE OF CHLORINATED SOLVENT: Ethenes ◉ Ethanes ○

1. ADVECTION

Seepage Velocity*	Vs	265.6	(ft/yr)
or			
Hydraulic Conductivity	K	7.0E-02	(cm/sec)
Hydraulic Gradient	i	1.10E-03	(ft/ft)
Effective Porosity	n	0.3	(-)

2. DISPERSION

Alpha x*	36.543	(ft)
(Alpha y) / (Alpha x)*	0.33	(-)
(Alpha z) / (Alpha x)*	5.E-02	(-)

Calc. Alpha x

3. ADSORPTION

Retardation Factor* → R
or

Soil Bulk Density, rho	1.6	(kg/L)		
FractionOrganicCarbon, foc	1.0E-3	(-)		
Partition Coefficient	Koc			
PCE	265	(L/kg)	2.41	(-)
TCE	94	(L/kg)	1.50	(-)
DCE	36	(L/kg)	1.19	(-)
VC	19	(L/kg)	1.10	(-)
ETH	302	(L/kg)	2.61	(-)
Common R (used in model)* =			**2.41**	

4. BIOTRANSFORMATION

-1st Order Decay Coefficient*

	λ (1/yr)	half-life (yrs)	Yield
Zone 1			
PCE → TCE	0.350		0.79
TCE → DCE	0.150		0.74
DCE → VC	0.088		0.64
VC → ETH	0.087		0.45
Zone 2	λ (1/yr)	half-life (yrs)	
PCE → TCE	0.000		
TCE → DCE	0.000		
DCE → VC	0.000		
VC → ETH	0.000		

λ HELP

5. GENERAL

Simulation Time*	100	(yr)
Modeled Area Width*	450	(ft)
Modeled Area Length*	100	(ft)
Zone 1 Length*	100	(ft)
Zone 2 Length*	0	(ft)

Zone 2= L - Zone 1

6. SOURCE DATA

TYPE: Decaying Single Planar

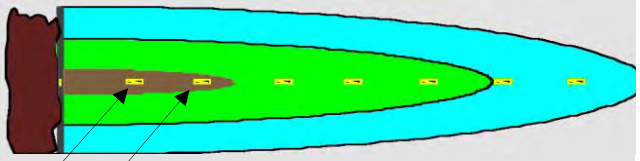
Source Options

Source Thickness in Sat. Zone* 25 (ft)

Width* (ft) Y1: 500

Conc. (mg/L)*	C1	k_s* (1/yr)
PCE	.516	0.049
TCE	.302	0.049
DCE	7.43	0.049
VC	.456	0.049
ETH		0.049

Vertical Plane Source: Determine Source Well Location and Input Solvent Concentrations



View of Plume Looking Down

Observed Centerline Conc. at Monitoring Wells

7. FIELD DATA FOR COMPARISON

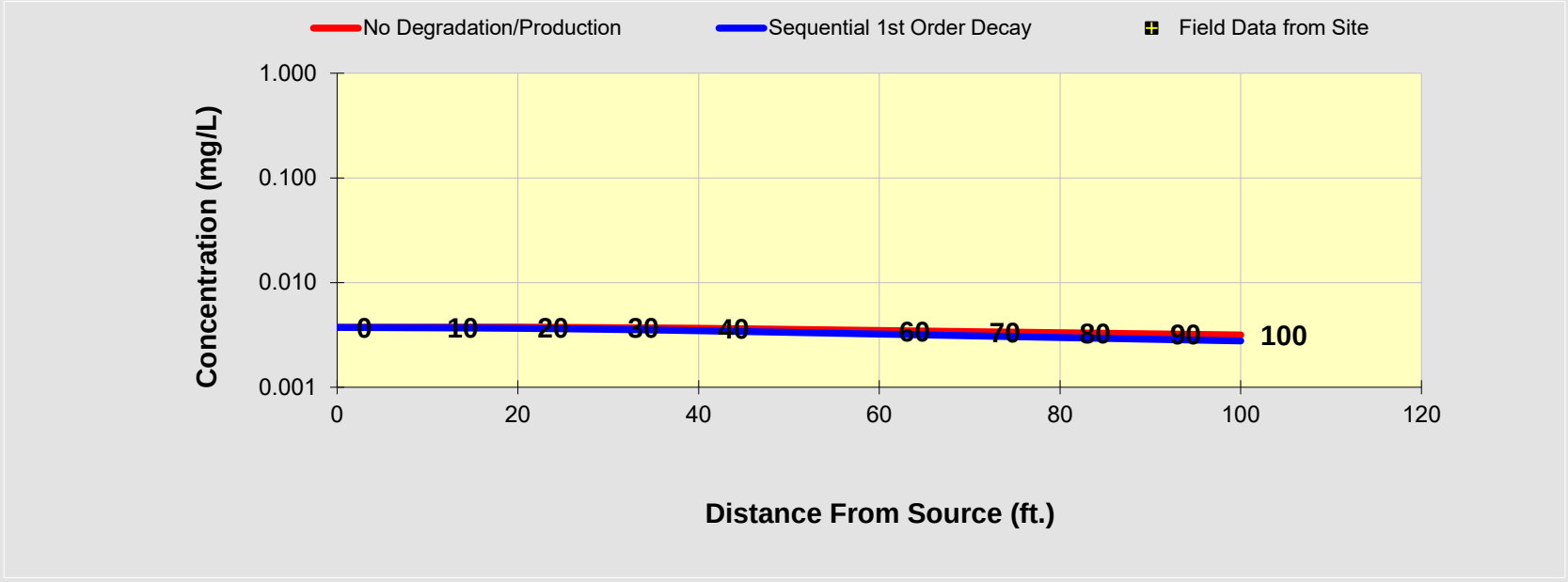
PCE Conc. (mg/L)											
TCE Conc. (mg/L)											
DCE Conc. (mg/L)											
VC Conc. (mg/L)											
ETH Conc. (mg/L)											
Distance from Source (ft)	0										
Date Data Collected											

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE | RUN ARRAY | Help | Restore | RESET | SEE OUTPUT | Paste

DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

PCE	Distance from Source (ft)										
	0	10	20	30	40	50	60	70	80	90	100
No Degradation	0.004	0.004	0.004	0.004	0.004	0.004	0.003	0.003	0.003	0.003	0.003
Biotransformation	0.0037	0.004	0.004	0.004	0.003	0.003	0.003	0.003	0.003	0.003	0.003
	Monitoring Well Locations (ft)										
	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

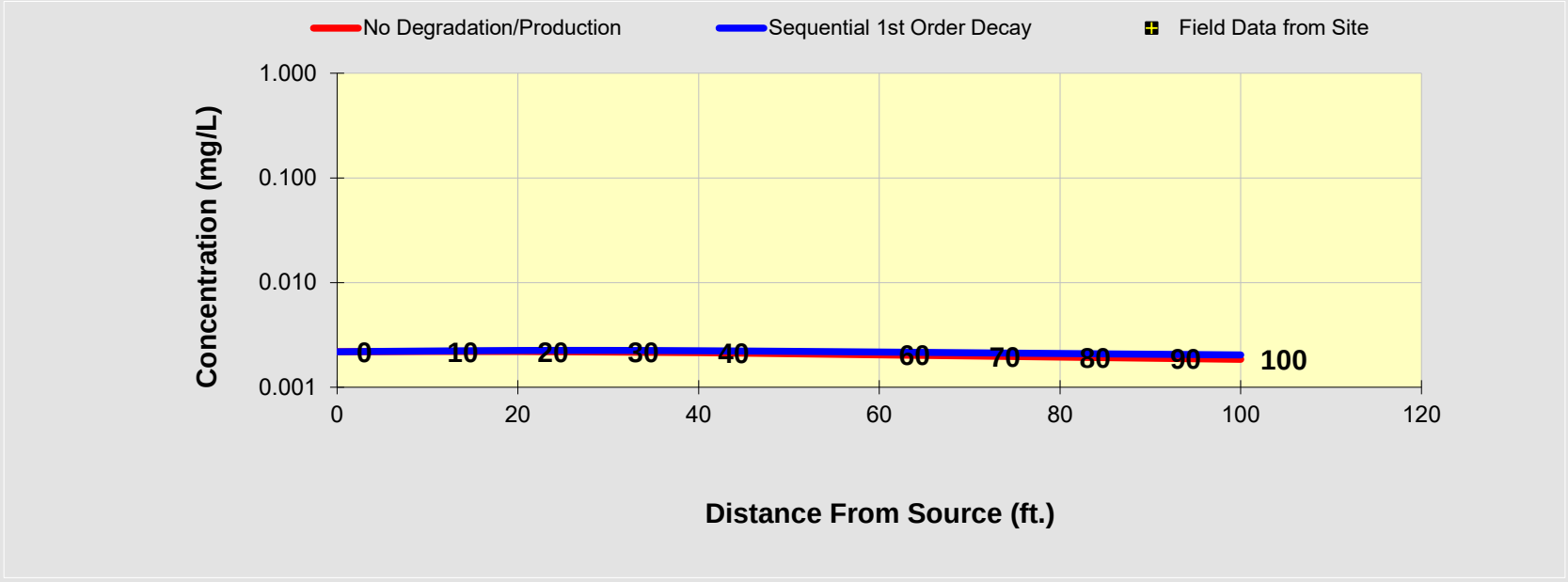
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

TCE	0	10	20	30	40	50	60	70	80	90	100
No Degradation	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
Biotransformation	0.0022	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

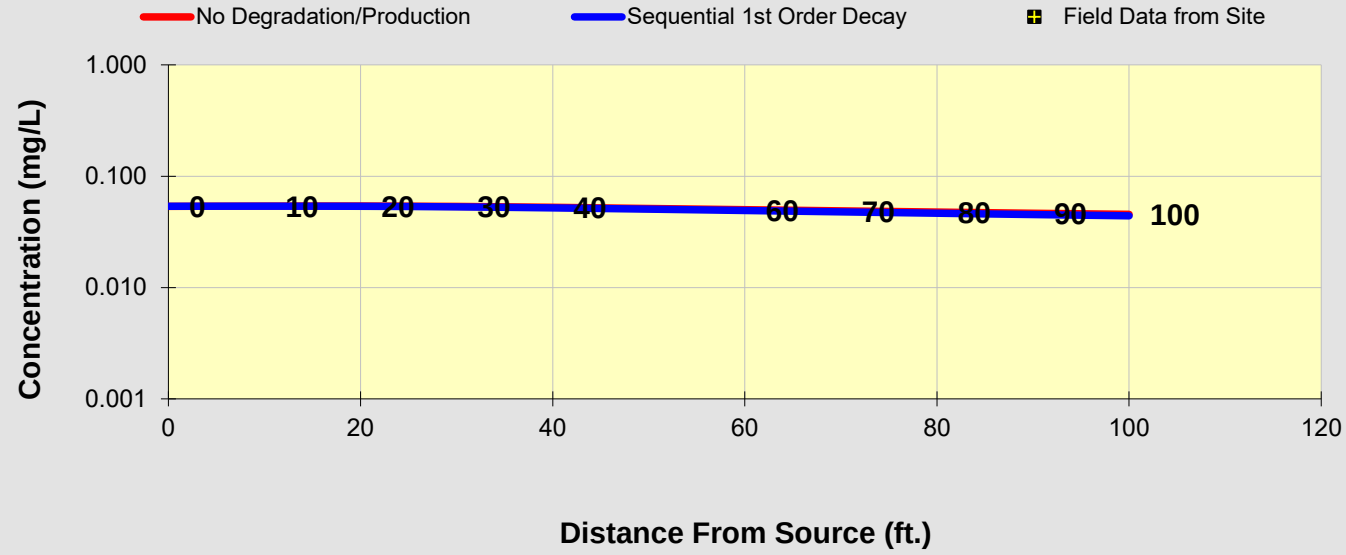
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

DCE	0	10	20	30	40	50	60	70	80	90	100
No Degradation	0.054	0.054	0.054	0.054	0.053	0.051	0.050	0.049	0.048	0.047	0.045
Biotransformation	0.0537	0.054	0.054	0.053	0.052	0.051	0.049	0.048	0.046	0.045	0.044

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

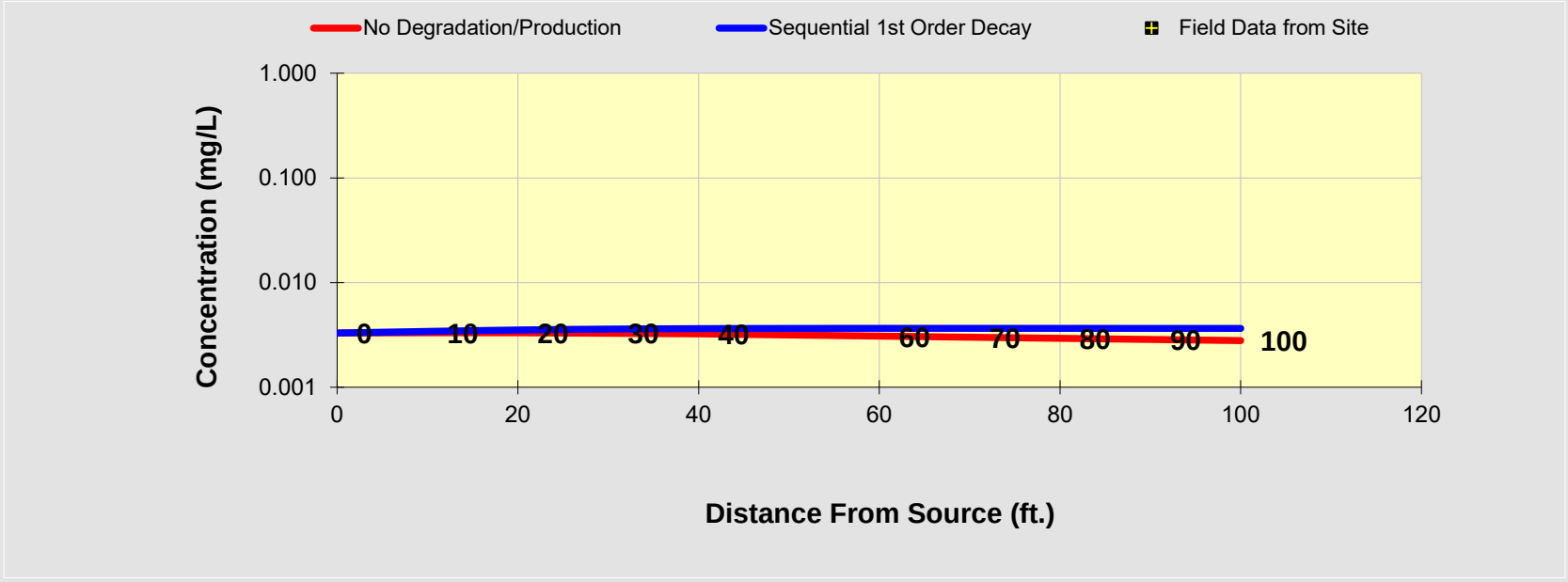
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

VC	0	10	20	30	40	50	60	70	80	90	100
No Degradation	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003
Biotransformation	0.0033	0.003	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

BIOCHLOR Natural Attenuation Decision Support System

Version 2.2
Excel 2000

Tech Town Upper East Phase
SW (MW23-04) decay B A
Run Name

TYPE OF CHLORINATED SOLVENT: Ethenes ◉ Ethanes ○

1. ADVECTION

Seepage Velocity*	Vs	132.8	(ft/yr)
or			
Hydraulic Conductivity	K	3.5E-02	(cm/sec)
Hydraulic Gradient	i	1.10E-03	(ft/ft)
Effective Porosity	n	0.3	(-)

2. DISPERSION

Alpha x*	36.543	(ft)
(Alpha y) / (Alpha x)*	0.33	(-)
(Alpha z) / (Alpha x)*	5.E-02	(-)

Calc. Alpha x

3. ADSORPTION

Retardation Factor* → R

or

Soil Bulk Density, rho	1.6	(kg/L)		
FractionOrganicCarbon, foc	1.0E-3	(-)		
Partition Coefficient	Koc			
PCE	265	(L/kg)	2.41	(-)
TCE	94	(L/kg)	1.50	(-)
DCE	36	(L/kg)	1.19	(-)
VC	19	(L/kg)	1.10	(-)
ETH	302	(L/kg)	2.61	(-)
Common R (used in model)* =			**2.41**	

4. BIOTRANSFORMATION

-1st Order Decay Coefficient*

	λ (1/yr)	half-life (yrs)	Yield
Zone 1			
PCE → TCE	0.350		0.79
TCE → DCE	0.150		0.74
DCE → VC	0.088		0.64
VC → ETH	0.087		0.45
Zone 2	λ (1/yr)	half-life (yrs)	
PCE → TCE	0.000		
TCE → DCE	0.000		
DCE → VC	0.000		
VC → ETH	0.000		

λ HELP

5. GENERAL

Simulation Time*	100	(yr)
Modeled Area Width*	450	(ft)
Modeled Area Length*	100	(ft)
Zone 1 Length*	100	(ft)
Zone 2 Length*	0	(ft)

Zone 2= L - Zone 1

6. SOURCE DATA

TYPE: Decaying Single Planar

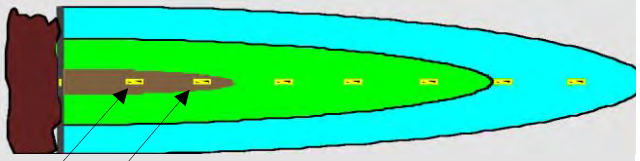
Source Options

Source Thickness in Sat. Zone* 25 (ft)

Width* (ft) Y1: 500

Conc. (mg/L)*	C1	k_s* (1/yr)
PCE	.516	0.049
TCE	.302	0.049
DCE	7.43	0.049
VC	.456	0.049
ETH		0.049

Vertical Plane Source: Determine Source Well Location and Input Solvent Concentrations



View of Plume Looking Down

Observed Centerline Conc. at Monitoring Wells

7. FIELD DATA FOR COMPARISON

PCE Conc. (mg/L)											
TCE Conc. (mg/L)											
DCE Conc. (mg/L)											
VC Conc. (mg/L)											
ETH Conc. (mg/L)											
Distance from Source (ft)	0										
Date Data Collected											

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE | **RUN ARRAY** | ***Help*** | Restore | RESET | ***SEE OUTPUT*** | Paste

Data Input Instructions:

115 → 1. Enter value directly....or
↑ *or*
0.02 → 2. Calculate by filling in gray cells. Press Enter, then C

(To restore formulas, hit "Restore Formulas" button)

Variable* → Data used directly in model.

Test if Biotransformation is Occurring → Natural Attenuation Screening Protocol

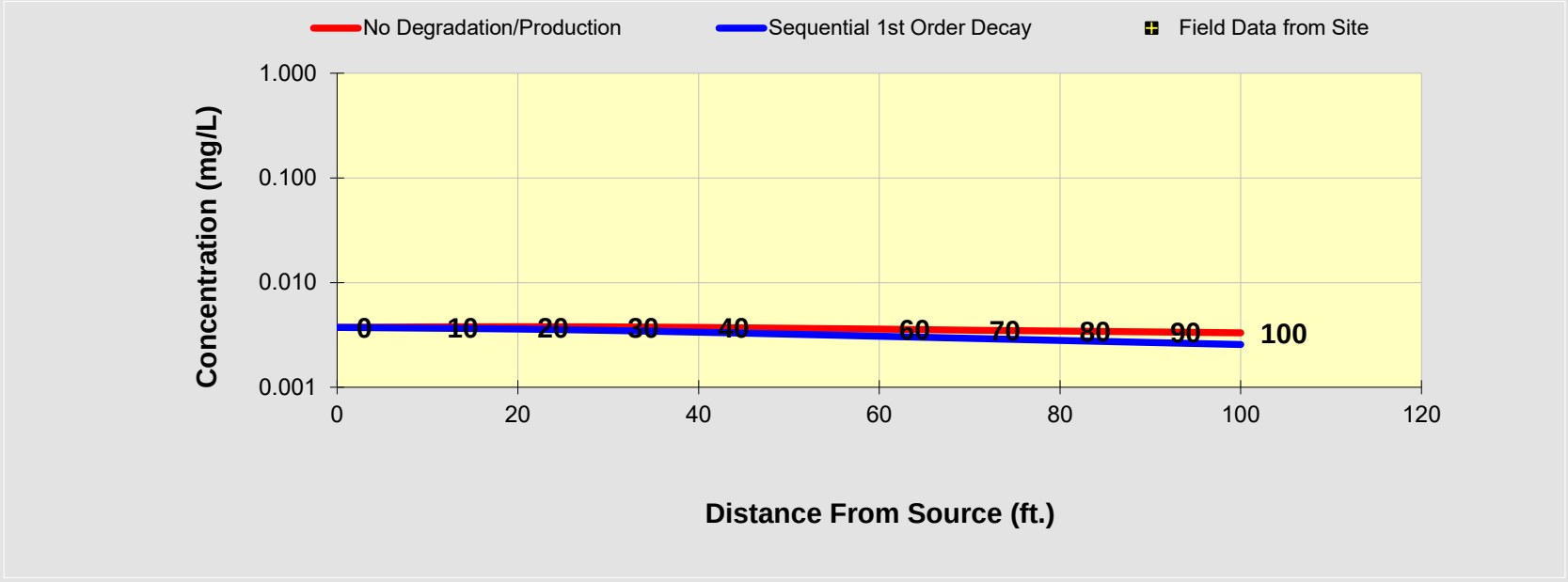
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

PCE	0	10	20	30	40	50	60	70	80	90	100
No Degradation	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.003	0.003	0.003
Biotransformation	0.0037	0.004	0.004	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

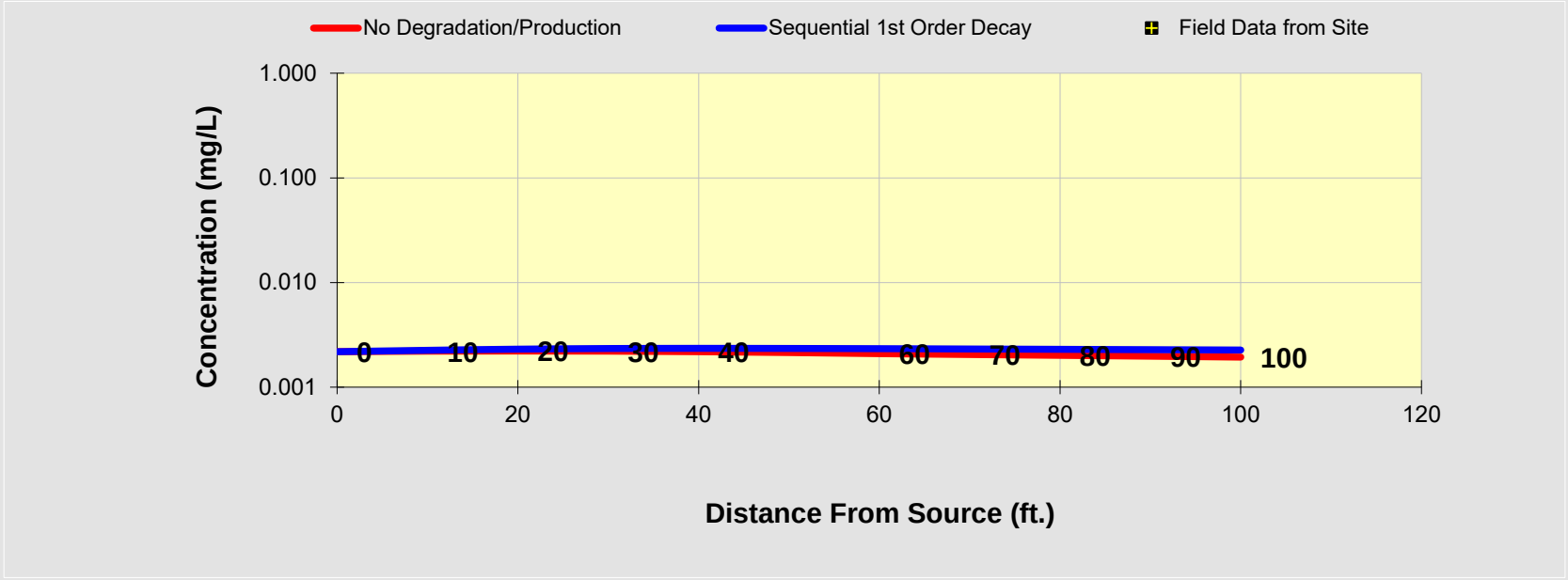
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

TCE	0	10	20	30	40	50	60	70	80	90	100
No Degradation	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
Biotransformation	0.0022	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

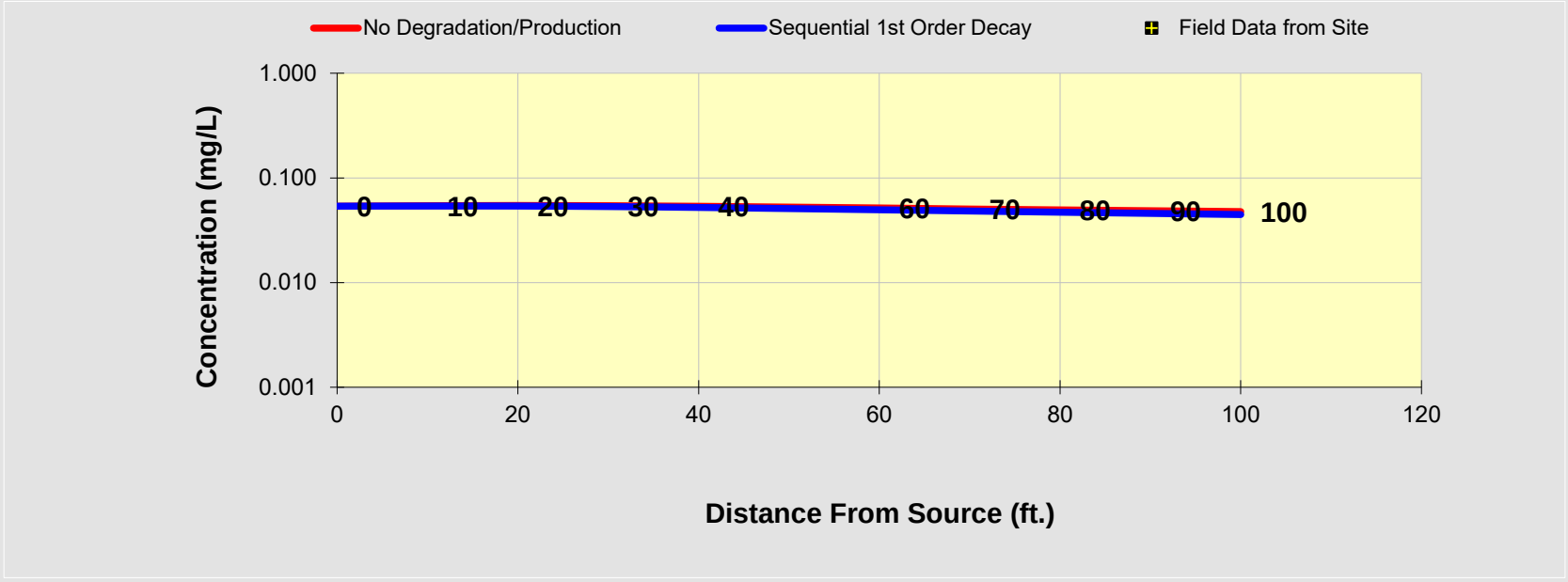
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

DCE	0	10	20	30	40	50	60	70	80	90	100
No Degradation	0.054	0.054	0.055	0.054	0.054	0.053	0.052	0.051	0.050	0.049	0.048
Biotransformation	0.0537	0.054	0.054	0.053	0.052	0.051	0.050	0.048	0.047	0.046	0.045

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

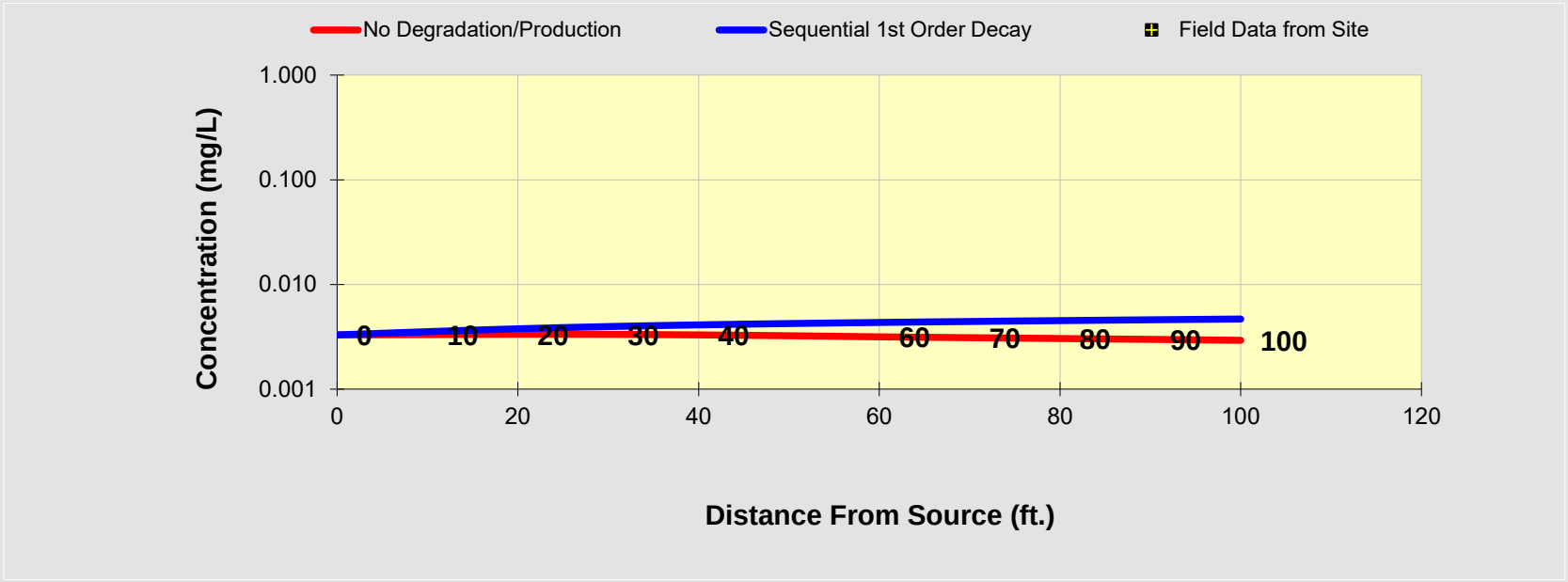
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

VC	0	10	20	30	40	50	60	70	80	90	100
No Degradation	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003
Biotransformation	0.0033	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.005	0.005	0.005

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

BIOCHLOR Natural Attenuation Decision Support System

Version 2.2
Excel 2000

Tech Town Upper East Phase
SW (MW23-04) decay C A
Run Name

TYPE OF CHLORINATED SOLVENT: Ethenes ◉ Ethanes ○

1. ADVECTION

Seepage Velocity*	Vs	531.1	(ft/yr)
or			
Hydraulic Conductivity	K	1.4E-01	(cm/sec)
Hydraulic Gradient	i	1.10E-03	(ft/ft)
Effective Porosity	n	0.3	(-)

2. DISPERSION

Alpha x*	36.543	(ft)
(Alpha y) / (Alpha x)*	0.33	(-)
(Alpha z) / (Alpha x)*	5.E-02	(-)

Calc. Alpha x

3. ADSORPTION

Retardation Factor* → R

or

Soil Bulk Density, rho	1.6	(kg/L)		
FractionOrganicCarbon, foc	1.0E-3	(-)		
Partition Coefficient	Koc			
PCE	265	(L/kg)	2.41	(-)
TCE	94	(L/kg)	1.50	(-)
DCE	36	(L/kg)	1.19	(-)
VC	19	(L/kg)	1.10	(-)
ETH	302	(L/kg)	2.61	(-)
Common R (used in model)* =			**2.41**	

4. BIOTRANSFORMATION

-1st Order Decay Coefficient*

	λ (1/yr)	half-life (yrs)	Yield
Zone 1			
PCE → TCE	0.350		0.79
TCE → DCE	0.150		0.74
DCE → VC	0.088		0.64
VC → ETH	0.087		0.45
Zone 2	λ (1/yr)	half-life (yrs)	
PCE → TCE	0.000		
TCE → DCE	0.000		
DCE → VC	0.000		
VC → ETH	0.000		

λ HELP

5. GENERAL

Simulation Time*	100	(yr)
Modeled Area Width*	450	(ft)
Modeled Area Length*	100	(ft)
Zone 1 Length*	100	(ft)
Zone 2 Length*	0	(ft)

Zone 2= L - Zone 1

6. SOURCE DATA

TYPE: Decaying Single Planar

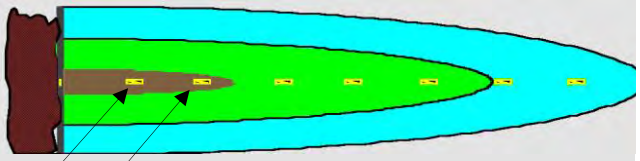
Source Options

Source Thickness in Sat. Zone* 25 (ft)

Width* (ft) Y1: 500

Conc. (mg/L)*	C1	k_s* (1/yr)
PCE	.516	0.049
TCE	.302	0.049
DCE	7.43	0.049
VC	.456	0.049
ETH		0.049

Vertical Plane Source: Determine Source Well Location and Input Solvent Concentrations



View of Plume Looking Down

Observed Centerline Conc. at Monitoring Wells

7. FIELD DATA FOR COMPARISON

PCE Conc. (mg/L)											
TCE Conc. (mg/L)											
DCE Conc. (mg/L)											
VC Conc. (mg/L)											
ETH Conc. (mg/L)											
Distance from Source (ft)	0										
Date Data Collected											

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE | **RUN ARRAY** | ***Help*** | Restore | RESET | ***SEE OUTPUT*** | Paste

Data Input Instructions:

115 → 1. Enter value directly....or
↑ *or*
0.02 → 2. Calculate by filling in gray cells. Press Enter, then C

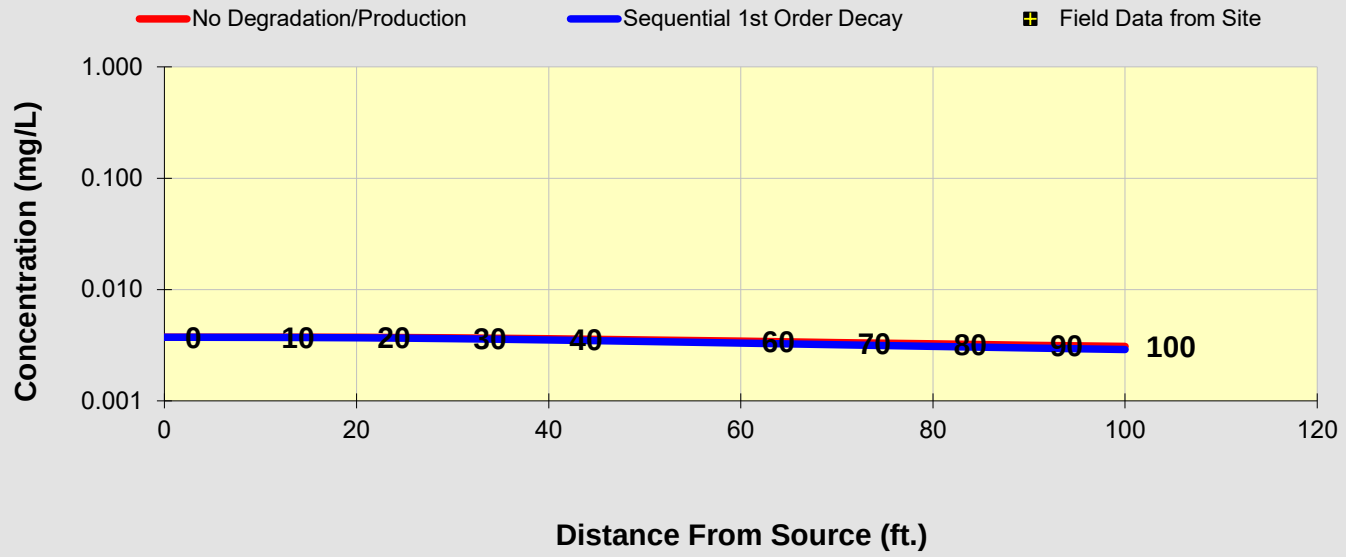
(To restore formulas, hit "Restore Formulas" button)

Variable* → Data used directly in model.

Test if Biotransformation is Occurring → Natural Attenuation Screening Protocol

DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

PCE	Distance from Source (ft)										
	0	10	20	30	40	50	60	70	80	90	100
No Degradation	0.004	0.004	0.004	0.004	0.004	0.004	0.003	0.003	0.003	0.003	0.003
Biotransformation	0.0037	0.004	0.004	0.004	0.004	0.003	0.003	0.003	0.003	0.003	0.003
	Monitoring Well Locations (ft)										
	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

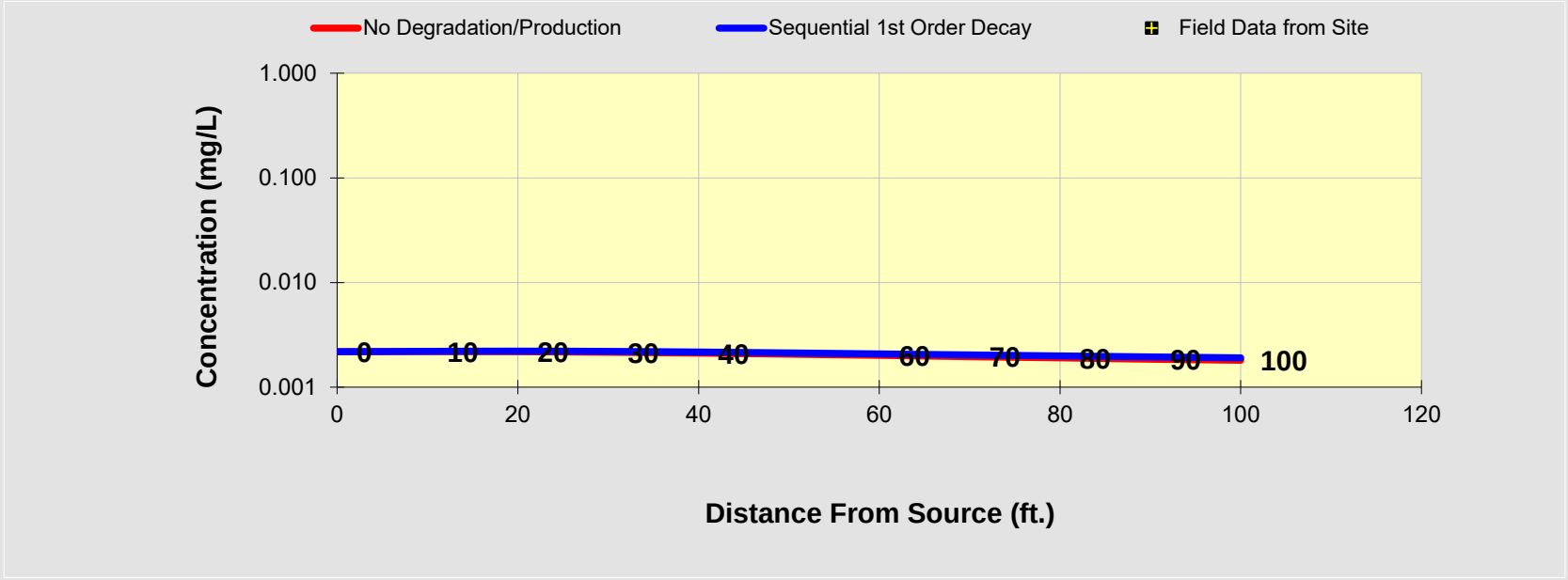
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

TCE	0	10	20	30	40	50	60	70	80	90	100
No Degradation	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
Biotransformation	0.0022	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

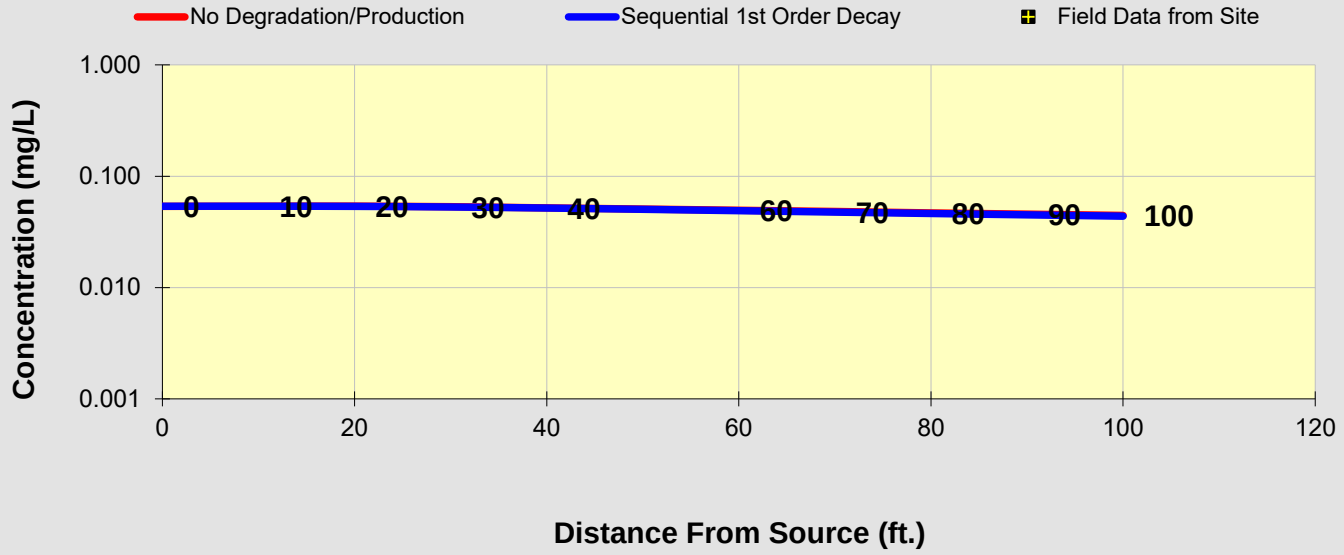
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

DCE	0	10	20	30	40	50	60	70	80	90	100
No Degradation	0.054	0.054	0.054	0.053	0.052	0.051	0.049	0.048	0.047	0.046	0.044
Biotransformation	0.0537	0.054	0.054	0.053	0.052	0.050	0.049	0.048	0.046	0.045	0.044

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

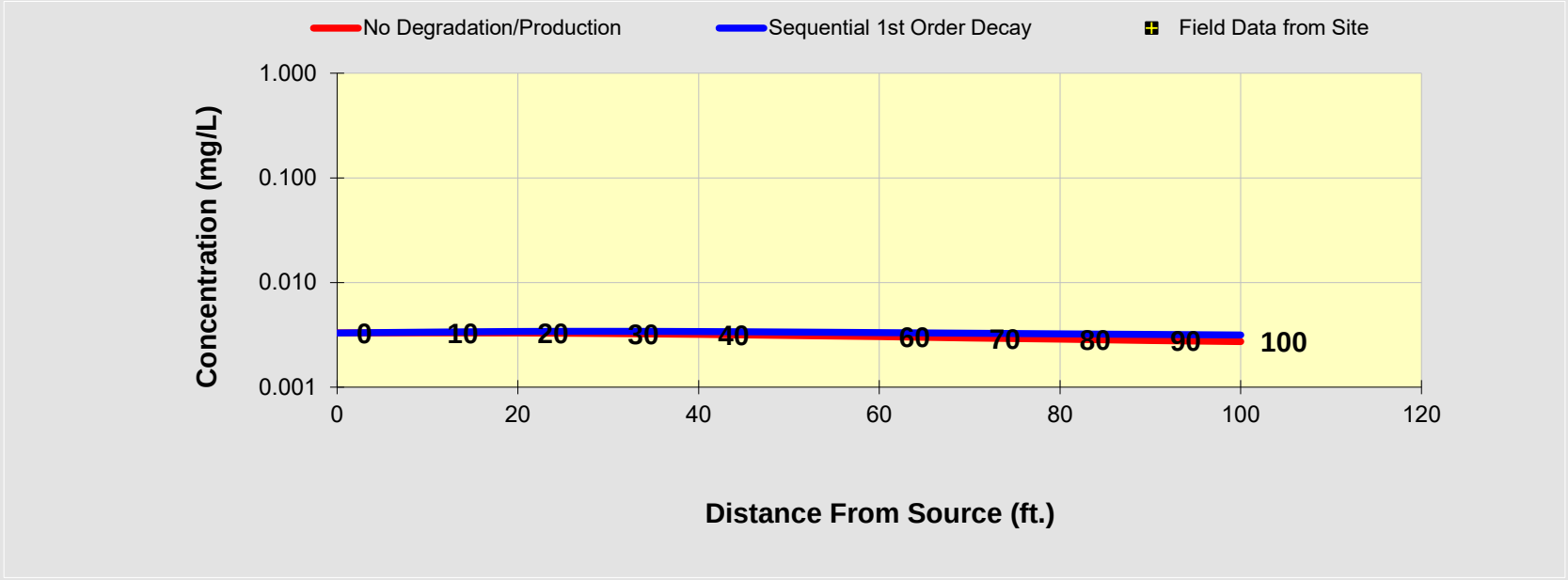
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

VC	0	10	20	30	40	50	60	70	80	90	100
No Degradation	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003
Biotransformation	0.0033	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

BIOCHLOR Natural Attenuation Decision Support System

Version 2.2
Excel 2000

Tech Town Upper East Phase
SW MW23-04 decay A B
Run Name

Data Input Instructions:
115 → 1. Enter value directly....or
↑ or
0.02 → 2. Calculate by filling in gray cells. Press Enter, then C
(To restore formulas, hit "Restore Formulas" button)
Variable* → Data used directly in model.

Test if Biotransformation is Occurring → Natural Attenuation Screening Protocol

TYPE OF CHLORINATED SOLVENT: Ethenes ◉ Ethanes ○

1. ADVECTION

Seepage Velocity*	Vs	265.6	(ft/yr)
or			
Hydraulic Conductivity	K	7.0E-02	(cm/sec)
Hydraulic Gradient	i	1.10E-03	(ft/ft)
Effective Porosity	n	0.3	(-)

2. DISPERSION

Alpha x*	36.543	(ft)
(Alpha y) / (Alpha x)*	0.33	(-)
(Alpha z) / (Alpha x)*	5.E-02	(-)

Calc. Alpha x

3. ADSORPTION

Retardation Factor* → R
or

Soil Bulk Density, rho	1.6	(kg/L)		
FractionOrganicCarbon, foc	1.0E-3	(-)		
Partition Coefficient	Koc			
PCE	265	(L/kg)	2.41	(-)
TCE	94	(L/kg)	1.50	(-)
DCE	36	(L/kg)	1.19	(-)
VC	19	(L/kg)	1.10	(-)
ETH	302	(L/kg)	2.61	(-)
Common R (used in model)* =			**2.41**	

4. BIOTRANSFORMATION

-1st Order Decay Coefficient*

	λ (1/yr)	half-life (yrs)	Yield
Zone 1			
PCE → TCE	0.799		0.79
TCE → DCE	0.299		0.74
DCE → VC	0.099		0.64
VC → ETH	0.399		0.45
Zone 2	λ (1/yr)	half-life (yrs)	
PCE → TCE	0.000		
TCE → DCE	0.000		
DCE → VC	0.000		
VC → ETH	0.000		

λ HELP

5. GENERAL

Simulation Time*	100	(yr)
Modeled Area Width*	450	(ft)
Modeled Area Length*	100	(ft)
Zone 1 Length*	100	(ft)
Zone 2 Length*	0	(ft)

Zone 2= L - Zone 1

6. SOURCE DATA

TYPE: Decaying Single Planar

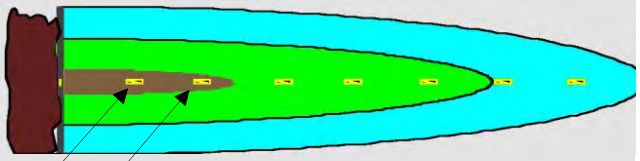
Source Options

Source Thickness in Sat. Zone* 25 (ft)

Width* (ft) Y1: 500

Conc. (mg/L)*	C1	k_s* (1/yr)
PCE	.516	0.049
TCE	.302	0.049
DCE	7.43	0.049
VC	.456	0.049
ETH		0.049

Vertical Plane Source: Determine Source Well Location and Input Solvent Concentrations



View of Plume Looking Down

Observed Centerline Conc. at Monitoring Wells

7. FIELD DATA FOR COMPARISON

PCE Conc. (mg/L)											
TCE Conc. (mg/L)											
DCE Conc. (mg/L)											
VC Conc. (mg/L)											
ETH Conc. (mg/L)											
Distance from Source (ft)	0										
Date Data Collected											

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE | RUN ARRAY | Help | Restore | RESET | SEE OUTPUT | Paste

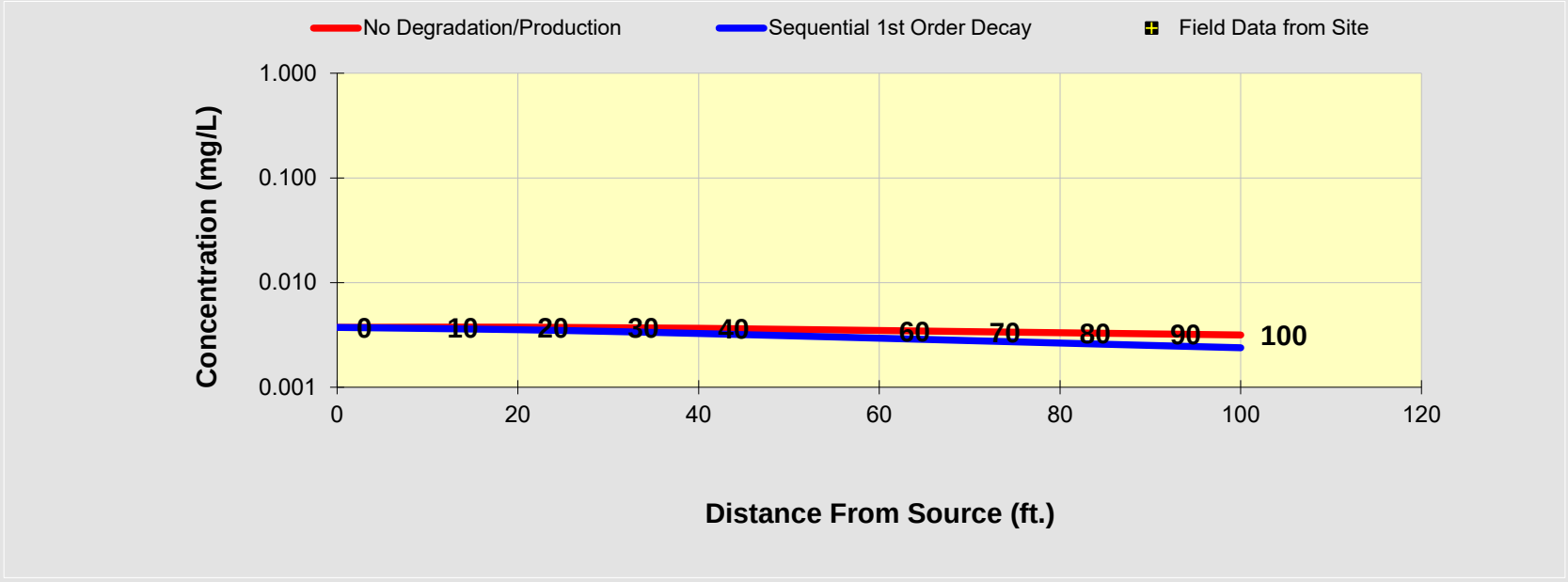
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

PCE	0	10	20	30	40	50	60	70	80	90	100
No Degradation	0.004	0.004	0.004	0.004	0.004	0.004	0.003	0.003	0.003	0.003	0.003
Biotransformation	0.0037	0.004	0.004	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.002

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

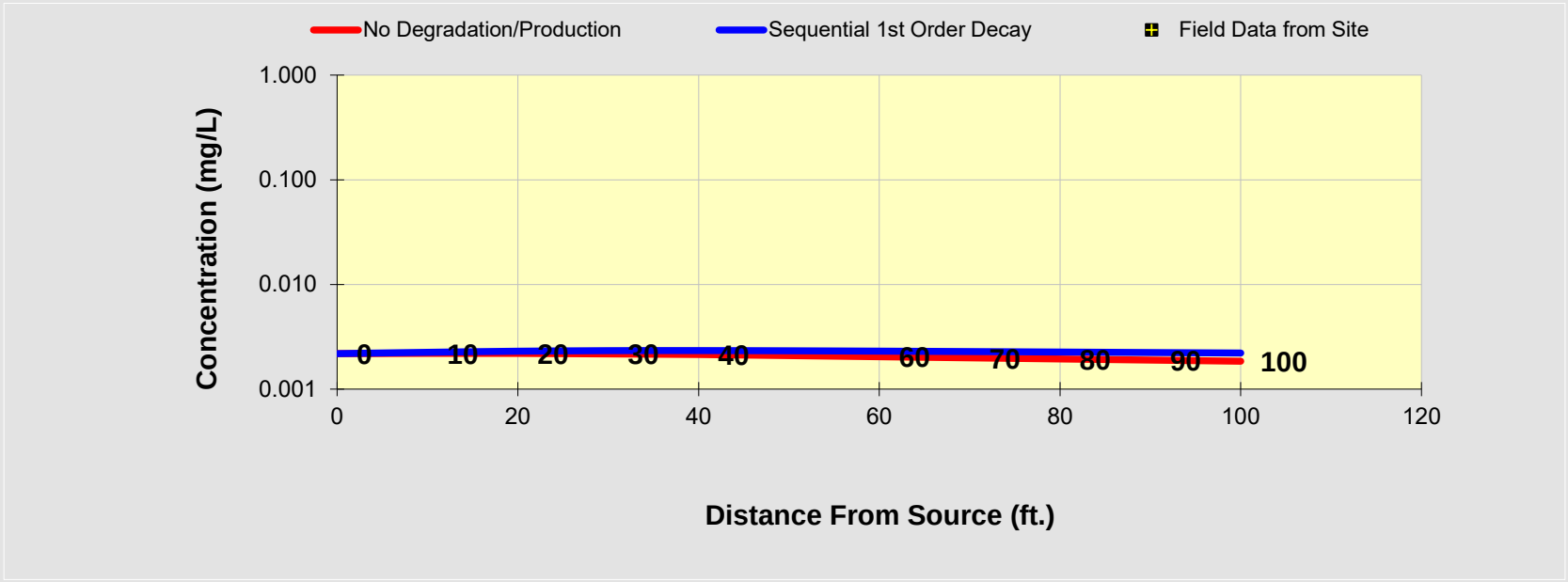
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

TCE	0	10	20	30	40	50	60	70	80	90	100
No Degradation	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
Biotransformation	0.0022	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

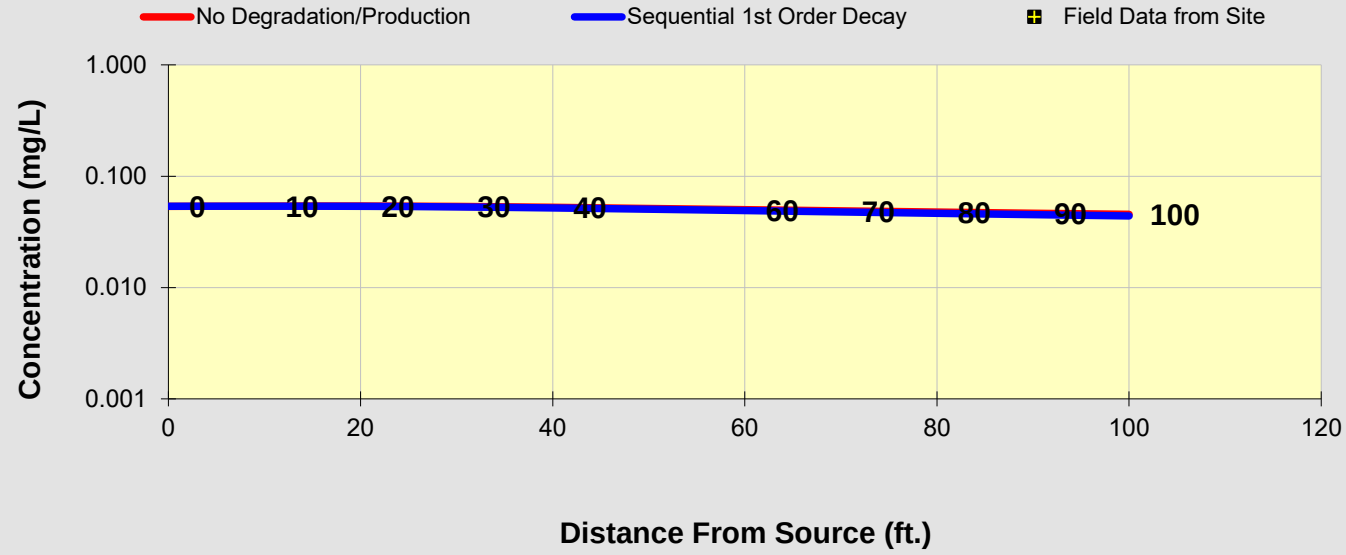
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

DCE	0	10	20	30	40	50	60	70	80	90	100
No Degradation	0.054	0.054	0.054	0.054	0.053	0.051	0.050	0.049	0.048	0.047	0.045
Biotransformation	0.0537	0.054	0.054	0.053	0.052	0.051	0.049	0.048	0.046	0.045	0.044

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

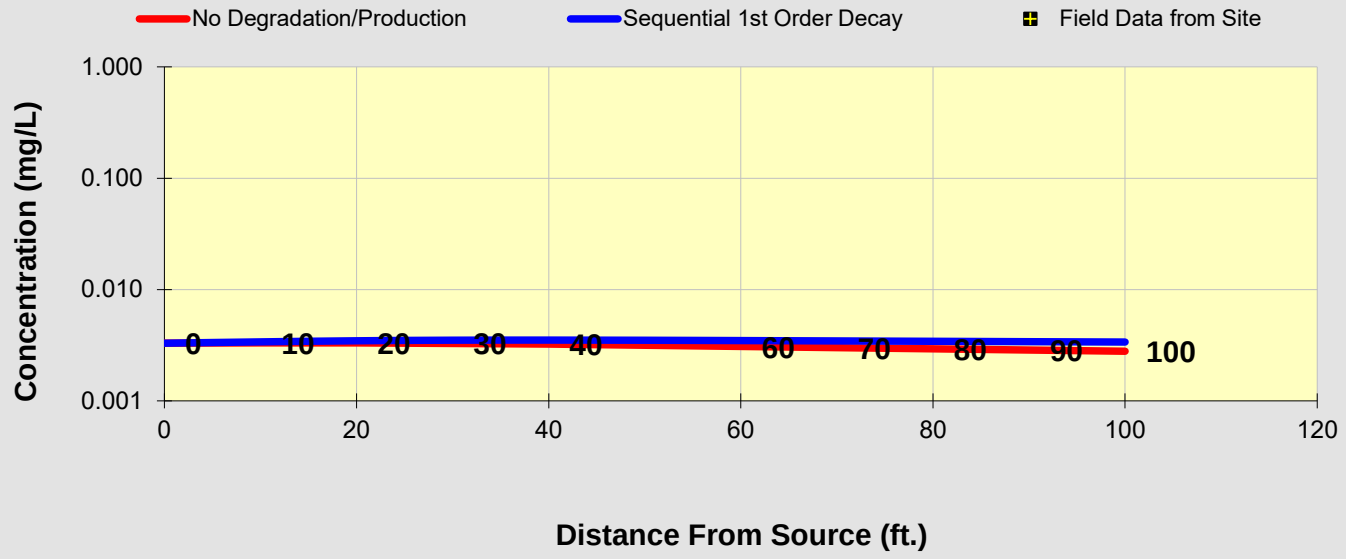
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

VC	0	10	20	30	40	50	60	70	80	90	100
No Degradation	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003
Biotransformation	0.0033	0.003	0.003	0.004	0.004	0.004	0.003	0.003	0.003	0.003	0.003

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

BIOCHLOR Natural Attenuation Decision Support System

Version 2.2
Excel 2000

Tech Town Upper East Phase
SW MW23-04 decay B B
Run Name

Data Input Instructions:
115 → 1. Enter value directly....or
or
0.02 → 2. Calculate by filling in gray cells. Press Enter, then C
(To restore formulas, hit "Restore Formulas" button)
Variable* → Data used directly in model.

Test if Biotransformation is Occurring → Natural Attenuation Screening Protocol

TYPE OF CHLORINATED SOLVENT: Ethenes ◉ Ethanes ○

1. ADVECTION

Seepage Velocity*	Vs	132.8	(ft/yr)
or			
Hydraulic Conductivity	K	3.5E-02	(cm/sec)
Hydraulic Gradient	i	1.10E-03	(ft/ft)
Effective Porosity	n	0.3	(-)

2. DISPERSION

Alpha x*	36.543	(ft)
(Alpha y) / (Alpha x)*	0.33	(-)
(Alpha z) / (Alpha x)*	5.E-02	(-)

Calc. Alpha x

3. ADSORPTION

Retardation Factor* → R
or

Soil Bulk Density, rho	1.6	(kg/L)		
FractionOrganicCarbon, foc	1.0E-3	(-)		
Partition Coefficient	Koc			
PCE	265	(L/kg)	2.41	(-)
TCE	94	(L/kg)	1.50	(-)
DCE	36	(L/kg)	1.19	(-)
VC	19	(L/kg)	1.10	(-)
ETH	302	(L/kg)	2.61	(-)
Common R (used in model)* =			**2.41**	

4. BIOTRANSFORMATION

-1st Order Decay Coefficient*

	λ (1/yr)	half-life (yrs)	Yield
Zone 1			
PCE → TCE	0.799		0.79
TCE → DCE	0.299		0.74
DCE → VC	0.099		0.64
VC → ETH	0.399		0.45
Zone 2	λ (1/yr)	half-life (yrs)	
PCE → TCE	0.000		
TCE → DCE	0.000		
DCE → VC	0.000		
VC → ETH	0.000		

λ HELP

5. GENERAL

Simulation Time*	100	(yr)
Modeled Area Width*	450	(ft)
Modeled Area Length*	100	(ft)
Zone 1 Length*	100	(ft)
Zone 2 Length*	0	(ft)

Zone 2= L - Zone 1

6. SOURCE DATA

TYPE: Decaying Single Planar

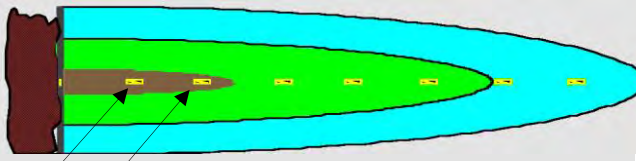
Source Options

Source Thickness in Sat. Zone* 25 (ft)

Width* (ft) Y1: 500

Conc. (mg/L)*	C1	k_s* (1/yr)
PCE	.516	0.049
TCE	.302	0.049
DCE	7.43	0.049
VC	.456	0.049
ETH		0.049

Vertical Plane Source: Determine Source Well Location and Input Solvent Concentrations



View of Plume Looking Down

Observed Centerline Conc. at Monitoring Wells

7. FIELD DATA FOR COMPARISON

PCE Conc. (mg/L)											
TCE Conc. (mg/L)											
DCE Conc. (mg/L)											
VC Conc. (mg/L)											
ETH Conc. (mg/L)											
Distance from Source (ft)	0										
Date Data Collected											

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE | RUN ARRAY | Help | Restore | RESET | SEE OUTPUT | Paste

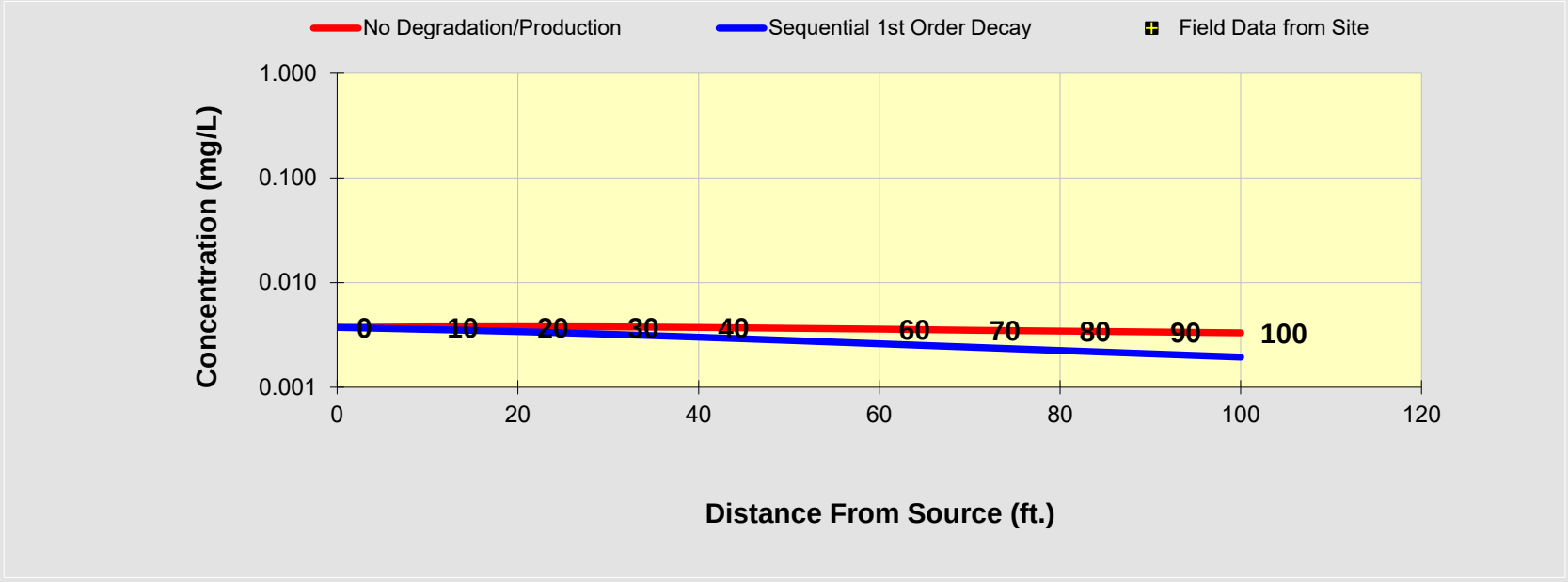
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

PCE	0	10	20	30	40	50	60	70	80	90	100
No Degradation	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.003	0.003	0.003
Biotransformation	0.0037	0.004	0.003	0.003	0.003	0.003	0.003	0.002	0.002	0.002	0.002

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

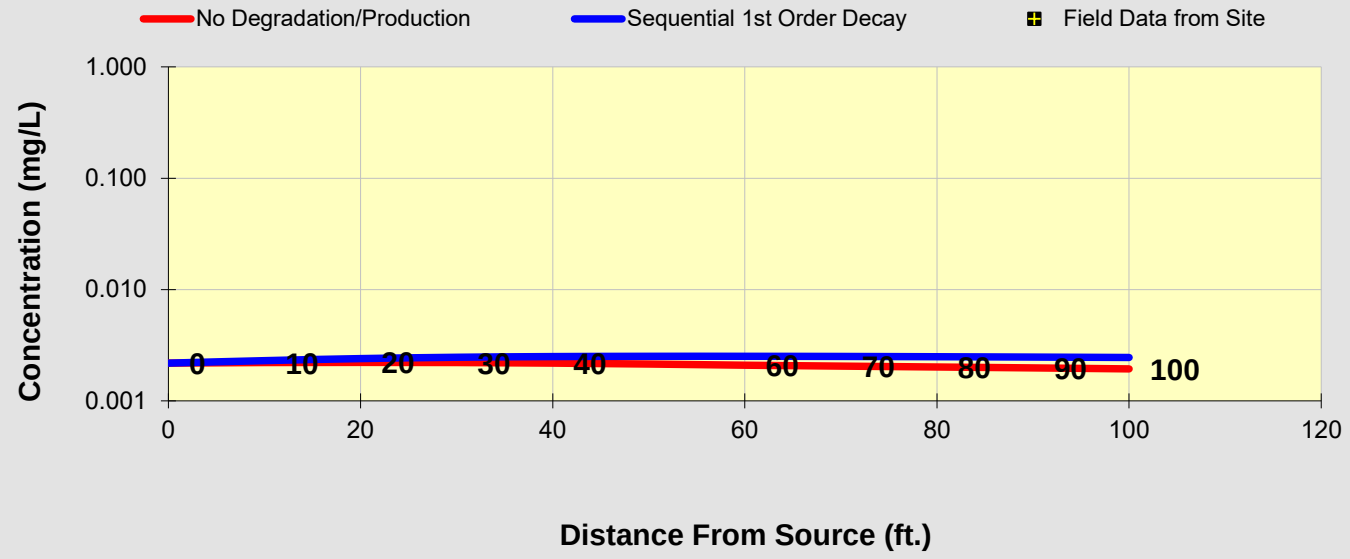
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

TCE	0	10	20	30	40	50	60	70	80	90	100
No Degradation	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
Biotransformation	0.0022	0.002	0.002	0.002	0.002	0.003	0.003	0.003	0.002	0.002	0.002

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

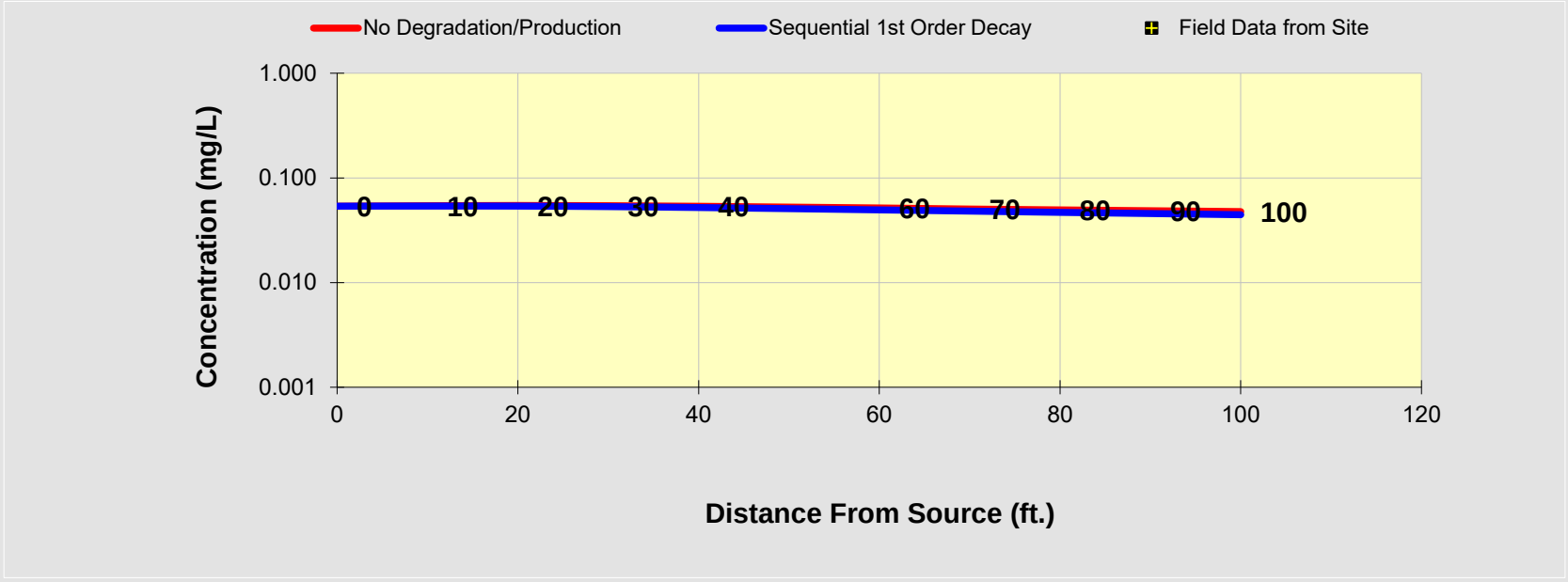
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

DCE	0	10	20	30	40	50	60	70	80	90	100
No Degradation	0.054	0.054	0.055	0.054	0.054	0.053	0.052	0.051	0.050	0.049	0.048
Biotransformation	0.0537	0.054	0.054	0.053	0.052	0.051	0.049	0.048	0.047	0.046	0.044

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

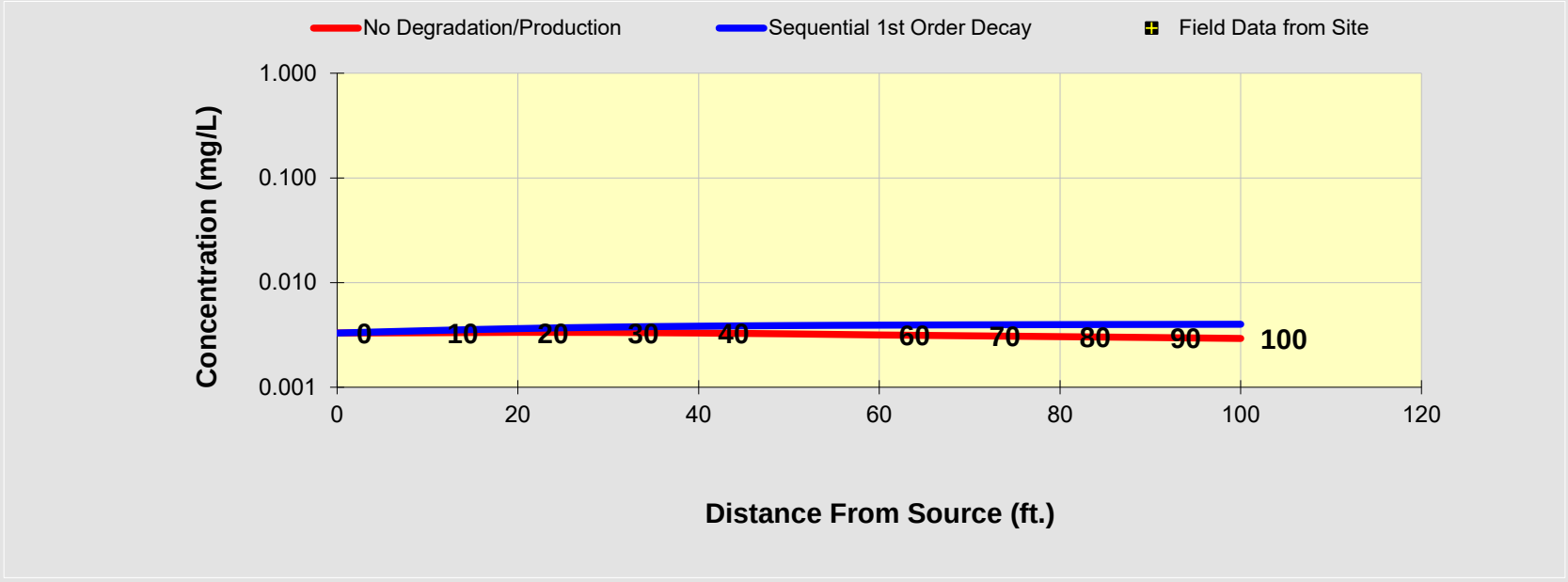
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

VC	0	10	20	30	40	50	60	70	80	90	100
No Degradation	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003
Biotransformation	0.0033	0.003	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

BIOCHLOR Natural Attenuation Decision Support System

Version 2.2
Excel 2000

Tech Town Upper East Phase
SW MW23-04 decay C B
Run Name

Data Input Instructions:
1. Enter value directly....or
2. Calculate by filling in gray cells. Press Enter, then C

(To restore formulas, hit "Restore Formulas" button)
Variable* → Data used directly in model.

Test if Biotransformation is Occurring → Natural Attenuation Screening Protocol

TYPE OF CHLORINATED SOLVENT: Ethenes ◉ Ethanes ○

1. ADVECTION

Seepage Velocity*	Vs	531.1	(ft/yr)
or			
Hydraulic Conductivity	K	1.4E-01	(cm/sec)
Hydraulic Gradient	i	1.10E-03	(ft/ft)
Effective Porosity	n	0.3	(-)

2. DISPERSION

Alpha x*	36.543	(ft)
(Alpha y) / (Alpha x)*	0.33	(-)
(Alpha z) / (Alpha x)*	5.E-02	(-)

Calc. Alpha x

3. ADSORPTION

Retardation Factor* → R

or

Soil Bulk Density, rho	1.6	(kg/L)		
FractionOrganicCarbon, foc	1.0E-3	(-)		
Partition Coefficient	Koc			
PCE	265	(L/kg)	2.41	(-)
TCE	94	(L/kg)	1.50	(-)
DCE	36	(L/kg)	1.19	(-)
VC	19	(L/kg)	1.10	(-)
ETH	302	(L/kg)	2.61	(-)
Common R (used in model)* =			**2.41**	

4. BIOTRANSFORMATION

-1st Order Decay Coefficient*

	λ (1/yr)	half-life (yrs)	Yield
Zone 1			
PCE → TCE	0.799		0.79
TCE → DCE	0.299		0.74
DCE → VC	0.099		0.64
VC → ETH	0.399		0.45
Zone 2	λ (1/yr)	half-life (yrs)	
PCE → TCE	0.000		
TCE → DCE	0.000		
DCE → VC	0.000		
VC → ETH	0.000		

λ HELP

5. GENERAL

Simulation Time*	100	(yr)
Modeled Area Width*	450	(ft)
Modeled Area Length*	100	(ft)
Zone 1 Length*	100	(ft)
Zone 2 Length*	0	(ft)

L, W

Zone 2= L - Zone 1

6. SOURCE DATA

TYPE: Decaying Single Planar

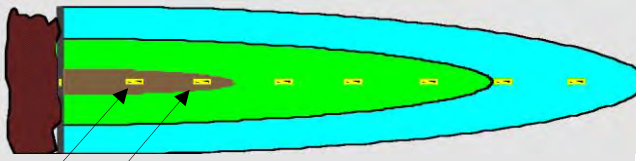
Source Options

Source Thickness in Sat. Zone* 25 (ft)

Width* (ft) Y1: 500

Conc. (mg/L)*	C1	k_s* (1/yr)
PCE	.516	0.049
TCE	.302	0.049
DCE	7.43	0.049
VC	.456	0.049
ETH		0.049

Vertical Plane Source: Determine Source Well Location and Input Solvent Concentrations



View of Plume Looking Down

Observed Centerline Conc. at Monitoring Wells

7. FIELD DATA FOR COMPARISON

PCE Conc. (mg/L)											
TCE Conc. (mg/L)											
DCE Conc. (mg/L)											
VC Conc. (mg/L)											
ETH Conc. (mg/L)											
Distance from Source (ft)	0										
Date Data Collected											

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE | RUN ARRAY | Help | Restore | RESET | SEE OUTPUT | Paste

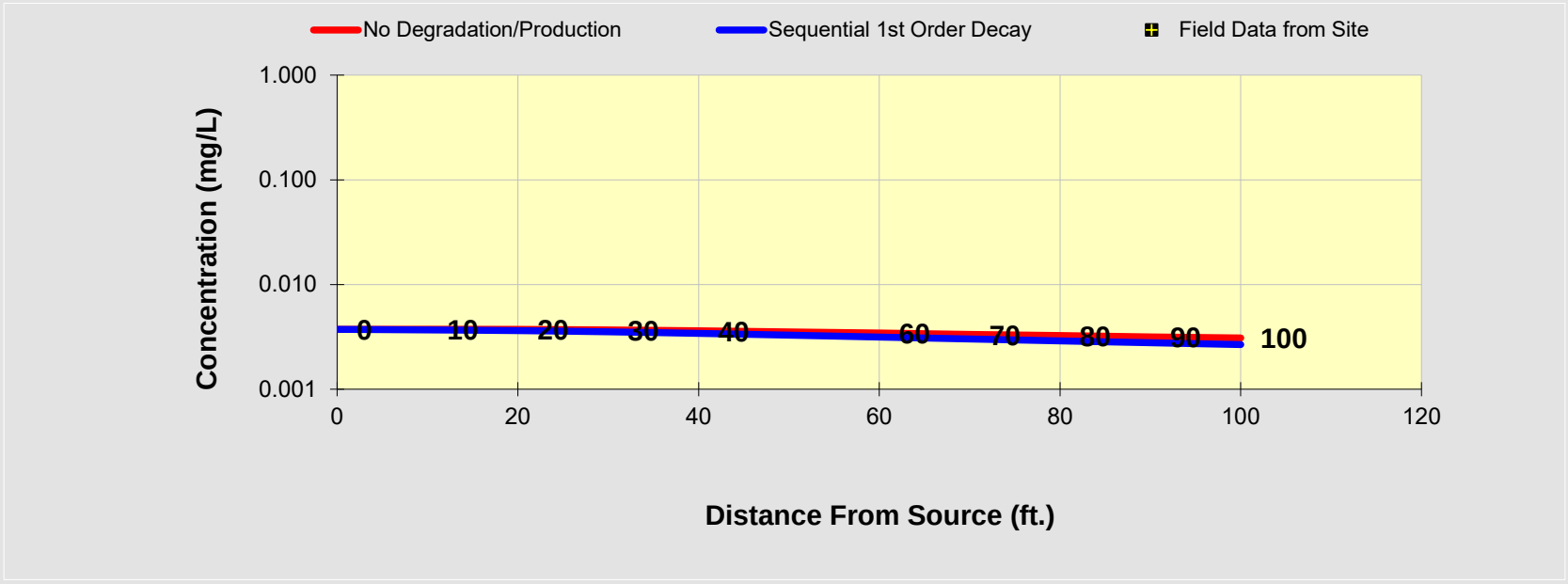
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

PCE	0	10	20	30	40	50	60	70	80	90	100
No Degradation	0.004	0.004	0.004	0.004	0.004	0.004	0.003	0.003	0.003	0.003	0.003
Biotransformation	0.0037	0.004	0.004	0.004	0.003	0.003	0.003	0.003	0.003	0.003	0.003

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

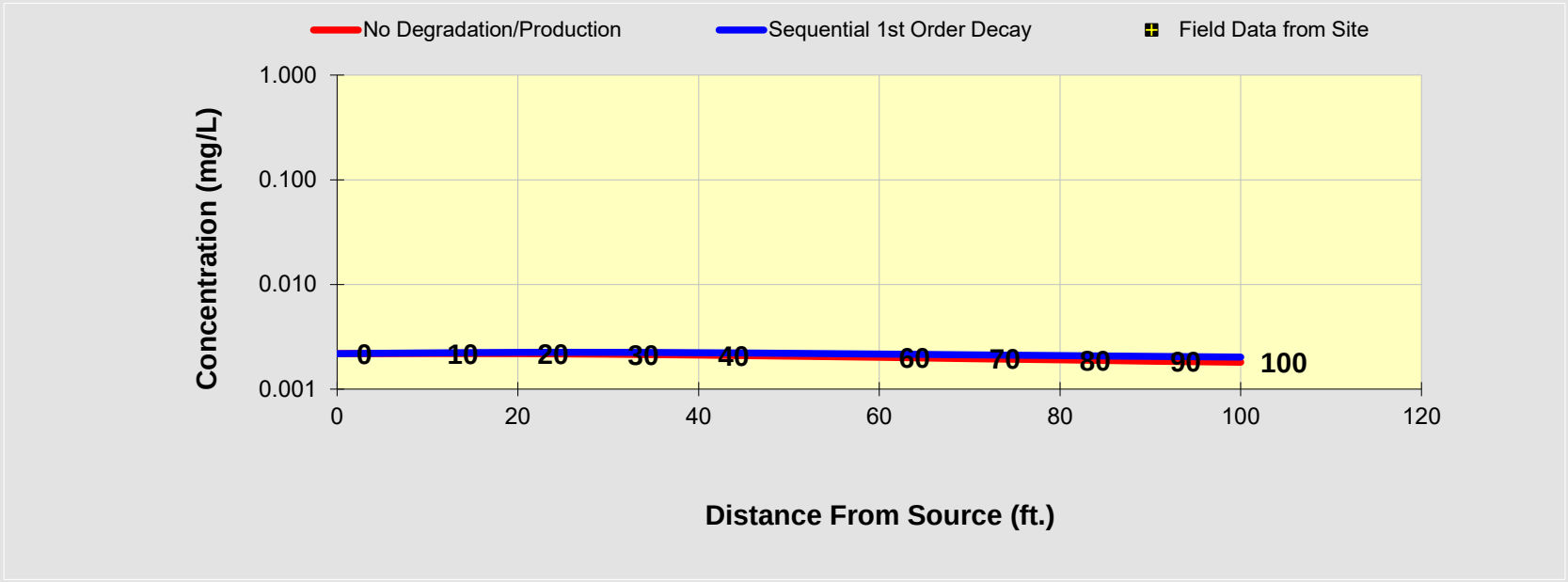
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

TCE	0	10	20	30	40	50	60	70	80	90	100
No Degradation	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
Biotransformation	0.0022	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

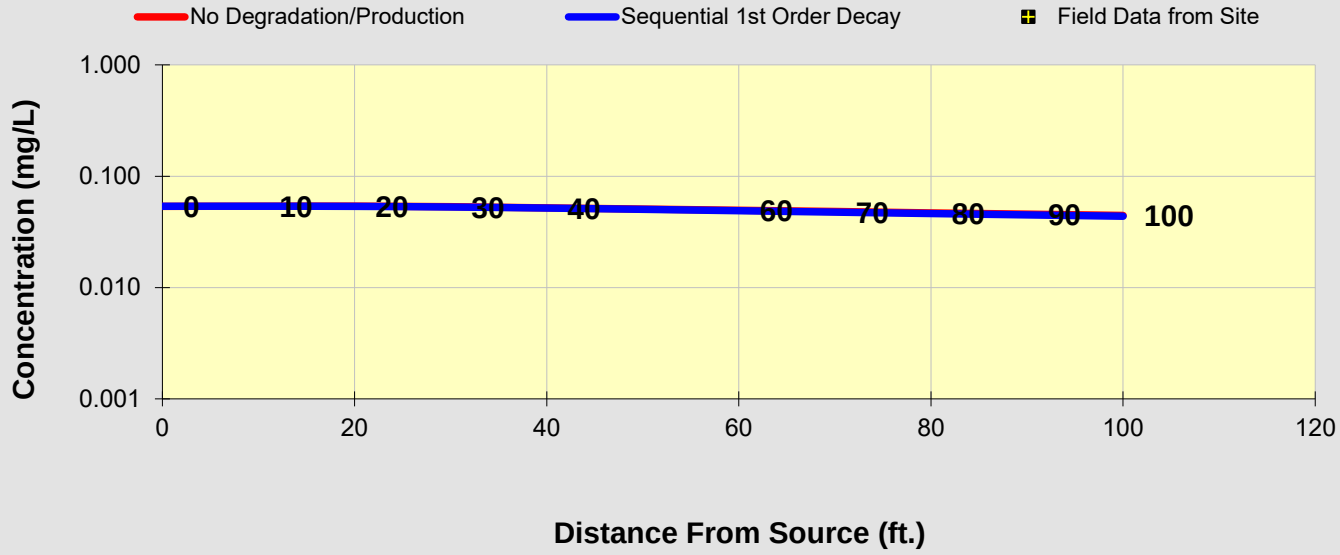
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

DCE	0	10	20	30	40	50	60	70	80	90	100
No Degradation	0.054	0.054	0.054	0.053	0.052	0.051	0.049	0.048	0.047	0.046	0.044
Biotransformation	0.0537	0.054	0.054	0.053	0.052	0.050	0.049	0.048	0.046	0.045	0.044

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

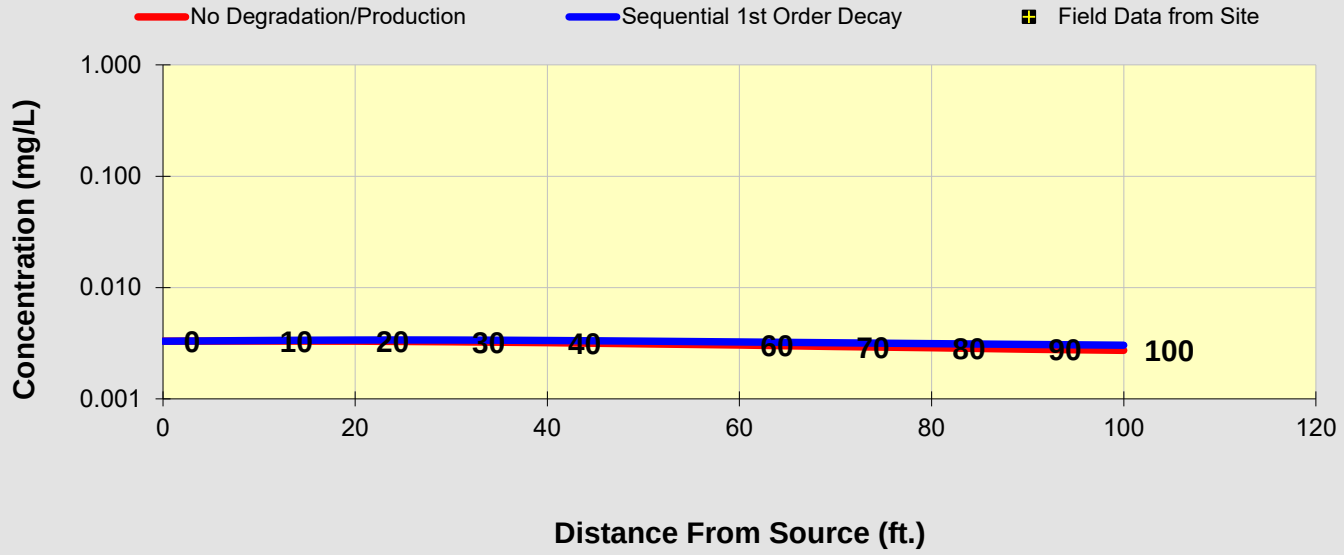
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE (mg/L) at Z=0

Distance from Source (ft)

VC	0	10	20	30	40	50	60	70	80	90	100
No Degradation	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003
Biotransformation	0.0033	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003

Monitoring Well Locations (ft)

	0										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Prepare Animation

Time:

100.0 Years

Log ⟺ Linear

Return to Input

To All

To Array

APPENDIX H
GROUNDWATER VOLATILIZATION TO INDOOR AIR RISK CALCULATION

Table H-1
Risk Ratio Calculation for Groundwater Volatilization to Indoor Air
CTA Area EU
Former GM Delphi Harrison Thermal Systems Facility
Dayton, OH

Parameter Name	Groundwater Vapor Intrusion Screening Level (VISL)[1]		CTA Area Exposure Unit		
	Noncarcinogenic VISL	Carcinogenic VISL	Maximum Detected Concentration	Noncarcinogenic Vapor Intrusion Risk Ratio	Carcinogenic Vapor Intrusion Risk Ratio
VOCs					
1,1,1-Trichloroethane	60000	NA	0	0.00E+00	NA
1,1-Dichloroethane	NA	620	0	NA	0.00E+00
1,1-Dichloroethene	1400	NA	0	0.00E+00	NA
Acetone	180000000	NA	0	0.00E+00	NA
Benzene	1100	140	0	0.00E+00	0.00E+00
Chlorobenzene	3900	NA	0	0.00E+00	NA
Chloroform	5400	66	3.5	6.48E-04	5.30E-02
cis-1,2-Dichloroethene	NA	NA	0	NA	NA
Cyclohexane	8200	NA	0	0.00E+00	NA
Ethylbenzene	32000	350	0	0.00E+00	0.00E+00
Isopropylbenzene	11000	NA	0	0.00E+00	NA
Methylene chloride	35000	160000	0	0.00E+00	0.00E+00
o-Xylene	NA	NA	0	NA	NA
Tetrachloroethene	550	1400	0	0.00E+00	0.00E+00
Toluene	170000	NA	0	0.00E+00	NA
trans-1,2-Dichloroethene	1600	NA	0	0.00E+00	NA
Trichloroethene	45	150	9.3	2.07E-01	6.20E-02
Vinyl chloride	590	37	0	0.00E+00	0.00E+00
Xylene (Total)	4900	NA	0	0.00E+00	NA
SVOCs					
bis(2-Ethylhexyl)phthalate	NA	NA	0	NA	NA
Caprolactam	NA	NA	0	NA	NA
Diethyl phthalate	NA	NA	0	NA	NA
PCBs					
Aroclor-1248	NA	NA	0	NA	NA
Aroclor-1254	NA	NA	0	NA	NA
Total PCBs	NA	NA	0	NA	NA
Cumulative Risk Ratio:				**0.2**	**0.1**

Notes:
[1] See text and Appendix E for discussion on Vapor Intrusion Screening Level (VISL).
NA = Not Available/Not Applicable
µg/L = micrograms per Liter
PCB = polychlorinated biphenyl
SVOC = Semi-Volatile Organic Compounds
VOCs = Volatile organic compounds
Bold and shading indicates maximum groundwater concentration exceeds VISL.
A result of zero indicates the analyte was not detected above the reporting limit.
DAY-20 is the only upper aquifer monitoring well in the CTA Area. The most recent concentrations from this well (2006) were used for this area.

ATTACHMENT III

INDOOR AIR AND SUB-SLAB RESULTS

Weston Solutions, Inc.
Suite 215
714 E. Monument Avenue,
Dayton, OH 45402
(937) 531-4400 · Fax (937) 531-4401
www.westonsolutions.com

August 11, 2016

Mr. Steve Nutt
Senior Vice President
CityWide Development Corporation
8 North Main Street
Dayton, Ohio 45402

Subject: Indoor Air Sampling W.O. No.: 14521.001.002.9999
Creative Technology Accelerator Building, Dayton Tech Town

Dear Mr. Nutt:

This letter report documents the indoor air sampling/data evaluation conducted by Weston Solutions, Inc. (WESTON®) in July 2016 at the request of CityWide Development Corporation (CityWide) for the Creative Technology Accelerator (CTA) building located at 711 E. Monument Avenue, Dayton, Ohio.

Sampling Procedures

WESTON and CityWide toured the building on July 15, 2016 and selected a total of four locations for sampling. Three of the selected locations were on the first floor of the building and the fourth selected location was on the exterior of the building. WESTON conducted the indoor air sampling on July 17, 2016.

Air sampling was completed using 6-liter summa canisters that were individually certified and leak tested prior to being shipped from Pace Analytical Laboratories in Minneapolis, Minnesota (Pace). The canisters were shipped pre-assembled with a flow controller attachment (with gauge) calibrated for an 8-hour sample collection duration. Upon placing the canisters in previously agreed upon sample locations, the brass cap at the end of the sampling orifice was removed and the flow controller on each canister was turned on. The initial vacuum reading was recorded as noted on the flow controller gauge. The canisters were allowed to collect air samples for a total duration of not more than 8 hours. At the end of the collection period, each flow controller was turned off and the final vacuum reading was recorded. The brass end cap was replaced on the flow controller attachment and the canisters were prepared for shipment to Pace.

A total of 4 samples were collected (IA-01, IA-02, IA-03, and IA-04). IA-01, IA-02, and IA-03 were located inside the building on the first floor, while IA-04 was an ambient air sample located on the third floor balcony, outside the building on the roof garden. Sample locations are shown on **Figure 1.**

Analytical Results

The air samples were analyzed for select volatile organic compounds (VOCs) by Pace using Ohio Environmental Protection Agency (OEPA) Voluntary Action Program (VAP)-certified TO-15 methodology. The VOCs selected for analysis included 1,1-dichloroethene [DCE], cis-1,2-DCE, trans-1,2-DCE, tetrachloroethene (PCE), trichloroethene (TCE), and vinyl chloride. These VOCs were selected based on a review of groundwater monitoring data in the vicinity of the building which identified low levels of chlorinated VOCs in groundwater.

Analytical results for the indoor air samples collected in July 2016 are summarized in **Table 1**. The laboratory data package is provided in **Attachment A**. PCE, TCE, and trans-1,2-DCE were detected in sample IA-01. PCE and TCE were detected in sample IA-03 and cis-1,2-DCE was detected in sample IA-04. Analytes were not detected in sample IA-02.

Data Evaluation

Detected analyte concentrations were compared to OEPA Commercial/Industrial Indoor Air Standards (**Table 1**). None of the constituents detected exceeded the OEPA Indoor Air Standards. These standards are based on a single-chemical exposure scenario.

To evaluate potential risk from multiple analytes, risk ratios were used to calculate cumulative risk. **Table 2** presents calculated risk ratios for each sample location. The risk ratios are calculated by dividing the concentrations of detected analytes by their corresponding OEPA Indoor Air Standard for single chemical carcinogen and single chemical non-carcinogen. The minimum of the two standards (carcinogen and non-carcinogen) is conservatively used in calculating the risk ratios. A total risk ratio for each sample location is calculated by summing the individual risk ratios for that sample. None of the calculated total risk ratios exceed the threshold of 1, indicating the cumulative risk from all detected analytes is below OEPA Indoor Air Standards.

WESTON appreciates the opportunity to continue to provide professional environmental services to CityWide. Please feel free to contact me at (906) 523-2311 if you have any questions or comments.

Very truly yours,
WESTON SOLUTIONS, INC.

Michelle Bakkila
Project Manager

Attachments

cc: Tom Fister, CityWide Development Corporation

FIGURE

LEGEND

● SAMPLE LOCATION

0 40'

SCALE

N

IA–01, IA–02, IA–03 LOCATED ON FIRST FLOOR.
IA–04 LOCATED OUTSIDE ON 3RD FLOOR BALCONY.

FIGURE 1

WESTON SOLUTIONS®

714 E. Monument Ave.
Suite 215
Dayton, Ohio
45402

INDOOR AIR SAMPLING LOCATION MAP

711 E. MONUMENT AVE

Dayton, Ohio

J:\CAD93\100\14716.dwg, 8/11/2016 9:23:17 AM

TABLES

Table 1
Comparison To OEPA Indoor Air Standards

Parameters	OEPA Indoor Air Standard (ug/m3)* Commercial/Industrial	IA-01-061716 Result (ug/m3)	IA-02-061716 Result (ug/m3)	IA-03-061716 Result (ug/m3)	IA-04-061716 Result (ug/m3)
1,1-Dichloroethene	880	ND[1.6]	ND[1.3]	ND[1.8]	ND[1.4]
cis-1,2-Dichloroethene	NA	ND[1.6]	ND[1.3]	ND[1.8]	**1.7**
trans-1,2-Dichloroethene	260	**33.2**	ND[1.3]	ND[1.8]	ND[1.4]
Tetrachloroethene	180	**1.5**	ND[1.1]	**35.0**	ND[1.2]
Trichloroethene	8.8	**5.6**	ND[0.89]	**1.5**	ND[0.92]
Vinyl chloride	28	ND[0.52]	ND[0.42]	ND[0.58]	ND[0.44]

*Current VAP Rule, Effective May 26, 2016
NA= Not Applicable
ND[1.6]= analyte not detected above laboratory reporting limit [Reporting Limit]
OEPA = Ohio Environmental Protection Agency
BOLD = detected
ug/m3 = micrograms per cubic meter

Table 2
Comparison To OEPA Indoor Air Standards and Calculation of Risk Ratios

Parameters	OEPA Indoor Air Standard (ug/m3)*		IA-01-061716			IA-02-061716			IA-03-061716			IA-04-061716		
	Commercial/Industrial		Result (ug/m3)	RL	Risk Ratio	Result	RL	Risk Ratio	Result (ug/m3)	RL	Risk Ratio	Result	RL	Risk Ratio
	NC	C			CI	(ug/m3)		CI			CI	(ug/m3)		CI
1,1-Dichloroethene	880	NA	ND	1.6	--	ND	1.3	--	ND	1.8	--	ND	1.4	--
cis-1,2-Dichloroethene	NA	NA	ND	1.6	--	ND	1.3	--	ND	1.8	--	**1.7**	1.4	NA
trans-1,2-Dichloroethene	260	NA	**33.2**	1.6	0.13	ND	1.3	--	ND	1.8	--	ND	1.4	--
Tetrachloroethene	180	470	**1.5**	1.4	0.01	ND	1.1	--	**35.0**	1.6	0.19	ND	1.2	--
Trichloroethene	8.8	30	**5.6**	1.1	0.64	ND	0.89	--	**1.5**	1.2	0.17	ND	0.92	--
Vinyl chloride	440	28	ND	0.52	--	ND	0.42	--	ND	0.58	--	ND	0.44	--
TOTAL RISK RATIO					0.8			0.0			0.4			0.0

*Current VAP Rule, Effective May 26, 2016
NC = Standard for a Single Chemical Non-Carcinogen
C = Standard for a Single Chemical Carcinogen
RL = Reporting Limit
CI = Commercial/Industrial
Risk Ratio = Concentration / (Minimum Indoor Air Standard)
NA= Not Applicable
ND= analyte not detected above laboratory reporting limit
OEPA = Ohio Environmental Protection Agency
BOLD = analyte was detected
ug/m3 = micrograms per cubic meter
'-- = When analyte is not detected, calculated risk ratio is zero

ATTACHMENT A
ANALYTICAL DATA PACKAGE

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

August 10, 2016

Michelle Bakkila
Weston Solutions
711 E. Monument Ave.
Dayton, OH

RE: Project: Tech Town- Revised
Pace Project No.: 10356070

Dear Michelle Bakkila:
Enclosed are the analytical results for sample(s) received by the laboratory on July 20, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

This report was revised to correct QC control qualifiers.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Carolynne Trout

Carolynne Trout
carolynne.trout@pacelabs.com
Project Manager

Enclosures

cc: Raghavan Parthasarathy, Weston Solutions, Inc.

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Minneapolis, MN 55414
(612)607-1700

CERTIFICATIONS

Project: Tech Town- Revised
Pace Project No.: 10356070

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414
525 N 8th Street, Salina, KS 67401
A2LA Certification #: 2926.01
Alaska Certification #: UST-078
Alaska Certification #MN00064
Alabama Certification #40770
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
Colorado Certification #Pace
Connecticut Certification #: PH-0256
EPA Region 8 Certification #: 8TMS-L
Florida/NELAP Certification #: E87605
Guam Certification #:14-008r
Georgia Certification #: 959
Georgia EPD #: Pace
Idaho Certification #: MN00064
Hawaii Certification #MN00064
Illinois Certification #: 200011
Indiana Certification#C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky Dept of Envi. Protection - DW #90062
Kentucky Dept of Envi. Protection - WW #:90062
Louisiana DEQ Certification #: 3086
Louisiana DHH #: LA140001
Maine Certification #: 2013011
Maryland Certification #: 322
Michigan DEPH Certification #: 9909
Minnesota Certification #: 027-053-137
Mississippi Certification #: Pace
Montana Certification #: MT0092
Nevada Certification #: MN_00064
Nebraska Certification #: Pace
New Jersey Certification #: MN-002
New York Certification #: 11647
North Carolina Certification #: 530
North Carolina State Public Health #: 27700
North Dakota Certification #: R-036
Ohio EPA #: 4150
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Oregon Certification #: MN300001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Saipan (CNMI) #:MP0003
South Carolina #:74003001
Texas Certification #: T104704192
Tennessee Certification #: 02818
Utah Certification #: MN000642013-4
Virginia DGS Certification #: 251
Virginia/VELAP Certification #: Pace
Washington Certification #: C486
West Virginia Certification #: 382
West Virginia DHHR #:9952C
Wisconsin Certification #: 999407970

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SAMPLE SUMMARY

Project: Tech Town- Revised
Pace Project No.: 10356070

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10356070001	**IA-01-061716**	Air	07/17/16 14:05	07/20/16 09:15
10356070002	**IA-02-061716**	Air	07/17/16 15:31	07/20/16 09:15
10356070003	**IA-03-061716**	Air	07/17/16 15:32	07/20/16 09:15
10356070004	**IA-04-061716**	Air	07/17/16 15:36	07/20/16 09:15
10356070005	**IA-01-061716 Can Cert**	Air	07/17/16 14:05	07/20/16 09:15
10356070006	**IA-02-061716 Can Cert**	Air	07/17/16 15:31	07/20/16 09:15
10356070007	**IA-03-061716 Can Cert**	Air	07/17/16 15:32	07/20/16 09:15
10356070008	**IA-04-061716 Can Cert**	Air	07/17/16 15:36	07/20/16 09:15

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: Tech Town- Revised
Pace Project No.: 10356070

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10356070001	**IA-01-061716**	TO-15	NCK	6	PASI-M
10356070002	**IA-02-061716**	TO-15	MJL	6	PASI-M
10356070003	**IA-03-061716**	TO-15	MJL	6	PASI-M
10356070004	**IA-04-061716**	TO-15	MJL	6	PASI-M
10356070005	**IA-01-061716 Can Cert**	TO-15	MJL	6	PASI-M
10356070006	**IA-02-061716 Can Cert**	TO-15	DR1	6	PASI-M
10356070007	**IA-03-061716 Can Cert**	TO-15	MJL	6	PASI-M
10356070008	**IA-04-061716 Can Cert**	TO-15	DR1	6	PASI-M

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PROJECT NARRATIVE

Project: Tech Town- Revised
Pace Project No.: 10356070

Method: **TO-15**
Description: TO15 MSV AIR
Client: Weston Solutions Inc OH
Date: August 10, 2016

General Information:
4 samples were analyzed for TO-15. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

QC Batch: 427284

CH: The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased high.

- LCS (Lab ID: 2325900)
  - 1,1-Dichloroethene
  - Vinyl chloride
  - trans-1,2-Dichloroethene

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

QC Batch: 427284

L0: Analyte recovery in the laboratory control sample (LCS) was outside QC limits.

- LCS (Lab ID: 2325900)
  - 1,1-Dichloroethene
  - trans-1,2-Dichloroethene

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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(612)607-1700

PROJECT NARRATIVE

Project: Tech Town- Revised
Pace Project No.: 10356070

Method: **TO-15**
Description: Individual Can Certification
Client: Weston Solutions Inc OH
Date: August 10, 2016

General Information:
4 samples were analyzed for TO-15. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: Tech Town- Revised
Pace Project No.: 10356070

Sample: IA-01-061716 **Lab ID: 10356070001** Collected: 07/17/16 14:05 Received: 07/20/16 09:15 Matrix: Air

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
1,1-Dichloroethene	ND	ug/m3	1.6	0.48	2		07/27/16 12:29	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.6	0.49	2		07/27/16 12:29	156-59-2	
trans-1,2-Dichloroethene	**33.2**	ug/m3	1.6	0.77	2		07/27/16 12:29	156-60-5	
Tetrachloroethene	**1.5**	ug/m3	1.4	0.56	2		07/27/16 12:29	127-18-4	
Trichloroethene	**5.6**	ug/m3	1.1	0.55	2		07/27/16 12:29	79-01-6	
Vinyl chloride	ND	ug/m3	0.52	0.39	2		07/27/16 12:29	75-01-4	

Sample: IA-02-061716 **Lab ID: 10356070002** Collected: 07/17/16 15:31 Received: 07/20/16 09:15 Matrix: Air

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
1,1-Dichloroethene	ND	ug/m3	1.3	0.38	1.61		07/26/16 17:04	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.3	0.40	1.61		07/26/16 17:04	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.3	0.62	1.61		07/26/16 17:04	156-60-5	
Tetrachloroethene	ND	ug/m3	1.1	0.45	1.61		07/26/16 17:04	127-18-4	
Trichloroethene	ND	ug/m3	0.89	0.44	1.61		07/26/16 17:04	79-01-6	
Vinyl chloride	ND	ug/m3	0.42	0.31	1.61		07/26/16 17:04	75-01-4	

Sample: IA-03-061716 **Lab ID: 10356070003** Collected: 07/17/16 15:32 Received: 07/20/16 09:15 Matrix: Air

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
1,1-Dichloroethene	ND	ug/m3	1.8	0.54	2.25		07/26/16 17:37	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	1.8	0.55	2.25		07/26/16 17:37	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.8	0.86	2.25		07/26/16 17:37	156-60-5	
Tetrachloroethene	**35.0**	ug/m3	1.6	0.63	2.25		07/26/16 17:37	127-18-4	
Trichloroethene	**1.5**	ug/m3	1.2	0.62	2.25		07/26/16 17:37	79-01-6	
Vinyl chloride	ND	ug/m3	0.58	0.44	2.25		07/26/16 17:37	75-01-4	

Sample: IA-04-061716 **Lab ID: 10356070004** Collected: 07/17/16 15:36 Received: 07/20/16 09:15 Matrix: Air

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
1,1-Dichloroethene	ND	ug/m3	1.4	0.40	1.68		07/26/16 18:08	75-35-4	
cis-1,2-Dichloroethene	**1.7**	ug/m3	1.4	0.41	1.68		07/26/16 18:08	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	1.4	0.65	1.68		07/26/16 18:08	156-60-5	
Tetrachloroethene	ND	ug/m3	1.2	0.47	1.68		07/26/16 18:08	127-18-4	
Trichloroethene	ND	ug/m3	0.92	0.46	1.68		07/26/16 18:08	79-01-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Tech Town- Revised
Pace Project No.: 10356070

Sample: IA-04-061716 **Lab ID: 10356070004** Collected: 07/17/16 15:36 Received: 07/20/16 09:15 Matrix: Air

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15								
Vinyl chloride	ND	ug/m3	0.44	0.33	1.68		07/26/16 18:08	75-01-4	

Sample: IA-01-061716 Can Cert **Lab ID: 10356070005** Collected: 07/17/16 14:05 Received: 07/20/16 09:15 Matrix: Air

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Individual Can Certification	Analytical Method: TO-15								
1,1-Dichloroethene	ND	ug/m3	0.81	0.051	1		04/29/16 18:32	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	0.81	0.041	1		04/29/16 18:32	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	0.81	0.041	1		04/29/16 18:32	156-60-5	
Tetrachloroethene	ND	ug/m3	0.69	0.34	1		04/29/16 18:32	127-18-4	
Trichloroethene	ND	ug/m3	0.55	0.27	1		04/29/16 18:32	79-01-6	
Vinyl chloride	ND	ug/m3	1.3	0.027	1		04/29/16 18:32	75-01-4	

Sample: IA-02-061716 Can Cert **Lab ID: 10356070006** Collected: 07/17/16 15:31 Received: 07/20/16 09:15 Matrix: Air

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Individual Can Certification	Analytical Method: TO-15								
1,1-Dichloroethene	ND	ug/m3	0.81	0.24	1		05/12/16 16:19	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	0.81	0.25	1		05/12/16 16:19	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	0.81	0.38	1		05/12/16 16:19	156-60-5	
Tetrachloroethene	ND	ug/m3	0.69	0.28	1		05/12/16 16:19	127-18-4	
Trichloroethene	ND	ug/m3	1.1	0.28	1		05/12/16 16:19	79-01-6	
Vinyl chloride	ND	ug/m3	0.26	0.20	1		05/12/16 16:19	75-01-4	

Sample: IA-03-061716 Can Cert **Lab ID: 10356070007** Collected: 07/17/16 15:32 Received: 07/20/16 09:15 Matrix: Air

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Individual Can Certification	Analytical Method: TO-15								
1,1-Dichloroethene	ND	ug/m3	2.0	0.051	1		04/17/16 12:51	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	0.81	0.041	1		04/17/16 12:51	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	0.81	0.041	1		04/17/16 12:51	156-60-5	
Tetrachloroethene	ND	ug/m3	0.69	0.34	1		04/17/16 12:51	127-18-4	
Trichloroethene	ND	ug/m3	0.55	0.27	1		04/17/16 12:51	79-01-6	
Vinyl chloride	ND	ug/m3	0.26	0.027	1		04/17/16 12:51	75-01-4	

REPORT OF LABORATORY ANALYSIS

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Minneapolis, MN 55414
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ANALYTICAL RESULTS

Project: Tech Town- Revised
Pace Project No.: 10356070

Sample: IA-04-061716 Can Cert **Lab ID: 10356070008** Collected: 07/17/16 15:36 Received: 07/20/16 09:15 Matrix: Air

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Individual Can Certification	Analytical Method: TO-15								
1,1-Dichloroethene	ND	ug/m3	0.81	0.24	1		05/12/16 15:51	75-35-4	
cis-1,2-Dichloroethene	ND	ug/m3	0.81	0.25	1		05/12/16 15:51	156-59-2	
trans-1,2-Dichloroethene	ND	ug/m3	0.81	0.38	1		05/12/16 15:51	156-60-5	
Tetrachloroethene	ND	ug/m3	0.69	0.28	1		05/12/16 15:51	127-18-4	
Trichloroethene	ND	ug/m3	1.1	0.28	1		05/12/16 15:51	79-01-6	
Vinyl chloride	ND	ug/m3	0.26	0.20	1		05/12/16 15:51	75-01-4	

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Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: Tech Town- Revised
Pace Project No.: 10356070

QC Batch: 427284 Analysis Method: TO-15
QC Batch Method: TO-15 Analysis Description: TO15 MSV AIR Low Level
Associated Lab Samples: 10356070002, 10356070003, 10356070004

METHOD BLANK: 2325899 Matrix: Air
Associated Lab Samples: 10356070002, 10356070003, 10356070004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1-Dichloroethene	ug/m3	ND	0.81	0.24	07/26/16 15:58	
cis-1,2-Dichloroethene	ug/m3	ND	0.81	0.25	07/26/16 15:58	
Tetrachloroethene	ug/m3	ND	0.69	0.28	07/26/16 15:58	
trans-1,2-Dichloroethene	ug/m3	ND	0.81	0.38	07/26/16 15:58	
Trichloroethene	ug/m3	ND	0.55	0.28	07/26/16 15:58	
Vinyl chloride	ug/m3	ND	0.26	0.20	07/26/16 15:58	

LABORATORY CONTROL SAMPLE: 2325900

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1-Dichloroethene	ug/m3	40.3	61.4	152	62-135	CH,L0
cis-1,2-Dichloroethene	ug/m3	40.3	30.6	76	65-139	
Tetrachloroethene	ug/m3	69	86.6	125	60-142	
trans-1,2-Dichloroethene	ug/m3	40.3	58.9	146	67-137	CH,L0
Trichloroethene	ug/m3	54.6	62.8	115	60-144	
Vinyl chloride	ug/m3	26	34.3	132	63-135	CH

SAMPLE DUPLICATE: 2326277

Parameter	Units	10356554001 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1-Dichloroethene	ug/m3	ND	ND		25	
cis-1,2-Dichloroethene	ug/m3	ND	ND		25	
Tetrachloroethene	ug/m3	ND	ND		25	
trans-1,2-Dichloroethene	ug/m3	ND	ND		25	
Trichloroethene	ug/m3	ND	ND		25	
Vinyl chloride	ug/m3	ND	ND		25	

SAMPLE DUPLICATE: 2326278

Parameter	Units	10356554002 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1-Dichloroethene	ug/m3	ND	ND		25	
cis-1,2-Dichloroethene	ug/m3	ND	ND		25	
Tetrachloroethene	ug/m3	ND	ND		25	
trans-1,2-Dichloroethene	ug/m3	ND	ND		25	
Trichloroethene	ug/m3	ND	ND		25	
Vinyl chloride	ug/m3	ND	ND		25	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: Tech Town- Revised
Pace Project No.: 10356070

QC Batch: 427474
QC Batch Method: TO-15
Analysis Method: TO-15
Analysis Description: TO15 MSV AIR Low Level
Associated Lab Samples: 10356070001

METHOD BLANK: 2326711
Matrix: Air
Associated Lab Samples: 10356070001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1-Dichloroethene	ug/m3	ND	0.81	0.24	07/27/16 11:57	
cis-1,2-Dichloroethene	ug/m3	ND	0.81	0.25	07/27/16 11:57	
Tetrachloroethene	ug/m3	ND	0.69	0.28	07/27/16 11:57	
trans-1,2-Dichloroethene	ug/m3	ND	0.81	0.38	07/27/16 11:57	
Trichloroethene	ug/m3	ND	0.55	0.28	07/27/16 11:57	
Vinyl chloride	ug/m3	ND	0.26	0.20	07/27/16 11:57	

LABORATORY CONTROL SAMPLE: 2326712

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1-Dichloroethene	ug/m3	40.3	45.3	112	62-135	
cis-1,2-Dichloroethene	ug/m3	40.3	49.3	122	65-139	
Tetrachloroethene	ug/m3	69	80.8	117	60-142	
trans-1,2-Dichloroethene	ug/m3	40.3	49.7	123	67-137	
Trichloroethene	ug/m3	54.6	62.6	115	60-144	
Vinyl chloride	ug/m3	26	30.4	117	63-135	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALIFIERS

Project: Tech Town- Revised
Pace Project No.: 10356070

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M	Pace Analytical Services - Minneapolis

ANALYTE QUALIFIERS

CH	The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased high.
L0	Analyte recovery in the laboratory control sample (LCS) was outside QC limits.

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Tech Town- Revised
Pace Project No.: 10356070

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10356070001	**IA-01-061716**	TO-15	427474		
10356070002	**IA-02-061716**	TO-15	427284		
10356070003	**IA-03-061716**	TO-15	427284		
10356070004	**IA-04-061716**	TO-15	427284		
10356070005	**IA-01-061716 Can Cert**	TO-15	426522		
10356070006	**IA-02-061716 Can Cert**	TO-15	426522		
10356070007	**IA-03-061716 Can Cert**	TO-15	426522		
10356070008	**IA-04-061716 Can Cert**	TO-15	426522		

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10356070

Pace Analytical®
www.pacelabs.com

AIR: CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

19981

Page: 1 of 1

Section A Required Client Information:

Company: Weston Solutions
Address: 711 E Monument Ave
Ste 309, Dayton, OH
Email To: michelle.Bakkila@weston solutions.com
Phone: 937-531-4403 Fax:
Requested Due Date/TAT: 5 BD

Section B Required Project Information:

Report To: Michelle Bakkila
Copy To: Raghavan Parthasarathy
Purchase Order No.:
Project Name: Tech Town
Project Number:

Section C Invoice Information:

Attention: Michelle Bakkila
Company Name: Weston Solutions
Address: 711 E Monument Ave, Dayton, OH
Pace Quote Reference:
Pace Project Manager/Sales Rep.
Pace Profile #:

Program: ☐ UST ☐ Superfund ☐ Emissions ☐ Clean Air Act ☐ Voluntary Clean Up ☐ Dry Clean ☐ RCRA ☐ Other

Location of Sampling by State: OH

Reporting Units: ug/m³ ___ mg/m³ ___ PPBV ___ PPMV ___ Other ___

Report Level: II.___ III.___ IV.___ Other___

'Section D Required Client Information

AIR SAMPLE ID
Sample IDs MUST BE UNIQUE

Valid Media Codes

MEDIA	CODE
Tedlar Bag	TB
1 Liter Summa Can	1LC
6 Liter Summa Can	6LC
Low Volume Puff	LVP
High Volume Puff	HVP
Other	PM10

ITEM #	'Section D Required Client Information: AIR SAMPLE ID (Sample IDs MUST BE UNIQUE)	MEDIA CODE	PID Reading (Client only)	COLLECTED COMPOSITE START END/GRAB DATE	COLLECTED TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	Canister Pressure (Initial Field - psig)	Canister Pressure (Final Field - psig)	Summa Can Number	Flow Control Number	Method: PM10	3C- Fixed Gas (%)	TO-3	TO-3M (Methane)	TO-4 (PCBs)	TO-13 (PAH)	TO-14	TO-15	TO15 Short List*	Pace Lab ID
1	IA-01-061716	6LC		6/17/16	1405			-23	-2	0992	0244								X		001, 005
2	IA-02-061716	6LC			1531			-28	-5	2383	0321								X		002, 006
3	IA-03-061716	6LC			1532			-29	-6	0118	1020								X		003, 007
4	IA-04-061716	6LC			1536			-30	-6	1192	1060								X		004, 008
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					

Comments :

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
	6/17/16	1600		72016	0915

SAMPLE CONDITIONS

Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact
Amb	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Raghavan Parthasarathy
SIGNATURE of SAMPLER:
DATE Signed (MM / DD / YY): 6/17/16

ORIGINAL

Pace Analytical®	Document Name: Air Sample Condition Upon Receipt	Document Revised: 26APR2016 Page 1 of 1
	Document No.: F-MN-A-106-rev.11	Issuing Authority: Pace Minnesota Quality Office

Air Sample Condition Upon Receipt

Client Name: weston Solutions

Project #: WO# : 10356070

10356070

Courier: ☑ Fed Ex ☐ UPS ☐ Speedee ☐ Client ☐ Commercial ☐ Pace ☐ Other:

Tracking Number: 6637 5037 8927

Custody Seal on Cooler/Box Present? ☐ Yes ☒ No **Seals Intact?** ☐ Yes ☑ No

Optional: Proj. Due Date: Proj. Name:

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☑ Foam ☐ None ☐ Tin Can ☐ Other: **Temp Blank rec:** ☐ Yes ☒ No

Temp. (TO17 and TO13 samples only) (°C): 20 **Corrected Temp (°C):** 20 **Thermom. Used:** ☐ B88A912167504 ☐ B88A0143310098 ☐ 151401163 ☐ 151401164

Temp should be above freezing to 6°C **Correction Factor:** N/A **Date & Initials of Person Examining Contents:** 7/20/16

Type of ice Received ☐ Blue ☐ Wet ☒ None

				Comments:
Chain of Custody Present?	☑ Yes	☐ No	☐ N/A	1.
Chain of Custody Filled Out?	☑ Yes	☐ No	☐ N/A	2.
Chain of Custody Relinquished?	☑ Yes	☐ No	☐ N/A	3.
Sampler Name and/or Signature on COC?	☑ Yes	☐ No	☐ N/A	4.
Samples Arrived within Hold Time?	☑ Yes	☐ No	☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	☐ Yes	☑ No	☐ N/A	6.
Rush Turn Around Time Requested?	☐ Yes	☑ No	☐ N/A	7.
Sufficient Volume?	☑ Yes	☐ No	☐ N/A	8.
Correct Containers Used?	☑ Yes	☐ No	☐ N/A	9.
-Pace Containers Used?	☑ Yes	☐ No	☐ N/A	
Containers Intact?	☑ Yes	☐ No	☐ N/A	10.
Media: Air Can Airbag Filter TDT Passive				11.
Sample Labels Match COC?	☒ Yes	☐ No	☐ N/A	12.

Samples Received:

Canisters			Canisters		
Sample Number	Can ID	Flow Controller ID	Sample Number	Can ID	Flow Controller ID

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐ Yes ☐ No

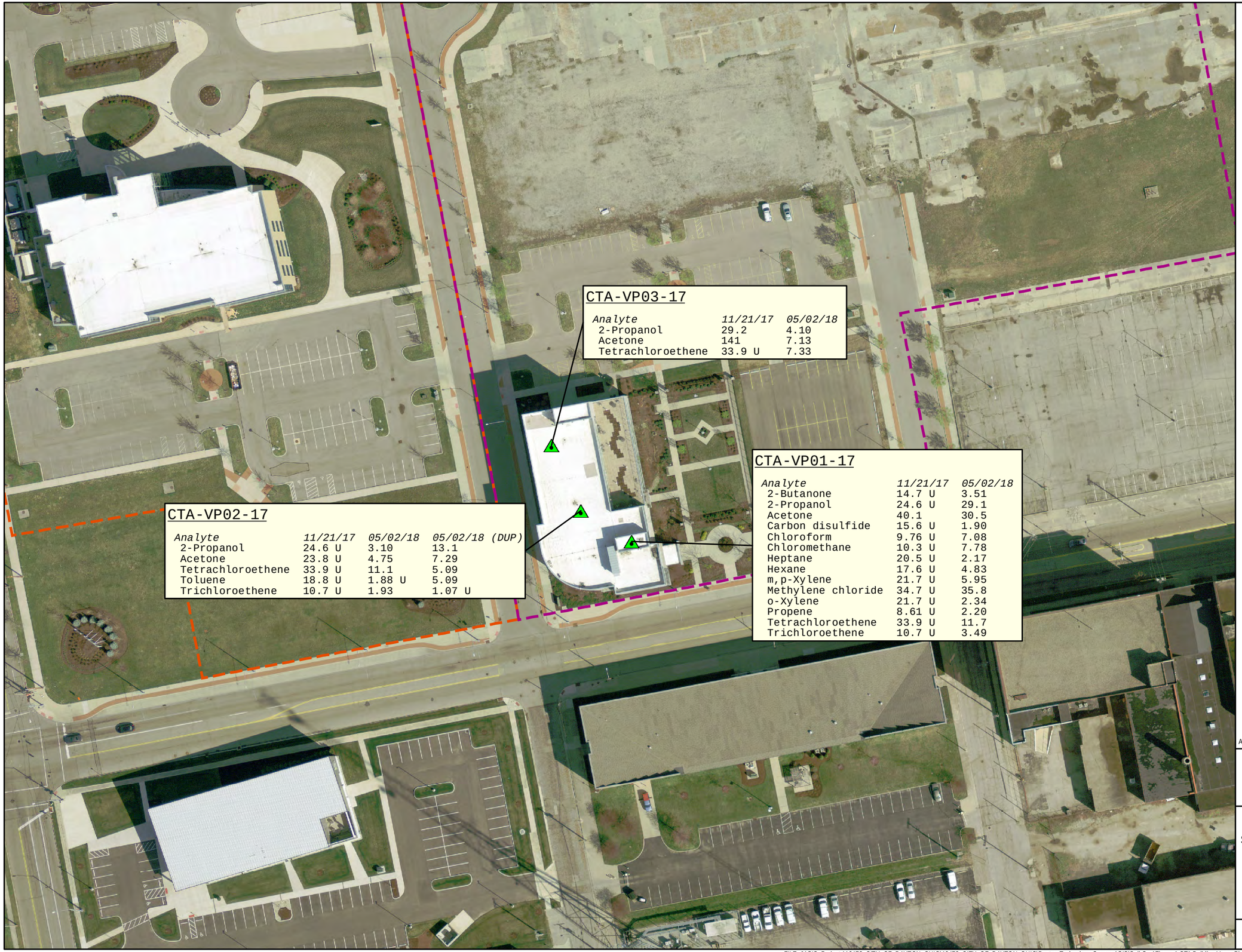
Person Contacted: Date/Time:

Comments/Resolution:

Collection date is 7/17/16 per M. Bakkila

Project Manager Review: Carolyne Trout **Date:** 7/20/16

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

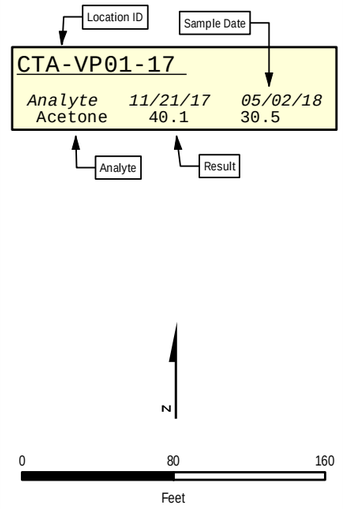


LEGEND

- Sub-Slab Soil Gas Sample Location
- East Phase Boundary
- West Phase Boundary

Notes:

- Only parameters with at least one detected result shown
- Results compared Commerical VI Screening Levels.
- No results exceed screening levels
- DUP = duplicate results
- U = not detected above reporting limit shown
- All results in ug/m^3



AERIAL SOURCE: City of Dayton

WESTON SOLUTIONS

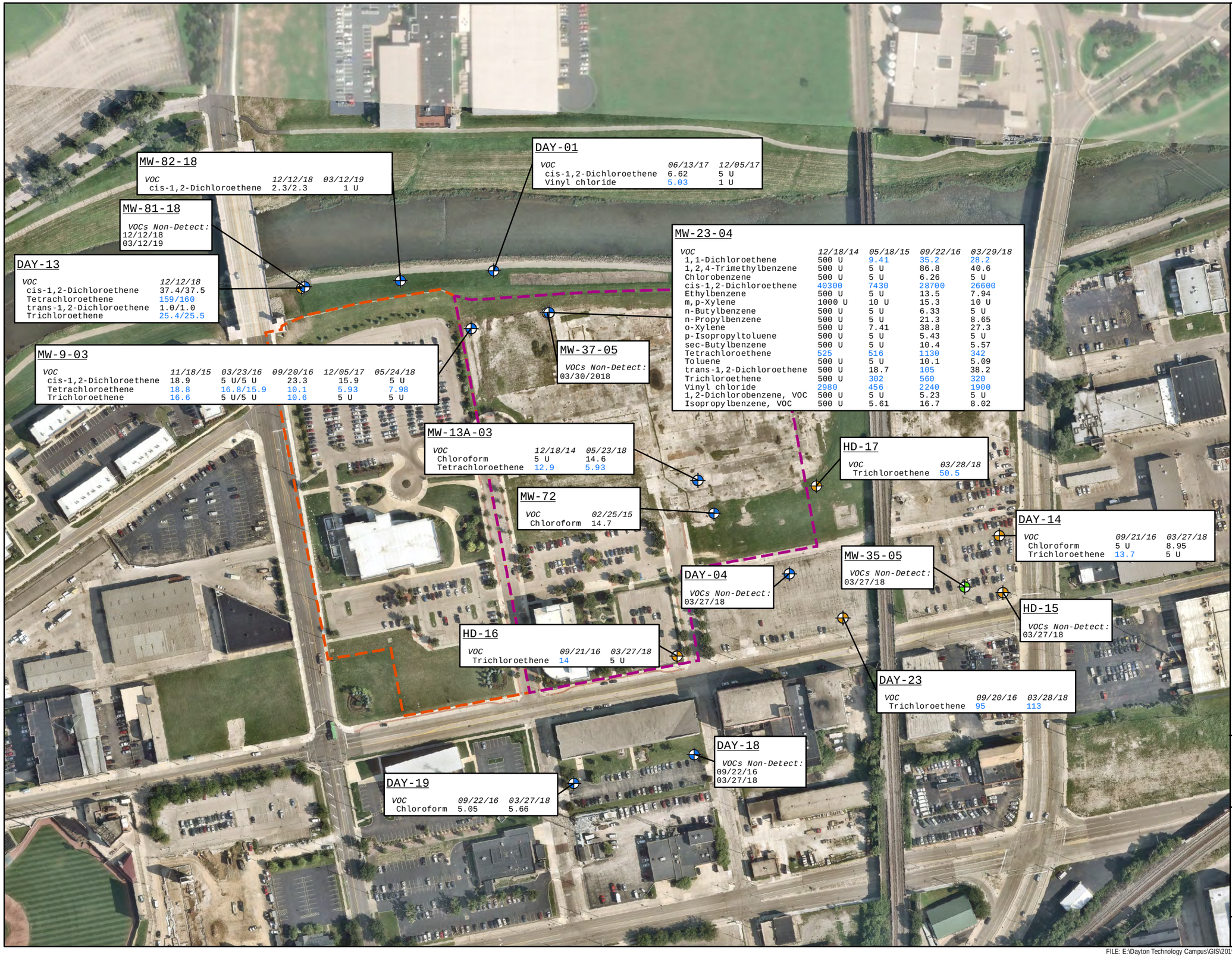
FIGURE 1
SUB-SLAB SOIL GAS ANALYTICAL RESULTS
CTA BUILDING
NOVEMBER 2017 AND MAY 2018
FORMER GM DELPHI HARRISON
THERMAL SYSTEMS FACILITY
DAYTON, OHIO

MAY 2018	PROJECT NO 12473.005.010.4000	SCALE AS SHOWN

FILE: J:\GIS_Projects\12473_CITY_OF_DAYTON_OHIO\12473_CITY_OF_DAYTON_OHIO\Dayton Technology Campus\GIS\Soil Gas\Figure 1 CTA Building Vapor Pin Results Nov 2017 and May 2018.mxd 3:23:28 PM 5/25/2018 MYERSJT

ATTACHMENT IV

GROUNDWATER MONITORING WELL RESULTS



LEGEND

Monitoring Well Location Sampled for VOCs from 2014-2019

- Upper Aquifer - Water Table
- Upper Aquifer - Top of Till
- Lower Aquifer
- West Phase Boundary
- East Phase Boundary

Notes:

- Only parameters with at least one detected result are shown
- Blue values indicate exceedance of generic unrestricted potable-use maximum contaminant level
- U = not detected above reporting limit shown
- VOCs = volatile organic compounds

N

0 200 400

Feet

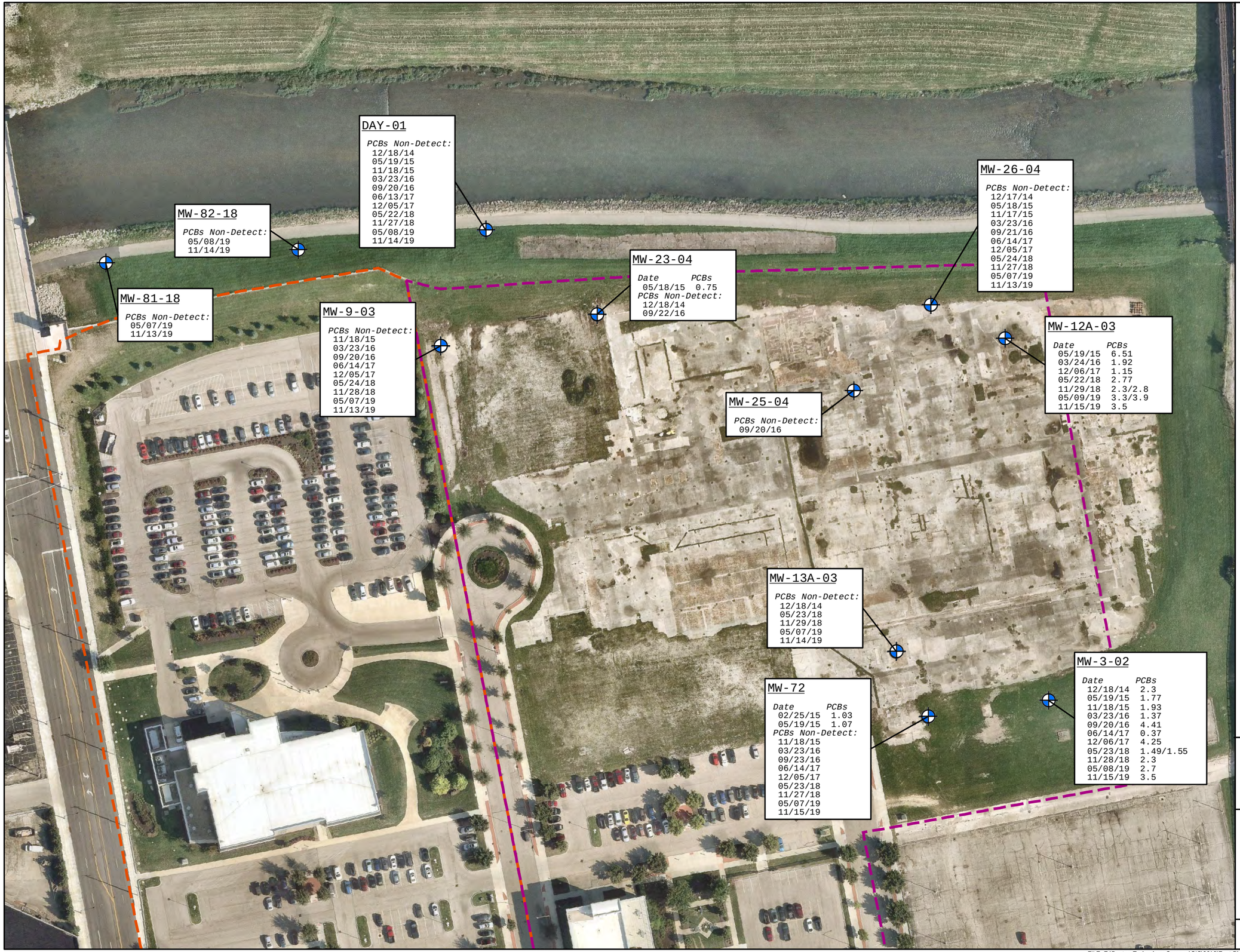
AERIAL SOURCE: Nearmap 8-24-2018

WESTON SOLUTIONS

FIGURE 1
EAST PHASE DETECTED VOCS IN GROUNDWATER 2014-2019 FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY DAYTON, OHIO

JAN 2020	PROJECT NO 12473.005.010.4002	SCALE AS SHOWN

FILE: E:\Dayton Technology Campus\GIS\2019\East Phase GW VOCs 2014-2019.mxd 2:53:01 PM 1/10/2020 MYERSJT



LEGEND

- Upper Aquifer - Water Table Monitoring Well Sampled for PCBs
- West Phase Boundary
- East Phase Boundary

Notes:

- Only Aroclor-1254 PCB results are shown. All other PCBs were non-detect from 2014-2019
- PCBs = polychlorinated biphenyls
- VOCs = volatile organic compounds

N

0 100 200

Feet

AERIAL SOURCE: Nearmap 8-24-2018

WESTON SOLUTIONS

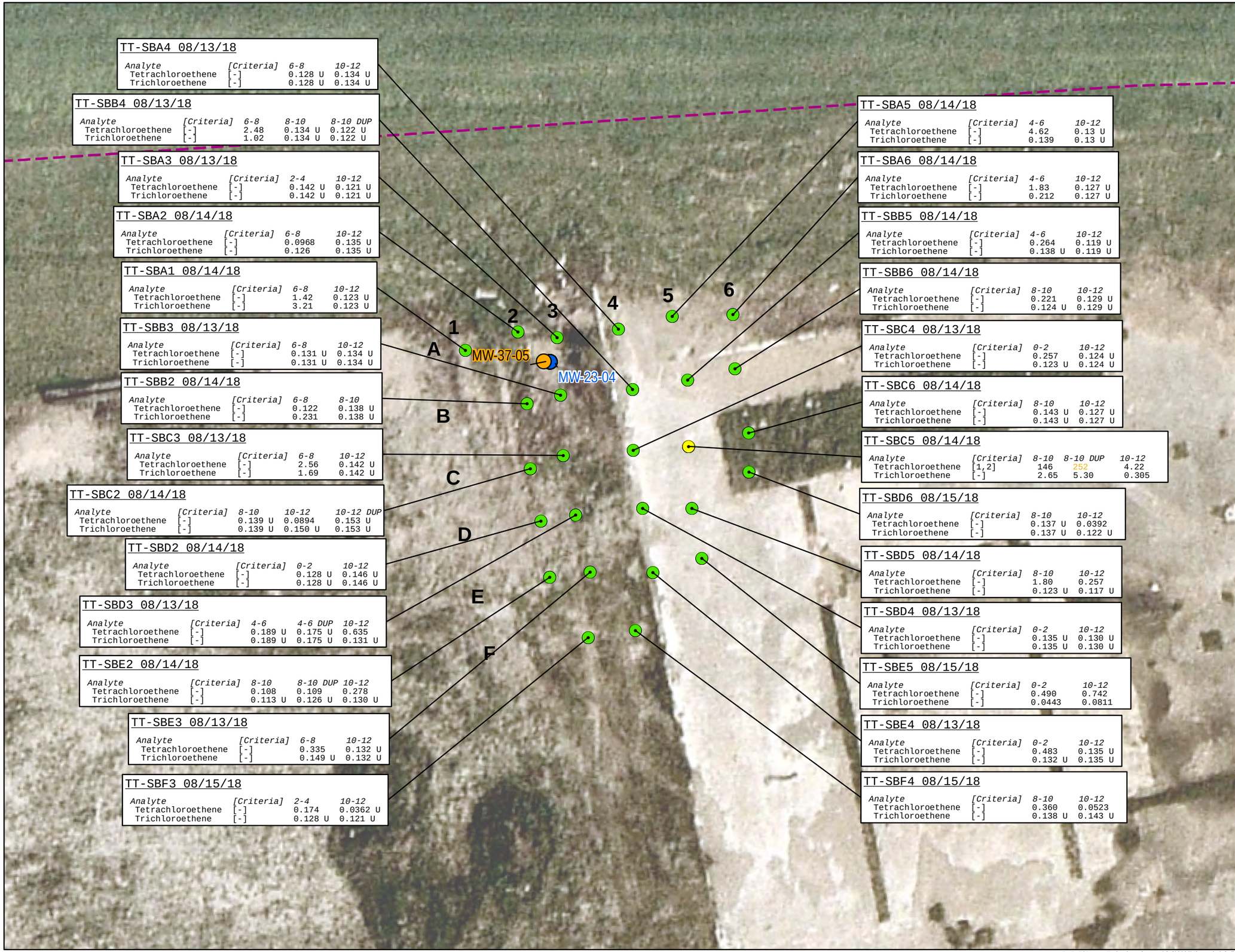
FIGURE 2
EAST PHASE DETECTED PCBs IN GROUNDWATER 2014-2019
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

JAN 2020	PROJECT NO 12473.005.010.4002	SCALE AS SHOWN

FILE: E:\Dayton Technology Campus\GIS\2019\East Phase GW PCBs 2014-2019_200116.mxd 1:44:00 PM 1/16/2020 MYERSJT

ATTACHMENT V

SOIL SAMPLING ANALYTICAL RESULTS



TT-SBA4 08/13/18

Analyte	[Criteria]	6-8	10-12
Tetrachloroethene	[-]	0.128 U	0.134 U
Trichloroethene	[-]	0.128 U	0.134 U

TT-SBB4 08/13/18

Analyte	[Criteria]	6-8	8-10	8-10 DUP
Tetrachloroethene	[-]	2.48	0.134 U	0.122 U
Trichloroethene	[-]	1.02	0.134 U	0.122 U

TT-SBA3 08/13/18

Analyte	[Criteria]	2-4	10-12
Tetrachloroethene	[-]	0.142 U	0.121 U
Trichloroethene	[-]	0.142 U	0.121 U

TT-SBA2 08/14/18

Analyte	[Criteria]	6-8	10-12
Tetrachloroethene	[-]	0.0968	0.135 U
Trichloroethene	[-]	0.126	0.135 U

TT-SBA1 08/14/18

Analyte	[Criteria]	6-8	10-12
Tetrachloroethene	[-]	1.42	0.123 U
Trichloroethene	[-]	3.21	0.123 U

TT-SBB3 08/13/18

Analyte	[Criteria]	6-8	10-12
Tetrachloroethene	[-]	0.131 U	0.134 U
Trichloroethene	[-]	0.131 U	0.134 U

TT-SBB2 08/14/18

Analyte	[Criteria]	6-8	8-10
Tetrachloroethene	[-]	0.122	0.138 U
Trichloroethene	[-]	0.231	0.138 U

TT-SBC3 08/13/18

Analyte	[Criteria]	6-8	10-12
Tetrachloroethene	[-]	2.56	0.142 U
Trichloroethene	[-]	1.69	0.142 U

TT-SBC2 08/14/18

Analyte	[Criteria]	8-10	10-12	10-12 DUP
Tetrachloroethene	[-]	0.139 U	0.0894	0.153 U
Trichloroethene	[-]	0.139 U	0.150 U	0.153 U

TT-SBD2 08/14/18

Analyte	[Criteria]	0-2	10-12
Tetrachloroethene	[-]	0.128 U	0.146 U
Trichloroethene	[-]	0.128 U	0.146 U

TT-SBD3 08/13/18

Analyte	[Criteria]	4-6	4-6 DUP	10-12
Tetrachloroethene	[-]	0.189 U	0.175 U	0.635
Trichloroethene	[-]	0.189 U	0.175 U	0.131 U

TT-SBE2 08/14/18

Analyte	[Criteria]	8-10	8-10 DUP	10-12
Tetrachloroethene	[-]	0.108	0.109	0.278
Trichloroethene	[-]	0.113 U	0.126 U	0.130 U

TT-SBE3 08/13/18

Analyte	[Criteria]	6-8	10-12
Tetrachloroethene	[-]	0.335	0.132 U
Trichloroethene	[-]	0.149 U	0.132 U

TT-SBF3 08/15/18

Analyte	[Criteria]	2-4	10-12
Tetrachloroethene	[-]	0.174	0.0362 U
Trichloroethene	[-]	0.128 U	0.121 U

TT-SBA5 08/14/18

Analyte	[Criteria]	4-6	10-12
Tetrachloroethene	[-]	4.62	0.13 U
Trichloroethene	[-]	0.139	0.13 U

TT-SBA6 08/14/18

Analyte	[Criteria]	4-6	10-12
Tetrachloroethene	[-]	1.83	0.127 U
Trichloroethene	[-]	0.212	0.127 U

TT-SBB5 08/14/18

Analyte	[Criteria]	4-6	10-12
Tetrachloroethene	[-]	0.264	0.119 U
Trichloroethene	[-]	0.138 U	0.119 U

TT-SBB6 08/14/18

Analyte	[Criteria]	8-10	10-12
Tetrachloroethene	[-]	0.221	0.129 U
Trichloroethene	[-]	0.124 U	0.129 U

TT-SBC4 08/13/18

Analyte	[Criteria]	0-2	10-12
Tetrachloroethene	[-]	0.257	0.124 U
Trichloroethene	[-]	0.123 U	0.124 U

TT-SBC6 08/14/18

Analyte	[Criteria]	8-10	10-12
Tetrachloroethene	[-]	0.143 U	0.127 U
Trichloroethene	[-]	0.143 U	0.127 U

TT-SBC5 08/14/18

Analyte	[Criteria]	8-10	8-10 DUP	10-12
Tetrachloroethene	[1,2]	146	252	4.22
Trichloroethene	[-]	2.65	5.30	0.305

TT-SBD6 08/15/18

Analyte	[Criteria]	8-10	10-12
Tetrachloroethene	[-]	0.137 U	0.0392
Trichloroethene	[-]	0.137 U	0.122 U

TT-SBD5 08/14/18

Analyte	[Criteria]	8-10	10-12
Tetrachloroethene	[-]	1.80	0.257
Trichloroethene	[-]	0.123 U	0.117 U

TT-SBD4 08/13/18

Analyte	[Criteria]	0-2	10-12
Tetrachloroethene	[-]	0.135 U	0.130 U
Trichloroethene	[-]	0.135 U	0.130 U

TT-SBE5 08/15/18

Analyte	[Criteria]	0-2	10-12
Tetrachloroethene	[-]	0.490	0.742
Trichloroethene	[-]	0.0443	0.0811

TT-SBE4 08/13/18

Analyte	[Criteria]	0-2	10-12
Tetrachloroethene	[-]	0.483	0.135 U
Trichloroethene	[-]	0.132 U	0.135 U

TT-SBF4 08/15/18

Analyte	[Criteria]	8-10	10-12
Tetrachloroethene	[-]	0.360	0.0523
Trichloroethene	[-]	0.138 U	0.143 U

LEGEND

- Soil Sample Exceeds Criteria
- Soil Sample Does Not Exceed Criteria
- Upper Aquifer -Water Table
- Upper Aquifer -Top of Till
- East Phase Boundary
- West Phase Boundary

Notes:
- All units in mg/kg
- U = non-detect
- DUP = duplicate result
- **RED** results exceed Commercial/Industrial criteria
- **GREEN** results exceed Construction criteria
- **YELLOW** results exceed both Commercial/Industrial and Construction criteria

	Generic Direct Contact Soil Standards for Single Chemical (2019)	
Analyte	Commercial/ Industrial [2]	Construction [1]
Tetrachloroethene	170	170
Trichloroethene	48	17

Station Name / Sample Date / Depth (ft bgs)

TT-SBE3 08/13/18

Analyte	[Criteria]	6-8	10-12
PCE	[-]	0.335	0.132 U
TCE	[-]	0.149 U	0.132 U

N

0 15 30

Feet

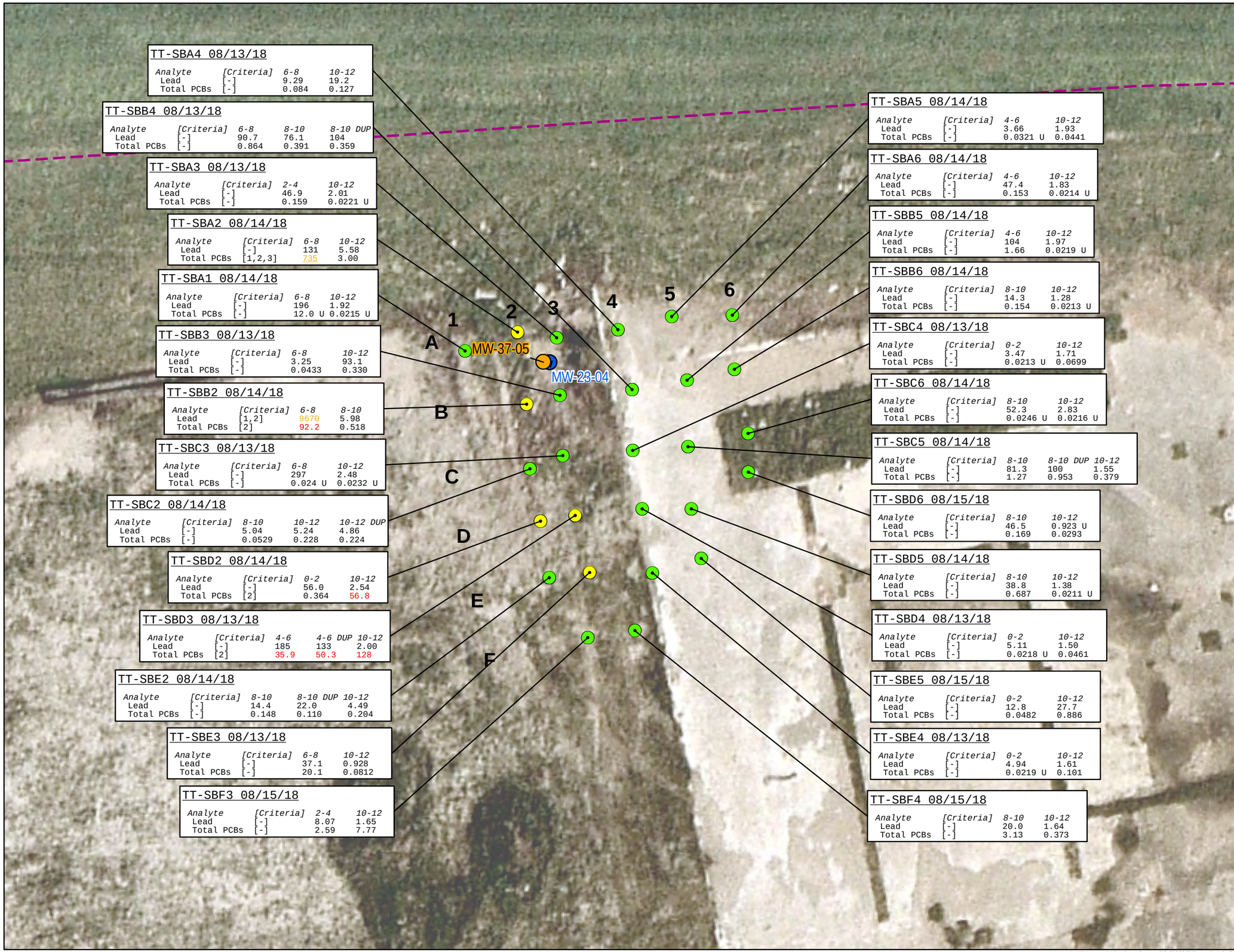
AERIAL SOURCE: Nearmap 8-24-2018

WESTON SOLUTIONS

FIGURE 2.6
TCE AND PCE IN SOIL
AUGUST 2018
FORMER GM DELPHI HARRISON
THERMAL SYSTEMS FACILITY
DAYTON, OHIO

FEB 2020	PROJECT NO 12473.005.008.0590	SCALE AS SHOWN

FILE: E:\Dayton Technology Campus\GIS\2020\Figure 2_6 Soil PCE and TCE Results - August 2018.mxd 2:53:54 PM 2/24/2020 MYERSJT



TT-SBA4 08/13/18

Analyte	[Criteria]	6-8	10-12
Lead	[-]	9.29	19.2
Total PCBs	[-]	0.084	0.127

TT-SBB4 08/13/18

Analyte	[Criteria]	6-8	8-10	8-10 DUP
Lead	[-]	90.7	76.1	104
Total PCBs	[-]	0.864	0.391	0.359

TT-SBA3 08/13/18

Analyte	[Criteria]	2-4	10-12
Lead	[-]	46.9	2.01
Total PCBs	[-]	0.159	0.0221 U

TT-SBA2 08/14/18

Analyte	[Criteria]	6-8	10-12
Lead	[-]	131	5.58
Total PCBs	[1,2,3]	735	3.00

TT-SBA1 08/14/18

Analyte	[Criteria]	6-8	10-12
Lead	[-]	196	1.92
Total PCBs	[-]	12.0 U	0.0215 U

TT-SBB3 08/13/18

Analyte	[Criteria]	6-8	10-12
Lead	[-]	3.25	93.1
Total PCBs	[-]	0.0433	0.330

TT-SBB2 08/14/18

Analyte	[Criteria]	6-8	8-10
Lead	[1,2]	9670	5.98
Total PCBs	[2]	92.2	0.518

TT-SBC3 08/13/18

Analyte	[Criteria]	6-8	10-12
Lead	[-]	297	2.48
Total PCBs	[-]	0.024 U	0.0232 U

TT-SBC2 08/14/18

Analyte	[Criteria]	8-10	10-12	10-12 DUP
Lead	[-]	5.04	5.24	4.86
Total PCBs	[-]	0.0529	0.228	0.224

TT-SBD2 08/14/18

Analyte	[Criteria]	0-2	10-12
Lead	[-]	56.0	2.54
Total PCBs	[2]	0.364	56.8

TT-SBD3 08/13/18

Analyte	[Criteria]	4-6	4-6 DUP	10-12
Lead	[-]	185	133	2.00
Total PCBs	[2]	35.9	50.3	128

TT-SBE2 08/14/18

Analyte	[Criteria]	8-10	8-10 DUP	10-12
Lead	[-]	14.4	22.0	4.49
Total PCBs	[-]	0.148	0.110	0.204

TT-SBE3 08/13/18

Analyte	[Criteria]	6-8	10-12
Lead	[-]	37.1	0.928
Total PCBs	[-]	20.1	0.0812

TT-SBF3 08/15/18

Analyte	[Criteria]	2-4	10-12
Lead	[-]	8.07	1.65
Total PCBs	[-]	2.59	7.77

TT-SBA5 08/14/18

Analyte	[Criteria]	4-6	10-12
Lead	[-]	3.66	1.93
Total PCBs	[-]	0.0321 U	0.0441

TT-SBA6 08/14/18

Analyte	[Criteria]	4-6	10-12
Lead	[-]	47.4	1.83
Total PCBs	[-]	0.153	0.0214 U

TT-SBB5 08/14/18

Analyte	[Criteria]	4-6	10-12
Lead	[-]	104	1.97
Total PCBs	[-]	1.66	0.0219 U

TT-SBB6 08/14/18

Analyte	[Criteria]	8-10	10-12
Lead	[-]	14.3	1.28
Total PCBs	[-]	0.154	0.0213 U

TT-SBC4 08/13/18

Analyte	[Criteria]	0-2	10-12
Lead	[-]	3.47	1.71
Total PCBs	[-]	0.0213 U	0.0699

TT-SBC6 08/14/18

Analyte	[Criteria]	8-10	10-12
Lead	[-]	52.3	2.83
Total PCBs	[-]	0.0246 U	0.0216 U

TT-SBC5 08/14/18

Analyte	[Criteria]	8-10	8-10 DUP	10-12
Lead	[-]	81.3	100	1.55
Total PCBs	[-]	1.27	0.953	0.379

TT-SBD6 08/15/18

Analyte	[Criteria]	8-10	10-12
Lead	[-]	46.5	0.923 U
Total PCBs	[-]	0.169	0.0293

TT-SBD5 08/14/18

Analyte	[Criteria]	8-10	10-12
Lead	[-]	38.8	1.38
Total PCBs	[-]	0.687	0.0211 U

TT-SBD4 08/13/18

Analyte	[Criteria]	0-2	10-12
Lead	[-]	5.11	1.50
Total PCBs	[-]	0.0218 U	0.0461

TT-SBE5 08/15/18

Analyte	[Criteria]	0-2	10-12
Lead	[-]	12.8	27.7
Total PCBs	[-]	0.0482	0.886

TT-SBE4 08/13/18

Analyte	[Criteria]	0-2	10-12
Lead	[-]	4.94	1.61
Total PCBs	[-]	0.0219 U	0.101

TT-SBF4 08/15/18

Analyte	[Criteria]	8-10	10-12
Lead	[-]	20.0	1.64
Total PCBs	[-]	3.13	0.373

LEGEND

- Soil Sample Exceeds Criteria
- Soil Sample Does Not Exceed Criteria
- Upper Aquifer -Water Table
- Upper Aquifer -Top of Till
- East Phase Boundary
- West Phase Boundary

Notes:
- All units in mg/kg
- U = non-detect
- DUP = duplicate result
- **RED** results exceed Commercial/Industrial criteria
- **GREEN** results exceed Construction criteria
- **YELLOW** results exceed both Commercial/Industrial and Construction criteria
- [3] Total PCB result exceeds site-specific single chemical PCB soil standard protective of short-term exposure (226 mg/kg). Result is underlined

	Generic Direct Contact Soil Standards for Single Chemical (2019)	
Analyte	Commercial/ Industrial [2]	Construction [1]
Lead	800	400
Total PCBs	30	490

Station Name | Sample Date | Depth (ft bgs)

TT-SBD6 08/15/18

Analyte	[Criteria]	8-10	10-12
Lead	[-]	46.5	0.923 U
Total PCBs	[-]	0.169	0.0293

N

0 15 30

Feet

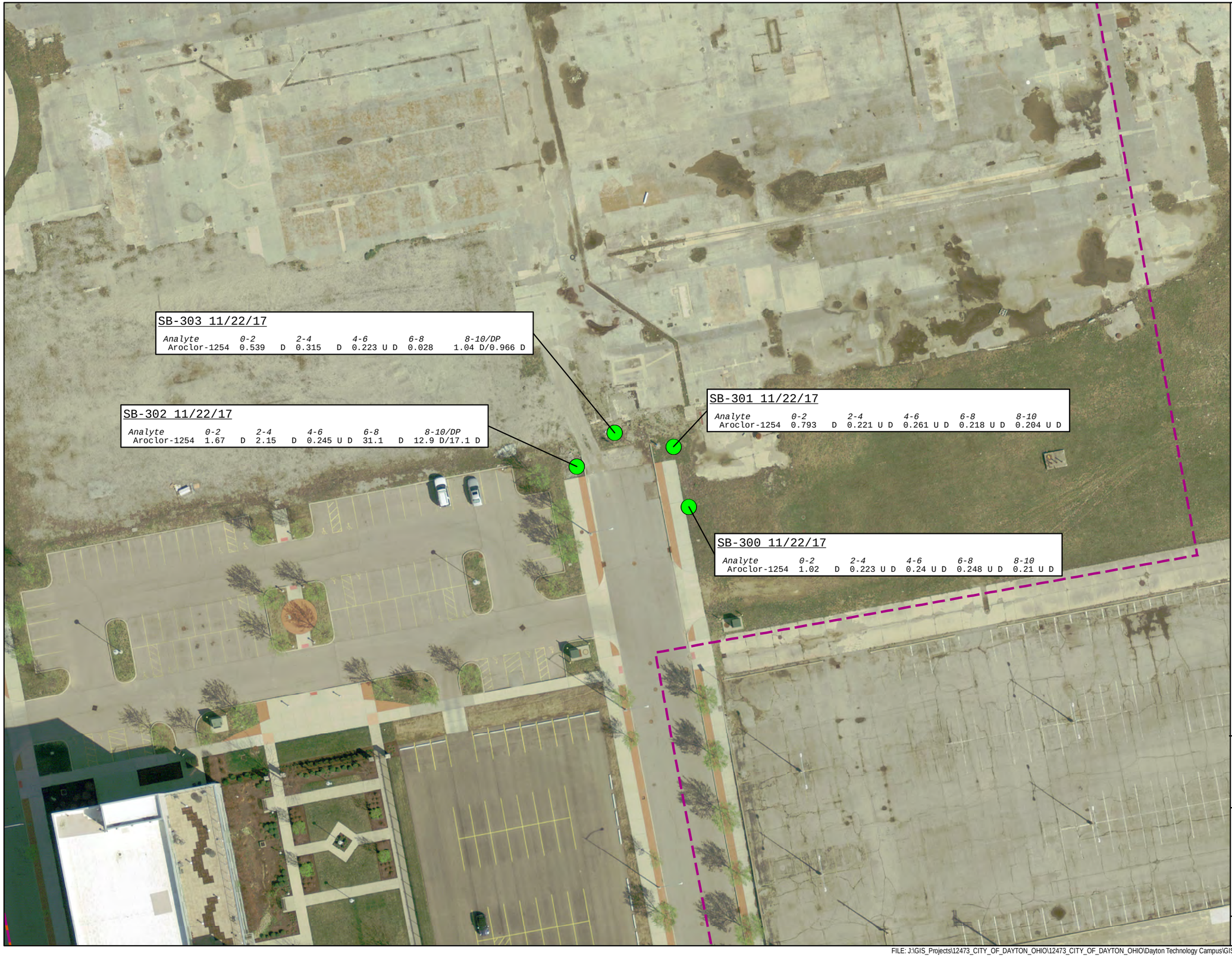
AERIAL SOURCE: Nearmap 8-24-2018

WESTON SOLUTIONS

FIGURE 2.7
PCBs AND LEAD IN SOIL
AUGUST 2018
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

FEB 2020	PROJECT NO 12473.005.008.0590	SCALE AS SHOWN

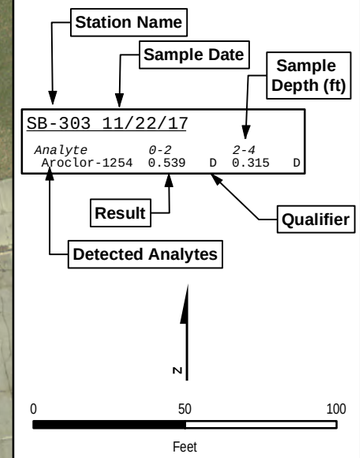
FILE: E:\Dayton Technology Campus\GIS\2020\Figure 2_7 Soil PCBs and Lead Results August 2018.mxd 2:56:18 PM 2/24/2020 MYERSJT



LEGEND

- Soil Sample Location
- East Phase Boundary

Notes:
- All units in mg/kg
- D = Sample analyzed at a dilution
- U = Not Detected
- DP = Duplicate sample results
- PCBs = polychlorinated biphenyls



AERIAL SOURCE: City of Dayton

WESTON SOLUTIONS

FIGURE 1
NOVEMBER 2017
PCB RESULTS IN SOIL - MIEGS ST
FORMER GM DELPHI HARRISON
THERMAL SYSTEMS FACILITY
DAYTON, OHIO

FEB 2018	PROJECT NO 12473.005.008.0590	SCALE AS SHOWN

FILE: J:\GIS_Projects\12473_CITY_OF_DAYTON_OHIO\12473_CITY_OF_DAYTON_OHIO\Dayton Technology Campus\GIS\Figure 1 Miegs St PCBs Nov 2017.mxd 8:34:10 AM 2/14/2018 MYERSJT

Table 1
PCB Data
Meigs Street Investigation
November 2017
Former GM/Delphi Harrison Thermal Systems Facility
Dayton, Montgomery County, Ohio

Field Sample ID:	TT-SB301-G-02		TT-SB301-G-04		TT-SB301-G-06		TT-SB301-G-08		TT-SB301-G-10		TT-SB300-G-02		TT-SB300-G-04		TT-SB300-G-06	
Date:	11/22/2017		11/22/2017		11/22/2017		11/22/2017		11/22/2017		11/22/2017		11/22/2017		11/22/2017	
Station ID:	SB-301		SB-301		SB-301		SB-301		SB-301		SB-300		SB-300		SB-300	
Depth:	0 - 2		2 - 4		4 - 6		6 - 8		8 - 10		0 - 2		2 - 4		4 - 6	
	Results	Qualifier	Results	Qualifier	Results	Qualifier	Results	Qualifier	Results	Qualifier	Results	Qualifier	Results	Qualifier	Results	Qualifier
Aroclor-1016	0.222	U D	0.221	U D	0.261	U D	0.218	U D	0.204	U D	0.236	U D	0.223	U D	0.240	U D
Aroclor-1221	0.222	U D	0.221	U D	0.261	U D	0.218	U D	0.204	U D	0.236	U D	0.223	U D	0.240	U D
Aroclor-1232	0.222	U D	0.221	U D	0.261	U D	0.218	U D	0.204	U D	0.236	U D	0.223	U D	0.240	U D
Aroclor-1242	0.222	U D	0.221	U D	0.261	U D	0.218	U D	0.204	U D	0.236	U D	0.223	U D	0.240	U D
Aroclor-1248	0.222	U D	0.221	U D	0.261	U D	0.218	U D	0.204	U D	0.236	U D	0.223	U D	0.240	U D
Aroclor-1254	**0.793**	D	0.221	U D	0.261	U D	0.218	U D	0.204	U D	**1.02**	D	0.223	U D	0.240	U D
Aroclor-1260	0.222	U D	0.221	U D	0.261	U D	0.218	U D	0.204	U D	0.236	U D	0.223	U D	0.240	U D
Total PCBs	**0.793**	D	0.221	U D	0.261	U D	0.218	U D	0.204	U D	**1.02**	D	0.223	U D	0.240	U D

Notes:
All results are presented in units of milligrams per kilogram
No sample results exceed 25 mg/kg for Total PCBs in the 0 to 2 ft bgs
No sample results exceed 226 mg/kg for Total PCBs in the 0 to 10 ft bgs interval.
PCB - Polychlorinated Biphenyl
D - The sample was diluted due to matrix interference, resulting in elevated reporting limits.
U - The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation or detection limit.

Table 1
PCB Data
Meigs Street Investigation
November 2017
Former GM/Delphi Harrison Thermal Systems Facility
Dayton, Montgomery County, Ohio

Field Sample ID:	TT-SB300-G-08		TT-SB300-G-10		TT-SB303-G-02		TT-SB303-G-04		TT-SB303-G-06		TT-SB303-G-08		TT-SB303-G-10		TT-SB303-G-10 -DP	
Date:	11/22/2017		11/22/2017		11/22/2017		11/22/2017		11/22/2017		11/22/2017		11/22/2017		11/22/2017	
Station ID:	SB-300		SB-300		SB-303		SB-303		SB-303		SB-303		SB-303		SB-303	
Depth:	6 - 8		8 - 10		0 - 2		2 - 4		4 - 6		6 - 8		8 - 10		8 - 10	
	Results	Qualifier	Results	Qualifier	Results	Qualifier	Results	Qualifier	Results	Qualifier	Results	Qualifier	Results	Qualifier	Results	Qualifier
Aroclor-1016	0.248	U D	0.210	U D	0.217	U D	0.234	U D	0.223	U D	0.0275	U	0.248	U D	0.247	U D
Aroclor-1221	0.248	U D	0.210	U D	0.217	U D	0.234	U D	0.223	U D	0.0275	U	0.248	U D	0.247	U D
Aroclor-1232	0.248	U D	0.210	U D	0.217	U D	0.234	U D	0.223	U D	0.0275	U	0.248	U D	0.247	U D
Aroclor-1242	0.248	U D	0.210	U D	0.217	U D	0.234	U D	0.223	U D	0.0275	U	0.248	U D	0.247	U D
Aroclor-1248	0.248	U D	0.210	U D	0.217	U D	0.234	U D	0.223	U D	0.0275	U	0.248	U D	0.247	U D
Aroclor-1254	0.248	U D	0.210	U D	**0.539**	D	**0.315**	D	0.223	U D	**0.0280**		**1.04**	D	**0.966**	D
Aroclor-1260	0.248	U D	0.210	U D	0.217	U D	0.234	U D	0.223	U D	0.0275	U	0.248	U D	0.247	U D
Total PCBs	0.248	U D	0.210	U D	**0.539**	D	**0.315**	D	0.223	U D	**0.0280**		**1.04**	D	**0.966**	D

Notes:
All results are presented in units of milligrams per kilogram
No sample results exceed 25 mg/kg for Total PCBs in the 0 to 2 ft bgs
No sample results exceed 226 mg/kg for Total PCBs in the 0 to 10 ft bgs interval.
PCB - Polychlorinated Biphenyl
D - The sample was diluted due to matrix interference, resulting in elevated reporting limits.
U - The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation or detection limit.

Table 1
PCB Data
Meigs Street Investigation
November 2017
Former GM/Delphi Harrison Thermal Systems Facility
Dayton, Montgomery County, Ohio

Field Sample ID:	TT-SB302-G-02		TT-SB302-G-04		TT-SB302-G-06		TT-SB302-G-08		TT-SB302-G-10		TT-SB302-G-10 -DP	
Date:	11/22/2017		11/22/2017		11/22/2017		11/22/2017		11/22/2017		11/22/2017	
Station ID:	SB-302		SB-302		SB-302		SB-302		SB-302		SB-302	
Depth:	0 - 2		2 - 4		4 - 6		6 - 8		8 - 10		8 - 10	
	Results	Qualifier	Results	Qualifier	Results	Qualifier	Results	Qualifier	Results	Qualifier	Results	Qualifier
Aroclor-1016	0.219	U D	0.212	U D	0.245	U D	1.36	U D	1.17	U D	2.33	U D
Aroclor-1221	0.219	U D	0.212	U D	0.245	U D	1.36	U D	1.17	U D	2.33	U D
Aroclor-1232	0.219	U D	0.212	U D	0.245	U D	1.36	U D	1.17	U D	2.33	U D
Aroclor-1242	0.219	U D	0.212	U D	0.245	U D	1.36	U D	1.17	U D	2.33	U D
Aroclor-1248	0.219	U D	0.212	U D	0.245	U D	1.36	U D	1.17	U D	2.33	U D
Aroclor-1254	**1.67**	D	**2.15**	D	0.245	U D	**31.1**	D	**12.9**	D	**17.1**	D
Aroclor-1260	0.219	U D	0.212	U D	0.245	U D	1.36	U D	1.17	U D	2.33	U D
Total PCBs	**1.67**	D	**2.15**	D	0.245	U D	**31.1**	D	**12.9**	D	**17.1**	D

Notes:
All results are presented in units of milligrams per kilogram
No sample results exceed 25 mg/kg for Total PCBs in the 0 to 2 ft bgs
No sample results exceed 226 mg/kg for Total PCBs in the 0 to 10 ft bgs interval.
PCB - Polychlorinated Biphenyl
D - The sample was diluted due to matrix interference, resulting in elevated reporting limits.
U - The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation or dete

ATTACHMENT VI

SURFACE WATER SAMPLING ANALYTICAL RESULTS

Deeds Park

DEEDS PARK DR

WATER ST

WEBSTER ST

E MO

SW-1-10

Date	cis-1,2-DCE	TCE
9/12/19	4.0	3.2
9/19/19	4.5/4.0	3.6/3.1
9/26/19	4.2	3.2
10/2/19	4.1	2.9

SW-1-10
SW-2-1
SW-2-5
SW-3-10
SW-4-11
SW-5-3
SW-6-1
MW-64-07
MW-61-07
MW-63-07
MW-8-03
DAY-11S
DAY-11D
DAY-05R
DAY-05
HD-11
DAY-12
MW-34-04
MW-66
MW-65
HD-3
HD-5
MW-69
MW-70
MW-68
MW-67
MW-7A-03
MW-7B-03
MW-6B-03
MW-6A-03
HD-19
MW-79
SEE INSET
MW-22-04
HD-4
MW-62-07
MW-84S
MW-51-06
DAY-08
MW-56-06
MW-53A-06
MW-53B-06
MW-58-07
GEOTHERMAL WELL
MW-59-07
MW-60-07
MW-57-07
MW-19-04
MW-48-04
MW-20-04
MW-16R-04
MW-46-05
MW-18-04
MW-42-05
MW-44-05
MW-11-03
HD-9
B-SA26
B-SA21
B-SA21R
MW-33-04
MW-40-05
MW-80
HD-2
DAY-07
MW-43-05
MW-47-05
HD-10
MW-85S
MW-85D
DAY-13
MW-81-18
MW-82-18
HD-1
MW-15-03
DAY-01
MW-9-03
HD-13
MW-36-05
MW-39-05
MW-10-03
HD-12
DAY-20
DAY-19
DAY-21
HD-18
MW-23-04
MW-37-05
B-SA27
MW-24-04
MW-14A-03
MW-14B-04
MW-38-05
DAY-03
MW-4-02
B-SA18
MW-26-04
MW-27-04
MW-28-04
MW-12A-03
MW-12B-03
B-SA16
B-SA13
MW-25-04
MW-29-04
MW-13A-03
MW-13B-03
HD-17
MW-3-02
MW-72

INSET
70 35 0 Feet
MW-5B-03
MW-5A-03
MW-5-03
MW-83S
MW-83D
MW-71
DAY-06
B-SA24
B-SA24R
HD-7
MW-41-05
MW-55-06
HD-8
MW-52-06
MW-54-06
MW-73S
MW-17-04
MW-45-05
MW-2B-00
MW-2A-00
MW-2AR
MW-2BR
B-SA23
MW-78
MW-1A-00
MW-1B-00
MW-76S
MW-76D
HD-6
OS-7B-R
B-SA22R
MW-74S
MW-74D
OS-7B-03
B-SA22
MW-77S
MW-77D
MW-75S

LEGEND

- East Phase Boundary
- West Phase Boundary
- Upper Aquifer - Water Table
- Upper Aquifer - Intermediate
- Upper Aquifer - Top of Till
- Till Rich Zone
- Lower Aquifer
- Inactive/Abandoned
- Surface Water Sample Location with Detected VOCs
- Surface Water Sample Location with No Detected VOCs

Notes
- only detected results shown
- all results in ug/l
- value shown after "/" indicates duplicate result
- cis-1,2-DCE = cis-1,2-Dichloroethene
- TCE = trichloroethene
- VOC = volatile organic compound

N

0 175 350
Feet

SOURCE: Nearmap August 24, 2018

WESTON SOLUTIONS

FIGURE 1
SURFACE WATER SAMPLE VOC ANALYTICAL RESULTS - SEPT/OCT 2019
FORMER GM DELPHI HARRISON THERMAL SYSTEMS FACILITY
DAYTON, OHIO

	PROJECT NO	SCALE
JAN 2020	12473.005.010.4002	AS SHOWN

FILE: E:\Dayton Technology Campus\GIS\2019\Figure 1 Surface Water Sampling VOC Results_200103.mxd 9:43:36 AM 1/3/2020 MYERSJT